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# Technical Report for

## Arcadis

National Grid, Philly Coke, Philadelphia, PA

B0036790.0001.00002

SGS Job Number: JC86986

Sampling Date: 04/25/19

Report to:

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

Total number of pages in report: **1622**

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

Mike Earp
General Manager

Client Service contact: Kelly Ramos 732-329-0200

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

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Test results relate only to samples analyzed.

**July 15, 2019**

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

**RE: SGS – Dayton, Job # JC86986 – Reissues**

**Dear Mr. Brussel,**

**The final report for SGS job number JC86986 has been edited to reflect corrections to the final results. These edits have been incorporated into the revised report which is attached.**

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

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

**Sincerely,**

**Report Department**

**SGS North America Inc.**

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SGS North America Inc.

# Sample Summary

Arcadis

**Job No:** JC86986

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

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| JC86986-1 | 04/25/19 | 10:30 | EG | 04/25/19 | SO | Soil | S-142(6-6.5) |
| JC86986-2 | 04/25/19 | 10:40 | EG | 04/25/19 | SO | Soil | S-142(7-8) |
| JC86986-2D | 04/25/19 | 10:40 | EG | 04/25/19 | SO | Soil Dup/MSD | S-142(7-8) MSD |
| JC86986-2S | 04/25/19 | 10:40 | EG | 04/25/19 | SO | Soil Matrix Spike | S-142(7-8) MS |
| JC86986-3 | 04/25/19 | 13:00 | EG | 04/25/19 | SO | Soil | S-149(8-10) |
| JC86986-4 | 04/25/19 | 13:05 | EG | 04/25/19 | SO | Soil | S-149(18.5-20.5) |
| JC86986-5 | 04/25/19 | 08:45 | EG | 04/25/19 | SO | Soil | S-146(14-16) |
| JC86986-6 | 04/25/19 | 09:00 | EG | 04/25/19 | SO | Soil | S-146(17-19) |
| JC86986-7 | 04/25/19 | 10:10 | EG | 04/25/19 | SO | Soil | S-147(12-14) |
| JC86986-8 | 04/25/19 | 10:30 | EG | 04/25/19 | SO | Soil | S-147(18-20) |
| JC86986-9 | 04/25/19 | 11:20 | EG | 04/25/19 | SO | Soil | S-148(8-10) |
| JC86986-10 | 04/25/19 | 11:35 | EG | 04/25/19 | SO | Soil | S-148(16-18) |
| JC86986-11 | 04/25/19 | 14:00 | EG | 04/25/19 | SO | Soil | S-151(0.5-2) |

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

SGS North America Inc.

# Sample Summary
(continued)

Arcadis

**Job No:** JC86986

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

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| JC86986-12 | 04/25/19 | 14:15 | EG | 04/25/19 | SO | Soil | S-151(3-5) |
| JC86986-13 | 04/25/19 | 00:00 | EG | 04/25/19 | SO | Soil | SO-DUP-0425 |

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

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Arcadis | **Job No** | JC86986 |
| **Site:** | National Grid, Philly Coke, Philadelphia, PA | **Report Date** | 5/10/2019 12:17:04 P |

On 04/25/2019, 13 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 1.9 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC86986 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

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

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

## MS Volatiles By Method SW846 8260C

**Matrix:** SO **Batch ID:** V1C7215

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86986-2MS, JC86986-2MSD were used as the QC samples indicated.
- JC86986-2 for Dichlorodifluoromethane: Associated CCV outside of control limits low.
- JC86986-6 for Chloromethane: Associated CCV outside of control limits low.
- JC86986-6 for Dichlorodifluoromethane: Associated CCV outside of control limits low.
- JC86986-2 for Chloromethane: Associated CCV outside of control limits low.

**Matrix:** SO **Batch ID:** V3C6820

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86986-4DUP, JC86986-8MS were used as the QC samples indicated.
- Blank Spike Recovery(s) for Dibromochloromethane are outside control limits. High percent recoveries and no associated positive reported in the QC batch.
- JC86986-4 for Dibromochloromethane: Associated CCV and BS outside of control limits high, sample was ND.
- JC86986-13 for 4-Methyl-2-pentanone(MIBK): Associated CCV outside of control limits high, sample was ND.
- JC86986-7 for Chloromethane: Associated CCV outside of control limits low.
- JC86986-4 for Chloromethane: Associated CCV outside of control limits low.
- JC86986-12 for Chloromethane: Associated CCV outside of control limits low.
- JC86986-7 for Dibromochloromethane: Associated CCV and BS outside of control limits high, sample was ND.
- JC86986-7 for 4-Methyl-2-pentanone(MIBK): Associated CCV outside of control limits high, sample was ND.
- JC86986-4 for 4-Methyl-2-pentanone(MIBK): Associated CCV outside of control limits high, sample was ND.
- JC86986-10 for Dibromochloromethane: Associated CCV and BS outside of control limits high, sample was ND.
- JC86986-8 for Chloromethane: Associated CCV outside of control limits low.
- JC86986-8 for 4-Methyl-2-pentanone(MIBK): Associated CCV outside of control limits high, sample was ND.
- JC86986-10 for 4-Methyl-2-pentanone(MIBK): Associated CCV outside of control limits high, sample was ND.
- JC86986-10 for Chloromethane: Associated CCV outside of control limits low.
- JC86986-12 for Dibromochloromethane: Associated CCV and BS outside of control limits high, sample was ND.
- JC86986-12 for 4-Methyl-2-pentanone(MIBK): Associated CCV outside of control limits high, sample was ND.
- JC86986-8 for Dibromochloromethane: Associated CCV and BS outside of control limits high, sample was ND.
- JC86986-13 for Dibromochloromethane: Associated CCV and BS outside of control limits high, sample was ND.

## MS Volatiles By Method SW846 8260C

| Matrix: SO | Batch ID: V3C6820 |
|---|---|

- JC86986-13 for Chloromethane: Associated CCV outside of control limits low.

| Matrix: SO | Batch ID: V3C6821 |
|---|---|

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC87093-7DUP, JC87093-7MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 1,2-Dibromoethane, 1,2-Dichlorobenzene, 1,2-Dichloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene, Styrene are outside control limits. Outside control limits due to matrix interference.
- JC86986-5 for Chloromethane: Associated CCV outside of control limits low.
- JC86986-5 for Methyl Acetate: Associated CCV outside of control limits low.

| Matrix: SO | Batch ID: VD10654 |
|---|---|

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC87652-1MS, JC87652-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC86986-3: Diluted due to high concentration of non-target compound.
- JC86986-11: Diluted due to high concentration of non-target compound.
- JC86986-9: Diluted due to high concentration of non-target compound.
- JC86986-11 for Acetone: Associated CCV outside of control limits high, sample was ND.
- JC86986-9 for Acetone: Associated CCV outside of control limits high, sample was ND.
- JC86986-11 for 1,2-Dichloroethane: Associated CCV outside of control limits low.
- JC86986-3 for Acetone: Associated CCV outside of control limits high, sample was ND.
- JC86986-3 for 1,2-Dichloroethane: Associated CCV outside of control limits low.
- JC86986-9 for 1,2-Dichloroethane: Associated CCV outside of control limits low.

## MS Semi-volatiles By Method SW846 8270D

| Matrix: SO | Batch ID: OP20081 |
|---|---|

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86986-2MS, JC86986-2MSD were used as the QC samples indicated.
- JC86986-9: Elevated detection limit due to low volume of sample extracted. Dilution required due to the viscosity of the extract matrix.
- JC86986-3: Dilution required due to viscosity of the extract matrix.
- JC86986-9 for 2,4-Dimethylphenol: Associated CCV outside of control limits high.
- JC86986-3 for 2,4-Dimethylphenol: Associated CCV outside of control limits high.
- JC86986-9 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-9 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-3 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-3 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-13 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-5 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-5 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.
- JC86986-5 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-4 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-13 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.
- JC86986-5 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-5 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-8 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-13 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-13 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-13 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-13 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-8 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-4 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-8 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-8 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-8 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-8 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-8 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.
- JC86986-4 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-5 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-10 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.
- JC86986-9 for 2-Fluorobiphenyl: Outside control limits due to dilution.
- JC86986-10 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-4 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-4 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-4 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.
- JC86986-10 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-11 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.

## MS Semi-volatiles By Method SW846 8270D

**Matrix:** SO **Batch ID:** OP20081

- JC86986-10 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-7 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-10 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-9 for Terphenyl-d14: Outside control limits due to dilution.
- JC86986-10 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-12 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-7 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-5 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-7 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-7 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-12 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-12 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-12 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-12 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-12 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-12 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.
- JC86986-10 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-2 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-7 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-9 for Phenol-d5: Outside control limits due to dilution.
- JC86986-11 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-7 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.
- JC86986-2 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-2 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-2 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-2 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-2 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.
- JC86986-11 for 2,4-Dimethylphenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-9 for 2,4,6-Tribromophenol: Outside control limits due to dilution.
- JC86986-9 for Nitrobenzene-d5: Outside control limits due to dilution.
- JC86986-9 for 2-Fluorophenol: Outside control limits due to dilution.
- JC86986-2 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-4 for Butyl benzyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-7 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-3 for 2,4,6-Tribromophenol: Outside control limits due to dilution.
- JC86986-11 for 4-Nitrophenol: Associated CCV outside of control limits high, sample was ND.
- JC86986-11 for bis(2-Ethylhexyl)phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-13 for Di-n-octyl phthalate: Associated CCV outside of control limits high, sample was ND.
- JC86986-11 for 2,4-Dinitrophenol: Associated CCV outside of control limits low.
- JC86986-11 for Hexachlorocyclopentadiene: Associated CCV outside of control limits low.

**Matrix:** SO **Batch ID:** OP20110

## MS Semi-volatiles By Method SW846 8270D

| **Matrix:** SO | **Batch ID:** OP20110 |
|---|---|

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC87093-7MS, JC87093-7MSD were used as the QC samples indicated.

## Metals Analysis By Method SW846 6010D

| **Matrix:** SO | **Batch ID:** MP14617 |
|---|---|

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86986-2MSD, JC86986-2PS, JC86986-2SDL, JC86986-2MSD were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Antimony are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- Matrix Spike Duplicate Recovery(s) for Antimony, Manganese, Zinc are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- Matrix Spike / Matrix Spike Duplicate Recovery(s) for Iron, Aluminum are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Antimony, Selenium, Silver are outside control limits for sample MP14617-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- JC86986-13 for Antimony: Elevated detection limit due to dilution required for high interfering element.
- JC86986-13 for Thallium: Elevated detection limit due to dilution required for high interfering element.
- JC86986-12 for Thallium: Elevated detection limit due to dilution required for high interfering element.
- JC86986-13 for Copper: Elevated detection limit due to dilution required for high interfering element.
- JC86986-12 for Beryllium: Elevated detection limit due to dilution required for high interfering element.
- JC86986-13 for Selenium: Elevated detection limit due to dilution required for high interfering element.
- MP14617-SD1 for Sodium: Serial dilution indicates possible matrix interference.
- JC86986-13 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JC86986-13 for Cobalt: Elevated detection limit due to dilution required for high interfering element.
- JC86986-13 for Arsenic: Elevated detection limit due to dilution required for high interfering element.
- JC86986-13 for Silver: Elevated detection limit due to dilution required for high interfering element.
- JC86986-13 for Manganese: Elevated detection limit due to dilution required for high interfering element.
- JC86986-13 for Beryllium: Elevated detection limit due to dilution required for high interfering element.

## Metals Analysis By Method SW846 7471B

| **Matrix:** SO | **Batch ID:** MP14631 |
|---|---|

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86986-2MSD, JC86986-2MS were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- Matrix Spike Duplicate Recovery(s) for Mercury are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

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

| Matrix: SO | Batch ID: GN94774 |
|---|---|

- Sample(s) JC86972-9DUP were used as the QC samples for Solids, Percent.

| Matrix: SO | Batch ID: GN94777 |
|---|---|

- Sample(s) JC86986-2DUP were used as the QC samples for Solids, Percent.

## General Chemistry By Method SW846 9012B/LACHAT

| Matrix: SO | Batch ID: GP20998 |
|---|---|

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86986-5MS, JC86986-2DUP, JC86986-2MS were used as the QC samples for Cyanide.
- Matrix Spike Recovery(s) for Cyanide are outside control limits. Spike recovery indicates possible matrix interference.
- RPD(s) for Duplicate for Cyanide are outside control limits for sample GP20998-D1. High RPD due to possible sample nonhomogeneity.

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

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

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

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

| Lab Sample ID<br>Analyte | Client Sample ID | Result/<br>Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **JC86986-1** | **S-142(6-6.5)** | | | | | |
| Cyanide | | 1.3 | 1.2 | 0.59 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-2** | **S-142(7-8)** | | | | | |
| Acetone | | 129 | 23 | 11 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | | 35.5 | 23 | 8.5 | ug/kg | SW846 8260C |
| Methylene chloride | | 6.8 J | 11 | 5.7 | ug/kg | SW846 8260C |
| 3&4-Methylphenol | | 349 | 120 | 51 | ug/kg | SW846 8270D |
| Acenaphthene | | 45.3 J | 62 | 21 | ug/kg | SW846 8270D |
| Acenaphthylene | | 63.4 | 62 | 32 | ug/kg | SW846 8270D |
| Anthracene | | 70.2 | 62 | 38 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 170 | 62 | 18 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 200 | 62 | 28 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 207 | 62 | 27 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | | 122 | 62 | 31 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | | 79.8 | 62 | 29 | ug/kg | SW846 8270D |
| Carbazole | | 18.4 J | 120 | 9.0 | ug/kg | SW846 8270D |
| Chrysene | | 181 | 62 | 20 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | | 28.1 J | 62 | 27 | ug/kg | SW846 8270D |
| Dibenzofuran | | 29.2 J | 120 | 25 | ug/kg | SW846 8270D |
| Fluoranthene | | 284 | 62 | 28 | ug/kg | SW846 8270D |
| Fluorene | | 54.4 J | 62 | 29 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | | 95.6 | 62 | 29 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | | 92.5 | 62 | 14 | ug/kg | SW846 8270D |
| Naphthalene | | 406 | 62 | 18 | ug/kg | SW846 8270D |
| Phenanthrene | | 210 | 62 | 21 | ug/kg | SW846 8270D |
| Pyrene | | 336 | 62 | 20 | ug/kg | SW846 8270D |
| Aluminum | | 20500 | 97 | 16 | mg/kg | SW846 6010D |
| Antimony | | 1.6 J | 3.9 | 0.80 | mg/kg | SW846 6010D |
| Arsenic | | 48.7 | 3.9 | 0.54 | mg/kg | SW846 6010D |
| Barium | | 203 | 39 | 3.7 | mg/kg | SW846 6010D |
| Beryllium | | 1.5 | 0.39 | 0.16 | mg/kg | SW846 6010D |
| Cadmium | | 2.6 | 0.97 | 0.14 | mg/kg | SW846 6010D |
| Calcium | | 4500 | 970 | 86 | mg/kg | SW846 6010D |
| Chromium | | 176 | 1.9 | 0.72 | mg/kg | SW846 6010D |
| Cobalt | | 21.5 | 9.7 | 0.54 | mg/kg | SW846 6010D |
| Copper | | 148 | 4.9 | 1.6 | mg/kg | SW846 6010D |
| Iron | | 33300 | 97 | 37 | mg/kg | SW846 6010D |
| Lead | | 279 | 3.9 | 0.80 | mg/kg | SW846 6010D |
| Magnesium | | 5090 | 970 | 27 | mg/kg | SW846 6010D |
| Manganese | | 967 | 2.9 | 0.80 | mg/kg | SW846 6010D |
| Mercury | | 1.9 | 0.12 | 0.051 | mg/kg | SW846 7471B |
| Nickel | | 38.4 | 7.8 | 0.68 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19



| Lab Sample ID Client Sample ID<br>Analyte | Result/<br>Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| Potassium | 2280 | 1900 | 62 | mg/kg | SW846 6010D |
| Selenium | 1.6 J | 3.9 | 1.3 | mg/kg | SW846 6010D |
| Silver | 2.1 | 0.97 | 0.33 | mg/kg | SW846 6010D |
| Sodium | 189 J | 1900 | 150 | mg/kg | SW846 6010D |
| Vanadium | 41.3 | 9.7 | 0.37 | mg/kg | SW846 6010D |
| Zinc | 751 | 9.7 | 4.5 | mg/kg | SW846 6010D |
| Cyanide | 1.6 | 0.51 | 0.25 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-3 S-149(8-10)** | | | | | |
| Benzene [a] | 2310 | 510 | 390 | ug/kg | SW846 8260C |
| Carbon disulfide [a] | 5320 | 2000 | 950 | ug/kg | SW846 8260C |
| Ethylbenzene [a] | 1510 | 1000 | 560 | ug/kg | SW846 8260C |
| Toluene [a] | 1800 | 1000 | 380 | ug/kg | SW846 8260C |
| m,p-Xylene [a] | 2880 | 1000 | 760 | ug/kg | SW846 8260C |
| o-Xylene [a] | 1380 | 1000 | 600 | ug/kg | SW846 8260C |
| Xylene (total) [a] | 4260 | 1000 | 600 | ug/kg | SW846 8260C |
| 2,4-Dimethylphenol [b] | 814 | 430 | 150 | ug/kg | SW846 8270D |
| 2-Methylphenol [c] | 604 | 170 | 55 | ug/kg | SW846 8270D |
| 3&4-Methylphenol [c] | 1760 | 170 | 70 | ug/kg | SW846 8270D |
| Phenol [c] | 795 | 170 | 45 | ug/kg | SW846 8270D |
| Acenaphthene | 14400 | 860 | 300 | ug/kg | SW846 8270D |
| Acenaphthylene | 68500 | 860 | 440 | ug/kg | SW846 8270D |
| Anthracene | 163000 | 8600 | 5300 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | 164000 | 8600 | 2400 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | 140000 | 8600 | 3900 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | 181000 | 8600 | 3800 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | 79800 | 8600 | 4300 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | 55400 | 8600 | 4000 | ug/kg | SW846 8270D |
| Carbazole | 83500 | 1700 | 120 | ug/kg | SW846 8270D |
| Chrysene | 152000 | 8600 | 2700 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | 27900 | 860 | 380 | ug/kg | SW846 8270D |
| Dibenzofuran | 101000 | 17000 | 3500 | ug/kg | SW846 8270D |
| Fluoranthene | 519000 | 8600 | 3800 | ug/kg | SW846 8270D |
| Fluorene | 168000 | 8600 | 3900 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | 68800 | 8600 | 4000 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | 37300 | 860 | 190 | ug/kg | SW846 8270D |
| Naphthalene | 228000 | 8600 | 2400 | ug/kg | SW846 8270D |
| Phenanthrene | 623000 | 8600 | 2900 | ug/kg | SW846 8270D |
| Pyrene | 381000 | 8600 | 2700 | ug/kg | SW846 8270D |
| Aluminum | 6350 | 63 | 10 | mg/kg | SW846 6010D |
| Antimony | 1.9 J | 2.5 | 0.52 | mg/kg | SW846 6010D |
| Arsenic | 13.8 | 2.5 | 0.35 | mg/kg | SW846 6010D |
| Barium | 82.6 | 25 | 2.4 | mg/kg | SW846 6010D |
| Beryllium | 0.91 | 0.25 | 0.10 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

| Lab Sample ID Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Cadmium | | 1.4 | 0.63 | 0.089 | mg/kg | SW846 6010D |
| Calcium | | 897 | 630 | 56 | mg/kg | SW846 6010D |
| Chromium | | 53.3 | 1.3 | 0.47 | mg/kg | SW846 6010D |
| Cobalt | | 5.3 J | 6.3 | 0.35 | mg/kg | SW846 6010D |
| Copper | | 108 | 3.2 | 1.1 | mg/kg | SW846 6010D |
| Iron | | 12700 | 63 | 24 | mg/kg | SW846 6010D |
| Lead | | 154 | 2.5 | 0.52 | mg/kg | SW846 6010D |
| Magnesium | | 1500 | 630 | 17 | mg/kg | SW846 6010D |
| Manganese | | 60.6 | 1.9 | 0.52 | mg/kg | SW846 6010D |
| Mercury | | 1.8 | 0.084 | 0.037 | mg/kg | SW846 7471B |
| Nickel | | 31.6 | 5.1 | 0.44 | mg/kg | SW846 6010D |
| Potassium | | 476 J | 1300 | 40 | mg/kg | SW846 6010D |
| Selenium | | 2.0 J | 2.5 | 0.82 | mg/kg | SW846 6010D |
| Silver | | 0.63 | 0.63 | 0.22 | mg/kg | SW846 6010D |
| Vanadium | | 30.0 | 6.3 | 0.24 | mg/kg | SW846 6010D |
| Zinc | | 475 | 6.3 | 2.9 | mg/kg | SW846 6010D |
| Cyanide | | 12.6 | 0.39 | 0.19 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-4** | **S-149(18.5-20.5)** | | | | | |
| Acetone | | 134 | 14 | 7.2 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | | 31.7 | 14 | 5.4 | ug/kg | SW846 8260C |
| Fluoranthene | | 23.6 J | 52 | 23 | ug/kg | SW846 8270D |
| Naphthalene | | 29.7 J | 52 | 15 | ug/kg | SW846 8270D |
| Phenanthrene | | 21.8 J | 52 | 17 | ug/kg | SW846 8270D |
| Pyrene | | 20.2 J | 52 | 17 | ug/kg | SW846 8270D |
| Aluminum | | 19200 | 80 | 13 | mg/kg | SW846 6010D |
| Arsenic | | 4.3 | 3.2 | 0.45 | mg/kg | SW846 6010D |
| Barium | | 142 | 32 | 3.0 | mg/kg | SW846 6010D |
| Beryllium | | 0.87 | 0.32 | 0.13 | mg/kg | SW846 6010D |
| Cadmium | | 0.14 J | 0.80 | 0.11 | mg/kg | SW846 6010D |
| Calcium | | 3050 | 800 | 70 | mg/kg | SW846 6010D |
| Chromium | | 39.3 | 1.6 | 0.59 | mg/kg | SW846 6010D |
| Cobalt | | 10.6 | 8.0 | 0.45 | mg/kg | SW846 6010D |
| Copper | | 9.2 | 4.0 | 1.3 | mg/kg | SW846 6010D |
| Iron | | 18800 | 80 | 31 | mg/kg | SW846 6010D |
| Lead | | 12.3 | 3.2 | 0.65 | mg/kg | SW846 6010D |
| Magnesium | | 5120 | 800 | 22 | mg/kg | SW846 6010D |
| Manganese | | 310 | 2.4 | 0.65 | mg/kg | SW846 6010D |
| Mercury | | 0.048 | 0.044 | 0.019 | mg/kg | SW846 7471B |
| Nickel | | 26.0 | 6.4 | 0.56 | mg/kg | SW846 6010D |
| Potassium | | 1780 | 1600 | 51 | mg/kg | SW846 6010D |
| Silver | | 0.52 J | 0.80 | 0.27 | mg/kg | SW846 6010D |
| Sodium | | 332 J | 1600 | 120 | mg/kg | SW846 6010D |
| Vanadium | | 39.7 | 8.0 | 0.30 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Zinc | | 63.5 | 8.0 | 3.7 | mg/kg | SW846 6010D |
| Cyanide | | 0.26 J | 0.36 | 0.18 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-5** | **S-146(14-16)** | | | | | |
| Acetone | | 25.0 | 8.4 | 4.2 | ug/kg | SW846 8260C |
| Carbon disulfide | | 0.83 J | 1.7 | 0.78 | ug/kg | SW846 8260C |
| Toluene | | 0.35 J | 0.84 | 0.32 | ug/kg | SW846 8260C |
| Aluminum | | 9990 | 57 | 9.2 | mg/kg | SW846 6010D |
| Arsenic | | 2.2 J | 2.3 | 0.32 | mg/kg | SW846 6010D |
| Barium | | 23.3 | 23 | 2.2 | mg/kg | SW846 6010D |
| Beryllium | | 0.34 | 0.23 | 0.091 | mg/kg | SW846 6010D |
| Calcium | | 211 J | 570 | 50 | mg/kg | SW846 6010D |
| Chromium | | 14.0 | 1.1 | 0.42 | mg/kg | SW846 6010D |
| Cobalt | | 5.7 | 5.7 | 0.32 | mg/kg | SW846 6010D |
| Copper | | 7.3 | 2.9 | 0.96 | mg/kg | SW846 6010D |
| Iron | | 14800 | 57 | 22 | mg/kg | SW846 6010D |
| Lead | | 7.7 | 2.3 | 0.47 | mg/kg | SW846 6010D |
| Magnesium | | 2240 | 570 | 16 | mg/kg | SW846 6010D |
| Manganese | | 127 | 1.7 | 0.47 | mg/kg | SW846 6010D |
| Nickel | | 9.3 | 4.6 | 0.40 | mg/kg | SW846 6010D |
| Potassium | | 1040 J | 1100 | 36 | mg/kg | SW846 6010D |
| Vanadium | | 20.8 | 5.7 | 0.22 | mg/kg | SW846 6010D |
| Zinc | | 40.7 | 5.7 | 2.6 | mg/kg | SW846 6010D |
| Cyanide | | 0.14 J | 0.27 | 0.14 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-6** | **S-146(17-19)** | | | | | |
| Acetone | | 5.3 J | 10 | 5.2 | ug/kg | SW846 8260C |
| Methylene chloride | | 5.7 | 5.2 | 2.6 | ug/kg | SW846 8260C |
| Aluminum | | 1080 | 57 | 9.2 | mg/kg | SW846 6010D |
| Arsenic | | 1.6 J | 2.3 | 0.32 | mg/kg | SW846 6010D |
| Barium | | 4.1 J | 23 | 2.2 | mg/kg | SW846 6010D |
| Beryllium | | 0.16 J | 0.23 | 0.091 | mg/kg | SW846 6010D |
| Calcium | | 58.7 J | 570 | 50 | mg/kg | SW846 6010D |
| Chromium | | 5.1 | 1.1 | 0.42 | mg/kg | SW846 6010D |
| Cobalt | | 0.87 J | 5.7 | 0.32 | mg/kg | SW846 6010D |
| Copper | | 1.1 J | 2.9 | 0.96 | mg/kg | SW846 6010D |
| Iron | | 2510 | 57 | 22 | mg/kg | SW846 6010D |
| Lead | | 1.0 J | 2.3 | 0.47 | mg/kg | SW846 6010D |
| Magnesium | | 72.2 J | 570 | 16 | mg/kg | SW846 6010D |
| Manganese | | 11.6 | 1.7 | 0.47 | mg/kg | SW846 6010D |
| Nickel | | 1.3 J | 4.6 | 0.40 | mg/kg | SW846 6010D |
| Potassium | | 120 J | 1100 | 36 | mg/kg | SW846 6010D |
| Vanadium | | 3.9 J | 5.7 | 0.22 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

| Lab Sample ID Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Zinc | | 5.3 J | 5.7 | 2.6 | mg/kg | SW846 6010D |
| **JC86986-7** | **S-147(12-14)** | | | | | |
| Acetone | | 92.4 | 19 | 9.5 | ug/kg | SW846 8260C |
| Carbon disulfide | | 5.3 | 3.8 | 1.8 | ug/kg | SW846 8260C |
| Acenaphthene | | 127 | 45 | 16 | ug/kg | SW846 8270D |
| Anthracene | | 284 | 45 | 28 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 115 | 45 | 13 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 67.7 | 45 | 21 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 99.7 | 45 | 20 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | | 45.0 | 45 | 23 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | | 33.6 J | 45 | 21 | ug/kg | SW846 8270D |
| Carbazole | | 644 | 91 | 6.6 | ug/kg | SW846 8270D |
| Chrysene | | 110 | 45 | 14 | ug/kg | SW846 8270D |
| Dibenzofuran | | 224 | 91 | 18 | ug/kg | SW846 8270D |
| Fluoranthene | | 497 | 45 | 20 | ug/kg | SW846 8270D |
| Fluorene | | 356 | 45 | 21 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | | 31.5 J | 45 | 21 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | | 1400 | 45 | 10 | ug/kg | SW846 8270D |
| Naphthalene | | 1780 | 45 | 13 | ug/kg | SW846 8270D |
| Phenanthrene | | 400 | 45 | 15 | ug/kg | SW846 8270D |
| Pyrene | | 538 | 45 | 15 | ug/kg | SW846 8270D |
| Aluminum | | 3240 | 68 | 11 | mg/kg | SW846 6010D |
| Antimony | | 0.88 J | 2.7 | 0.55 | mg/kg | SW846 6010D |
| Arsenic | | 8.1 | 2.7 | 0.38 | mg/kg | SW846 6010D |
| Barium | | 88.0 | 27 | 2.6 | mg/kg | SW846 6010D |
| Beryllium | | 2.3 | 0.27 | 0.11 | mg/kg | SW846 6010D |
| Cadmium | | 1.4 | 0.68 | 0.095 | mg/kg | SW846 6010D |
| Calcium | | 939 | 680 | 60 | mg/kg | SW846 6010D |
| Chromium | | 8.0 | 1.4 | 0.50 | mg/kg | SW846 6010D |
| Cobalt | | 42.2 | 6.8 | 0.38 | mg/kg | SW846 6010D |
| Copper | | 80.5 | 3.4 | 1.1 | mg/kg | SW846 6010D |
| Iron | | 7690 | 68 | 26 | mg/kg | SW846 6010D |
| Lead | | 45.1 | 2.7 | 0.55 | mg/kg | SW846 6010D |
| Magnesium | | 179 J | 680 | 18 | mg/kg | SW846 6010D |
| Manganese | | 28.2 | 2.0 | 0.55 | mg/kg | SW846 6010D |
| Mercury | | 0.078 | 0.042 | 0.019 | mg/kg | SW846 7471B |
| Nickel | | 77.2 | 5.4 | 0.47 | mg/kg | SW846 6010D |
| Potassium | | 228 J | 1400 | 43 | mg/kg | SW846 6010D |
| Selenium | | 5.5 | 2.7 | 0.88 | mg/kg | SW846 6010D |
| Vanadium | | 7.3 | 6.8 | 0.26 | mg/kg | SW846 6010D |
| Zinc | | 188 | 6.8 | 3.1 | mg/kg | SW846 6010D |
| Cyanide | | 1.5 | 0.41 | 0.20 | mg/kg | SW846 9012B/LACHAT |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

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| Lab Sample ID<br>Analyte | Client Sample ID | Result/<br>Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| **JC86986-8** | **S-147(18-20)** | | | | | |
| Acetone | | 240 | 16 | 8.2 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | | 56.1 | 16 | 6.2 | ug/kg | SW846 8260C |
| Anthracene | | 45.7 J | 51 | 31 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 42.7 J | 51 | 14 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 27.5 J | 51 | 23 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 33.2 J | 51 | 23 | ug/kg | SW846 8270D |
| Carbazole | | 15.5 J | 100 | 7.4 | ug/kg | SW846 8270D |
| Chrysene | | 36.6 J | 51 | 16 | ug/kg | SW846 8270D |
| Dibenzofuran | | 31.0 J | 100 | 21 | ug/kg | SW846 8270D |
| Fluoranthene | | 95.1 | 51 | 23 | ug/kg | SW846 8270D |
| Fluorene | | 42.0 J | 51 | 23 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | | 19.9 J | 51 | 12 | ug/kg | SW846 8270D |
| Naphthalene | | 103 | 51 | 14 | ug/kg | SW846 8270D |
| Phenanthrene | | 138 | 51 | 17 | ug/kg | SW846 8270D |
| Pyrene | | 73.4 | 51 | 16 | ug/kg | SW846 8270D |
| Aluminum | | 23600 | 74 | 12 | mg/kg | SW846 6010D |
| Antimony | | 0.61 J | 3.0 | 0.61 | mg/kg | SW846 6010D |
| Arsenic | | 5.3 | 3.0 | 0.41 | mg/kg | SW846 6010D |
| Barium | | 177 | 30 | 2.8 | mg/kg | SW846 6010D |
| Beryllium | | 1.0 | 0.30 | 0.12 | mg/kg | SW846 6010D |
| Cadmium | | 0.16 J | 0.74 | 0.10 | mg/kg | SW846 6010D |
| Calcium | | 3420 | 740 | 65 | mg/kg | SW846 6010D |
| Chromium | | 45.3 | 1.5 | 0.55 | mg/kg | SW846 6010D |
| Cobalt | | 10.6 | 7.4 | 0.41 | mg/kg | SW846 6010D |
| Copper | | 11.6 | 3.7 | 1.2 | mg/kg | SW846 6010D |
| Iron | | 23500 | 74 | 28 | mg/kg | SW846 6010D |
| Lead | | 17.2 | 3.0 | 0.61 | mg/kg | SW846 6010D |
| Magnesium | | 5660 | 740 | 20 | mg/kg | SW846 6010D |
| Manganese | | 356 | 2.2 | 0.61 | mg/kg | SW846 6010D |
| Mercury | | 0.047 J | 0.049 | 0.022 | mg/kg | SW846 7471B |
| Nickel | | 28.4 | 5.9 | 0.52 | mg/kg | SW846 6010D |
| Potassium | | 2130 | 1500 | 47 | mg/kg | SW846 6010D |
| Sodium | | 315 J | 1500 | 110 | mg/kg | SW846 6010D |
| Vanadium | | 41.7 | 7.4 | 0.28 | mg/kg | SW846 6010D |
| Zinc | | 68.9 | 7.4 | 3.4 | mg/kg | SW846 6010D |
| Cyanide | | 0.24 J | 0.47 | 0.23 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-9** | **S-148(8-10)** | | | | | |
| Benzene [a] | | 4010 | 1800 | 1400 | ug/kg | SW846 8260C |
| Carbon disulfide [a] | | 6430 J | 7400 | 3400 | ug/kg | SW846 8260C |
| Ethylbenzene [a] | | 3520 J | 3700 | 2000 | ug/kg | SW846 8260C |
| Toluene [a] | | 2310 J | 3700 | 1400 | ug/kg | SW846 8260C |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

3

| Lab Sample ID Client Sample ID Analyte | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| m,p-Xylene [a] | 9490 | 3700 | 2800 | ug/kg | SW846 8260C |
| o-Xylene [a] | 2980 J | 3700 | 2200 | ug/kg | SW846 8260C |
| Xylene (total) [a] | 12500 | 3700 | 2200 | ug/kg | SW846 8260C |
| 2,4-Dimethylphenol [d] | 17800 | 1600 | 560 | ug/kg | SW846 8270D |
| 2-Methylphenol [e] | 12000 | 630 | 200 | ug/kg | SW846 8270D |
| 3&4-Methylphenol | 40400 | 6300 | 2600 | ug/kg | SW846 8270D |
| Phenol | 37300 | 6300 | 1700 | ug/kg | SW846 8270D |
| Acenaphthene | 65700 | 3200 | 1100 | ug/kg | SW846 8270D |
| Acenaphthylene | 575000 | 32000 | 16000 | ug/kg | SW846 8270D |
| Anthracene | 969000 | 32000 | 19000 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | 551000 | 32000 | 9000 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | 438000 | 32000 | 14000 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | 500000 | 32000 | 14000 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | 245000 | 3200 | 1600 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | 212000 | 32000 | 15000 | ug/kg | SW846 8270D |
| Carbazole | 491000 | 63000 | 4600 | ug/kg | SW846 8270D |
| Chrysene | 502000 | 32000 | 10000 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | 81600 | 3200 | 1400 | ug/kg | SW846 8270D |
| Dibenzofuran | 720000 | 63000 | 13000 | ug/kg | SW846 8270D |
| Fluoranthene | 1840000 | 32000 | 14000 | ug/kg | SW846 8270D |
| Fluorene | 1100000 | 32000 | 15000 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | 237000 | 3200 | 1500 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | 495000 | 32000 | 7200 | ug/kg | SW846 8270D |
| Naphthalene | 2640000 | 32000 | 8900 | ug/kg | SW846 8270D |
| Phenanthrene | 3120000 | 32000 | 11000 | ug/kg | SW846 8270D |
| Pyrene | 1200000 | 32000 | 10000 | ug/kg | SW846 8270D |
| Aluminum | 3200 | 61 | 9.8 | mg/kg | SW846 6010D |
| Arsenic | 13.6 | 4.9 | 0.68 | mg/kg | SW846 6010D |
| Barium | 102 | 24 | 2.3 | mg/kg | SW846 6010D |
| Beryllium | 0.35 | 0.24 | 0.098 | mg/kg | SW846 6010D |
| Cadmium | 0.71 | 0.61 | 0.085 | mg/kg | SW846 6010D |
| Calcium | 5120 | 610 | 54 | mg/kg | SW846 6010D |
| Chromium | 118 | 1.2 | 0.45 | mg/kg | SW846 6010D |
| Cobalt | 4.7 J | 6.1 | 0.34 | mg/kg | SW846 6010D |
| Copper | 104 | 6.1 | 2.0 | mg/kg | SW846 6010D |
| Iron | 37400 | 120 | 47 | mg/kg | SW846 6010D |
| Lead | 86.0 | 4.9 | 1.0 | mg/kg | SW846 6010D |
| Magnesium | 899 | 610 | 17 | mg/kg | SW846 6010D |
| Manganese | 191 | 3.7 | 1.0 | mg/kg | SW846 6010D |
| Mercury | 0.26 | 0.041 | 0.018 | mg/kg | SW846 7471B |
| Nickel | 36.1 | 4.9 | 0.43 | mg/kg | SW846 6010D |
| Potassium | 365 J | 1200 | 39 | mg/kg | SW846 6010D |
| Selenium | 2.8 J | 4.9 | 1.6 | mg/kg | SW846 6010D |
| Vanadium | 12.7 | 6.1 | 0.23 | mg/kg | SW846 6010D |
| Zinc | 104 | 6.1 | 2.8 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Cyanide | | 8.0 | 0.35 | 0.17 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-10** | **S-148(16-18)** | | | | | |
| Acetone | | 89.0 | 15 | 7.5 | ug/kg | SW846 8260C |
| 2-Butanone (MEK) | | 20.9 | 15 | 5.6 | ug/kg | SW846 8260C |
| Benzo(a)anthracene | | 17.8 J | 54 | 15 | ug/kg | SW846 8270D |
| Fluoranthene | | 38.0 J | 54 | 24 | ug/kg | SW846 8270D |
| Naphthalene | | 75.4 | 54 | 15 | ug/kg | SW846 8270D |
| Phenanthrene | | 42.7 J | 54 | 18 | ug/kg | SW846 8270D |
| Pyrene | | 29.8 J | 54 | 17 | ug/kg | SW846 8270D |
| Aluminum | | 21100 | 84 | 13 | mg/kg | SW846 6010D |
| Arsenic | | 5.4 | 3.3 | 0.47 | mg/kg | SW846 6010D |
| Barium | | 152 | 33 | 3.2 | mg/kg | SW846 6010D |
| Beryllium | | 1.1 | 0.33 | 0.13 | mg/kg | SW846 6010D |
| Cadmium | | 0.15 J | 0.84 | 0.12 | mg/kg | SW846 6010D |
| Calcium | | 3160 | 840 | 74 | mg/kg | SW846 6010D |
| Chromium | | 46.9 | 1.7 | 0.62 | mg/kg | SW846 6010D |
| Cobalt | | 11.2 | 8.4 | 0.47 | mg/kg | SW846 6010D |
| Copper | | 14.7 | 4.2 | 1.4 | mg/kg | SW846 6010D |
| Iron | | 27600 | 84 | 32 | mg/kg | SW846 6010D |
| Lead | | 42.7 | 3.3 | 0.69 | mg/kg | SW846 6010D |
| Magnesium | | 5520 | 840 | 23 | mg/kg | SW846 6010D |
| Manganese | | 447 | 2.5 | 0.69 | mg/kg | SW846 6010D |
| Mercury | | 0.040 J | 0.049 | 0.022 | mg/kg | SW846 7471B |
| Nickel | | 29.9 | 6.7 | 0.59 | mg/kg | SW846 6010D |
| Potassium | | 2370 | 1700 | 53 | mg/kg | SW846 6010D |
| Sodium | | 257 J | 1700 | 130 | mg/kg | SW846 6010D |
| Vanadium | | 41.3 | 8.4 | 0.32 | mg/kg | SW846 6010D |
| Zinc | | 82.2 | 8.4 | 3.8 | mg/kg | SW846 6010D |
| Cyanide | | 0.55 | 0.48 | 0.24 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-11** | **S-151(0.5-2)** | | | | | |
| 3&4-Methylphenol | | 119 J | 150 | 61 | ug/kg | SW846 8270D |
| Phenol | | 92.8 J | 150 | 39 | ug/kg | SW846 8270D |
| Acenaphthene | | 5080 | 74 | 26 | ug/kg | SW846 8270D |
| Acenaphthylene | | 40300 | 740 | 380 | ug/kg | SW846 8270D |
| Anthracene | | 78800 | 7400 | 4600 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | | 93100 | 7400 | 2100 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | | 86400 | 7400 | 3400 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | | 101000 | 7400 | 3300 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | | 64700 | 740 | 370 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | | 40300 | 7400 | 3500 | ug/kg | SW846 8270D |
| Carbazole | | 29400 | 1500 | 110 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

| Lab Sample ID Client Sample ID Analyte | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| Chrysene | 77000 | 7400 | 2300 | ug/kg | SW846 8270D |
| Dibenzo(a,h)anthracene | 16400 | 740 | 330 | ug/kg | SW846 8270D |
| Dibenzofuran | 52600 | 1500 | 300 | ug/kg | SW846 8270D |
| Fluoranthene | 305000 | 7400 | 3300 | ug/kg | SW846 8270D |
| Fluorene | 91900 | 7400 | 3400 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | 56900 | 740 | 350 | ug/kg | SW846 8270D |
| 2-Methylnaphthalene | 22100 | 740 | 170 | ug/kg | SW846 8270D |
| Naphthalene | 100000 | 7400 | 2100 | ug/kg | SW846 8270D |
| Phenanthrene | 354000 | 7400 | 2500 | ug/kg | SW846 8270D |
| Pyrene | 227000 | 7400 | 2400 | ug/kg | SW846 8270D |
| Aluminum | 6750 | 55 | 8.9 | mg/kg | SW846 6010D |
| Antimony | 0.87 J | 2.2 | 0.45 | mg/kg | SW846 6010D |
| Arsenic | 6.9 | 2.2 | 0.31 | mg/kg | SW846 6010D |
| Barium | 84.3 | 22 | 2.1 | mg/kg | SW846 6010D |
| Beryllium | 0.75 | 0.22 | 0.088 | mg/kg | SW846 6010D |
| Cadmium | 0.31 J | 0.55 | 0.077 | mg/kg | SW846 6010D |
| Calcium | 17500 | 550 | 49 | mg/kg | SW846 6010D |
| Chromium | 16.7 | 1.1 | 0.41 | mg/kg | SW846 6010D |
| Cobalt | 3.3 J | 5.5 | 0.31 | mg/kg | SW846 6010D |
| Copper | 25.5 | 2.8 | 0.93 | mg/kg | SW846 6010D |
| Iron | 11600 | 55 | 21 | mg/kg | SW846 6010D |
| Lead | 102 | 2.2 | 0.45 | mg/kg | SW846 6010D |
| Magnesium | 3890 | 550 | 15 | mg/kg | SW846 6010D |
| Manganese | 350 | 1.7 | 0.45 | mg/kg | SW846 6010D |
| Mercury | 0.12 | 0.031 | 0.014 | mg/kg | SW846 7471B |
| Nickel | 9.4 | 4.4 | 0.39 | mg/kg | SW846 6010D |
| Potassium | 853 J | 1100 | 35 | mg/kg | SW846 6010D |
| Selenium | 0.74 J | 2.2 | 0.72 | mg/kg | SW846 6010D |
| Sodium | 273 J | 1100 | 86 | mg/kg | SW846 6010D |
| Vanadium | 13.7 | 5.5 | 0.21 | mg/kg | SW846 6010D |
| Zinc | 49.0 | 5.5 | 2.5 | mg/kg | SW846 6010D |
| Cyanide | 0.72 | 0.23 | 0.12 | mg/kg | SW846 9012B/LACHAT |
| **JC86986-12 S-151(3-5)** | | | | | |
| Acetone | 13.9 | 13 | 6.4 | ug/kg | SW846 8260C |
| Acenaphthene | 18.8 J | 43 | 15 | ug/kg | SW846 8270D |
| Anthracene | 52.6 | 43 | 26 | ug/kg | SW846 8270D |
| Benzo(a)anthracene | 138 | 43 | 12 | ug/kg | SW846 8270D |
| Benzo(a)pyrene | 134 | 43 | 19 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | 154 | 43 | 19 | ug/kg | SW846 8270D |
| Benzo(g,h,i)perylene | 82.7 | 43 | 21 | ug/kg | SW846 8270D |
| Benzo(k)fluoranthene | 54.1 | 43 | 20 | ug/kg | SW846 8270D |
| Carbazole | 24.5 J | 85 | 6.2 | ug/kg | SW846 8270D |
| Chrysene | 126 | 43 | 13 | ug/kg | SW846 8270D |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

| Lab Sample ID Client Sample ID<br>Analyte | Result/<br>Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|
| Fluoranthene | 282 | 43 | 19 | ug/kg | SW846 8270D |
| Fluorene | 21.1 J | 43 | 20 | ug/kg | SW846 8270D |
| Indeno(1,2,3-cd)pyrene | 68.7 | 43 | 20 | ug/kg | SW846 8270D |
| Naphthalene | 12.2 J | 43 | 12 | ug/kg | SW846 8270D |
| Phenanthrene | 202 | 43 | 14 | ug/kg | SW846 8270D |
| Pyrene | 248 | 43 | 14 | ug/kg | SW846 8270D |
| Aluminum | 16100 | 67 | 11 | mg/kg | SW846 6010D |
| Arsenic | 2.9 | 2.7 | 0.37 | mg/kg | SW846 6010D |
| Barium | 151 | 27 | 2.5 | mg/kg | SW846 6010D |
| Beryllium [f] | 0.84 | 0.53 | 0.21 | mg/kg | SW846 6010D |
| Calcium | 7430 | 670 | 59 | mg/kg | SW846 6010D |
| Chromium | 33.2 | 1.3 | 0.49 | mg/kg | SW846 6010D |
| Cobalt | 12.2 | 6.7 | 0.37 | mg/kg | SW846 6010D |
| Copper | 46.5 | 3.3 | 1.1 | mg/kg | SW846 6010D |
| Iron | 26300 | 67 | 26 | mg/kg | SW846 6010D |
| Lead | 103 | 2.7 | 0.55 | mg/kg | SW846 6010D |
| Magnesium | 8400 | 670 | 18 | mg/kg | SW846 6010D |
| Manganese | 382 | 2.0 | 0.55 | mg/kg | SW846 6010D |
| Mercury | 0.31 | 0.036 | 0.016 | mg/kg | SW846 7471B |
| Nickel | 25.1 | 5.3 | 0.47 | mg/kg | SW846 6010D |
| Potassium | 7750 | 1300 | 42 | mg/kg | SW846 6010D |
| Sodium | 173 J | 1300 | 100 | mg/kg | SW846 6010D |
| Vanadium | 36.7 | 6.7 | 0.25 | mg/kg | SW846 6010D |
| Zinc | 106 | 6.7 | 3.1 | mg/kg | SW846 6010D |
| **JC86986-13 SO-DUP-0425** | | | | | |
| Acetone | 27.8 | 10 | 5.1 | ug/kg | SW846 8260C |
| Benzo(a)anthracene | 18.9 J | 40 | 11 | ug/kg | SW846 8270D |
| Benzo(b)fluoranthene | 18.6 J | 40 | 18 | ug/kg | SW846 8270D |
| Chrysene | 14.9 J | 40 | 13 | ug/kg | SW846 8270D |
| Fluoranthene | 27.7 J | 40 | 18 | ug/kg | SW846 8270D |
| Phenanthrene | 22.8 J | 40 | 14 | ug/kg | SW846 8270D |
| Pyrene | 28.6 J | 40 | 13 | ug/kg | SW846 8270D |
| Aluminum | 18500 | 59 | 9.4 | mg/kg | SW846 6010D |
| Arsenic [f] | 2.4 J | 4.7 | 0.66 | mg/kg | SW846 6010D |
| Barium | 153 | 23 | 2.2 | mg/kg | SW846 6010D |
| Beryllium [f] | 0.91 | 0.47 | 0.19 | mg/kg | SW846 6010D |
| Cadmium | 0.12 J | 0.59 | 0.082 | mg/kg | SW846 6010D |
| Calcium | 1700 | 590 | 52 | mg/kg | SW846 6010D |
| Chromium | 33.7 | 1.2 | 0.43 | mg/kg | SW846 6010D |
| Cobalt [f] | 13.2 | 12 | 0.66 | mg/kg | SW846 6010D |
| Copper [f] | 54.2 | 5.9 | 2.0 | mg/kg | SW846 6010D |
| Iron | 30400 | 120 | 45 | mg/kg | SW846 6010D |
| Lead [f] | 36.8 | 4.7 | 0.96 | mg/kg | SW846 6010D |

# Summary of Hits

**Job Number:** JC86986
**Account:** Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Collected:** 04/25/19

3

| Lab Sample ID Analyte | Client Sample ID | Result/ Qual | RL | MDL | Units | Method |
|---|---|---|---|---|---|---|
| Magnesium | | 9700 | 590 | 16 | mg/kg | SW846 6010D |
| Manganese [f] | | 469 | 3.5 | 0.96 | mg/kg | SW846 6010D |
| Mercury | | 0.054 | 0.037 | 0.016 | mg/kg | SW846 7471B |
| Nickel | | 32.4 | 4.7 | 0.41 | mg/kg | SW846 6010D |
| Potassium | | 10300 | 1200 | 37 | mg/kg | SW846 6010D |
| Sodium | | 190 J | 1200 | 91 | mg/kg | SW846 6010D |
| Vanadium | | 42.9 | 5.9 | 0.22 | mg/kg | SW846 6010D |
| Zinc | | 124 | 5.9 | 2.7 | mg/kg | SW846 6010D |
| Cyanide | | 0.20 J | 0.28 | 0.14 | mg/kg | SW846 9012B/LACHAT |

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

## Sample Results

Report of Analysis

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-142(6-6.5) | | |
| **Lab Sample ID:** | JC86986-1 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 18.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 1.3 | 1.2 | 0.59 | mg/kg | 1 | 05/03/19 13:26 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 18.3 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-142(7-8) | | |
| **Lab Sample ID:** | JC86986-2 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 53.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 1C164399.D | 1 | 05/09/19 12:37 | PS | n/a | n/a | V1C7215 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 4.1 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 129 | 23 | 11 | ug/kg | |
| 71-43-2 | Benzene | ND | 1.1 | 0.86 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 11 | 0.98 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 4.6 | 1.0 | ug/kg | |
| 75-25-2 | Bromoform | ND | 11 | 0.92 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 11 | 2.3 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 35.5 | 23 | 8.5 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 4.6 | 2.1 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 4.6 | 1.3 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 4.6 | 0.81 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 11 | 1.6 | ug/kg | |
| 67-66-3 | Chloroform | ND | 4.6 | 0.85 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 11 | 4.5 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 4.6 | 0.92 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 4.6 | 1.9 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 4.6 | 0.77 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 2.3 | 0.74 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 2.3 | 0.69 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 2.3 | 0.82 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 2.3 | 0.78 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 11 | 1.4 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 2.3 | 0.88 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 2.3 | 1.1 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 2.3 | 1.5 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 2.3 | 2.2 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 2.3 | 1.5 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 4.6 | 0.93 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 4.6 | 0.80 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 4.6 | 0.74 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 2.3 | 1.3 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 11 | 1.7 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 11 | 2.9 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-142(7-8) | | |
| **Lab Sample ID:** | JC86986-2 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 53.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 4.6 | 1.6 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 11 | 3.2 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 4.6 | 1.6 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 2.3 | 0.80 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 11 | 3.5 | ug/kg | |
| 75-09-2 | Methylene chloride | 6.8 | 11 | 5.7 | ug/kg | J |
| 100-42-5 | Styrene | ND | 4.6 | 1.3 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 4.6 | 0.89 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 4.6 | 1.1 | ug/kg | |
| 108-88-3 | Toluene | ND | 2.3 | 0.86 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 11 | 2.3 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 11 | 2.3 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 4.6 | 0.97 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 4.6 | 0.78 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 2.3 | 1.7 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 11 | 1.5 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 4.6 | 1.1 | ug/kg | |
| | m,p-Xylene | ND | 2.3 | 1.7 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 2.3 | 1.3 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 2.3 | 1.3 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 105% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 95% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | | 79-127% |

(a) Associated CCV outside of control limits low.

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-142(7-8) | | |
| **Lab Sample ID:** | JC86986-2 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 53.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481566.D | 1 | 05/02/19 16:39 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.0 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 120 | 31 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 310 | 38 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 310 | 53 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 310 | 110 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 310 | 230 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 310 | 67 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 120 | 40 | ug/kg | |
| | 3&4-Methylphenol | 349 | 120 | 51 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 310 | 41 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 620 | 170 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 250 | 58 | ug/kg | |
| 108-95-2 | Phenol | ND | 120 | 32 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 310 | 47 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 310 | 37 | ug/kg | |
| 83-32-9 | Acenaphthene | 45.3 | 62 | 21 | ug/kg | J |
| 208-96-8 | Acenaphthylene | 63.4 | 62 | 32 | ug/kg | |
| 120-12-7 | Anthracene | 70.2 | 62 | 38 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 170 | 62 | 18 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 200 | 62 | 28 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 207 | 62 | 27 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 122 | 62 | 31 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 79.8 | 62 | 29 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 120 | 24 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 120 | 15 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 120 | 15 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 310 | 22 | ug/kg | |
| 86-74-8 | Carbazole | 18.4 | 120 | 9.0 | ug/kg | J |
| 218-01-9 | Chrysene | 181 | 62 | 20 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 120 | 13 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 120 | 27 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 120 | 22 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 120 | 20 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-142(7-8) | | |
| **Lab Sample ID:** | JC86986-2 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 53.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 120 | 18 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 120 | 13 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 120 | 15 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 62 | 19 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 62 | 31 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 120 | 52 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 28.1 | 62 | 27 | ug/kg | J |
| 132-64-9 | Dibenzofuran | 29.2 | 120 | 25 | ug/kg | J |
| 84-74-2 | Di-n-butyl phthalate | ND | 120 | 10 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 120 | 15 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 120 | 13 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 120 | 11 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 120 | 15 | ug/kg | |
| 206-44-0 | Fluoranthene | 284 | 62 | 28 | ug/kg | |
| 86-73-7 | Fluorene | 54.4 | 62 | 29 | ug/kg | J |
| 118-74-1 | Hexachlorobenzene | ND | 120 | 16 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 62 | 25 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 620 | 25 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 310 | 31 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 95.6 | 62 | 29 | ug/kg | |
| 78-59-1 | Isophorone | ND | 120 | 13 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 92.5 | 62 | 14 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 310 | 15 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 310 | 16 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 310 | 16 | ug/kg | |
| 91-20-3 | Naphthalene | 406 | 62 | 18 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 120 | 24 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 120 | 18 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 310 | 23 | ug/kg | |
| 85-01-8 | Phenanthrene | 210 | 62 | 21 | ug/kg | |
| 129-00-0 | Pyrene | 336 | 62 | 20 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 120 | 16 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 65% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 70% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 63% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 75% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 72% | | 39-124% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-142(7-8) | | |
| **Lab Sample ID:** | JC86986-2 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 53.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 73% | | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-142(7-8) | | |
| **Lab Sample ID:** | JC86986-2 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 53.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20500 | 97 | 16 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Antimony | 1.6 J | 3.9 | 0.80 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Arsenic | 48.7 | 3.9 | 0.54 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Barium | 203 | 39 | 3.7 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Beryllium | 1.5 | 0.39 | 0.16 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cadmium | 2.6 | 0.97 | 0.14 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Calcium | 4500 | 970 | 86 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Chromium | 176 | 1.9 | 0.72 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cobalt | 21.5 | 9.7 | 0.54 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Copper | 148 | 4.9 | 1.6 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Iron | 33300 | 97 | 37 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Lead | 279 | 3.9 | 0.80 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Magnesium | 5090 | 970 | 27 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Manganese | 967 | 2.9 | 0.80 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Mercury | 1.9 | 0.12 | 0.051 | mg/kg | 2 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 38.4 | 7.8 | 0.68 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Potassium | 2280 | 1900 | 62 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Selenium | 1.6 J | 3.9 | 1.3 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Silver | 2.1 | 0.97 | 0.33 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Sodium | 189 J | 1900 | 150 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Thallium | 1.1 U | 1.9 | 1.1 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Vanadium | 41.3 | 9.7 | 0.37 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Zinc | 751 | 9.7 | 4.5 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46623
(3) Prep QC Batch: MP14617
(4) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-142(7-8) | | |
| **Lab Sample ID:** | JC86986-2 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 53.6 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 1.6 | 0.51 | 0.25 | mg/kg | 1 | 05/03/19 13:28 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 53.6 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(8-10) | | |
| **Lab Sample ID:** | JC86986-3 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 77.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | D264378.D | 1 | 05/08/19 17:49 | TDN | n/a | n/a | VD10654 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume | Methanol Aliquot |
|---|---|---|---|
| Run #1 | 3.4 g | 10.0 ml | 20.0 ul |
| Run #2 | | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone [b] | ND | 10000 | 5100 | ug/kg | |
| 71-43-2 | Benzene | 2310 | 510 | 390 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5100 | 440 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2000 | 450 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5100 | 410 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5100 | 1000 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10000 | 3800 | ug/kg | |
| 75-15-0 | Carbon disulfide | 5320 | 2000 | 950 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2000 | 560 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2000 | 360 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5100 | 700 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2000 | 380 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 5100 | 2000 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2000 | 410 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2000 | 850 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2000 | 350 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1000 | 330 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1000 | 310 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1000 | 370 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1000 | 350 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [c] | ND | 5100 | 650 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1000 | 390 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane [c] | ND | 1000 | 480 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1000 | 670 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1000 | 980 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1000 | 680 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2000 | 420 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2000 | 360 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2000 | 330 | ug/kg | |
| 100-41-4 | Ethylbenzene | 1510 | 1000 | 560 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5100 | 780 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5100 | 1300 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(8-10) | | |
| **Lab Sample ID:** | JC86986-3 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 77.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2000 | 710 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5100 | 1400 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2000 | 720 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1000 | 360 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5100 | 1600 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5100 | 2600 | ug/kg | |
| 100-42-5 | Styrene | ND | 2000 | 590 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2000 | 400 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2000 | 470 | ug/kg | |
| 108-88-3 | Toluene | 1800 | 1000 | 380 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5100 | 1000 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5100 | 1000 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2000 | 440 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2000 | 350 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1000 | 780 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5100 | 700 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2000 | 480 | ug/kg | |
| | m,p-Xylene | 2880 | 1000 | 760 | ug/kg | |
| 95-47-6 | o-Xylene | 1380 | 1000 | 600 | ug/kg | |
| 1330-20-7 | Xylene (total) | 4260 | 1000 | 600 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 90% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | | 79-127% |

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(8-10) | | |
| **Lab Sample ID:** | JC86986-3 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 77.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | 6P481575.D | 2 | 05/02/19 20:23 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | 6P481621.D | 20 | 05/03/19 17:19 | AR | 05/01/19 10:00 | OP20081 | E6P2581 |
| Run #3 | 6P481617.D | 200 | 05/03/19 15:42 | AR | 05/01/19 10:00 | OP20081 | E6P2581 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.1 g | 1.0 ml |
| Run #2 | 30.1 g | 1.0 ml |
| Run #3 | 30.1 g | 1.0 ml |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 170 | 42 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 430 | 53 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 430 | 73 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [b] | 814 | 430 | 150 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [c] | ND | 430 | 320 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 430 | 92 | ug/kg | |
| 95-48-7 | 2-Methylphenol | 604 | 170 | 55 | ug/kg | |
| | 3&4-Methylphenol | 1760 | 170 | 70 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 430 | 57 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [d] | ND | 860 | 230 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 340 | 81 | ug/kg | |
| 108-95-2 | Phenol | 795 | 170 | 45 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 430 | 64 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 430 | 51 | ug/kg | |
| 83-32-9 | Acenaphthene | 14400 [e] | 860 | 300 | ug/kg | |
| 208-96-8 | Acenaphthylene | 68500 [e] | 860 | 440 | ug/kg | |
| 120-12-7 | Anthracene | 163000 [f] | 8600 | 5300 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 164000 [f] | 8600 | 2400 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 140000 [f] | 8600 | 3900 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 181000 [f] | 8600 | 3800 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 79800 [f] | 8600 | 4300 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 55400 [f] | 8600 | 4000 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 170 | 33 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [d] | ND | 170 | 21 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 170 | 20 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 430 | 31 | ug/kg | |
| 86-74-8 | Carbazole | 83500 [e] | 1700 | 120 | ug/kg | |
| 218-01-9 | Chrysene | 152000 [f] | 8600 | 2700 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 170 | 18 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 170 | 37 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(8-10) | | |
| **Lab Sample ID:** | JC86986-3 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 77.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 170 | 31 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 170 | 28 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 170 | 25 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 170 | 18 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 170 | 21 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 86 | 27 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 86 | 43 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 170 | 72 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 27900 [e] | 860 | 380 | ug/kg | |
| 132-64-9 | Dibenzofuran | 101000 [f] | 17000 | 3500 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 170 | 14 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [d] | ND | 170 | 21 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 170 | 18 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 170 | 15 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [d] | ND | 170 | 20 | ug/kg | |
| 206-44-0 | Fluoranthene | 519000 [f] | 8600 | 3800 | ug/kg | |
| 86-73-7 | Fluorene | 168000 [f] | 8600 | 3900 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 170 | 22 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 86 | 34 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [c] | ND | 860 | 34 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 430 | 42 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 68800 [f] | 8600 | 4000 | ug/kg | |
| 78-59-1 | Isophorone | ND | 170 | 18 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 37300 [e] | 860 | 190 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 430 | 20 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 430 | 21 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 430 | 22 | ug/kg | |
| 91-20-3 | Naphthalene | 228000 [f] | 8600 | 2400 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 170 | 33 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 170 | 25 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 430 | 31 | ug/kg | |
| 85-01-8 | Phenanthrene | 623000 [f] | 8600 | 2900 | ug/kg | |
| 129-00-0 | Pyrene | 381000 [f] | 8600 | 2700 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 170 | 22 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 60% | 63% | 55% | 23-115% |
| 4165-62-2 | Phenol-d5 | 62% | 68% | 59% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 80% | 53% | 0% [g] | 19-152% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(8-10) | | |
| **Lab Sample ID:** | JC86986-3 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 77.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 65% | 77% | 60% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 50% | 67% | 54% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 54% | 47% | 69% | 36-134% |

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(8-10) | | |
| **Lab Sample ID:** | JC86986-3 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 77.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6350 | 63 | 10 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Antimony | 1.9 J | 2.5 | 0.52 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Arsenic | 13.8 | 2.5 | 0.35 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Barium | 82.6 | 25 | 2.4 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Beryllium | 0.91 | 0.25 | 0.10 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cadmium | 1.4 | 0.63 | 0.089 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Calcium | 897 | 630 | 56 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Chromium | 53.3 | 1.3 | 0.47 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cobalt | 5.3 J | 6.3 | 0.35 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Copper | 108 | 3.2 | 1.1 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Iron | 12700 | 63 | 24 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Lead | 154 | 2.5 | 0.52 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Magnesium | 1500 | 630 | 17 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Manganese | 60.6 | 1.9 | 0.52 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Mercury | 1.8 | 0.084 | 0.037 | mg/kg | 2 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 31.6 | 5.1 | 0.44 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Potassium | 476 J | 1300 | 40 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Selenium | 2.0 J | 2.5 | 0.82 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Silver | 0.63 | 0.63 | 0.22 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Sodium | 98 U | 1300 | 98 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Thallium | 0.73 U | 1.3 | 0.73 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Vanadium | 30.0 | 6.3 | 0.24 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Zinc | 475 | 6.3 | 2.9 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46623
(3) Prep QC Batch: MP14617
(4) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(8-10) | | |
| **Lab Sample ID:** | JC86986-3 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 77.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 12.6 | 0.39 | 0.19 | mg/kg | 1 | 05/03/19 13:29 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 77.5 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(18.5-20.5) | | |
| **Lab Sample ID:** | JC86986-4 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 63.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3C151782.D | 1 | 05/05/19 17:47 | MD | n/a | n/a | V3C6820 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.5 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 134 | 14 | 7.2 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.72 | 0.54 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 7.2 | 0.62 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.9 | 0.63 | ug/kg | |
| 75-25-2 | Bromoform | ND | 7.2 | 0.58 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 7.2 | 1.4 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 31.7 | 14 | 5.4 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.9 | 1.3 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.9 | 0.79 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.9 | 0.51 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 7.2 | 0.98 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.9 | 0.53 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 7.2 | 2.8 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.9 | 0.58 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.9 | 1.2 | ug/kg | |
| 124-48-1 | Dibromochloromethane [b] | ND | 2.9 | 0.48 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.4 | 0.47 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.4 | 0.44 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.4 | 0.51 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.4 | 0.49 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 7.2 | 0.91 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.4 | 0.55 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.4 | 0.67 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.4 | 0.94 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.4 | 1.4 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.4 | 0.95 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.9 | 0.58 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.9 | 0.50 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.9 | 0.47 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.4 | 0.79 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 7.2 | 1.1 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 7.2 | 1.8 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(18.5-20.5) | | |
| **Lab Sample ID:** | JC86986-4 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 63.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2.9 | 1.0 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 7.2 | 2.0 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.9 | 1.0 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.4 | 0.50 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK [c] | ND | 7.2 | 2.2 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 7.2 | 3.6 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.9 | 0.82 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.9 | 0.56 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.9 | 0.66 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.4 | 0.54 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 7.2 | 1.4 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 7.2 | 1.4 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.9 | 0.61 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.9 | 0.49 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.4 | 1.1 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 7.2 | 0.97 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.9 | 0.67 | ug/kg | |
| | m,p-Xylene | ND | 1.4 | 1.1 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.4 | 0.83 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.4 | 0.83 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 114% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 104% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 112% | | 79-127% |

(a) Associated CCV outside of control limits low.
(b) Associated CCV and BS outside of control limits high, sample was ND.
(c) Associated CCV outside of control limits high, sample was ND.

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(18.5-20.5) | | |
| **Lab Sample ID:** | JC86986-4 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 63.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481562.D | 1 | 05/02/19 14:50 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | | | | | | | |

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

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 100 | 26 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 260 | 32 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 260 | 44 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 260 | 92 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 260 | 190 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 260 | 55 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 100 | 33 | ug/kg | |
| | 3&4-Methylphenol | ND | 100 | 43 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 260 | 34 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 520 | 140 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 210 | 49 | ug/kg | |
| 108-95-2 | Phenol | ND | 100 | 27 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 260 | 39 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 260 | 31 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 52 | 18 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 52 | 26 | ug/kg | |
| 120-12-7 | Anthracene | ND | 52 | 32 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 52 | 15 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 52 | 24 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 52 | 23 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 52 | 26 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 52 | 24 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 100 | 20 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 100 | 13 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 100 | 12 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 260 | 19 | ug/kg | |
| 86-74-8 | Carbazole | ND | 100 | 7.5 | ug/kg | |
| 218-01-9 | Chrysene | ND | 52 | 16 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 100 | 11 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 100 | 22 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 100 | 19 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 100 | 17 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(18.5-20.5) | | |
| **Lab Sample ID:** | JC86986-4 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 63.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 100 | 15 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 100 | 11 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 100 | 13 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 52 | 16 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 52 | 26 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 100 | 43 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 52 | 23 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 100 | 21 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 100 | 8.4 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 100 | 13 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 100 | 11 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 100 | 9.2 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 100 | 12 | ug/kg | |
| 206-44-0 | Fluoranthene | 23.6 | 52 | 23 | ug/kg | J |
| 86-73-7 | Fluorene | ND | 52 | 24 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 100 | 13 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 52 | 21 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 520 | 21 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 260 | 26 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 52 | 24 | ug/kg | |
| 78-59-1 | Isophorone | ND | 100 | 11 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 52 | 12 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 260 | 12 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 260 | 13 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 260 | 13 | ug/kg | |
| 91-20-3 | Naphthalene | 29.7 | 52 | 15 | ug/kg | J |
| 98-95-3 | Nitrobenzene | ND | 100 | 20 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 100 | 15 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 260 | 19 | ug/kg | |
| 85-01-8 | Phenanthrene | 21.8 | 52 | 17 | ug/kg | J |
| 129-00-0 | Pyrene | 20.2 | 52 | 17 | ug/kg | J |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 100 | 14 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 79% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 79% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 76% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 83% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 80% | | 39-124% |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(18.5-20.5) | | |
| **Lab Sample ID:** | JC86986-4 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 63.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 81% | | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(18.5-20.5) | | |
| **Lab Sample ID:** | JC86986-4 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 63.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 19200 | 80 | 13 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 0.65 U | 3.2 | 0.65 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 4.3 | 3.2 | 0.45 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 142 | 32 | 3.0 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 0.87 | 0.32 | 0.13 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 0.14 J | 0.80 | 0.11 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 3050 | 800 | 70 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 39.3 | 1.6 | 0.59 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 10.6 | 8.0 | 0.45 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 9.2 | 4.0 | 1.3 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 18800 | 80 | 31 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 12.3 | 3.2 | 0.65 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 5120 | 800 | 22 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 310 | 2.4 | 0.65 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 0.048 | 0.044 | 0.019 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [5] |
| Nickel | 26.0 | 6.4 | 0.56 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 1780 | 1600 | 51 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 1.0 U | 3.2 | 1.0 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 0.52 J | 0.80 | 0.27 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Sodium | 332 J | 1600 | 120 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 0.92 U | 1.6 | 0.92 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 39.7 | 8.0 | 0.30 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 63.5 | 8.0 | 3.7 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46623
(3) Instrument QC Batch: MA46628
(4) Prep QC Batch: MP14617
(5) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-149(18.5-20.5) | | |
| **Lab Sample ID:** | JC86986-4 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 63.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.26 J | 0.36 | 0.18 | mg/kg | 1 | 05/03/19 13:30 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 63.5 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(14-16) | | |
| **Lab Sample ID:** | JC86986-5 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 85.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3C151824.D | 1 | 05/06/19 18:26 | PS | n/a | n/a | V3C6821 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 7.0 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 25.0 | 8.4 | 4.2 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.42 | 0.32 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 4.2 | 0.36 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 1.7 | 0.37 | ug/kg | |
| 75-25-2 | Bromoform | ND | 4.2 | 0.34 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 4.2 | 0.84 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 8.4 | 3.1 | ug/kg | |
| 75-15-0 | Carbon disulfide | 0.83 | 1.7 | 0.78 | ug/kg | J |
| 56-23-5 | Carbon tetrachloride | ND | 1.7 | 0.46 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 1.7 | 0.30 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 4.2 | 0.58 | ug/kg | |
| 67-66-3 | Chloroform | ND | 1.7 | 0.31 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 4.2 | 1.6 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 1.7 | 0.34 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 1.7 | 0.70 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 1.7 | 0.28 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 0.84 | 0.27 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 0.84 | 0.26 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 0.84 | 0.30 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 0.84 | 0.29 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 4.2 | 0.53 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 0.84 | 0.32 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 0.84 | 0.39 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.84 | 0.55 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 0.84 | 0.80 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 0.84 | 0.56 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 1.7 | 0.34 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 1.7 | 0.30 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 1.7 | 0.27 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 0.84 | 0.46 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 4.2 | 0.64 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 4.2 | 1.1 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(14-16) | | |
| **Lab Sample ID:** | JC86986-5 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 85.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 1.7 | 0.59 | ug/kg | |
| 79-20-9 | Methyl Acetate [a] | ND | 4.2 | 1.2 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 1.7 | 0.59 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 0.84 | 0.30 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 4.2 | 1.3 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 4.2 | 2.1 | ug/kg | |
| 100-42-5 | Styrene | ND | 1.7 | 0.48 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 1.7 | 0.33 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 1.7 | 0.39 | ug/kg | |
| 108-88-3 | Toluene | 0.35 | 0.84 | 0.32 | ug/kg | J |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 4.2 | 0.84 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 4.2 | 0.84 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 1.7 | 0.36 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 1.7 | 0.29 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 0.84 | 0.64 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 4.2 | 0.57 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 1.7 | 0.39 | ug/kg | |
| | m,p-Xylene | ND | 0.84 | 0.63 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 0.84 | 0.49 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 0.84 | 0.49 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 98% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 109% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 102% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 106% | | 79-127% |

(a) Associated CCV outside of control limits low.

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(14-16) | | |
| **Lab Sample ID:** | JC86986-5 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 85.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481554.D | 1 | 05/02/19 11:34 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | | | | | | | |

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

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 78 | 19 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 190 | 24 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 190 | 33 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 190 | 69 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 190 | 150 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 190 | 41 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 78 | 25 | ug/kg | |
| | 3&4-Methylphenol | ND | 78 | 32 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 190 | 26 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 390 | 100 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 160 | 36 | ug/kg | |
| 108-95-2 | Phenol | ND | 78 | 20 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 190 | 29 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 190 | 23 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 39 | 13 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 39 | 20 | ug/kg | |
| 120-12-7 | Anthracene | ND | 39 | 24 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 39 | 11 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 39 | 18 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 39 | 17 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 39 | 19 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 39 | 18 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 78 | 15 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 78 | 9.5 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 78 | 9.2 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 190 | 14 | ug/kg | |
| 86-74-8 | Carbazole | ND | 78 | 5.6 | ug/kg | |
| 218-01-9 | Chrysene | ND | 39 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 78 | 8.3 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 78 | 17 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 78 | 14 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 78 | 13 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(14-16) | | |
| **Lab Sample ID:** | JC86986-5 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 85.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 78 | 11 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 78 | 8.3 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 78 | 9.4 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 39 | 12 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 39 | 19 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 78 | 32 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 39 | 17 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 78 | 16 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 78 | 6.3 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 78 | 9.7 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 78 | 8.3 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 78 | 6.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 78 | 9.1 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 39 | 17 | ug/kg | |
| 86-73-7 | Fluorene | ND | 39 | 18 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 78 | 9.8 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 39 | 16 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 390 | 15 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 190 | 19 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 39 | 18 | ug/kg | |
| 78-59-1 | Isophorone | ND | 78 | 8.3 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 39 | 8.8 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 190 | 9.2 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 190 | 9.7 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 190 | 10 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 39 | 11 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 78 | 15 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 78 | 11 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 190 | 14 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 39 | 13 | ug/kg | |
| 129-00-0 | Pyrene | ND | 39 | 12 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 78 | 10 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 78% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 78% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 73% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 78% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 75% | | 39-124% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(14-16) | | |
| **Lab Sample ID:** | JC86986-5 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 85.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 83% | | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(14-16) | | |
| **Lab Sample ID:** | JC86986-5 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 85.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9990 | 57 | 9.2 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Antimony | 0.47 U | 2.3 | 0.47 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 2.2 J | 2.3 | 0.32 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 23.3 | 23 | 2.2 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Beryllium | 0.34 | 0.23 | 0.091 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Cadmium | 0.080 U | 0.57 | 0.080 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 211 J | 570 | 50 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Chromium | 14.0 | 1.1 | 0.42 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 5.7 | 5.7 | 0.32 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 7.3 | 2.9 | 0.96 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 14800 | 57 | 22 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Lead | 7.7 | 2.3 | 0.47 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 2240 | 570 | 16 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Manganese | 127 | 1.7 | 0.47 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 0.015 U | 0.034 | 0.015 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [5] |
| Nickel | 9.3 | 4.6 | 0.40 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 1040 J | 1100 | 36 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Selenium | 0.74 U | 2.3 | 0.74 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 0.19 U | 0.57 | 0.19 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Sodium | 89 U | 1100 | 89 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [3] | SW846 3050B [4] |
| Thallium | 0.66 U | 1.1 | 0.66 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 20.8 | 5.7 | 0.22 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 40.7 | 5.7 | 2.6 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46623
(3) Instrument QC Batch: MA46628
(4) Prep QC Batch: MP14617
(5) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(14-16) | | |
| **Lab Sample ID:** | JC86986-5 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 85.1 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |



**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.14 J | 0.27 | 0.14 | mg/kg | 1 | 05/03/19 13:32 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 85.1 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(17-19) | | |
| **Lab Sample ID:** | JC86986-6 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 85.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 1C164400.D | 1 | 05/09/19 13:04 | PS | n/a | n/a | V1C7215 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.6 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 5.3 | 10 | 5.2 | ug/kg | J |
| 71-43-2 | Benzene | ND | 0.52 | 0.39 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.2 | 0.45 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.1 | 0.46 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.2 | 0.42 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.2 | 1.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 3.9 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.1 | 0.97 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.1 | 0.57 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.1 | 0.37 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.2 | 0.71 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.1 | 0.39 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 5.2 | 2.0 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.1 | 0.42 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.1 | 0.87 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.1 | 0.35 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.34 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.32 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.37 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.36 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [a] | ND | 5.2 | 0.66 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.40 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.49 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.68 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.0 | 0.99 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.0 | 0.69 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.1 | 0.42 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.1 | 0.37 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.1 | 0.34 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.57 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.2 | 0.79 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.2 | 1.3 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(17-19) | | |
| **Lab Sample ID:** | JC86986-6 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 85.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2.1 | 0.72 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.2 | 1.4 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.1 | 0.73 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.37 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.2 | 1.6 | ug/kg | |
| 75-09-2 | Methylene chloride | 5.7 | 5.2 | 2.6 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.1 | 0.60 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.1 | 0.41 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.1 | 0.48 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.0 | 0.39 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.2 | 1.0 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.2 | 1.0 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.1 | 0.44 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.1 | 0.36 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.79 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.2 | 0.71 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.1 | 0.49 | ug/kg | |
| | m,p-Xylene | ND | 1.0 | 0.78 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.61 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.0 | 0.61 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 87% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 92% | | 79-127% |

(a) Associated CCV outside of control limits low.

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(17-19) | | |
| **Lab Sample ID:** | JC86986-6 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 85.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P129377.D | 1 | 05/07/19 17:50 | CC | 05/06/19 17:35 | OP20110 | EP5856 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.0 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 78 | 19 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 190 | 24 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 190 | 33 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 190 | 69 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 190 | 150 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 190 | 42 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 78 | 25 | ug/kg | |
| | 3&4-Methylphenol | ND | 78 | 32 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 190 | 26 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 390 | 100 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 160 | 36 | ug/kg | |
| 108-95-2 | Phenol | ND | 78 | 20 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 190 | 29 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 190 | 23 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 39 | 13 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 39 | 20 | ug/kg | |
| 120-12-7 | Anthracene | ND | 39 | 24 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 39 | 11 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 39 | 18 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 39 | 17 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 39 | 19 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 39 | 18 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 78 | 15 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 78 | 9.5 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 78 | 9.2 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 190 | 14 | ug/kg | |
| 86-74-8 | Carbazole | ND | 78 | 5.6 | ug/kg | |
| 218-01-9 | Chrysene | ND | 39 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 78 | 8.3 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 78 | 17 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 78 | 14 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 78 | 13 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(17-19) | | |
| **Lab Sample ID:** | JC86986-6 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 85.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 78 | 11 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 78 | 8.3 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 78 | 9.4 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 39 | 12 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 39 | 19 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 78 | 32 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 39 | 17 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 78 | 16 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 78 | 6.3 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 78 | 9.7 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 78 | 8.3 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 78 | 6.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 78 | 9.1 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 39 | 17 | ug/kg | |
| 86-73-7 | Fluorene | ND | 39 | 18 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 78 | 9.8 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 39 | 16 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 390 | 15 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 190 | 19 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 39 | 18 | ug/kg | |
| 78-59-1 | Isophorone | ND | 78 | 8.3 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 39 | 8.8 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 190 | 9.2 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 190 | 9.7 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 190 | 10 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 39 | 11 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 78 | 15 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 78 | 11 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 190 | 14 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 39 | 13 | ug/kg | |
| 129-00-0 | Pyrene | ND | 39 | 12 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 78 | 10 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 60% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 60% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 56% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 68% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 71% | | 39-124% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(17-19) | | |
| **Lab Sample ID:** | JC86986-6 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 85.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 64% | | 36-134% |

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(17-19) | | |
| **Lab Sample ID:** | JC86986-6 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 85.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 1080 | 57 | 9.2 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Antimony | 0.47 U | 2.3 | 0.47 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Arsenic | 1.6 J | 2.3 | 0.32 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Barium | 4.1 J | 23 | 2.2 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Beryllium | 0.16 J | 0.23 | 0.091 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cadmium | 0.080 U | 0.57 | 0.080 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Calcium | 58.7 J | 570 | 50 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Chromium | 5.1 | 1.1 | 0.42 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cobalt | 0.87 J | 5.7 | 0.32 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Copper | 1.1 J | 2.9 | 0.96 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Iron | 2510 | 57 | 22 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Lead | 1.0 J | 2.3 | 0.47 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Magnesium | 72.2 J | 570 | 16 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Manganese | 11.6 | 1.7 | 0.47 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Mercury | 0.015 U | 0.035 | 0.015 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 1.3 J | 4.6 | 0.40 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Potassium | 120 J | 1100 | 36 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Selenium | 0.74 U | 2.3 | 0.74 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Silver | 0.19 U | 0.57 | 0.19 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Sodium | 89 U | 1100 | 89 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Thallium | 0.66 U | 1.1 | 0.66 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Vanadium | 3.9 J | 5.7 | 0.22 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Zinc | 5.3 J | 5.7 | 2.6 | mg/kg | 1 | 04/29/19 | 04/30/19 | ND | SW846 6010D [2] | SW846 3050B [3] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46623
(3) Prep QC Batch: MP14617
(4) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-146(17-19) | | |
| **Lab Sample ID:** | JC86986-6 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 85.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.12 U | 0.24 | 0.12 | mg/kg | 1 | 05/03/19 13:33 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 85.9 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(12-14) | | |
| **Lab Sample ID:** | JC86986-7 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 73.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3C151784.D | 1 | 05/05/19 18:34 | MD | n/a | n/a | V3C6820 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 3.6 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 92.4 | 19 | 9.5 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.95 | 0.71 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 9.5 | 0.81 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 3.8 | 0.84 | ug/kg | |
| 75-25-2 | Bromoform | ND | 9.5 | 0.76 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 9.5 | 1.9 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 19 | 7.1 | ug/kg | |
| 75-15-0 | Carbon disulfide | 5.3 | 3.8 | 1.8 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 3.8 | 1.0 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 3.8 | 0.67 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 9.5 | 1.3 | ug/kg | |
| 67-66-3 | Chloroform | ND | 3.8 | 0.70 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 9.5 | 3.7 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 3.8 | 0.77 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 3.8 | 1.6 | ug/kg | |
| 124-48-1 | Dibromochloromethane [b] | ND | 3.8 | 0.64 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.9 | 0.62 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.9 | 0.58 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.9 | 0.68 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.9 | 0.65 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 9.5 | 1.2 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.9 | 0.73 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.9 | 0.89 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.9 | 1.2 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.9 | 1.8 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.9 | 1.3 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 3.8 | 0.77 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 3.8 | 0.67 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 3.8 | 0.62 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.9 | 1.0 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 9.5 | 1.4 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 9.5 | 2.4 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(12-14) | | |
| **Lab Sample ID:** | JC86986-7 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 73.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 3.8 | 1.3 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 9.5 | 2.6 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 3.8 | 1.3 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.9 | 0.67 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK [c] | ND | 9.5 | 3.0 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 9.5 | 4.7 | ug/kg | |
| 100-42-5 | Styrene | ND | 3.8 | 1.1 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 3.8 | 0.74 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 3.8 | 0.88 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.9 | 0.71 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 9.5 | 1.9 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 9.5 | 1.9 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 3.8 | 0.81 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 3.8 | 0.65 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.9 | 1.4 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 9.5 | 1.3 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 3.8 | 0.89 | ug/kg | |
| | m,p-Xylene | ND | 1.9 | 1.4 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.9 | 1.1 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.9 | 1.1 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 106% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 113% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 101% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 117% | | 79-127% |

(a) Associated CCV outside of control limits low.
(b) Associated CCV and BS outside of control limits high, sample was ND.
(c) Associated CCV outside of control limits high, sample was ND.

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(12-14) | | |
| **Lab Sample ID:** | JC86986-7 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 73.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481565.D | 1 | 05/02/19 16:14 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.1 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 91 | 22 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 230 | 28 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 230 | 39 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 230 | 81 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 230 | 170 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 230 | 48 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 91 | 29 | ug/kg | |
| | 3&4-Methylphenol | ND | 91 | 37 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 230 | 30 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 450 | 120 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 180 | 43 | ug/kg | |
| 108-95-2 | Phenol | ND | 91 | 24 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 230 | 34 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 230 | 27 | ug/kg | |
| 83-32-9 | Acenaphthene | 127 | 45 | 16 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 45 | 23 | ug/kg | |
| 120-12-7 | Anthracene | 284 | 45 | 28 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 115 | 45 | 13 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 67.7 | 45 | 21 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 99.7 | 45 | 20 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 45.0 | 45 | 23 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 33.6 | 45 | 21 | ug/kg | J |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 91 | 17 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 91 | 11 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 91 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 230 | 16 | ug/kg | |
| 86-74-8 | Carbazole | 644 | 91 | 6.6 | ug/kg | |
| 218-01-9 | Chrysene | 110 | 45 | 14 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 91 | 9.7 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 91 | 20 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 91 | 16 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 91 | 15 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(12-14) | | |
| **Lab Sample ID:** | JC86986-7 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 73.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 91 | 13 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 91 | 9.7 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 91 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 45 | 14 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 45 | 23 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 91 | 38 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 45 | 20 | ug/kg | |
| 132-64-9 | Dibenzofuran | 224 | 91 | 18 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 91 | 7.4 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 91 | 11 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 91 | 9.7 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 91 | 8.1 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 91 | 11 | ug/kg | |
| 206-44-0 | Fluoranthene | 497 | 45 | 20 | ug/kg | |
| 86-73-7 | Fluorene | 356 | 45 | 21 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 91 | 11 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 45 | 18 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 450 | 18 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 230 | 22 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 31.5 | 45 | 21 | ug/kg | J |
| 78-59-1 | Isophorone | ND | 91 | 9.7 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 1400 | 45 | 10 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 230 | 11 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 230 | 11 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 230 | 12 | ug/kg | |
| 91-20-3 | Naphthalene | 1780 | 45 | 13 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 91 | 17 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 91 | 13 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 230 | 17 | ug/kg | |
| 85-01-8 | Phenanthrene | 400 | 45 | 15 | ug/kg | |
| 129-00-0 | Pyrene | 538 | 45 | 15 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 91 | 12 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 68% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 68% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 74% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 69% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 66% | | 39-124% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(12-14) | | |
| **Lab Sample ID:** | JC86986-7 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 73.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 69% | | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(12-14) | | |
| **Lab Sample ID:** | JC86986-7 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 73.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 3240 | 68 | 11 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Antimony | 0.88 J | 2.7 | 0.55 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Arsenic | 8.1 | 2.7 | 0.38 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Barium | 88.0 | 27 | 2.6 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Beryllium | 2.3 | 0.27 | 0.11 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cadmium | 1.4 | 0.68 | 0.095 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Calcium | 939 | 680 | 60 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Chromium | 8.0 | 1.4 | 0.50 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cobalt | 42.2 | 6.8 | 0.38 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Copper | 80.5 | 3.4 | 1.1 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Iron | 7690 | 68 | 26 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Lead | 45.1 | 2.7 | 0.55 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Magnesium | 179 J | 680 | 18 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Manganese | 28.2 | 2.0 | 0.55 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Mercury | 0.078 | 0.042 | 0.019 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 77.2 | 5.4 | 0.47 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Potassium | 228 J | 1400 | 43 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Selenium | 5.5 | 2.7 | 0.88 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Silver | 0.23 U | 0.68 | 0.23 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Sodium | 110 U | 1400 | 110 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Thallium | 0.78 U | 1.4 | 0.78 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Vanadium | 7.3 | 6.8 | 0.26 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Zinc | 188 | 6.8 | 3.1 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46628
(3) Prep QC Batch: MP14617
(4) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(12-14) | | |
| **Lab Sample ID:** | JC86986-7 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 73.3 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 1.5 | 0.41 | 0.20 | mg/kg | 1 | 05/03/19 13:34 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 73.3 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(18-20) | | |
| **Lab Sample ID:** | JC86986-8 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 64.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3C151785.D | 1 | 05/05/19 18:57 | MD | n/a | n/a | V3C6820 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 4.7 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 240 | 16 | 8.2 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.82 | 0.62 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 8.2 | 0.71 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 3.3 | 0.73 | ug/kg | |
| 75-25-2 | Bromoform | ND | 8.2 | 0.66 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 8.2 | 1.6 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 56.1 | 16 | 6.2 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 3.3 | 1.5 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 3.3 | 0.91 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 3.3 | 0.58 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 8.2 | 1.1 | ug/kg | |
| 67-66-3 | Chloroform | ND | 3.3 | 0.61 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 8.2 | 3.2 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 3.3 | 0.67 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 3.3 | 1.4 | ug/kg | |
| 124-48-1 | Dibromochloromethane [b] | ND | 3.3 | 0.56 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.6 | 0.54 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.6 | 0.50 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.6 | 0.59 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.6 | 0.57 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 8.2 | 1.0 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.6 | 0.63 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.6 | 0.78 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.6 | 1.1 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.6 | 1.6 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.6 | 1.1 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 3.3 | 0.67 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 3.3 | 0.58 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 3.3 | 0.54 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.6 | 0.91 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 8.2 | 1.3 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 8.2 | 2.1 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(18-20) | | |
| **Lab Sample ID:** | JC86986-8 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 64.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 3.3 | 1.1 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 8.2 | 2.3 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 3.3 | 1.2 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.6 | 0.58 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK [c] | ND | 8.2 | 2.6 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 8.2 | 4.1 | ug/kg | |
| 100-42-5 | Styrene | ND | 3.3 | 0.95 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 3.3 | 0.64 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 3.3 | 0.76 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.6 | 0.62 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 8.2 | 1.6 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 8.2 | 1.6 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 3.3 | 0.70 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 3.3 | 0.56 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.6 | 1.3 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 8.2 | 1.1 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 3.3 | 0.77 | ug/kg | |
| | m,p-Xylene | ND | 1.6 | 1.2 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.6 | 0.96 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.6 | 0.96 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 105% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 116% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 101% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 106% | | 79-127% |

(a) Associated CCV outside of control limits low.
(b) Associated CCV and BS outside of control limits high, sample was ND.
(c) Associated CCV outside of control limits high, sample was ND.

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(18-20) | | |
| **Lab Sample ID:** | JC86986-8 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 64.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481561.D | 1 | 05/02/19 14:25 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | | | | | | | |

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

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 100 | 25 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 250 | 31 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 250 | 44 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 250 | 91 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 250 | 190 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 250 | 55 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 100 | 33 | ug/kg | |
| | 3&4-Methylphenol | ND | 100 | 42 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 250 | 34 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 510 | 140 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 200 | 48 | ug/kg | |
| 108-95-2 | Phenol | ND | 100 | 27 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 250 | 38 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 250 | 30 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 51 | 18 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 51 | 26 | ug/kg | |
| 120-12-7 | Anthracene | 45.7 | 51 | 31 | ug/kg | J |
| 56-55-3 | Benzo(a)anthracene | 42.7 | 51 | 14 | ug/kg | J |
| 50-32-8 | Benzo(a)pyrene | 27.5 | 51 | 23 | ug/kg | J |
| 205-99-2 | Benzo(b)fluoranthene | 33.2 | 51 | 23 | ug/kg | J |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 51 | 25 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 51 | 24 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 100 | 20 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 100 | 12 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 100 | 12 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 250 | 18 | ug/kg | |
| 86-74-8 | Carbazole | 15.5 | 100 | 7.4 | ug/kg | J |
| 218-01-9 | Chrysene | 36.6 | 51 | 16 | ug/kg | J |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 100 | 11 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 100 | 22 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 100 | 18 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 100 | 17 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(18-20) | | |
| **Lab Sample ID:** | JC86986-8 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 64.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 100 | 15 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 100 | 11 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 100 | 12 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 51 | 16 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 51 | 26 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 100 | 43 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 51 | 23 | ug/kg | |
| 132-64-9 | Dibenzofuran | 31.0 | 100 | 21 | ug/kg | J |
| 84-74-2 | Di-n-butyl phthalate | ND | 100 | 8.3 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 100 | 13 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 100 | 11 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 100 | 9.1 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 100 | 12 | ug/kg | |
| 206-44-0 | Fluoranthene | 95.1 | 51 | 23 | ug/kg | |
| 86-73-7 | Fluorene | 42.0 | 51 | 23 | ug/kg | J |
| 118-74-1 | Hexachlorobenzene | ND | 100 | 13 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 51 | 21 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 510 | 20 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 250 | 25 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 51 | 24 | ug/kg | |
| 78-59-1 | Isophorone | ND | 100 | 11 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 19.9 | 51 | 12 | ug/kg | J |
| 88-74-4 | 2-Nitroaniline | ND | 250 | 12 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 250 | 13 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 250 | 13 | ug/kg | |
| 91-20-3 | Naphthalene | 103 | 51 | 14 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 100 | 20 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 100 | 15 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 250 | 19 | ug/kg | |
| 85-01-8 | Phenanthrene | 138 | 51 | 17 | ug/kg | |
| 129-00-0 | Pyrene | 73.4 | 51 | 16 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 100 | 13 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 74% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 74% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 70% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 80% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 69% | | 39-124% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(18-20) | | |
| **Lab Sample ID:** | JC86986-8 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 64.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 81% | | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(18-20) | | |
| **Lab Sample ID:** | JC86986-8 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 64.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 23600 | 74 | 12 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 0.61 J | 3.0 | 0.61 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 5.3 | 3.0 | 0.41 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 177 | 30 | 2.8 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 1.0 | 0.30 | 0.12 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 0.16 J | 0.74 | 0.10 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 3420 | 740 | 65 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 45.3 | 1.5 | 0.55 | mg/kg | 1 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Cobalt | 10.6 | 7.4 | 0.41 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 11.6 | 3.7 | 1.2 | mg/kg | 1 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Iron | 23500 | 74 | 28 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 17.2 | 3.0 | 0.61 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 5660 | 740 | 20 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 356 | 2.2 | 0.61 | mg/kg | 1 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Mercury | 0.047 J | 0.049 | 0.022 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [5] |
| Nickel | 28.4 | 5.9 | 0.52 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 2130 | 1500 | 47 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 0.96 U | 3.0 | 0.96 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 0.25 U | 0.74 | 0.25 | mg/kg | 1 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Sodium | 315 J | 1500 | 110 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 0.86 U | 1.5 | 0.86 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Vanadium | 41.7 | 7.4 | 0.28 | mg/kg | 1 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Zinc | 68.9 | 7.4 | 3.4 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46628
(3) Instrument QC Batch: MA46638
(4) Prep QC Batch: MP14617
(5) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-147(18-20) | | |
| **Lab Sample ID:** | JC86986-8 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 64.5 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |



**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.24 J | 0.47 | 0.23 | mg/kg | 1 | 05/03/19 13:38 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 64.5 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(8-10) | | |
| **Lab Sample ID:** | JC86986-9 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 78.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | D264379.D | 1 | 05/08/19 18:18 | TDN | n/a | n/a | VD10654 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume | Methanol Aliquot |
|---|---|---|---|
| Run #1 | 3.7 g | 10.0 ml | 5.0 ul |
| Run #2 | | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone [b] | ND | 37000 | 18000 | ug/kg | |
| 71-43-2 | Benzene | 4010 | 1800 | 1400 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 18000 | 1600 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 7400 | 1600 | ug/kg | |
| 75-25-2 | Bromoform | ND | 18000 | 1500 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 18000 | 3700 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 37000 | 14000 | ug/kg | |
| 75-15-0 | Carbon disulfide | 6430 | 7400 | 3400 | ug/kg | J |
| 56-23-5 | Carbon tetrachloride | ND | 7400 | 2000 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 7400 | 1300 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 18000 | 2500 | ug/kg | |
| 67-66-3 | Chloroform | ND | 7400 | 1400 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 18000 | 7200 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 7400 | 1500 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 7400 | 3100 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 7400 | 1300 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 3700 | 1200 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 3700 | 1100 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 3700 | 1300 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 3700 | 1300 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [c] | ND | 18000 | 2300 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 3700 | 1400 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane [c] | ND | 3700 | 1700 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 3700 | 2400 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 3700 | 3500 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 3700 | 2500 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 7400 | 1500 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 7400 | 1300 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 7400 | 1200 | ug/kg | |
| 100-41-4 | Ethylbenzene | 3520 | 3700 | 2000 | ug/kg | J |
| 76-13-1 | Freon 113 | ND | 18000 | 2800 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 18000 | 4700 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(8-10) | | |
| **Lab Sample ID:** | JC86986-9 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 78.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 7400 | 2600 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 18000 | 5100 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 7400 | 2600 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 3700 | 1300 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 18000 | 5800 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 18000 | 9200 | ug/kg | |
| 100-42-5 | Styrene | ND | 7400 | 2100 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 7400 | 1400 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 7400 | 1700 | ug/kg | |
| 108-88-3 | Toluene | 2310 | 3700 | 1400 | ug/kg | J |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 18000 | 3700 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 18000 | 3700 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 7400 | 1600 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 7400 | 1300 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 3700 | 2800 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 18000 | 2500 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 7400 | 1700 | ug/kg | |
| | m,p-Xylene | 9490 | 3700 | 2800 | ug/kg | |
| 95-47-6 | o-Xylene | 2980 | 3700 | 2200 | ug/kg | J |
| 1330-20-7 | Xylene (total) | 12500 | 3700 | 2200 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 100% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 91% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 95% | | 79-127% |

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(8-10) | | |
| **Lab Sample ID:** | JC86986-9 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 78.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | 6P481576.D | 5 | 05/02/19 20:48 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | 6P481622.D | 50 | 05/03/19 17:44 | AR | 05/01/19 10:00 | OP20081 | E6P2581 |
| Run #3 | 6P481618.D | 500 | 05/03/19 16:06 | AR | 05/01/19 10:00 | OP20081 | E6P2581 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 20.0 g | 1.0 ml |
| Run #2 | 20.0 g | 1.0 ml |
| Run #3 | 20.0 g | 1.0 ml |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 630 | 160 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 1600 | 190 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 1600 | 270 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [b] | 17800 | 1600 | 560 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [c] | ND | 1600 | 1200 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 1600 | 340 | ug/kg | |
| 95-48-7 | 2-Methylphenol | 12000 | 630 | 200 | ug/kg | |
| | 3&4-Methylphenol | 40400 [d] | 6300 | 2600 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 1600 | 210 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [e] | ND | 3200 | 850 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 1300 | 300 | ug/kg | |
| 108-95-2 | Phenol | 37300 [d] | 6300 | 1700 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 1600 | 240 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 1600 | 190 | ug/kg | |
| 83-32-9 | Acenaphthene | 65700 [d] | 3200 | 1100 | ug/kg | |
| 208-96-8 | Acenaphthylene | 575000 [f] | 32000 | 16000 | ug/kg | |
| 120-12-7 | Anthracene | 969000 [f] | 32000 | 19000 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 551000 [f] | 32000 | 9000 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 438000 [f] | 32000 | 14000 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 500000 [f] | 32000 | 14000 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 245000 [d] | 3200 | 1600 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 212000 [f] | 32000 | 15000 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 630 | 120 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [e] | ND | 630 | 77 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 630 | 76 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 1600 | 110 | ug/kg | |
| 86-74-8 | Carbazole | 491000 [f] | 63000 | 4600 | ug/kg | |
| 218-01-9 | Chrysene | 502000 [f] | 32000 | 10000 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 630 | 68 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 630 | 140 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(8-10) | | |
| **Lab Sample ID:** | JC86986-9 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 78.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 630 | 110 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 630 | 100 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 630 | 92 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 630 | 68 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 630 | 77 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 320 | 98 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 320 | 160 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 630 | 260 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 81600 [d] | 3200 | 1400 | ug/kg | |
| 132-64-9 | Dibenzofuran | 720000 [f] | 63000 | 13000 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 630 | 52 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [e] | ND | 630 | 79 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 630 | 68 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 630 | 56 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [e] | ND | 630 | 74 | ug/kg | |
| 206-44-0 | Fluoranthene | 1840000 [f] | 32000 | 14000 | ug/kg | |
| 86-73-7 | Fluorene | 1100000 [f] | 32000 | 15000 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 630 | 80 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 320 | 130 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [c] | ND | 3200 | 130 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 1600 | 160 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 237000 [d] | 3200 | 1500 | ug/kg | |
| 78-59-1 | Isophorone | ND | 630 | 68 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 495000 [f] | 32000 | 7200 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 1600 | 75 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 1600 | 79 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 1600 | 82 | ug/kg | |
| 91-20-3 | Naphthalene | 2640000 [f] | 32000 | 8900 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 630 | 120 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 630 | 92 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 1600 | 120 | ug/kg | |
| 85-01-8 | Phenanthrene | 3120000 [f] | 32000 | 11000 | ug/kg | |
| 129-00-0 | Pyrene | 1200000 [f] | 32000 | 10000 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 630 | 83 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 57% | 58% | 0% [g] | 23-115% |
| 4165-62-2 | Phenol-d5 | 70% | 68% | 0% [g] | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 91% | 63% | 0% [g] | 19-152% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(8-10) | | |
| **Lab Sample ID:** | JC86986-9 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 78.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 120% | 74% | 0% [g] | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 50% | 60% | 0% [g] | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 54% | 52% | 0% [g] | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(8-10) | | |
| **Lab Sample ID:** | JC86986-9 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 78.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 3200 | 61 | 9.8 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 1.0 U | 4.9 | 1.0 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Arsenic | 13.6 | 4.9 | 0.68 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Barium | 102 | 24 | 2.3 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium | 0.35 | 0.24 | 0.098 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cadmium | 0.71 | 0.61 | 0.085 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 5120 | 610 | 54 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 118 | 1.2 | 0.45 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 4.7 J | 6.1 | 0.34 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 104 | 6.1 | 2.0 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Iron | 37400 | 120 | 47 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Lead | 86.0 | 4.9 | 1.0 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Magnesium | 899 | 610 | 17 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 191 | 3.7 | 1.0 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Mercury | 0.26 | 0.041 | 0.018 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [5] |
| Nickel | 36.1 | 4.9 | 0.43 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 365 J | 1200 | 39 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 2.8 J | 4.9 | 1.6 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Silver | 0.41 U | 1.2 | 0.41 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Sodium | 95 U | 1200 | 95 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium | 1.4 U | 2.4 | 1.4 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Vanadium | 12.7 | 6.1 | 0.23 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 104 | 6.1 | 2.8 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46628
(3) Instrument QC Batch: MA46638
(4) Prep QC Batch: MP14617
(5) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(8-10) | | |
| **Lab Sample ID:** | JC86986-9 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 78.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 8.0 | 0.35 | 0.17 | mg/kg | 1 | 05/03/19 13:40 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 78.8 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(16-18) | | |
| **Lab Sample ID:** | JC86986-10 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 59.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3C151786.D | 1 | 05/05/19 19:20 | MD | n/a | n/a | V3C6820 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.6 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 89.0 | 15 | 7.5 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.75 | 0.56 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 7.5 | 0.64 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 3.0 | 0.66 | ug/kg | |
| 75-25-2 | Bromoform | ND | 7.5 | 0.60 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 7.5 | 1.5 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | 20.9 | 15 | 5.6 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 3.0 | 1.4 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 3.0 | 0.82 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 3.0 | 0.53 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 7.5 | 1.0 | ug/kg | |
| 67-66-3 | Chloroform | ND | 3.0 | 0.56 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 7.5 | 2.9 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 3.0 | 0.61 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 3.0 | 1.2 | ug/kg | |
| 124-48-1 | Dibromochloromethane [b] | ND | 3.0 | 0.50 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.5 | 0.49 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.5 | 0.46 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.5 | 0.54 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.5 | 0.51 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 7.5 | 0.95 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.5 | 0.57 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.5 | 0.70 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.5 | 0.98 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.5 | 1.4 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.5 | 1.0 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 3.0 | 0.61 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 3.0 | 0.53 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 3.0 | 0.49 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.5 | 0.82 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 7.5 | 1.1 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 7.5 | 1.9 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(16-18) | | |
| **Lab Sample ID:** | JC86986-10 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 59.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 3.0 | 1.0 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 7.5 | 2.1 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 3.0 | 1.1 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.5 | 0.53 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK [c] | ND | 7.5 | 2.3 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 7.5 | 3.7 | ug/kg | |
| 100-42-5 | Styrene | ND | 3.0 | 0.86 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 3.0 | 0.58 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 3.0 | 0.69 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.5 | 0.56 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 7.5 | 1.5 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 7.5 | 1.5 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 3.0 | 0.64 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 3.0 | 0.51 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.5 | 1.1 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 7.5 | 1.0 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 3.0 | 0.70 | ug/kg | |
| | m,p-Xylene | ND | 1.5 | 1.1 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.5 | 0.87 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.5 | 0.87 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 111% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 106% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 117% | | 79-127% |

(a) Associated CCV outside of control limits low.
(b) Associated CCV and BS outside of control limits high, sample was ND.
(c) Associated CCV outside of control limits high, sample was ND.

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(16-18) | | |
| **Lab Sample ID:** | JC86986-10 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 59.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481563A.D | 1 | 05/02/19 15:25 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 31.1 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 110 | 27 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 270 | 33 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 270 | 46 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 270 | 96 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 270 | 200 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 270 | 58 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 110 | 34 | ug/kg | |
| | 3&4-Methylphenol | ND | 110 | 44 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 270 | 36 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 540 | 140 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 220 | 50 | ug/kg | |
| 108-95-2 | Phenol | ND | 110 | 28 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 270 | 40 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 270 | 32 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 54 | 19 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 54 | 27 | ug/kg | |
| 120-12-7 | Anthracene | ND | 54 | 33 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 17.8 | 54 | 15 | ug/kg | J |
| 50-32-8 | Benzo(a)pyrene | ND | 54 | 24 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 54 | 24 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 54 | 27 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 54 | 25 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 110 | 21 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 110 | 13 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 110 | 13 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 270 | 19 | ug/kg | |
| 86-74-8 | Carbazole | ND | 110 | 7.8 | ug/kg | |
| 218-01-9 | Chrysene | ND | 54 | 17 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 110 | 12 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 110 | 23 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 110 | 19 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 110 | 17 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(16-18) | | |
| **Lab Sample ID:** | JC86986-10 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 59.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 110 | 16 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 110 | 11 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 110 | 13 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 54 | 17 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 54 | 27 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 110 | 45 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 54 | 24 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 110 | 22 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 110 | 8.8 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 110 | 13 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 110 | 11 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 110 | 9.6 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 110 | 13 | ug/kg | |
| 206-44-0 | Fluoranthene | 38.0 | 54 | 24 | ug/kg | J |
| 86-73-7 | Fluorene | ND | 54 | 25 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 110 | 14 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 54 | 22 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 540 | 21 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 270 | 27 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 54 | 25 | ug/kg | |
| 78-59-1 | Isophorone | ND | 110 | 12 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 54 | 12 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 270 | 13 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 270 | 13 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 270 | 14 | ug/kg | |
| 91-20-3 | Naphthalene | 75.4 | 54 | 15 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 110 | 21 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 110 | 16 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 270 | 20 | ug/kg | |
| 85-01-8 | Phenanthrene | 42.7 | 54 | 18 | ug/kg | J |
| 129-00-0 | Pyrene | 29.8 | 54 | 17 | ug/kg | J |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 110 | 14 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 74% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 74% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 72% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 78% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 76% | | 39-124% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(16-18) | | |
| **Lab Sample ID:** | JC86986-10 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 59.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 78% | | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(16-18) | | |
| **Lab Sample ID:** | JC86986-10 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 59.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 21100 | 84 | 13 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Antimony | 0.69 U | 3.3 | 0.69 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Arsenic | 5.4 | 3.3 | 0.47 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Barium | 152 | 33 | 3.2 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Beryllium | 1.1 | 0.33 | 0.13 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cadmium | 0.15 J | 0.84 | 0.12 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Calcium | 3160 | 840 | 74 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Chromium | 46.9 | 1.7 | 0.62 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cobalt | 11.2 | 8.4 | 0.47 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Copper | 14.7 | 4.2 | 1.4 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Iron | 27600 | 84 | 32 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Lead | 42.7 | 3.3 | 0.69 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Magnesium | 5520 | 840 | 23 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Manganese | 447 | 2.5 | 0.69 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Mercury | 0.040 J | 0.049 | 0.022 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 29.9 | 6.7 | 0.59 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Potassium | 2370 | 1700 | 53 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Selenium | 1.1 U | 3.3 | 1.1 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Silver | 0.28 U | 0.84 | 0.28 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Sodium | 257 J | 1700 | 130 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Thallium | 0.97 U | 1.7 | 0.97 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Vanadium | 41.3 | 8.4 | 0.32 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Zinc | 82.2 | 8.4 | 3.8 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46628
(3) Prep QC Batch: MP14617
(4) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-148(16-18) | | |
| **Lab Sample ID:** | JC86986-10 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 59.8 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.55 | 0.48 | 0.24 | mg/kg | 1 | 05/03/19 13:41 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 59.8 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(0.5-2) | | |
| **Lab Sample ID:** | JC86986-11 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 89.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | D264377.D | 1 | 05/08/19 17:20 | TDN | n/a | n/a | VD10654 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume | Methanol Aliquot |
|---|---|---|---|
| Run #1 | 4.1 g | 10.0 ml | 50.0 ul |
| Run #2 | | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone [b] | ND | 2800 | 1400 | ug/kg | |
| 71-43-2 | Benzene | ND | 140 | 110 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 1400 | 120 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 570 | 130 | ug/kg | |
| 75-25-2 | Bromoform | ND | 1400 | 110 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 1400 | 280 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 2800 | 1100 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 570 | 260 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 570 | 160 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 570 | 100 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 1400 | 190 | ug/kg | |
| 67-66-3 | Chloroform | ND | 570 | 110 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 1400 | 560 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 570 | 120 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 570 | 240 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 570 | 96 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 280 | 92 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 280 | 86 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 280 | 100 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 280 | 97 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane [c] | ND | 1400 | 180 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 280 | 110 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane [c] | ND | 280 | 130 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 280 | 190 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 280 | 270 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 280 | 190 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 570 | 120 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 570 | 100 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 570 | 93 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 280 | 160 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 1400 | 220 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 1400 | 360 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(0.5-2) | | |
| **Lab Sample ID:** | JC86986-11 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 89.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 570 | 200 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 1400 | 390 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 570 | 200 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 280 | 100 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 1400 | 440 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 1400 | 710 | ug/kg | |
| 100-42-5 | Styrene | ND | 570 | 160 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 570 | 110 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 570 | 130 | ug/kg | |
| 108-88-3 | Toluene | ND | 280 | 110 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 1400 | 280 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 1400 | 280 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 570 | 120 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 570 | 97 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 280 | 220 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 1400 | 190 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 570 | 130 | ug/kg | |
| | m,p-Xylene | ND | 280 | 210 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 280 | 170 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 280 | 170 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 98% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 90% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 95% | | 79-127% |

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(0.5-2) | | |
| **Lab Sample ID:** | JC86986-11 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 89.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481574.D | 2 | 05/02/19 19:59 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | 6P481620.D | 20 | 05/03/19 16:55 | AR | 05/01/19 10:00 | OP20081 | E6P2581 |
| Run #3 | 6P481616.D | 200 | 05/03/19 15:18 | AR | 05/01/19 10:00 | OP20081 | E6P2581 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.0 g | 1.0 ml |
| Run #2 | 30.0 g | 1.0 ml |
| Run #3 | 30.0 g | 1.0 ml |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 150 | 37 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 370 | 46 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 370 | 63 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 370 | 130 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 370 | 280 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 370 | 80 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 150 | 47 | ug/kg | |
| | 3&4-Methylphenol | 119 | 150 | 61 | ug/kg | J |
| 88-75-5 | 2-Nitrophenol | ND | 370 | 49 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 740 | 200 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 300 | 70 | ug/kg | |
| 108-95-2 | Phenol | 92.8 | 150 | 39 | ug/kg | J |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 370 | 56 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 370 | 44 | ug/kg | |
| 83-32-9 | Acenaphthene | 5080 | 74 | 26 | ug/kg | |
| 208-96-8 | Acenaphthylene | 40300 [c] | 740 | 380 | ug/kg | |
| 120-12-7 | Anthracene | 78800 [d] | 7400 | 4600 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 93100 [d] | 7400 | 2100 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 86400 [d] | 7400 | 3400 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 101000 [d] | 7400 | 3300 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 64700 [c] | 740 | 370 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 40300 [d] | 7400 | 3500 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 150 | 29 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 150 | 18 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 150 | 18 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 370 | 27 | ug/kg | |
| 86-74-8 | Carbazole | 29400 [c] | 1500 | 110 | ug/kg | |
| 218-01-9 | Chrysene | 77000 [d] | 7400 | 2300 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 150 | 16 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 150 | 32 | ug/kg | |

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(0.5-2) | | |
| **Lab Sample ID:** | JC86986-11 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 89.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 150 | 27 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 150 | 24 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 150 | 21 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 150 | 16 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 150 | 18 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 74 | 23 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 74 | 37 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 150 | 62 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 16400 [c] | 740 | 330 | ug/kg | |
| 132-64-9 | Dibenzofuran | 52600 [c] | 1500 | 300 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 150 | 12 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 150 | 19 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 150 | 16 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 150 | 13 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 150 | 17 | ug/kg | |
| 206-44-0 | Fluoranthene | 305000 [d] | 7400 | 3300 | ug/kg | |
| 86-73-7 | Fluorene | 91900 [d] | 7400 | 3400 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 150 | 19 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 74 | 30 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 740 | 30 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 370 | 37 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 56900 [c] | 740 | 350 | ug/kg | |
| 78-59-1 | Isophorone | ND | 150 | 16 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 22100 [c] | 740 | 170 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 370 | 18 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 370 | 19 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 370 | 19 | ug/kg | |
| 91-20-3 | Naphthalene | 100000 [d] | 7400 | 2100 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 150 | 29 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 150 | 21 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 370 | 27 | ug/kg | |
| 85-01-8 | Phenanthrene | 354000 [d] | 7400 | 2500 | ug/kg | |
| 129-00-0 | Pyrene | 227000 [d] | 7400 | 2400 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 150 | 19 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 64% | 59% | 59% | 23-115% |
| 4165-62-2 | Phenol-d5 | 65% | 67% | 66% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 67% | 60% | 67% | 19-152% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(0.5-2) | | |
| **Lab Sample ID:** | JC86986-11 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 89.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 73% | 71% | 59% | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 63% | 69% | 69% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 58% | 64% | 80% | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(0.5-2) | | |
| **Lab Sample ID:** | JC86986-11 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 89.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6750 | 55 | 8.9 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Antimony | 0.87 J | 2.2 | 0.45 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Arsenic | 6.9 | 2.2 | 0.31 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Barium | 84.3 | 22 | 2.1 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Beryllium | 0.75 | 0.22 | 0.088 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cadmium | 0.31 J | 0.55 | 0.077 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Calcium | 17500 | 550 | 49 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Chromium | 16.7 | 1.1 | 0.41 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Cobalt | 3.3 J | 5.5 | 0.31 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Copper | 25.5 | 2.8 | 0.93 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Iron | 11600 | 55 | 21 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Lead | 102 | 2.2 | 0.45 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Magnesium | 3890 | 550 | 15 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Manganese | 350 | 1.7 | 0.45 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Mercury | 0.12 | 0.031 | 0.014 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [4] |
| Nickel | 9.4 | 4.4 | 0.39 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Potassium | 853 J | 1100 | 35 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Selenium | 0.74 J | 2.2 | 0.72 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Silver | 0.19 U | 0.55 | 0.19 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Sodium | 273 J | 1100 | 86 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Thallium | 0.64 U | 1.1 | 0.64 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Vanadium | 13.7 | 5.5 | 0.21 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |
| Zinc | 49.0 | 5.5 | 2.5 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [3] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46628
(3) Prep QC Batch: MP14617
(4) Prep QC Batch: MP14631

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(0.5-2) | | |
| **Lab Sample ID:** | JC86986-11 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 89.7 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.72 | 0.23 | 0.12 | mg/kg | 1 | 05/03/19 13:42 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 89.7 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(3-5) | | |
| **Lab Sample ID:** | JC86986-12 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 78.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3C151787.D | 1 | 05/05/19 19:43 | MD | n/a | n/a | V3C6820 |
| Run #2 | | | | | | | |

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

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 13.9 | 13 | 6.4 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.64 | 0.48 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 6.4 | 0.55 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.6 | 0.57 | ug/kg | |
| 75-25-2 | Bromoform | ND | 6.4 | 0.52 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 6.4 | 1.3 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 13 | 4.8 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.6 | 1.2 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.6 | 0.70 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.6 | 0.45 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 6.4 | 0.88 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.6 | 0.48 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 6.4 | 2.5 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.6 | 0.52 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.6 | 1.1 | ug/kg | |
| 124-48-1 | Dibromochloromethane [b] | ND | 2.6 | 0.43 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.3 | 0.42 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.3 | 0.39 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.3 | 0.46 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.3 | 0.44 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 6.4 | 0.81 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.3 | 0.49 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.3 | 0.60 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.3 | 0.84 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.3 | 1.2 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.3 | 0.85 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.6 | 0.52 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.6 | 0.45 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.6 | 0.42 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.3 | 0.71 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 6.4 | 0.97 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 6.4 | 1.6 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(3-5) | | |
| **Lab Sample ID:** | JC86986-12 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 78.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2.6 | 0.89 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 6.4 | 1.8 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.6 | 0.90 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.3 | 0.45 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK [c] | ND | 6.4 | 2.0 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 6.4 | 3.2 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.6 | 0.74 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.6 | 0.50 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.6 | 0.59 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.3 | 0.48 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 6.4 | 1.3 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 6.4 | 1.3 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.6 | 0.54 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.6 | 0.44 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.3 | 0.97 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 6.4 | 0.87 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.6 | 0.60 | ug/kg | |
| | m,p-Xylene | ND | 1.3 | 0.95 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.3 | 0.75 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.3 | 0.75 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 102% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 106% | | 79-127% |

(a) Associated CCV outside of control limits low.
(b) Associated CCV and BS outside of control limits high, sample was ND.
(c) Associated CCV outside of control limits high, sample was ND.

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(3-5) | | |
| **Lab Sample ID:** | JC86986-12 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 78.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481564.D | 1 | 05/02/19 15:50 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.0 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 85 | 21 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 210 | 26 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 210 | 36 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 210 | 76 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 210 | 160 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 210 | 46 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 85 | 27 | ug/kg | |
| | 3&4-Methylphenol | ND | 85 | 35 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 210 | 28 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 430 | 110 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 170 | 40 | ug/kg | |
| 108-95-2 | Phenol | ND | 85 | 22 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 210 | 32 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 210 | 25 | ug/kg | |
| 83-32-9 | Acenaphthene | 18.8 | 43 | 15 | ug/kg | J |
| 208-96-8 | Acenaphthylene | ND | 43 | 22 | ug/kg | |
| 120-12-7 | Anthracene | 52.6 | 43 | 26 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 138 | 43 | 12 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 134 | 43 | 19 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 154 | 43 | 19 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 82.7 | 43 | 21 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 54.1 | 43 | 20 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 85 | 16 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 85 | 10 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 85 | 10 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 210 | 15 | ug/kg | |
| 86-74-8 | Carbazole | 24.5 | 85 | 6.2 | ug/kg | J |
| 218-01-9 | Chrysene | 126 | 43 | 13 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 85 | 9.1 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 85 | 18 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 85 | 15 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 85 | 14 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(3-5) | | |
| **Lab Sample ID:** | JC86986-12 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 78.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 85 | 12 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 85 | 9.1 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 85 | 10 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 43 | 13 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 43 | 21 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 85 | 36 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 43 | 19 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 85 | 17 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 85 | 6.9 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 85 | 11 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 85 | 9.1 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 85 | 7.6 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 85 | 10 | ug/kg | |
| 206-44-0 | Fluoranthene | 282 | 43 | 19 | ug/kg | |
| 86-73-7 | Fluorene | 21.1 | 43 | 20 | ug/kg | J |
| 118-74-1 | Hexachlorobenzene | ND | 85 | 11 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 43 | 17 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 430 | 17 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 210 | 21 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 68.7 | 43 | 20 | ug/kg | |
| 78-59-1 | Isophorone | ND | 85 | 9.1 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 43 | 9.6 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 210 | 10 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 210 | 11 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 210 | 11 | ug/kg | |
| 91-20-3 | Naphthalene | 12.2 | 43 | 12 | ug/kg | J |
| 98-95-3 | Nitrobenzene | ND | 85 | 16 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 85 | 12 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 210 | 16 | ug/kg | |
| 85-01-8 | Phenanthrene | 202 | 43 | 14 | ug/kg | |
| 129-00-0 | Pyrene | 248 | 43 | 14 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 85 | 11 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 83% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 82% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 77% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 86% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 82% | | 39-124% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(3-5) | | |
| **Lab Sample ID:** | JC86986-12 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 78.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 84% | | 36-134% |

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

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(3-5) | | |
| **Lab Sample ID:** | JC86986-12 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 78.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 16100 | 67 | 11 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony | 0.55 U | 2.7 | 0.55 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Arsenic | 2.9 | 2.7 | 0.37 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Barium | 151 | 27 | 2.5 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium [a] | 0.84 | 0.53 | 0.21 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Cadmium | 0.093 U | 0.67 | 0.093 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 7430 | 670 | 59 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 33.2 | 1.3 | 0.49 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt | 12.2 | 6.7 | 0.37 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Copper | 46.5 | 3.3 | 1.1 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Iron | 26300 | 67 | 26 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Lead | 103 | 2.7 | 0.55 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Magnesium | 8400 | 670 | 18 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese | 382 | 2.0 | 0.55 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Mercury | 0.31 | 0.036 | 0.016 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [5] |
| Nickel | 25.1 | 5.3 | 0.47 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 7750 | 1300 | 42 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium | 0.87 U | 2.7 | 0.87 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Silver | 0.23 U | 0.67 | 0.23 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Sodium | 173 J | 1300 | 100 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium [a] | 1.5 U | 2.7 | 1.5 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Vanadium | 36.7 | 6.7 | 0.25 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 106 | 6.7 | 3.1 | mg/kg | 1 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46628
(3) Instrument QC Batch: MA46638
(4) Prep QC Batch: MP14617
(5) Prep QC Batch: MP14631

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

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | S-151(3-5) | | |
| **Lab Sample ID:** | JC86986-12 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 78.2 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.15 U | 0.30 | 0.15 | mg/kg | 1 | 05/03/19 13:44 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 78.2 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0425 | | |
| **Lab Sample ID:** | JC86986-13 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 82.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3C151788.D | 1 | 05/05/19 20:07 | MD | n/a | n/a | V3C6820 |
| Run #2 | | | | | | | |

| | Initial Weight |
|---|---|
| Run #1 | 5.9 g |
| Run #2 | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 27.8 | 10 | 5.1 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.51 | 0.39 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.1 | 0.44 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.45 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.1 | 0.41 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.1 | 1.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 3.8 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.0 | 0.95 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.56 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.36 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.1 | 0.70 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.38 | ug/kg | |
| 74-87-3 | Chloromethane [a] | ND | 5.1 | 2.0 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.0 | 0.42 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.0 | 0.85 | ug/kg | |
| 124-48-1 | Dibromochloromethane [b] | ND | 2.0 | 0.35 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.33 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.31 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.37 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.35 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.1 | 0.65 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.39 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.48 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.67 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.0 | 0.98 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.0 | 0.68 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.42 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.36 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.33 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.56 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.1 | 0.78 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.1 | 1.3 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0425 | | |
| **Lab Sample ID:** | JC86986-13 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8260C | **Percent Solids:** | 82.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**VOA TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | 2.0 | 0.71 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.1 | 1.4 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.0 | 0.72 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.36 | ug/kg | |
| 108-10-1 | 4-Methyl-2-pentanone(MIBK [c] | ND | 5.1 | 1.6 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.1 | 2.6 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.0 | 0.59 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.40 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.0 | 0.47 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.0 | 0.38 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.1 | 1.0 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.1 | 1.0 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.44 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.35 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.78 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.1 | 0.70 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.0 | 0.48 | ug/kg | |
| | m,p-Xylene | ND | 1.0 | 0.76 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.60 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.0 | 0.60 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 109% | | 75-130% |
| 2037-26-5 | Toluene-D8 | 101% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 107% | | 79-127% |

(a) Associated CCV outside of control limits low.
(b) Associated CCV and BS outside of control limits high, sample was ND.
(c) Associated CCV outside of control limits high, sample was ND.

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0425 | | |
| **Lab Sample ID:** | JC86986-13 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 82.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 6P481559.D | 1 | 05/02/19 13:36 | AR | 05/01/19 10:00 | OP20081 | E6P2579 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 30.0 g | 1.0 ml |
| Run #2 | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 80 | 20 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 200 | 25 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 200 | 34 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol [a] | ND | 200 | 72 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol [b] | ND | 200 | 150 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 200 | 43 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 80 | 26 | ug/kg | |
| | 3&4-Methylphenol | ND | 80 | 33 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 200 | 27 | ug/kg | |
| 100-02-7 | 4-Nitrophenol [a] | ND | 400 | 110 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 160 | 38 | ug/kg | |
| 108-95-2 | Phenol | ND | 80 | 21 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 200 | 30 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 200 | 24 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 40 | 14 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 40 | 20 | ug/kg | |
| 120-12-7 | Anthracene | ND | 40 | 25 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 18.9 | 40 | 11 | ug/kg | J |
| 50-32-8 | Benzo(a)pyrene | ND | 40 | 18 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 18.6 | 40 | 18 | ug/kg | J |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 40 | 20 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 40 | 19 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 80 | 16 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate [a] | ND | 80 | 9.8 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 80 | 9.6 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 200 | 14 | ug/kg | |
| 86-74-8 | Carbazole | ND | 80 | 5.8 | ug/kg | |
| 218-01-9 | Chrysene | 14.9 | 40 | 13 | ug/kg | J |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 80 | 8.6 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 80 | 17 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 80 | 14 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 80 | 13 | ug/kg | |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0425 | | |
| **Lab Sample ID:** | JC86986-13 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 82.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-50-1 | 1,2-Dichlorobenzene | ND | 80 | 12 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 80 | 8.6 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 80 | 9.8 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 40 | 12 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 40 | 20 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 80 | 34 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 40 | 18 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 80 | 16 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 80 | 6.6 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate [a] | ND | 80 | 10 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 80 | 8.6 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 80 | 7.2 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate [a] | ND | 80 | 9.4 | ug/kg | |
| 206-44-0 | Fluoranthene | 27.7 | 40 | 18 | ug/kg | J |
| 86-73-7 | Fluorene | ND | 40 | 18 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 80 | 10 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 40 | 16 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene [b] | ND | 400 | 16 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 200 | 20 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 40 | 19 | ug/kg | |
| 78-59-1 | Isophorone | ND | 80 | 8.6 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 40 | 9.1 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 200 | 9.5 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 200 | 10 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 200 | 10 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 40 | 11 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 80 | 16 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 80 | 12 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 200 | 15 | ug/kg | |
| 85-01-8 | Phenanthrene | 22.8 | 40 | 14 | ug/kg | J |
| 129-00-0 | Pyrene | 28.6 | 40 | 13 | ug/kg | J |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 80 | 11 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 76% | | 23-115% |
| 4165-62-2 | Phenol-d5 | 76% | | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 69% | | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 79% | | 26-134% |
| 321-60-8 | 2-Fluorobiphenyl | 68% | | 39-124% |

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

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

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0425 | | |
| **Lab Sample ID:** | JC86986-13 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| **Method:** | SW846 8270D SW846 3546 | **Percent Solids:** | 82.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**ABN TCL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1718-51-0 | Terphenyl-d14 | 78% | | 36-134% |

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

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

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0425 | | |
| **Lab Sample ID:** | JC86986-13 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 82.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 18500 | 59 | 9.4 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Antimony [a] | 0.96 U | 4.7 | 0.96 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Arsenic [a] | 2.4 J | 4.7 | 0.66 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Barium | 153 | 23 | 2.2 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Beryllium [a] | 0.91 | 0.47 | 0.19 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Cadmium | 0.12 J | 0.59 | 0.082 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Calcium | 1700 | 590 | 52 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Chromium | 33.7 | 1.2 | 0.43 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Cobalt [a] | 13.2 | 12 | 0.66 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Copper [a] | 54.2 | 5.9 | 2.0 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Iron | 30400 | 120 | 45 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Lead [a] | 36.8 | 4.7 | 0.96 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Magnesium | 9700 | 590 | 16 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Manganese [a] | 469 | 3.5 | 0.96 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Mercury | 0.054 | 0.037 | 0.016 | mg/kg | 1 | 04/30/19 | 04/30/19 | EAL | SW846 7471B [1] | SW846 7471B [5] |
| Nickel | 32.4 | 4.7 | 0.41 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Potassium | 10300 | 1200 | 37 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Selenium [a] | 1.5 U | 4.7 | 1.5 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Silver [a] | 0.40 U | 1.2 | 0.40 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Sodium | 190 J | 1200 | 91 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Thallium [a] | 1.4 U | 2.3 | 1.4 | mg/kg | 2 | 04/29/19 | 05/02/19 | MET | SW846 6010D [3] | SW846 3050B [4] |
| Vanadium | 42.9 | 5.9 | 0.22 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |
| Zinc | 124 | 5.9 | 2.7 | mg/kg | 1 | 04/29/19 | 05/01/19 | ND | SW846 6010D [2] | SW846 3050B [4] |

(1) Instrument QC Batch: MA46605
(2) Instrument QC Batch: MA46628
(3) Instrument QC Batch: MA46638
(4) Prep QC Batch: MP14617
(5) Prep QC Batch: MP14631

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

RL = Reporting Limit
MDL = Method Detection Limit

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

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | SO-DUP-0425 | | |
| **Lab Sample ID:** | JC86986-13 | **Date Sampled:** | 04/25/19 |
| **Matrix:** | SO - Soil | **Date Received:** | 04/25/19 |
| | | **Percent Solids:** | 82.9 |
| **Project:** | National Grid, Philly Coke, Philadelphia, PA | | |

**General Chemistry**

| Analyte | Result | RL | MDL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Cyanide | 0.20 J | 0.28 | 0.14 | mg/kg | 1 | 05/03/19 13:45 | KI | SW846 9012B/LACHAT |
| Solids, Percent | 82.9 | | | % | 1 | 05/01/19 16:00 | BG | SM2540 G 18TH ED MOD |

RL = Reporting Limit
MDL = Method Detection Limit

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

## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

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

SO
SLL

# CHAIN OF CUSTODY

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



FED-EX Tracking #
SGS Quote #
Bottle Order Control # VR-042219-41
SGS Job # JC86986

| Client / Reporting Information | Project Information |
|---|---|
| Company Name: Arcadis - US | Project Name: Philadelphia Coke |
| Street Address: 110 W Fayette St #300 | Street: 4501 Richmond St |
| City: Syracuse State: NY Zip: 13202 | City: Philadelphia State: PA |
| Project Contact: Carey Lawrence E-mail: Lawrence.Hal@Arcadis | Project #: B0036740.0001 |
| Phone #: 315-335-9544 | Client Purchase Order #: B0036740.0001 |
| Sampler(s) Name(s): Evan Green Phone #: (603)395-2647 | Project Manager: John Brussel |
| Billing Information (if different from Report to) | Company Name: Same |
| Street Address | |
| City State Zip | |
| Attention: | |

Requested Analysis: VB8260TCL20 CN; AB8270TCL20; METAL

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

| SGS Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Grab (G) Comp (C) | Matrix | # of bottles | HCl | NaOH | $HNO_3$ | $H_2SO_4$ | NONE | DI Water | MEOH | ENCORE | Methanol | VB8260TCL20 CN | AB8270TCL20 | METAL | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | S-142 (6-6.5) | | 4/25/19 | 1030 | EG | G | SO | 1 | | | | | 1 | | | | | X | | | |
| | S-142 (7-8) | | | 1040 | EG | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | D46 |
| 2 | S-142 (7-8) MS | | | 1040 | EG | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | E8572 |
| | S-142 (7-8) MSD | | | 1040 | EG | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | I4N5 |
| 3 | S-149 (8-10) | | | 1300 | EG | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | 40120 |
| 4 | S-149 (18.5-20.5) | | | 1305 | EG | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | |
| 5 | S-146 (14-16) | | | 0845 | GB | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | |
| 6 | S-146 (17-19) | | | 0900 | GB | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | |
| 7 | S-147 (12-14) | | | 1010 | GB | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | |
| 8 | S-147 (18-20) | | | 1030 | GB | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | |
| 9 | S-148 (8-10) | | | 1120 | GB | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | |
| 10 | S-148 (16-18) | | | 1135 | GB | | | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X | |

Turn Around Time (Business Days)
- [x] 10 Business Days
- [ ] 5 Business Days
- [ ] 3 Business Days*
- [ ] 2 Business Days*
- [ ] 1 Business Day*
- [ ] Other
- All data available via Lablink

Approved By (SGS PM): / Date:
* Approval needed for 1-3 Business Day TAT

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

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

Comments / Special Instructions
INITIAL ASESSMENT 2A/28
LABEL VERIFICATION

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

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

| Relinquished by: | Date / Time: | Received By: | Relinquished By: | Date / Time: | Received By: |
|---|---|---|---|---|---|
| 1 | 4/25/19 1630 | 1 | 2 | 4/25/19 1630 | 2 |
| 3 | | 3 | 4 | | 4 |
| 5 | | 5 | | | |

Custody Seal # ☐ intact ☐ Not intact
Preserved where applicable ☐ Absent
Therm. ID:
On Ice ☐ Cooler Temp. °C 2.9 to 7.0

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

# CHAIN OF CUSTODY

SGS

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



FED-EX Tracking #: | Bottle Order Control #: | SGS Quote #: | SGS Job #: JC86986

**Client / Reporting Information**

Company Name: Arcadis - US
Street Address: 110 W Fayette St #300
City: Syracuse State: NY Zip: 13202
Project Contact: Greg Holly E-mail: Lawrence.Holly@Arcadis.com
Phone #: (315) 335-9594
Sampler(s) Name(s): Evan Gleck Phone #: (603) 305-2692

**Project Information**

Project Name: Philadelphia Coke
Street:
City: Philadelphia State: PA
Project #: B0036740.0001
Client Purchase Order #:
Project Manager: John Bruski

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

**Requested Analysis**

| SGS Sample # | Field ID / Point of Collection | MEOH/DI Vial # | Collection Date | Collection Time | Sampled by | Grab (G) Comp (C) | Matrix | # of bottles | HCl | NaOH | $HNO_3$ | $H_2SO_4$ | NONE | DI Water | MEOH | ENCORE | Methanol | VOC 8260 TCL 20 | CN | SVOC 8270 TCL 20 | METAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | S-151 (0.5-2) | | 4/25/19 | 1400 | GB | G | SO | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X |
| 12 | S-151 (3-5) | | ↓ | 1415 | GB | ↓ | ↓ | 5 | | | | | 2 | 2 | | | 1 | X | X | X | X |
| 13 | SO-DUP-0425 | | | — | GD | | | 5 | | | | | 2 | 2 | | 1 | | X | X | X | X |

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

LAB USE ONLY

**Turn Around Time (Business Days)**

Approved By (SGS PM): / Date:

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

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

**Deliverable**

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

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

**Comments / Special Instructions**

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

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

| Relinquished by: | Date / Time: | Received By: | Relinquished By: | Date / Time: | Received By: |
|---|---|---|---|---|---|
| 1 | 4/25/19 1630 | 1 | 2 | 4/25/19 1910 | 2 |
| 3 | | 3 | 4 | | 4 |
| 5 | | 5 | | | |

Custody Seal #: [ ] Intact [ ] Not intact
Preserved where applicable: [ ] Absent
Therm. ID:
On Ice: [ ] Cooler Temp. °C: 2.9°C

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

# SGS Sample Receipt Summary

**Job Number:** JC86986 **Client:** ARCADIS U.S. **Project:** NATIONAL GRID, PHILLY COKE, PHILADELPHI

**Date / Time Received:** 4/25/2019 6:10:00 PM **Delivery Method:** **Airbill #'s:**

**Cooler Temps (Raw Measured) °C:** Cooler 1: (2.9);

**Cooler Temps (Corrected) °C:** Cooler 1: (1.9);

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

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

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

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

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

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

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

Comments

SM089-03
Rev. Date 12/7/17

5.1

5

JC86986: Chain of Custody
Page 3 of 3

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC86986

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

| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC86986-1 | Collected: 25-APR-19 10:30 By: EG | | Received: 25-APR-19 By: AS | | | |
| S-142(6-6.5) | | | | | | |
| JC86986-1 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-1 | SW846 9012B/LACHAT | 03-MAY-19 13:26 | KI | 02-MAY-19 | BM | CN |
| JC86986-2 | Collected: 25-APR-19 10:40 By: EG | | Received: 25-APR-19 By: AS | | | |
| S-142(7-8) | | | | | | |
| JC86986-2 | SW846 7471B | 30-APR-19 11:03 | EAL | 30-APR-19 | EAL | HG |
| JC86986-2 | SW846 6010D | 30-APR-19 23:04 | ND | 29-APR-19 | CH | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN |
| JC86986-2 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-2 | SW846 8270D | 02-MAY-19 16:39 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-2 | SW846 9012B/LACHAT | 03-MAY-19 13:28 | KI | 02-MAY-19 | BM | CN |
| JC86986-2 | SW846 8260C | 09-MAY-19 12:37 | PS | | | V8260TCL20 |
| JC86986-3 | Collected: 25-APR-19 13:00 By: EG | | Received: 25-APR-19 By: AS | | | |
| S-149(8-10) | | | | | | |
| JC86986-3 | SW846 7471B | 30-APR-19 11:09 | EAL | 30-APR-19 | EAL | HG |
| JC86986-3 | SW846 6010D | 30-APR-19 23:14 | ND | 29-APR-19 | CH | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN |
| JC86986-3 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-3 | SW846 8270D | 02-MAY-19 20:23 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-3 | SW846 9012B/LACHAT | 03-MAY-19 13:29 | KI | 02-MAY-19 | BM | CN |
| JC86986-3 | SW846 8270D | 03-MAY-19 15:42 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-3 | SW846 8270D | 03-MAY-19 17:19 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-3 | SW846 8260C | 08-MAY-19 17:49 | TDN | | | V8260TCL20 |
| JC86986-4 | Collected: 25-APR-19 13:05 By: EG | | Received: 25-APR-19 By: AS | | | |
| S-149(18.5-20.5) | | | | | | |
| JC86986-4 | SW846 7471B | 30-APR-19 09:57 | EAL | 30-APR-19 | EAL | HG |
| JC86986-4 | SW846 6010D | 30-APR-19 23:19 | ND | 29-APR-19 | CH | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V |
| JC86986-4 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC86986

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



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC86986-4 | SW846 6010D | 01-MAY-19 16:27 | ND | 29-APR-19 | CH | ZN |
| JC86986-4 | SW846 8270D | 02-MAY-19 14:50 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-4 | SW846 9012B/LACHAT | 03-MAY-19 13:30 | KI | 02-MAY-19 | BM | CN |
| JC86986-4 | SW846 8260C | 05-MAY-19 17:47 | MD | | | V8260TCL20 |
| JC86986-5 Collected: 25-APR-19 08:45 By: EG Received: 25-APR-19 By: AS S-146(14-16) | | | | | | |
| JC86986-5 | SW846 7471B | 30-APR-19 10:02 | EAL | 30-APR-19 | EAL | HG |
| JC86986-5 | SW846 6010D | 30-APR-19 23:24 | ND | 29-APR-19 | CH | AS,CD,CO,CR,CU,MN,NI,PB,SB, SE,TL,V,ZN |
| JC86986-5 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-5 | SW846 6010D | 01-MAY-19 16:32 | ND | 29-APR-19 | CH | AG,AL,BA,BE,CA,FE,K,MG,NA |
| JC86986-5 | SW846 8270D | 02-MAY-19 11:34 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-5 | SW846 9012B/LACHAT | 03-MAY-19 13:32 | KI | 02-MAY-19 | BM | CN |
| JC86986-5 | SW846 8260C | 06-MAY-19 18:26 | PS | | | V8260TCL20 |
| JC86986-6 Collected: 25-APR-19 09:00 By: EG Received: 25-APR-19 By: AS S-146(17-19) | | | | | | |
| JC86986-6 | SW846 7471B | 30-APR-19 10:04 | EAL | 30-APR-19 | EAL | HG |
| JC86986-6 | SW846 6010D | 30-APR-19 23:29 | ND | 29-APR-19 | CH | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN |
| JC86986-6 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-6 | SW846 9012B/LACHAT | 03-MAY-19 13:33 | KI | 02-MAY-19 | BM | CN |
| JC86986-6 | SW846 8270D | 07-MAY-19 17:50 | CC | 06-MAY-19 | AF | AB8270TCL |
| JC86986-6 | SW846 8260C | 09-MAY-19 13:04 | PS | | | V8260TCL20 |
| JC86986-7 Collected: 25-APR-19 10:10 By: EG Received: 25-APR-19 By: AS S-147(12-14) | | | | | | |
| JC86986-7 | SW846 7471B | 30-APR-19 10:05 | EAL | 30-APR-19 | EAL | HG |
| JC86986-7 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-7 | SW846 6010D | 01-MAY-19 16:37 | ND | 29-APR-19 | CH | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN |
| JC86986-7 | SW846 8270D | 02-MAY-19 16:14 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-7 | SW846 9012B/LACHAT | 03-MAY-19 13:34 | KI | 02-MAY-19 | BM | CN |
| JC86986-7 | SW846 8260C | 05-MAY-19 18:34 | MD | | | V8260TCL20 |

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC86986

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



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC86986-8 Collected: 25-APR-19 10:30 By: EG Received: 25-APR-19 By: AS S-147(18-20) | | | | | | |
| JC86986-8 | SW846 7471B | 30-APR-19 10:06 | EAL | 30-APR-19 | EAL | HG |
| JC86986-8 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-8 | SW846 6010D | 01-MAY-19 17:03 | ND | 29-APR-19 | CH | AL,AS,BA,BE,CA,CD,CO,FE,K, MG,NA,NI,PB,SB,SE,TL,ZN |
| JC86986-8 | SW846 8270D | 02-MAY-19 14:25 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-8 | SW846 6010D | 02-MAY-19 18:00 | MET | 29-APR-19 | CH | AG,CR,CU,MN,V |
| JC86986-8 | SW846 9012B/LACHAT | 03-MAY-19 13:38 | KI | 02-MAY-19 | BM | CN |
| JC86986-8 | SW846 8260C | 05-MAY-19 18:57 | MD | | | V8260TCL20 |
| JC86986-9 Collected: 25-APR-19 11:20 By: EG Received: 25-APR-19 By: AS S-148(8-10) | | | | | | |
| JC86986-9 | SW846 7471B | 30-APR-19 10:08 | EAL | 30-APR-19 | EAL | HG |
| JC86986-9 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-9 | SW846 6010D | 01-MAY-19 17:08 | ND | 29-APR-19 | CH | AL,BA,BE,CA,CD,CO,CR,K,MG, NA,NI,V,ZN |
| JC86986-9 | SW846 6010D | 02-MAY-19 18:27 | MET | 29-APR-19 | CH | AG,AS,CU,FE,MN,PB,SB,SE,TL |
| JC86986-9 | SW846 8270D | 02-MAY-19 20:48 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-9 | SW846 9012B/LACHAT | 03-MAY-19 13:40 | KI | 02-MAY-19 | BM | CN |
| JC86986-9 | SW846 8270D | 03-MAY-19 16:06 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-9 | SW846 8270D | 03-MAY-19 17:44 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-9 | SW846 8260C | 08-MAY-19 18:18 | TDN | | | V8260TCL20 |
| JC86986-10 Collected: 25-APR-19 11:35 By: EG Received: 25-APR-19 By: AS S-148(16-18) | | | | | | |
| JC86986-10 | SW846 7471B | 30-APR-19 10:09 | EAL | 30-APR-19 | EAL | HG |
| JC86986-10 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-10 | SW846 6010D | 01-MAY-19 17:14 | ND | 29-APR-19 | CH | AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN |
| JC86986-10 | SW846 8270D | 02-MAY-19 15:25 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-10 | SW846 9012B/LACHAT | 03-MAY-19 13:41 | KI | 02-MAY-19 | BM | CN |
| JC86986-10 | SW846 8260C | 05-MAY-19 19:20 | MD | | | V8260TCL20 |

# Internal Sample Tracking Chronicle

Arcadis

**Job No:** JC86986

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



| Sample Number | Method | Analyzed | By | Prepped | By | Test Codes |
|---|---|---|---|---|---|---|
| JC86986-11 Collected: 25-APR-19 14:00 By: EG Received: 25-APR-19 By: AS S-151(0.5-2) | | | | | | |
| JC86986-11 | SW846 7471B | 30-APR-19 10:11 | EAL | 30-APR-19 | EAL | HG |
| JC86986-11 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-11 | SW846 6010D | 01-MAY-19 17:19 | ND | 29-APR-19 | CH | AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN |
| JC86986-11 | SW846 8270D | 02-MAY-19 19:59 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-11 | SW846 9012B/LACHAT | 03-MAY-19 13:42 | KI | 02-MAY-19 | BM | CN |
| JC86986-11 | SW846 8270D | 03-MAY-19 15:18 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-11 | SW846 8270D | 03-MAY-19 16:55 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-11 | SW846 8260C | 08-MAY-19 17:20 | TDN | | | V8260TCL20 |
| JC86986-12 Collected: 25-APR-19 14:15 By: EG Received: 25-APR-19 By: AS S-151(3-5) | | | | | | |
| JC86986-12 | SW846 7471B | 30-APR-19 10:12 | EAL | 30-APR-19 | EAL | HG |
| JC86986-12 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-12 | SW846 6010D | 01-MAY-19 17:24 | ND | 29-APR-19 | CH | AG,AL,AS,BA,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,V |
| JC86986-12 | SW846 8270D | 02-MAY-19 15:50 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-12 | SW846 6010D | 02-MAY-19 18:32 | MET | 29-APR-19 | CH | ZN |
| JC86986-12 | SW846 6010D | 02-MAY-19 18:37 | MET | 29-APR-19 | CH | BE,TL |
| JC86986-12 | SW846 9012B/LACHAT | 03-MAY-19 13:44 | KI | 02-MAY-19 | BM | CN |
| JC86986-12 | SW846 8260C | 05-MAY-19 19:43 | MD | | | V8260TCL20 |
| JC86986-13 Collected: 25-APR-19 00:00 By: EG Received: 25-APR-19 By: AS SO-DUP-0425 | | | | | | |
| JC86986-13 | SW846 7471B | 30-APR-19 10:14 | EAL | 30-APR-19 | EAL | HG |
| JC86986-13 | SM2540 G 18TH ED MOD | 01-MAY-19 16:00 | BG | | | SOL104 |
| JC86986-13 | SW846 6010D | 01-MAY-19 17:29 | ND | 29-APR-19 | CH | AL,BA,CA,CD,CR,K,MG,NA,NI,V,ZN |
| JC86986-13 | SW846 8270D | 02-MAY-19 13:36 | AR | 01-MAY-19 | CC | AB8270TCL |
| JC86986-13 | SW846 6010D | 02-MAY-19 18:42 | MET | 29-APR-19 | CH | AG,AS,BE,CO,CU,FE,MN,PB,SB,SE,TL |
| JC86986-13 | SW846 9012B/LACHAT | 03-MAY-19 13:45 | KI | 02-MAY-19 | BM | CN |
| JC86986-13 | SW846 8260C | 05-MAY-19 20:07 | MD | | | V8260TCL20 |

# SGS Internal Chain of Custody



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-1.1 | Secured Storage | Todd Shoemaker | 05/01/19 10:41 | Retrieve from Storage |
| JC86986-1.1 | Todd Shoemaker | Secured Staging Area | 05/01/19 10:41 | Return to Storage |
| JC86986-1.1 | Secured Staging Area | Benjamin Gaines | 05/01/19 12:54 | Retrieve from Storage |
| JC86986-1.1 | Benjamin Gaines | Secured Storage | 05/01/19 16:04 | Return to Storage |
| JC86986-1.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-1.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-1.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-1.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-1.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-2.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-2.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-2.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-2.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-2.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-2.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-2.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-2.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-2.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-2.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-2.1 |
| JC86986-2.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-2.1 |
| JC86986-2.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-2.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-2.2 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-2.2 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-2.2 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-2.2 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-2.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-2.3 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-2.3 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-2.3 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-2.3 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-2.3 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-2.4 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-2.4 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-2.4 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-2.4 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-2.4 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-2.4 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |

# SGS Internal Chain of Custody



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-2.4 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-2.4.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-2.4 |
| JC86986-2.4.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-2.4 |
| JC86986-2.4.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-2.4.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-2.4.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-2.4.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-2.4.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-2.4.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-2.5 | Secured Storage | Todd Shoemaker | 05/01/19 10:41 | Retrieve from Storage |
| JC86986-2.5 | Todd Shoemaker | Secured Staging Area | 05/01/19 10:41 | Return to Storage |
| JC86986-2.5 | Secured Staging Area | Benjamin Gaines | 05/01/19 12:54 | Retrieve from Storage |
| JC86986-2.5 | Benjamin Gaines | Secured Storage | 05/01/19 16:04 | Return to Storage |
| JC86986-2.5 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-2.7 | Secured Storage | Thien Nguyen | 05/06/19 08:50 | Retrieve from Storage |
| JC86986-2.7 | Thien Nguyen | Secured Storage | 05/06/19 08:50 | Return to Storage |
| JC86986-2.7 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-2.10 | Secured Storage | Prashant Shukla | 05/09/19 13:11 | Retrieve from Storage |
| JC86986-2.10 | Prashant Shukla | GCMS1C | 05/09/19 13:11 | Load on Instrument |
| JC86986-2.10 | GCMS1C | Eddie Huang | 05/10/19 12:30 | Unload from Instrument |
| JC86986-2.10 | Eddie Huang | | 05/10/19 16:30 | Depleted |
| JC86986-2.11 | Secured Storage | Prashant Shukla | 05/09/19 11:27 | Retrieve from Storage |
| JC86986-2.11 | Prashant Shukla | GCMS1C | 05/09/19 11:27 | Load on Instrument |
| JC86986-2.11 | GCMS1C | Eddie Huang | 05/10/19 12:30 | Unload from Instrument |
| JC86986-2.11 | Eddie Huang | | 05/10/19 16:30 | Depleted |
| JC86986-2.13 | Secured Storage | Prashant Shukla | 05/09/19 13:11 | Retrieve from Storage |
| JC86986-2.13 | Prashant Shukla | GCMS1C | 05/09/19 13:11 | Load on Instrument |
| JC86986-2.13 | GCMS1C | Eddie Huang | 05/10/19 12:30 | Unload from Instrument |
| JC86986-2.13 | Eddie Huang | | 05/10/19 16:30 | Depleted |
| JC86986-2.14 | Secured Storage | Prashant Shukla | 05/08/19 09:40 | Retrieve from Storage |
| JC86986-2.14 | Prashant Shukla | GCMS1C | 05/08/19 09:40 | Load on Instrument |
| JC86986-2.14 | GCMS1C | Prashant Shukla | 05/09/19 09:32 | Unload from Instrument |
| JC86986-2.14 | Prashant Shukla | | 05/09/19 09:33 | Depleted |
| JC86986-3.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-3.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-3.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |

# SGS Internal Chain of Custody



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-3.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-3.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-3.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-3.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-3.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-3.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-3.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-3.1 |
| JC86986-3.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-3.1 |
| JC86986-3.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-3.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-3.2 | Secured Storage | Sahara Feliciano | 04/27/19 13:50 | Retrieve from Storage |
| JC86986-3.2 | Sahara Feliciano | Secured Staging Area | 04/27/19 13:50 | Return to Storage |
| JC86986-3.2 | Secured Staging Area | Benjamin Gaines | 04/28/19 09:50 | Retrieve from Storage |
| JC86986-3.2 | Benjamin Gaines | Secured Storage | 04/28/19 11:18 | Return to Storage |
| JC86986-3.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-3.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-3.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-3.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-3.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-3.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-3.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-3.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-3.2 |
| JC86986-3.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-3.2 |
| JC86986-3.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-3.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-3.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-3.2.1 | GCMS6P | Christine Change | 05/07/19 11:27 | Unload from Instrument |
| JC86986-3.2.1 | Christine Change | Extract Freezer | 05/07/19 11:27 | Return to Storage |
| JC86986-3.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-3.3 | Secured Storage | Thien Nguyen | 05/06/19 08:50 | Retrieve from Storage |
| JC86986-3.3 | Thien Nguyen | Secured Storage | 05/06/19 08:50 | Return to Storage |
| JC86986-3.3 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-4.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-4.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-4.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-4.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-4.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-4.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |

# SGS Internal Chain of Custody



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-4.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-4.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-4.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-4.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-4.1 |
| JC86986-4.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-4.1 |
| JC86986-4.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-4.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-4.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-4.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-4.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-4.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-4.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-4.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-4.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-4.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-4.2 |
| JC86986-4.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-4.2 |
| JC86986-4.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-4.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-4.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-4.2.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-4.2.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-4.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-4.4 | Secured Storage | Maricela Delgaolillo | 05/05/19 17:52 | Retrieve from Storage |
| JC86986-4.4 | Maricela Delgaolillo | GCMS3C | 05/05/19 17:52 | Load on Instrument |
| JC86986-4.4 | GCMS3C | Prashant Shukla | 05/06/19 10:53 | Unload from Instrument |
| JC86986-4.4 | Prashant Shukla | | 05/06/19 10:54 | Depleted |
| JC86986-5.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-5.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-5.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-5.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-5.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-5.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-5.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-5.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-5.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-5.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-5.1 |
| JC86986-5.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-5.1 |

# SGS Internal Chain of Custody



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-5.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-5.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| | | | | |
| JC86986-5.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-5.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-5.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-5.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-5.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-5.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-5.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| | | | | |
| JC86986-5.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-5.2 |
| JC86986-5.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-5.2 |
| JC86986-5.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-5.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-5.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-5.2.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-5.2.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-5.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| | | | | |
| JC86986-5.4 | Secured Storage | Maricela Delgaolillo | 05/05/19 17:52 | Retrieve from Storage |
| JC86986-5.4 | Maricela Delgaolillo | GCMS3C | 05/05/19 17:52 | Load on Instrument |
| JC86986-5.4 | GCMS3C | Prashant Shukla | 05/06/19 10:53 | Unload from Instrument |
| JC86986-5.4 | Prashant Shukla | | 05/06/19 10:54 | Depleted |
| | | | | |
| JC86986-5.5 | Secured Storage | Prashant Shukla | 05/06/19 16:18 | Retrieve from Storage |
| JC86986-5.5 | Prashant Shukla | GCMS3C | 05/06/19 16:18 | Load on Instrument |
| JC86986-5.5 | GCMS3C | Prashant Shukla | 05/07/19 08:56 | Unload from Instrument |
| JC86986-5.5 | Prashant Shukla | | 05/07/19 08:58 | Depleted |
| | | | | |
| JC86986-6.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-6.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-6.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-6.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-6.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-6.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-6.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-6.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-6.1 | Secured Storage | Matthew Robbins | 05/06/19 16:01 | Retrieve from Storage |
| JC86986-6.1 | Matthew Robbins | Secured Staging Area | 05/06/19 16:01 | Return to Storage |
| JC86986-6.1 | Secured Staging Area | Sarah Halim | 05/06/19 21:52 | Retrieve from Storage |
| JC86986-6.1 | Sarah Halim | Secured Storage | 05/07/19 00:08 | Return to Storage |
| JC86986-6.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |

# SGS Internal Chain of Custody



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-6.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-6.1 |
| JC86986-6.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-6.1 |
| JC86986-6.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-6.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-6.1.2 | Sarah Halim | Organics Prep | 05/06/19 21:53 | Extract from JC86986-6.1 |
| JC86986-6.1.2 | Organics Prep | Sarah Halim | 05/07/19 00:08 | Extract from JC86986-6.1 |
| JC86986-6.1.2 | Sarah Halim | Extract Storage | 05/07/19 00:08 | Return to Storage |
| JC86986-6.1.2 | Extract Storage | Christine Change | 05/07/19 13:53 | Retrieve from Storage |
| JC86986-6.1.2 | Christine Change | GCMSP | 05/07/19 13:53 | Load on Instrument |
| JC86986-6.1.2 | GCMSP | Angela Rastelli | 05/08/19 11:49 | Unload from Instrument |
| JC86986-6.1.2 | Angela Rastelli | Extract Freezer | 05/08/19 11:49 | Return to Storage |
| JC86986-6.1.2 | Extract Freezer | | 06/17/19 09:00 | Disposed |
| JC86986-6.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-6.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-6.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-6.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-6.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-6.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-6.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-6.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-6.2 |
| JC86986-6.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-6.2 |
| JC86986-6.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-6.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-6.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-6.2.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-6.2.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-6.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-6.4 | Secured Storage | Prashant Shukla | 05/09/19 11:27 | Retrieve from Storage |
| JC86986-6.4 | Prashant Shukla | GCMS1C | 05/09/19 11:27 | Load on Instrument |
| JC86986-6.4 | GCMS1C | Eddie Huang | 05/10/19 12:30 | Unload from Instrument |
| JC86986-6.4 | Eddie Huang | | 05/10/19 16:30 | Depleted |
| JC86986-7.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-7.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-7.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-7.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-7.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-7.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |

# SGS Internal Chain of Custody



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-7.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-7.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-7.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-7.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-7.1 |
| JC86986-7.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-7.1 |
| JC86986-7.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-7.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-7.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-7.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-7.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-7.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-7.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-7.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-7.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-7.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-7.2 |
| JC86986-7.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-7.2 |
| JC86986-7.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-7.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-7.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-7.2.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-7.2.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-7.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-7.5 | Secured Storage | Maricela Delgaolillo | 05/05/19 17:52 | Retrieve from Storage |
| JC86986-7.5 | Maricela Delgaolillo | GCMS3C | 05/05/19 17:52 | Load on Instrument |
| JC86986-7.5 | GCMS3C | Prashant Shukla | 05/06/19 10:53 | Unload from Instrument |
| JC86986-7.5 | Prashant Shukla | | 05/06/19 10:54 | Depleted |
| JC86986-8.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-8.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-8.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-8.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-8.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-8.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-8.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-8.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-8.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-8.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-8.1 |
| JC86986-8.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-8.1 |

# SGS Internal Chain of Custody

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-8.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-8.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| | | | | |
| JC86986-8.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-8.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-8.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-8.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-8.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-8.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-8.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| | | | | |
| JC86986-8.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-8.2 |
| JC86986-8.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-8.2 |
| JC86986-8.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-8.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-8.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-8.2.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-8.2.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-8.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| | | | | |
| JC86986-8.4 | Secured Storage | Maricela Delgaolillo | 05/05/19 17:52 | Retrieve from Storage |
| JC86986-8.4 | Maricela Delgaolillo | GCMS3C | 05/05/19 17:52 | Load on Instrument |
| JC86986-8.4 | GCMS3C | Prashant Shukla | 05/06/19 10:53 | Unload from Instrument |
| JC86986-8.4 | Prashant Shukla | | 05/06/19 10:54 | Depleted |
| | | | | |
| JC86986-9.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-9.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-9.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-9.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-9.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-9.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-9.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-9.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-9.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| | | | | |
| JC86986-9.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-9.1 |
| JC86986-9.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-9.1 |
| JC86986-9.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-9.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| | | | | |
| JC86986-9.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-9.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-9.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |

# SGS Internal Chain of Custody

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-9.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-9.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-9.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-9.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-9.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-9.2 |
| JC86986-9.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-9.2 |
| JC86986-9.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-9.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-9.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-9.2.1 | GCMS6P | Christine Change | 05/07/19 11:27 | Unload from Instrument |
| JC86986-9.2.1 | Christine Change | Extract Freezer | 05/07/19 11:27 | Return to Storage |
| JC86986-9.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-9.3 | Secured Storage | Thien Nguyen | 05/06/19 08:50 | Retrieve from Storage |
| JC86986-9.3 | Thien Nguyen | Secured Storage | 05/06/19 08:50 | Return to Storage |
| JC86986-9.3 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-10.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-10.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-10.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-10.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-10.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-10.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-10.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-10.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-10.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-10.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-10.1 |
| JC86986-10.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-10.1 |
| JC86986-10.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-10.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-10.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-10.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-10.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-10.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-10.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-10.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-10.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-10.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-10.2 |

# SGS Internal Chain of Custody

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-10.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-10.2 |
| JC86986-10.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-10.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-10.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-10.2.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-10.2.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-10.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-10.4 | Secured Storage | Maricela Delgaolillo | 05/05/19 17:52 | Retrieve from Storage |
| JC86986-10.4 | Maricela Delgaolillo | GCMS3C | 05/05/19 17:52 | Load on Instrument |
| JC86986-10.4 | GCMS3C | Prashant Shukla | 05/06/19 10:53 | Unload from Instrument |
| JC86986-10.4 | Prashant Shukla | | 05/06/19 10:54 | Depleted |
| JC86986-11.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-11.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-11.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-11.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-11.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-11.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-11.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-11.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-11.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-11.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-11.1 |
| JC86986-11.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-11.1 |
| JC86986-11.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-11.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-11.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-11.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-11.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-11.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-11.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-11.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-11.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-11.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-11.2 |
| JC86986-11.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-11.2 |
| JC86986-11.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-11.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-11.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-11.2.1 | GCMS6P | Christine Change | 05/07/19 11:27 | Unload from Instrument |
| JC86986-11.2.1 | Christine Change | Extract Freezer | 05/07/19 11:27 | Return to Storage |

# SGS Internal Chain of Custody

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-11.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-11.3 | Secured Storage | Thien Nguyen | 05/06/19 08:50 | Retrieve from Storage |
| JC86986-11.3 | Thien Nguyen | Secured Storage | 05/06/19 08:50 | Return to Storage |
| JC86986-11.3 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-12.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-12.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-12.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-12.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-12.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-12.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-12.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-12.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-12.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-12.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-12.1 |
| JC86986-12.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-12.1 |
| JC86986-12.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-12.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-12.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-12.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-12.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-12.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-12.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-12.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-12.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-12.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-12.2 |
| JC86986-12.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-12.2 |
| JC86986-12.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-12.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-12.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-12.2.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-12.2.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-12.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-12.5 | Secured Storage | Maricela Delgaolillo | 05/05/19 17:52 | Retrieve from Storage |
| JC86986-12.5 | Maricela Delgaolillo | GCMS3C | 05/05/19 17:52 | Load on Instrument |
| JC86986-12.5 | GCMS3C | Prashant Shukla | 05/06/19 10:53 | Unload from Instrument |
| JC86986-12.5 | Prashant Shukla | | 05/06/19 10:54 | Depleted |

# SGS Internal Chain of Custody

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Received:** 04/25/19

| Sample.Bottle Number | Transfer FROM | Transfer TO | Date/Time | Reason |
|---|---|---|---|---|
| JC86986-13.1 | Secured Storage | Todd Shoemaker | 04/29/19 08:06 | Retrieve from Storage |
| JC86986-13.1 | Todd Shoemaker | Secured Staging Area | 04/29/19 08:07 | Return to Storage |
| JC86986-13.1 | Secured Staging Area | Colleen Hill | 04/29/19 09:10 | Retrieve from Storage |
| JC86986-13.1 | Colleen Hill | Secured Storage | 04/29/19 09:17 | Return to Storage |
| JC86986-13.1 | Secured Storage | Benjamin Gaines | 05/02/19 09:10 | Retrieve from Storage |
| JC86986-13.1 | Benjamin Gaines | Secured Staging Area | 05/02/19 09:10 | Return to Storage |
| JC86986-13.1 | Secured Staging Area | Beatrice Marcelino | 05/02/19 09:24 | Retrieve from Storage |
| JC86986-13.1 | Beatrice Marcelino | Secured Storage | 05/02/19 13:38 | Return to Storage |
| JC86986-13.1 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-13.1.1 | Colleen Hill | Metals Digestion | 04/29/19 09:11 | Digestate from JC86986-13.1 |
| JC86986-13.1.1 | Metals Digestion | Colleen Hill | 04/29/19 09:11 | Digestate from JC86986-13.1 |
| JC86986-13.1.1 | Colleen Hill | Metals Digestate Storage | 04/29/19 09:11 | Return to Storage |
| JC86986-13.1.1 | Metals Digestate Storage | | 07/08/19 09:00 | Disposed |
| JC86986-13.2 | Secured Storage | Sahara Feliciano | 04/28/19 11:25 | Retrieve from Storage |
| JC86986-13.2 | Sahara Feliciano | Secured Staging Area | 04/28/19 11:25 | Return to Storage |
| JC86986-13.2 | Secured Storage | Matthew Robbins | 04/30/19 18:29 | Retrieve from Storage |
| Bottle was returned to secure storage, but inadvertently not scanned. | | | | |
| JC86986-13.2 | Matthew Robbins | Secured Staging Area | 04/30/19 18:29 | Return to Storage |
| JC86986-13.2 | Secured Staging Area | Chatiyah Canaday | 05/01/19 08:20 | Retrieve from Storage |
| JC86986-13.2 | Chatiyah Canaday | Secured Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-13.2 | Dominic Guerriero | | 06/10/19 08:22 | Disposed |
| JC86986-13.2.1 | Chatiyah Canaday | Organics Prep | 05/01/19 08:27 | Extract from JC86986-13.2 |
| JC86986-13.2.1 | Organics Prep | Chatiyah Canaday | 05/01/19 16:18 | Extract from JC86986-13.2 |
| JC86986-13.2.1 | Chatiyah Canaday | Extract Storage | 05/01/19 16:18 | Return to Storage |
| JC86986-13.2.1 | Extract Storage | Angela Rastelli | 05/02/19 10:40 | Retrieve from Storage |
| JC86986-13.2.1 | Angela Rastelli | GCMS6P | 05/02/19 10:40 | Load on Instrument |
| JC86986-13.2.1 | GCMS6P | Angela Rastelli | 05/03/19 14:53 | Unload from Instrument |
| JC86986-13.2.1 | Angela Rastelli | Extract Freezer | 05/03/19 14:53 | Return to Storage |
| JC86986-13.2.1 | Extract Freezer | | 06/11/19 09:00 | Disposed |
| JC86986-13.4 | Secured Storage | Maricela Delgaolillo | 05/05/19 17:52 | Retrieve from Storage |
| JC86986-13.4 | Maricela Delgaolillo | GCMS3C | 05/05/19 17:52 | Load on Instrument |
| JC86986-13.4 | GCMS3C | Prashant Shukla | 05/06/19 10:53 | Unload from Instrument |
| JC86986-13.4 | Prashant Shukla | | 05/06/19 10:54 | Depleted |

# MS Volatiles

## QC Data Summaries

Includes the following where applicable:

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

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6820-MB | 3C151776.D | 1 | 05/05/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4, JC86986-7, JC86986-8, JC86986-10, JC86986-12, JC86986-13

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 10 | 5.0 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.50 | 0.38 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.0 | 0.43 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.44 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.0 | 0.40 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.0 | 1.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 3.7 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.0 | 0.93 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.55 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.35 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.0 | 0.69 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.37 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 5.0 | 2.0 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.0 | 0.41 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.0 | 0.84 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | 0.34 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.33 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.31 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.36 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.34 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.0 | 0.64 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.39 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.47 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.66 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.0 | 0.96 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.0 | 0.67 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.41 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.35 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.33 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.55 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.0 | 0.76 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.0 | 1.3 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 2.0 | 0.70 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.0 | 1.4 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.0 | 0.71 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.35 | ug/kg | |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6820-MB | 3C151776.D | 1 | 05/05/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4, JC86986-7, JC86986-8, JC86986-10, JC86986-12, JC86986-13

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.0 | 1.6 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 2.5 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.0 | 0.58 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.39 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.0 | 0.46 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.0 | 0.38 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.0 | 1.0 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.0 | 1.0 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.43 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.34 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.76 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.0 | 0.68 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.0 | 0.47 | ug/kg | |
| | m,p-Xylene | ND | 1.0 | 0.75 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.58 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.0 | 0.58 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 107% | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 107% | 79-127% |

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

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6821-MB | 3C151805.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |

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

JC86986-5

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 10 | 5.0 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.50 | 0.38 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.0 | 0.43 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.44 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.0 | 0.40 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.0 | 1.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 3.7 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.0 | 0.93 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.55 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.35 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.0 | 0.69 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.37 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 5.0 | 2.0 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.0 | 0.41 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.0 | 0.84 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | 0.34 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.33 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.31 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.36 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.34 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.0 | 0.64 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.39 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.47 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.66 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.0 | 0.96 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.0 | 0.67 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.41 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.35 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.33 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.55 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.0 | 0.76 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.0 | 1.3 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 2.0 | 0.70 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.0 | 1.4 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.0 | 0.71 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.35 | ug/kg | |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6821-MB | 3C151805.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |

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

JC86986-5

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.0 | 1.6 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 2.5 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.0 | 0.58 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.39 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.0 | 0.46 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.0 | 0.38 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.0 | 1.0 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.0 | 1.0 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.43 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.34 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.76 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.0 | 0.68 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.0 | 0.47 | ug/kg | |
| | m,p-Xylene | ND | 1.0 | 0.75 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.58 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.0 | 0.58 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 108% | 75-130% |
| 2037-26-5 | Toluene-D8 | 102% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 106% | 79-127% |

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

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VD10654-MB | D264361.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |

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

JC86986-3, JC86986-9, JC86986-11

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 500 | 250 | ug/kg | |
| 71-43-2 | Benzene | ND | 25 | 19 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 250 | 22 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 100 | 22 | ug/kg | |
| 75-25-2 | Bromoform | ND | 250 | 20 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 250 | 50 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 500 | 190 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 100 | 46 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 100 | 28 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 100 | 18 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 250 | 34 | ug/kg | |
| 67-66-3 | Chloroform | ND | 100 | 19 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 250 | 98 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 100 | 20 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 100 | 42 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 100 | 17 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 50 | 16 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 50 | 15 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 50 | 18 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 50 | 17 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 250 | 32 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 50 | 19 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 50 | 24 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 50 | 33 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 50 | 48 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 50 | 33 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 100 | 20 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 100 | 18 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 100 | 16 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 50 | 28 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 250 | 38 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 250 | 64 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 100 | 35 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 250 | 70 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 100 | 35 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 50 | 18 | ug/kg | |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VD10654-MB | D264361.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |

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

JC86986-3, JC86986-9, JC86986-11

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 250 | 78 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 250 | 130 | ug/kg | |
| 100-42-5 | Styrene | ND | 100 | 29 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 100 | 20 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 100 | 23 | ug/kg | |
| 108-88-3 | Toluene | ND | 50 | 19 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 96.7 | 250 | 50 | ug/kg | J |
| 120-82-1 | 1,2,4-Trichlorobenzene | 75.3 | 250 | 50 | ug/kg | J |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 100 | 21 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 100 | 17 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 50 | 38 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 250 | 34 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 100 | 23 | ug/kg | |
| | m,p-Xylene | ND | 50 | 37 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 50 | 29 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 50 | 29 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 98% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 92% | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | 79-127% |

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

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1C7215-MB | 1C164398.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |

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

JC86986-2, JC86986-6

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 10 | 5.0 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.50 | 0.38 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.0 | 0.43 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.44 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.0 | 0.40 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.0 | 1.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 3.7 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.0 | 0.93 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.55 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.35 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.0 | 0.69 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.37 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 5.0 | 2.0 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.0 | 0.41 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.0 | 0.84 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | 0.34 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.33 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.31 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.36 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.34 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.0 | 0.64 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.39 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.47 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.66 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.0 | 0.96 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.0 | 0.67 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.41 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.35 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.33 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.55 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.0 | 0.76 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.0 | 1.3 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 2.0 | 0.70 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.0 | 1.4 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.0 | 0.71 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.35 | ug/kg | |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1C7215-MB | 1C164398.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |

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

JC86986-2, JC86986-6

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.0 | 1.6 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 2.5 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.0 | 0.58 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.39 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.0 | 0.46 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.0 | 0.38 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.0 | 1.0 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.0 | 1.0 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.43 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.34 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.76 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.0 | 0.68 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.0 | 0.47 | ug/kg | |
| | m,p-Xylene | ND | 1.0 | 0.75 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.58 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.0 | 0.58 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 84% | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 93% | 79-127% |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6820-MB2 | 3C151805A.D | 1 | 05/06/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4DUP, JC86986-8MS

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 10 | 5.0 | ug/kg | |
| 71-43-2 | Benzene | ND | 0.50 | 0.38 | ug/kg | |
| 74-97-5 | Bromochloromethane | ND | 5.0 | 0.43 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.44 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.0 | 0.40 | ug/kg | |
| 74-83-9 | Bromomethane | ND | 5.0 | 1.0 | ug/kg | |
| 78-93-3 | 2-Butanone (MEK) | ND | 10 | 3.7 | ug/kg | |
| 75-15-0 | Carbon disulfide | ND | 2.0 | 0.93 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.55 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.35 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.0 | 0.69 | ug/kg | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.37 | ug/kg | |
| 74-87-3 | Chloromethane | ND | 5.0 | 2.0 | ug/kg | |
| 110-82-7 | Cyclohexane | ND | 2.0 | 0.41 | ug/kg | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 2.0 | 0.84 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | 0.34 | ug/kg | |
| 106-93-4 | 1,2-Dibromoethane | ND | 1.0 | 0.33 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.31 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.36 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.34 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.0 | 0.64 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.39 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.47 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethene | ND | 1.0 | 0.66 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | 1.0 | 0.96 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | 1.0 | 0.67 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.41 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.35 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.33 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.55 | ug/kg | |
| 76-13-1 | Freon 113 | ND | 5.0 | 0.76 | ug/kg | |
| 591-78-6 | 2-Hexanone | ND | 5.0 | 1.3 | ug/kg | |
| 98-82-8 | Isopropylbenzene | ND | 2.0 | 0.70 | ug/kg | |
| 79-20-9 | Methyl Acetate | ND | 5.0 | 1.4 | ug/kg | |
| 108-87-2 | Methylcyclohexane | ND | 2.0 | 0.71 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.35 | ug/kg | |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6820-MB2 | 3C151805A.D | 1 | 05/06/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4DUP, JC86986-8MS

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | 5.0 | 1.6 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 2.5 | ug/kg | |
| 100-42-5 | Styrene | ND | 2.0 | 0.58 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.39 | ug/kg | |
| 127-18-4 | Tetrachloroethene | ND | 2.0 | 0.46 | ug/kg | |
| 108-88-3 | Toluene | ND | 1.0 | 0.38 | ug/kg | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 5.0 | 1.0 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 5.0 | 1.0 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.43 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.34 | ug/kg | |
| 79-01-6 | Trichloroethene | ND | 1.0 | 0.76 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.0 | 0.68 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 2.0 | 0.47 | ug/kg | |
| | m,p-Xylene | ND | 1.0 | 0.75 | ug/kg | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.58 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1.0 | 0.58 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 108% | 75-130% |
| 2037-26-5 | Toluene-D8 | 102% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 106% | 79-127% |

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

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6820-BS | 3C151774.D | 1 | 05/05/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4, JC86986-7, JC86986-8, JC86986-10, JC86986-12, JC86986-13

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 200 | 201 | 101 | 48-149 |
| 71-43-2 | Benzene | 50 | 47.0 | 94 | 74-117 |
| 74-97-5 | Bromochloromethane | 50 | 49.4 | 99 | 82-121 |
| 75-27-4 | Bromodichloromethane | 50 | 54.2 | 108 | 78-119 |
| 75-25-2 | Bromoform | 50 | 57.2 | 114 | 76-130 |
| 74-83-9 | Bromomethane | 50 | 41.2 | 82 | 58-137 |
| 78-93-3 | 2-Butanone (MEK) | 200 | 201 | 101 | 65-143 |
| 75-15-0 | Carbon disulfide | 50 | 45.1 | 90 | 66-140 |
| 56-23-5 | Carbon tetrachloride | 50 | 54.4 | 109 | 69-136 |
| 108-90-7 | Chlorobenzene | 50 | 47.6 | 95 | 79-117 |
| 75-00-3 | Chloroethane | 50 | 43.1 | 86 | 62-139 |
| 67-66-3 | Chloroform | 50 | 46.2 | 92 | 76-119 |
| 74-87-3 | Chloromethane | 50 | 36.9 | 74 | 52-144 |
| 110-82-7 | Cyclohexane | 50 | 45.1 | 90 | 64-136 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 50 | 56.3 | 113 | 72-124 |
| 124-48-1 | Dibromochloromethane | 50 | 62.1 | 124* [a] | 78-122 |
| 106-93-4 | 1,2-Dibromoethane | 50 | 45.6 | 91 | 80-116 |
| 95-50-1 | 1,2-Dichlorobenzene | 50 | 46.2 | 92 | 77-117 |
| 541-73-1 | 1,3-Dichlorobenzene | 50 | 46.3 | 93 | 75-117 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 45.6 | 91 | 76-115 |
| 75-71-8 | Dichlorodifluoromethane | 50 | 41.0 | 82 | 43-156 |
| 75-34-3 | 1,1-Dichloroethane | 50 | 44.8 | 90 | 75-124 |
| 107-06-2 | 1,2-Dichloroethane | 50 | 49.3 | 99 | 74-124 |
| 75-35-4 | 1,1-Dichloroethene | 50 | 47.3 | 95 | 64-129 |
| 156-59-2 | cis-1,2-Dichloroethene | 50 | 47.2 | 94 | 74-118 |
| 156-60-5 | trans-1,2-Dichloroethene | 50 | 46.2 | 92 | 71-125 |
| 78-87-5 | 1,2-Dichloropropane | 50 | 42.7 | 85 | 80-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 50 | 52.4 | 105 | 80-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 50 | 54.8 | 110 | 78-119 |
| 100-41-4 | Ethylbenzene | 50 | 46.5 | 93 | 75-118 |
| 76-13-1 | Freon 113 | 50 | 50.5 | 101 | 60-181 |
| 591-78-6 | 2-Hexanone | 200 | 198 | 99 | 63-138 |
| 98-82-8 | Isopropylbenzene | 50 | 47.8 | 96 | 74-122 |
| 79-20-9 | Methyl Acetate | 50 | 44.3 | 89 | 61-140 |
| 108-87-2 | Methylcyclohexane | 50 | 41.7 | 83 | 67-136 |
| 1634-04-4 | Methyl Tert Butyl Ether | 50 | 50.6 | 101 | 75-123 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6820-BS | 3C151774.D | 1 | 05/05/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4, JC86986-7, JC86986-8, JC86986-10, JC86986-12, JC86986-13

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 200 | 233 | 117 | 73-136 |
| 75-09-2 | Methylene chloride | 50 | 46.1 | 92 | 73-120 |
| 100-42-5 | Styrene | 50 | 48.3 | 97 | 78-120 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 50 | 46.8 | 94 | 72-120 |
| 127-18-4 | Tetrachloroethene | 50 | 50.4 | 101 | 69-128 |
| 108-88-3 | Toluene | 50 | 46.8 | 94 | 74-117 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 50 | 51.4 | 103 | 72-133 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 50.3 | 101 | 73-132 |
| 71-55-6 | 1,1,1-Trichloroethane | 50 | 49.7 | 99 | 73-131 |
| 79-00-5 | 1,1,2-Trichloroethane | 50 | 47.0 | 94 | 79-117 |
| 79-01-6 | Trichloroethene | 50 | 46.8 | 94 | 80-120 |
| 75-69-4 | Trichlorofluoromethane | 50 | 49.5 | 99 | 63-141 |
| 75-01-4 | Vinyl chloride | 50 | 40.7 | 81 | 55-145 |
| | m,p-Xylene | 100 | 92.8 | 93 | 75-120 |
| 95-47-6 | o-Xylene | 50 | 48.3 | 97 | 75-119 |
| 1330-20-7 | Xylene (total) | 150 | 141 | 94 | 76-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 108% | 75-130% |
| 2037-26-5 | Toluene-D8 | 104% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 105% | 79-127% |

(a) High percent recoveries and no associated positive reported in the QC batch.

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6821-BS | 3C151803.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |

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

JC86986-5

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 200 | 177 | 89 | 48-149 |
| 71-43-2 | Benzene | 50 | 45.1 | 90 | 74-117 |
| 74-97-5 | Bromochloromethane | 50 | 48.2 | 96 | 82-121 |
| 75-27-4 | Bromodichloromethane | 50 | 51.9 | 104 | 78-119 |
| 75-25-2 | Bromoform | 50 | 54.3 | 109 | 76-130 |
| 74-83-9 | Bromomethane | 50 | 43.9 | 88 | 58-137 |
| 78-93-3 | 2-Butanone (MEK) | 200 | 189 | 95 | 65-143 |
| 75-15-0 | Carbon disulfide | 50 | 42.6 | 85 | 66-140 |
| 56-23-5 | Carbon tetrachloride | 50 | 51.8 | 104 | 69-136 |
| 108-90-7 | Chlorobenzene | 50 | 44.3 | 89 | 79-117 |
| 75-00-3 | Chloroethane | 50 | 45.2 | 90 | 62-139 |
| 67-66-3 | Chloroform | 50 | 44.2 | 88 | 76-119 |
| 74-87-3 | Chloromethane | 50 | 39.6 | 79 | 52-144 |
| 110-82-7 | Cyclohexane | 50 | 43.4 | 87 | 64-136 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 50 | 51.7 | 103 | 72-124 |
| 124-48-1 | Dibromochloromethane | 50 | 58.2 | 116 | 78-122 |
| 106-93-4 | 1,2-Dibromoethane | 50 | 42.3 | 85 | 80-116 |
| 95-50-1 | 1,2-Dichlorobenzene | 50 | 43.6 | 87 | 77-117 |
| 541-73-1 | 1,3-Dichlorobenzene | 50 | 43.6 | 87 | 75-117 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 43.1 | 86 | 76-115 |
| 75-71-8 | Dichlorodifluoromethane | 50 | 47.2 | 94 | 43-156 |
| 75-34-3 | 1,1-Dichloroethane | 50 | 43.0 | 86 | 75-124 |
| 107-06-2 | 1,2-Dichloroethane | 50 | 47.2 | 94 | 74-124 |
| 75-35-4 | 1,1-Dichloroethene | 50 | 44.6 | 89 | 64-129 |
| 156-59-2 | cis-1,2-Dichloroethene | 50 | 44.5 | 89 | 74-118 |
| 156-60-5 | trans-1,2-Dichloroethene | 50 | 44.0 | 88 | 71-125 |
| 78-87-5 | 1,2-Dichloropropane | 50 | 41.9 | 84 | 80-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 50 | 49.1 | 98 | 80-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 50 | 51.0 | 102 | 78-119 |
| 100-41-4 | Ethylbenzene | 50 | 43.2 | 86 | 75-118 |
| 76-13-1 | Freon 113 | 50 | 48.1 | 96 | 60-181 |
| 591-78-6 | 2-Hexanone | 200 | 179 | 90 | 63-138 |
| 98-82-8 | Isopropylbenzene | 50 | 45.2 | 90 | 74-122 |
| 79-20-9 | Methyl Acetate | 50 | 37.9 | 76 | 61-140 |
| 108-87-2 | Methylcyclohexane | 50 | 40.6 | 81 | 67-136 |
| 1634-04-4 | Methyl Tert Butyl Ether | 50 | 47.6 | 95 | 75-123 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V3C6821-BS | 3C151803.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |

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

JC86986-5

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 200 | 219 | 110 | 73-136 |
| 75-09-2 | Methylene chloride | 50 | 41.6 | 83 | 73-120 |
| 100-42-5 | Styrene | 50 | 45.4 | 91 | 78-120 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 50 | 43.0 | 86 | 72-120 |
| 127-18-4 | Tetrachloroethene | 50 | 47.8 | 96 | 69-128 |
| 108-88-3 | Toluene | 50 | 44.1 | 88 | 74-117 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 50 | 48.9 | 98 | 72-133 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 48.0 | 96 | 73-132 |
| 71-55-6 | 1,1,1-Trichloroethane | 50 | 48.0 | 96 | 73-131 |
| 79-00-5 | 1,1,2-Trichloroethane | 50 | 44.0 | 88 | 79-117 |
| 79-01-6 | Trichloroethene | 50 | 46.3 | 93 | 80-120 |
| 75-69-4 | Trichlorofluoromethane | 50 | 50.2 | 100 | 63-141 |
| 75-01-4 | Vinyl chloride | 50 | 42.6 | 85 | 55-145 |
| | m,p-Xylene | 100 | 87.3 | 87 | 75-120 |
| 95-47-6 | o-Xylene | 50 | 45.2 | 90 | 75-119 |
| 1330-20-7 | Xylene (total) | 150 | 132 | 88 | 76-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 107% | 75-130% |
| 2037-26-5 | Toluene-D8 | 102% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 104% | 79-127% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VD10654-BS | D264359.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |

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

JC86986-3, JC86986-9, JC86986-11

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 10000 | 11700 | 117 | 48-149 |
| 71-43-2 | Benzene | 2500 | 2390 | 96 | 74-117 |
| 74-97-5 | Bromochloromethane | 2500 | 2490 | 100 | 82-121 |
| 75-27-4 | Bromodichloromethane | 2500 | 2310 | 92 | 78-119 |
| 75-25-2 | Bromoform | 2500 | 2410 | 96 | 76-130 |
| 74-83-9 | Bromomethane | 2500 | 2400 | 96 | 58-137 |
| 78-93-3 | 2-Butanone (MEK) | 10000 | 10700 | 107 | 65-143 |
| 75-15-0 | Carbon disulfide | 2500 | 2430 | 97 | 66-140 |
| 56-23-5 | Carbon tetrachloride | 2500 | 2260 | 90 | 69-136 |
| 108-90-7 | Chlorobenzene | 2500 | 2250 | 90 | 79-117 |
| 75-00-3 | Chloroethane | 2500 | 2310 | 92 | 62-139 |
| 67-66-3 | Chloroform | 2500 | 2290 | 92 | 76-119 |
| 74-87-3 | Chloromethane | 2500 | 2330 | 93 | 52-144 |
| 110-82-7 | Cyclohexane | 2500 | 2540 | 102 | 64-136 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2500 | 2720 | 109 | 72-124 |
| 124-48-1 | Dibromochloromethane | 2500 | 2440 | 98 | 78-122 |
| 106-93-4 | 1,2-Dibromoethane | 2500 | 2180 | 87 | 80-116 |
| 95-50-1 | 1,2-Dichlorobenzene | 2500 | 2580 | 103 | 77-117 |
| 541-73-1 | 1,3-Dichlorobenzene | 2500 | 2550 | 102 | 75-117 |
| 106-46-7 | 1,4-Dichlorobenzene | 2500 | 2520 | 101 | 76-115 |
| 75-71-8 | Dichlorodifluoromethane | 2500 | 1740 | 70 | 43-156 |
| 75-34-3 | 1,1-Dichloroethane | 2500 | 2440 | 98 | 75-124 |
| 107-06-2 | 1,2-Dichloroethane | 2500 | 1990 | 80 | 74-124 |
| 75-35-4 | 1,1-Dichloroethene | 2500 | 2390 | 96 | 64-129 |
| 156-59-2 | cis-1,2-Dichloroethene | 2500 | 2500 | 100 | 74-118 |
| 156-60-5 | trans-1,2-Dichloroethene | 2500 | 2490 | 100 | 71-125 |
| 78-87-5 | 1,2-Dichloropropane | 2500 | 2470 | 99 | 80-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 2500 | 2370 | 95 | 80-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 2500 | 2340 | 94 | 78-119 |
| 100-41-4 | Ethylbenzene | 2500 | 2380 | 95 | 75-118 |
| 76-13-1 | Freon 113 | 2500 | 2290 | 92 | 60-181 |
| 591-78-6 | 2-Hexanone | 10000 | 10400 | 104 | 63-138 |
| 98-82-8 | Isopropylbenzene | 2500 | 2630 | 105 | 74-122 |
| 79-20-9 | Methyl Acetate | 2500 | 2620 | 105 | 61-140 |
| 108-87-2 | Methylcyclohexane | 2500 | 2680 | 107 | 67-136 |
| 1634-04-4 | Methyl Tert Butyl Ether | 2500 | 2410 | 96 | 75-123 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VD10654-BS | D264359.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |

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

JC86986-3, JC86986-9, JC86986-11

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 10000 | 10000 | 100 | 73-136 |
| 75-09-2 | Methylene chloride | 2500 | 2510 | 100 | 73-120 |
| 100-42-5 | Styrene | 2500 | 2400 | 96 | 78-120 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2500 | 2400 | 96 | 72-120 |
| 127-18-4 | Tetrachloroethene | 2500 | 2390 | 96 | 69-128 |
| 108-88-3 | Toluene | 2500 | 2390 | 96 | 74-117 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2500 | 2770 | 111 | 72-133 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2500 | 2860 | 114 | 73-132 |
| 71-55-6 | 1,1,1-Trichloroethane | 2500 | 2280 | 91 | 73-131 |
| 79-00-5 | 1,1,2-Trichloroethane | 2500 | 2450 | 98 | 79-117 |
| 79-01-6 | Trichloroethene | 2500 | 2290 | 92 | 80-120 |
| 75-69-4 | Trichlorofluoromethane | 2500 | 2100 | 84 | 63-141 |
| 75-01-4 | Vinyl chloride | 2500 | 2590 | 104 | 55-145 |
| | m,p-Xylene | 5000 | 4830 | 97 | 75-120 |
| 95-47-6 | o-Xylene | 2500 | 2440 | 98 | 75-119 |
| 1330-20-7 | Xylene (total) | 7500 | 7270 | 97 | 76-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 100% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 89% | 75-130% |
| 2037-26-5 | Toluene-D8 | 100% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | 79-127% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1C7215-BS | 1C164396.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |

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

JC86986-2, JC86986-6

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 200 | 186 | 93 | 48-149 |
| 71-43-2 | Benzene | 50 | 44.6 | 89 | 74-117 |
| 74-97-5 | Bromochloromethane | 50 | 51.0 | 102 | 82-121 |
| 75-27-4 | Bromodichloromethane | 50 | 46.5 | 93 | 78-119 |
| 75-25-2 | Bromoform | 50 | 56.8 | 114 | 76-130 |
| 74-83-9 | Bromomethane | 50 | 42.6 | 85 | 58-137 |
| 78-93-3 | 2-Butanone (MEK) | 200 | 219 | 110 | 65-143 |
| 75-15-0 | Carbon disulfide | 50 | 44.1 | 88 | 66-140 |
| 56-23-5 | Carbon tetrachloride | 50 | 46.1 | 92 | 69-136 |
| 108-90-7 | Chlorobenzene | 50 | 47.8 | 96 | 79-117 |
| 75-00-3 | Chloroethane | 50 | 43.0 | 86 | 62-139 |
| 67-66-3 | Chloroform | 50 | 43.4 | 87 | 76-119 |
| 74-87-3 | Chloromethane | 50 | 38.3 | 77 | 52-144 |
| 110-82-7 | Cyclohexane | 50 | 43.2 | 86 | 64-136 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 50 | 48.2 | 96 | 72-124 |
| 124-48-1 | Dibromochloromethane | 50 | 52.8 | 106 | 78-122 |
| 106-93-4 | 1,2-Dibromoethane | 50 | 43.0 | 86 | 80-116 |
| 95-50-1 | 1,2-Dichlorobenzene | 50 | 51.7 | 103 | 77-117 |
| 541-73-1 | 1,3-Dichlorobenzene | 50 | 50.1 | 100 | 75-117 |
| 106-46-7 | 1,4-Dichlorobenzene | 50 | 50.3 | 101 | 76-115 |
| 75-71-8 | Dichlorodifluoromethane | 50 | 35.1 | 70 | 43-156 |
| 75-34-3 | 1,1-Dichloroethane | 50 | 43.4 | 87 | 75-124 |
| 107-06-2 | 1,2-Dichloroethane | 50 | 39.7 | 79 | 74-124 |
| 75-35-4 | 1,1-Dichloroethene | 50 | 47.2 | 94 | 64-129 |
| 156-59-2 | cis-1,2-Dichloroethene | 50 | 47.4 | 95 | 74-118 |
| 156-60-5 | trans-1,2-Dichloroethene | 50 | 46.7 | 93 | 71-125 |
| 78-87-5 | 1,2-Dichloropropane | 50 | 45.9 | 92 | 80-119 |
| 10061-01-5 | cis-1,3-Dichloropropene | 50 | 46.8 | 94 | 80-119 |
| 10061-02-6 | trans-1,3-Dichloropropene | 50 | 47.4 | 95 | 78-119 |
| 100-41-4 | Ethylbenzene | 50 | 44.5 | 89 | 75-118 |
| 76-13-1 | Freon 113 | 50 | 51.3 | 103 | 60-181 |
| 591-78-6 | 2-Hexanone | 200 | 201 | 101 | 63-138 |
| 98-82-8 | Isopropylbenzene | 50 | 46.8 | 94 | 74-122 |
| 79-20-9 | Methyl Acetate | 50 | 48.4 | 97 | 61-140 |
| 108-87-2 | Methylcyclohexane | 50 | 44.4 | 89 | 67-136 |
| 1634-04-4 | Methyl Tert Butyl Ether | 50 | 46.2 | 92 | 75-123 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1C7215-BS | 1C164396.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |

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

JC86986-2, JC86986-6

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | 200 | 189 | 95 | 73-136 |
| 75-09-2 | Methylene chloride | 50 | 47.5 | 95 | 73-120 |
| 100-42-5 | Styrene | 50 | 47.9 | 96 | 78-120 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 50 | 52.0 | 104 | 72-120 |
| 127-18-4 | Tetrachloroethene | 50 | 49.8 | 100 | 69-128 |
| 108-88-3 | Toluene | 50 | 44.8 | 90 | 74-117 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 50 | 51.6 | 103 | 72-133 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 50 | 52.4 | 105 | 73-132 |
| 71-55-6 | 1,1,1-Trichloroethane | 50 | 45.3 | 91 | 73-131 |
| 79-00-5 | 1,1,2-Trichloroethane | 50 | 51.2 | 102 | 79-117 |
| 79-01-6 | Trichloroethene | 50 | 50.3 | 101 | 80-120 |
| 75-69-4 | Trichlorofluoromethane | 50 | 43.3 | 87 | 63-141 |
| 75-01-4 | Vinyl chloride | 50 | 41.9 | 84 | 55-145 |
| | m,p-Xylene | 100 | 94.2 | 94 | 75-120 |
| 95-47-6 | o-Xylene | 50 | 48.4 | 97 | 75-119 |
| 1330-20-7 | Xylene (total) | 150 | 143 | 95 | 76-119 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 85% | 75-130% |
| 2037-26-5 | Toluene-D8 | 99% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 94% | 79-127% |

* = Outside of Control Limits.

# Matrix Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC86986-8MS | 3C151807.D | 1 | 05/06/19 | MD | n/a | n/a | V3C6820 |
| JC86986-8 | 3C151785.D | 1 | 05/05/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4, JC86986-7, JC86986-8, JC86986-10, JC86986-12, JC86986-13

| CAS No. | Compound | JC86986-8 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Limits |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 240 | | 304 | 375 | 44 | 10-157 |
| 71-43-2 | Benzene | ND | | 76 | 75.3 | 99 | 58-125 |
| 74-97-5 | Bromochloromethane | ND | | 76 | 73.4 | 97 | 60-127 |
| 75-27-4 | Bromodichloromethane | ND | | 76 | 81.5 | 107 | 57-128 |
| 75-25-2 | Bromoform | ND | | 76 | 71.3 | 94 | 48-133 |
| 74-83-9 | Bromomethane | ND | | 76 | 79.9 | 105 | 31-141 |
| 78-93-3 | 2-Butanone (MEK) | 56.1 | | 304 | 283 | 75 | 29-146 |
| 75-15-0 | Carbon disulfide | ND | | 76 | 65.3 | 86 | 47-145 |
| 56-23-5 | Carbon tetrachloride | ND | | 76 | 77.8 | 102 | 51-143 |
| 108-90-7 | Chlorobenzene | ND | | 76 | 68.8 | 91 | 54-130 |
| 75-00-3 | Chloroethane | ND | | 76 | 78.4 | 103 | 22-153 |
| 67-66-3 | Chloroform | ND | | 76 | 72.8 | 96 | 61-125 |
| 74-87-3 | Chloromethane | ND | | 76 | 67.8 | 89 | 43-142 |
| 110-82-7 | Cyclohexane | ND | | 76 | 62.0 | 82 | 37-148 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 76 | 69.8 | 92 | 41-127 |
| 124-48-1 | Dibromochloromethane | ND | | 76 | 89.2 | 117 | 56-127 |
| 106-93-4 | 1,2-Dibromoethane | ND | | 76 | 80.3 | 106 | 54-121 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 76 | 56.5 | 74 | 41-134 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 76 | 60.2 | 79 | 41-135 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 76 | 59.3 | 78 | 41-133 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 76 | 80.1 | 105 | 30-153 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 76 | 71.4 | 94 | 61-131 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 76 | 72.9 | 96 | 56-126 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 76 | 76.4 | 101 | 53-132 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | 76 | 72.8 | 96 | 57-125 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | 76 | 71.1 | 94 | 56-130 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 76 | 67.5 | 89 | 63-126 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 76 | 73.0 | 96 | 55-126 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 76 | 78.4 | 103 | 51-126 |
| 100-41-4 | Ethylbenzene | ND | | 76 | 70.9 | 93 | 49-132 |
| 76-13-1 | Freon 113 | ND | | 76 | 78.1 | 103 | 42-179 |
| 591-78-6 | 2-Hexanone | ND | | 304 | 255 | 84 | 25-150 |
| 98-82-8 | Isopropylbenzene | ND | | 76 | 67.4 | 89 | 43-141 |
| 79-20-9 | Methyl Acetate | ND | | 76 | 65.0 | 86 | 32-158 |
| 108-87-2 | Methylcyclohexane | ND | | 76 | 50.8 | 67 | 22-158 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 76 | 71.8 | 94 | 58-123 |

* = Outside of Control Limits.

# Matrix Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC86986-8MS | 3C151807.D | 1 | 05/06/19 | MD | n/a | n/a | V3C6820 |
| JC86986-8 | 3C151785.D | 1 | 05/05/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4, JC86986-7, JC86986-8, JC86986-10, JC86986-12, JC86986-13

| CAS No. | Compound | JC86986-8 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Limits |
|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | 304 | 307 | 101 | 40-140 |
| 75-09-2 | Methylene chloride | ND | | 76 | 67.3 | 89 | 57-123 |
| 100-42-5 | Styrene | ND | | 76 | 64.0 | 84 | 46-139 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 76 | 71.4 | 94 | 44-127 |
| 127-18-4 | Tetrachloroethene | ND | | 76 | 78.9 | 104 | 39-154 |
| 108-88-3 | Toluene | ND | | 76 | 78.2 | 103 | 54-127 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | 76 | 29.1 | 38 | 17-151 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 76 | 34.7 | 46 | 19-153 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 76 | 79.7 | 105 | 57-138 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 76 | 70.2 | 92 | 53-127 |
| 79-01-6 | Trichloroethene | ND | | 76 | 75.2 | 99 | 52-140 |
| 75-69-4 | Trichlorofluoromethane | ND | | 76 | 84.6 | 111 | 46-142 |
| 75-01-4 | Vinyl chloride | ND | | 76 | 76.4 | 101 | 43-146 |
| | m,p-Xylene | ND | | 152 | 139 | 91 | 45-137 |
| 95-47-6 | o-Xylene | ND | | 76 | 70.1 | 92 | 48-135 |
| 1330-20-7 | Xylene (total) | ND | | 228 | 209 | 92 | 46-137 |

| CAS No. | Surrogate Recoveries | MS | JC86986-8 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 98% | 105% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | 116% | 75-130% |
| 2037-26-5 | Toluene-D8 | 111% | 101% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 120% | 106% | 79-127% |

* = Outside of Control Limits.

# Matrix Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87093-7MS | 3C151819.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |
| JC87093-7 | 3C151809.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |

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

JC86986-5

| CAS No. | Compound | JC87093-7 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Limits |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 224 | | 303 | 394 | 56 | 10-157 |
| 71-43-2 | Benzene | ND | | 75.8 | 49.3 | 65 | 58-125 |
| 74-97-5 | Bromochloromethane | ND | | 75.8 | 50.8 | 67 | 60-127 |
| 75-27-4 | Bromodichloromethane | ND | | 75.8 | 53.7 | 71 | 57-128 |
| 75-25-2 | Bromoform | ND | | 75.8 | 44.9 | 59 | 48-133 |
| 74-83-9 | Bromomethane | ND | | 75.8 | 54.2 | 72 | 31-141 |
| 78-93-3 | 2-Butanone (MEK) | 51.9 | | 303 | 224 | 57 | 29-146 |
| 75-15-0 | Carbon disulfide | ND | | 75.8 | 39.7 | 52 | 47-145 |
| 56-23-5 | Carbon tetrachloride | ND | | 75.8 | 53.5 | 71 | 51-143 |
| 108-90-7 | Chlorobenzene | ND | | 75.8 | 39.8 | 53* [a] | 54-130 |
| 75-00-3 | Chloroethane | ND | | 75.8 | 57.2 | 75 | 22-153 |
| 67-66-3 | Chloroform | ND | | 75.8 | 48.8 | 64 | 61-125 |
| 74-87-3 | Chloromethane | ND | | 75.8 | 48.5 | 64 | 43-142 |
| 110-82-7 | Cyclohexane | ND | | 75.8 | 40.6 | 54 | 37-148 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 75.8 | 37.4 | 49 | 41-127 |
| 124-48-1 | Dibromochloromethane | ND | | 75.8 | 53.2 | 70 | 56-127 |
| 106-93-4 | 1,2-Dibromoethane | ND | | 75.8 | 39.5 | 52* [a] | 54-121 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 75.8 | 27.0 | 36* [a] | 41-134 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 75.8 | 27.3 | 36* [a] | 41-135 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 75.8 | 27.1 | 36* [a] | 41-133 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 75.8 | 47.5 | 63 | 30-153 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 75.8 | 48.7 | 64 | 61-131 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 75.8 | 49.5 | 65 | 56-126 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 75.8 | 49.6 | 65 | 53-132 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | 75.8 | 48.6 | 64 | 57-125 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | 75.8 | 45.7 | 60 | 56-130 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 75.8 | 46.6 | 61* [a] | 63-126 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 75.8 | 46.4 | 61 | 55-126 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 75.8 | 45.0 | 59 | 51-126 |
| 100-41-4 | Ethylbenzene | ND | | 75.8 | 41.0 | 54 | 49-132 |
| 76-13-1 | Freon 113 | ND | | 75.8 | 47.5 | 63 | 42-179 |
| 591-78-6 | 2-Hexanone | ND | | 303 | 153 | 50 | 25-150 |
| 98-82-8 | Isopropylbenzene | ND | | 75.8 | 38.1 | 50 | 43-141 |
| 79-20-9 | Methyl Acetate | ND | | 75.8 | 37.6 | 50 | 32-158 |
| 108-87-2 | Methylcyclohexane | ND | | 75.8 | 29.3 | 39 | 22-158 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 75.8 | 50.5 | 67 | 58-123 |

* = Outside of Control Limits.

# Matrix Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87093-7MS | 3C151819.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |
| JC87093-7 | 3C151809.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |

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

JC86986-5

| CAS No. | Compound | JC87093-7 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Limits |
|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | 303 | 206 | 68 | 40-140 |
| 75-09-2 | Methylene chloride | ND | | 75.8 | 47.6 | 63 | 57-123 |
| 100-42-5 | Styrene | ND | | 75.8 | 34.3 | 45* [a] | 46-139 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 75.8 | 36.2 | 48 | 44-127 |
| 127-18-4 | Tetrachloroethene | ND | | 75.8 | 44.3 | 58 | 39-154 |
| 108-88-3 | Toluene | ND | | 75.8 | 45.4 | 60 | 54-127 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | 75.8 | 16.4 | 22 | 17-151 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 75.8 | 18.2 | 24 | 19-153 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 75.8 | 52.8 | 70 | 57-138 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 75.8 | 42.8 | 56 | 53-127 |
| 79-01-6 | Trichloroethene | ND | | 75.8 | 46.5 | 61 | 52-140 |
| 75-69-4 | Trichlorofluoromethane | ND | | 75.8 | 57.9 | 76 | 46-142 |
| 75-01-4 | Vinyl chloride | ND | | 75.8 | 49.9 | 66 | 43-146 |
| | m,p-Xylene | ND | | 152 | 79.0 | 52 | 45-137 |
| 95-47-6 | o-Xylene | ND | | 75.8 | 41.4 | 55 | 48-135 |
| 1330-20-7 | Xylene (total) | ND | | 227 | 120 | 53 | 46-137 |

| CAS No. | Surrogate Recoveries | MS | JC87093-7 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 100% | 105% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101% | 113% | 75-130% |
| 2037-26-5 | Toluene-D8 | 104% | 112% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 107% | 127% | 79-127% |

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87652-1MS | D264363.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |
| JC87652-1MSD | D264364.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |
| JC87652-1 [a] | D264362.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |

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

JC86986-3, JC86986-9, JC86986-11

| CAS No. | Compound | JC87652-1 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | | 13600 | 15300 | 113 | 13600 | 14600 | 108 | 5 | 10-157/31 |
| 71-43-2 | Benzene | ND | | 3390 | 2880 | 85 | 3390 | 2940 | 87 | 2 | 58-125/22 |
| 74-97-5 | Bromochloromethane | ND | | 3390 | 3070 | 90 | 3390 | 3080 | 91 | 0 | 60-127/22 |
| 75-27-4 | Bromodichloromethane | ND | | 3390 | 2830 | 83 | 3390 | 2860 | 84 | 1 | 57-128/22 |
| 75-25-2 | Bromoform | ND | | 3390 | 3020 | 89 | 3390 | 3020 | 89 | 0 | 48-133/21 |
| 74-83-9 | Bromomethane | ND | | 3390 | 1160 | 34 | 3390 | 1200 | 35 | 3 | 31-141/28 |
| 78-93-3 | 2-Butanone (MEK) | ND | | 13600 | 14700 | 108 | 13600 | 14300 | 105 | 3 | 29-146/27 |
| 75-15-0 | Carbon disulfide | ND | | 3390 | 2930 | 86 | 3390 | 2940 | 87 | 0 | 47-145/24 |
| 56-23-5 | Carbon tetrachloride | ND | | 3390 | 2620 | 77 | 3390 | 2630 | 77 | 0 | 51-143/25 |
| 108-90-7 | Chlorobenzene | ND | | 3390 | 2750 | 81 | 3390 | 2780 | 82 | 1 | 54-130/22 |
| 75-00-3 | Chloroethane | ND | | 3390 | 1250 | 37 | 3390 | 1280 | 38 | 2 | 22-153/32 |
| 67-66-3 | Chloroform | ND | | 3390 | 2740 | 81 | 3390 | 2730 | 80 | 0 | 61-125/22 |
| 74-87-3 | Chloromethane | ND | | 3390 | 2530 | 75 | 3390 | 2440 | 72 | 4 | 43-142/27 |
| 110-82-7 | Cyclohexane | 39.4 | J | 3390 | 3240 | 94 | 3390 | 3270 | 95 | 1 | 37-148/26 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 3390 | 3680 | 108 | 3390 | 3110 | 92 | 17 | 41-127/23 |
| 124-48-1 | Dibromochloromethane | ND | | 3390 | 2920 | 86 | 3390 | 2910 | 86 | 0 | 56-127/21 |
| 106-93-4 | 1,2-Dibromoethane | ND | | 3390 | 2680 | 79 | 3390 | 2670 | 79 | 0 | 54-121/21 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 3390 | 3010 | 89 | 3390 | 2990 | 88 | 1 | 41-134/22 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 3390 | 3050 | 90 | 3390 | 3030 | 89 | 1 | 41-135/22 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 3390 | 2980 | 88 | 3390 | 2960 | 87 | 1 | 41-133/22 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 3390 | 1900 | 56 | 3390 | 1880 | 55 | 1 | 30-153/29 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 3390 | 2940 | 87 | 3390 | 2920 | 86 | 1 | 61-131/23 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 3390 | 2440 | 72 | 3390 | 2430 | 72 | 0 | 56-126/21 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 3390 | 2960 | 87 | 3390 | 2960 | 87 | 0 | 53-132/23 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | 3390 | 3000 | 88 | 3390 | 3010 | 89 | 0 | 57-125/22 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | 3390 | 3000 | 88 | 3390 | 2980 | 88 | 1 | 56-130/23 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 3390 | 3020 | 89 | 3390 | 3030 | 89 | 0 | 63-126/22 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 3390 | 2940 | 87 | 3390 | 2930 | 86 | 0 | 55-126/21 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 3390 | 2760 | 81 | 3390 | 2750 | 81 | 0 | 51-126/21 |
| 100-41-4 | Ethylbenzene | 793 | | 3390 | 3630 | 84 | 3390 | 3680 | 85 | 1 | 49-132/23 |
| 76-13-1 | Freon 113 | ND | | 3390 | 2550 | 75 | 3390 | 2540 | 75 | 0 | 42-179/25 |
| 591-78-6 | 2-Hexanone | ND | | 13600 | 13400 | 99 | 13600 | 13100 | 96 | 2 | 25-150/25 |
| 98-82-8 | Isopropylbenzene | 840 | | 3390 | 4050 | 95 | 3390 | 4160 | 98 | 3 | 43-141/25 |
| 79-20-9 | Methyl Acetate | ND | | 3390 | 3360 | 99 | 3390 | 3230 | 95 | 4 | 32-158/26 |
| 108-87-2 | Methylcyclohexane | 426 | | 3390 | 3570 | 93 | 3390 | 3590 | 93 | 1 | 22-158/30 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 3390 | 3010 | 89 | 3390 | 2980 | 88 | 1 | 58-123/23 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87652-1MS | D264363.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |
| JC87652-1MSD | D264364.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |
| JC87652-1 [a] | D264362.D | 1 | 05/08/19 | TDN | n/a | n/a | VD10654 |

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

JC86986-3, JC86986-9, JC86986-11

| CAS No. | Compound | JC87652-1 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | 13600 | 13400 | 99 | 13600 | 13200 | 97 | 2 | 40-140/24 |
| 75-09-2 | Methylene chloride | ND | | 3390 | 3100 | 91 | 3390 | 3090 | 91 | 0 | 57-123/23 |
| 100-42-5 | Styrene | ND | | 3390 | 3040 | 90 | 3390 | 3060 | 90 | 1 | 46-139/22 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 3390 | 3090 | 91 | 3390 | 3070 | 90 | 1 | 44-127/26 |
| 127-18-4 | Tetrachloroethene | ND | | 3390 | 2760 | 81 | 3390 | 2840 | 84 | 3 | 39-154/26 |
| 108-88-3 | Toluene | 218 | | 3390 | 2980 | 81 | 3390 | 3030 | 83 | 2 | 54-127/22 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | 3390 | 3080 | 91 | 3390 | 3130 | 92 | 2 | 17-151/32 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 3390 | 3030 | 89 | 3390 | 3110 | 92 | 3 | 19-153/32 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 3390 | 2690 | 79 | 3390 | 2700 | 80 | 0 | 57-138/24 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 3390 | 3020 | 89 | 3390 | 3040 | 90 | 1 | 53-127/22 |
| 79-01-6 | Trichloroethene | ND | | 3390 | 2760 | 81 | 3390 | 2780 | 82 | 1 | 52-140/24 |
| 75-69-4 | Trichlorofluoromethane | ND | | 3390 | 2360 | 70 | 3390 | 2360 | 70 | 0 | 46-142/27 |
| 75-01-4 | Vinyl chloride | ND | | 3390 | 3070 | 90 | 3390 | 3010 | 89 | 2 | 43-146/26 |
| | m,p-Xylene | 1500 | | 6790 | 7300 | 85 | 6790 | 7440 | 87 | 2 | 45-137/23 |
| 95-47-6 | o-Xylene | 1450 | | 3390 | 4370 | 86 | 3390 | 4460 | 89 | 2 | 48-135/22 |
| 1330-20-7 | Xylene (total) | 2950 | | 10200 | 11700 | 86 | 10200 | 11900 | 88 | 2 | 46-137/23 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87652-1 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 98% | 100% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 88% | 87% | 92% | 75-130% |
| 2037-26-5 | Toluene-D8 | 97% | 97% | 99% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | 96% | 101% | 79-127% |

(a) Diluted due to high concentration of non-target compound. Sample was not collected per 5035A specifications. Sample preserved from intact soil by laboratory.

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC86986-2MS | 1C164401.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |
| JC86986-2MSD | 1C164402.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |
| JC86986-2 | 1C164399.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |

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

JC86986-2, JC86986-6

| CAS No. | Compound | JC86986-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 129 | | 406 | 265 | 34 | 322 | 237 | 34 | 11 | 10-157/31 |
| 71-43-2 | Benzene | ND | | 101 | 87.3 | 86 | 80.4 | 77.4 | 96 | 12 | 58-125/22 |
| 74-97-5 | Bromochloromethane | ND | | 101 | 98.5 | 97 | 80.4 | 83.4 | 104 | 17 | 60-127/22 |
| 75-27-4 | Bromodichloromethane | ND | | 101 | 84.2 | 83 | 80.4 | 74.8 | 93 | 12 | 57-128/22 |
| 75-25-2 | Bromoform | ND | | 101 | 82.9 | 82 | 80.4 | 77.6 | 96 | 7 | 48-133/21 |
| 74-83-9 | Bromomethane | ND | | 101 | 90.2 | 89 | 80.4 | 72.5 | 90 | 22 | 31-141/28 |
| 78-93-3 | 2-Butanone (MEK) | 35.5 | | 406 | 316 | 69 | 322 | 287 | 78 | 10 | 29-146/27 |
| 75-15-0 | Carbon disulfide | ND | | 101 | 80.8 | 80 | 80.4 | 67.1 | 83 | 19 | 47-145/24 |
| 56-23-5 | Carbon tetrachloride | ND | | 101 | 77.5 | 76 | 80.4 | 73.6 | 92 | 5 | 51-143/25 |
| 108-90-7 | Chlorobenzene | ND | | 101 | 79.9 | 79 | 80.4 | 74.3 | 92 | 7 | 54-130/22 |
| 75-00-3 | Chloroethane | ND | | 101 | 89.7 | 88 | 80.4 | 75.3 | 94 | 17 | 22-153/32 |
| 67-66-3 | Chloroform | ND | | 101 | 85.5 | 84 | 80.4 | 73.2 | 91 | 16 | 61-125/22 |
| 74-87-3 | Chloromethane | ND | | 101 | 81.7 | 81 | 80.4 | 66.6 | 83 | 20 | 43-142/27 |
| 110-82-7 | Cyclohexane | ND | | 101 | 61.0 | 60 | 80.4 | 62.0 | 77 | 2 | 37-148/26 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | 101 | 63.0 | 62 | 80.4 | 60.1 | 75 | 5 | 41-127/23 |
| 124-48-1 | Dibromochloromethane | ND | | 101 | 87.4 | 86 | 80.4 | 78.2 | 97 | 11 | 56-127/21 |
| 106-93-4 | 1,2-Dibromoethane | ND | | 101 | 72.7 | 72 | 80.4 | 64.5 | 80 | 12 | 54-121/21 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 101 | 65.9 | 65 | 80.4 | 63.9 | 79 | 3 | 41-134/22 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 101 | 64.3 | 63 | 80.4 | 62.3 | 77 | 3 | 41-135/22 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 101 | 63.7 | 63 | 80.4 | 61.6 | 77 | 3 | 41-133/22 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 101 | 74.7 | 74 | 80.4 | 61.8 | 77 | 19 | 30-153/29 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 101 | 90.3 | 89 | 80.4 | 77.6 | 96 | 15 | 61-131/23 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 101 | 73.8 | 73 | 80.4 | 62.8 | 78 | 16 | 56-126/21 |
| 75-35-4 | 1,1-Dichloroethene | ND | | 101 | 99.1 | 98 | 80.4 | 83.7 | 104 | 17 | 53-132/23 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | 101 | 95.4 | 94 | 80.4 | 80.3 | 100 | 17 | 57-125/22 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | 101 | 92.6 | 91 | 80.4 | 78.6 | 98 | 16 | 56-130/23 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 101 | 87.3 | 86 | 80.4 | 77.4 | 96 | 12 | 63-126/22 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 101 | 82.1 | 81 | 80.4 | 73.2 | 91 | 11 | 55-126/21 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 101 | 79.6 | 79 | 80.4 | 69.2 | 86 | 14 | 51-126/21 |
| 100-41-4 | Ethylbenzene | ND | | 101 | 69.7 | 69 | 80.4 | 66.7 | 83 | 4 | 49-132/23 |
| 76-13-1 | Freon 113 | ND | | 101 | 85.8 | 85 | 80.4 | 80.1 | 100 | 7 | 42-179/25 |
| 591-78-6 | 2-Hexanone | ND | | 406 | 292 | 72 | 322 | 267 | 83 | 9 | 25-150/25 |
| 98-82-8 | Isopropylbenzene | ND | | 101 | 60.8 | 60 | 80.4 | 60.9 | 76 | 0 | 43-141/25 |
| 79-20-9 | Methyl Acetate | ND | | 101 | 72.6 | 72 | 80.4 | 67.0 | 83 | 8 | 32-158/26 |
| 108-87-2 | Methylcyclohexane | ND | | 101 | 47.4 | 47 | 80.4 | 48.0 | 60 | 1 | 22-158/30 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 101 | 84.4 | 83 | 80.4 | 73.6 | 92 | 14 | 58-123/23 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC86986-2MS | 1C164401.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |
| JC86986-2MSD | 1C164402.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |
| JC86986-2 | 1C164399.D | 1 | 05/09/19 | PS | n/a | n/a | V1C7215 |

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

JC86986-2, JC86986-6

| CAS No. | Compound | JC86986-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | 406 | 287 | 71 | 322 | 264 | 82 | 8 | 40-140/24 |
| 75-09-2 | Methylene chloride | 6.8 | J | 101 | 98.0 | 90 | 80.4 | 82.0 | 94 | 18 | 57-123/23 |
| 100-42-5 | Styrene | ND | | 101 | 74.4 | 73 | 80.4 | 70.2 | 87 | 6 | 46-139/22 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 101 | 81.5 | 80 | 80.4 | 73.5 | 91 | 10 | 44-127/26 |
| 127-18-4 | Tetrachloroethene | ND | | 101 | 73.5 | 72 | 80.4 | 73.1 | 91 | 1 | 39-154/26 |
| 108-88-3 | Toluene | ND | | 101 | 81.2 | 80 | 80.4 | 74.6 | 93 | 8 | 54-127/22 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | 101 | 40.7 | 40 | 80.4 | 40.4 | 50 | 1 | 17-151/32 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 101 | 43.6 | 43 | 80.4 | 42.2 | 52 | 3 | 19-153/32 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 101 | 86.6 | 85 | 80.4 | 77.5 | 96 | 11 | 57-138/24 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 101 | 88.2 | 87 | 80.4 | 78.9 | 98 | 11 | 53-127/22 |
| 79-01-6 | Trichloroethene | ND | | 101 | 90.5 | 89 | 80.4 | 81.5 | 101 | 10 | 52-140/24 |
| 75-69-4 | Trichlorofluoromethane | ND | | 101 | 82.7 | 82 | 80.4 | 71.7 | 89 | 14 | 46-142/27 |
| 75-01-4 | Vinyl chloride | ND | | 101 | 89.2 | 88 | 80.4 | 72.2 | 90 | 21 | 43-146/26 |
| | m,p-Xylene | ND | | 203 | 143 | 71 | 161 | 138 | 86 | 4 | 45-137/23 |
| 95-47-6 | o-Xylene | ND | | 101 | 74.5 | 73 | 80.4 | 72.2 | 90 | 3 | 48-135/22 |
| 1330-20-7 | Xylene (total) | ND | | 304 | 217 | 71 | 241 | 210 | 87 | 3 | 46-137/23 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC86986-2 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | 101% | 105% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 83% | 82% | 95% | 75-130% |
| 2037-26-5 | Toluene-D8 | 101% | 100% | 100% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | 96% | 99% | 79-127% |

* = Outside of Control Limits.

# Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC86986-4DUP | 3C151806.D | 1 | 05/06/19 | MD | n/a | n/a | V3C6820 |
| JC86986-4 | 3C151782.D | 1 | 05/05/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4, JC86986-7, JC86986-8, JC86986-10, JC86986-12, JC86986-13

| CAS No. | Compound | JC86986-4 ug/kg | Q | DUP ug/kg | Q | RPD | Limits |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 134 | | 116 | | 14 | 40 |
| 71-43-2 | Benzene | ND | | ND | | nc | 30 |
| 74-97-5 | Bromochloromethane | ND | | ND | | nc | 30 |
| 75-27-4 | Bromodichloromethane | ND | | ND | | nc | 30 |
| 75-25-2 | Bromoform | ND | | ND | | nc | 30 |
| 74-83-9 | Bromomethane | ND | | ND | | nc | 30 |
| 78-93-3 | 2-Butanone (MEK) | 31.7 | | 26.3 | | 19 | 30 |
| 75-15-0 | Carbon disulfide | ND | | ND | | nc | 30 |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | nc | 30 |
| 108-90-7 | Chlorobenzene | ND | | ND | | nc | 30 |
| 75-00-3 | Chloroethane | ND | | ND | | nc | 30 |
| 67-66-3 | Chloroform | ND | | ND | | nc | 30 |
| 74-87-3 | Chloromethane | ND | | ND | | nc | 30 |
| 110-82-7 | Cyclohexane | ND | | ND | | nc | 30 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | nc | 30 |
| 124-48-1 | Dibromochloromethane | ND | | ND | | nc | 30 |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | nc | 30 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | nc | 30 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | nc | 30 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | ND | | nc | 30 |
| 75-71-8 | Dichlorodifluoromethane | ND | | ND | | nc | 30 |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | nc | 30 |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | nc | 30 |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | nc | 30 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | nc | 30 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | nc | 30 |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | nc | 30 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | ND | | nc | 30 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | nc | 30 |
| 100-41-4 | Ethylbenzene | ND | | ND | | nc | 30 |
| 76-13-1 | Freon 113 | ND | | ND | | nc | 30 |
| 591-78-6 | 2-Hexanone | ND | | ND | | nc | 30 |
| 98-82-8 | Isopropylbenzene | ND | | ND | | nc | 30 |
| 79-20-9 | Methyl Acetate | ND | | ND | | nc | 30 |
| 108-87-2 | Methylcyclohexane | ND | | ND | | nc | 30 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | ND | | nc | 30 |

* = Outside of Control Limits.

# Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC86986-4DUP | 3C151806.D | 1 | 05/06/19 | MD | n/a | n/a | V3C6820 |
| JC86986-4 | 3C151782.D | 1 | 05/05/19 | MD | n/a | n/a | V3C6820 |

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

JC86986-4, JC86986-7, JC86986-8, JC86986-10, JC86986-12, JC86986-13

| CAS No. | Compound | JC86986-4 ug/kg | Q | DUP ug/kg | Q | RPD | Limits |
|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | ND | | nc | 30 |
| 75-09-2 | Methylene chloride | ND | | ND | | nc | 36 |
| 100-42-5 | Styrene | ND | | ND | | nc | 30 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | nc | 30 |
| 127-18-4 | Tetrachloroethene | ND | | ND | | nc | 30 |
| 108-88-3 | Toluene | ND | | ND | | nc | 24 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | ND | | nc | 30 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | nc | 30 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | nc | 30 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | nc | 30 |
| 79-01-6 | Trichloroethene | ND | | ND | | nc | 30 |
| 75-69-4 | Trichlorofluoromethane | ND | | ND | | nc | 30 |
| 75-01-4 | Vinyl chloride | ND | | ND | | nc | 30 |
| | m,p-Xylene | ND | | ND | | nc | 32 |
| 95-47-6 | o-Xylene | ND | | ND | | nc | 30 |
| 1330-20-7 | Xylene (total) | ND | | ND | | nc | 33 |

| CAS No. | Surrogate Recoveries | DUP | JC86986-4 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | 102% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 115% | 114% | 75-130% |
| 2037-26-5 | Toluene-D8 | 106% | 104% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 114% | 112% | 79-127% |

* = Outside of Control Limits.

# Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87093-7DUP | 3C151814.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |
| JC87093-7 | 3C151809.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |

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

JC86986-5

| CAS No. | Compound | JC87093-7 ug/kg | Q | DUP ug/kg | Q | RPD | Limits |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 224 | | 192 | | 15 | 40 |
| 71-43-2 | Benzene | ND | | ND | | nc | 30 |
| 74-97-5 | Bromochloromethane | ND | | ND | | nc | 30 |
| 75-27-4 | Bromodichloromethane | ND | | ND | | nc | 30 |
| 75-25-2 | Bromoform | ND | | ND | | nc | 30 |
| 74-83-9 | Bromomethane | ND | | ND | | nc | 30 |
| 78-93-3 | 2-Butanone (MEK) | 51.9 | | 53.4 | | 3 | 30 |
| 75-15-0 | Carbon disulfide | ND | | ND | | nc | 30 |
| 56-23-5 | Carbon tetrachloride | ND | | ND | | nc | 30 |
| 108-90-7 | Chlorobenzene | ND | | ND | | nc | 30 |
| 75-00-3 | Chloroethane | ND | | ND | | nc | 30 |
| 67-66-3 | Chloroform | ND | | ND | | nc | 30 |
| 74-87-3 | Chloromethane | ND | | ND | | nc | 30 |
| 110-82-7 | Cyclohexane | ND | | ND | | nc | 30 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ND | | nc | 30 |
| 124-48-1 | Dibromochloromethane | ND | | ND | | nc | 30 |
| 106-93-4 | 1,2-Dibromoethane | ND | | ND | | nc | 30 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ND | | nc | 30 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ND | | nc | 30 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | ND | | nc | 30 |
| 75-71-8 | Dichlorodifluoromethane | ND | | ND | | nc | 30 |
| 75-34-3 | 1,1-Dichloroethane | ND | | ND | | nc | 30 |
| 107-06-2 | 1,2-Dichloroethane | ND | | ND | | nc | 30 |
| 75-35-4 | 1,1-Dichloroethene | ND | | ND | | nc | 30 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | | ND | | nc | 30 |
| 156-60-5 | trans-1,2-Dichloroethene | ND | | ND | | nc | 30 |
| 78-87-5 | 1,2-Dichloropropane | ND | | ND | | nc | 30 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | ND | | nc | 30 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | ND | | nc | 30 |
| 100-41-4 | Ethylbenzene | ND | | ND | | nc | 30 |
| 76-13-1 | Freon 113 | ND | | ND | | nc | 30 |
| 591-78-6 | 2-Hexanone | ND | | ND | | nc | 30 |
| 98-82-8 | Isopropylbenzene | ND | | ND | | nc | 30 |
| 79-20-9 | Methyl Acetate | ND | | ND | | nc | 30 |
| 108-87-2 | Methylcyclohexane | ND | | ND | | nc | 30 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | ND | | nc | 30 |

* = Outside of Control Limits.

# Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| JC87093-7DUP | 3C151814.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |
| JC87093-7 | 3C151809.D | 1 | 05/06/19 | PS | n/a | n/a | V3C6821 |

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

JC86986-5

| CAS No. | Compound | JC87093-7 ug/kg | Q | DUP ug/kg | Q | RPD | Limits |
|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone(MIBK) | ND | | ND | | nc | 30 |
| 75-09-2 | Methylene chloride | ND | | ND | | nc | 36 |
| 100-42-5 | Styrene | ND | | ND | | nc | 30 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ND | | nc | 30 |
| 127-18-4 | Tetrachloroethene | ND | | ND | | nc | 30 |
| 108-88-3 | Toluene | ND | | ND | | nc | 24 |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | ND | | nc | 30 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ND | | nc | 30 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ND | | nc | 30 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ND | | nc | 30 |
| 79-01-6 | Trichloroethene | ND | | ND | | nc | 30 |
| 75-69-4 | Trichlorofluoromethane | ND | | ND | | nc | 30 |
| 75-01-4 | Vinyl chloride | ND | | ND | | nc | 30 |
| | m,p-Xylene | ND | | ND | | nc | 32 |
| 95-47-6 | o-Xylene | ND | | ND | | nc | 30 |
| 1330-20-7 | Xylene (total) | ND | | ND | | nc | 33 |

| CAS No. | Surrogate Recoveries | DUP | JC87093-7 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | 105% | 75-127% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 105% | 113% | 75-130% |
| 2037-26-5 | Toluene-D8 | 111% | 112% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 125% | 127% | 79-127% |

* = Outside of Control Limits.

# Instrument Performance Check (BFB)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7200-BFB
**Lab File ID:** 1C164004.D
**Instrument ID:** GCMS1C
**Injection Date:** 04/24/19
**Injection Time:** 14:40

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 14.99 - 40.0% of mass 95 | 9866 | 18.0 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 26882 | 49.0 | | Pass |
| 95 | Base peak, 100% relative abundance | 54821 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 3741 | 6.82 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 47850 | 87.3 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 3704 | 6.76 | (7.74) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 46538 | 84.9 | (97.3) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 3149 | 5.74 | (6.77) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V1C7200-IC7200 | 1C164005.D | 04/24/19 | 15:12 | 00:32 | Initial cal 0.5 |
| V1C7200-IC7200 | 1C164006.D | 04/24/19 | 15:38 | 00:58 | Initial cal 1 |
| V1C7200-IC7200 | 1C164007.D | 04/24/19 | 16:05 | 01:25 | Initial cal 2 |
| V1C7200-IC7200 | 1C164008.D | 04/24/19 | 16:31 | 01:51 | Initial cal 4 |
| V1C7200-IC7200 | 1C164009.D | 04/24/19 | 16:58 | 02:18 | Initial cal 8 |
| V1C7200-IC7200 | 1C164010.D | 04/24/19 | 17:24 | 02:44 | Initial cal 20 |
| V1C7200-ICC7200 | 1C164011.D | 04/24/19 | 17:51 | 03:11 | Initial cal 50 |
| V1C7200-IC7200 | 1C164012.D | 04/24/19 | 18:17 | 03:37 | Initial cal 100 |
| V1C7200-IC7200 | 1C164013.D | 04/24/19 | 18:44 | 04:04 | Initial cal 200 |
| V1C7200-ICV7200 | 1C164016.D | 04/24/19 | 20:03 | 05:23 | Initial cal verification 50 |
| V1C7200-ICV7200 | 1C164017.D | 04/24/19 | 20:30 | 05:50 | Initial cal verification 50 |

# Instrument Performance Check (BFB)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V1C7215-BFB
**Lab File ID:** 1C164394.D
**Instrument ID:** GCMS1C
**Injection Date:** 05/09/19
**Injection Time:** 10:10

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 14.99 - 40.0% of mass 95 | 9269 | 16.1 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 26280 | 45.6 | | Pass |
| 95 | Base peak, 100% relative abundance | 57693 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 3864 | 6.70 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 58080 | 100.7 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 4445 | 7.70 | (7.65) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 56405 | 97.8 | (97.1) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 3608 | 6.25 | (6.40) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V1C7215-CC7200 | 1C164394.D | 05/09/19 | 10:10 | 00:00 | Continuing cal 50 |
| V1C7215-BS | 1C164396.D | 05/09/19 | 11:12 | 01:02 | Blank Spike |
| V1C7215-MB | 1C164398.D | 05/09/19 | 12:11 | 02:01 | Method Blank |
| ZZZZZZ | 1C164398A.D | 05/09/19 | 12:11 | 02:01 | (unrelated sample) |
| JC86986-2 | 1C164399.D | 05/09/19 | 12:37 | 02:27 | S-142(7-8) |
| JC86986-6 | 1C164400.D | 05/09/19 | 13:04 | 02:54 | S-146(17-19) |
| JC86986-2MS | 1C164401.D | 05/09/19 | 13:30 | 03:20 | Matrix Spike |
| JC86986-2MSD | 1C164402.D | 05/09/19 | 13:56 | 03:46 | Matrix Spike Duplicate |
| ZZZZZZ | 1C164405.D | 05/09/19 | 15:15 | 05:05 | (unrelated sample) |
| ZZZZZZ | 1C164406.D | 05/09/19 | 15:42 | 05:32 | (unrelated sample) |
| ZZZZZZ | 1C164407.D | 05/09/19 | 16:08 | 05:58 | (unrelated sample) |
| ZZZZZZ | 1C164408.D | 05/09/19 | 16:35 | 06:25 | (unrelated sample) |
| ZZZZZZ | 1C164409.D | 05/09/19 | 17:01 | 06:51 | (unrelated sample) |
| ZZZZZZ | 1C164410.D | 05/09/19 | 17:27 | 07:17 | (unrelated sample) |
| ZZZZZZ | 1C164411.D | 05/09/19 | 17:53 | 07:43 | (unrelated sample) |
| ZZZZZZ | 1C164412.D | 05/09/19 | 18:20 | 08:10 | (unrelated sample) |
| ZZZZZZ | 1C164413.D | 05/09/19 | 18:46 | 08:36 | (unrelated sample) |
| ZZZZZZ | 1C164414.D | 05/09/19 | 19:12 | 09:02 | (unrelated sample) |
| ZZZZZZ | 1C164415.D | 05/09/19 | 19:38 | 09:28 | (unrelated sample) |
| ZZZZZZ | 1C164416.D | 05/09/19 | 20:05 | 09:55 | (unrelated sample) |
| ZZZZZZ | 1C164417.D | 05/09/19 | 20:31 | 10:21 | (unrelated sample) |
| ZZZZZZ | 1C164418.D | 05/09/19 | 20:57 | 10:47 | (unrelated sample) |
| ZZZZZZ | 1C164419.D | 05/09/19 | 21:24 | 11:14 | (unrelated sample) |
| ZZZZZZ | 1C164420.D | 05/09/19 | 21:50 | 11:40 | (unrelated sample) |

# Instrument Performance Check (BFB)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V3C6743-BFB
**Lab File ID:** 3C149621.D
**Instrument ID:** GCMS3C
**Injection Date:** 02/13/19
**Injection Time:** 17:27

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 20405 | 18.6 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 53912 | 49.2 | | Pass |
| 95 | Base peak, 100% relative abundance | 109629 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7437 | 6.78 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 102597 | 93.6 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 7596 | 6.93 | (7.40) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 99168 | 90.5 | (96.7) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 6330 | 5.77 | (6.38) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V3C6743-IC6743 | 3C149623.D | 02/13/19 | 18:33 | 01:06 | Initial cal 0.5 |
| V3C6743-IC6743 | 3C149624.D | 02/13/19 | 18:56 | 01:29 | Initial cal 1 |
| V3C6743-IC6743 | 3C149628.D | 02/13/19 | 20:29 | 03:02 | Initial cal 2 |
| V3C6743-IC6743 | 3C149629.D | 02/13/19 | 20:52 | 03:25 | Initial cal 4 |
| V3C6743-IC6743 | 3C149630.D | 02/13/19 | 21:15 | 03:48 | Initial cal 8 |
| V3C6743-IC6743 | 3C149631.D | 02/13/19 | 21:39 | 04:12 | Initial cal 20 |
| V3C6743-ICC6743 | 3C149632.D | 02/13/19 | 22:02 | 04:35 | Initial cal 50 |
| V3C6743-IC6743 | 3C149633.D | 02/13/19 | 22:25 | 04:58 | Initial cal 100 |
| V3C6743-IC6743 | 3C149634.D | 02/13/19 | 22:48 | 05:21 | Initial cal 200 |
| V3C6743-ICV6743 | 3C149637.D | 02/13/19 | 23:59 | 06:32 | Initial cal verification 50 |
| V3C6743-ICV6743 | 3C149638.D | 02/14/19 | 00:23 | 06:56 | Initial cal verification 50 |

# Instrument Performance Check (BFB)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V3C6820-BFB
**Lab File ID:** 3C151772.D
**Instrument ID:** GCMS3C
**Injection Date:** 05/05/19
**Injection Time:** 12:35

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 18288 | 16.1 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 55208 | 48.6 | | Pass |
| 95 | Base peak, 100% relative abundance | 113669 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7830 | 6.89 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 101728 | 89.5 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 7858 | 6.91 | (7.72) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 97760 | 86.0 | (96.1) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 6702 | 5.90 | (6.86) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V3C6820-CC6743 | 3C151772.D | 05/05/19 | 12:35 | 00:00 | Continuing cal 50 |
| V3C6820-BS | 3C151774.D | 05/05/19 | 13:59 | 01:24 | Blank Spike |
| V3C6820-MB | 3C151776.D | 05/05/19 | 14:46 | 02:11 | Method Blank |
| ZZZZZZ | 3C151778.D | 05/05/19 | 16:12 | 03:37 | (unrelated sample) |
| JC86986-4 | 3C151782.D | 05/05/19 | 17:47 | 05:12 | S-149(18.5-20.5) |
| JC86986-7 | 3C151784.D | 05/05/19 | 18:34 | 05:59 | S-147(12-14) |
| JC86986-8 | 3C151785.D | 05/05/19 | 18:57 | 06:22 | S-147(18-20) |
| JC86986-10 | 3C151786.D | 05/05/19 | 19:20 | 06:45 | S-148(16-18) |
| JC86986-12 | 3C151787.D | 05/05/19 | 19:43 | 07:08 | S-151(3-5) |
| JC86986-13 | 3C151788.D | 05/05/19 | 20:07 | 07:32 | SO-DUP-0425 |
| ZZZZZZ | 3C151790.D | 05/05/19 | 20:53 | 08:18 | (unrelated sample) |
| ZZZZZZ | 3C151792.D | 05/05/19 | 21:39 | 09:04 | (unrelated sample) |
| ZZZZZZ | 3C151793.D | 05/05/19 | 22:02 | 09:27 | (unrelated sample) |
| ZZZZZZ | 3C151794.D | 05/05/19 | 22:26 | 09:51 | (unrelated sample) |
| ZZZZZZ | 3C151795.D | 05/05/19 | 22:49 | 10:14 | (unrelated sample) |
| ZZZZZZ | 3C151796.D | 05/05/19 | 23:12 | 10:37 | (unrelated sample) |
| ZZZZZZ | 3C151797.D | 05/05/19 | 23:35 | 11:00 | (unrelated sample) |
| ZZZZZZ | 3C151798.D | 05/05/19 | 23:58 | 11:23 | (unrelated sample) |

# Instrument Performance Check (BFB)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V3C6821-BFB
**Lab File ID:** 3C151801.D
**Instrument ID:** GCMS3C
**Injection Date:** 05/06/19
**Injection Time:** 08:55

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 14503 | 16.0 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 44690 | 49.2 | | Pass |
| 95 | Base peak, 100% relative abundance | 90827 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 6243 | 6.87 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 120.0% of mass 95 | 86024 | 94.7 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 6654 | 7.33 | (7.74) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 83682 | 92.1 | (97.3) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 5249 | 5.78 | (6.27) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V3C6821-CC6743 | 3C151801.D | 05/06/19 | 08:55 | 00:00 | Continuing cal 50 |
| V3C6821-BS | 3C151803.D | 05/06/19 | 10:04 | 01:09 | Blank Spike |
| V3C6820-BS2 | 3C151803A.D | 05/06/19 | 10:04 | 01:09 | Blank Spike |
| V3C6820-MB2 | 3C151805A.D | 05/06/19 | 11:06 | 02:11 | Method Blank |
| V3C6821-MB | 3C151805.D | 05/06/19 | 11:06 | 02:11 | Method Blank |
| ZZZZZZ | 3C151805B.D | 05/06/19 | 11:06 | 02:11 | (unrelated sample) |
| JC86986-4DUP | 3C151806.D | 05/06/19 | 11:30 | 02:35 | Duplicate |
| JC86986-8MS | 3C151807.D | 05/06/19 | 11:53 | 02:58 | Matrix Spike |
| JC87093-7 | 3C151809.D | 05/06/19 | 12:39 | 03:44 | (used for QC only; not part of job JC86986) |
| JC87123-6 | 3C151810.D | 05/06/19 | 13:02 | 04:07 | (used for QC only; not part of job JC86986) |
| JC87123-7DUP | 3C151811.D | 05/06/19 | 13:25 | 04:30 | Duplicate |
| ZZZZZZ | 3C151812.D | 05/06/19 | 13:48 | 04:53 | (unrelated sample) |
| ZZZZZZ | 3C151813.D | 05/06/19 | 14:11 | 05:16 | (unrelated sample) |
| JC87093-7DUP | 3C151814.D | 05/06/19 | 14:35 | 05:40 | Duplicate |
| ZZZZZZ | 3C151815.D | 05/06/19 | 14:58 | 06:03 | (unrelated sample) |
| ZZZZZZ | 3C151816.D | 05/06/19 | 15:21 | 06:26 | (unrelated sample) |
| ZZZZZZ | 3C151817.D | 05/06/19 | 15:44 | 06:49 | (unrelated sample) |
| ZZZZZZ | 3C151818.D | 05/06/19 | 16:07 | 07:12 | (unrelated sample) |
| JC87093-7MS | 3C151819.D | 05/06/19 | 16:30 | 07:35 | Matrix Spike |
| JC87123-6MS | 3C151821.D | 05/06/19 | 17:17 | 08:22 | Matrix Spike |
| JC87123-7 | 3C151822.D | 05/06/19 | 17:40 | 08:45 | (used for QC only; not part of job JC86986) |
| ZZZZZZ | 3C151823.D | 05/06/19 | 18:03 | 09:08 | (unrelated sample) |
| JC86986-5 | 3C151824.D | 05/06/19 | 18:26 | 09:31 | S-146(14-16) |
| ZZZZZZ | 3C151825.D | 05/06/19 | 18:49 | 09:54 | (unrelated sample) |

# Instrument Performance Check (BFB)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V3C6821-BFB
**Lab File ID:** 3C151801.D
**Instrument ID:** GCMS3C
**Injection Date:** 05/06/19
**Injection Time:** 08:55

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| ZZZZZZ | 3C151826.D | 05/06/19 | 19:12 | 10:17 | (unrelated sample) |
| ZZZZZZ | 3C151827.D | 05/06/19 | 19:35 | 10:40 | (unrelated sample) |
| ZZZZZZ | 3C151828.D | 05/06/19 | 19:59 | 11:04 | (unrelated sample) |
| ZZZZZZ | 3C151829.D | 05/06/19 | 20:22 | 11:27 | (unrelated sample) |
| ZZZZZZ | 3C151830.D | 05/06/19 | 20:45 | 11:50 | (unrelated sample) |

# Instrument Performance Check (BFB)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VD10606-BFB
**Lab File ID:** D263009.D
**Instrument ID:** GCMSD
**Injection Date:** 03/14/19
**Injection Time:** 17:27

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 14132 | 19.5 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 36037 | 49.8 | | Pass |
| 95 | Base peak, 100% relative abundance | 72394 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 4865 | 6.72 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.00 | (0.00) [a] | Pass |
| 174 | 50.0 - 150.0% of mass 95 | 59349 | 82.0 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 4244 | 5.86 | (7.15) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 58248 | 80.5 | (98.1) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 3842 | 5.31 | (6.60) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VD10606-IC10606 | D263011.D | 03/14/19 | 18:32 | 01:05 | Initial cal 0.5 |
| VD10606-IC10606 | D263012.D | 03/14/19 | 19:01 | 01:34 | Initial cal 1 |
| VD10606-IC10606 | D263013.D | 03/14/19 | 19:30 | 02:03 | Initial cal 2 |
| VD10606-IC10606 | D263014.D | 03/14/19 | 19:58 | 02:31 | Initial cal 4 |
| VD10606-IC10606 | D263015.D | 03/14/19 | 20:27 | 03:00 | Initial cal 8 |
| VD10606-IC10606 | D263016.D | 03/14/19 | 20:56 | 03:29 | Initial cal 20 |
| VD10606-ICC10606 | D263017.D | 03/14/19 | 21:25 | 03:58 | Initial cal 50 |
| VD10606-IC10606 | D263018.D | 03/14/19 | 21:54 | 04:27 | Initial cal 100 |
| VD10606-IC10606 | D263019.D | 03/14/19 | 22:23 | 04:56 | Initial cal 200 |
| VD10606-ICV10606 | D263022.D | 03/14/19 | 23:49 | 06:22 | Initial cal verification 50 |
| VD10606-ICV10606 | D263023.D | 03/15/19 | 00:18 | 06:51 | Initial cal verification 50 |

# Instrument Performance Check (BFB)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VD10654-BFB
**Lab File ID:** D264356.D
**Instrument ID:** GCMSD
**Injection Date:** 05/08/19
**Injection Time:** 06:56

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 18610 | 17.1 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 50482 | 46.3 | | Pass |
| 95 | Base peak, 100% relative abundance | 109115 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7071 | 6.48 | | Pass |
| 173 | Less than 2.0% of mass 174 | 305 | 0.28 | (0.34) [a] | Pass |
| 174 | 50.0 - 150.0% of mass 95 | 89981 | 82.5 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 6521 | 5.98 | (7.25) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 87973 | 80.6 | (97.8) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 5930 | 5.43 | (6.74) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VD10654-CC10606 | D264356.D | 05/08/19 | 06:56 | 00:00 | Continuing cal 50 |
| VD10654-BS | D264359.D | 05/08/19 | 08:30 | 01:34 | Blank Spike |
| VD10654-MB | D264361.D | 05/08/19 | 09:40 | 02:44 | Method Blank |
| ZZZZZZ | D264361A.D | 05/08/19 | 09:40 | 02:44 | (unrelated sample) |
| JC87652-1 | D264362.D | 05/08/19 | 10:09 | 03:13 | (used for QC only; not part of job JC86986) |
| JC87652-1MS | D264363.D | 05/08/19 | 10:37 | 03:41 | Matrix Spike |
| JC87652-1MSD | D264364.D | 05/08/19 | 11:06 | 04:10 | Matrix Spike Duplicate |
| ZZZZZZ | D264367.D | 05/08/19 | 12:33 | 05:37 | (unrelated sample) |
| ZZZZZZ | D264368.D | 05/08/19 | 13:01 | 06:05 | (unrelated sample) |
| ZZZZZZ | D264369.D | 05/08/19 | 13:30 | 06:34 | (unrelated sample) |
| ZZZZZZ | D264370.D | 05/08/19 | 13:59 | 07:03 | (unrelated sample) |
| ZZZZZZ | D264371.D | 05/08/19 | 14:28 | 07:32 | (unrelated sample) |
| ZZZZZZ | D264372.D | 05/08/19 | 14:57 | 08:01 | (unrelated sample) |
| ZZZZZZ | D264375.D | 05/08/19 | 16:23 | 09:27 | (unrelated sample) |
| ZZZZZZ | D264376.D | 05/08/19 | 16:51 | 09:55 | (unrelated sample) |
| JC86986-11 | D264377.D | 05/08/19 | 17:20 | 10:24 | S-151(0.5-2) |
| JC86986-3 | D264378.D | 05/08/19 | 17:49 | 10:53 | S-149(8-10) |
| JC86986-9 | D264379.D | 05/08/19 | 18:18 | 11:22 | S-148(8-10) |

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V1C7215-CC7200 | **Injection Date:** | 05/09/19 |
| **Lab File ID:** | 1C164394.D | **Injection Time:** | 10:10 |
| **Instrument ID:** | GCMS1C | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 53963 | 7.36 | 191741 | 9.60 | 270173 | 10.52 | 217355 | 13.66 | 115991 | 15.97 |
| Upper Limit [a] | 107926 | 7.86 | 383482 | 10.10 | 540346 | 11.02 | 434710 | 14.16 | 231982 | 16.47 |
| Lower Limit [b] | 26982 | 6.86 | 95871 | 9.10 | 135087 | 10.02 | 108678 | 13.16 | 57996 | 15.47 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| V1C7215-BS | 60040 | 7.37 | 201120 | 9.60 | 284809 | 10.52 | 227673 | 13.66 | 119037 | 15.97 |
| V1C7215-MB | 51874 | 7.36 | 212442 | 9.60 | 295211 | 10.52 | 240155 | 13.66 | 124380 | 15.97 |
| ZZZZZZ | 51874 | 7.36 | 212442 | 9.60 | 295211 | 10.52 | 240155 | 13.66 | 124380 | 15.97 |
| JC86986-2 | 57977 | 7.36 | 183227 | 9.60 | 257475 | 10.52 | 206925 | 13.66 | 100489 | 15.97 |
| JC86986-6 | 53755 | 7.36 | 202252 | 9.60 | 278283 | 10.52 | 230524 | 13.66 | 122551 | 15.97 |
| JC86986-2MS | 45820 | 7.36 | 205332 | 9.60 | 294036 | 10.52 | 228121 | 13.66 | 112515 | 15.97 |
| JC86986-2MSD | 51546 | 7.36 | 221597 | 9.60 | 317023 | 10.52 | 248828 | 13.66 | 127616 | 15.97 |
| ZZZZZZ | 61468 | 7.37 | 229855 | 9.60 | 321133 | 10.52 | 262470 | 13.66 | 136524 | 15.97 |
| ZZZZZZ | 59086 | 7.36 | 228041 | 9.60 | 318373 | 10.52 | 256731 | 13.66 | 133983 | 15.97 |
| ZZZZZZ | 60994 | 7.36 | 212148 | 9.60 | 297792 | 10.52 | 239516 | 13.66 | 120257 | 15.97 |
| ZZZZZZ | 60399 | 7.36 | 215341 | 9.60 | 300914 | 10.52 | 247026 | 13.66 | 130296 | 15.97 |
| ZZZZZZ | 53930 | 7.36 | 211695 | 9.60 | 295653 | 10.52 | 240583 | 13.66 | 124688 | 15.97 |
| ZZZZZZ | 52488 | 7.36 | 204600 | 9.60 | 284036 | 10.52 | 232471 | 13.66 | 122575 | 15.97 |
| ZZZZZZ | 54836 | 7.38 | 199778 | 9.60 | 281476 | 10.52 | 230961 | 13.66 | 123510 | 15.97 |
| ZZZZZZ | 54666 | 7.36 | 190121 | 9.60 | 265780 | 10.52 | 213370 | 13.66 | 104977 | 15.97 |
| ZZZZZZ | 53106 | 7.36 | 192798 | 9.60 | 267093 | 10.52 | 217739 | 13.66 | 114559 | 15.97 |
| ZZZZZZ | 50132 | 7.36 | 193028 | 9.60 | 271576 | 10.52 | 224600 | 13.66 | 116137 | 15.97 |
| ZZZZZZ | 51666 | 7.36 | 188206 | 9.60 | 264456 | 10.52 | 216654 | 13.66 | 115331 | 15.97 |
| ZZZZZZ | 51989 | 7.36 | 190086 | 9.60 | 265589 | 10.52 | 217819 | 13.66 | 116892 | 15.97 |
| ZZZZZZ | 56303 | 7.37 | 184890 | 9.60 | 259144 | 10.52 | 211584 | 13.66 | 107055 | 15.97 |
| ZZZZZZ | 48863 | 7.36 | 181785 | 9.60 | 254180 | 10.52 | 209530 | 13.66 | 109322 | 15.97 |
| ZZZZZZ | 51339 | 7.36 | 183234 | 9.60 | 255796 | 10.52 | 209876 | 13.66 | 108995 | 15.97 |
| ZZZZZZ | 43538 | 7.36 | 190481 | 9.60 | 270280 | 10.52 | 213886 | 13.66 | 113121 | 15.97 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V3C6820-CC6743 | **Injection Date:** | 05/05/19 |
| **Lab File ID:** | 3C151772.D | **Injection Time:** | 12:35 |
| **Instrument ID:** | GCMS3C | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 65141 | 2.58 | 275169 | 4.03 | 358902 | 4.69 | 319896 | 7.40 | 182529 | 9.32 |
| Upper Limit [a] | 130282 | 3.08 | 550338 | 4.53 | 717804 | 5.19 | 639792 | 7.90 | 365058 | 9.82 |
| Lower Limit [b] | 32571 | 2.08 | 137585 | 3.53 | 179451 | 4.19 | 159948 | 6.90 | 91265 | 8.82 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| V3C6820-BS | 60241 | 2.58 | 269686 | 4.03 | 354401 | 4.69 | 313309 | 7.40 | 177994 | 9.32 |
| V3C6820-MB | 59787 | 2.57 | 265198 | 4.03 | 349213 | 4.69 | 314681 | 7.40 | 174937 | 9.32 |
| ZZZZZZ | 49267 | 2.57 | 221673 | 4.03 | 299669 | 4.69 | 241284 | 7.40 | 105060 | 9.32 |
| JC86986-4 | 55841 | 2.57 | 217519 | 4.03 | 286603 | 4.69 | 248946 | 7.39 | 127319 | 9.32 |
| JC86986-7 | 51594 | 2.57 | 199446 | 4.03 | 265432 | 4.69 | 238570 | 7.40 | 140443 | 9.32 |
| JC86986-8 | 60821 | 2.57 | 240939 | 4.03 | 325475 | 4.69 | 291537 | 7.40 | 163534 | 9.32 |
| JC86986-10 | 50818 | 2.57 | 204228 | 4.03 | 264591 | 4.69 | 223252 | 7.39 | 105489 | 9.32 |
| JC86986-12 | 49651 | 2.57 | 249964 | 4.03 | 330446 | 4.69 | 293696 | 7.40 | 161802 | 9.32 |
| JC86986-13 | 53075 | 2.57 | 255334 | 4.03 | 340286 | 4.69 | 303909 | 7.39 | 170772 | 9.32 |
| ZZZZZZ | 51157 | 2.57 | 213934 | 4.03 | 275083 | 4.69 | 236203 | 7.39 | 111291 | 9.32 |
| ZZZZZZ | 57583 | 2.57 | 245587 | 4.03 | 327381 | 4.69 | 294684 | 7.40 | 155636 | 9.32 |
| ZZZZZZ | 41272 | 2.57 | 162594 | 4.03 | 259329 | 4.69 | 178013 | 7.39 | 62662[c] | 9.32 |
| ZZZZZZ | 50795 | 2.57 | 225806 | 4.03 | 285434 | 4.69 | 254355 | 7.39 | 141462 | 9.32 |
| ZZZZZZ | 47997 | 2.57 | 227965 | 4.03 | 297209 | 4.69 | 270312 | 7.39 | 150662 | 9.32 |
| ZZZZZZ | 51866 | 2.57 | 253820 | 4.03 | 334260 | 4.69 | 296981 | 7.39 | 170179 | 9.32 |
| ZZZZZZ | 48487 | 2.57 | 250168 | 4.03 | 324670 | 4.69 | 294006 | 7.39 | 163856 | 9.32 |
| ZZZZZZ | 55435 | 2.57 | 260303 | 4.03 | 334249 | 4.69 | 305663 | 7.39 | 173583 | 9.32 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits due to matrix interference.

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V3C6821-CC6743 | **Injection Date:** | 05/06/19 |
| **Lab File ID:** | 3C151801.D | **Injection Time:** | 08:55 |
| **Instrument ID:** | GCMS3C | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 58634 | 2.57 | 280510 | 4.03 | 358158 | 4.69 | 320309 | 7.39 | 184327 | 9.32 |
| Upper Limit [a] | 117268 | 3.07 | 561020 | 4.53 | 716316 | 5.19 | 640618 | 7.89 | 368654 | 9.82 |
| Lower Limit [b] | 29317 | 2.07 | 140255 | 3.53 | 179079 | 4.19 | 160155 | 6.89 | 92164 | 8.82 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| V3C6820-BS2 | 53535 | 2.57 | 258230 | 4.03 | 338109 | 4.69 | 302704 | 7.39 | 172271 | 9.32 |
| V3C6821-BS | 53535 | 2.57 | 258230 | 4.03 | 338109 | 4.69 | 302704 | 7.39 | 172271 | 9.32 |
| V3C6820-MB2 | 54159 | 2.57 | 260767 | 4.03 | 336526 | 4.69 | 298355 | 7.39 | 169503 | 9.32 |
| ZZZZZZ | 54159 | 2.57 | 260767 | 4.03 | 336526 | 4.69 | 298355 | 7.39 | 169503 | 9.32 |
| V3C6821-MB | 54159 | 2.57 | 260767 | 4.03 | 336526 | 4.69 | 298355 | 7.39 | 169503 | 9.32 |
| JC86986-4DUP | 50741 | 2.57 | 215893 | 4.03 | 272799 | 4.69 | 230845 | 7.39 | 109786 | 9.32 |
| JC86986-8MS | 35180 | 2.57 | 212875 | 4.03 | 266490 | 4.69 | 217747 | 7.39 | 95781 | 9.32 |
| JC87093-7 | 43704 | 2.57 | 202760 | 4.03 | 259247 | 4.69 | 206844 | 7.39 | 85828[c] | 9.32 |
| JC87123-6 | 50463 | 2.57 | 256340 | 4.03 | 336613 | 4.69 | 297980 | 7.39 | 166184 | 9.32 |
| JC87123-7DUP | 49176 | 2.57 | 245025 | 4.03 | 321889 | 4.69 | 286778 | 7.39 | 159311 | 9.32 |
| ZZZZZZ | 44069 | 2.57 | 242574 | 4.03 | 322547 | 4.69 | 285518 | 7.39 | 159306 | 9.32 |
| ZZZZZZ | 45480 | 2.57 | 248741 | 4.03 | 317244 | 4.69 | 280376 | 7.39 | 155840 | 9.32 |
| JC87093-7DUP | 42189 | 2.57 | 217548 | 4.03 | 276749 | 4.69 | 216117 | 7.39 | 90470[c] | 9.32 |
| ZZZZZZ | 49120 | 2.57 | 251803 | 4.03 | 328803 | 4.69 | 295192 | 7.39 | 167739 | 9.32 |
| ZZZZZZ | 45299 | 2.57 | 242605 | 4.03 | 310250 | 4.69 | 276296 | 7.39 | 152382 | 9.32 |
| ZZZZZZ | 48406 | 2.57 | 245067 | 4.03 | 315482 | 4.69 | 284266 | 7.39 | 161569 | 9.32 |
| ZZZZZZ | 39096 | 2.57 | 232128 | 4.03 | 289503 | 4.69 | 248031 | 7.39 | 118732 | 9.32 |
| JC87093-7MS | 37898 | 2.57 | 241103 | 4.03 | 314081 | 4.69 | 275127 | 7.39 | 151664 | 9.32 |
| JC87123-6MS | 43698 | 2.58 | 259237 | 4.03 | 331421 | 4.69 | 295451 | 7.39 | 166459 | 9.32 |
| JC87123-7 | 46283 | 2.57 | 233717 | 4.03 | 298609 | 4.69 | 268999 | 7.39 | 154148 | 9.32 |
| ZZZZZZ | 47810 | 2.57 | 230833 | 4.03 | 299491 | 4.69 | 267573 | 7.39 | 150314 | 9.32 |
| JC86986-5 | 45778 | 2.57 | 214532 | 4.03 | 275863 | 4.69 | 250752 | 7.39 | 144875 | 9.32 |
| ZZZZZZ | 46410 | 2.57 | 239741 | 4.03 | 317653 | 4.69 | 272735 | 7.39 | 138389 | 9.32 |
| ZZZZZZ | 48994 | 2.57 | 243813 | 4.03 | 315123 | 4.69 | 280999 | 7.39 | 150972 | 9.32 |
| ZZZZZZ | 42622 | 2.57 | 235314 | 4.03 | 309504 | 4.69 | 269412 | 7.39 | 128459 | 9.32 |
| ZZZZZZ | 42590 | 2.57 | 215259 | 4.03 | 299545 | 4.69 | 238404 | 7.39 | 101577 | 9.32 |
| ZZZZZZ | 43795 | 2.57 | 221709 | 4.03 | 287542 | 4.69 | 241817 | 7.39 | 111579 | 9.32 |
| ZZZZZZ | 43302 | 2.57 | 219556 | 4.03 | 276021 | 4.69 | 229442 | 7.39 | 104594 | 9.32 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | V3C6821-CC6743 | **Injection Date:** | 05/06/19 |
| **Lab File ID:** | 3C151801.D | **Injection Time:** | 08:55 |
| **Instrument ID:** | GCMS3C | **Method:** | SW846 8260C |

| Lab | IS 1 | | IS 2 | | IS 3 | | IS 4 | | IS 5 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | **AREA** | **RT** | **AREA** | **RT** | **AREA** | **RT** | **AREA** | **RT** | **AREA** | **RT** |

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits due to matrix interference.

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | VD10654-CC10606 | **Injection Date:** | 05/08/19 |
| **Lab File ID:** | D264356.D | **Injection Time:** | 06:56 |
| **Instrument ID:** | GCMSD | **Method:** | SW846 8260C |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 128871 | 7.46 | 250397 | 9.72 | 384549 | 10.68 | 378251 | 14.09 | 223810 | 16.73 |
| Upper Limit [a] | 257742 | 7.96 | 500794 | 10.22 | 769098 | 11.18 | 756502 | 14.59 | 447620 | 17.23 |
| Lower Limit [b] | 64436 | 6.96 | 125199 | 9.22 | 192275 | 10.18 | 189126 | 13.59 | 111905 | 16.23 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| VD10654-BS | 130104 | 7.47 | 250815 | 9.72 | 385744 | 10.67 | 376829 | 14.08 | 226971 | 16.73 |
| VD10654-MB | 126530 | 7.46 | 238613 | 9.72 | 365773 | 10.67 | 365762 | 14.08 | 212464 | 16.73 |
| ZZZZZZ | 126530 | 7.46 | 238613 | 9.72 | 365773 | 10.67 | 365762 | 14.08 | 212464 | 16.73 |
| JC87652-1 | 126634 | 7.47 | 240027 | 9.72 | 371652 | 10.67 | 379206 | 14.08 | 241746 | 16.73 |
| JC87652-1MS | 129025 | 7.47 | 236418 | 9.72 | 363667 | 10.67 | 377383 | 14.08 | 250157 | 16.73 |
| JC87652-1MSD | 122799 | 7.49 | 232156 | 9.72 | 350655 | 10.67 | 365078 | 14.08 | 246394 | 16.73 |
| ZZZZZZ | 131977 | 7.46 | 246158 | 9.72 | 376599 | 10.67 | 372047 | 14.08 | 226185 | 16.73 |
| ZZZZZZ | 124557 | 7.46 | 247973 | 9.72 | 380158 | 10.67 | 370198 | 14.08 | 218995 | 16.73 |
| ZZZZZZ | 126126 | 7.46 | 241668 | 9.72 | 369604 | 10.67 | 369812 | 14.08 | 212930 | 16.73 |
| ZZZZZZ | 123136 | 7.46 | 247805 | 9.72 | 378940 | 10.67 | 371014 | 14.08 | 215985 | 16.73 |
| ZZZZZZ | 121915 | 7.47 | 241214 | 9.72 | 365867 | 10.67 | 362953 | 14.08 | 233849 | 16.73 |
| ZZZZZZ | 126769 | 7.47 | 253195 | 9.72 | 387975 | 10.67 | 395041 | 14.08 | 237700 | 16.73 |
| ZZZZZZ | 124658 | 7.46 | 248515 | 9.72 | 378539 | 10.67 | 374691 | 14.08 | 232769 | 16.73 |
| ZZZZZZ | 129298 | 7.45 | 258358 | 9.72 | 391461 | 10.67 | 390573 | 14.08 | 232481 | 16.73 |
| JC86986-11 [c] | 130945 | 7.46 | 242150 | 9.72 | 373147 | 10.67 | 364627 | 14.08 | 223745 | 16.73 |
| JC86986-3 [c] | 130756 | 7.46 | 247903 | 9.72 | 383612 | 10.67 | 388517 | 14.08 | 226453 | 16.73 |
| JC86986-9 [c] | 131136 | 7.46 | 247418 | 9.72 | 382531 | 10.67 | 374702 | 14.08 | 228538 | 16.73 |

**IS 1** = Tert Butyl Alcohol-D9
**IS 2** = Pentafluorobenzene
**IS 3** = 1,4-Difluorobenzene
**IS 4** = Chlorobenzene-D5
**IS 5** = 1,4-Dichlorobenzene-d4

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Diluted due to high concentration of non-target compound.

# Surrogate Recovery Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Method:** SW846 8260C **Matrix:** SO

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 | S4 |
|---|---|---|---|---|---|
| JC86986-2 | 1C164399.D | 105 | 95 | 100 | 99 |
| JC86986-3 | D264378.D | 99 | 90 | 99 | 97 |
| JC86986-4 | 3C151782.D | 102 | 114 | 104 | 112 |
| JC86986-5 | 3C151824.D | 98 | 109 | 102 | 106 |
| JC86986-6 | 1C164400.D | 102 | 87 | 99 | 92 |
| JC86986-7 | 3C151784.D | 106 | 113 | 101 | 117 |
| JC86986-8 | 3C151785.D | 105 | 116 | 101 | 106 |
| JC86986-9 | D264379.D | 100 | 91 | 100 | 95 |
| JC86986-10 | 3C151786.D | 101 | 111 | 106 | 117 |
| JC86986-11 | D264377.D | 98 | 90 | 100 | 95 |
| JC86986-12 | 3C151787.D | 99 | 103 | 102 | 106 |
| JC86986-13 | 3C151788.D | 101 | 109 | 101 | 107 |
| JC86986-2MS | 1C164401.D | 102 | 83 | 101 | 98 |
| JC86986-2MSD | 1C164402.D | 101 | 82 | 100 | 96 |
| JC86986-4DUP | 3C151806.D | 101 | 115 | 106 | 114 |
| JC86986-8MS | 3C151807.D | 98 | 103 | 111 | 120 |
| JC87093-7DUP | 3C151814.D | 97 | 105 | 111 | 125 |
| JC87093-7MS | 3C151819.D | 100 | 101 | 104 | 107 |
| JC87652-1MS | D264363.D | 99 | 88 | 97 | 97 |
| JC87652-1MSD | D264364.D | 98 | 87 | 97 | 96 |
| V1C7215-BS | 1C164396.D | 102 | 85 | 99 | 94 |
| V1C7215-MB | 1C164398.D | 99 | 84 | 100 | 93 |
| V3C6820-BS | 3C151774.D | 101 | 108 | 104 | 105 |
| V3C6820-MB | 3C151776.D | 102 | 107 | 100 | 107 |
| V3C6821-BS | 3C151803.D | 101 | 107 | 102 | 104 |
| V3C6821-MB | 3C151805.D | 101 | 108 | 102 | 106 |
| VD10654-BS | D264359.D | 100 | 89 | 100 | 96 |
| VD10654-MB | D264361.D | 98 | 92 | 99 | 97 |
| V3C6820-MB2 | 3C151805A.D | 101 | 108 | 102 | 106 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| **S1** = Dibromofluoromethane | 75-127% |
| **S2** = 1,2-Dichloroethane-D4 | 75-130% |
| **S3** = Toluene-D8 | 80-120% |
| **S4** = 4-Bromofluorobenzene | 79-127% |

# Initial Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** V1C7200-ICC7200
**Lab FileID:** 1C164011.D

Response Factor Report GCMS1C

```
Method       : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title        : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
Last Update  : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

Calibration Files
1   =1C164006.D  0.5 =1C164005.D  100 =1C164012.D  50  =1C164011.D
20  =1C164010.D  200 =1C164013.D  4   =1C164008.D  2   =1C164007.D
8   =1C164009.D      =
```

| Compound | 1 | 0.5 | 100 | 50 | 20 | 200 | 4 | 2 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 ----------ISTD---------- | | | | | | | | | | | |
| 2) tertiary butyl alcohol | | | 1.382 | 1.299 | 1.340 | 1.361 | 1.299 | 1.213 | 1.403 | 1.328 | 4.83 |
| 3) ethanol | | | | | | | | | | 0.000# | -1.00 |
| 4) 1,4-dioxane | | | 0.130 | 0.123 | 0.121 | 0.129 | 0.098 | | 0.127 | 0.121 | 9.95 |
| 5) I pentafluorobenzene ----------ISTD---------- | | | | | | | | | | | |
| 6) chlorodifluoromethane | 0.492 | 0.512 | 0.534 | 0.549 | 0.507 | 0.505 | 0.517 | 0.551 | 0.521 | 0.521 | 3.87 |
| 7) dichlorodifluoromethane | 0.773 | 0.591 | 0.765 | 0.779 | 0.784 | 0.729 | 0.774 | 0.703 | 0.755 | 0.739 | 8.32 |
| 8) chloromethane | 0.571 | 0.599 | 0.529 | 0.543 | 0.539 | 0.485 | 0.545 | 0.525 | 0.543 | 0.542 | 5.79 |
| 9) vinyl chloride | 0.554 | 0.448 | 0.517 | 0.536 | 0.535 | 0.492 | 0.522 | 0.478 | 0.510 | 0.510 | 6.43 |
| 10) 1,3-butadiene | 0.316 | 0.275 | 0.331 | 0.345 | 0.323 | 0.313 | 0.326 | 0.329 | 0.325 | 0.320 | 5.99 |
| 11) bromomethane | 0.440 | 0.384 | 0.368 | 0.384 | 0.387 | 0.347 | 0.399 | 0.384 | 0.407 | 0.389 | 6.61 |
| 12) chloroethane | 0.317 | | 0.311 | 0.311 | 0.314 | 0.288 | 0.308 | 0.287 | 0.308 | 0.306 | 3.76 |
| 13) trichlorofluoromethane | 0.750 | 0.686 | 0.781 | 0.802 | 0.802 | 0.736 | 0.790 | 0.737 | 0.764 | 0.761 | 4.99 |
| 14) vinyl bromide | 0.298 | | 0.306 | 0.312 | 0.310 | 0.290 | 0.309 | 0.264 | 0.298 | 0.298 | 5.34 |
| 15) ethyl ether | | | 0.214 | 0.213 | 0.205 | 0.205 | 0.194 | 0.184 | 0.207 | 0.203 | 5.20 |
| 16) acrolein | | | 0.055 | 0.054 | 0.052 | 0.054 | | | 0.047 | 0.052 | 6.21 |
| 17) freon 113 | 0.300 | | 0.351 | 0.363 | 0.337 | 0.334 | 0.352 | 0.310 | 0.344 | 0.336 | 6.37 |
| 18) 1,1-dichloroethene | 0.419 | 0.397 | 0.405 | 0.422 | 0.394 | 0.375 | 0.411 | 0.441 | 0.421 | 0.409 | 4.69 |
| 19) acetone | | | 0.104 | 0.099 | 0.101 | 0.098 | 0.102 | 0.100 | 0.109 | 0.102 | 3.51 |
| 20) acetonitrile | | | 0.042 | 0.042 | 0.044 | 0.041 | 0.045 | 0.036 | 0.047 | 0.042 | 8.67 |
| 21) iodomethane | | | 0.491 | 0.436 | 0.336 | 0.486 | 0.244 | | 0.274 | 0.378 | 28.61 |

----- Linear regression ----- Coefficient = 0.9965
Response Ratio = -0.02896 + 0.48886 *A

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** V1C7200-ICC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164011.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 22) | carbon disulfide | | | | | | | | | | |
| | | 1.504 | 1.254 | 1.307 | 1.239 | 1.184 | 1.344 | 1.425 | 1.320 | 1.322 | 7.83 |
| 23) | methylene chloride | | | | | | | | | | |
| | | | 0.438 | 0.446 | 0.435 | 0.413 | 0.449 | 0.463 | 0.465 | 0.444 | 3.97 |
| 24) | methyl acetate | | | | | | | | | | |
| | | | 0.247 | 0.255 | 0.252 | 0.242 | 0.227 | | 0.266 | 0.248 | 5.36 |
| 25) | methyl tert butyl ether | | | | | | | | | | |
| | | 1.046 | 1.090 | 1.150 | 1.157 | 1.107 | 1.092 | 1.131 | 1.062 | 1.147 | 1.109 | 3.60 |
| 26) | trans-1,2-dichloroethene | | | | | | | | | | |
| | | 0.464 | 0.513 | 0.432 | 0.454 | 0.441 | 0.403 | 0.460 | 0.469 | 0.453 | 0.454 | 6.53 |
| 27) | di-isopropyl ether | | | | | | | | | | |
| | | 1.333 | 1.349 | 1.388 | 1.406 | 1.374 | 1.300 | 1.370 | 1.370 | 1.402 | 1.366 | 2.49 |
| 28) | 2-butanone | | | | | | | | | | |
| | | | 0.040 | 0.040 | 0.040 | 0.038 | 0.036 | 0.033 | 0.041 | 0.038 | 7.39 |
| 29) | 1,1-dichloroethane | | | | | | | | | | |
| | | 0.750 | 0.767 | 0.745 | 0.784 | 0.784 | 0.690 | 0.822 | 0.803 | 0.793 | 0.771 | 5.06 |
| 30) | chloroprene | | | | | | | | | | |
| | | 0.667 | 0.610 | 0.667 | 0.695 | 0.674 | 0.628 | 0.672 | 0.676 | 0.692 | 0.665 | 4.22 |
| 31) | acrylonitrile | | | | | | | | | | |
| | | | 0.116 | 0.116 | 0.114 | 0.112 | 0.091 | | 0.116 | 0.111 | 8.79 |
| 32) | hexane | | | | | | | | | | |
| | | 0.697 | 0.673 | 0.714 | 0.743 | 0.696 | 0.670 | 0.744 | 0.704 | 0.713 | 0.706 | 3.70 |
| 33) | vinyl acetate | | | | | | | | | | |
| | | | 0.068 | 0.070 | 0.068 | 0.064 | 0.051 | | 0.065 | 0.064 | 10.57 |
| 34) | ethyl tert-butyl ether | | | | | | | | | | |
| | | 1.212 | 1.278 | 1.365 | 1.379 | 1.338 | 1.293 | 1.326 | 1.283 | 1.373 | 1.316 | 4.18 |
| 35) | ethyl acetate | | | | | | | | | | |
| | | | 0.049 | 0.051 | 0.051 | 0.047 | 0.042 | | 0.050 | 0.048 | 7.05 |
| 36) | 2,2-dichloropropane | | | | | | | | | | |
| | | 0.694 | 0.658 | 0.679 | 0.712 | 0.672 | 0.634 | 0.712 | 0.718 | 0.707 | 0.687 | 4.19 |
| 37) | cis-1,2-dichloroethene | | | | | | | | | | |
| | | 0.494 | 0.474 | 0.473 | 0.491 | 0.484 | 0.435 | 0.515 | 0.538 | 0.508 | 0.490 | 5.95 |
| 38) | methyl acrylate | | | | | | | | | | |
| | | | 0.055 | 0.055 | 0.052 | 0.054 | 0.034 | | 0.051 | 0.050 | 16.35 |
| 39) | propionitrile | | | | | | | | | | |
| | | 0.043 | 0.049 | 0.049 | 0.051 | 0.047 | 0.048 | 0.045 | 0.056 | 0.048 | 7.62 |
| 40) | bromochloromethane | | | | | | | | | | |
| | | 0.190 | 0.219 | 0.222 | 0.218 | 0.203 | 0.221 | 0.205 | 0.225 | 0.213 | 5.78 |
| 41) | tetrahydrofuran | | | | | | | | | | |
| | | | 0.046 | 0.047 | 0.047 | 0.044 | 0.040 | | 0.051 | 0.046 | 7.90 |
| 42) | chloroform | | | | | | | | | | |
| | | 0.556 | 0.659 | 0.511 | 0.528 | 0.526 | 0.476 | 0.541 | 0.568 | 0.545 | 0.546 | 9.23 |
| 43) | t-butyl formate | | | | | | | | | | |
| | | | 0.295 | 0.333 | 0.269 | 0.306 | 0.271 | 0.258 | 0.322 | 0.293 | 9.86 |
| 44) | dibromofluoromethane (s) | | | | | | | | | | |
| | | 0.417 | 0.417 | 0.428 | 0.425 | 0.423 | 0.422 | 0.422 | 0.419 | 0.422 | 0.422 | 0.84 |
| 45) | methacrylonitrile | | | | | | | | | | |
| | | | 0.145 | 0.149 | 0.142 | 0.141 | 0.139 | 0.119 | 0.145 | 0.140 | 6.95 |
| 46) | 1,1,1-trichloroethane | | | | | | | | | | |
| | | 0.690 | 0.624 | 0.724 | 0.745 | 0.707 | 0.684 | 0.731 | 0.729 | 0.723 | 0.706 | 5.21 |
| 47) | cyclohexane | | | | | | | | | | |
| | | 0.767 | 0.570 | 0.688 | 0.716 | 0.747 | 0.642 | 0.727 | 0.682 | 0.735 | 0.697 | 8.70 |
| 48) | 1,1-dichloropropene | | | | | | | | | | |
| | | 0.582 | 0.575 | 0.589 | 0.621 | 0.597 | 0.558 | 0.617 | 0.619 | 0.625 | 0.598 | 3.96 |
| 49) | iso-butyl alcohol | | | | | | | | | | |
| | | | 0.015 | 0.016 | 0.016 | 0.015 | 0.015 | | 0.017 | 0.016 | 6.04 |
| 50) | carbon tetrachloride | | | | | | | | | | |
| | | 0.615 | 0.548 | 0.630 | 0.652 | 0.615 | 0.595 | 0.628 | 0.631 | 0.637 | 0.617 | 4.92 |
| 51) | tert amyl alcohol | | | | | | | | | | |
| | | | 0.015 | 0.015 | 0.015 | 0.015 | 0.014 | | 0.015 | 0.015 | 4.02 |

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** V1C7200-ICC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164011.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
52) I   1,4-difluorobenzene   ----------------ISTD--------------------
53)  1,2-dichloroethane-d4 (s)
           0.318 0.309 0.311 0.307 0.320 0.309 0.315 0.316 0.322   0.314    1.71
54)  n-butyl alcohol
                       0.008 0.008 0.008 0.008 0.007 0.006 0.008   0.007#  10.61
55)  2,2,4-trimethylpentane
           1.191 0.971 1.196 1.241 1.226 1.116 1.321 1.241 1.300   1.200    8.73
56)  benzene
           1.277 1.410 1.156 1.208 1.232 1.050 1.307 1.309 1.318   1.252    8.40
57)  tert-amyl methyl ether
           0.160       0.199 0.203 0.202 0.187 0.195 0.197 0.218   0.195    8.56
58)  heptane
           0.241       0.270 0.280 0.275 0.250 0.291 0.263 0.291   0.270    6.66
59)  isopropyl acetate
                       0.055 0.054 0.051 0.052 0.044       0.055   0.052    7.85
60)  1,2-dichloroethane
           0.469       0.383 0.389 0.397 0.354 0.406 0.420 0.437   0.407    8.68
61)  trichloroethene
           0.318 0.289 0.322 0.335 0.327 0.300 0.324 0.349 0.337   0.322    5.76
62)  ethyl acrylate
           0.260       0.310 0.317 0.310 0.294 0.305 0.290 0.334   0.302    7.23
63)  2-nitropropane
                                                                   0.000#  -1.00
64)  2-chloroethyl vinyl ether
           0.133 0.144 0.147 0.165 0.147 0.144 0.143 0.139 0.175   0.149    8.87
65)  methyl methacrylate
                       0.064 0.064 0.063 0.061 0.057       0.067   0.063    5.13
66)  1,2-dichloropropane
           0.304 0.295 0.288 0.298 0.309 0.265 0.310 0.295 0.318   0.298    5.11
67)  dibromomethane
           0.157       0.177 0.180 0.176 0.167 0.175 0.176 0.189   0.175    5.24
68)  methylcyclohexane
           0.634       0.521 0.543 0.528 0.490 0.573 0.596 0.561   0.556    8.20
69)  bromodichloromethane
           0.403 0.408 0.435 0.434 0.420 0.409 0.418 0.440 0.434   0.422    3.25
70)  epichlorohydrin
                       0.024 0.024 0.024 0.024 0.023 0.022 0.026   0.024    5.06
71)  cis-1,3-dichloropropene
           0.474 0.492 0.485 0.495 0.487 0.459 0.489 0.474 0.508   0.485    2.90
72)  4-methyl-2-pentanone
           0.085 0.093 0.084 0.085 0.086 0.079 0.087 0.086 0.095   0.087    5.57
73)  3-methyl-1-butanol
                       0.011 0.011 0.011 0.011 0.010 0.010 0.012   0.011    7.44

74) I   chlorobenzene-d5      ----------------ISTD--------------------
75)  toluene-d8 (s)
           1.348 1.350 1.347 1.337 1.339 1.329 1.340 1.373 1.358   1.347    0.97
76)  toluene
           0.939 1.030 0.869 0.885 0.868 0.807 0.945 0.951 0.941   0.915    7.06
77)  trans-1,3-dichloropropene
           0.484 0.524 0.521 0.530 0.511 0.489 0.514 0.512 0.550   0.515    3.90
78)  ethyl methacrylate
           0.318 0.322 0.387 0.386 0.381 0.360 0.369 0.343 0.410   0.364    8.59
79)  1,1,2-trichloroethane
           0.218 0.226 0.254 0.255 0.247 0.239 0.250 0.228 0.252   0.241    5.71
80)  tetrachloroethene
           0.303 0.314 0.320 0.329 0.310 0.296 0.333 0.342 0.316   0.318    4.67
81)  1,3-dichloropropane
           0.403 0.435 0.446 0.453 0.449 0.413 0.457 0.455 0.468   0.442    4.85
```

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** V1C7200-ICC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164011.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82) | 2-hexanone | | | | | | | | | | | |
| | | 0.090 | 0.093 | 0.099 | 0.101 | 0.103 | 0.090 | 0.104 | 0.103 | 0.112 | 0.099 | 7.35 |
| 83) | butyl acetate | | | | | | | | | | | |
| | | | | 0.179 | 0.182 | 0.182 | 0.169 | 0.185 | 0.175 | 0.197 | 0.181 | 4.76 |
| 84) | dibromochloromethane | | | | | | | | | | | |
| | | 0.339 | 0.332 | 0.393 | 0.384 | 0.361 | 0.379 | 0.353 | 0.348 | 0.372 | 0.363 | 5.78 |
| 85) | 1,2-dibromoethane | | | | | | | | | | | |
| | | 0.361 | 0.331 | 0.408 | 0.404 | 0.397 | 0.389 | 0.385 | 0.374 | 0.397 | 0.383 | 6.40 |
| 86) | n-butyl ether | | | | | | | | | | | |
| | | 1.382 | 1.483 | 1.373 | 1.378 | 1.344 | 1.251 | 1.382 | 1.389 | 1.411 | 1.377 | 4.42 |
| 87) | chlorobenzene | | | | | | | | | | | |
| | | 0.920 | 0.986 | 0.916 | 0.921 | 0.899 | 0.853 | 0.939 | 0.964 | 0.960 | 0.928 | 4.25 |
| 88) | 1,1,1,2-tetrachloroethane | | | | | | | | | | | |
| | | 0.324 | 0.295 | 0.356 | 0.357 | 0.339 | 0.333 | 0.348 | 0.334 | 0.352 | 0.338 | 5.77 |
| 89) | ethylbenzene | | | | | | | | | | | |
| | | 1.702 | 1.965 | 1.601 | 1.641 | 1.586 | 1.451 | 1.744 | 1.745 | 1.706 | 1.682 | 8.40 |
| 90) | m,p-xylene | | | | | | | | | | | |
| | | 0.639 | 0.694 | 0.597 | 0.610 | 0.605 | 0.531 | 0.640 | 0.662 | 0.647 | 0.625 | 7.43 |
| 91) | o-xylene | | | | | | | | | | | |
| | | 0.579 | 0.640 | 0.578 | 0.596 | 0.589 | 0.523 | 0.630 | 0.613 | 0.621 | 0.597 | 5.94 |
| 92) | styrene | | | | | | | | | | | |
| | | 1.012 | 1.014 | 0.962 | 0.994 | 0.977 | 0.863 | 1.026 | 1.016 | 1.041 | 0.989 | 5.39 |
| 93) | bromoform | | | | | | | | | | | |
| | | 0.192 | 0.196 | 0.246 | 0.238 | 0.218 | 0.240 | 0.208 | 0.219 | 0.223 | 0.220 | 8.70 |
| 94) | butyl acrylate | | | | | | | | | | | |
| | | 0.559 | 0.548 | 0.599 | 0.602 | 0.588 | 0.567 | 0.571 | 0.570 | 0.613 | 0.580 | 3.78 |
| 95) | isopropylbenzene | | | | | | | | | | | |
| | | 1.584 | 1.811 | 1.567 | 1.586 | 1.550 | 1.439 | 1.621 | 1.675 | 1.615 | 1.605 | 6.24 |
| 96) | cis-1,4-dichloro-2-butene | | | | | | | | | | | |
| | | | | 0.144 | 0.140 | 0.133 | 0.139 | 0.122 | | 0.139 | 0.136 | 5.71 |
| 97) | I 1,4-dichlorobenzene-d ----------ISTD---------- | | | | | | | | | | | |
| 98) | 4-bromofluorobenzene (s) | | | | | | | | | | | |
| | | 0.928 | 0.944 | 0.940 | 0.931 | 0.929 | 0.953 | 0.938 | 0.939 | 0.946 | 0.939 | 0.88 |
| 99) | bromobenzene | | | | | | | | | | | |
| | | 0.786 | 0.827 | 0.771 | 0.783 | 0.775 | 0.715 | 0.807 | 0.790 | 0.812 | 0.785 | 4.07 |
| 100) | 1,1,2,2-tetrachloroethane | | | | | | | | | | | |
| | | 0.534 | 0.595 | 0.640 | 0.636 | 0.620 | 0.627 | 0.617 | 0.630 | 0.643 | 0.616 | 5.50 |
| 101) | trans-1,4-dichloro-2-butene | | | | | | | | | | | |
| | | | | 0.172 | 0.173 | 0.163 | 0.169 | 0.156 | | 0.173 | 0.168 | 4.12 |
| 102) | 1,2,3-trichloropropane | | | | | | | | | | | |
| | | | | 0.159 | 0.161 | 0.160 | 0.153 | 0.152 | | 0.166 | 0.159 | 3.34 |
| 103) | n-propylbenzene | | | | | | | | | | | |
| | | 3.621 | 3.902 | 3.473 | 3.603 | 3.492 | 3.166 | 3.771 | 3.767 | 3.702 | 3.611 | 5.99 |
| 104) | 4-ethyltoluene | | | | | | | | | | | |
| | | | | | | | | | | | 0.000# | -1.00 |
| 105) | 2-chlorotoluene | | | | | | | | | | | |
| | | 0.711 | 0.707 | 0.687 | 0.704 | 0.698 | 0.632 | 0.745 | 0.712 | 0.730 | 0.703 | 4.49 |
| 106) | 4-chlorotoluene | | | | | | | | | | | |
| | | 2.237 | 2.571 | 2.146 | 2.168 | 2.135 | 1.999 | 2.233 | 2.250 | 2.259 | 2.222 | 6.95 |
| 107) | 1,3,5-trimethylbenzene | | | | | | | | | | | |
| | | 2.592 | 2.907 | 2.534 | 2.589 | 2.514 | 2.345 | 2.646 | 2.629 | 2.688 | 2.605 | 5.78 |
| 108) | tert-butylbenzene | | | | | | | | | | | |
| | | 0.410 | | 0.444 | 0.454 | 0.445 | 0.419 | 0.438 | 0.428 | 0.455 | 0.437 | 3.73 |
| 109) | 1,2,4-trimethylbenzene | | | | | | | | | | | |
| | | 2.607 | 2.950 | 2.508 | 2.555 | 2.524 | 2.336 | 2.674 | 2.687 | 2.641 | 2.609 | 6.39 |
| 110) | sec-butylbenzene | | | | | | | | | | | |
| | | 3.232 | 3.413 | 3.187 | 3.258 | 3.154 | 2.939 | 3.312 | 3.383 | 3.266 | 3.238 | 4.33 |
| 111) | 1,3-dichlorobenzene | | | | | | | | | | | |
| | | 1.445 | 1.636 | 1.452 | 1.464 | 1.455 | 1.355 | 1.548 | 1.512 | 1.514 | 1.487 | 5.28 |

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** V1C7200-ICC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164011.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
112)  p-isopropyltoluene
            2.786 2.957 2.732 2.790 2.752 2.523 2.887 2.790 2.854   2.785    4.35
113)  1,4-dichlorobenzene
            1.493 1.639 1.446 1.465 1.431 1.353 1.504 1.505 1.532   1.485    5.27
114)  benzyl chloride
            1.189 1.386 1.309 1.309 1.235 1.251 1.224 1.242 1.363   1.279    5.20
115)  1,2-dichlorobenzene
            1.320 1.499 1.392 1.407 1.373 1.307 1.426 1.316 1.446   1.387    4.70
116)  1,4-diethylbenzene
                                                                    0.000#  -1.00
117)  n-butylbenzene
            1.370 1.505 1.385 1.420 1.389 1.283 1.500 1.437 1.451   1.416    4.88
118)  1,2-dibromo-3-chloropropane
                        0.127 0.126 0.127 0.123 0.123 0.107 0.130   0.123    6.19
119)  1,3,5-trichlorobenzene
            1.100 1.285 1.142 1.142 1.117 1.054 1.158 1.126 1.151   1.142    5.47
120)  1,2,4,5-tetramethylbenzene
                                                                    0.000#  -1.00
121)  2-ethylhexyl acrylate
                        0.637 0.584 0.506 0.622             0.508   0.571   10.83
122)  1,2,4-trichlorobenzene
            0.932 0.910 0.957 0.953 0.923 0.884 0.955 0.888 0.967   0.930    3.30
123)  hexachlorobutadiene
            0.631 0.662 0.651 0.674 0.645 0.602 0.670 0.676 0.666   0.653    3.71
124)  naphthalene
            1.716 2.032 1.812 1.824 1.812 1.701 1.780 1.708 1.898   1.809    5.85
125)  1,2,3-trichlorobenzene
            0.778 0.998 0.887 0.889 0.844 0.828 0.898 0.866 0.918   0.879    7.01
126)  hexachloroethane
            0.423       0.537 0.524 0.489 0.526 0.492 0.496 0.494   0.498    7.10
127)  2-methylnaphthalene
                        1.258 1.223 1.122 1.198 0.958       1.152   1.152    9.26
128)  bis(chloromethyl)ether
                                                                    0.000#  -1.00
129)  ethylenimine
                                                                    0.000#  -1.00
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M1CS7200.M        Thu Apr 25 08:06:45 2019
```

6.9.1

6

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** V1C7200-ICV7200
**Lab FileID:** 1C164016.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V1C7200\1C164016.D Vial: 14
Acq On : 24 Apr 2019 8:03 pm Operator: ROBERTS
Sample : ICV7200-50 Inst : GCMS1C
Misc : MS34128,V1C7200,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
Last Update : Thu Apr 25 08:03:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 102 | -0.02 | 7.36 |
| 2 | M | tertiary butyl alcohol | 1.328 | 1.294 | 2.6 | 102 | -0.02 | 7.48 |
| 3 | | ethanol | | ----------NA---------- | | | | |
| 4 | M | 1,4-dioxane | 0.121 | 0.121 | 0.0 | 100 | 0.00 | 11.25 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 9.60 |
| 6 | M | chlorodifluoromethane | 0.521 | 0.552 | -6.0 | 106 | 0.00 | 3.90 |
| 7 | M | dichlorodifluoromethane | 0.739 | 0.681 | 7.8 | 92 | 0.00 | 3.86 |
| 8 | M | chloromethane | 0.542 | 0.580 | -7.0 | 112 | 0.00 | 4.28 |
| 9 | M | vinyl chloride | 0.510 | 0.478 | 6.3 | 94 | 0.00 | 4.51 |
| 10 | | 1,3-butadiene | 0.320 | 0.378 | -18.1 | 115 | 0.00 | 4.59 |
| 11 | M | bromomethane | 0.389 | 0.368 | 5.4 | 101 | 0.02 | 5.19 |
| 12 | M | chloroethane | 0.306 | 0.269 | 12.1 | 91 | 0.01 | 5.38 |
| 13 | M | trichlorofluoromethane | 0.761 | 0.738 | 3.0 | 97 | 0.00 | 5.81 |
| 14 | | vinyl bromide | 0.298 | 0.310 | -4.0 | 104 | 0.00 | 5.72 |
| 15 | M | ethyl ether | 0.203 | 0.212 | -4.4 | 105 | 0.00 | 6.25 |
| 16 | M | acrolein | 0.052 | 0.055 | -5.8 | 107 | 0.00 | 6.54 |
| 17 | | freon 113 | 0.336 | 0.386 | -14.9 | 112 | 0.00 | 6.62 |
| 18 | M | 1,1-dichloroethene | 0.409 | 0.386 | 5.6 | 96 | 0.00 | 6.68 |
| 19 | M | acetone | 0.102 | 0.099 | 2.9 | 104 | 0.00 | 6.75 |
| 20 | M | acetonitrile | | ----------NA---------- | | | | |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 21 | M | iodomethane | 50.000 | 44.599 | 10.8 | 98 | 0.00 | 6.97 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 22 | M | carbon disulfide | 1.322 | 1.384 | -4.7 | 111 | 0.00 | 7.09 |
| 23 | M | methylene chloride | 0.444 | 0.428 | 3.6 | 101 | 0.00 | 7.42 |
| 24 | M | methyl acetate | 0.248 | 0.234 | 5.6 | 97 | 0.00 | 7.21 |
| 25 | M | methyl tert butyl ether | 1.109 | 1.096 | 1.2 | 100 | 0.00 | 7.71 |
| 26 | M | trans-1,2-dichloroethene | 0.454 | 0.432 | 4.8 | 100 | 0.00 | 7.79 |
| 27 | M | di-isopropyl ether | 1.366 | 1.296 | 5.1 | 97 | 0.00 | 8.30 |
| 28 | M | 2-butanone | 0.038 | 0.039 | -2.6 | 102 | 0.00 | 9.06 |
| 29 | M | 1,1-dichloroethane | 0.771 | 0.766 | 0.6 | 103 | 0.00 | 8.36 |
| 30 | M | chloroprene | 0.665 | 0.685 | -3.0 | 104 | 0.00 | 8.46 |
| 31 | M | acrylonitrile | 0.111 | 0.113 | -1.8 | 103 | 0.00 | 7.77 |
| 32 | | hexane | 0.706 | 0.766 | -8.5 | 108 | 0.00 | 8.06 |
| 33 | M | vinyl acetate | 0.064 | 0.062 | 3.1 | 94 | 0.00 | 8.34 |
| 34 | M | ethyl tert-butyl ether | 1.316 | 1.284 | 2.4 | 98 | 0.00 | 8.77 |
| 35 | M | ethyl acetate | 0.048 | 0.049 | -2.1 | 101 | 0.00 | 9.07 |
| 36 | M | 2,2-dichloropropane | 0.687 | 0.660 | 3.9 | 98 | 0.00 | 9.08 |
| 37 | M | cis-1,2-dichloroethene | 0.490 | 0.466 | 4.9 | 100 | 0.00 | 9.10 |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** V1C7200-ICV7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164016.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | methyl acrylate | 0.050 | 0.053 | -6.0 | 101 | 0.00 | 9.15 |
| 39 | M | propionitrile | 0.048 | 0.049 | -2.1 | 104 | 0.00 | 9.18 |
| 40 | M | bromochloromethane | 0.213 | 0.219 | -2.8 | 103 | 0.00 | 9.42 |
| 41 | M | tetrahydrofuran | 0.046 | 0.046 | 0.0 | 104 | 0.00 | 9.45 |
| 42 | M | chloroform | 0.546 | 0.514 | 5.9 | 102 | 0.00 | 9.47 |
| 43 | M | t-butyl formate | 0.293 | 0.289 | 1.4 | 91 | 0.00 | 9.48 |
| 44 | S | dibromofluoromethane (s) | 0.422 | 0.431 | -2.1 | 107 | 0.00 | 9.67 |
| 45 | M | methacrylonitrile | 0.140 | 0.142 | -1.4 | 100 | 0.00 | 9.36 |
| 46 | M | 1,1,1-trichloroethane | 0.706 | 0.705 | 0.1 | 99 | 0.00 | 9.70 |
| 47 | | cyclohexane | 0.697 | 0.660 | 5.3 | 97 | 0.00 | 9.76 |
| 48 | | 1,1-dichloropropene | 0.598 | 0.601 | -0.5 | 102 | 0.00 | 9.88 |
| 49 | | iso-butyl alcohol | 0.016 | 0.015 | 6.3 | 99 | 0.00 | 9.91 |
| 50 | | carbon tetrachloride | 0.617 | 0.637 | -3.2 | 103 | 0.00 | 9.91 |
| 51 | | tert amyl alcohol | 0.015 | 0.015 | 0.0 | 105 | 0.00 | 10.02 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 10.52 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.314 | 0.301 | 4.1 | 104 | 0.00 | 10.09 |
| 54 | M | n-butyl alcohol | 0.007 | 0.007# | 0.0 | 102 | 0.00 | 10.65 |
| 55 | | 2,2,4-trimethylpentane | 1.200 | 1.162 | 3.2 | 99 | 0.00 | 10.11 |
| 56 | M | benzene | 1.252 | 1.169 | 6.6 | 103 | 0.00 | 10.15 |
| 57 | M | tert-amyl methyl ether | 0.195 | 0.186 | 4.6 | 97 | 0.00 | 10.16 |
| 58 | M | heptane | 0.270 | 0.321 | -18.9 | 122 | 0.00 | 10.29 |
| 59 | M | isopropyl acetate | 0.052 | 0.049 | 5.8 | 96 | 0.00 | 10.06 |
| 60 | M | 1,2-dichloroethane | 0.407 | 0.364 | 10.6 | 99 | 0.00 | 10.18 |
| 61 | M | trichloroethene | 0.322 | 0.326 | -1.2 | 103 | 0.00 | 10.86 |
| 62 | | ethyl acrylate | 0.302 | 0.306 | -1.3 | 102 | 0.00 | 10.86 |
| 63 | M | 2-nitropropane | | ----------NA---------- | | | | |
| 64 | M | 2-chloroethyl vinyl ether | 0.149 | 0.164 | -10.1 | 105 | 0.00 | 11.65 |
| 65 | M | methyl methacrylate | 0.063 | 0.061 | 3.2 | 102 | 0.00 | 11.12 |
| 66 | M | 1,2-dichloropropane | 0.298 | 0.286 | 4.0 | 102 | 0.00 | 11.13 |
| 67 | M | dibromomethane | 0.175 | 0.168 | 4.0 | 99 | 0.00 | 11.30 |
| 68 | M | methylcyclohexane | 0.556 | 0.521 | 6.3 | 102 | 0.00 | 11.06 |
| 69 | M | bromodichloromethane | 0.422 | 0.406 | 3.8 | 99 | 0.00 | 11.43 |
| 70 | | epichlorohydrin | 0.024 | 0.024 | 0.0 | 106 | 0.00 | 11.79 |
| 71 | M | cis-1,3-dichloropropene | 0.485 | 0.475 | 2.1 | 102 | 0.00 | 11.87 |
| 72 | M | 4-methyl-2-pentanone | 0.087 | 0.082 | 5.7 | 101 | 0.00 | 11.96 |
| 73 | M | 3-methyl-1-butanol | 0.011 | 0.011 | 0.0 | 102 | 0.00 | 11.98 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 13.66 |
| 75 | S | toluene-d8 (s) | 1.347 | 1.318 | 2.2 | 104 | 0.00 | 12.15 |
| 76 | | toluene | 0.915 | 0.856 | 6.4 | 102 | 0.00 | 12.22 |
| 77 | | trans-1,3-dichloropropene | 0.515 | 0.517 | -0.4 | 103 | 0.00 | 12.43 |
| 78 | | ethyl methacrylate | 0.364 | 0.372 | -2.2 | 102 | 0.00 | 12.41 |
| 79 | | 1,1,2-trichloroethane | 0.241 | 0.243 | -0.8 | 100 | 0.00 | 12.65 |
| 80 | M | tetrachloroethene | | ----------NA---------- | | | | |
| 81 | M | 1,3-dichloropropane | 0.442 | 0.437 | 1.1 | 102 | 0.00 | 12.83 |
| 82 | | 2-hexanone | 0.099 | 0.097 | 2.0 | 102 | 0.00 | 12.80 |
| 83 | M | butyl acetate | 0.181 | 0.175 | 3.3 | 102 | 0.00 | 12.87 |
| 84 | M | dibromochloromethane | 0.363 | 0.382 | -5.2 | 105 | 0.00 | 13.10 |
| 85 | M | 1,2-dibromoethane | 0.383 | 0.385 | -0.5 | 101 | 0.00 | 13.24 |
| 86 | | n-butyl ether | 1.377 | 1.387 | -0.7 | 106 | 0.00 | 13.57 |
| 87 | M | chlorobenzene | 0.928 | 0.900 | 3.0 | 103 | 0.00 | 13.69 |
| 88 | M | 1,1,1,2-tetrachloroethane | 0.338 | 0.345 | -2.1 | 102 | 0.00 | 13.75 |
| 89 | M | ethylbenzene | 1.682 | 1.566 | 6.9 | 101 | 0.00 | 13.73 |
| 90 | M | m,p-xylene | 0.625 | 0.589 | 5.8 | 102 | 0.00 | 13.84 |
| 91 | M | o-xylene | 0.597 | 0.567 | 5.0 | 101 | 0.00 | 14.26 |
| 92 | M | styrene | 0.989 | 0.957 | 3.2 | 102 | 0.00 | 14.27 |
| 93 | M | bromoform | 0.220 | 0.244 | -10.9 | 108 | 0.00 | 14.55 |
| 94 | | butyl acrylate | 0.580 | 0.569 | 1.9 | 100 | 0.00 | 14.07 |
| 95 | | isopropylbenzene | 1.605 | 1.540 | 4.0 | 103 | 0.00 | 14.59 |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** V1C7200-ICV7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164016.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | cis-1,4-dichloro-2-butene | 0.136 | 0.133 | 2.2 | 100 | 0.00 | 14.69 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 15.97 |
| 98 | S | 4-bromofluorobenzene (s) | 0.939 | 0.936 | 0.3 | 106 | 0.00 | 14.81 |
| 99 | M | bromobenzene | 0.785 | 0.756 | 3.7 | 102 | 0.00 | 15.00 |
| 100 | M | 1,1,2,2-tetrachloroethane | 0.616 | 0.611 | 0.8 | 101 | 0.00 | 14.92 |
| 101 | M | trans-1,4-dichloro-2-bute | 0.168 | 0.185 | -10.1 | 112 | 0.00 | 14.96 |
| 102 | M | 1,2,3-trichloropropane | 0.159 | 0.156 | 1.9 | 102 | 0.00 | 14.99 |
| 103 | M | n-propylbenzene | 3.611 | 3.485 | 3.5 | 102 | 0.00 | 15.00 |
| 104 | | 4-ethyltoluene | | ----------NA---------- | | | | |
| 105 | M | 2-chlorotoluene | 0.703 | 0.677 | 3.7 | 101 | 0.00 | 15.15 |
| 106 | M | 4-chlorotoluene | 2.222 | 2.130 | 4.1 | 104 | 0.00 | 15.25 |
| 107 | M | 1,3,5-trimethylbenzene | 2.605 | 2.486 | 4.6 | 101 | 0.00 | 15.15 |
| 108 | M | tert-butylbenzene | 0.437 | 0.445 | -1.8 | 103 | 0.00 | 15.49 |
| 109 | M | 1,2,4-trimethylbenzene | 2.609 | 2.504 | 4.0 | 103 | 0.00 | 15.54 |
| 110 | M | sec-butylbenzene | 3.238 | 3.165 | 2.3 | 102 | 0.00 | 15.71 |
| 111 | M | 1,3-dichlorobenzene | 1.487 | 1.459 | 1.9 | 105 | 0.00 | 15.91 |
| 112 | M | p-isopropyltoluene | 2.785 | 2.742 | 1.5 | 104 | 0.00 | 15.83 |
| 113 | M | 1,4-dichlorobenzene | 1.485 | 1.432 | 3.6 | 103 | 0.00 | 16.00 |
| 114 | | benzyl chloride | 1.279 | 1.601 | -25.2 | 129 | 0.00 | 16.12 |
| 115 | M | 1,2-dichlorobenzene | 1.387 | 1.375 | 0.9 | 103 | 0.00 | 16.40 |
| 116 | | 1,4-diethylbenzene | | ----------NA---------- | | | | |
| 117 | M | n-butylbenzene | 1.416 | 1.382 | 2.4 | 102 | 0.00 | 16.25 |
| 118 | M | 1,2-dibromo-3-chloropropa | 0.123 | 0.119 | 3.3 | 100 | 0.00 | 17.19 |
| 119 | | 1,3,5-trichlorobenzene | 1.142 | 1.121 | 1.8 | 103 | 0.00 | 17.35 |
| 120 | | 1,2,4,5-tetramethylbenzen | | ----------NA---------- | | | | |
| 121 | | 2-ethylhexyl acrylate | 0.571 | 0.589 | -3.2 | 106 | 0.00 | 17.88 |
| 122 | M | 1,2,4-trichlorobenzene | 0.930 | 0.890 | 4.3 | 98 | 0.00 | 17.92 |
| 123 | M | hexachlorobutadiene | 0.653 | 0.630 | 3.5 | 99 | 0.00 | 18.01 |
| 124 | M | naphthalene | 1.809 | 1.780 | 1.6 | 103 | 0.00 | 18.16 |
| 125 | M | 1,2,3-trichlorobenzene | 0.879 | 0.827 | 5.9 | 98 | 0.00 | 18.38 |
| 126 | m | hexachloroethane | 0.498 | 0.527 | -5.8 | 106 | 0.00 | 16.66 |
| 127 | | 2-methylnaphthalene | 1.152 | 1.152 | 0.0 | 99 | 0.00 | 19.13 |
| 128 | | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 129 | | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1C164011.D M1CS7200.M Thu Apr 25 08:06:32 2019

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** V1C7200-ICV7200
**Lab FileID:** 1C164017.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\V1C7200\1C164017.D         Vial: 15
Acq On    : 24 Apr 2019   8:30 pm                    Operator: ROBERTS
Sample    : ICV7200-50                               Inst    : GCMS1C
Misc      : MS34128,V1C7200,5.0,,,,1                 Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title        : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
Last Update  : Thu Apr 25 08:03:13 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.010  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 104 | -0.02 | 7.36 |
| 2 | M | tertiary butyl alcohol | | ----------NA---------- | | | | |
| 3 | | ethanol | | ----------NA---------- | | | | |
| 4 | M | 1,4-dioxane | | ----------NA---------- | | | | |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 9.60 |
| 6 | M | chlorodifluoromethane | | ----------NA---------- | | | | |
| 7 | M | dichlorodifluoromethane | | ----------NA---------- | | | | |
| 8 | M | chloromethane | | ----------NA---------- | | | | |
| 9 | M | vinyl chloride | | ----------NA---------- | | | | |
| 10 | | 1,3-butadiene | | ----------NA---------- | | | | |
| 11 | M | bromomethane | | ----------NA---------- | | | | |
| 12 | M | chloroethane | | ----------NA---------- | | | | |
| 13 | M | trichlorofluoromethane | | ----------NA---------- | | | | |
| 14 | | vinyl bromide | | ----------NA---------- | | | | |
| 15 | M | ethyl ether | | ----------NA---------- | | | | |
| 16 | M | acrolein | | ----------NA---------- | | | | |
| 17 | | freon 113 | | ----------NA---------- | | | | |
| 18 | M | 1,1-dichloroethene | | ----------NA---------- | | | | |
| 19 | M | acetone | | ----------NA---------- | | | | |
| 20 | M | acetonitrile | 0.042 | 0.042 | 0.0 | 105 | 0.00 | 7.22 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 21 | M | iodomethane | | ----------NA---------- | | | | |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 22 | M | carbon disulfide | | ----------NA---------- | | | | |
| 23 | M | methylene chloride | | ----------NA---------- | | | | |
| 24 | M | methyl acetate | | ----------NA---------- | | | | |
| 25 | M | methyl tert butyl ether | | ----------NA---------- | | | | |
| 26 | M | trans-1,2-dichloroethene | | ----------NA---------- | | | | |
| 27 | M | di-isopropyl ether | | ----------NA---------- | | | | |
| 28 | M | 2-butanone | | ----------NA---------- | | | | |
| 29 | M | 1,1-dichloroethane | | ----------NA---------- | | | | |
| 30 | M | chloroprene | | ----------NA---------- | | | | |
| 31 | M | acrylonitrile | | ----------NA---------- | | | | |
| 32 | | hexane | | ----------NA---------- | | | | |
| 33 | M | vinyl acetate | | ----------NA---------- | | | | |
| 34 | M | ethyl tert-butyl ether | | ----------NA---------- | | | | |
| 35 | M | ethyl acetate | | ----------NA---------- | | | | |
| 36 | M | 2,2-dichloropropane | | ----------NA---------- | | | | |
| 37 | M | cis-1,2-dichloroethene | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** V1C7200-ICV7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164017.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | methyl acrylate | | ----------NA---------- | | | | |
| 39 | M | propionitrile | | ----------NA---------- | | | | |
| 40 | M | bromochloromethane | | ----------NA---------- | | | | |
| 41 | M | tetrahydrofuran | | ----------NA---------- | | | | |
| 42 | M | chloroform | | ----------NA---------- | | | | |
| 43 | M | t-butyl formate | | ----------NA---------- | | | | |
| 44 | S | dibromofluoromethane (s) | 0.422 | 0.418 | 0.9 | 106 | 0.00 | 9.67 |
| 45 | M | methacrylonitrile | | ----------NA---------- | | | | |
| 46 | M | 1,1,1-trichloroethane | | ----------NA---------- | | | | |
| 47 | | cyclohexane | | ----------NA---------- | | | | |
| 48 | | 1,1-dichloropropene | | ----------NA---------- | | | | |
| 49 | | iso-butyl alcohol | | ----------NA---------- | | | | |
| 50 | | carbon tetrachloride | | ----------NA---------- | | | | |
| 51 | | tert amyl alcohol | | ----------NA---------- | | | | |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 10.52 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.314 | 0.311 | 1.0 | 105 | 0.00 | 10.09 |
| 54 | M | n-butyl alcohol | | ----------NA---------- | | | | |
| 55 | | 2,2,4-trimethylpentane | | ----------NA---------- | | | | |
| 56 | M | benzene | | ----------NA---------- | | | | |
| 57 | M | tert-amyl methyl ether | | ----------NA---------- | | | | |
| 58 | M | heptane | | ----------NA---------- | | | | |
| 59 | M | isopropyl acetate | | ----------NA---------- | | | | |
| 60 | M | 1,2-dichloroethane | | ----------NA---------- | | | | |
| 61 | M | trichloroethene | | ----------NA---------- | | | | |
| 62 | | ethyl acrylate | | ----------NA---------- | | | | |
| 63 | M | 2-nitropropane | | ----------NA---------- | | | | |
| 64 | M | 2-chloroethyl vinyl ether | | ----------NA---------- | | | | |
| 65 | M | methyl methacrylate | | ----------NA---------- | | | | |
| 66 | M | 1,2-dichloropropane | | ----------NA---------- | | | | |
| 67 | M | dibromomethane | | ----------NA---------- | | | | |
| 68 | M | methylcyclohexane | | ----------NA---------- | | | | |
| 69 | M | bromodichloromethane | | ----------NA---------- | | | | |
| 70 | | epichlorohydrin | | ----------NA---------- | | | | |
| 71 | M | cis-1,3-dichloropropene | | ----------NA---------- | | | | |
| 72 | M | 4-methyl-2-pentanone | | ----------NA---------- | | | | |
| 73 | M | 3-methyl-1-butanol | | ----------NA---------- | | | | |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 13.66 |
| 75 | S | toluene-d8 (s) | 1.347 | 1.330 | 1.3 | 107 | 0.00 | 12.15 |
| 76 | | toluene | | ----------NA---------- | | | | |
| 77 | | trans-1,3-dichloropropene | | ----------NA---------- | | | | |
| 78 | | ethyl methacrylate | | ----------NA---------- | | | | |
| 79 | | 1,1,2-trichloroethane | | ----------NA---------- | | | | |
| 80 | M | tetrachloroethene | 0.318 | 0.309 | 2.8 | 101 | 0.00 | 12.80 |
| 81 | M | 1,3-dichloropropane | | ----------NA---------- | | | | |
| 82 | | 2-hexanone | | ----------NA---------- | | | | |
| 83 | M | butyl acetate | | ----------NA---------- | | | | |
| 84 | M | dibromochloromethane | | ----------NA---------- | | | | |
| 85 | M | 1,2-dibromoethane | | ----------NA---------- | | | | |
| 86 | | n-butyl ether | | ----------NA---------- | | | | |
| 87 | M | chlorobenzene | | ----------NA---------- | | | | |
| 88 | M | 1,1,1,2-tetrachloroethane | | ----------NA---------- | | | | |
| 89 | M | ethylbenzene | | ----------NA---------- | | | | |
| 90 | M | m,p-xylene | | ----------NA---------- | | | | |
| 91 | M | o-xylene | | ----------NA---------- | | | | |
| 92 | M | styrene | | ----------NA---------- | | | | |
| 93 | M | bromoform | | ----------NA---------- | | | | |
| 94 | | butyl acrylate | | ----------NA---------- | | | | |
| 95 | | isopropylbenzene | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** V1C7200-ICV7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164017.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | cis-1,4-dichloro-2-butene | | ----------NA---------- | | | | |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 15.97 |
| 98 | S | 4-bromofluorobenzene (s) | 0.939 | 0.934 | 0.5 | 106 | 0.00 | 14.81 |
| 99 | M | bromobenzene | | ----------NA---------- | | | | |
| 100 | M | 1,1,2,2-tetrachloroethane | | ----------NA---------- | | | | |
| 101 | M | trans-1,4-dichloro-2-bute | | ----------NA---------- | | | | |
| 102 | M | 1,2,3-trichloropropane | | ----------NA---------- | | | | |
| 103 | M | n-propylbenzene | | ----------NA---------- | | | | |
| 104 | | 4-ethyltoluene | | ----------NA---------- | | | | |
| 105 | M | 2-chlorotoluene | | ----------NA---------- | | | | |
| 106 | M | 4-chlorotoluene | | ----------NA---------- | | | | |
| 107 | M | 1,3,5-trimethylbenzene | | ----------NA---------- | | | | |
| 108 | M | tert-butylbenzene | | ----------NA---------- | | | | |
| 109 | M | 1,2,4-trimethylbenzene | | ----------NA---------- | | | | |
| 110 | M | sec-butylbenzene | | ----------NA---------- | | | | |
| 111 | M | 1,3-dichlorobenzene | | ----------NA---------- | | | | |
| 112 | M | p-isopropyltoluene | | ----------NA---------- | | | | |
| 113 | M | 1,4-dichlorobenzene | | ----------NA---------- | | | | |
| 114 | | benzyl chloride | | ----------NA---------- | | | | |
| 115 | M | 1,2-dichlorobenzene | | ----------NA---------- | | | | |
| 116 | | 1,4-diethylbenzene | | ----------NA---------- | | | | |
| 117 | M | n-butylbenzene | | ----------NA---------- | | | | |
| 118 | M | 1,2-dibromo-3-chloropropa | | ----------NA---------- | | | | |
| 119 | | 1,3,5-trichlorobenzene | | ----------NA---------- | | | | |
| 120 | | 1,2,4,5-tetramethylbenzen | | ----------NA---------- | | | | |
| 121 | | 2-ethylhexyl acrylate | | ----------NA---------- | | | | |
| 122 | M | 1,2,4-trichlorobenzene | | ----------NA---------- | | | | |
| 123 | M | hexachlorobutadiene | | ----------NA---------- | | | | |
| 124 | M | naphthalene | | ----------NA---------- | | | | |
| 125 | M | 1,2,3-trichlorobenzene | | ----------NA---------- | | | | |
| 126 | m | hexachloroethane | | ----------NA---------- | | | | |
| 127 | | 2-methylnaphthalene | | ----------NA---------- | | | | |
| 128 | | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 129 | | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1C164011.D M1CS7200.M Thu Apr 25 08:06:34 2019

6.9.3

6

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** V1C7215-CC7200
**Lab FileID:** 1C164394.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V1C7215\1C164394.D Vial: 1
Acq On : 9 May 2019 10:10 am Operator: PrashanS
Sample : cc7200-50 Inst : GCMS1C
Misc : MS34531,V1C7215,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
Last Update : Thu Apr 25 08:03:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 96 | -0.02 | 7.36 |
| 2 | M | tertiary butyl alcohol | 1.328 | 1.441 | -8.5 | 106 | -0.02 | 7.48 |
| 3 | | ethanol | | ----------NA---------- | | | | |
| 4 | M | 1,4-dioxane | 0.121 | 0.153 | -26.4# | 119 | 0.00 | 11.25 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 116 | 0.00 | 9.60 |
| 6 | M | chlorodifluoromethane | 0.521 | 0.441 | 15.4 | 94 | 0.00 | 3.90 |
| 7 | M | dichlorodifluoromethane | 0.739 | 0.551 | 25.4# | 82 | 0.00 | 3.86 |
| 8 | M | chloromethane | 0.542 | 0.427 | 21.2# | 92 | 0.00 | 4.28 |
| 9 | M | vinyl chloride | 0.510 | 0.435 | 14.7 | 95 | 0.00 | 4.51 |
| 10 | | 1,3-butadiene | 0.320 | 0.305 | 4.7 | 103 | 0.00 | 4.59 |
| 11 | M | bromomethane | 0.389 | 0.344 | 11.6 | 105 | 0.02 | 5.19 |
| 12 | M | chloroethane | 0.306 | 0.270 | 11.8 | 101 | 0.01 | 5.38 |
| 13 | M | trichlorofluoromethane | 0.761 | 0.690 | 9.3 | 100 | 0.00 | 5.81 |
| 14 | | vinyl bromide | 0.298 | 0.399 | -33.9# | 149 | 0.00 | 5.72 |
| 15 | M | ethyl ether | 0.203 | 0.205 | -1.0 | 112 | 0.00 | 6.25 |
| 16 | M | acrolein | 0.052 | 0.048 | 7.7 | 104 | 0.01 | 6.54 |
| 17 | | freon 113 | 0.336 | 0.360 | -7.1 | 116 | 0.00 | 6.61 |
| 18 | M | 1,1-dichloroethene | 0.409 | 0.405 | 1.0 | 112 | 0.00 | 6.68 |
| 19 | M | acetone | 0.102 | 0.096 | 5.9 | 112 | 0.00 | 6.75 |
| 20 | M | acetonitrile | 0.042 | 0.037 | 11.9 | 101 | 0.00 | 7.21 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 21 | M | iodomethane | 50.000 | 43.387 | 13.2 | 106 | 0.00 | 6.97 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 22 | M | carbon disulfide | 1.322 | 1.218 | 7.9 | 109 | 0.00 | 7.09 |
| 23 | M | methylene chloride | 0.444 | 0.432 | 2.7 | 113 | 0.00 | 7.42 |
| 24 | M | methyl acetate | 0.248 | 0.233 | 6.0 | 107 | 0.00 | 7.21 |
| 25 | M | methyl tert butyl ether | 1.109 | 1.034 | 6.8 | 104 | 0.00 | 7.71 |
| 26 | M | trans-1,2-dichloroethene | 0.454 | 0.438 | 3.5 | 112 | 0.00 | 7.79 |
| 27 | M | di-isopropyl ether | 1.366 | 1.181 | 13.5 | 98 | 0.00 | 8.30 |
| 28 | M | 2-butanone | 0.038 | 0.041 | -7.9 | 119 | 0.00 | 9.06 |
| 29 | M | 1,1-dichloroethane | 0.771 | 0.693 | 10.1 | 103 | 0.00 | 8.36 |
| 30 | M | chloroprene | 0.665 | 0.579 | 12.9 | 97 | 0.00 | 8.46 |
| 31 | M | acrylonitrile | 0.111 | 0.102 | 8.1 | 102 | 0.00 | 7.77 |
| 32 | | hexane | 0.706 | 0.662 | 6.2 | 104 | 0.00 | 8.06 |
| 33 | M | vinyl acetate | 0.064 | 0.064 | 0.0 | 107 | 0.00 | 8.34 |
| 34 | M | ethyl tert-butyl ether | 1.316 | 1.199 | 8.9 | 101 | 0.00 | 8.77 |
| 35 | M | ethyl acetate | 0.048 | 0.043 | 10.4 | 99 | 0.00 | 9.07 |
| 36 | M | 2,2-dichloropropane | 0.687 | 0.619 | 9.9 | 101 | 0.00 | 9.08 |
| 37 | M | cis-1,2-dichloroethene | 0.490 | 0.472 | 3.7 | 112 | 0.00 | 9.10 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** V1C7215-CC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164394.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | methyl acrylate | 0.050 | 0.054 | -8.0 | 114 | 0.00 | 9.16 |
| 39 | M | propionitrile | 0.048 | 0.045 | 6.3 | 105 | 0.00 | 9.18 |
| 40 | M | bromochloromethane | 0.213 | 0.223 | -4.7 | 117 | 0.00 | 9.41 |
| 41 | M | tetrahydrofuran | 0.046 | 0.044 | 4.3 | 111 | 0.00 | 9.45 |
| 42 | M | chloroform | 0.546 | 0.485 | 11.2 | 107 | 0.00 | 9.47 |
| 43 | M | t-butyl formate | 0.293 | 0.265 | 9.6 | 92 | 0.00 | 9.48 |
| 44 | S | dibromofluoromethane (s) | 0.422 | 0.424 | -0.5 | 116 | 0.00 | 9.67 |
| 45 | M | methacrylonitrile | 0.140 | 0.136 | 2.9 | 107 | 0.00 | 9.36 |
| 46 | M | 1,1,1-trichloroethane | 0.706 | 0.672 | 4.8 | 105 | 0.00 | 9.70 |
| 47 | | cyclohexane | 0.697 | 0.625 | 10.3 | 102 | 0.00 | 9.76 |
| 48 | | 1,1-dichloropropene | 0.598 | 0.568 | 5.0 | 107 | 0.00 | 9.88 |
| 49 | | iso-butyl alcohol | 0.016 | 0.014 | 12.5 | 101 | 0.00 | 9.90 |
| 50 | | carbon tetrachloride | 0.617 | 0.597 | 3.2 | 107 | 0.00 | 9.90 |
| 51 | | tert amyl alcohol | 0.015 | 0.014 | 6.7 | 108 | 0.00 | 10.02 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 116 | 0.00 | 10.52 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.314 | 0.269 | 14.3 | 102 | 0.00 | 10.09 |
| 54 | M | n-butyl alcohol | 0.007 | 0.007# | 0.0 | 112 | 0.00 | 10.65 |
| 55 | | 2,2,4-trimethylpentane | 1.200 | 1.107 | 7.7 | 103 | 0.00 | 10.11 |
| 56 | M | benzene | 1.252 | 1.159 | 7.4 | 111 | 0.00 | 10.15 |
| 57 | M | tert-amyl methyl ether | 0.195 | 0.188 | 3.6 | 108 | 0.00 | 10.16 |
| 58 | M | heptane | 0.270 | 0.258 | 4.4 | 107 | 0.00 | 10.29 |
| 59 | M | isopropyl acetate | 0.052 | 0.053 | -1.9 | 113 | 0.00 | 10.06 |
| 60 | M | 1,2-dichloroethane | 0.407 | 0.332 | 18.4 | 99 | 0.00 | 10.18 |
| 61 | M | trichloroethene | 0.322 | 0.334 | -3.7 | 116 | 0.00 | 10.86 |
| 62 | | ethyl acrylate | 0.302 | 0.278 | 7.9 | 102 | 0.00 | 10.86 |
| 63 | M | 2-nitropropane | | ----------NA---------- | | | | |
| 64 | M | 2-chloroethyl vinyl ether | 0.149 | 0.146 | 2.0 | 103 | 0.00 | 11.65 |
| 65 | M | methyl methacrylate | 0.063 | 0.063 | 0.0 | 114 | 0.00 | 11.12 |
| 66 | M | 1,2-dichloropropane | 0.298 | 0.279 | 6.4 | 108 | 0.00 | 11.13 |
| 67 | M | dibromomethane | 0.175 | 0.172 | 1.7 | 111 | 0.00 | 11.30 |
| 68 | M | methylcyclohexane | 0.556 | 0.517 | 7.0 | 110 | 0.00 | 11.06 |
| 69 | M | bromodichloromethane | 0.422 | 0.409 | 3.1 | 109 | 0.00 | 11.43 |
| 70 | | epichlorohydrin | 0.024 | 0.023 | 4.2 | 110 | 0.00 | 11.79 |
| 71 | M | cis-1,3-dichloropropene | 0.485 | 0.469 | 3.3 | 110 | 0.00 | 11.87 |
| 72 | M | 4-methyl-2-pentanone | 0.087 | 0.081 | 6.9 | 111 | 0.00 | 11.96 |
| 73 | M | 3-methyl-1-butanol | 0.011 | 0.011 | 0.0 | 110 | 0.00 | 11.98 |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 119 | 0.00 | 13.66 |
| 75 | S | toluene-d8 (s) | 1.347 | 1.305 | 3.1 | 117 | 0.00 | 12.15 |
| 76 | | toluene | 0.915 | 0.858 | 6.2 | 116 | 0.00 | 12.22 |
| 77 | | trans-1,3-dichloropropene | 0.515 | 0.493 | 4.3 | 111 | 0.00 | 12.43 |
| 78 | | ethyl methacrylate | 0.364 | 0.360 | 1.1 | 112 | 0.00 | 12.41 |
| 79 | | 1,1,2-trichloroethane | 0.241 | 0.251 | -4.1 | 117 | 0.00 | 12.65 |
| 80 | M | tetrachloroethene | 0.318 | 0.335 | -5.3 | 122 | 0.00 | 12.80 |
| 81 | M | 1,3-dichloropropane | 0.442 | 0.433 | 2.0 | 114 | 0.00 | 12.83 |
| 82 | | 2-hexanone | 0.099 | 0.101 | -2.0 | 120 | 0.00 | 12.80 |
| 83 | M | butyl acetate | 0.181 | 0.166 | 8.3 | 109 | 0.00 | 12.87 |
| 84 | M | dibromochloromethane | 0.363 | 0.387 | -6.6 | 120 | 0.00 | 13.09 |
| 85 | M | 1,2-dibromoethane | 0.383 | 0.339 | 11.5 | 100 | 0.00 | 13.24 |
| 86 | | n-butyl ether | 1.377 | 1.265 | 8.1 | 110 | 0.00 | 13.57 |
| 87 | M | chlorobenzene | 0.928 | 0.924 | 0.4 | 120 | 0.00 | 13.69 |
| 88 | M | 1,1,1,2-tetrachloroethane | 0.338 | 0.348 | -3.0 | 116 | 0.00 | 13.75 |
| 89 | M | ethylbenzene | 1.682 | 1.558 | 7.4 | 113 | 0.00 | 13.73 |
| 90 | M | m,p-xylene | 0.625 | 0.617 | 1.3 | 121 | 0.00 | 13.84 |
| 91 | M | o-xylene | 0.597 | 0.599 | -0.3 | 120 | 0.00 | 14.26 |
| 92 | M | styrene | 0.989 | 0.991 | -0.2 | 119 | 0.00 | 14.27 |
| 93 | M | bromoform | 0.220 | 0.252 | -14.5 | 127 | 0.00 | 14.55 |
| 94 | | butyl acrylate | 0.580 | 0.535 | 7.8 | 106 | 0.00 | 14.07 |
| 95 | | isopropylbenzene | 1.605 | 1.574 | 1.9 | 119 | 0.00 | 14.59 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** V1C7215-CC7200
**Account:** BBLNYS Arcadis **Lab FileID:** 1C164394.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | cis-1,4-dichloro-2-butene | 0.136 | 0.129 | 5.1 | 110 | 0.00 | 14.68 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 121 | 0.00 | 15.97 |
| 98 | S | 4-bromofluorobenzene (s) | 0.939 | 0.865 | 7.9 | 113 | 0.00 | 14.81 |
| 99 | M | bromobenzene | 0.785 | 0.807 | -2.8 | 125 | 0.00 | 15.00 |
| 100 | M | 1,1,2,2-tetrachloroethane | 0.616 | 0.644 | -4.5 | 123 | 0.00 | 14.92 |
| 101 | M | trans-1,4-dichloro-2-bute | 0.168 | 0.147 | 12.5 | 103 | 0.00 | 14.96 |
| 102 | M | 1,2,3-trichloropropane | 0.159 | 0.160 | -0.6 | 120 | 0.00 | 14.99 |
| 103 | M | n-propylbenzene | 3.611 | 3.494 | 3.2 | 118 | 0.00 | 14.99 |
| 104 | | 4-ethyltoluene | | ----------NA---------- | | | | |
| 105 | M | 2-chlorotoluene | 0.703 | 0.723 | -2.8 | 125 | 0.00 | 15.15 |
| 106 | M | 4-chlorotoluene | 2.222 | 2.051 | 7.7 | 115 | 0.00 | 15.25 |
| 107 | M | 1,3,5-trimethylbenzene | 2.605 | 2.479 | 4.8 | 116 | 0.00 | 15.14 |
| 108 | M | tert-butylbenzene | 0.437 | 0.466 | -6.6 | 125 | 0.00 | 15.49 |
| 109 | M | 1,2,4-trimethylbenzene | 2.609 | 2.456 | 5.9 | 117 | 0.00 | 15.54 |
| 110 | M | sec-butylbenzene | 3.238 | 3.243 | -0.2 | 121 | 0.00 | 15.71 |
| 111 | M | 1,3-dichlorobenzene | 1.487 | 1.530 | -2.9 | 127 | 0.00 | 15.91 |
| 112 | M | p-isopropyltoluene | 2.785 | 2.765 | 0.7 | 120 | 0.00 | 15.83 |
| 113 | M | 1,4-dichlorobenzene | 1.485 | 1.523 | -2.6 | 126 | 0.00 | 15.99 |
| 114 | | benzyl chloride | 1.279 | 1.410 | -10.2 | 131 | 0.00 | 16.12 |
| 115 | M | 1,2-dichlorobenzene | 1.387 | 1.481 | -6.8 | 128 | 0.00 | 16.40 |
| 116 | | 1,4-diethylbenzene | | ----------NA---------- | | | | |
| 117 | M | n-butylbenzene | 1.416 | 1.440 | -1.7 | 123 | 0.00 | 16.25 |
| 118 | M | 1,2-dibromo-3-chloropropa | 0.123 | 0.117 | 4.9 | 113 | 0.00 | 17.19 |
| 119 | | 1,3,5-trichlorobenzene | 1.142 | 1.258 | -10.2 | 134 | 0.00 | 17.34 |
| 120 | | 1,2,4,5-tetramethylbenzen | | ----------NA---------- | | | | |
| 121 | | 2-ethylhexyl acrylate | 0.571 | 0.514 | 10.0 | 107 | 0.00 | 17.88 |
| 122 | M | 1,2,4-trichlorobenzene | 0.930 | 1.034 | -11.2 | 132 | 0.00 | 17.92 |
| 123 | M | hexachlorobutadiene | 0.653 | 0.687 | -5.2 | 124 | 0.00 | 18.01 |
| 124 | M | naphthalene | 1.809 | 1.854 | -2.5 | 123 | 0.00 | 18.16 |
| 125 | M | 1,2,3-trichlorobenzene | 0.879 | 0.930 | -5.8 | 127 | 0.00 | 18.37 |
| 126 | m | hexachloroethane | 0.498 | 0.560 | -12.4 | 130 | 0.00 | 16.65 |
| 127 | | 2-methylnaphthalene | 1.152 | 1.245 | -8.1 | 124 | 0.00 | 19.12 |
| 128 | | bis(chloromethyl)ether | | ----------NA---------- | | | | |
| 129 | | ethylenimine | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1C164011.D M1CS7200.M Thu May 09 13:44:44 2019

6.9.4

6

# Initial Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** V3C6743-ICC6743
**Lab FileID:** 3C149632.D

Response Factor Report MS3C

```
Method       : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title        : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
Last Update  : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

Calibration Files
4   =3C149629.D  8   =3C149630.D  0.5 =3C149623.D  50  =3C149632.D
100 =3C149633.D  1   =3C149624.D  200 =3C149634.D  20  =3C149631.D
2   =3C149628.D      =
```

| Compound | 4 | 8 | 0.5 | 50 | 100 | 1 | 200 | 20 | 2 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) I Tert Butyl Alcohol-d9 ----------ISTD---------- | | | | | | | | | | | |
| 2) ethanol | | | | | | | | | | 0.000 | -1.00 |
| 3) tertiary butyl alcohol | 1.056 | 1.147 | | 1.164 | 1.113 | | 1.067 | 1.127 | 1.041 | 1.102 | 4.31 |
| 4) 1,4-dioxane | 0.131 | 0.123 | | 0.142 | 0.140 | | 0.135 | 0.135 | | 0.134 | 4.96 |
| 5) I pentafluorobenzene ----------ISTD---------- | | | | | | | | | | | |
| 6) chlorodifluoromethane | 0.320 | 0.313 | | 0.327 | 0.291 | | 0.266 | 0.320 | 0.283 | 0.303 | 7.64 |
| 7) dichlorodifluoromethane | 0.436 | 0.469 | | 0.476 | 0.428 | 0.382 | 0.387 | 0.468 | 0.409 | 0.432 | 8.59 |
| 8) chloromethane | 0.372 | 0.389 | | 0.385 | 0.342 | 0.322 | 0.317 | 0.382 | 0.344 | 0.357 | 8.13 |
| 9) 1,3-butadiene | 0.248 | 0.242 | | 0.251 | 0.225 | 0.242 | 0.204 | 0.253 | 0.192 | 0.232 | 9.91 |
| 10) vinyl chloride | 0.389 | 0.398 | | 0.400 | 0.359 | 0.267 | 0.332 | 0.391 | 0.333 | 0.359 | 12.92 |
| 11) bromomethane | 0.237 | 0.235 | | 0.234 | 0.184 | | 0.168 | 0.237 | 0.207 | 0.215 | 13.40 |
| 12) chloroethane | 0.228 | 0.234 | | 0.238 | 0.215 | 0.156 | 0.209 | 0.235 | 0.190 | 0.213 | 13.14 |
| 13) vinyl Bromide | 0.316 | 0.335 | | 0.346 | 0.315 | 0.233 | 0.301 | 0.340 | 0.277 | 0.308 | 12.28 |
| 14) trichlorofluoromethane | 0.544 | 0.577 | 0.497 | 0.589 | 0.538 | 0.476 | 0.515 | 0.574 | 0.467 | 0.531 | 8.45 |
| 15) ethyl ether | 0.157 | 0.156 | | 0.164 | 0.154 | | 0.145 | 0.164 | 0.118 | 0.151 | 10.69 |
| 16) 2-chloropropane | 0.119 | 0.127 | | 0.136 | 0.126 | 0.117 | 0.113 | 0.129 | 0.098 | 0.121 | 9.63 |
| 17) acrolein | 0.023 | 0.030 | | 0.036 | 0.033 | | 0.032 | 0.033 | | 0.031 | 14.56 |
| 18) freon 113 | 0.268 | 0.266 | | 0.288 | 0.269 | 0.225 | 0.255 | 0.281 | 0.180 | 0.254 | 13.92 |
| 19) 1,1-dichloroethene | 0.283 | 0.295 | | 0.312 | 0.291 | 0.275 | 0.271 | 0.305 | 0.231 | 0.283 | 8.87 |
| 20) acetone | 0.016 | 0.016 | | 0.017 | 0.016 | 0.015 | 0.015 | 0.016 | 0.013 | 0.016 | 7.61 |
| 21) acetonitrile | 0.027 | 0.024 | | 0.025 | 0.022 | | 0.021 | 0.024 | | 0.024 | 7.93 |
| 22) iodomethane *This compound does not meet initial calibration criteria* | 0.108 | 0.126 | | 0.326 | 0.329 | | 0.311 | 0.191 | | 0.232 | 44.37 |

```
23)  carbon disulfide
           0.826 0.803       0.819 0.761       0.712 0.805 0.822   0.793    5.28
24)  methylene chloride
           0.338 0.319       0.316 0.290       0.276 0.316 0.310   0.309    6.67
25)  methyl acetate
           0.155 0.160       0.160 0.148       0.141 0.155 0.125   0.149    8.50
26)  methyl tert butyl ether
           0.794 0.779       0.816 0.748 0.772 0.716 0.782 0.625   0.754    7.96
27)  trans-1,2-dichloroethene
           0.332 0.326       0.348 0.321 0.337 0.304 0.343 0.265   0.322    8.32
28)  hexane
           0.525 0.526       0.545 0.498 0.546 0.468 0.552 0.420   0.510    9.01
29)  di-isopropyl ether
           0.956 0.961 0.807 1.000 0.911 0.992 0.864 0.978 0.771   0.916    9.16
30)  ethyl tert-butyl ether
           0.935 0.936 0.768 0.996 0.912 0.981 0.875 0.968 0.773   0.905    9.34
31)  2-butanone
           0.023 0.026       0.028 0.025       0.025 0.027 0.019   0.025   11.52
32)  1,1-dichloroethane
           0.539 0.552 0.406 0.584 0.540 0.550 0.510 0.576 0.454   0.523   11.16
33)  chloroprene
           0.484 0.495 0.402 0.519 0.481 0.489 0.460 0.506 0.351   0.465   11.70
34)  acrylonitrile
           0.062 0.061       0.069 0.063       0.061 0.065         0.064    5.03
35)  vinyl acetate
           0.050 0.052       0.063 0.061       0.059 0.058         0.057    9.43
36)  ethyl acetate
           0.011 0.028       0.036 0.033       0.032 0.032         0.029   31.43
            ----- Linear regression -----  Coefficient =  0.9963
              Response Ratio = -0.00125 + 0.03349 *A

37)  2,2-dichloropropane
           0.492 0.480       0.534 0.498 0.495 0.475 0.512 0.365   0.482   10.49
38)  cis-1,2-dichloroethene
           0.355 0.360       0.381 0.355 0.340 0.335 0.375 0.283   0.348    8.75
39)  propionitrile
           0.029 0.030       0.030 0.027 0.031 0.027 0.029 0.024   0.028    7.90
40)  bromochloromethane
           0.202 0.204       0.210 0.192 0.198 0.182 0.210 0.163   0.195    8.16
41)  tetrahydrofuran
                 0.023       0.026 0.025       0.024 0.023         0.024    4.50
42)  chloroform
           0.587 0.570       0.597 0.555 0.637 0.529 0.584 0.469   0.566    8.87
43)  tert-Butyl Formate
           0.173 0.164       0.206 0.205       0.210 0.181 0.116   0.179   18.50
44)  isobutyl alcohol
           0.043 0.044       0.047 0.042       0.041 0.046         0.044    5.28
45)  dibromofluoromethane (s)
           0.357 0.363 0.359 0.367 0.364 0.361 0.362 0.360 0.358   0.361    0.93
46)  methacrylonitrile
           0.080 0.086       0.094 0.089       0.086 0.089 0.063   0.084   12.09
47)  1,1,1-trichloroethane
           0.519 0.525       0.566 0.531 0.502 0.508 0.550 0.387   0.511   10.62
48)  cyclohexane
           0.543 0.573 0.508 0.571 0.524 0.442 0.494 0.565 0.483   0.523    8.56
49)  1,1-dichloropropene
           0.181 0.173       0.186 0.170       0.160 0.181 0.123   0.168   12.92
50)  tert-amyl alcohol
           0.022 0.022       0.022 0.023       0.022 0.022         0.022    1.91
51)  carbon tetrachloride
```

```
            0.403 0.415       0.459 0.443 0.363 0.426 0.433 0.288   0.404   13.60

52) I   1,4-difluorobenzene   ----------------ISTD--------------------
53)  1,2-dichloroethane-d4 (s)
            0.273 0.271 0.278 0.269 0.265 0.279 0.267 0.269 0.274   0.272    1.75
54)  2,2,4-trimethylpentane
            0.936 0.949       0.995 0.939 0.974 0.888 1.002 0.735   0.927    9.26
55)  tert-amyl methyl ether
            0.209 0.209       0.223 0.214 0.216 0.206 0.212 0.168   0.207    8.03
56)  n-butyl alcohol
            0.004 0.004       0.005 0.005       0.005 0.004         0.005   13.85
57)  benzene
            0.959 0.955 0.838 0.976 0.911 1.007 0.859 0.975 0.796   0.920    7.93
58)  heptane
            0.195 0.204       0.212 0.204       0.194 0.216 0.152   0.197   10.90
59)  isopropyl acetate
            0.209 0.209       0.223 0.214       0.206 0.212         0.212    2.77
60)  1,2-dichloroethane
            0.305 0.287       0.293 0.279 0.347 0.268 0.293 0.264   0.292    8.95
61)  trichloroethene
            0.256 0.261       0.269 0.253 0.254 0.241 0.269 0.197   0.250    9.24
62)  ethyl acrylate
            0.200 0.198       0.216 0.205       0.201 0.204         0.204    3.01
63)  2-nitropropane
            0.058 0.057       0.066 0.065       0.065 0.062         0.062    6.04
64)  2-chloroethyl vinyl ether
            0.123 0.123 0.110 0.128 0.120 0.138 0.115 0.124 0.106   0.121    7.99
65)  methyl methacrylate
            0.042 0.049       0.058 0.055       0.053 0.054         0.052   10.93
66)  1,2-dichloropropane
            0.215 0.226       0.232 0.218 0.249 0.207 0.227 0.174   0.219   10.13
67)  methylcyclohexane
            0.507 0.477       0.477 0.449       0.423 0.488 0.445   0.466    6.23
68)  dibromomethane
            0.122 0.120       0.128 0.123 0.115 0.120 0.125 0.104   0.120    6.13
69)  bromodichloromethane
            0.264 0.263       0.307 0.301 0.297 0.294 0.280 0.216   0.278   10.69
70)  epichlorohydrin
            0.015 0.014       0.016 0.015       0.015 0.015         0.015    3.25
71)  cis-1,3-dichloropropene
            0.331 0.333       0.379 0.369 0.374 0.356 0.358 0.281   0.348    9.22
72)  4-methyl-2-pentanone
            0.027 0.028       0.033 0.031 0.031 0.030 0.031 0.023   0.029   10.37
73)  3-methyl-1-butanol
                                                                      0.000   -1.00

74) I   chlorobenzene-d5      ----------------ISTD--------------------
75)  toluene-d8 (s)
            1.238 1.242 1.234 1.240 1.240 1.233 1.234 1.245 1.232   1.238    0.35
76)  toluene
            0.742 0.733 0.658 0.750 0.705 0.804 0.666 0.742 0.623   0.714    7.87
77)  trans-1,3-dichloropropene
            0.308 0.317       0.373 0.355 0.326 0.347 0.338 0.260   0.328   10.57
78)  ethyl methacrylate
            0.254 0.268       0.298 0.278 0.309 0.269 0.273 0.233   0.273    8.70
79)  1,1,2-trichloroethane
            0.177 0.176       0.183 0.172 0.204 0.164 0.184 0.144   0.176    9.72
80)  2-hexanone
            0.066 0.066       0.071 0.067 0.078 0.066 0.068 0.056   0.067    9.40
81)  tetrachloroethene
```

```
            0.346 0.359 0.268 0.373 0.351 0.366 0.334 0.368 0.283   0.339   11.23
 82)  1,3-dichloropropane
            0.360 0.372 0.304 0.377 0.347 0.406 0.331 0.365 0.327   0.354    8.68
 83)  butyl acetate
            0.128 0.129       0.137 0.127       0.127 0.129 0.108   0.126    6.88
 84)  dibromochloromethane
            0.178 0.189       0.240 0.241 0.202 0.240 0.211 0.154   0.207   15.59
 85)  1,2-dibromoethane
            0.259 0.260       0.279 0.257 0.269 0.248 0.263 0.202   0.255    9.05
 86)  n-butyl ether
            1.189 1.224 1.061 1.225 1.145 1.291 1.107 1.206 1.005   1.161    7.78
 87)  chlorobenzene
            0.817 0.807 0.713 0.815 0.766 0.920 0.733 0.796 0.704   0.786    8.48
 88)  1,1,1,2-tetrachloroethane
            0.239 0.242       0.293 0.283 0.268 0.282 0.265 0.201   0.259   11.64
 89)  ethylbenzene
            1.421 1.421 1.316 1.438 1.341 1.585 1.273 1.429 1.206   1.381    8.03
 90)  m,p-xylene
            0.563 0.570 0.514 0.567 0.526 0.620 0.500 0.557 0.480   0.544    7.93
 91)  o-xylene
            1.152 1.120 1.039 1.137 1.059 1.202 1.026 1.120 0.975   1.092    6.56
 92)  styrene
            0.884 0.908 0.775 0.940 0.873 0.979 0.853 0.907 0.753   0.875    8.35
 93)  bromoform
            0.097 0.104       0.144 0.152       0.160 0.118         0.129   20.48
             ----- Linear regression -----  Coefficient =  0.9974
               Response Ratio = -0.00744 + 0.15778 *A

 94)  butyl acrylate
            0.344 0.362       0.416 0.396 0.422 0.409 0.382 0.303   0.379   10.79
 95)  isopropylbenzene
            1.457 1.451 1.234 1.482 1.375 1.520 1.324 1.471 1.214   1.392    8.03
 96)  cis-1,4-dichloro-2-butene
            0.065 0.070       0.083 0.082       0.086 0.075         0.077   10.64

 97) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 98)  4-bromofluorobenzene (s)
            0.817 0.838 0.846 0.815 0.808 0.824 0.799 0.821 0.830   0.822    1.76
 99)  bromobenzene
            0.672 0.692 0.626 0.686 0.636 0.776 0.604 0.680 0.594   0.663    8.40
100)  1,1,2,2-tetrachloroethane
            0.452 0.441 0.431 0.469 0.442 0.522 0.437 0.458 0.404   0.451    7.20
101)  trans-1,4-dichloro-2-butene
            0.033 0.039       0.064 0.063       0.065 0.049         0.052   26.81
             ----- Linear regression -----  Coefficient =  0.9983
               Response Ratio = -0.00341 + 0.06526 *A

102)  1,2,3-trichloropropane
            0.146 0.149       0.154 0.144       0.140 0.150 0.122   0.143    7.35
103)  n-propylbenzene
            3.142 3.207       3.152 2.863 3.518 2.622 3.207 2.613   3.041   10.38
104)  2-chlorotoluene
            0.648 0.666 0.534 0.657 0.612 0.708 0.578 0.653 0.539   0.622    9.67
105)  4-chlorotoluene
            0.653 0.657 0.541 0.660 0.615 0.687 0.585 0.654 0.533   0.620    9.00
106)  1,3,5-trimethylbenzene
            2.272 2.322 2.008 2.346 2.182 2.568 2.028 2.326 1.858   2.212    9.78
107)  tert-butylbenzene
            2.074 2.090 1.725 2.087 1.946 2.146 1.819 2.129 1.702   1.969    8.99
108)  1,2,4-trimethylbenzene
```

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** V3C6743-ICC6743
**Account:** BBLNYS Arcadis **Lab FileID:** 3C149632.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
            2.332 2.357 2.033 2.353 2.192 2.567 2.051 2.339 2.041   2.252    8.18
109)  sec-butylbenzene
            3.002 3.055 2.332 3.055 2.837 3.218 2.617 3.118 2.519   2.861   10.67
110)  1,3-dichlorobenzene
            1.351 1.360 1.248 1.352 1.261 1.463 1.180 1.341 1.163   1.302    7.41
111)  p-isopropyltoluene
            2.633 2.677 2.236 2.705 2.531 2.685 2.338 2.724 2.130   2.518    8.95
112)  1,4-dichlorobenzene
            1.321 1.348 1.389 1.347 1.256 1.604 1.197 1.337 1.183   1.331    9.36
113)  1,2-dichlorobenzene
            1.237 1.234 1.210 1.256 1.179 1.427 1.124 1.239 1.079   1.220    7.97
114)  n-butylbenzene
            1.299 1.329 1.033 1.352 1.281 1.313 1.213 1.356 1.022   1.244   10.45
115)  1,2-dibromo-3-chloropropane
            0.070 0.085       0.114 0.115       0.115 0.096 0.052   0.092   26.79
             ----- Linear regression -----  Coefficient =  0.9990
               Response Ratio = -0.00335 + 0.11529 *A

116)  1,3,5-Trichlorobenzene
            1.248 1.221 1.024 1.254 1.178 1.335 1.100 1.244 1.049   1.184    8.84
117)  1,2,4-trichlorobenzene
            1.044 1.055 0.945 1.071 1.015 1.189 0.933 1.050 0.873   1.019    9.10
118)  hexachlorobutadiene
            0.644 0.652       0.700 0.676 0.603 0.623 0.692 0.490   0.635   10.62
119)  naphthalene
            1.797 1.779 1.723 1.894 1.795 2.068 1.652 1.859 1.500   1.785    8.87
120)  1,2,3-trichlorobenzene
            0.988 0.977 0.879 1.003 0.938 1.039 0.862 0.993 0.830   0.945    7.66
121)  hexachloroethane
            0.237 0.265       0.373 0.394       0.403 0.310         0.330   21.17
             ----- Linear regression -----  Coefficient =  0.9985
               Response Ratio = -0.01860 + 0.40159 *A

122)  Benzyl chloride
            0.614 0.640       0.896 0.905       0.913 0.757         0.788   17.42
123)  2-ethylhexyl acrylate
                  0.317       0.524 0.536       0.530 0.396         0.460   21.54
             ----- Linear regression -----  Coefficient =  0.9989
               Response Ratio = -0.00815 + 0.54600 *A

124)  2-methylnaphthalene
            1.092 1.111       1.162 1.021       0.894 1.136         1.069    9.21
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M3C6743.M         Fri Feb 15 11:14:06 2019   MS3C
```

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** V3C6743-ICV6743
**Lab FileID:** 3C149637.D

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\V3C6743\3C149637.D Vial: 17
Acq On : 13 Feb 2019 11:59 pm Operator: juntaep
Sample : ICV6743-50 Inst : MS3C
Misc : MS32156,V3C6743,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
Last Update : Fri Feb 15 09:30:13 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Tert Butyl Alcohol-d9 | 1.000 | 1.000 | 0.0 | 99 | 0.00 | 2.58 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.102 | 1.177 | -6.8 | 100 | 0.00 | 2.64 |
| 4 | | 1,4-dioxane | 0.134 | 0.144 | -7.5 | 100 | 0.00 | 5.29 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 4.03 |
| 6 | | chlorodifluoromethane | 0.303 | 0.316 | -4.3 | 95 | 0.00 | 1.10 |
| 7 | | dichlorodifluoromethane | 0.432 | 0.505 | -16.9 | 104 | 0.00 | 1.08 |
| 8 | | chloromethane | 0.357 | 0.380 | -6.4 | 97 | 0.00 | 1.22 |
| 9 | | 1,3-butadiene | 0.232 | 0.288 | -24.1 | 113 | 0.00 | 1.32 |
| 10 | | vinyl chloride | 0.359 | 0.402 | -12.0 | 99 | 0.00 | 1.30 |
| 11 | | bromomethane | 0.215 | 0.255 | -18.6 | 107 | 0.00 | 1.54 |
| 12 | | chloroethane | 0.213 | 0.239 | -12.2 | 99 | 0.00 | 1.62 |
| 13 | | vinyl Bromide | 0.308 | 0.275 | 10.7 | 78 | 0.00 | 1.75 |
| 14 | | trichlorofluoromethane | 0.531 | 0.594 | -11.9 | 99 | 0.00 | 1.77 |
| 15 | | ethyl ether | 0.151 | 0.158 | -4.6 | 95 | 0.00 | 1.99 |
| 16 | | 2-chloropropane | 0.121 | 0.131 | -8.3 | 95 | 0.00 | 2.07 |
| 17 | | acrolein | 0.031 | 0.031 | 0.0 | 84 | 0.00 | 2.14 |
| 18 | | freon 113 | 0.254 | 0.300 | -18.1 | 103 | 0.00 | 2.13 |
| 19 | | 1,1-dichloroethene | 0.283 | 0.287 | -1.4 | 91 | 0.00 | 2.16 |
| 20 | | acetone | | ----------NA---------- | | | | |
| 21 | | acetonitrile | | ----------NA---------- | | | | |
| 22 | | iodomethane | 0.232 | 0.286 | -23.3 | 86 | 0.00 | 2.29 |
| 23 | | carbon disulfide | 0.793 | 0.886 | -11.7 | 106 | 0.00 | 2.31 |
| 24 | | methylene chloride | 0.309 | 0.305 | 1.3 | 95 | 0.00 | 2.56 |
| 25 | | methyl acetate | 0.149 | 0.149 | 0.0 | 92 | 0.00 | 2.47 |
| 26 | | methyl tert butyl ether | 0.754 | 0.806 | -6.9 | 97 | 0.00 | 2.71 |
| 27 | | trans-1,2-dichloroethene | 0.322 | 0.337 | -4.7 | 95 | 0.00 | 2.73 |
| 28 | | hexane | 0.510 | 0.525 | -2.9 | 95 | 0.00 | 2.88 |
| 29 | | di-isopropyl ether | 0.916 | 0.931 | -1.6 | 92 | 0.00 | 3.08 |
| 30 | | ethyl tert-butyl ether | 0.905 | 0.924 | -2.1 | 91 | 0.00 | 3.37 |
| 31 | | 2-butanone | 0.025 | 0.027 | -8.0 | 96 | 0.00 | 3.60 |
| 32 | | 1,1-dichloroethane | 0.523 | 0.572 | -9.4 | 96 | 0.00 | 3.10 |
| 33 | | chloroprene | 0.465 | 0.535 | -15.1 | 101 | 0.00 | 3.13 |
| 34 | | acrylonitrile | 0.064 | 0.068 | -6.3 | 97 | 0.00 | 2.80 |
| 35 | | vinyl acetate | 0.057 | 0.061 | -7.0 | 95 | 0.00 | 3.12 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 36 | | ethyl acetate | 50.000 | 50.550 | -1.1 | 89 | 0.00 | 3.61 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 37 | | 2,2-dichloropropane | 0.482 | 0.524 | -8.7 | 97 | 0.00 | 3.54 |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** V3C6743-ICV6743
**Account:** BBLNYS Arcadis **Lab FileID:** 3C149637.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | cis-1,2-dichloroethene | 0.348 | 0.377 | -8.3 | 98 | 0.00 | 3.58 |
| 39 | | propionitrile | 0.028 | 0.029 | -3.6 | 96 | 0.00 | 3.72 |
| 40 | | bromochloromethane | 0.195 | 0.204 | -4.6 | 96 | 0.00 | 3.78 |
| 41 | | tetrahydrofuran | 0.024 | 0.026 | -8.3 | 99 | 0.00 | 3.78 |
| 42 | | chloroform | 0.566 | 0.585 | -3.4 | 97 | 0.00 | 3.85 |
| 43 | | tert-Butyl Formate | 0.179 | 0.144 | 19.6 | 69 | 0.00 | 3.86 |
| 44 | | isobutyl alcohol | 0.044 | 0.045 | -2.3 | 95 | 0.00 | 4.26 |
| 45 | S | dibromofluoromethane (s) | 0.361 | 0.367 | -1.7 | 98 | 0.00 | 3.99 |
| 46 | | methacrylonitrile | 0.084 | 0.091 | -8.3 | 96 | 0.00 | 3.81 |
| 47 | | 1,1,1-trichloroethane | 0.511 | 0.550 | -7.6 | 96 | 0.00 | 3.96 |
| 48 | | cyclohexane | 0.523 | 0.585 | -11.9 | 101 | 0.00 | 3.94 |
| 49 | | 1,1-dichloropropene | 0.168 | 0.184 | -9.5 | 97 | 0.00 | 4.11 |
| 50 | | tert-amyl alcohol | 0.022 | 0.022 | 0.0 | 96 | 0.00 | 4.33 |
| 51 | | carbon tetrachloride | 0.404 | 0.452 | -11.9 | 97 | 0.00 | 4.07 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 4.69 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.272 | 0.264 | 2.9 | 96 | 0.00 | 4.31 |
| 54 | | 2,2,4-trimethylpentane | 0.927 | 0.958 | -3.3 | 94 | 0.00 | 4.26 |
| 55 | | tert-amyl methyl ether | 0.207 | 0.204 | 1.4 | 90 | 0.00 | 4.36 |
| 56 | | n-butyl alcohol | 0.005 | 0.005 | 0.0 | 95 | 0.00 | 4.90 |
| 57 | | benzene | 0.920 | 0.959 | -4.2 | 96 | 0.00 | 4.28 |
| 58 | | heptane | 0.197 | 0.231 | -17.3 | 107 | 0.00 | 4.45 |
| 59 | | isopropyl acetate | 0.212 | 0.204 | 3.8 | 90 | 0.00 | 4.36 |
| 60 | | 1,2-dichloroethane | 0.292 | 0.288 | 1.4 | 96 | 0.00 | 4.38 |
| 61 | | trichloroethene | 0.250 | 0.267 | -6.8 | 98 | 0.00 | 4.90 |
| 62 | | ethyl acrylate | 0.204 | 0.206 | -1.0 | 94 | 0.00 | 5.04 |
| 63 | | 2-nitropropane | 0.062 | 0.067 | -8.1 | 99 | 0.00 | 5.75 |
| 64 | | 2-chloroethyl vinyl ether | 0.121 | 0.122 | -0.8 | 94 | 0.00 | 5.76 |
| 65 | | methyl methacrylate | 0.052 | 0.056 | -7.7 | 95 | 0.00 | 5.27 |
| 66 | | 1,2-dichloropropane | 0.219 | 0.224 | -2.3 | 95 | 0.00 | 5.17 |
| 67 | | methylcyclohexane | 0.466 | 0.465 | 0.2 | 96 | 0.00 | 5.01 |
| 68 | | dibromomethane | 0.120 | 0.127 | -5.8 | 98 | 0.00 | 5.30 |
| 69 | | bromodichloromethane | 0.278 | 0.295 | -6.1 | 95 | 0.00 | 5.45 |
| 70 | | epichlorohydrin | 0.015 | 0.016 | -6.7 | 97 | 0.00 | 5.85 |
| 71 | | cis-1,3-dichloropropene | 0.348 | 0.376 | -8.0 | 97 | 0.00 | 5.89 |
| 72 | | 4-methyl-2-pentanone | 0.029 | 0.031 | -6.9 | 94 | 0.00 | 6.04 |
| 73 | | 3-methyl-1-butanol | | ----------NA---------- | | | | |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 7.40 |
| 75 | S | toluene-d8 (s) | 1.238 | 1.242 | -0.3 | 98 | 0.00 | 6.08 |
| 76 | | toluene | 0.714 | 0.748 | -4.8 | 98 | 0.00 | 6.15 |
| 77 | | trans-1,3-dichloropropene | 0.328 | 0.345 | -5.2 | 91 | 0.00 | 6.44 |
| 78 | | ethyl methacrylate | 0.273 | 0.274 | -0.4 | 90 | 0.00 | 6.47 |
| 79 | | 1,1,2-trichloroethane | 0.176 | 0.181 | -2.8 | 97 | 0.00 | 6.60 |
| 80 | | 2-hexanone | 0.067 | 0.068 | -1.5 | 94 | 0.00 | 6.80 |
| 81 | | tetrachloroethene | | ----------NA---------- | | | | |
| 82 | | 1,3-dichloropropane | 0.354 | 0.374 | -5.6 | 97 | 0.00 | 6.75 |
| 83 | | butyl acetate | 0.126 | 0.131 | -4.0 | 94 | 0.00 | 6.89 |
| 84 | | dibromochloromethane | 0.207 | 0.244 | -17.9 | 100 | 0.00 | 6.92 |
| 85 | | 1,2-dibromoethane | 0.255 | 0.257 | -0.8 | 90 | 0.00 | 7.02 |
| 86 | | n-butyl ether | 1.161 | 1.174 | -1.1 | 94 | 0.00 | 7.47 |
| 87 | | chlorobenzene | 0.786 | 0.805 | -2.4 | 97 | 0.00 | 7.42 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.259 | 0.291 | -12.4 | 98 | 0.00 | 7.51 |
| 89 | | ethylbenzene | 1.381 | 1.441 | -4.3 | 98 | 0.00 | 7.49 |
| 90 | | m,p-xylene | 0.544 | 0.576 | -5.9 | 100 | 0.00 | 7.60 |
| 91 | | o-xylene | 1.092 | 1.141 | -4.5 | 98 | 0.00 | 7.93 |
| 92 | | styrene | 0.875 | 0.923 | -5.5 | 96 | 0.00 | 7.96 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 93 | | bromoform | 50.000 | 49.962 | 0.1 | 102 | 0.00 | 8.13 |

# Initial Calibration Verification

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V3C6743-ICV6743
**Lab FileID:** 3C149637.D

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 94 | | butyl acrylate | 0.379 | 0.407 | -7.4 | 96 | 0.00 | 7.92 |
| 95 | | isopropylbenzene | 1.392 | 1.494 | -7.3 | 99 | 0.00 | 8.23 |
| 96 | | cis-1,4-dichloro-2-butene | 0.077 | 0.076 | 1.3 | 90 | 0.00 | 8.36 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 9.33 |
| 98 | S | 4-bromofluorobenzene (s) | 0.822 | 0.818 | 0.5 | 98 | 0.00 | 8.40 |
| 99 | | bromobenzene | 0.663 | 0.673 | -1.5 | 96 | 0.00 | 8.51 |
| 100 | | 1,1,2,2-tetrachloroethane | 0.451 | 0.446 | 1.1 | 93 | 0.00 | 8.55 |
| | | | True | Calc. | % Drift | | | |
| 101 | | trans-1,4-dichloro-2-bute | 50.000 | 55.414 | -10.8 | 104 | 0.00 | 8.60 |
| | | | AvgRF | CCRF | % Dev | | | |
| 102 | | 1,2,3-trichloropropane | 0.143 | 0.148 | -3.5 | 94 | 0.00 | 8.59 |
| 103 | | n-propylbenzene | 3.041 | 3.179 | -4.5 | 98 | 0.00 | 8.57 |
| 104 | | 2-chlorotoluene | 0.622 | 0.655 | -5.3 | 97 | 0.00 | 8.66 |
| 105 | | 4-chlorotoluene | 0.620 | 0.667 | -7.6 | 99 | 0.00 | 8.75 |
| 106 | | 1,3,5-trimethylbenzene | 2.212 | 2.341 | -5.8 | 97 | 0.00 | 8.72 |
| 107 | | tert-butylbenzene | 1.969 | 2.115 | -7.4 | 99 | 0.00 | 8.97 |
| 108 | | 1,2,4-trimethylbenzene | 2.252 | 2.396 | -6.4 | 99 | 0.00 | 9.02 |
| 109 | | sec-butylbenzene | 2.861 | 3.129 | -9.4 | 100 | 0.00 | 9.14 |
| 110 | | 1,3-dichlorobenzene | 1.302 | 1.335 | -2.5 | 96 | 0.00 | 9.26 |
| 111 | | p-isopropyltoluene | 2.518 | 2.758 | -9.5 | 99 | 0.00 | 9.26 |
| 112 | | 1,4-dichlorobenzene | 1.331 | 1.309 | 1.7 | 95 | 0.00 | 9.34 |
| 113 | | 1,2-dichlorobenzene | 1.220 | 1.221 | -0.1 | 95 | 0.00 | 9.64 |
| 114 | | n-butylbenzene | 1.244 | 1.365 | -9.7 | 98 | 0.00 | 9.59 |
| | | | True | Calc. | % Drift | | | |
| 115 | | 1,2-dibromo-3-chloropropa | 50.000 | 49.548 | 0.9 | 95 | 0.00 | 10.27 |
| | | | AvgRF | CCRF | % Dev | | | |
| 116 | | 1,3,5-Trichlorobenzene | 1.184 | 1.197 | -1.1 | 93 | 0.00 | 10.39 |
| 117 | | 1,2,4-trichlorobenzene | 1.019 | 1.013 | 0.6 | 92 | 0.00 | 10.89 |
| 118 | | hexachlorobutadiene | 0.635 | 0.681 | -7.2 | 95 | 0.00 | 10.97 |
| 119 | | naphthalene | 1.785 | 1.801 | -0.9 | 93 | 0.00 | 11.08 |
| 120 | | 1,2,3-trichlorobenzene | 0.945 | 0.928 | 1.8 | 90 | 0.00 | 11.27 |
| | | | True | Calc. | % Drift | | | |
| 121 | | hexachloroethane | 50.000 | 51.693 | -3.4 | 104 | 0.00 | 9.80 |
| | | | AvgRF | CCRF | % Dev | | | |
| 122 | | Benzyl chloride | 0.788 | 0.675 | 14.3 | 73 | 0.00 | 9.46 |
| | | | True | Calc. | % Drift | | | |
| 123 | | 2-ethylhexyl acrylate | 10.000 | 9.962 | 0.4 | 94 | 0.00 | 11.02 |
| | | | AvgRF | CCRF | % Dev | | | |
| 124 | | 2-methylnaphthalene | 1.069 | 1.159 | -8.4 | 97 | 0.00 | 11.94 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3C149632.D M3C6743.M Fri Feb 15 11:14:05 2019 MS3C

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** V3C6743-ICV6743
**Lab FileID:** 3C149638.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\V3C6743\3C149638.D         Vial: 18
Acq On    : 14 Feb 2019  12:23 am                    Operator: juntaep
Sample    : ICV6743-50                               Inst    : MS3C
Misc      : MS32156,V3C6743,5.0,,,,1                 Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title        : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
Last Update  : Thu Feb 14 14:08:59 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Tert Butyl Alcohol-d9 | 1.000 | 1.000 | 0.0 | 90 | 0.00 | 2.57 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | | ----------NA---------- | | | | |
| 4 | | 1,4-dioxane | | ----------NA---------- | | | | |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 4.03 |
| 6 | | chlorodifluoromethane | | ----------NA---------- | | | | |
| 7 | | dichlorodifluoromethane | | ----------NA---------- | | | | |
| 8 | | chloromethane | | ----------NA---------- | | | | |
| 9 | | 1,3-butadiene | | ----------NA---------- | | | | |
| 10 | | vinyl chloride | | ----------NA---------- | | | | |
| 11 | | bromomethane | | ----------NA---------- | | | | |
| 12 | | chloroethane | | ----------NA---------- | | | | |
| 13 | | vinyl Bromide | | ----------NA---------- | | | | |
| 14 | | trichlorofluoromethane | | ----------NA---------- | | | | |
| 15 | | ethyl ether | | ----------NA---------- | | | | |
| 16 | | 2-chloropropane | | ----------NA---------- | | | | |
| 17 | | acrolein | | ----------NA---------- | | | | |
| 18 | | freon 113 | | ----------NA---------- | | | | |
| 19 | | 1,1-dichloroethene | | ----------NA---------- | | | | |
| 20 | | acetone | 0.016 | 0.015 | 6.3 | 85 | 0.00 | 2.25 |
| 21 | | acetonitrile | 0.024 | 0.023 | 4.2 | 89 | 0.00 | 2.51 |
| 22 | | iodomethane | | ----------NA---------- | | | | |
| 23 | | carbon disulfide | | ----------NA---------- | | | | |
| 24 | | methylene chloride | | ----------NA---------- | | | | |
| 25 | | methyl acetate | | ----------NA---------- | | | | |
| 26 | | methyl tert butyl ether | | ----------NA---------- | | | | |
| 27 | | trans-1,2-dichloroethene | | ----------NA---------- | | | | |
| 28 | | hexane | | ----------NA---------- | | | | |
| 29 | | di-isopropyl ether | | ----------NA---------- | | | | |
| 30 | | ethyl tert-butyl ether | | ----------NA---------- | | | | |
| 31 | | 2-butanone | | ----------NA---------- | | | | |
| 32 | | 1,1-dichloroethane | | ----------NA---------- | | | | |
| 33 | | chloroprene | | ----------NA---------- | | | | |
| 34 | | acrylonitrile | | ----------NA---------- | | | | |
| 35 | | vinyl acetate | | ----------NA---------- | | | | |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 36 | | ethyl acetate | | ----------NA---------- | | | | |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 37 | | 2,2-dichloropropane | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** V3C6743-ICV6743
**Account:** BBLNYS Arcadis **Lab FileID:** 3C149638.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | cis-1,2-dichloroethene | | ----------NA---------- | | | | |
| 39 | | propionitrile | | ----------NA---------- | | | | |
| 40 | | bromochloromethane | | ----------NA---------- | | | | |
| 41 | | tetrahydrofuran | | ----------NA---------- | | | | |
| 42 | | chloroform | | ----------NA---------- | | | | |
| 43 | | tert-Butyl Formate | | ----------NA---------- | | | | |
| 44 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 45 | S | dibromofluoromethane (s) | 0.361 | 0.358 | 0.8 | 95 | 0.00 | 3.99 |
| 46 | | methacrylonitrile | | ----------NA---------- | | | | |
| 47 | | 1,1,1-trichloroethane | | ----------NA---------- | | | | |
| 48 | | cyclohexane | | ----------NA---------- | | | | |
| 49 | | 1,1-dichloropropene | | ----------NA---------- | | | | |
| 50 | | tert-amyl alcohol | | ----------NA---------- | | | | |
| 51 | | carbon tetrachloride | | ----------NA---------- | | | | |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 4.69 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.272 | 0.265 | 2.6 | 95 | 0.00 | 4.31 |
| 54 | | 2,2,4-trimethylpentane | | ----------NA---------- | | | | |
| 55 | | tert-amyl methyl ether | | ----------NA---------- | | | | |
| 56 | | n-butyl alcohol | | ----------NA---------- | | | | |
| 57 | | benzene | | ----------NA---------- | | | | |
| 58 | | heptane | | ----------NA---------- | | | | |
| 59 | | isopropyl acetate | | ----------NA---------- | | | | |
| 60 | | 1,2-dichloroethane | | ----------NA---------- | | | | |
| 61 | | trichloroethene | | ----------NA---------- | | | | |
| 62 | | ethyl acrylate | | ----------NA---------- | | | | |
| 63 | | 2-nitropropane | | ----------NA---------- | | | | |
| 64 | | 2-chloroethyl vinyl ether | | ----------NA---------- | | | | |
| 65 | | methyl methacrylate | | ----------NA---------- | | | | |
| 66 | | 1,2-dichloropropane | | ----------NA---------- | | | | |
| 67 | | methylcyclohexane | | ----------NA---------- | | | | |
| 68 | | dibromomethane | | ----------NA---------- | | | | |
| 69 | | bromodichloromethane | | ----------NA---------- | | | | |
| 70 | | epichlorohydrin | | ----------NA---------- | | | | |
| 71 | | cis-1,3-dichloropropene | | ----------NA---------- | | | | |
| 72 | | 4-methyl-2-pentanone | | ----------NA---------- | | | | |
| 73 | | 3-methyl-1-butanol | | ----------NA---------- | | | | |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 97 | 0.00 | 7.40 |
| 75 | S | toluene-d8 (s) | 1.238 | 1.236 | 0.2 | 97 | 0.00 | 6.08 |
| 76 | | toluene | | ----------NA---------- | | | | |
| 77 | | trans-1,3-dichloropropene | | ----------NA---------- | | | | |
| 78 | | ethyl methacrylate | | ----------NA---------- | | | | |
| 79 | | 1,1,2-trichloroethane | | ----------NA---------- | | | | |
| 80 | | 2-hexanone | | ----------NA---------- | | | | |
| 81 | | tetrachloroethene | 0.339 | 0.390 | -15.0 | 101 | 0.00 | 6.62 |
| 82 | | 1,3-dichloropropane | | ----------NA---------- | | | | |
| 83 | | butyl acetate | | ----------NA---------- | | | | |
| 84 | | dibromochloromethane | | ----------NA---------- | | | | |
| 85 | | 1,2-dibromoethane | | ----------NA---------- | | | | |
| 86 | | n-butyl ether | | ----------NA---------- | | | | |
| 87 | | chlorobenzene | | ----------NA---------- | | | | |
| 88 | | 1,1,1,2-tetrachloroethane | | ----------NA---------- | | | | |
| 89 | | ethylbenzene | | ----------NA---------- | | | | |
| 90 | | m,p-xylene | | ----------NA---------- | | | | |
| 91 | | o-xylene | | ----------NA---------- | | | | |
| 92 | | styrene | | ----------NA---------- | | | | |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 93 | | bromoform | | ----------NA---------- | | | | |

6.9.7

6

# Initial Calibration Verification

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V3C6743-ICV6743
**Lab FileID:** 3C149638.D

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 94 | | butyl acrylate | | NA | | | | |
| 95 | | isopropylbenzene | | NA | | | | |
| 96 | | cis-1,4-dichloro-2-butene | | NA | | | | |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 97 | 0.00 | 9.33 |
| 98 | S | 4-bromofluorobenzene (s) | 0.822 | 0.817 | 0.6 | 97 | 0.00 | 8.40 |
| 99 | | bromobenzene | | NA | | | | |
| 100 | | 1,1,2,2-tetrachloroethane | | NA | | | | |

| | | True | Calc. | % Drift |
|---|---|---|---|---|
| 101 | trans-1,4-dichloro-2-bute | | NA | |

| | | AvgRF | CCRF | % Dev |
|---|---|---|---|---|
| 102 | 1,2,3-trichloropropane | | NA | |
| 103 | n-propylbenzene | | NA | |
| 104 | 2-chlorotoluene | | NA | |
| 105 | 4-chlorotoluene | | NA | |
| 106 | 1,3,5-trimethylbenzene | | NA | |
| 107 | tert-butylbenzene | | NA | |
| 108 | 1,2,4-trimethylbenzene | | NA | |
| 109 | sec-butylbenzene | | NA | |
| 110 | 1,3-dichlorobenzene | | NA | |
| 111 | p-isopropyltoluene | | NA | |
| 112 | 1,4-dichlorobenzene | | NA | |
| 113 | 1,2-dichlorobenzene | | NA | |
| 114 | n-butylbenzene | | NA | |

| | | True | Calc. | % Drift |
|---|---|---|---|---|
| 115 | 1,2-dibromo-3-chloropropa | | NA | |

| | | AvgRF | CCRF | % Dev |
|---|---|---|---|---|
| 116 | 1,3,5-Trichlorobenzene | | NA | |
| 117 | 1,2,4-trichlorobenzene | | NA | |
| 118 | hexachlorobutadiene | | NA | |
| 119 | naphthalene | | NA | |
| 120 | 1,2,3-trichlorobenzene | | NA | |

| | | True | Calc. | % Drift |
|---|---|---|---|---|
| 121 | hexachloroethane | | NA | |

| | | AvgRF | CCRF | % Dev |
|---|---|---|---|---|
| 122 | Benzyl chloride | | NA | |

| | | True | Calc. | % Drift |
|---|---|---|---|---|
| 123 | 2-ethylhexyl acrylate | | NA | |

| | | AvgRF | CCRF | % Dev |
|---|---|---|---|---|
| 124 | 2-methylnaphthalene | | NA | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3C149632.D M3C6743.M Thu Feb 14 14:13:20 2019 MS3C

6.9.7

6

# Continuing Calibration Summary



**Job Number:** JC86986 **Sample:** V3C6820-CC6743
**Account:** BBLNYS Arcadis **Lab FileID:** 3C151772.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\lo...-7\v3c6820\3c151772.d Vial: 2
Acq On    :  5 May 2019  12:35 pm                    Operator: mariceld
Sample    : CC6743-50                                Inst    : MS3C
Misc      : MS34270,V3C6820,5.0,,,,1                 Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title        : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
Last Update  : Mon Sep 13 11:48:20 2010
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Tert Butyl Alcohol-d9 | 1.000 | 1.000 | 0.0 | 109 | 0.00 | 2.58 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.102 | 1.032 | 6.4 | 96 | 0.00 | 2.64 |
| 4 | | 1,4-dioxane | 0.134 | 0.130 | 3.0 | 99 | 0.00 | 5.29 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 4.03 |
| 6 | | chlorodifluoromethane | 0.303 | 0.268 | 11.6 | 84 | 0.00 | 1.10 |
| 7 | | dichlorodifluoromethane | 0.432 | 0.364 | 15.7 | 78 | 0.00 | 1.08 |
| 8 | | chloromethane | 0.357 | 0.275 | 23.0# | 73 | 0.00 | 1.22 |
| 9 | | 1,3-butadiene | 0.232 | 0.214 | 7.8 | 87 | 0.00 | 1.32 |
| 10 | | vinyl chloride | 0.359 | 0.305 | 15.0 | 78 | 0.00 | 1.30 |
| 11 | | bromomethane | 0.215 | 0.192 | 10.7 | 84 | 0.00 | 1.54 |
| 12 | | chloroethane | 0.213 | 0.192 | 9.9 | 83 | 0.00 | 1.62 |
| 13 | | vinyl Bromide | 0.308 | 0.267 | 13.3 | 79 | 0.00 | 1.75 |
| 14 | | trichlorofluoromethane | 0.531 | 0.534 | -0.6 | 93 | 0.00 | 1.77 |
| 15 | | ethyl ether | 0.151 | 0.151 | 0.0 | 94 | 0.00 | 1.99 |
| 16 | | 2-chloropropane | 0.121 | 0.108 | 10.7 | 81 | 0.00 | 2.07 |
| 17 | | acrolein | 0.031 | 0.033 | -6.5 | 95 | 0.00 | 2.14 |
| 18 | | freon 113 | 0.254 | 0.262 | -3.1 | 93 | 0.00 | 2.13 |
| 19 | | 1,1-dichloroethene | 0.283 | 0.271 | 4.2 | 89 | 0.00 | 2.16 |
| 20 | | acetone | 0.016 | 0.016 | 0.0 | 93 | 0.00 | 2.25 |
| 21 | | acetonitrile | 0.024 | 0.020 | 16.7 | 80 | 0.00 | 2.51 |
| 22 | | iodomethane | 0.232 | 0.256 | -10.3 | 80 | 0.00 | 2.29 |
| 23 | | carbon disulfide | 0.793 | 0.726 | 8.4 | 91 | 0.00 | 2.31 |
| 24 | | methylene chloride | 0.309 | 0.288 | 6.8 | 93 | 0.00 | 2.56 |
| 25 | | methyl acetate | 0.149 | 0.135 | 9.4 | 86 | 0.00 | 2.47 |
| 26 | | methyl tert butyl ether | 0.754 | 0.769 | -2.0 | 96 | 0.00 | 2.71 |
| 27 | | trans-1,2-dichloroethene | 0.322 | 0.299 | 7.1 | 88 | 0.00 | 2.73 |
| 28 | | hexane | 0.510 | 0.404 | 20.8# | 76 | 0.00 | 2.88 |
| 29 | | di-isopropyl ether | 0.916 | 0.748 | 18.3 | 77 | 0.00 | 3.08 |
| 30 | | ethyl tert-butyl ether | 0.905 | 0.867 | 4.2 | 89 | 0.00 | 3.36 |
| 31 | | 2-butanone | 0.025 | 0.026 | -4.0 | 97 | 0.00 | 3.60 |
| 32 | | 1,1-dichloroethane | 0.523 | 0.480 | 8.2 | 84 | 0.00 | 3.09 |
| 33 | | chloroprene | 0.465 | 0.451 | 3.0 | 89 | 0.00 | 3.13 |
| 34 | | acrylonitrile | 0.064 | 0.063 | 1.6 | 93 | 0.00 | 2.80 |
| 35 | | vinyl acetate | 0.057 | 0.060 | -5.3 | 97 | 0.00 | 3.12 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 36 | | ethyl acetate | 50.000 | 46.801 | 6.4 | 86 | 0.00 | 3.62 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 37 | | 2,2-dichloropropane | 0.482 | 0.465 | 3.5 | 89 | 0.00 | 3.54 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** V3C6820-CC6743
**Account:** BBLNYS Arcadis **Lab FileID:** 3C151772.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | cis-1,2-dichloroethene | 0.348 | 0.332 | 4.6 | 89 | 0.00 | 3.57 |
| 39 | | propionitrile | 0.028 | 0.027 | 3.6 | 92 | 0.00 | 3.71 |
| 40 | | bromochloromethane | 0.195 | 0.195 | 0.0 | 95 | 0.00 | 3.78 |
| 41 | | tetrahydrofuran | 0.024 | 0.027 | -12.5 | 108 | 0.00 | 3.78 |
| 42 | | chloroform | 0.566 | 0.530 | 6.4 | 91 | 0.00 | 3.85 |
| 43 | | tert-Butyl Formate | 0.179 | 0.178 | 0.6 | 89 | 0.00 | 3.86 |
| 44 | | isobutyl alcohol | 0.044 | 0.035 | 20.5# | 78 | 0.00 | 4.26 |
| 45 | S | dibromofluoromethane (s) | 0.361 | 0.362 | -0.3 | 101 | 0.00 | 3.99 |
| 46 | | methacrylonitrile | 0.084 | 0.089 | -6.0 | 97 | 0.00 | 3.81 |
| 47 | | 1,1,1-trichloroethane | 0.511 | 0.514 | -0.6 | 93 | 0.00 | 3.95 |
| 48 | | cyclohexane | 0.523 | 0.475 | 9.2 | 85 | 0.00 | 3.94 |
| 49 | | 1,1-dichloropropene | 0.168 | 0.162 | 3.6 | 89 | 0.00 | 4.11 |
| 50 | | tert-amyl alcohol | 0.022 | 0.019 | 13.6 | 87 | 0.00 | 4.33 |
| 51 | | carbon tetrachloride | 0.404 | 0.446 | -10.4 | 100 | 0.00 | 4.07 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 97 | 0.00 | 4.69 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.272 | 0.295 | -8.5 | 106 | 0.00 | 4.31 |
| 54 | | 2,2,4-trimethylpentane | 0.927 | 0.788 | 15.0 | 77 | 0.00 | 4.26 |
| 55 | | tert-amyl methyl ether | 0.207 | 0.217 | -4.8 | 94 | 0.00 | 4.36 |
| 56 | | n-butyl alcohol | 0.005 | 0.005 | 0.0 | 97 | 0.00 | 4.90 |
| 57 | | benzene | 0.920 | 0.879 | 4.5 | 87 | 0.00 | 4.28 |
| 58 | | heptane | 0.197 | 0.151 | 23.4# | 69 | 0.00 | 4.45 |
| 59 | | isopropyl acetate | 0.212 | 0.217 | -2.4 | 94 | 0.00 | 4.36 |
| 60 | | 1,2-dichloroethane | 0.292 | 0.292 | 0.0 | 96 | 0.00 | 4.38 |
| 61 | | trichloroethene | 0.250 | 0.248 | 0.8 | 89 | 0.00 | 4.90 |
| 62 | | ethyl acrylate | 0.204 | 0.216 | -5.9 | 97 | 0.00 | 5.04 |
| 63 | | 2-nitropropane | 0.062 | 0.067 | -8.1 | 97 | -0.01 | 5.75 |
| 64 | | 2-chloroethyl vinyl ether | 0.121 | 0.121 | 0.0 | 91 | 0.00 | 5.76 |
| 65 | | methyl methacrylate | 0.052 | 0.059 | -13.5 | 99 | 0.00 | 5.27 |
| 66 | | 1,2-dichloropropane | 0.219 | 0.196 | 10.5 | 82 | 0.00 | 5.17 |
| 67 | | methylcyclohexane | 0.466 | 0.415 | 10.9 | 84 | 0.00 | 5.01 |
| 68 | | dibromomethane | 0.120 | 0.123 | -2.5 | 93 | 0.00 | 5.29 |
| 69 | | bromodichloromethane | 0.278 | 0.305 | -9.7 | 96 | 0.00 | 5.45 |
| 70 | | epichlorohydrin | 0.015 | 0.016 | -6.7 | 99 | 0.00 | 5.84 |
| 71 | | cis-1,3-dichloropropene | 0.348 | 0.366 | -5.2 | 94 | 0.00 | 5.89 |
| 72 | | 4-methyl-2-pentanone | 0.029 | 0.035 | -20.7# | 104 | 0.00 | 6.03 |
| 73 | | 3-methyl-1-butanol | | ----------NA---------- | | | | |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 7.40 |
| 75 | S | toluene-d8 (s) | 1.238 | 1.263 | -2.0 | 102 | 0.00 | 6.08 |
| 76 | | toluene | 0.714 | 0.667 | 6.6 | 90 | 0.00 | 6.15 |
| 77 | | trans-1,3-dichloropropene | 0.328 | 0.357 | -8.8 | 96 | 0.00 | 6.43 |
| 78 | | ethyl methacrylate | 0.273 | 0.278 | -1.8 | 94 | 0.00 | 6.47 |
| 79 | | 1,1,2-trichloroethane | 0.176 | 0.167 | 5.1 | 91 | 0.00 | 6.60 |
| 80 | | 2-hexanone | 0.067 | 0.067 | 0.0 | 95 | 0.00 | 6.80 |
| 81 | | tetrachloroethene | 0.339 | 0.350 | -3.2 | 94 | 0.00 | 6.62 |
| 82 | | 1,3-dichloropropane | 0.354 | 0.342 | 3.4 | 91 | 0.00 | 6.75 |
| 83 | | butyl acetate | 0.126 | 0.126 | 0.0 | 93 | 0.00 | 6.89 |
| 84 | | dibromochloromethane | 0.207 | 0.257 | -24.2# | 108 | 0.00 | 6.92 |
| 85 | | 1,2-dibromoethane | 0.255 | 0.236 | 7.5 | 85 | 0.00 | 7.01 |
| 86 | | n-butyl ether | 1.161 | 0.941 | 18.9 | 77 | 0.00 | 7.47 |
| 87 | | chlorobenzene | 0.786 | 0.759 | 3.4 | 94 | 0.00 | 7.42 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.259 | 0.285 | -10.0 | 98 | 0.00 | 7.50 |
| 89 | | ethylbenzene | 1.381 | 1.305 | 5.5 | 91 | 0.00 | 7.49 |
| 90 | | m,p-xylene | 0.544 | 0.506 | 7.0 | 90 | 0.00 | 7.60 |
| 91 | | o-xylene | 1.092 | 1.058 | 3.1 | 94 | 0.00 | 7.93 |
| 92 | | styrene | 0.875 | 0.847 | 3.2 | 91 | 0.00 | 7.96 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 93 | | bromoform | 50.000 | 56.138 | -12.3 | 118 | 0.00 | 8.13 |

# Continuing Calibration Summary

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** V3C6820-CC6743
**Lab FileID:** 3C151772.D

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 94 | | butyl acrylate | 0.379 | 0.375 | 1.1 | 91 | 0.00 | 7.92 |
| 95 | | isopropylbenzene | 1.392 | 1.333 | 4.2 | 90 | 0.00 | 8.23 |
| 96 | | cis-1,4-dichloro-2-butene | 0.077 | 0.082 | -6.5 | 100 | 0.00 | 8.36 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 9.32 |
| 98 | S | 4-bromofluorobenzene (s) | 0.822 | 0.866 | -5.4 | 111 | 0.00 | 8.39 |
| 99 | | bromobenzene | 0.663 | 0.623 | 6.0 | 95 | 0.00 | 8.51 |
| 100 | | 1,1,2,2-tetrachloroethane | 0.451 | 0.423 | 6.2 | 94 | 0.00 | 8.55 |
| | | | True | Calc. | % Drift | | | |
| 101 | | trans-1,4-dichloro-2-bute | 50.000 | 56.517 | -13.0 | 114 | 0.00 | 8.60 |
| | | | AvgRF | CCRF | % Dev | | | |
| 102 | | 1,2,3-trichloropropane | 0.143 | 0.147 | -2.8 | 100 | 0.00 | 8.58 |
| 103 | | n-propylbenzene | 3.041 | 2.673 | 12.1 | 88 | 0.00 | 8.56 |
| 104 | | 2-chlorotoluene | 0.622 | 0.574 | 7.7 | 91 | 0.00 | 8.65 |
| 105 | | 4-chlorotoluene | 0.620 | 0.585 | 5.6 | 92 | 0.00 | 8.75 |
| 106 | | 1,3,5-trimethylbenzene | 2.212 | 2.064 | 6.7 | 92 | 0.00 | 8.71 |
| 107 | | tert-butylbenzene | 1.969 | 1.824 | 7.4 | 91 | 0.00 | 8.97 |
| 108 | | 1,2,4-trimethylbenzene | 2.252 | 2.071 | 8.0 | 92 | 0.00 | 9.02 |
| 109 | | sec-butylbenzene | 2.861 | 2.601 | 9.1 | 89 | 0.00 | 9.14 |
| 110 | | 1,3-dichlorobenzene | 1.302 | 1.209 | 7.1 | 93 | 0.00 | 9.26 |
| 111 | | p-isopropyltoluene | 2.518 | 2.362 | 6.2 | 91 | 0.00 | 9.26 |
| 112 | | 1,4-dichlorobenzene | 1.331 | 1.225 | 8.0 | 95 | 0.00 | 9.34 |
| 113 | | 1,2-dichlorobenzene | 1.220 | 1.139 | 6.6 | 95 | 0.00 | 9.63 |
| 114 | | n-butylbenzene | 1.244 | 1.115 | 10.4 | 86 | 0.00 | 9.59 |
| | | | True | Calc. | % Drift | | | |
| 115 | | 1,2-dibromo-3-chloropropa | 50.000 | 55.984 | -12.0 | 115 | 0.00 | 10.27 |
| | | | AvgRF | CCRF | % Dev | | | |
| 116 | | 1,3,5-Trichlorobenzene | 1.184 | 1.185 | -0.1 | 98 | 0.00 | 10.38 |
| 117 | | 1,2,4-trichlorobenzene | 1.019 | 1.042 | -2.3 | 101 | 0.00 | 10.88 |
| 118 | | hexachlorobutadiene | 0.635 | 0.673 | -6.0 | 100 | 0.00 | 10.97 |
| 119 | | naphthalene | 1.785 | 1.896 | -6.2 | 104 | 0.00 | 11.07 |
| 120 | | 1,2,3-trichlorobenzene | 0.945 | 0.975 | -3.2 | 101 | 0.00 | 11.27 |
| | | | True | Calc. | % Drift | | | |
| 121 | | hexachloroethane | 50.000 | 53.514 | -7.0 | 115 | 0.00 | 9.80 |
| | | | AvgRF | CCRF | % Dev | | | |
| 122 | | Benzyl chloride | 0.788 | 0.896 | -13.7 | 104 | 0.00 | 9.46 |
| | | | True | Calc. | % Drift | | | |
| 123 | | 2-ethylhexyl acrylate | 10.000 | 10.320 | -3.2 | 104 | 0.00 | 11.02 |
| | | | AvgRF | CCRF | % Dev | | | |
| 124 | | 2-methylnaphthalene | 1.069 | 1.310 | -22.5# | 117 | 0.00 | 11.94 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3C149632.D M3C6743.M Mon May 06 19:48:24 2019

# Continuing Calibration Summary



**Job Number:** JC86986 **Sample:** V3C6821-CC6743
**Account:** BBLNYS Arcadis **Lab FileID:** 3C151801.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

Evaluate Continuing Calibration Report

Data File : X:\voa-gcms\complete...sa\v3c6821\3c151801.d Vial: 1
Acq On : 6 May 2019 8:55 am Operator: PrashanS
Sample : CC6743-50 Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
Last Update : Mon Sep 13 11:48:20 2010
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Tert Butyl Alcohol-d9 | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 2.57 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.102 | 0.986 | 10.5 | 83 | 0.00 | 2.64 |
| 4 | | 1,4-dioxane | 0.134 | 0.129 | 3.7 | 89 | 0.00 | 5.29 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 4.03 |
| 6 | | chlorodifluoromethane | 0.303 | 0.243 | 19.8 | 78 | 0.00 | 1.10 |
| 7 | | dichlorodifluoromethane | 0.432 | 0.404 | 6.5 | 88 | 0.00 | 1.08 |
| 8 | | chloromethane | 0.357 | 0.277 | 22.4# | 75 | 0.00 | 1.23 |
| 9 | | 1,3-butadiene | 0.232 | 0.196 | 15.5 | 82 | 0.00 | 1.32 |
| 10 | | vinyl chloride | 0.359 | 0.302 | 15.9 | 79 | 0.00 | 1.30 |
| 11 | | bromomethane | 0.215 | 0.191 | 11.2 | 85 | 0.00 | 1.54 |
| 12 | | chloroethane | 0.213 | 0.184 | 13.6 | 81 | 0.00 | 1.62 |
| 13 | | vinyl Bromide | 0.308 | 0.259 | 15.9 | 78 | 0.00 | 1.75 |
| 14 | | trichlorofluoromethane | 0.531 | 0.510 | 4.0 | 90 | 0.00 | 1.77 |
| 15 | | ethyl ether | 0.151 | 0.137 | 9.3 | 87 | 0.00 | 1.99 |
| 16 | | 2-chloropropane | 0.121 | 0.099 | 18.2 | 76 | 0.00 | 2.07 |
| 17 | | acrolein | 0.031 | 0.030 | 3.2 | 87 | 0.00 | 2.14 |
| 18 | | freon 113 | 0.254 | 0.241 | 5.1 | 87 | 0.00 | 2.13 |
| 19 | | 1,1-dichloroethene | 0.283 | 0.248 | 12.4 | 83 | 0.00 | 2.16 |
| 20 | | acetone | 0.016 | 0.013 | 18.8 | 80 | 0.00 | 2.24 |
| 21 | | acetonitrile | 0.024 | 0.017 | 29.2# | 71 | 0.00 | 2.51 |
| 22 | | iodomethane | 0.232 | 0.242 | -4.3 | 77 | 0.00 | 2.29 |
| 23 | | carbon disulfide | 0.793 | 0.653 | 17.7 | 83 | 0.00 | 2.31 |
| 24 | | methylene chloride | 0.309 | 0.249 | 19.4 | 82 | 0.00 | 2.56 |
| 25 | | methyl acetate | 0.149 | 0.111 | 25.5# | 72 | 0.00 | 2.47 |
| 26 | | methyl tert butyl ether | 0.754 | 0.689 | 8.6 | 88 | 0.00 | 2.71 |
| 27 | | trans-1,2-dichloroethene | 0.322 | 0.269 | 16.5 | 81 | 0.00 | 2.73 |
| 28 | | hexane | 0.510 | 0.386 | 24.3# | 74 | 0.00 | 2.87 |
| 29 | | di-isopropyl ether | 0.916 | 0.660 | 27.9# | 69 | 0.00 | 3.08 |
| 30 | | ethyl tert-butyl ether | 0.905 | 0.761 | 15.9 | 80 | 0.00 | 3.36 |
| 31 | | 2-butanone | 0.025 | 0.023 | 8.0 | 86 | 0.00 | 3.60 |
| 32 | | 1,1-dichloroethane | 0.523 | 0.429 | 18.0 | 77 | 0.00 | 3.09 |
| 33 | | chloroprene | 0.465 | 0.400 | 14.0 | 80 | 0.00 | 3.13 |
| 34 | | acrylonitrile | 0.064 | 0.054 | 15.6 | 82 | 0.00 | 2.80 |
| 35 | | vinyl acetate | 0.057 | 0.054 | 5.3 | 88 | 0.00 | 3.12 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 36 | | ethyl acetate | 50.000 | 40.554 | 18.9 | 75 | 0.00 | 3.61 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 37 | | 2,2-dichloropropane | 0.482 | 0.426 | 11.6 | 83 | 0.00 | 3.54 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** V3C6821-CC6743
**Account:** BBLNYS Arcadis **Lab FileID:** 3C151801.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 38 | | cis-1,2-dichloroethene | 0.348 | 0.298 | 14.4 | 82 | 0.00 | 3.57 |
| 39 | | propionitrile | 0.028 | 0.024 | 14.3 | 83 | 0.00 | 3.71 |
| 40 | | bromochloromethane | 0.195 | 0.182 | 6.7 | 90 | 0.00 | 3.78 |
| 41 | | tetrahydrofuran | 0.024 | 0.024 | 0.0 | 96 | 0.00 | 3.78 |
| 42 | | chloroform | 0.566 | 0.470 | 17.0 | 82 | 0.00 | 3.84 |
| 43 | | tert-Butyl Formate | 0.179 | 0.148 | 17.3 | 75 | 0.00 | 3.85 |
| 44 | | isobutyl alcohol | 0.044 | 0.031 | 29.5# | 69 | 0.00 | 4.26 |
| 45 | S | dibromofluoromethane (s) | 0.361 | 0.358 | 0.8 | 102 | 0.00 | 3.99 |
| 46 | | methacrylonitrile | 0.084 | 0.078 | 7.1 | 87 | 0.00 | 3.81 |
| 47 | | 1,1,1-trichloroethane | 0.511 | 0.463 | 9.4 | 85 | 0.00 | 3.95 |
| 48 | | cyclohexane | 0.523 | 0.436 | 16.6 | 80 | 0.00 | 3.94 |
| 49 | | 1,1-dichloropropene | 0.168 | 0.142 | 15.5 | 80 | 0.00 | 4.10 |
| 50 | | tert-amyl alcohol | 0.022 | 0.016 | 27.3# | 76 | 0.00 | 4.33 |
| 51 | | carbon tetrachloride | 0.404 | 0.401 | 0.7 | 91 | 0.00 | 4.06 |
| 52 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 97 | 0.00 | 4.69 |
| 53 | S | 1,2-dichloroethane-d4 (s) | 0.272 | 0.289 | -6.2 | 104 | 0.00 | 4.31 |
| 54 | | 2,2,4-trimethylpentane | 0.927 | 0.738 | 20.4# | 72 | 0.00 | 4.26 |
| 55 | | tert-amyl methyl ether | 0.207 | 0.197 | 4.8 | 85 | 0.00 | 4.36 |
| 56 | | n-butyl alcohol | 0.005 | 0.004 | 20.0 | 83 | 0.00 | 4.89 |
| 57 | | benzene | 0.920 | 0.803 | 12.7 | 79 | 0.00 | 4.28 |
| 58 | | heptane | 0.197 | 0.157 | 20.3# | 72 | 0.00 | 4.45 |
| 59 | | isopropyl acetate | 0.212 | 0.197 | 7.1 | 85 | 0.00 | 4.36 |
| 60 | | 1,2-dichloroethane | 0.292 | 0.267 | 8.6 | 88 | 0.00 | 4.38 |
| 61 | | trichloroethene | 0.250 | 0.227 | 9.2 | 81 | 0.00 | 4.90 |
| 62 | | ethyl acrylate | 0.204 | 0.182 | 10.8 | 82 | 0.00 | 5.04 |
| 63 | | 2-nitropropane | 0.062 | 0.058 | 6.5 | 85 | -0.01 | 5.75 |
| 64 | | 2-chloroethyl vinyl ether | 0.121 | 0.107 | 11.6 | 81 | 0.00 | 5.76 |
| 65 | | methyl methacrylate | 0.052 | 0.053 | -1.9 | 89 | 0.00 | 5.27 |
| 66 | | 1,2-dichloropropane | 0.219 | 0.176 | 19.6 | 73 | 0.00 | 5.17 |
| 67 | | methylcyclohexane | 0.466 | 0.373 | 20.0 | 76 | 0.00 | 5.01 |
| 68 | | dibromomethane | 0.120 | 0.113 | 5.8 | 85 | 0.00 | 5.29 |
| 69 | | bromodichloromethane | 0.278 | 0.279 | -0.4 | 88 | 0.00 | 5.45 |
| 70 | | epichlorohydrin | 0.015 | 0.015 | 0.0 | 90 | 0.00 | 5.84 |
| 71 | | cis-1,3-dichloropropene | 0.348 | 0.333 | 4.3 | 85 | 0.00 | 5.88 |
| 72 | | 4-methyl-2-pentanone | 0.029 | 0.032 | -10.3 | 94 | 0.00 | 6.03 |
| 73 | | 3-methyl-1-butanol | | ----------NA---------- | | | | |
| 74 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 7.39 |
| 75 | S | toluene-d8 (s) | 1.238 | 1.276 | -3.1 | 104 | 0.00 | 6.08 |
| 76 | | toluene | 0.714 | 0.616 | 13.7 | 83 | 0.00 | 6.15 |
| 77 | | trans-1,3-dichloropropene | 0.328 | 0.329 | -0.3 | 89 | 0.00 | 6.43 |
| 78 | | ethyl methacrylate | 0.273 | 0.254 | 7.0 | 86 | 0.00 | 6.47 |
| 79 | | 1,1,2-trichloroethane | 0.176 | 0.153 | 13.1 | 84 | 0.00 | 6.60 |
| 80 | | 2-hexanone | 0.067 | 0.060 | 10.4 | 85 | 0.00 | 6.80 |
| 81 | | tetrachloroethene | 0.339 | 0.320 | 5.6 | 86 | 0.00 | 6.62 |
| 82 | | 1,3-dichloropropane | 0.354 | 0.309 | 12.7 | 83 | 0.00 | 6.75 |
| 83 | | butyl acetate | 0.126 | 0.111 | 11.9 | 82 | 0.00 | 6.89 |
| 84 | | dibromochloromethane | 0.207 | 0.233 | -12.6 | 98 | 0.00 | 6.92 |
| 85 | | 1,2-dibromoethane | 0.255 | 0.214 | 16.1 | 77 | 0.00 | 7.01 |
| 86 | | n-butyl ether | 1.161 | 0.840 | 27.6# | 69 | 0.00 | 7.47 |
| 87 | | chlorobenzene | 0.786 | 0.688 | 12.5 | 85 | 0.00 | 7.42 |
| 88 | | 1,1,1,2-tetrachloroethane | 0.259 | 0.261 | -0.8 | 90 | 0.00 | 7.50 |
| 89 | | ethylbenzene | 1.381 | 1.184 | 14.3 | 83 | 0.00 | 7.49 |
| 90 | | m,p-xylene | 0.544 | 0.468 | 14.0 | 83 | 0.00 | 7.59 |
| 91 | | o-xylene | 1.092 | 0.971 | 11.1 | 86 | 0.00 | 7.93 |
| 92 | | styrene | 0.875 | 0.784 | 10.4 | 84 | 0.00 | 7.96 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 93 | | bromoform | 50.000 | 52.753 | -5.5 | 111 | 0.00 | 8.13 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** V3C6821-CC6743
**Account:** BBLNYS Arcadis **Lab FileID:** 3C151801.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 94 | | butyl acrylate | 0.379 | 0.339 | 10.6 | 82 | 0.00 | 7.92 |
| 95 | | isopropylbenzene | 1.392 | 1.235 | 11.3 | 84 | 0.00 | 8.22 |
| 96 | | cis-1,4-dichloro-2-butene | 0.077 | 0.073 | 5.2 | 89 | 0.00 | 8.36 |
| 97 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 9.32 |
| 98 | S | 4-bromofluorobenzene (s) | 0.822 | 0.854 | -3.9 | 110 | 0.00 | 8.39 |
| 99 | | bromobenzene | 0.663 | 0.577 | 13.0 | 88 | 0.00 | 8.51 |
| 100 | | 1,1,2,2-tetrachloroethane | 0.451 | 0.379 | 16.0 | 85 | 0.00 | 8.55 |
| | | | True | Calc. | % Drift | | | |
| 101 | | trans-1,4-dichloro-2-bute | 50.000 | 50.796 | -1.6 | 103 | 0.00 | 8.60 |
| | | | AvgRF | CCRF | % Dev | | | |
| 102 | | 1,2,3-trichloropropane | 0.143 | 0.129 | 9.8 | 89 | 0.00 | 8.58 |
| 103 | | n-propylbenzene | 3.041 | 2.433 | 20.0 | 81 | 0.00 | 8.56 |
| 104 | | 2-chlorotoluene | 0.622 | 0.524 | 15.8 | 84 | 0.00 | 8.65 |
| 105 | | 4-chlorotoluene | 0.620 | 0.529 | 14.7 | 84 | 0.00 | 8.75 |
| 106 | | 1,3,5-trimethylbenzene | 2.212 | 1.914 | 13.5 | 86 | 0.00 | 8.71 |
| 107 | | tert-butylbenzene | 1.969 | 1.661 | 15.6 | 84 | 0.00 | 8.97 |
| 108 | | 1,2,4-trimethylbenzene | 2.252 | 1.893 | 15.9 | 85 | 0.00 | 9.02 |
| 109 | | sec-butylbenzene | 2.861 | 2.374 | 17.0 | 82 | 0.00 | 9.14 |
| 110 | | 1,3-dichlorobenzene | 1.302 | 1.120 | 14.0 | 87 | 0.00 | 9.26 |
| 111 | | p-isopropyltoluene | 2.518 | 2.166 | 14.0 | 84 | 0.00 | 9.26 |
| 112 | | 1,4-dichlorobenzene | 1.331 | 1.124 | 15.6 | 88 | 0.00 | 9.34 |
| 113 | | 1,2-dichlorobenzene | 1.220 | 1.042 | 14.6 | 87 | 0.00 | 9.63 |
| 114 | | n-butylbenzene | 1.244 | 1.042 | 16.2 | 81 | 0.00 | 9.59 |
| | | | True | Calc. | % Drift | | | |
| 115 | | 1,2-dibromo-3-chloropropa | 50.000 | 51.415 | -2.8 | 106 | 0.00 | 10.27 |
| | | | AvgRF | CCRF | % Dev | | | |
| 116 | | 1,3,5-Trichlorobenzene | 1.184 | 1.095 | 7.5 | 92 | 0.00 | 10.38 |
| 117 | | 1,2,4-trichlorobenzene | 1.019 | 0.966 | 5.2 | 95 | 0.00 | 10.88 |
| 118 | | hexachlorobutadiene | 0.635 | 0.635 | 0.0 | 95 | 0.00 | 10.97 |
| 119 | | naphthalene | 1.785 | 1.698 | 4.9 | 94 | 0.00 | 11.07 |
| 120 | | 1,2,3-trichlorobenzene | 0.945 | 0.894 | 5.4 | 94 | 0.00 | 11.27 |
| | | | True | Calc. | % Drift | | | |
| 121 | | hexachloroethane | 50.000 | 49.423 | 1.2 | 107 | 0.00 | 9.80 |
| | | | AvgRF | CCRF | % Dev | | | |
| 122 | | Benzyl chloride | 0.788 | 0.853 | -8.2 | 100 | 0.00 | 9.46 |
| | | | True | Calc. | % Drift | | | |
| 123 | | 2-ethylhexyl acrylate | 10.000 | 9.095 | 9.0 | 92 | 0.00 | 11.02 |
| | | | AvgRF | CCRF | % Dev | | | |
| 124 | | 2-methylnaphthalene | 1.069 | 1.181 | -10.5 | 107 | 0.00 | 11.94 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3C149632.D M3C6743.M Wed May 08 07:47:56 2019

# Initial Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** VD10606-ICC10606
**Lab FileID:** D263017.D

Response Factor Report MSD

```
Method       : C:\MSDCHEM\1\METHODS\MD10606.M (RTE Integrator)
Title        : SW846 8260C, Rxi-624  MS 60m x 0.25mm x 1.4um
Last Update  : Fri Mar 15 14:33:32 2019
Response via : Initial Calibration

Calibration Files
1   =d263012.D   4   =d263014.D   100 =d263018.D   50  =d263017.D
20  =d263016.D   200 =d263019.D   8   =d263015.D   0.5 =d263011.D
2   =d263013.D       =
```

| Compound | 1 | 4 | 100 | 50 | 20 | 200 | 8 | 0.5 | 2 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) I tert butyl alcohol-d9 ----------ISTD---------- | | | | | | | | | | | |
| 2) ethanol | | | | | | | | | | 0.000 | -1.00 |
| 3) tertiary butyl alcohol | 1.119 | 1.331 | 1.410 | 1.443 | 1.396 | 1.401 | 1.357 | | 1.148 | 1.326 | 9.31 |
| 4) 1,4-dioxane | | 0.104 | 0.125 | 0.128 | 0.125 | 0.124 | 0.119 | | | 0.121 | 7.42 |
| 5) I pentafluorobenzene ----------ISTD---------- | | | | | | | | | | | |
| 6) chlorodifluoromethane | 1.061 | 1.049 | 1.025 | 1.100 | 1.063 | 1.006 | 1.098 | 1.059 | 1.034 | 1.055 | 2.95 |
| 7) dichlorodifluoromethane | 1.275 | 1.431 | 1.468 | 1.590 | 1.538 | 1.411 | 1.508 | | 1.393 | 1.452 | 6.73 |
| 8) chloromethane | 1.116 | 1.153 | 1.293 | 1.372 | 1.269 | 1.274 | 1.217 | 1.117 | 1.128 | 1.216 | 7.57 |
| 9) 1,3-butadiene | | 0.584 | 0.751 | 0.765 | 0.668 | 0.757 | 0.636 | | 0.552 | 0.673 | 12.92 |
| 10) vinyl chloride | 1.148 | 1.230 | 1.232 | 1.371 | 1.309 | 1.190 | 1.286 | 1.122 | 1.242 | 1.237 | 6.31 |
| 11) bromomethane | 0.569 | 0.597 | 0.672 | 0.724 | 0.656 | 0.660 | 0.639 | | 0.578 | 0.637 | 8.26 |
| 12) chloroethane | 0.518 | 0.541 | 0.563 | 0.596 | 0.558 | 0.578 | 0.560 | 0.429 | 0.532 | 0.542 | 8.92 |
| 13) trichlorofluoromethane | 0.963 | 1.077 | 1.150 | 1.246 | 1.181 | 1.148 | 1.147 | | 1.001 | 1.114 | 8.48 |
| 14) vinyl bromide | 0.481 | 0.541 | 0.597 | 0.647 | 0.594 | 0.605 | 0.582 | | 0.498 | 0.568 | 9.97 |
| 15) ethyl ether | 0.280 | 0.270 | 0.285 | 0.294 | 0.283 | 0.276 | 0.281 | | 0.237 | 0.276 | 6.26 |
| 16) 2-chloropropane | 1.308 | 1.172 | 1.134 | 1.185 | 1.147 | 1.118 | 1.174 | 1.315 | 1.149 | 1.189 | 6.09 |
| 17) acrolein | | | 0.094 | 0.098 | 0.093 | 0.092 | 0.080 | | | 0.092 | 7.54 |
| 18) freon 113 | 0.620 | 0.637 | 0.679 | 0.708 | 0.667 | 0.689 | 0.675 | 0.610 | 0.600 | 0.654 | 5.85 |
| 19) 1,1-dichloroethene | 0.632 | 0.609 | 0.616 | 0.638 | 0.605 | 0.628 | 0.607 | 0.641 | 0.573 | 0.617 | 3.42 |
| 20) acetone | | 0.039 | 0.042 | 0.042 | 0.041 | 0.040 | 0.040 | | 0.027 | 0.039 | 13.43 |
| 21) acetonitrile | 0.091 | 0.082 | 0.078 | 0.082 | 0.081 | 0.075 | 0.084 | | 0.080 | 0.082 | 5.58 |
| 22) iodomethane | 0.965 | 0.954 | 0.999 | 1.038 | 0.983 | 1.025 | 0.979 | 0.890 | 0.895 | 0.970 | 5.29 |
| 23) carbon disulfide | | | | | | | | | | | |

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** VD10606-ICC10606
**Account:** BBLNYS Arcadis **Lab FileID:** D263017.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
            2.023 1.992 2.004 2.121 2.029 2.002 2.059 1.992 1.867   2.010    3.36
24)  methylene chloride
            0.645 0.654 0.639 0.665 0.649 0.633 0.659 0.674 0.613   0.648    2.83
25)  methyl acetate
                  0.350 0.347 0.354 0.351 0.331 0.363       0.306   0.343    5.46
26)  methyl tert butyl ether
            1.999 1.797 1.828 1.921 1.845 1.784 1.861 2.007 1.815   1.873    4.48
27)  trans-1,2-dichloroethene
            0.577 0.568 0.566 0.592 0.576 0.553 0.577 0.559 0.521   0.565    3.58
28)  hexane
            0.341 0.369 0.365 0.383 0.373 0.355 0.382 0.349 0.357   0.364    3.98
29)  di-isopropyl ether
            2.231 2.108 2.126 2.241 2.126 2.098 2.154 2.155 2.037   2.142    2.98
30)  2-butanone
                  0.042 0.050 0.050 0.048 0.047 0.047       0.036   0.046   10.95
31)  1,1-dichloroethane
            1.044 1.036 1.001 1.059 1.022 0.965 1.021 0.975 0.936   1.006    4.04
32)  chloroprene
            0.879 0.885 0.933 0.982 0.922 0.902 0.936 0.842 0.807   0.899    5.87
33)  acrylonitrile
                  0.130 0.165 0.171 0.165 0.159 0.158               0.158    9.28
34)  vinyl acetate
                  0.087 0.118 0.123 0.115 0.113 0.106               0.110   11.51
35)  ethyl tert-butyl ether
            2.210 2.038 2.137 2.231 2.104 2.091 2.123 2.130 1.955   2.113    3.95
36)  ethyl acetate
                  0.052 0.068 0.069 0.068 0.064 0.067               0.065   10.26
37)  2,2-dichloropropane
            1.135 1.032 1.042 1.119 1.059 1.027 1.091 1.178 1.032   1.080    5.03
38)  cis-1,2-dichloroethene
            0.614 0.636 0.615 0.651 0.621 0.604 0.624 0.638 0.564   0.619    4.04
39)  propionitrile
            0.063 0.070 0.070 0.073 0.071 0.067 0.072       0.064   0.069    5.35
40)  methyl acrylate
                  0.036 0.070 0.073 0.065 0.068 0.055               0.061   22.45
             ----- Linear regression -----  Coefficient =  0.9986
               Response Ratio = -0.00237 + 0.07018 *A

41)  methacrylonitrile
                  0.157 0.191 0.192 0.181 0.185 0.177               0.180    7.16
42)  bromochloromethane
            0.262 0.293 0.292 0.304 0.292 0.287 0.292 0.228 0.262   0.279    8.62
43)  tetrahydrofuran
                  0.130 0.135 0.137 0.137 0.127 0.140               0.134    3.49
44)  chloroform
            1.081 0.995 0.975 1.023 0.979 0.956 0.997 1.156 0.990   1.017    6.23
45)  tert-butyl formate
            0.563 0.539 0.610 0.624 0.571 0.612 0.563 0.561 0.516   0.573    6.22
46)  dibromofluoromethane (s)
            0.467 0.471 0.470 0.479 0.475 0.465 0.475 0.471 0.471   0.472    0.93
47)  1,1,1-trichloroethane
            1.079 1.018 1.046 1.107 1.040 1.046 1.064 0.997 0.988   1.043    3.65
48)  cyclohexane
            1.064 1.044 1.071 1.136 1.058 1.087 1.041 0.953 0.987   1.049    5.11
49)  isobutyl alcohol
                                                                    0.000   -1.00
50)  1,1-dichloropropene
            0.801 0.751 0.768 0.805 0.771 0.750 0.770 0.825 0.693   0.770    4.98
51)  carbon tetrachloride
            0.912 0.866 0.922 0.952 0.885 0.937 0.886 0.845 0.809   0.890    5.14
```

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** VD10606-ICC10606
**Account:** BBLNYS Arcadis **Lab FileID:** D263017.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
52)  tert-amyl alcohol
           0.037 0.031 0.031 0.031 0.032 0.030 0.033       0.028   0.032    8.36
53)  isopropyl acetate
                 0.104 0.128 0.126 0.120 0.126 0.114               0.120    7.70

54) I   1,4-difluorobenzene   ----------------ISTD---------------------
55)  1,2-dichloroethane-d4 (s)
           0.378 0.378 0.373 0.369 0.371 0.372 0.382 0.378 0.373   0.375    1.12
56)  n-butyl alcohol
                 0.015 0.011 0.011 0.012 0.010 0.014               0.012   14.73
57)  2,2,4-trimethylpentane
           1.141 1.141 1.388 1.364 1.224 1.437 1.180       1.042   1.240   11.36
58)  benzene
           1.590 1.498 1.521 1.557 1.513 1.486 1.538 1.566 1.394   1.518    3.78
59)  tert-amyl methyl ether
           1.415 1.338 1.414 1.429 1.361 1.409 1.362 1.469 1.270   1.385    4.25
60)  heptane
           0.202 0.205 0.206 0.211 0.206 0.202 0.205 0.190 0.199   0.203    2.92
61)  1,2-dichloroethane
           0.628 0.531 0.515 0.526 0.515 0.500 0.534       0.522   0.534    7.38
62)  ethyl acrylate
                 0.364 0.405 0.404 0.387 0.386 0.398               0.391    3.95
63)  trichloroethene
           0.387 0.386 0.376 0.388 0.372 0.372 0.380 0.378 0.356   0.377    2.68
64)  2-chloroethyl vinyl ether
           0.192 0.192 0.213 0.212 0.206 0.205 0.207 0.171 0.182   0.198    7.32
65)  methyl methacrylate
                 0.068 0.092 0.092 0.086 0.091 0.084               0.085   10.56
66)  methylcyclohexane
           0.677 0.630 0.667 0.675 0.631 0.671 0.656 0.607 0.579   0.644    5.32
67)  1,2-dichloropropane
           0.376 0.374 0.383 0.392 0.381 0.376 0.394 0.364 0.352   0.377    3.47
68)  dibromomethane
           0.209 0.220 0.229 0.231 0.224 0.222 0.227 0.189 0.210   0.218    6.16
69)  bromodichloromethane
           0.518 0.496 0.521 0.530 0.511 0.515 0.509 0.476 0.471   0.505    4.04
70)  2-nitropropane
                 0.076 0.079 0.080 0.076 0.078 0.082               0.079    2.82
71)  epichlorohydrin
                 0.035 0.038 0.038 0.037 0.036 0.039       0.033   0.036    5.84
72)  cis-1,3-dichloropropene
           0.610 0.580 0.628 0.641 0.619 0.615 0.634 0.593 0.555   0.608    4.58
73)  4-methyl-2-pentanone
           0.125 0.132 0.137 0.137 0.134 0.132 0.139 0.118 0.129   0.131    5.07
74)  isoamyl alcohol
                 0.009 0.012 0.012 0.011 0.011 0.011       0.007   0.010   16.80

75) I   chlorobenzene-d5      ----------------ISTD---------------------
76)  toluene-d8 (s)
           1.194 1.222 1.244 1.223 1.228 1.236 1.221 1.203 1.200   1.219    1.38
77)  toluene
           0.941 0.958 0.976 0.993 0.948 0.954 0.958 0.996 0.883   0.956    3.49
78)  ethyl methacrylate
           0.379 0.438 0.496 0.486 0.468 0.479 0.474       0.405   0.453    9.25
79)  trans-1,3-dichloropropene
           0.552 0.543 0.581 0.585 0.560 0.564 0.563 0.535 0.518   0.556    3.82
80)  1,1,2-trichloroethane
           0.247 0.249 0.264 0.268 0.255 0.258 0.261 0.251 0.242   0.255    3.36
81)  tetrachloroethene
           0.297 0.317 0.323 0.324 0.306 0.319 0.314 0.319 0.286   0.312    4.16
```

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** VD10606-ICC10606
**Account:** BBLNYS Arcadis **Lab FileID:** D263017.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82) | 2-hexanone | | | | | | | | | | | |
| | | 0.100 | 0.117 | 0.126 | 0.124 | 0.121 | 0.120 | 0.120 | | 0.094 | 0.115 | 10.20 |
| 83) | 1,3-dichloropropane | | | | | | | | | | | |
| | | 0.573 | 0.565 | 0.563 | 0.569 | 0.554 | 0.545 | 0.563 | 0.504 | 0.503 | 0.549 | 4.90 |
| 84) | butyl acetate | | | | | | | | | | | |
| | | | 0.223 | 0.255 | 0.250 | 0.240 | 0.249 | 0.243 | | 0.185 | 0.235 | 10.35 |
| 85) | dibromochloromethane | | | | | | | | | | | |
| | | 0.354 | 0.346 | 0.393 | 0.388 | 0.360 | 0.389 | 0.355 | 0.326 | 0.322 | 0.359 | 7.38 |
| 86) | 1,2-dibromoethane | | | | | | | | | | | |
| | | 0.399 | 0.393 | 0.420 | 0.424 | 0.405 | 0.410 | 0.411 | 0.344 | 0.363 | 0.396 | 6.70 |
| 87) | n-butyl ether | | | | | | | | | | | |
| | | 1.788 | 1.811 | 1.709 | 1.774 | 1.751 | 1.624 | 1.809 | 1.760 | 1.661 | 1.743 | 3.75 |
| 88) | chlorobenzene | | | | | | | | | | | |
| | | 1.123 | 1.108 | 1.100 | 1.135 | 1.102 | 1.087 | 1.129 | 1.130 | 1.054 | 1.108 | 2.34 |
| 89) | 1,1,1,2-tetrachloroethane | | | | | | | | | | | |
| | | 0.429 | 0.413 | 0.459 | 0.457 | 0.422 | 0.464 | 0.426 | 0.377 | 0.383 | 0.426 | 7.40 |
| 90) | ethylbenzene | | | | | | | | | | | |
| | | 1.938 | 1.894 | 1.900 | 1.954 | 1.888 | 1.859 | 1.920 | 1.927 | 1.778 | 1.895 | 2.76 |
| 91) | m,p-xylene | | | | | | | | | | | |
| | | 0.746 | 0.708 | 0.737 | 0.750 | 0.716 | 0.731 | 0.727 | 0.718 | 0.667 | 0.722 | 3.44 |
| 92) | o-xylene | | | | | | | | | | | |
| | | 1.611 | 1.576 | 1.605 | 1.641 | 1.588 | 1.574 | 1.621 | 1.591 | 1.473 | 1.587 | 3.02 |
| 93) | styrene | | | | | | | | | | | |
| | | 1.208 | 1.220 | 1.281 | 1.299 | 1.259 | 1.253 | 1.264 | 1.190 | 1.099 | 1.230 | 4.91 |
| 94) | butyl acrylate | | | | | | | | | | | |
| | | | 0.656 | 0.839 | 0.826 | 0.765 | 0.835 | 0.731 | | 0.555 | 0.744 | 14.31 |
| 95) | n-amyl acetate | | | | | | | | | | | |
| | | | 0.242 | 0.356 | 0.335 | 0.313 | 0.361 | 0.282 | | | 0.315 | 14.61 |
| 96) | isopropylbenzene | | | | | | | | | | | |
| | | 1.888 | 1.848 | 1.868 | 1.920 | 1.838 | 1.845 | 1.882 | 1.860 | 1.716 | 1.852 | 3.08 |
| 97) | bromoform | | | | | | | | | | | |
| | | 0.240 | 0.241 | 0.286 | 0.279 | 0.260 | 0.288 | 0.252 | | 0.225 | 0.259 | 9.10 |
| 98) | cis-1,4-dichloro-2-butene | | | | | | | | | | | |
| | | | 0.154 | 0.185 | 0.181 | 0.165 | 0.184 | 0.161 | | | 0.172 | 7.74 |
| 99) | I 1,4-dichlorobenzene-d ----------ISTD---------- | | | | | | | | | | | |
| 100) | 4-bromofluorobenzene (s) | | | | | | | | | | | |
| | | 0.975 | 0.954 | 0.867 | 0.877 | 0.907 | 0.832 | 0.962 | 0.995 | 0.969 | 0.926 | 6.18 |
| 101) | 1,1,2,2-tetrachloroethane | | | | | | | | | | | |
| | | 0.847 | 0.812 | 0.711 | 0.752 | 0.753 | 0.657 | 0.799 | 0.863 | 0.760 | 0.773 | 8.48 |
| 102) | trans-1,4-dichloro-2-butene | | | | | | | | | | | |
| | | | 0.192 | 0.199 | 0.203 | 0.198 | 0.186 | 0.203 | | 0.172 | 0.193 | 5.70 |
| 103) | 1,2,3-trichloropropane | | | | | | | | | | | |
| | | 0.229 | 0.243 | 0.214 | 0.222 | 0.225 | 0.199 | 0.232 | | 0.219 | 0.223 | 5.84 |
| 104) | bromobenzene | | | | | | | | | | | |
| | | 0.968 | 0.894 | 0.834 | 0.870 | 0.845 | 0.800 | 0.912 | 0.901 | 0.863 | 0.876 | 5.63 |
| 105) | n-propylbenzene | | | | | | | | | | | |
| | | 3.785 | 3.546 | 3.223 | 3.425 | 3.393 | 3.000 | 3.584 | 3.790 | 3.418 | 3.463 | 7.31 |
| 106) | 2-chlorotoluene | | | | | | | | | | | |
| | | 0.825 | 0.787 | 0.740 | 0.777 | 0.761 | 0.718 | 0.780 | 0.813 | 0.783 | 0.776 | 4.30 |
| 107) | 4-chlorotoluene | | | | | | | | | | | |
| | | 2.458 | 2.355 | 2.165 | 2.267 | 2.249 | 2.067 | 2.357 | 2.411 | 2.244 | 2.286 | 5.38 |
| 108) | 1,3,5-trimethylbenzene | | | | | | | | | | | |
| | | 2.861 | 2.713 | 2.540 | 2.665 | 2.584 | 2.429 | 2.720 | 2.739 | 2.564 | 2.646 | 4.89 |
| 109) | tert-butylbenzene | | | | | | | | | | | |
| | | 2.161 | 2.057 | 2.011 | 2.070 | 1.970 | 1.942 | 2.098 | 2.178 | 1.989 | 2.053 | 4.03 |
| 110) | 1,2,4-trimethylbenzene | | | | | | | | | | | |
| | | 2.777 | 2.678 | 2.564 | 2.685 | 2.635 | 2.438 | 2.773 | 2.681 | 2.516 | 2.639 | 4.31 |
| 111) | sec-butylbenzene | | | | | | | | | | | |
| | | 3.203 | 3.070 | 2.943 | 3.094 | 2.980 | 2.775 | 3.152 | 3.127 | 2.870 | 3.024 | 4.68 |

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** VD10606-ICC10606
**Account:** BBLNYS Arcadis **Lab FileID:** D263017.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
112)  p-isopropyltoluene
            2.430 2.571 2.546 2.676 2.564 2.443 2.656 2.404 2.362   2.517    4.45
113)  1,3-dichlorobenzene
            1.587 1.538 1.506 1.553 1.516 1.466 1.573 1.589 1.449   1.531    3.30
114)  1,4-dichlorobenzene
            1.700 1.573 1.557 1.601 1.576 1.507 1.608 1.660 1.509   1.588    4.01
115)  1,2-dichlorobenzene
            1.568 1.553 1.530 1.588 1.533 1.467 1.586 1.524 1.459   1.534    3.03
116)  benzyl chloride
            1.368 1.417 1.657 1.671 1.549 1.574 1.499 1.381 1.295   1.490    8.94
117)  n-butylbenzene
            1.038 1.104 1.254 1.308 1.234 1.215 1.235       1.016   1.176    9.19
118)  2-ethylhexyl acrylate
      *This compound does not meet initial calibration criteria*
                        0.307 0.191 0.081 0.412                     0.248   57.80
119)  hexachloroethane
            0.374 0.369 0.426 0.421 0.372 0.436 0.389 0.374 0.355   0.391    7.43
120)  1,2-dibromo-3-chloropropane
                  0.125 0.157 0.159 0.145 0.147 0.141       0.096   0.138   15.67
121)  1,3,5-trichlorobenzene
                  0.906 1.155 1.174 1.060 1.106 1.033       0.791   1.032   13.45
122)  1,2,4-trichlorobenzene
                  0.559 0.987 0.964 0.791 0.948 0.693               0.824   21.04
             ----- Linear regression -----  Coefficient =  0.9991
               Response Ratio = -0.02796 + 0.96478 *A

123)  hexachlorobutadiene
            0.413 0.442 0.522 0.528 0.472 0.501 0.479       0.406   0.470    9.93
124)  naphthalene
                  1.103 2.241 2.133 1.689 2.116 1.382               1.777   26.10
             ----- Linear regression -----  Coefficient =  0.9984
               Response Ratio = -0.07882 + 2.16477 *A

125)  1,2,3-trichlorobenzene
                  0.477 0.874 0.842 0.682 0.841 0.587               0.717   22.57
             ----- Linear regression -----  Coefficient =  0.9991
               Response Ratio = -0.03131 + 0.85672 *A

126)  2-methylnaphthalene
      *This compound does not meet initial calibration criteria*

                        0.620 0.472 0.277 0.660 0.205               0.447   45.27
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MD10606.M         Fri Mar 15 14:35:37 2019   RPT1
```

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** VD10606-ICV10606
**Lab FileID:** D263022.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\VD10606\d263022.D  Vial: 14
Acq On : 14 Mar 2019 11:49 pm  Operator: juntaep
Sample : icv10606-50  Inst : MSD
Misc : ms33018,vd10606,5,,100,5,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MD10606.M (RTE Integrator)
Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
Last Update : Fri Mar 15 14:33:32 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 7.47 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | 1.326 | 1.402 | -5.7 | 101 | 0.01 | 7.58 |
| 4 | | 1,4-dioxane | 0.121 | 0.133 | -9.9 | 107 | 0.00 | 11.36 |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 108 | 0.00 | 9.73 |
| 6 | | chlorodifluoromethane | 1.055 | 0.941 | 10.8 | 92 | 0.00 | 4.41 |
| 7 | | dichlorodifluoromethane | 1.452 | 1.257 | 13.4 | 85 | 0.01 | 4.42 |
| 8 | | chloromethane | 1.216 | 1.097 | 9.8 | 86 | 0.00 | 4.70 |
| 9 | | 1,3-butadiene | 0.673 | 0.731 | -8.6 | 103 | 0.00 | 4.98 |
| 10 | | vinyl chloride | 1.237 | 1.121 | 9.4 | 88 | 0.00 | 4.96 |
| 11 | | bromomethane | 0.637 | 0.623 | 2.2 | 93 | 0.01 | 5.53 |
| 12 | | chloroethane | 0.542 | 0.518 | 4.4 | 94 | 0.00 | 5.66 |
| 13 | | trichlorofluoromethane | 1.114 | 1.092 | 2.0 | 95 | 0.01 | 6.15 |
| 14 | | vinyl bromide | 0.568 | 0.560 | 1.4 | 93 | 0.00 | 6.02 |
| 15 | | ethyl ether | 0.276 | 0.281 | -1.8 | 103 | 0.00 | 6.47 |
| 16 | | 2-chloropropane | 1.189 | 1.059 | 10.9 | 96 | 0.00 | 6.68 |
| 17 | | acrolein | 0.092 | 0.100 | -8.7 | 110 | 0.00 | 6.66 |
| 18 | | freon 113 | 0.654 | 0.670 | -2.4 | 102 | 0.00 | 6.93 |
| 19 | | 1,1-dichloroethene | 0.617 | 0.548 | 11.2 | 93 | 0.00 | 6.89 |
| 20 | | acetone | 0.039 | 0.042 | -7.7 | 106 | 0.00 | 6.85 |
| 21 | | acetonitrile | | ----------NA---------- | | | | |
| 22 | | iodomethane | 0.970 | 1.076 | -10.9 | 112 | 0.00 | 7.14 |
| 23 | | carbon disulfide | 2.010 | 2.391 | -19.0 | 122 | 0.00 | 7.30 |
| 24 | | methylene chloride | 0.648 | 0.619 | 4.5 | 100 | 0.00 | 7.54 |
| 25 | | methyl acetate | 0.343 | 0.348 | -1.5 | 106 | 0.00 | 7.29 |
| 26 | | methyl tert butyl ether | 1.873 | 1.835 | 2.0 | 103 | 0.00 | 7.91 |
| 27 | | trans-1,2-dichloroethene | 0.565 | 0.538 | 4.8 | 98 | 0.00 | 7.94 |
| 28 | | hexane | 0.364 | 0.300 | 17.6 | 85 | 0.00 | 8.31 |
| 29 | | di-isopropyl ether | 2.142 | 1.998 | 6.7 | 96 | 0.00 | 8.50 |
| 30 | | 2-butanone | 0.046 | 0.050 | -8.7 | 108 | 0.00 | 9.10 |
| 31 | | 1,1-dichloroethane | 1.006 | 0.967 | 3.9 | 98 | 0.00 | 8.49 |
| 32 | | chloroprene | 0.899 | 0.916 | -1.9 | 101 | 0.00 | 8.60 |
| 33 | | acrylonitrile | 0.158 | 0.162 | -2.5 | 102 | 0.00 | 7.78 |
| 34 | | vinyl acetate | 0.110 | 0.108 | 1.8 | 95 | 0.00 | 8.41 |
| 35 | | ethyl tert-butyl ether | 2.113 | 2.044 | 3.3 | 99 | 0.00 | 8.96 |
| 36 | | ethyl acetate | 0.065 | 0.073 | -12.3 | 114 | 0.00 | 9.13 |
| 37 | | 2,2-dichloropropane | 1.080 | 0.983 | 9.0 | 95 | 0.00 | 9.25 |
| 38 | | cis-1,2-dichloroethene | 0.619 | 0.611 | 1.3 | 101 | 0.00 | 9.19 |
| 39 | | propionitrile | 0.069 | 0.072 | -4.3 | 106 | 0.00 | 9.15 |

---------- True Calc. % Drift ----------

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** VD10606-ICV10606
**Account:** BBLNYS Arcadis **Lab FileID:** D263022.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 40 | | methyl acrylate | 50.000 | 50.296 | -0.6 | 101 | 0.00 | 9.22 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 41 | | methacrylonitrile | 0.180 | 0.186 | -3.3 | 104 | 0.00 | 9.36 |
| 42 | | bromochloromethane | 0.279 | 0.291 | -4.3 | 103 | 0.00 | 9.49 |
| 43 | | tetrahydrofuran | 0.134 | 0.134 | 0.0 | 106 | 0.00 | 9.53 |
| 44 | | chloroform | 1.017 | 0.948 | 6.8 | 100 | 0.00 | 9.57 |
| 45 | | tert-butyl formate | 0.573 | 0.495 | 13.6 | 85 | 0.00 | 9.62 |
| 46 | S | dibromofluoromethane (s) | 0.472 | 0.468 | 0.8 | 105 | 0.00 | 9.76 |
| 47 | | 1,1,1-trichloroethane | 1.043 | 0.986 | 5.5 | 96 | 0.00 | 9.87 |
| 48 | | cyclohexane | 1.049 | 1.013 | 3.4 | 96 | 0.00 | 10.01 |
| 49 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 50 | | 1,1-dichloropropene | 0.770 | 0.742 | 3.6 | 99 | 0.00 | 10.04 |
| 51 | | carbon tetrachloride | 0.890 | 0.863 | 3.0 | 98 | 0.00 | 10.08 |
| 52 | | tert-amyl alcohol | 0.032 | 0.033 | -3.1 | 112 | 0.01 | 10.12 |
| 53 | | isopropyl acetate | 0.120 | 0.117 | 2.5 | 100 | 0.00 | 10.16 |
| 54 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 10.68 |
| 55 | S | 1,2-dichloroethane-d4 (s) | 0.375 | 0.361 | 3.7 | 104 | 0.00 | 10.19 |
| 56 | | n-butyl alcohol | 0.012 | 0.011 | 8.3 | 103 | 0.00 | 10.69 |
| 57 | | 2,2,4-trimethylpentane | 1.240 | 1.197 | 3.5 | 93 | 0.00 | 10.41 |
| 58 | | benzene | 1.518 | 1.477 | 2.7 | 101 | 0.00 | 10.28 |
| 59 | | tert-amyl methyl ether | 1.385 | 1.303 | 5.9 | 97 | 0.00 | 10.37 |
| 60 | | heptane | 0.203 | 0.208 | -2.5 | 105 | 0.00 | 10.56 |
| 61 | | 1,2-dichloroethane | 0.534 | 0.507 | 5.1 | 102 | 0.00 | 10.28 |
| 62 | | ethyl acrylate | 0.391 | 0.410 | -4.9 | 108 | 0.00 | 10.98 |
| 63 | | trichloroethene | 0.377 | 0.368 | 2.4 | 101 | 0.00 | 11.02 |
| 64 | | 2-chloroethyl vinyl ether | 0.198 | 0.213 | -7.6 | 106 | 0.00 | 11.82 |
| 65 | | methyl methacrylate | 0.085 | 0.096 | -12.9 | 112 | 0.00 | 11.26 |
| 66 | | methylcyclohexane | 0.644 | 0.601 | 6.7 | 95 | 0.00 | 11.37 |
| 67 | | 1,2-dichloropropane | 0.377 | 0.379 | -0.5 | 102 | 0.00 | 11.30 |
| 68 | | dibromomethane | 0.218 | 0.231 | -6.0 | 106 | 0.00 | 11.41 |
| 69 | | bromodichloromethane | 0.505 | 0.506 | -0.2 | 101 | 0.00 | 11.57 |
| 70 | | 2-nitropropane | 0.079 | 0.083 | -5.1 | 110 | 0.00 | 11.75 |
| 71 | | epichlorohydrin | 0.036 | 0.038 | -5.6 | 107 | 0.00 | 11.90 |
| 72 | | cis-1,3-dichloropropene | 0.608 | 0.620 | -2.0 | 103 | 0.00 | 12.06 |
| 73 | | 4-methyl-2-pentanone | 0.131 | 0.137 | -4.6 | 106 | 0.00 | 12.16 |
| 74 | | isoamyl alcohol | 0.010 | 0.011 | -10.0 | 104 | 0.00 | 12.15 |
| 75 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 14.09 |
| 76 | S | toluene-d8 (s) | 1.219 | 1.240 | -1.7 | 106 | 0.00 | 12.42 |
| 77 | | toluene | 0.956 | 0.966 | -1.0 | 102 | 0.00 | 12.50 |
| 78 | | ethyl methacrylate | 0.453 | 0.469 | -3.5 | 101 | 0.00 | 12.68 |
| 79 | | trans-1,3-dichloropropene | 0.556 | 0.554 | 0.4 | 99 | 0.00 | 12.67 |
| 80 | | 1,1,2-trichloroethane | 0.255 | 0.263 | -3.1 | 103 | 0.00 | 12.92 |
| 81 | | tetrachloroethene | | ----------NA---------- | | | | |
| 82 | | 2-hexanone | 0.115 | 0.124 | -7.8 | 105 | 0.00 | 13.10 |
| 83 | | 1,3-dichloropropane | 0.549 | 0.574 | -4.6 | 106 | 0.00 | 13.12 |
| 84 | | butyl acetate | 0.235 | 0.246 | -4.7 | 103 | 0.00 | 13.20 |
| 85 | | dibromochloromethane | 0.359 | 0.395 | -10.0 | 107 | 0.00 | 13.40 |
| 86 | | 1,2-dibromoethane | 0.396 | 0.419 | -5.8 | 104 | 0.00 | 13.58 |
| 87 | | n-butyl ether | 1.743 | 1.763 | -1.1 | 104 | 0.00 | 14.10 |
| 88 | | chlorobenzene | 1.108 | 1.103 | 0.5 | 102 | 0.00 | 14.13 |
| 89 | | 1,1,1,2-tetrachloroethane | 0.426 | 0.455 | -6.8 | 104 | 0.00 | 14.20 |
| 90 | | ethylbenzene | 1.895 | 1.909 | -0.7 | 102 | 0.00 | 14.21 |
| 91 | | m,p-xylene | 0.722 | 0.731 | -1.2 | 102 | 0.00 | 14.35 |
| 92 | | o-xylene | 1.587 | 1.605 | -1.1 | 103 | 0.00 | 14.79 |
| 93 | | styrene | 1.230 | 1.300 | -5.7 | 105 | 0.00 | 14.81 |
| 94 | | butyl acrylate | 0.744 | 0.827 | -11.2 | 105 | 0.00 | 14.59 |
| 95 | | n-amyl acetate | 0.315 | 0.314 | 0.3 | 98 | 0.00 | 14.83 |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** VD10606-ICV10606
**Account:** BBLNYS Arcadis **Lab FileID:** D263022.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | isopropylbenzene | 1.852 | 1.868 | -0.9 | 102 | 0.00 | 15.20 |
| 97 | | bromoform | 0.259 | 0.294 | -13.5 | 110 | 0.00 | 15.05 |
| 98 | | cis-1,4-dichloro-2-butene | 0.172 | 0.176 | -2.3 | 102 | 0.00 | 15.20 |
| 99 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 16.74 |
| 100 | S | 4-bromofluorobenzene (s) | 0.926 | 0.876 | 5.4 | 106 | 0.00 | 15.41 |
| 101 | | 1,1,2,2-tetrachloroethane | 0.773 | 0.731 | 5.4 | 103 | 0.00 | 15.47 |
| 102 | | trans-1,4-dichloro-2-bute | 0.193 | 0.226 | -17.1 | 118 | 0.00 | 15.51 |
| 103 | | 1,2,3-trichloropropane | 0.223 | 0.220 | 1.3 | 105 | 0.00 | 15.57 |
| 104 | | bromobenzene | 0.876 | 0.859 | 1.9 | 105 | 0.00 | 15.62 |
| 105 | | n-propylbenzene | 3.463 | 3.306 | 4.5 | 102 | 0.00 | 15.67 |
| 106 | | 2-chlorotoluene | 0.776 | 0.747 | 3.7 | 102 | 0.00 | 15.81 |
| 107 | | 4-chlorotoluene | 2.286 | 2.267 | 0.8 | 106 | 0.00 | 15.94 |
| 108 | | 1,3,5-trimethylbenzene | 2.646 | 2.538 | 4.1 | 101 | 0.00 | 15.85 |
| 109 | | tert-butylbenzene | 2.053 | 1.982 | 3.5 | 101 | 0.00 | 16.23 |
| 110 | | 1,2,4-trimethylbenzene | 2.639 | 2.664 | -0.9 | 105 | 0.00 | 16.29 |
| 111 | | sec-butylbenzene | 3.024 | 2.981 | 1.4 | 102 | 0.00 | 16.48 |
| 112 | | p-isopropyltoluene | 2.517 | 2.585 | -2.7 | 102 | 0.00 | 16.63 |
| 113 | | 1,3-dichlorobenzene | 1.531 | 1.541 | -0.7 | 105 | 0.00 | 16.66 |
| 114 | | 1,4-dichlorobenzene | 1.588 | 1.588 | 0.0 | 105 | 0.00 | 16.77 |
| 115 | | 1,2-dichlorobenzene | 1.534 | 1.532 | 0.1 | 102 | 0.00 | 17.18 |
| 116 | | benzyl chloride | 1.490 | 1.266 | 15.0 | 80 | 0.00 | 16.86 |
| 117 | | n-butylbenzene | 1.176 | 1.247 | -6.0 | 101 | 0.00 | 17.09 |
| 118 | | 2-ethylhexyl acrylate | 0.248 | 0.194 | 21.8 | 108 | 0.00 | 18.98 |
| 119 | | hexachloroethane | 0.391 | 0.409 | -4.6 | 103 | 0.00 | 17.54 |
| 120 | | 1,2-dibromo-3-chloropropa | 0.138 | 0.148 | -7.2 | 99 | 0.00 | 18.02 |
| 121 | | 1,3,5-trichlorobenzene | 1.032 | 1.130 | -9.5 | 102 | 0.00 | 18.26 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 122 | | 1,2,4-trichlorobenzene | 50.000 | 48.668 | 2.7 | 100 | 0.00 | 18.98 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 123 | | hexachlorobutadiene | 0.470 | 0.495 | -5.3 | 99 | 0.00 | 19.14 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 124 | | naphthalene | 50.000 | 49.042 | 1.9 | 102 | 0.00 | 19.32 |
| 125 | | 1,2,3-trichlorobenzene | 50.000 | 47.609 | 4.8 | 99 | 0.00 | 19.59 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 126 | | 2-methylnaphthalene | 0.447 | 0.423 | 5.4 | 95 | 0.00 | 20.74 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
d263017.D MD10606.M Fri Mar 15 14:35:50 2019 RPT1

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** VD10606-ICV10606
**Lab FileID:** D263023.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\VD10606\d263023.D          Vial: 15
Acq On    : 15 Mar 2019  12:18 am                    Operator: juntaep
Sample    : icv10606-50                              Inst    : MSD
Misc      : ms33018,vd10606,5,,100,5,1               Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MD10606.M (RTE Integrator)
Title        : SW846 8260C, Rxi-624  MS 60m x 0.25mm x 1.4um
Last Update  : Fri Mar 15 14:33:32 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 7.47 |
| 2 | | ethanol | | ----------NA---------- | | | | |
| 3 | | tertiary butyl alcohol | | ----------NA---------- | | | | |
| 4 | | 1,4-dioxane | | ----------NA---------- | | | | |
| 5 | I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 109 | 0.00 | 9.73 |
| 6 | | chlorodifluoromethane | | ----------NA---------- | | | | |
| 7 | | dichlorodifluoromethane | | ----------NA---------- | | | | |
| 8 | | chloromethane | | ----------NA---------- | | | | |
| 9 | | 1,3-butadiene | | ----------NA---------- | | | | |
| 10 | | vinyl chloride | | ----------NA---------- | | | | |
| 11 | | bromomethane | | ----------NA---------- | | | | |
| 12 | | chloroethane | | ----------NA---------- | | | | |
| 13 | | trichlorofluoromethane | | ----------NA---------- | | | | |
| 14 | | vinyl bromide | | ----------NA---------- | | | | |
| 15 | | ethyl ether | | ----------NA---------- | | | | |
| 16 | | 2-chloropropane | | ----------NA---------- | | | | |
| 17 | | acrolein | | ----------NA---------- | | | | |
| 18 | | freon 113 | | ----------NA---------- | | | | |
| 19 | | 1,1-dichloroethene | | ----------NA---------- | | | | |
| 20 | | acetone | 0.039 | 0.038 | 2.6 | 99 | 0.00 | 6.84 |
| 21 | | acetonitrile | 0.082 | 0.074 | 9.8 | 98 | 0.00 | 7.21 |
| 22 | | iodomethane | | ----------NA---------- | | | | |
| 23 | | carbon disulfide | | ----------NA---------- | | | | |
| 24 | | methylene chloride | | ----------NA---------- | | | | |
| 25 | | methyl acetate | | ----------NA---------- | | | | |
| 26 | | methyl tert butyl ether | | ----------NA---------- | | | | |
| 27 | | trans-1,2-dichloroethene | | ----------NA---------- | | | | |
| 28 | | hexane | | ----------NA---------- | | | | |
| 29 | | di-isopropyl ether | | ----------NA---------- | | | | |
| 30 | | 2-butanone | | ----------NA---------- | | | | |
| 31 | | 1,1-dichloroethane | | ----------NA---------- | | | | |
| 32 | | chloroprene | | ----------NA---------- | | | | |
| 33 | | acrylonitrile | | ----------NA---------- | | | | |
| 34 | | vinyl acetate | | ----------NA---------- | | | | |
| 35 | | ethyl tert-butyl ether | | ----------NA---------- | | | | |
| 36 | | ethyl acetate | | ----------NA---------- | | | | |
| 37 | | 2,2-dichloropropane | | ----------NA---------- | | | | |
| 38 | | cis-1,2-dichloroethene | | ----------NA---------- | | | | |
| 39 | | propionitrile | | ----------NA---------- | | | | |

---------- True  Calc.  % Drift ----------

# Initial Calibration Verification

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VD10606-ICV10606
**Lab FileID:** D263023.D

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 40 | | methyl acrylate | | ----------NA---------- | | | | |
| 41 | | methacrylonitrile | | ----------NA---------- | | | | |
| 42 | | bromochloromethane | | ----------NA---------- | | | | |
| 43 | | tetrahydrofuran | | ----------NA---------- | | | | |
| 44 | | chloroform | | ----------NA---------- | | | | |
| 45 | | tert-butyl formate | | ----------NA---------- | | | | |
| 46 | S | dibromofluoromethane (s) | 0.472 | 0.460 | 2.5 | 105 | 0.00 | 9.76 |
| 47 | | 1,1,1-trichloroethane | | ----------NA---------- | | | | |
| 48 | | cyclohexane | | ----------NA---------- | | | | |
| 49 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 50 | | 1,1-dichloropropene | | ----------NA---------- | | | | |
| 51 | | carbon tetrachloride | | ----------NA---------- | | | | |
| 52 | | tert-amyl alcohol | | ----------NA---------- | | | | |
| 53 | | isopropyl acetate | | ----------NA---------- | | | | |
| 54 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 10.68 |
| 55 | S | 1,2-dichloroethane-d4 (s) | 0.375 | 0.369 | 1.6 | 106 | 0.00 | 10.19 |
| 56 | | n-butyl alcohol | | ----------NA---------- | | | | |
| 57 | | 2,2,4-trimethylpentane | | ----------NA---------- | | | | |
| 58 | | benzene | | ----------NA---------- | | | | |
| 59 | | tert-amyl methyl ether | | ----------NA---------- | | | | |
| 60 | | heptane | | ----------NA---------- | | | | |
| 61 | | 1,2-dichloroethane | | ----------NA---------- | | | | |
| 62 | | ethyl acrylate | | ----------NA---------- | | | | |
| 63 | | trichloroethene | | ----------NA---------- | | | | |
| 64 | | 2-chloroethyl vinyl ether | | ----------NA---------- | | | | |
| 65 | | methyl methacrylate | | ----------NA---------- | | | | |
| 66 | | methylcyclohexane | | ----------NA---------- | | | | |
| 67 | | 1,2-dichloropropane | | ----------NA---------- | | | | |
| 68 | | dibromomethane | | ----------NA---------- | | | | |
| 69 | | bromodichloromethane | | ----------NA---------- | | | | |
| 70 | | 2-nitropropane | | ----------NA---------- | | | | |
| 71 | | epichlorohydrin | | ----------NA---------- | | | | |
| 72 | | cis-1,3-dichloropropene | | ----------NA---------- | | | | |
| 73 | | 4-methyl-2-pentanone | | ----------NA---------- | | | | |
| 74 | | isoamyl alcohol | | ----------NA---------- | | | | |
| 75 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 109 | 0.00 | 14.09 |
| 76 | S | toluene-d8 (s) | 1.219 | 1.203 | 1.3 | 107 | 0.00 | 12.42 |
| 77 | | toluene | | ----------NA---------- | | | | |
| 78 | | ethyl methacrylate | | ----------NA---------- | | | | |
| 79 | | trans-1,3-dichloropropene | | ----------NA---------- | | | | |
| 80 | | 1,1,2-trichloroethane | | ----------NA---------- | | | | |
| 81 | | tetrachloroethene | 0.312 | 0.278 | 10.9 | 93 | 0.00 | 13.13 |
| 82 | | 2-hexanone | | ----------NA---------- | | | | |
| 83 | | 1,3-dichloropropane | | ----------NA---------- | | | | |
| 84 | | butyl acetate | | ----------NA---------- | | | | |
| 85 | | dibromochloromethane | | ----------NA---------- | | | | |
| 86 | | 1,2-dibromoethane | | ----------NA---------- | | | | |
| 87 | | n-butyl ether | | ----------NA---------- | | | | |
| 88 | | chlorobenzene | | ----------NA---------- | | | | |
| 89 | | 1,1,1,2-tetrachloroethane | | ----------NA---------- | | | | |
| 90 | | ethylbenzene | | ----------NA---------- | | | | |
| 91 | | m,p-xylene | | ----------NA---------- | | | | |
| 92 | | o-xylene | | ----------NA---------- | | | | |
| 93 | | styrene | | ----------NA---------- | | | | |
| 94 | | butyl acrylate | | ----------NA---------- | | | | |
| 95 | | n-amyl acetate | | ----------NA---------- | | | | |

# Initial Calibration Verification

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VD10606-ICV10606
**Lab FileID:** D263023.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | isopropylbenzene | | | ----------NA---------- | | | |
| 97 | | bromoform | | | ----------NA---------- | | | |
| 98 | | cis-1,4-dichloro-2-butene | | | ----------NA---------- | | | |
| 99 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 94 | 0.00 | 16.74 |
| 100 | S | 4-bromofluorobenzene (s) | 0.926 | 1.005 | -8.5 | 108 | 0.00 | 15.42 |
| 101 | | 1,1,2,2-tetrachloroethane | | | ----------NA---------- | | | |
| 102 | | trans-1,4-dichloro-2-bute | | | ----------NA---------- | | | |
| 103 | | 1,2,3-trichloropropane | | | ----------NA---------- | | | |
| 104 | | bromobenzene | | | ----------NA---------- | | | |
| 105 | | n-propylbenzene | | | ----------NA---------- | | | |
| 106 | | 2-chlorotoluene | | | ----------NA---------- | | | |
| 107 | | 4-chlorotoluene | | | ----------NA---------- | | | |
| 108 | | 1,3,5-trimethylbenzene | | | ----------NA---------- | | | |
| 109 | | tert-butylbenzene | | | ----------NA---------- | | | |
| 110 | | 1,2,4-trimethylbenzene | | | ----------NA---------- | | | |
| 111 | | sec-butylbenzene | | | ----------NA---------- | | | |
| 112 | | p-isopropyltoluene | | | ----------NA---------- | | | |
| 113 | | 1,3-dichlorobenzene | | | ----------NA---------- | | | |
| 114 | | 1,4-dichlorobenzene | | | ----------NA---------- | | | |
| 115 | | 1,2-dichlorobenzene | | | ----------NA---------- | | | |
| 116 | | benzyl chloride | | | ----------NA---------- | | | |
| 117 | | n-butylbenzene | | | ----------NA---------- | | | |
| 118 | | 2-ethylhexyl acrylate | | | ----------NA---------- | | | |
| 119 | | hexachloroethane | | | ----------NA---------- | | | |
| 120 | | 1,2-dibromo-3-chloropropa | | | ----------NA---------- | | | |
| 121 | | 1,3,5-trichlorobenzene | | | ----------NA---------- | | | |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 122 | | 1,2,4-trichlorobenzene | | | ----------NA---------- | | | |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 123 | | hexachlorobutadiene | | | ----------NA---------- | | | |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 124 | | naphthalene | | | ----------NA---------- | | | |
| 125 | | 1,2,3-trichlorobenzene | | | ----------NA---------- | | | |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 126 | | 2-methylnaphthalene | | | ----------NA---------- | | | |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
d263017.D  MD10606.M  Fri Mar 15 14:35:52 2019  RPT1

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** VD10654-CC10606
**Lab FileID:** D264356.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\VD10654\d264356.D  Vial: 1
Acq On : 8 May 2019 6:56 am  Operator: thienn
Sample : cc10606-50  Inst : MSD
Misc : ms34538,vd10654,5,,100,5,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MD10606.M (RTE Integrator)
Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
Last Update : Wed Mar 27 14:25:51 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 1 I | tert butyl alcohol-d9 | 1.000 | 1.000 | 0.0 | 142 | -0.01 | 7.46 |
| 2 | ethanol | | ----------NA---------- | | | | |
| 3 | tertiary butyl alcohol | 1.326 | 1.187 | 10.5 | 117 | 0.00 | 7.57 |
| 4 | 1,4-dioxane | 0.121 | 0.110 | 9.1 | 122 | 0.00 | 11.35 |
| 5 I | pentafluorobenzene | 1.000 | 1.000 | 0.0 | 133 | 0.00 | 9.72 |
| 6 | chlorodifluoromethane | 1.055 | 0.742 | 29.7# | 89 | 0.00 | 4.41 |
| 7 | dichlorodifluoromethane | 1.452 | 0.966 | 33.5# | 81 | 0.00 | 4.41 |
| 8 | chloromethane | 1.216 | 1.090 | 10.4 | 105 | 0.00 | 4.70 |
| 9 | 1,3-butadiene | 0.673 | 0.545 | 19.0 | 95 | 0.00 | 4.98 |
| 10 | vinyl chloride | 1.237 | 1.092 | 11.7 | 106 | -0.01 | 4.94 |
| 11 | bromomethane | 0.637 | 0.604 | 5.2 | 111 | 0.00 | 5.52 |
| 12 | chloroethane | 0.542 | 0.482 | 11.1 | 107 | 0.00 | 5.66 |
| 13 | trichlorofluoromethane | 1.114 | 0.906 | 18.7 | 97 | 0.00 | 6.14 |
| 14 | vinyl bromide | 0.568 | 0.615 | -8.3 | 126 | 0.00 | 6.01 |
| 15 | ethyl ether | 0.276 | 0.286 | -3.6 | 129 | 0.00 | 6.47 |
| 16 | 2-chloropropane | 1.189 | 1.002 | 15.7 | 112 | 0.00 | 6.68 |
| 17 | acrolein | 0.092 | 0.104 | -13.0 | 140 | -0.01 | 6.64 |
| 18 | freon 113 | 0.654 | 0.550 | 15.9 | 103 | 0.00 | 6.92 |
| 19 | 1,1-dichloroethene | 0.617 | 0.557 | 9.7 | 116 | -0.01 | 6.88 |
| 20 | acetone | 0.039 | 0.054 | -38.5# | 168 | 0.00 | 6.83 |
| 21 | acetonitrile | 0.082 | 0.080 | 2.4 | 130 | -0.01 | 7.20 |
| 22 | iodomethane | 0.970 | 0.872 | 10.1 | 111 | -0.01 | 7.12 |
| 23 | carbon disulfide | 2.010 | 1.821 | 9.4 | 114 | 0.00 | 7.29 |
| 24 | methylene chloride | 0.648 | 0.612 | 5.6 | 122 | 0.00 | 7.53 |
| 25 | methyl acetate | 0.343 | 0.332 | 3.2 | 125 | 0.00 | 7.29 |
| 26 | methyl tert butyl ether | 1.873 | 1.697 | 9.4 | 117 | 0.00 | 7.90 |
| 27 | trans-1,2-dichloroethene | 0.565 | 0.526 | 6.9 | 118 | 0.00 | 7.93 |
| 28 | hexane | 0.364 | 0.373 | -2.5 | 129 | 0.00 | 8.30 |
| 29 | di-isopropyl ether | 2.142 | 1.986 | 7.3 | 118 | 0.00 | 8.49 |
| 30 | 2-butanone | 0.046 | 0.051 | -10.9 | 136 | 0.00 | 9.10 |
| 31 | 1,1-dichloroethane | 1.006 | 0.920 | 8.5 | 115 | 0.00 | 8.48 |
| 32 | chloroprene | 0.899 | 0.775 | 13.8 | 105 | 0.00 | 8.59 |
| 33 | acrylonitrile | 0.158 | 0.170 | -7.6 | 132 | 0.00 | 7.77 |
| 34 | vinyl acetate | 0.110 | 0.104 | 5.5 | 112 | 0.00 | 8.41 |
| 35 | ethyl tert-butyl ether | 2.113 | 1.939 | 8.2 | 115 | 0.00 | 8.95 |
| 36 | ethyl acetate | 0.065 | 0.069 | -6.2 | 132 | 0.00 | 9.13 |
| 37 | 2,2-dichloropropane | 1.080 | 0.940 | 13.0 | 111 | 0.00 | 9.24 |
| 38 | cis-1,2-dichloroethene | 0.619 | 0.581 | 6.1 | 119 | 0.00 | 9.19 |
| 39 | propionitrile | 0.069 | 0.072 | -4.3 | 130 | -0.01 | 9.13 |

---------- True Calc. % Drift ----------

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** VD10654-CC10606
**Account:** BBLNYS Arcadis **Lab FileID:** D264356.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 40 | | methyl acrylate | 50.000 | 46.220 | 7.6 | 114 | 0.00 | 9.22 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 41 | | methacrylonitrile | 0.180 | 0.181 | -0.6 | 125 | 0.00 | 9.35 |
| 42 | | bromochloromethane | 0.279 | 0.268 | 3.9 | 117 | 0.00 | 9.48 |
| 43 | | tetrahydrofuran | 0.134 | 0.129 | 3.7 | 125 | 0.00 | 9.52 |
| 44 | | chloroform | 1.017 | 0.871 | 14.4 | 113 | 0.00 | 9.56 |
| 45 | | tert-butyl formate | 0.573 | 0.525 | 8.4 | 112 | 0.00 | 9.61 |
| 46 | S | dibromofluoromethane (s) | 0.472 | 0.466 | 1.3 | 129 | -0.01 | 9.75 |
| 47 | | 1,1,1-trichloroethane | 1.043 | 0.885 | 15.1 | 106 | 0.00 | 9.86 |
| 48 | | cyclohexane | 1.049 | 1.054 | -0.5 | 123 | 0.00 | 10.01 |
| 49 | | isobutyl alcohol | | ----------NA---------- | | | | |
| 50 | | 1,1-dichloropropene | 0.770 | 0.660 | 14.3 | 109 | 0.00 | 10.03 |
| 51 | | carbon tetrachloride | 0.890 | 0.736 | 17.3 | 103 | 0.00 | 10.07 |
| 52 | | tert-amyl alcohol | 0.032 | 0.029 | 9.4 | 123 | 0.00 | 10.11 |
| 53 | | isopropyl acetate | 0.120 | 0.113 | 5.8 | 120 | 0.00 | 10.15 |
| 54 | I | 1,4-difluorobenzene | 1.000 | 1.000 | 0.0 | 135 | 0.00 | 10.68 |
| 55 | S | 1,2-dichloroethane-d4 (s) | 0.375 | 0.323 | 13.9 | 118 | -0.01 | 10.17 |
| 56 | | n-butyl alcohol | 0.012 | 0.011 | 8.3 | 128 | 0.00 | 10.68 |
| 57 | | 2,2,4-trimethylpentane | 1.240 | 1.257 | -1.4 | 125 | 0.00 | 10.40 |
| 58 | | benzene | 1.518 | 1.362 | 10.3 | 118 | 0.00 | 10.27 |
| 59 | | tert-amyl methyl ether | 1.385 | 1.203 | 13.1 | 114 | 0.00 | 10.36 |
| 60 | | heptane | 0.203 | 0.206 | -1.5 | 133 | 0.00 | 10.56 |
| 61 | | 1,2-dichloroethane | 0.534 | 0.398 | 25.5# | 102 | 0.00 | 10.27 |
| 62 | | ethyl acrylate | 0.391 | 0.352 | 10.0 | 118 | 0.00 | 10.97 |
| 63 | | trichloroethene | 0.377 | 0.329 | 12.7 | 115 | -0.01 | 11.01 |
| 64 | | 2-chloroethyl vinyl ether | 0.198 | 0.191 | 3.5 | 121 | 0.00 | 11.81 |
| 65 | | methyl methacrylate | 0.085 | 0.081 | 4.7 | 119 | 0.00 | 11.25 |
| 66 | | methylcyclohexane | 0.644 | 0.640 | 0.6 | 128 | 0.00 | 11.36 |
| 67 | | 1,2-dichloropropane | 0.377 | 0.351 | 6.9 | 121 | 0.00 | 11.29 |
| 68 | | dibromomethane | 0.218 | 0.193 | 11.5 | 113 | 0.00 | 11.40 |
| 69 | | bromodichloromethane | 0.505 | 0.442 | 12.5 | 113 | 0.00 | 11.56 |
| 70 | | 2-nitropropane | 0.079 | 0.064 | 19.0 | 107 | 0.00 | 11.74 |
| 71 | | epichlorohydrin | 0.036 | 0.035 | 2.8 | 125 | -0.01 | 11.88 |
| 72 | | cis-1,3-dichloropropene | 0.608 | 0.552 | 9.2 | 117 | 0.00 | 12.06 |
| 73 | | 4-methyl-2-pentanone | 0.131 | 0.126 | 3.8 | 124 | 0.00 | 12.15 |
| 74 | | isoamyl alcohol | 0.010 | 0.011 | -10.0 | 123 | 0.00 | 12.14 |
| 75 | I | chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 133 | 0.00 | 14.09 |
| 76 | S | toluene-d8 (s) | 1.219 | 1.214 | 0.4 | 132 | -0.01 | 12.41 |
| 77 | | toluene | 0.956 | 0.864 | 9.6 | 116 | 0.00 | 12.49 |
| 78 | | ethyl methacrylate | 0.453 | 0.421 | 7.1 | 115 | -0.01 | 12.67 |
| 79 | | trans-1,3-dichloropropene | 0.556 | 0.493 | 11.3 | 112 | 0.00 | 12.66 |
| 80 | | 1,1,2-trichloroethane | 0.255 | 0.234 | 8.2 | 116 | -0.01 | 12.90 |
| 81 | | tetrachloroethene | 0.312 | 0.282 | 9.6 | 116 | 0.00 | 13.12 |
| 82 | | 2-hexanone | 0.115 | 0.122 | -6.1 | 130 | 0.00 | 13.09 |
| 83 | | 1,3-dichloropropane | 0.549 | 0.481 | 12.4 | 112 | 0.00 | 13.11 |
| 84 | | butyl acetate | 0.235 | 0.231 | 1.7 | 123 | 0.00 | 13.20 |
| 85 | | dibromochloromethane | 0.359 | 0.334 | 7.0 | 114 | 0.00 | 13.39 |
| 86 | | 1,2-dibromoethane | 0.396 | 0.334 | 15.7 | 105 | 0.00 | 13.57 |
| 87 | | n-butyl ether | 1.743 | 1.601 | 8.1 | 120 | 0.00 | 14.10 |
| 88 | | chlorobenzene | 1.108 | 0.942 | 15.0 | 110 | 0.00 | 14.12 |
| 89 | | 1,1,1,2-tetrachloroethane | 0.426 | 0.378 | 11.3 | 110 | 0.00 | 14.19 |
| 90 | | ethylbenzene | 1.895 | 1.698 | 10.4 | 116 | -0.01 | 14.20 |
| 91 | | m,p-xylene | 0.722 | 0.657 | 9.0 | 117 | 0.00 | 14.34 |
| 92 | | o-xylene | 1.587 | 1.439 | 9.3 | 117 | 0.00 | 14.79 |
| 93 | | styrene | 1.230 | 1.114 | 9.4 | 114 | -0.01 | 14.79 |
| 94 | | butyl acrylate | 0.744 | 0.732 | 1.6 | 118 | 0.00 | 14.58 |
| 95 | | n-amyl acetate | 0.315 | 0.297 | 5.7 | 118 | 0.00 | 14.82 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** VD10654-CC10606
**Account:** BBLNYS Arcadis **Lab FileID:** D264356.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 96 | | isopropylbenzene | 1.852 | 1.817 | 1.9 | 126 | 0.00 | 15.19 |
| 97 | | bromoform | 0.259 | 0.240 | 7.3 | 114 | -0.01 | 15.04 |
| 98 | | cis-1,4-dichloro-2-butene | 0.172 | 0.146 | 15.1 | 107 | 0.00 | 15.19 |
| 99 | I | 1,4-dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 125 | -0.01 | 16.73 |
| 100 | S | 4-bromofluorobenzene (s) | 0.926 | 0.892 | 3.7 | 127 | 0.00 | 15.40 |
| 101 | | 1,1,2,2-tetrachloroethane | 0.773 | 0.712 | 7.9 | 118 | 0.00 | 15.47 |
| 102 | | trans-1,4-dichloro-2-bute | 0.193 | 0.182 | 5.7 | 112 | 0.00 | 15.50 |
| 103 | | 1,2,3-trichloropropane | 0.223 | 0.202 | 9.4 | 114 | 0.00 | 15.57 |
| 104 | | bromobenzene | 0.876 | 0.773 | 11.8 | 111 | 0.00 | 15.61 |
| 105 | | n-propylbenzene | 3.463 | 3.500 | -1.1 | 127 | 0.00 | 15.66 |
| 106 | | 2-chlorotoluene | 0.776 | 0.732 | 5.7 | 118 | -0.01 | 15.80 |
| 107 | | 4-chlorotoluene | 2.286 | 2.160 | 5.5 | 119 | 0.00 | 15.93 |
| 108 | | 1,3,5-trimethylbenzene | 2.646 | 2.720 | -2.8 | 127 | 0.00 | 15.84 |
| 109 | | tert-butylbenzene | 2.053 | 2.187 | -6.5 | 132 | 0.00 | 16.22 |
| 110 | | 1,2,4-trimethylbenzene | 2.639 | 2.720 | -3.1 | 126 | 0.00 | 16.28 |
| 111 | | sec-butylbenzene | 3.024 | 3.282 | -8.5 | 132 | 0.00 | 16.47 |
| 112 | | p-isopropyltoluene | 2.517 | 2.811 | -11.7 | 131 | 0.00 | 16.62 |
| 113 | | 1,3-dichlorobenzene | 1.531 | 1.490 | 2.7 | 120 | 0.00 | 16.65 |
| 114 | | 1,4-dichlorobenzene | 1.588 | 1.523 | 4.1 | 119 | 0.00 | 16.76 |
| 115 | | 1,2-dichlorobenzene | 1.534 | 1.522 | 0.8 | 120 | 0.00 | 17.17 |
| 116 | | benzyl chloride | 1.490 | 1.691 | -13.5 | 126 | 0.00 | 16.85 |
| 117 | | n-butylbenzene | 1.176 | 1.392 | -18.4 | 133 | 0.00 | 17.08 |
| 118 | | 2-ethylhexyl acrylate | 0.248 | 0.689 | -177.8# | 449# | 0.00 | 18.98 |
| 119 | | hexachloroethane | 0.391 | 0.461 | -17.9 | 137 | 0.00 | 17.53 |
| 120 | | 1,2-dibromo-3-chloropropa | 0.138 | 0.144 | -4.3 | 113 | -0.01 | 18.00 |
| 121 | | 1,3,5-trichlorobenzene | 1.032 | 1.253 | -21.4# | 133 | 0.00 | 18.25 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 122 | | 1,2,4-trichlorobenzene | 50.000 | 56.103 | -12.2 | 137 | 0.00 | 18.98 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 123 | | hexachlorobutadiene | 0.470 | 0.486 | -3.4 | 115 | -0.01 | 19.12 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 124 | | naphthalene | 50.000 | 54.912 | -9.8 | 134 | -0.01 | 19.31 |
| 125 | | 1,2,3-trichlorobenzene | 50.000 | 54.616 | -9.2 | 134 | -0.01 | 19.58 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 126 | | 2-methylnaphthalene | 0.447 | 0.786 | -75.8# | 208# | -0.01 | 20.73 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
d263017.D MD10606.M Wed May 08 10:37:33 2019 RPT1

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164399.D
Acq On : 9 May 2019 12:37 pm
Operator : PrashanS
Sample : JC86986-2
Misc : MS34303,V1C7215,4.1,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 09 13:48:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

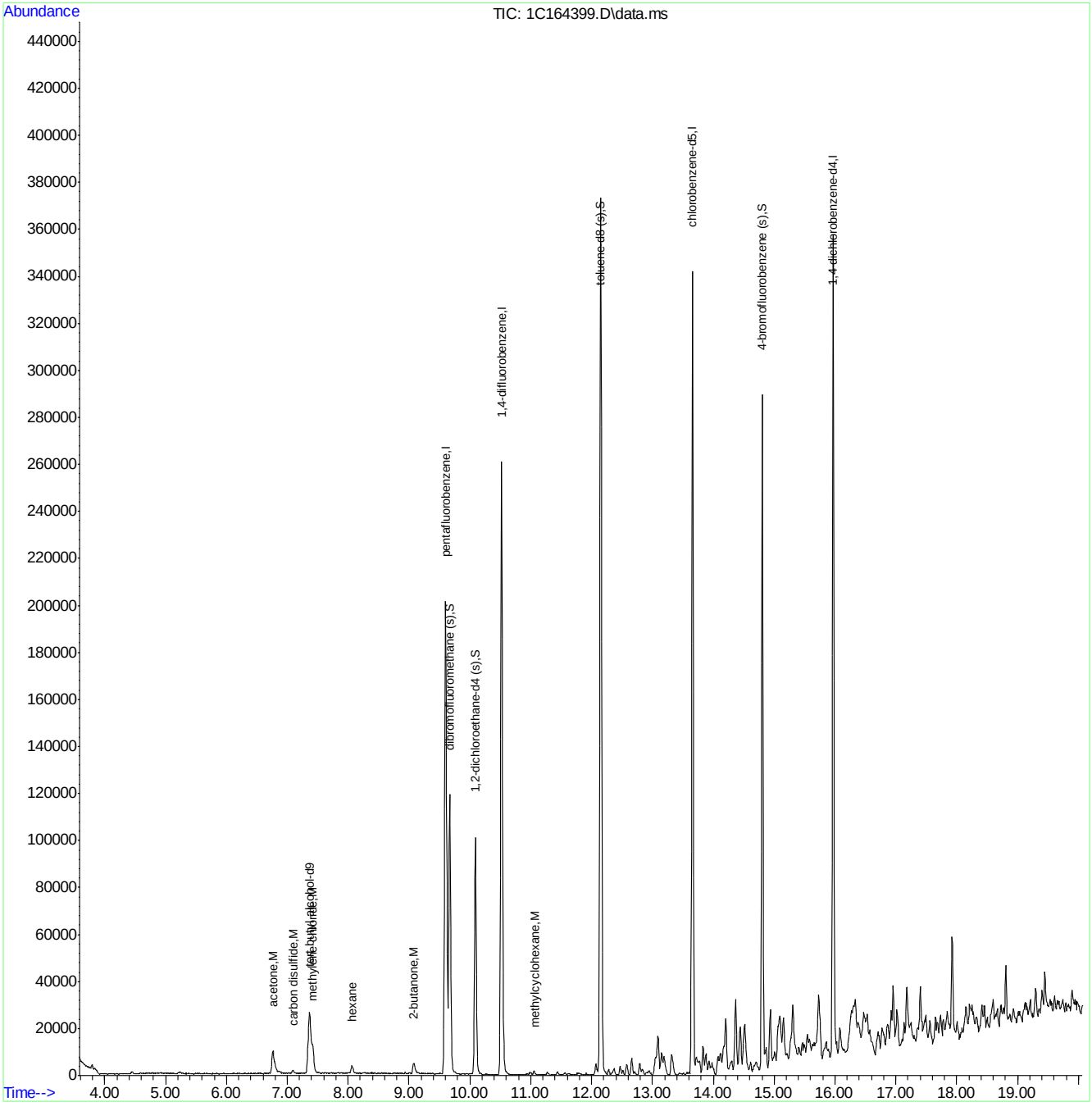
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 57977 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 183227 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 257475 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.655 | 117 | 206925 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.967 | 152 | 100489 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 81490 | 52.74 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 105.48% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 76513 | 47.30 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 94.60% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 279523 | 50.15 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.30% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 93723 | 49.68 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.36% | | | |
| Target Compounds | | | | | | Qvalue |
| 19) acetone | 6.762 | 43 | 21067 | 56.53 | ug/L | 92 |
| 22) carbon disulfide | 7.092 | 76 | 2343 | 0.48 | ug/L | 88 |
| 23) methylene chloride | 7.421 | 84 | 4838 | 2.97 | ug/L | 87 |
| 28) 2-butanone | 9.079 | 72 | 2183 | 15.58 | ug/L # | 4 |
| 32) hexane | 8.064 | 57 | 2085 | 0.81 | ug/L | 92 |
| 68) methylcyclohexane | 11.067 | 83 | 1103 | 0.39 | ug/L # | 61 |

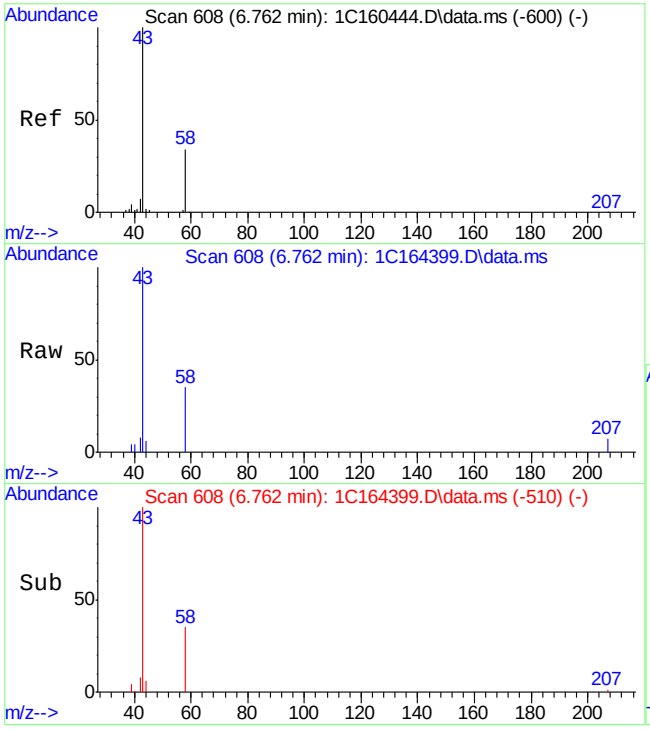
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164399.D
Acq On : 9 May 2019 12:37 pm
Operator : PrashanS
Sample : JC86986-2
Misc : MS34303,V1C7215,4.1,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 09 13:48:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

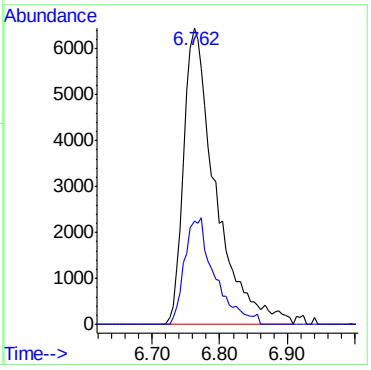


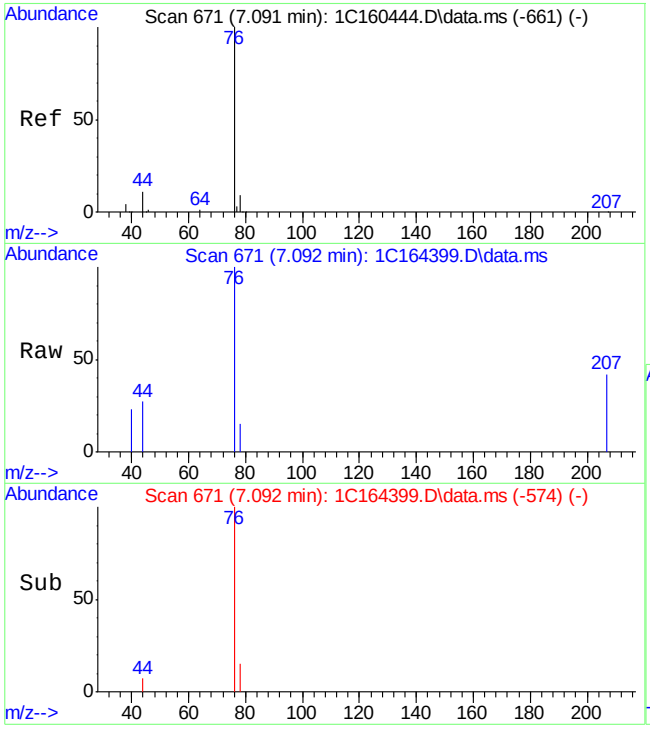



#19
acetone
Concen: 56.53 ug/L
RT: 6.762 min Scan# 608
Delta R.T. 0.010 min
Lab File: 1C164399.D
Acq: 9 May 2019 12:37 pm

Tgt Ion: 43 Resp: 21067

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 34.9 | 0.5 | 60.5 |

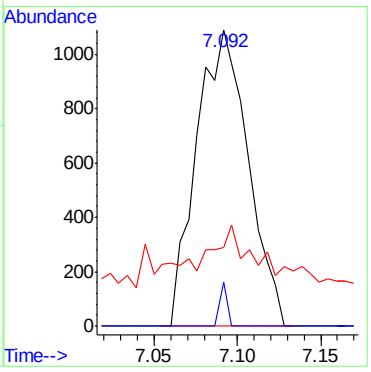


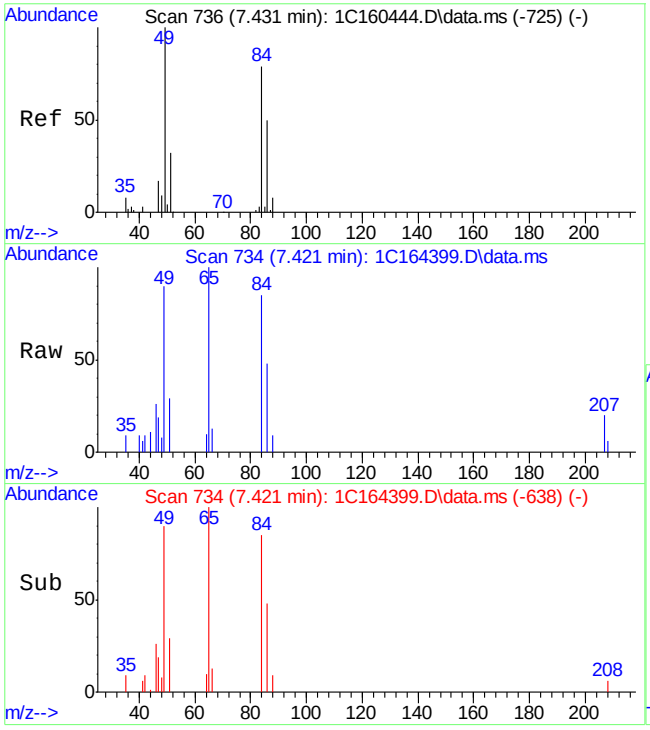




#22
carbon disulfide
Concen: 0.48 ug/L
RT: 7.092 min Scan# 671
Delta R.T. 0.005 min
Lab File: 1C164399.D
Acq: 9 May 2019 12:37 pm

Tgt Ion: 76 Resp: 2343

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 14.7 | 0.0 | 39.3 |
| 44 | 8.1 | 0.0 | 42.1 |

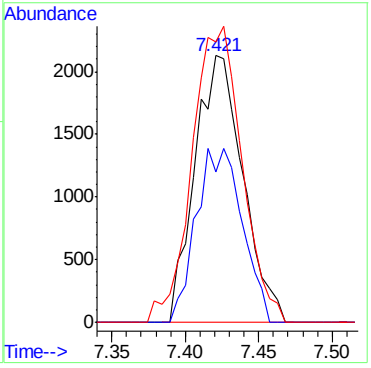


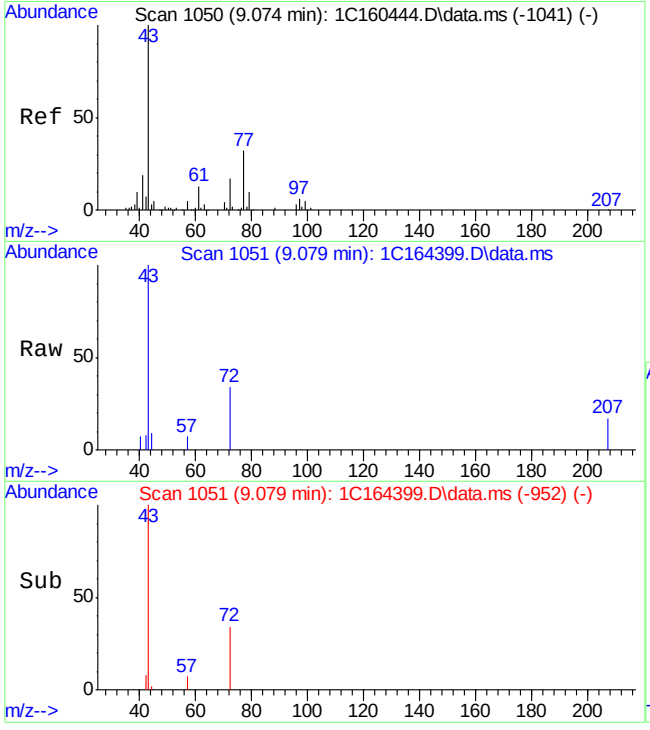



#23
methylene chloride
Concen: 2.97 ug/L
RT: 7.421 min Scan# 734
Delta R.T. 0.000 min
Lab File: 1C164399.D
Acq: 9 May 2019 12:37 pm

Tgt Ion: 84 Resp: 4838

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 86 | 56.6 | 33.8 | 93.8 |
| 49 | 105.3 | 91.8 | 151.8 |

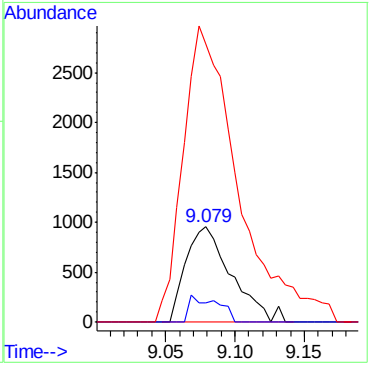


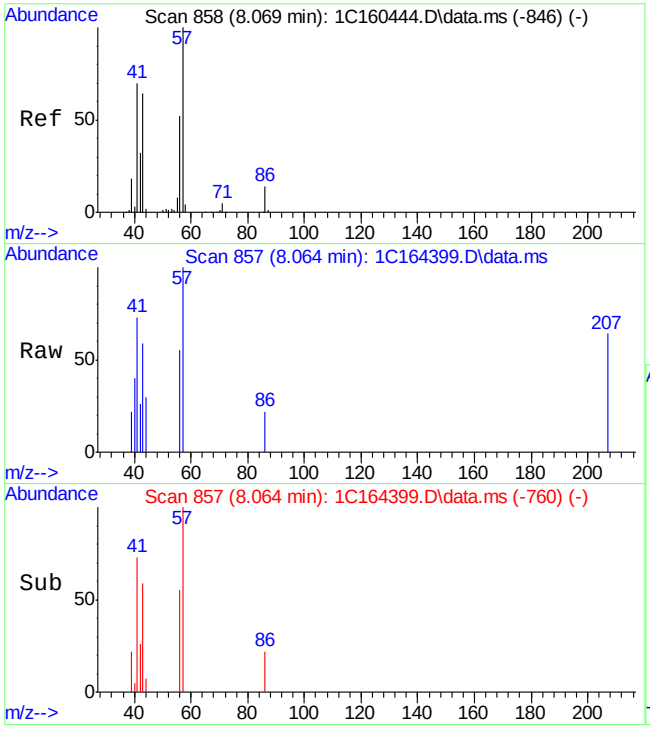




#28
2-butanone
Concen: 15.58 ug/L
RT: 9.079 min Scan# 1051
Delta R.T. 0.016 min
Lab File: 1C164399.D
Acq: 9 May 2019 12:37 pm

Tgt Ion: 72 Resp: 2183

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 57 | 20.4 | 2.9 | 62.9 |
| 43 | 270.3 | 541.8 | 601.8# |

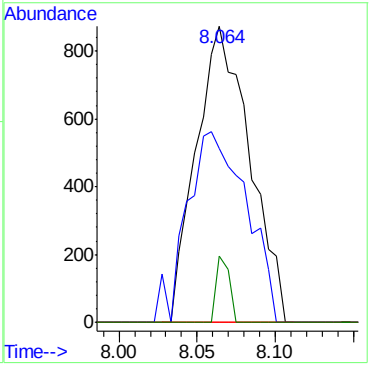


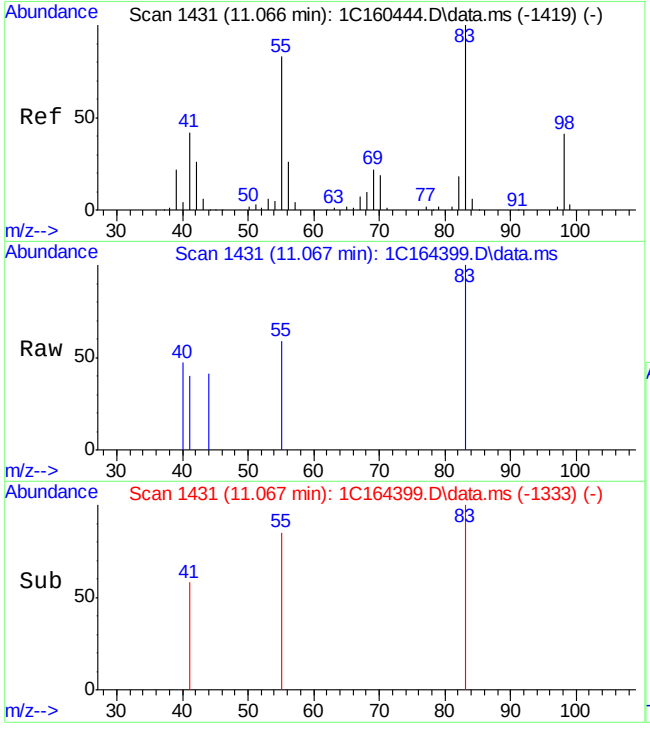



#32
hexane
Concen: 0.81 ug/L
RT: 8.064 min Scan# 857
Delta R.T. 0.005 min
Lab File: 1C164399.D
Acq: 9 May 2019 12:37 pm

Tgt Ion: 57 Resp: 2085

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 57 | 100 | | |
| 43 | 58.6 | 42.0 | 82.0 |
| 71 | 0.0 | 0.0 | 25.4 |
| 86 | 22.5 | 0.0 | 34.8 |

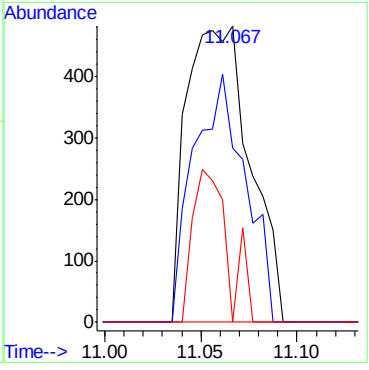



#68
methylcyclohexane
Concen: 0.39 ug/L
RT: 11.067 min Scan# 1431
Delta R.T. 0.010 min
Lab File: 1C164399.D
Acq: 9 May 2019 12:37 pm

Tgt Ion: 83 Resp: 1103

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 55 | 58.7 | 50.5 | 110.5 |
| 98 | 0.0 | 11.8 | 71.8# |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-9\vd10654\
Data File : d264378.d
Acq On : 8 May 2019 5:49 pm
Operator : thienn
Sample : jc86986-3 Inst : MSD
Misc : ms34303,vd10654,3.4,,20,10,1
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Results File: MD10606.RES
Quant Time: May 09 04:01:26 2019
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

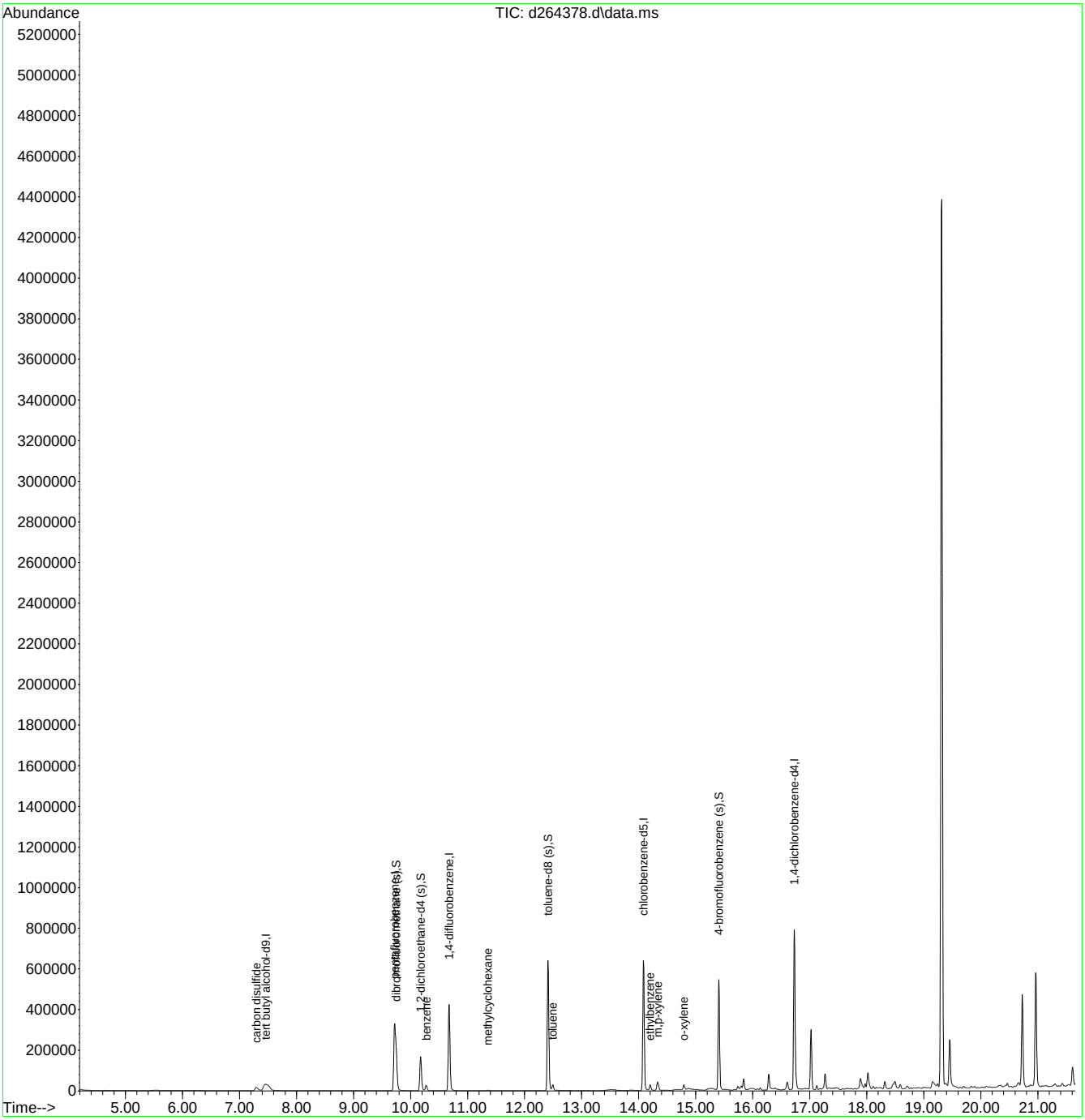
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.462 | 65 | 130756 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.722 | 168 | 247903 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.674 | 114 | 383612 | 50.00 | ug/L | -0.01 |
| 75) chlorobenzene-d5 | 14.084 | 117 | 388517 | 50.00 | ug/L | -0.01 |
| 99) 1,4-dichlorobenzene-d4 | 16.730 | 152 | 226453 | 50.00 | ug/L | -0.01 |
| System Monitoring Compounds | | | | | | |
| 46) dibromofluoromethane (s) | 9.748 | 113 | 115289 | 49.29 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.58% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.177 | 65 | 129446 | 45.01 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 90.02% | | | |
| 76) toluene-d8 (s) | 12.410 | 98 | 467136 | 49.31 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.62% | | | |
| 100) 4-bromofluorobenzene (s) | 15.407 | 95 | 204269 | 48.68 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 97.36% | | | |
| Target Compounds | | | | | | Qvalue |
| 23) carbon disulfide | 7.295 | 76 | 51897 | 5.21 | ug/L | 98 |
| 58) benzene | 10.276 | 78 | 26349 | 2.26 | ug/L | 97 |
| 66) methylcyclohexane | 11.354 | 83 | 1617 | 0.33 | ug/L | 82 |
| 77) toluene | 12.494 | 92 | 13069 | 1.76 | ug/L | 97 |
| 90) ethylbenzene | 14.199 | 91 | 21820 | 1.48 | ug/L | 97 |
| 91) m,p-xylene | 14.335 | 106 | 15804 | 2.82 | ug/L | 99 |
| 92) o-xylene | 14.790 | 91 | 16709 | 1.36 | ug/L | 88 |

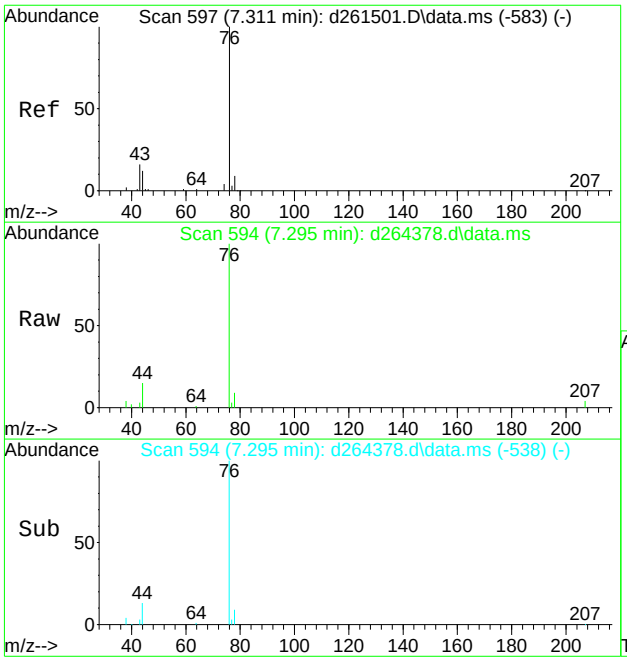
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-9\vd10654\
Data File : d264378.d
Acq On : 8 May 2019 5:49 pm
Operator : thienn
Sample : jc86986-3 Inst : MSD
Misc : ms34303,vd10654,3.4,,20,10,1
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Results File: MD10606.RES
Quant Time: May 09 04:01:26 2019
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

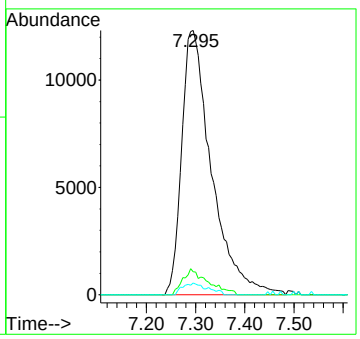


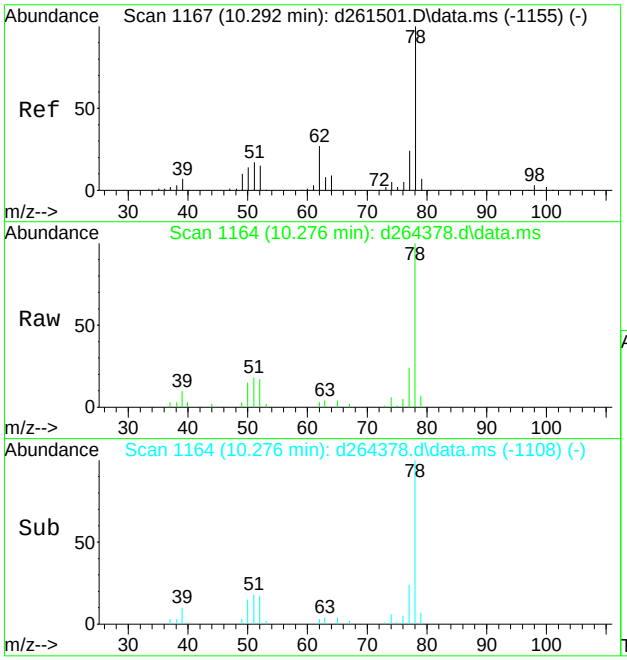



#23
carbon disulfide
Concen: 5.21 ug/L
RT: 7.295 min Scan# 594
Delta R.T. -0.005 min
Lab File: d264378.d
Acq: 8 May 2019 5:49 pm

Tgt Ion: 76 Resp: 51897

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 8.7 | 0.0 | 39.5 |
| 38 | 4.4 | 0.0 | 34.3 |

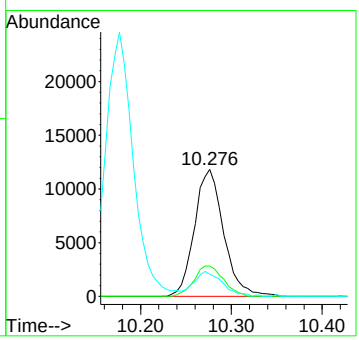


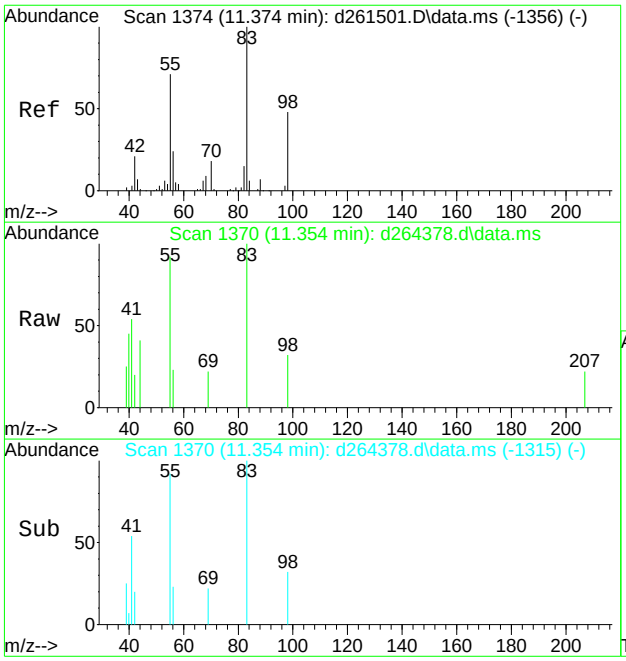




#58
benzene
Concen: 2.26 ug/L
RT: 10.276 min Scan# 1164
Delta R.T. -0.005 min
Lab File: d264378.d
Acq: 8 May 2019 5:49 pm

Tgt Ion: 78 Resp: 26349

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 24.0 | 0.0 | 53.8 |
| 51 | 17.5 | 0.0 | 50.1 |

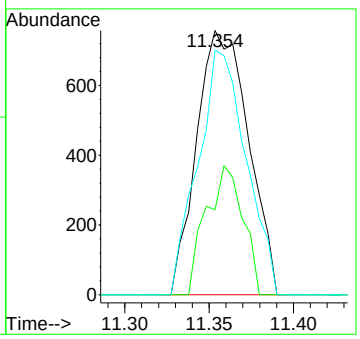


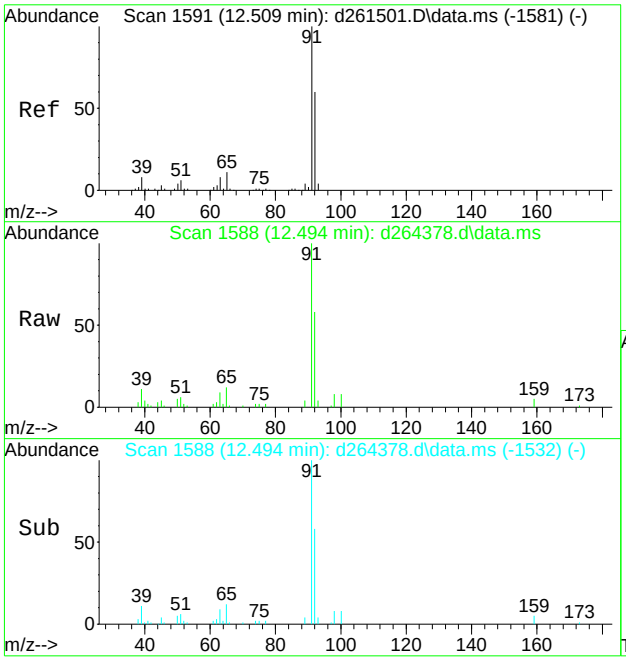



#66
methylcyclohexane
Concen: 0.33 ug/L
RT: 11.354 min Scan# 1370
Delta R.T. -0.010 min
Lab File: d264378.d
Acq: 8 May 2019 5:49 pm

Tgt Ion: 83 Resp: 1617

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 98 | 32.1 | 27.3 | 67.3 |
| 55 | 92.5 | 59.4 | 99.4 |

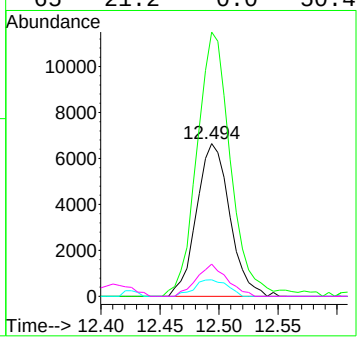


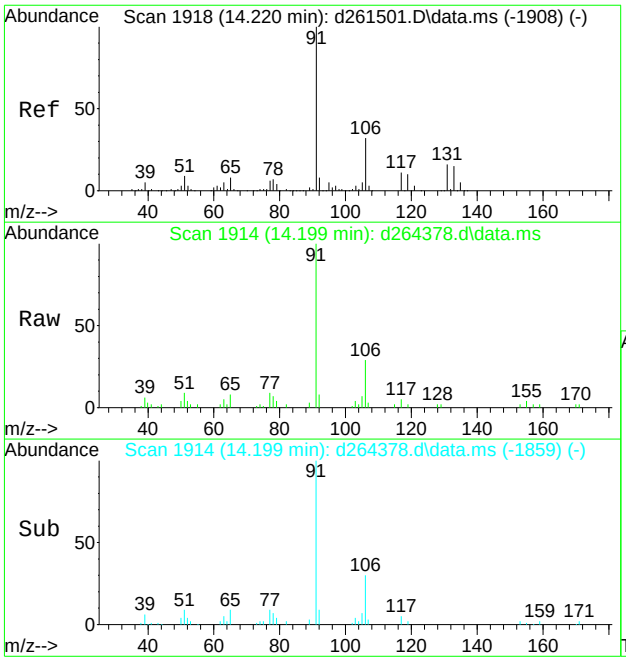




#77
toluene
Concen: 1.76 ug/L
RT: 12.494 min Scan# 1588
Delta R.T. -0.005 min
Lab File: d264378.d
Acq: 8 May 2019 5:49 pm

Tgt Ion: 92 Resp: 13069

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 173.0 | 149.2 | 189.2 |
| 51 | 10.8 | 0.0 | 42.2 |
| 65 | 21.2 | 0.0 | 50.4 |

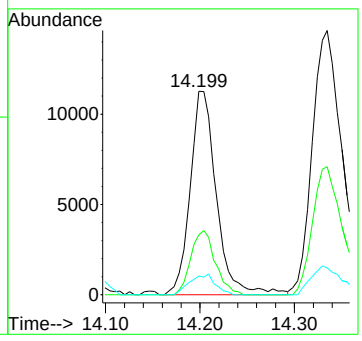


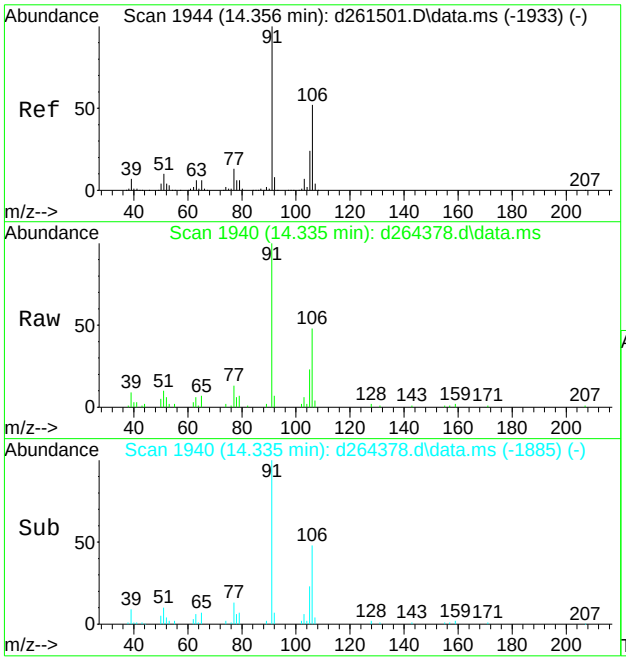



#90
ethylbenzene
Concen: 1.48 ug/L
RT: 14.199 min Scan# 1914
Delta R.T. -0.010 min
Lab File: d264378.d
Acq: 8 May 2019 5:49 pm

Tgt Ion: 91 Resp: 21820

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 29.5 | 1.2 | 61.2 |
| 51 | 9.3 | 0.0 | 40.0 |

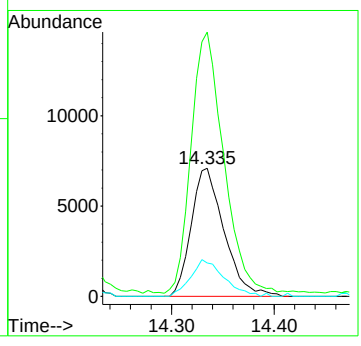


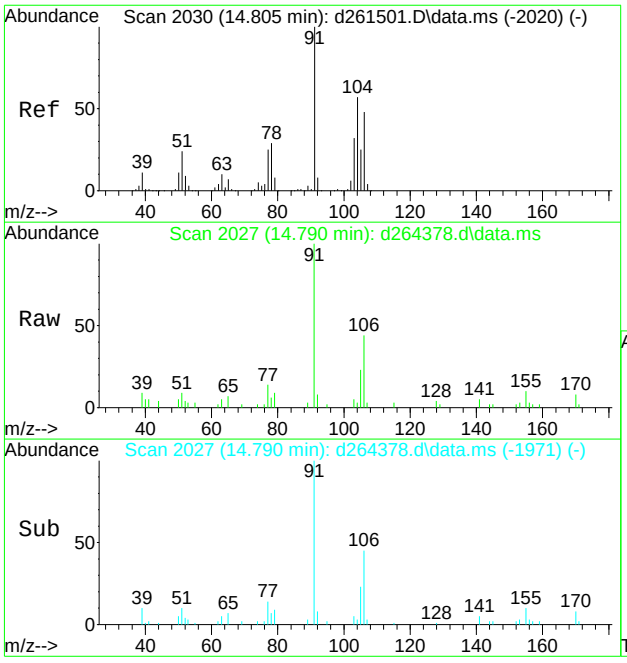




#91
m,p-xylene
Concen: 2.82 ug/L
RT: 14.335 min Scan# 1940
Delta R.T. -0.010 min
Lab File: d264378.d
Acq: 8 May 2019 5:49 pm

Tgt Ion:106 Resp: 15804

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 203.8 | 173.0 | 233.0 |
| 77 | 26.1 | 0.0 | 57.4 |

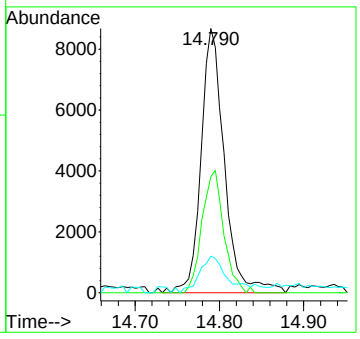





#92
o-xylene
Concen: 1.36 ug/L
RT: 14.790 min Scan# 2027
Delta R.T. -0.005 min
Lab File: d264378.d
Acq: 8 May 2019 5:49 pm

Tgt Ion: 91 Resp: 16709

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 43.8 | 16.5 | 76.5 |
| 77 | 11.7 | 0.0 | 55.2 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151782.d
Acq On : 5 May 2019 5:47 pm
Operator : mariceld
Sample : jc86986-4 Inst : MS3C
Misc : MS34303,V3C6820,5.5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 20:13:03 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

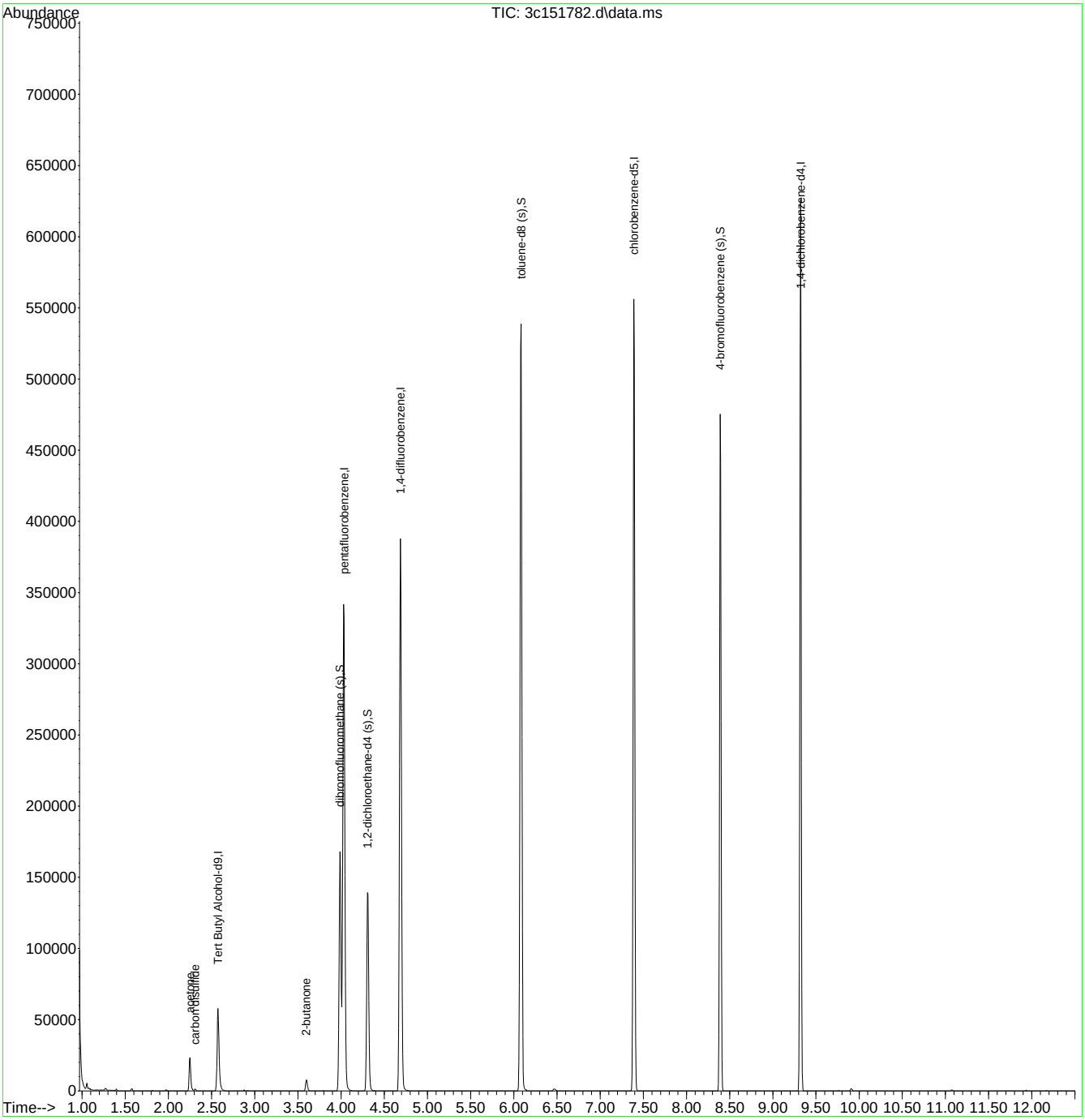
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 55841 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 217519 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 286603 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 248946 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 127319 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 80494 | 51.21 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 102.42% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.305 | 65 | 88992 | 57.15 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 114.30% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 320072 | 51.94 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 103.88% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 116751 | 55.77 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 111.54% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 20) acetone | 2.250 | 58 | 6338 | 93.52 | ug/L | 95 |
| 23) carbon disulfide | 2.307 | 76 | 1318 | 0.38 | ug/L | 69 |
| 31) 2-butanone | 3.594 | 72 | 2366 | 22.17 | ug/L # | 53 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

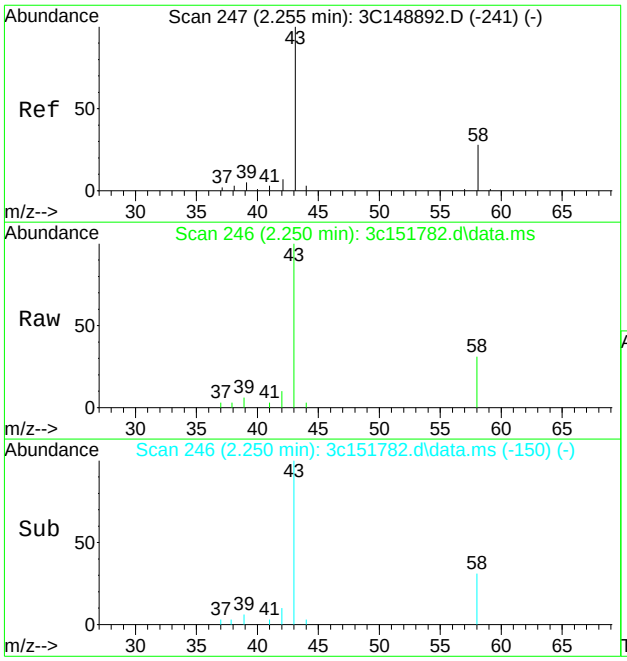
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151782.d
Acq On : 5 May 2019 5:47 pm
Operator : mariceld
Sample : jc86986-4 Inst : MS3C
Misc : MS34303,V3C6820,5.5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 20:13:03 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



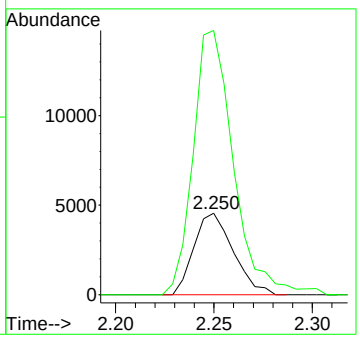

M3C6743.M Mon May 06 20:13:21 2019 Page: 2

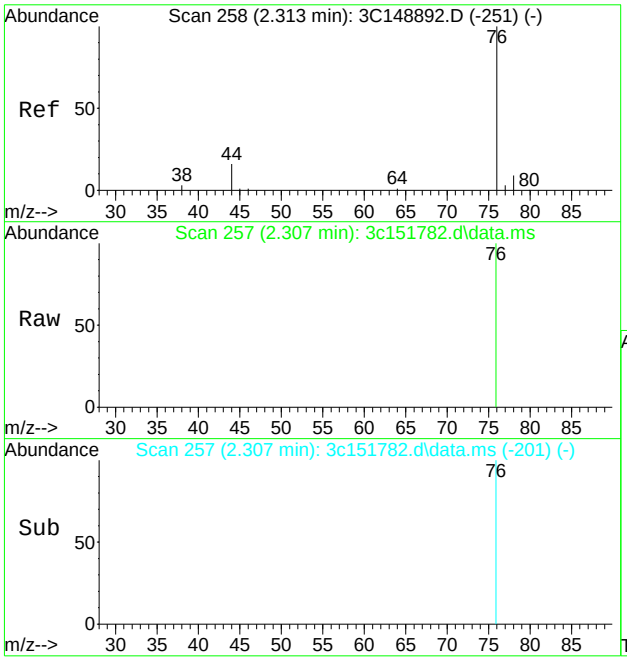



#20
acetone
Concen: 93.52 ug/L
RT: 2.250 min Scan# 246
Delta R.T. 0.000 min
Lab File: 3c151782.d
Acq: 5 May 2019 5:47 pm

Tgt Ion: 58 Resp: 6338

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 324.3 | 284.5 | 344.5 |

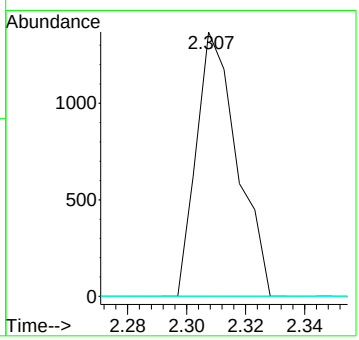


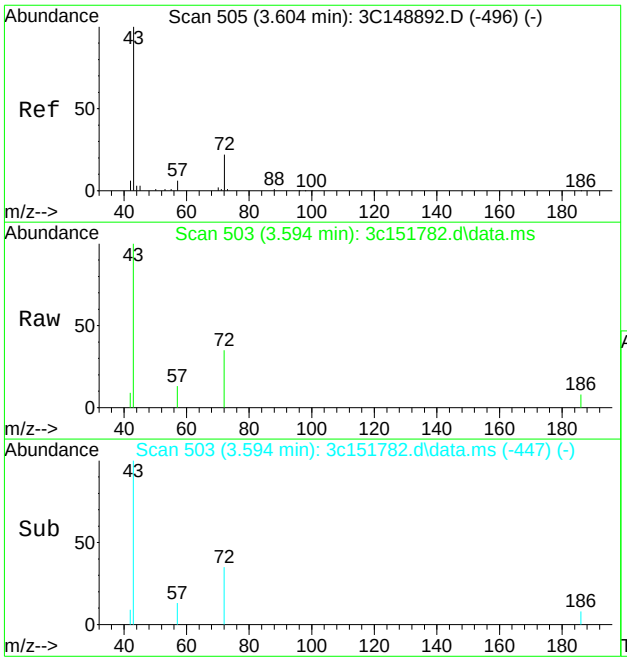




#23
carbon disulfide
Concen: 0.38 ug/L
RT: 2.307 min Scan# 257
Delta R.T. -0.005 min
Lab File: 3c151782.d
Acq: 5 May 2019 5:47 pm

Tgt Ion: 76 Resp: 1318

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.0 |
| 44 | 0.0 | 0.0 | 44.0 |

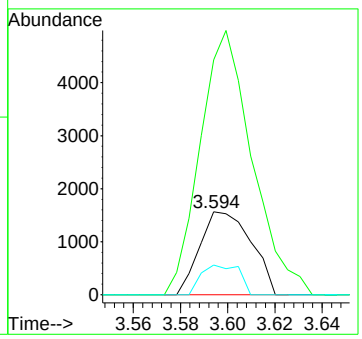





#31
2-butanone
Concen: 22.17 ug/L
RT: 3.594 min Scan# 503
Delta R.T. -0.005 min
Lab File: 3c151782.d
Acq: 5 May 2019 5:47 pm

Tgt Ion: 72 Resp: 2366

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 283.5 | 372.9 | 432.9# |
| 57 | 35.8 | 0.0 | 59.6 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151824.d
Acq On : 6 May 2019 6:26 pm
Operator : PrashanS
Sample : JC86986-5 Inst : MS3C
Misc : MS34303,V3C6821,7.0,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 07 00:15:19 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

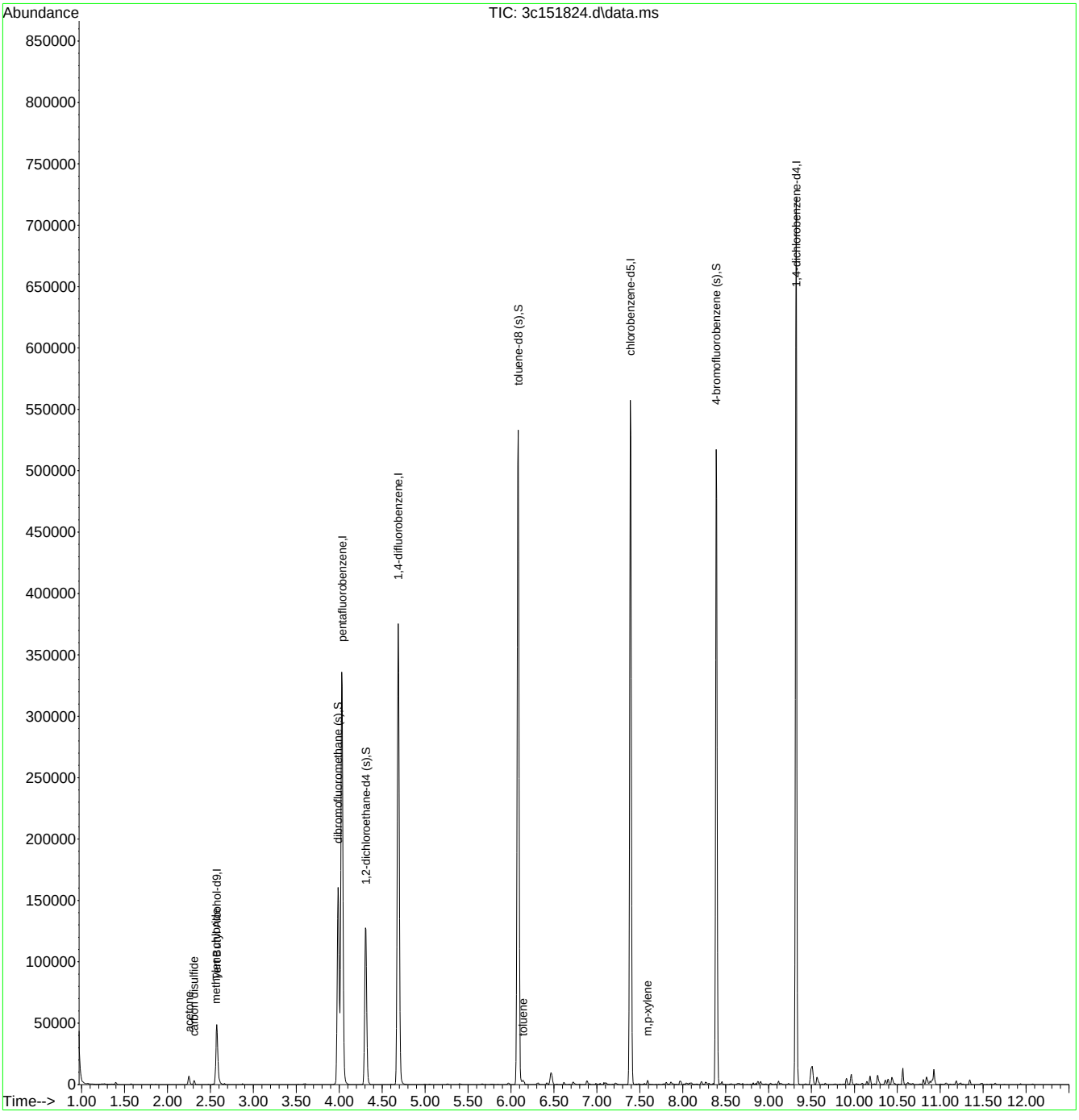
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 45778 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 214532 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 275863 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 250752 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 144875 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 76242 | 49.18 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.36% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.310 | 65 | 81463 | 54.35 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 108.70% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 316731 | 51.03 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.06% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 125856 | 52.84 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 105.68% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.250 | 58 | 1994 | 29.83 | ug/L # | 60 |
| 23) carbon disulfide | 2.307 | 76 | 3371 | 0.99 | ug/L | 90 |
| 24) methylene chloride | 2.564 | 84 | 807 | 0.61 | ug/L | 80 |
| 76) toluene | 6.141 | 92 | 1487 | 0.42 | ug/L # | 76 |
| 90) m,p-xylene | 7.590 | 106 | 799 | 0.29 | ug/L | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

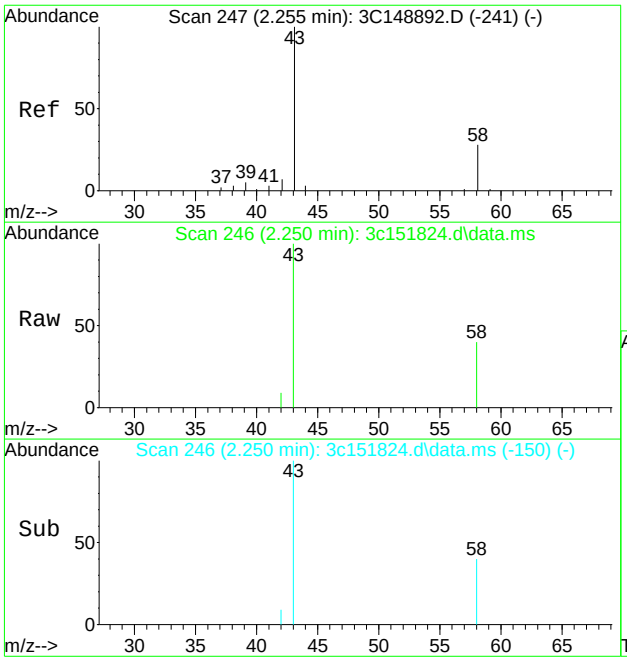
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151824.d
Acq On : 6 May 2019 6:26 pm
Operator : PrashanS
Sample : JC86986-5 Inst : MS3C
Misc : MS34303,V3C6821,7.0,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 07 00:15:19 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



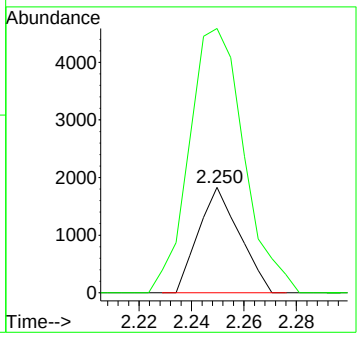

M3C6743.M Tue May 07 01:25:19 2019 Page: 2

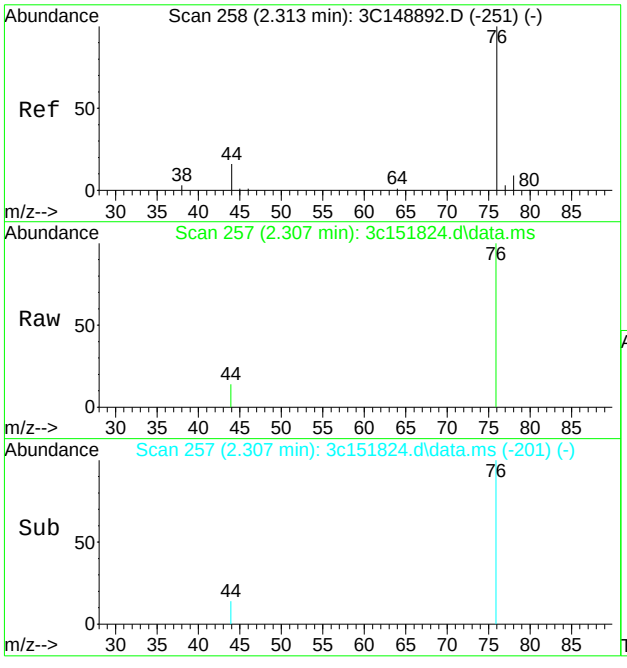



#20
acetone
Concen: 29.83 ug/L
RT: 2.250 min Scan# 246
Delta R.T. -0.000 min
Lab File: 3c151824.d
Acq: 6 May 2019 6:26 pm

Tgt Ion: 58 Resp: 1994

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 233.1 | 284.5 | 344.5# |

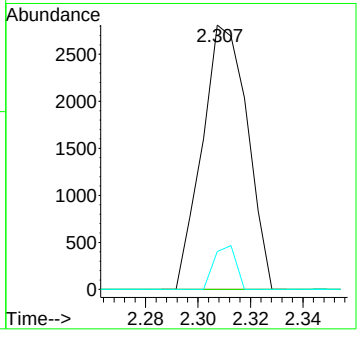


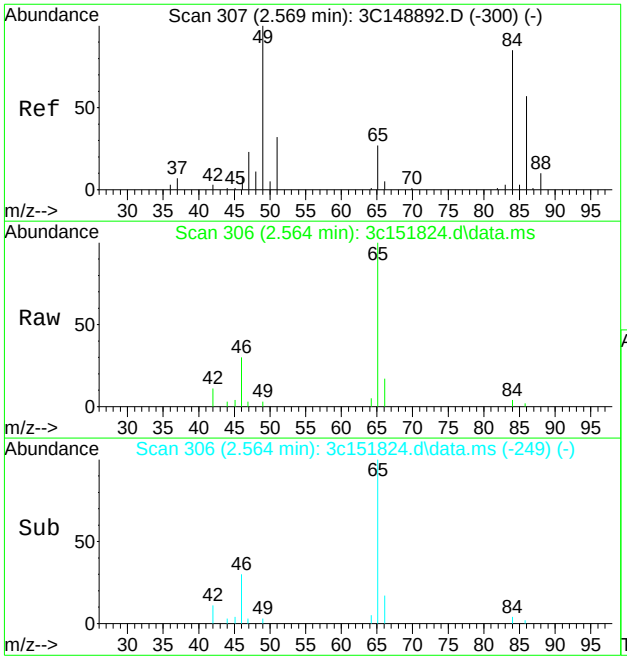




#23
carbon disulfide
Concen: 0.99 ug/L
RT: 2.307 min Scan# 257
Delta R.T. -0.005 min
Lab File: 3c151824.d
Acq: 6 May 2019 6:26 pm

Tgt Ion: 76 Resp: 3371

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.0 |
| 44 | 14.3 | 0.0 | 44.0 |

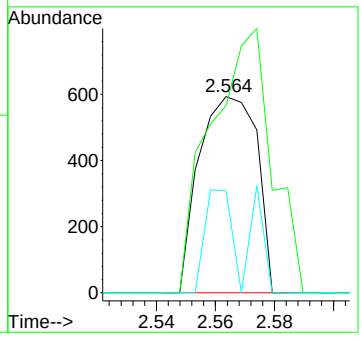


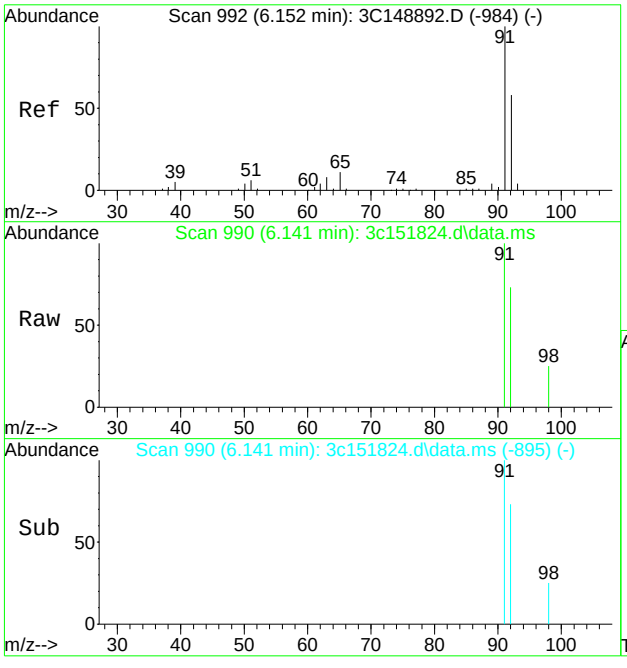



#24
methylene chloride
Concen: 0.61 ug/L
RT: 2.564 min Scan# 306
Delta R.T. -0.000 min
Lab File: 3c151824.d
Acq: 6 May 2019 6:26 pm

Tgt Ion: 84 Resp: 807

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 49 | 95.3 | 87.1 | 147.1 |
| 86 | 52.0 | 37.5 | 97.5 |

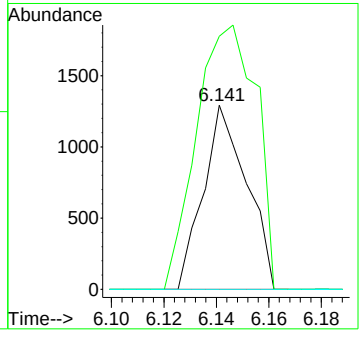


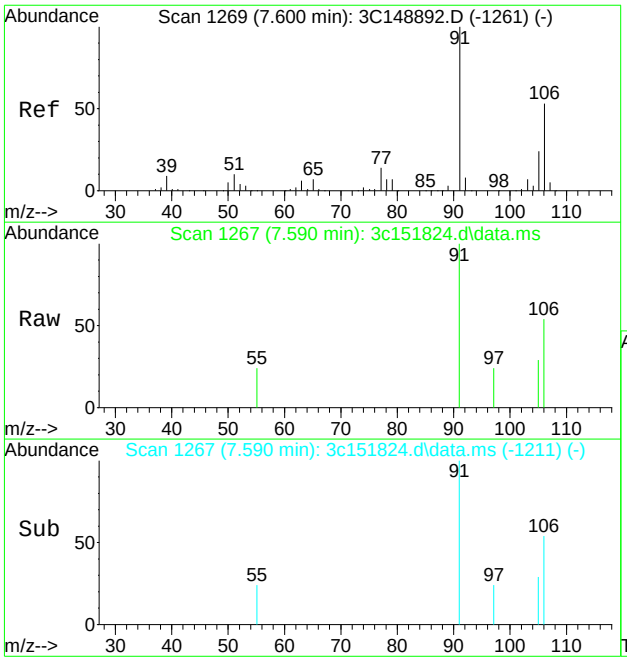




#76
toluene
Concen: 0.42 ug/L
RT: 6.141 min Scan# 990
Delta R.T. -0.005 min
Lab File: 3c151824.d
Acq: 6 May 2019 6:26 pm

Tgt Ion: 92 Resp: 1487

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 137.5 | 147.5 | 187.5# |
| 65 | 0.0 | 0.0 | 38.2 |

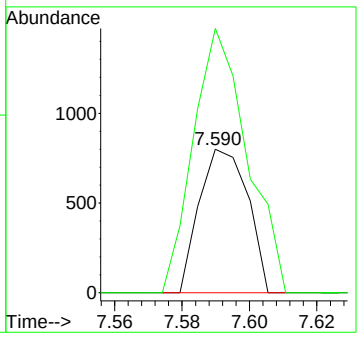





#90
m,p-xylene
Concen: 0.29 ug/L
RT: 7.590 min Scan# 1267
Delta R.T. -0.005 min
Lab File: 3c151824.d
Acq: 6 May 2019 6:26 pm

Tgt Ion:106 Resp: 799

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 184.1 | 164.8 | 224.8 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164400.D
Acq On : 9 May 2019 1:04 pm
Operator : PrashanS
Sample : JC86986-6
Misc : MS34303,V1C7215,5.6,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 09 13:49:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

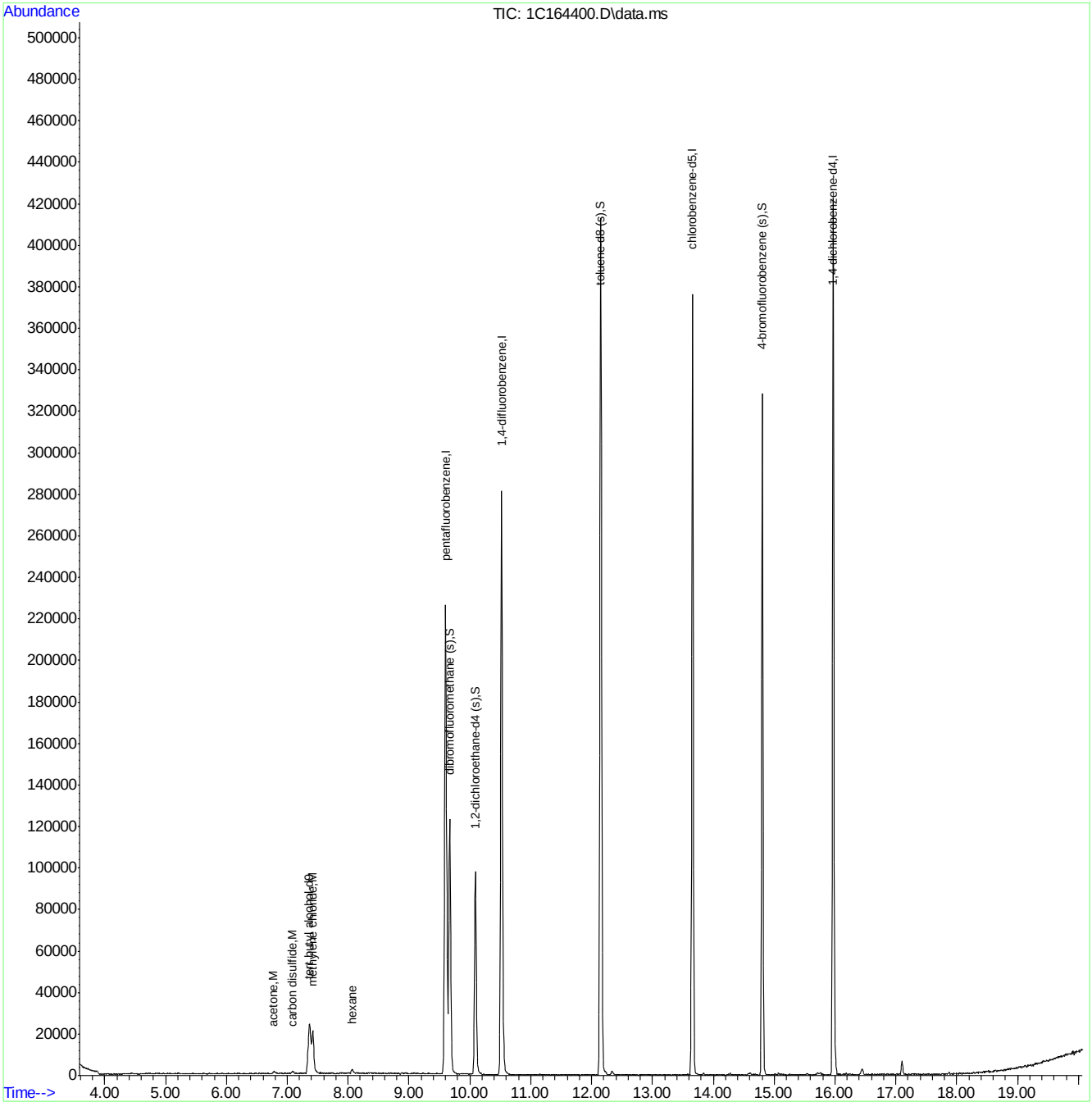
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.358 | 65 | 53755 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 202252 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 278283 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 230524 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.967 | 152 | 122551 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 86625 | 50.79 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 101.58% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 76023 | 43.49 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 86.98% | | | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 307878 | 49.58 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 99.16% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 106266 | 46.19 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 92.38% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 19) acetone | 6.773 | 43 | 2109 | 5.13 | ug/L | 97 |
| 22) carbon disulfide | 7.086 | 76 | 1442 | 0.27 | ug/L | 80 |
| 23) methylene chloride | 7.421 | 84 | 9848 | 5.48 | ug/L | 96 |
| 32) hexane | 8.070 | 57 | 1255 | 0.44 | ug/L | 92 |

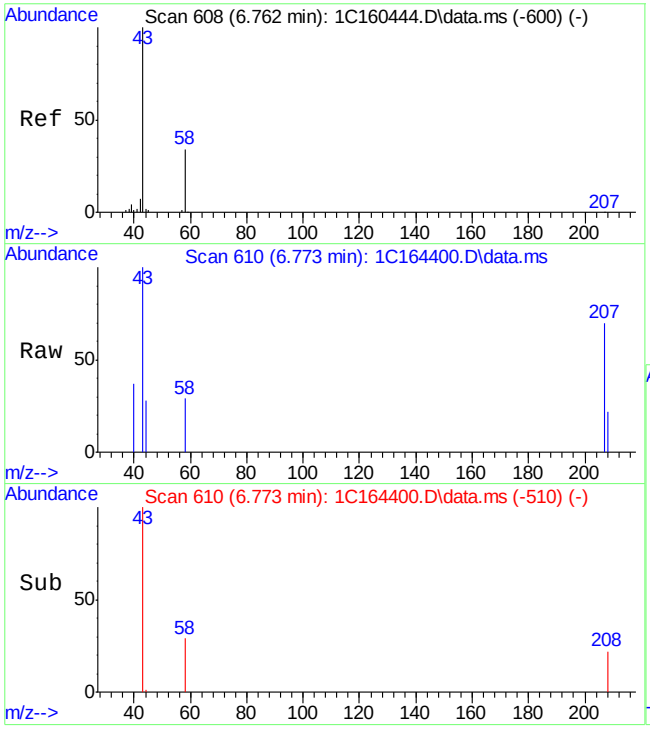
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164400.D
Acq On : 9 May 2019 1:04 pm
Operator : PrashanS
Sample : JC86986-6
Misc : MS34303,V1C7215,5.6,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 09 13:49:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

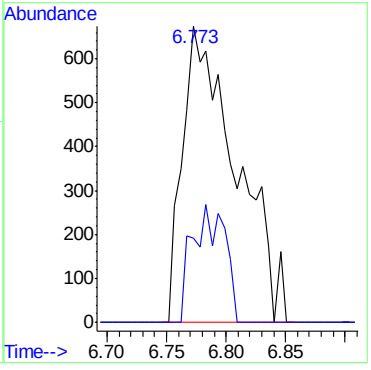


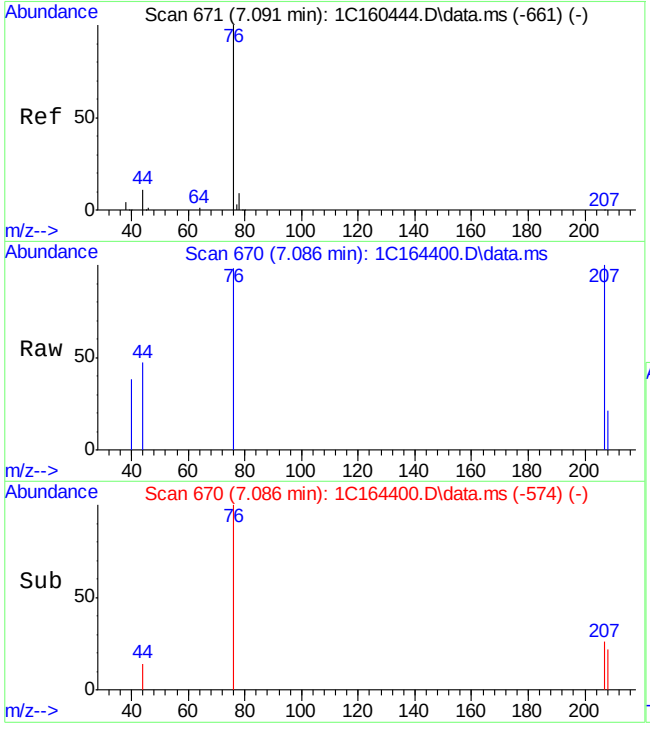



#19
acetone
Concen: 5.13 ug/L
RT: 6.773 min Scan# 610
Delta R.T. 0.021 min
Lab File: 1C164400.D
Acq: 9 May 2019 1:04 pm

Tgt Ion: 43 Resp: 2109

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 28.6 | 0.5 | 60.5 |

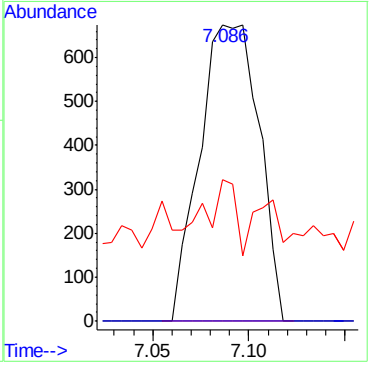


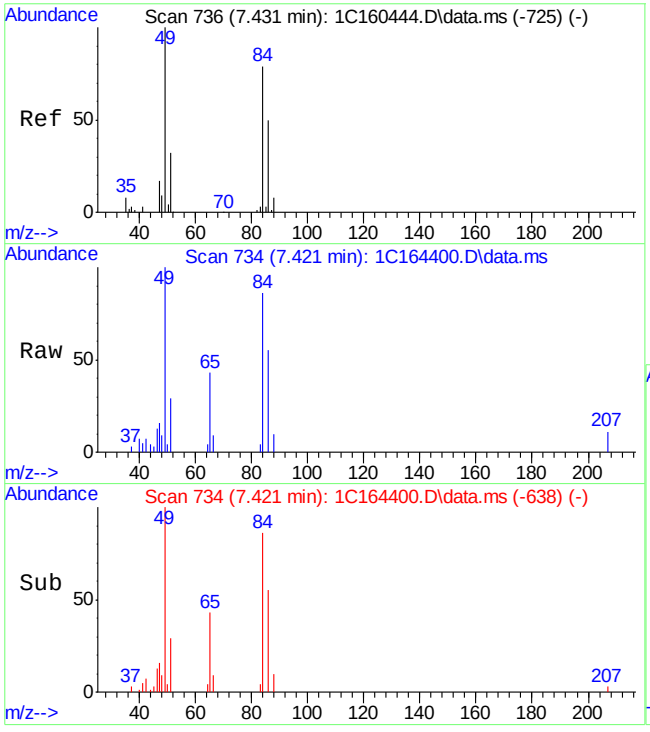




#22
carbon disulfide
Concen: 0.27 ug/L
RT: 7.086 min Scan# 670
Delta R.T. 0.000 min
Lab File: 1C164400.D
Acq: 9 May 2019 1:04 pm

Tgt Ion: 76 Resp: 1442

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.3 |
| 44 | 18.1 | 0.0 | 42.1 |

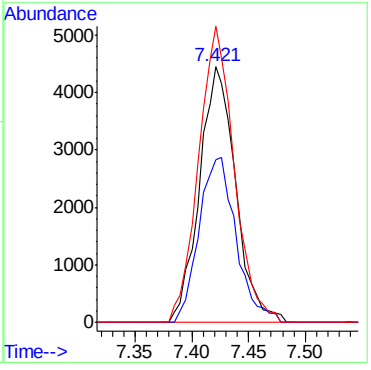


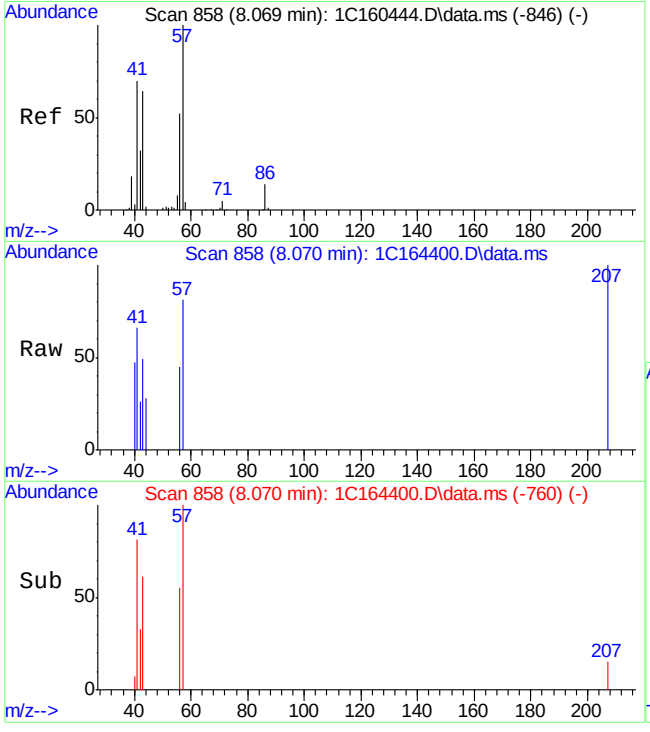



#23
methylene chloride
Concen: 5.48 ug/L
RT: 7.421 min Scan# 734
Delta R.T. 0.000 min
Lab File: 1C164400.D
Acq: 9 May 2019 1:04 pm

Tgt Ion: 84 Resp: 9848

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 86 | 63.5 | 33.8 | 93.8 |
| 49 | 115.6 | 91.8 | 151.8 |

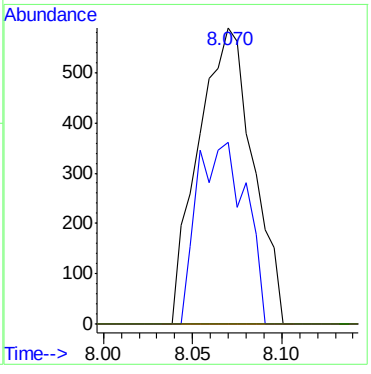



#32
hexane
Concen: 0.44 ug/L
RT: 8.070 min Scan# 858
Delta R.T. 0.011 min
Lab File: 1C164400.D
Acq: 9 May 2019 1:04 pm

Tgt Ion: 57 Resp: 1255

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 57 | 100 | | |
| 43 | 61.3 | 42.0 | 82.0 |
| 71 | 0.0 | 0.0 | 25.4 |
| 86 | 0.0 | 0.0 | 34.8 |



Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-7-2019\lotusa\v3c6820\
Data File : 3c151784.d
Acq On : 5 May 2019 6:34 pm
Operator : mariceld
Sample : jc86986-7 Inst : MS3C
Misc : MS34303,V3C6820,3.6,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 08 16:19:36 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

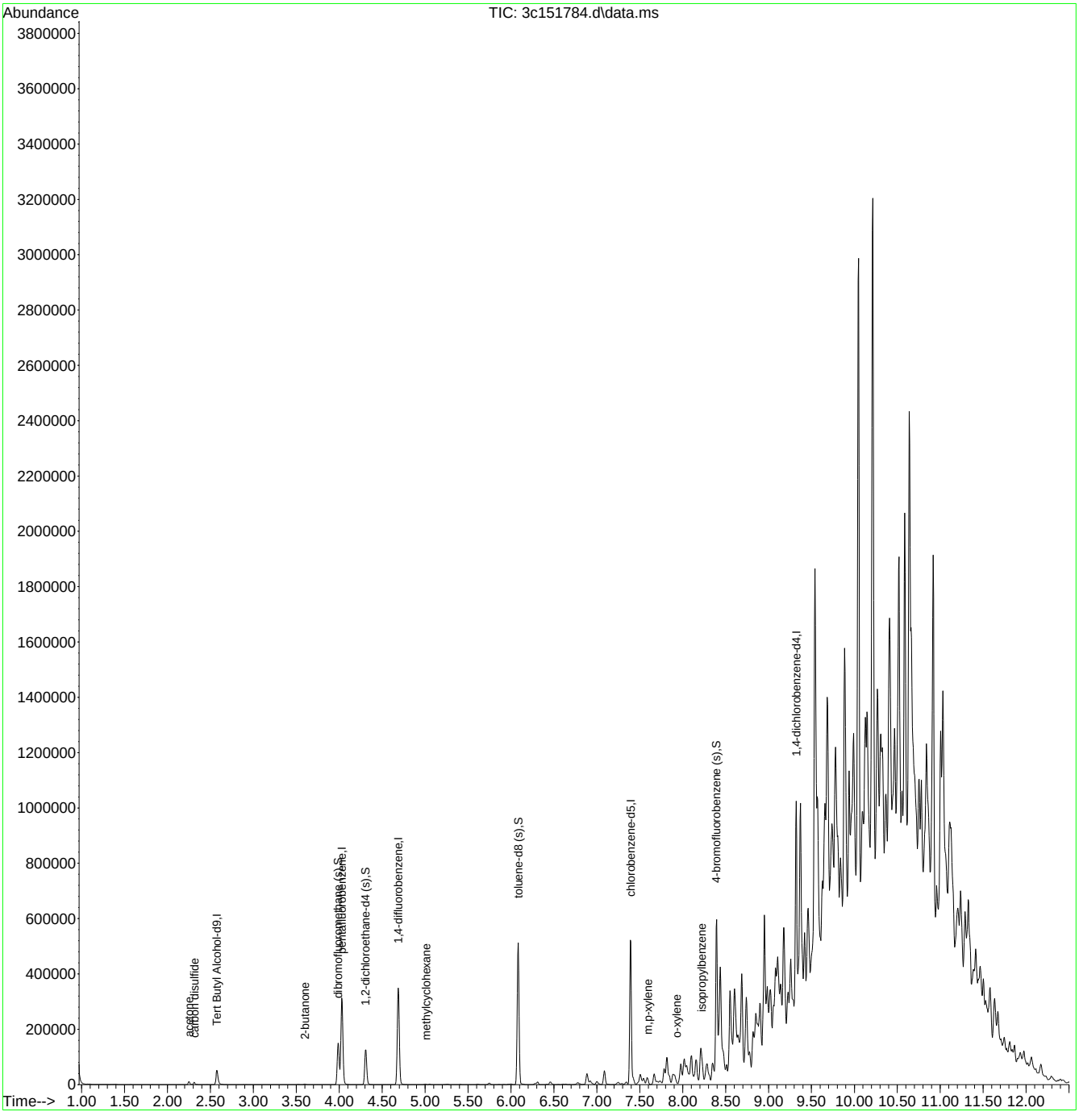
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 51594 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.028 | 168 | 199446 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 265432 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.396 | 117 | 238570 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 140443 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 76547 | 53.11 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 106.22% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.305 | 65 | 81779 | 56.70 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 113.40% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 299235 | 50.67 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.34% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 135603 | 58.73 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 117.46% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.250 | 58 | 3029 | 48.75 | ug/L # | 82 |
| 23) carbon disulfide | 2.313 | 76 | 8910 | 2.82 | ug/L | 99 |
| 31) 2-butanone | 3.599 | 72 | 311 | 3.18 | ug/L # | 1 |
| 67) methylcyclohexane | 5.011 | 83 | 1084 | 0.44 | ug/L | 87 |
| 90) m,p-xylene | 7.595 | 106 | 876 | 0.34 | ug/L # | 65 |
| 91) o-xylene | 7.930 | 91 | 2458 | 0.47 | ug/L | 96 |
| 95) isopropylbenzene | 8.223 | 105 | 3026 | 0.46 | ug/L | 75 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

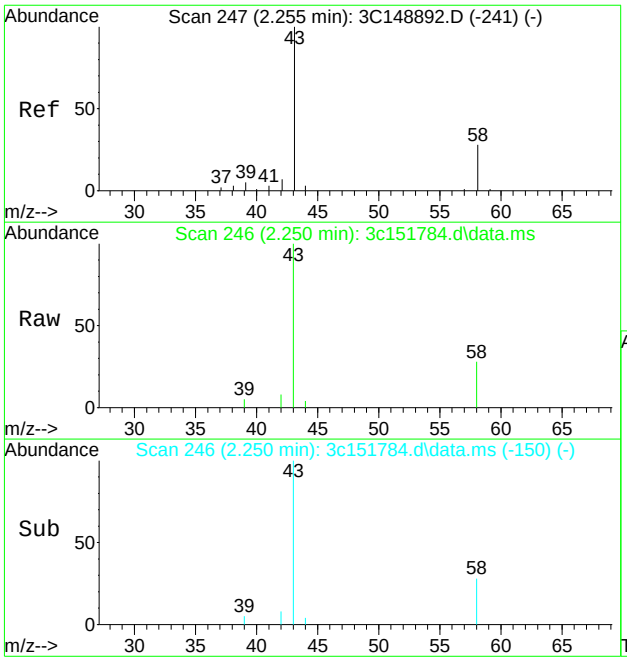
Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-7-2019\lotusa\v3c6820\
Data File : 3c151784.d
Acq On : 5 May 2019 6:34 pm
Operator : mariceld
Sample : jc86986-7 Inst : MS3C
Misc : MS34303,V3C6820,3.6,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 08 16:19:36 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



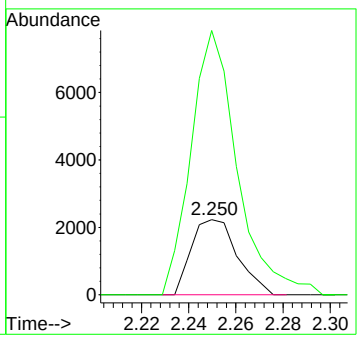

M3C6743.M Wed May 08 16:20:52 2019 Page: 2

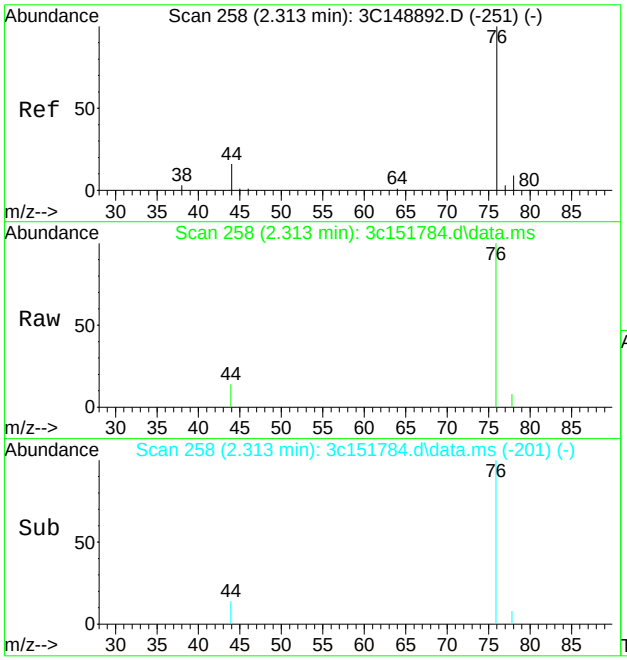



#20
acetone
Concen: 48.75 ug/L
RT: 2.250 min Scan# 246
Delta R.T. -0.000 min
Lab File: 3c151784.d
Acq: 5 May 2019 6:34 pm

Tgt Ion: 58 Resp: 3029

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 351.7 | 284.5 | 344.5# |

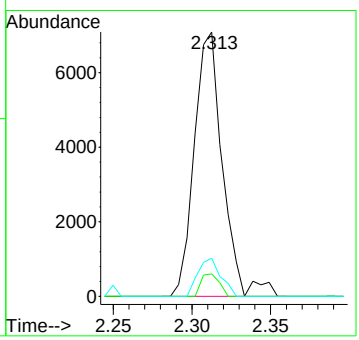


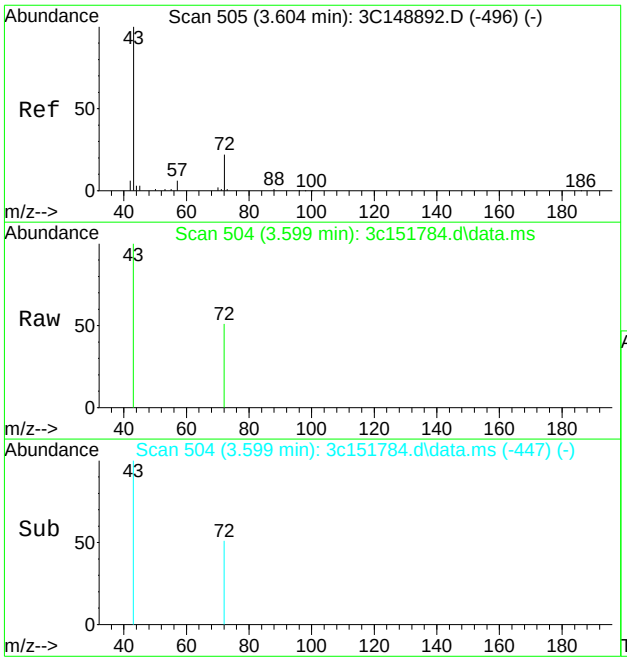




#23
carbon disulfide
Concen: 2.82 ug/L
RT: 2.313 min Scan# 258
Delta R.T. -0.000 min
Lab File: 3c151784.d
Acq: 5 May 2019 6:34 pm

Tgt Ion: 76 Resp: 8910

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 8.4 | 0.0 | 39.0 |
| 44 | 14.4 | 0.0 | 44.0 |

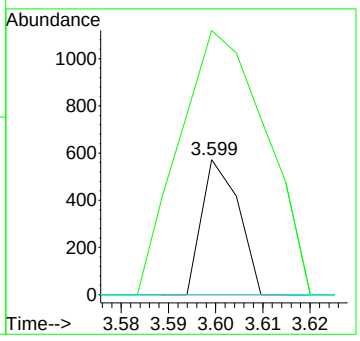


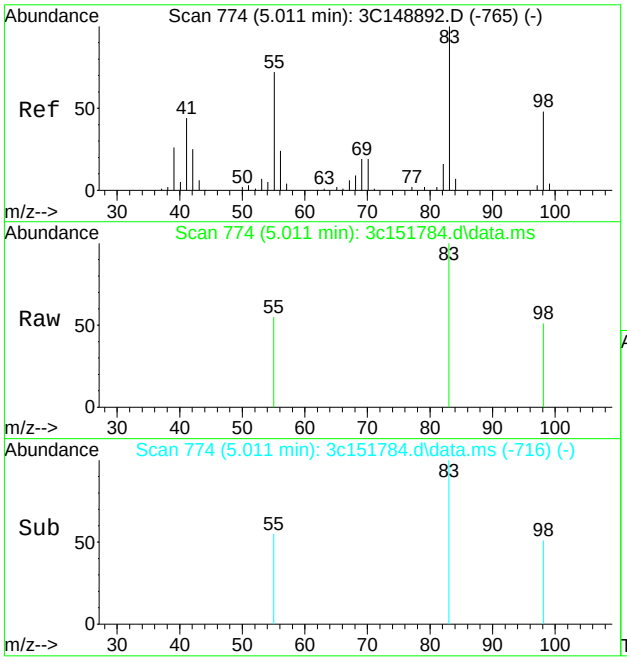



#31
2-butanone
Concen: 3.18 ug/L
RT: 3.599 min Scan# 504
Delta R.T. -0.000 min
Lab File: 3c151784.d
Acq: 5 May 2019 6:34 pm

Tgt Ion: 72 Resp: 311

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 122.7 | 372.9 | 432.9# |
| 57 | 0.0 | 0.0 | 59.6 |

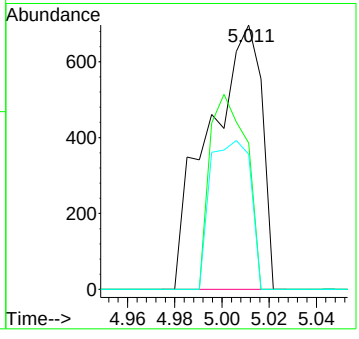


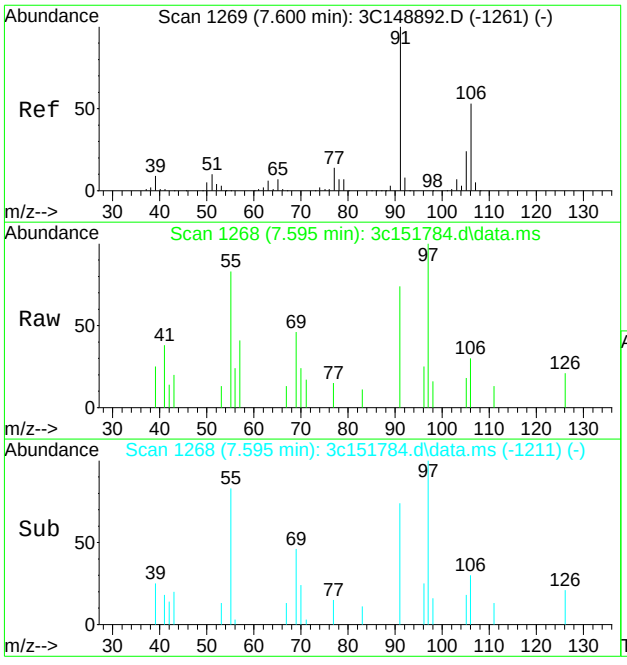




#67
methylcyclohexane
Concen: 0.44 ug/L
RT: 5.011 min Scan# 774
Delta R.T. 0.005 min
Lab File: 3c151784.d
Acq: 5 May 2019 6:34 pm

Tgt Ion: 83 Resp: 1084

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 55 | 55.4 | 42.2 | 102.2 |
| 98 | 51.1 | 22.5 | 82.5 |

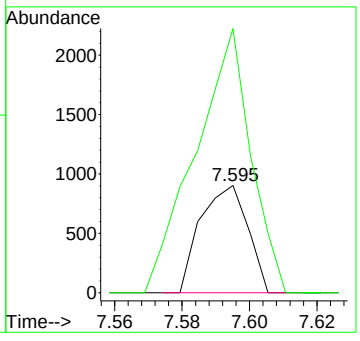


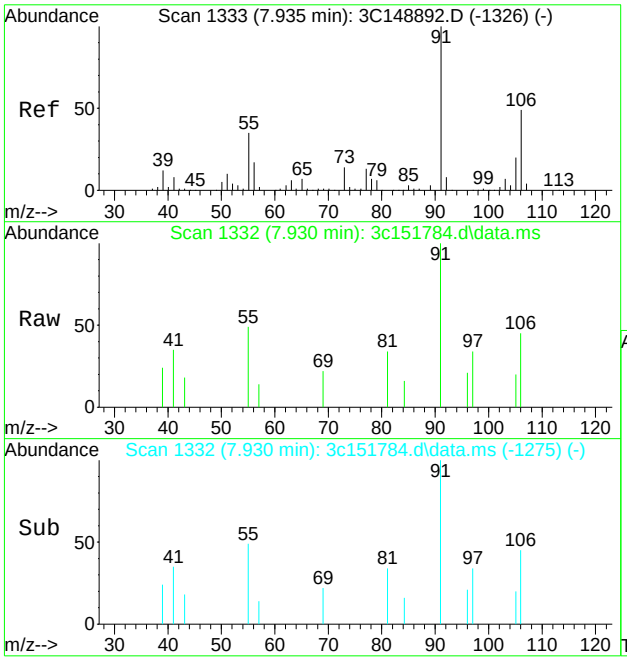



#90
m,p-xylene
Concen: 0.34 ug/L
RT: 7.595 min Scan# 1268
Delta R.T. -0.000 min
Lab File: 3c151784.d
Acq: 5 May 2019 6:34 pm

Tgt Ion:106 Resp: 876

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 246.5 | 164.8 | 224.8# |

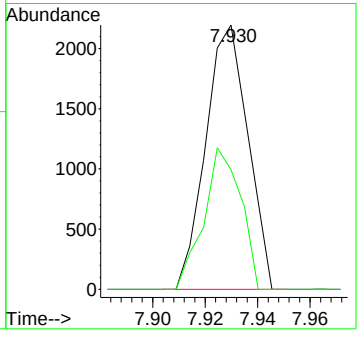


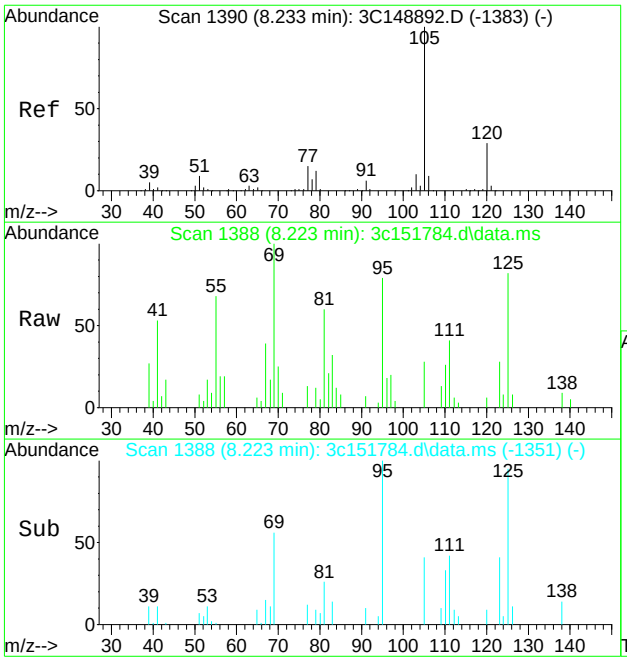




#91
o-xylene
Concen: 0.47 ug/L
RT: 7.930 min Scan# 1332
Delta R.T. -0.000 min
Lab File: 3c151784.d
Acq: 5 May 2019 6:34 pm

Tgt Ion: 91 Resp: 2458

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 45.3 | 18.3 | 78.3 |

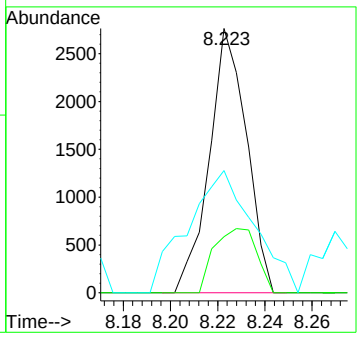





#95
isopropylbenzene
Concen: 0.46 ug/L
RT: 8.223 min Scan# 1388
Delta R.T. -0.005 min
Lab File: 3c151784.d
Acq: 5 May 2019 6:34 pm

Tgt Ion:105 Resp: 3026

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 120 | 21.2 | 7.6 | 47.6 |
| 77 | 34.9 | 0.0 | 35.1 |




7.1.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151785.d
Acq On : 5 May 2019 6:57 pm
Operator : mariceld
Sample : jc86986-8 Inst : MS3C
Misc : MS34303,V3C6820,4.7,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 20:23:31 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

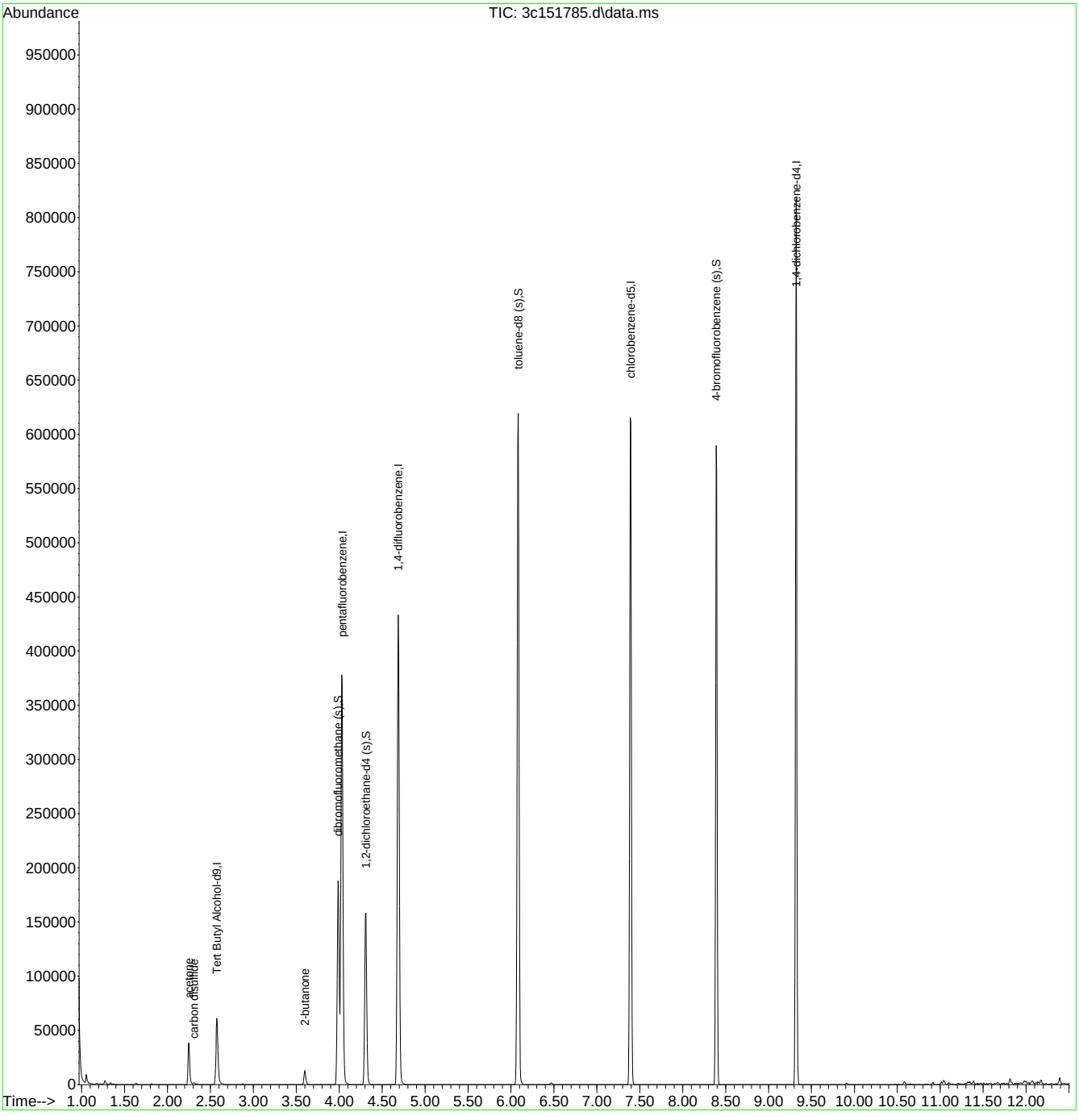
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 60821 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 240939 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 325475 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.396 | 117 | 291537 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 163534 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 91089 | 52.32 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 104.64% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.310 | 65 | 102178 | 57.78 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 115.56% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 363924 | 50.43 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.86% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 142151 | 52.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 105.74% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.250 | 58 | 10931 | 145.62 | ug/L | 91 |
| 23) carbon disulfide | 2.307 | 76 | 1557 | 0.41 | ug/L | 69 |
| 31) 2-butanone | 3.599 | 72 | 4020 | 34.00 | ug/L # | 56 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

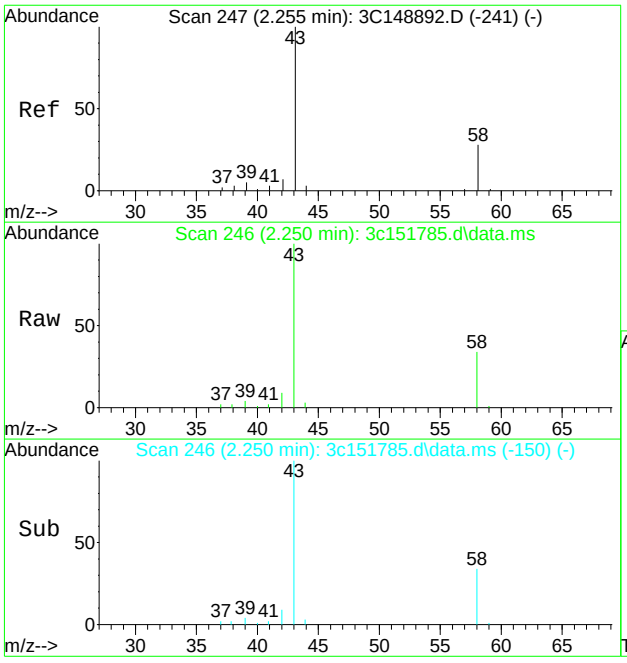
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151785.d
Acq On : 5 May 2019 6:57 pm
Operator : mariceld
Sample : jc86986-8 Inst : MS3C
Misc : MS34303,V3C6820,4.7,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 20:23:31 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



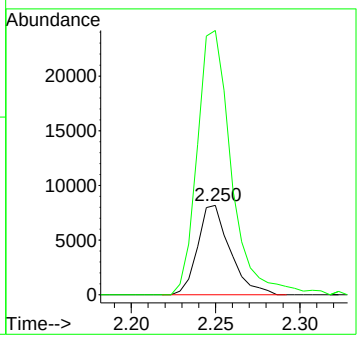

M3C6743.M Mon May 06 20:23:56 2019 Page: 2

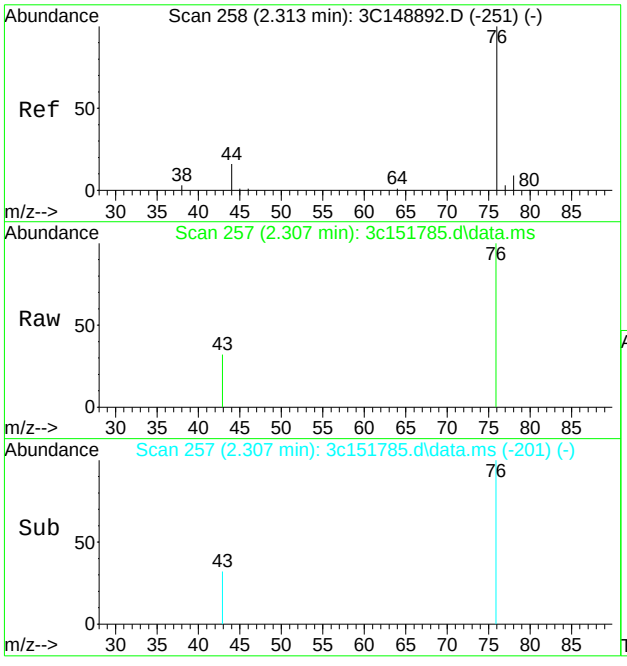



#20
acetone
Concen: 145.62 ug/L
RT: 2.250 min Scan# 246
Delta R.T. -0.000 min
Lab File: 3c151785.d
Acq: 5 May 2019 6:57 pm

Tgt Ion: 58 Resp: 10931

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 295.9 | 284.5 | 344.5 |

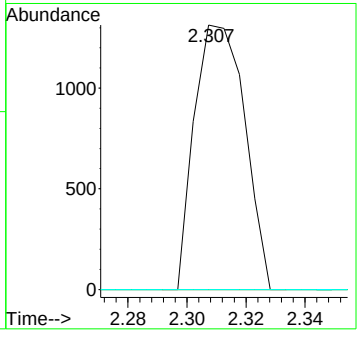


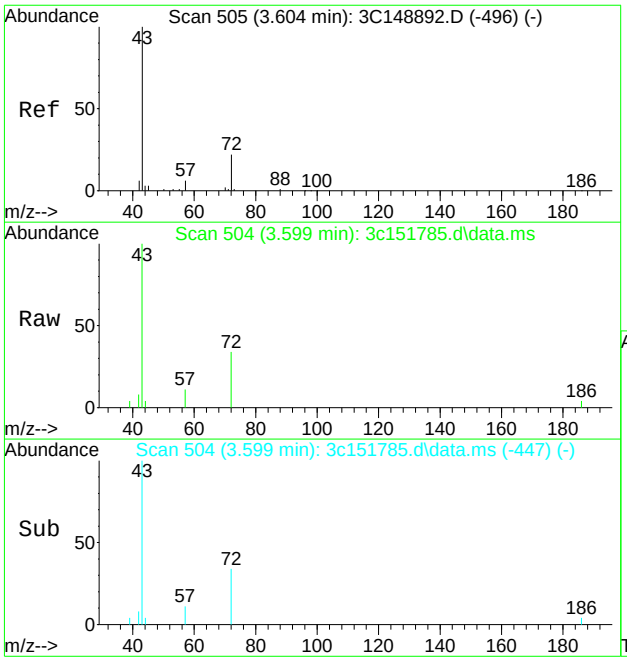




#23
carbon disulfide
Concen: 0.41 ug/L
RT: 2.307 min Scan# 257
Delta R.T. -0.005 min
Lab File: 3c151785.d
Acq: 5 May 2019 6:57 pm

Tgt Ion: 76 Resp: 1557

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.0 |
| 44 | 0.0 | 0.0 | 44.0 |

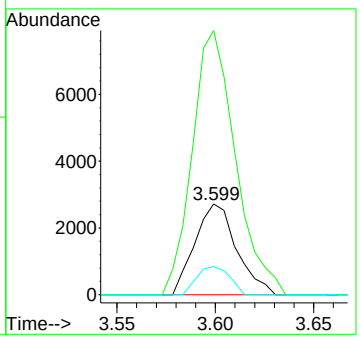





#31
2-butanone
Concen: 34.00 ug/L
RT: 3.599 min Scan# 504
Delta R.T. -0.000 min
Lab File: 3c151785.d
Acq: 5 May 2019 6:57 pm

Tgt Ion: 72 Resp: 4020

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 291.2 | 372.9 | 432.9# |
| 57 | 31.3 | 0.0 | 59.6 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-9\vd10654\
Data File : d264379.d
Acq On : 8 May 2019 6:18 pm
Operator : thienn
Sample : jc86986-9 Inst : MSD
Misc : ms34303,vd10654,3.7,,5,10,1
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Results File: MD10606.RES
Quant Time: May 09 04:18:08 2019
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

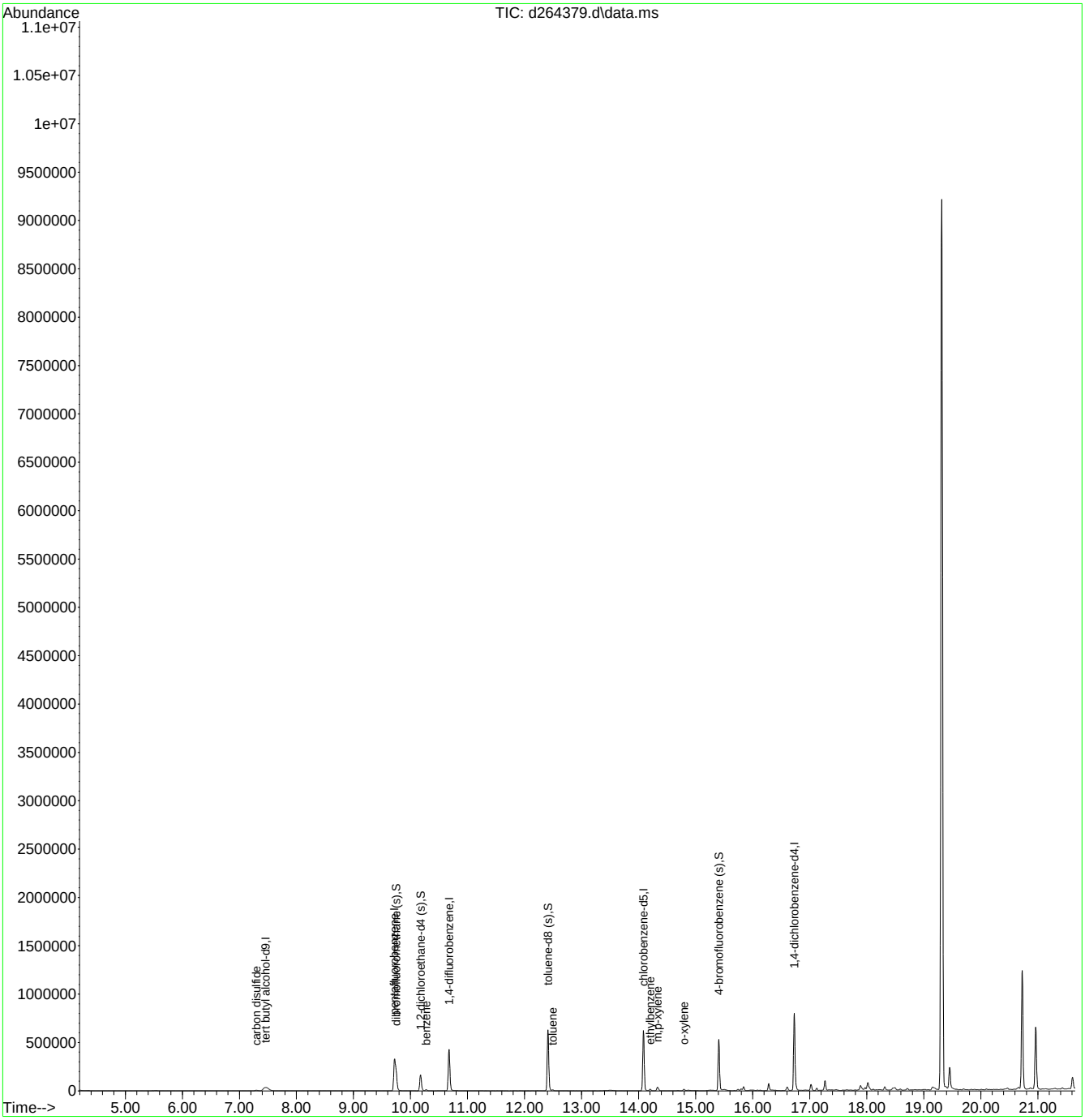
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) tert butyl alcohol-d9 | 7.458 | 65 | 131136 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.717 | 168 | 247418 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.674 | 114 | 382531 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.084 | 117 | 374702 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.731 | 152 | 228538 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 46) dibromofluoromethane (s) | 9.749 | 113 | 116311 | 49.82 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.64% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.178 | 65 | 130711 | 45.58 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 91.16% | | | |
| 76) toluene-d8 (s) | 12.411 | 98 | 458877 | 50.22 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.44% | | | |
| 100) 4-bromofluorobenzene (s) | 15.408 | 95 | 201536 | 47.59 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 95.18% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 23) carbon disulfide | 7.296 | 76 | 17300 | 1.74 | ug/L | 97 |
| 58) benzene | 10.272 | 78 | 12580 | 1.08 | ug/L | 98 |
| 77) toluene | 12.489 | 92 | 4482 | 0.63 | ug/L | 94 |
| 90) ethylbenzene | 14.205 | 91 | 13507 | 0.95 | ug/L | 99 |
| 91) m,p-xylene | 14.330 | 106 | 13883 | 2.57 | ug/L | 99 |
| 92) o-xylene | 14.796 | 91 | 9567 | 0.80 | ug/L | 89 |

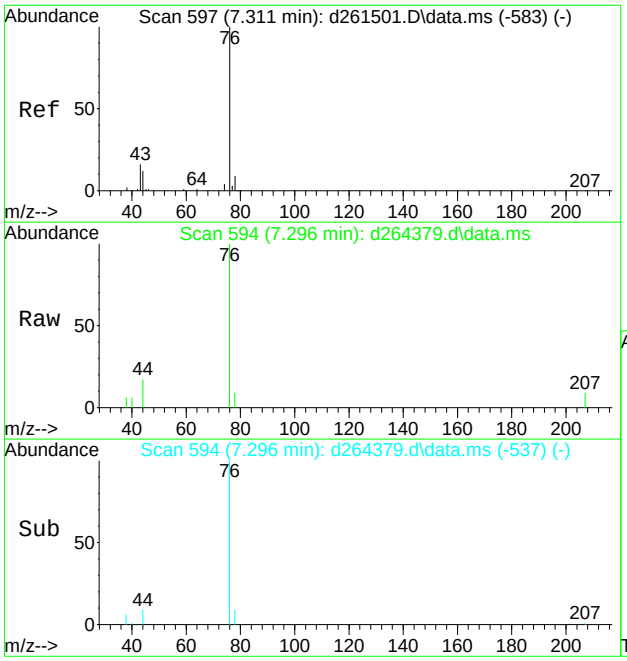
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-9\vd10654\
Data File : d264379.d
Acq On : 8 May 2019 6:18 pm
Operator : thienn
Sample : jc86986-9 Inst : MSD
Misc : ms34303,vd10654,3.7,,5,10,1
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Results File: MD10606.RES
Quant Time: May 09 04:18:08 2019
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

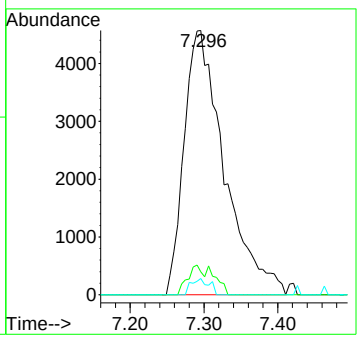


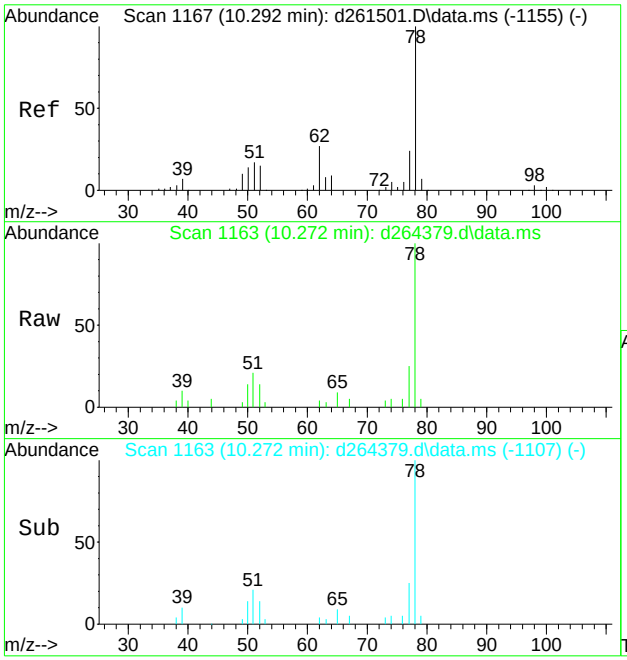



#23
carbon disulfide
Concen: 1.74 ug/L
RT: 7.296 min Scan# 594
Delta R.T. -0.004 min
Lab File: d264379.d
Acq: 8 May 2019 6:18 pm

Tgt Ion: 76 Resp: 17300

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 8.7 | 0.0 | 39.5 |
| 38 | 6.1 | 0.0 | 34.3 |

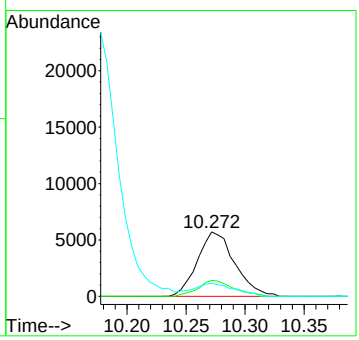


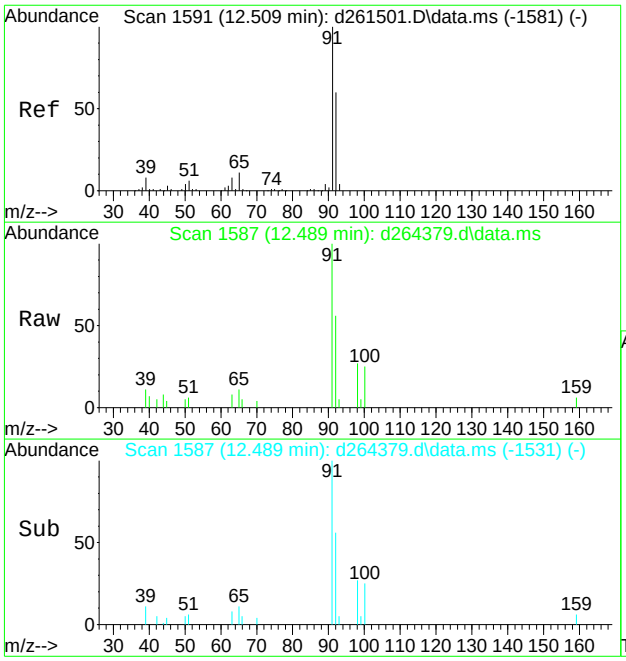




#58
benzene
Concen: 1.08 ug/L
RT: 10.272 min Scan# 1163
Delta R.T. -0.009 min
Lab File: d264379.d
Acq: 8 May 2019 6:18 pm

Tgt Ion: 78 Resp: 12580

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 25.0 | 0.0 | 53.8 |
| 51 | 20.7 | 0.0 | 50.1 |

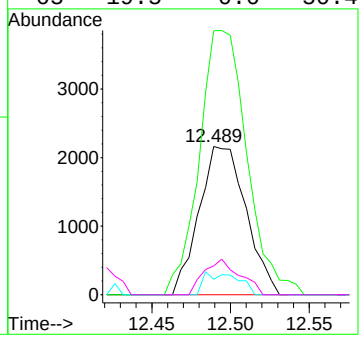


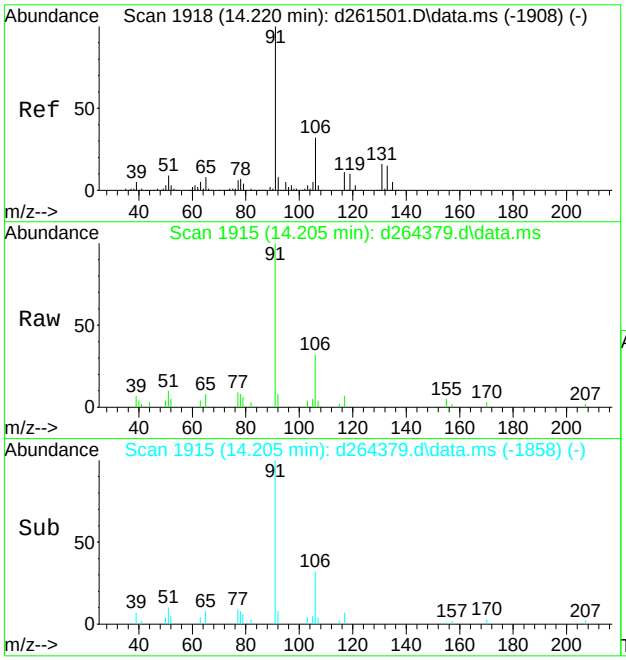



#77
toluene
Concen: 0.63 ug/L
RT: 12.489 min Scan# 1587
Delta R.T. -0.009 min
Lab File: d264379.d
Acq: 8 May 2019 6:18 pm

Tgt Ion: 92 Resp: 4482

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 177.9 | 149.2 | 189.2 |
| 51 | 10.5 | 0.0 | 42.2 |
| 65 | 19.5 | 0.0 | 50.4 |

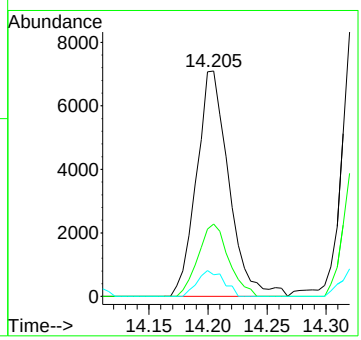


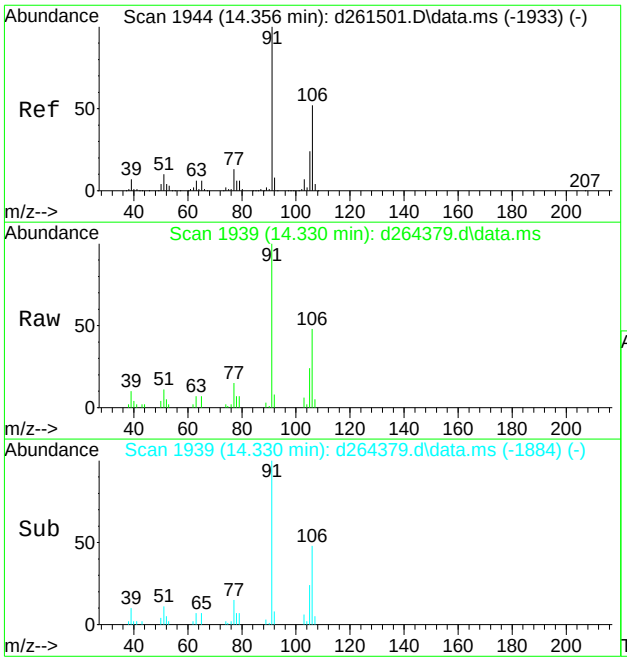




#90
ethylbenzene
Concen: 0.95 ug/L
RT: 14.205 min Scan# 1915
Delta R.T. -0.004 min
Lab File: d264379.d
Acq: 8 May 2019 6:18 pm

Tgt Ion: 91 Resp: 13507

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 32.1 | 1.2 | 61.2 |
| 51 | 9.6 | 0.0 | 40.0 |

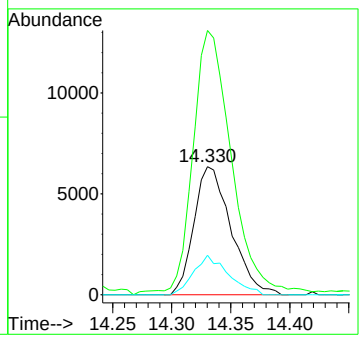


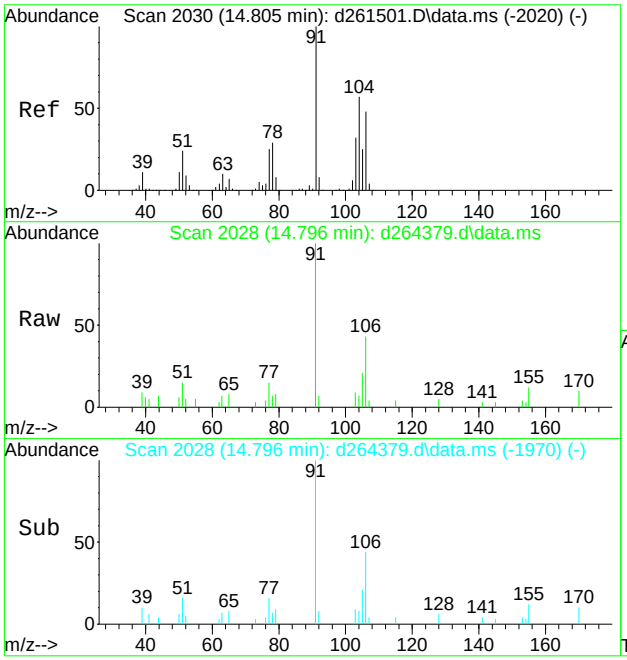



#91
m,p-xylene
Concen: 2.57 ug/L
RT: 14.330 min Scan# 1939
Delta R.T. -0.015 min
Lab File: d264379.d
Acq: 8 May 2019 6:18 pm

Tgt Ion:106 Resp: 13883

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 106 | 100 | | |
| 91 | 203.4 | 173.0 | 233.0 |
| 77 | 30.8 | 0.0 | 57.4 |

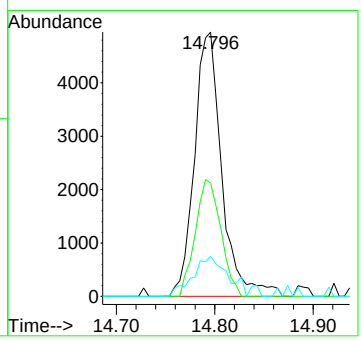



#92
o-xylene
Concen: 0.80 ug/L
RT: 14.796 min Scan# 2028
Delta R.T. 0.001 min
Lab File: d264379.d
Acq: 8 May 2019 6:18 pm

Tgt Ion: 91 Resp: 9567

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 42.8 | 16.5 | 76.5 |
| 77 | 15.2 | 0.0 | 55.2 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151786.d
Acq On : 5 May 2019 7:20 pm
Operator : mariceld
Sample : jc86986-10 Inst : MS3C
Misc : MS34303,V3C6820,5.6,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 20:27:10 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

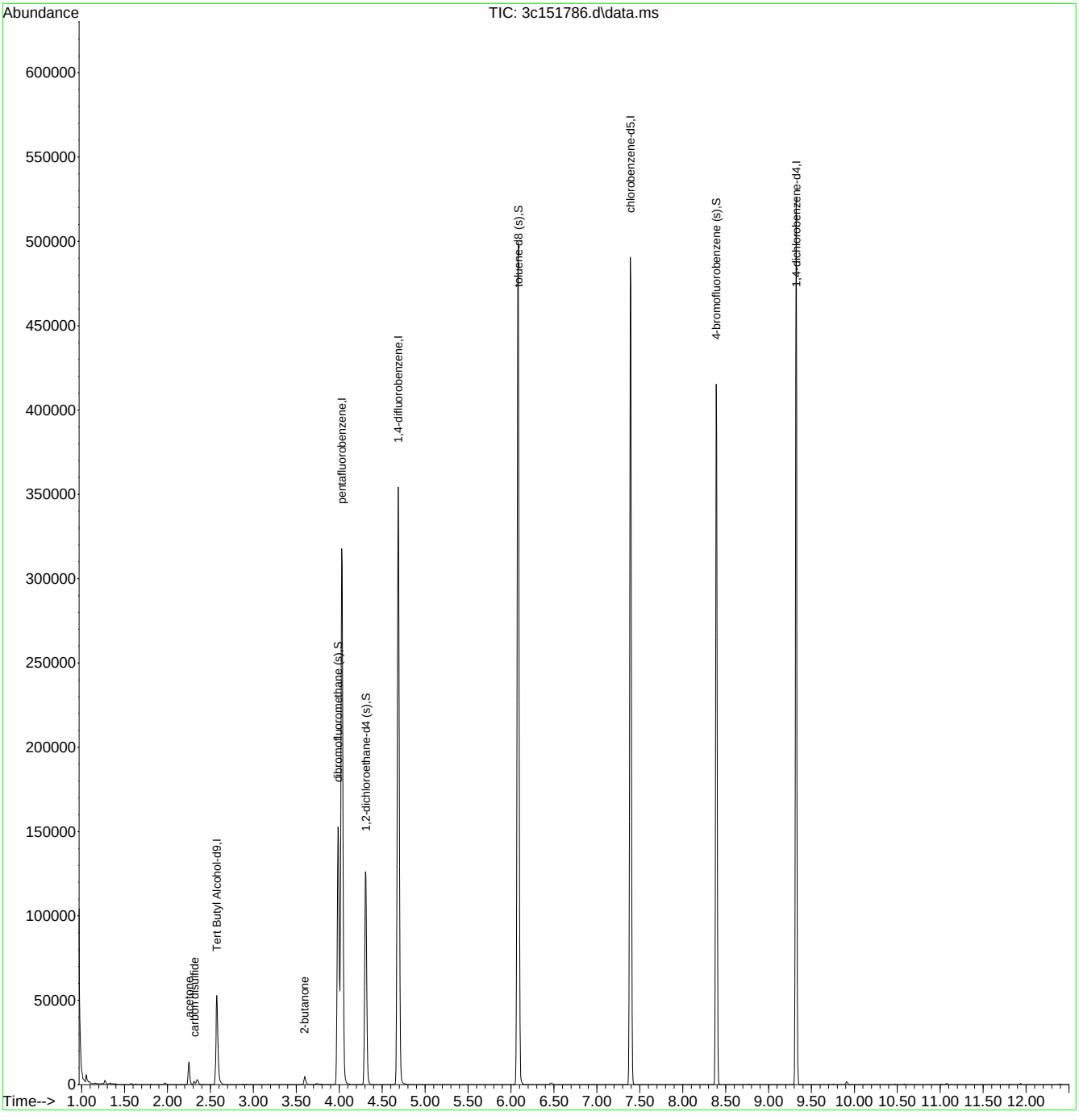
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 50818 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.028 | 168 | 204228 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 264591 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 223252 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 105489 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 74585 | 50.54 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.08% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.310 | 65 | 79575 | 55.35 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 110.70% | | | |
| 75) toluene-d8 (s) | 6.083 | 98 | 293274 | 53.07 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 106.14% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 101511 | 58.53 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 117.06% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.250 | 58 | 3792 | 59.60 | ug/L | 88 |
| 23) carbon disulfide | 2.312 | 76 | 2380 | 0.74 | ug/L | 69 |
| 31) 2-butanone | 3.594 | 72 | 1403 | 14.00 | ug/L # | 24 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

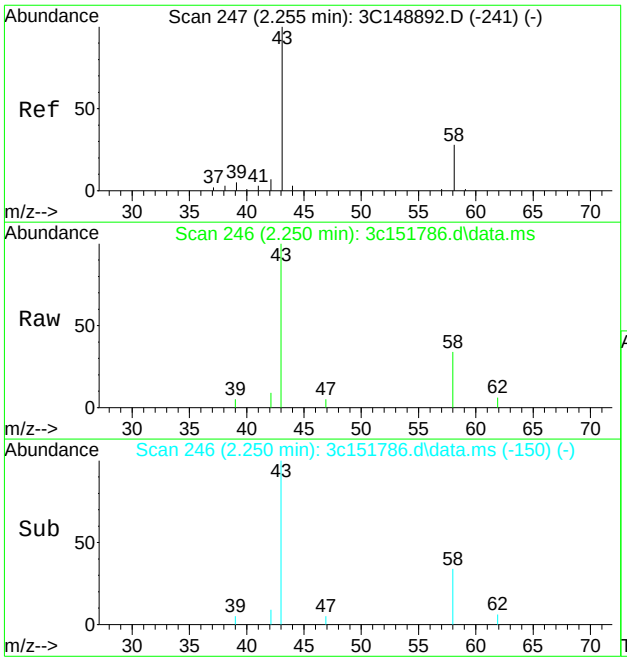
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151786.d
Acq On : 5 May 2019 7:20 pm
Operator : mariceld
Sample : jc86986-10 Inst : MS3C
Misc : MS34303,V3C6820,5.6,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 20:27:10 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



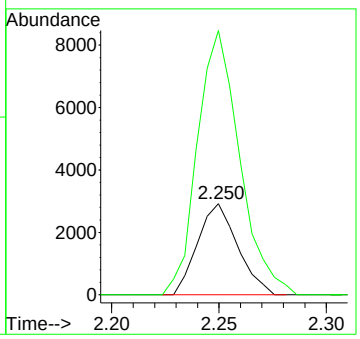

M3C6743.M Mon May 06 21:08:44 2019 Page: 2

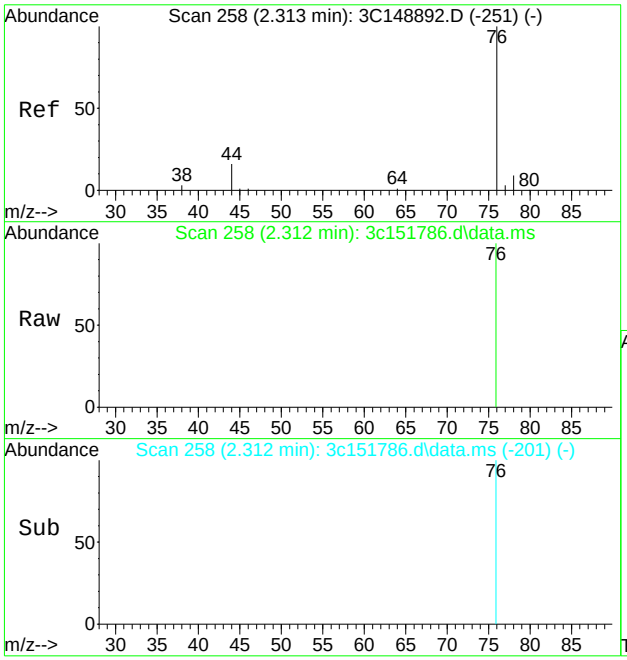



#20
acetone
Concen: 59.60 ug/L
RT: 2.250 min Scan# 246
Delta R.T. -0.000 min
Lab File: 3c151786.d
Acq: 5 May 2019 7:20 pm

Tgt Ion: 58 Resp: 3792

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 290.2 | 284.5 | 344.5 |

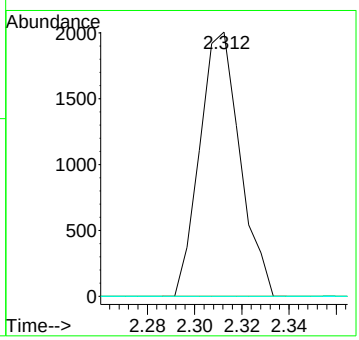


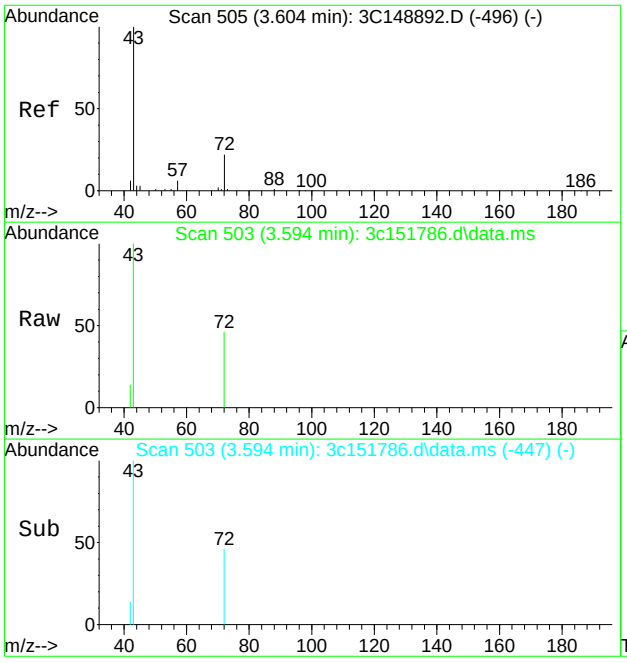




#23
carbon disulfide
Concen: 0.74 ug/L
RT: 2.312 min Scan# 258
Delta R.T. -0.000 min
Lab File: 3c151786.d
Acq: 5 May 2019 7:20 pm

Tgt Ion: 76 Resp: 2380

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.0 |
| 44 | 0.0 | 0.0 | 44.0 |

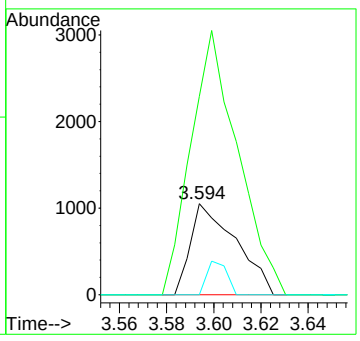





#31
2-butanone
Concen: 14.00 ug/L
RT: 3.594 min Scan# 503
Delta R.T. -0.005 min
Lab File: 3c151786.d
Acq: 5 May 2019 7:20 pm

Tgt Ion: 72 Resp: 1403

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 217.9 | 372.9 | 432.9# |
| 57 | 0.0 | 0.0 | 59.6 |




7.1.9

7

Manual Integrations
APPROVED
(compounds with "m" flag)
MoHui Huang
05/09/19 10:35

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-9\vd10654\
Data File : d264377.d
Acq On : 8 May 2019 5:20 pm
Operator : thienn
Sample : jc86986-11 Inst : MSD
Misc : ms34303,vd10654,4.1,,50,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Results File: MD10606.RES
Quant Time: May 09 03:59:24 2019
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

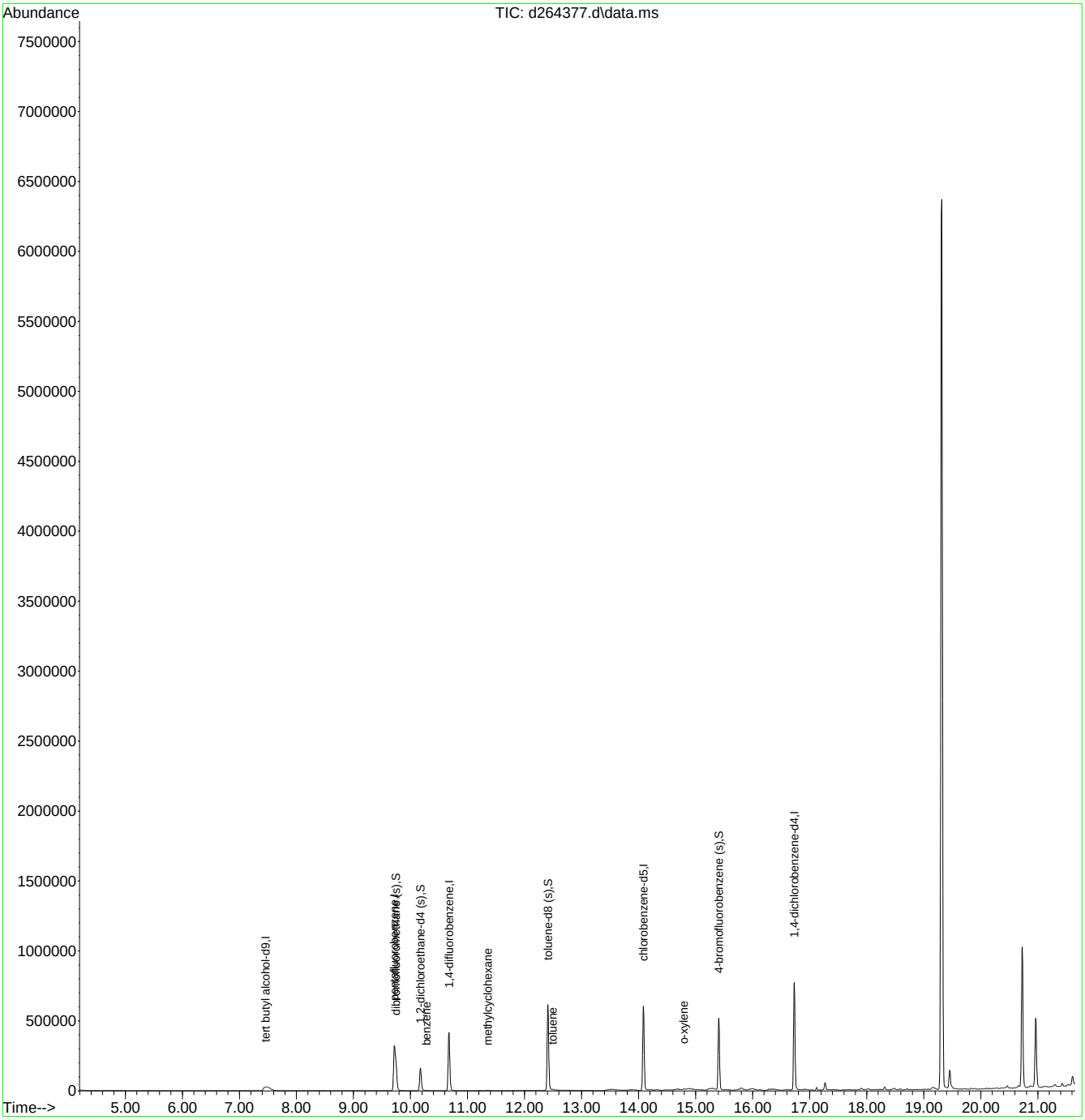
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.458 | 65 | 130945 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.717 | 168 | 242150 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.675 | 114 | 373147 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.085 | 117 | 364627 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.731 | 152 | 223745 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 46) dibromofluoromethane (s) | 9.744 | 113 | 111480 | 48.79 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.58% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.172 | 65 | 125454 | 44.85 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 89.70% | | | |
| 76) toluene-d8 (s) | 12.411 | 98 | 444736 | 50.02 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.04% | | | |
| 100) 4-bromofluorobenzene (s) | 15.408 | 95 | 196068 | 47.29 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 94.58% | | | |
| Target Compounds | | | | | | Qvalue |
| 58) benzene | 10.277 | 78 | 3321 | 0.29 | ug/L | 93 |
| 66) methylcyclohexane | 11.355 | 83 | 2057 | 0.43 | ug/L | 90 |
| 77) toluene | 12.495 | 92 | 2605 | 0.37 | ug/L # | 83 |
| 92) o-xylene | 14.791 | 91 | 3436m | 0.30 | ug/L | |

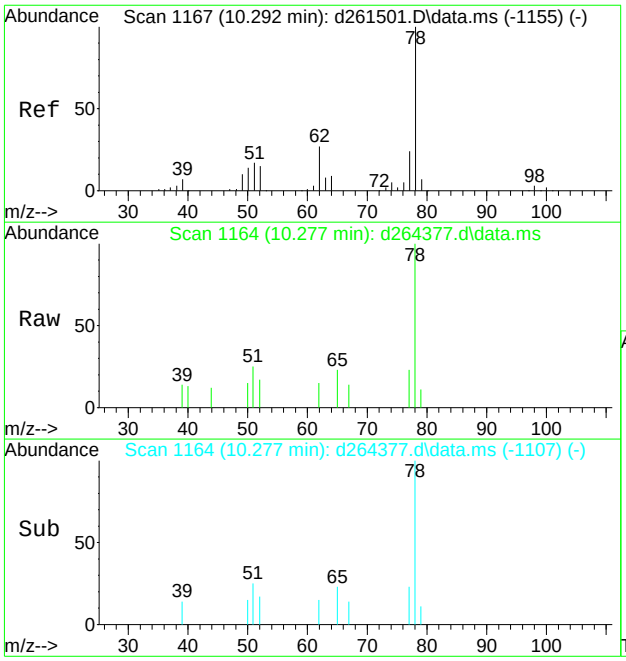
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-9\vd10654\
Data File : d264377.d
Acq On : 8 May 2019 5:20 pm
Operator : thienn
Sample : jc86986-11 Inst : MSD
Misc : ms34303,vd10654,4.1,,50,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Results File: MD10606.RES
Quant Time: May 09 03:59:24 2019
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

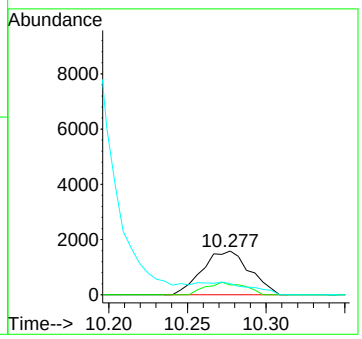


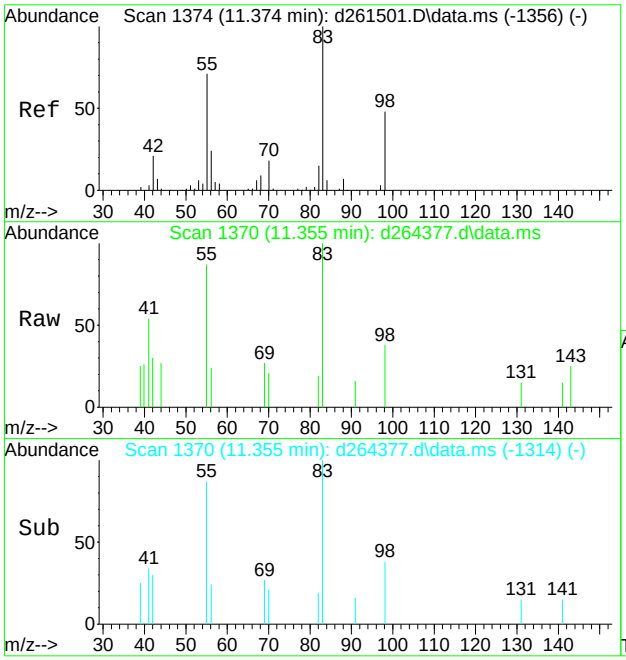



#58
benzene
Concen: 0.29 ug/L
RT: 10.277 min Scan# 1164
Delta R.T. -0.004 min
Lab File: d264377.d
Acq: 8 May 2019 5:20 pm

Tgt Ion: 78 Resp: 3321

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 78 | 100 | | |
| 77 | 22.6 | 0.0 | 53.8 |
| 51 | 25.5 | 0.0 | 50.1 |

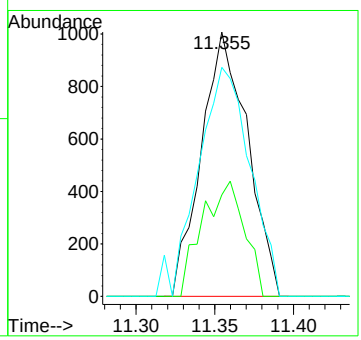


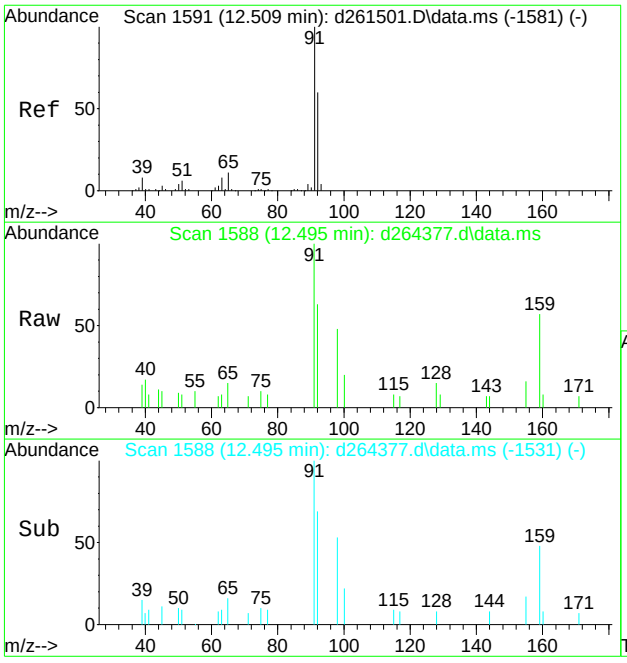




#66
methylcyclohexane
Concen: 0.43 ug/L
RT: 11.355 min Scan# 1370
Delta R.T. -0.009 min
Lab File: d264377.d
Acq: 8 May 2019 5:20 pm

Tgt Ion: 83 Resp: 2057

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 98 | 38.4 | 27.3 | 67.3 |
| 55 | 86.6 | 59.4 | 99.4 |

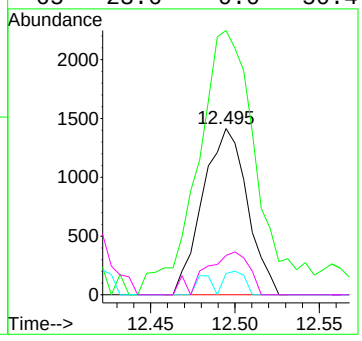


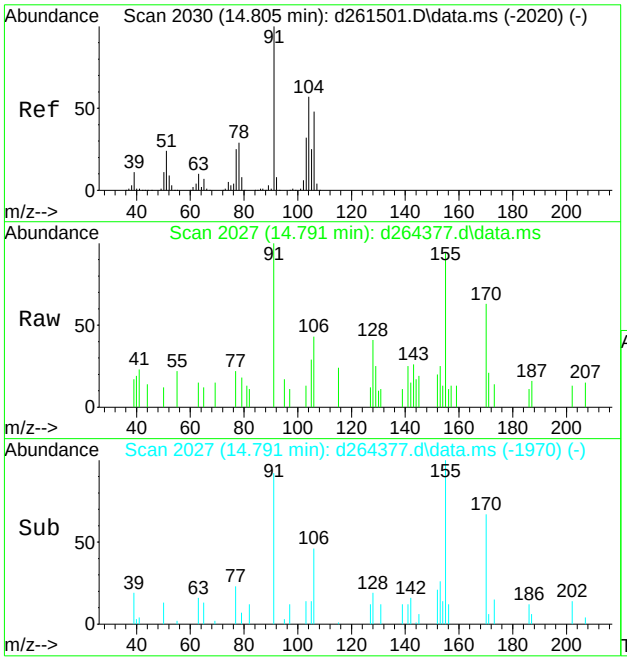



#77
toluene
Concen: 0.37 ug/L
RT: 12.495 min Scan# 1588
Delta R.T. -0.004 min
Lab File: d264377.d
Acq: 8 May 2019 5:20 pm

Tgt Ion: 92 Resp: 2605

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 142.9 | 149.2 | 189.2# |
| 51 | 12.9 | 0.0 | 42.2 |
| 65 | 23.6 | 0.0 | 50.4 |

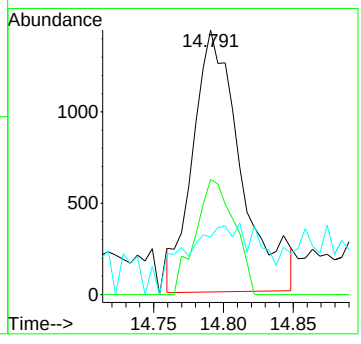



#92
o-xylene
Concen: 0.30 ug/L m
RT: 14.791 min Scan# 2027
Delta R.T. -0.004 min
Lab File: d264377.d
Acq: 8 May 2019 5:20 pm

Tgt Ion: 91 Resp: 3436

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 91 | 100 | | |
| 106 | 43.5 | 16.5 | 76.5 |
| 77 | 21.8 | 0.0 | 55.2 |



# Manual Integration Approval Summary



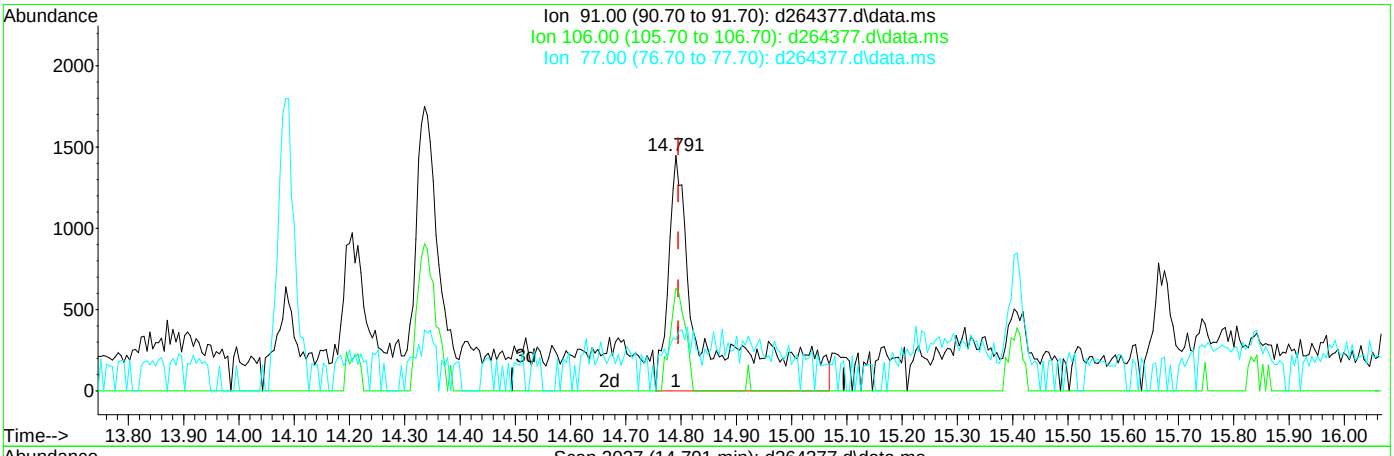
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-11 | **Method:** | SW846 8260C |
| **Lab FileID:** | D264377.D | **Analyst approved:** | 05/09/19 04:07 Lotus Acosta |
| **Injection Time:** | 05/08/19 17:20 | **Supervisor approved:** | 05/09/19 10:35 MoHui Huang |

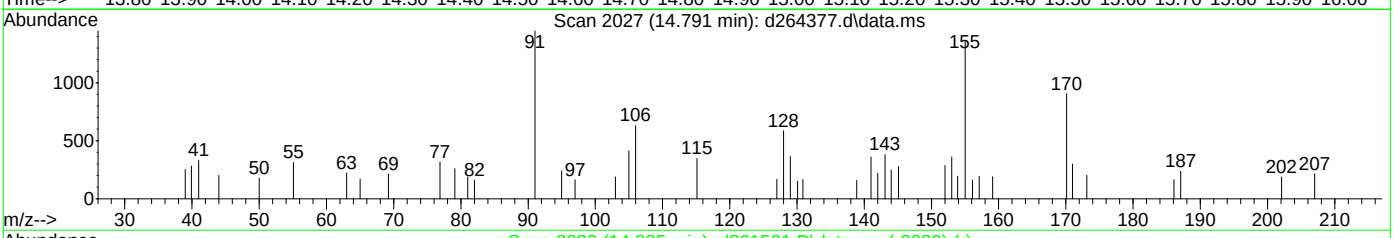
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| o-Xylene | 95-47-6 | | 14.79 | Poor instrument integration |

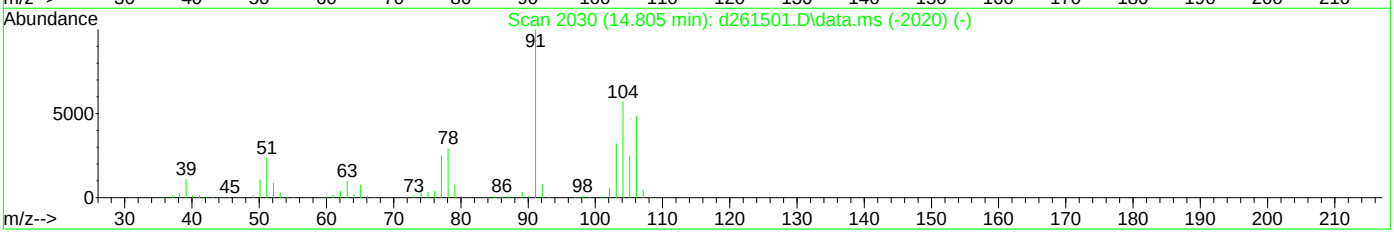
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-9\vd10654\
Data File : d264377.d
Acq On : 8 May 2019 5:20 pm
Operator : thienn
Sample : jc86986-11 Inst : MSD
Misc : ms34303,vd10654,4.1,,50,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Results File: MD10606.RES
Quant Time: May 08 17:43:20 2019
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration




TIC: d264377.d\data.ms

(92) o-xylene

14.791min (-0.004) 0.57ug/L

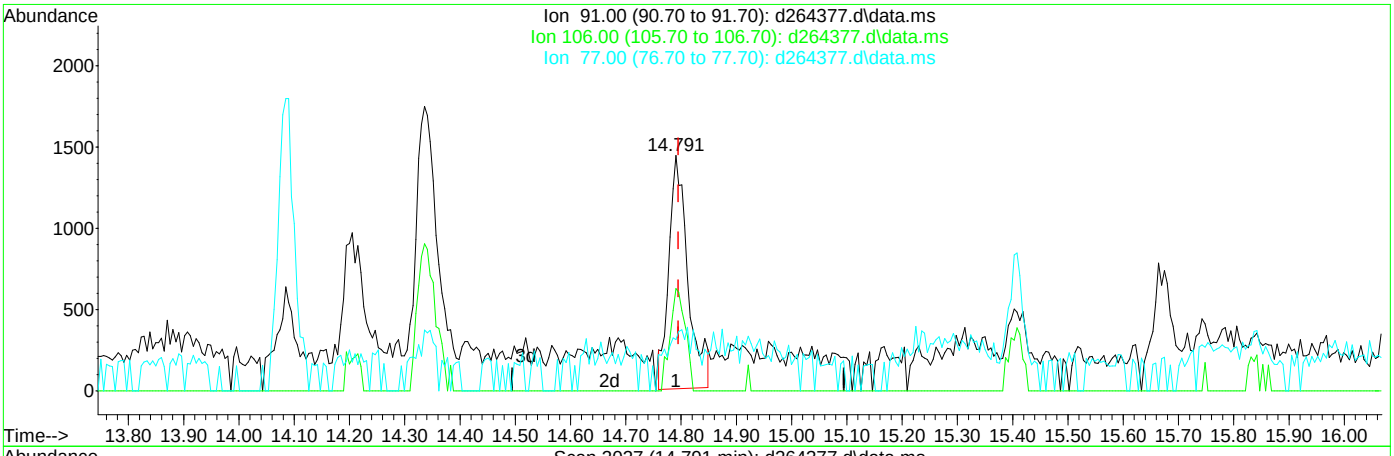
response 6573

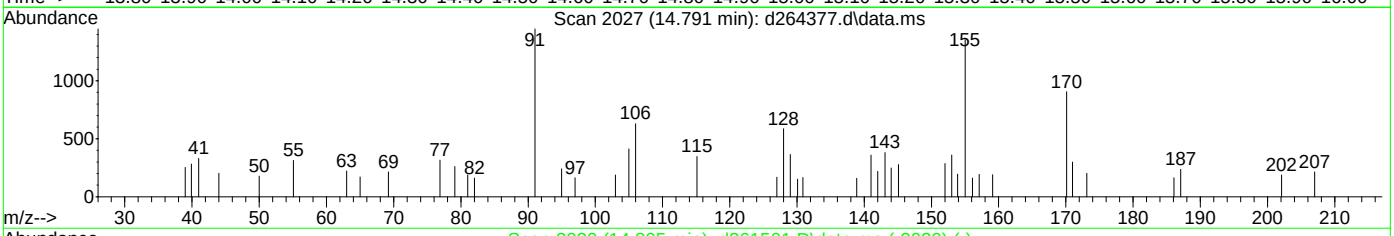
| Ion | Exp% | Act% |
|---|---|---|
| 91.00 | 100 | 100 |
| 106.00 | 46.50 | 43.48 |
| 77.00 | 25.20 | 21.81 |
| 0.00 | 0.00 | 0.00 |

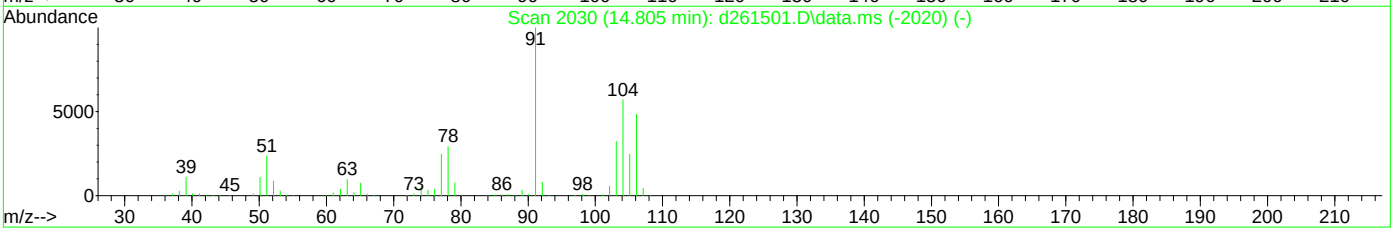
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-9\vd10654\
Data File : d264377.d
Acq On : 8 May 2019 5:20 pm
Operator : thienn
Sample : jc86986-11 Inst : MSD
Misc : ms34303,vd10654,4.1,,50,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Results File: MD10606.RES
Quant Time: May 08 17:43:20 2019
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration




TIC: d264377.d\data.ms

(92) o-xylene

14.791min (-0.004) 0.30ug/L m

response 3436

| Ion | Exp% | Act% |
|---|---|---|
| 91.00 | 100 | 100 |
| 106.00 | 46.50 | 43.48 |
| 77.00 | 25.20 | 21.81 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151787.d
Acq On : 5 May 2019 7:43 pm
Operator : mariceld
Sample : jc86986-12 Inst : MS3C
Misc : MS34303,V3C6820,5.0,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 21:09:41 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

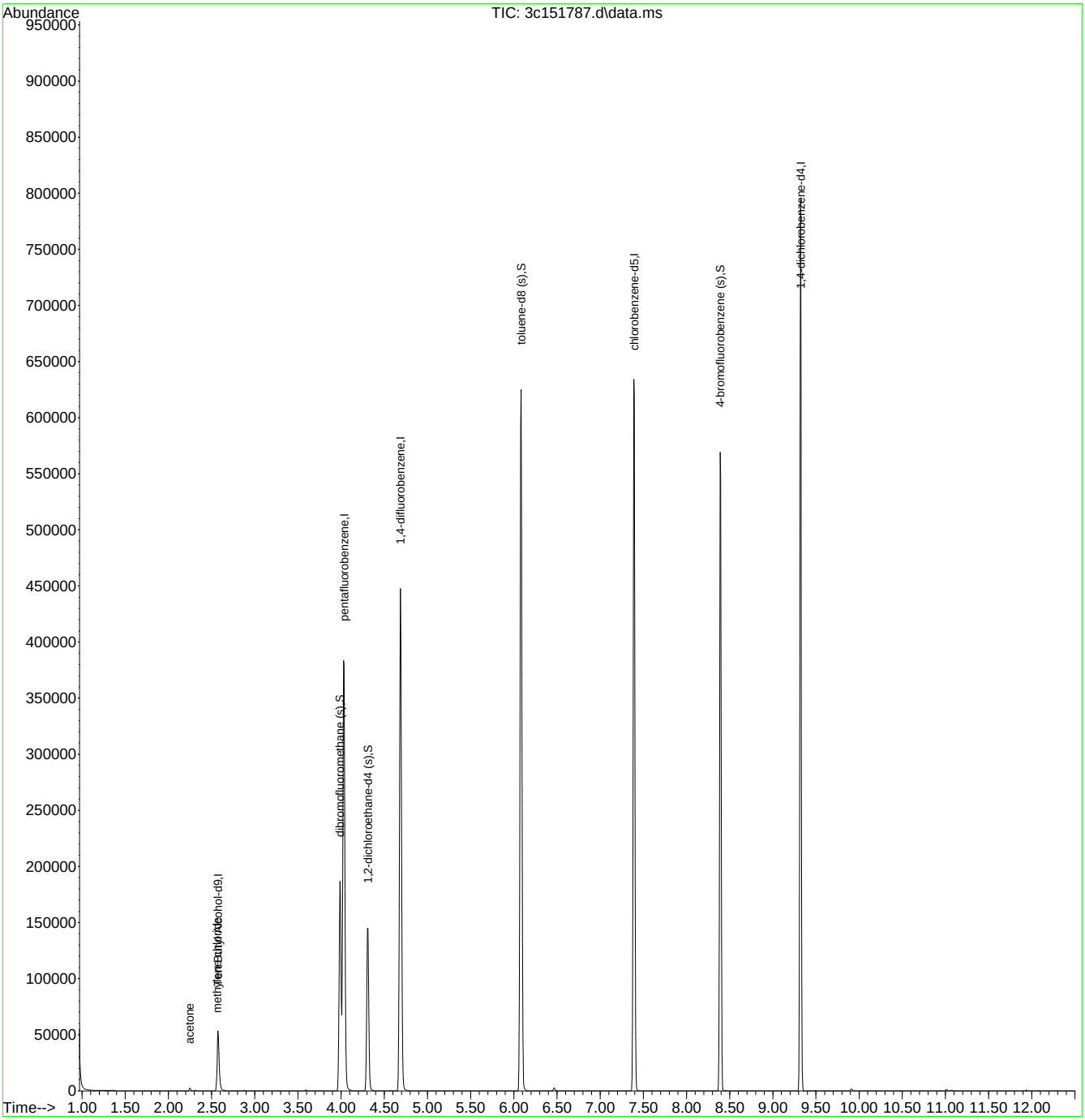
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 49651 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 249964 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 330446 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.396 | 117 | 293696 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 161802 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 89328 | 49.46 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.92% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.310 | 65 | 92900 | 51.74 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 103.48% | | | |
| 75) toluene-d8 (s) | 6.083 | 98 | 370807 | 51.01 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.02% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 141305 | 53.12 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 106.24% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 20) acetone | 2.244 | 58 | 846 | 10.86 | ug/L # | 47 |
| 24) methylene chloride | 2.564 | 84 | 906 | 0.59 | ug/L # | 67 |

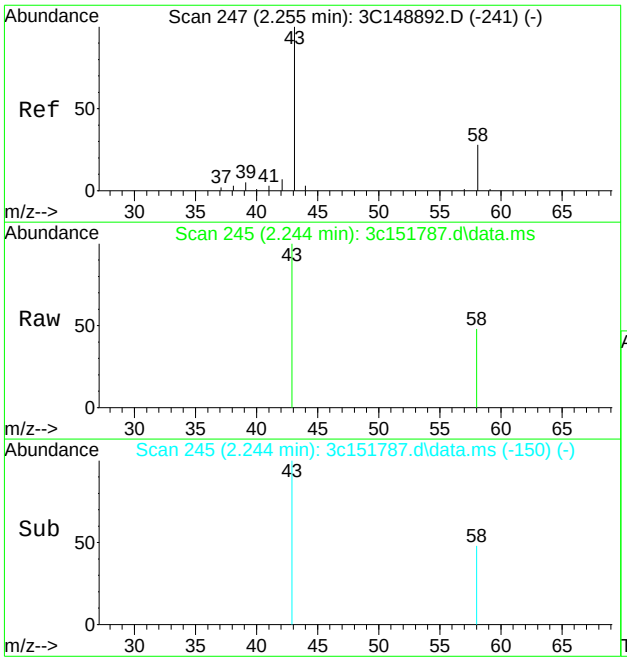
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151787.d
Acq On : 5 May 2019 7:43 pm
Operator : mariceld
Sample : jc86986-12 Inst : MS3C
Misc : MS34303,V3C6820,5.0,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 21:09:41 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

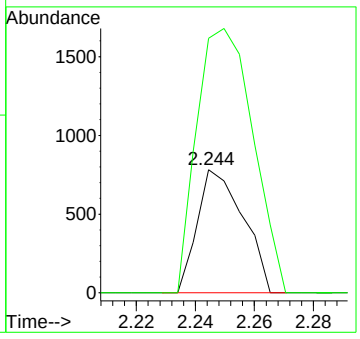


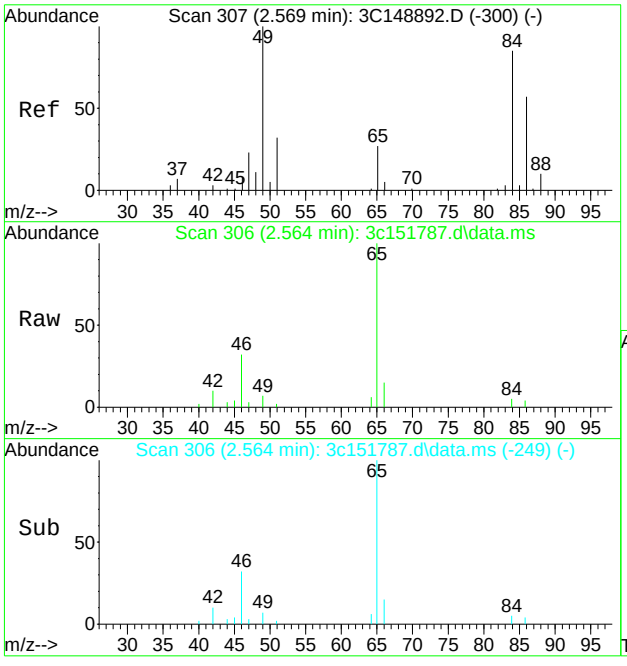



#20
acetone
Concen: 10.86 ug/L
RT: 2.244 min Scan# 245
Delta R.T. -0.005 min
Lab File: 3c151787.d
Acq: 5 May 2019 7:43 pm

Tgt Ion: 58 Resp: 846

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 206.5 | 284.5 | 344.5# |

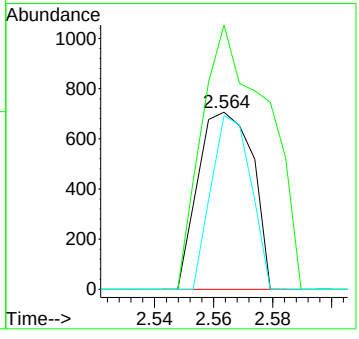



#24
methylene chloride
Concen: 0.59 ug/L
RT: 2.564 min Scan# 306
Delta R.T. -0.000 min
Lab File: 3c151787.d
Acq: 5 May 2019 7:43 pm

Tgt Ion: 84 Resp: 906

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 49 | 149.3 | 87.1 | 147.1# |
| 86 | 98.2 | 37.5 | 97.5# |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151788.d
Acq On : 5 May 2019 8:07 pm
Operator : mariceld
Sample : jc86986-13 Inst : MS3C
Misc : MS34303,V3C6820,5.9,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 21:15:09 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

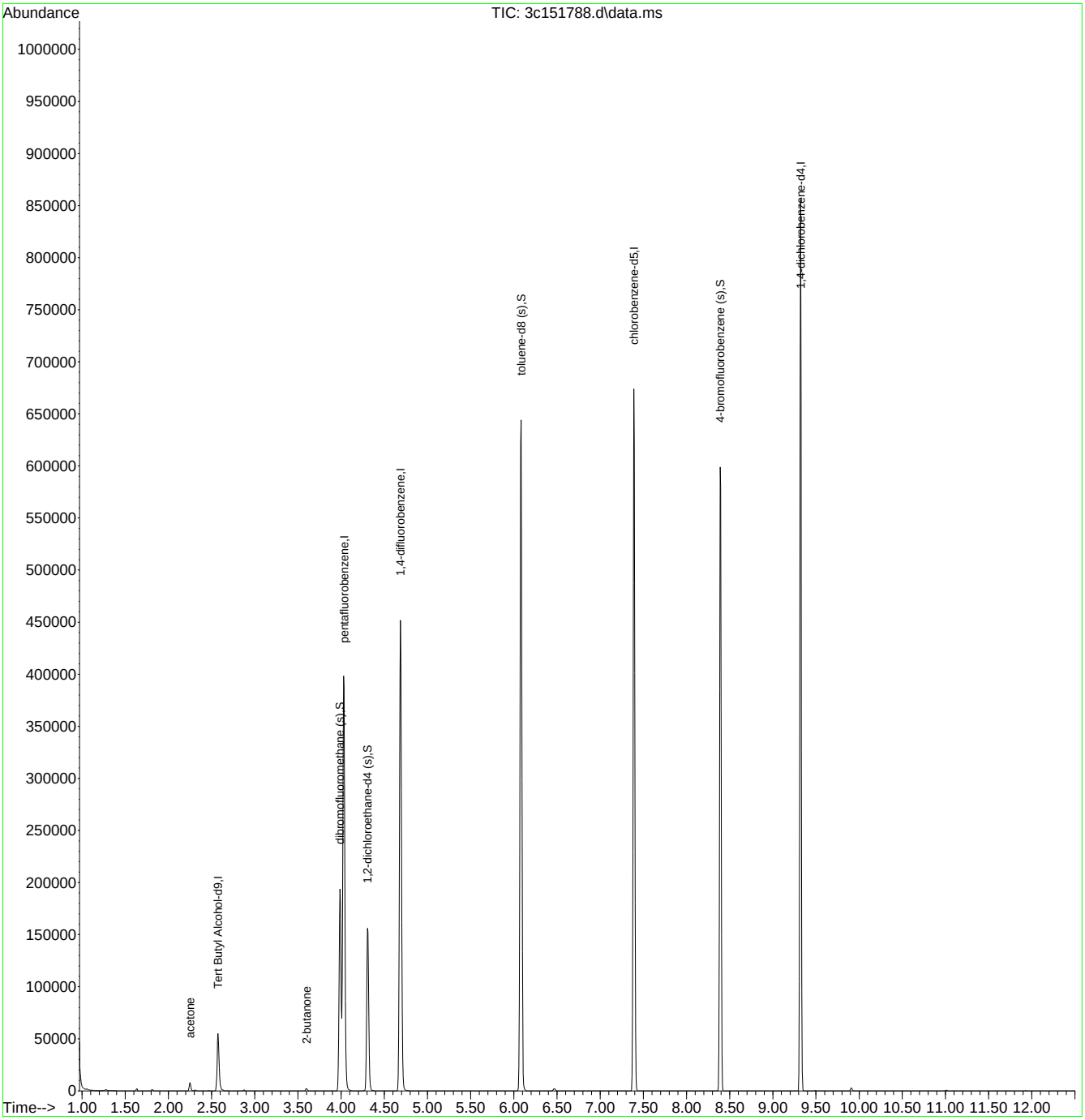
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 53075 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 255334 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 340286 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 303909 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 170772 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 93314 | 50.58 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.16% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.305 | 65 | 100434 | 54.32 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 108.64% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 379535 | 50.45 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.90% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 149766 | 53.34 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 106.68% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.250 | 58 | 2167 | 27.24 | ug/L | 89 |
| 31) 2-butanone | 3.599 | 72 | 364 | 2.91 | ug/L # | 41 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

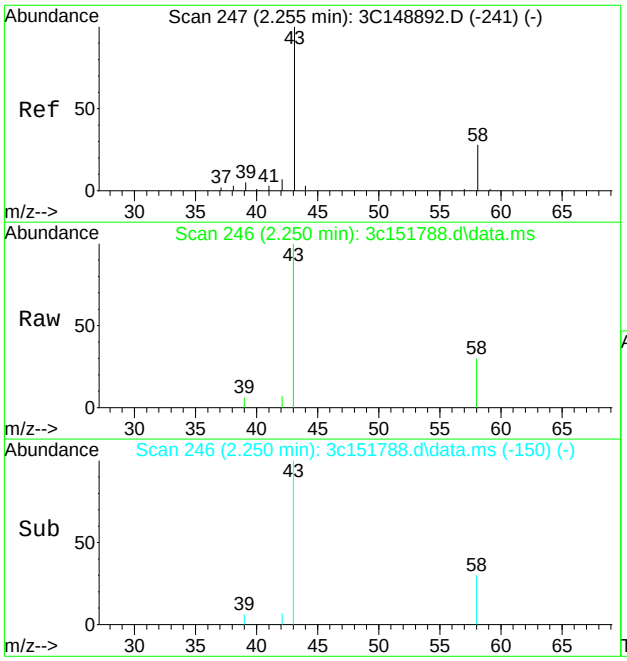
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151788.d
Acq On : 5 May 2019 8:07 pm
Operator : mariceld
Sample : jc86986-13 Inst : MS3C
Misc : MS34303,V3C6820,5.9,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 21:15:09 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



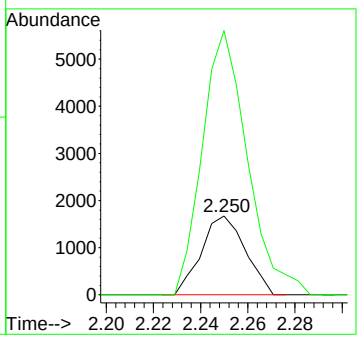

M3C6743.M Mon May 06 21:15:23 2019 Page: 2

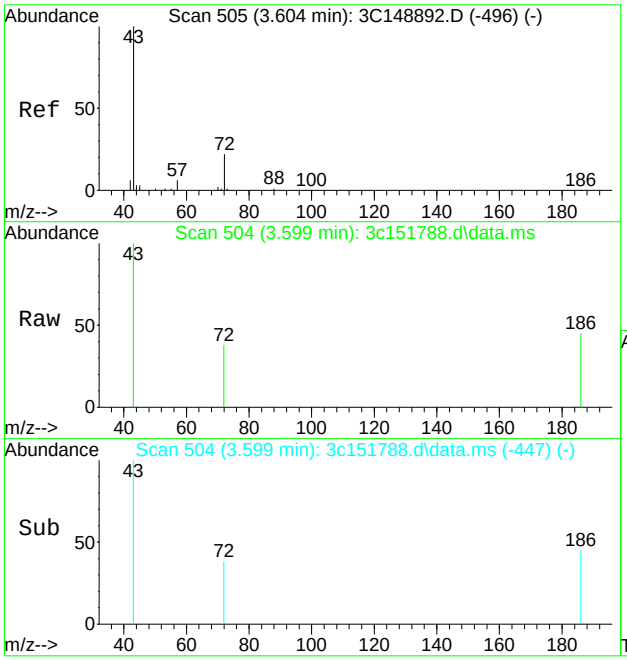



#20
acetone
Concen: 27.24 ug/L
RT: 2.250 min Scan# 246
Delta R.T. 0.000 min
Lab File: 3c151788.d
Acq: 5 May 2019 8:07 pm

Tgt Ion: 58 Resp: 2167

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 336.0 | 284.5 | 344.5 |

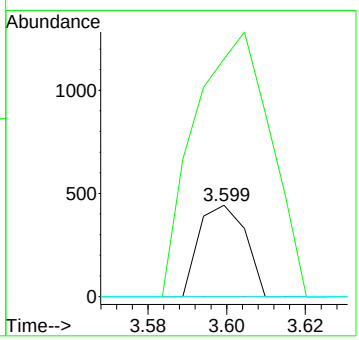



#31
2-butanone
Concen: 2.91 ug/L
RT: 3.599 min Scan# 504
Delta R.T. 0.000 min
Lab File: 3c151788.d
Acq: 5 May 2019 8:07 pm

Tgt Ion: 72 Resp: 364

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 260.6 | 372.9 | 432.9# |
| 57 | 0.0 | 0.0 | 59.6 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151776.d
Acq On : 5 May 2019 2:46 pm
Operator : mariceld
Sample : MB Inst : MS3C
Misc : MS34232,V3C6820,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:57:47 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

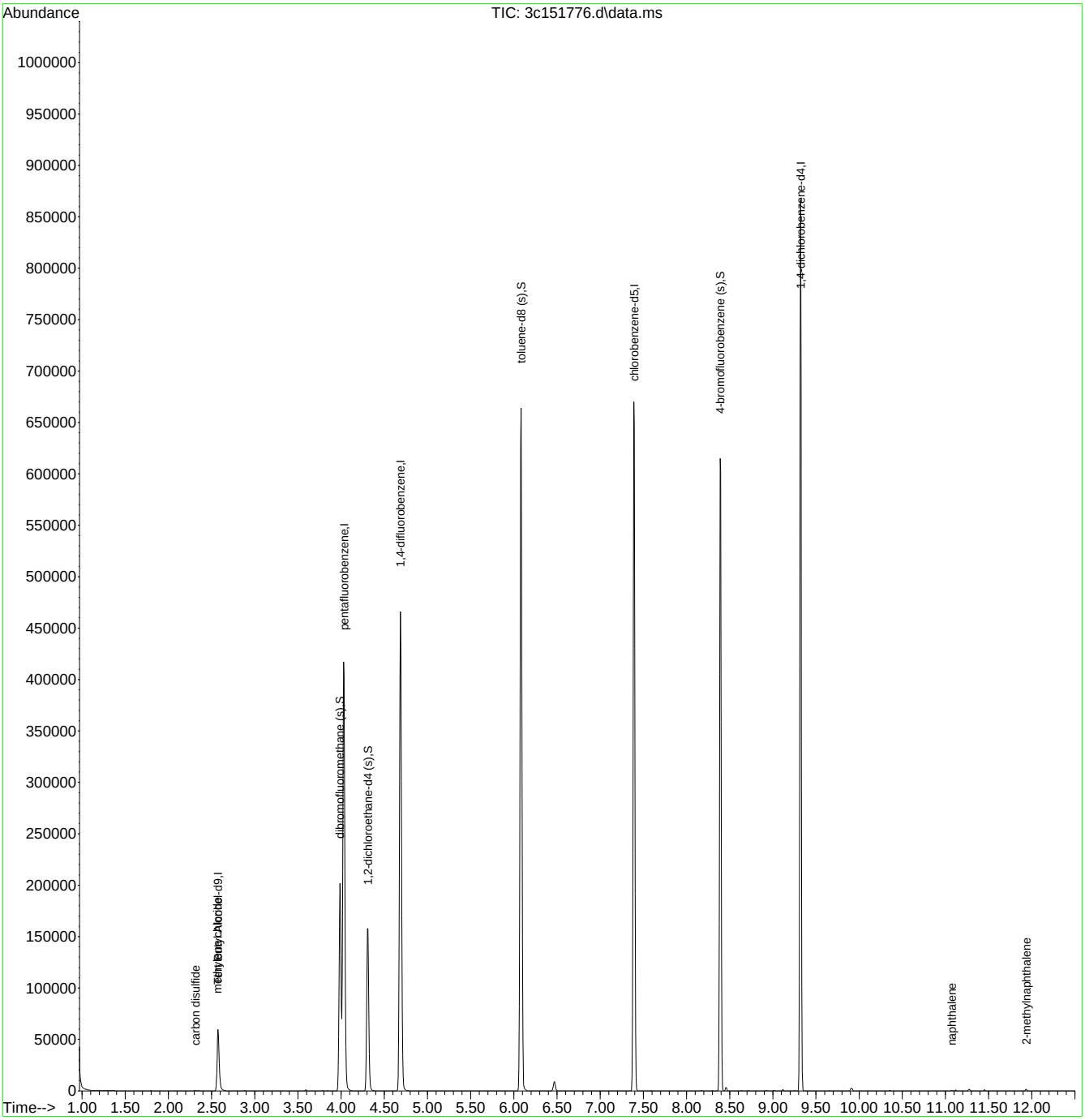
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 59787 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 265198 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 349213 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.396 | 117 | 314681 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 174937 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 97280 | 50.76 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.52% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.311 | 65 | 101113 | 53.29 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 106.58% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 390819 | 50.18 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.36% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 153181 | 53.26 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 106.52% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 23) carbon disulfide | 2.313 | 76 | 577 | 0.14 | ug/L | 69 |
| 24) methylene chloride | 2.569 | 84 | 551 | 0.34 | ug/L # | 63 |
| 119) naphthalene | 11.073 | 128 | 626 | 0.10 | ug/L | 69 |
| 124) 2-methylnaphthalene | 11.936 | 142 | 700 | 0.19 | ug/L # | 78 |

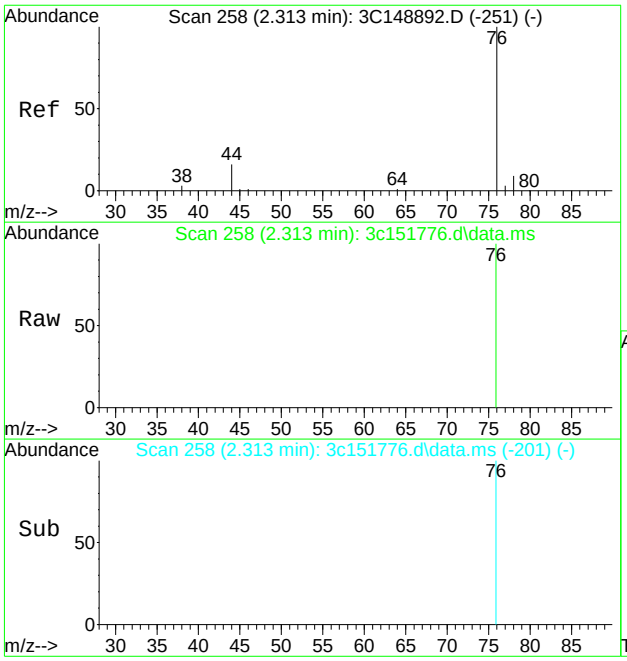
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151776.d
Acq On : 5 May 2019 2:46 pm
Operator : mariceld
Sample : MB Inst : MS3C
Misc : MS34232,V3C6820,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:57:47 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

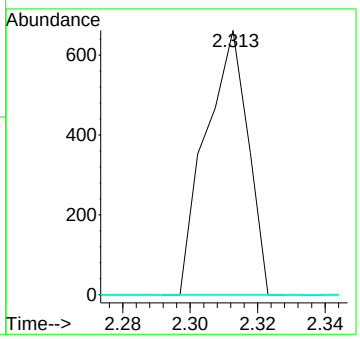


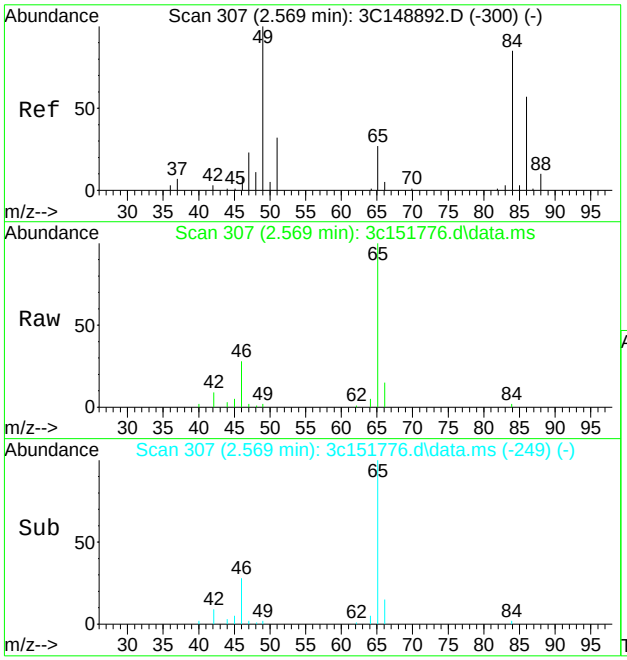



#23
carbon disulfide
Concen: 0.14 ug/L
RT: 2.313 min Scan# 258
Delta R.T. 0.000 min
Lab File: 3c151776.d
Acq: 5 May 2019 2:46 pm

Tgt Ion: 76 Resp: 577

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.0 |
| 44 | 0.0 | 0.0 | 44.0 |

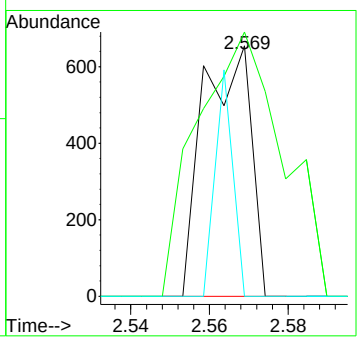


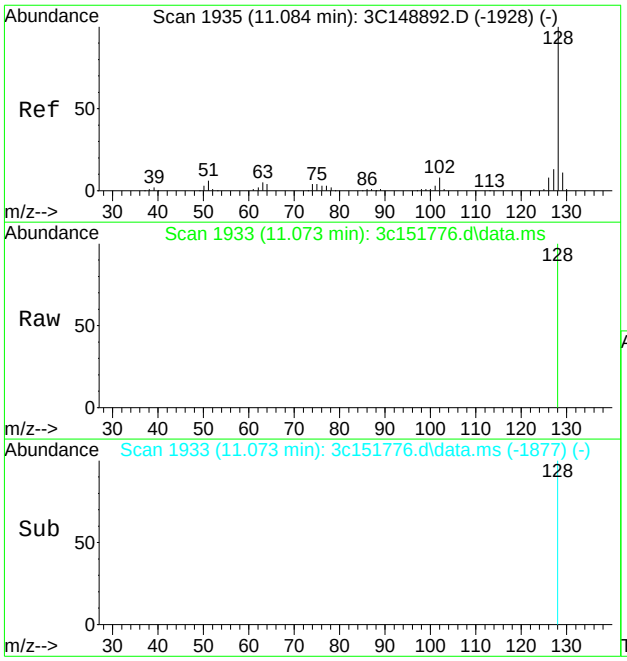




#24
methylene chloride
Concen: 0.34 ug/L
RT: 2.569 min Scan# 307
Delta R.T. 0.005 min
Lab File: 3c151776.d
Acq: 5 May 2019 2:46 pm

Tgt Ion: 84 Resp: 551

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 49 | 105.5 | 87.1 | 147.1 |
| 86 | 0.0 | 37.5 | 97.5# |

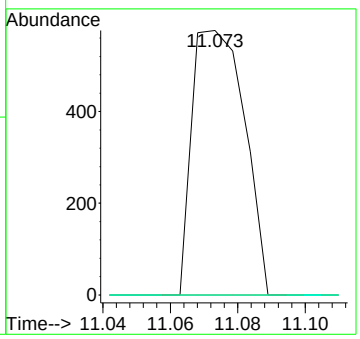


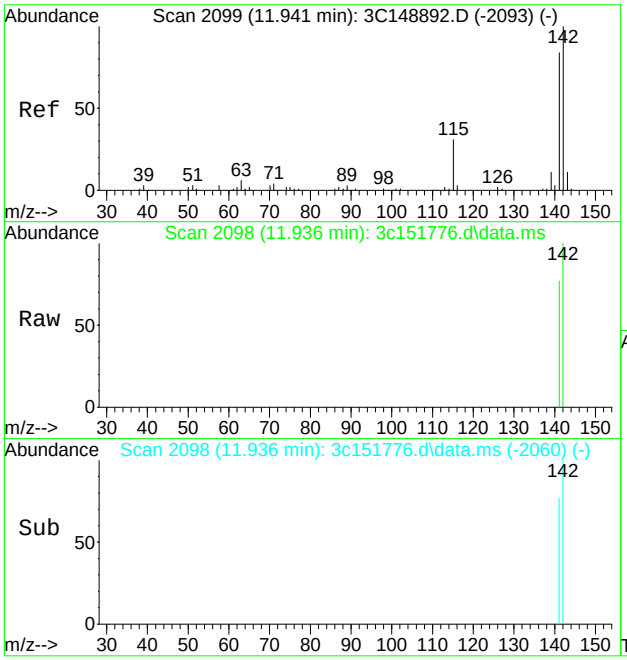



#119
naphthalene
Concen: 0.10 ug/L
RT: 11.073 min Scan# 1933
Delta R.T. -0.005 min
Lab File: 3c151776.d
Acq: 5 May 2019 2:46 pm

Tgt Ion:128 Resp: 626

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 0.0 | 0.0 | 40.9 |
| 127 | 0.0 | 0.0 | 42.7 |

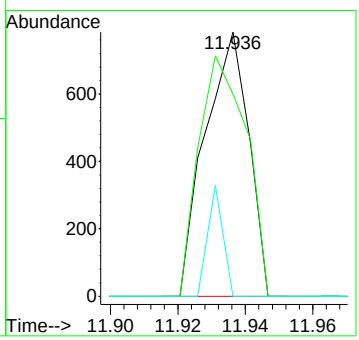



#124
2-methylnaphthalene
Concen: 0.19 ug/L
RT: 11.936 min Scan# 2098
Delta R.T. 0.000 min
Lab File: 3c151776.d
Acq: 5 May 2019 2:46 pm

Tgt Ion:142 Resp: 700

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 76.5 | 64.5 | 104.5 |
| 115 | 0.0 | 12.0 | 52.0# |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151805.d
Acq On : 6 May 2019 11:06 am
Operator : PrashanS
Sample : MB Inst : MS3C
Misc : MS34232,V3C6821,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:27:23 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

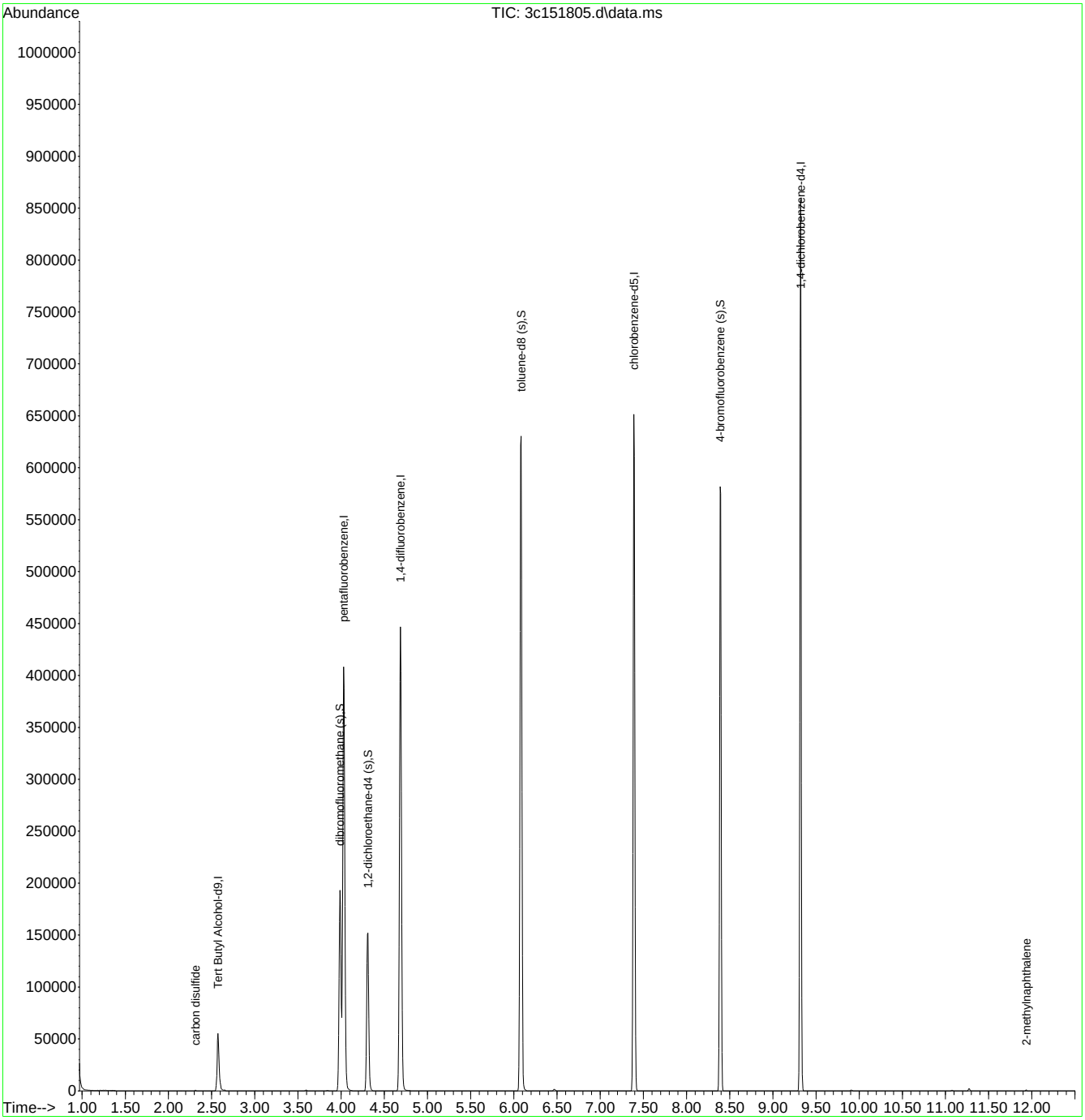
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 54159 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.028 | 168 | 260767 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 336526 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 298355 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 169503 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 94820 | 50.32 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.64% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.310 | 65 | 98495 | 53.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 107.74% | | | |
| 75) toluene-d8 (s) | 6.083 | 98 | 378408 | 51.24 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.48% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 147329 | 52.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 105.74% | | | |
| Target Compounds | | | | | | Qvalue |
| 23) carbon disulfide | 2.312 | 76 | 473 | 0.11 | ug/L | 69 |
| 124) 2-methylnaphthalene | 11.936 | 142 | 456 | 0.13 | ug/L # | 76 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

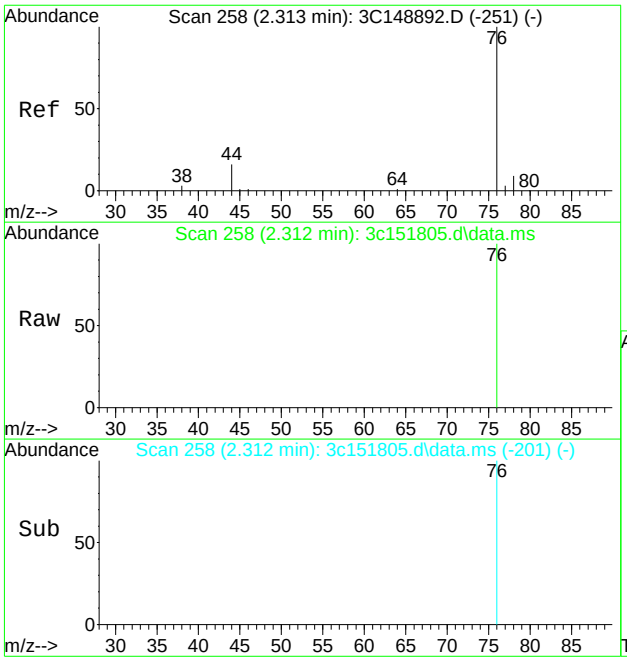
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151805.d
Acq On : 6 May 2019 11:06 am
Operator : PrashanS
Sample : MB Inst : MS3C
Misc : MS34232,V3C6821,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:27:23 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



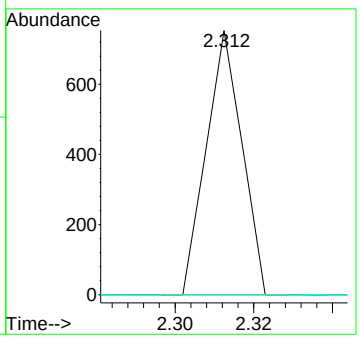

M3C6743.M Mon May 06 23:27:49 2019 Page: 2

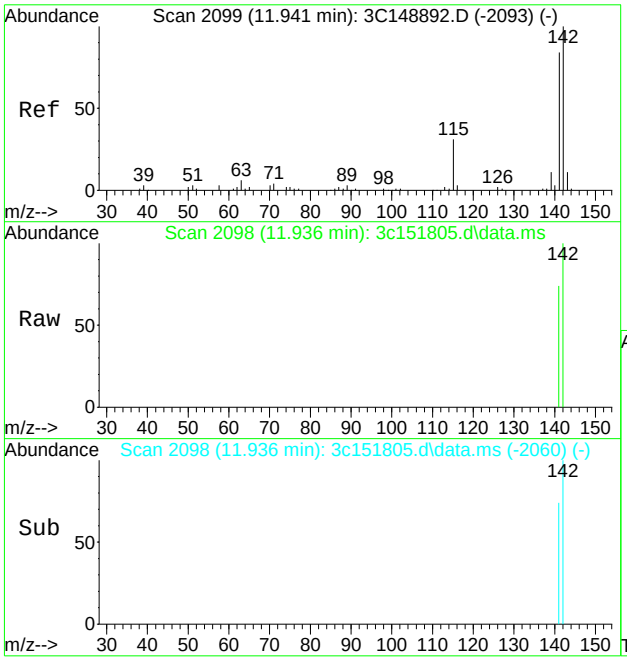



#23
carbon disulfide
Concen: 0.11 ug/L
RT: 2.312 min Scan# 258
Delta R.T. -0.000 min
Lab File: 3c151805.d
Acq: 6 May 2019 11:06 am

Tgt Ion: 76 Resp: 473

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.0 |
| 44 | 0.0 | 0.0 | 44.0 |

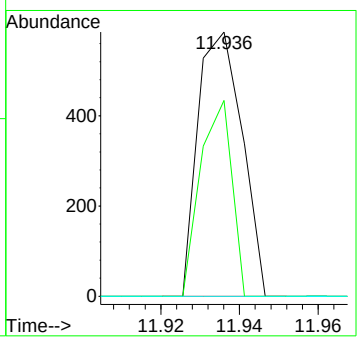



#124
2-methylnaphthalene
Concen: 0.13 ug/L
RT: 11.936 min Scan# 2098
Delta R.T. -0.000 min
Lab File: 3c151805.d
Acq: 6 May 2019 11:06 am

Tgt Ion:142 Resp: 456

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 74.1 | 64.5 | 104.5 |
| 115 | 0.0 | 12.0 | 52.0# |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264361.D
Acq On : 8 May 2019 9:40 am
Operator : thienn
Sample : mb
Misc : ms34579,vd10654,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 08 11:57:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.462 | 65 | 126530 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.717 | 168 | 238613 | 50.00 | ug/L | -0.01 |
| 54) 1,4-difluorobenzene | 10.674 | 114 | 365773 | 50.00 | ug/L | -0.01 |
| 75) chlorobenzene-d5 | 14.084 | 117 | 365762 | 50.00 | ug/L | -0.01 |
| 99) 1,4-dichlorobenzene-d4 | 16.730 | 152 | 212464 | 50.00 | ug/L | -0.01 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.743 | 113 | 110694 | 49.17 | ug/L | -0.02 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.34% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.172 | 65 | 126769 | 46.23 | ug/L | -0.02 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 92.46% | | | |
| 76) toluene-d8 (s) | 12.410 | 98 | 440601 | 49.40 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.80% | | | |
| 100) 4-bromofluorobenzene (s) | 15.407 | 95 | 191805 | 48.72 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 97.44% | | | |

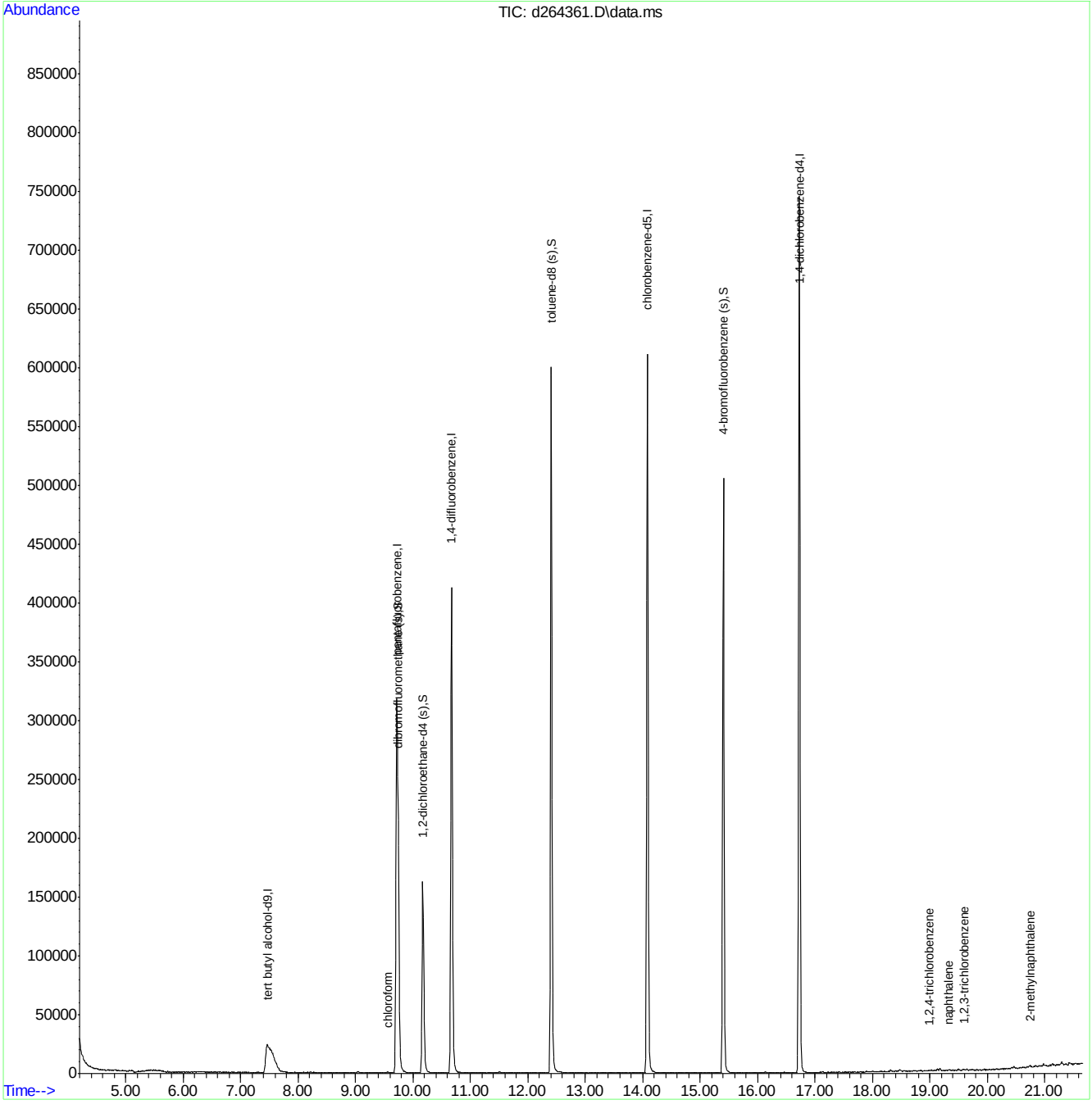
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 44) chloroform | 9.560 | 83 | 556 | 0.11 | ug/L | 76 |
| 122) 1,2,4-trichlorobenzene | 18.990 | 180 | 234 | 1.51 | ug/L | 68 |
| 124) naphthalene | 19.335 | 128 | 1219 | 1.95 | ug/L | 78 |
| 125) 1,2,3-trichlorobenzene | 19.596 | 180 | 386 | 1.93 | ug/L # | 83 |
| 126) 2-methylnaphthalene | 20.742 | 142 | 872 | 0.46 | ug/L | 77 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

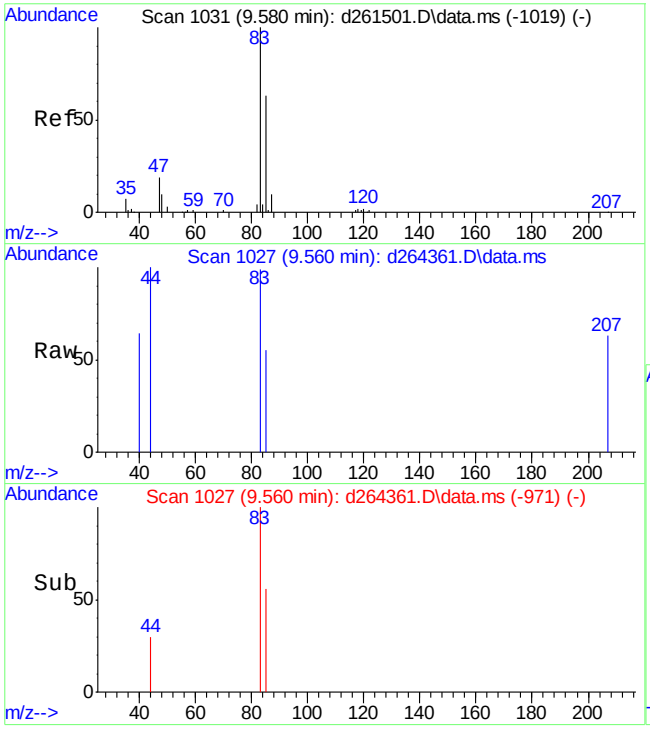
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264361.D
Acq On : 8 May 2019 9:40 am
Operator : thienn
Sample : mb
Misc : ms34579,vd10654,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 08 11:57:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration



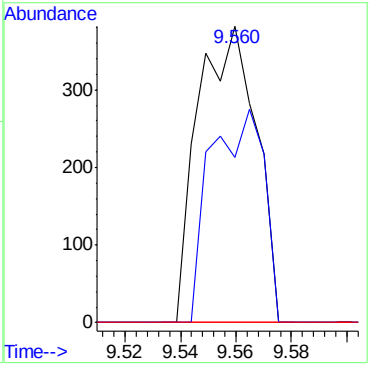

MD10606.M Wed May 08 11:57:29 2019 RPT1 Page: 2

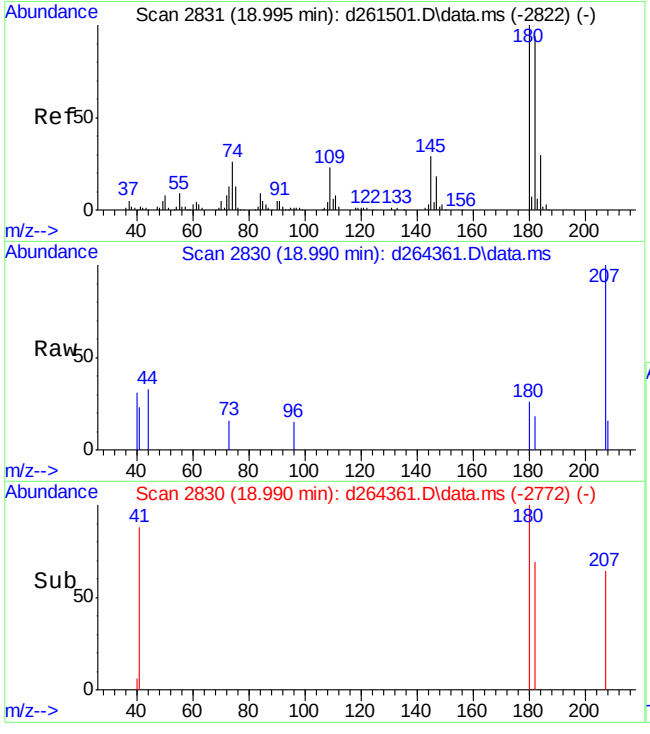



#44
chloroform
Concen: 0.11 ug/L
RT: 9.560 min Scan# 1027
Delta R.T. -0.005 min
Lab File: d264361.D
Acq: 8 May 2019 9:40 am

Tgt Ion: 83 Resp: 556

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 55.8 | 36.2 | 96.2 |
| 47 | 0.0 | 0.0 | 56.4 |

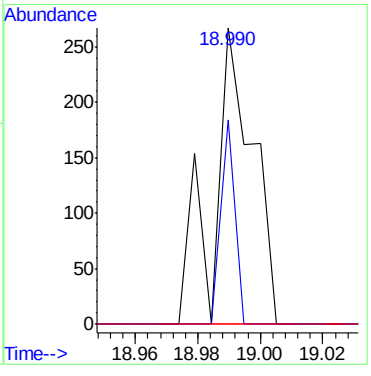


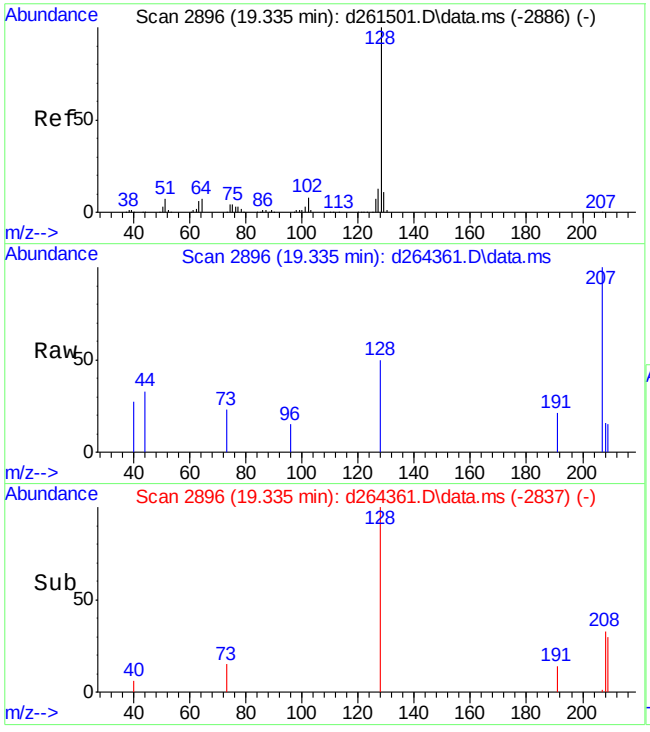




#122
1,2,4-trichlorobenzene
Concen: 1.51 ug/L
RT: 18.990 min Scan# 2830
Delta R.T. 0.005 min
Lab File: d264361.D
Acq: 8 May 2019 9:40 am

Tgt Ion:180 Resp: 234

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 68.9 | 64.6 | 124.6 |
| 74 | 0.0 | 0.0 | 56.5 |

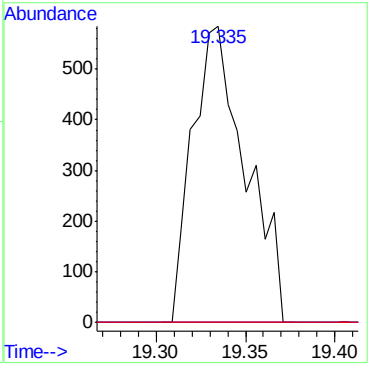


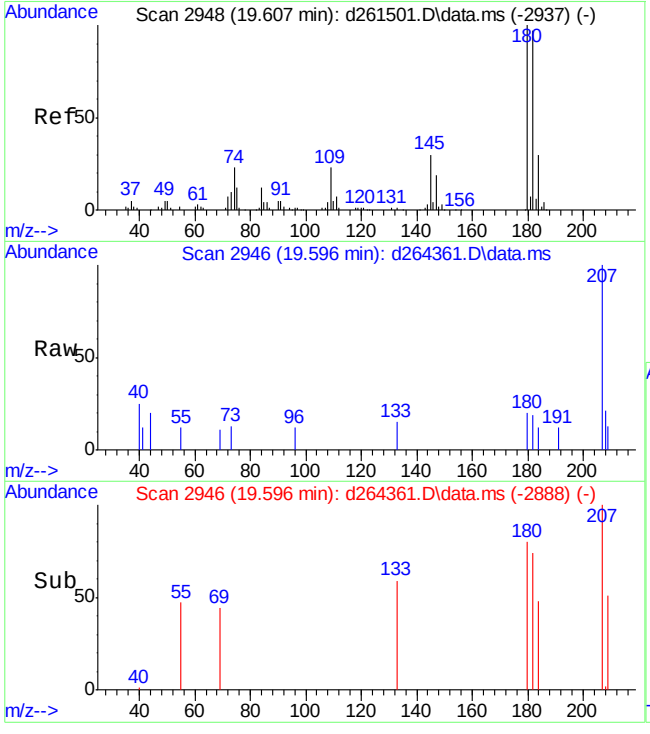



#124
naphthalene
Concen: 1.95 ug/L
RT: 19.335 min Scan# 2896
Delta R.T. 0.011 min
Lab File: d264361.D
Acq: 8 May 2019 9:40 am

Tgt Ion:128 Resp: 1219

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 102 | 0.0 | 0.0 | 38.5 |
| 51 | 0.0 | 0.0 | 36.8 |

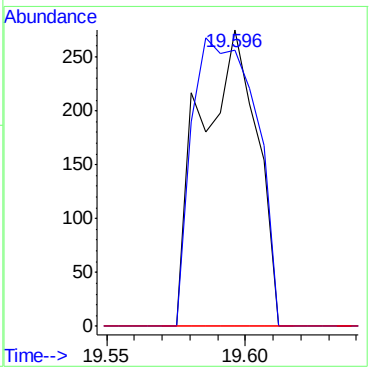


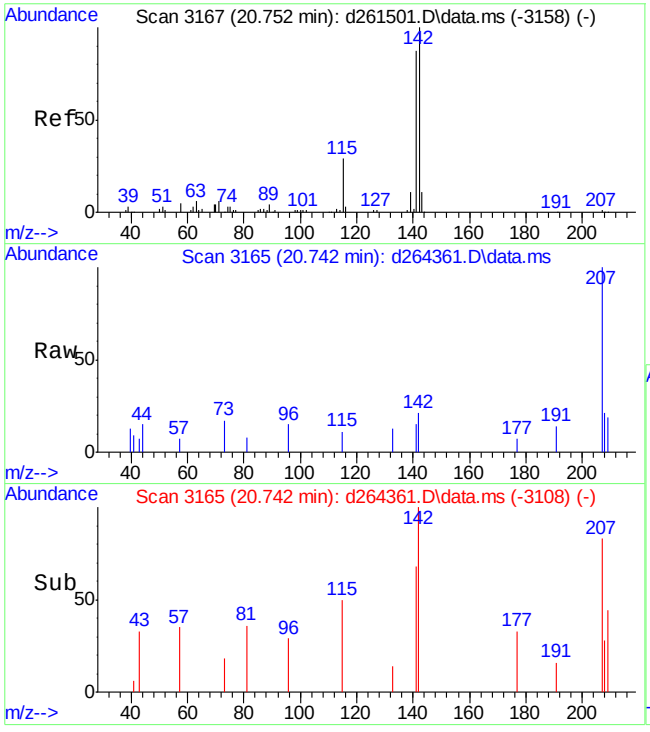




#125
1,2,3-trichlorobenzene
Concen: 1.93 ug/L
RT: 19.596 min Scan# 2946
Delta R.T. 0.005 min
Lab File: d264361.D
Acq: 8 May 2019 9:40 am

Tgt Ion:180 Resp: 386

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 180 | 100 | | |
| 182 | 93.1 | 66.6 | 126.6 |
| 145 | 0.0 | 1.3 | 61.3# |

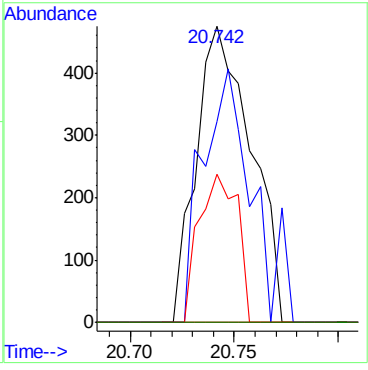





#126
2-methylnaphthalene
Concen: 0.46 ug/L
RT: 20.742 min Scan# 3165
Delta R.T. 0.000 min
Lab File: d264361.D
Acq: 8 May 2019 9:40 am

Tgt Ion:142 Resp: 872

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 68.0 | 64.5 | 104.5 |
| 115 | 50.1 | 1.9 | 61.9 |
| 143 | 0.0 | 0.0 | 40.8 |




7.2.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164398.D
Acq On : 9 May 2019 12:11 pm
Operator : PrashanS
Sample : MB
Misc : MS34303,V1C7215,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 09 13:46:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 51874 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 212442 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 295211 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.655 | 117 | 240155 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 124380 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 88943 | 49.64 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 99.28% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 78175 | 42.15 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 84.30% | | | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 323643 | 50.03 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 100.06% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 108592 | 46.51 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 93.02% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 11) bromomethane | 5.209 | 94 | 344 | 0.21 | ug/L | 89 |
| 22) carbon disulfide | 7.086 | 76 | 1233 | 0.22 | ug/L | 71 |
| 23) methylene chloride | 7.426 | 84 | 686 | 0.36 | ug/L # | 72 |
| 42) chloroform | 9.466 | 85 | 392 | 0.17 | ug/L # | 24 |
| 124) naphthalene | 18.164 | 128 | 988 | 0.22 | ug/L | 68 |
| 127) 2-methylnaphthalene | 19.121 | 142 | 527 | 0.18 | ug/L # | 80 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

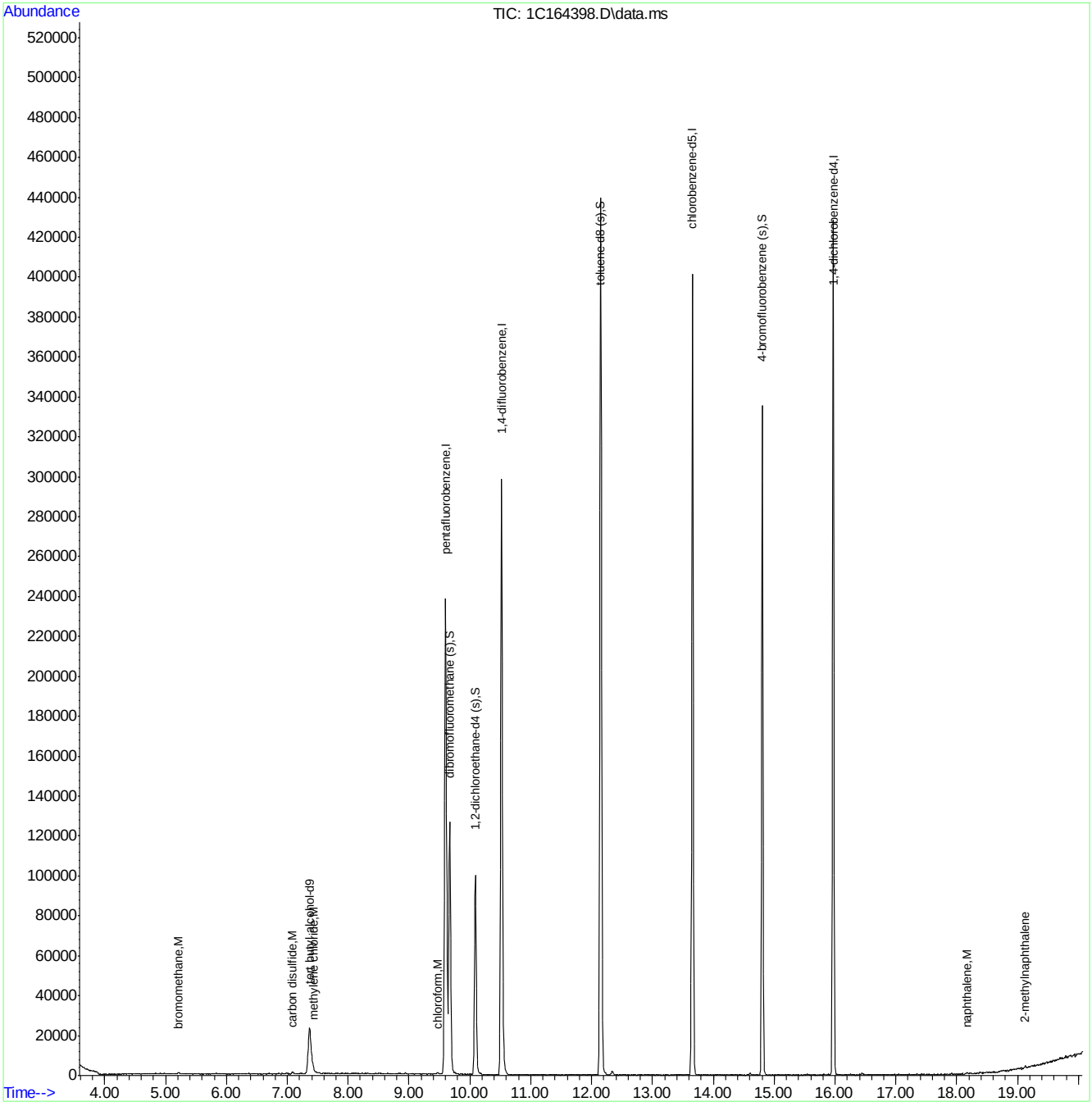
7.2.4

7

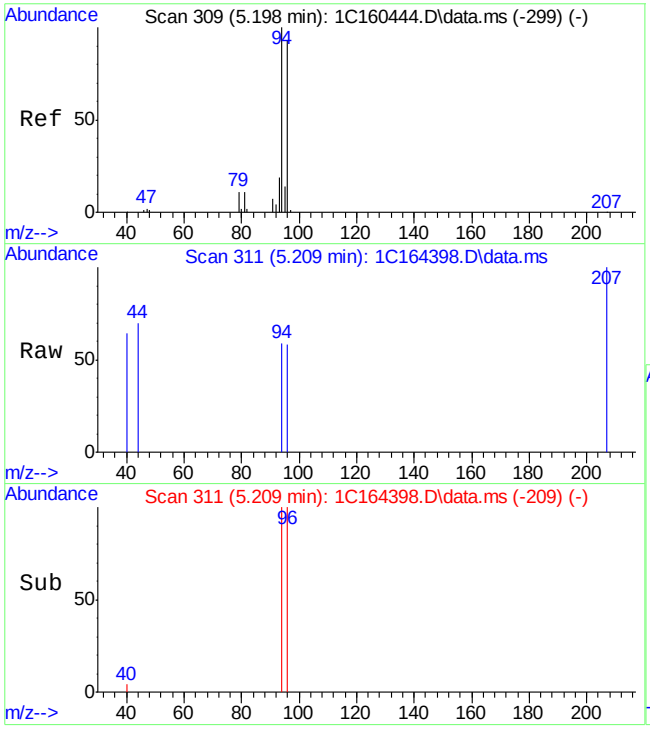
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164398.D
Acq On : 9 May 2019 12:11 pm
Operator : PrashanS
Sample : MB
Misc : MS34303,V1C7215,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 09 13:46:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



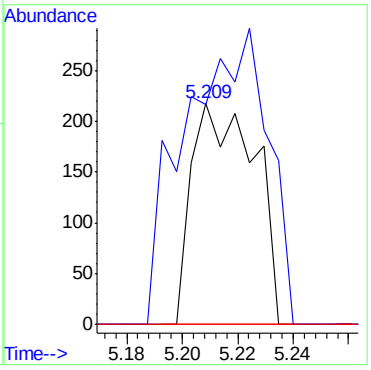

M1CS7200.M Thu May 09 13:49:46 2019 Page: 2

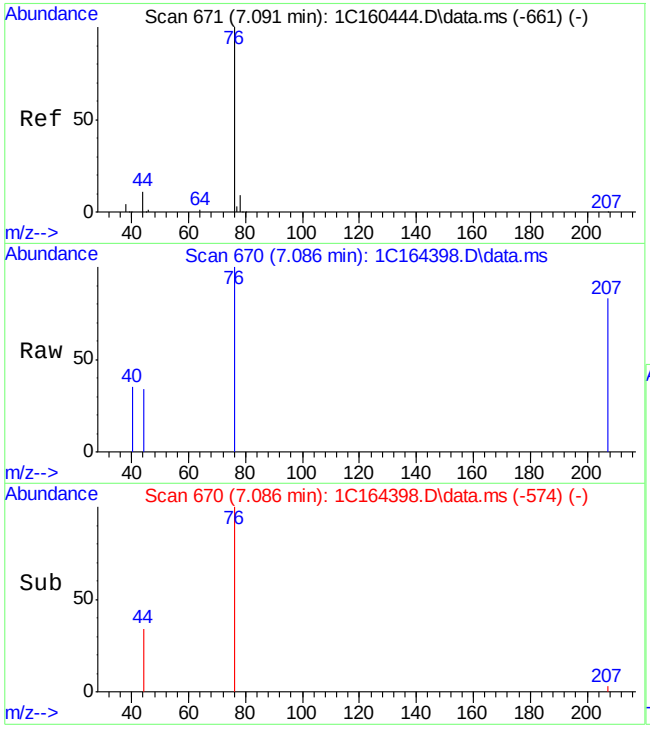



#11
bromomethane
Concen: 0.21 ug/L
RT: 5.209 min Scan# 311
Delta R.T. 0.031 min
Lab File: 1C164398.D
Acq: 9 May 2019 12:11 pm

Tgt Ion: 94 Resp: 344

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 96 | 99.5 | 62.2 | 122.2 |
| 79 | 0.0 | 0.0 | 43.8 |

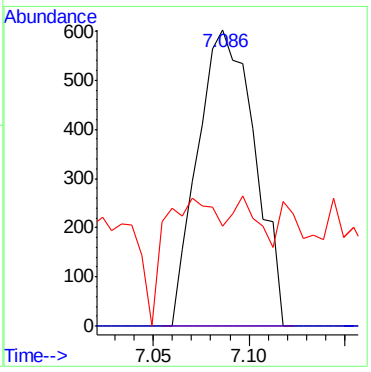


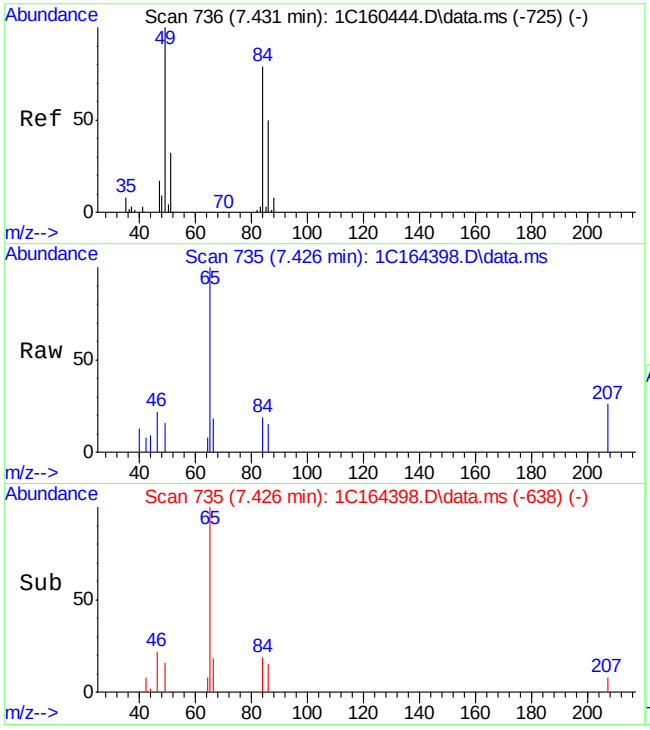




#22
carbon disulfide
Concen: 0.22 ug/L
RT: 7.086 min Scan# 670
Delta R.T. -0.000 min
Lab File: 1C164398.D
Acq: 9 May 2019 12:11 pm

Tgt Ion: 76 Resp: 1233

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.3 |
| 44 | 0.0 | 0.0 | 42.1 |

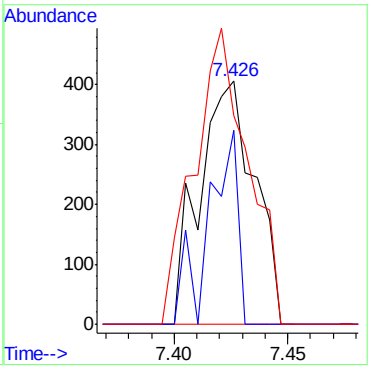


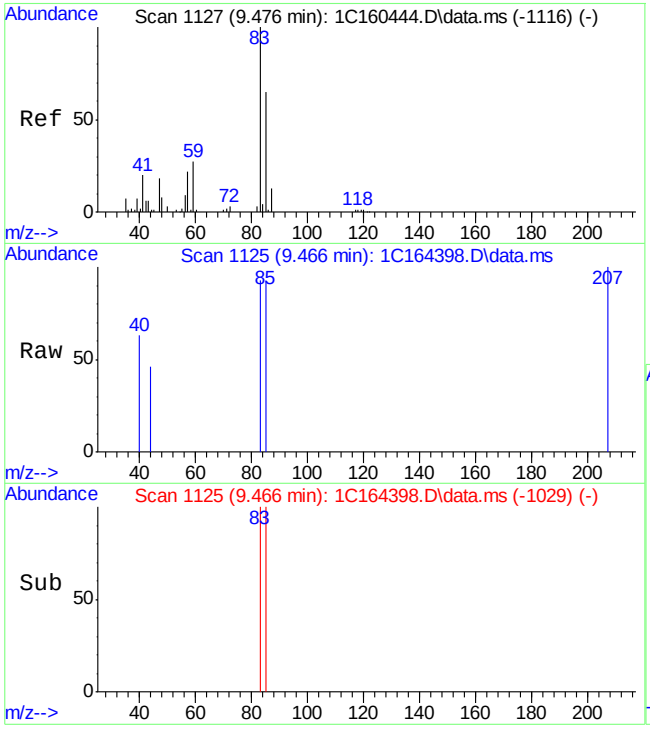



#23
methylene chloride
Concen: 0.36 ug/L
RT: 7.426 min Scan# 735
Delta R.T. 0.005 min
Lab File: 1C164398.D
Acq: 9 May 2019 12:11 pm

Tgt Ion: 84 Resp: 686

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 86 | 79.6 | 33.8 | 93.8 |
| 49 | 85.7 | 91.8 | 151.8# |

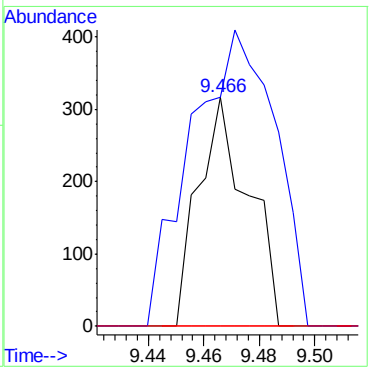


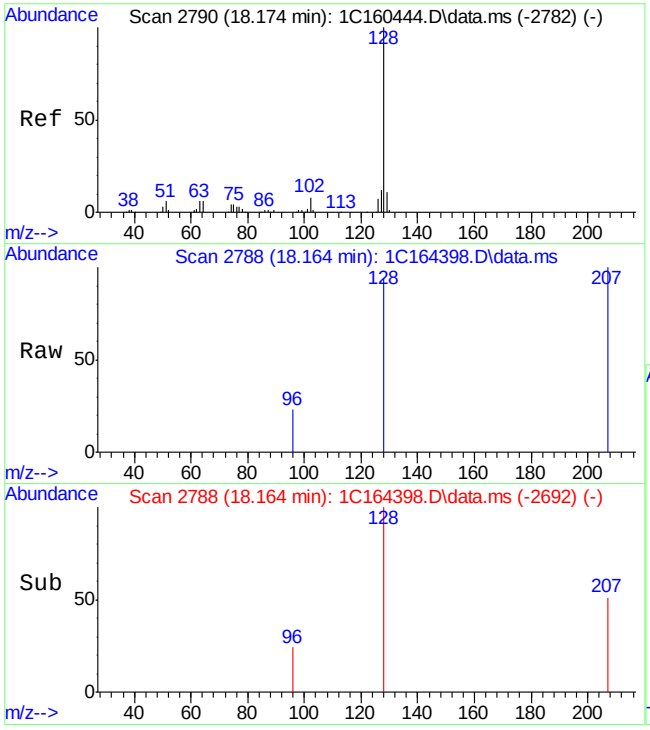




#42
chloroform
Concen: 0.17 ug/L
RT: 9.466 min Scan# 1125
Delta R.T. -0.000 min
Lab File: 1C164398.D
Acq: 9 May 2019 12:11 pm

Tgt Ion: 85 Resp: 392

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 85 | 100 | | |
| 83 | 53.3 | 127.1 | 187.1# |
| 47 | 0.0 | 6.7 | 66.7# |

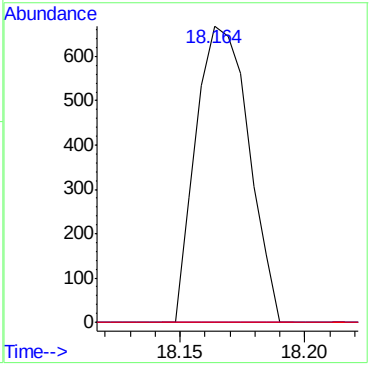


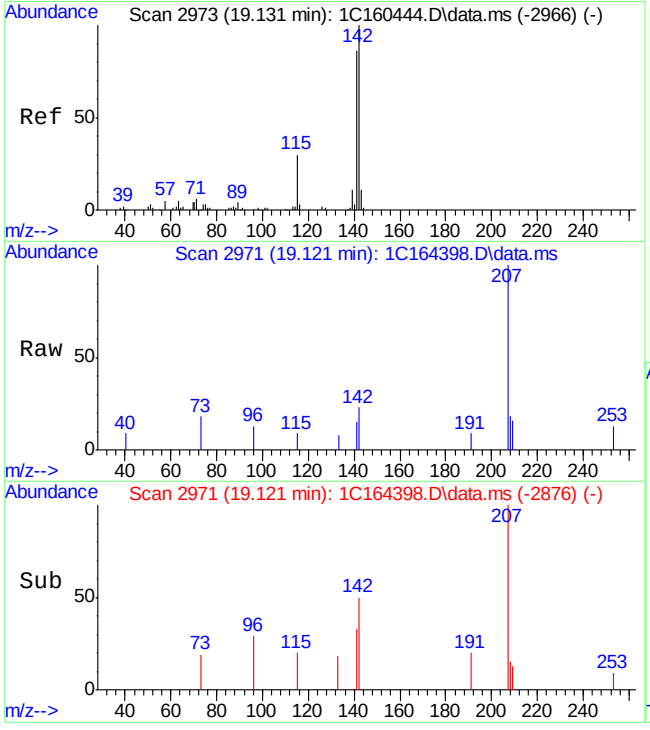



#124
naphthalene
Concen: 0.22 ug/L
RT: 18.164 min Scan# 2788
Delta R.T. -0.000 min
Lab File: 1C164398.D
Acq: 9 May 2019 12:11 pm

Tgt Ion:128 Resp: 988

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 0.0 | 0.0 | 43.5 |
| 129 | 0.0 | 0.0 | 41.2 |

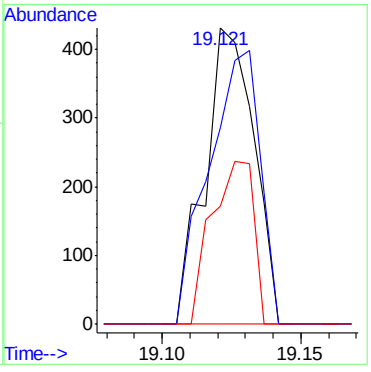



#127
2-methylnaphthalene
Concen: 0.18 ug/L
RT: 19.121 min Scan# 2971
Delta R.T. -0.005 min
Lab File: 1C164398.D
Acq: 9 May 2019 12:11 pm

Tgt Ion:142 Resp: 527

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 66.1 | 67.4 | 107.4# |
| 115 | 39.7 | 13.2 | 53.2 |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151805a.d
Acq On : 6 May 2019 11:06 am
Operator : PrashanS
Sample : MB2 Inst : MS3C
Misc : MS34232,V3C6820,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:27:23 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

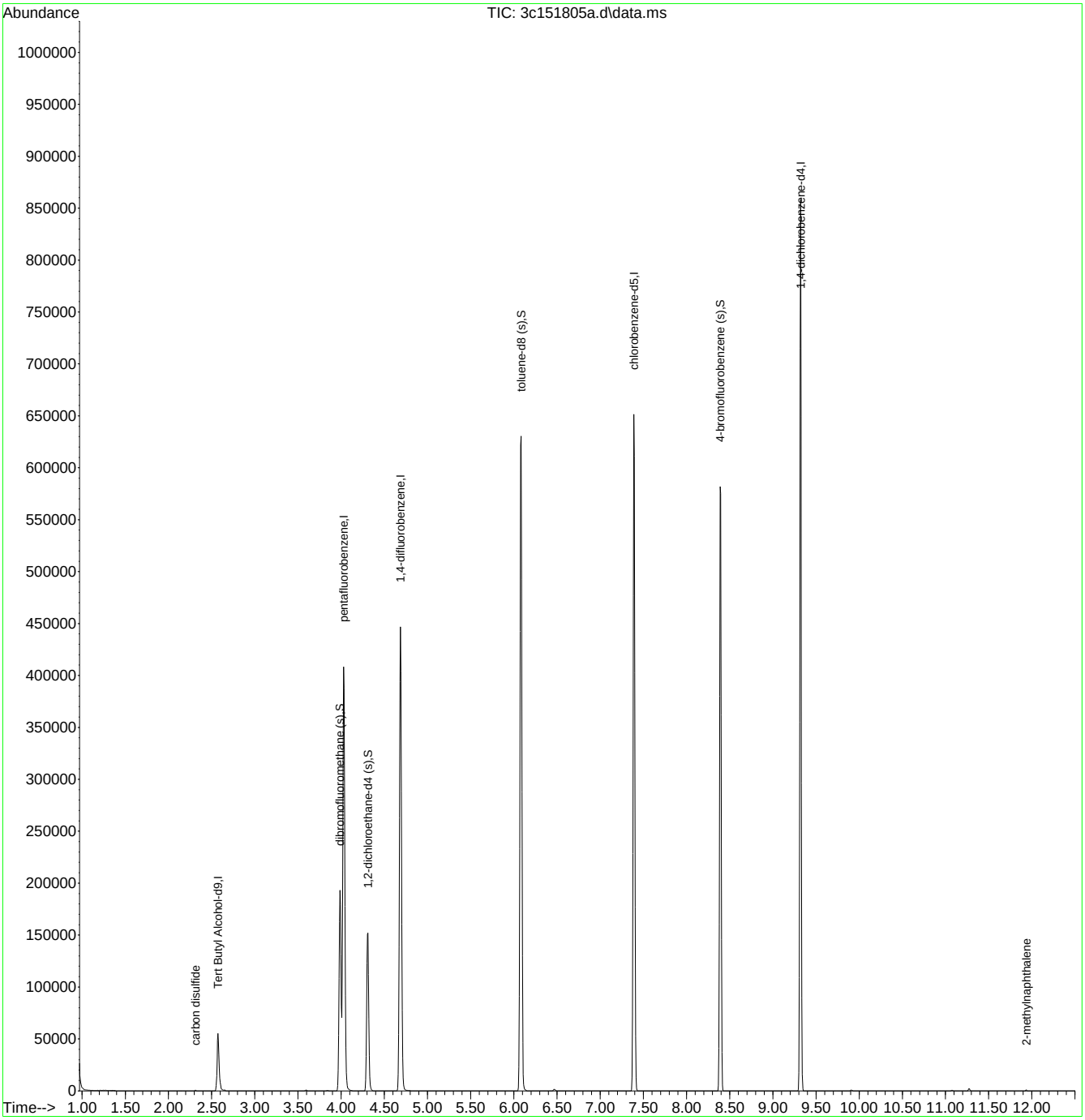
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 54159 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.028 | 168 | 260767 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 336526 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 298355 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 169503 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 94820 | 50.32 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.64% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.310 | 65 | 98495 | 53.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 107.74% | | | |
| 75) toluene-d8 (s) | 6.083 | 98 | 378408 | 51.24 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.48% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 147329 | 52.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 105.74% | | | |
| Target Compounds | | | | | | Qvalue |
| 23) carbon disulfide | 2.312 | 76 | 473 | 0.11 | ug/L | 69 |
| 124) 2-methylnaphthalene | 11.936 | 142 | 456 | 0.13 | ug/L # | 76 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

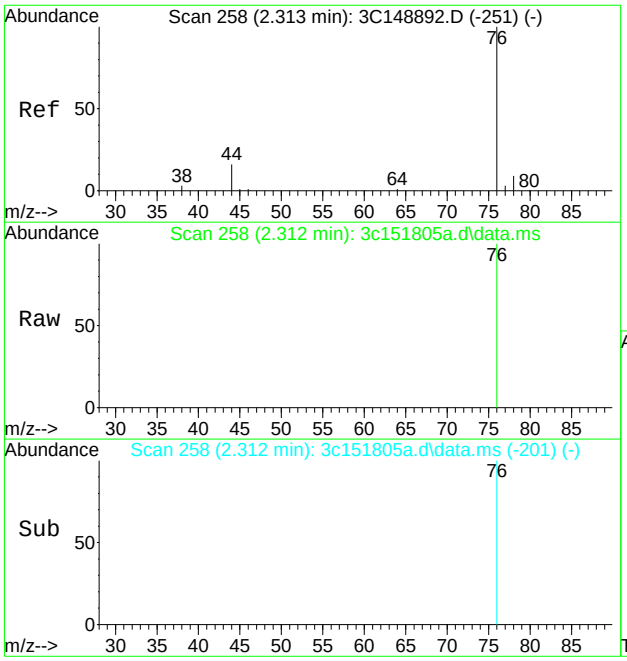
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151805a.d
Acq On : 6 May 2019 11:06 am
Operator : PrashanS
Sample : MB2 Inst : MS3C
Misc : MS34232,V3C6820,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:27:23 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



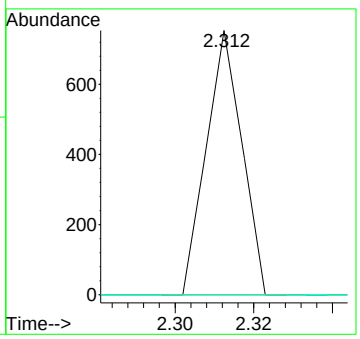

M3C6743.M Mon May 06 23:37:15 2019 Page: 2

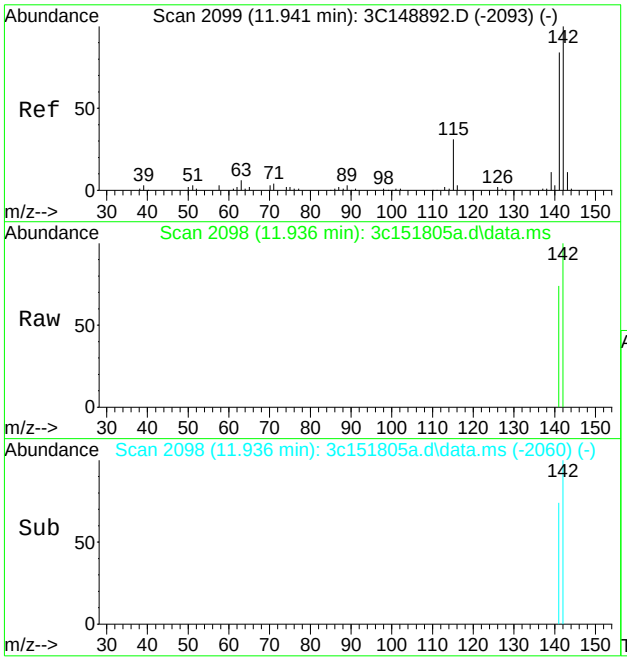



#23
carbon disulfide
Concen: 0.11 ug/L
RT: 2.312 min Scan# 258
Delta R.T. -0.000 min
Lab File: 3c151805a.d
Acq: 6 May 2019 11:06 am

Tgt Ion: 76 Resp: 473

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.0 |
| 44 | 0.0 | 0.0 | 44.0 |

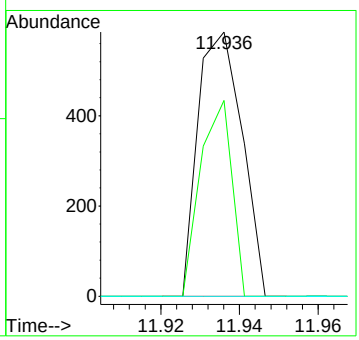



#124
2-methylnaphthalene
Concen: 0.13 ug/L
RT: 11.936 min Scan# 2098
Delta R.T. -0.000 min
Lab File: 3c151805a.d
Acq: 6 May 2019 11:06 am

Tgt Ion:142 Resp: 456

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 142 | 100 | | |
| 141 | 74.1 | 64.5 | 104.5 |
| 115 | 0.0 | 12.0 | 52.0# |



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151774.d
Acq On : 5 May 2019 1:59 pm
Operator : mariceld
Sample : BS Inst : MS3C
Misc : MS34371,V3C6820,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:54:00 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.579 | 65 | 60241 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 269686 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 354401 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.396 | 117 | 313309 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 177994 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 97935 | 50.26 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.52% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.310 | 65 | 103869 | 53.94 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 107.88% | | | |
| 75) toluene-d8 (s) | 6.083 | 98 | 401856 | 51.82 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 103.64% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 153142 | 52.33 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 104.66% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 2.642 | 59 | 32910 | 247.82 | ug/L | 95 |
| 4) 1,4-dioxane | 5.289 | 88 | 20231 | 1249.96 | ug/L | 95 |
| 6) chlorodifluoromethane | 1.104 | 51 | 70027 | 42.86 | ug/L | 92 |
| 7) dichlorodifluoromethane | 1.078 | 85 | 95579 | 41.03 | ug/L | 98 |
| 8) chloromethane | 1.225 | 50 | 70991 | 36.91 | ug/L | 99 |
| 9) 1,3-butadiene | 1.319 | 54 | 56270 | 44.94 | ug/L | 97 |
| 10) vinyl chloride | 1.298 | 62 | 78826 | 40.74 | ug/L | 97 |
| 11) bromomethane | 1.538 | 94 | 47672 | 41.19 | ug/L | 99 |
| 12) chloroethane | 1.617 | 64 | 49513 | 43.07 | ug/L | 96 |
| 13) vinyl Bromide | 1.748 | 106 | 69740 | 42.00 | ug/L | 100 |
| 14) trichlorofluoromethane | 1.774 | 101 | 141848 | 49.54 | ug/L | 98 |
| 15) ethyl ether | 1.993 | 74 | 40883 | 50.14 | ug/L | 82 |
| 16) 2-chloropropane | 2.072 | 63 | 29167 | 44.80 | ug/L # | 80 |
| 17) acrolein | 2.140 | 56 | 8597 | 51.27 | ug/L | 88 |
| 18) freon 113 | 2.135 | 151 | 69181 | 50.54 | ug/L | 98 |
| 19) 1,1-dichloroethene | 2.161 | 96 | 72200 | 47.31 | ug/L | 99 |
| 20) acetone | 2.250 | 58 | 16852 | 200.56 | ug/L | 98 |
| 21) acetonitrile | 2.511 | 41 | 51511 | 397.26 | ug/L | 97 |
| 22) iodomethane | 2.286 | 142 | 73577 | 58.79 | ug/L | 97 |
| 23) carbon disulfide | 2.312 | 76 | 192984 | 45.14 | ug/L | 96 |
| 24) methylene chloride | 2.564 | 84 | 76967 | 46.13 | ug/L | 91 |
| 25) methyl acetate | 2.469 | 43 | 35673 | 44.33 | ug/L | 93 |
| 26) methyl tert butyl ether | 2.710 | 73 | 206014 | 50.65 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 2.731 | 96 | 80226 | 46.18 | ug/L | 99 |
| 28) hexane | 2.877 | 57 | 106470 | 38.72 | ug/L | 97 |
| 29) di-isopropyl ether | 3.076 | 45 | 202956 | 41.10 | ug/L | 95 |
| 30) ethyl tert-butyl ether | 3.364 | 59 | 230041 | 47.13 | ug/L | 98 |
| 31) 2-butanone | 3.599 | 72 | 26636 | 201.28 | ug/L # | 85 |
| 32) 1,1-dichloroethane | 3.092 | 63 | 126537 | 44.82 | ug/L | 98 |
| 33) chloroprene | 3.134 | 53 | 118078 | 47.08 | ug/L | 97 |
| 34) acrylonitrile | 2.804 | 53 | 16404 | 47.81 | ug/L | 99 |
| 35) vinyl acetate | 3.123 | 86 | 15781 | 51.30 | ug/L # | 51 |
| 36) ethyl acetate | 3.615 | 45 | 7465 | 43.20 | ug/L | 86 |
| 37) 2,2-dichloropropane | 3.542 | 77 | 121787 | 46.88 | ug/L | 95 |
| 38) cis-1,2-dichloroethene | 3.573 | 96 | 88566 | 47.17 | ug/L | 99 |
| 39) propionitrile | 3.714 | 54 | 71958 | 472.57 | ug/L | 98 |
| 40) bromochloromethane | 3.782 | 130 | 51962 | 49.36 | ug/L | 88 |
| 41) tetrahydrofuran | 3.782 | 71 | 7022 | 53.35 | ug/L # | 77 |
| 42) chloroform | 3.845 | 83 | 141006 | 46.18 | ug/L | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151774.d
Acq On : 5 May 2019 1:59 pm
Operator : mariceld
Sample : BS Inst : MS3C
Misc : MS34371,V3C6820,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:54:00 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 43) | tert-Butyl Formate | 3.850 | 59 | 46118 | 47.73 | ug/L | | 90 |
| 44) | isobutyl alcohol | 4.263 | 41 | 91211 | 384.90 | ug/L | | 98 |
| 46) | methacrylonitrile | 3.814 | 67 | 23295 | 51.54 | ug/L | | 90 |
| 47) | 1,1,1-trichloroethane | 3.955 | 97 | 136917 | 49.69 | ug/L | | 96 |
| 48) | cyclohexane | 3.939 | 84 | 127152 | 45.12 | ug/L | | 91 |
| 49) | 1,1-dichloropropene | 4.106 | 110 | 41397 | 45.71 | ug/L | | 98 |
| 50) | tert-amyl alcohol | 4.326 | 59 | 25417 | 211.88 | ug/L | | 82 |
| 51) | carbon tetrachloride | 4.070 | 119 | 118520 | 54.42 | ug/L | | 98 |
| 54) | 2,2,4-trimethylpentane | 4.263 | 57 | 272648 | 41.48 | ug/L | | 98 |
| 55) | tert-amyl methyl ether | 4.358 | 87 | 75042 | 51.09 | ug/L | | 95 |
| 56) | n-butyl alcohol | 4.896 | 56 | 82012 | 2500.62 | ug/L | | 98 |
| 57) | benzene | 4.284 | 78 | 306613 | 47.04 | ug/L | | 100 |
| 58) | heptane | 4.452 | 57 | 49946 | 35.82 | ug/L | | 94 |
| 59) | isopropyl acetate | 4.358 | 87 | 75042 | 49.89 | ug/L | # | 75 |
| 60) | 1,2-dichloroethane | 4.378 | 62 | 101997 | 49.28 | ug/L | | 99 |
| 61) | trichloroethene | 4.901 | 95 | 82842 | 46.77 | ug/L | | 92 |
| 62) | ethyl acrylate | 5.037 | 55 | 69685 | 48.15 | ug/L | | 97 |
| 63) | 2-nitropropane | 5.754 | 41 | 23043 | 52.24 | ug/L | # | 55 |
| 64) | 2-chloroethyl vinyl ether | 5.764 | 63 | 208092 | 242.74 | ug/L | | 96 |
| 65) | methyl methacrylate | 5.273 | 100 | 21043 | 57.55 | ug/L | # | 72 |
| 66) | 1,2-dichloropropane | 5.168 | 63 | 66100 | 42.68 | ug/L | | 84 |
| 67) | methylcyclohexane | 5.006 | 83 | 137836 | 41.69 | ug/L | | 95 |
| 68) | dibromomethane | 5.294 | 93 | 42932 | 50.63 | ug/L | | 91 |
| 69) | bromodichloromethane | 5.445 | 83 | 106756 | 54.21 | ug/L | | 99 |
| 70) | epichlorohydrin | 5.843 | 57 | 28360 | 263.68 | ug/L | | 95 |
| 71) | cis-1,3-dichloropropene | 5.890 | 75 | 129084 | 52.39 | ug/L | | 97 |
| 72) | 4-methyl-2-pentanone | 6.031 | 85 | 48060 | 233.00 | ug/L | # | 77 |
| 76) | toluene | 6.146 | 92 | 209167 | 46.78 | ug/L | | 98 |
| 77) | trans-1,3-dichloropropene | 6.434 | 75 | 112618 | 54.80 | ug/L | | 98 |
| 78) | ethyl methacrylate | 6.465 | 69 | 87594 | 51.26 | ug/L | | 95 |
| 79) | 1,1,2-trichloroethane | 6.596 | 83 | 51737 | 47.03 | ug/L | | 95 |
| 80) | 2-hexanone | 6.800 | 58 | 83364 | 198.03 | ug/L | # | 84 |
| 81) | tetrachloroethene | 6.617 | 166 | 106834 | 50.36 | ug/L | | 97 |
| 82) | 1,3-dichloropropane | 6.748 | 76 | 105937 | 47.73 | ug/L | | 97 |
| 83) | butyl acetate | 6.889 | 56 | 37673 | 47.60 | ug/L | | 90 |
| 84) | dibromochloromethane | 6.915 | 129 | 80423 | 62.07 | ug/L | | 99 |
| 85) | 1,2-dibromoethane | 7.014 | 107 | 72776 | 45.60 | ug/L | | 99 |
| 86) | n-butyl ether | 7.470 | 57 | 290643 | 39.94 | ug/L | | 99 |
| 87) | chlorobenzene | 7.417 | 112 | 234426 | 47.62 | ug/L | | 99 |
| 88) | 1,1,1,2-tetrachloroethane | 7.501 | 131 | 90105 | 55.45 | ug/L | | 97 |
| 89) | ethylbenzene | 7.490 | 91 | 402389 | 46.50 | ug/L | | 100 |
| 90) | m,p-xylene | 7.595 | 106 | 316447 | 92.80 | ug/L | | 95 |
| 91) | o-xylene | 7.930 | 91 | 330633 | 48.31 | ug/L | | 97 |
| 92) | styrene | 7.956 | 104 | 264686 | 48.29 | ug/L | | 98 |
| 93) | bromoform | 8.129 | 173 | 54243 | 57.22 | ug/L | | 98 |
| 94) | butyl acrylate | 7.925 | 55 | 116563 | 49.04 | ug/L | | 97 |
| 95) | isopropylbenzene | 8.228 | 105 | 416966 | 47.81 | ug/L | | 99 |
| 96) | cis-1,4-dichloro-2-butene | 8.359 | 53 | 25369 | 52.66 | ug/L | # | 90 |
| 99) | bromobenzene | 8.505 | 156 | 111346 | 47.19 | ug/L | | 95 |
| 100) | 1,1,2,2-tetrachloroethane | 8.547 | 83 | 75143 | 46.83 | ug/L | | 99 |
| 101) | trans-1,4-dichloro-2-b... | 8.604 | 88 | 12322 | 55.65 | ug/L | | 90 |
| 102) | 1,2,3-trichloropropane | 8.584 | 110 | 26829 | 52.56 | ug/L | | 97 |
| 103) | n-propylbenzene | 8.563 | 91 | 473897 | 43.78 | ug/L | | 99 |
| 104) | 2-chlorotoluene | 8.652 | 126 | 101560 | 45.88 | ug/L | | 90 |
| 105) | 4-chlorotoluene | 8.751 | 126 | 103905 | 47.04 | ug/L | | 95 |
| 106) | 1,3,5-trimethylbenzene | 8.714 | 105 | 368239 | 46.76 | ug/L | | 98 |
| 107) | tert-butylbenzene | 8.965 | 119 | 324499 | 46.31 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151774.d
Acq On : 5 May 2019 1:59 pm
Operator : mariceld
Sample : BS Inst : MS3C
Misc : MS34371,V3C6820,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:54:00 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 9.018 | 105 | 370783 | 46.26 | ug/L | 97 |
| 109) sec-butylbenzene | 9.143 | 105 | 463230 | 45.48 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 9.263 | 146 | 214548 | 46.28 | ug/L | 98 |
| 111) p-isopropyltoluene | 9.258 | 119 | 416941 | 46.52 | ug/L | 98 |
| 112) 1,4-dichlorobenzene | 9.342 | 146 | 216266 | 45.63 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 9.635 | 146 | 200564 | 46.16 | ug/L | 97 |
| 114) n-butylbenzene | 9.583 | 92 | 194882 | 44.00 | ug/L | 99 |
| 115) 1,2-dibromo-3-chloropr... | 10.273 | 157 | 22508 | 56.29 | ug/L | 97 |
| 116) 1,3,5-Trichlorobenzene | 10.388 | 180 | 205583 | 48.79 | ug/L | 96 |
| 117) 1,2,4-trichlorobenzene | 10.880 | 180 | 182489 | 50.29 | ug/L | 99 |
| 118) hexachlorobutadiene | 10.969 | 225 | 120557 | 53.34 | ug/L | 96 |
| 119) naphthalene | 11.073 | 128 | 333744 | 52.51 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 11.267 | 180 | 173076 | 51.43 | ug/L | 99 |
| 121) hexachloroethane | 9.797 | 201 | 74084 | 54.14 | ug/L # | 89 |
| 122) Benzyl chloride | 9.462 | 91 | 152178 | 54.27 | ug/L | 100 |
| 123) 2-ethylhexyl acrylate | 11.016 | 70 | 17997 | 10.01 | ug/L | 92 |
| 124) 2-methylnaphthalene | 11.936 | 142 | 114289 | 30.03 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

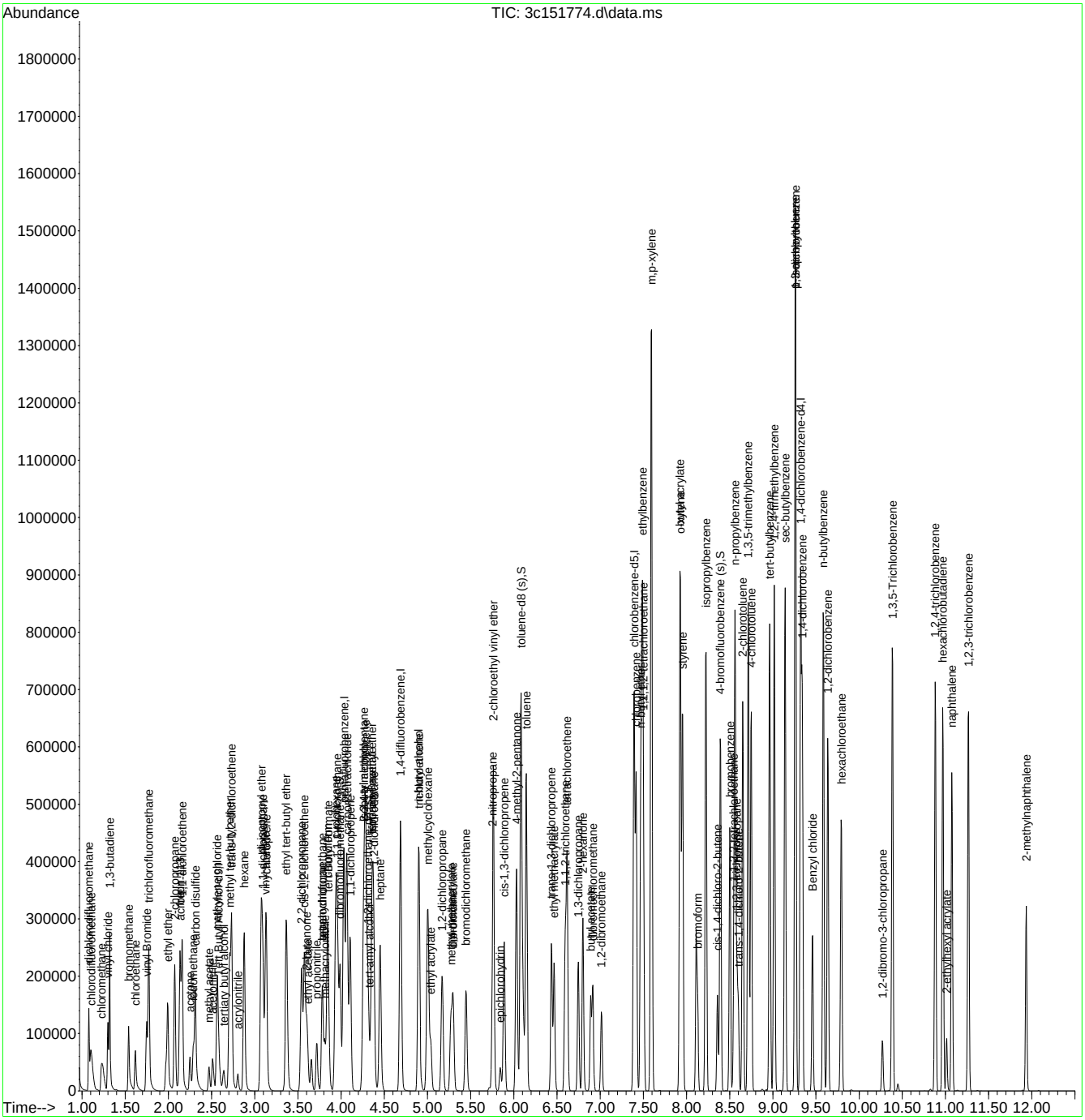
7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151774.d
Acq On : 5 May 2019 1:59 pm
Operator : mariceld
Sample : BS Inst : MS3C
Misc : MS34371,V3C6820,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:54:00 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration




M3C6743.M Mon May 06 19:54:27 2019 Page: 4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151803.d
Acq On : 6 May 2019 10:04 am
Operator : PrashanS
Sample : BS Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:25:00 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 53535 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.028 | 168 | 258230 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 338109 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 302704 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 172271 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 94691 | 50.75 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 101.50% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.305 | 65 | 97961 | 53.32 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 106.64% | | | | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 381709 | 50.95 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 101.90% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 147042 | 51.91 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 103.82% | | | | | | |
| **Target Compounds** | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 2.637 | 59 | 28161 | 238.62 | ug/L | 94 |
| 4) 1,4-dioxane | 5.294 | 88 | 18102 | 1258.52 | ug/L | 88 |
| 6) chlorodifluoromethane | 1.104 | 51 | 64933 | 41.51 | ug/L | 93 |
| 7) dichlorodifluoromethane | 1.078 | 85 | 105251 | 47.19 | ug/L | 99 |
| 8) chloromethane | 1.225 | 50 | 72968 | 39.62 | ug/L | 94 |
| 9) 1,3-butadiene | 1.319 | 54 | 51276 | 42.77 | ug/L | 97 |
| 10) vinyl chloride | 1.298 | 62 | 78925 | 42.60 | ug/L | 97 |
| 11) bromomethane | 1.539 | 94 | 48654 | 43.90 | ug/L | 100 |
| 12) chloroethane | 1.617 | 64 | 49755 | 45.20 | ug/L | 99 |
| 13) vinyl Bromide | 1.748 | 106 | 69025 | 43.41 | ug/L | 99 |
| 14) trichlorofluoromethane | 1.774 | 101 | 137595 | 50.18 | ug/L | 99 |
| 15) ethyl ether | 1.988 | 74 | 36586 | 46.86 | ug/L | 91 |
| 16) 2-chloropropane | 2.072 | 63 | 25538 | 40.97 | ug/L | 91 |
| 17) acrolein | 2.140 | 56 | 7840 | 48.83 | ug/L | 83 |
| 18) freon 113 | 2.135 | 151 | 63091 | 48.13 | ug/L | 94 |
| 19) 1,1-dichloroethene | 2.161 | 96 | 65148 | 44.58 | ug/L | 97 |
| 20) acetone | 2.250 | 58 | 14245 | 177.06 | ug/L | 95 |
| 21) acetonitrile | 2.511 | 41 | 44689 | 359.94 | ug/L | 97 |
| 22) iodomethane | 2.286 | 142 | 70217 | 58.60 | ug/L | 98 |
| 23) carbon disulfide | 2.307 | 76 | 174502 | 42.63 | ug/L | 96 |
| 24) methylene chloride | 2.564 | 84 | 66397 | 41.56 | ug/L | 90 |
| 25) methyl acetate | 2.470 | 43 | 29182 | 37.87 | ug/L | 95 |
| 26) methyl tert butyl ether | 2.710 | 73 | 185372 | 47.60 | ug/L | 98 |
| 27) trans-1,2-dichloroethene | 2.731 | 96 | 73202 | 44.00 | ug/L | 94 |
| 28) hexane | 2.872 | 57 | 100574 | 38.20 | ug/L | 95 |
| 29) di-isopropyl ether | 3.076 | 45 | 180654 | 38.21 | ug/L | 95 |
| 30) ethyl tert-butyl ether | 3.364 | 59 | 206750 | 44.23 | ug/L | 98 |
| 31) 2-butanone | 3.599 | 72 | 23919 | 188.77 | ug/L | 91 |
| 32) 1,1-dichloroethane | 3.092 | 63 | 116355 | 43.04 | ug/L | 97 |
| 33) chloroprene | 3.134 | 53 | 106948 | 44.53 | ug/L | 96 |
| 34) acrylonitrile | 2.799 | 53 | 14722 | 44.81 | ug/L | 89 |
| 35) vinyl acetate | 3.123 | 86 | 14974 | 50.84 | ug/L # | 36 |
| 36) ethyl acetate | 3.610 | 45 | 6841 | 41.42 | ug/L # | 64 |
| 37) 2,2-dichloropropane | 3.542 | 77 | 114818 | 46.16 | ug/L | 98 |
| 38) cis-1,2-dichloroethene | 3.573 | 96 | 79950 | 44.47 | ug/L | 100 |
| 39) propionitrile | 3.714 | 54 | 64173 | 440.14 | ug/L | 100 |
| 40) bromochloromethane | 3.782 | 130 | 48564 | 48.18 | ug/L | 84 |
| 41) tetrahydrofuran | 3.782 | 71 | 6182 | 49.05 | ug/L # | 84 |
| 42) chloroform | 3.840 | 83 | 129152 | 44.18 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151803.d
Acq On : 6 May 2019 10:04 am
Operator : PrashanS
Sample : BS Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:25:00 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 43) | tert-Butyl Formate | 3.850 | 59 | 42017 | 45.41 | ug/L | | 91 |
| 44) | isobutyl alcohol | 4.263 | 41 | 84152 | 370.87 | ug/L | | 93 |
| 46) | methacrylonitrile | 3.808 | 67 | 21393 | 49.44 | ug/L | | 86 |
| 47) | 1,1,1-trichloroethane | 3.955 | 97 | 126571 | 47.97 | ug/L | | 96 |
| 48) | cyclohexane | 3.939 | 84 | 116993 | 43.35 | ug/L | | 92 |
| 49) | 1,1-dichloropropene | 4.107 | 110 | 38432 | 44.32 | ug/L | | 95 |
| 50) | tert-amyl alcohol | 4.326 | 59 | 22044 | 191.91 | ug/L | # | 70 |
| 51) | carbon tetrachloride | 4.065 | 119 | 108022 | 51.80 | ug/L | | 99 |
| 54) | 2,2,4-trimethylpentane | 4.263 | 57 | 249365 | 39.76 | ug/L | | 99 |
| 55) | tert-amyl methyl ether | 4.358 | 87 | 69231 | 49.40 | ug/L | | 94 |
| 56) | n-butyl alcohol | 4.896 | 56 | 76404 | 2441.89 | ug/L | | 97 |
| 57) | benzene | 4.284 | 78 | 280571 | 45.12 | ug/L | | 98 |
| 58) | heptane | 4.452 | 57 | 50225 | 37.76 | ug/L | | 94 |
| 59) | isopropyl acetate | 4.358 | 87 | 69231 | 48.24 | ug/L | # | 81 |
| 60) | 1,2-dichloroethane | 4.379 | 62 | 93212 | 47.21 | ug/L | | 99 |
| 61) | trichloroethene | 4.896 | 95 | 78174 | 46.27 | ug/L | | 98 |
| 62) | ethyl acrylate | 5.038 | 55 | 63887 | 46.27 | ug/L | | 99 |
| 63) | 2-nitropropane | 5.749 | 41 | 20583 | 48.91 | ug/L | # | 7 |
| 64) | 2-chloroethyl vinyl ether | 5.765 | 63 | 186187 | 227.65 | ug/L | | 96 |
| 65) | methyl methacrylate | 5.268 | 100 | 19016 | 54.51 | ug/L | # | 78 |
| 66) | 1,2-dichloropropane | 5.168 | 63 | 61896 | 41.89 | ug/L | | 89 |
| 67) | methylcyclohexane | 5.001 | 83 | 128002 | 40.58 | ug/L | | 97 |
| 68) | dibromomethane | 5.294 | 93 | 38667 | 47.79 | ug/L | | 87 |
| 69) | bromodichloromethane | 5.446 | 83 | 97525 | 51.91 | ug/L | | 100 |
| 70) | epichlorohydrin | 5.843 | 57 | 25752 | 250.97 | ug/L | | 94 |
| 71) | cis-1,3-dichloropropene | 5.890 | 75 | 115424 | 49.11 | ug/L | | 95 |
| 72) | 4-methyl-2-pentanone | 6.031 | 85 | 43048 | 218.76 | ug/L | # | 80 |
| 76) | toluene | 6.141 | 92 | 190633 | 44.13 | ug/L | | 97 |
| 77) | trans-1,3-dichloropropene | 6.434 | 75 | 101345 | 51.04 | ug/L | | 99 |
| 78) | ethyl methacrylate | 6.465 | 69 | 77523 | 46.95 | ug/L | | 93 |
| 79) | 1,1,2-trichloroethane | 6.596 | 83 | 46792 | 44.02 | ug/L | | 97 |
| 80) | 2-hexanone | 6.800 | 58 | 72756 | 178.89 | ug/L | # | 86 |
| 81) | tetrachloroethene | 6.617 | 166 | 97930 | 47.78 | ug/L | | 99 |
| 82) | 1,3-dichloropropane | 6.748 | 76 | 95060 | 44.33 | ug/L | | 99 |
| 83) | butyl acetate | 6.889 | 56 | 33348 | 43.61 | ug/L | | 94 |
| 84) | dibromochloromethane | 6.915 | 129 | 72915 | 58.25 | ug/L | | 99 |
| 85) | 1,2-dibromoethane | 7.015 | 107 | 65245 | 42.31 | ug/L | | 99 |
| 86) | n-butyl ether | 7.470 | 57 | 253122 | 36.00 | ug/L | | 96 |
| 87) | chlorobenzene | 7.417 | 112 | 210838 | 44.33 | ug/L | | 99 |
| 88) | 1,1,1,2-tetrachloroethane | 7.501 | 131 | 81967 | 52.21 | ug/L | | 98 |
| 89) | ethylbenzene | 7.485 | 91 | 361169 | 43.19 | ug/L | | 100 |
| 90) | m,p-xylene | 7.590 | 106 | 287643 | 87.30 | ug/L | | 95 |
| 91) | o-xylene | 7.930 | 91 | 298631 | 45.16 | ug/L | | 98 |
| 92) | styrene | 7.956 | 104 | 240171 | 45.35 | ug/L | | 99 |
| 93) | bromoform | 8.129 | 173 | 49609 | 54.29 | ug/L | | 94 |
| 94) | butyl acrylate | 7.919 | 55 | 102045 | 44.43 | ug/L | | 99 |
| 95) | isopropylbenzene | 8.223 | 105 | 381136 | 45.23 | ug/L | | 98 |
| 96) | cis-1,4-dichloro-2-butene | 8.359 | 53 | 22044 | 47.36 | ug/L | # | 81 |
| 99) | bromobenzene | 8.505 | 156 | 101247 | 44.34 | ug/L | | 90 |
| 100) | 1,1,2,2-tetrachloroethane | 8.547 | 83 | 66718 | 42.96 | ug/L | | 98 |
| 101) | trans-1,4-dichloro-2-b... | 8.599 | 88 | 10860 | 50.91 | ug/L | | 91 |
| 102) | 1,2,3-trichloropropane | 8.584 | 110 | 23639 | 47.85 | ug/L | | 94 |
| 103) | n-propylbenzene | 8.563 | 91 | 422297 | 40.31 | ug/L | | 99 |
| 104) | 2-chlorotoluene | 8.652 | 126 | 93161 | 43.49 | ug/L | | 94 |
| 105) | 4-chlorotoluene | 8.751 | 126 | 93099 | 43.55 | ug/L | | 97 |
| 106) | 1,3,5-trimethylbenzene | 8.714 | 105 | 334458 | 43.88 | ug/L | | 99 |
| 107) | tert-butylbenzene | 8.965 | 119 | 294425 | 43.41 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151803.d
Acq On : 6 May 2019 10:04 am
Operator : PrashanS
Sample : BS Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:25:00 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

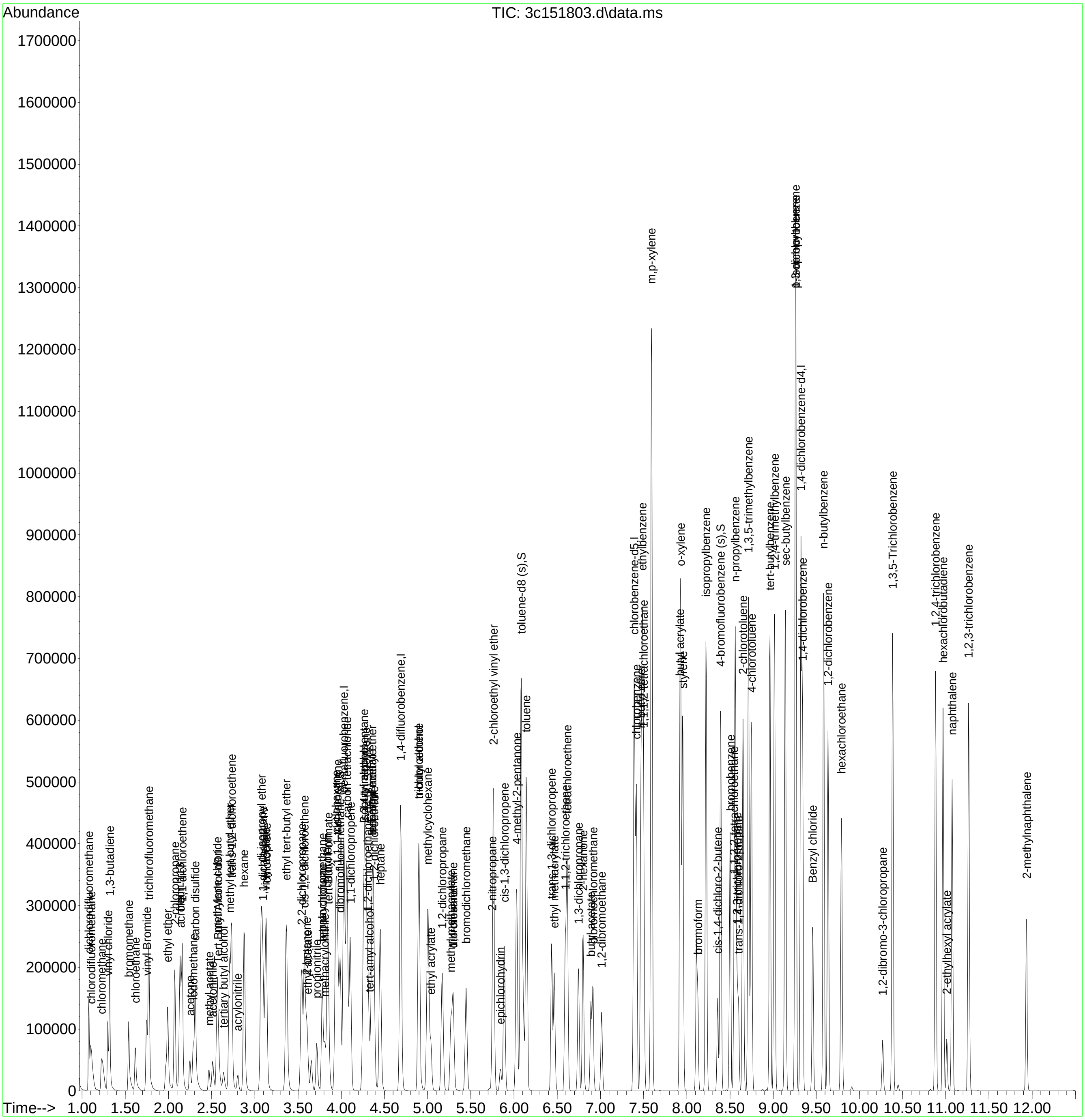
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 9.018 | 105 | 336317 | 43.35 | ug/L | 99 |
| 109) sec-butylbenzene | 9.143 | 105 | 419551 | 42.56 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 9.258 | 146 | 195622 | 43.60 | ug/L | 97 |
| 111) p-isopropyltoluene | 9.258 | 119 | 376791 | 43.44 | ug/L | 98 |
| 112) 1,4-dichlorobenzene | 9.342 | 146 | 197621 | 43.08 | ug/L | 98 |
| 113) 1,2-dichlorobenzene | 9.635 | 146 | 183510 | 43.64 | ug/L | 96 |
| 114) n-butylbenzene | 9.583 | 92 | 179607 | 41.90 | ug/L | 97 |
| 115) 1,2-dibromo-3-chloropr... | 10.268 | 157 | 19965 | 51.71 | ug/L | 98 |
| 116) 1,3,5-Trichlorobenzene | 10.383 | 180 | 192841 | 47.29 | ug/L | 98 |
| 117) 1,2,4-trichlorobenzene | 10.880 | 180 | 168742 | 48.05 | ug/L | 98 |
| 118) hexachlorobutadiene | 10.969 | 225 | 109603 | 50.10 | ug/L | 98 |
| 119) naphthalene | 11.073 | 128 | 302862 | 49.24 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 11.262 | 180 | 159119 | 48.85 | ug/L | 99 |
| 121) hexachloroethane | 9.792 | 201 | 66846 | 50.63 | ug/L | 90 |
| 122) Benzyl chloride | 9.457 | 91 | 145982 | 53.79 | ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 11.011 | 70 | 16091 | 9.30 | ug/L | 98 |
| 124) 2-methylnaphthalene | 11.936 | 142 | 105042 | 28.51 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report    (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151803.d
Acq On    :  6 May 2019  10:04 am
Operator  : PrashanS
Sample    : BS                                Inst    : MS3C
Misc      : MS34371,V3C6821,5.0,,,,1
ALS Vial  : 3   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:25:00 2019
Quant Title  : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264359.D
Acq On : 8 May 2019 8:30 am
Operator : thienn
Sample : bs
Misc : ms34538,vd10654,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:38:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.467 | 65 | 130104 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.716 | 168 | 250815 | 50.00 | ug/L | -0.01 |
| 54) 1,4-difluorobenzene | 10.674 | 114 | 385744 | 50.00 | ug/L | -0.01 |
| 75) chlorobenzene-d5 | 14.084 | 117 | 376829 | 50.00 | ug/L | -0.01 |
| 99) 1,4-dichlorobenzene-d4 | 16.730 | 152 | 226971 | 50.00 | ug/L | -0.01 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.748 | 113 | 118382 | 50.02 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.04% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.177 | 65 | 128456 | 44.42 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 88.84% | | | |
| 76) toluene-d8 (s) | 12.410 | 98 | 458250 | 49.87 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.74% | | | |
| 100) 4-bromofluorobenzene (s) | 15.407 | 95 | 202807 | 48.22 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 96.44% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.577 | 59 | 82062 | 237.91 | ug/L | 98 |
| 4) 1,4-dioxane | 11.343 | 88 | 41204 | 1310.28 | ug/L | 98 |
| 6) chlorodifluoromethane | 4.403 | 51 | 209658 | 39.62 | ug/L | 96 |
| 7) dichlorodifluoromethane | 4.413 | 85 | 253747 | 34.85 | ug/L | 98 |
| 8) chloromethane | 4.696 | 50 | 283955 | 46.57 | ug/L | 99 |
| 9) 1,3-butadiene | 4.978 | 54 | 188906 | 55.93 | ug/L | 96 |
| 10) vinyl chloride | 4.952 | 62 | 321808 | 51.87 | ug/L | 99 |
| 11) bromomethane | 5.517 | 94 | 153192 | 47.94 | ug/L | 95 |
| 12) chloroethane | 5.663 | 64 | 125303 | 46.11 | ug/L | 97 |
| 13) trichlorofluoromethane | 6.139 | 101 | 234314 | 41.93 | ug/L | 98 |
| 14) vinyl bromide | 6.013 | 106 | 156358 | 54.86 | ug/L | 98 |
| 15) ethyl ether | 6.463 | 74 | 75354 | 54.49 | ug/L | 93 |
| 16) 2-chloropropane | 6.673 | 43 | 271211 | 45.47 | ug/L | 93 |
| 17) acrolein | 6.652 | 56 | 27580 | 60.08 | ug/L | 97 |
| 18) freon 113 | 6.918 | 151 | 150259 | 45.81 | ug/L | 98 |
| 19) 1,1-dichloroethene | 6.882 | 96 | 147601 | 47.72 | ug/L | 95 |
| 20) acetone | 6.829 | 58 | 45490 | 233.99 | ug/L | 89 |
| 21) acetonitrile | 7.201 | 41 | 218499 | 532.72 | ug/L | 99 |
| 22) iodomethane | 7.128 | 142 | 230404 | 47.36 | ug/L | 98 |
| 23) carbon disulfide | 7.290 | 76 | 490618 | 48.66 | ug/L | 99 |
| 24) methylene chloride | 7.530 | 84 | 163172 | 50.20 | ug/L | 97 |
| 25) methyl acetate | 7.290 | 43 | 90255 | 52.44 | ug/L | 99 |
| 26) methyl tert butyl ether | 7.907 | 73 | 452696 | 48.18 | ug/L | 95 |
| 27) trans-1,2-dichloroethene | 7.933 | 96 | 141357 | 49.84 | ug/L | 97 |
| 28) hexane | 8.304 | 56 | 102139 | 55.96 | ug/L | 99 |
| 29) di-isopropyl ether | 8.487 | 45 | 537597 | 50.04 | ug/L | 99 |
| 30) 2-butanone | 9.094 | 72 | 49363 | 214.79 | ug/L | 93 |
| 31) 1,1-dichloroethane | 8.477 | 63 | 246290 | 48.78 | ug/L | 99 |
| 32) chloroprene | 8.592 | 53 | 209811 | 46.53 | ug/L | 96 |
| 33) acrylonitrile | 7.766 | 53 | 45285 | 57.19 | ug/L | 92 |
| 34) vinyl acetate | 8.404 | 86 | 28579 | 51.64 | ug/L | 93 |
| 35) ethyl tert-butyl ether | 8.948 | 59 | 519652 | 49.02 | ug/L | 98 |
| 36) ethyl acetate | 9.120 | 45 | 18482 | 57.11 | ug/L # | 75 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264359.D
Acq On : 8 May 2019 8:30 am
Operator : thienn
Sample : bs
Misc : ms34538,vd10654,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:38:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.240 | 77 | 249134 | 46.00 | ug/L | | 95 |
| 38) cis-1,2-dichloroethene | 9.183 | 96 | 155378 | 50.07 | ug/L | | 99 |
| 39) propionitrile | 9.131 | 54 | 191442 | 554.03 | ug/L | | 98 |
| 40) methyl acrylate | 9.209 | 85 | 16086 | 47.38 | ug/L | # | 88 |
| 41) methacrylonitrile | 9.356 | 67 | 47789 | 52.78 | ug/L | | 93 |
| 42) bromochloromethane | 9.476 | 128 | 69834 | 49.88 | ug/L | | 98 |
| 43) tetrahydrofuran | 9.518 | 42 | 34677 | 51.46 | ug/L | | 97 |
| 44) chloroform | 9.560 | 83 | 233208 | 45.73 | ug/L | | 97 |
| 45) tert-butyl formate | 9.607 | 59 | 139098 | 48.37 | ug/L | | 94 |
| 47) 1,1,1-trichloroethane | 9.858 | 97 | 238725 | 45.63 | ug/L | | 98 |
| 48) cyclohexane | 10.004 | 84 | 267063 | 50.76 | ug/L | | 97 |
| 50) 1,1-dichloropropene | 10.025 | 75 | 179068 | 46.34 | ug/L | | 99 |
| 51) carbon tetrachloride | 10.077 | 117 | 201675 | 45.15 | ug/L | | 98 |
| 52) tert-amyl alcohol | 10.103 | 73 | 38245 | 241.60 | ug/L | | 93 |
| 53) isopropyl acetate | 10.151 | 87 | 29079 | 48.48 | ug/L | | 99 |
| 56) n-butyl alcohol | 10.684 | 56 | 221496 | 2377.32 | ug/L | | 96 |
| 57) 2,2,4-trimethylpentane | 10.407 | 57 | 538536 | 56.31 | ug/L | | 96 |
| 58) benzene | 10.271 | 78 | 560066 | 47.82 | ug/L | | 98 |
| 59) tert-amyl methyl ether | 10.360 | 73 | 485855 | 45.47 | ug/L | | 99 |
| 60) heptane | 10.553 | 57 | 86777 | 55.46 | ug/L | | 96 |
| 61) 1,2-dichloroethane | 10.266 | 62 | 164304 | 39.90 | ug/L | | 96 |
| 62) ethyl acrylate | 10.972 | 55 | 138159 | 45.84 | ug/L | | 99 |
| 63) trichloroethene | 11.014 | 95 | 132983 | 45.70 | ug/L | | 98 |
| 64) 2-chloroethyl vinyl ether | 11.808 | 63 | 384106 | 251.77 | ug/L | | 99 |
| 65) methyl methacrylate | 11.254 | 100 | 31239 | 47.42 | ug/L | # | 84 |
| 66) methylcyclohexane | 11.359 | 83 | 266360 | 53.65 | ug/L | | 97 |
| 67) 1,2-dichloropropane | 11.291 | 63 | 143370 | 49.31 | ug/L | | 99 |
| 68) dibromomethane | 11.401 | 93 | 77790 | 46.29 | ug/L | | 98 |
| 69) bromodichloromethane | 11.563 | 83 | 179901 | 46.16 | ug/L | | 99 |
| 70) 2-nitropropane | 11.735 | 41 | 26620 | 43.79 | ug/L | | 96 |
| 71) epichlorohydrin | 11.887 | 57 | 70656 | 251.50 | ug/L | | 97 |
| 72) cis-1,3-dichloropropene | 12.054 | 75 | 222221 | 47.35 | ug/L | | 96 |
| 73) 4-methyl-2-pentanone | 12.148 | 58 | 203025 | 200.15 | ug/L | | 94 |
| 74) isoamyl alcohol | 12.138 | 70 | 85744 | 1078.86 | ug/L | | 96 |
| 77) toluene | 12.488 | 92 | 344135 | 47.74 | ug/L | | 97 |
| 78) ethyl methacrylate | 12.671 | 69 | 167805 | 49.15 | ug/L | | 98 |
| 79) trans-1,3-dichloropropene | 12.661 | 75 | 195977 | 46.79 | ug/L | | 91 |
| 80) 1,1,2-trichloroethane | 12.907 | 83 | 94124 | 48.98 | ug/L | | 97 |
| 81) tetrachloroethene | 13.121 | 164 | 112130 | 47.76 | ug/L | | 97 |
| 82) 2-hexanone | 13.085 | 58 | 180655 | 207.85 | ug/L | | 97 |
| 83) 1,3-dichloropropane | 13.106 | 76 | 193692 | 46.81 | ug/L | | 99 |
| 84) butyl acetate | 13.194 | 56 | 90315 | 51.03 | ug/L | | 97 |
| 85) dibromochloromethane | 13.388 | 129 | 131962 | 48.74 | ug/L | | 98 |
| 86) 1,2-dibromoethane | 13.566 | 107 | 130540 | 43.69 | ug/L | | 99 |
| 87) n-butyl ether | 14.099 | 57 | 650623 | 49.53 | ug/L | | 99 |
| 88) chlorobenzene | 14.120 | 112 | 375436 | 44.98 | ug/L | | 97 |
| 89) 1,1,1,2-tetrachloroethane | 14.188 | 131 | 151182 | 47.14 | ug/L | | 100 |
| 90) ethylbenzene | 14.199 | 91 | 681210 | 47.69 | ug/L | | 100 |
| 91) m,p-xylene | 14.335 | 106 | 525883 | 96.62 | ug/L | | 98 |
| 92) o-xylene | 14.784 | 91 | 582800 | 48.74 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264359.D
Acq On : 8 May 2019 8:30 am
Operator : thienn
Sample : bs
Misc : ms34538,vd10654,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:38:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

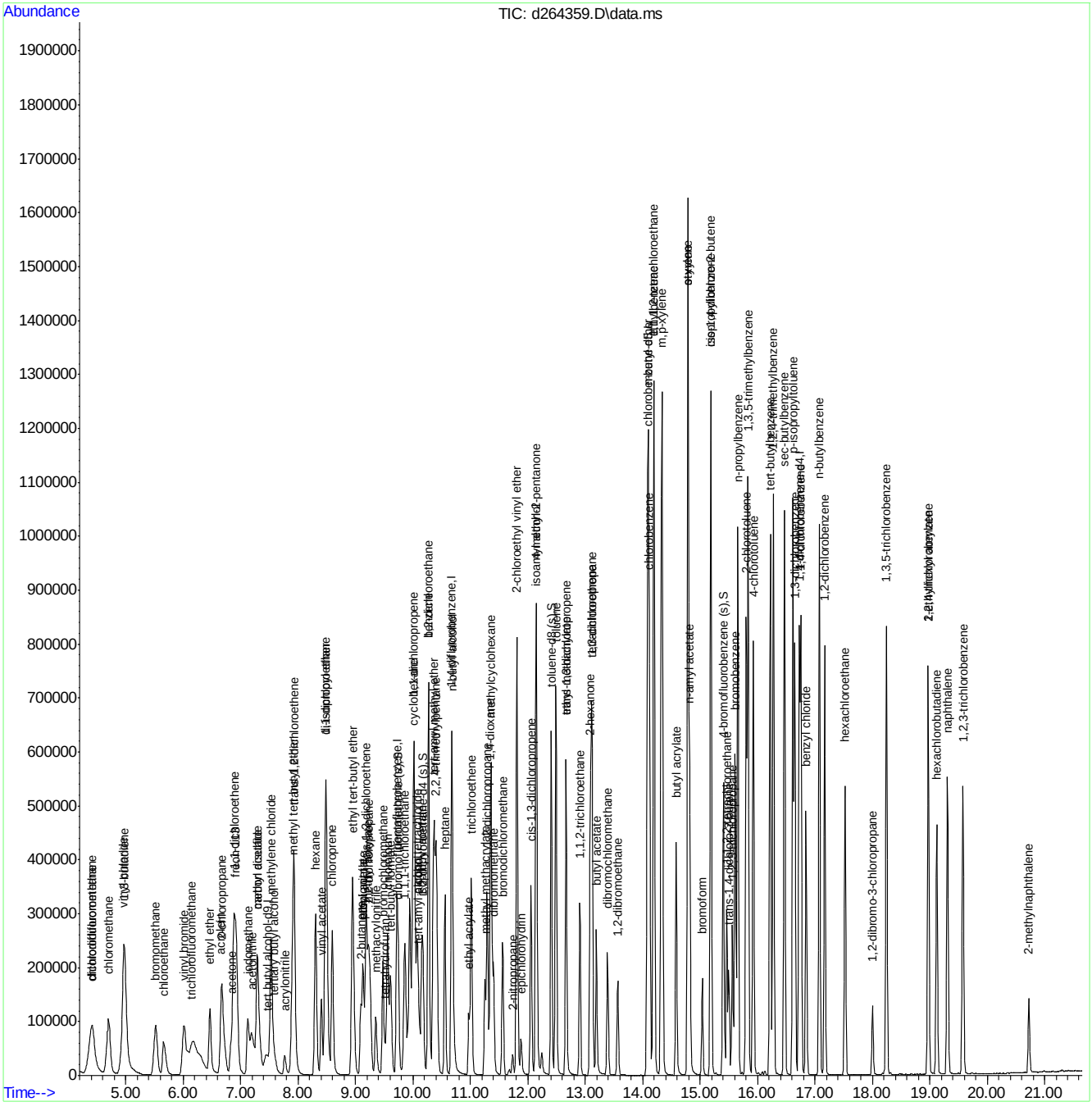
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) styrene | 14.795 | 104 | 444395 | 47.93 ug/L | 98 |
| 94) butyl acrylate | 14.586 | 55 | 292923 | 52.26 ug/L | 98 |
| 95) n-amyl acetate | 14.821 | 70 | 119215 | 50.24 ug/L | 98 |
| 96) isopropylbenzene | 15.187 | 105 | 733946 | 52.60 ug/L | 99 |
| 97) bromoform | 15.041 | 173 | 93956 | 48.15 ug/L | 99 |
| 98) cis-1,4-dichloro-2-butene | 15.192 | 88 | 58404 | 45.09 ug/L | 95 |
| 101) 1,1,2,2-tetrachloroethane | 15.464 | 83 | 168262 | 47.97 ug/L | 99 |
| 102) trans-1,4-dichloro-2-b... | 15.501 | 53 | 43160 | 49.16 ug/L | 93 |
| 103) 1,2,3-trichloropropane | 15.564 | 110 | 47193 | 46.67 ug/L | 94 |
| 104) bromobenzene | 15.611 | 156 | 183297 | 46.08 ug/L | 94 |
| 105) n-propylbenzene | 15.658 | 91 | 842827 | 53.62 ug/L | 99 |
| 106) 2-chlorotoluene | 15.804 | 126 | 173472 | 49.25 ug/L | 97 |
| 107) 4-chlorotoluene | 15.930 | 91 | 518981 | 50.02 ug/L | 99 |
| 108) 1,3,5-trimethylbenzene | 15.836 | 105 | 651243 | 54.21 ug/L | 99 |
| 109) tert-butylbenzene | 16.223 | 119 | 519185 | 55.72 ug/L | 98 |
| 110) 1,2,4-trimethylbenzene | 16.275 | 105 | 653394 | 54.55 ug/L | 99 |
| 111) sec-butylbenzene | 16.469 | 105 | 792320 | 57.72 ug/L | 97 |
| 112) p-isopropyltoluene | 16.620 | 119 | 671407 | 58.77 ug/L | 97 |
| 113) 1,3-dichlorobenzene | 16.652 | 146 | 354815 | 51.06 ug/L | 99 |
| 114) 1,4-dichlorobenzene | 16.756 | 146 | 363573 | 50.45 ug/L | 99 |
| 115) 1,2-dichlorobenzene | 17.169 | 146 | 359693 | 51.65 ug/L | 98 |
| 116) benzyl chloride | 16.845 | 91 | 387734 | 57.32 ug/L | 98 |
| 117) n-butylbenzene | 17.075 | 92 | 337130 | 63.18 ug/L | 98 |
| 118) 2-ethylhexyl acrylate | 18.974 | 70 | 25994 | 23.12 ug/L | 79 |
| 119) hexachloroethane | 17.525 | 201 | 109352 | 61.65 ug/L | 96 |
| 120) 1,2-dibromo-3-chloropr... | 18.006 | 75 | 34237 | 54.46 ug/L | 99 |
| 121) 1,3,5-trichlorobenzene | 18.252 | 180 | 294522 | 62.86 ug/L | 99 |
| 122) 1,2,4-trichlorobenzene | 18.974 | 180 | 244086 | 57.18 ug/L | 99 |
| 123) hexachlorobutadiene | 19.125 | 225 | 117371 | 54.96 ug/L | 99 |
| 124) naphthalene | 19.308 | 128 | 518864 | 54.62 ug/L | 98 |
| 125) 1,2,3-trichlorobenzene | 19.580 | 180 | 208127 | 55.34 ug/L | 99 |
| 126) 2-methylnaphthalene | 20.726 | 142 | 75795 | 37.38 ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264359.D
Acq On : 8 May 2019 8:30 am
Operator : thienn
Sample : bs
Misc : ms34538,vd10654,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 08 10:38:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164396.D
Acq On : 9 May 2019 11:12 am
Operator : PrashanS
Sample : BS
Misc : MS34303,V1C7215,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 09 13:45:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) tert butyl alcohol-d9 | 7.369 | 65 | 60040 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.602 | 168 | 201120 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 284809 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.655 | 117 | 227673 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.967 | 152 | 119037 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 86475 | 50.98 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.96% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 76352 | 42.67 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 85.34% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 304609 | 49.67 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.34% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 105492 | 47.21 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 94.42% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 40913 | 256.55 | ug/L | 94 |
| 4) 1,4-dioxane | 11.250 | 88 | 21588 | 1482.64 | ug/L | 98 |
| 6) chlorodifluoromethane | 3.896 | 51 | 86175 | 41.12 | ug/L | 99 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 104302 | 35.08 | ug/L | 99 |
| 8) chloromethane | 4.278 | 50 | 83609 | 38.35 | ug/L | 98 |
| 9) vinyl chloride | 4.513 | 62 | 85918 | 41.86 | ug/L | 99 |
| 10) 1,3-butadiene | 4.586 | 54 | 59944 | 46.53 | ug/L | 95 |
| 11) bromomethane | 5.193 | 94 | 66565 | 42.56 | ug/L | 96 |
| 12) chloroethane | 5.371 | 64 | 52869 | 43.01 | ug/L | 97 |
| 13) trichlorofluoromethane | 5.810 | 101 | 132368 | 43.25 | ug/L | 97 |
| 14) vinyl bromide | 5.726 | 106 | 77246 | 64.35 | ug/L | 95 |
| 15) ethyl ether | 6.255 | 74 | 40107 | 49.06 | ug/L | 96 |
| 16) acrolein | 6.537 | 56 | 10059 | 47.89 | ug/L | 94 |
| 17) freon 113 | 6.616 | 151 | 69395 | 51.28 | ug/L | 97 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 77755 | 47.23 | ug/L | 86 |
| 19) acetone | 6.752 | 43 | 76010 | 185.81 | ug/L | 95 |
| 20) acetonitrile | 7.212 | 41 | 75307 | 441.42 | ug/L | 97 |
| 21) iodomethane | 6.971 | 142 | 78044 | 42.65 | ug/L | 94 |
| 22) carbon disulfide | 7.086 | 76 | 234652 | 44.12 | ug/L | 97 |
| 23) methylene chloride | 7.421 | 84 | 84745 | 47.45 | ug/L | 92 |
| 24) methyl acetate | 7.212 | 43 | 48292 | 48.40 | ug/L | 92 |
| 25) methyl tert butyl ether | 7.714 | 73 | 206245 | 46.22 | ug/L | 99 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 85350 | 46.70 | ug/L | 90 |
| 27) di-isopropyl ether | 8.305 | 45 | 234039 | 42.61 | ug/L | 96 |
| 28) 2-butanone | 9.063 | 72 | 33624 | 218.66 | ug/L # | 72 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 134680 | 43.44 | ug/L | 99 |
| 30) chloroprene | 8.462 | 53 | 112991 | 42.26 | ug/L | 91 |
| 31) acrylonitrile | 7.771 | 53 | 20799 | 46.58 | ug/L | 98 |
| 32) hexane | 8.064 | 57 | 127775 | 44.99 | ug/L | 95 |
| 33) vinyl acetate | 8.342 | 86 | 12820 | 49.58 | ug/L # | 61 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 239130 | 45.17 | ug/L | 97 |
| 35) ethyl acetate | 9.074 | 45 | 8605 | 44.33 | ug/L # | 71 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164396.D
Acq On : 9 May 2019 11:12 am
Operator : PrashanS
Sample : BS
Misc : MS34303,V1C7215,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 09 13:45:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 120099 | 43.44 ug/L | 95 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 93451 | 47.38 ug/L | 93 |
| 38) methyl acrylate | 9.152 | 85 | 11190 | 55.26 ug/L | 93 |
| 39) propionitrile | 9.184 | 54 | 92678 | 475.69 ug/L | 98 |
| 40) bromochloromethane | 9.414 | 128 | 43662 | 50.97 ug/L | 90 |
| 41) tetrahydrofuran | 9.445 | 72 | 9031 | 49.16 ug/L | 90 |
| 42) chloroform | 9.466 | 85 | 95204 | 43.37 ug/L | 97 |
| 43) t-butyl formate | 9.482 | 59 | 56920 | 48.22 ug/L | 97 |
| 45) methacrylonitrile | 9.356 | 67 | 27673 | 49.21 ug/L | 86 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 128604 | 45.28 ug/L | 99 |
| 47) cyclohexane | 9.759 | 84 | 121156 | 43.20 ug/L | 90 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 109571 | 45.54 ug/L | 96 |
| 49) iso-butyl alcohol | 9.900 | 43 | 27789 | 437.91 ug/L | 98 |
| 50) carbon tetrachloride | 9.900 | 117 | 114378 | 46.11 ug/L | 98 |
| 51) tert amyl alcohol | 10.015 | 55 | 13974 | 235.72 ug/L | 99 |
| 54) n-butyl alcohol | 10.648 | 56 | 107390 | 2583.98 ug/L | 94 |
| 55) 2,2,4-trimethylpentane | 10.109 | 57 | 299391 | 43.79 ug/L | 97 |
| 56) benzene | 10.151 | 78 | 317932 | 44.59 ug/L | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 53273 | 47.94 ug/L | 97 |
| 58) heptane | 10.287 | 71 | 70362 | 45.73 ug/L | 99 |
| 59) isopropyl acetate | 10.062 | 87 | 14867 | 50.40 ug/L # | 86 |
| 60) 1,2-dichloroethane | 10.177 | 62 | 92033 | 39.70 ug/L | 94 |
| 61) trichloroethene | 10.863 | 130 | 92291 | 50.28 ug/L | 98 |
| 62) ethyl acrylate | 10.857 | 55 | 79848 | 46.35 ug/L | 98 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 224072 | 264.72 ug/L | 97 |
| 65) methyl methacrylate | 11.124 | 100 | 18009 | 50.54 ug/L # | 69 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 77934 | 45.90 ug/L | 99 |
| 67) dibromomethane | 11.302 | 93 | 47915 | 48.20 ug/L | 93 |
| 68) methylcyclohexane | 11.056 | 83 | 140544 | 44.40 ug/L | 95 |
| 69) bromodichloromethane | 11.427 | 83 | 111976 | 46.55 ug/L | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 33559 | 245.88 ug/L | 96 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 129152 | 46.77 ug/L | 92 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 93139 | 188.88 ug/L | 91 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 61383 | 981.84 ug/L | 93 |
| 76) toluene | 12.222 | 92 | 186665 | 44.79 ug/L | 99 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 111095 | 47.38 ug/L | 97 |
| 78) ethyl methacrylate | 12.405 | 69 | 81306 | 49.06 ug/L | 92 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 56181 | 51.17 ug/L | 95 |
| 80) tetrachloroethene | 12.798 | 164 | 72140 | 49.79 ug/L | 98 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 97065 | 48.22 ug/L | 89 |
| 82) 2-hexanone | 12.803 | 58 | 91194 | 201.33 ug/L # | 86 |
| 83) butyl acetate | 12.866 | 56 | 38001 | 46.03 ug/L | 89 |
| 84) dibromochloromethane | 13.096 | 129 | 87156 | 52.80 ug/L | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 75047 | 43.03 ug/L | 98 |
| 86) n-butyl ether | 13.572 | 57 | 277224 | 44.22 ug/L | 96 |
| 87) chlorobenzene | 13.687 | 112 | 202148 | 47.81 ug/L | 95 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 77933 | 50.69 ug/L | 99 |
| 89) ethylbenzene | 13.734 | 91 | 341109 | 44.53 ug/L | 96 |
| 90) m,p-xylene | 13.839 | 106 | 268212 | 94.24 ug/L | 94 |
| 91) o-xylene | 14.252 | 106 | 131568 | 48.42 ug/L | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164396.D
Acq On : 9 May 2019 11:12 am
Operator : PrashanS
Sample : BS
Misc : MS34303,V1C7215,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 09 13:45:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 92) | styrene | 14.267 | 104 | 215764 | 47.89 | ug/L | | 98 |
| 93) | bromoform | 14.550 | 173 | 56854 | 56.75 | ug/L | | 97 |
| 94) | butyl acrylate | 14.074 | 55 | 120451 | 45.64 | ug/L | | 98 |
| 95) | isopropylbenzene | 14.586 | 105 | 342209 | 46.82 | ug/L | | 96 |
| 96) | cis-1,4-dichloro-2-butene | 14.681 | 88 | 29239 | 47.12 | ug/L | | 92 |
| 99) | bromobenzene | 15.000 | 156 | 94055 | 50.33 | ug/L | | 90 |
| 100) | 1,1,2,2-tetrachloroethane | 14.916 | 83 | 76209 | 51.98 | ug/L | | 96 |
| 101) | trans-1,4-dichloro-2-b... | 14.958 | 53 | 17933 | 44.95 | ug/L | # | 80 |
| 102) | 1,2,3-trichloropropane | 14.989 | 110 | 19259 | 50.92 | ug/L | | 95 |
| 103) | n-propylbenzene | 14.994 | 91 | 404636 | 47.07 | ug/L | | 97 |
| 105) | 2-chlorotoluene | 15.151 | 126 | 83946 | 50.17 | ug/L | | 94 |
| 106) | 4-chlorotoluene | 15.251 | 91 | 235987 | 44.61 | ug/L | | 95 |
| 107) | 1,3,5-trimethylbenzene | 15.146 | 105 | 285989 | 46.12 | ug/L | | 96 |
| 108) | tert-butylbenzene | 15.491 | 134 | 54067 | 52.02 | ug/L | # | 92 |
| 109) | 1,2,4-trimethylbenzene | 15.538 | 105 | 282916 | 45.55 | ug/L | | 96 |
| 110) | sec-butylbenzene | 15.706 | 105 | 371979 | 48.25 | ug/L | | 97 |
| 111) | 1,3-dichlorobenzene | 15.915 | 146 | 177245 | 50.07 | ug/L | | 96 |
| 112) | p-isopropyltoluene | 15.826 | 119 | 314843 | 47.48 | ug/L | | 97 |
| 113) | 1,4-dichlorobenzene | 15.999 | 146 | 177737 | 50.26 | ug/L | | 97 |
| 114) | benzyl chloride | 16.119 | 91 | 162838 | 53.49 | ug/L | | 99 |
| 115) | 1,2-dichlorobenzene | 16.401 | 146 | 170917 | 51.75 | ug/L | | 98 |
| 117) | n-butylbenzene | 16.250 | 92 | 162590 | 48.24 | ug/L | | 98 |
| 118) | 1,2-dibromo-3-chloropr... | 17.186 | 75 | 14147 | 48.21 | ug/L | | 92 |
| 119) | 1,3,5-trichlorobenzene | 17.343 | 180 | 140748 | 51.78 | ug/L | | 99 |
| 121) | 2-ethylhexyl acrylate | 17.876 | 70 | 11802 | 8.68 | ug/L | # | 84 |
| 122) | 1,2,4-trichlorobenzene | 17.918 | 180 | 116013 | 52.40 | ug/L | | 98 |
| 123) | hexachlorobutadiene | 18.007 | 225 | 76471 | 49.20 | ug/L | | 98 |
| 124) | naphthalene | 18.164 | 128 | 218478 | 50.73 | ug/L | | 98 |
| 125) | 1,2,3-trichlorobenzene | 18.373 | 180 | 108004 | 51.64 | ug/L | | 98 |
| 126) | hexachloroethane | 16.658 | 201 | 63703 | 53.78 | ug/L | | 97 |
| 127) | 2-methylnaphthalene | 19.121 | 142 | 72535 | 26.45 | ug/L | | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

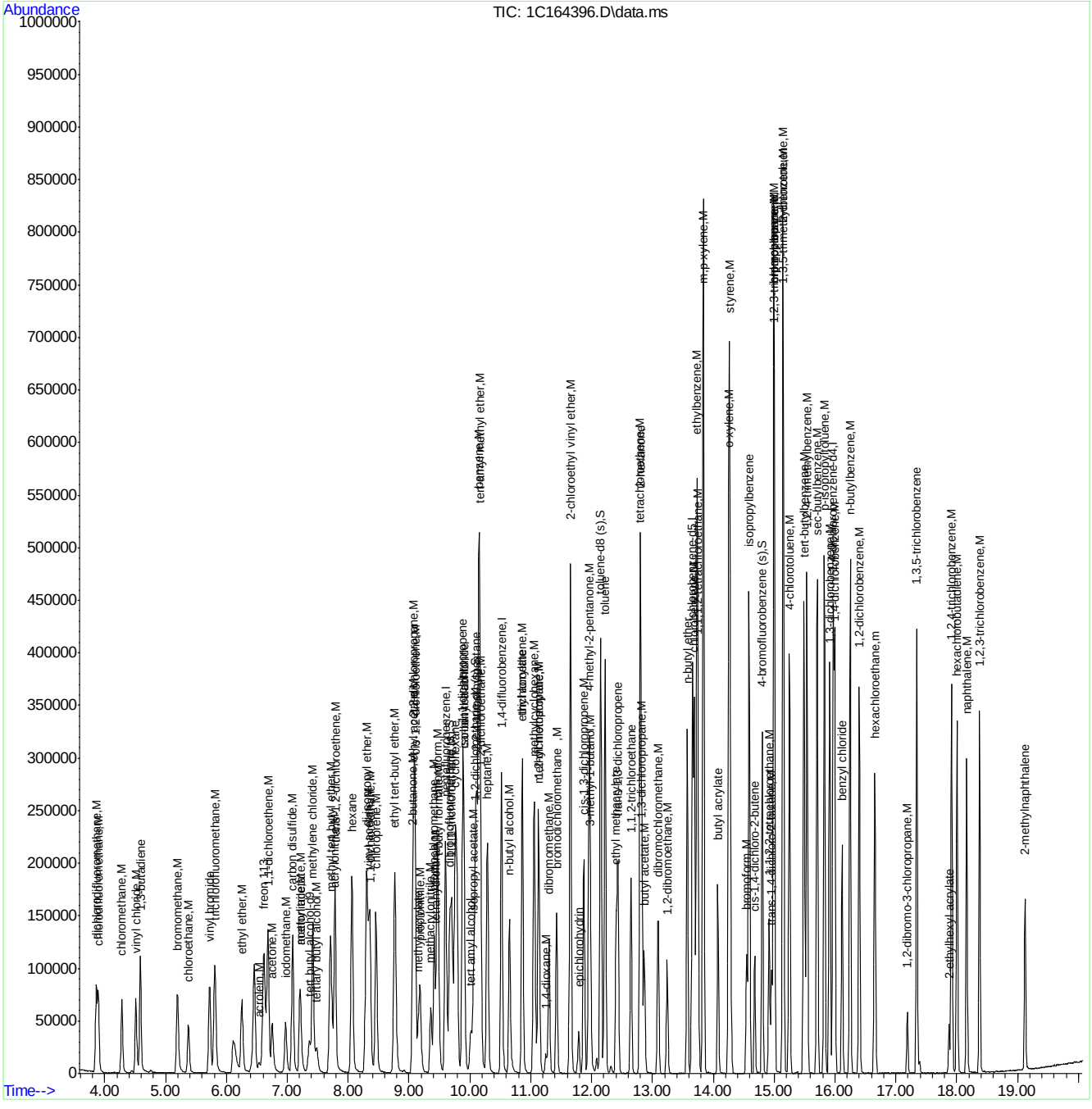
7.3.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164396.D
Acq On : 9 May 2019 11:12 am
Operator : PrashanS
Sample : BS
Misc : MS34303,V1C7215,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 09 13:45:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151807.d
Acq On : 6 May 2019 11:53 am
Operator : PrashanS
Sample : JC86986-8MS Inst : MS3C
Misc : MS34303,V3C6820,5.1,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:40:17 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 35180 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 212875 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 266490 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 217747 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 95781 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 75292 | 48.95 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 97.90% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.305 | 65 | 74472 | 51.43 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 102.86% | | | | | | |
| 75) toluene-d8 (s) | 6.083 | 98 | 298963 | 55.47 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 110.94% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 94629 | 60.09 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 120.18% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 2.637 | 59 | 19297 | 248.82 | ug/L | 97 |
| 4) 1,4-dioxane | 5.289 | 88 | 12958 | 1370.92 | ug/L | 93 |
| 6) chlorodifluoromethane | 1.104 | 51 | 54749 | 42.46 | ug/L | 92 |
| 7) dichlorodifluoromethane | 1.078 | 85 | 96938 | 52.72 | ug/L | 99 |
| 8) chloromethane | 1.225 | 50 | 67681 | 44.58 | ug/L | 96 |
| 9) 1,3-butadiene | 1.319 | 54 | 37809 | 38.26 | ug/L | 96 |
| 10) vinyl chloride | 1.298 | 62 | 76789 | 50.28 | ug/L | 98 |
| 11) bromomethane | 1.538 | 94 | 48008 | 52.54 | ug/L | 99 |
| 12) chloroethane | 1.617 | 64 | 46820 | 51.59 | ug/L | 97 |
| 13) vinyl Bromide | 1.748 | 106 | 48047 | 36.66 | ug/L | 96 |
| 14) trichlorofluoromethane | 1.774 | 101 | 125748 | 55.63 | ug/L | 98 |
| 15) ethyl ether | 1.993 | 74 | 29902 | 46.46 | ug/L # | 81 |
| 16) 2-chloropropane | 2.072 | 63 | 24391 | 47.46 | ug/L # | 82 |
| 17) acrolein | 2.140 | 56 | 2228 | 16.83 | ug/L | 93 |
| 18) freon 113 | 2.135 | 151 | 55536 | 51.40 | ug/L | 96 |
| 19) 1,1-dichloroethene | 2.161 | 96 | 60529 | 50.24 | ug/L | 97 |
| 20) acetone | 2.250 | 58 | 16348 | 246.49 | ug/L | 98 |
| 21) acetonitrile | 2.511 | 41 | 30901 | 301.91 | ug/L | 95 |
| 22) iodomethane | 2.286 | 142 | 62546 | 63.32 | ug/L | 95 |
| 23) carbon disulfide | 2.313 | 76 | 145078 | 42.99 | ug/L | 96 |
| 24) methylene chloride | 2.564 | 84 | 58329 | 44.28 | ug/L | 91 |
| 25) methyl acetate | 2.469 | 43 | 27166 | 42.77 | ug/L | 94 |
| 26) methyl tert butyl ether | 2.710 | 73 | 151657 | 47.24 | ug/L | 96 |
| 27) trans-1,2-dichloroethene | 2.731 | 96 | 64145 | 46.77 | ug/L | 99 |
| 28) hexane | 2.877 | 57 | 54379 | 25.06 | ug/L | 93 |
| 29) di-isopropyl ether | 3.076 | 45 | 154249 | 39.57 | ug/L | 94 |
| 30) ethyl tert-butyl ether | 3.364 | 59 | 175729 | 45.61 | ug/L | 96 |
| 31) 2-butanone | 3.594 | 72 | 19449 | 186.19 | ug/L # | 63 |
| 32) 1,1-dichloroethane | 3.092 | 63 | 104623 | 46.95 | ug/L | 97 |
| 33) chloroprene | 3.134 | 53 | 89834 | 45.37 | ug/L | 97 |
| 34) acrylonitrile | 2.804 | 53 | 10117 | 37.36 | ug/L | 93 |
| 35) vinyl acetate | 3.118 | 86 | 6615 | 27.24 | ug/L # | 51 |
| 36) ethyl acetate | 3.610 | 45 | 4334 | 32.27 | ug/L | 84 |
| 37) 2,2-dichloropropane | 3.542 | 77 | 95674 | 46.66 | ug/L | 98 |
| 38) cis-1,2-dichloroethene | 3.573 | 96 | 71023 | 47.92 | ug/L | 98 |
| 39) propionitrile | 3.714 | 54 | 44256 | 368.21 | ug/L | 95 |
| 40) bromochloromethane | 3.782 | 130 | 40122 | 48.28 | ug/L | 87 |
| 41) tetrahydrofuran | 3.782 | 71 | 4150 | 39.94 | ug/L # | 72 |
| 42) chloroform | 3.845 | 83 | 115431 | 47.89 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151807.d
Acq On : 6 May 2019 11:53 am
Operator : PrashanS
Sample : JC86986-8MS Inst : MS3C
Misc : MS34303,V3C6820,5.1,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:40:17 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 43) tert-Butyl Formate | 3.850 | 59 | 28541 | 37.42 | ug/L | 85 |
| 44) isobutyl alcohol | 4.263 | 41 | 39636 | 211.90 | ug/L | 94 |
| 46) methacrylonitrile | 3.808 | 67 | 14628 | 41.01 | ug/L | 90 |
| 47) 1,1,1-trichloroethane | 3.960 | 97 | 114119 | 52.47 | ug/L | 97 |
| 48) cyclohexane | 3.939 | 84 | 90710 | 40.78 | ug/L | 92 |
| 49) 1,1-dichloropropene | 4.101 | 110 | 32213 | 45.06 | ug/L | 98 |
| 50) tert-amyl alcohol | 4.326 | 59 | 15176 | 160.27 | ug/L | 79 |
| 51) carbon tetrachloride | 4.065 | 119 | 88026 | 51.20 | ug/L | 98 |
| 54) 2,2,4-trimethylpentane | 4.263 | 57 | 106457 | 21.54 | ug/L | 96 |
| 55) tert-amyl methyl ether | 4.363 | 87 | 56120 | 50.81 | ug/L # | 83 |
| 56) n-butyl alcohol | 4.891 | 56 | 50569 | 2050.55 | ug/L | 98 |
| 57) benzene | 4.284 | 78 | 242658 | 49.51 | ug/L | 99 |
| 58) heptane | 4.452 | 57 | 20684 | 19.73 | ug/L | 93 |
| 59) isopropyl acetate | 4.363 | 87 | 56120 | 49.62 | ug/L | 84 |
| 60) 1,2-dichloroethane | 4.378 | 62 | 74668 | 47.98 | ug/L | 96 |
| 61) trichloroethene | 4.901 | 95 | 65905 | 49.49 | ug/L | 96 |
| 62) ethyl acrylate | 5.037 | 55 | 42847 | 39.37 | ug/L | 97 |
| 63) 2-nitropropane | 5.754 | 41 | 14404 | 43.43 | ug/L # | 66 |
| 64) 2-chloroethyl vinyl ether | 5.764 | 63 | 133574 | 207.21 | ug/L | 96 |
| 65) methyl methacrylate | 5.273 | 100 | 13805 | 50.21 | ug/L # | 73 |
| 66) 1,2-dichloropropane | 5.168 | 63 | 51692 | 44.39 | ug/L | 86 |
| 67) methylcyclohexane | 5.001 | 83 | 83050 | 33.40 | ug/L | 98 |
| 68) dibromomethane | 5.294 | 93 | 30177 | 47.32 | ug/L | 92 |
| 69) bromodichloromethane | 5.445 | 83 | 79418 | 53.63 | ug/L | 99 |
| 70) epichlorohydrin | 5.843 | 57 | 15923 | 196.88 | ug/L | 98 |
| 71) cis-1,3-dichloropropene | 5.885 | 75 | 88917 | 47.99 | ug/L | 95 |
| 72) 4-methyl-2-pentanone | 6.031 | 85 | 31303 | 201.83 | ug/L # | 75 |
| 76) toluene | 6.146 | 92 | 159863 | 51.44 | ug/L | 99 |
| 77) trans-1,3-dichloropropene | 6.434 | 75 | 73643 | 51.56 | ug/L | 97 |
| 78) ethyl methacrylate | 6.465 | 69 | 55811 | 46.99 | ug/L | 94 |
| 79) 1,1,2-trichloroethane | 6.596 | 83 | 35301 | 46.17 | ug/L | 99 |
| 80) 2-hexanone | 6.800 | 58 | 49056 | 167.68 | ug/L # | 84 |
| 81) tetrachloroethene | 6.617 | 166 | 76489 | 51.88 | ug/L | 98 |
| 82) 1,3-dichloropropane | 6.748 | 76 | 72400 | 46.94 | ug/L | 99 |
| 83) butyl acetate | 6.889 | 56 | 20774 | 37.77 | ug/L | 93 |
| 84) dibromochloromethane | 6.915 | 129 | 52832 | 58.67 | ug/L | 99 |
| 85) 1,2-dibromoethane | 7.014 | 107 | 58589 | 52.82 | ug/L | 98 |
| 86) n-butyl ether | 7.470 | 57 | 206956 | 40.92 | ug/L | 98 |
| 87) chlorobenzene | 7.417 | 112 | 154975 | 45.29 | ug/L | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.501 | 131 | 61250 | 54.23 | ug/L | 97 |
| 89) ethylbenzene | 7.485 | 91 | 280425 | 46.62 | ug/L | 97 |
| 90) m,p-xylene | 7.595 | 106 | 216624 | 91.40 | ug/L | 100 |
| 91) o-xylene | 7.930 | 91 | 219399 | 46.12 | ug/L | 97 |
| 92) styrene | 7.956 | 104 | 160348 | 42.09 | ug/L | 99 |
| 93) bromoform | 8.129 | 173 | 30611 | 46.91 | ug/L | 98 |
| 94) butyl acrylate | 7.919 | 55 | 65435 | 39.61 | ug/L | 98 |
| 95) isopropylbenzene | 8.223 | 105 | 268796 | 44.34 | ug/L | 97 |
| 96) cis-1,4-dichloro-2-butene | 8.359 | 53 | 12580 | 37.58 | ug/L # | 86 |
| 99) bromobenzene | 8.505 | 156 | 63002 | 49.62 | ug/L | 96 |
| 100) 1,1,2,2-tetrachloroethane | 8.547 | 83 | 40537 | 46.95 | ug/L | 98 |
| 101) trans-1,4-dichloro-2-b... | 8.599 | 88 | 5979 | 50.44 | ug/L # | 83 |
| 102) 1,2,3-trichloropropane | 8.584 | 110 | 14545 | 52.95 | ug/L | 95 |
| 103) n-propylbenzene | 8.563 | 91 | 278169 | 47.76 | ug/L | 100 |
| 104) 2-chlorotoluene | 8.652 | 126 | 57395 | 48.19 | ug/L | 91 |
| 105) 4-chlorotoluene | 8.751 | 126 | 56259 | 47.33 | ug/L | 96 |
| 106) 1,3,5-trimethylbenzene | 8.714 | 105 | 209215 | 49.37 | ug/L | 97 |
| 107) tert-butylbenzene | 8.965 | 119 | 188854 | 50.08 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151807.d
Acq On : 6 May 2019 11:53 am
Operator : PrashanS
Sample : JC86986-8MS Inst : MS3C
Misc : MS34303,V3C6820,5.1,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:40:17 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

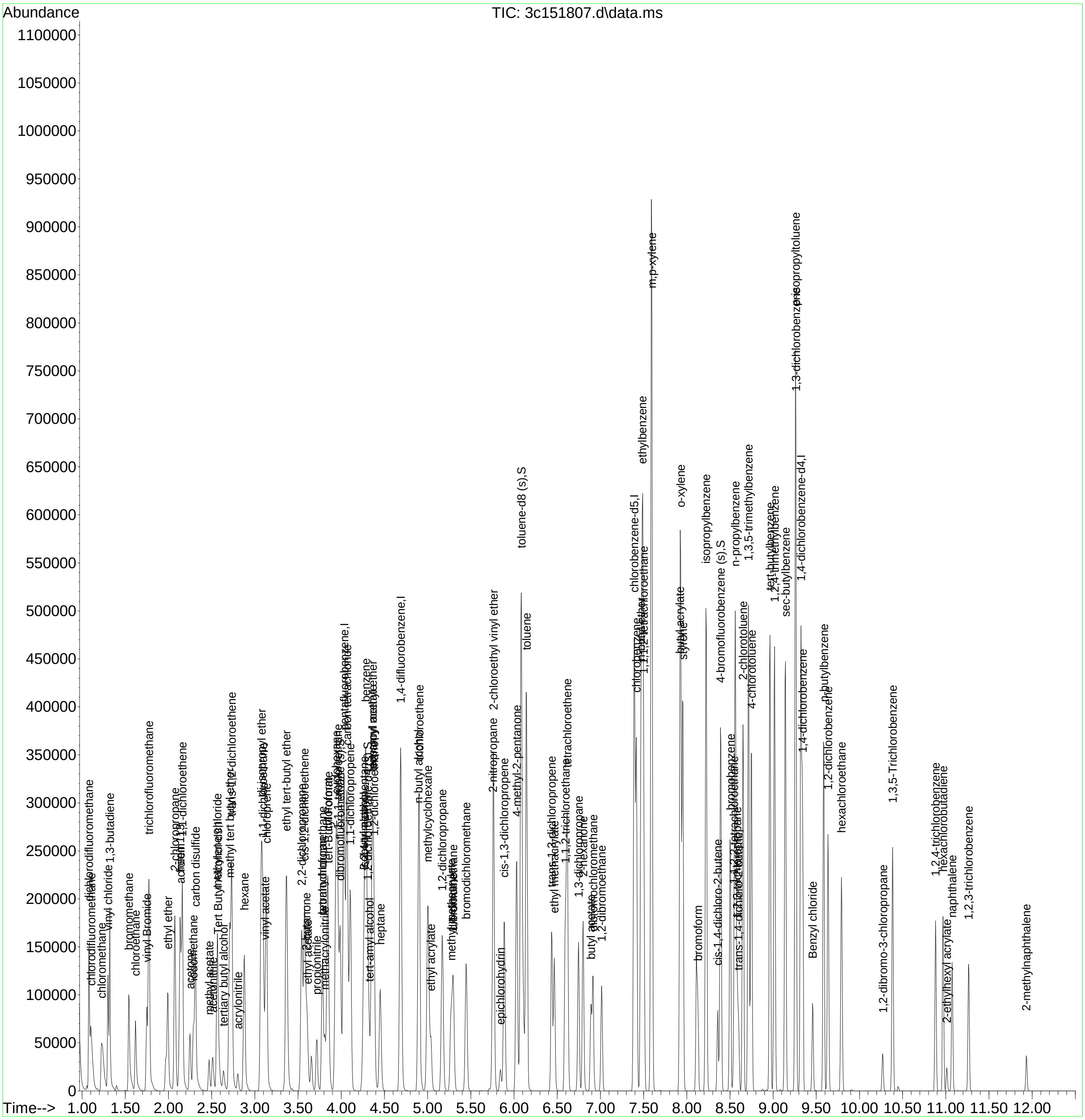
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 9.018 | 105 | 203313 | 47.14 | ug/L | 97 |
| 109) sec-butylbenzene | 9.143 | 105 | 240099 | 43.80 | ug/L | 98 |
| 110) 1,3-dichlorobenzene | 9.263 | 146 | 98780 | 39.60 | ug/L | 97 |
| 111) p-isopropyltoluene | 9.258 | 119 | 211581 | 43.87 | ug/L | 99 |
| 112) 1,4-dichlorobenzene | 9.342 | 146 | 99568 | 39.04 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 9.635 | 146 | 86840 | 37.14 | ug/L | 98 |
| 114) n-butylbenzene | 9.588 | 92 | 82549 | 34.63 | ug/L | 97 |
| 115) 1,2-dibromo-3-chloropr... | 10.273 | 157 | 9826 | 45.94 | ug/L | 92 |
| 116) 1,3,5-Trichlorobenzene | 10.383 | 180 | 65805 | 29.02 | ug/L | 96 |
| 117) 1,2,4-trichlorobenzene | 10.880 | 180 | 44599 | 22.84 | ug/L | 96 |
| 118) hexachlorobutadiene | 10.969 | 225 | 32500 | 26.72 | ug/L | 96 |
| 119) naphthalene | 11.073 | 128 | 79366 | 23.21 | ug/L | 98 |
| 120) 1,2,3-trichlorobenzene | 11.261 | 180 | 34658 | 19.14 | ug/L | 96 |
| 121) hexachloroethane | 9.792 | 201 | 33020 | 45.24 | ug/L | 93 |
| 122) Benzyl chloride | 9.457 | 91 | 49537 | 32.83 | ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 11.010 | 70 | 4755 | 5.29 | ug/L | 93 |
| 124) 2-methylnaphthalene | 11.931 | 142 | 14556 | 7.11 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151807.d
Acq On    :  6 May 2019  11:53 am
Operator  : PrashanS
Sample    : JC86986-8MS                         Inst    : MS3C
Misc      : MS34303,V3C6820,5.1,,,,,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:40:17 2019
Quant Title  : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration
```




M3C6743.M Mon May 06 23:40:55 2019 Page: 4



7.4.1
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151819.d
Acq On : 6 May 2019 4:30 pm
Operator : PrashanS
Sample : JC87093-7MS Inst : MS3C
Misc : MS34369,V3C6821,5.6,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 07 00:08:38 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 37898 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.028 | 168 | 241103 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 314081 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 275127 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 151664 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 86794 | 49.82 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.64% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.311 | 65 | 85820 | 50.29 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.58% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 353244 | 51.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 103.74% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 133091 | 53.37 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 106.74% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 2.642 | 59 | 15999 | 191.50 | ug/L | 94 |
| 4) 1,4-dioxane | 5.289 | 88 | 11021 | 1082.37 | ug/L | 99 |
| 6) chlorodifluoromethane | 1.104 | 51 | 46806 | 32.05 | ug/L | 91 |
| 7) dichlorodifluoromethane | 1.078 | 85 | 65259 | 31.34 | ug/L | 99 |
| 8) chloromethane | 1.225 | 50 | 54958 | 31.96 | ug/L | 98 |
| 9) 1,3-butadiene | 1.319 | 54 | 24265 | 21.68 | ug/L | 99 |
| 10) vinyl chloride | 1.298 | 62 | 56946 | 32.92 | ug/L | 99 |
| 11) bromomethane | 1.538 | 94 | 37027 | 35.78 | ug/L | 94 |
| 12) chloroethane | 1.617 | 64 | 38806 | 37.75 | ug/L | 98 |
| 13) vinyl Bromide | 1.748 | 106 | 49583 | 33.40 | ug/L | 99 |
| 14) trichlorofluoromethane | 1.774 | 101 | 97810 | 38.21 | ug/L | 99 |
| 15) ethyl ether | 1.988 | 74 | 24931 | 34.20 | ug/L | 86 |
| 16) 2-chloropropane | 2.072 | 63 | 18550 | 31.87 | ug/L | 94 |
| 17) acrolein | 2.135 | 56 | 3353 | 22.37 | ug/L | 73 |
| 18) freon 113 | 2.135 | 151 | 38358 | 31.34 | ug/L | 94 |
| 19) 1,1-dichloroethene | 2.161 | 96 | 44605 | 32.69 | ug/L | 97 |
| 20) acetone | 2.250 | 58 | 19502 | 259.62 | ug/L | 99 |
| 21) acetonitrile | 2.511 | 41 | 25737 | 222.02 | ug/L | 99 |
| 22) iodomethane | 2.286 | 142 | 45583 | 40.74 | ug/L | 94 |
| 23) carbon disulfide | 2.313 | 76 | 100030 | 26.17 | ug/L | 95 |
| 24) methylene chloride | 2.564 | 84 | 46815 | 31.38 | ug/L | 91 |
| 25) methyl acetate | 2.464 | 43 | 17853 | 24.81 | ug/L | 96 |
| 26) methyl tert butyl ether | 2.710 | 73 | 121207 | 33.33 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 2.731 | 96 | 46777 | 30.11 | ug/L | 97 |
| 28) hexane | 2.877 | 57 | 36309 | 14.77 | ug/L | 99 |
| 29) di-isopropyl ether | 3.076 | 45 | 125470 | 28.42 | ug/L | 91 |
| 30) ethyl tert-butyl ether | 3.364 | 59 | 143398 | 32.86 | ug/L | 99 |
| 31) 2-butanone | 3.594 | 72 | 17506 | 147.97 | ug/L # | 72 |
| 32) 1,1-dichloroethane | 3.092 | 63 | 81142 | 32.15 | ug/L | 99 |
| 33) chloroprene | 3.134 | 53 | 50773 | 22.64 | ug/L | 98 |
| 34) acrylonitrile | 2.804 | 53 | 8124 | 26.49 | ug/L | 90 |
| 35) vinyl acetate | 3.123 | 86 | 5284 | 19.21 | ug/L # | 51 |
| 36) ethyl acetate | 3.615 | 45 | 3400 | 22.93 | ug/L | 80 |
| 37) 2,2-dichloropropane | 3.542 | 77 | 68718 | 29.59 | ug/L | 100 |
| 38) cis-1,2-dichloroethene | 3.573 | 96 | 53874 | 32.09 | ug/L | 98 |
| 39) propionitrile | 3.714 | 54 | 36401 | 267.40 | ug/L | 99 |
| 40) bromochloromethane | 3.782 | 130 | 31525 | 33.50 | ug/L | 88 |
| 41) tetrahydrofuran | 3.782 | 71 | 3613 | 30.70 | ug/L # | 74 |
| 42) chloroform | 3.840 | 83 | 87939 | 32.22 | ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151819.d
Acq On : 6 May 2019 4:30 pm
Operator : PrashanS
Sample : JC87093-7MS Inst : MS3C
Misc : MS34369,V3C6821,5.6,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 07 00:08:38 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 43) tert-Butyl Formate | 3.850 | 59 | 23953 | 27.73 ug/L | 90 |
| 44) isobutyl alcohol | 4.258 | 41 | 26953 | 127.22 ug/L | 95 |
| 46) methacrylonitrile | 3.808 | 67 | 12041 | 29.80 ug/L | 86 |
| 47) 1,1,1-trichloroethane | 3.955 | 97 | 85779 | 34.82 ug/L | 98 |
| 48) cyclohexane | 3.939 | 84 | 67423 | 26.76 ug/L | 92 |
| 49) 1,1-dichloropropene | 4.101 | 110 | 23892 | 29.51 ug/L | 93 |
| 50) tert-amyl alcohol | 4.326 | 59 | 12522 | 116.76 ug/L # | 55 |
| 51) carbon tetrachloride | 4.070 | 119 | 68715 | 35.29 ug/L | 98 |
| 54) 2,2,4-trimethylpentane | 4.258 | 57 | 68522 | 11.76 ug/L | 93 |
| 55) tert-amyl methyl ether | 4.363 | 87 | 43673 | 33.55 ug/L # | 88 |
| 56) n-butyl alcohol | 4.891 | 56 | 41068 | 1412.95 ug/L | 97 |
| 57) benzene | 4.284 | 78 | 187751 | 32.51 ug/L | 99 |
| 58) heptane | 4.452 | 57 | 14151 | 11.45 ug/L | 90 |
| 59) isopropyl acetate | 4.363 | 87 | 43673 | 32.76 ug/L | 90 |
| 60) 1,2-dichloroethane | 4.378 | 62 | 59896 | 32.65 ug/L | 99 |
| 61) trichloroethene | 4.896 | 95 | 48141 | 30.67 ug/L | 97 |
| 62) ethyl acrylate | 5.037 | 55 | 34676 | 27.04 ug/L | 99 |
| 63) 2-nitropropane | 5.749 | 41 | 9810 | 25.09 ug/L # | 1 |
| 64) 2-chloroethyl vinyl ether | 5.759 | 63 | 79772 | 105.00 ug/L | 96 |
| 65) methyl methacrylate | 5.268 | 100 | 9868 | 30.45 ug/L | 88 |
| 66) 1,2-dichloropropane | 5.173 | 63 | 42220 | 30.76 ug/L | 94 |
| 67) methylcyclohexane | 5.006 | 83 | 56547 | 19.30 ug/L | 99 |
| 68) dibromomethane | 5.294 | 93 | 23270 | 30.96 ug/L | 96 |
| 69) bromodichloromethane | 5.445 | 83 | 61819 | 35.42 ug/L | 98 |
| 70) epichlorohydrin | 5.848 | 57 | 13303 | 139.56 ug/L | 84 |
| 71) cis-1,3-dichloropropene | 5.890 | 75 | 66836 | 30.61 ug/L | 97 |
| 72) 4-methyl-2-pentanone | 6.031 | 85 | 24888 | 136.15 ug/L # | 79 |
| 76) toluene | 6.141 | 92 | 117567 | 29.94 ug/L | 98 |
| 77) trans-1,3-dichloropropene | 6.434 | 75 | 53599 | 29.70 ug/L | 99 |
| 78) ethyl methacrylate | 6.465 | 69 | 42239 | 28.15 ug/L | 93 |
| 79) 1,1,2-trichloroethane | 6.596 | 83 | 27304 | 28.26 ug/L | 96 |
| 80) 2-hexanone | 6.800 | 58 | 37213 | 100.67 ug/L # | 85 |
| 81) tetrachloroethene | 6.617 | 166 | 54420 | 29.21 ug/L | 98 |
| 82) 1,3-dichloropropane | 6.748 | 76 | 55994 | 28.73 ug/L | 96 |
| 83) butyl acetate | 6.889 | 56 | 14805 | 21.30 ug/L | 96 |
| 84) dibromochloromethane | 6.915 | 129 | 39959 | 35.12 ug/L | 98 |
| 85) 1,2-dibromoethane | 7.015 | 107 | 36497 | 26.04 ug/L | 97 |
| 86) n-butyl ether | 7.470 | 57 | 153125 | 23.96 ug/L | 97 |
| 87) chlorobenzene | 7.417 | 112 | 113448 | 26.24 ug/L | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.501 | 131 | 47262 | 33.12 ug/L | 96 |
| 89) ethylbenzene | 7.485 | 91 | 205463 | 27.04 ug/L | 99 |
| 90) m,p-xylene | 7.590 | 106 | 156155 | 52.15 ug/L | 93 |
| 91) o-xylene | 7.930 | 91 | 164210 | 27.32 ug/L | 96 |
| 92) styrene | 7.951 | 104 | 108914 | 22.63 ug/L | 98 |
| 93) bromoform | 8.129 | 173 | 23668 | 29.62 ug/L | 97 |
| 94) butyl acrylate | 7.919 | 55 | 51435 | 24.64 ug/L | 97 |
| 95) isopropylbenzene | 8.223 | 105 | 192501 | 25.13 ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 8.359 | 53 | 9315 | 22.02 ug/L # | 81 |
| 99) bromobenzene | 8.505 | 156 | 45378 | 22.57 ug/L | 90 |
| 100) 1,1,2,2-tetrachloroethane | 8.547 | 83 | 32645 | 23.88 ug/L | 95 |
| 101) trans-1,4-dichloro-2-b... | 8.599 | 88 | 4619 | 25.94 ug/L | 96 |
| 102) 1,2,3-trichloropropane | 8.584 | 110 | 11789 | 27.11 ug/L | 94 |
| 103) n-propylbenzene | 8.563 | 91 | 198892 | 21.57 ug/L | 97 |
| 104) 2-chlorotoluene | 8.652 | 126 | 41473 | 21.99 ug/L | 89 |
| 105) 4-chlorotoluene | 8.751 | 126 | 39733 | 21.11 ug/L | 97 |
| 106) 1,3,5-trimethylbenzene | 8.714 | 105 | 151678 | 22.60 ug/L | 97 |
| 107) tert-butylbenzene | 8.965 | 119 | 135319 | 22.66 ug/L | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151819.d
Acq On : 6 May 2019 4:30 pm
Operator : PrashanS
Sample : JC87093-7MS Inst : MS3C
Misc : MS34369,V3C6821,5.6,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 07 00:08:38 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

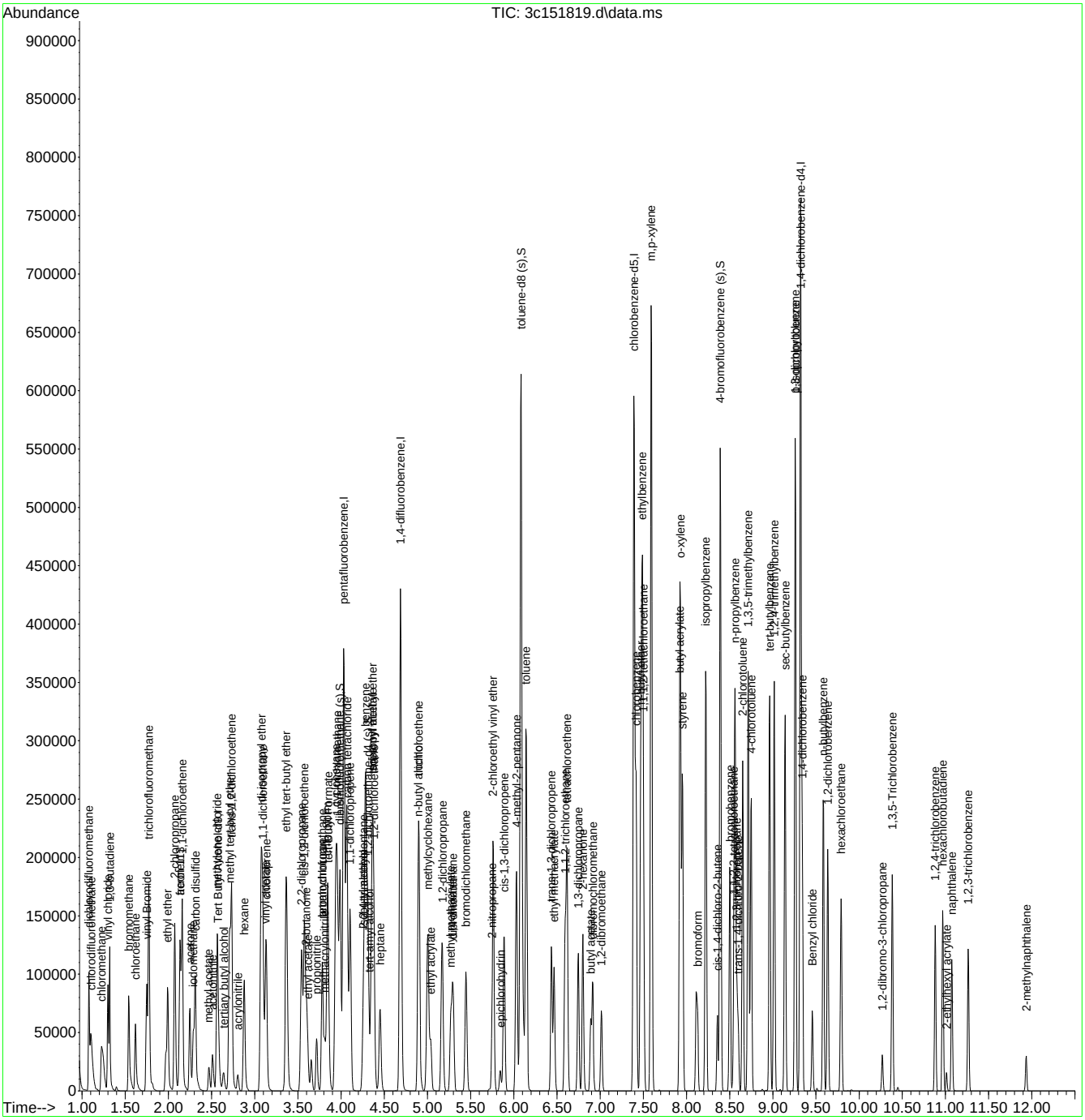
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 9.018 | 105 | 148810 | 21.79 | ug/L | 97 |
| 109) sec-butylbenzene | 9.143 | 105 | 171197 | 19.72 | ug/L | 100 |
| 110) 1,3-dichlorobenzene | 9.258 | 146 | 71260 | 18.04 | ug/L | 98 |
| 111) p-isopropyltoluene | 9.258 | 119 | 153636 | 20.12 | ug/L | 98 |
| 112) 1,4-dichlorobenzene | 9.342 | 146 | 72310 | 17.91 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 9.635 | 146 | 66002 | 17.83 | ug/L | 96 |
| 114) n-butylbenzene | 9.583 | 92 | 57821 | 15.32 | ug/L | 100 |
| 115) 1,2-dibromo-3-chloropr... | 10.268 | 157 | 8126 | 24.69 | ug/L | 95 |
| 116) 1,3,5-Trichlorobenzene | 10.383 | 180 | 47863 | 13.33 | ug/L | 97 |
| 117) 1,2,4-trichlorobenzene | 10.880 | 180 | 37037 | 11.98 | ug/L | 96 |
| 118) hexachlorobutadiene | 10.969 | 225 | 28297 | 14.69 | ug/L | 96 |
| 119) naphthalene | 11.073 | 128 | 69674 | 12.87 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 11.261 | 180 | 31074 | 10.84 | ug/L | 93 |
| 121) hexachloroethane | 9.792 | 201 | 25563 | 23.30 | ug/L | 93 |
| 122) Benzyl chloride | 9.457 | 91 | 37909 | 15.87 | ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 11.016 | 70 | 3535 | 2.88 | ug/L | 82 |
| 124) 2-methylnaphthalene | 11.936 | 142 | 12207 | 3.76 | ug/L | 90 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151819.d
Acq On : 6 May 2019 4:30 pm
Operator : PrashanS
Sample : JC87093-7MS Inst : MS3C
Misc : MS34369,V3C6821,5.6,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 07 00:08:38 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264363.D
Acq On : 8 May 2019 10:37 am
Operator : thienn
Sample : jc87652-1ms
Misc : ms34579,vd10654,10.1,,100,10,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 08 11:58:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.467 | 65 | 129025 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.716 | 168 | 236418 | 50.00 | ug/L | -0.01 |
| 54) 1,4-difluorobenzene | 10.673 | 114 | 363667 | 50.00 | ug/L | -0.01 |
| 75) chlorobenzene-d5 | 14.083 | 117 | 377383 | 50.00 | ug/L | -0.01 |
| 99) 1,4-dichlorobenzene-d4 | 16.730 | 152 | 250157 | 50.00 | ug/L | -0.01 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.742 | 113 | 110098 | 49.36 | ug/L | -0.02 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.72% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.171 | 65 | 119605 | 43.87 | ug/L | -0.02 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 87.74% | | | |
| 76) toluene-d8 (s) | 12.410 | 98 | 444857 | 48.34 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.68% | | | |
| 100) 4-bromofluorobenzene (s) | 15.407 | 95 | 225853 | 48.72 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 97.44% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.582 | 59 | 76262 | 222.95 | ug/L | 95 |
| 4) 1,4-dioxane | 11.343 | 88 | 39354 | 1261.92 | ug/L | 95 |
| 6) chlorodifluoromethane | 4.397 | 51 | 150356 | 30.14 | ug/L | 98 |
| 7) dichlorodifluoromethane | 4.413 | 85 | 191870 | 27.95 | ug/L | 98 |
| 8) chloromethane | 4.685 | 50 | 213917 | 37.22 | ug/L | 99 |
| 9) 1,3-butadiene | 4.957 | 54 | 134891 | 42.37 | ug/L | 96 |
| 10) vinyl chloride | 4.946 | 62 | 264699 | 45.26 | ug/L | 98 |
| 11) bromomethane | 5.480 | 94 | 51648 | 17.15 | ug/L | 98 |
| 12) chloroethane | 5.621 | 64 | 47051 | 18.37 | ug/L | 98 |
| 13) trichlorofluoromethane | 6.118 | 101 | 182943 | 34.73 | ug/L | 95 |
| 14) vinyl bromide | 5.987 | 106 | 118927 | 44.27 | ug/L | 98 |
| 15) ethyl ether | 6.463 | 74 | 62017 | 47.58 | ug/L | 91 |
| 16) 2-chloropropane | 6.657 | 43 | 216536 | 38.51 | ug/L | 94 |
| 17) acrolein | 6.646 | 56 | 23665 | 54.69 | ug/L | 96 |
| 18) freon 113 | 6.908 | 151 | 115883 | 37.48 | ug/L | 98 |
| 19) 1,1-dichloroethene | 6.866 | 96 | 127082 | 43.59 | ug/L | 93 |
| 20) acetone | 6.840 | 58 | 41220 | 224.93 | ug/L # | 75 |
| 21) acetonitrile | 7.206 | 41 | 195520 | 505.73 | ug/L | 99 |
| 22) iodomethane | 7.117 | 142 | 200323 | 43.69 | ug/L | 97 |
| 23) carbon disulfide | 7.279 | 76 | 409702 | 43.11 | ug/L | 98 |
| 24) methylene chloride | 7.525 | 84 | 139781 | 45.63 | ug/L | 100 |
| 25) methyl acetate | 7.284 | 43 | 80258 | 49.47 | ug/L | 99 |
| 26) methyl tert butyl ether | 7.907 | 73 | 392355 | 44.30 | ug/L | 96 |
| 27) trans-1,2-dichloroethene | 7.922 | 96 | 118227 | 44.23 | ug/L | 92 |
| 28) hexane | 8.294 | 56 | 77219 | 44.89 | ug/L | 98 |
| 29) di-isopropyl ether | 8.492 | 45 | 465443 | 45.96 | ug/L | 97 |
| 30) 2-butanone | 9.094 | 72 | 47020 | 217.05 | ug/L | 94 |
| 31) 1,1-dichloroethane | 8.471 | 63 | 206226 | 43.33 | ug/L | 99 |
| 32) chloroprene | 8.587 | 53 | 171305 | 40.31 | ug/L | 95 |
| 33) acrylonitrile | 7.771 | 53 | 39754 | 53.26 | ug/L | 91 |
| 34) vinyl acetate | 8.398 | 86 | 23630 | 45.29 | ug/L # | 90 |
| 35) ethyl tert-butyl ether | 8.947 | 59 | 454242 | 45.46 | ug/L | 99 |
| 36) ethyl acetate | 9.125 | 45 | 16603 | 54.43 | ug/L # | 72 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264363.D
Acq On : 8 May 2019 10:37 am
Operator : thienn
Sample : jc87652-1ms
Misc : ms34579,vd10654,10.1,,100,10,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 08 11:58:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.240 | 77 | 197539 | 38.70 | ug/L | | 93 |
| 38) cis-1,2-dichloroethene | 9.178 | 96 | 129117 | 44.14 | ug/L | | 97 |
| 39) propionitrile | 9.136 | 54 | 176401 | 541.58 | ug/L | | 98 |
| 40) methyl acrylate | 9.209 | 85 | 14210 | 44.51 | ug/L | # | 72 |
| 41) methacrylonitrile | 9.355 | 67 | 41132 | 48.20 | ug/L | | 96 |
| 42) bromochloromethane | 9.476 | 128 | 59695 | 45.23 | ug/L | | 99 |
| 43) tetrahydrofuran | 9.517 | 42 | 30982 | 48.77 | ug/L | | 97 |
| 44) chloroform | 9.554 | 83 | 193886 | 40.33 | ug/L | | 97 |
| 45) tert-butyl formate | 9.612 | 59 | 123363 | 45.51 | ug/L | | 94 |
| 47) 1,1,1-trichloroethane | 9.852 | 97 | 195353 | 39.62 | ug/L | | 97 |
| 48) cyclohexane | 9.999 | 84 | 236581 | 47.70 | ug/L | | 91 |
| 50) 1,1-dichloropropene | 10.020 | 75 | 145597 | 39.97 | ug/L | | 99 |
| 51) carbon tetrachloride | 10.067 | 117 | 162372 | 38.57 | ug/L | | 99 |
| 52) tert-amyl alcohol | 10.119 | 73 | 33924 | 227.35 | ug/L | # | 88 |
| 53) isopropyl acetate | 10.150 | 87 | 26283 | 46.49 | ug/L | | 96 |
| 56) n-butyl alcohol | 10.684 | 56 | 203221 | 2313.59 | ug/L | | 97 |
| 57) 2,2,4-trimethylpentane | 10.407 | 57 | 555008 | 61.56 | ug/L | | 97 |
| 58) benzene | 10.271 | 78 | 468709 | 42.45 | ug/L | | 98 |
| 59) tert-amyl methyl ether | 10.360 | 73 | 435967 | 43.27 | ug/L | | 98 |
| 60) heptane | 10.553 | 57 | 84035 | 56.96 | ug/L | | 97 |
| 61) 1,2-dichloroethane | 10.265 | 62 | 139379 | 35.90 | ug/L | | 97 |
| 62) ethyl acrylate | 10.971 | 55 | 125201 | 44.06 | ug/L | | 99 |
| 63) trichloroethene | 11.008 | 95 | 111463 | 40.63 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 11.808 | 63 | 348979 | 242.63 | ug/L | | 99 |
| 65) methyl methacrylate | 11.254 | 100 | 28839 | 46.43 | ug/L | # | 83 |
| 66) methylcyclohexane | 11.353 | 83 | 246305 | 52.62 | ug/L | | 99 |
| 67) 1,2-dichloropropane | 11.291 | 63 | 122032 | 44.52 | ug/L | | 100 |
| 68) dibromomethane | 11.400 | 93 | 65328 | 41.23 | ug/L | | 97 |
| 69) bromodichloromethane | 11.557 | 83 | 153052 | 41.65 | ug/L | | 100 |
| 70) 2-nitropropane | 11.735 | 41 | 25202 | 43.97 | ug/L | | 97 |
| 71) epichlorohydrin | 11.887 | 57 | 111873 | 422.38 | ug/L | | 99 |
| 72) cis-1,3-dichloropropene | 12.054 | 75 | 191283 | 43.23 | ug/L | | 96 |
| 73) 4-methyl-2-pentanone | 12.153 | 58 | 189318 | 197.97 | ug/L | | 89 |
| 74) isoamyl alcohol | 12.143 | 70 | 83329 | 1112.12 | ug/L | # | 79 |
| 77) toluene | 12.488 | 92 | 316952 | 43.91 | ug/L | | 96 |
| 78) ethyl methacrylate | 12.671 | 69 | 155038 | 45.35 | ug/L | | 99 |
| 79) trans-1,3-dichloropropene | 12.661 | 75 | 170756 | 40.71 | ug/L | | 91 |
| 80) 1,1,2-trichloroethane | 12.907 | 83 | 85665 | 44.51 | ug/L | | 93 |
| 81) tetrachloroethene | 13.121 | 164 | 95450 | 40.59 | ug/L | | 98 |
| 82) 2-hexanone | 13.084 | 58 | 171262 | 196.75 | ug/L | | 96 |
| 83) 1,3-dichloropropane | 13.105 | 76 | 171810 | 41.46 | ug/L | | 95 |
| 84) butyl acetate | 13.194 | 56 | 79996 | 45.13 | ug/L | | 90 |
| 85) dibromochloromethane | 13.388 | 129 | 116551 | 42.98 | ug/L | | 97 |
| 86) 1,2-dibromoethane | 13.566 | 107 | 118223 | 39.51 | ug/L | | 100 |
| 87) n-butyl ether | 14.099 | 57 | 586038 | 44.55 | ug/L | | 99 |
| 88) chlorobenzene | 14.120 | 112 | 338593 | 40.50 | ug/L | | 99 |
| 89) 1,1,1,2-tetrachloroethane | 14.188 | 131 | 137326 | 42.76 | ug/L | | 99 |
| 90) ethylbenzene | 14.198 | 91 | 765154 | 53.49 | ug/L | | 99 |
| 91) m,p-xylene | 14.334 | 106 | 585671 | 107.45 | ug/L | | 97 |
| 92) o-xylene | 14.784 | 91 | 771428 | 64.42 | ug/L | | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264363.D
Acq On : 8 May 2019 10:37 am
Operator : thienn
Sample : jc87652-1ms
Misc : ms34579,vd10654,10.1,,100,10,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 08 11:58:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) styrene | 14.795 | 104 | 415309 | 44.73 ug/L | 99 |
| 94) butyl acrylate | 14.585 | 55 | 281117 | 50.08 ug/L | 97 |
| 95) n-amyl acetate | 14.821 | 70 | 155102 | 65.26 ug/L | 96 |
| 96) isopropylbenzene | 15.187 | 105 | 833024 | 59.61 ug/L | 98 |
| 97) bromoform | 15.041 | 173 | 87015 | 44.53 ug/L | 99 |
| 98) cis-1,4-dichloro-2-butene | 15.192 | 88 | 52179 | 40.22 ug/L | 89 |
| 101) 1,1,2,2-tetrachloroethane | 15.464 | 83 | 176175 | 45.57 ug/L | 97 |
| 102) trans-1,4-dichloro-2-b... | 15.501 | 53 | 43158 | 44.60 ug/L | 93 |
| 103) 1,2,3-trichloropropane | 15.564 | 110 | 56974 | 51.13 ug/L | 91 |
| 104) bromobenzene | 15.616 | 156 | 174410 | 39.78 ug/L | 98 |
| 105) n-propylbenzene | 15.658 | 91 | 1194916 | 68.97 ug/L | 99 |
| 106) 2-chlorotoluene | 15.804 | 126 | 162794 | 41.93 ug/L | 94 |
| 107) 4-chlorotoluene | 15.930 | 91 | 494984 | 43.28 ug/L | 99 |
| 108) 1,3,5-trimethylbenzene | 15.841 | 105 | 966858 | 73.03 ug/L | 100 |
| 109) tert-butylbenzene | 16.223 | 119 | 512309 | 49.88 ug/L | 99 |
| 110) 1,2,4-trimethylbenzene | 16.280 | 105 | 1624363 | 123.05 ug/L | 99 |
| 111) sec-butylbenzene | 16.474 | 105 | 1145895 | 75.75 ug/L | 100 |
| 112) p-isopropyltoluene | 16.620 | 119 | 828930 | 65.83 ug/L | 98 |
| 113) 1,3-dichlorobenzene | 16.651 | 146 | 343619 | 44.86 ug/L | 99 |
| 114) 1,4-dichlorobenzene | 16.761 | 146 | 348655 | 43.89 ug/L | 96 |
| 115) 1,2-dichlorobenzene | 17.174 | 146 | 340514 | 44.36 ug/L | 96 |
| 116) benzyl chloride | 16.845 | 91 | 357720 | 47.98 ug/L | 98 |
| 117) n-butylbenzene | 17.080 | 92 | 490602 | 83.42 ug/L | 99 |
| 118) 2-ethylhexyl acrylate | 18.974 | 70 | 36725 | 29.63 ug/L # | 88 |
| 119) hexachloroethane | 17.530 | 201 | 111073 | 56.81 ug/L | 97 |
| 120) 1,2-dibromo-3-chloropr... | 18.006 | 75 | 37580 | 54.24 ug/L | 92 |
| 121) 1,3,5-trichlorobenzene | 18.252 | 180 | 261947 | 50.73 ug/L | 97 |
| 122) 1,2,4-trichlorobenzene | 18.979 | 180 | 208622 | 44.67 ug/L | 99 |
| 123) hexachlorobutadiene | 19.125 | 225 | 127843 | 54.31 ug/L | 99 |
| 124) naphthalene | 19.314 | 128 | 643498 | 61.23 ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 19.580 | 180 | 186667 | 45.38 ug/L | 98 |
| 126) 2-methylnaphthalene | 20.726 | 142 | 344290 | 154.04 ug/L | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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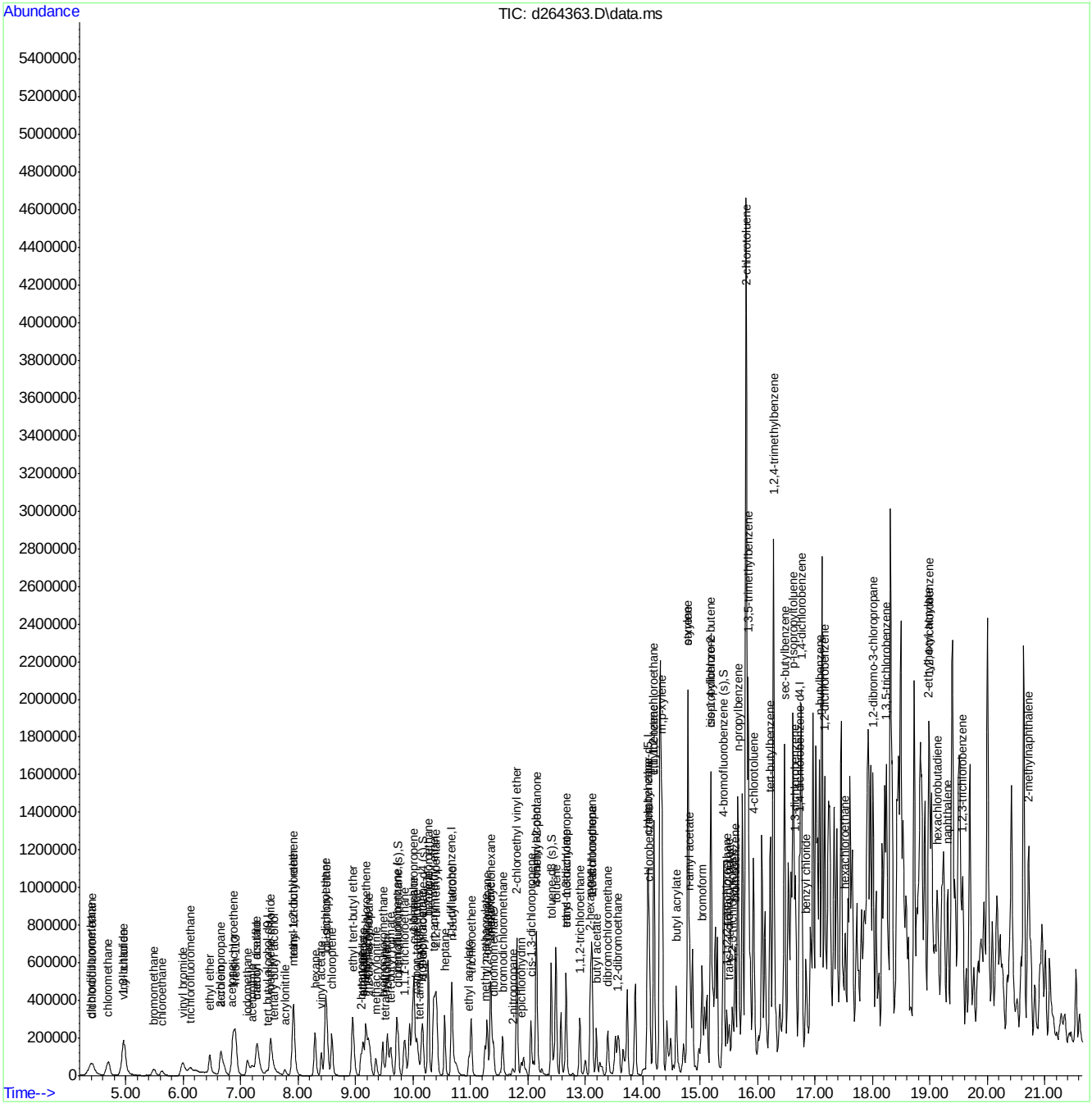
Data File : d264363.D
Acq On : 8 May 2019 10:37 am
Operator : thienn
Sample : jc87652-1ms
Misc : ms34579,vd10654,10.1,,100,10,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 08 11:58:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264364.D
Acq On : 8 May 2019 11:06 am
Operator : thienn
Sample : jc87652-1msd
Misc : ms34579,vd10654,10.1,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 08 11:58:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.488 | 65 | 122799 | 500.00 | ug/L | 0.02 |
| 5) pentafluorobenzene | 9.716 | 168 | 232156 | 50.00 | ug/L | -0.01 |
| 54) 1,4-difluorobenzene | 10.673 | 114 | 350655 | 50.00 | ug/L | -0.01 |
| 75) chlorobenzene-d5 | 14.083 | 117 | 365078 | 50.00 | ug/L | -0.01 |
| 99) 1,4-dichlorobenzene-d4 | 16.730 | 152 | 246394 | 50.00 | ug/L | -0.01 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.742 | 113 | 106925 | 48.81 | ug/L | -0.02 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.62% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.171 | 65 | 114063 | 43.39 | ug/L | -0.02 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 86.78% | | | |
| 76) toluene-d8 (s) | 12.409 | 98 | 433695 | 48.72 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.44% | | | |
| 100) 4-bromofluorobenzene (s) | 15.406 | 95 | 218643 | 47.89 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 95.78% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.613 | 59 | 72328 | 222.17 | ug/L | 97 |
| 4) 1,4-dioxane | 11.342 | 88 | 39560 | 1332.84 | ug/L | 97 |
| 6) chlorodifluoromethane | 4.402 | 51 | 148610 | 30.34 | ug/L | 98 |
| 7) dichlorodifluoromethane | 4.402 | 85 | 186146 | 27.62 | ug/L | 100 |
| 8) chloromethane | 4.695 | 50 | 202961 | 35.96 | ug/L | 99 |
| 9) 1,3-butadiene | 4.972 | 54 | 128330 | 41.05 | ug/L | 96 |
| 10) vinyl chloride | 4.936 | 62 | 254196 | 44.27 | ug/L | 99 |
| 11) bromomethane | 5.479 | 94 | 52206 | 17.65 | ug/L | 97 |
| 12) chloroethane | 5.626 | 64 | 47383 | 18.84 | ug/L | 96 |
| 13) trichlorofluoromethane | 6.128 | 101 | 179851 | 34.77 | ug/L | 98 |
| 14) vinyl bromide | 5.987 | 106 | 119663 | 45.36 | ug/L | 98 |
| 15) ethyl ether | 6.458 | 74 | 58464 | 45.67 | ug/L | 85 |
| 16) 2-chloropropane | 6.656 | 43 | 210828 | 38.19 | ug/L | 96 |
| 17) acrolein | 6.641 | 56 | 22643 | 53.29 | ug/L | 100 |
| 18) freon 113 | 6.913 | 151 | 113470 | 37.38 | ug/L | 97 |
| 19) 1,1-dichloroethene | 6.871 | 96 | 124855 | 43.61 | ug/L | 92 |
| 20) acetone | 6.834 | 58 | 38714 | 215.14 | ug/L # | 74 |
| 21) acetonitrile | 7.200 | 41 | 185219 | 487.88 | ug/L | 99 |
| 22) iodomethane | 7.117 | 142 | 198372 | 44.06 | ug/L | 95 |
| 23) carbon disulfide | 7.279 | 76 | 404448 | 43.34 | ug/L | 99 |
| 24) methylene chloride | 7.524 | 84 | 137116 | 45.58 | ug/L | 100 |
| 25) methyl acetate | 7.284 | 43 | 75762 | 47.56 | ug/L | 95 |
| 26) methyl tert butyl ether | 7.906 | 73 | 382063 | 43.93 | ug/L | 96 |
| 27) trans-1,2-dichloroethene | 7.922 | 96 | 115232 | 43.90 | ug/L | 93 |
| 28) hexane | 8.293 | 56 | 74396 | 44.04 | ug/L | 97 |
| 29) di-isopropyl ether | 8.492 | 45 | 447329 | 44.98 | ug/L | 99 |
| 30) 2-butanone | 9.094 | 72 | 44756 | 210.40 | ug/L | 94 |
| 31) 1,1-dichloroethane | 8.471 | 63 | 200844 | 42.98 | ug/L | 99 |
| 32) chloroprene | 8.586 | 53 | 165588 | 39.68 | ug/L | 95 |
| 33) acrylonitrile | 7.765 | 53 | 38021 | 51.87 | ug/L | 94 |
| 34) vinyl acetate | 8.403 | 86 | 23200 | 45.29 | ug/L # | 89 |
| 35) ethyl tert-butyl ether | 8.952 | 59 | 442065 | 45.05 | ug/L | 98 |
| 36) ethyl acetate | 9.130 | 45 | 15768 | 52.64 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264364.D
Acq On : 8 May 2019 11:06 am
Operator : thienn
Sample : jc87652-1msd
Misc : ms34579,vd10654,10.1,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 08 11:58:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.235 | 77 | 195167 | 38.93 | ug/L | | 93 |
| 38) cis-1,2-dichloroethene | 9.177 | 96 | 127161 | 44.27 | ug/L | | 98 |
| 39) propionitrile | 9.135 | 54 | 166036 | 519.12 | ug/L | | 97 |
| 40) methyl acrylate | 9.209 | 85 | 13826 | 44.12 | ug/L | # | 84 |
| 41) methacrylonitrile | 9.355 | 67 | 40046 | 47.79 | ug/L | | 94 |
| 42) bromochloromethane | 9.470 | 128 | 58822 | 45.39 | ug/L | | 98 |
| 43) tetrahydrofuran | 9.517 | 42 | 29298 | 46.97 | ug/L | | 99 |
| 44) chloroform | 9.554 | 83 | 189934 | 40.23 | ug/L | | 97 |
| 45) tert-butyl formate | 9.611 | 59 | 119938 | 45.06 | ug/L | | 98 |
| 47) 1,1,1-trichloroethane | 9.857 | 97 | 192367 | 39.73 | ug/L | | 97 |
| 48) cyclohexane | 10.004 | 84 | 234541 | 48.16 | ug/L | | 96 |
| 50) 1,1-dichloropropene | 10.024 | 75 | 143058 | 40.00 | ug/L | | 98 |
| 51) carbon tetrachloride | 10.066 | 117 | 160408 | 38.80 | ug/L | | 99 |
| 52) tert-amyl alcohol | 10.113 | 73 | 32890 | 224.47 | ug/L | | 96 |
| 53) isopropyl acetate | 10.150 | 87 | 25279 | 45.54 | ug/L | | 99 |
| 56) n-butyl alcohol | 10.689 | 56 | 199554 | 2356.15 | ug/L | | 96 |
| 57) 2,2,4-trimethylpentane | 10.406 | 57 | 537909 | 61.88 | ug/L | | 96 |
| 58) benzene | 10.265 | 78 | 460430 | 43.25 | ug/L | | 98 |
| 59) tert-amyl methyl ether | 10.364 | 73 | 429543 | 44.22 | ug/L | | 98 |
| 60) heptane | 10.553 | 57 | 81711 | 57.44 | ug/L | | 94 |
| 61) 1,2-dichloroethane | 10.265 | 62 | 134207 | 35.85 | ug/L | | 96 |
| 62) ethyl acrylate | 10.971 | 55 | 120973 | 44.15 | ug/L | | 99 |
| 63) trichloroethene | 11.013 | 95 | 108439 | 41.00 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.808 | 63 | 335073 | 241.61 | ug/L | | 99 |
| 65) methyl methacrylate | 11.254 | 100 | 26915 | 44.94 | ug/L | # | 85 |
| 66) methylcyclohexane | 11.353 | 83 | 238372 | 52.81 | ug/L | | 98 |
| 67) 1,2-dichloropropane | 11.290 | 63 | 118000 | 44.65 | ug/L | | 98 |
| 68) dibromomethane | 11.400 | 93 | 64085 | 41.95 | ug/L | | 99 |
| 69) bromodichloromethane | 11.557 | 83 | 149099 | 42.08 | ug/L | | 97 |
| 70) 2-nitropropane | 11.735 | 41 | 24341 | 44.05 | ug/L | | 94 |
| 71) epichlorohydrin | 11.886 | 57 | 108990 | 426.77 | ug/L | | 99 |
| 72) cis-1,3-dichloropropene | 12.054 | 75 | 184389 | 43.22 | ug/L | | 95 |
| 73) 4-methyl-2-pentanone | 12.153 | 58 | 179370 | 194.53 | ug/L | | 91 |
| 74) isoamyl alcohol | 12.143 | 70 | 80732 | 1117.44 | ug/L | # | 79 |
| 77) toluene | 12.488 | 92 | 311243 | 44.57 | ug/L | | 98 |
| 78) ethyl methacrylate | 12.671 | 69 | 150508 | 45.51 | ug/L | | 99 |
| 79) trans-1,3-dichloropropene | 12.660 | 75 | 164433 | 40.52 | ug/L | | 91 |
| 80) 1,1,2-trichloroethane | 12.906 | 83 | 83291 | 44.73 | ug/L | | 93 |
| 81) tetrachloroethene | 13.115 | 164 | 95036 | 41.78 | ug/L | | 97 |
| 82) 2-hexanone | 13.084 | 58 | 162500 | 192.98 | ug/L | | 94 |
| 83) 1,3-dichloropropane | 13.105 | 76 | 164704 | 41.08 | ug/L | | 96 |
| 84) butyl acetate | 13.194 | 56 | 74338 | 43.36 | ug/L | | 92 |
| 85) dibromochloromethane | 13.387 | 129 | 112568 | 42.91 | ug/L | | 98 |
| 86) 1,2-dibromoethane | 13.565 | 107 | 113988 | 39.38 | ug/L | | 99 |
| 87) n-butyl ether | 14.099 | 57 | 572733 | 45.00 | ug/L | | 100 |
| 88) chlorobenzene | 14.120 | 112 | 331133 | 40.95 | ug/L | | 98 |
| 89) 1,1,1,2-tetrachloroethane | 14.188 | 131 | 136011 | 43.78 | ug/L | | 99 |
| 90) ethylbenzene | 14.198 | 91 | 749735 | 54.18 | ug/L | | 99 |
| 91) m,p-xylene | 14.334 | 106 | 577535 | 109.53 | ug/L | | 98 |
| 92) o-xylene | 14.789 | 91 | 760822 | 65.68 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264364.D
Acq On : 8 May 2019 11:06 am
Operator : thienn
Sample : jc87652-1msd
Misc : ms34579,vd10654,10.1,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

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Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

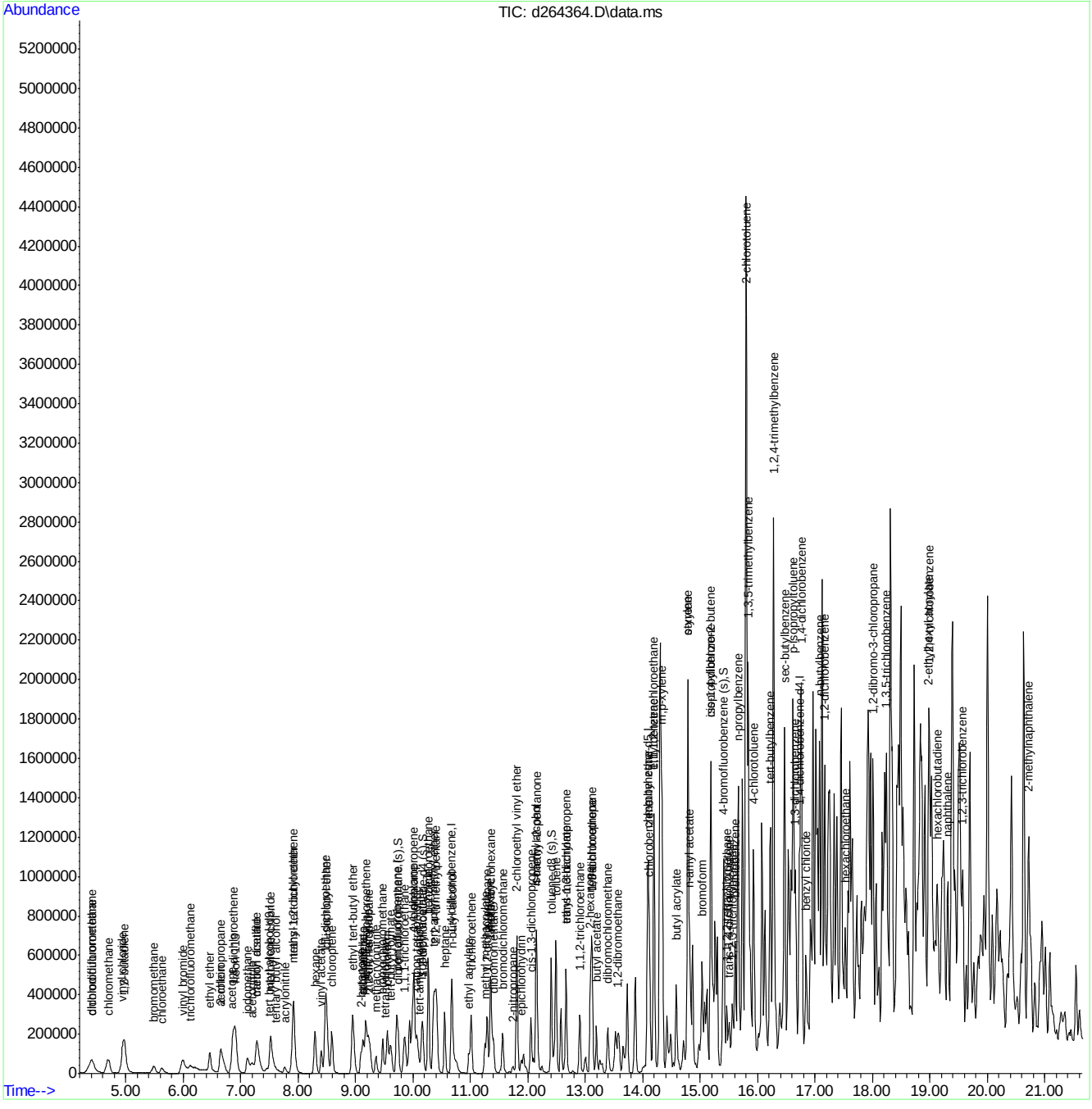
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) styrene | 14.794 | 104 | 405366 | 45.13 ug/L | 99 |
| 94) butyl acrylate | 14.585 | 55 | 269428 | 49.61 ug/L | 96 |
| 95) n-amyl acetate | 14.820 | 70 | 149760 | 65.14 ug/L | 94 |
| 96) isopropylbenzene | 15.187 | 105 | 828792 | 61.31 ug/L | 97 |
| 97) bromoform | 15.040 | 173 | 84075 | 44.47 ug/L | 99 |
| 98) cis-1,4-dichloro-2-butene | 15.192 | 88 | 50027 | 39.87 ug/L | 91 |
| 101) 1,1,2,2-tetrachloroethane | 15.464 | 83 | 172339 | 45.26 ug/L | 99 |
| 102) trans-1,4-dichloro-2-b... | 15.506 | 53 | 40410 | 42.40 ug/L | 91 |
| 103) 1,2,3-trichloropropane | 15.563 | 110 | 55164 | 50.26 ug/L # | 81 |
| 104) bromobenzene | 15.615 | 156 | 170550 | 39.49 ug/L | 97 |
| 105) n-propylbenzene | 15.657 | 91 | 1178115 | 69.04 ug/L | 99 |
| 106) 2-chlorotoluene | 15.804 | 126 | 161077 | 42.12 ug/L | 95 |
| 107) 4-chlorotoluene | 15.929 | 91 | 484622 | 43.03 ug/L | 99 |
| 108) 1,3,5-trimethylbenzene | 15.840 | 105 | 960871 | 73.68 ug/L | 99 |
| 109) tert-butylbenzene | 16.222 | 119 | 508583 | 50.28 ug/L | 98 |
| 110) 1,2,4-trimethylbenzene | 16.280 | 105 | 1615592 | 124.25 ug/L | 99 |
| 111) sec-butylbenzene | 16.473 | 105 | 1143775 | 76.76 ug/L | 99 |
| 112) p-isopropyltoluene | 16.620 | 119 | 829373 | 66.87 ug/L | 97 |
| 113) 1,3-dichlorobenzene | 16.651 | 146 | 336306 | 44.58 ug/L | 100 |
| 114) 1,4-dichlorobenzene | 16.761 | 146 | 341412 | 43.64 ug/L | 95 |
| 115) 1,2-dichlorobenzene | 17.174 | 146 | 333079 | 44.06 ug/L | 95 |
| 116) benzyl chloride | 16.845 | 91 | 342143 | 46.60 ug/L | 97 |
| 117) n-butylbenzene | 17.080 | 92 | 487349 | 84.13 ug/L | 99 |
| 118) 2-ethylhexyl acrylate | 18.973 | 70 | 36892 | 30.22 ug/L # | 80 |
| 119) hexachloroethane | 17.530 | 201 | 111063 | 57.68 ug/L | 95 |
| 120) 1,2-dibromo-3-chloropr... | 18.006 | 75 | 31266 | 45.82 ug/L | 96 |
| 121) 1,3,5-trichlorobenzene | 18.251 | 180 | 263557 | 51.82 ug/L | 99 |
| 122) 1,2,4-trichlorobenzene | 18.978 | 180 | 210969 | 45.82 ug/L | 96 |
| 123) hexachlorobutadiene | 19.125 | 225 | 128769 | 55.54 ug/L | 98 |
| 124) naphthalene | 19.313 | 128 | 638195 | 61.65 ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 19.580 | 180 | 186755 | 46.06 ug/L | 99 |
| 126) 2-methylnaphthalene | 20.725 | 142 | 346388 | 157.34 ug/L | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264364.D
Acq On : 8 May 2019 11:06 am
Operator : thienn
Sample : jc87652-1msd
Misc : ms34579,vd10654,10.1,,100,10,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 08 11:58:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164401.D
Acq On : 9 May 2019 1:30 pm
Operator : PrashanS
Sample : JC86986-2MS
Misc : MS34303,V1C7215,4.6,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 09 15:14:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 45820 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 205332 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 294036 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 228121 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 112515 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 88384 | 51.04 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 102.08% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 76354 | 41.34 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 82.68% | | | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 311163 | 50.64 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 101.28% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 103089 | 48.81 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 97.62% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.484 | 59 | 29864 | 245.39 | ug/L | 94 |
| 4) 1,4-dioxane | 11.255 | 88 | 16256 | 1462.93 | ug/L | 98 |
| 6) chlorodifluoromethane | 3.896 | 51 | 95857 | 44.80 | ug/L | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 111764 | 36.82 | ug/L | 99 |
| 8) chloromethane | 4.278 | 50 | 89674 | 40.28 | ug/L | 98 |
| 9) vinyl chloride | 4.513 | 62 | 92144 | 43.98 | ug/L | 96 |
| 10) 1,3-butadiene | 4.586 | 54 | 62904 | 47.82 | ug/L | 93 |
| 11) bromomethane | 5.198 | 94 | 71042 | 44.49 | ug/L | 99 |
| 12) chloroethane | 5.376 | 64 | 55486 | 44.21 | ug/L | 98 |
| 13) trichlorofluoromethane | 5.810 | 101 | 127383 | 40.77 | ug/L | 98 |
| 14) vinyl bromide | 5.721 | 106 | 80783 | 65.91 | ug/L | 98 |
| 15) ethyl ether | 6.255 | 74 | 39191 | 46.96 | ug/L | 92 |
| 16) acrolein | 6.542 | 56 | 5965 | 27.82 | ug/L | 88 |
| 17) freon 113 | 6.615 | 151 | 58425 | 42.29 | ug/L | 99 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 82101 | 48.84 | ug/L | 87 |
| 19) acetone | 6.751 | 43 | 54676 | 130.92 | ug/L | 94 |
| 20) acetonitrile | 7.212 | 41 | 61212 | 351.44 | ug/L | 95 |
| 21) iodomethane | 6.971 | 142 | 81887 | 43.75 | ug/L | 93 |
| 22) carbon disulfide | 7.086 | 76 | 216379 | 39.85 | ug/L | 98 |
| 23) methylene chloride | 7.421 | 84 | 88156 | 48.35 | ug/L | 92 |
| 24) methyl acetate | 7.212 | 43 | 36449 | 35.78 | ug/L | 99 |
| 25) methyl tert butyl ether | 7.709 | 73 | 189573 | 41.61 | ug/L | 100 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 85212 | 45.67 | ug/L | 92 |
| 27) di-isopropyl ether | 8.305 | 45 | 236906 | 42.25 | ug/L | 97 |
| 28) 2-butanone | 9.063 | 72 | 24453 | 155.76 | ug/L # | 73 |
| 29) 1,1-dichloroethane | 8.357 | 63 | 140892 | 44.51 | ug/L | 100 |
| 30) chloroprene | 8.462 | 53 | 110053 | 40.32 | ug/L | 90 |
| 31) acrylonitrile | 7.766 | 53 | 17161 | 37.64 | ug/L | 94 |
| 32) hexane | 8.064 | 57 | 58210 | 20.08 | ug/L | 95 |
| 33) vinyl acetate | 8.341 | 86 | 11491 | 43.53 | ug/L # | 51 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 230564 | 42.66 | ug/L | 96 |
| 35) ethyl acetate | 9.074 | 45 | 6958 | 35.11 | ug/L # | 55 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164401.D
Acq On : 9 May 2019 1:30 pm
Operator : PrashanS
Sample : JC86986-2MS
Misc : MS34303,V1C7215,4.6,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 09 15:14:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 106161 | 37.61 | ug/L | | 98 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 94711 | 47.03 | ug/L | | 92 |
| 38) methyl acrylate | 9.152 | 85 | 8888 | 42.99 | ug/L | | 94 |
| 39) propionitrile | 9.189 | 54 | 73233 | 368.17 | ug/L | | 95 |
| 40) bromochloromethane | 9.414 | 128 | 42496 | 48.59 | ug/L | | 91 |
| 41) tetrahydrofuran | 9.445 | 72 | 7300 | 38.92 | ug/L | # | 84 |
| 42) chloroform | 9.466 | 85 | 94467 | 42.16 | ug/L | | 94 |
| 43) t-butyl formate | 9.482 | 59 | 46583 | 38.65 | ug/L | | 99 |
| 45) methacrylonitrile | 9.361 | 67 | 22955 | 39.98 | ug/L | | 83 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 123823 | 42.70 | ug/L | | 98 |
| 47) cyclohexane | 9.759 | 84 | 86155 | 30.09 | ug/L | | 95 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 100901 | 41.07 | ug/L | | 94 |
| 49) iso-butyl alcohol | 9.900 | 43 | 20114 | 310.47 | ug/L | | 96 |
| 50) carbon tetrachloride | 9.900 | 117 | 96852 | 38.24 | ug/L | | 99 |
| 51) tert amyl alcohol | 10.015 | 55 | 9730 | 160.76 | ug/L | | 95 |
| 54) n-butyl alcohol | 10.653 | 56 | 74319 | 1732.12 | ug/L | | 92 |
| 55) 2,2,4-trimethylpentane | 10.109 | 57 | 101540 | 14.38 | ug/L | | 97 |
| 56) benzene | 10.151 | 78 | 316967 | 43.06 | ug/L | | 98 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 48749 | 42.49 | ug/L | | 97 |
| 58) heptane | 10.287 | 71 | 20738 | 13.05 | ug/L | | 97 |
| 59) isopropyl acetate | 10.062 | 87 | 12083 | 39.68 | ug/L | # | 93 |
| 60) 1,2-dichloroethane | 10.182 | 62 | 87105 | 36.39 | ug/L | | 96 |
| 61) trichloroethene | 10.862 | 130 | 84579 | 44.63 | ug/L | | 97 |
| 62) ethyl acrylate | 10.862 | 55 | 65085 | 36.60 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 179134 | 204.99 | ug/L | | 98 |
| 65) methyl methacrylate | 11.124 | 100 | 15074 | 40.97 | ug/L | # | 82 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 75441 | 43.04 | ug/L | | 98 |
| 67) dibromomethane | 11.302 | 93 | 42445 | 41.36 | ug/L | | 93 |
| 68) methylcyclohexane | 11.056 | 83 | 76450 | 23.40 | ug/L | | 95 |
| 69) bromodichloromethane | 11.427 | 83 | 103114 | 41.52 | ug/L | | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 23795 | 168.87 | ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 115390 | 40.48 | ug/L | | 90 |
| 72) 4-methyl-2-pentanone | 11.956 | 58 | 71978 | 141.39 | ug/L | | 88 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 43937 | 680.74 | ug/L | | 92 |
| 76) toluene | 12.222 | 92 | 167262 | 40.06 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.431 | 75 | 92260 | 39.27 | ug/L | | 96 |
| 78) ethyl methacrylate | 12.405 | 69 | 68167 | 41.05 | ug/L | | 92 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 47864 | 43.51 | ug/L | | 93 |
| 80) tetrachloroethene | 12.798 | 164 | 52622 | 36.25 | ug/L | | 99 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 84141 | 41.71 | ug/L | | 89 |
| 82) 2-hexanone | 12.803 | 58 | 65431 | 144.17 | ug/L | | 89 |
| 83) butyl acetate | 12.866 | 56 | 30365 | 36.71 | ug/L | | 92 |
| 84) dibromochloromethane | 13.096 | 129 | 71246 | 43.07 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 62663 | 35.86 | ug/L | | 99 |
| 86) n-butyl ether | 13.572 | 57 | 221771 | 35.31 | ug/L | | 98 |
| 87) chlorobenzene | 13.687 | 112 | 166918 | 39.40 | ug/L | | 96 |
| 88) 1,1,1,2-tetrachloroethane | 13.749 | 131 | 63210 | 41.03 | ug/L | | 99 |
| 89) ethylbenzene | 13.734 | 91 | 263697 | 34.35 | ug/L | | 98 |
| 90) m,p-xylene | 13.838 | 106 | 200495 | 70.31 | ug/L | | 90 |
| 91) o-xylene | 14.257 | 106 | 100027 | 36.74 | ug/L | | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164401.D
Acq On : 9 May 2019 1:30 pm
Operator : PrashanS
Sample : JC86986-2MS
Misc : MS34303,V1C7215,4.6,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 09 15:14:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

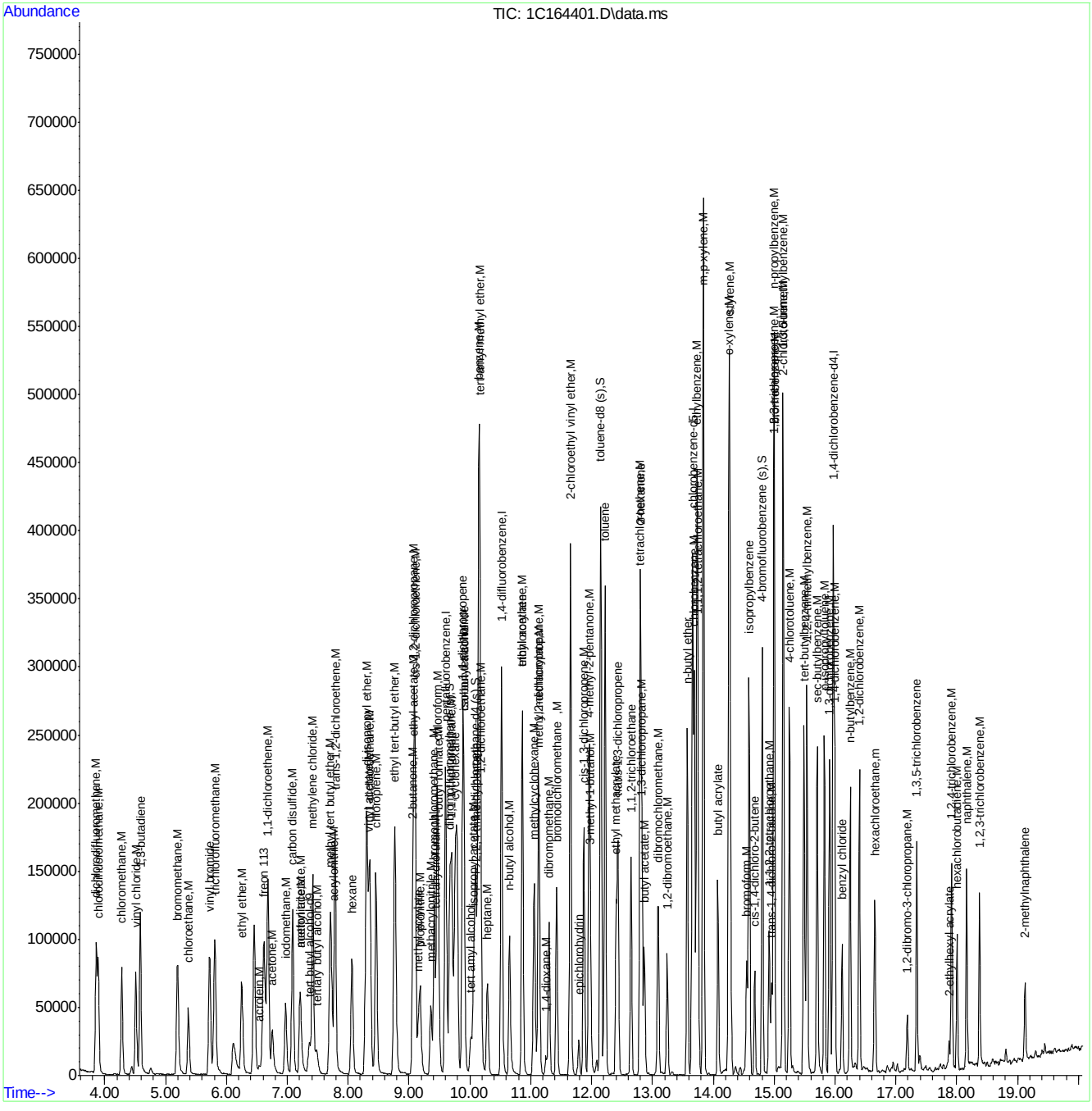
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) styrene | 14.267 | 104 | 165738 | 36.71 | ug/L | | 97 |
| 93) bromoform | 14.550 | 173 | 41050 | 40.90 | ug/L | | 96 |
| 94) butyl acrylate | 14.074 | 55 | 95871 | 36.26 | ug/L | | 97 |
| 95) isopropylbenzene | 14.592 | 105 | 219572 | 29.98 | ug/L | | 97 |
| 96) cis-1,4-dichloro-2-butene | 14.680 | 88 | 19750 | 31.77 | ug/L | | 95 |
| 99) bromobenzene | 15.005 | 156 | 68494 | 38.77 | ug/L | # | 80 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 55709 | 40.20 | ug/L | | 100 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 11992 | 31.80 | ug/L | | 84 |
| 102) 1,2,3-trichloropropane | 14.989 | 110 | 13885 | 38.84 | ug/L | | 96 |
| 103) n-propylbenzene | 14.994 | 91 | 241374 | 29.71 | ug/L | | 97 |
| 105) 2-chlorotoluene | 15.151 | 126 | 54648 | 34.55 | ug/L | | 92 |
| 106) 4-chlorotoluene | 15.251 | 91 | 154558 | 30.91 | ug/L | | 94 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 167747 | 28.62 | ug/L | | 96 |
| 108) tert-butylbenzene | 15.491 | 134 | 29676 | 30.21 | ug/L | | 93 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 167321 | 28.50 | ug/L | | 93 |
| 110) sec-butylbenzene | 15.706 | 105 | 185249 | 25.42 | ug/L | | 97 |
| 111) 1,3-dichlorobenzene | 15.910 | 146 | 106055 | 31.70 | ug/L | | 98 |
| 112) p-isopropyltoluene | 15.826 | 119 | 157534 | 25.13 | ug/L | | 97 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 105055 | 31.43 | ug/L | | 96 |
| 114) benzyl chloride | 16.119 | 91 | 73288 | 25.47 | ug/L | | 98 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 101378 | 32.47 | ug/L | | 96 |
| 117) n-butylbenzene | 16.250 | 92 | 71215 | 22.36 | ug/L | | 98 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 8613 | 31.06 | ug/L | | 82 |
| 119) 1,3,5-trichlorobenzene | 17.343 | 180 | 56042 | 21.81 | ug/L | | 98 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 5485 | 4.27 | ug/L | # | 69 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 45034 | 21.52 | ug/L | | 98 |
| 123) hexachlorobutadiene | 18.007 | 225 | 22294 | 15.18 | ug/L | | 98 |
| 124) naphthalene | 18.164 | 128 | 104251 | 25.61 | ug/L | | 98 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 39696 | 20.08 | ug/L | | 98 |
| 126) hexachloroethane | 16.652 | 201 | 28373 | 25.34 | ug/L | | 95 |
| 127) 2-methylnaphthalene | 19.121 | 142 | 23376 | 9.02 | ug/L | | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164401.D
Acq On : 9 May 2019 1:30 pm
Operator : PrashanS
Sample : JC86986-2MS
Misc : MS34303,V1C7215,4.6,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 09 15:14:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration




M1CS7200.M Thu May 09 15:14:48 2019 Page: 4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164402.D
Acq On : 9 May 2019 1:56 pm
Operator : PrashanS
Sample : JC86986-2MSD
Misc : MS34303,V1C7215,5.8,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 09 15:14:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 51546 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 221597 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 317023 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.655 | 117 | 248828 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 127616 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 94838 | 50.75 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.50% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 81676 | 41.01 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 82.02% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 335735 | 50.09 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.18% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 114845 | 47.94 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 95.88% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 38167 | 278.77 | ug/L | 99 |
| 4) 1,4-dioxane | 11.250 | 88 | 20416 | 1633.20 | ug/L | 93 |
| 6) chlorodifluoromethane | 3.896 | 51 | 106720 | 46.22 | ug/L | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 125809 | 38.40 | ug/L | 100 |
| 8) chloromethane | 4.278 | 50 | 99523 | 41.43 | ug/L | 98 |
| 9) vinyl chloride | 4.513 | 62 | 101542 | 44.90 | ug/L | 98 |
| 10) 1,3-butadiene | 4.586 | 54 | 70119 | 49.40 | ug/L | 95 |
| 11) bromomethane | 5.198 | 94 | 77716 | 45.10 | ug/L | 97 |
| 12) chloroethane | 5.376 | 64 | 63383 | 46.79 | ug/L | 98 |
| 13) trichlorofluoromethane | 5.810 | 101 | 150303 | 44.58 | ug/L | 98 |
| 14) vinyl bromide | 5.726 | 106 | 90898 | 68.72 | ug/L | 96 |
| 15) ethyl ether | 6.255 | 74 | 45212 | 50.20 | ug/L | 97 |
| 16) acrolein | 6.537 | 56 | 8209 | 35.47 | ug/L | 97 |
| 17) freon 113 | 6.616 | 151 | 74252 | 49.80 | ug/L | 99 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 94355 | 52.01 | ug/L | 87 |
| 19) acetone | 6.757 | 43 | 66530 | 147.61 | ug/L | 94 |
| 20) acetonitrile | 7.212 | 41 | 73247 | 389.67 | ug/L | 98 |
| 21) iodomethane | 6.971 | 142 | 100511 | 49.35 | ug/L | 92 |
| 22) carbon disulfide | 7.086 | 76 | 244392 | 41.71 | ug/L | 97 |
| 23) methylene chloride | 7.421 | 84 | 100265 | 50.95 | ug/L | 94 |
| 24) methyl acetate | 7.212 | 43 | 45790 | 41.65 | ug/L | 93 |
| 25) methyl tert butyl ether | 7.709 | 73 | 224885 | 45.74 | ug/L | 98 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 98433 | 48.88 | ug/L | 92 |
| 27) di-isopropyl ether | 8.300 | 45 | 279452 | 46.18 | ug/L | 96 |
| 28) 2-butanone | 9.069 | 72 | 30235 | 178.45 | ug/L # | 80 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 164931 | 48.28 | ug/L | 99 |
| 30) chloroprene | 8.457 | 53 | 131661 | 44.70 | ug/L | 90 |
| 31) acrylonitrile | 7.771 | 53 | 20657 | 41.99 | ug/L | 96 |
| 32) hexane | 8.064 | 57 | 80952 | 25.87 | ug/L | 97 |
| 33) vinyl acetate | 8.342 | 86 | 12802 | 44.94 | ug/L # | 71 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 266256 | 45.64 | ug/L | 98 |
| 35) ethyl acetate | 9.074 | 45 | 8738 | 40.85 | ug/L # | 54 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164402.D
Acq On : 9 May 2019 1:56 pm
Operator : PrashanS
Sample : JC86986-2MSD
Misc : MS34303,V1C7215,5.8,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 09 15:14:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 126211 | 41.44 | ug/L | | 95 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 108544 | 49.95 | ug/L | | 93 |
| 38) methyl acrylate | 9.152 | 85 | 10667 | 47.81 | ug/L | | 93 |
| 39) propionitrile | 9.189 | 54 | 88656 | 412.99 | ug/L | | 97 |
| 40) bromochloromethane | 9.419 | 128 | 48969 | 51.88 | ug/L | | 91 |
| 41) tetrahydrofuran | 9.450 | 72 | 8790 | 43.42 | ug/L | | 82 |
| 42) chloroform | 9.466 | 85 | 110133 | 45.54 | ug/L | | 96 |
| 43) t-butyl formate | 9.482 | 59 | 50669 | 38.96 | ug/L | | 98 |
| 45) methacrylonitrile | 9.361 | 67 | 27954 | 45.11 | ug/L | | 87 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 150757 | 48.17 | ug/L | | 99 |
| 47) cyclohexane | 9.759 | 84 | 119115 | 38.55 | ug/L | | 89 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 126033 | 47.54 | ug/L | | 95 |
| 49) iso-butyl alcohol | 9.900 | 43 | 26125 | 373.65 | ug/L | | 98 |
| 50) carbon tetrachloride | 9.900 | 117 | 125081 | 45.76 | ug/L | | 98 |
| 51) tert amyl alcohol | 10.020 | 55 | 12568 | 192.41 | ug/L | | 99 |
| 54) n-butyl alcohol | 10.653 | 56 | 98434 | 2127.81 | ug/L | | 93 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 130098 | 17.09 | ug/L | | 96 |
| 56) benzene | 10.151 | 78 | 381979 | 48.13 | ug/L | | 98 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 57765 | 46.70 | ug/L | | 94 |
| 58) heptane | 10.287 | 71 | 27141 | 15.85 | ug/L | | 96 |
| 59) isopropyl acetate | 10.062 | 87 | 15111 | 46.02 | ug/L | | 91 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 100825 | 39.07 | ug/L | | 95 |
| 61) trichloroethene | 10.863 | 130 | 103531 | 50.67 | ug/L | | 97 |
| 62) ethyl acrylate | 10.863 | 55 | 79322 | 41.37 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 201322 | 213.68 | ug/L | | 96 |
| 65) methyl methacrylate | 11.124 | 100 | 18160 | 45.78 | ug/L | # | 82 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 90985 | 48.14 | ug/L | | 98 |
| 67) dibromomethane | 11.302 | 93 | 50468 | 45.61 | ug/L | | 93 |
| 68) methylcyclohexane | 11.061 | 83 | 105100 | 29.83 | ug/L | | 94 |
| 69) bromodichloromethane | 11.427 | 83 | 124492 | 46.49 | ug/L | | 98 |
| 70) epichlorohydrin | 11.788 | 57 | 29292 | 192.81 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 139821 | 45.49 | ug/L | | 89 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 89938 | 163.86 | ug/L | | 90 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 56185 | 807.38 | ug/L | | 96 |
| 76) toluene | 12.222 | 92 | 211230 | 46.38 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 110241 | 43.02 | ug/L | | 98 |
| 78) ethyl methacrylate | 12.405 | 69 | 84286 | 46.53 | ug/L | | 94 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 58875 | 49.07 | ug/L | | 95 |
| 80) tetrachloroethene | 12.803 | 164 | 71947 | 45.44 | ug/L | | 97 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 102445 | 46.56 | ug/L | | 92 |
| 82) 2-hexanone | 12.803 | 58 | 82113 | 165.87 | ug/L | | 89 |
| 83) butyl acetate | 12.866 | 56 | 37477 | 41.54 | ug/L | | 91 |
| 84) dibromochloromethane | 13.091 | 129 | 87709 | 48.62 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 76409 | 40.08 | ug/L | | 95 |
| 86) n-butyl ether | 13.572 | 57 | 295210 | 43.09 | ug/L | | 97 |
| 87) chlorobenzene | 13.687 | 112 | 213447 | 46.19 | ug/L | | 96 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 80551 | 47.94 | ug/L | | 97 |
| 89) ethylbenzene | 13.734 | 91 | 346996 | 41.44 | ug/L | | 96 |
| 90) m,p-xylene | 13.839 | 106 | 267294 | 85.93 | ug/L | | 91 |
| 91) o-xylene | 14.257 | 106 | 133242 | 44.87 | ug/L | | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164402.D
Acq On : 9 May 2019 1:56 pm
Operator : PrashanS
Sample : JC86986-2MSD
Misc : MS34303,V1C7215,5.8,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 09 15:14:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) styrene | 14.267 | 104 | 215063 | 43.67 | ug/L | | 96 |
| 93) bromoform | 14.550 | 173 | 52791 | 48.22 | ug/L | | 97 |
| 94) butyl acrylate | 14.074 | 55 | 120574 | 41.80 | ug/L | | 98 |
| 95) isopropylbenzene | 14.592 | 105 | 302451 | 37.86 | ug/L | | 96 |
| 96) cis-1,4-dichloro-2-butene | 14.681 | 88 | 23783 | 35.07 | ug/L | | 94 |
| 99) bromobenzene | 15.000 | 156 | 90825 | 45.33 | ug/L | | 91 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 71812 | 45.69 | ug/L | | 96 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 15311 | 35.80 | ug/L | | 86 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 18286 | 45.10 | ug/L | | 97 |
| 103) n-propylbenzene | 14.994 | 91 | 329071 | 35.71 | ug/L | | 97 |
| 105) 2-chlorotoluene | 15.151 | 126 | 73791 | 41.14 | ug/L | | 94 |
| 106) 4-chlorotoluene | 15.251 | 91 | 209493 | 36.94 | ug/L | | 95 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 232011 | 34.90 | ug/L | | 95 |
| 108) tert-butylbenzene | 15.491 | 134 | 40706 | 36.53 | ug/L | # | 90 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 231492 | 34.76 | ug/L | | 94 |
| 110) sec-butylbenzene | 15.706 | 105 | 249890 | 30.24 | ug/L | | 98 |
| 111) 1,3-dichlorobenzene | 15.910 | 146 | 147110 | 38.77 | ug/L | | 98 |
| 112) p-isopropyltoluene | 15.826 | 119 | 213493 | 30.03 | ug/L | | 96 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 145305 | 38.33 | ug/L | | 98 |
| 114) benzyl chloride | 16.119 | 91 | 95612 | 29.30 | ug/L | | 98 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 140611 | 39.71 | ug/L | | 97 |
| 117) n-butylbenzene | 16.250 | 92 | 92820 | 25.69 | ug/L | | 98 |
| 118) 1,2-dibromo-3-chloropr... | 17.186 | 75 | 11747 | 37.34 | ug/L | | 94 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 75752 | 26.00 | ug/L | | 98 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 7733 | 5.30 | ug/L | # | 79 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 62345 | 26.27 | ug/L | | 98 |
| 123) hexachlorobutadiene | 18.007 | 225 | 26341 | 15.81 | ug/L | | 99 |
| 124) naphthalene | 18.164 | 128 | 150961 | 32.69 | ug/L | | 99 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 56320 | 25.12 | ug/L | | 99 |
| 126) hexachloroethane | 16.658 | 201 | 41301 | 32.52 | ug/L | | 94 |
| 127) 2-methylnaphthalene | 19.121 | 142 | 35573 | 12.10 | ug/L | | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

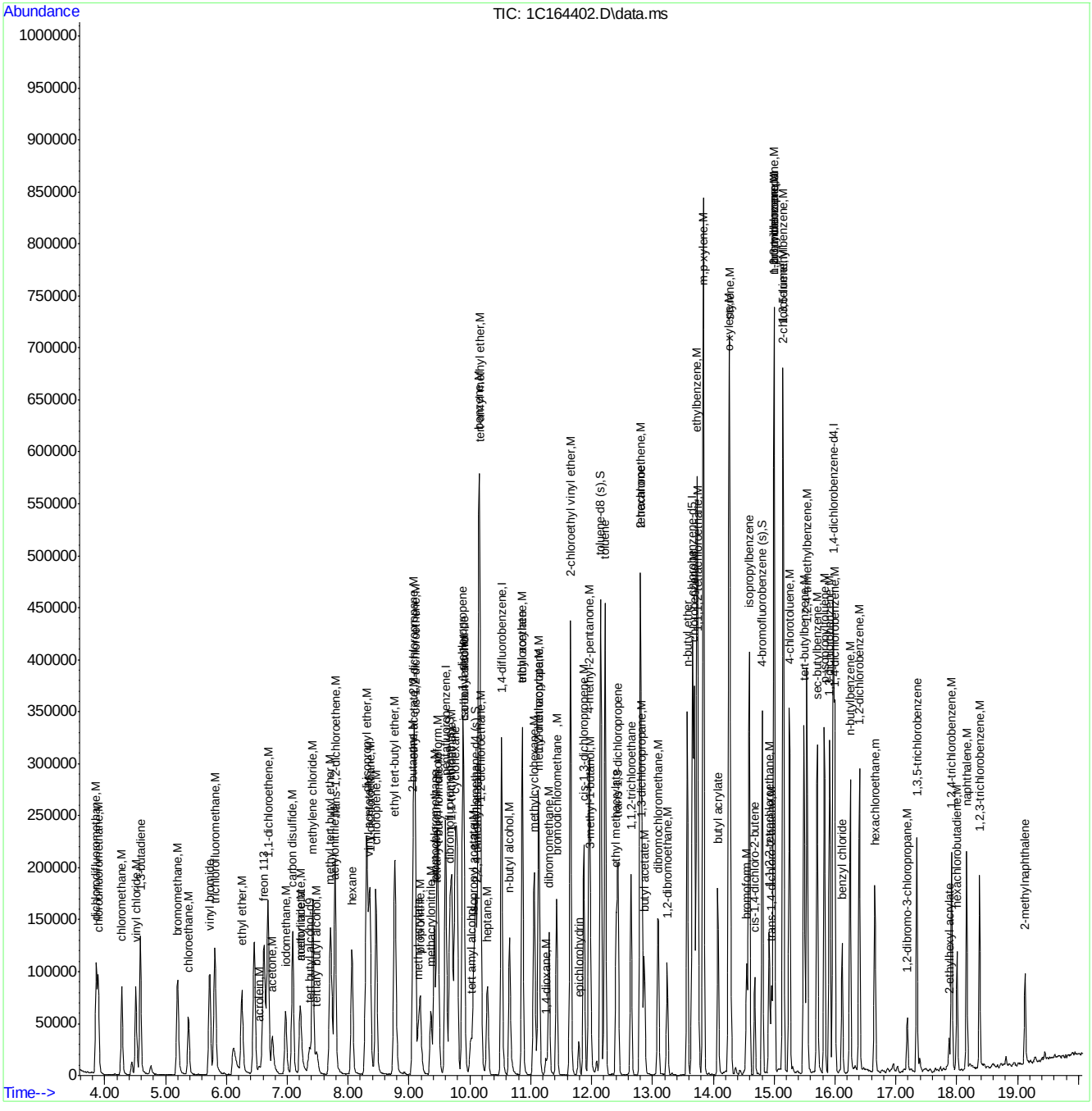
7.4.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164402.D
Acq On : 9 May 2019 1:56 pm
Operator : PrashanS
Sample : JC86986-2MSD
Misc : MS34303,V1C7215,5.8,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 09 15:14:37 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151806.d
Acq On : 6 May 2019 11:30 am
Operator : PrashanS
Sample : JC86986-4DUP Inst : MS3C
Misc : MS34303,V3C6820,4.9,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:39:11 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

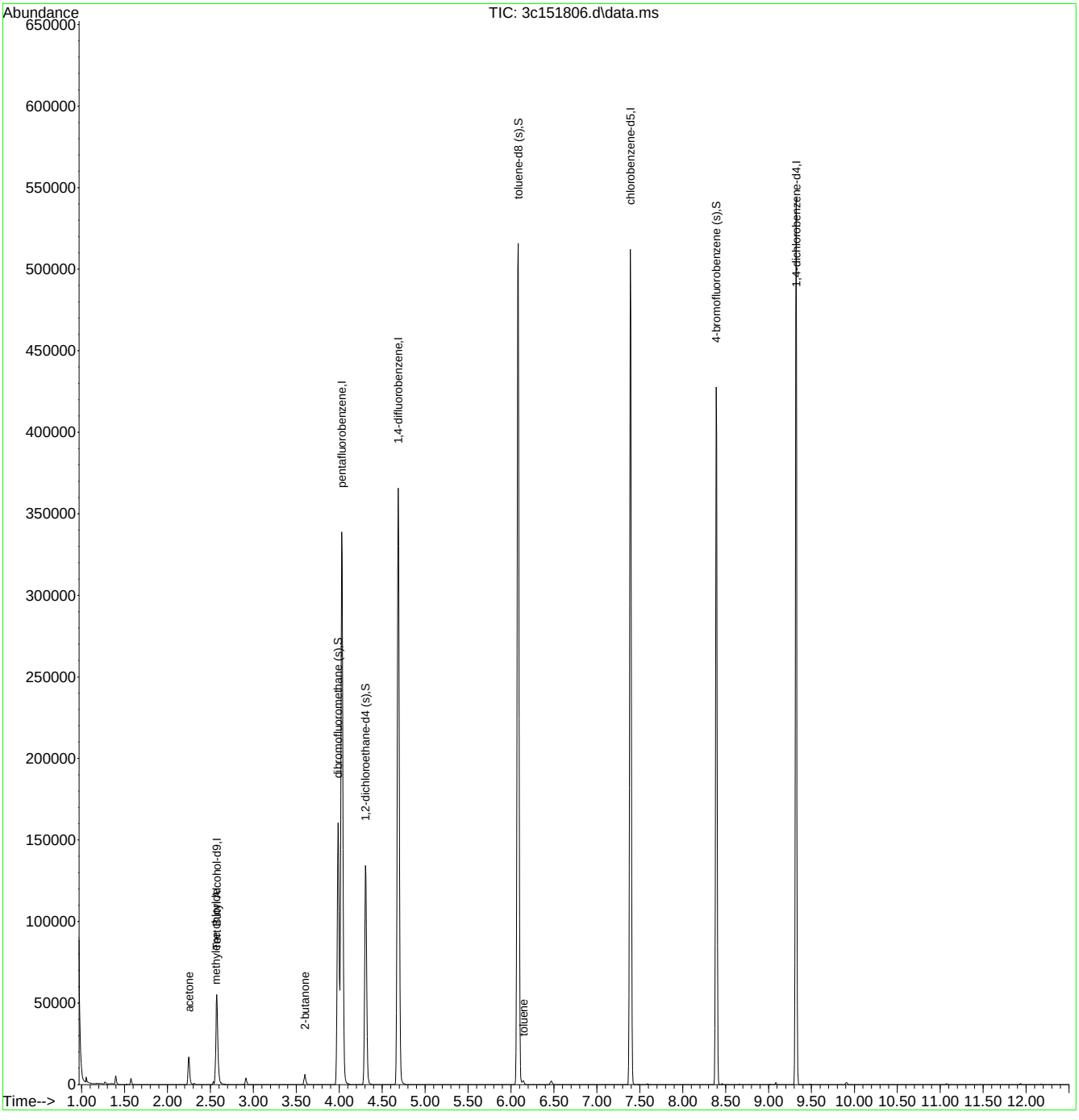
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 50741 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.028 | 168 | 215893 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 272799 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 230845 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 109786 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 78690 | 50.44 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.88% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.305 | 65 | 84879 | 57.27 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 114.54% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 302381 | 52.92 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 105.84% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 102752 | 56.93 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 113.86% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.250 | 58 | 4853 | 72.15 | ug/L | 91 |
| 24) methylene chloride | 2.564 | 84 | 1344 | 1.01 | ug/L | 98 |
| 31) 2-butanone | 3.599 | 72 | 1731 | 16.34 | ug/L # | 76 |
| 76) toluene | 6.146 | 92 | 1191 | 0.36 | ug/L # | 80 |

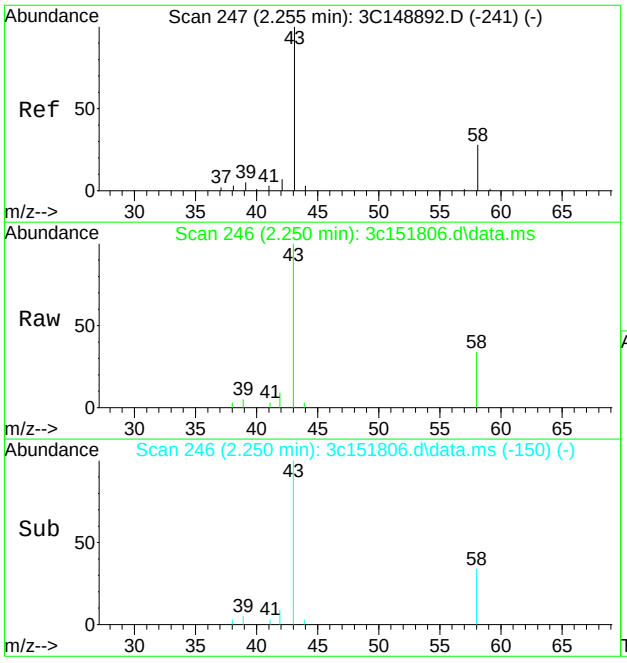
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6821\
Data File : 3c151806.d
Acq On : 6 May 2019 11:30 am
Operator : PrashanS
Sample : JC86986-4DUP Inst : MS3C
Misc : MS34303,V3C6820,4.9,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 23:39:11 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

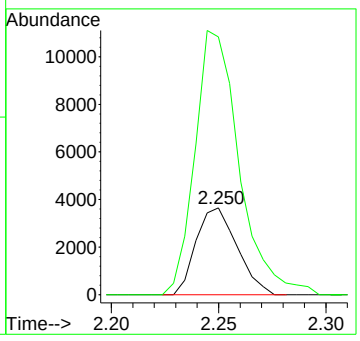


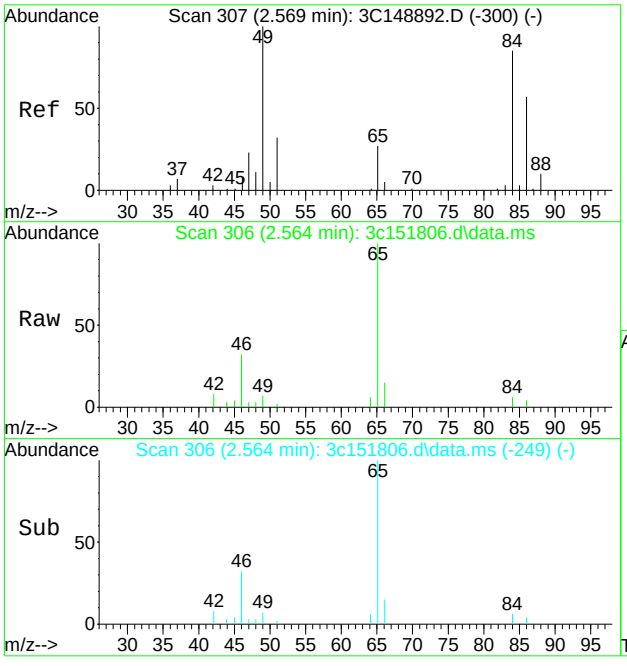



#20
acetone
Concen: 72.15 ug/L
RT: 2.250 min Scan# 246
Delta R.T. 0.000 min
Lab File: 3c151806.d
Acq: 6 May 2019 11:30 am

Tgt Ion: 58 Resp: 4853

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 297.1 | 284.5 | 344.5 |

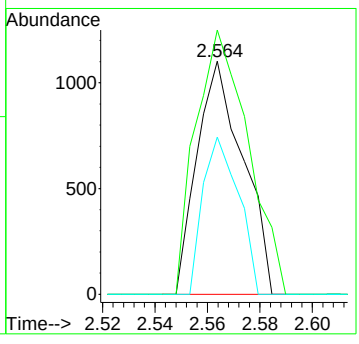


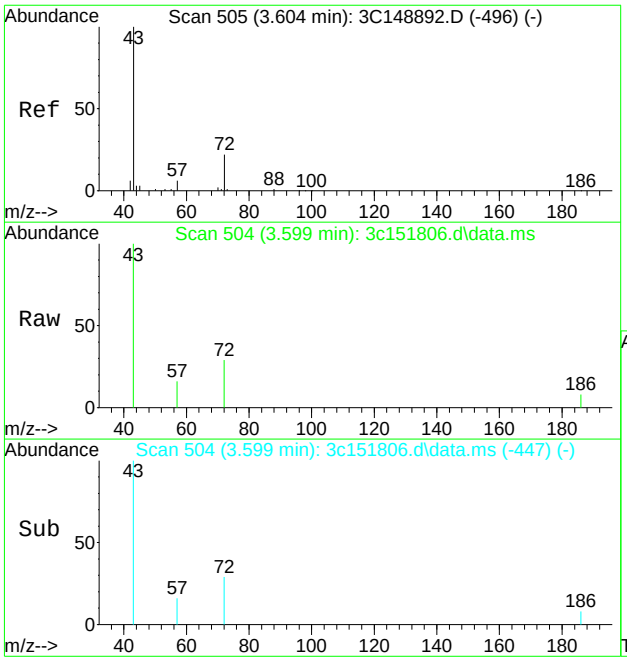




#24
methylene chloride
Concen: 1.01 ug/L
RT: 2.564 min Scan# 306
Delta R.T. 0.000 min
Lab File: 3c151806.d
Acq: 6 May 2019 11:30 am

Tgt Ion: 84 Resp: 1344

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 49 | 113.4 | 87.1 | 147.1 |
| 86 | 67.4 | 37.5 | 97.5 |

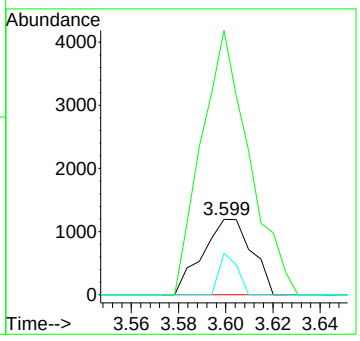


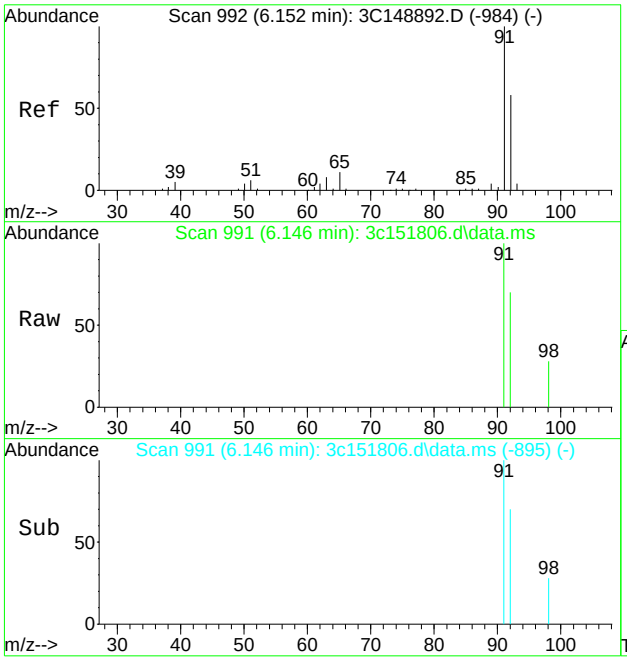



#31
2-butanone
Concen: 16.34 ug/L
RT: 3.599 min Scan# 504
Delta R.T. 0.000 min
Lab File: 3c151806.d
Acq: 6 May 2019 11:30 am

Tgt Ion: 72 Resp: 1731

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 350.4 | 372.9 | 432.9# |
| 57 | 55.0 | 0.0 | 59.6 |

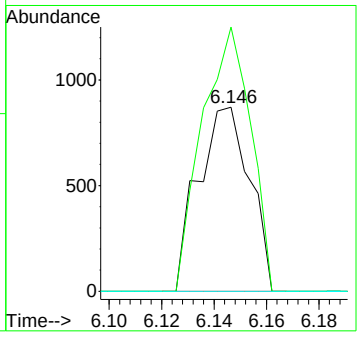



#76
toluene
Concen: 0.36 ug/L
RT: 6.146 min Scan# 991
Delta R.T. 0.000 min
Lab File: 3c151806.d
Acq: 6 May 2019 11:30 am

Tgt Ion: 92 Resp: 1191

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 92 | 100 | | |
| 91 | 143.6 | 147.5 | 187.5# |
| 65 | 0.0 | 0.0 | 38.2 |



Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-7-2019\lotusa\v3c6821\
Data File : 3c151814.d
Acq On : 6 May 2019 2:35 pm
Operator : PrashanS
Sample : JC87093-7DUP Inst : MS3C
Misc : MS34369,V3C6821,4.9,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 07 00:03:18 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 42189 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 217548 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 276749 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 216117 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 90470 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 76356 | 48.57 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.14% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.305 | 65 | 78972 | 52.52 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 105.04% | | | |
| 75) toluene-d8 (s) | 6.083 | 98 | 296371 | 55.40 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 110.80% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 92952 | 62.49 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 124.98% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.250 | 58 | 7508 | 110.77 | ug/L | 99 |
| 23) carbon disulfide | 2.312 | 76 | 1853 | 0.54 | ug/L | 69 |
| 24) methylene chloride | 2.569 | 84 | 653 | 0.49 | ug/L | 93 |
| 31) 2-butanone | 3.599 | 72 | 3293 | 30.85 | ug/L # | 53 |
| 119) naphthalene | 11.073 | 128 | 6560 | 2.03 | ug/L | 92 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

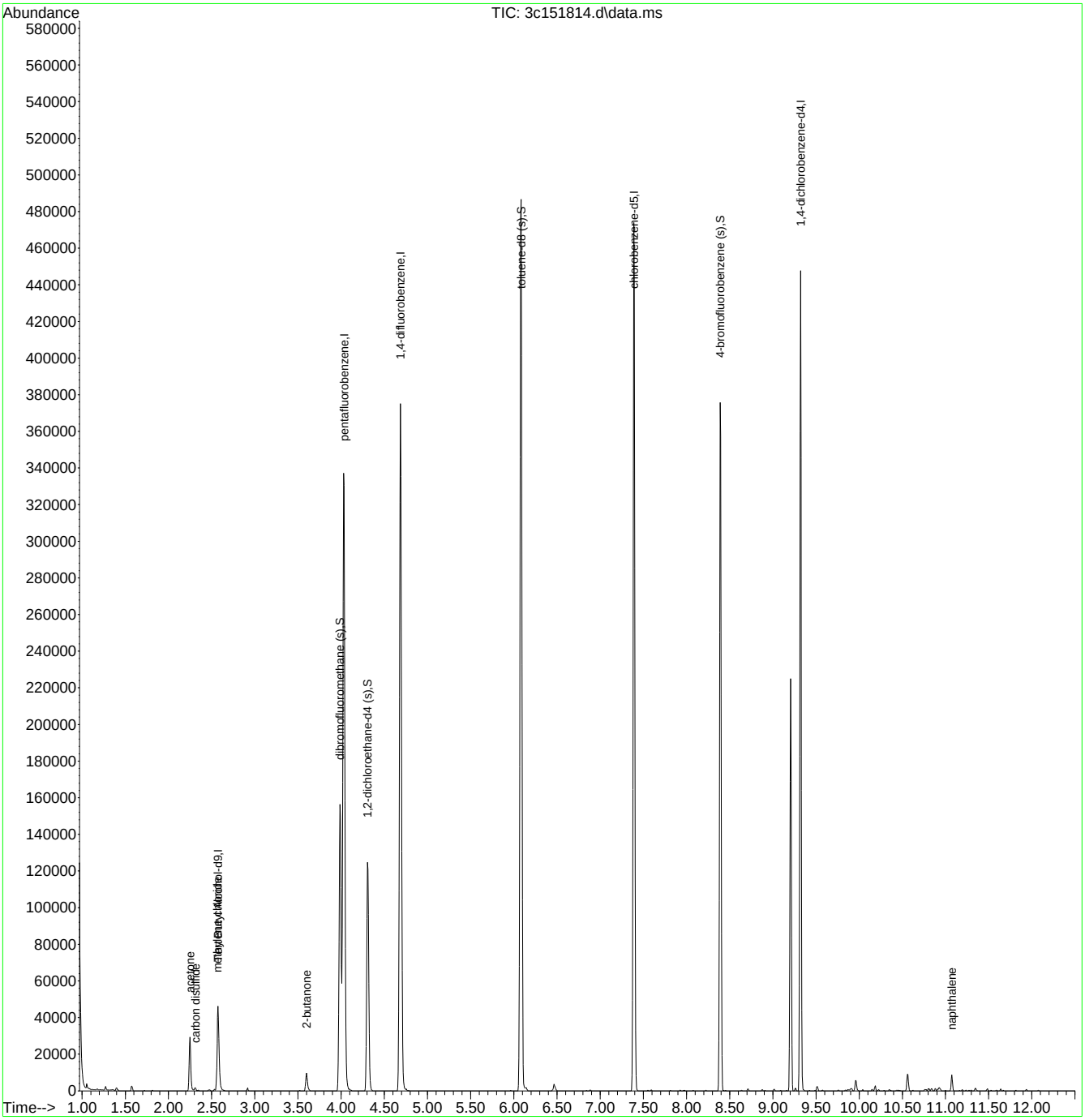
7.5.2

7

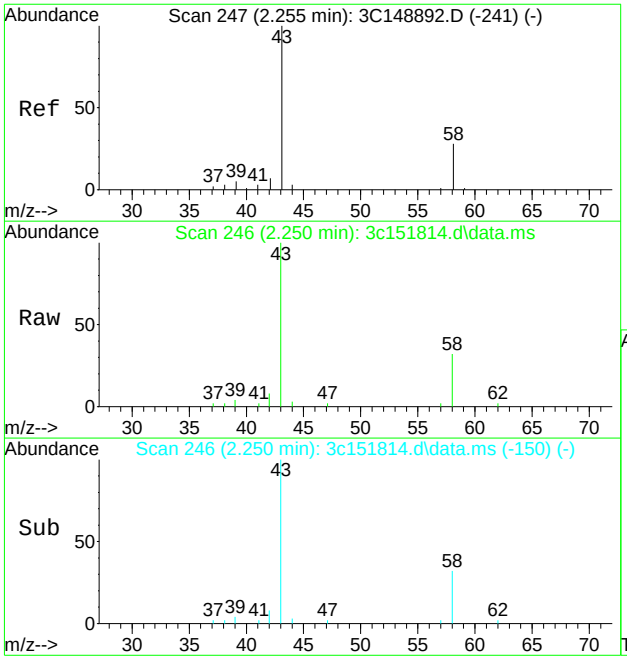
Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-7-2019\lotusa\v3c6821\
Data File : 3c151814.d
Acq On : 6 May 2019 2:35 pm
Operator : PrashanS
Sample : JC87093-7DUP Inst : MS3C
Misc : MS34369,V3C6821,4.9,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 07 00:03:18 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



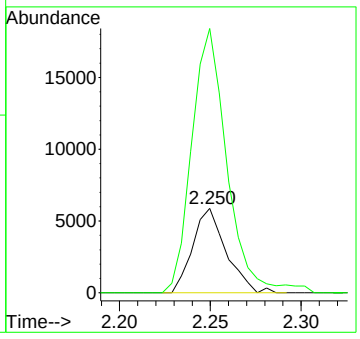

M3C6743.M Thu May 09 19:58:22 2019 Page: 2

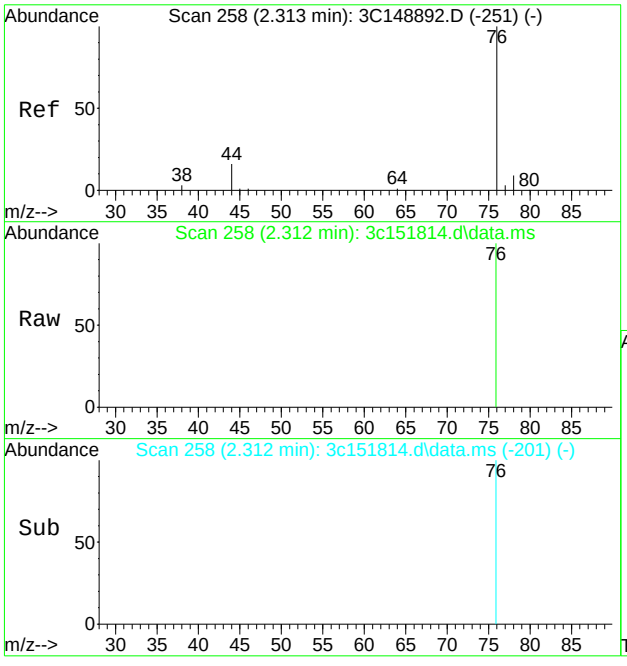



#20
acetone
Concen: 110.77 ug/L
RT: 2.250 min Scan# 246
Delta R.T. -0.000 min
Lab File: 3c151814.d
Acq: 6 May 2019 2:35 pm

Tgt Ion: 58 Resp: 7508

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 58 | 100 | | |
| 43 | 313.3 | 284.5 | 344.5 |

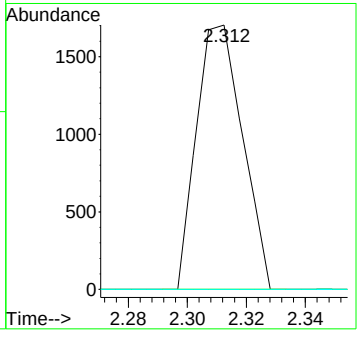


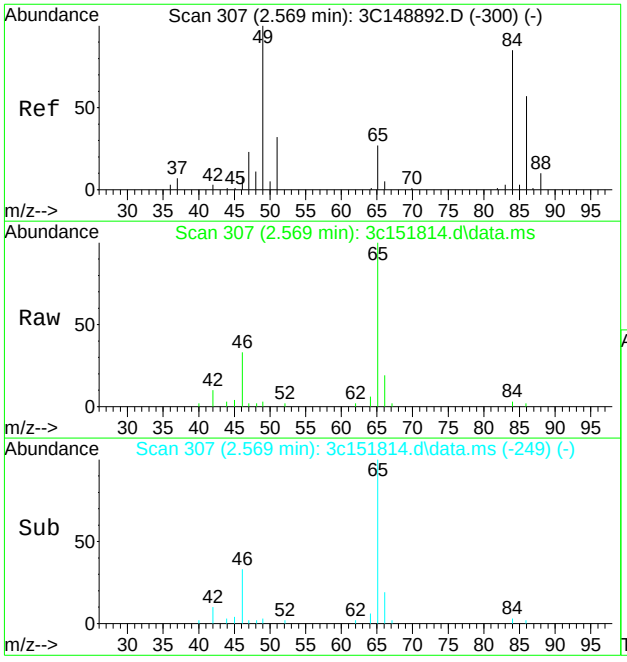




#23
carbon disulfide
Concen: 0.54 ug/L
RT: 2.312 min Scan# 258
Delta R.T. -0.000 min
Lab File: 3c151814.d
Acq: 6 May 2019 2:35 pm

Tgt Ion: 76 Resp: 1853

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 76 | 100 | | |
| 78 | 0.0 | 0.0 | 39.0 |
| 44 | 0.0 | 0.0 | 44.0 |

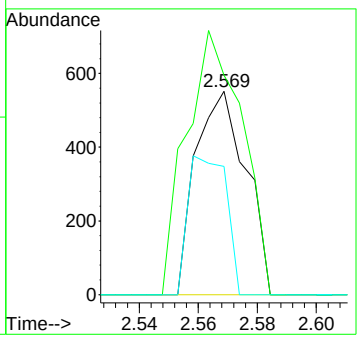


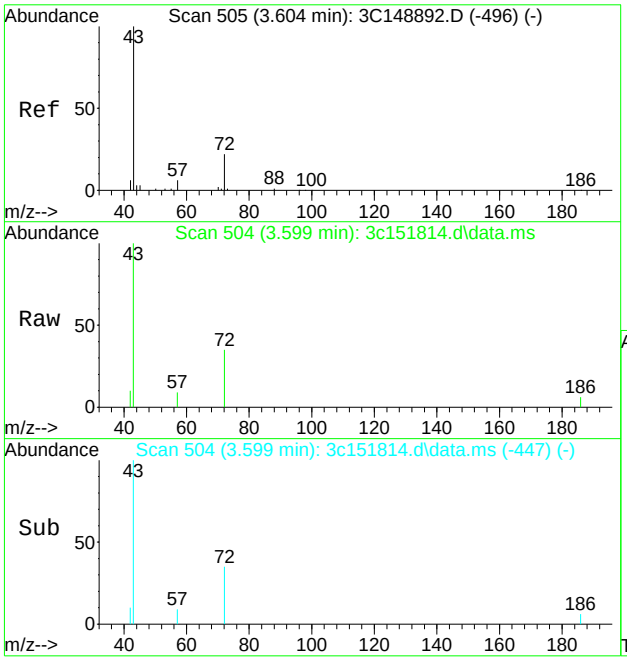



#24
methylene chloride
Concen: 0.49 ug/L
RT: 2.569 min Scan# 307
Delta R.T. 0.005 min
Lab File: 3c151814.d
Acq: 6 May 2019 2:35 pm

Tgt Ion: 84 Resp: 653

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 49 | 107.8 | 87.1 | 147.1 |
| 86 | 63.0 | 37.5 | 97.5 |

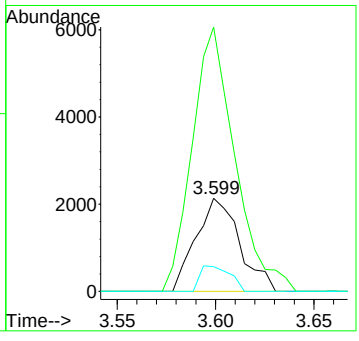



#31
2-butanone
Concen: 30.85 ug/L
RT: 3.599 min Scan# 504
Delta R.T. -0.000 min
Lab File: 3c151814.d
Acq: 6 May 2019 2:35 pm

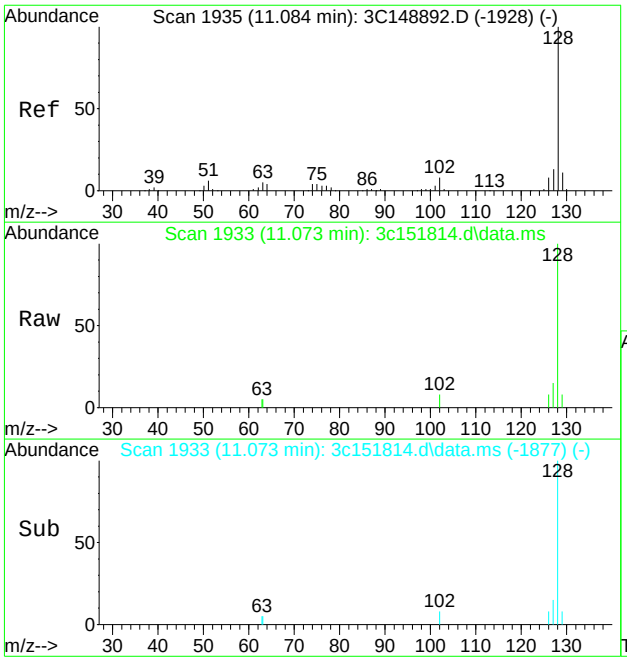
Tgt Ion: 72 Resp: 3293

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 72 | 100 | | |
| 43 | 284.4 | 372.9 | 432.9# |
| 57 | 26.7 | 0.0 | 59.6 |




7.5.2

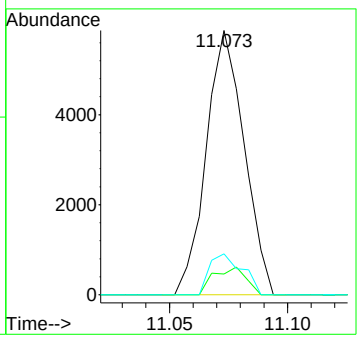
7




#119
naphthalene
Concen: 2.03 ug/L
RT: 11.073 min Scan# 1933
Delta R.T. -0.005 min
Lab File: 3c151814.d
Acq: 6 May 2019 2:35 pm

Tgt Ion:128 Resp: 6560

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 7.8 | 0.0 | 40.9 |
| 127 | 15.5 | 0.0 | 42.7 |



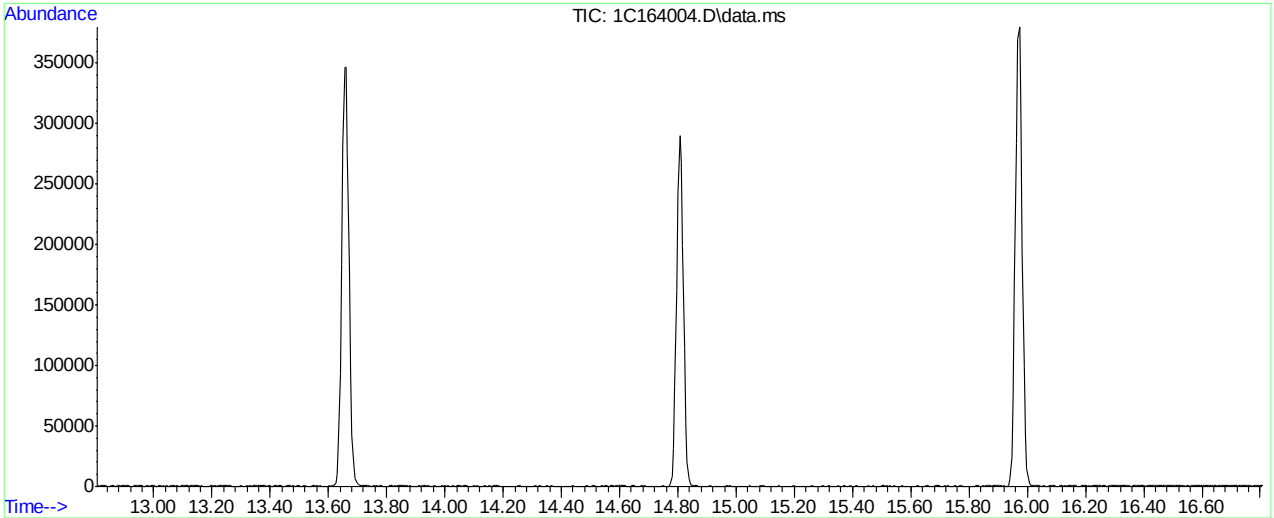

7.5.2

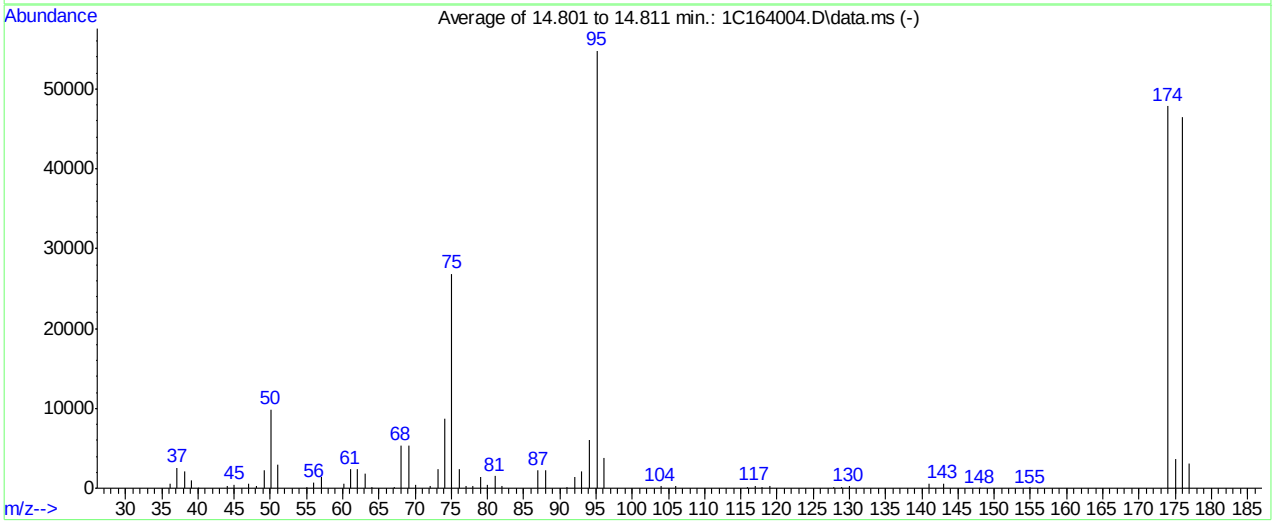
7

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V1C7200\1C164004.D  Vial: 2
Acq On : 24 Apr 2019 2:40 pm  Operator: ROBERTS
Sample : BFB  Inst : GCMS1C
Misc : MS34128,V1C7200,5.0,,,,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um




AutoFind: Scans 2145, 2146, 2147; Background Corrected with Scan 2137

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 18.0 | 9866 | PASS |
| 75 | 95 | 30 | 60 | 49.0 | 26882 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 54821 | PASS |
| 96 | 95 | 5 | 9 | 6.8 | 3741 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 87.3 | 47850 | PASS |
| 175 | 174 | 5 | 9 | 7.7 | 3704 | PASS |
| 176 | 174 | 95 | 101 | 97.3 | 46538 | PASS |
| 177 | 176 | 5 | 9 | 6.8 | 3149 | PASS |

1C164004.D M1CS7200.M Thu Apr 25 08:08:51 2019

Average of 14.801 to 14.811 min.: 1C164004.D\data.ms
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.10 | 544 | 51.10 | 2948 | 69.10 | 5345 | 81.00 | 1518 |
| 37.10 | 2561 | 55.10 | 98 | 70.05 | 372 | 81.95 | 264 |
| 38.10 | 2103 | 56.05 | 747 | 72.05 | 321 | 87.00 | 2269 |
| 39.10 | 936 | 57.10 | 1355 | 73.10 | 2372 | 88.00 | 2197 |
| 40.00 | 55 | 60.10 | 509 | 74.10 | 8770 | 90.95 | 209 |
| 44.10 | 255 | 61.05 | 2423 | 75.10 | 26882 | 92.10 | 1459 |
| 45.05 | 457 | 62.10 | 2371 | 76.10 | 2329 | 93.05 | 2145 |
| 47.05 | 626 | 63.10 | 1826 | 77.05 | 319 | 94.10 | 6042 |
| 48.10 | 307 | 64.10 | 101 | 78.05 | 253 | 95.10 | 54821 |
| 49.10 | 2240 | 67.10 | 114 | 79.00 | 1429 | 96.05 | 3741 |
| 50.10 | 9866 | 68.05 | 5387 | 80.00 | 468 | 103.95 | 254 |

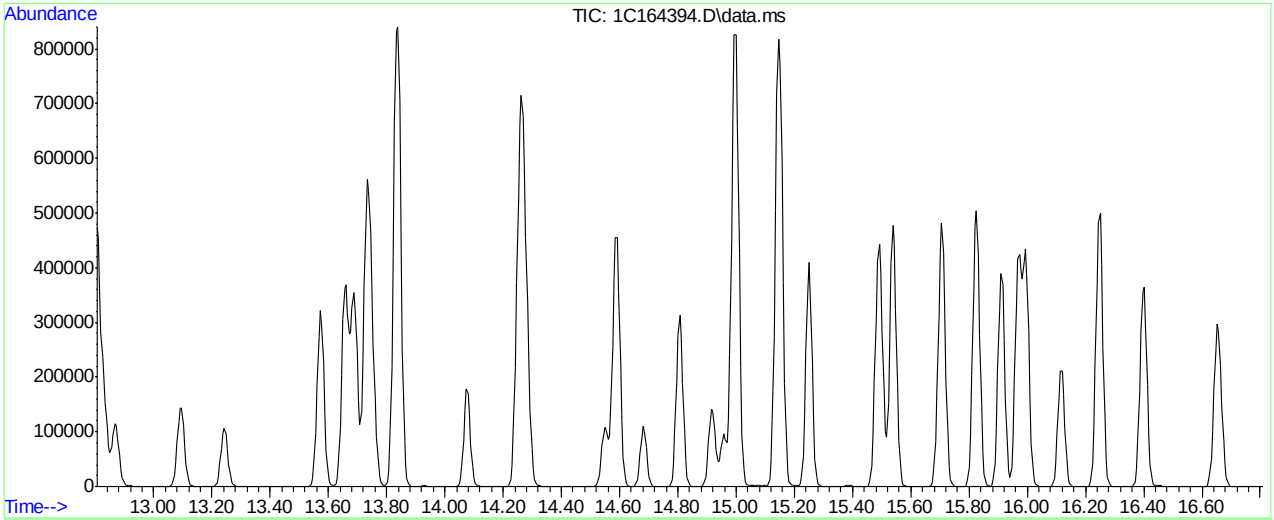
Average of 14.801 to 14.811 min.: 1C164004.D\data.ms
BFB
Modified:subtracted

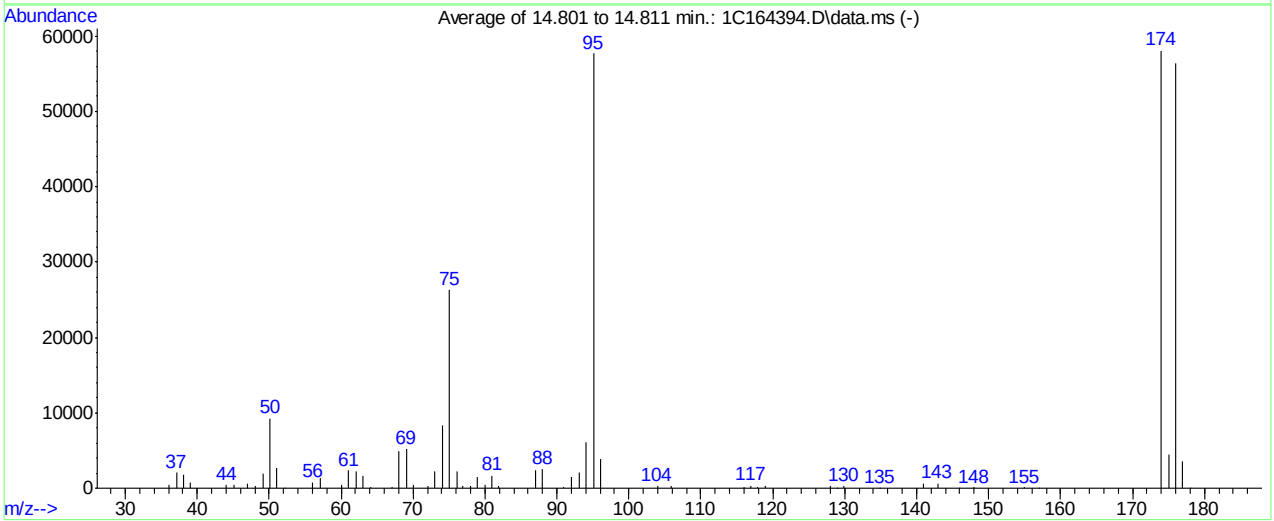
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 105.95 | 231 | 154.95 | 117 | | | | |
| 115.95 | 210 | 174.00 | 47850 | | | | |
| 117.00 | 333 | 175.00 | 3704 | | | | |
| 117.95 | 212 | 176.00 | 46538 | | | | |
| 119.00 | 281 | 177.00 | 3149 | | | | |
| 127.90 | 120 | | | | | | |
| 128.90 | 103 | | | | | | |
| 129.95 | 234 | | | | | | |
| 140.95 | 508 | | | | | | |
| 142.95 | 581 | | | | | | |
| 148.00 | 51 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\V1C7215\1C164394.D  Vial: 1
Acq On : 9 May 2019 10:10 am  Operator: PrashanS
Sample : bfb  Inst : GCMS1C
Misc : MS34531,V1C7215,5.0,,,,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M1CS7200.M (RTE Integrator)
Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um




AutoFind: Scans 2145, 2146, 2147; Background Corrected with Scan 2136

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 16.1 | 9269 | PASS |
| 75 | 95 | 30 | 60 | 45.6 | 26280 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 57693 | PASS |
| 96 | 95 | 5 | 9 | 6.7 | 3864 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 100.7 | 58080 | PASS |
| 175 | 174 | 5 | 9 | 7.7 | 4445 | PASS |
| 176 | 174 | 95 | 101 | 97.1 | 56405 | PASS |
| 177 | 176 | 5 | 9 | 6.4 | 3608 | PASS |

1C164394.D M1CS7200.M Thu May 09 13:43:33 2019

Average of 14.801 to 14.811 min.: 1C164394.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.10 | 446 | 52.10 | 53 | 70.00 | 406 | 81.95 | 334 |
| 37.10 | 2035 | 56.05 | 773 | 72.05 | 291 | 87.00 | 2456 |
| 38.10 | 1718 | 57.05 | 1308 | 73.05 | 2276 | 88.00 | 2541 |
| 39.05 | 744 | 60.00 | 394 | 74.10 | 8379 | 90.95 | 216 |
| 44.05 | 426 | 61.05 | 2345 | 75.10 | 26280 | 92.05 | 1480 |
| 45.10 | 414 | 62.05 | 2215 | 76.10 | 2268 | 93.05 | 2156 |
| 47.05 | 556 | 63.05 | 1701 | 76.95 | 339 | 94.05 | 6067 |
| 48.05 | 254 | 64.10 | 106 | 78.05 | 232 | 95.10 | 57693 |
| 49.10 | 1960 | 67.05 | 100 | 78.95 | 1483 | 96.05 | 3864 |
| 50.10 | 9269 | 68.05 | 4985 | 80.00 | 458 | 103.95 | 257 |
| 51.10 | 2703 | 69.05 | 5202 | 81.00 | 1658 | 105.95 | 248 |

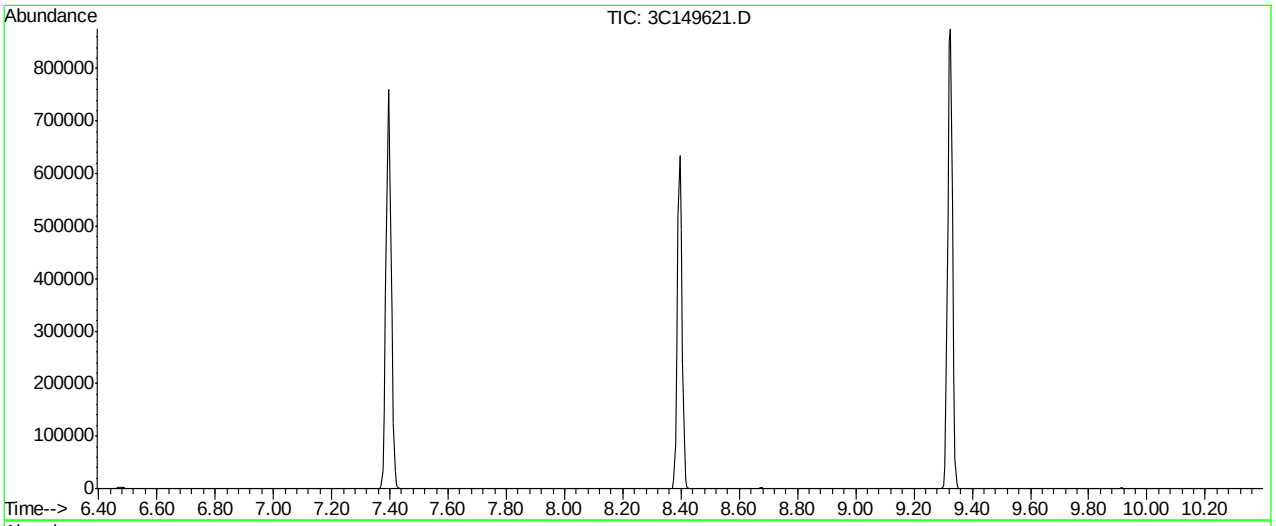
Average of 14.801 to 14.811 min.: 1C164394.D\data.ms
bfb
Modified:subtracted

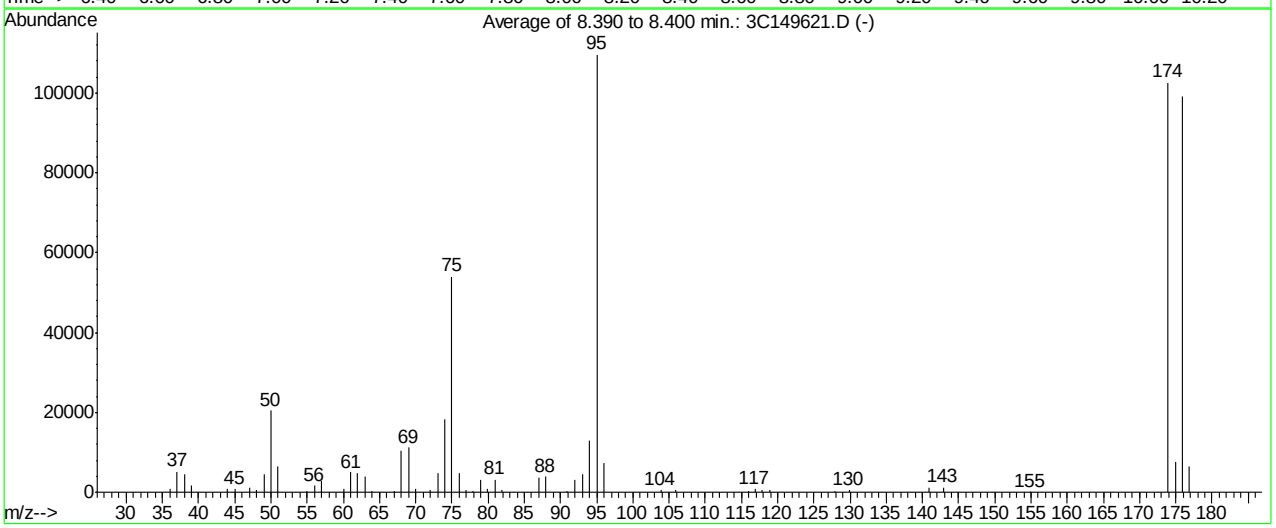
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 115.95 | 209 | 148.00 | 131 | | | | |
| 116.95 | 314 | 155.00 | 135 | | | | |
| 117.90 | 203 | 157.00 | 53 | | | | |
| 118.95 | 299 | 174.00 | 58080 | | | | |
| 127.95 | 256 | 175.00 | 4445 | | | | |
| 128.90 | 48 | 176.00 | 56405 | | | | |
| 129.90 | 262 | 177.00 | 3608 | | | | |
| 134.90 | 50 | 178.00 | 64 | | | | |
| 140.95 | 597 | | | | | | |
| 142.95 | 612 | | | | | | |
| 145.90 | 47 | | | | | | |

SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\V3C6743\3C149621.D  Vial: 1
Acq On : 13 Feb 2019 5:27 pm  Operator: Prashans
Sample : BFB  Inst : MS3C
Misc : MS32156,V3C6743,5.0,,,,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um




AutoFind: Scans 1420, 1421, 1422; Background Corrected with Scan 1413

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 18.6 | 20405 | PASS |
| 75 | 95 | 30 | 60 | 49.2 | 53912 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 109629 | PASS |
| 96 | 95 | 5 | 9 | 6.8 | 7437 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 93.6 | 102597 | PASS |
| 175 | 174 | 5 | 9 | 7.4 | 7596 | PASS |
| 176 | 174 | 95 | 101 | 96.7 | 99168 | PASS |
| 177 | 176 | 5 | 9 | 6.4 | 6330 | PASS |

3C149621.D M3C6743.M Thu Feb 14 12:05:00 2019 MS3C

Average of 8.390 to 8.400 min.: 3C149621.D
BFB
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 944 | 55.00 | 222 | 69.95 | 874 | 81.85 | 580 |
| 37.00 | 5143 | 56.00 | 1612 | 72.00 | 606 | 86.95 | 3755 |
| 38.00 | 4500 | 57.00 | 2915 | 73.00 | 4818 | 87.90 | 3859 |
| 39.00 | 1751 | 60.00 | 972 | 74.00 | 18363 | 90.90 | 404 |
| 43.95 | 794 | 61.00 | 4985 | 75.00 | 53912 | 92.00 | 3069 |
| 45.00 | 802 | 62.00 | 4861 | 76.00 | 4816 | 93.00 | 4612 |
| 47.00 | 1036 | 63.00 | 3813 | 76.95 | 471 | 94.00 | 12919 |
| 47.95 | 634 | 63.95 | 349 | 77.90 | 385 | 95.00 | 109629 |
| 49.00 | 4386 | 67.05 | 358 | 78.90 | 3099 | 96.00 | 7437 |
| 50.00 | 20405 | 68.00 | 10382 | 79.95 | 870 | 103.85 | 450 |
| 51.00 | 6362 | 69.00 | 11173 | 80.90 | 3109 | 105.85 | 449 |

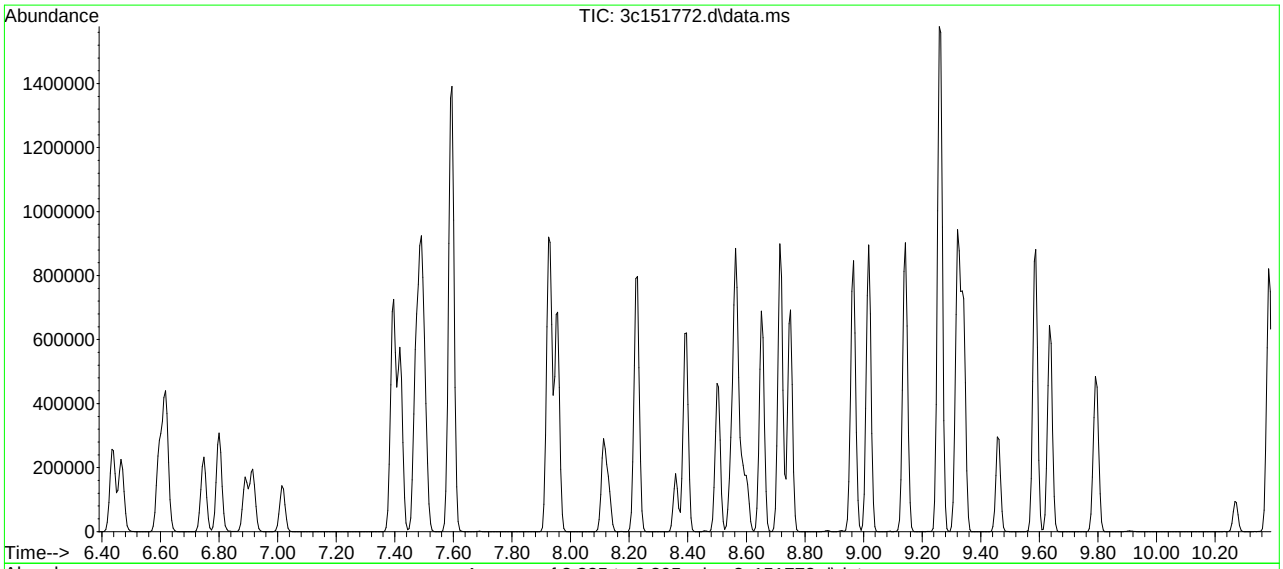
Average of 8.390 to 8.400 min.: 3C149621.D
BFB
Modified:subtracted

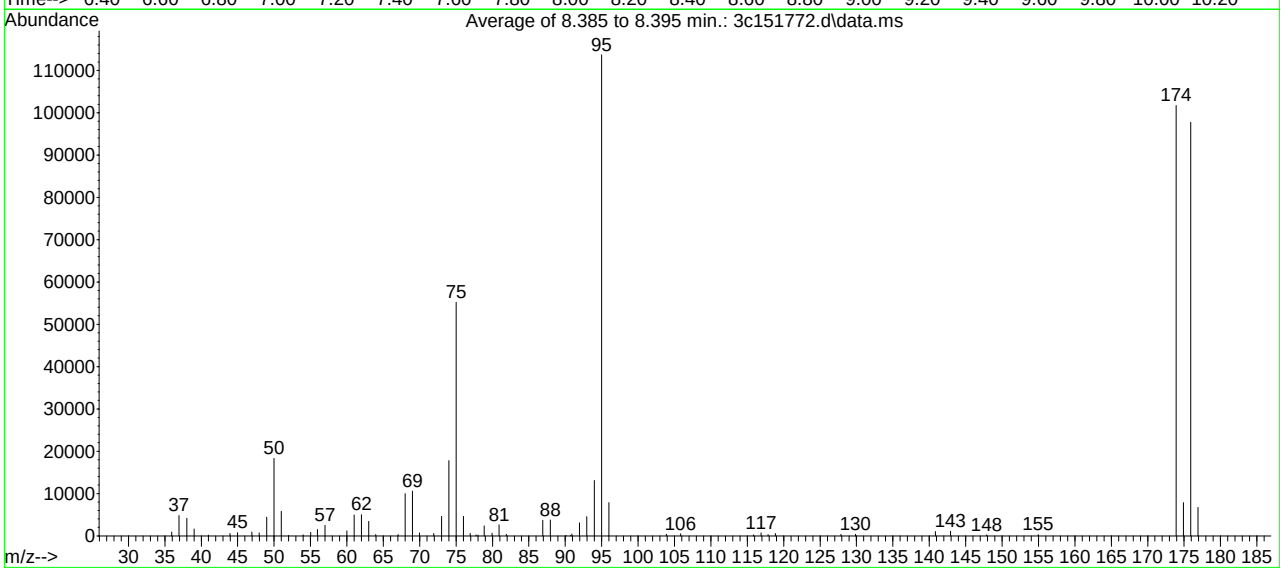
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 115.90 | 409 | 175.90 | 99168 | | | | |
| 116.90 | 716 | 176.90 | 6330 | | | | |
| 117.85 | 439 | | | | | | |
| 118.90 | 604 | | | | | | |
| 127.90 | 400 | | | | | | |
| 129.85 | 441 | | | | | | |
| 140.90 | 1180 | | | | | | |
| 142.90 | 1210 | | | | | | |
| 154.90 | 113 | | | | | | |
| 173.90 | 102597 | | | | | | |
| 174.90 | 7596 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\data\lo...-7\v3c6820\3c151772.d Vial: 2
Acq On : 5 May 2019 12:35 pm Operator: mariceld
Sample : BFB Inst : MS3C
Misc : MS34270,V3C6820,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um




Spectrum Information: Average of 8.385 to 8.395 min.

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 16.1 | 18288 | PASS |
| 75 | 95 | 30 | 60 | 48.6 | 55208 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 113669 | PASS |
| 96 | 95 | 5 | 9 | 6.9 | 7830 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 89.5 | 101728 | PASS |
| 175 | 174 | 5 | 9 | 7.7 | 7858 | PASS |
| 176 | 174 | 95 | 101 | 96.1 | 97760 | PASS |
| 177 | 176 | 5 | 9 | 6.9 | 6702 | PASS |

3c151772.d M3C6743.M Mon May 06 19:45:16 2019

Average of 8.385 to 8.395 min.: 3c151772.d\data.ms
BFB

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.95 | 906 | 51.00 | 5807.67 | 67.05 | 295.667 | 78.00 | 149.333 |
| 36.95 | 4812.33 | 52.00 | 101 | 68.00 | 9977 | 78.85 | 2378 |
| 38.00 | 4156.33 | 54.00 | 219 | 69.00 | 10546 | 79.95 | 630.667 |
| 39.00 | 1628.67 | 55.05 | 841.333 | 69.95 | 697.333 | 80.90 | 2617 |
| 41.00 | 152 | 55.95 | 1486.67 | 71.95 | 587.333 | 81.90 | 390.333 |
| 43.95 | 544 | 57.00 | 2493.33 | 73.00 | 4578.33 | 86.90 | 3649.67 |
| 45.00 | 797.667 | 60.00 | 1157.33 | 74.00 | 17803 | 87.95 | 3766 |
| 46.95 | 908.333 | 61.00 | 4914 | 75.00 | 55208 | 90.10 | 122 |
| 47.95 | 672.333 | 62.00 | 5003.33 | 76.00 | 4587 | 90.70 | 102.667 |
| 49.00 | 4413.33 | 63.00 | 3409.33 | 76.95 | 571.333 | 90.90 | 415 |
| 50.00 | 18288 | 63.95 | 308 | 77.75 | 255.333 | 91.95 | 3100 |

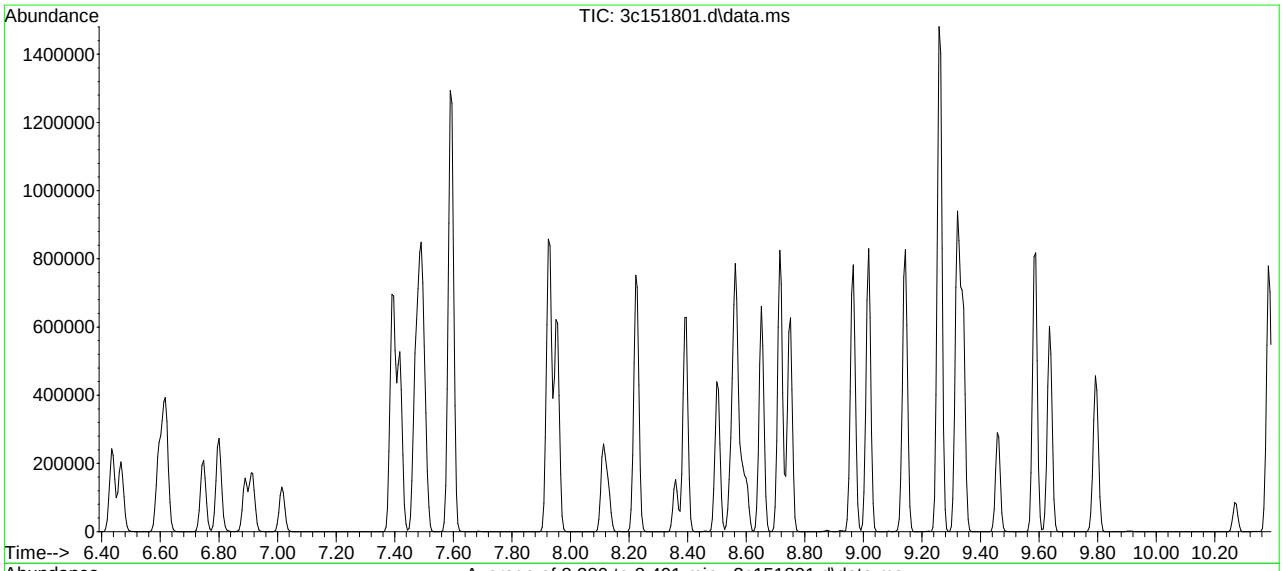
Average of 8.385 to 8.395 min.: 3c151772.d\data.ms
BFB

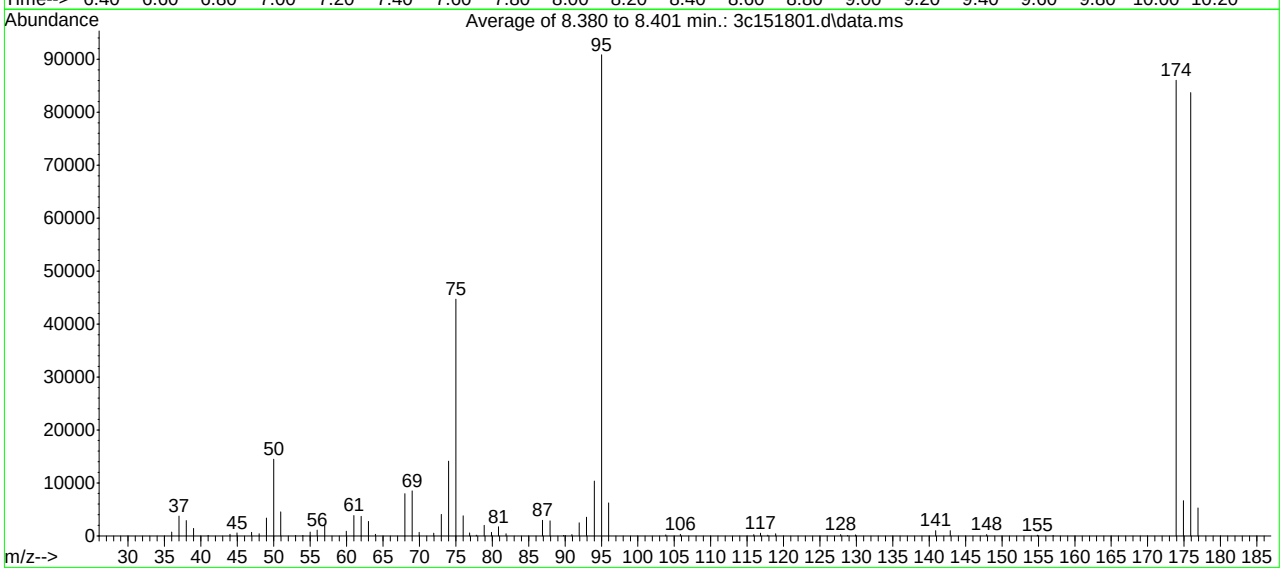
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 92.95 | 4550.33 | 129.85 | 386 | | | | |
| 94.00 | 13095 | 140.85 | 1061 | | | | |
| 95.00 | 113669 | 142.90 | 1079.33 | | | | |
| 96.00 | 7829.67 | 147.90 | 267.333 | | | | |
| 103.90 | 359.667 | 154.95 | 333 | | | | |
| 105.85 | 521.333 | 173.90 | 101728 | | | | |
| 115.85 | 229 | 174.90 | 7857.67 | | | | |
| 116.90 | 707.667 | 175.90 | 97760 | | | | |
| 117.85 | 275.667 | 176.90 | 6701.67 | | | | |
| 118.85 | 536 | | | | | | |
| 127.85 | 364.667 | | | | | | |

SW-846 Method 8260

Data File : X:\voa-gcms\complete...sa\v3c6821\3c151801.d Vial: 1
Acq On : 6 May 2019 8:55 am Operator: PrashanS
Sample : BFB Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um




Spectrum Information: Average of 8.380 to 8.401 min.

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 16.0 | 14503 | PASS |
| 75 | 95 | 30 | 60 | 49.2 | 44690 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 90827 | PASS |
| 96 | 95 | 5 | 9 | 6.9 | 6243 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 120 | 94.7 | 86024 | PASS |
| 175 | 174 | 5 | 9 | 7.7 | 6654 | PASS |
| 176 | 174 | 95 | 101 | 97.3 | 83682 | PASS |
| 177 | 176 | 5 | 9 | 6.3 | 5249 | PASS |

3c151801.d M3C6743.M Wed May 08 07:45:02 2019

Average of 8.380 to 8.401 min.: 3c151801.d\data.ms
BFB

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 714.6 | 50.95 | 4522.6 | 68.00 | 7953 | 79.90 | 648.8 |
| 37.00 | 3719.2 | 53.00 | 93.8 | 69.00 | 8472 | 80.85 | 1741.8 |
| 38.00 | 2910.8 | 54.00 | 60 | 69.95 | 646.4 | 81.90 | 402.2 |
| 39.00 | 1431.4 | 55.00 | 694.6 | 71.95 | 486.4 | 86.90 | 2950.4 |
| 41.00 | 94.6 | 55.95 | 1096.6 | 73.00 | 4033.4 | 87.95 | 2822 |
| 44.00 | 292.6 | 57.00 | 1947 | 74.00 | 14130.8 | 89.80 | 65.4 |
| 44.95 | 561.6 | 59.95 | 865.2 | 75.00 | 44689.6 | 90.00 | 68.6 |
| 46.95 | 648.4 | 61.00 | 3842.8 | 76.00 | 3792.2 | 90.95 | 239.6 |
| 48.00 | 385.8 | 62.00 | 3676.8 | 76.90 | 552.8 | 91.95 | 2466.6 |
| 49.00 | 3381.4 | 63.00 | 2718 | 77.80 | 162.2 | 92.95 | 3519.2 |
| 50.00 | 14502.8 | 63.95 | 268.2 | 78.90 | 1985.8 | 94.00 | 10340.4 |

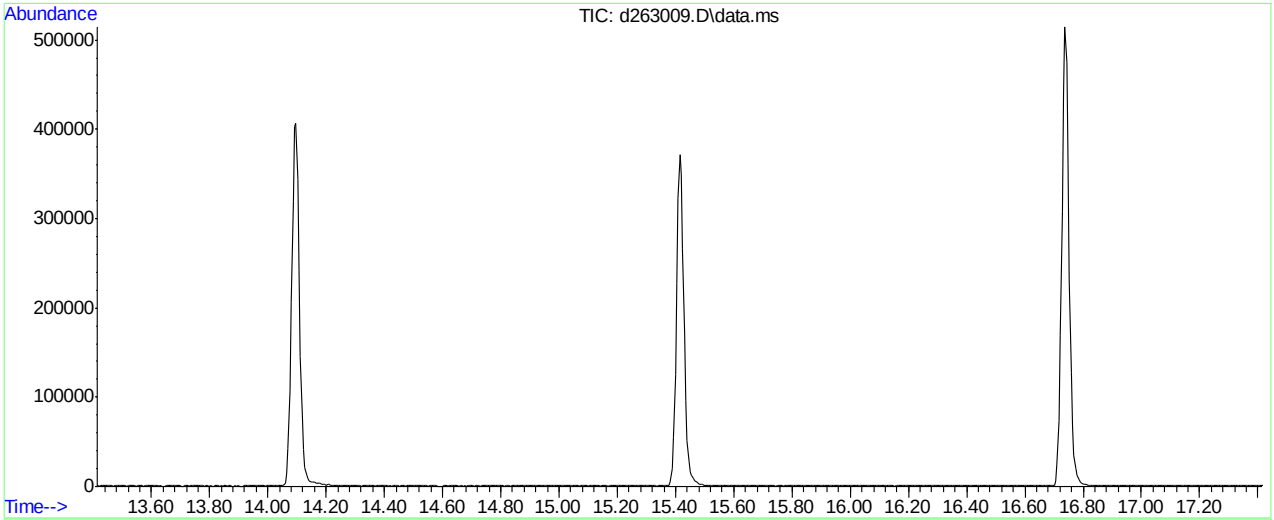
Average of 8.380 to 8.401 min.: 3c151801.d\data.ms
BFB

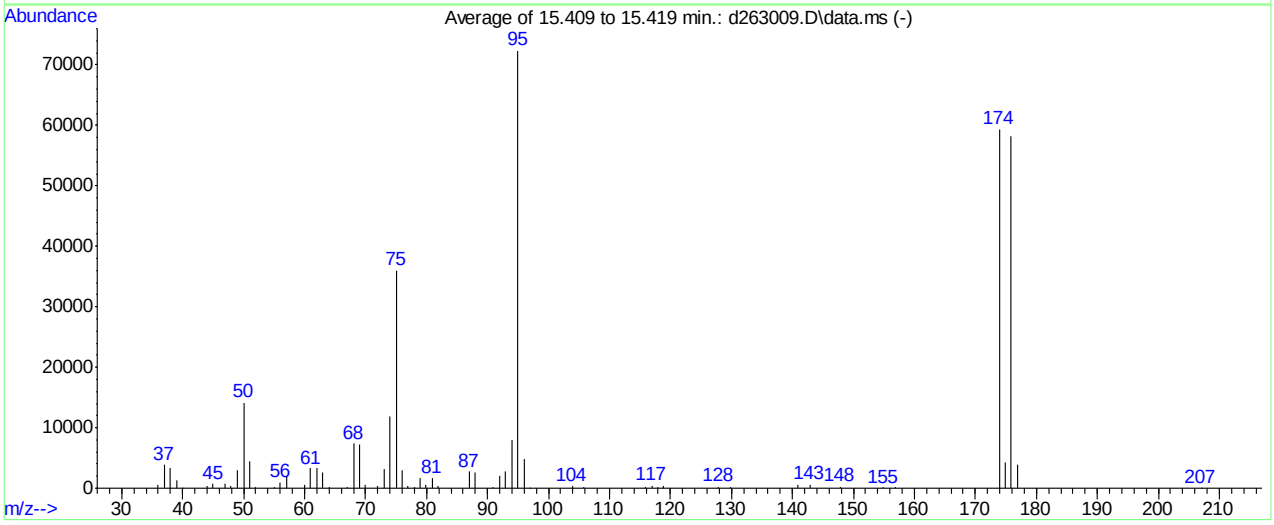
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 95.00 | 90827.2 | 140.90 | 968.6 | | | | |
| 96.00 | 6243.4 | 142.90 | 964.6 | | | | |
| 103.85 | 180.6 | 147.90 | 232.2 | | | | |
| 105.85 | 291.4 | 154.85 | 158.8 | | | | |
| 115.90 | 258.2 | 157.00 | 66.4 | | | | |
| 116.85 | 530.6 | 173.90 | 86024 | | | | |
| 117.85 | 152.4 | 174.90 | 6654 | | | | |
| 118.90 | 393 | 175.90 | 83681.6 | | | | |
| 127.85 | 257.2 | 176.90 | 5249 | | | | |
| 128.80 | 73.4 | | | | | | |
| 129.90 | 199.2 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\VD10606\d263009.D  Vial: 1
Acq On : 14 Mar 2019 5:27 pm  Operator: juntaep
Sample : bfb  Inst : MSD
Misc : ms33018,vd10606,5,,100,5,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MD10606.M (RTE Integrator)
Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um




AutoFind: Scans 2145, 2146, 2147; Background Corrected with Scan 2136

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 19.5 | 14132 | PASS |
| 75 | 95 | 30 | 60 | 49.8 | 36037 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 72394 | PASS |
| 96 | 95 | 5 | 9 | 6.7 | 4865 | PASS |
| 173 | 174 | 0.00 | 2 | 0.0 | 0 | PASS |
| 174 | 95 | 50 | 150 | 82.0 | 59349 | PASS |
| 175 | 174 | 5 | 9 | 7.2 | 4244 | PASS |
| 176 | 174 | 95 | 101 | 98.1 | 58248 | PASS |
| 177 | 176 | 5 | 9 | 6.6 | 3842 | PASS |

d263009.D MD10606.M Fri Mar 15 14:39:40 2019 RPT1

Average of 15.409 to 15.419 min.: d263009.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 631 | 51.00 | 4436 | 68.00 | 7382 | 79.90 | 497 |
| 37.00 | 3812 | 52.00 | 190 | 69.00 | 7174 | 80.90 | 1748 |
| 38.00 | 3294 | 54.95 | 216 | 70.00 | 514 | 81.85 | 347 |
| 39.00 | 1353 | 56.00 | 1007 | 71.95 | 399 | 86.95 | 2746 |
| 39.90 | 34 | 57.00 | 2002 | 73.00 | 3221 | 87.95 | 2623 |
| 44.00 | 309 | 60.00 | 622 | 74.00 | 11864 | 90.90 | 267 |
| 45.00 | 692 | 61.00 | 3296 | 75.00 | 36037 | 91.95 | 2091 |
| 47.00 | 833 | 62.00 | 3294 | 76.00 | 3063 | 93.00 | 2761 |
| 47.95 | 458 | 63.00 | 2546 | 77.00 | 416 | 94.00 | 8038 |
| 49.00 | 2990 | 64.00 | 228 | 78.00 | 261 | 95.00 | 72394 |
| 50.00 | 14132 | 67.05 | 124 | 78.85 | 1742 | 96.00 | 4865 |

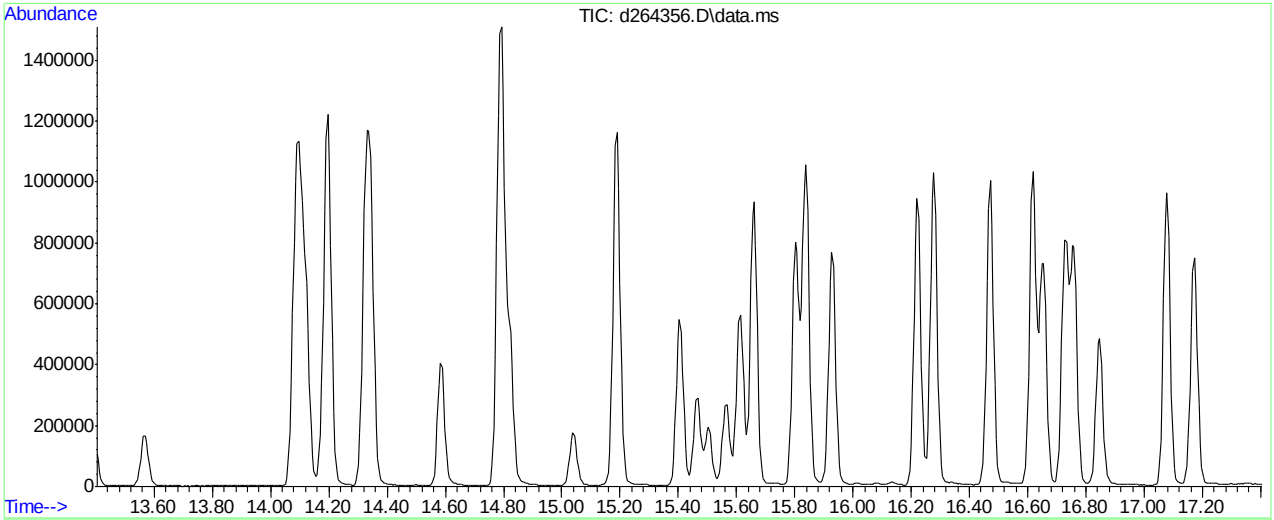
Average of 15.409 to 15.419 min.: d263009.D\data.ms
bfb
Modified:subtracted

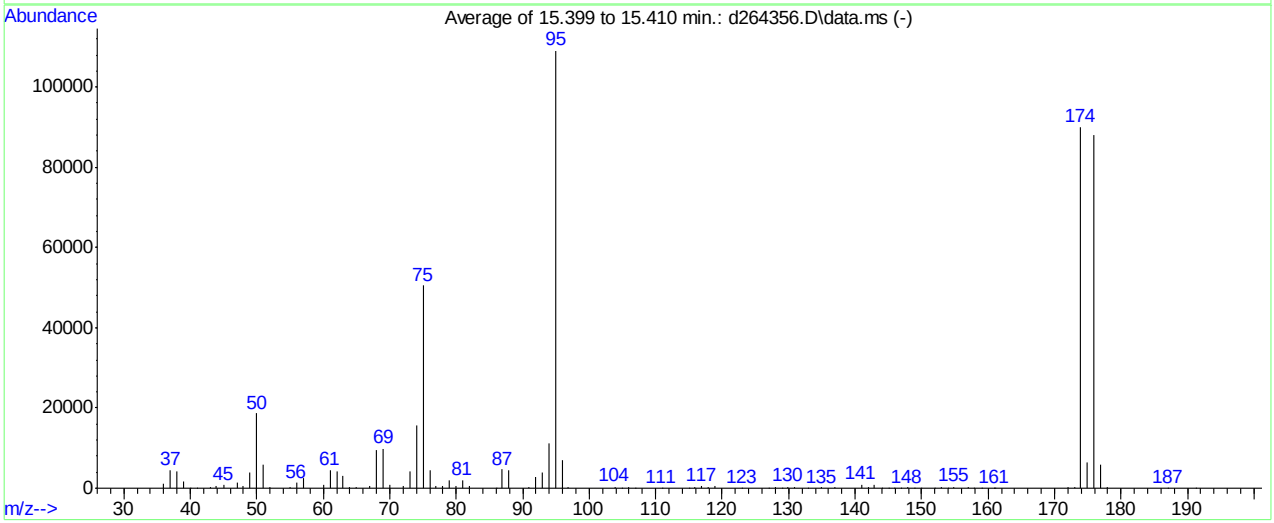
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 97.00 | 58 | 147.85 | 190 | | | | |
| 103.90 | 324 | 154.90 | 174 | | | | |
| 105.85 | 269 | 156.90 | 121 | | | | |
| 115.85 | 212 | 173.90 | 59349 | | | | |
| 116.90 | 399 | 174.90 | 4244 | | | | |
| 117.85 | 230 | 175.90 | 58248 | | | | |
| 118.85 | 306 | 176.90 | 3842 | | | | |
| 127.90 | 270 | 207.00 | 5 | | | | |
| 129.95 | 218 | | | | | | |
| 140.90 | 584 | | | | | | |
| 142.90 | 641 | | | | | | |

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\VD10654\d264356.D  Vial: 1
Acq On : 8 May 2019 6:56 am  Operator: thienn
Sample : bfb  Inst : MSD
Misc : ms34538,vd10654,5,,100,5,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MD10606.M (RTE Integrator)
Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um




AutoFind: Scans 2143, 2144, 2145; Background Corrected with Scan 2131

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 50 | 95 | 15 | 40 | 17.1 | 18610 | PASS |
| 75 | 95 | 30 | 60 | 46.3 | 50482 | PASS |
| 95 | 95 | 100 | 100 | 100.0 | 109115 | PASS |
| 96 | 95 | 5 | 9 | 6.5 | 7071 | PASS |
| 173 | 174 | 0.00 | 2 | 0.3 | 305 | PASS |
| 174 | 95 | 50 | 150 | 82.5 | 89981 | PASS |
| 175 | 174 | 5 | 9 | 7.2 | 6521 | PASS |
| 176 | 174 | 95 | 101 | 97.8 | 87973 | PASS |
| 177 | 176 | 5 | 9 | 6.7 | 5930 | PASS |

d264356.D MD10606.M Wed May 08 10:36:18 2019 RPT1

Average of 15.399 to 15.410 min.: d264356.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.00 | 1009 | 49.00 | 3849 | 63.95 | 337 | 76.95 | 544 |
| 37.00 | 4567 | 50.00 | 18610 | 64.95 | 176 | 77.90 | 501 |
| 38.00 | 4109 | 51.00 | 5815 | 67.05 | 455 | 78.90 | 2062 |
| 39.00 | 1694 | 51.95 | 333 | 68.00 | 9579 | 79.90 | 676 |
| 40.00 | 75 | 54.95 | 174 | 69.00 | 9925 | 80.90 | 2039 |
| 40.95 | 125 | 56.00 | 1373 | 69.95 | 761 | 81.90 | 472 |
| 43.05 | 224 | 57.00 | 2518 | 72.00 | 549 | 86.00 | 52 |
| 43.95 | 433 | 60.00 | 915 | 73.00 | 4274 | 86.90 | 4621 |
| 45.00 | 780 | 61.00 | 4482 | 74.00 | 15692 | 87.90 | 4502 |
| 47.00 | 1389 | 62.00 | 4276 | 75.00 | 50482 | 90.95 | 375 |
| 47.95 | 568 | 63.00 | 3216 | 76.00 | 4350 | 92.00 | 2675 |

Average of 15.399 to 15.410 min.: d264356.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 93.00 | 3930 | 115.90 | 376 | 134.95 | 218 | 149.95 | 126 |
| 94.00 | 11303 | 116.90 | 534 | 136.90 | 190 | 151.95 | 134 |
| 95.00 | 109115 | 117.90 | 352 | 140.95 | 969 | 153.00 | 304 |
| 96.00 | 7071 | 118.90 | 496 | 141.95 | 213 | 153.90 | 51 |
| 96.90 | 330 | 123.00 | 59 | 142.90 | 866 | 154.90 | 368 |
| 103.90 | 405 | 127.00 | 55 | 144.00 | 104 | 156.95 | 263 |
| 104.95 | 92 | 127.95 | 270 | 145.00 | 39 | 157.90 | 59 |
| 105.85 | 396 | 128.95 | 132 | 145.90 | 79 | 159.00 | 119 |
| 106.95 | 111 | 129.90 | 387 | 146.95 | 109 | 160.90 | 59 |
| 110.90 | 50 | 130.95 | 312 | 147.90 | 239 | 161.10 | 53 |
| 114.95 | 112 | 132.90 | 53 | 148.90 | 53 | 171.95 | 336 |

Average of 15.399 to 15.410 min.: d264356.D\data.ms
bfb
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 173.00 | 305 | | | | | | |
| 173.90 | 89981 | | | | | | |
| 174.90 | 6521 | | | | | | |
| 175.90 | 87973 | | | | | | |
| 176.90 | 5930 | | | | | | |
| 177.95 | 216 | | | | | | |
| 187.10 | 60 | | | | | | |
| 191.20 | 58 | | | | | | |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164005.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC7200-0.5
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 07:51:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.358 | 65 | 56857 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.602 | 168 | 180407 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 247388 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 195319 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 101386 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 75317 | 49.10 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 98.20% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 76558 | 50.42 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 100.84% | | | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 263586 | 50.46 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 100.92% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 95733 | 50.70 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 101.40% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 6) chlorodifluoromethane | 3.896 | 51 | 923 | 0.47 | ug/L | 65 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 1066 | 0.38 | ug/L | 90 |
| 8) chloromethane | 4.283 | 50 | 1081 | 0.55 | ug/L | 89 |
| 9) vinyl chloride | 4.508 | 62 | 808 | 0.42 | ug/L | 86 |
| 10) 1,3-butadiene | 4.586 | 54 | 497 | 0.40 | ug/L # | 71 |
| 11) bromomethane | 5.198 | 94 | 693 | 0.50 | ug/L | 91 |
| 13) trichlorofluoromethane | 5.810 | 101 | 1237 | 0.43 | ug/L | 80 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 716 | 0.47 | ug/L | 90 |
| 25) methyl tert butyl ether | 7.719 | 73 | 1967 | 0.47 | ug/L | 97 |
| 26) trans-1,2-dichloroethene | 7.782 | 96 | 925 | 0.56 | ug/L | 91 |
| 27) di-isopropyl ether | 8.300 | 45 | 2433 | 0.48 | ug/L | 94 |
| 29) 1,1-dichloroethane | 8.357 | 63 | 1384 | 0.49 | ug/L | 84 |
| 30) chloroprene | 8.467 | 53 | 1101 | 0.44 | ug/L | 89 |
| 32) hexane | 8.070 | 57 | 1214 | 0.45 | ug/L | 91 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 2305 | 0.46 | ug/L | 96 |
| 36) 2,2-dichloropropane | 9.089 | 77 | 1187 | 0.46 | ug/L | 71 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 855 | 0.48 | ug/L # | 68 |
| 42) chloroform | 9.466 | 85 | 1189 | 0.62 | ug/L | 91 |
| 46) 1,1,1-trichloroethane | 9.696 | 97 | 1125 | 0.42 | ug/L # | 66 |
| 47) cyclohexane | 9.769 | 84 | 1029 | 0.40 | ug/L | 84 |
| 48) 1,1-dichloropropene | 9.879 | 75 | 1037 | 0.46 | ug/L | 97 |
| 50) carbon tetrachloride | 9.895 | 117 | 989 | 0.42 | ug/L # | 66 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 2403 | 0.39 | ug/L | 82 |
| 56) benzene | 10.151 | 78 | 3489 | 0.58 | ug/L | 86 |
| 61) trichloroethene | 10.863 | 130 | 715 | 0.43 | ug/L | 88 |
| 64) 2-chloroethyl vinyl ether | 11.663 | 63 | 1781 | 2.18 | ug/L | 97 |
| 66) 1,2-dichloropropane | 11.140 | 63 | 730 | 0.49 | ug/L | 93 |
| 69) bromodichloromethane | 11.427 | 83 | 1009 | 0.47 | ug/L | 91 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 1217 | 0.50 | ug/L | 90 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 924 | 2.19 | ug/L # | 75 |
| 76) toluene | 12.228 | 92 | 2011 | 0.58 | ug/L | 97 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 1024 | 0.49 | ug/L | 79 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164005.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC7200-0.5
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 07:51:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

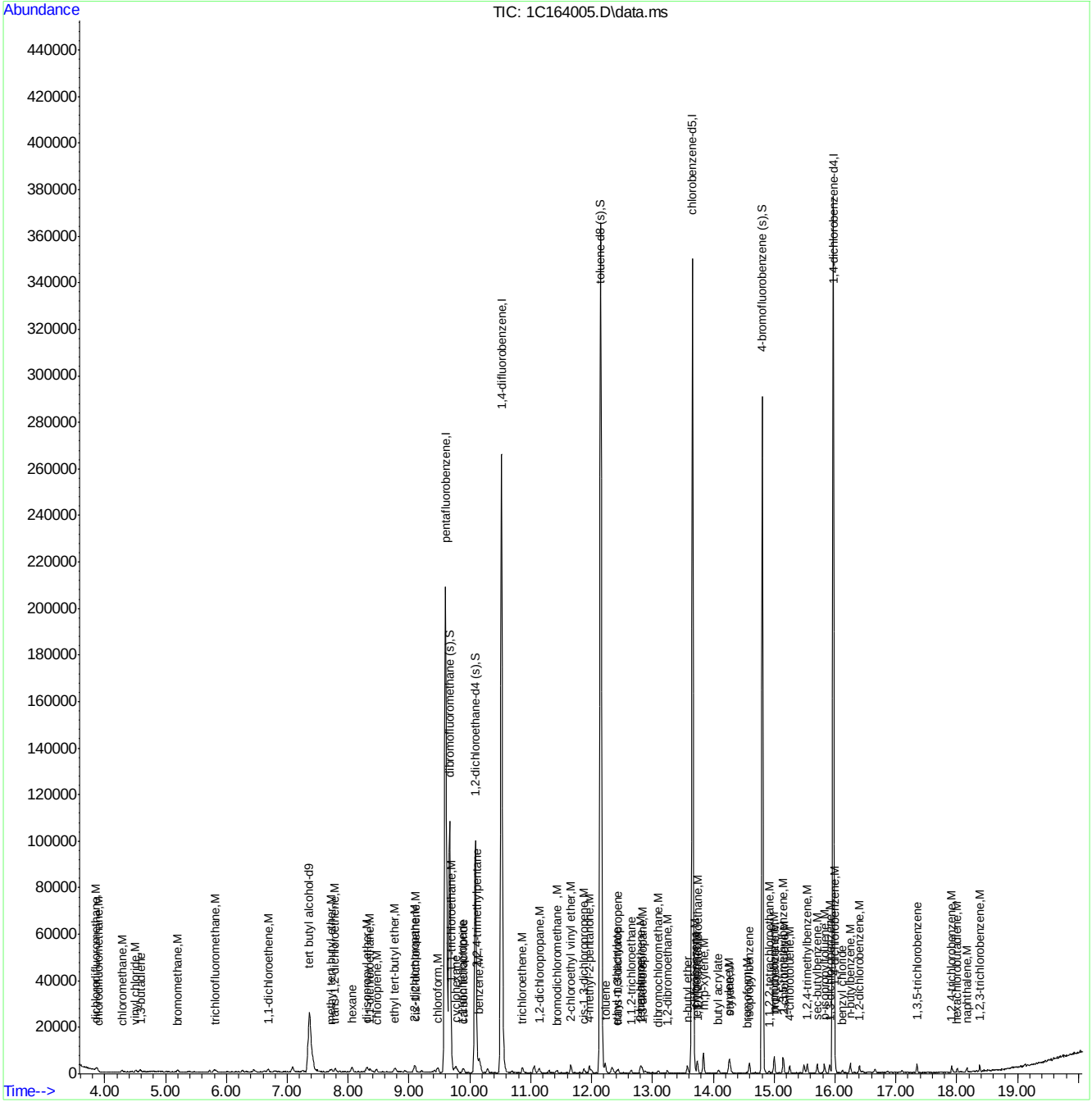
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 78) ethyl methacrylate | 12.411 | 69 | 629 | 0.42 ug/L # | 75 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 441 | 0.44 ug/L | 93 |
| 80) tetrachloroethene | 12.803 | 164 | 614 | 0.48 ug/L | 90 |
| 81) 1,3-dichloropropane | 12.834 | 76 | 850 | 0.48 ug/L | 84 |
| 82) 2-hexanone | 12.813 | 58 | 726 | 1.85 ug/L # | 78 |
| 84) dibromochloromethane | 13.091 | 129 | 649 | 0.43 ug/L | 81 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 647 | 0.41 ug/L | 89 |
| 86) n-butyl ether | 13.577 | 57 | 2896 | 0.54 ug/L | 92 |
| 87) chlorobenzene | 13.692 | 112 | 1925 | 0.54 ug/L | 84 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 577 | 0.41 ug/L | 74 |
| 89) ethylbenzene | 13.734 | 91 | 3838 | 0.60 ug/L | 91 |
| 90) m,p-xylene | 13.844 | 106 | 2712 | 1.14 ug/L | 88 |
| 91) o-xylene | 14.257 | 106 | 1250 | 0.54 ug/L | 95 |
| 92) styrene | 14.273 | 104 | 1980 | 0.51 ug/L | 97 |
| 93) bromoform | 14.555 | 173 | 383 | 0.41 ug/L # | 36 |
| 94) butyl acrylate | 14.079 | 55 | 1070 | 0.45 ug/L | 94 |
| 95) isopropylbenzene | 14.586 | 105 | 3537 | 0.57 ug/L | 91 |
| 99) bromobenzene | 15.005 | 156 | 838 | 0.53 ug/L | 88 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 603 | 0.47 ug/L | 93 |
| 103) n-propylbenzene | 15.000 | 91 | 3956 | 0.54 ug/L | 91 |
| 105) 2-chlorotoluene | 15.157 | 126 | 717 | 0.50 ug/L # | 70 |
| 106) 4-chlorotoluene | 15.256 | 91 | 2607 | 0.59 ug/L | 94 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 2947 | 0.56 ug/L | 98 |
| 109) 1,2,4-trimethylbenzene | 15.544 | 105 | 2991 | 0.58 ug/L | 96 |
| 110) sec-butylbenzene | 15.706 | 105 | 3460 | 0.52 ug/L | 93 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 1659 | 0.56 ug/L | 96 |
| 112) p-isopropyltoluene | 15.826 | 119 | 2998 | 0.53 ug/L | 98 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 1662 | 0.56 ug/L | 94 |
| 114) benzyl chloride | 16.119 | 91 | 1405 | 0.53 ug/L | 94 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 1520 | 0.53 ug/L | 97 |
| 117) n-butylbenzene | 16.250 | 92 | 1526 | 0.53 ug/L | 97 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 1303 | 0.56 ug/L | 95 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 923 | 0.48 ug/L | 97 |
| 123) hexachlorobutadiene | 18.007 | 225 | 671 | 0.49 ug/L | 95 |
| 124) naphthalene | 18.169 | 128 | 2060 | 0.56 ug/L | 86 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 1012 | 0.56 ug/L | 85 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164005.D
Acq On : 24 Apr 2019 3:12 pm
Operator : ROBERTS
Sample : IC7200-0.5
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 25 07:51:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164006.D
Acq On : 24 Apr 2019 3:38 pm
Operator : ROBERTS
Sample : IC7200-1
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 07:53:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 55643 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.602 | 168 | 174973 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 238846 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 190511 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 100142 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 72928 | 49.01 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.02% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 76004 | 51.85 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 103.70% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 256822 | 50.41 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.82% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 92963 | 49.85 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.70% | | | |
| Target Compounds | | | | | | Qvalue |
| 6) chlorodifluoromethane | 3.896 | 51 | 1722 | 0.90 | ug/L | 88 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 2706 | 0.99 | ug/L | 94 |
| 8) chloromethane | 4.278 | 50 | 1997 | 1.05 | ug/L | 95 |
| 9) vinyl chloride | 4.513 | 62 | 1939 | 1.03 | ug/L | 88 |
| 10) 1,3-butadiene | 4.591 | 54 | 1106 | 0.92 | ug/L | 92 |
| 11) bromomethane | 5.198 | 94 | 1539 | 1.15 | ug/L | 92 |
| 12) chloroethane | 5.376 | 64 | 1111 | 1.02 | ug/L | 92 |
| 13) trichlorofluoromethane | 5.815 | 101 | 2623 | 0.93 | ug/L | 93 |
| 14) vinyl bromide | 5.726 | 106 | 1044 | 0.96 | ug/L | 81 |
| 17) freon 113 | 6.615 | 151 | 1051 | 0.83 | ug/L | 88 |
| 18) 1,1-dichloroethene | 6.689 | 96 | 1465 | 0.99 | ug/L | 85 |
| 22) carbon disulfide | 7.086 | 76 | 5263 | 1.15 | ug/L | 94 |
| 25) methyl tert butyl ether | 7.714 | 73 | 3661 | 0.90 | ug/L | 98 |
| 26) trans-1,2-dichloroethene | 7.792 | 96 | 1625 | 1.02 | ug/L | 88 |
| 27) di-isopropyl ether | 8.310 | 45 | 4665 | 0.95 | ug/L | 94 |
| 29) 1,1-dichloroethane | 8.357 | 63 | 2624 | 0.96 | ug/L | 97 |
| 30) chloroprene | 8.462 | 53 | 2335 | 0.96 | ug/L | 94 |
| 32) hexane | 8.059 | 57 | 2438 | 0.94 | ug/L | 90 |
| 34) ethyl tert-butyl ether | 8.776 | 59 | 4240 | 0.88 | ug/L | 98 |
| 36) 2,2-dichloropropane | 9.089 | 77 | 2428 | 0.97 | ug/L | 83 |
| 37) cis-1,2-dichloroethene | 9.105 | 96 | 1730 | 1.01 | ug/L | 91 |
| 39) propionitrile | 9.204 | 54 | 1517 | 8.79 | ug/L | 60 |
| 40) bromochloromethane | 9.419 | 128 | 664 | 0.85 | ug/L | 90 |
| 42) chloroform | 9.471 | 85 | 1947 | 1.05 | ug/L | 95 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 2413 | 0.93 | ug/L | 80 |
| 47) cyclohexane | 9.759 | 84 | 2685 | 1.07 | ug/L | 99 |
| 48) 1,1-dichloropropene | 9.895 | 75 | 2038 | 0.94 | ug/L | 93 |
| 50) carbon tetrachloride | 9.895 | 117 | 2151 | 0.94 | ug/L | 98 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 5689 | 0.96 | ug/L | 88 |
| 56) benzene | 10.151 | 78 | 6098 | 1.06 | ug/L | 98 |
| 57) tert-amyl methyl ether | 10.162 | 87 | 764 | 0.79 | ug/L # | 73 |
| 58) heptane | 10.292 | 71 | 1152 | 0.86 | ug/L | 87 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164006.D
Acq On : 24 Apr 2019 3:38 pm
Operator : ROBERTS
Sample : IC7200-1
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 07:53:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 60) 1,2-dichloroethane | 10.182 | 62 | 2241 | 1.21 | ug/L | | 89 |
| 61) trichloroethene | 10.868 | 130 | 1518 | 0.95 | ug/L | | 96 |
| 62) ethyl acrylate | 10.878 | 55 | 1241 | 0.82 | ug/L | | 63 |
| 64) 2-chloroethyl vinyl ether | 11.657 | 63 | 3185 | 4.04 | ug/L | | 99 |
| 66) 1,2-dichloropropane | 11.140 | 63 | 1451 | 1.02 | ug/L | | 98 |
| 67) dibromomethane | 11.297 | 93 | 752 | 0.88 | ug/L | | 95 |
| 68) methylcyclohexane | 11.056 | 83 | 3029 | 1.17 | ug/L | | 92 |
| 69) bromodichloromethane | 11.433 | 83 | 1927 | 0.93 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 2266 | 0.96 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 1617 | 3.98 | ug/L | # | 61 |
| 76) toluene | 12.228 | 92 | 3578 | 1.06 | ug/L | # | 85 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 1845 | 0.91 | ug/L | | 94 |
| 78) ethyl methacrylate | 12.416 | 69 | 1210 | 0.82 | ug/L | | 86 |
| 79) 1,1,2-trichloroethane | 12.646 | 83 | 832 | 0.86 | ug/L | # | 77 |
| 80) tetrachloroethene | 12.803 | 164 | 1154 | 0.92 | ug/L | | 88 |
| 81) 1,3-dichloropropane | 12.834 | 76 | 1534 | 0.89 | ug/L | | 96 |
| 82) 2-hexanone | 12.819 | 58 | 1377 | 3.59 | ug/L | | 87 |
| 84) dibromochloromethane | 13.096 | 129 | 1293 | 0.88 | ug/L | | 100 |
| 85) 1,2-dibromoethane | 13.247 | 107 | 1374 | 0.89 | ug/L | | 97 |
| 86) n-butyl ether | 13.577 | 57 | 5266 | 1.00 | ug/L | | 97 |
| 87) chlorobenzene | 13.692 | 112 | 3505 | 1.00 | ug/L | | 83 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 1233 | 0.91 | ug/L | | 94 |
| 89) ethylbenzene | 13.734 | 91 | 6486 | 1.04 | ug/L | | 94 |
| 90) m,p-xylene | 13.838 | 106 | 4869 | 2.09 | ug/L | | 92 |
| 91) o-xylene | 14.257 | 106 | 2208 | 0.97 | ug/L | | 100 |
| 92) styrene | 14.267 | 104 | 3856 | 1.02 | ug/L | | 96 |
| 93) bromoform | 14.550 | 173 | 731 | 0.81 | ug/L | | 86 |
| 94) butyl acrylate | 14.084 | 55 | 2129 | 0.93 | ug/L | | 98 |
| 95) isopropylbenzene | 14.592 | 105 | 6035 | 1.00 | ug/L | | 95 |
| 99) bromobenzene | 15.005 | 156 | 1574 | 1.00 | ug/L | # | 80 |
| 100) 1,1,2,2-tetrachloroethane | 14.921 | 83 | 1070 | 0.84 | ug/L | | 91 |
| 103) n-propylbenzene | 15.000 | 91 | 7253 | 1.01 | ug/L | | 99 |
| 105) 2-chlorotoluene | 15.156 | 126 | 1425 | 1.01 | ug/L | # | 85 |
| 106) 4-chlorotoluene | 15.256 | 91 | 4480 | 1.03 | ug/L | | 94 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 5192 | 1.00 | ug/L | | 98 |
| 108) tert-butylbenzene | 15.496 | 134 | 821 | 0.90 | ug/L | | 93 |
| 109) 1,2,4-trimethylbenzene | 15.543 | 105 | 5222 | 1.02 | ug/L | | 95 |
| 110) sec-butylbenzene | 15.706 | 105 | 6474 | 0.99 | ug/L | | 97 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 2894 | 0.99 | ug/L | | 87 |
| 112) p-isopropyltoluene | 15.826 | 119 | 5579 | 1.00 | ug/L | | 92 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 2990 | 1.02 | ug/L | | 98 |
| 114) benzyl chloride | 16.119 | 91 | 2382 | 0.91 | ug/L | | 92 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 2644 | 0.94 | ug/L | | 95 |
| 117) n-butylbenzene | 16.250 | 92 | 2743 | 0.96 | ug/L | | 98 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 2203 | 0.96 | ug/L | | 92 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 1867 | 0.98 | ug/L | | 92 |
| 123) hexachlorobutadiene | 18.012 | 225 | 1263 | 0.94 | ug/L | | 95 |
| 124) naphthalene | 18.169 | 128 | 3436 | 0.94 | ug/L | | 96 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 1559 | 0.88 | ug/L | | 88 |
| 126) hexachloroethane | 16.658 | 201 | 847 | 0.81 | ug/L | | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164006.D
Acq On : 24 Apr 2019 3:38 pm
Operator : ROBERTS
Sample : IC7200-1
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 07:53:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

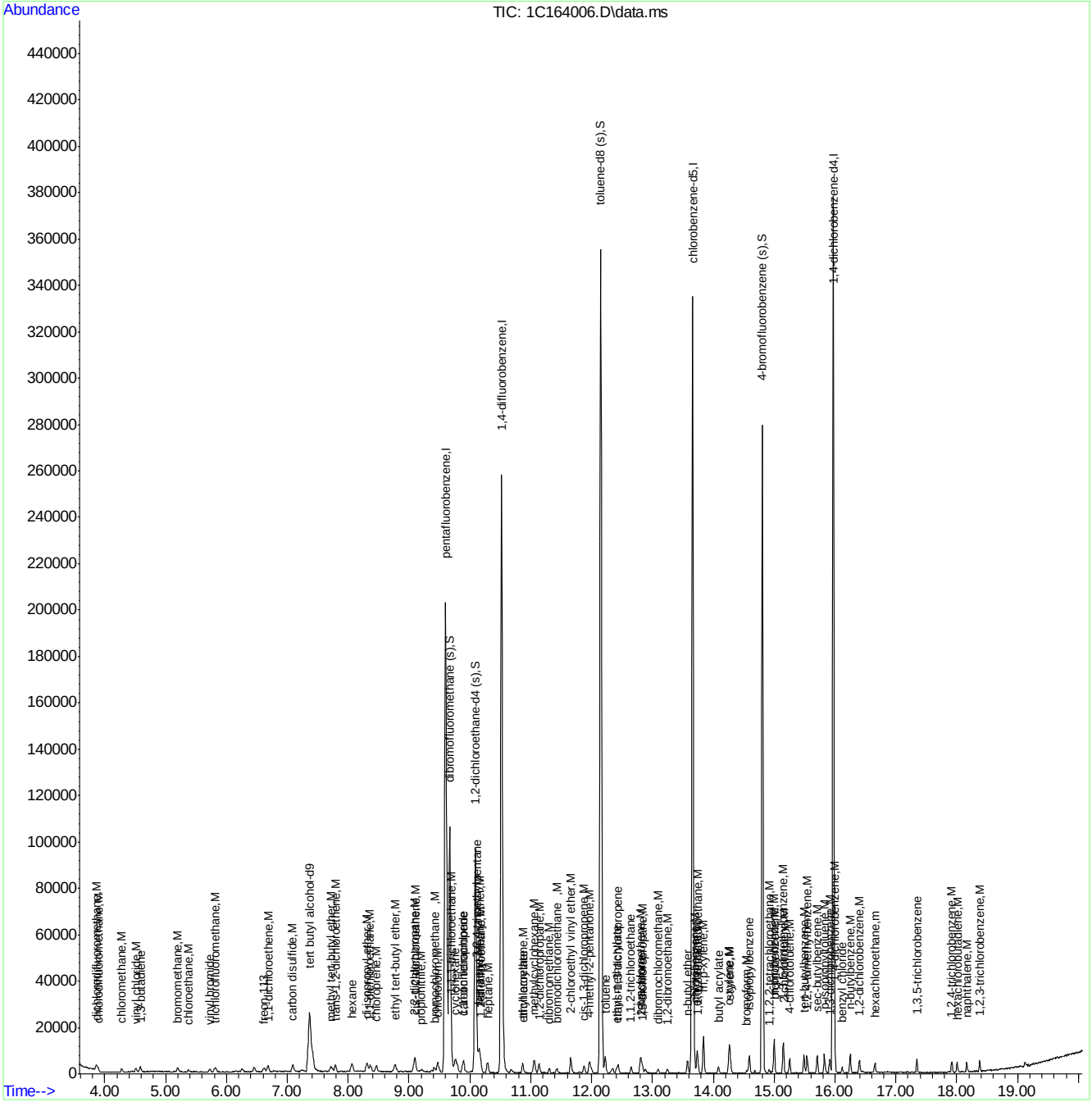
7.7.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164006.D
Acq On : 24 Apr 2019 3:38 pm
Operator : ROBERTS
Sample : IC7200-1
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 25 07:53:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164007.D
Acq On : 24 Apr 2019 4:05 pm
Operator : ROBERTS
Sample : IC7200-2
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 07:55:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.369 | 65 | 57479 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.602 | 168 | 175704 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 242175 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 191175 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 99385 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 73586 | 49.25 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 98.50% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 76594 | 51.53 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 103.06% | | | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 262567 | 51.36 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 102.72% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 93274 | 50.40 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 100.80% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.489 | 59 | 1394 | 9.34 | ug/L | 67 |
| 6) chlorodifluoromethane | 3.896 | 51 | 3875 | 2.01 | ug/L | 95 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 4940 | 1.81 | ug/L | 92 |
| 8) chloromethane | 4.278 | 50 | 3691 | 1.93 | ug/L | 98 |
| 9) vinyl chloride | 4.513 | 62 | 3360 | 1.79 | ug/L | 92 |
| 10) 1,3-butadiene | 4.581 | 54 | 2309 | 1.90 | ug/L | 87 |
| 11) bromomethane | 5.203 | 94 | 2700 | 2.00 | ug/L | 84 |
| 12) chloroethane | 5.376 | 64 | 2019 | 1.85 | ug/L | 94 |
| 13) trichlorofluoromethane | 5.810 | 101 | 5183 | 1.84 | ug/L | 97 |
| 14) vinyl bromide | 5.737 | 106 | 1853 | 1.69 | ug/L | 81 |
| 15) ethyl ether | 6.255 | 74 | 1295 | 1.73 | ug/L # | 77 |
| 17) freon 113 | 6.621 | 151 | 2180 | 1.71 | ug/L | 90 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 3099 | 2.09 | ug/L | 91 |
| 19) acetone | 6.783 | 43 | 2812 | 8.05 | ug/L | 90 |
| 20) acetonitrile | 7.238 | 41 | 2495 | 16.77 | ug/L | 88 |
| 22) carbon disulfide | 7.086 | 76 | 10013 | 2.18 | ug/L | 99 |
| 23) methylene chloride | 7.421 | 84 | 3253 | 2.08 | ug/L | 96 |
| 25) methyl tert butyl ether | 7.714 | 73 | 7466 | 1.84 | ug/L | 97 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 3295 | 2.06 | ug/L | 87 |
| 27) di-isopropyl ether | 8.305 | 45 | 9628 | 1.95 | ug/L | 95 |
| 28) 2-butanone | 9.089 | 72 | 933 | 6.63 | ug/L # | 50 |
| 29) 1,1-dichloroethane | 8.363 | 63 | 5644 | 2.05 | ug/L | 96 |
| 30) chloroprene | 8.462 | 53 | 4748 | 1.94 | ug/L | 99 |
| 32) hexane | 8.064 | 57 | 4949 | 1.90 | ug/L | 97 |
| 34) ethyl tert-butyl ether | 8.776 | 59 | 9014 | 1.86 | ug/L | 96 |
| 36) 2,2-dichloropropane | 9.084 | 77 | 5048 | 2.02 | ug/L | 98 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 3783 | 2.19 | ug/L | 94 |
| 39) propionitrile | 9.205 | 54 | 3159 | 18.22 | ug/L | 95 |
| 40) bromochloromethane | 9.424 | 128 | 1443 | 1.85 | ug/L | 87 |
| 42) chloroform | 9.466 | 85 | 3994 | 2.15 | ug/L | 95 |
| 43) t-butyl formate | 9.492 | 59 | 1811 | 1.55 | ug/L # | 79 |
| 45) methacrylonitrile | 9.377 | 67 | 837 | 1.60 | ug/L | 90 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164007.D
Acq On : 24 Apr 2019 4:05 pm
Operator : ROBERTS
Sample : IC7200-2
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 07:55:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 5121 | 1.96 | ug/L | | 94 |
| 47) cyclohexane | 9.759 | 84 | 4792 | 1.90 | ug/L | | 93 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 4353 | 2.00 | ug/L | | 95 |
| 50) carbon tetrachloride | 9.900 | 117 | 4437 | 1.94 | ug/L | | 96 |
| 54) n-butyl alcohol | 10.669 | 56 | 2816 | 75.87 | ug/L | | 94 |
| 55) 2,2,4-trimethylpentane | 10.109 | 57 | 12025 | 2.00 | ug/L | | 92 |
| 56) benzene | 10.151 | 78 | 12677 | 2.17 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.167 | 87 | 1905 | 1.94 | ug/L | # | 84 |
| 58) heptane | 10.292 | 71 | 2550 | 1.88 | ug/L | | 98 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 4071 | 2.16 | ug/L | | 94 |
| 61) trichloroethene | 10.863 | 130 | 3380 | 2.08 | ug/L | | 93 |
| 62) ethyl acrylate | 10.873 | 55 | 2808 | 1.83 | ug/L | | 85 |
| 64) 2-chloroethyl vinyl ether | 11.658 | 63 | 6733 | 8.42 | ug/L | | 97 |
| 66) 1,2-dichloropropane | 11.135 | 63 | 2862 | 1.98 | ug/L | | 92 |
| 67) dibromomethane | 11.302 | 93 | 1707 | 1.96 | ug/L | | 78 |
| 68) methylcyclohexane | 11.061 | 83 | 5770 | 2.19 | ug/L | | 100 |
| 69) bromodichloromethane | 11.433 | 83 | 4259 | 2.02 | ug/L | | 93 |
| 70) epichlorohydrin | 11.804 | 57 | 1058 | 8.97 | ug/L | | 79 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 4588 | 1.91 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 3349 | 8.12 | ug/L | | 94 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 1848 | 33.74 | ug/L | | 95 |
| 76) toluene | 12.222 | 92 | 7273 | 2.15 | ug/L | | 91 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 3913 | 1.93 | ug/L | | 98 |
| 78) ethyl methacrylate | 12.411 | 69 | 2624 | 1.78 | ug/L | | 96 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 1747 | 1.79 | ug/L | | 94 |
| 80) tetrachloroethene | 12.803 | 164 | 2619 | 2.08 | ug/L | | 95 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 3478 | 2.01 | ug/L | | 93 |
| 82) 2-hexanone | 12.813 | 58 | 3149 | 8.18 | ug/L | # | 85 |
| 83) butyl acetate | 12.881 | 56 | 1342 | 1.92 | ug/L | # | 71 |
| 84) dibromochloromethane | 13.096 | 129 | 2663 | 1.81 | ug/L | | 87 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 2860 | 1.85 | ug/L | | 98 |
| 86) n-butyl ether | 13.577 | 57 | 10620 | 2.02 | ug/L | | 99 |
| 87) chlorobenzene | 13.692 | 112 | 7371 | 2.09 | ug/L | | 78 |
| 88) 1,1,1,2-tetrachloroethane | 13.755 | 131 | 2556 | 1.87 | ug/L | | 93 |
| 89) ethylbenzene | 13.734 | 91 | 13341 | 2.13 | ug/L | | 96 |
| 90) m,p-xylene | 13.839 | 106 | 10131 | 4.34 | ug/L | | 90 |
| 91) o-xylene | 14.257 | 106 | 4690 | 2.06 | ug/L | | 93 |
| 92) styrene | 14.273 | 104 | 7772 | 2.04 | ug/L | | 95 |
| 93) bromoform | 14.555 | 173 | 1672 | 1.84 | ug/L | | 91 |
| 94) butyl acrylate | 14.084 | 55 | 4360 | 1.89 | ug/L | | 93 |
| 95) isopropylbenzene | 14.592 | 105 | 12805 | 2.11 | ug/L | | 96 |
| 99) bromobenzene | 15.005 | 156 | 3141 | 2.02 | ug/L | | 95 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 2504 | 1.98 | ug/L | | 93 |
| 103) n-propylbenzene | 15.000 | 91 | 14977 | 2.09 | ug/L | | 99 |
| 105) 2-chlorotoluene | 15.157 | 126 | 2829 | 2.02 | ug/L | | 98 |
| 106) 4-chlorotoluene | 15.251 | 91 | 8946 | 2.08 | ug/L | | 99 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 10453 | 2.03 | ug/L | | 96 |
| 108) tert-butylbenzene | 15.491 | 134 | 1701 | 1.89 | ug/L | # | 86 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 10680 | 2.10 | ug/L | | 99 |
| 110) sec-butylbenzene | 15.711 | 105 | 13449 | 2.08 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164007.D
Acq On : 24 Apr 2019 4:05 pm
Operator : ROBERTS
Sample : IC7200-2
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 07:55:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 6011 | 2.07 | ug/L | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 11090 | 2.00 | ug/L | 94 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 5982 | 2.05 | ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 4936 | 1.90 | ug/L | 91 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 5233 | 1.87 | ug/L | 94 |
| 117) n-butylbenzene | 16.250 | 92 | 5712 | 2.02 | ug/L | 100 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 425 | 1.70 | ug/L | 94 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 4478 | 1.97 | ug/L | 94 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 3531 | 1.86 | ug/L | 93 |
| 123) hexachlorobutadiene | 18.012 | 225 | 2689 | 2.01 | ug/L | 91 |
| 124) naphthalene | 18.164 | 128 | 6789 | 1.87 | ug/L | 96 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 3441 | 1.95 | ug/L | 95 |
| 126) hexachloroethane | 16.652 | 201 | 1970 | 1.89 | ug/L | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

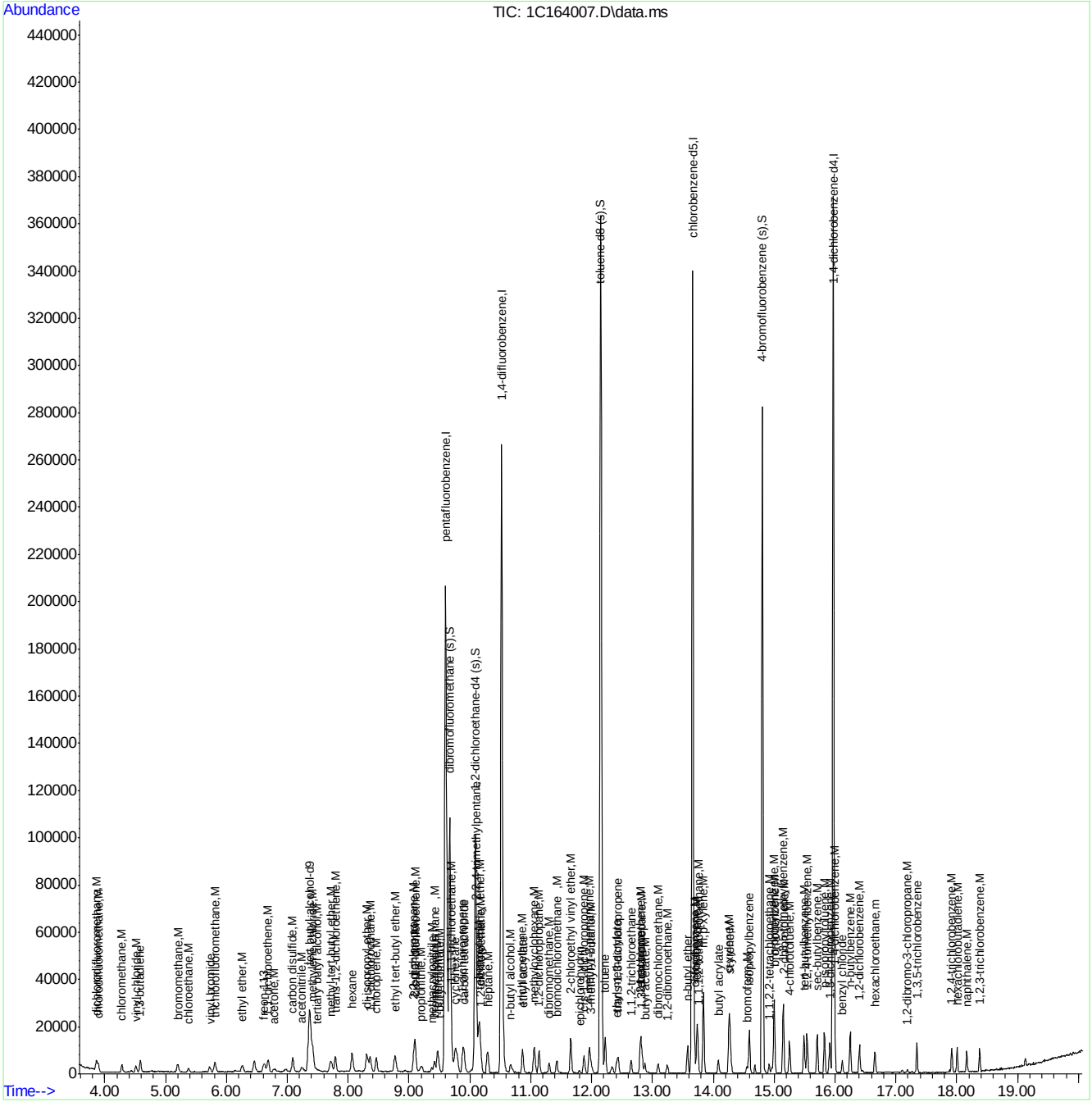
7.7.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164007.D
Acq On : 24 Apr 2019 4:05 pm
Operator : ROBERTS
Sample : IC7200-2
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 25 07:55:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 06:46:50 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164008.D
Acq On : 24 Apr 2019 4:31 pm
Operator : ROBERTS
Sample : IC7200-4
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 07:57:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 55724 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 170562 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 236748 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 188030 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 97716 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 71979 | 50.04 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.08% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 74465 | 50.17 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.34% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 252005 | 49.75 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.50% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 91643 | 49.96 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.92% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.494 | 59 | 2896 | 19.57 | ug/L | 81 |
| 4) 1,4-dioxane | 11.255 | 88 | 1088 | 80.51 | ug/L | 93 |
| 6) chlorodifluoromethane | 3.896 | 51 | 7059 | 3.97 | ug/L | 97 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 10560 | 4.19 | ug/L | 95 |
| 8) chloromethane | 4.283 | 50 | 7443 | 4.03 | ug/L | 97 |
| 9) vinyl chloride | 4.518 | 62 | 7128 | 4.10 | ug/L | 95 |
| 10) 1,3-butadiene | 4.581 | 54 | 4443 | 4.07 | ug/L | 92 |
| 11) bromomethane | 5.198 | 94 | 5451 | 4.11 | ug/L | 95 |
| 12) chloroethane | 5.376 | 64 | 4209 | 4.11 | ug/L | 98 |
| 13) trichlorofluoromethane | 5.810 | 101 | 10775 | 4.15 | ug/L | 94 |
| 14) vinyl bromide | 5.721 | 106 | 4216 | 4.14 | ug/L | 95 |
| 15) ethyl ether | 6.260 | 74 | 2653 | 3.83 | ug/L | 98 |
| 17) freon 113 | 6.621 | 151 | 4806 | 4.19 | ug/L | 91 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 5602 | 4.01 | ug/L | 97 |
| 19) acetone | 6.772 | 43 | 5560 | 16.00 | ug/L | 99 |
| 20) acetonitrile | 7.233 | 41 | 6090 | 43.30 | ug/L | 95 |
| 21) iodomethane | 6.976 | 142 | 3328 | 4.96 | ug/L | 91 |
| 22) carbon disulfide | 7.091 | 76 | 18345 | 4.07 | ug/L | 100 |
| 23) methylene chloride | 7.421 | 84 | 6128 | 4.05 | ug/L | 94 |
| 24) methyl acetate | 7.227 | 43 | 3092 | 3.67 | ug/L | 97 |
| 25) methyl tert butyl ether | 7.714 | 73 | 15436 | 4.08 | ug/L | 99 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 6276 | 4.05 | ug/L | 95 |
| 27) di-isopropyl ether | 8.310 | 45 | 18687 | 4.01 | ug/L | 96 |
| 28) 2-butanone | 9.079 | 72 | 1944 | 14.91 | ug/L # | 83 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 11210 | 4.26 | ug/L | 97 |
| 30) chloroprene | 8.462 | 53 | 9175 | 4.05 | ug/L | 96 |
| 31) acrylonitrile | 7.787 | 53 | 1246 | 3.29 | ug/L | 83 |
| 32) hexane | 8.064 | 57 | 10152 | 4.22 | ug/L | 97 |
| 33) vinyl acetate | 8.347 | 86 | 697 | 3.18 | ug/L # | 35 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 18089 | 4.03 | ug/L | 100 |
| 35) ethyl acetate | 9.084 | 45 | 571 | 3.47 | ug/L # | 12 |
| 36) 2,2-dichloropropane | 9.089 | 77 | 9711 | 4.14 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164008.D
Acq On : 24 Apr 2019 4:31 pm
Operator : ROBERTS
Sample : IC7200-4
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 07:57:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 7024 | 4.20 | ug/L | | 99 |
| 38) methyl acrylate | 9.168 | 85 | 463 | 2.70 | ug/L | | 90 |
| 39) propionitrile | 9.199 | 54 | 6583 | 39.84 | ug/L | | 91 |
| 40) bromochloromethane | 9.419 | 128 | 3015 | 4.15 | ug/L | | 88 |
| 41) tetrahydrofuran | 9.461 | 72 | 542 | 3.53 | ug/L | # | 38 |
| 42) chloroform | 9.471 | 85 | 7388 | 3.97 | ug/L | | 93 |
| 43) t-butyl formate | 9.487 | 59 | 3693 | 3.69 | ug/L | | 88 |
| 45) methacrylonitrile | 9.367 | 67 | 1891 | 3.97 | ug/L | | 97 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 9971 | 4.14 | ug/L | | 97 |
| 47) cyclohexane | 9.759 | 84 | 9917 | 4.17 | ug/L | | 94 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 8417 | 4.12 | ug/L | | 97 |
| 49) iso-butyl alcohol | 9.911 | 43 | 2014 | 37.79 | ug/L | | 79 |
| 50) carbon tetrachloride | 9.905 | 117 | 8565 | 4.07 | ug/L | | 95 |
| 51) tert amyl alcohol | 10.020 | 55 | 930 | 18.54 | ug/L | # | 87 |
| 54) n-butyl alcohol | 10.664 | 56 | 6366 | 184.30 | ug/L | | 94 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 25011 | 4.40 | ug/L | | 92 |
| 56) benzene | 10.151 | 78 | 24745 | 4.17 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 3696 | 4.00 | ug/L | # | 77 |
| 58) heptane | 10.287 | 71 | 5511 | 4.31 | ug/L | | 99 |
| 59) isopropyl acetate | 10.067 | 87 | 836 | 3.41 | ug/L | # | 45 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 7698 | 3.99 | ug/L | | 99 |
| 61) trichloroethene | 10.862 | 130 | 6137 | 4.02 | ug/L | | 99 |
| 62) ethyl acrylate | 10.868 | 55 | 5778 | 4.03 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 13513 | 19.21 | ug/L | | 99 |
| 65) methyl methacrylate | 11.129 | 100 | 1086 | 3.67 | ug/L | # | 76 |
| 66) 1,2-dichloropropane | 11.140 | 63 | 5869 | 4.16 | ug/L | | 94 |
| 67) dibromomethane | 11.297 | 93 | 3308 | 4.00 | ug/L | | 94 |
| 68) methylcyclohexane | 11.061 | 83 | 10856 | 4.13 | ug/L | | 94 |
| 69) bromodichloromethane | 11.427 | 83 | 7912 | 3.96 | ug/L | | 93 |
| 70) epichlorohydrin | 11.793 | 57 | 2214 | 19.51 | ug/L | | 94 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 9261 | 4.03 | ug/L | | 96 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 6577 | 16.05 | ug/L | | 94 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 3912 | 75.35 | ug/L | | 95 |
| 76) toluene | 12.222 | 92 | 14220 | 4.13 | ug/L | | 95 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 7725 | 3.99 | ug/L | | 95 |
| 78) ethyl methacrylate | 12.411 | 69 | 5549 | 4.05 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 3768 | 4.16 | ug/L | | 95 |
| 80) tetrachloroethene | 12.803 | 164 | 5015 | 4.19 | ug/L | | 95 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 6867 | 4.13 | ug/L | | 96 |
| 82) 2-hexanone | 12.808 | 58 | 6270 | 16.76 | ug/L | | 99 |
| 83) butyl acetate | 12.876 | 56 | 2780 | 4.08 | ug/L | # | 81 |
| 84) dibromochloromethane | 13.096 | 129 | 5314 | 3.90 | ug/L | | 100 |
| 85) 1,2-dibromoethane | 13.247 | 107 | 5792 | 4.02 | ug/L | | 99 |
| 86) n-butyl ether | 13.577 | 57 | 20791 | 4.02 | ug/L | | 99 |
| 87) chlorobenzene | 13.692 | 112 | 14121 | 4.04 | ug/L | | 93 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 5235 | 4.12 | ug/L | | 96 |
| 89) ethylbenzene | 13.734 | 91 | 26240 | 4.15 | ug/L | | 97 |
| 90) m,p-xylene | 13.838 | 106 | 19255 | 8.19 | ug/L | | 97 |
| 91) o-xylene | 14.257 | 106 | 9475 | 4.22 | ug/L | | 99 |
| 92) styrene | 14.273 | 104 | 15435 | 4.15 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164008.D
Acq On : 24 Apr 2019 4:31 pm
Operator : ROBERTS
Sample : IC7200-4
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 07:57:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

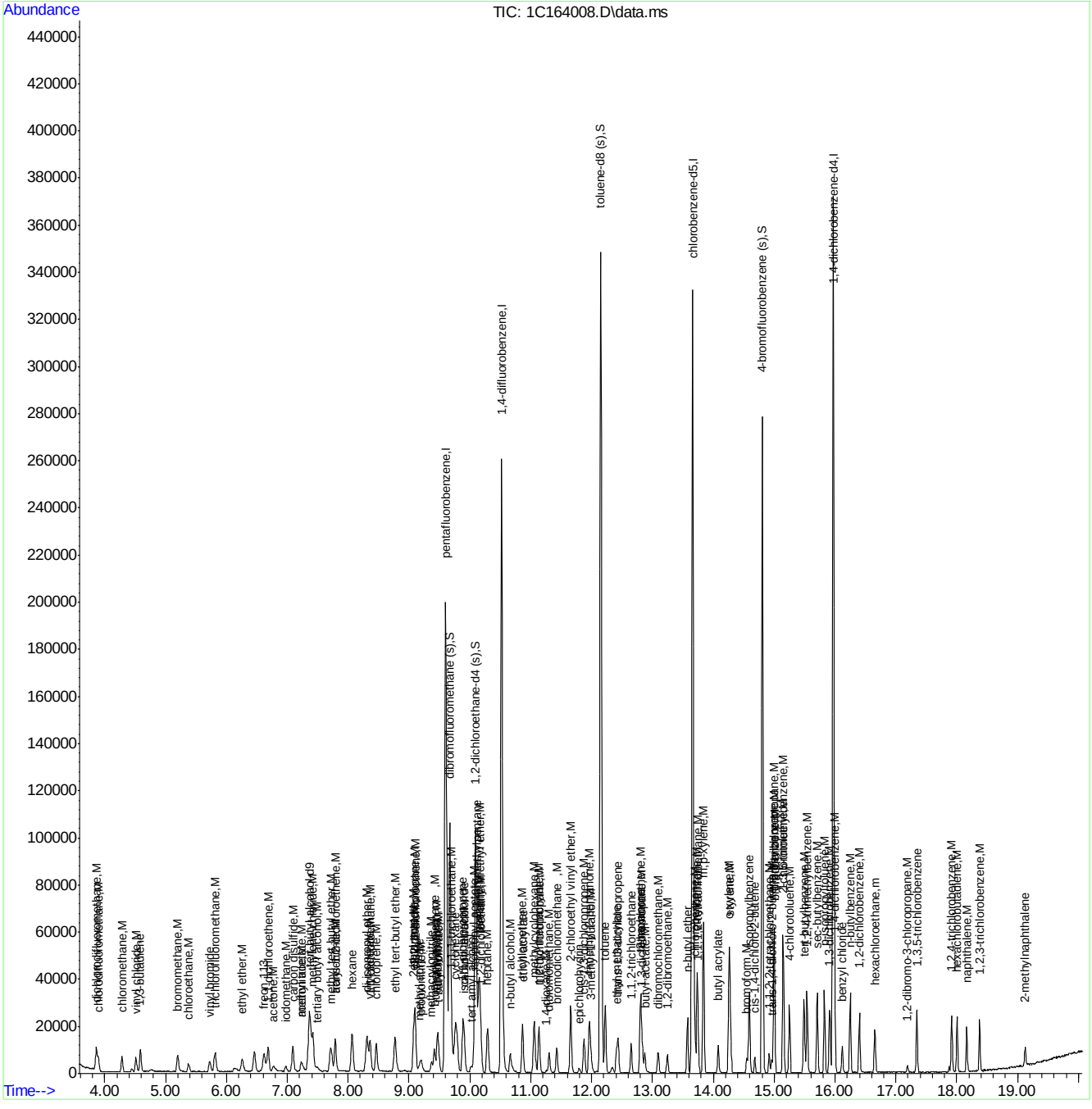
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 93) bromoform | 14.550 | 173 | 3131 | 3.78 | ug/L | 93 |
| 94) butyl acrylate | 14.079 | 55 | 8589 | 3.94 | ug/L | 93 |
| 95) isopropylbenzene | 14.592 | 105 | 24378 | 4.04 | ug/L | 98 |
| 96) cis-1,4-dichloro-2-butene | 14.681 | 88 | 1836 | 3.58 | ug/L | 95 |
| 99) bromobenzene | 15.005 | 156 | 6308 | 4.11 | ug/L | 92 |
| 100) 1,1,2,2-tetrachloroethane | 14.921 | 83 | 4827 | 4.01 | ug/L | 96 |
| 101) trans-1,4-dichloro-2-b... | 14.963 | 53 | 1217 | 3.68 | ug/L | 92 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 1191 | 3.84 | ug/L | 87 |
| 103) n-propylbenzene | 14.994 | 91 | 29478 | 4.18 | ug/L | 98 |
| 105) 2-chlorotoluene | 15.151 | 126 | 5821 | 4.24 | ug/L | 99 |
| 106) 4-chlorotoluene | 15.251 | 91 | 17459 | 4.02 | ug/L | 94 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 20683 | 4.06 | ug/L | 98 |
| 108) tert-butylbenzene | 15.496 | 134 | 3427 | 4.02 | ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 20902 | 4.10 | ug/L | 99 |
| 110) sec-butylbenzene | 15.706 | 105 | 25887 | 4.09 | ug/L | 98 |
| 111) 1,3-dichlorobenzene | 15.910 | 146 | 12105 | 4.17 | ug/L | 95 |
| 112) p-isopropyltoluene | 15.826 | 119 | 22566 | 4.15 | ug/L | 98 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 11756 | 4.05 | ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 9571 | 3.83 | ug/L | 98 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 11146 | 4.11 | ug/L | 97 |
| 117) n-butylbenzene | 16.250 | 92 | 11727 | 4.24 | ug/L | 100 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 961 | 3.99 | ug/L | 84 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 9054 | 4.06 | ug/L | 99 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 7466 | 4.11 | ug/L | 95 |
| 123) hexachlorobutadiene | 18.007 | 225 | 5234 | 4.10 | ug/L | 95 |
| 124) naphthalene | 18.164 | 128 | 13916 | 3.94 | ug/L | 96 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 7017 | 4.09 | ug/L | 98 |
| 126) hexachloroethane | 16.658 | 201 | 3847 | 3.98 | ug/L | 92 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 3745 | 1.66 | ug/L | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164008.D
Acq On : 24 Apr 2019 4:31 pm
Operator : ROBERTS
Sample : IC7200-4
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 25 07:57:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164009.D
Acq On : 24 Apr 2019 4:58 pm
Operator : ROBERTS
Sample : IC7200-8
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 07:58:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 55488 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.607 | 168 | 165932 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 227576 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 181339 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 94471 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 70051 | 50.06 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 100.12% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 73358 | 51.41 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 102.82% | | | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 246336 | 50.43 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 100.86% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 89360 | 50.39 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 100.78% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.499 | 59 | 6227 | 42.25 | ug/L | 98 |
| 4) 1,4-dioxane | 11.249 | 88 | 2815 | 209.19 | ug/L | 92 |
| 6) chlorodifluoromethane | 3.896 | 51 | 13838 | 8.00 | ug/L | 96 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 20050 | 8.17 | ug/L | 99 |
| 8) chloromethane | 4.278 | 50 | 14407 | 8.01 | ug/L | 99 |
| 9) vinyl chloride | 4.513 | 62 | 13527 | 7.99 | ug/L | 98 |
| 10) 1,3-butadiene | 4.586 | 54 | 8630 | 8.12 | ug/L | 94 |
| 11) bromomethane | 5.198 | 94 | 10802 | 8.37 | ug/L | 97 |
| 12) chloroethane | 5.376 | 64 | 8171 | 8.20 | ug/L | 94 |
| 13) trichlorofluoromethane | 5.815 | 101 | 20281 | 8.03 | ug/L | 95 |
| 14) vinyl bromide | 5.721 | 106 | 7912 | 7.99 | ug/L | 96 |
| 15) ethyl ether | 6.255 | 74 | 5490 | 8.14 | ug/L | 98 |
| 16) acrolein | 6.547 | 56 | 1239 | 7.15 | ug/L | 90 |
| 17) freon 113 | 6.621 | 151 | 9138 | 8.18 | ug/L | 92 |
| 18) 1,1-dichloroethene | 6.683 | 96 | 11179 | 8.23 | ug/L | 94 |
| 19) acetone | 6.762 | 43 | 11532 | 34.10 | ug/L | 99 |
| 20) acetonitrile | 7.222 | 41 | 12594 | 92.04 | ug/L | 93 |
| 21) iodomethane | 6.976 | 142 | 7283 | 7.45 | ug/L | 93 |
| 22) carbon disulfide | 7.091 | 76 | 35052 | 7.99 | ug/L | 99 |
| 23) methylene chloride | 7.426 | 84 | 12333 | 8.37 | ug/L | 93 |
| 24) methyl acetate | 7.222 | 43 | 7064 | 8.62 | ug/L | 98 |
| 25) methyl tert butyl ether | 7.719 | 73 | 30464 | 8.28 | ug/L | 97 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 12025 | 7.97 | ug/L | 99 |
| 27) di-isopropyl ether | 8.305 | 45 | 37209 | 8.21 | ug/L | 98 |
| 28) 2-butanone | 9.068 | 72 | 4314 | 34.00 | ug/L # | 88 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 21056 | 8.23 | ug/L | 100 |
| 30) chloroprene | 8.462 | 53 | 18382 | 8.33 | ug/L | 98 |
| 31) acrylonitrile | 7.787 | 53 | 3077 | 8.35 | ug/L | 98 |
| 32) hexane | 8.064 | 57 | 18926 | 8.08 | ug/L | 99 |
| 33) vinyl acetate | 8.347 | 86 | 1723 | 8.08 | ug/L # | 42 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 36452 | 8.35 | ug/L | 98 |
| 35) ethyl acetate | 9.079 | 45 | 1327 | 8.29 | ug/L # | 26 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164009.D
Acq On : 24 Apr 2019 4:58 pm
Operator : ROBERTS
Sample : IC7200-8
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 07:58:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.089 | 77 | 18777 | 8.23 | ug/L | | 97 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 13474 | 8.28 | ug/L | | 96 |
| 38) methyl acrylate | 9.163 | 85 | 1361 | 8.15 | ug/L | # | 81 |
| 39) propionitrile | 9.189 | 54 | 14742 | 91.71 | ug/L | | 94 |
| 40) bromochloromethane | 9.414 | 128 | 5980 | 8.46 | ug/L | | 95 |
| 41) tetrahydrofuran | 9.455 | 72 | 1346 | 9.00 | ug/L | | 91 |
| 42) chloroform | 9.466 | 85 | 14473 | 7.99 | ug/L | | 94 |
| 43) t-butyl formate | 9.482 | 59 | 8556 | 8.78 | ug/L | | 94 |
| 45) methacrylonitrile | 9.367 | 67 | 3849 | 8.30 | ug/L | | 93 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 19195 | 8.19 | ug/L | | 93 |
| 47) cyclohexane | 9.759 | 84 | 19504 | 8.43 | ug/L | | 98 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 16602 | 8.36 | ug/L | | 96 |
| 49) iso-butyl alcohol | 9.905 | 43 | 4641 | 89.52 | ug/L | | 95 |
| 50) carbon tetrachloride | 9.900 | 117 | 16899 | 8.26 | ug/L | | 97 |
| 51) tert amyl alcohol | 10.020 | 55 | 2019 | 41.36 | ug/L | # | 87 |
| 54) n-butyl alcohol | 10.658 | 56 | 14748 | 444.18 | ug/L | | 96 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 47326 | 8.66 | ug/L | | 97 |
| 56) benzene | 10.151 | 78 | 47981 | 8.42 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.162 | 87 | 7928 | 8.93 | ug/L | | 97 |
| 58) heptane | 10.292 | 71 | 10599 | 8.62 | ug/L | | 91 |
| 59) isopropyl acetate | 10.067 | 87 | 1989 | 8.44 | ug/L | # | 78 |
| 60) 1,2-dichloroethane | 10.182 | 62 | 15913 | 8.59 | ug/L | | 96 |
| 61) trichloroethene | 10.862 | 130 | 12282 | 8.37 | ug/L | | 98 |
| 62) ethyl acrylate | 10.868 | 55 | 12146 | 8.82 | ug/L | | 94 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 31916 | 47.19 | ug/L | | 97 |
| 65) methyl methacrylate | 11.129 | 100 | 2430 | 8.53 | ug/L | # | 90 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 11574 | 8.53 | ug/L | | 99 |
| 67) dibromomethane | 11.302 | 93 | 6866 | 8.64 | ug/L | | 97 |
| 68) methylcyclohexane | 11.056 | 83 | 20413 | 8.07 | ug/L | | 95 |
| 69) bromodichloromethane | 11.427 | 83 | 15795 | 8.22 | ug/L | | 98 |
| 70) epichlorohydrin | 11.793 | 57 | 4702 | 43.11 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 18480 | 8.38 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 13774 | 34.96 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 8787 | 176.07 | ug/L | | 95 |
| 76) toluene | 12.228 | 92 | 27315 | 8.23 | ug/L | | 100 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 15945 | 8.54 | ug/L | | 97 |
| 78) ethyl methacrylate | 12.411 | 69 | 11903 | 9.02 | ug/L | | 96 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 7305 | 8.35 | ug/L | | 94 |
| 80) tetrachloroethene | 12.798 | 164 | 9158 | 7.94 | ug/L | | 98 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 13583 | 8.47 | ug/L | | 98 |
| 82) 2-hexanone | 12.808 | 58 | 13004 | 36.04 | ug/L | | 98 |
| 83) butyl acetate | 12.871 | 56 | 5704 | 8.67 | ug/L | | 90 |
| 84) dibromochloromethane | 13.096 | 129 | 10788 | 8.20 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 11521 | 8.29 | ug/L | | 98 |
| 86) n-butyl ether | 13.577 | 57 | 40932 | 8.20 | ug/L | | 98 |
| 87) chlorobenzene | 13.692 | 112 | 27854 | 8.27 | ug/L | | 96 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 10203 | 8.33 | ug/L | | 95 |
| 89) ethylbenzene | 13.734 | 91 | 49501 | 8.11 | ug/L | | 99 |
| 90) m,p-xylene | 13.838 | 106 | 37519 | 16.55 | ug/L | | 98 |
| 91) o-xylene | 14.257 | 106 | 18029 | 8.33 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164009.D
Acq On : 24 Apr 2019 4:58 pm
Operator : ROBERTS
Sample : IC7200-8
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 07:58:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

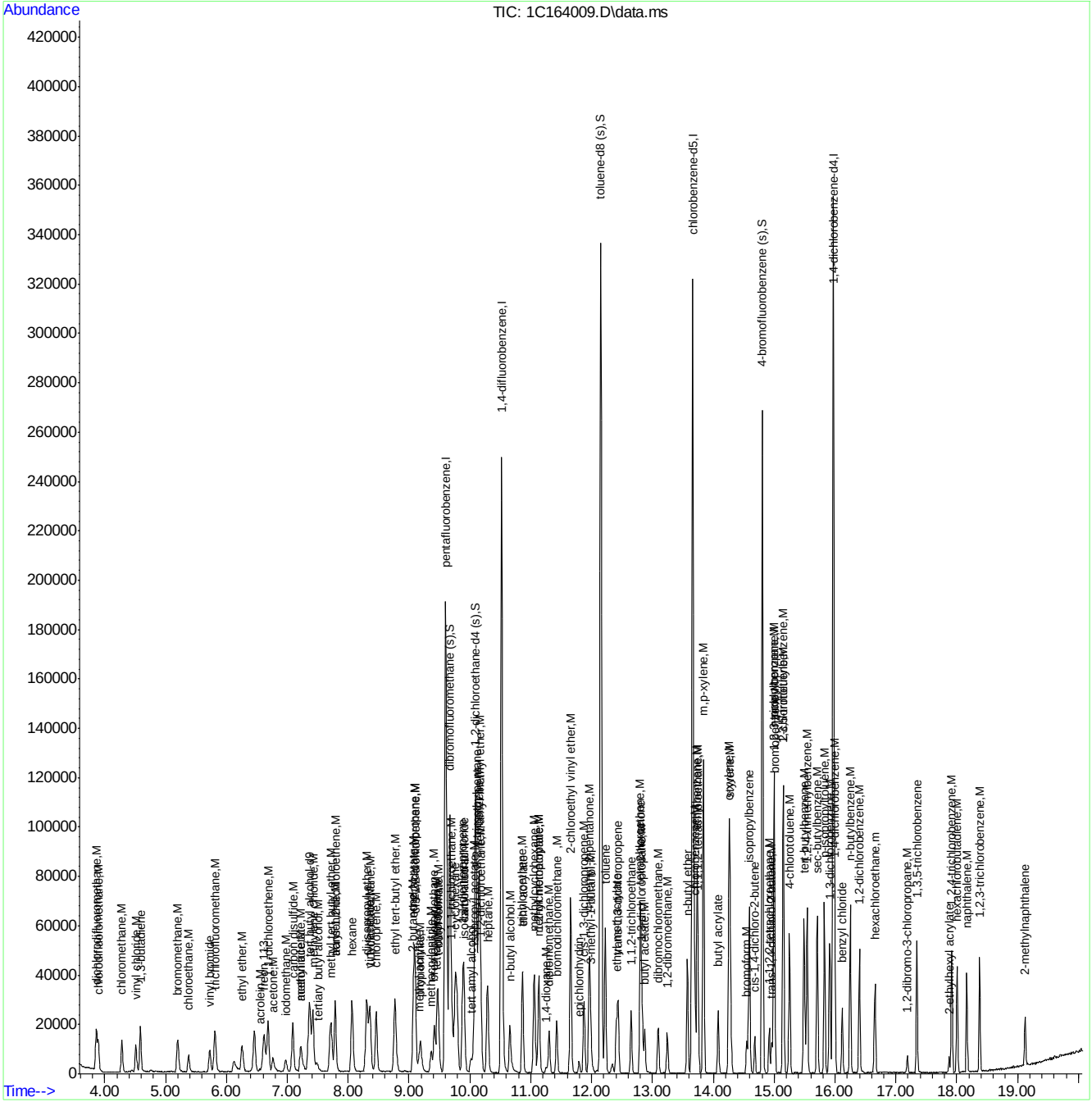
| | Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) | styrene | 14.273 | 104 | 30192 | 8.41 ug/L | 95 |
| 93) | bromoform | 14.550 | 173 | 6477 | 8.12 ug/L | 98 |
| 94) | butyl acrylate | 14.079 | 55 | 17800 | 8.47 ug/L | 97 |
| 95) | isopropylbenzene | 14.592 | 105 | 46854 | 8.05 ug/L | 99 |
| 96) | cis-1,4-dichloro-2-butene | 14.686 | 88 | 4022 | 8.14 ug/L | 95 |
| 99) | bromobenzene | 15.005 | 156 | 12275 | 8.28 ug/L | 93 |
| 100) | 1,1,2,2-tetrachloroethane | 14.916 | 83 | 9715 | 8.35 ug/L | 99 |
| 101) | trans-1,4-dichloro-2-b... | 14.958 | 53 | 2608 | 8.17 ug/L | 99 |
| 102) | 1,2,3-trichloropropane | 14.994 | 110 | 2515 | 8.38 ug/L | 93 |
| 103) | n-propylbenzene | 15.000 | 91 | 55956 | 8.20 ug/L | 99 |
| 105) | 2-chlorotoluene | 15.151 | 126 | 11030 | 8.31 ug/L | 91 |
| 106) | 4-chlorotoluene | 15.251 | 91 | 34145 | 8.13 ug/L | 96 |
| 107) | 1,3,5-trimethylbenzene | 15.146 | 105 | 40627 | 8.25 ug/L | 99 |
| 108) | tert-butylbenzene | 15.491 | 134 | 6871 | 8.34 ug/L | 92 |
| 109) | 1,2,4-trimethylbenzene | 15.543 | 105 | 39918 | 8.10 ug/L | 97 |
| 110) | sec-butylbenzene | 15.711 | 105 | 49369 | 8.07 ug/L | 99 |
| 111) | 1,3-dichlorobenzene | 15.915 | 146 | 22878 | 8.14 ug/L | 96 |
| 112) | p-isopropyltoluene | 15.826 | 119 | 43136 | 8.20 ug/L | 99 |
| 113) | 1,4-dichlorobenzene | 15.999 | 146 | 23150 | 8.25 ug/L | 98 |
| 114) | benzyl chloride | 16.119 | 91 | 20601 | 8.53 ug/L | 96 |
| 115) | 1,2-dichlorobenzene | 16.401 | 146 | 21851 | 8.34 ug/L | 98 |
| 117) | n-butylbenzene | 16.250 | 92 | 21929 | 8.20 ug/L | 96 |
| 118) | 1,2-dibromo-3-chloropr... | 17.186 | 75 | 1970 | 8.46 ug/L | 91 |
| 119) | 1,3,5-trichlorobenzene | 17.348 | 180 | 17399 | 8.07 ug/L | 98 |
| 121) | 2-ethylhexyl acrylate | 17.881 | 70 | 1537 | 1.42 ug/L | 84 |
| 122) | 1,2,4-trichlorobenzene | 17.918 | 180 | 14615 | 8.32 ug/L | 94 |
| 123) | hexachlorobutadiene | 18.007 | 225 | 10064 | 8.16 ug/L | 97 |
| 124) | naphthalene | 18.164 | 128 | 28695 | 8.39 ug/L | 97 |
| 125) | 1,2,3-trichlorobenzene | 18.378 | 180 | 13878 | 8.36 ug/L | 99 |
| 126) | hexachloroethane | 16.658 | 201 | 7461 | 7.97 ug/L | 95 |
| 127) | 2-methylnaphthalene | 19.126 | 142 | 8707 | 4.00 ug/L | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164009.D
Acq On : 24 Apr 2019 4:58 pm
Operator : ROBERTS
Sample : IC7200-8
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 25 07:58:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164010.D
Acq On : 24 Apr 2019 5:24 pm
Operator : ROBERTS
Sample : IC7200-20
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 07:59:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 54717 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 165339 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 229939 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.656 | 117 | 181832 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 94337 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 69877 | 50.11 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 100.22% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 73480 | 50.97 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 101.94% | | | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 243555 | 49.73 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 99.46% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 87595 | 49.46 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 98.92% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 14659 | 100.86 | ug/L | 97 |
| 4) 1,4-dioxane | 11.255 | 88 | 6632 | 499.79 | ug/L | 100 |
| 6) chlorodifluoromethane | 3.896 | 51 | 33557 | 19.48 | ug/L | 98 |
| 7) dichlorodifluoromethane | 3.864 | 85 | 51843 | 21.21 | ug/L | 100 |
| 8) chloromethane | 4.278 | 50 | 35633 | 19.88 | ug/L | 99 |
| 9) vinyl chloride | 4.513 | 62 | 35395 | 20.98 | ug/L | 99 |
| 10) 1,3-butadiene | 4.586 | 54 | 21366 | 20.18 | ug/L | 98 |
| 11) bromomethane | 5.198 | 94 | 25577 | 19.89 | ug/L | 97 |
| 12) chloroethane | 5.376 | 64 | 20761 | 20.92 | ug/L | 97 |
| 13) trichlorofluoromethane | 5.815 | 101 | 53015 | 21.07 | ug/L | 98 |
| 14) vinyl bromide | 5.721 | 106 | 20519 | 20.79 | ug/L | 99 |
| 15) ethyl ether | 6.260 | 74 | 13547 | 20.16 | ug/L | 96 |
| 16) acrolein | 6.553 | 56 | 3446 | 19.96 | ug/L | 97 |
| 17) freon 113 | 6.621 | 151 | 22266 | 20.01 | ug/L | 97 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 26028 | 19.23 | ug/L | 97 |
| 19) acetone | 6.757 | 43 | 26667 | 79.14 | ug/L | 97 |
| 20) acetonitrile | 7.217 | 41 | 28821 | 211.38 | ug/L | 99 |
| 21) iodomethane | 6.971 | 142 | 22193 | 16.69 | ug/L | 97 |
| 22) carbon disulfide | 7.092 | 76 | 81917 | 18.74 | ug/L | 99 |
| 23) methylene chloride | 7.421 | 84 | 28737 | 19.57 | ug/L | 100 |
| 24) methyl acetate | 7.217 | 43 | 16682 | 20.44 | ug/L | 96 |
| 25) methyl tert butyl ether | 7.714 | 73 | 73230 | 19.96 | ug/L | 100 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 29156 | 19.41 | ug/L | 98 |
| 27) di-isopropyl ether | 8.305 | 45 | 90848 | 20.12 | ug/L | 100 |
| 28) 2-butanone | 9.069 | 72 | 10546 | 83.42 | ug/L | 97 |
| 29) 1,1-dichloroethane | 8.363 | 63 | 51871 | 20.35 | ug/L | 98 |
| 30) chloroprene | 8.462 | 53 | 44580 | 20.28 | ug/L | 98 |
| 31) acrylonitrile | 7.777 | 53 | 7553 | 20.58 | ug/L | 99 |
| 32) hexane | 8.064 | 57 | 46056 | 19.73 | ug/L | 97 |
| 33) vinyl acetate | 8.342 | 86 | 4465 | 21.01 | ug/L # | 88 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 88516 | 20.34 | ug/L | 98 |
| 35) ethyl acetate | 9.074 | 45 | 3349 | 20.99 | ug/L # | 78 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164010.D
Acq On : 24 Apr 2019 5:24 pm
Operator : ROBERTS
Sample : IC7200-20
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 07:59:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 44448 | 19.56 | ug/L | | 99 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 32029 | 19.75 | ug/L | | 96 |
| 38) methyl acrylate | 9.157 | 85 | 3424 | 20.57 | ug/L | | 98 |
| 39) propionitrile | 9.189 | 54 | 33412 | 208.61 | ug/L | | 99 |
| 40) bromochloromethane | 9.414 | 128 | 14394 | 20.44 | ug/L | | 93 |
| 41) tetrahydrofuran | 9.450 | 72 | 3081 | 20.68 | ug/L | # | 84 |
| 42) chloroform | 9.471 | 85 | 34787 | 19.28 | ug/L | | 96 |
| 43) t-butyl formate | 9.482 | 59 | 17760 | 18.30 | ug/L | | 94 |
| 45) methacrylonitrile | 9.361 | 67 | 9362 | 20.25 | ug/L | | 96 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 46731 | 20.01 | ug/L | | 97 |
| 47) cyclohexane | 9.759 | 84 | 49405 | 21.43 | ug/L | | 99 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 39485 | 19.96 | ug/L | | 99 |
| 49) iso-butyl alcohol | 9.905 | 43 | 10669 | 206.54 | ug/L | | 92 |
| 50) carbon tetrachloride | 9.900 | 117 | 40687 | 19.95 | ug/L | | 100 |
| 51) tert amyl alcohol | 10.020 | 55 | 4797 | 98.63 | ug/L | | 98 |
| 54) n-butyl alcohol | 10.653 | 56 | 34678 | 1033.71 | ug/L | | 99 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 112791 | 20.43 | ug/L | | 99 |
| 56) benzene | 10.151 | 78 | 113319 | 19.68 | ug/L | | 100 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 18608 | 20.74 | ug/L | | 99 |
| 58) heptane | 10.287 | 71 | 25263 | 20.33 | ug/L | | 97 |
| 59) isopropyl acetate | 10.062 | 87 | 4689 | 19.69 | ug/L | # | 91 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 36540 | 19.52 | ug/L | | 98 |
| 61) trichloroethene | 10.863 | 130 | 30069 | 20.29 | ug/L | | 98 |
| 62) ethyl acrylate | 10.863 | 55 | 28474 | 20.47 | ug/L | | 99 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 67512 | 98.79 | ug/L | | 99 |
| 65) methyl methacrylate | 11.129 | 100 | 5793 | 20.14 | ug/L | # | 88 |
| 66) 1,2-dichloropropane | 11.140 | 63 | 28411 | 20.73 | ug/L | | 97 |
| 67) dibromomethane | 11.307 | 93 | 16186 | 20.17 | ug/L | | 96 |
| 68) methylcyclohexane | 11.061 | 83 | 48530 | 18.99 | ug/L | | 98 |
| 69) bromodichloromethane | 11.427 | 83 | 38623 | 19.89 | ug/L | | 99 |
| 70) epichlorohydrin | 11.799 | 57 | 11113 | 100.85 | ug/L | | 92 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 44783 | 20.09 | ug/L | | 97 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 31548 | 79.24 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 20910 | 414.68 | ug/L | | 97 |
| 76) toluene | 12.222 | 92 | 63153 | 18.98 | ug/L | | 98 |
| 77) trans-1,3-dichloropropene | 12.437 | 75 | 37159 | 19.84 | ug/L | | 99 |
| 78) ethyl methacrylate | 12.405 | 69 | 27693 | 20.92 | ug/L | | 97 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 17938 | 20.46 | ug/L | | 96 |
| 80) tetrachloroethene | 12.803 | 164 | 22580 | 19.51 | ug/L | | 96 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 32654 | 20.31 | ug/L | | 94 |
| 82) 2-hexanone | 12.803 | 58 | 30006 | 82.95 | ug/L | | 94 |
| 83) butyl acetate | 12.871 | 56 | 13272 | 20.13 | ug/L | | 99 |
| 84) dibromochloromethane | 13.096 | 129 | 26291 | 19.94 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 28899 | 20.75 | ug/L | | 100 |
| 86) n-butyl ether | 13.572 | 57 | 97742 | 19.52 | ug/L | | 100 |
| 87) chlorobenzene | 13.692 | 112 | 65368 | 19.36 | ug/L | | 98 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 24679 | 20.10 | ug/L | | 98 |
| 89) ethylbenzene | 13.734 | 91 | 115372 | 18.86 | ug/L | | 100 |
| 90) m,p-xylene | 13.839 | 106 | 87963 | 38.70 | ug/L | | 99 |
| 91) o-xylene | 14.257 | 106 | 42868 | 19.76 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164010.D
Acq On : 24 Apr 2019 5:24 pm
Operator : ROBERTS
Sample : IC7200-20
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 07:59:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 92) styrene | 14.273 | 104 | 71084 | 19.75 | ug/L | 97 |
| 93) bromoform | 14.550 | 173 | 15846 | 19.81 | ug/L | 95 |
| 94) butyl acrylate | 14.079 | 55 | 42733 | 20.28 | ug/L | 98 |
| 95) isopropylbenzene | 14.592 | 105 | 112759 | 19.32 | ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 14.686 | 88 | 9706 | 19.59 | ug/L | 99 |
| 99) bromobenzene | 15.000 | 156 | 29229 | 19.73 | ug/L | 96 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 23377 | 20.12 | ug/L | 99 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 6157 | 19.31 | ug/L | 96 |
| 102) 1,2,3-trichloropropane | 14.989 | 110 | 6051 | 20.19 | ug/L | 94 |
| 103) n-propylbenzene | 15.000 | 91 | 131766 | 19.34 | ug/L | 99 |
| 105) 2-chlorotoluene | 15.151 | 126 | 26328 | 19.85 | ug/L | 91 |
| 106) 4-chlorotoluene | 15.251 | 91 | 80570 | 19.22 | ug/L | 99 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 94881 | 19.31 | ug/L | 99 |
| 108) tert-butylbenzene | 15.491 | 134 | 16810 | 20.44 | ug/L | 91 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 95257 | 19.35 | ug/L | 97 |
| 110) sec-butylbenzene | 15.706 | 105 | 119026 | 19.48 | ug/L | 99 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 54886 | 19.57 | ug/L | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 103841 | 19.76 | ug/L | 99 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 53986 | 19.26 | ug/L | 99 |
| 114) benzyl chloride | 16.119 | 91 | 46603 | 19.32 | ug/L | 100 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 51807 | 19.79 | ug/L | 98 |
| 117) n-butylbenzene | 16.250 | 92 | 52422 | 19.63 | ug/L | 98 |
| 118) 1,2-dibromo-3-chloropr... | 17.186 | 75 | 4774 | 20.53 | ug/L | 95 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 42154 | 19.57 | ug/L | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 3815 | 3.54 | ug/L | 97 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 34835 | 19.85 | ug/L | 96 |
| 123) hexachlorobutadiene | 18.007 | 225 | 24338 | 19.76 | ug/L | 99 |
| 124) naphthalene | 18.164 | 128 | 68377 | 20.03 | ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 31839 | 19.21 | ug/L | 99 |
| 126) hexachloroethane | 16.658 | 201 | 18468 | 19.77 | ug/L | 97 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 21172 | 9.74 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

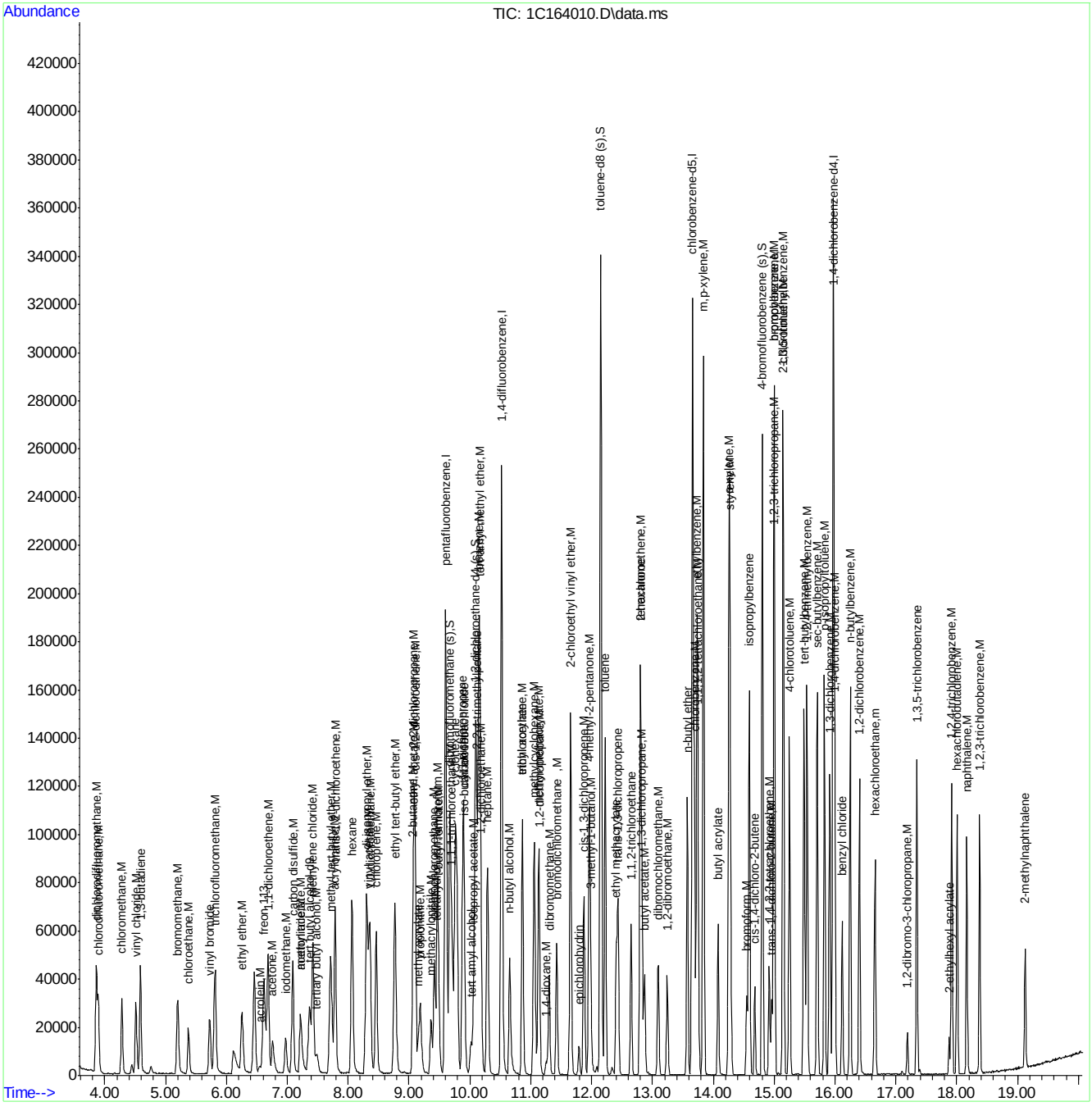
7.7.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164010.D
Acq On : 24 Apr 2019 5:24 pm
Operator : ROBERTS
Sample : IC7200-20
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 25 07:59:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164011.D
Acq On : 24 Apr 2019 5:51 pm
Operator : ROBERTS
Sample : ICC7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 08:00:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 56373 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 164623 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.522 | 114 | 233011 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 181991 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 95487 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 69994 | 50.42 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 100.84% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 71506 | 48.95 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 97.90% | | | | | | |
| 75) toluene-d8 (s) | 12.154 | 98 | 243344 | 49.64 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 99.28% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 88912 | 49.60 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 99.20% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.484 | 59 | 36614 | 244.53 | ug/L | 100 |
| 4) 1,4-dioxane | 11.255 | 88 | 17321 | 1266.97 | ug/L | 100 |
| 6) chlorodifluoromethane | 3.896 | 51 | 90321 | 52.65 | ug/L | 100 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 128184 | 52.67 | ug/L | 100 |
| 8) chloromethane | 4.277 | 50 | 89458 | 50.13 | ug/L | 100 |
| 9) vinyl chloride | 4.513 | 62 | 88173 | 52.49 | ug/L | 100 |
| 10) 1,3-butadiene | 4.586 | 54 | 56832 | 53.90 | ug/L | 100 |
| 11) bromomethane | 5.198 | 94 | 63134 | 49.32 | ug/L | 100 |
| 12) chloroethane | 5.376 | 64 | 51243 | 51.85 | ug/L | 100 |
| 13) trichlorofluoromethane | 5.810 | 101 | 132054 | 52.72 | ug/L | 100 |
| 14) vinyl bromide | 5.721 | 106 | 51408 | 52.32 | ug/L | 100 |
| 15) ethyl ether | 6.255 | 74 | 35117 | 52.48 | ug/L | 100 |
| 16) acrolein | 6.537 | 56 | 8835 | 51.39 | ug/L | 100 |
| 17) freon 113 | 6.621 | 151 | 59753 | 53.94 | ug/L | 100 |
| 18) 1,1-dichloroethene | 6.683 | 96 | 69437 | 51.53 | ug/L | 100 |
| 19) acetone | 6.757 | 43 | 65472 | 195.15 | ug/L | 100 |
| 20) acetonitrile | 7.212 | 41 | 69713 | 513.51 | ug/L | 100 |
| 21) iodomethane | 6.971 | 142 | 71724 | 47.52 | ug/L | 100 |
| 22) carbon disulfide | 7.086 | 76 | 215170 | 49.44 | ug/L | 100 |
| 23) methylene chloride | 7.421 | 84 | 73348 | 50.18 | ug/L | 100 |
| 24) methyl acetate | 7.206 | 43 | 41930 | 51.59 | ug/L | 100 |
| 25) methyl tert butyl ether | 7.714 | 73 | 190536 | 52.17 | ug/L | 100 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 74779 | 49.99 | ug/L | 100 |
| 27) di-isopropyl ether | 8.305 | 45 | 231495 | 51.49 | ug/L | 100 |
| 28) 2-butanone | 9.063 | 72 | 26364 | 209.46 | ug/L | 100 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 129096 | 50.86 | ug/L | 100 |
| 30) chloroprene | 8.456 | 53 | 114424 | 52.29 | ug/L | 100 |
| 31) acrylonitrile | 7.771 | 53 | 19090 | 52.23 | ug/L | 100 |
| 32) hexane | 8.064 | 57 | 122299 | 52.61 | ug/L | 100 |
| 33) vinyl acetate | 8.341 | 86 | 11510 | 54.38 | ug/L | 100 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 226990 | 52.38 | ug/L | 100 |
| 35) ethyl acetate | 9.068 | 45 | 8334 | 52.45 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164011.D
Acq On : 24 Apr 2019 5:51 pm
Operator : ROBERTS
Sample : ICC7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 08:00:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 117154 | 51.77 | ug/L | 100 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 80856 | 50.08 | ug/L | 100 |
| 38) methyl acrylate | 9.152 | 85 | 9117 | 55.00 | ug/L | 100 |
| 39) propionitrile | 9.183 | 54 | 81216 | 509.27 | ug/L | 100 |
| 40) bromochloromethane | 9.419 | 128 | 36596 | 52.19 | ug/L | 100 |
| 41) tetrahydrofuran | 9.445 | 72 | 7683 | 51.78 | ug/L | 100 |
| 42) chloroform | 9.466 | 85 | 86994 | 48.42 | ug/L | 100 |
| 43) t-butyl formate | 9.482 | 59 | 54897 | 56.81 | ug/L | 100 |
| 45) methacrylonitrile | 9.361 | 67 | 24468 | 53.15 | ug/L | 100 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 122706 | 52.78 | ug/L | 100 |
| 47) cyclohexane | 9.759 | 84 | 117872 | 51.36 | ug/L | 100 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 102154 | 51.87 | ug/L | 100 |
| 49) iso-butyl alcohol | 9.900 | 43 | 25743 | 500.52 | ug/L | 100 |
| 50) carbon tetrachloride | 9.900 | 117 | 107353 | 52.87 | ug/L | 100 |
| 51) tert amyl alcohol | 10.020 | 55 | 12393 | 255.92 | ug/L | 100 |
| 54) n-butyl alcohol | 10.653 | 56 | 89284 | 2626.36 | ug/L | 100 |
| 55) 2,2,4-trimethylpentane | 10.114 | 57 | 289122 | 51.68 | ug/L | 100 |
| 56) benzene | 10.151 | 78 | 281491 | 48.25 | ug/L | 100 |
| 57) tert-amyl methyl ether | 10.162 | 87 | 47297 | 52.02 | ug/L | 100 |
| 58) heptane | 10.287 | 71 | 65199 | 51.79 | ug/L | 100 |
| 59) isopropyl acetate | 10.062 | 87 | 12665 | 52.48 | ug/L | 100 |
| 60) 1,2-dichloroethane | 10.182 | 62 | 90613 | 47.77 | ug/L | 100 |
| 61) trichloroethene | 10.862 | 130 | 77997 | 51.94 | ug/L | 100 |
| 62) ethyl acrylate | 10.862 | 55 | 73915 | 52.45 | ug/L | 100 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 192296 | 277.69 | ug/L | 100 |
| 65) methyl methacrylate | 11.124 | 100 | 14883 | 51.05 | ug/L | 100 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 69478 | 50.01 | ug/L | 100 |
| 67) dibromomethane | 11.302 | 93 | 41830 | 51.44 | ug/L | 100 |
| 68) methylcyclohexane | 11.061 | 83 | 126577 | 48.88 | ug/L | 100 |
| 69) bromodichloromethane | 11.427 | 83 | 101243 | 51.44 | ug/L | 100 |
| 70) epichlorohydrin | 11.788 | 57 | 28364 | 254.02 | ug/L | 100 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 115388 | 51.08 | ug/L | 100 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 79338 | 196.66 | ug/L | 100 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 52697 | 1031.29 | ug/L | 100 |
| 76) toluene | 12.222 | 92 | 161091 | 48.36 | ug/L | 100 |
| 77) trans-1,3-dichloropropene | 12.431 | 75 | 96510 | 51.49 | ug/L | 100 |
| 78) ethyl methacrylate | 12.405 | 69 | 70204 | 52.99 | ug/L | 100 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 46466 | 52.95 | ug/L | 100 |
| 80) tetrachloroethene | 12.803 | 164 | 59873 | 51.70 | ug/L | 100 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 82462 | 51.24 | ug/L | 100 |
| 82) 2-hexanone | 12.803 | 58 | 73296 | 202.44 | ug/L | 100 |
| 83) butyl acetate | 12.871 | 56 | 33189 | 50.29 | ug/L | 100 |
| 84) dibromochloromethane | 13.096 | 129 | 69957 | 53.02 | ug/L | 100 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 73605 | 52.79 | ug/L | 100 |
| 86) n-butyl ether | 13.572 | 57 | 250704 | 50.03 | ug/L | 100 |
| 87) chlorobenzene | 13.687 | 112 | 167537 | 49.57 | ug/L | 100 |
| 88) 1,1,1,2-tetrachloroethane | 13.749 | 131 | 65035 | 52.92 | ug/L | 100 |
| 89) ethylbenzene | 13.734 | 91 | 298727 | 48.78 | ug/L | 100 |
| 90) m,p-xylene | 13.838 | 106 | 222121 | 97.64 | ug/L | 100 |
| 91) o-xylene | 14.257 | 106 | 108443 | 49.93 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164011.D
Acq On : 24 Apr 2019 5:51 pm
Operator : ROBERTS
Sample : ICC7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 08:00:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 92) styrene | 14.272 | 104 | 180980 | 50.25 ug/L | 100 |
| 93) bromoform | 14.550 | 173 | 43307 | 54.08 ug/L | 100 |
| 94) butyl acrylate | 14.079 | 55 | 109563 | 51.94 ug/L | 100 |
| 95) isopropylbenzene | 14.592 | 105 | 288577 | 49.39 ug/L | 100 |
| 96) cis-1,4-dichloro-2-butene | 14.680 | 88 | 25503 | 51.42 ug/L | 100 |
| 99) bromobenzene | 14.999 | 156 | 74780 | 49.88 ug/L | 100 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 60734 | 51.65 ug/L | 100 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 16558 | 51.31 ug/L | 100 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 15415 | 50.81 ug/L | 100 |
| 103) n-propylbenzene | 14.999 | 91 | 344035 | 49.89 ug/L | 100 |
| 105) 2-chlorotoluene | 15.156 | 126 | 67254 | 50.11 ug/L | 100 |
| 106) 4-chlorotoluene | 15.251 | 91 | 206975 | 48.78 ug/L | 100 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 247192 | 49.69 ug/L | 100 |
| 108) tert-butylbenzene | 15.491 | 134 | 43315 | 52.04 ug/L | 100 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 243979 | 48.97 ug/L | 100 |
| 110) sec-butylbenzene | 15.706 | 105 | 311051 | 50.30 ug/L | 100 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 139799 | 49.23 ug/L | 100 |
| 112) p-isopropyltoluene | 15.826 | 119 | 266385 | 50.08 ug/L | 100 |
| 113) 1,4-dichlorobenzene | 15.998 | 146 | 139927 | 49.33 ug/L | 100 |
| 114) benzyl chloride | 16.119 | 91 | 125008 | 51.19 ug/L | 100 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 134309 | 50.69 ug/L | 100 |
| 117) n-butylbenzene | 16.250 | 92 | 135625 | 50.17 ug/L | 100 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 11999 | 50.98 ug/L | 100 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 109002 | 49.99 ug/L | 100 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 11145 | 10.22 ug/L | 100 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 90974 | 51.22 ug/L | 100 |
| 123) hexachlorobutadiene | 18.007 | 225 | 64340 | 51.61 ug/L | 100 |
| 124) naphthalene | 18.164 | 128 | 174189 | 50.42 ug/L | 100 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 84916 | 50.61 ug/L | 100 |
| 126) hexachloroethane | 16.657 | 201 | 50069 | 52.94 ug/L | 100 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 58392 | 26.54 ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

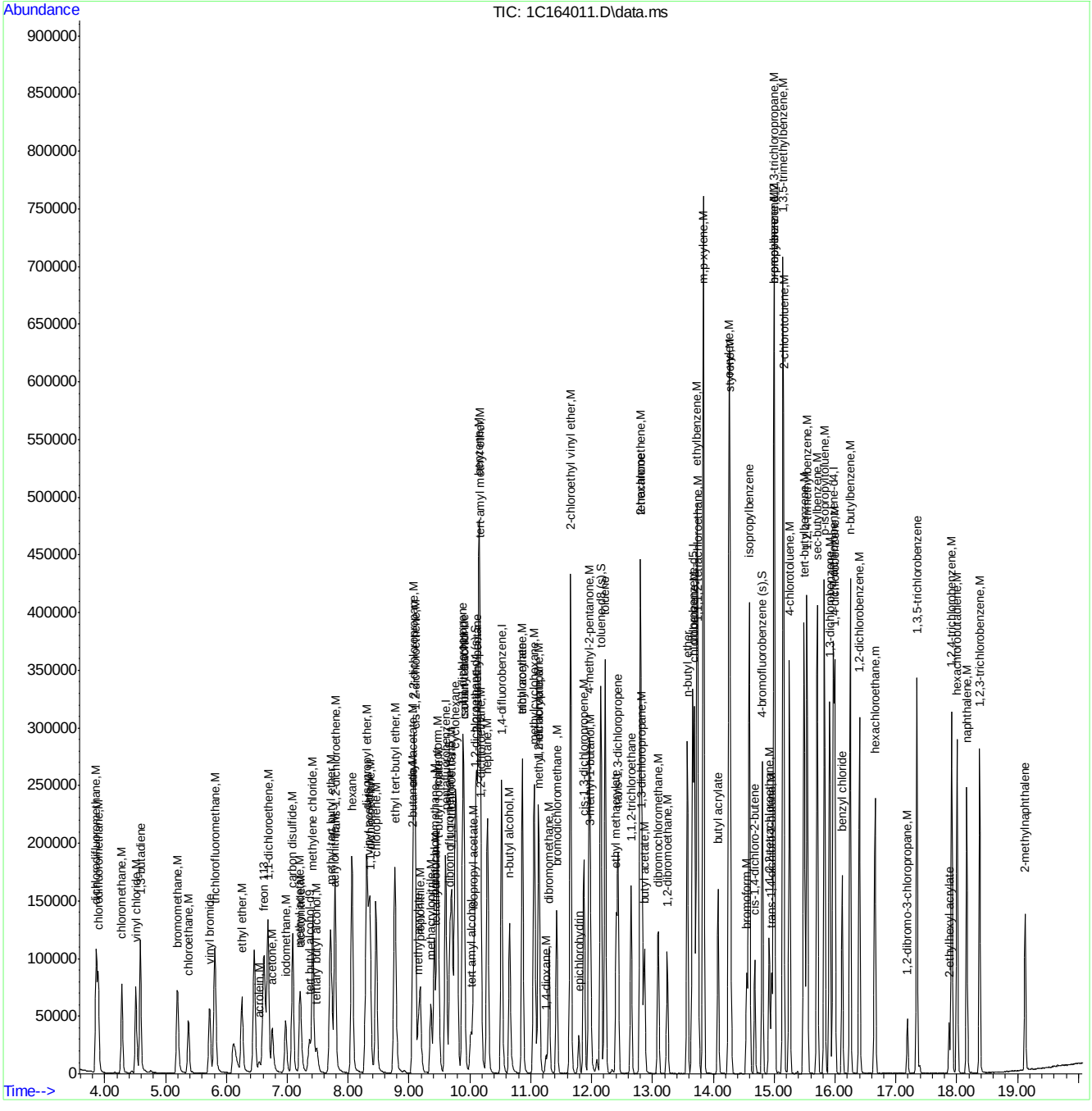
7.2.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164011.D
Acq On : 24 Apr 2019 5:51 pm
Operator : ROBERTS
Sample : ICC7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 25 08:00:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164012.D
Acq On : 24 Apr 2019 6:17 pm
Operator : ROBERTS
Sample : IC7200-100
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 08:01:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 54362 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 164574 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 234870 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 183738 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 97215 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 70392 | 50.72 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 101.44% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.089 | 65 | 72935 | 49.53 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 99.06% | | | | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 247436 | 49.99 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 99.98% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 91427 | 50.10 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 100.20% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.484 | 59 | 75126 | 520.30 | ug/L | 99 |
| 4) 1,4-dioxane | 11.250 | 88 | 35303 | 2677.82 | ug/L | 100 |
| 6) chlorodifluoromethane | 3.896 | 51 | 175905 | 102.58 | ug/L | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 251851 | 103.51 | ug/L | 99 |
| 8) chloromethane | 4.278 | 50 | 174007 | 97.53 | ug/L | 100 |
| 9) vinyl chloride | 4.513 | 62 | 170167 | 101.32 | ug/L | 98 |
| 10) 1,3-butadiene | 4.586 | 54 | 108887 | 103.30 | ug/L | 97 |
| 11) bromomethane | 5.193 | 94 | 121094 | 94.62 | ug/L | 99 |
| 12) chloroethane | 5.371 | 64 | 102265 | 103.50 | ug/L | 99 |
| 13) trichlorofluoromethane | 5.810 | 101 | 257020 | 102.63 | ug/L | 98 |
| 14) vinyl bromide | 5.721 | 106 | 100668 | 102.48 | ug/L | 98 |
| 15) ethyl ether | 6.255 | 74 | 70390 | 105.23 | ug/L | 98 |
| 16) acrolein | 6.537 | 56 | 17990 | 104.67 | ug/L | 96 |
| 17) freon 113 | 6.616 | 151 | 115449 | 104.25 | ug/L | 98 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 133249 | 98.91 | ug/L | 98 |
| 19) acetone | 6.752 | 43 | 136356 | 406.55 | ug/L | 100 |
| 20) acetonitrile | 7.212 | 41 | 139353 | 1026.78 | ug/L | 99 |
| 21) iodomethane | 6.971 | 142 | 161754 | 103.49 | ug/L | 99 |
| 22) carbon disulfide | 7.086 | 76 | 412730 | 94.86 | ug/L | 99 |
| 23) methylene chloride | 7.421 | 84 | 144165 | 98.65 | ug/L | 99 |
| 24) methyl acetate | 7.207 | 43 | 81159 | 99.90 | ug/L | 98 |
| 25) methyl tert butyl ether | 7.714 | 73 | 378515 | 103.67 | ug/L | 99 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 142185 | 95.07 | ug/L | 99 |
| 27) di-isopropyl ether | 8.305 | 45 | 456763 | 101.62 | ug/L | 98 |
| 28) 2-butanone | 9.063 | 72 | 52945 | 420.77 | ug/L | 93 |
| 29) 1,1-dichloroethane | 8.363 | 63 | 245160 | 96.62 | ug/L | 98 |
| 30) chloroprene | 8.462 | 53 | 219477 | 100.33 | ug/L | 99 |
| 31) acrylonitrile | 7.766 | 53 | 38255 | 104.69 | ug/L | 98 |
| 32) hexane | 8.064 | 57 | 234975 | 101.12 | ug/L | 98 |
| 33) vinyl acetate | 8.336 | 86 | 22383 | 105.79 | ug/L # | 95 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 449388 | 103.73 | ug/L | 99 |
| 35) ethyl acetate | 9.069 | 45 | 16246 | 102.27 | ug/L # | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164012.D
Acq On : 24 Apr 2019 6:17 pm
Operator : ROBERTS
Sample : IC7200-100
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 08:01:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.079 | 77 | 223523 | 98.81 | ug/L | | 98 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 155780 | 96.52 | ug/L | | 99 |
| 38) methyl acrylate | 9.158 | 85 | 18192 | 109.78 | ug/L | # | 87 |
| 39) propionitrile | 9.184 | 54 | 159700 | 1001.72 | ug/L | | 98 |
| 40) bromochloromethane | 9.414 | 128 | 72220 | 103.02 | ug/L | | 96 |
| 41) tetrahydrofuran | 9.445 | 72 | 15206 | 102.52 | ug/L | | 98 |
| 42) chloroform | 9.466 | 85 | 168040 | 93.56 | ug/L | | 99 |
| 43) t-butyl formate | 9.477 | 59 | 97174 | 100.60 | ug/L | | 96 |
| 45) methacrylonitrile | 9.356 | 67 | 47742 | 103.75 | ug/L | | 96 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 238226 | 102.50 | ug/L | | 99 |
| 47) cyclohexane | 9.759 | 84 | 226538 | 98.73 | ug/L | | 99 |
| 48) 1,1-dichloropropene | 9.885 | 75 | 193904 | 98.48 | ug/L | | 99 |
| 49) iso-butyl alcohol | 9.900 | 43 | 50930 | 990.53 | ug/L | | 96 |
| 50) carbon tetrachloride | 9.900 | 117 | 207463 | 102.20 | ug/L | | 99 |
| 51) tert amyl alcohol | 10.021 | 55 | 24638 | 508.94 | ug/L | | 98 |
| 54) n-butyl alcohol | 10.653 | 56 | 181265 | 5289.84 | ug/L | | 98 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 561985 | 99.66 | ug/L | | 99 |
| 56) benzene | 10.151 | 78 | 543215 | 92.38 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.157 | 87 | 93594 | 102.12 | ug/L | | 98 |
| 58) heptane | 10.287 | 71 | 126733 | 99.87 | ug/L | | 99 |
| 59) isopropyl acetate | 10.062 | 87 | 25717 | 105.72 | ug/L | # | 90 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 180067 | 94.18 | ug/L | | 99 |
| 61) trichloroethene | 10.863 | 130 | 151238 | 99.91 | ug/L | | 99 |
| 62) ethyl acrylate | 10.857 | 55 | 145668 | 102.54 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 344534 | 493.59 | ug/L | | 99 |
| 65) methyl methacrylate | 11.124 | 100 | 29939 | 101.88 | ug/L | | 98 |
| 66) 1,2-dichloropropane | 11.135 | 63 | 135409 | 96.70 | ug/L | | 99 |
| 67) dibromomethane | 11.302 | 93 | 83122 | 101.40 | ug/L | | 98 |
| 68) methylcyclohexane | 11.056 | 83 | 244623 | 93.72 | ug/L | | 99 |
| 69) bromodichloromethane | 11.427 | 83 | 204356 | 103.01 | ug/L | | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 57461 | 510.53 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 227902 | 100.08 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 157137 | 386.42 | ug/L | | 99 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 105565 | 2049.57 | ug/L | | 99 |
| 76) toluene | 12.222 | 92 | 319473 | 95.00 | ug/L | | 100 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 191542 | 101.22 | ug/L | | 98 |
| 78) ethyl methacrylate | 12.406 | 69 | 142307 | 106.40 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 93348 | 105.35 | ug/L | | 98 |
| 80) tetrachloroethene | 12.803 | 164 | 117586 | 100.56 | ug/L | | 99 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 164065 | 100.98 | ug/L | | 99 |
| 82) 2-hexanone | 12.803 | 58 | 145768 | 398.77 | ug/L | | 98 |
| 83) butyl acetate | 12.871 | 56 | 65653 | 98.54 | ug/L | | 99 |
| 84) dibromochloromethane | 13.096 | 129 | 144481 | 108.45 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 150074 | 106.62 | ug/L | | 99 |
| 86) n-butyl ether | 13.572 | 57 | 504362 | 99.69 | ug/L | | 100 |
| 87) chlorobenzene | 13.687 | 112 | 336438 | 98.61 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 130796 | 105.42 | ug/L | | 97 |
| 89) ethylbenzene | 13.734 | 91 | 588190 | 95.14 | ug/L | | 100 |
| 90) m,p-xylene | 13.839 | 106 | 438472 | 190.90 | ug/L | | 97 |
| 91) o-xylene | 14.257 | 106 | 212486 | 96.91 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164012.D
Acq On : 24 Apr 2019 6:17 pm
Operator : ROBERTS
Sample : IC7200-100
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 08:01:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

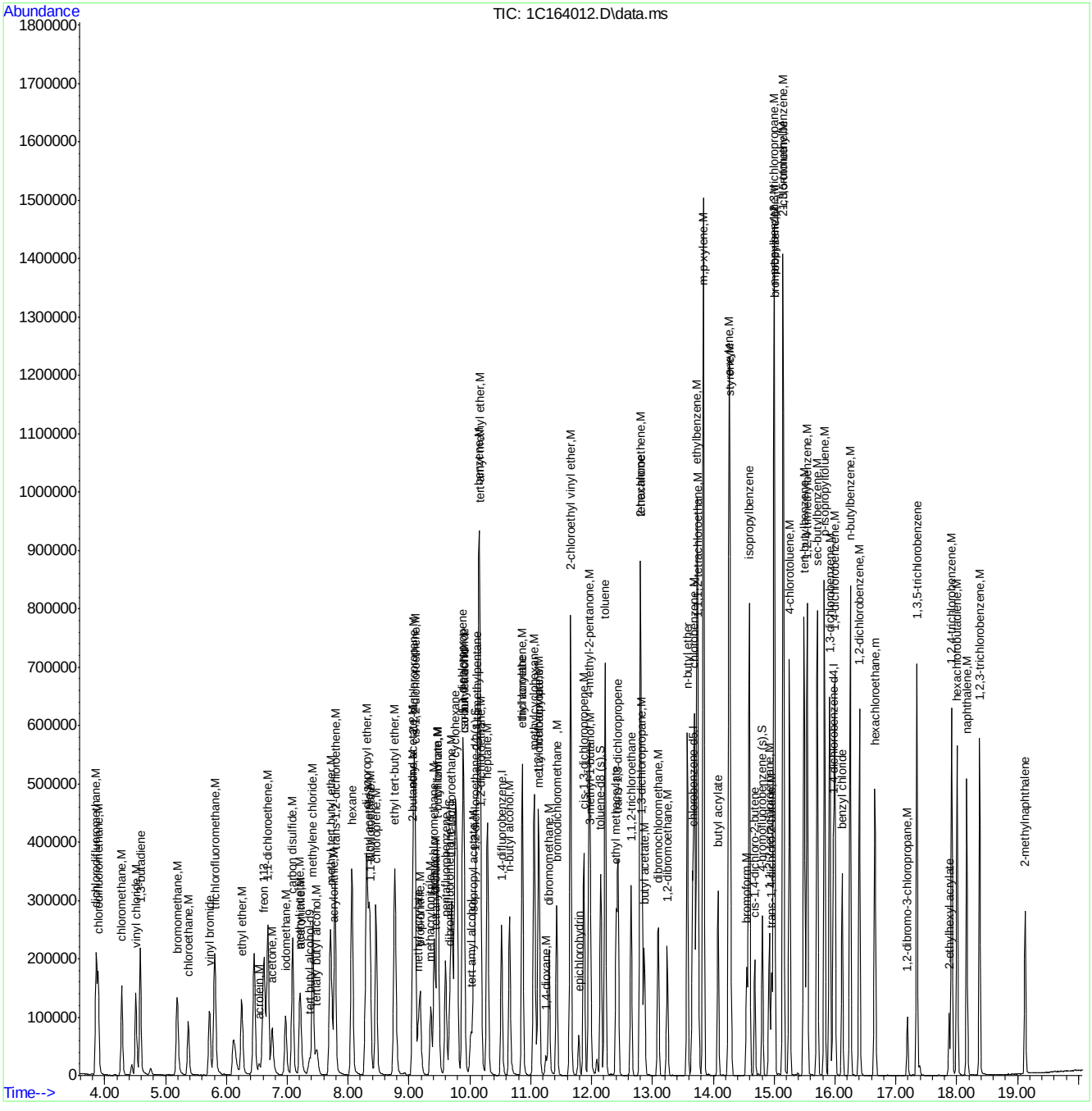
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) | styrene | 14.273 | 104 | 353538 | 97.23 | ug/L | 99 |
| 93) | bromoform | 14.550 | 173 | 90473 | 111.91 | ug/L | 100 |
| 94) | butyl acrylate | 14.079 | 55 | 219935 | 103.27 | ug/L | 98 |
| 95) | isopropylbenzene | 14.592 | 105 | 575810 | 97.62 | ug/L | 100 |
| 96) | cis-1,4-dichloro-2-butene | 14.686 | 88 | 53028 | 105.90 | ug/L | 97 |
| 99) | bromobenzene | 15.005 | 156 | 149860 | 98.19 | ug/L | 92 |
| 100) | 1,1,2,2-tetrachloroethane | 14.921 | 83 | 124527 | 104.01 | ug/L | 97 |
| 101) | trans-1,4-dichloro-2-b... | 14.958 | 53 | 33362 | 101.53 | ug/L | 92 |
| 102) | 1,2,3-trichloropropane | 14.994 | 110 | 31001 | 100.37 | ug/L | 99 |
| 103) | n-propylbenzene | 15.000 | 91 | 675283 | 96.19 | ug/L | 99 |
| 105) | 2-chlorotoluene | 15.151 | 126 | 133528 | 97.72 | ug/L | 90 |
| 106) | 4-chlorotoluene | 15.251 | 91 | 417206 | 96.57 | ug/L | 100 |
| 107) | 1,3,5-trimethylbenzene | 15.146 | 105 | 492609 | 97.26 | ug/L | 99 |
| 108) | tert-butylbenzene | 15.491 | 134 | 86331 | 101.87 | ug/L | 95 |
| 109) | 1,2,4-trimethylbenzene | 15.544 | 105 | 487621 | 96.12 | ug/L | 97 |
| 110) | sec-butylbenzene | 15.706 | 105 | 619600 | 98.41 | ug/L | 99 |
| 111) | 1,3-dichlorobenzene | 15.915 | 146 | 282370 | 97.68 | ug/L | 100 |
| 112) | p-isopropyltoluene | 15.826 | 119 | 531211 | 98.09 | ug/L | 99 |
| 113) | 1,4-dichlorobenzene | 15.999 | 146 | 281197 | 97.37 | ug/L | 99 |
| 114) | benzyl chloride | 16.119 | 91 | 254434 | 102.34 | ug/L | 98 |
| 115) | 1,2-dichlorobenzene | 16.401 | 146 | 270601 | 100.32 | ug/L | 99 |
| 117) | n-butylbenzene | 16.250 | 92 | 269323 | 97.85 | ug/L | 99 |
| 118) | 1,2-dibromo-3-chloropr... | 17.191 | 75 | 24716 | 103.14 | ug/L | 97 |
| 119) | 1,3,5-trichlorobenzene | 17.348 | 180 | 221999 | 100.01 | ug/L | 100 |
| 121) | 2-ethylhexyl acrylate | 17.876 | 70 | 24771 | 22.30 | ug/L | 94 |
| 122) | 1,2,4-trichlorobenzene | 17.918 | 180 | 186074 | 102.91 | ug/L | 100 |
| 123) | hexachlorobutadiene | 18.007 | 225 | 126500 | 99.66 | ug/L | 98 |
| 124) | naphthalene | 18.164 | 128 | 352248 | 100.14 | ug/L | 100 |
| 125) | 1,2,3-trichlorobenzene | 18.378 | 180 | 172497 | 100.99 | ug/L | 100 |
| 126) | hexachloroethane | 16.658 | 201 | 104355 | 108.39 | ug/L | 99 |
| 127) | 2-methylnaphthalene | 19.126 | 142 | 122310 | 54.61 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164012.D
Acq On : 24 Apr 2019 6:17 pm
Operator : ROBERTS
Sample : IC7200-100
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 25 08:01:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164013.D
Acq On : 24 Apr 2019 6:44 pm
Operator : ROBERTS
Sample : IC7200-200
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 08:02:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) tert butyl alcohol-d9 | 7.379 | 65 | 55377 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.602 | 168 | 166522 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 239614 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 189631 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 97742 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 70317 | 50.07 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.14% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 74062 | 49.30 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 98.60% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 251967 | 49.33 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.66% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 93115 | 50.75 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 101.50% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.494 | 59 | 150758 | 1024.96 | ug/L | 87 |
| 4) 1,4-dioxane | 11.250 | 88 | 71490 | 5323.29 | ug/L | 98 |
| 6) chlorodifluoromethane | 3.891 | 51 | 336323 | 193.83 | ug/L | 98 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 485415 | 197.18 | ug/L | 99 |
| 8) chloromethane | 4.278 | 50 | 322753 | 178.79 | ug/L | 99 |
| 9) vinyl chloride | 4.513 | 62 | 327982 | 193.01 | ug/L | 98 |
| 10) 1,3-butadiene | 4.581 | 54 | 208320 | 195.32 | ug/L | 98 |
| 11) bromomethane | 5.177 | 94 | 231204 | 178.55 | ug/L | 97 |
| 12) chloroethane | 5.366 | 64 | 191915 | 191.97 | ug/L | 99 |
| 13) trichlorofluoromethane | 5.805 | 101 | 490566 | 193.60 | ug/L | 98 |
| 14) vinyl bromide | 5.716 | 106 | 193285 | 194.46 | ug/L | 98 |
| 15) ethyl ether | 6.255 | 74 | 136622 | 201.85 | ug/L | 98 |
| 16) acrolein | 6.532 | 56 | 35961 | 206.78 | ug/L | 97 |
| 17) freon 113 | 6.616 | 151 | 222609 | 198.67 | ug/L | 98 |
| 18) 1,1-dichloroethene | 6.678 | 96 | 250089 | 183.46 | ug/L | 99 |
| 19) acetone | 6.752 | 43 | 260056 | 766.29 | ug/L | 98 |
| 20) acetonitrile | 7.212 | 41 | 273493 | 1991.58 | ug/L | 98 |
| 21) iodomethane | 6.971 | 142 | 323876 | 201.89 | ug/L | 99 |
| 22) carbon disulfide | 7.086 | 76 | 788625 | 179.14 | ug/L | 100 |
| 23) methylene chloride | 7.421 | 84 | 275371 | 186.23 | ug/L | 99 |
| 24) methyl acetate | 7.207 | 43 | 161252 | 196.16 | ug/L | 99 |
| 25) methyl tert butyl ether | 7.714 | 73 | 727040 | 196.79 | ug/L | 99 |
| 26) trans-1,2-dichloroethene | 7.782 | 96 | 268674 | 177.55 | ug/L | 98 |
| 27) di-isopropyl ether | 8.305 | 45 | 865623 | 190.34 | ug/L | 98 |
| 28) 2-butanone | 9.063 | 72 | 101400 | 796.43 | ug/L | 99 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 459392 | 178.94 | ug/L | 100 |
| 30) chloroprene | 8.457 | 53 | 418196 | 188.93 | ug/L | 100 |
| 31) acrylonitrile | 7.766 | 53 | 74917 | 202.63 | ug/L | 96 |
| 32) hexane | 8.059 | 57 | 446430 | 189.87 | ug/L | 99 |
| 33) vinyl acetate | 8.342 | 86 | 42812 | 199.98 | ug/L | 95 |
| 34) ethyl tert-butyl ether | 8.765 | 59 | 861092 | 196.44 | ug/L | 99 |
| 35) ethyl acetate | 9.069 | 45 | 31381 | 195.24 | ug/L # | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164013.D
Acq On : 24 Apr 2019 6:44 pm
Operator : ROBERTS
Sample : IC7200-200
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 08:02:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 422041 | 184.39 ug/L | 98 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 290081 | 177.63 ug/L | 99 |
| 38) methyl acrylate | 9.152 | 85 | 36271 | 216.32 ug/L | 96 |
| 39) propionitrile | 9.189 | 54 | 313364 | 1942.58 ug/L | 93 |
| 40) bromochloromethane | 9.414 | 128 | 135320 | 190.78 ug/L | 94 |
| 41) tetrahydrofuran | 9.445 | 72 | 29417 | 196.01 ug/L | 89 |
| 42) chloroform | 9.466 | 85 | 316928 | 174.39 ug/L | 98 |
| 43) t-butyl formate | 9.482 | 59 | 204142 | 208.86 ug/L | 95 |
| 45) methacrylonitrile | 9.356 | 67 | 93768 | 201.38 ug/L | 97 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 455508 | 193.69 ug/L | 99 |
| 47) cyclohexane | 9.759 | 84 | 427961 | 184.33 ug/L | 99 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 371977 | 186.71 ug/L | 99 |
| 49) iso-butyl alcohol | 9.905 | 43 | 101063 | 1942.56 ug/L | 96 |
| 50) carbon tetrachloride | 9.900 | 117 | 396026 | 192.81 ug/L | 99 |
| 51) tert amyl alcohol | 10.020 | 55 | 50140 | 1023.62 ug/L | 98 |
| 54) n-butyl alcohol | 10.659 | 56 | 360092 | 10300.49 ug/L | 98 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 1069898 | 185.98 ug/L | 99 |
| 56) benzene | 10.151 | 78 | 1006338 | 167.75 ug/L | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 179039 | 191.49 ug/L | 94 |
| 58) heptane | 10.287 | 71 | 240032 | 185.41 ug/L | 98 |
| 59) isopropyl acetate | 10.062 | 87 | 49710 | 200.31 ug/L # | 82 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 339158 | 173.88 ug/L | 99 |
| 61) trichloroethene | 10.863 | 130 | 287069 | 185.89 ug/L | 99 |
| 62) ethyl acrylate | 10.857 | 55 | 281989 | 194.57 ug/L | 97 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 692395 | 972.30 ug/L | 99 |
| 65) methyl methacrylate | 11.124 | 100 | 58167 | 194.02 ug/L | 95 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 254422 | 178.10 ug/L | 100 |
| 67) dibromomethane | 11.302 | 93 | 159805 | 191.09 ug/L | 99 |
| 68) methylcyclohexane | 11.056 | 83 | 469779 | 176.42 ug/L | 100 |
| 69) bromodichloromethane | 11.427 | 83 | 392194 | 193.77 ug/L | 100 |
| 70) epichlorohydrin | 11.788 | 57 | 113573 | 989.09 ug/L | 98 |
| 71) cis-1,3-dichloropropene | 11.877 | 75 | 440218 | 189.49 ug/L | 99 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 302097 | 728.19 ug/L | 99 |
| 73) 3-methyl-1-butanol | 11.987 | 55 | 210563 | 4007.20 ug/L | 96 |
| 76) toluene | 12.222 | 92 | 612236 | 176.39 ug/L | 98 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 370643 | 189.79 ug/L | 99 |
| 78) ethyl methacrylate | 12.405 | 69 | 273101 | 197.84 ug/L | 98 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 181425 | 198.40 ug/L | 98 |
| 80) tetrachloroethene | 12.798 | 164 | 224199 | 185.78 ug/L | 99 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 313423 | 186.92 ug/L | 99 |
| 82) 2-hexanone | 12.803 | 58 | 272460 | 722.19 ug/L | 98 |
| 83) butyl acetate | 12.871 | 56 | 127993 | 186.14 ug/L | 95 |
| 84) dibromochloromethane | 13.096 | 129 | 287305 | 208.96 ug/L | 98 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 295211 | 203.21 ug/L | 100 |
| 86) n-butyl ether | 13.577 | 57 | 948549 | 181.67 ug/L | 98 |
| 87) chlorobenzene | 13.692 | 112 | 647220 | 183.80 ug/L | 99 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 252779 | 197.40 ug/L | 98 |
| 89) ethylbenzene | 13.734 | 91 | 1100428 | 172.46 ug/L | 100 |
| 90) m,p-xylene | 13.839 | 106 | 806285 | 340.14 ug/L | 100 |
| 91) o-xylene | 14.257 | 106 | 396381 | 175.16 ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164013.D
Acq On : 24 Apr 2019 6:44 pm
Operator : ROBERTS
Sample : IC7200-200
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 08:02:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 92) styrene | 14.273 | 104 | 654467 | 174.40 ug/L | 98 |
| 93) bromoform | 14.550 | 173 | 182034 | 218.17 ug/L | 99 |
| 94) butyl acrylate | 14.079 | 55 | 429918 | 195.59 ug/L | 99 |
| 95) isopropylbenzene | 14.592 | 105 | 1091513 | 179.29 ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 14.686 | 88 | 105472 | 204.08 ug/L | 97 |
| 99) bromobenzene | 15.005 | 156 | 279537 | 182.16 ug/L | 93 |
| 100) 1,1,2,2-tetrachloroethane | 14.921 | 83 | 245073 | 203.59 ug/L | 96 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 66081 | 200.03 ug/L | 96 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 59884 | 192.84 ug/L | 98 |
| 103) n-propylbenzene | 15.000 | 91 | 1237824 | 175.37 ug/L | 98 |
| 105) 2-chlorotoluene | 15.157 | 126 | 247026 | 179.80 ug/L | 99 |
| 106) 4-chlorotoluene | 15.251 | 91 | 781379 | 179.89 ug/L | 99 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 916952 | 180.07 ug/L | 99 |
| 108) tert-butylbenzene | 15.491 | 134 | 163739 | 192.17 ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 15.544 | 105 | 913444 | 179.09 ug/L | 97 |
| 110) sec-butylbenzene | 15.706 | 105 | 1149116 | 181.53 ug/L | 99 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 529790 | 182.28 ug/L | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 986254 | 181.13 ug/L | 99 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 529027 | 182.20 ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 489153 | 195.69 ug/L | 99 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 511068 | 188.45 ug/L | 99 |
| 117) n-butylbenzene | 16.250 | 92 | 501694 | 181.30 ug/L | 99 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 48196 | 200.04 ug/L | 97 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 412161 | 184.67 ug/L | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 48621 | 43.54 ug/L | 92 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 345690 | 190.15 ug/L | 98 |
| 123) hexachlorobutadiene | 18.007 | 225 | 235261 | 184.35 ug/L | 98 |
| 124) naphthalene | 18.164 | 128 | 664874 | 188.00 ug/L | 100 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 323863 | 188.59 ug/L | 100 |
| 126) hexachloroethane | 16.658 | 201 | 205516 | 212.31 ug/L | 98 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 234284 | 104.03 ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

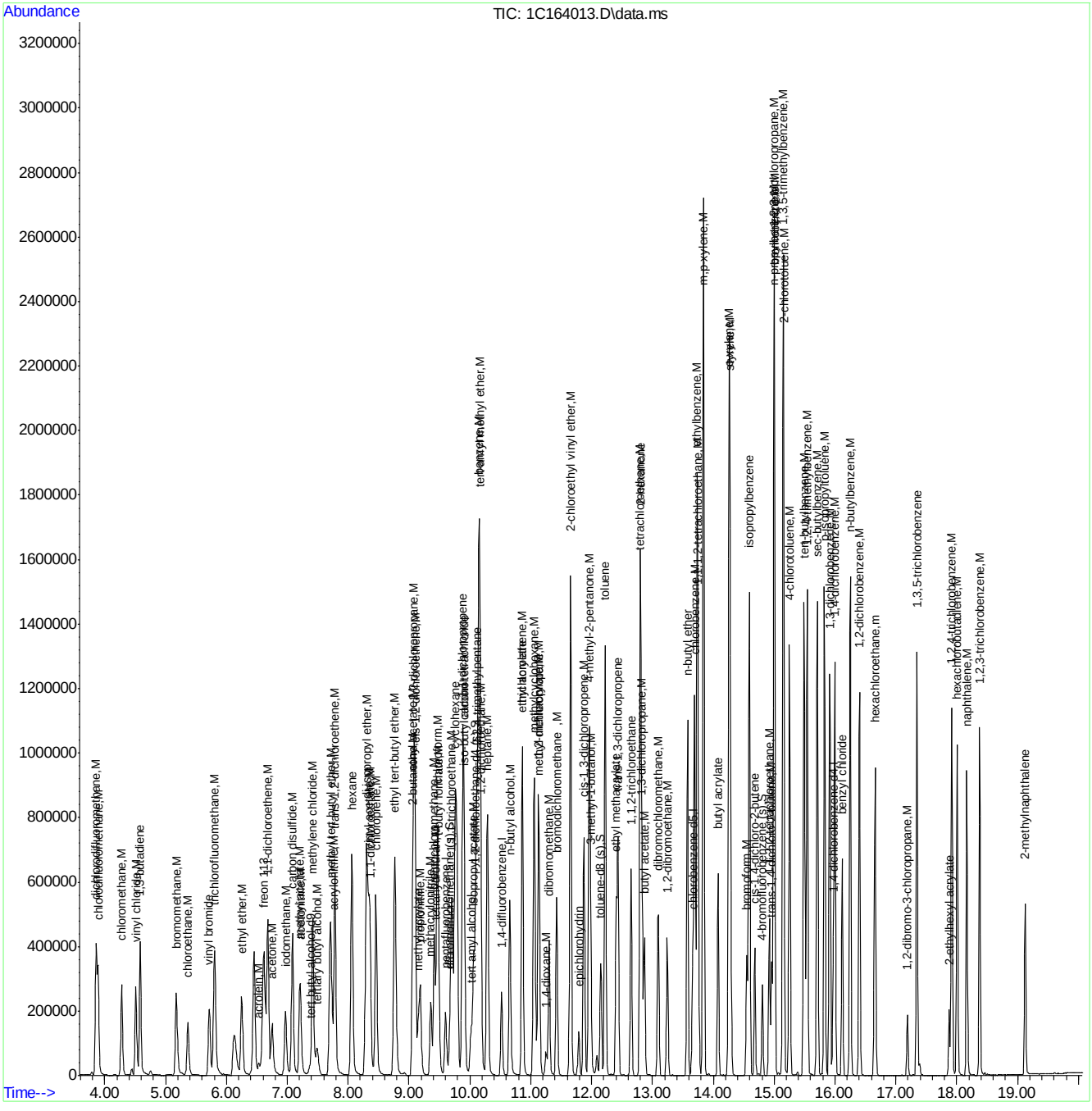
7.7.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164013.D
Acq On : 24 Apr 2019 6:44 pm
Operator : ROBERTS
Sample : IC7200-200
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 25 08:02:00 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 07:00:24 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164016.D
Acq On : 24 Apr 2019 8:03 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 08:05:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 57618 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 173118 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 246979 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 192341 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.972 | 152 | 100566 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 74690 | 51.16 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 102.32% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.094 | 65 | 74278 | 47.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 95.74% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 253579 | 48.94 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.88% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 94168 | 49.88 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.76% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 37273 | 243.55 | ug/L | 98 |
| 4) 1,4-dioxane | 11.255 | 88 | 17368 | 1242.96 | ug/L | 100 |
| 6) chlorodifluoromethane | 3.896 | 51 | 95602 | 53.00 | ug/L | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 117839 | 46.04 | ug/L | 97 |
| 8) chloromethane | 4.278 | 50 | 100452 | 53.52 | ug/L | 100 |
| 9) vinyl chloride | 4.513 | 62 | 82812 | 46.88 | ug/L | 99 |
| 10) 1,3-butadiene | 4.586 | 54 | 65370 | 58.95 | ug/L | 99 |
| 11) bromomethane | 5.193 | 94 | 63779 | 47.37 | ug/L | 97 |
| 12) chloroethane | 5.376 | 64 | 46561 | 44.00 | ug/L | 100 |
| 13) trichlorofluoromethane | 5.810 | 101 | 127812 | 48.52 | ug/L | 98 |
| 14) vinyl bromide | 5.721 | 106 | 53653 | 51.92 | ug/L | 100 |
| 15) ethyl ether | 6.255 | 74 | 36720 | 52.19 | ug/L | 98 |
| 16) acrolein | 6.537 | 56 | 9495 | 52.52 | ug/L | 96 |
| 17) freon 113 | 6.616 | 151 | 66824 | 57.37 | ug/L | 99 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 66876 | 47.19 | ug/L | 95 |
| 19) acetone | 6.752 | 43 | 68360 | 194.14 | ug/L | 98 |
| 21) iodomethane | 6.971 | 142 | 70476 | 44.60 | ug/L | 98 |
| 22) carbon disulfide | 7.086 | 76 | 239679 | 52.36 | ug/L | 99 |
| 23) methylene chloride | 7.421 | 84 | 74074 | 48.19 | ug/L | 99 |
| 24) methyl acetate | 7.207 | 43 | 40528 | 47.19 | ug/L | 100 |
| 25) methyl tert butyl ether | 7.709 | 73 | 379527 | 98.82 | ug/L | 85 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 74815 | 47.56 | ug/L | 98 |
| 27) di-isopropyl ether | 8.305 | 45 | 224275 | 47.44 | ug/L | 100 |
| 28) 2-butanone | 9.063 | 72 | 26988 | 203.90 | ug/L | 99 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 132683 | 49.71 | ug/L | 99 |
| 30) chloroprene | 8.457 | 53 | 118582 | 51.53 | ug/L | 99 |
| 31) acrylonitrile | 7.766 | 53 | 19600 | 50.99 | ug/L | 98 |
| 32) hexane | 8.064 | 57 | 132624 | 54.26 | ug/L | 98 |
| 33) vinyl acetate | 8.336 | 86 | 10807 | 48.56 | ug/L | 95 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 222343 | 48.79 | ug/L | 99 |
| 35) ethyl acetate | 9.068 | 45 | 8436 | 50.49 | ug/L | 99 |
| 36) 2,2-dichloropropane | 9.084 | 77 | 114252 | 48.01 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164016.D
Acq On : 24 Apr 2019 8:03 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 08:05:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 80678 | 47.52 | ug/L | | 98 |
| 38) methyl acrylate | 9.152 | 85 | 9201 | 52.78 | ug/L | # | 88 |
| 39) propionitrile | 9.184 | 54 | 84232 | 502.27 | ug/L | | 99 |
| 40) bromochloromethane | 9.419 | 128 | 37852 | 51.33 | ug/L | | 97 |
| 41) tetrahydrofuran | 9.450 | 72 | 7987 | 50.51 | ug/L | | 85 |
| 42) chloroform | 9.466 | 85 | 88951 | 47.08 | ug/L | | 97 |
| 43) t-butyl formate | 9.482 | 59 | 50004 | 49.21 | ug/L | | 96 |
| 45) methacrylonitrile | 9.361 | 67 | 24506 | 50.62 | ug/L | | 98 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 122064 | 49.93 | ug/L | | 98 |
| 47) cyclohexane | 9.759 | 84 | 114307 | 47.35 | ug/L | | 97 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 104027 | 50.23 | ug/L | | 99 |
| 49) iso-butyl alcohol | 9.905 | 43 | 25426 | 465.49 | ug/L | | 97 |
| 50) carbon tetrachloride | 9.905 | 117 | 110210 | 51.61 | ug/L | | 97 |
| 51) tert amyl alcohol | 10.020 | 55 | 13053 | 255.79 | ug/L | | 95 |
| 54) n-butyl alcohol | 10.653 | 56 | 91012 | 2525.32 | ug/L | | 98 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 287100 | 48.42 | ug/L | | 100 |
| 56) benzene | 10.151 | 78 | 288641 | 46.68 | ug/L | | 99 |
| 57) tert-amyl methyl ether | 10.156 | 87 | 46019 | 47.75 | ug/L | | 96 |
| 58) heptane | 10.287 | 71 | 79376 | 59.48 | ug/L | | 98 |
| 59) isopropyl acetate | 10.057 | 87 | 12187 | 47.64 | ug/L | | 98 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 89943 | 44.74 | ug/L | | 100 |
| 61) trichloroethene | 10.862 | 130 | 80509 | 50.58 | ug/L | | 99 |
| 62) ethyl acrylate | 10.857 | 55 | 75474 | 50.52 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 202680 | 276.13 | ug/L | | 99 |
| 65) methyl methacrylate | 11.124 | 100 | 15175 | 49.11 | ug/L | | 95 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 70694 | 48.01 | ug/L | | 99 |
| 67) dibromomethane | 11.302 | 93 | 41413 | 48.04 | ug/L | | 100 |
| 68) methylcyclohexane | 11.061 | 83 | 128728 | 46.90 | ug/L | | 100 |
| 69) bromodichloromethane | 11.427 | 83 | 100324 | 48.09 | ug/L | | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 30188 | 255.06 | ug/L | | 97 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 117437 | 49.04 | ug/L | | 99 |
| 72) 4-methyl-2-pentanone | 11.956 | 58 | 80525 | 188.31 | ug/L | | 96 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 53502 | 986.87 | ug/L | | 98 |
| 76) toluene | 12.222 | 92 | 164589 | 46.75 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 99447 | 50.20 | ug/L | | 99 |
| 78) ethyl methacrylate | 12.405 | 69 | 71553 | 51.11 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 12.651 | 83 | 46655 | 50.30 | ug/L | | 96 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 83998 | 49.39 | ug/L | | 99 |
| 82) 2-hexanone | 12.803 | 58 | 74960 | 195.89 | ug/L | | 99 |
| 83) butyl acetate | 12.871 | 56 | 33745 | 48.38 | ug/L | | 97 |
| 84) dibromochloromethane | 13.096 | 129 | 73448 | 52.67 | ug/L | | 96 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 74074 | 50.27 | ug/L | | 100 |
| 86) n-butyl ether | 13.572 | 57 | 266698 | 50.36 | ug/L | | 99 |
| 87) chlorobenzene | 13.692 | 112 | 173070 | 48.46 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 66339 | 51.08 | ug/L | | 98 |
| 89) ethylbenzene | 13.734 | 91 | 301301 | 46.56 | ug/L | | 99 |
| 90) m,p-xylene | 13.838 | 106 | 226680 | 94.28 | ug/L | | 98 |
| 91) o-xylene | 14.257 | 106 | 109148 | 47.55 | ug/L | | 97 |
| 92) styrene | 14.267 | 104 | 183991 | 48.34 | ug/L | | 95 |
| 93) bromoform | 14.550 | 173 | 46911 | 55.43 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164016.D
Acq On : 24 Apr 2019 8:03 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 08:05:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 94) butyl acrylate | 14.074 | 55 | 109388 | 49.06 ug/L | 99 |
| 95) isopropylbenzene | 14.592 | 105 | 296299 | 47.98 ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 14.686 | 88 | 25513 | 48.67 ug/L | 98 |
| 99) bromobenzene | 15.005 | 156 | 76003 | 48.14 ug/L | 92 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 61440 | 49.61 ug/L | 97 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 18590 | 55.16 ug/L | 98 |
| 102) 1,2,3-trichloropropane | 14.994 | 110 | 15695 | 49.12 ug/L | 99 |
| 103) n-propylbenzene | 15.000 | 91 | 350472 | 48.26 ug/L | 100 |
| 105) 2-chlorotoluene | 15.151 | 126 | 68127 | 48.19 ug/L | 91 |
| 106) 4-chlorotoluene | 15.251 | 91 | 214234 | 47.94 ug/L | 100 |
| 107) 1,3,5-trimethylbenzene | 15.146 | 105 | 250029 | 47.72 ug/L | 98 |
| 108) tert-butylbenzene | 15.491 | 134 | 44771 | 50.99 ug/L | 97 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 251797 | 47.98 ug/L | 98 |
| 110) sec-butylbenzene | 15.706 | 105 | 318316 | 48.87 ug/L | 99 |
| 111) 1,3-dichlorobenzene | 15.915 | 146 | 146711 | 49.06 ug/L | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 275784 | 49.23 ug/L | 99 |
| 113) 1,4-dichlorobenzene | 15.999 | 146 | 143981 | 48.20 ug/L | 98 |
| 114) benzyl chloride | 16.119 | 91 | 161005 | 62.60 ug/L | 99 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 138244 | 49.54 ug/L | 99 |
| 117) n-butylbenzene | 16.250 | 92 | 138955 | 48.80 ug/L | 100 |
| 118) 1,2-dibromo-3-chloropr... | 17.191 | 75 | 11975 | 48.31 ug/L | 90 |
| 119) 1,3,5-trichlorobenzene | 17.348 | 180 | 112780 | 49.11 ug/L | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 11841 | 10.31 ug/L | 96 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 89511 | 47.85 ug/L | 95 |
| 123) hexachlorobutadiene | 18.007 | 225 | 63375 | 48.27 ug/L | 98 |
| 124) naphthalene | 18.164 | 128 | 178986 | 49.19 ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 18.378 | 180 | 83182 | 47.08 ug/L | 98 |
| 126) hexachloroethane | 16.658 | 201 | 52954 | 52.92 ug/L | 98 |
| 127) 2-methylnaphthalene | 19.126 | 142 | 57911 | 24.99 ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

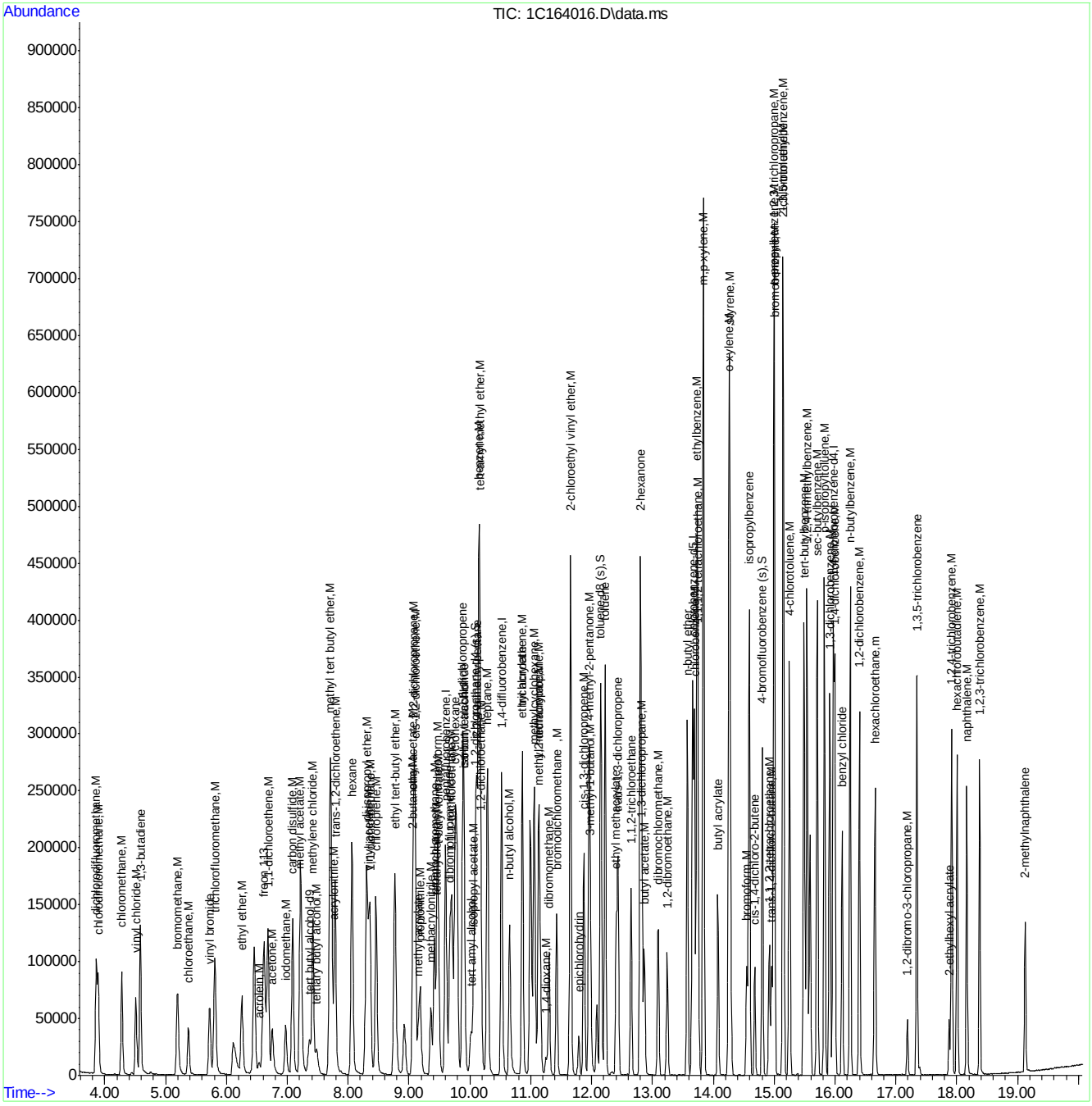
7.7.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164016.D
Acq On : 24 Apr 2019 8:03 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 25 08:05:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164017.D
Acq On : 24 Apr 2019 8:30 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 25 08:05:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) tert butyl alcohol-d9 | 7.364 | 65 | 58834 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 176659 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 241919 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.661 | 117 | 195243 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.973 | 152 | 101236 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 73907 | 49.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.22% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.089 | 65 | 75274 | 49.53 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 99.06% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 259692 | 49.38 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.76% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 94564 | 49.76 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.52% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetonitrile | 7.217 | 41 | 73398 | 489.80 | ug/L | 99 |
| 80) tetrachloroethene | 12.803 | 164 | 60363 | 48.58 | ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

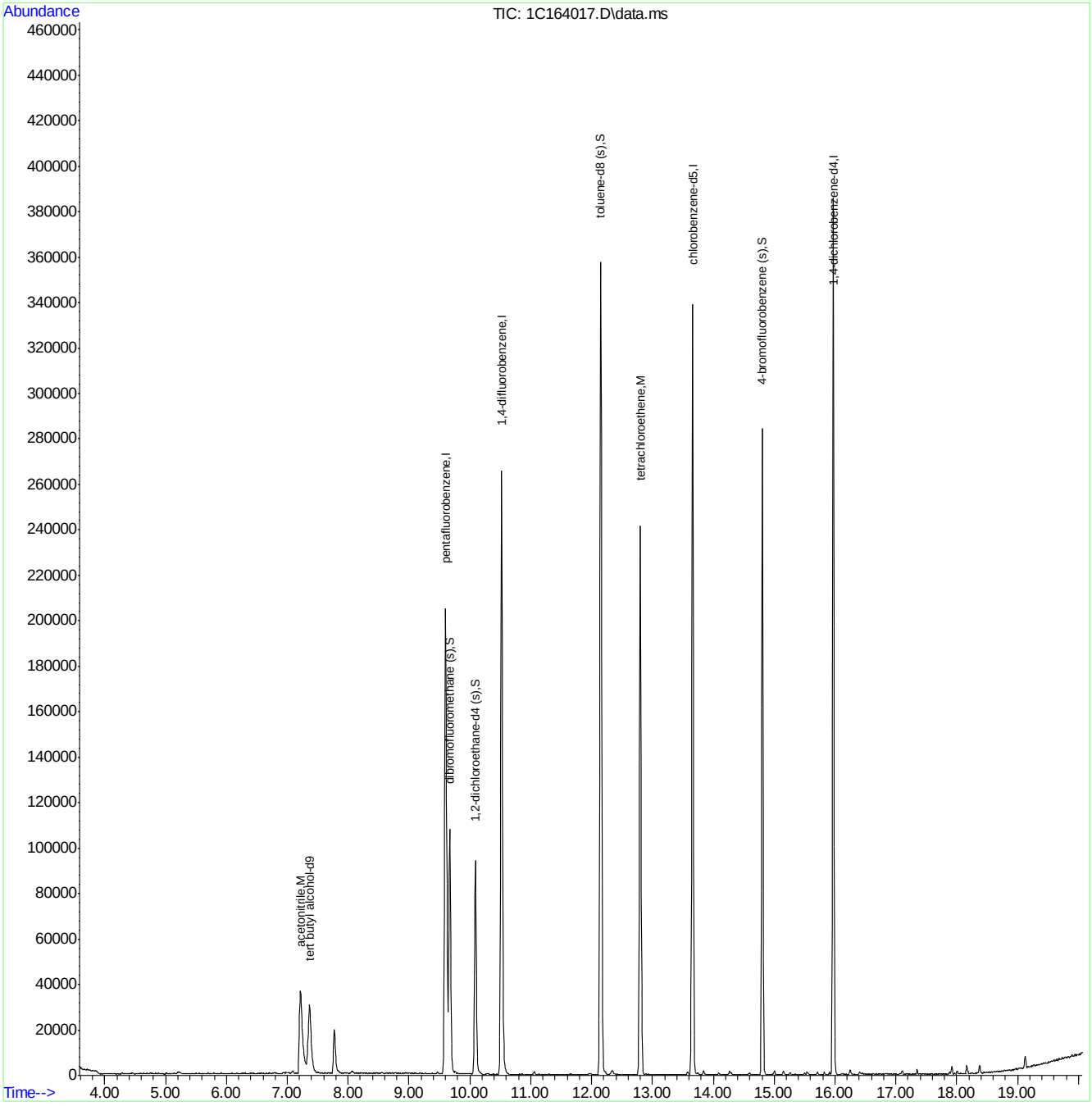
7.7.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7200\
Data File : 1C164017.D
Acq On : 24 Apr 2019 8:30 pm
Operator : ROBERTS
Sample : ICV7200-50
Misc : MS34128,V1C7200,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 25 08:05:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164394.D
Acq On : 9 May 2019 10:10 am
Operator : PrashanS
Sample : cc7200-50
Misc : MS34531,V1C7215,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 09 13:44:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| **Internal Standards** | | | | | | |
| 1) tert butyl alcohol-d9 | 7.363 | 65 | 53963 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.602 | 168 | 191741 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 10.523 | 114 | 270173 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 13.655 | 117 | 217355 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 15.967 | 152 | 115991 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 44) dibromofluoromethane (s) | 9.670 | 113 | 81264 | 50.25 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.50% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 10.088 | 65 | 72602 | 42.78 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 85.56% | | | |
| 75) toluene-d8 (s) | 12.149 | 98 | 283580 | 48.43 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 96.86% | | | |
| 98) 4-bromofluorobenzene (s) | 14.806 | 95 | 100329 | 46.08 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 92.16% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) tertiary butyl alcohol | 7.479 | 59 | 38873 | 271.21 | ug/L | 94 |
| 4) 1,4-dioxane | 11.250 | 88 | 20593 | 1573.58 | ug/L | 98 |
| 6) chlorodifluoromethane | 3.896 | 51 | 84496 | 42.29 | ug/L | 99 |
| 7) dichlorodifluoromethane | 3.859 | 85 | 105557 | 37.24 | ug/L | 96 |
| 8) chloromethane | 4.278 | 50 | 81873 | 39.39 | ug/L | 99 |
| 9) vinyl chloride | 4.513 | 62 | 83329 | 42.59 | ug/L | 99 |
| 10) 1,3-butadiene | 4.586 | 54 | 58511 | 47.64 | ug/L | 93 |
| 11) bromomethane | 5.193 | 94 | 66028 | 44.28 | ug/L | 96 |
| 12) chloroethane | 5.376 | 64 | 51795 | 44.19 | ug/L | 100 |
| 13) trichlorofluoromethane | 5.810 | 101 | 132348 | 45.36 | ug/L | 97 |
| 14) vinyl bromide | 5.721 | 106 | 76540 | 66.88 | ug/L | 97 |
| 15) ethyl ether | 6.249 | 74 | 39283 | 50.41 | ug/L | 92 |
| 16) acrolein | 6.542 | 56 | 9212 | 46.00 | ug/L | 92 |
| 17) freon 113 | 6.610 | 151 | 69032 | 53.51 | ug/L | 97 |
| 18) 1,1-dichloroethene | 6.684 | 96 | 77611 | 49.45 | ug/L | 86 |
| 19) acetone | 6.752 | 43 | 73642 | 188.83 | ug/L | 91 |
| 20) acetonitrile | 7.212 | 41 | 70116 | 431.09 | ug/L | 94 |
| 21) iodomethane | 6.971 | 142 | 75785 | 43.39 | ug/L | 96 |
| 22) carbon disulfide | 7.086 | 76 | 233510 | 46.06 | ug/L | 98 |
| 23) methylene chloride | 7.421 | 84 | 82824 | 48.64 | ug/L | 91 |
| 24) methyl acetate | 7.207 | 43 | 44731 | 47.03 | ug/L | 93 |
| 25) methyl tert butyl ether | 7.709 | 73 | 198301 | 46.62 | ug/L | 98 |
| 26) trans-1,2-dichloroethene | 7.787 | 96 | 84007 | 48.21 | ug/L | 90 |
| 27) di-isopropyl ether | 8.305 | 45 | 226421 | 43.24 | ug/L | 97 |
| 28) 2-butanone | 9.063 | 72 | 31368 | 213.97 | ug/L # | 64 |
| 29) 1,1-dichloroethane | 8.362 | 63 | 132950 | 44.97 | ug/L | 99 |
| 30) chloroprene | 8.457 | 53 | 111028 | 43.56 | ug/L | 92 |
| 31) acrylonitrile | 7.766 | 53 | 19471 | 45.74 | ug/L | 97 |
| 32) hexane | 8.064 | 57 | 126910 | 46.88 | ug/L | 95 |
| 33) vinyl acetate | 8.341 | 86 | 12350 | 50.10 | ug/L # | 63 |
| 34) ethyl tert-butyl ether | 8.770 | 59 | 229857 | 45.54 | ug/L | 97 |
| 35) ethyl acetate | 9.074 | 45 | 8262 | 44.64 | ug/L # | 55 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164394.D
Acq On : 9 May 2019 10:10 am
Operator : PrashanS
Sample : cc7200-50
Misc : MS34531,V1C7215,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 09 13:44:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 36) 2,2-dichloropropane | 9.084 | 77 | 118683 | 45.03 | ug/L | | 93 |
| 37) cis-1,2-dichloroethene | 9.100 | 96 | 90559 | 48.16 | ug/L | | 92 |
| 38) methyl acrylate | 9.157 | 85 | 10360 | 53.66 | ug/L | | 97 |
| 39) propionitrile | 9.184 | 54 | 85441 | 459.99 | ug/L | | 99 |
| 40) bromochloromethane | 9.414 | 128 | 42750 | 52.34 | ug/L | | 90 |
| 41) tetrahydrofuran | 9.445 | 72 | 8521 | 48.65 | ug/L | # | 80 |
| 42) chloroform | 9.466 | 85 | 93088 | 44.49 | ug/L | | 96 |
| 43) t-butyl formate | 9.476 | 59 | 50726 | 45.07 | ug/L | | 95 |
| 45) methacrylonitrile | 9.356 | 67 | 26086 | 48.65 | ug/L | | 84 |
| 46) 1,1,1-trichloroethane | 9.701 | 97 | 128914 | 47.61 | ug/L | | 98 |
| 47) cyclohexane | 9.759 | 84 | 119784 | 44.80 | ug/L | | 87 |
| 48) 1,1-dichloropropene | 9.884 | 75 | 108950 | 47.49 | ug/L | | 96 |
| 49) iso-butyl alcohol | 9.900 | 43 | 25964 | 429.17 | ug/L | | 97 |
| 50) carbon tetrachloride | 9.900 | 117 | 114418 | 48.38 | ug/L | | 98 |
| 51) tert amyl alcohol | 10.015 | 55 | 13323 | 235.73 | ug/L | | 94 |
| 54) n-butyl alcohol | 10.653 | 56 | 100209 | 2541.81 | ug/L | | 93 |
| 55) 2,2,4-trimethylpentane | 10.115 | 57 | 299213 | 46.13 | ug/L | | 96 |
| 56) benzene | 10.151 | 78 | 313012 | 46.28 | ug/L | | 100 |
| 57) tert-amyl methyl ether | 10.162 | 87 | 50855 | 48.24 | ug/L | | 97 |
| 58) heptane | 10.287 | 71 | 69813 | 47.83 | ug/L | | 96 |
| 59) isopropyl acetate | 10.062 | 87 | 14343 | 51.26 | ug/L | # | 91 |
| 60) 1,2-dichloroethane | 10.183 | 62 | 89816 | 40.84 | ug/L | | 97 |
| 61) trichloroethene | 10.862 | 130 | 90338 | 51.88 | ug/L | | 97 |
| 62) ethyl acrylate | 10.857 | 55 | 75188 | 46.01 | ug/L | | 99 |
| 64) 2-chloroethyl vinyl ether | 11.652 | 63 | 197849 | 246.41 | ug/L | | 96 |
| 65) methyl methacrylate | 11.124 | 100 | 16979 | 50.23 | ug/L | # | 80 |
| 66) 1,2-dichloropropane | 11.134 | 63 | 75356 | 46.78 | ug/L | | 98 |
| 67) dibromomethane | 11.302 | 93 | 46418 | 49.23 | ug/L | | 95 |
| 68) methylcyclohexane | 11.056 | 83 | 139651 | 46.51 | ug/L | | 95 |
| 69) bromodichloromethane | 11.427 | 83 | 110412 | 48.38 | ug/L | | 99 |
| 70) epichlorohydrin | 11.788 | 57 | 31242 | 241.31 | ug/L | | 98 |
| 71) cis-1,3-dichloropropene | 11.872 | 75 | 126798 | 48.41 | ug/L | | 91 |
| 72) 4-methyl-2-pentanone | 11.961 | 58 | 87951 | 188.02 | ug/L | | 90 |
| 73) 3-methyl-1-butanol | 11.982 | 55 | 57772 | 974.15 | ug/L | | 95 |
| 76) toluene | 12.222 | 92 | 186516 | 46.88 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 12.432 | 75 | 107191 | 47.89 | ug/L | | 94 |
| 78) ethyl methacrylate | 12.405 | 69 | 78352 | 49.52 | ug/L | | 92 |
| 79) 1,1,2-trichloroethane | 12.646 | 83 | 54523 | 52.02 | ug/L | | 95 |
| 80) tetrachloroethene | 12.798 | 164 | 72874 | 52.68 | ug/L | | 97 |
| 81) 1,3-dichloropropane | 12.829 | 76 | 94045 | 48.93 | ug/L | | 92 |
| 82) 2-hexanone | 12.803 | 58 | 87840 | 203.13 | ug/L | # | 87 |
| 83) butyl acetate | 12.866 | 56 | 36123 | 45.83 | ug/L | | 93 |
| 84) dibromochloromethane | 13.091 | 129 | 84050 | 53.33 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 13.242 | 107 | 73610 | 44.21 | ug/L | | 100 |
| 86) n-butyl ether | 13.572 | 57 | 275010 | 45.95 | ug/L | | 96 |
| 87) chlorobenzene | 13.687 | 112 | 200746 | 49.74 | ug/L | | 96 |
| 88) 1,1,1,2-tetrachloroethane | 13.750 | 131 | 75718 | 51.59 | ug/L | | 98 |
| 89) ethylbenzene | 13.734 | 91 | 338561 | 46.29 | ug/L | | 96 |
| 90) m,p-xylene | 13.838 | 106 | 268087 | 98.67 | ug/L | | 91 |
| 91) o-xylene | 14.257 | 106 | 130174 | 50.19 | ug/L | | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164394.D
Acq On : 9 May 2019 10:10 am
Operator : PrashanS
Sample : cc7200-50
Misc : MS34531,V1C7215,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 09 13:44:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration

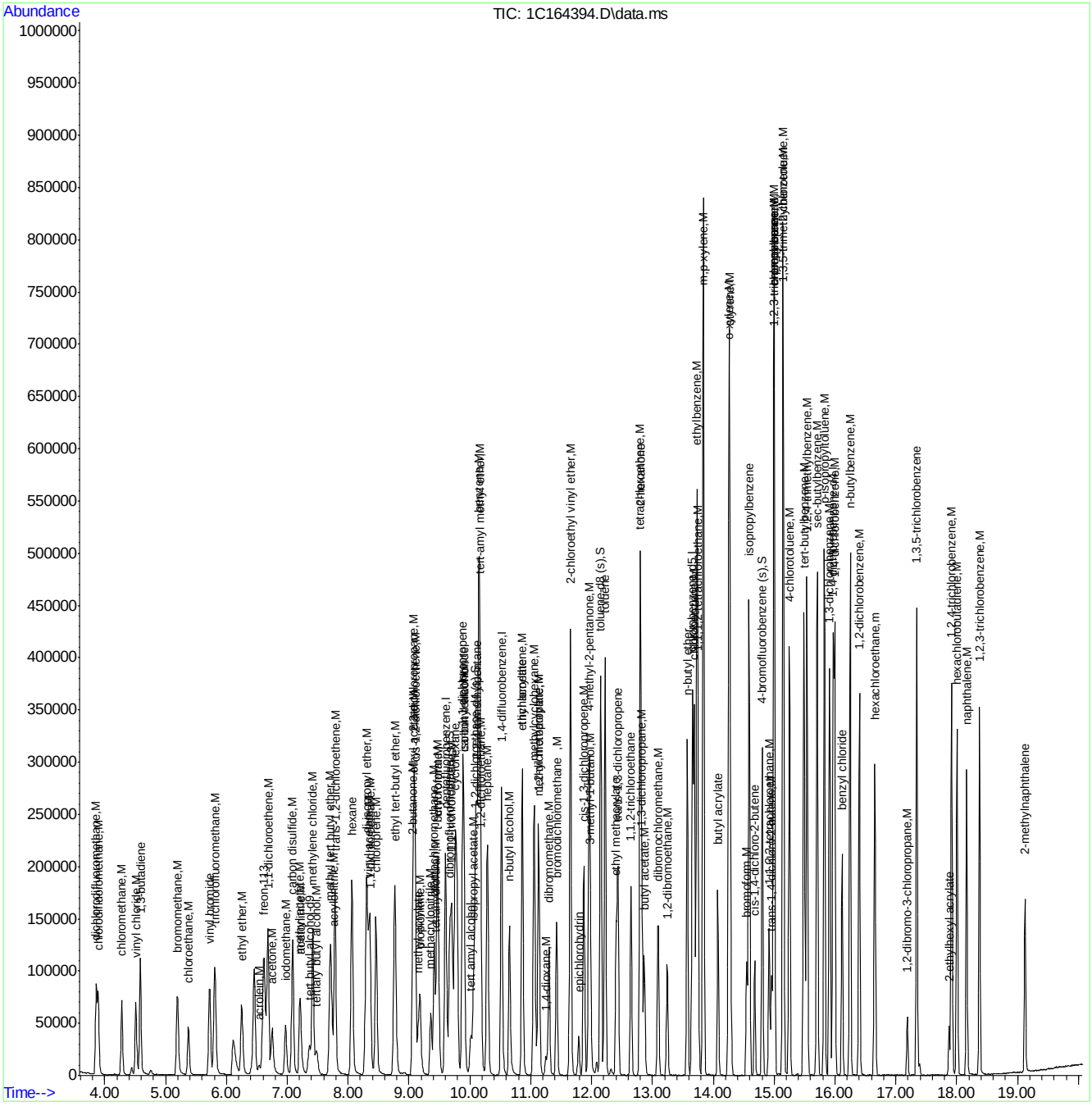
| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 92) styrene | 14.267 | 104 | 215336 | 50.06 | ug/L | | 97 |
| 93) bromoform | 14.550 | 173 | 54796 | 57.30 | ug/L | | 99 |
| 94) butyl acrylate | 14.074 | 55 | 116381 | 46.19 | ug/L | | 97 |
| 95) isopropylbenzene | 14.592 | 105 | 342198 | 49.04 | ug/L | | 96 |
| 96) cis-1,4-dichloro-2-butene | 14.681 | 88 | 28023 | 47.31 | ug/L | | 94 |
| 99) bromobenzene | 15.000 | 156 | 93604 | 51.40 | ug/L | | 89 |
| 100) 1,1,2,2-tetrachloroethane | 14.916 | 83 | 74732 | 52.32 | ug/L | | 97 |
| 101) trans-1,4-dichloro-2-b... | 14.958 | 53 | 17032 | 43.82 | ug/L | # | 80 |
| 102) 1,2,3-trichloropropane | 14.989 | 110 | 18505 | 50.21 | ug/L | | 93 |
| 103) n-propylbenzene | 14.994 | 91 | 405309 | 48.39 | ug/L | | 97 |
| 105) 2-chlorotoluene | 15.151 | 126 | 83907 | 51.46 | ug/L | | 95 |
| 106) 4-chlorotoluene | 15.251 | 91 | 237867 | 46.15 | ug/L | | 96 |
| 107) 1,3,5-trimethylbenzene | 15.141 | 105 | 287496 | 47.58 | ug/L | | 96 |
| 108) tert-butylbenzene | 15.491 | 134 | 54080 | 53.40 | ug/L | # | 88 |
| 109) 1,2,4-trimethylbenzene | 15.538 | 105 | 284847 | 47.06 | ug/L | | 95 |
| 110) sec-butylbenzene | 15.706 | 105 | 376115 | 50.07 | ug/L | | 98 |
| 111) 1,3-dichlorobenzene | 15.910 | 146 | 177487 | 51.46 | ug/L | | 99 |
| 112) p-isopropyltoluene | 15.826 | 119 | 320702 | 49.63 | ug/L | | 97 |
| 113) 1,4-dichlorobenzene | 15.993 | 146 | 176674 | 51.27 | ug/L | | 99 |
| 114) benzyl chloride | 16.119 | 91 | 163590 | 55.15 | ug/L | | 97 |
| 115) 1,2-dichlorobenzene | 16.401 | 146 | 171808 | 53.39 | ug/L | | 96 |
| 117) n-butylbenzene | 16.250 | 92 | 167021 | 50.86 | ug/L | | 98 |
| 118) 1,2-dibromo-3-chloropr... | 17.186 | 75 | 13560 | 47.43 | ug/L | | 92 |
| 119) 1,3,5-trichlorobenzene | 17.343 | 180 | 145907 | 55.09 | ug/L | | 99 |
| 121) 2-ethylhexyl acrylate | 17.876 | 70 | 11929 | 9.00 | ug/L | # | 85 |
| 122) 1,2,4-trichlorobenzene | 17.918 | 180 | 119893 | 55.57 | ug/L | | 97 |
| 123) hexachlorobutadiene | 18.007 | 225 | 79741 | 52.65 | ug/L | | 98 |
| 124) naphthalene | 18.164 | 128 | 215004 | 51.23 | ug/L | | 99 |
| 125) 1,2,3-trichlorobenzene | 18.373 | 180 | 107843 | 52.92 | ug/L | | 99 |
| 126) hexachloroethane | 16.652 | 201 | 64991 | 56.31 | ug/L | | 98 |
| 127) 2-methylnaphthalene | 19.121 | 142 | 72227 | 27.03 | ug/L | | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V1C7215\
Data File : 1C164394.D
Acq On : 9 May 2019 10:10 am
Operator : PrashanS
Sample : cc7200-50
Misc : MS34531,V1C7215,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 09 13:44:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M1CS7200.M
Quant Title : SW846 8260C, DB-624 60 m x 0.25 mm x 1.4 um
QLast Update : Thu Apr 25 08:03:13 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149623.D
Acq On : 13 Feb 2019 6:33 pm
Operator : juntaep
Sample : IC6743-0.5
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 14 12:07:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.57 | 65 | 66046 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 269547 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 369488 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 320218 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.32 | 152 | 172617 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 96787 | 48.88 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.76% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 102679 | 51.62 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 103.24% | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 395305 | 49.77 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.54% | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 145960 | 51.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 103.74% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 14) trichlorofluoromethane | 1.77 | 101 | 1340 | 0.42 | ug/L | 86 |
| 29) di-isopropyl ether | 3.08 | 45 | 2174 | 0.40 | ug/L | 90 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 2070 | 0.39 | ug/L | 95 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 1094 | 0.35 | ug/L # | 48 |
| 33) chloroprene | 3.13 | 53 | 1083 | 0.39 | ug/L # | 74 |
| 48) cyclohexane | 3.94 | 84 | 1368 | 0.44 | ug/L # | 85 |
| 57) benzene | 4.28 | 78 | 3096 | 0.43 | ug/L | 89 |
| 64) 2-chloroethyl vinyl ether | 5.77 | 63 | 2034 | 2.15 | ug/L | 88 |
| 76) toluene | 6.15 | 92 | 2107 | 0.44 | ug/L | 90 |
| 81) tetrachloroethene | 6.62 | 166 | 858 | 0.36 | ug/L | 79 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 972 | 0.40 | ug/L | 88 |
| 86) n-butyl ether | 7.47 | 57 | 3396 | 0.43 | ug/L | 97 |
| 87) chlorobenzene | 7.42 | 112 | 2282 | 0.44 | ug/L | 91 |
| 89) ethylbenzene | 7.49 | 91 | 4215 | 0.46 | ug/L | 97 |
| 90) m,p-xylene | 7.60 | 106 | 3293 | 0.91 | ug/L | 92 |
| 91) o-xylene | 7.93 | 91 | 3327 | 0.46 | ug/L | 98 |
| 92) styrene | 7.96 | 104 | 2482 | 0.41 | ug/L | 98 |
| 95) isopropylbenzene | 8.23 | 105 | 3951 | 0.42 | ug/L | 97 |
| 99) bromobenzene | 8.51 | 156 | 1080 | 0.46 | ug/L | 93 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 744 | 0.46 | ug/L | 80 |
| 104) 2-chlorotoluene | 8.66 | 126 | 922 | 0.41 | ug/L # | 80 |
| 105) 4-chlorotoluene | 8.75 | 126 | 933 | 0.41 | ug/L # | 92 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 3466 | 0.43 | ug/L | 96 |
| 107) tert-butylbenzene | 8.97 | 119 | 2977 | 0.41 | ug/L | 95 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 3509 | 0.43 | ug/L | 94 |
| 109) sec-butylbenzene | 9.14 | 105 | 4025 | 0.38 | ug/L | 89 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 2155 | 0.46 | ug/L | 94 |
| 111) p-isopropyltoluene | 9.26 | 119 | 3859 | 0.41 | ug/L | 99 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 2397 | 0.52 | ug/L | 81 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 2089 | 0.48 | ug/L | 99 |
| 114) n-butylbenzene | 9.59 | 92 | 1783 | 0.38 | ug/L | 82 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 1768 | 0.41 | ug/L | 92 |
| 117) 1,2,4-trichlorobenzene | 10.88 | 180 | 1631 | 0.44 | ug/L | 80 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149623.D
Acq On : 13 Feb 2019 6:33 pm
Operator : juntaep
Sample : IC6743-0.5
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 14 12:07:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 119) naphthalene | 11.08 | 128 | 2974 | 0.45 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 1518 | 0.44 | ug/L | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

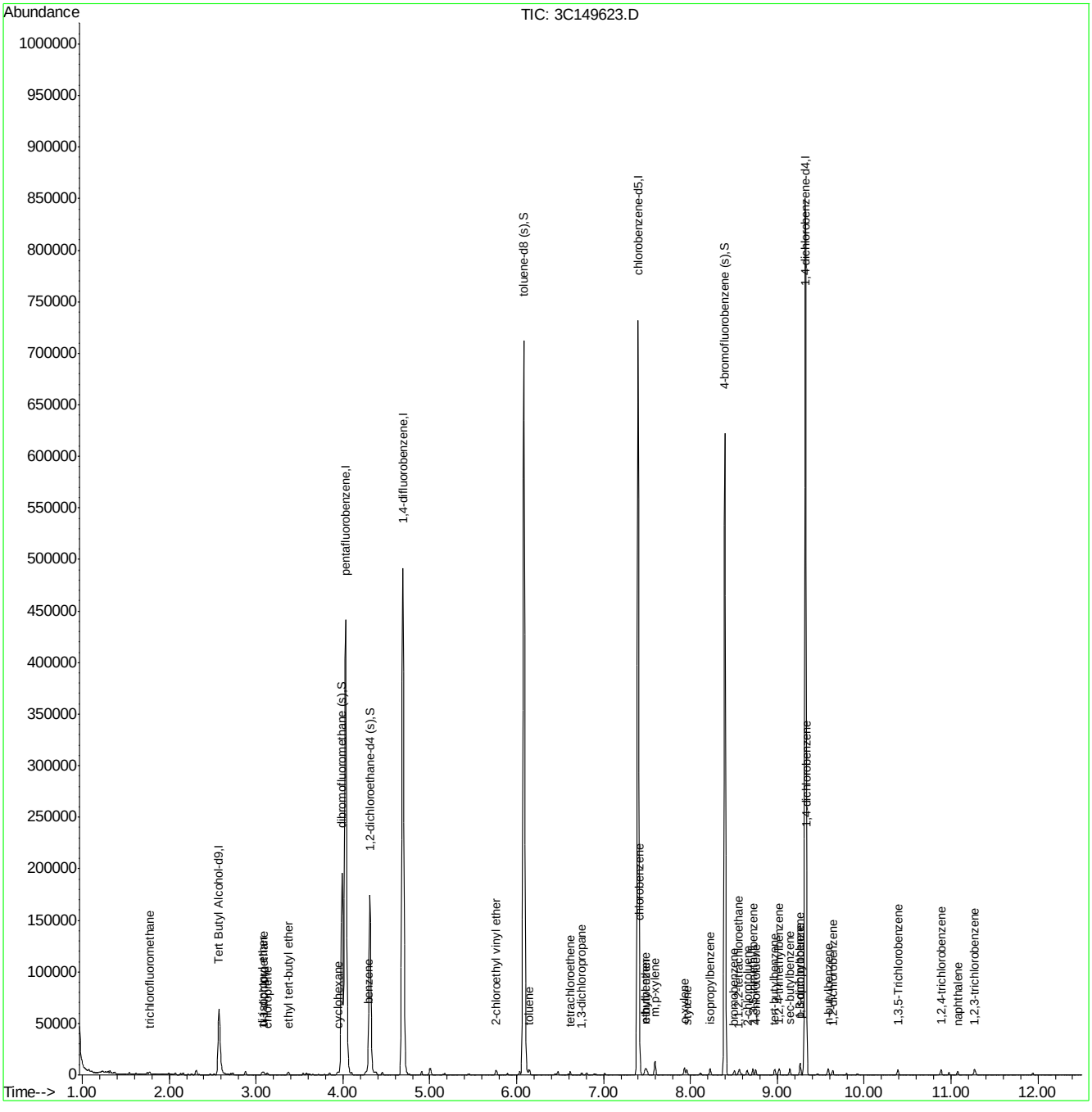
7.7.13

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149623.D
Acq On : 13 Feb 2019 6:33 pm
Operator : juntaep
Sample : IC6743-0.5
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 14 12:07:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149624.D
Acq On : 13 Feb 2019 6:56 pm
Operator : juntaep
Sample : IC6743-1
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 14 12:09:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.57 | 65 | 64875 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 271398 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 371367 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 322858 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.33 | 152 | 175460 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 98061 | 49.18 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.36% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 103697 | 51.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 103.74% | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 397971 | 49.70 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.40% | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 144585 | 50.54 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 101.08% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 7) dichlorodifluoromethane | 1.08 | 85 | 2075 | 0.80 | ug/L | 87 |
| 8) chloromethane | 1.22 | 50 | 1747 | 0.84 | ug/L | 85 |
| 9) 1,3-butadiene | 1.32 | 54 | 1314 | 0.96 | ug/L | 95 |
| 10) vinyl chloride | 1.30 | 62 | 1448 | 0.67 | ug/L | 76 |
| 12) chloroethane | 1.62 | 64 | 849 | 0.66 | ug/L | 74 |
| 13) vinyl Bromide | 1.75 | 106 | 1264 | 0.67 | ug/L | 91 |
| 14) trichlorofluoromethane | 1.77 | 101 | 2584 | 0.81 | ug/L | 91 |
| 16) 2-chloropropane | 2.07 | 63 | 635 | 0.86 | ug/L # | 77 |
| 18) freon 113 | 2.13 | 151 | 1221 | 0.78 | ug/L | 95 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 1491 | 0.88 | ug/L | 94 |
| 20) acetone | 2.25 | 58 | 330 | 3.52 | ug/L # | 62 |
| 26) methyl tert butyl ether | 2.72 | 73 | 4192 | 0.95 | ug/L | 91 |
| 27) trans-1,2-dichloroethene | 2.73 | 96 | 1827 | 0.97 | ug/L | 97 |
| 28) hexane | 2.88 | 57 | 2963 | 1.00 | ug/L | 94 |
| 29) di-isopropyl ether | 3.08 | 45 | 5385 | 0.99 | ug/L | 95 |
| 30) ethyl tert-butyl ether | 3.36 | 59 | 5327 | 0.99 | ug/L | 98 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 2987 | 0.94 | ug/L | 98 |
| 33) chloroprene | 3.13 | 53 | 2654 | 0.94 | ug/L | 92 |
| 37) 2,2-dichloropropane | 3.54 | 77 | 2688 | 0.93 | ug/L | 91 |
| 38) cis-1,2-dichloroethene | 3.57 | 96 | 1848 | 0.89 | ug/L | 92 |
| 39) propionitrile | 3.72 | 54 | 1681 | 10.35 | ug/L | 64 |
| 40) bromochloromethane | 3.79 | 130 | 1073 | 0.94 | ug/L | 96 |
| 42) chloroform | 3.84 | 83 | 3458 | 1.07 | ug/L | 99 |
| 47) 1,1,1-trichloroethane | 3.96 | 97 | 2723 | 0.89 | ug/L | 98 |
| 48) cyclohexane | 3.93 | 84 | 2401 | 0.77 | ug/L | 96 |
| 51) carbon tetrachloride | 4.06 | 119 | 1970 | 0.79 | ug/L # | 80 |
| 54) 2,2,4-trimethylpentane | 4.26 | 57 | 7237 | 0.98 | ug/L | 97 |
| 55) tert-amyl methyl ether | 4.37 | 87 | 1608 | 0.97 | ug/L # | 72 |
| 57) benzene | 4.29 | 78 | 7480 | 1.03 | ug/L | 94 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 2576 | 1.18 | ug/L | 86 |
| 61) trichloroethene | 4.90 | 95 | 1886 | 0.95 | ug/L | 96 |
| 64) 2-chloroethyl vinyl ether | 5.76 | 63 | 5143 | 5.41 | ug/L | 96 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 1849 | 1.07 | ug/L | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149624.D
Acq On : 13 Feb 2019 6:56 pm
Operator : juntaep
Sample : IC6743-1
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 14 12:09:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 68) dibromomethane | 5.29 | 93 | 856 | 0.90 ug/L | 91 |
| 69) bromodichloromethane | 5.45 | 83 | 2203 | 0.97 ug/L | 87 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 2775 | 0.99 ug/L | 92 |
| 72) 4-methyl-2-pentanone | 6.03 | 85 | 918 | 3.80 ug/L # | 59 |
| 76) toluene | 6.15 | 92 | 5193 | 1.07 ug/L | 99 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 2103 | 0.87 ug/L | 89 |
| 78) ethyl methacrylate | 6.47 | 69 | 1997 | 1.04 ug/L | 92 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 1316 | 1.11 ug/L | 89 |
| 80) 2-hexanone | 6.81 | 58 | 2027 | 4.41 ug/L | 95 |
| 81) tetrachloroethene | 6.62 | 166 | 2363 | 0.98 ug/L | 98 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 2619 | 1.08 ug/L | 90 |
| 84) dibromochloromethane | 6.92 | 129 | 1302 | 0.84 ug/L | 78 |
| 85) 1,2-dibromoethane | 7.02 | 107 | 1738 | 0.97 ug/L | 91 |
| 86) n-butyl ether | 7.47 | 57 | 8334 | 1.05 ug/L | 93 |
| 87) chlorobenzene | 7.42 | 112 | 5941 | 1.13 ug/L | 94 |
| 88) 1,1,1,2-tetrachloroethane | 7.51 | 131 | 1731 | 0.91 ug/L | 95 |
| 89) ethylbenzene | 7.49 | 91 | 10233 | 1.10 ug/L | 96 |
| 90) m,p-xylene | 7.59 | 106 | 8013 | 2.19 ug/L | 98 |
| 91) o-xylene | 7.93 | 91 | 7760 | 1.06 ug/L | 99 |
| 92) styrene | 7.96 | 104 | 6324 | 1.04 ug/L | 96 |
| 94) butyl acrylate | 7.92 | 55 | 2725 | 1.01 ug/L | 91 |
| 95) isopropylbenzene | 8.23 | 105 | 9813 | 1.03 ug/L | 98 |
| 99) bromobenzene | 8.51 | 156 | 2722 | 1.13 ug/L | 95 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 1833 | 1.11 ug/L | 88 |
| 103) n-propylbenzene | 8.57 | 91 | 12347 | 1.12 ug/L | 93 |
| 104) 2-chlorotoluene | 8.65 | 126 | 2484 | 1.08 ug/L | 96 |
| 105) 4-chlorotoluene | 8.75 | 126 | 2410 | 1.04 ug/L | 87 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 9012 | 1.09 ug/L | 98 |
| 107) tert-butylbenzene | 8.97 | 119 | 7530 | 1.03 ug/L | 96 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 9007 | 1.09 ug/L | 97 |
| 109) sec-butylbenzene | 9.15 | 105 | 11292 | 1.05 ug/L | 95 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 5135 | 1.08 ug/L | 93 |
| 111) p-isopropyltoluene | 9.26 | 119 | 9423 | 0.99 ug/L | 95 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 5630 | 1.19 ug/L | 95 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 5006 | 1.14 ug/L | 93 |
| 114) n-butylbenzene | 9.59 | 92 | 4607 | 0.97 ug/L | 97 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 4685 | 1.06 ug/L | 96 |
| 117) 1,2,4-trichlorobenzene | 10.88 | 180 | 4173 | 1.11 ug/L | 94 |
| 118) hexachlorobutadiene | 10.97 | 225 | 2116 | 0.86 ug/L | 95 |
| 119) naphthalene | 11.08 | 128 | 7256 | 1.09 ug/L | 97 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 3646 | 1.04 ug/L | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

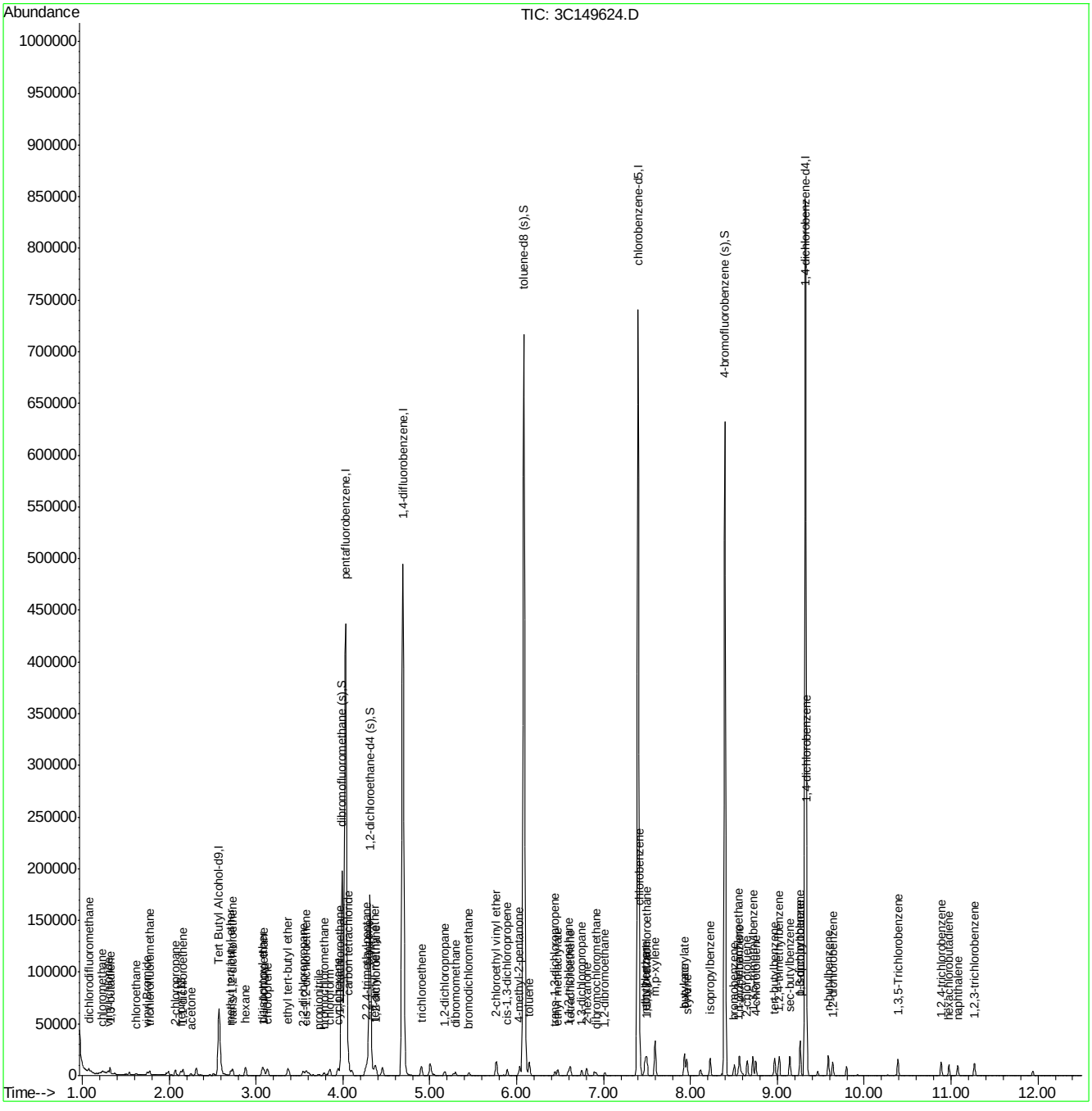
7.7.14

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149624.D
Acq On : 13 Feb 2019 6:56 pm
Operator : juntaep
Sample : IC6743-1
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 14 12:09:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration




M3C6743.M Fri Feb 15 11:18:03 2019 MS3C

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 02/15/19 13:53

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149628.D
Acq On : 13 Feb 2019 8:29 pm
Operator : juntaep
Sample : IC6743-2
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 09:29:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.57 | 65 | 60494 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 271779 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 372621 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 325263 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.32 | 152 | 176611 | 50.00 | ug/L | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 97280 | 48.72 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.44% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 102125 | 50.91 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 101.82% | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 400741 | 49.68 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.36% | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 146661 | 50.94 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 101.88% | | | |

Target Compounds

| | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 2.64 | 59 | 1260 | 8.95 | ug/L | 60 |
| 6) chlorodifluoromethane | 1.09 | 51 | 3077 | 1.73 | ug/L | 87 |
| 7) dichlorodifluoromethane | 1.07 | 85 | 4449 | 1.72 | ug/L | 98 |
| 8) chloromethane | 1.22 | 50 | 3740 | 1.79 | ug/L | 92 |
| 9) 1,3-butadiene | 1.31 | 54 | 2091 | 1.53 | ug/L | 98 |
| 10) vinyl chloride | 1.29 | 62 | 3623 | 1.67 | ug/L | 99 |
| 11) bromomethane | 1.54 | 94 | 2246 | 1.76 | ug/L | 90 |
| 12) chloroethane | 1.62 | 64 | 2069 | 1.60 | ug/L | 89 |
| 13) vinyl Bromide | 1.74 | 106 | 3009 | 1.60 | ug/L | 82 |
| 14) trichlorofluoromethane | 1.77 | 101 | 5082 | 1.59 | ug/L | 95 |
| 15) ethyl ether | 1.99 | 74 | 1279 | 1.43 | ug/L | 98 |
| 16) 2-chloropropane | 2.07 | 63 | 1070 | 1.45 | ug/L # | 82 |
| 18) freon 113 | 2.13 | 151 | 1955 | 1.25 | ug/L | 95 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 2514 | 1.48 | ug/L | 95 |
| 20) acetone | 2.25 | 58 | 573 | 6.10 | ug/L # | 69 |
| 23) carbon disulfide | 2.31 | 76 | 8937 | 2.01 | ug/L | 93 |
| 24) methylene chloride | 2.56 | 84 | 3366 | 1.96 | ug/L | 82 |
| 25) methyl acetate | 2.47 | 43 | 1357 | 1.56 | ug/L | 89 |
| 26) methyl tert butyl ether | 2.71 | 73 | 6798 | 1.53 | ug/L | 98 |
| 27) trans-1,2-dichloroethene | 2.73 | 96 | 2881 | 1.52 | ug/L | 97 |
| 28) hexane | 2.87 | 57 | 4563 | 1.54 | ug/L | 95 |
| 29) di-isopropyl ether | 3.08 | 45 | 8377 | 1.54 | ug/L | 88 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 8402 | 1.55 | ug/L | 97 |
| 31) 2-butanone | 3.60 | 72 | 826 | 5.51 | ug/L # | 67 |
| 32) 1,1-dichloroethane | 3.09 | 63 | 4934 | 1.56 | ug/L | 98 |
| 33) chloroprene | 3.13 | 53 | 3815 | 1.35 | ug/L | 98 |
| 37) 2,2-dichloropropane | 3.54 | 77 | 3971 | 1.37 | ug/L | 88 |
| 38) cis-1,2-dichloroethene | 3.58 | 96 | 3078 | 1.49 | ug/L | 93 |
| 39) propionitrile | 3.72 | 54 | 2591 | 15.92 | ug/L | 86 |
| 40) bromochloromethane | 3.78 | 130 | 1772 | 1.55 | ug/L | 87 |
| 42) chloroform | 3.85 | 83 | 5102 | 1.57 | ug/L | 99 |
| 43) tert-Butyl Formate | 3.85 | 59 | 1260 | 1.13 | ug/L | 81 |
| 46) methacrylonitrile | 3.82 | 67 | 683 | 1.34 | ug/L # | 51 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149628.D
Acq On : 13 Feb 2019 8:29 pm
Operator : juntaep
Sample : IC6743-2
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 09:29:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 47) 1,1,1-trichloroethane | 3.95 | 97 | 4208 | 1.37 ug/L | 95 |
| 48) cyclohexane | 3.94 | 84 | 5256 | 1.69 ug/L | 97 |
| 49) 1,1-dichloropropene | 4.11 | 110 | 1334 | 1.32 ug/L | 93 |
| 51) carbon tetrachloride | 4.06 | 119 | 3131 | 1.26 ug/L | 85 |
| 54) 2,2,4-trimethylpentane | 4.26 | 57 | 10955 | 1.48 ug/L | 93 |
| 55) tert-amyl methyl ether | 4.36 | 87 | 2506 | 1.51 ug/L # | 82 |
| 57) benzene | 4.28 | 78 | 11862 | 1.63 ug/L | 97 |
| 58) heptane | 4.45 | 57 | 2261 | 1.43 ug/L | 87 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 3930 | 1.80 ug/L | 89 |
| 61) trichloroethene | 4.90 | 95 | 2941 | 1.47 ug/L | 95 |
| 64) 2-chloroethyl vinyl ether | 5.76 | 63 | 7906 | 8.30 ug/L | 96 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 2586 | 1.49 ug/L | 91 |
| 67) methylcyclohexane | 5.01 | 83 | 6626 | 1.86 ug/L | 97 |
| 68) dibromomethane | 5.29 | 93 | 1552 | 1.63 ug/L | 95 |
| 69) bromodichloromethane | 5.45 | 83 | 3223 | 1.41 ug/L | 96 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 4189 | 1.48 ug/L | 97 |
| 72) 4-methyl-2-pentanone | 6.03 | 85 | 1385 | 5.71 ug/L | 97 |
| 76) toluene | 6.15 | 92 | 8104 | 1.66 ug/L | 95 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 3381 | 1.39 ug/L | 95 |
| 78) ethyl methacrylate | 6.47 | 69 | 3036 | 1.57 ug/L | 95 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 1877 | 1.57 ug/L # | 85 |
| 80) 2-hexanone | 6.80 | 58 | 2904 | 6.27 ug/L | 95 |
| 81) tetrachloroethene | 6.62 | 166 | 3676 | 1.52 ug/L | 96 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 4248 | 1.73 ug/L | 97 |
| 83) butyl acetate | 6.89 | 56 | 1407 | 1.58 ug/L | 90 |
| 84) dibromochloromethane | 6.92 | 129 | 2007 | 1.29 ug/L | 89 |
| 85) 1,2-dibromoethane | 7.02 | 107 | 2629 | 1.45 ug/L | 98 |
| 86) n-butyl ether | 7.47 | 57 | 13078 | 1.64 ug/L | 98 |
| 87) chlorobenzene | 7.42 | 112 | 9164 | 1.73 ug/L | 94 |
| 88) 1,1,1,2-tetrachloroethane | 7.50 | 131 | 2621 | 1.37 ug/L | 97 |
| 89) ethylbenzene | 7.49 | 91 | 15689 | 1.68 ug/L | 96 |
| 90) m,p-xylene | 7.60 | 106 | 12484 | 3.39 ug/L | 99 |
| 91) o-xylene | 7.93 | 91 | 12686 | 1.71 ug/L | 99 |
| 92) styrene | 7.96 | 104 | 9797 | 1.60 ug/L | 95 |
| 94) butyl acrylate | 7.92 | 55 | 3946 | 1.46 ug/L | 93 |
| 95) isopropylbenzene | 8.23 | 105 | 15798 | 1.64 ug/L | 99 |
| 99) bromobenzene | 8.51 | 156 | 4197 | 1.73 ug/L | 99 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 2856m | 1.72 ug/L | |
| 102) 1,2,3-trichloropropane | 8.59 | 110 | 859 | 1.58 ug/L | 95 |
| 103) n-propylbenzene | 8.57 | 91 | 18458 | 1.66 ug/L | 99 |
| 104) 2-chlorotoluene | 8.66 | 126 | 3810 | 1.64 ug/L | 87 |
| 105) 4-chlorotoluene | 8.75 | 126 | 3762 | 1.61 ug/L | 97 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 13128 | 1.58 ug/L | 97 |
| 107) tert-butylbenzene | 8.97 | 119 | 12024 | 1.63 ug/L | 97 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 14417 | 1.73 ug/L | 98 |
| 109) sec-butylbenzene | 9.14 | 105 | 17796 | 1.65 ug/L | 99 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 8219 | 1.72 ug/L | 96 |
| 111) p-isopropyltoluene | 9.26 | 119 | 15048 | 1.57 ug/L | 97 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 8355 | 1.76 ug/L | 97 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 7623 | 1.72 ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149628.D
Acq On : 13 Feb 2019 8:29 pm
Operator : juntaep
Sample : IC6743-2
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 09:29:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 114) n-butylbenzene | 9.59 | 92 | 7221 | 1.51 ug/L | 91 |
| 115) 1,2-dibromo-3-chloropropan | 10.27 | 157 | 369 | 0.91 ug/L | 93 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 7410 | 1.67 ug/L | 90 |
| 117) 1,2,4-trichlorobenzene | 10.88 | 180 | 6165 | 1.63 ug/L | 96 |
| 118) hexachlorobutadiene | 10.97 | 225 | 3460 | 1.40 ug/L | 92 |
| 119) naphthalene | 11.08 | 128 | 10598 | 1.58 ug/L | 97 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 5860 | 1.65 ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

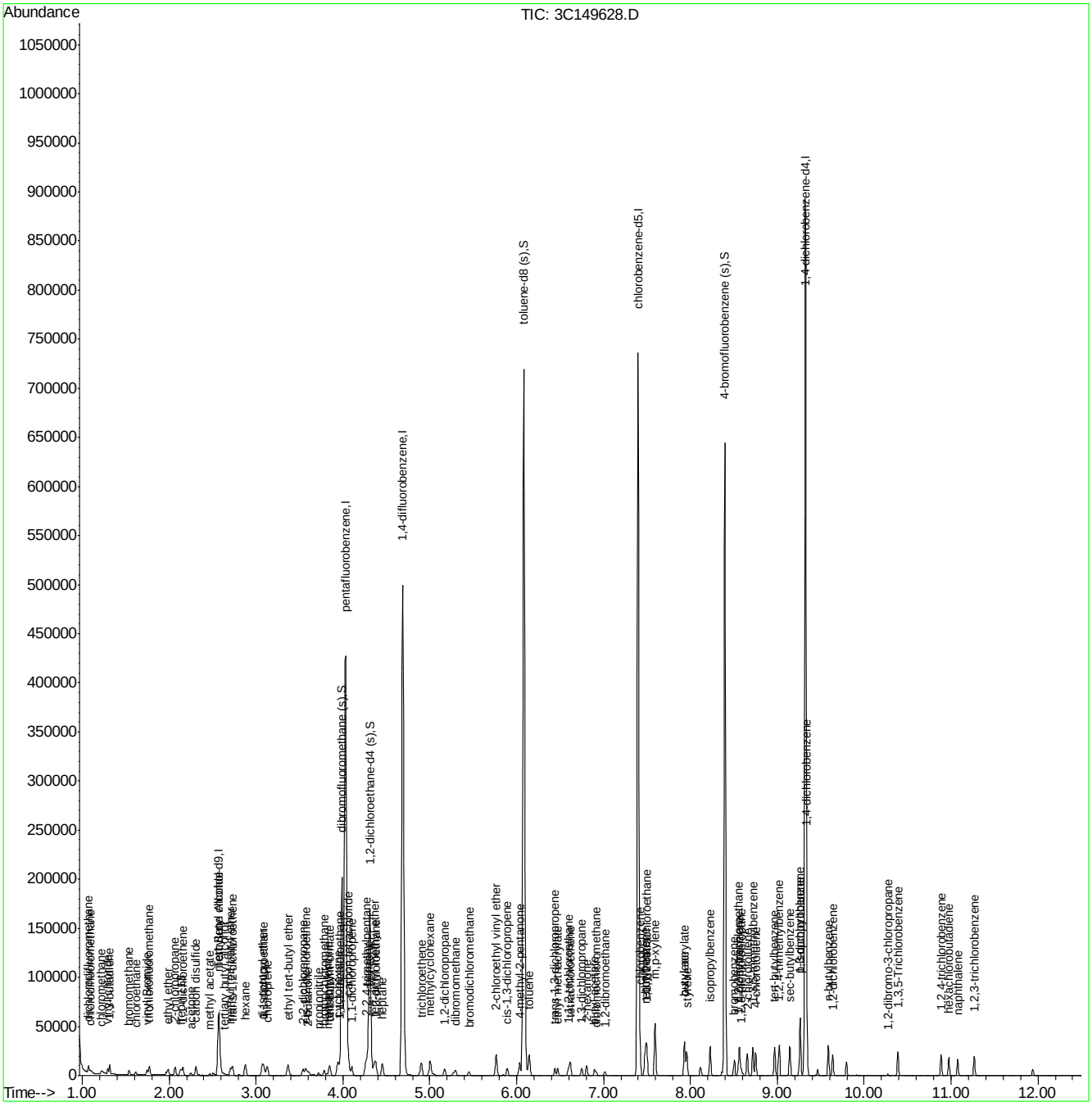
7.7.15

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149628.D
Acq On : 13 Feb 2019 8:29 pm
Operator : juntaep
Sample : IC6743-2
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 09:29:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | V3C6743-IC6743 | **Method:** | SW846 8260C |
| **Lab FileID:** | 3C149628.D | **Analyst approved:** | 02/15/19 11:18 Robert Szot |
| **Injection Time:** | 02/13/19 20:29 | **Supervisor approved:** | 02/15/19 13:53 Kanya Veerawat |

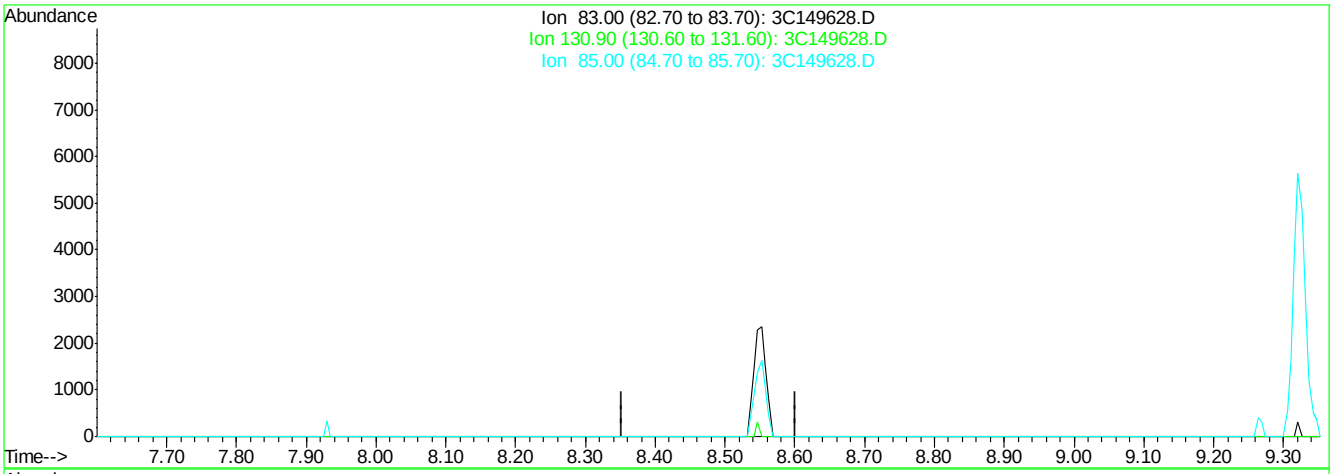
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | 79-34-5 | | 8.55 | Missed peak |

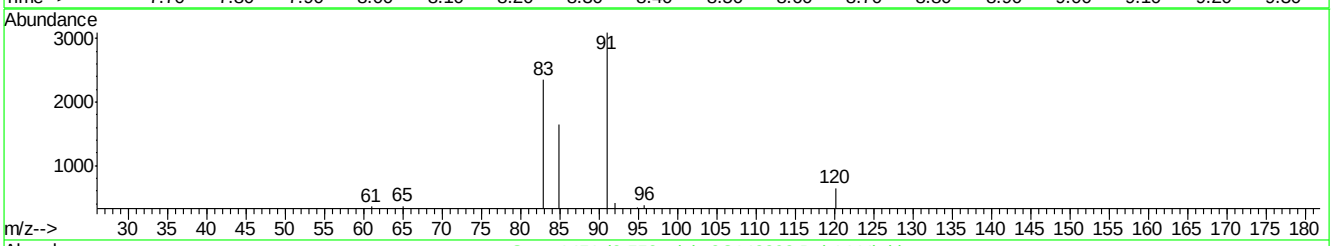
Quantitation Report (Qedit)

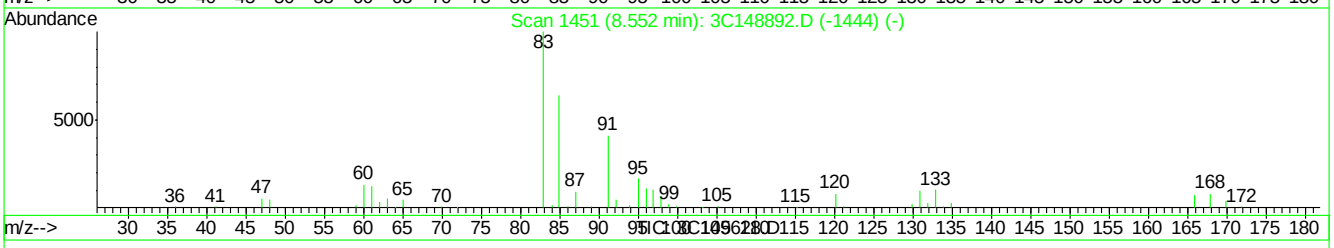
Data File : C:\MSDChem\1\DATA\V3C6743\3C149628.D Vial: 8
Acq On : 13 Feb 2019 8:29 pm Operator: juntaep
Sample : IC6743-2 Inst : MS3C
Misc : MS32156,V3C6743,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Feb 14 14:06:04 2019 Results File: M3C6743.RES

Method : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
Last Update : Thu Feb 14 14:08:59 2019
Response via : Multiple Level Calibration




(100) 1,1,2,2-tetrachloroethane

8.55min 0.00ug/L d

response 0

| Ion | Exp% | Act% |
|---|---|---|
| 83.00 | 100 | 0.00 |
| 130.90 | 11.30 | 0.00 |
| 85.00 | 64.20 | 0.00 |
| 0.00 | 0.00 | 0.00 |

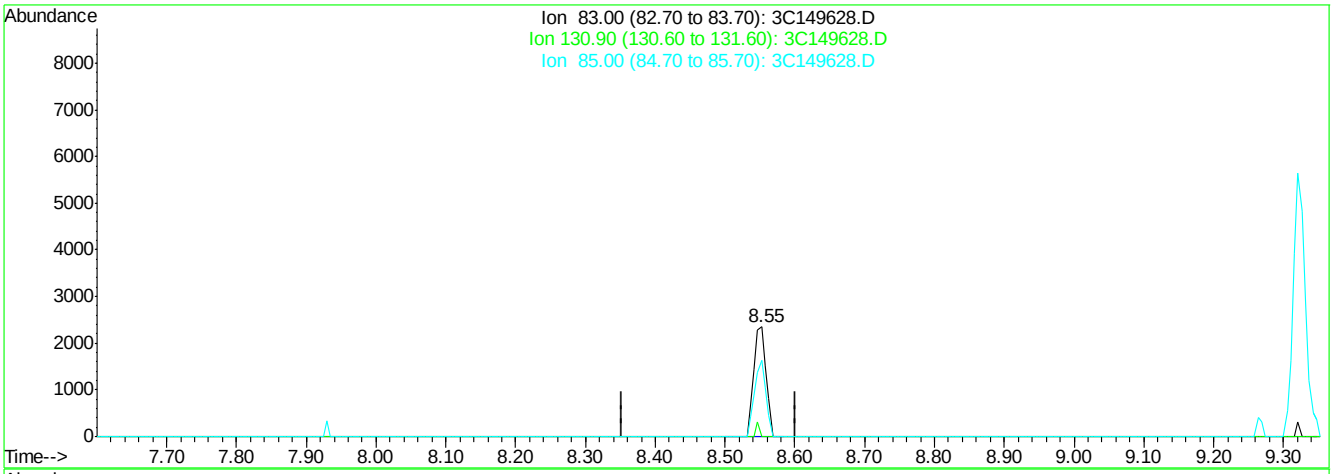
3C149628.D M3C6743.M Fri Feb 15 09:29:28 2019 MS3C

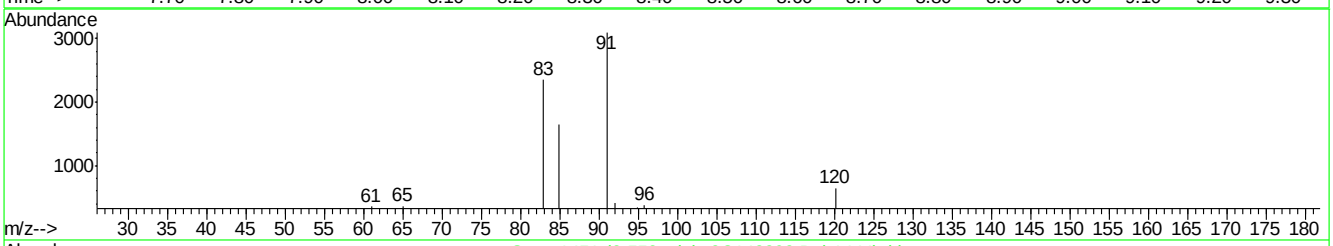
Quantitation Report (Qedit)

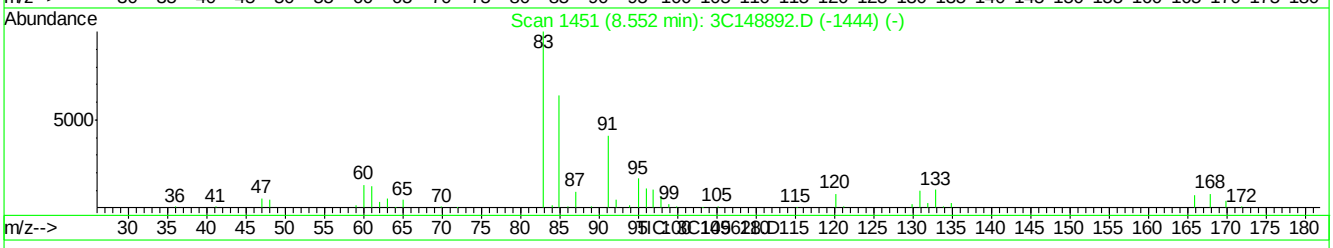
Data File : C:\MSDChem\1\DATA\V3C6743\3C149628.D Vial: 8
Acq On : 13 Feb 2019 8:29 pm Operator: juntaep
Sample : IC6743-2 Inst : MS3C
Misc : MS32156,V3C6743,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Feb 14 14:06:04 2019 Results File: M3C6743.RES

Method : C:\MSDCHEM\1\METHODS\M3C6743.M (RTE Integrator)
Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
Last Update : Thu Feb 14 14:08:59 2019
Response via : Multiple Level Calibration




(100) 1,1,2,2-tetrachloroethane

8.55min 1.72ug/L m

response 2856

| Ion | Exp% | Act% |
|---|---|---|
| 83.00 | 100 | 100 |
| 130.90 | 11.30 | 0.00 |
| 85.00 | 64.20 | 69.94 |
| 0.00 | 0.00 | 0.00 |

3C149628.D M3C6743.M Fri Feb 15 09:29:54 2019 MS3C

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149629.D
Acq On : 13 Feb 2019 8:52 pm
Operator : juntaep
Sample : IC6743-4
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 14 12:14:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.57 | 65 | 58359 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 265395 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 361985 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 316370 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.33 | 152 | 172390 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 94641 | 48.54 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.08% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 98675 | 50.64 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 101.28% | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 391816 | 49.93 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.86% | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 140867 | 50.12 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 100.24% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 2.64 | 59 | 2465 | 18.15 | ug/L | 68 |
| 4) 1,4-dioxane | 5.29 | 88 | 1532 | 92.35 | ug/L | 83 |
| 6) chlorodifluoromethane | 1.10 | 51 | 6803 | 3.93 | ug/L | 98 |
| 7) dichlorodifluoromethane | 1.08 | 85 | 9254 | 3.66 | ug/L | 98 |
| 8) chloromethane | 1.22 | 50 | 7897 | 3.87 | ug/L | 97 |
| 9) 1,3-butadiene | 1.32 | 54 | 5263 | 3.95 | ug/L | 100 |
| 10) vinyl chloride | 1.30 | 62 | 8269 | 3.89 | ug/L | 99 |
| 11) bromomethane | 1.54 | 94 | 5036 | 4.05 | ug/L | 96 |
| 12) chloroethane | 1.62 | 64 | 4849 | 3.84 | ug/L | 98 |
| 13) vinyl Bromide | 1.75 | 106 | 6714 | 3.65 | ug/L | 99 |
| 14) trichlorofluoromethane | 1.77 | 101 | 11557 | 3.69 | ug/L | 96 |
| 15) ethyl ether | 1.99 | 74 | 3333 | 3.83 | ug/L | 89 |
| 16) 2-chloropropane | 2.08 | 63 | 2530 | 3.51 | ug/L # | 82 |
| 17) acrolein | 2.13 | 56 | 485 | 2.55 | ug/L | 95 |
| 18) freon 113 | 2.13 | 151 | 5689 | 3.73 | ug/L | 94 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 6018 | 3.64 | ug/L | 86 |
| 20) acetone | 2.25 | 58 | 1327 | 14.47 | ug/L | 99 |
| 21) acetonitrile | 2.52 | 41 | 5673 | 42.53 | ug/L | 92 |
| 22) iodomethane | 2.29 | 142 | 2292 | 1.32 | ug/L | 87 |
| 23) carbon disulfide | 2.31 | 76 | 17541 | 4.04 | ug/L | 96 |
| 24) methylene chloride | 2.57 | 84 | 7186 | 4.28 | ug/L | 92 |
| 25) methyl acetate | 2.47 | 43 | 3292 | 3.87 | ug/L | 86 |
| 26) methyl tert butyl ether | 2.72 | 73 | 16859 | 3.89 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 2.73 | 96 | 7055 | 3.82 | ug/L | 99 |
| 28) hexane | 2.88 | 57 | 11137 | 3.85 | ug/L | 95 |
| 29) di-isopropyl ether | 3.08 | 45 | 20300 | 3.82 | ug/L | 97 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 19847 | 3.75 | ug/L | 97 |
| 31) 2-butanone | 3.60 | 72 | 1961 | 13.40 | ug/L # | 80 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 11438 | 3.69 | ug/L | 98 |
| 33) chloroprene | 3.13 | 53 | 10267 | 3.73 | ug/L | 97 |
| 34) acrylonitrile | 2.81 | 53 | 1315 | 3.58 | ug/L | 88 |
| 35) vinyl acetate | 3.12 | 86 | 1053 | 3.13 | ug/L # | 45 |
| 36) ethyl acetate | 3.62 | 45 | 234 | 1.22 | ug/L # | 70 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149629.D
Acq On : 13 Feb 2019 8:52 pm
Operator : juntaep
Sample : IC6743-4
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 14 12:14:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 3.55 | 77 | 10441 | 3.68 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 3.57 | 96 | 7528 | 3.72 | ug/L | | 98 |
| 39) propionitrile | 3.72 | 54 | 6085 | 38.30 | ug/L | | 95 |
| 40) bromochloromethane | 3.79 | 130 | 4282 | 3.84 | ug/L | | 88 |
| 42) chloroform | 3.84 | 83 | 12462 | 3.93 | ug/L | | 98 |
| 43) tert-Butyl Formate | 3.85 | 59 | 3675 | 3.37 | ug/L | | 89 |
| 44) isobutyl alcohol | 4.26 | 41 | 9146 | 36.87 | ug/L | | 90 |
| 46) methacrylonitrile | 3.82 | 67 | 1697 | 3.41 | ug/L | | 94 |
| 47) 1,1,1-trichloroethane | 3.96 | 97 | 11014 | 3.67 | ug/L | | 93 |
| 48) cyclohexane | 3.94 | 84 | 11524 | 3.80 | ug/L | | 96 |
| 49) 1,1-dichloropropene | 4.11 | 110 | 3852 | 3.90 | ug/L | # | 84 |
| 50) tert-amyl alcohol | 4.33 | 59 | 2358 | 19.91 | ug/L | | 88 |
| 51) carbon tetrachloride | 4.07 | 119 | 8564 | 3.52 | ug/L | | 90 |
| 54) 2,2,4-trimethylpentane | 4.26 | 57 | 27110 | 3.76 | ug/L | | 99 |
| 55) tert-amyl methyl ether | 4.37 | 87 | 6055 | 3.76 | ug/L | # | 81 |
| 56) n-butyl alcohol | 4.90 | 56 | 5570 | 151.11 | ug/L | | 98 |
| 57) benzene | 4.28 | 78 | 27783 | 3.93 | ug/L | | 99 |
| 58) heptane | 4.46 | 57 | 5651 | 3.68 | ug/L | | 92 |
| 59) isopropyl acetate | 4.37 | 87 | 6055 | 3.76 | ug/L | | 94 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 8844 | 4.17 | ug/L | | 94 |
| 61) trichloroethene | 4.90 | 95 | 7403 | 3.81 | ug/L | | 100 |
| 62) ethyl acrylate | 5.04 | 55 | 5799 | 3.71 | ug/L | | 84 |
| 63) 2-nitropropane | 5.76 | 41 | 1689 | 3.51 | ug/L | | 98 |
| 64) 2-chloroethyl vinyl ether | 5.76 | 63 | 17871 | 19.30 | ug/L | | 98 |
| 65) methyl methacrylate | 5.28 | 100 | 1207 | 2.89 | ug/L | # | 81 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 6229 | 3.71 | ug/L | | 93 |
| 67) methylcyclohexane | 5.01 | 83 | 14688 | 4.25 | ug/L | | 97 |
| 68) dibromomethane | 5.30 | 93 | 3533 | 3.82 | ug/L | | 94 |
| 69) bromodichloromethane | 5.45 | 83 | 7656 | 3.45 | ug/L | | 97 |
| 70) epichlorohydrin | 5.85 | 57 | 2198 | 18.97 | ug/L | | 85 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 9596 | 3.50 | ug/L | | 95 |
| 72) 4-methyl-2-pentanone | 6.03 | 85 | 3079 | 13.07 | ug/L | | 99 |
| 76) toluene | 6.15 | 92 | 18779 | 3.96 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 7807 | 3.31 | ug/L | | 97 |
| 78) ethyl methacrylate | 6.47 | 69 | 6421 | 3.41 | ug/L | | 88 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 4482 | 3.86 | ug/L | | 97 |
| 80) 2-hexanone | 6.81 | 58 | 6718 | 14.91 | ug/L | | 97 |
| 81) tetrachloroethene | 6.62 | 166 | 8750 | 3.71 | ug/L | | 95 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 9116 | 3.82 | ug/L | | 94 |
| 83) butyl acetate | 6.89 | 56 | 3233 | 3.74 | ug/L | | 93 |
| 84) dibromochloromethane | 6.92 | 129 | 4513 | 2.98 | ug/L | | 97 |
| 85) 1,2-dibromoethane | 7.02 | 107 | 6552 | 3.72 | ug/L | | 96 |
| 86) n-butyl ether | 7.47 | 57 | 30098 | 3.88 | ug/L | | 96 |
| 87) chlorobenzene | 7.42 | 112 | 20673 | 4.01 | ug/L | | 96 |
| 88) 1,1,1,2-tetrachloroethane | 7.50 | 131 | 6055 | 3.26 | ug/L | | 97 |
| 89) ethylbenzene | 7.49 | 91 | 35962 | 3.95 | ug/L | | 97 |
| 90) m,p-xylene | 7.59 | 106 | 28515 | 7.96 | ug/L | | 99 |
| 91) o-xylene | 7.93 | 91 | 29147 | 4.05 | ug/L | | 99 |
| 92) styrene | 7.96 | 104 | 22370 | 3.76 | ug/L | | 99 |
| 93) bromoform | 8.13 | 173 | 2464 | 2.70 | ug/L | | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149629.D
Acq On : 13 Feb 2019 8:52 pm
Operator : juntaep
Sample : IC6743-4
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 14 12:14:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 94) butyl acrylate | 7.92 | 55 | 8704 | 3.31 ug/L | 99 |
| 95) isopropylbenzene | 8.23 | 105 | 36885 | 3.93 ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 8.36 | 53 | 1654 | 3.16 ug/L # | 77 |
| 99) bromobenzene | 8.51 | 156 | 9271 | 3.92 ug/L | 96 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 6229 | 3.85 ug/L | 100 |
| 101) trans-1,4-dichloro-2-buten | 8.60 | 88 | 456 | 2.05 ug/L # | 48 |
| 102) 1,2,3-trichloropropane | 8.59 | 110 | 2009 | 3.79 ug/L | 96 |
| 103) n-propylbenzene | 8.57 | 91 | 43326 | 3.99 ug/L | 98 |
| 104) 2-chlorotoluene | 8.66 | 126 | 8941 | 3.94 ug/L | 99 |
| 105) 4-chlorotoluene | 8.75 | 126 | 9009 | 3.96 ug/L | 96 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 31332 | 3.87 ug/L | 98 |
| 107) tert-butylbenzene | 8.97 | 119 | 28601 | 3.98 ug/L | 97 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 32165 | 3.96 ug/L | 100 |
| 109) sec-butylbenzene | 9.15 | 105 | 41398 | 3.93 ug/L | 97 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 18635 | 4.00 ug/L | 97 |
| 111) p-isopropyltoluene | 9.26 | 119 | 36312 | 3.89 ug/L | 98 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 18220 | 3.92 ug/L | 94 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 17065 | 3.94 ug/L | 96 |
| 114) n-butylbenzene | 9.59 | 92 | 17910 | 3.84 ug/L | 98 |
| 115) 1,2-dibromo-3-chloropropan | 10.27 | 157 | 962 | 2.44 ug/L | 93 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 17209 | 3.98 ug/L | 93 |
| 117) 1,2,4-trichlorobenzene | 10.88 | 180 | 14394 | 3.90 ug/L | 93 |
| 118) hexachlorobutadiene | 10.97 | 225 | 8881 | 3.68 ug/L | 97 |
| 119) naphthalene | 11.08 | 128 | 24785 | 3.80 ug/L | 96 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 13623 | 3.94 ug/L | 99 |
| 121) hexachloroethane | 9.80 | 201 | 3272 | 2.54 ug/L # | 74 |
| 122) Benzyl chloride | 9.46 | 91 | 8474 | 2.74 ug/L | 95 |
| 124) 2-methylnaphthalene | 11.94 | 142 | 7529 | 1.88 ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

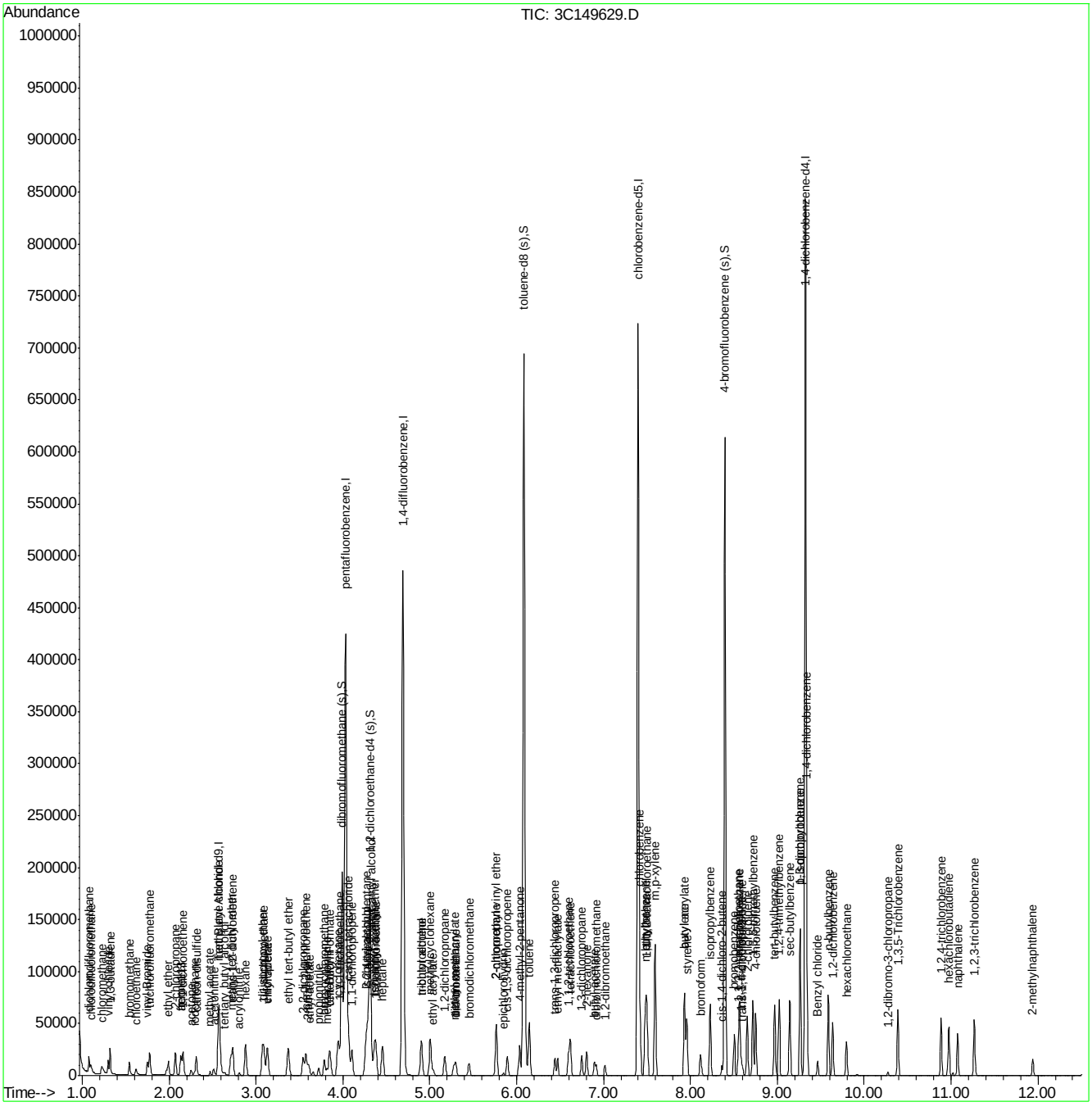
7.7.16

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149629.D
Acq On : 13 Feb 2019 8:52 pm
Operator : juntaep
Sample : IC6743-4
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 14 12:14:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149630.D
Acq On : 13 Feb 2019 9:15 pm
Operator : juntaep
Sample : IC6743-8
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 14 12:15:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.57 | 65 | 57495 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 265783 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 365228 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 313215 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.33 | 152 | 170087 | 50.00 | ug/L | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 96469 | 49.40 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.80% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 98968 | 50.34 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.68% | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 388948 | 50.07 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.14% | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 142556 | 51.41 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 102.82% | | | |

Target Compounds

| | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 2.64 | 59 | 5276 | 39.43 | ug/L | 95 |
| 4) 1,4-dioxane | 5.29 | 88 | 2834 | 173.41 | ug/L | 95 |
| 6) chlorodifluoromethane | 1.10 | 51 | 13319 | 7.67 | ug/L | 96 |
| 7) dichlorodifluoromethane | 1.08 | 85 | 19943 | 7.88 | ug/L | 98 |
| 8) chloromethane | 1.22 | 50 | 16559 | 8.10 | ug/L | 96 |
| 9) 1,3-butadiene | 1.32 | 54 | 10274 | 7.69 | ug/L | 98 |
| 10) vinyl chloride | 1.30 | 62 | 16915 | 7.95 | ug/L | 99 |
| 11) bromomethane | 1.54 | 94 | 9993 | 8.03 | ug/L | 95 |
| 12) chloroethane | 1.62 | 64 | 9936 | 7.85 | ug/L | 97 |
| 13) vinyl Bromide | 1.75 | 106 | 14238 | 7.73 | ug/L | 95 |
| 14) trichlorofluoromethane | 1.77 | 101 | 24526 | 7.83 | ug/L | 99 |
| 15) ethyl ether | 1.99 | 74 | 6631 | 7.60 | ug/L | 91 |
| 16) 2-chloropropane | 2.07 | 63 | 5382 | 7.45 | ug/L | 99 |
| 17) acrolein | 2.14 | 56 | 1259 | 6.62 | ug/L | 88 |
| 18) freon 113 | 2.13 | 151 | 11301 | 7.39 | ug/L | 97 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 12557 | 7.58 | ug/L | 95 |
| 20) acetone | 2.26 | 58 | 2752 | 29.96 | ug/L # | 72 |
| 21) acetonitrile | 2.51 | 41 | 10315 | 77.21 | ug/L | 97 |
| 22) iodomethane | 2.29 | 142 | 5353 | 3.08 | ug/L | 97 |
| 23) carbon disulfide | 2.31 | 76 | 34164 | 7.85 | ug/L | 96 |
| 24) methylene chloride | 2.56 | 84 | 13567 | 8.07 | ug/L | 97 |
| 25) methyl acetate | 2.47 | 43 | 6801 | 7.99 | ug/L | 94 |
| 26) methyl tert butyl ether | 2.71 | 73 | 33140 | 7.64 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 2.74 | 96 | 13871 | 7.49 | ug/L | 98 |
| 28) hexane | 2.88 | 57 | 22369 | 7.72 | ug/L | 99 |
| 29) di-isopropyl ether | 3.08 | 45 | 40868 | 7.69 | ug/L | 99 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 39812 | 7.52 | ug/L | 99 |
| 31) 2-butanone | 3.60 | 72 | 4349 | 29.67 | ug/L | 98 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 23493 | 7.57 | ug/L | 96 |
| 33) chloroprene | 3.13 | 53 | 21031 | 7.62 | ug/L | 95 |
| 34) acrylonitrile | 2.80 | 53 | 2592 | 7.04 | ug/L | 95 |
| 35) vinyl acetate | 3.12 | 86 | 2198 | 6.53 | ug/L # | 74 |
| 36) ethyl acetate | 3.61 | 45 | 1197 | 6.25 | ug/L | 86 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149630.D
Acq On : 13 Feb 2019 9:15 pm
Operator : juntaep
Sample : IC6743-8
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 14 12:15:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 3.55 | 77 | 20423 | 7.19 | ug/L | | 98 |
| 38) cis-1,2-dichloroethene | 3.58 | 96 | 15314 | 7.57 | ug/L | | 98 |
| 39) propionitrile | 3.72 | 54 | 12567 | 78.98 | ug/L | | 97 |
| 40) bromochloromethane | 3.79 | 130 | 8687 | 7.77 | ug/L | | 89 |
| 41) tetrahydrofuran | 3.79 | 71 | 998 | 7.26 | ug/L | | 96 |
| 42) chloroform | 3.84 | 83 | 24239 | 7.64 | ug/L | | 95 |
| 43) tert-Butyl Formate | 3.86 | 59 | 6954 | 6.36 | ug/L | | 93 |
| 44) isobutyl alcohol | 4.26 | 41 | 18823 | 75.76 | ug/L | | 94 |
| 46) methacrylonitrile | 3.81 | 67 | 3673 | 7.37 | ug/L | | 93 |
| 47) 1,1,1-trichloroethane | 3.96 | 97 | 22331 | 7.43 | ug/L | | 97 |
| 48) cyclohexane | 3.94 | 84 | 24346 | 8.02 | ug/L | | 97 |
| 49) 1,1-dichloropropene | 4.11 | 110 | 7352 | 7.44 | ug/L | | 96 |
| 50) tert-amyl alcohol | 4.33 | 59 | 4630 | 39.04 | ug/L | # | 68 |
| 51) carbon tetrachloride | 4.07 | 119 | 17652 | 7.24 | ug/L | | 97 |
| 54) 2,2,4-trimethylpentane | 4.27 | 57 | 55472 | 7.63 | ug/L | | 98 |
| 55) tert-amyl methyl ether | 4.36 | 87 | 12205 | 7.50 | ug/L | | 95 |
| 56) n-butyl alcohol | 4.90 | 56 | 11537 | 310.21 | ug/L | | 90 |
| 57) benzene | 4.28 | 78 | 55823 | 7.83 | ug/L | | 98 |
| 58) heptane | 4.46 | 57 | 11941 | 7.71 | ug/L | | 98 |
| 59) isopropyl acetate | 4.36 | 87 | 12205 | 7.50 | ug/L | | 96 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 16793 | 7.85 | ug/L | | 98 |
| 61) trichloroethene | 4.90 | 95 | 15251 | 7.77 | ug/L | | 99 |
| 62) ethyl acrylate | 5.04 | 55 | 11594 | 7.36 | ug/L | | 90 |
| 63) 2-nitropropane | 5.76 | 41 | 3351 | 6.91 | ug/L | # | 53 |
| 64) 2-chloroethyl vinyl ether | 5.76 | 63 | 36013 | 38.55 | ug/L | | 97 |
| 65) methyl methacrylate | 5.27 | 100 | 2852 | 6.77 | ug/L | | 95 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 13217 | 7.80 | ug/L | | 95 |
| 67) methylcyclohexane | 5.01 | 83 | 27898 | 8.00 | ug/L | | 98 |
| 68) dibromomethane | 5.29 | 93 | 7019 | 7.52 | ug/L | | 96 |
| 69) bromodichloromethane | 5.45 | 83 | 15392 | 6.87 | ug/L | | 99 |
| 70) epichlorohydrin | 5.85 | 57 | 4231 | 36.20 | ug/L | | 84 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 19469 | 7.03 | ug/L | | 97 |
| 72) 4-methyl-2-pentanone | 6.03 | 85 | 6524 | 27.45 | ug/L | | 99 |
| 76) toluene | 6.15 | 92 | 36744 | 7.82 | ug/L | | 96 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 15862 | 6.78 | ug/L | | 93 |
| 78) ethyl methacrylate | 6.47 | 69 | 13424 | 7.19 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 8824 | 7.69 | ug/L | | 96 |
| 80) 2-hexanone | 6.81 | 58 | 13181 | 29.54 | ug/L | | 98 |
| 81) tetrachloroethene | 6.62 | 166 | 17991 | 7.71 | ug/L | | 97 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 18660 | 7.90 | ug/L | | 97 |
| 83) butyl acetate | 6.89 | 56 | 6446 | 7.53 | ug/L | | 96 |
| 84) dibromochloromethane | 6.92 | 129 | 9458 | 6.30 | ug/L | | 95 |
| 85) 1,2-dibromoethane | 7.02 | 107 | 13033 | 7.47 | ug/L | | 98 |
| 86) n-butyl ether | 7.47 | 57 | 61329 | 7.99 | ug/L | | 98 |
| 87) chlorobenzene | 7.42 | 112 | 40458 | 7.92 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 7.51 | 131 | 12150 | 6.62 | ug/L | | 98 |
| 89) ethylbenzene | 7.49 | 91 | 71203 | 7.90 | ug/L | | 98 |
| 90) m,p-xylene | 7.60 | 106 | 57168 | 16.11 | ug/L | | 97 |
| 91) o-xylene | 7.93 | 91 | 56131 | 7.88 | ug/L | | 100 |
| 92) styrene | 7.96 | 104 | 45496 | 7.73 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149630.D
Acq On : 13 Feb 2019 9:15 pm
Operator : juntaep
Sample : IC6743-8
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 14 12:15:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) bromoform | 8.13 | 173 | 5194 | 5.74 ug/L | 98 |
| 94) butyl acrylate | 7.92 | 55 | 18121 | 6.95 ug/L | 100 |
| 95) isopropylbenzene | 8.23 | 105 | 72694 | 7.83 ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 8.36 | 53 | 3492 | 6.73 ug/L # | 80 |
| 99) bromobenzene | 8.51 | 156 | 18829 | 8.07 ug/L | 100 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 11999 | 7.52 ug/L | 99 |
| 101) trans-1,4-dichloro-2-buten | 8.60 | 88 | 1060 | 4.83 ug/L # | 73 |
| 102) 1,2,3-trichloropropane | 8.59 | 110 | 4050 | 7.75 ug/L | 89 |
| 103) n-propylbenzene | 8.57 | 91 | 87286 | 8.14 ug/L | 97 |
| 104) 2-chlorotoluene | 8.66 | 126 | 18134 | 8.11 ug/L | 97 |
| 105) 4-chlorotoluene | 8.75 | 126 | 17887 | 7.97 ug/L | 98 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 63194 | 7.92 ug/L | 99 |
| 107) tert-butylbenzene | 8.97 | 119 | 56877 | 8.01 ug/L | 99 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 64151 | 8.01 ug/L | 95 |
| 109) sec-butylbenzene | 9.14 | 105 | 83152 | 8.00 ug/L | 100 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 37000 | 8.04 ug/L | 99 |
| 111) p-isopropyltoluene | 9.26 | 119 | 72840 | 7.92 ug/L | 98 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 36688 | 8.01 ug/L | 98 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 33584 | 7.86 ug/L | 99 |
| 114) n-butylbenzene | 9.59 | 92 | 36159 | 7.86 ug/L | 98 |
| 115) 1,2-dibromo-3-chloropropan | 10.27 | 157 | 2306 | 5.94 ug/L | 94 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 33222 | 7.79 ug/L | 97 |
| 117) 1,2,4-trichlorobenzene | 10.88 | 180 | 28699 | 7.88 ug/L | 99 |
| 118) hexachlorobutadiene | 10.97 | 225 | 17737 | 7.45 ug/L | 98 |
| 119) naphthalene | 11.08 | 128 | 48417 | 7.51 ug/L | 98 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 26585 | 7.79 ug/L | 96 |
| 121) hexachloroethane | 9.80 | 201 | 7209 | 5.68 ug/L # | 80 |
| 122) Benzyl chloride | 9.46 | 91 | 17416 | 5.71 ug/L | 98 |
| 123) 2-ethylhexyl acrylate | 11.02 | 70 | 1723 | 0.97 ug/L | 99 |
| 124) 2-methylnaphthalene | 11.94 | 142 | 15111 | 3.82 ug/L | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

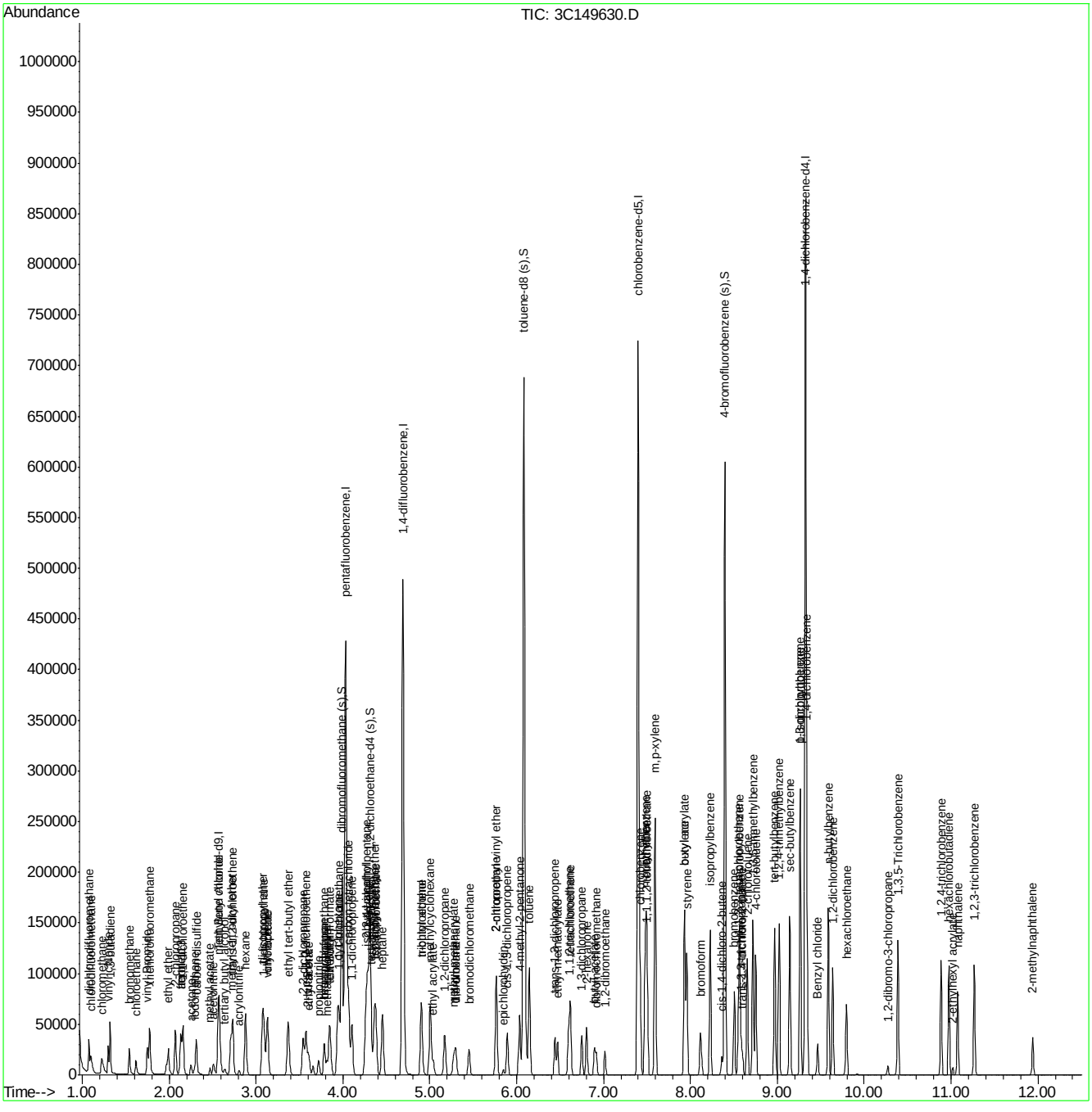
7.7.17

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149630.D
Acq On : 13 Feb 2019 9:15 pm
Operator : juntaep
Sample : IC6743-8
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 14 12:15:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149631.D
Acq On : 13 Feb 2019 9:39 pm
Operator : juntaep
Sample : IC6743-20
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 14 12:15:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.57 | 65 | 57466 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 264012 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 361189 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 312299 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.33 | 152 | 167909 | 50.00 | ug/L | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 94940 | 48.95 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 97.90% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 97091 | 49.94 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 99.88% | | | | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 388689 | 50.18 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 100.36% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 137896 | 50.37 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 100.74% | | | | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 2.64 | 59 | 12948 | 96.81 | ug/L | 94 |
| 4) 1,4-dioxane | 5.29 | 88 | 7780 | 476.28 | ug/L | 99 |
| 6) chlorodifluoromethane | 1.10 | 51 | 33844 | 19.63 | ug/L | 99 |
| 7) dichlorodifluoromethane | 1.08 | 85 | 49410 | 19.66 | ug/L | 99 |
| 8) chloromethane | 1.22 | 50 | 40327 | 19.86 | ug/L | 99 |
| 9) 1,3-butadiene | 1.32 | 54 | 26757 | 20.17 | ug/L | 97 |
| 10) vinyl chloride | 1.30 | 62 | 41265 | 19.52 | ug/L | 100 |
| 11) bromomethane | 1.54 | 94 | 25030 | 20.24 | ug/L | 99 |
| 12) chloroethane | 1.62 | 64 | 24777 | 19.72 | ug/L | 99 |
| 13) vinyl Bromide | 1.75 | 106 | 35894 | 19.62 | ug/L | 98 |
| 14) trichlorofluoromethane | 1.77 | 101 | 60669 | 19.49 | ug/L | 99 |
| 15) ethyl ether | 1.99 | 74 | 17356 | 20.03 | ug/L | 92 |
| 16) 2-chloropropane | 2.07 | 63 | 13656 | 19.03 | ug/L | 93 |
| 17) acrolein | 2.13 | 56 | 3504 | 18.55 | ug/L | 91 |
| 18) freon 113 | 2.13 | 151 | 29629 | 19.52 | ug/L | 99 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 32219 | 19.57 | ug/L | 98 |
| 20) acetone | 2.25 | 58 | 6803 | 74.56 | ug/L | 90 |
| 21) acetonitrile | 2.51 | 41 | 25699 | 193.66 | ug/L | 97 |
| 22) iodomethane | 2.29 | 142 | 20186 | 11.71 | ug/L | 97 |
| 23) carbon disulfide | 2.31 | 76 | 85054 | 19.67 | ug/L | 99 |
| 24) methylene chloride | 2.56 | 84 | 33420 | 20.00 | ug/L | 97 |
| 25) methyl acetate | 2.47 | 43 | 16379 | 19.37 | ug/L | 97 |
| 26) methyl tert butyl ether | 2.71 | 73 | 82585 | 19.17 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 2.73 | 96 | 36211 | 19.69 | ug/L | 95 |
| 28) hexane | 2.88 | 57 | 58243 | 20.24 | ug/L | 98 |
| 29) di-isopropyl ether | 3.08 | 45 | 103251 | 19.55 | ug/L | 98 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 102238 | 19.44 | ug/L | 99 |
| 31) 2-butanone | 3.60 | 72 | 11222 | 77.08 | ug/L | 99 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 60840 | 19.74 | ug/L | 97 |
| 33) chloroprene | 3.13 | 53 | 53393 | 19.48 | ug/L | 99 |
| 34) acrylonitrile | 2.80 | 53 | 6890 | 18.85 | ug/L | 90 |
| 35) vinyl acetate | 3.12 | 86 | 6076 | 18.17 | ug/L | 96 |
| 36) ethyl acetate | 3.61 | 45 | 3361 | 17.68 | ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149631.D
Acq On : 13 Feb 2019 9:39 pm
Operator : juntaep
Sample : IC6743-20
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 14 12:15:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 3.55 | 77 | 54113 | 19.18 | ug/L | | 97 |
| 38) cis-1,2-dichloroethene | 3.58 | 96 | 39639 | 19.71 | ug/L | | 94 |
| 39) propionitrile | 3.72 | 54 | 30355 | 192.06 | ug/L | | 99 |
| 40) bromochloromethane | 3.79 | 130 | 22152 | 19.96 | ug/L | | 90 |
| 41) tetrahydrofuran | 3.79 | 71 | 2452 | 17.96 | ug/L | # | 76 |
| 42) chloroform | 3.84 | 83 | 61722 | 19.58 | ug/L | | 99 |
| 43) tert-Butyl Formate | 3.86 | 59 | 19122 | 17.61 | ug/L | | 93 |
| 44) isobutyl alcohol | 4.26 | 41 | 48940 | 198.31 | ug/L | | 93 |
| 46) methacrylonitrile | 3.81 | 67 | 9377 | 18.94 | ug/L | | 96 |
| 47) 1,1,1-trichloroethane | 3.96 | 97 | 58033 | 19.43 | ug/L | | 99 |
| 48) cyclohexane | 3.94 | 84 | 59658 | 19.79 | ug/L | | 98 |
| 49) 1,1-dichloropropene | 4.11 | 110 | 19165 | 19.52 | ug/L | | 98 |
| 50) tert-amyl alcohol | 4.33 | 59 | 11511 | 97.70 | ug/L | | 93 |
| 51) carbon tetrachloride | 4.07 | 119 | 45765 | 18.89 | ug/L | | 99 |
| 54) 2,2,4-trimethylpentane | 4.26 | 57 | 144769 | 20.13 | ug/L | | 99 |
| 55) tert-amyl methyl ether | 4.36 | 87 | 30664 | 19.06 | ug/L | | 92 |
| 56) n-butyl alcohol | 4.90 | 56 | 32127 | 873.50 | ug/L | | 92 |
| 57) benzene | 4.28 | 78 | 140809 | 19.97 | ug/L | | 99 |
| 58) heptane | 4.45 | 57 | 31190 | 20.36 | ug/L | | 96 |
| 59) isopropyl acetate | 4.36 | 87 | 30664 | 19.06 | ug/L | | 97 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 42359 | 20.01 | ug/L | | 99 |
| 61) trichloroethene | 4.90 | 95 | 38834 | 20.01 | ug/L | | 95 |
| 62) ethyl acrylate | 5.04 | 55 | 29478 | 18.93 | ug/L | | 99 |
| 63) 2-nitropropane | 5.75 | 41 | 8905 | 18.56 | ug/L | # | 42 |
| 64) 2-chloroethyl vinyl ether | 5.76 | 63 | 89470 | 96.85 | ug/L | | 98 |
| 65) methyl methacrylate | 5.27 | 100 | 7823 | 18.79 | ug/L | # | 88 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 32844 | 19.59 | ug/L | | 99 |
| 67) methylcyclohexane | 5.01 | 83 | 70500 | 20.46 | ug/L | | 98 |
| 68) dibromomethane | 5.30 | 93 | 18124 | 19.63 | ug/L | | 93 |
| 69) bromodichloromethane | 5.45 | 83 | 40504 | 18.28 | ug/L | | 100 |
| 70) epichlorohydrin | 5.85 | 57 | 10804 | 93.47 | ug/L | | 95 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 51673 | 18.88 | ug/L | | 98 |
| 72) 4-methyl-2-pentanone | 6.04 | 85 | 17644 | 75.08 | ug/L | | 97 |
| 76) toluene | 6.15 | 92 | 92635 | 19.77 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 42165 | 18.09 | ug/L | | 98 |
| 78) ethyl methacrylate | 6.47 | 69 | 34052 | 18.30 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 22939 | 20.04 | ug/L | | 96 |
| 80) 2-hexanone | 6.81 | 58 | 33729 | 75.81 | ug/L | | 92 |
| 81) tetrachloroethene | 6.62 | 166 | 46003 | 19.76 | ug/L | | 98 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 45563 | 19.36 | ug/L | | 98 |
| 83) butyl acetate | 6.89 | 56 | 16118 | 18.88 | ug/L | | 94 |
| 84) dibromochloromethane | 6.92 | 129 | 26339 | 17.59 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 7.01 | 107 | 32911 | 18.91 | ug/L | | 98 |
| 86) n-butyl ether | 7.47 | 57 | 150650 | 19.69 | ug/L | | 99 |
| 87) chlorobenzene | 7.42 | 112 | 99389 | 19.52 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 7.51 | 131 | 33098 | 18.08 | ug/L | | 99 |
| 89) ethylbenzene | 7.49 | 91 | 178507 | 19.87 | ug/L | | 99 |
| 90) m,p-xylene | 7.60 | 106 | 139272 | 39.36 | ug/L | | 97 |
| 91) o-xylene | 7.93 | 91 | 139910 | 19.70 | ug/L | | 98 |
| 92) styrene | 7.96 | 104 | 113352 | 19.31 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149631.D
Acq On : 13 Feb 2019 9:39 pm
Operator : juntaep
Sample : IC6743-20
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 14 12:15:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) bromoform | 8.13 | 173 | 14740 | 16.34 ug/L | 98 |
| 94) butyl acrylate | 7.92 | 55 | 47744 | 18.37 ug/L | 98 |
| 95) isopropylbenzene | 8.23 | 105 | 183774 | 19.85 ug/L | 100 |
| 96) cis-1,4-dichloro-2-butene | 8.36 | 53 | 9414 | 18.20 ug/L | 87 |
| 99) bromobenzene | 8.51 | 156 | 45663 | 19.82 ug/L | 97 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 30769 | 19.53 ug/L | 98 |
| 101) trans-1,4-dichloro-2-buten | 8.60 | 88 | 3284 | 15.17 ug/L | 82 |
| 102) 1,2,3-trichloropropane | 8.59 | 110 | 10048 | 19.47 ug/L | 95 |
| 103) n-propylbenzene | 8.57 | 91 | 215396 | 20.35 ug/L | 98 |
| 104) 2-chlorotoluene | 8.66 | 126 | 43887 | 19.88 ug/L | 96 |
| 105) 4-chlorotoluene | 8.75 | 126 | 43955 | 19.84 ug/L | 98 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 156235 | 19.83 ug/L | 99 |
| 107) tert-butylbenzene | 8.97 | 119 | 143014 | 20.41 ug/L | 97 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 157128 | 19.88 ug/L | 99 |
| 109) sec-butylbenzene | 9.14 | 105 | 209430 | 20.41 ug/L | 100 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 90092 | 19.84 ug/L | 97 |
| 111) p-isopropyltoluene | 9.26 | 119 | 182950 | 20.14 ug/L | 99 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 89785 | 19.85 ug/L | 98 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 83186 | 19.72 ug/L | 98 |
| 114) n-butylbenzene | 9.59 | 92 | 91096 | 20.06 ug/L | 99 |
| 115) 1,2-dibromo-3-chloropropan | 10.27 | 157 | 6426 | 16.76 ug/L | 98 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 83573 | 19.85 ug/L | 99 |
| 117) 1,2,4-trichlorobenzene | 10.88 | 180 | 70549 | 19.61 ug/L | 99 |
| 118) hexachlorobutadiene | 10.97 | 225 | 46483 | 19.77 ug/L | 98 |
| 119) naphthalene | 11.08 | 128 | 124878 | 19.63 ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 66669 | 19.79 ug/L | 99 |
| 121) hexachloroethane | 9.80 | 201 | 20818 | 16.60 ug/L # | 86 |
| 122) Benzyl chloride | 9.46 | 91 | 50828 | 16.88 ug/L | 99 |
| 123) 2-ethylhexyl acrylate | 11.02 | 70 | 5321 | 3.02 ug/L | 95 |
| 124) 2-methylnaphthalene | 11.94 | 142 | 38140 | 9.77 ug/L | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

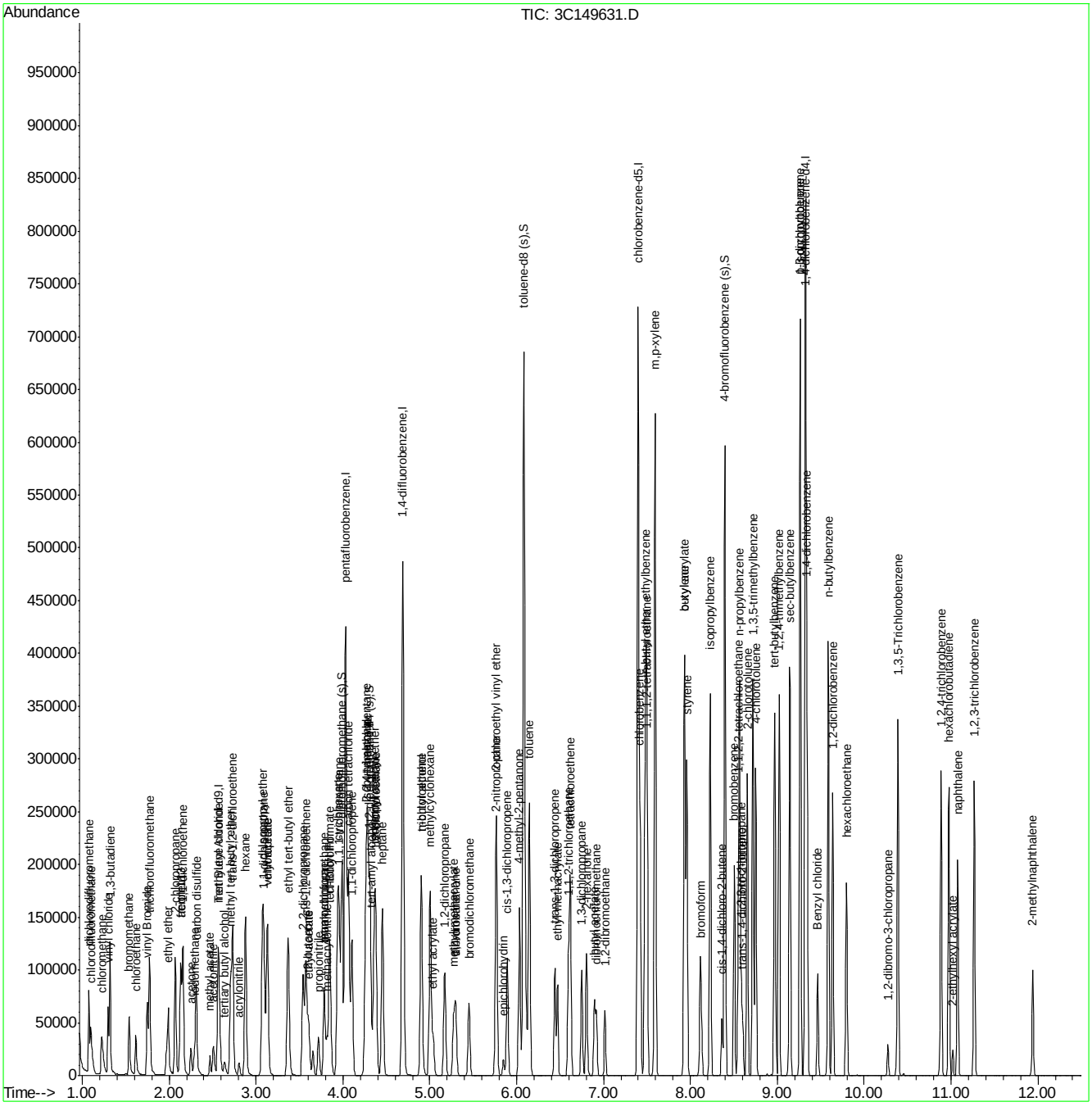
7.7.18

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149631.D
Acq On : 13 Feb 2019 9:39 pm
Operator : juntaep
Sample : IC6743-20
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 14 12:15:42 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149632.D
Acq On : 13 Feb 2019 10:02 pm
Operator : juntaep
Sample : ICC6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 14 12:16:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.58 | 65 | 59966 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 268857 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 370813 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 318032 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.32 | 152 | 175134 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 98761 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.00% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 99805 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.00% | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 394391 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.00% | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 142762 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 100.00% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 2.64 | 59 | 34892 | 250.00 | ug/L | 100 |
| 4) 1,4-dioxane | 5.29 | 88 | 21307 | 1250.00 | ug/L | 100 |
| 6) chlorodifluoromethane | 1.10 | 51 | 87785 | 50.00 | ug/L | 100 |
| 7) dichlorodifluoromethane | 1.08 | 85 | 127951 | 50.00 | ug/L | 100 |
| 8) chloromethane | 1.22 | 50 | 103403 | 50.00 | ug/L | 100 |
| 9) 1,3-butadiene | 1.32 | 54 | 67537 | 50.00 | ug/L | 100 |
| 10) vinyl chloride | 1.30 | 62 | 107620 | 50.00 | ug/L | 100 |
| 11) bromomethane | 1.54 | 94 | 62966 | 50.00 | ug/L | 100 |
| 12) chloroethane | 1.62 | 64 | 63990 | 50.00 | ug/L | 100 |
| 13) vinyl Bromide | 1.75 | 106 | 93144 | 50.00 | ug/L | 100 |
| 14) trichlorofluoromethane | 1.77 | 101 | 158481 | 50.00 | ug/L | 100 |
| 15) ethyl ether | 1.99 | 74 | 44125 | 50.00 | ug/L | 100 |
| 16) 2-chloropropane | 2.07 | 63 | 36546 | 50.00 | ug/L | 100 |
| 17) acrolein | 2.14 | 56 | 9617 | 50.00 | ug/L | 100 |
| 18) freon 113 | 2.13 | 151 | 77299 | 50.00 | ug/L | 100 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 83820 | 50.00 | ug/L | 100 |
| 20) acetone | 2.25 | 58 | 18583 | 200.00 | ug/L | 100 |
| 21) acetonitrile | 2.51 | 41 | 67568 | 500.00 | ug/L | 100 |
| 22) iodomethane | 2.29 | 142 | 87780 | 50.00 | ug/L | 100 |
| 23) carbon disulfide | 2.31 | 76 | 220126 | 50.00 | ug/L | 100 |
| 24) methylene chloride | 2.56 | 84 | 85075 | 50.00 | ug/L | 100 |
| 25) methyl acetate | 2.47 | 43 | 43055 | 50.00 | ug/L | 100 |
| 26) methyl tert butyl ether | 2.71 | 73 | 219396 | 50.00 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 2.73 | 96 | 93653 | 50.00 | ug/L | 100 |
| 28) hexane | 2.88 | 57 | 146491 | 50.00 | ug/L | 100 |
| 29) di-isopropyl ether | 3.08 | 45 | 268940 | 50.00 | ug/L | 100 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 267787 | 50.00 | ug/L | 100 |
| 31) 2-butanone | 3.60 | 72 | 29653 | 200.00 | ug/L | 100 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 156907 | 50.00 | ug/L | 100 |
| 33) chloroprene | 3.13 | 53 | 139581 | 50.00 | ug/L | 100 |
| 34) acrylonitrile | 2.80 | 53 | 18609 | 50.00 | ug/L | 100 |
| 35) vinyl acetate | 3.12 | 86 | 17028 | 50.00 | ug/L | 100 |
| 36) ethyl acetate | 3.61 | 45 | 9681 | 50.00 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149632.D
Acq On : 13 Feb 2019 10:02 pm
Operator : juntaep
Sample : ICC6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 14 12:16:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 3.55 | 77 | 143629 | 50.00 ug/L | 100 |
| 38) cis-1,2-dichloroethene | 3.58 | 96 | 102381 | 50.00 ug/L | 100 |
| 39) propionitrile | 3.72 | 54 | 80477 | 500.00 ug/L | 100 |
| 40) bromochloromethane | 3.78 | 130 | 56512 | 50.00 ug/L | 100 |
| 41) tetrahydrofuran | 3.78 | 71 | 6950 | 50.00 ug/L | 100 |
| 42) chloroform | 3.85 | 83 | 160507 | 50.00 ug/L | 100 |
| 43) tert-Butyl Formate | 3.86 | 59 | 55274 | 50.00 ug/L | 100 |
| 44) isobutyl alcohol | 4.26 | 41 | 125660 | 500.00 ug/L | 100 |
| 46) methacrylonitrile | 3.81 | 67 | 25203 | 50.00 ug/L | 100 |
| 47) 1,1,1-trichloroethane | 3.96 | 97 | 152098 | 50.00 ug/L | 100 |
| 48) cyclohexane | 3.94 | 84 | 153487 | 50.00 ug/L | 100 |
| 49) 1,1-dichloropropene | 4.11 | 110 | 49990 | 50.00 ug/L | 100 |
| 50) tert-amyl alcohol | 4.33 | 59 | 29995 | 250.00 ug/L | 100 |
| 51) carbon tetrachloride | 4.07 | 119 | 123350 | 50.00 ug/L | 100 |
| 54) 2,2,4-trimethylpentane | 4.26 | 57 | 369079 | 50.00 ug/L | 100 |
| 55) tert-amyl methyl ether | 4.36 | 87 | 82565 | 50.00 ug/L | 100 |
| 56) n-butyl alcohol | 4.90 | 56 | 94399 | 2500.00 ug/L | 100 |
| 57) benzene | 4.28 | 78 | 361942 | 50.00 ug/L | 100 |
| 58) heptane | 4.45 | 57 | 78642 | 50.00 ug/L | 100 |
| 59) isopropyl acetate | 4.36 | 87 | 82565 | 50.00 ug/L | 100 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 108654 | 50.00 ug/L | 100 |
| 61) trichloroethene | 4.90 | 95 | 99607 | 50.00 ug/L | 100 |
| 62) ethyl acrylate | 5.04 | 55 | 79953 | 50.00 ug/L | 100 |
| 63) 2-nitropropane | 5.76 | 41 | 24624 | 50.00 ug/L | 100 |
| 64) 2-chloroethyl vinyl ether | 5.76 | 63 | 237109 | 250.00 ug/L | 100 |
| 65) methyl methacrylate | 5.27 | 100 | 21376 | 50.00 ug/L | 100 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 86069 | 50.00 ug/L | 100 |
| 67) methylcyclohexane | 5.01 | 83 | 176921 | 50.00 ug/L | 100 |
| 68) dibromomethane | 5.29 | 93 | 47387 | 50.00 ug/L | 100 |
| 69) bromodichloromethane | 5.45 | 83 | 113754 | 50.00 ug/L | 100 |
| 70) epichlorohydrin | 5.85 | 57 | 29668 | 250.00 ug/L | 100 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 140522 | 50.00 ug/L | 100 |
| 72) 4-methyl-2-pentanone | 6.04 | 85 | 48254 | 200.00 ug/L | 100 |
| 76) toluene | 6.15 | 92 | 238529 | 50.00 ug/L | 100 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 118703 | 50.00 ug/L | 100 |
| 78) ethyl methacrylate | 6.47 | 69 | 94735 | 50.00 ug/L | 100 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 58288 | 50.00 ug/L | 100 |
| 80) 2-hexanone | 6.80 | 58 | 90614 | 200.00 ug/L | 100 |
| 81) tetrachloroethene | 6.62 | 166 | 118536 | 50.00 ug/L | 100 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 119864 | 50.00 ug/L | 100 |
| 83) butyl acetate | 6.89 | 56 | 43466 | 50.00 ug/L | 100 |
| 84) dibromochloromethane | 6.92 | 129 | 76225 | 50.00 ug/L | 100 |
| 85) 1,2-dibromoethane | 7.02 | 107 | 88619 | 50.00 ug/L | 100 |
| 86) n-butyl ether | 7.47 | 57 | 389655 | 50.00 ug/L | 100 |
| 87) chlorobenzene | 7.42 | 112 | 259219 | 50.00 ug/L | 100 |
| 88) 1,1,1,2-tetrachloroethane | 7.51 | 131 | 93226 | 50.00 ug/L | 100 |
| 89) ethylbenzene | 7.49 | 91 | 457486 | 50.00 ug/L | 100 |
| 90) m,p-xylene | 7.60 | 106 | 360331 | 100.00 ug/L | 100 |
| 91) o-xylene | 7.93 | 91 | 361635 | 50.00 ug/L | 100 |
| 92) styrene | 7.96 | 104 | 298865 | 50.00 ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149632.D
Acq On : 13 Feb 2019 10:02 pm
Operator : juntaep
Sample : ICC6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 14 12:16:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 93) bromoform | 8.13 | 173 | 45928 | 50.00 | ug/L | 100 |
| 94) butyl acrylate | 7.92 | 55 | 132352 | 50.00 | ug/L | 100 |
| 95) isopropylbenzene | 8.23 | 105 | 471466 | 50.00 | ug/L | 100 |
| 96) cis-1,4-dichloro-2-butene | 8.36 | 53 | 26337 | 50.00 | ug/L | 100 |
| 99) bromobenzene | 8.51 | 156 | 120147 | 50.00 | ug/L | 100 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 82147 | 50.00 | ug/L | 100 |
| 101) trans-1,4-dichloro-2-buten | 8.60 | 88 | 11291 | 50.00 | ug/L | 100 |
| 102) 1,2,3-trichloropropane | 8.59 | 110 | 26917 | 50.00 | ug/L | 100 |
| 103) n-propylbenzene | 8.57 | 91 | 552084 | 50.00 | ug/L | 100 |
| 104) 2-chlorotoluene | 8.66 | 126 | 115148 | 50.00 | ug/L | 100 |
| 105) 4-chlorotoluene | 8.75 | 126 | 115517 | 50.00 | ug/L | 100 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 410786 | 50.00 | ug/L | 100 |
| 107) tert-butylbenzene | 8.97 | 119 | 365432 | 50.00 | ug/L | 100 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 412124 | 50.00 | ug/L | 100 |
| 109) sec-butylbenzene | 9.14 | 105 | 535046 | 50.00 | ug/L | 100 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 236824 | 50.00 | ug/L | 100 |
| 111) p-isopropyltoluene | 9.26 | 119 | 473720 | 50.00 | ug/L | 100 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 235893 | 50.00 | ug/L | 100 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 219998 | 50.00 | ug/L | 100 |
| 114) n-butylbenzene | 9.59 | 92 | 236824 | 50.00 | ug/L | 100 |
| 115) 1,2-dibromo-3-chloropropan | 10.27 | 157 | 20001 | 50.00 | ug/L | 100 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 219546 | 50.00 | ug/L | 100 |
| 117) 1,2,4-trichlorobenzene | 10.88 | 180 | 187603 | 50.00 | ug/L | 100 |
| 118) hexachlorobutadiene | 10.97 | 225 | 122641 | 50.00 | ug/L | 100 |
| 119) naphthalene | 11.08 | 128 | 331729 | 50.00 | ug/L | 100 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 175714 | 50.00 | ug/L | 100 |
| 121) hexachloroethane | 9.80 | 201 | 65397 | 50.00 | ug/L | 100 |
| 122) Benzyl chloride | 9.46 | 91 | 156995 | 50.00 | ug/L | 100 |
| 123) 2-ethylhexyl acrylate | 11.02 | 70 | 18355 | 10.00 | ug/L | 100 |
| 124) 2-methylnaphthalene | 11.94 | 142 | 101795 | 25.00 | ug/L | 100 |

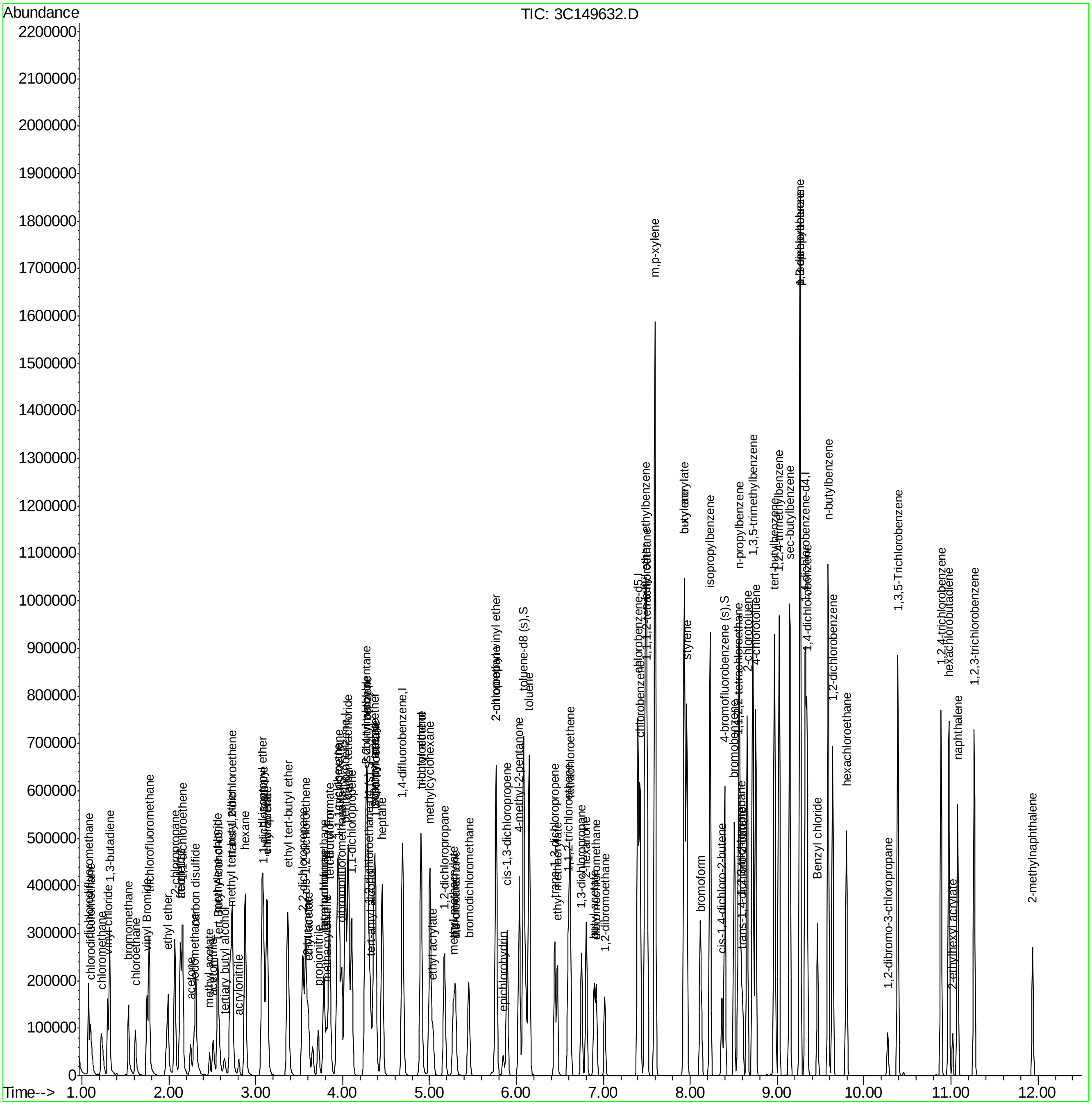
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.19
7

Quantitation Report (QT Reviewed)

```
Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149632.D
Acq On    : 13 Feb 2019  10:02 pm
Operator  : juntaep
Sample    : ICC6743-50
Misc      : MS32156,V3C6743,5.0,,,,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Feb 14 12:16:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title  : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration
```



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149633.D
Acq On : 13 Feb 2019 10:25 pm
Operator : juntaep
Sample : IC6743-100
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 14 12:16:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.58 | 65 | 60394 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 275607 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 373320 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 326743 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.33 | 152 | 182455 | 50.00 | ug/L | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 100426 | 49.60 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 99.20% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 98987 | 49.26 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 98.52% | | | | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 405055 | 49.98 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 99.96% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 147350 | 49.54 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 99.08% | | | | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 2.64 | 59 | 67248 | 478.42 | ug/L | 98 |
| 4) 1,4-dioxane | 5.29 | 88 | 42134 | 2454.32 | ug/L | 99 |
| 6) chlorodifluoromethane | 1.10 | 51 | 160445 | 89.15 | ug/L | 98 |
| 7) dichlorodifluoromethane | 1.08 | 85 | 235928 | 89.94 | ug/L | 98 |
| 8) chloromethane | 1.22 | 50 | 188296 | 88.82 | ug/L | 99 |
| 9) 1,3-butadiene | 1.32 | 54 | 123973 | 89.53 | ug/L | 99 |
| 10) vinyl chloride | 1.30 | 62 | 197972 | 89.72 | ug/L | 98 |
| 11) bromomethane | 1.54 | 94 | 101350 | 78.51 | ug/L | 99 |
| 12) chloroethane | 1.61 | 64 | 118388 | 90.24 | ug/L | 99 |
| 13) vinyl Bromide | 1.75 | 106 | 173599 | 90.91 | ug/L | 98 |
| 14) trichlorofluoromethane | 1.77 | 101 | 296466 | 91.24 | ug/L | 97 |
| 15) ethyl ether | 1.99 | 74 | 84923 | 93.87 | ug/L | 95 |
| 16) 2-chloropropane | 2.07 | 63 | 69637 | 92.94 | ug/L | 99 |
| 17) acrolein | 2.14 | 56 | 18435 | 93.50 | ug/L | 98 |
| 18) freon 113 | 2.13 | 151 | 148387 | 93.63 | ug/L | 100 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 160248 | 93.25 | ug/L | 100 |
| 20) acetone | 2.25 | 58 | 35216 | 369.73 | ug/L | 88 |
| 21) acetonitrile | 2.51 | 41 | 123413 | 890.88 | ug/L | 99 |
| 22) iodomethane | 2.29 | 142 | 181424 | 100.81 | ug/L | 97 |
| 23) carbon disulfide | 2.31 | 76 | 419428 | 92.94 | ug/L | 99 |
| 24) methylene chloride | 2.56 | 84 | 159871 | 91.66 | ug/L | 98 |
| 25) methyl acetate | 2.47 | 43 | 81736 | 92.60 | ug/L | 99 |
| 26) methyl tert butyl ether | 2.71 | 73 | 412254 | 91.65 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 2.73 | 96 | 177130 | 92.25 | ug/L | 99 |
| 28) hexane | 2.88 | 57 | 274296 | 91.33 | ug/L | 99 |
| 29) di-isopropyl ether | 3.08 | 45 | 502399 | 91.12 | ug/L | 100 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 502895 | 91.60 | ug/L | 99 |
| 31) 2-butanone | 3.60 | 72 | 55997 | 368.43 | ug/L | 96 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 297394 | 92.45 | ug/L | 97 |
| 33) chloroprene | 3.13 | 53 | 265106 | 92.64 | ug/L | 100 |
| 34) acrylonitrile | 2.80 | 53 | 34921 | 91.53 | ug/L | 98 |
| 35) vinyl acetate | 3.12 | 86 | 33750 | 96.67 | ug/L # | 88 |
| 36) ethyl acetate | 3.61 | 45 | 18247 | 91.93 | ug/L | 97 |

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Operator : juntaep
Sample : IC6743-100
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 14 12:16:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 3.54 | 77 | 274762 | 93.31 | ug/L | | 98 |
| 38) cis-1,2-dichloroethene | 3.58 | 96 | 195858 | 93.31 | ug/L | | 98 |
| 39) propionitrile | 3.72 | 54 | 151143 | 916.05 | ug/L | | 99 |
| 40) bromochloromethane | 3.79 | 130 | 106104 | 91.58 | ug/L | | 93 |
| 41) tetrahydrofuran | 3.78 | 71 | 13826 | 97.03 | ug/L | | 93 |
| 42) chloroform | 3.85 | 83 | 305834 | 92.94 | ug/L | | 99 |
| 43) tert-Butyl Formate | 3.86 | 59 | 113077 | 99.78 | ug/L | | 98 |
| 44) isobutyl alcohol | 4.26 | 41 | 234007 | 908.31 | ug/L | | 98 |
| 46) methacrylonitrile | 3.81 | 67 | 48935 | 94.70 | ug/L | | 98 |
| 47) 1,1,1-trichloroethane | 3.96 | 97 | 292832 | 93.91 | ug/L | | 99 |
| 48) cyclohexane | 3.94 | 84 | 288711 | 91.75 | ug/L | | 98 |
| 49) 1,1-dichloropropene | 4.11 | 110 | 93917 | 91.64 | ug/L | | 99 |
| 50) tert-amyl alcohol | 4.33 | 59 | 63140 | 513.37 | ug/L | # | 76 |
| 51) carbon tetrachloride | 4.07 | 119 | 244227 | 96.57 | ug/L | | 100 |
| 54) 2,2,4-trimethylpentane | 4.26 | 57 | 701208 | 94.36 | ug/L | | 98 |
| 55) tert-amyl methyl ether | 4.36 | 87 | 160088 | 96.30 | ug/L | | 98 |
| 56) n-butyl alcohol | 4.90 | 56 | 188967 | 4970.87 | ug/L | | 97 |
| 57) benzene | 4.28 | 78 | 679840 | 93.28 | ug/L | | 99 |
| 58) heptane | 4.45 | 57 | 152499 | 96.31 | ug/L | | 98 |
| 59) isopropyl acetate | 4.36 | 87 | 160088 | 96.30 | ug/L | | 99 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 208245 | 95.19 | ug/L | | 98 |
| 61) trichloroethene | 4.90 | 95 | 188626 | 94.05 | ug/L | | 99 |
| 62) ethyl acrylate | 5.04 | 55 | 153289 | 95.22 | ug/L | | 99 |
| 63) 2-nitropropane | 5.76 | 41 | 48586 | 97.99 | ug/L | # | 90 |
| 64) 2-chloroethyl vinyl ether | 5.76 | 63 | 448344 | 469.54 | ug/L | | 100 |
| 65) methyl methacrylate | 5.27 | 100 | 40700 | 94.56 | ug/L | | 98 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 163022 | 94.07 | ug/L | | 99 |
| 67) methylcyclohexane | 5.01 | 83 | 334901 | 94.01 | ug/L | | 100 |
| 68) dibromomethane | 5.29 | 93 | 91754 | 96.16 | ug/L | | 96 |
| 69) bromodichloromethane | 5.45 | 83 | 224669 | 98.09 | ug/L | | 100 |
| 70) epichlorohydrin | 5.85 | 57 | 56784 | 475.28 | ug/L | | 99 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 275613 | 97.41 | ug/L | | 97 |
| 72) 4-methyl-2-pentanone | 6.04 | 85 | 92364 | 380.25 | ug/L | | 98 |
| 76) toluene | 6.15 | 92 | 460464 | 93.95 | ug/L | | 98 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 232309 | 95.24 | ug/L | | 99 |
| 78) ethyl methacrylate | 6.47 | 69 | 181470 | 93.22 | ug/L | | 99 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 112414 | 93.86 | ug/L | | 96 |
| 80) 2-hexanone | 6.81 | 58 | 174411 | 374.69 | ug/L | | 93 |
| 81) tetrachloroethene | 6.62 | 166 | 229117 | 94.07 | ug/L | | 100 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 226603 | 92.00 | ug/L | | 99 |
| 83) butyl acetate | 6.89 | 56 | 83073 | 93.01 | ug/L | | 93 |
| 84) dibromochloromethane | 6.92 | 129 | 157399 | 100.49 | ug/L | | 98 |
| 85) 1,2-dibromoethane | 7.02 | 107 | 168054 | 92.29 | ug/L | | 97 |
| 86) n-butyl ether | 7.47 | 57 | 748347 | 93.47 | ug/L | | 100 |
| 87) chlorobenzene | 7.42 | 112 | 500412 | 93.95 | ug/L | | 97 |
| 88) 1,1,1,2-tetrachloroethane | 7.51 | 131 | 185121 | 96.64 | ug/L | | 99 |
| 89) ethylbenzene | 7.49 | 91 | 876490 | 93.24 | ug/L | | 98 |
| 90) m,p-xylene | 7.60 | 106 | 687722 | 185.77 | ug/L | | 98 |
| 91) o-xylene | 7.93 | 91 | 692331 | 93.17 | ug/L | | 100 |
| 92) styrene | 7.96 | 104 | 570486 | 92.90 | ug/L | | 100 |

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Operator : juntaep
Sample : IC6743-100
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 14 12:16:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) bromoform | 8.13 | 173 | 99246 | 105.16 ug/L | 98 |
| 94) butyl acrylate | 7.92 | 55 | 258963 | 95.22 ug/L | 99 |
| 95) isopropylbenzene | 8.23 | 105 | 898248 | 92.72 ug/L | 99 |
| 96) cis-1,4-dichloro-2-butene | 8.36 | 53 | 53468 | 98.80 ug/L | 98 |
| 99) bromobenzene | 8.51 | 156 | 232152 | 92.74 ug/L | 98 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 161319 | 94.25 ug/L | 97 |
| 101) trans-1,4-dichloro-2-buten | 8.60 | 88 | 23007 | 97.79 ug/L | 90 |
| 102) 1,2,3-trichloropropane | 8.59 | 110 | 52668 | 93.91 ug/L | 99 |
| 103) n-propylbenzene | 8.57 | 91 | 1044640 | 90.81 ug/L | 99 |
| 104) 2-chlorotoluene | 8.66 | 126 | 223179 | 93.02 ug/L | 100 |
| 105) 4-chlorotoluene | 8.75 | 126 | 224550 | 93.29 ug/L | 99 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 796332 | 93.04 ug/L | 99 |
| 107) tert-butylbenzene | 8.97 | 119 | 710023 | 93.25 ug/L | 99 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 799962 | 93.16 ug/L | 100 |
| 109) sec-butylbenzene | 9.14 | 105 | 1035303 | 92.87 ug/L | 99 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 460037 | 93.23 ug/L | 99 |
| 111) p-isopropyltoluene | 9.26 | 119 | 923668 | 93.58 ug/L | 98 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 458306 | 93.24 ug/L | 98 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 430167 | 93.84 ug/L | 99 |
| 114) n-butylbenzene | 9.59 | 92 | 467313 | 94.70 ug/L | 98 |
| 115) 1,2-dibromo-3-chloropropan | 10.27 | 157 | 41888 | 100.51 ug/L | 99 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 429903 | 93.98 ug/L | 99 |
| 117) 1,2,4-trichlorobenzene | 10.89 | 180 | 370252 | 94.72 ug/L | 99 |
| 118) hexachlorobutadiene | 10.97 | 225 | 246707 | 96.55 ug/L | 99 |
| 119) naphthalene | 11.08 | 128 | 655118 | 94.78 ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 342394 | 93.52 ug/L | 99 |
| 121) hexachloroethane | 9.80 | 201 | 143610 | 105.39 ug/L | 94 |
| 122) Benzyl chloride | 9.46 | 91 | 330384 | 101.00 ug/L | 99 |
| 123) 2-ethylhexyl acrylate | 11.02 | 70 | 39094 | 20.44 ug/L | 99 |
| 124) 2-methylnaphthalene | 11.94 | 142 | 186242 | 43.90 ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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```
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Operator  : juntaep
Sample    : IC6743-100
Misc      : MS32156,V3C6743,5.0,,,,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Feb 14 12:16:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title  : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration
```

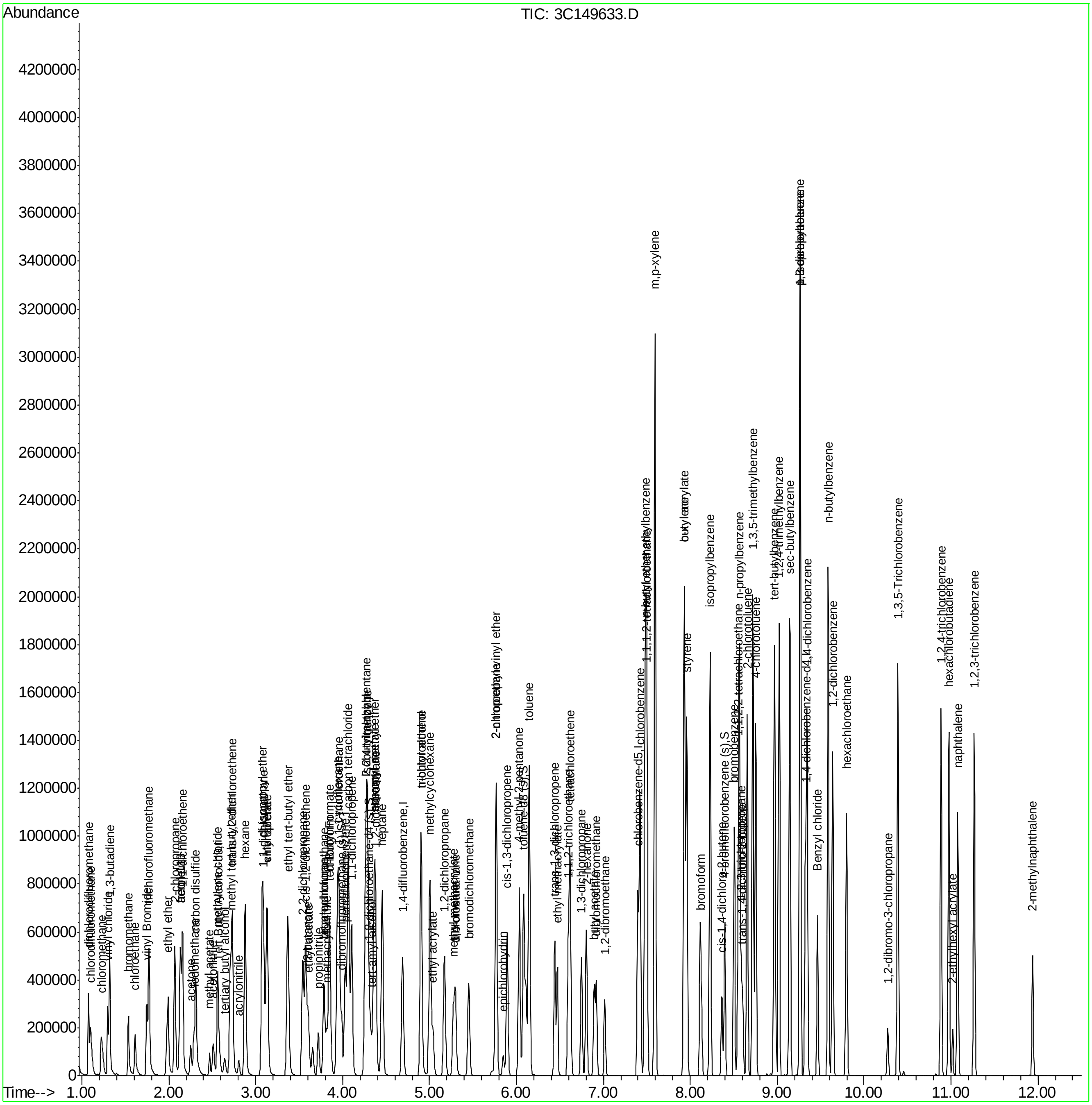

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149634.D
Acq On : 13 Feb 2019 10:48 pm
Operator : juntaep
Sample : IC6743-200
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 14 12:17:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.59 | 65 | 61507 | 500.00 | ug/L | 0.01 |
| 5) pentafluorobenzene | 4.03 | 168 | 272070 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 368045 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 324670 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.33 | 152 | 189579 | 50.00 | ug/L | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 98616 | 49.34 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.68% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 98314 | 49.62 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 99.24% | | | |
| 75) toluene-d8 (s) | 6.09 | 98 | 400802 | 49.77 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.54% | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 151536 | 49.03 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 98.06% | | | |

Target Compounds

| | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 2.65 | 59 | 131313 | 917.28 | ug/L | 98 |
| 4) 1,4-dioxane | 5.29 | 88 | 82728 | 4731.74 | ug/L | 100 |
| 6) chlorodifluoromethane | 1.10 | 51 | 288939 | 162.63 | ug/L | 97 |
| 7) dichlorodifluoromethane | 1.08 | 85 | 421099 | 162.61 | ug/L | 98 |
| 8) chloromethane | 1.22 | 50 | 345204 | 164.95 | ug/L | 100 |
| 9) 1,3-butadiene | 1.32 | 54 | 221556 | 162.09 | ug/L | 99 |
| 10) vinyl chloride | 1.30 | 62 | 361486 | 165.96 | ug/L | 99 |
| 11) bromomethane | 1.54 | 94 | 183190 | 143.75 | ug/L | 98 |
| 12) chloroethane | 1.61 | 64 | 227562 | 175.71 | ug/L | 98 |
| 13) vinyl Bromide | 1.74 | 106 | 327399 | 173.67 | ug/L | 98 |
| 14) trichlorofluoromethane | 1.77 | 101 | 560004 | 174.59 | ug/L | 100 |
| 15) ethyl ether | 1.99 | 74 | 157908 | 176.82 | ug/L | 86 |
| 16) 2-chloropropane | 2.07 | 63 | 122853 | 166.10 | ug/L | 96 |
| 17) acrolein | 2.14 | 56 | 34469 | 177.09 | ug/L | 93 |
| 18) freon 113 | 2.13 | 151 | 277038 | 177.08 | ug/L | 98 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 295413 | 174.14 | ug/L | 96 |
| 20) acetone | 2.25 | 58 | 65679 | 698.52 | ug/L | 99 |
| 21) acetonitrile | 2.52 | 41 | 232982 | 1703.70 | ug/L | 100 |
| 22) iodomethane | 2.29 | 142 | 338973 | 190.80 | ug/L | 98 |
| 23) carbon disulfide | 2.31 | 76 | 774593 | 173.87 | ug/L | 99 |
| 24) methylene chloride | 2.56 | 84 | 299861 | 174.15 | ug/L | 98 |
| 25) methyl acetate | 2.47 | 43 | 153517 | 176.17 | ug/L | 98 |
| 26) methyl tert butyl ether | 2.71 | 73 | 779161 | 175.47 | ug/L | 96 |
| 27) trans-1,2-dichloroethene | 2.73 | 96 | 331180 | 174.72 | ug/L | 99 |
| 28) hexane | 2.88 | 57 | 509325 | 171.79 | ug/L | 99 |
| 29) di-isopropyl ether | 3.08 | 45 | 940037 | 172.70 | ug/L | 98 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 952737 | 175.79 | ug/L | 99 |
| 31) 2-butanone | 3.60 | 72 | 106886 | 712.40 | ug/L | 95 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 555516 | 174.93 | ug/L | 98 |
| 33) chloroprene | 3.13 | 53 | 500300 | 177.10 | ug/L | 99 |
| 34) acrylonitrile | 2.80 | 53 | 66331 | 176.12 | ug/L | 97 |
| 35) vinyl acetate | 3.12 | 86 | 63996 | 185.69 | ug/L # | 86 |
| 36) ethyl acetate | 3.61 | 45 | 34829 | 177.76 | ug/L | 97 |

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Acq On : 13 Feb 2019 10:48 pm
Operator : juntaep
Sample : IC6743-200
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

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QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 3.54 | 77 | 517381 | 177.98 ug/L | 98 |
| 38) cis-1,2-dichloroethene | 3.58 | 96 | 364957 | 176.13 ug/L | 98 |
| 39) propionitrile | 3.72 | 54 | 290956 | 1786.35 ug/L | 94 |
| 40) bromochloromethane | 3.79 | 130 | 198461 | 173.52 ug/L | 94 |
| 41) tetrahydrofuran | 3.78 | 71 | 26546 | 188.72 ug/L | 94 |
| 42) chloroform | 3.84 | 83 | 575776 | 177.24 ug/L | 99 |
| 43) tert-Butyl Formate | 3.86 | 59 | 228170 | 203.96 ug/L | 95 |
| 44) isobutyl alcohol | 4.27 | 41 | 443314 | 1743.11 ug/L | 99 |
| 46) methacrylonitrile | 3.81 | 67 | 93687 | 183.67 ug/L | 82 |
| 47) 1,1,1-trichloroethane | 3.96 | 97 | 552838 | 179.59 ug/L | 99 |
| 48) cyclohexane | 3.94 | 84 | 538034 | 173.20 ug/L | 99 |
| 49) 1,1-dichloropropene | 4.11 | 110 | 174620 | 172.59 ug/L | 97 |
| 50) tert-amyl alcohol | 4.34 | 59 | 122083 | 1005.51 ug/L # | 31 |
| 51) carbon tetrachloride | 4.07 | 119 | 463229 | 185.55 ug/L | 99 |
| 54) 2,2,4-trimethylpentane | 4.27 | 57 | 1307403 | 178.45 ug/L | 99 |
| 55) tert-amyl methyl ether | 4.37 | 87 | 303366 | 185.10 ug/L # | 87 |
| 56) n-butyl alcohol | 4.91 | 56 | 395003 | 10539.67 ug/L | 99 |
| 57) benzene | 4.28 | 78 | 1264411 | 175.98 ug/L | 99 |
| 58) heptane | 4.45 | 57 | 284998 | 182.56 ug/L | 98 |
| 59) isopropyl acetate | 4.37 | 87 | 303366 | 185.10 ug/L # | 80 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 394029 | 182.69 ug/L | 98 |
| 61) trichloroethene | 4.90 | 95 | 354875 | 179.48 ug/L | 99 |
| 62) ethyl acrylate | 5.04 | 55 | 296511 | 186.82 ug/L | 99 |
| 63) 2-nitropropane | 5.75 | 41 | 95117 | 194.59 ug/L # | 2 |
| 64) 2-chloroethyl vinyl ether | 5.77 | 63 | 848884 | 901.77 ug/L | 98 |
| 65) methyl methacrylate | 5.27 | 100 | 77659 | 183.02 ug/L | 98 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 304018 | 177.94 ug/L | 99 |
| 67) methylcyclohexane | 5.01 | 83 | 622295 | 177.19 ug/L | 99 |
| 68) dibromomethane | 5.30 | 93 | 175926 | 187.02 ug/L | 94 |
| 69) bromodichloromethane | 5.45 | 83 | 432949 | 191.73 ug/L | 100 |
| 70) epichlorohydrin | 5.85 | 57 | 111998 | 950.86 ug/L | 98 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 523897 | 187.81 ug/L | 99 |
| 72) 4-methyl-2-pentanone | 6.04 | 85 | 177773 | 742.36 ug/L | 98 |
| 76) toluene | 6.15 | 92 | 864573 | 177.52 ug/L | 98 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 450434 | 185.85 ug/L | 100 |
| 78) ethyl methacrylate | 6.47 | 69 | 349808 | 180.85 ug/L | 99 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 213562 | 179.45 ug/L | 95 |
| 80) 2-hexanone | 6.81 | 58 | 340707 | 736.62 ug/L | 94 |
| 81) tetrachloroethene | 6.62 | 166 | 434146 | 179.38 ug/L | 99 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 429951 | 175.68 ug/L | 99 |
| 83) butyl acetate | 6.89 | 56 | 164697 | 185.58 ug/L | 97 |
| 84) dibromochloromethane | 6.92 | 129 | 311472 | 200.13 ug/L | 99 |
| 85) 1,2-dibromoethane | 7.02 | 107 | 322412 | 178.19 ug/L | 100 |
| 86) n-butyl ether | 7.47 | 57 | 1437496 | 180.69 ug/L | 99 |
| 87) chlorobenzene | 7.42 | 112 | 952399 | 179.95 ug/L | 98 |
| 88) 1,1,1,2-tetrachloroethane | 7.51 | 131 | 366415 | 192.50 ug/L | 99 |
| 89) ethylbenzene | 7.49 | 91 | 1652855 | 176.95 ug/L | 98 |
| 90) m,p-xylene | 7.60 | 106 | 1297872 | 352.82 ug/L | 91 |
| 91) o-xylene | 7.94 | 91 | 1333094 | 180.55 ug/L | 98 |
| 92) styrene | 7.96 | 104 | 1107818 | 181.55 ug/L | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149634.D
Acq On : 13 Feb 2019 10:48 pm
Operator : juntaep
Sample : IC6743-200
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 14 12:17:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration

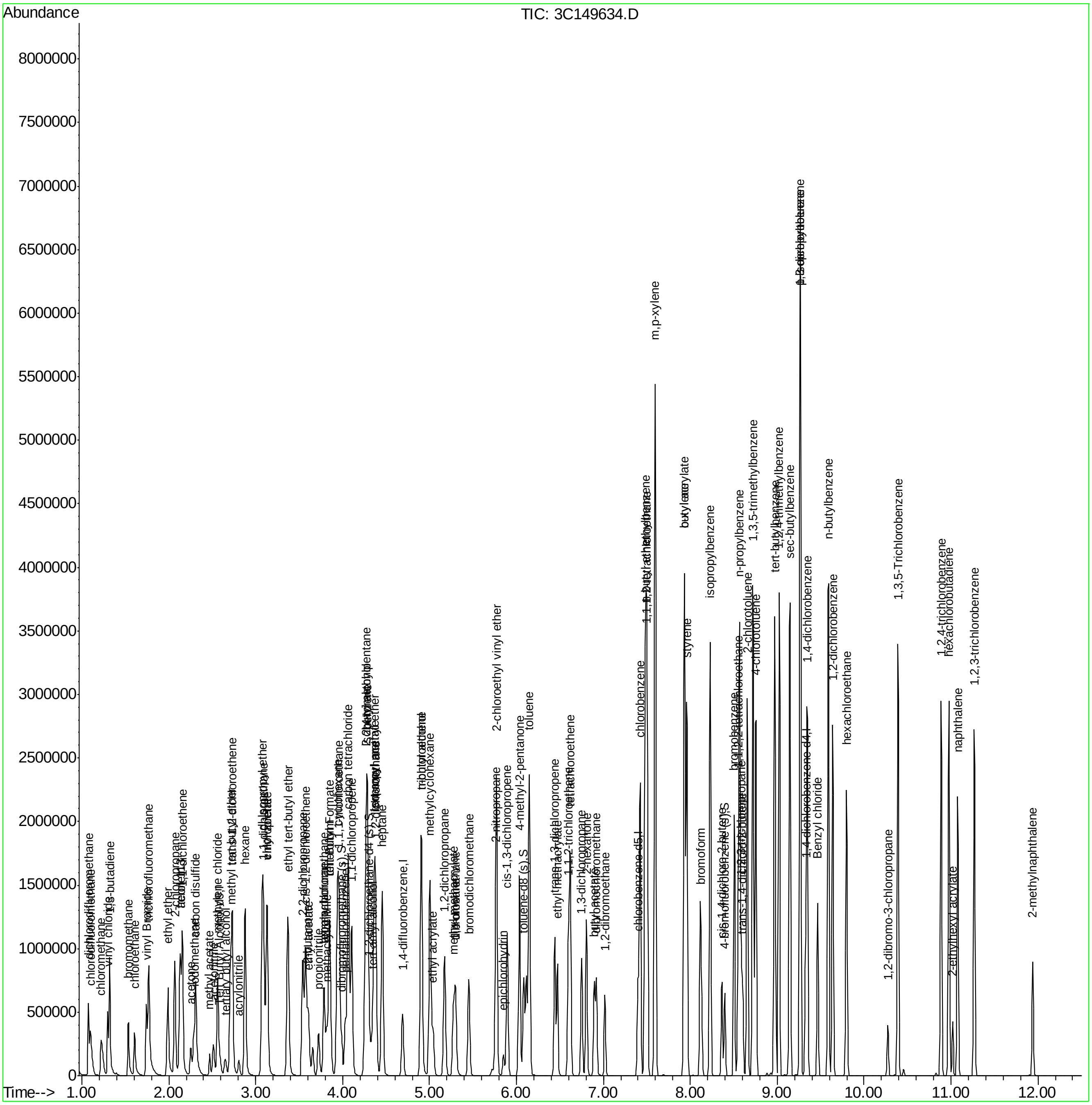
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) bromoform | 8.13 | 173 | 208139 | 221.96 ug/L | 99 |
| 94) butyl acrylate | 7.92 | 55 | 531497 | 196.68 ug/L | 100 |
| 95) isopropylbenzene | 8.23 | 105 | 1718834 | 178.56 ug/L | 97 |
| 96) cis-1,4-dichloro-2-butene | 8.36 | 53 | 111998 | 208.28 ug/L # | 88 |
| 99) bromobenzene | 8.51 | 156 | 457771 | 175.99 ug/L | 98 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 331561 | 186.43 ug/L | 99 |
| 101) trans-1,4-dichloro-2-buten | 8.60 | 88 | 49130 | 200.99 ug/L | 98 |
| 102) 1,2,3-trichloropropane | 8.59 | 110 | 106146 | 182.15 ug/L | 94 |
| 103) n-propylbenzene | 8.57 | 91 | 1988128 | 166.34 ug/L | 97 |
| 104) 2-chlorotoluene | 8.66 | 126 | 438036 | 175.71 ug/L | 98 |
| 105) 4-chlorotoluene | 8.76 | 126 | 443432 | 177.31 ug/L | 93 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 1538067 | 172.95 ug/L | 98 |
| 107) tert-butylbenzene | 8.97 | 119 | 1379043 | 174.31 ug/L | 99 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 1554944 | 174.28 ug/L | 99 |
| 109) sec-butylbenzene | 9.15 | 105 | 1984321 | 171.31 ug/L | 96 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 894986 | 174.56 ug/L | 97 |
| 111) p-isopropyltoluene | 9.27 | 119 | 1773237 | 172.90 ug/L | 96 |
| 112) 1,4-dichlorobenzene | 9.35 | 146 | 907820 | 177.76 ug/L | 98 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 852089 | 178.90 ug/L | 98 |
| 114) n-butylbenzene | 9.59 | 92 | 920139 | 179.46 ug/L | 94 |
| 115) 1,2-dibromo-3-chloropropan | 10.27 | 157 | 86960 | 200.83 ug/L | 99 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 834116 | 175.49 ug/L | 99 |
| 117) 1,2,4-trichlorobenzene | 10.88 | 180 | 707505 | 174.20 ug/L | 99 |
| 118) hexachlorobutadiene | 10.97 | 225 | 472064 | 177.79 ug/L | 99 |
| 119) naphthalene | 11.08 | 128 | 1252498 | 174.40 ug/L | 98 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 653329 | 171.74 ug/L | 99 |
| 121) hexachloroethane | 9.80 | 201 | 305354 | 215.67 ug/L | 91 |
| 122) Benzyl chloride | 9.46 | 91 | 692352 | 203.70 ug/L | 99 |
| 123) 2-ethylhexyl acrylate | 11.02 | 70 | 80368 | 40.45 ug/L | 96 |
| 124) 2-methylnaphthalene | 11.94 | 142 | 338886 | 76.89 ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

```
Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149634.D
Acq On    : 13 Feb 2019  10:48 pm
Operator  : juntaep
Sample    : IC6743-200
Misc      : MS32156,V3C6743,5.0,,,,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Feb 14 12:17:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title  : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 08:04:39 2019
Response via : Initial Calibration
```



# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149637.D
Acq On : 13 Feb 2019 11:59 pm
Operator : juntaep
Sample : ICV6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 15 11:12:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.58 | 65 | 59225 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 264590 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 364061 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 312226 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.33 | 152 | 170861 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 45) dibromofluoromethane (s) | 3.99 | 113 | 97026 | 50.75 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 101.50% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 95952 | 48.51 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 97.02% | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 387876 | 50.19 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.38% | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 139779 | 49.76 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 99.52% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 2.64 | 59 | 34863 | 267.03 | ug/L | 96 |
| 4) 1,4-dioxane | 5.29 | 88 | 21247 | 1335.25 | ug/L | 98 |
| 6) chlorodifluoromethane | 1.10 | 51 | 83708 | 52.23 | ug/L | 98 |
| 7) dichlorodifluoromethane | 1.08 | 85 | 133606 | 58.46 | ug/L | 98 |
| 8) chloromethane | 1.22 | 50 | 100413 | 53.22 | ug/L | 99 |
| 9) 1,3-butadiene | 1.32 | 54 | 76172 | 62.01 | ug/L | 99 |
| 10) vinyl chloride | 1.30 | 62 | 106341 | 56.02 | ug/L | 99 |
| 11) bromomethane | 1.54 | 94 | 67507 | 59.45 | ug/L | 99 |
| 12) chloroethane | 1.62 | 64 | 63284 | 56.10 | ug/L | 99 |
| 13) vinyl Bromide | 1.75 | 106 | 72736 | 44.65 | ug/L | 97 |
| 14) trichlorofluoromethane | 1.77 | 101 | 157278 | 55.98 | ug/L | 100 |
| 15) ethyl ether | 1.99 | 74 | 41909 | 52.39 | ug/L | 97 |
| 16) 2-chloropropane | 2.07 | 63 | 34552 | 54.10 | ug/L | 93 |
| 17) acrolein | 2.14 | 56 | 8122 | 49.37 | ug/L | 98 |
| 18) freon 113 | 2.13 | 151 | 79342 | 59.08 | ug/L | 98 |
| 19) 1,1-dichloroethene | 2.16 | 96 | 76045 | 50.79 | ug/L | 100 |
| 22) iodomethane | 2.29 | 142 | 75591 | 61.57 | ug/L | 99 |
| 23) carbon disulfide | 2.31 | 76 | 234398 | 55.88 | ug/L | 99 |
| 24) methylene chloride | 2.56 | 84 | 80606 | 49.24 | ug/L | 98 |
| 25) methyl acetate | 2.47 | 43 | 39438 | 49.95 | ug/L | 97 |
| 26) methyl tert butyl ether | 2.71 | 73 | 426389 | 106.85 | ug/L | 93 |
| 27) trans-1,2-dichloroethene | 2.73 | 96 | 89234 | 52.35 | ug/L | 99 |
| 28) hexane | 2.88 | 57 | 138834 | 51.47 | ug/L | 99 |
| 29) di-isopropyl ether | 3.08 | 45 | 246440 | 50.87 | ug/L | 98 |
| 30) ethyl tert-butyl ether | 3.37 | 59 | 244434 | 51.04 | ug/L | 99 |
| 31) 2-butanone | 3.60 | 72 | 28417 | 218.87 | ug/L | 100 |
| 32) 1,1-dichloroethane | 3.10 | 63 | 151221 | 54.59 | ug/L | 95 |
| 33) chloroprene | 3.13 | 53 | 141443 | 57.48 | ug/L | 100 |
| 34) acrylonitrile | 2.80 | 53 | 18073 | 53.69 | ug/L | 97 |
| 35) vinyl acetate | 3.12 | 86 | 16170 | 53.58 | ug/L # | 81 |
| 36) ethyl acetate | 3.61 | 45 | 8627 | 50.55 | ug/L | 87 |
| 37) 2,2-dichloropropane | 3.54 | 77 | 138647 | 54.40 | ug/L | 99 |
| 38) cis-1,2-dichloroethene | 3.58 | 96 | 99859 | 54.20 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149637.D
Acq On : 13 Feb 2019 11:59 pm
Operator : juntaep
Sample : ICV6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 15 11:12:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 39) propionitrile | 3.72 | 54 | 77047 | 515.74 | ug/L | | 99 |
| 40) bromochloromethane | 3.78 | 130 | 54040 | 52.32 | ug/L | | 96 |
| 41) tetrahydrofuran | 3.78 | 71 | 6871 | 53.21 | ug/L | | 91 |
| 42) chloroform | 3.85 | 83 | 154911 | 51.71 | ug/L | | 99 |
| 43) tert-Butyl Formate | 3.86 | 59 | 38008 | 40.09 | ug/L | | 93 |
| 44) isobutyl alcohol | 4.26 | 41 | 119163 | 512.54 | ug/L | | 97 |
| 46) methacrylonitrile | 3.81 | 67 | 24117 | 54.39 | ug/L | | 93 |
| 47) 1,1,1-trichloroethane | 3.96 | 97 | 145407 | 53.78 | ug/L | | 99 |
| 48) cyclohexane | 3.94 | 84 | 154750 | 55.97 | ug/L | | 99 |
| 49) 1,1-dichloropropene | 4.11 | 110 | 48626 | 54.73 | ug/L | | 98 |
| 50) tert-amyl alcohol | 4.33 | 59 | 28867 | 245.27 | ug/L | | 96 |
| 51) carbon tetrachloride | 4.07 | 119 | 119527 | 55.94 | ug/L | | 99 |
| 54) 2,2,4-trimethylpentane | 4.26 | 57 | 348777 | 51.65 | ug/L | | 99 |
| 55) tert-amyl methyl ether | 4.36 | 87 | 74393 | 49.30 | ug/L | | 96 |
| 56) n-butyl alcohol | 4.90 | 56 | 90009 | 2671.64 | ug/L | | 98 |
| 57) benzene | 4.28 | 78 | 349182 | 52.15 | ug/L | | 100 |
| 58) heptane | 4.45 | 57 | 84054 | 58.68 | ug/L | | 98 |
| 59) isopropyl acetate | 4.36 | 87 | 74393 | 48.14 | ug/L | | 96 |
| 60) 1,2-dichloroethane | 4.38 | 62 | 104821 | 49.30 | ug/L | | 99 |
| 61) trichloroethene | 4.90 | 95 | 97260 | 53.46 | ug/L | | 98 |
| 62) ethyl acrylate | 5.04 | 55 | 75051 | 50.48 | ug/L | | 97 |
| 63) 2-nitropropane | 5.75 | 41 | 24303 | 53.63 | ug/L | # | 34 |
| 64) 2-chloroethyl vinyl ether | 5.76 | 63 | 222659 | 252.84 | ug/L | | 99 |
| 65) methyl methacrylate | 5.27 | 100 | 20243 | 53.89 | ug/L | | 98 |
| 66) 1,2-dichloropropane | 5.17 | 63 | 81534 | 51.25 | ug/L | | 98 |
| 67) methylcyclohexane | 5.01 | 83 | 169230 | 49.82 | ug/L | | 99 |
| 68) dibromomethane | 5.30 | 93 | 46414 | 53.28 | ug/L | | 95 |
| 69) bromodichloromethane | 5.45 | 83 | 107576 | 53.18 | ug/L | | 100 |
| 70) epichlorohydrin | 5.85 | 57 | 28717 | 259.92 | ug/L | | 96 |
| 71) cis-1,3-dichloropropene | 5.89 | 75 | 136714 | 54.02 | ug/L | | 96 |
| 72) 4-methyl-2-pentanone | 6.04 | 85 | 45167 | 213.17 | ug/L | | 93 |
| 76) toluene | 6.15 | 92 | 233389 | 52.38 | ug/L | | 99 |
| 77) trans-1,3-dichloropropene | 6.44 | 75 | 107853 | 52.66 | ug/L | | 99 |
| 78) ethyl methacrylate | 6.47 | 69 | 85433 | 50.17 | ug/L | | 98 |
| 79) 1,1,2-trichloroethane | 6.60 | 83 | 56482 | 51.52 | ug/L | | 96 |
| 80) 2-hexanone | 6.80 | 58 | 85363 | 203.49 | ug/L | | 96 |
| 82) 1,3-dichloropropane | 6.75 | 76 | 116840 | 52.83 | ug/L | | 99 |
| 83) butyl acetate | 6.89 | 56 | 40887 | 51.84 | ug/L | | 95 |
| 84) dibromochloromethane | 6.92 | 129 | 76062 | 58.91 | ug/L | | 99 |
| 85) 1,2-dibromoethane | 7.02 | 107 | 80141 | 50.39 | ug/L | | 97 |
| 86) n-butyl ether | 7.47 | 57 | 366640 | 50.55 | ug/L | | 99 |
| 87) chlorobenzene | 7.42 | 112 | 251331 | 51.23 | ug/L | | 99 |
| 88) 1,1,1,2-tetrachloroethane | 7.51 | 131 | 90911 | 56.14 | ug/L | | 99 |
| 89) ethylbenzene | 7.49 | 91 | 450029 | 52.18 | ug/L | | 100 |
| 90) m,p-xylene | 7.60 | 106 | 359829 | 105.88 | ug/L | | 99 |
| 91) o-xylene | 7.93 | 91 | 356096 | 52.21 | ug/L | | 98 |
| 92) styrene | 7.96 | 104 | 288124 | 52.75 | ug/L | | 99 |
| 93) bromoform | 8.13 | 173 | 46903 | 49.96 | ug/L | | 97 |
| 94) butyl acrylate | 7.92 | 55 | 127127 | 53.67 | ug/L | | 99 |
| 95) isopropylbenzene | 8.23 | 105 | 466590 | 53.68 | ug/L | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149637.D
Acq On : 13 Feb 2019 11:59 pm
Operator : juntaep
Sample : ICV6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 15 11:12:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

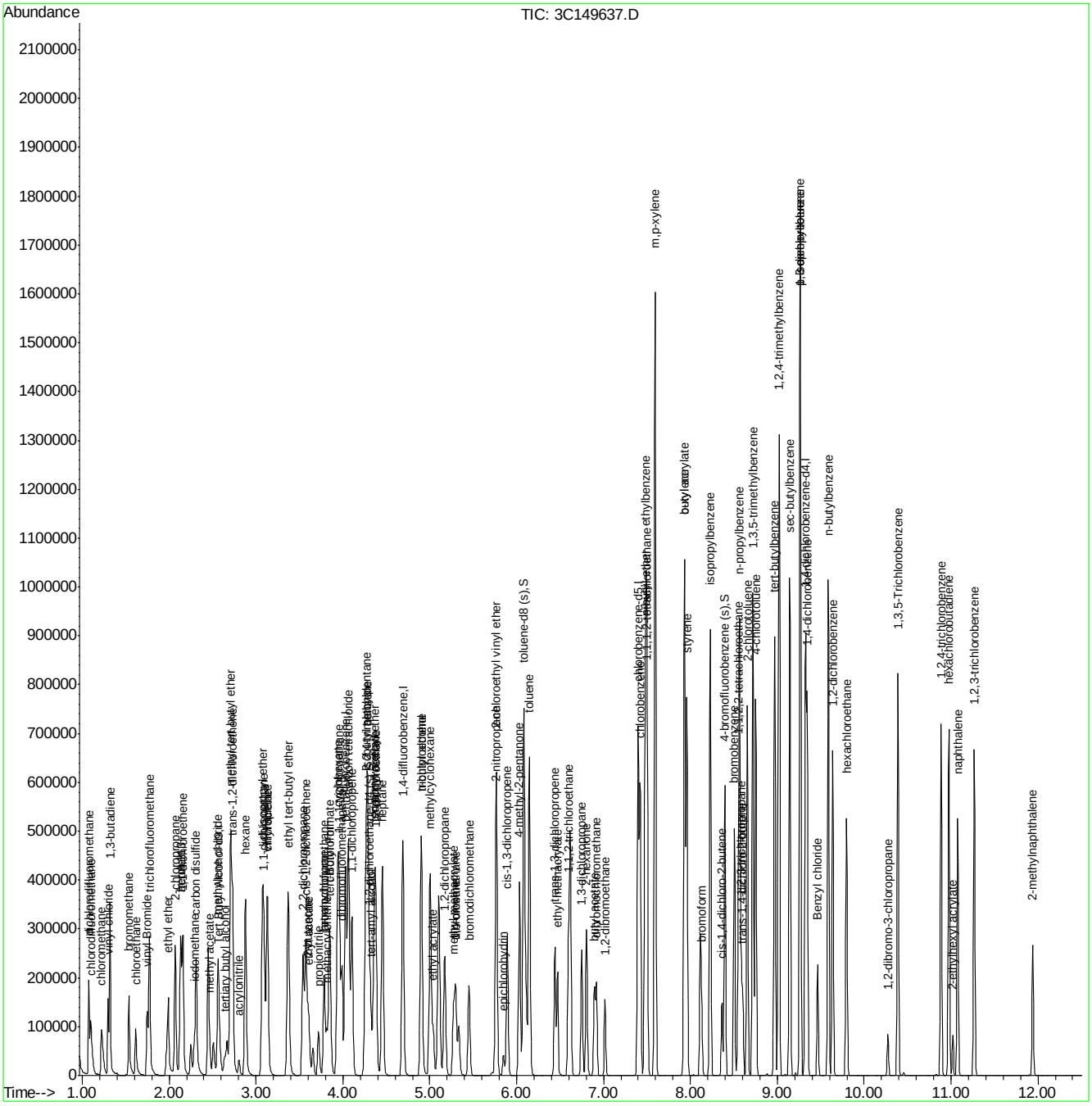
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 96) cis-1,4-dichloro-2-butene | 8.36 | 53 | 23586 | 49.13 ug/L | 96 |
| 99) bromobenzene | 8.51 | 156 | 114948 | 50.75 ug/L | 96 |
| 100) 1,1,2,2-tetrachloroethane | 8.55 | 83 | 76224 | 49.49 ug/L | 100 |
| 101) trans-1,4-dichloro-2-buten | 8.60 | 88 | 11776 | 55.41 ug/L | 96 |
| 102) 1,2,3-trichloropropane | 8.59 | 110 | 25244 | 51.52 ug/L | 97 |
| 103) n-propylbenzene | 8.57 | 91 | 543133 | 52.27 ug/L | 99 |
| 104) 2-chlorotoluene | 8.66 | 126 | 111998 | 52.71 ug/L | 97 |
| 105) 4-chlorotoluene | 8.75 | 126 | 113989 | 53.76 ug/L | 98 |
| 106) 1,3,5-trimethylbenzene | 8.72 | 105 | 399917 | 52.90 ug/L | 100 |
| 107) tert-butylbenzene | 8.97 | 119 | 361421 | 53.73 ug/L | 97 |
| 108) 1,2,4-trimethylbenzene | 9.02 | 105 | 409388 | 53.20 ug/L | 95 |
| 109) sec-butylbenzene | 9.14 | 105 | 534561 | 54.67 ug/L | 100 |
| 110) 1,3-dichlorobenzene | 9.26 | 146 | 228047 | 51.24 ug/L | 99 |
| 111) p-isopropyltoluene | 9.26 | 119 | 471315 | 54.78 ug/L | 100 |
| 112) 1,4-dichlorobenzene | 9.34 | 146 | 223634 | 49.16 ug/L | 98 |
| 113) 1,2-dichlorobenzene | 9.64 | 146 | 208626 | 50.02 ug/L | 100 |
| 114) n-butylbenzene | 9.59 | 92 | 233180 | 54.84 ug/L | 99 |
| 115) 1,2-dibromo-3-chloropropan | 10.27 | 157 | 18948 | 49.55 ug/L | 97 |
| 116) 1,3,5-Trichlorobenzene | 10.39 | 180 | 204501 | 50.56 ug/L | 99 |
| 117) 1,2,4-trichlorobenzene | 10.89 | 180 | 173133 | 49.70 ug/L | 99 |
| 118) hexachlorobutadiene | 10.97 | 225 | 116416 | 53.66 ug/L | 97 |
| 119) naphthalene | 11.08 | 128 | 307761 | 50.45 ug/L | 100 |
| 120) 1,2,3-trichlorobenzene | 11.27 | 180 | 158478 | 49.06 ug/L | 99 |
| 121) hexachloroethane | 9.80 | 201 | 67761 | 51.69 ug/L | 98 |
| 122) Benzyl chloride | 9.46 | 91 | 115379 | 42.87 ug/L | 99 |
| 123) 2-ethylhexyl acrylate | 11.02 | 70 | 17195 | 9.96 ug/L | 97 |
| 124) 2-methylnaphthalene | 11.94 | 142 | 98995 | 27.09 ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149637.D
Acq On : 13 Feb 2019 11:59 pm
Operator : juntaep
Sample : ICV6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 15 11:12:59 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149638.D
Acq On : 14 Feb 2019 12:23 am
Operator : juntaep
Sample : ICV6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 14 14:11:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 14:08:59 2019
Response via : Initial Calibration

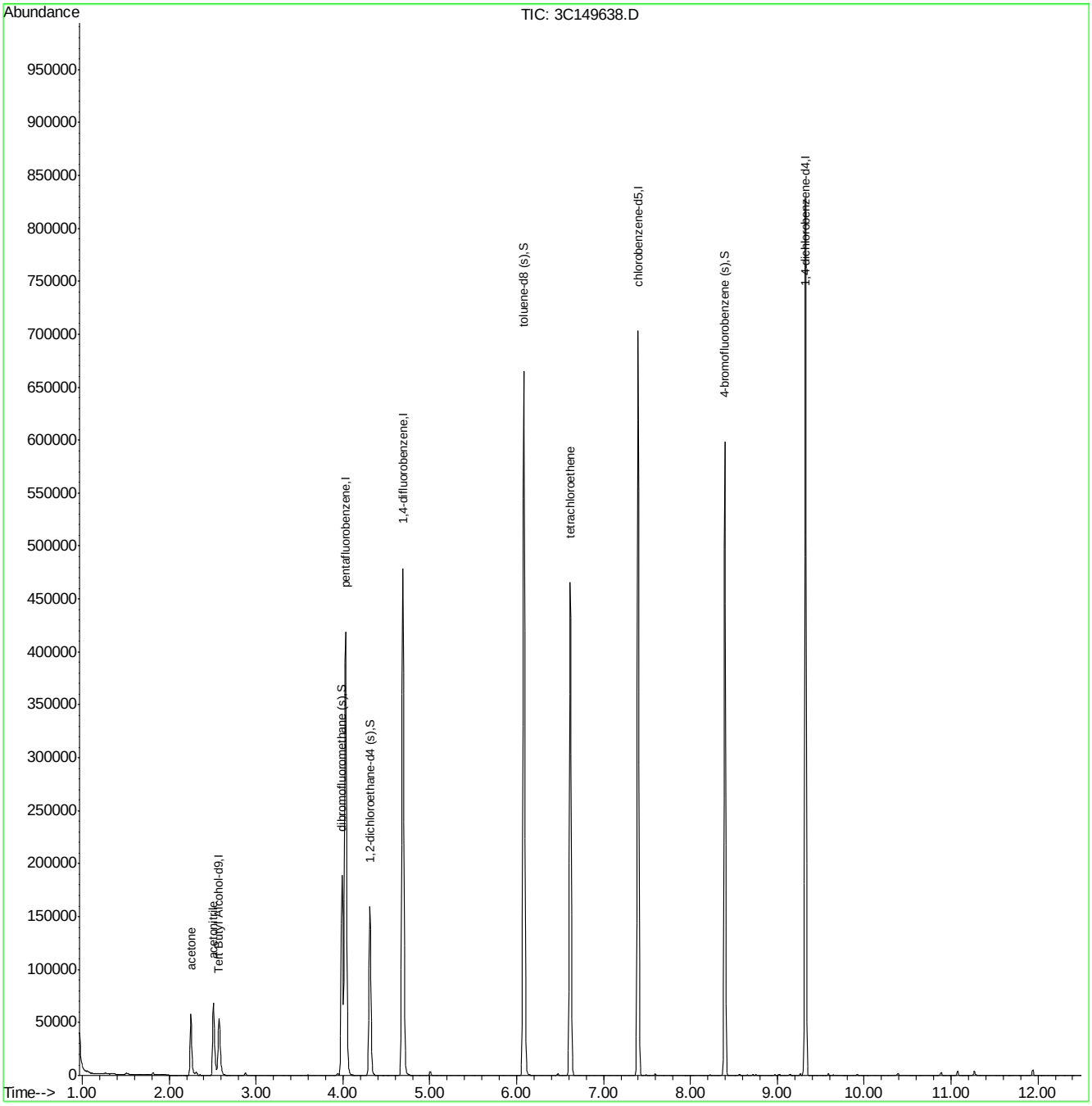
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Tert Butyl Alcohol-d9 | 2.57 | 65 | 53978 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.03 | 168 | 262426 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.69 | 114 | 357799 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.40 | 117 | 307813 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.33 | 152 | 169030 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.99 | 113 | 93987 | 49.56 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 127 Recovery = 99.12% | | | | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.31 | 65 | 94717 | 48.72 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 75 - 130 Recovery = 97.44% | | | | | | |
| 75) toluene-d8 (s) | 6.08 | 98 | 380588 | 49.95 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 80 - 120 Recovery = 99.90% | | | | | | |
| 98) 4-bromofluorobenzene (s) | 8.40 | 95 | 138116 | 49.70 | ug/L | 0.00 |
| Spiked Amount 50.000 Range 79 - 127 Recovery = 99.40% | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 2.25 | 58 | 15773 | 192.91 | ug/L | 93 |
| 21) acetonitrile | 2.51 | 41 | 60428 | 478.92 | ug/L | 97 |
| 81) tetrachloroethene | 6.62 | 166 | 120064 | 57.61 | ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\V3C6743\
Data File : 3C149638.D
Acq On : 14 Feb 2019 12:23 am
Operator : juntaep
Sample : ICV6743-50
Misc : MS32156,V3C6743,5.0,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 14 14:11:52 2019
Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Thu Feb 14 14:08:59 2019
Response via : Initial Calibration




M3C6743.M Fri Feb 15 11:18:27 2019 MS3C

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151772.d
Acq On : 5 May 2019 12:35 pm
Operator : mariceld
Sample : CC6743-50 Inst : MS3C
Misc : MS34270,V3C6820,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:37:24 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.579 | 65 | 65141 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.033 | 168 | 275169 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 358902 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.396 | 117 | 319896 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 182529 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 99477 | 50.03 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.06% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.311 | 65 | 105827 | 54.27 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 108.54% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 403935 | 51.01 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 102.02% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 158156 | 52.70 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 105.40% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 2.642 | 59 | 33609 | 234.04 | ug/L | 94 |
| 4) 1,4-dioxane | 5.294 | 88 | 21186 | 1210.50 | ug/L | 85 |
| 6) chlorodifluoromethane | 1.104 | 51 | 73793 | 44.27 | ug/L | 92 |
| 7) dichlorodifluoromethane | 1.078 | 85 | 100047 | 42.09 | ug/L | 98 |
| 8) chloromethane | 1.225 | 50 | 75575 | 38.51 | ug/L | 98 |
| 9) 1,3-butadiene | 1.319 | 54 | 58932 | 46.13 | ug/L | 98 |
| 10) vinyl chloride | 1.298 | 62 | 83793 | 42.45 | ug/L | 98 |
| 11) bromomethane | 1.539 | 94 | 52773 | 44.68 | ug/L | 98 |
| 12) chloroethane | 1.617 | 64 | 52903 | 45.10 | ug/L | 99 |
| 13) vinyl Bromide | 1.748 | 106 | 73370 | 43.31 | ug/L | 97 |
| 14) trichlorofluoromethane | 1.774 | 101 | 147052 | 50.33 | ug/L | 98 |
| 15) ethyl ether | 1.994 | 74 | 41588 | 49.99 | ug/L | 89 |
| 16) 2-chloropropane | 2.072 | 63 | 29631 | 44.61 | ug/L # | 84 |
| 17) acrolein | 2.140 | 56 | 9100 | 53.19 | ug/L | 92 |
| 18) freon 113 | 2.135 | 151 | 72006 | 51.55 | ug/L | 97 |
| 19) 1,1-dichloroethene | 2.161 | 96 | 74667 | 47.95 | ug/L | 99 |
| 20) acetone | 2.250 | 58 | 17215 | 200.80 | ug/L | 99 |
| 21) acetonitrile | 2.511 | 41 | 54026 | 408.36 | ug/L | 97 |
| 22) iodomethane | 2.287 | 142 | 70571 | 55.27 | ug/L | 97 |
| 23) carbon disulfide | 2.313 | 76 | 199795 | 45.80 | ug/L | 97 |
| 24) methylene chloride | 2.564 | 84 | 79344 | 46.60 | ug/L | 89 |
| 25) methyl acetate | 2.470 | 43 | 37131 | 45.22 | ug/L | 95 |
| 26) methyl tert butyl ether | 2.710 | 73 | 211635 | 50.99 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 2.731 | 96 | 82335 | 46.44 | ug/L | 99 |
| 28) hexane | 2.878 | 57 | 111253 | 39.66 | ug/L | 96 |
| 29) di-isopropyl ether | 3.076 | 45 | 205898 | 40.87 | ug/L | 93 |
| 30) ethyl tert-butyl ether | 3.364 | 59 | 238699 | 47.93 | ug/L | 98 |
| 31) 2-butanone | 3.599 | 72 | 28762 | 213.01 | ug/L # | 85 |
| 32) 1,1-dichloroethane | 3.092 | 63 | 132022 | 45.83 | ug/L | 99 |
| 33) chloroprene | 3.134 | 53 | 124023 | 48.46 | ug/L | 97 |
| 34) acrylonitrile | 2.804 | 53 | 17376 | 49.64 | ug/L | 98 |
| 35) vinyl acetate | 3.123 | 86 | 16599 | 52.89 | ug/L # | 55 |
| 36) ethyl acetate | 3.615 | 45 | 8281 | 46.80 | ug/L | 93 |
| 37) 2,2-dichloropropane | 3.542 | 77 | 127925 | 48.26 | ug/L | 100 |
| 38) cis-1,2-dichloroethene | 3.573 | 96 | 91324 | 47.67 | ug/L | 98 |
| 39) propionitrile | 3.714 | 54 | 74309 | 478.29 | ug/L | 99 |
| 40) bromochloromethane | 3.782 | 130 | 53598 | 49.90 | ug/L | 89 |
| 41) tetrahydrofuran | 3.782 | 71 | 7507 | 55.90 | ug/L # | 73 |
| 42) chloroform | 3.845 | 83 | 145919 | 46.84 | ug/L | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151772.d
Acq On : 5 May 2019 12:35 pm
Operator : mariceld
Sample : CC6743-50 Inst : MS3C
Misc : MS34270,V3C6820,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:37:24 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 43) | tert-Butyl Formate | 3.856 | 59 | 48987 | 49.69 | ug/L | | 93 |
| 44) | isobutyl alcohol | 4.264 | 41 | 97524 | 403.34 | ug/L | | 94 |
| 46) | methacrylonitrile | 3.814 | 67 | 24397 | 52.91 | ug/L | | 87 |
| 47) | 1,1,1-trichloroethane | 3.955 | 97 | 141452 | 50.31 | ug/L | | 98 |
| 48) | cyclohexane | 3.939 | 84 | 130696 | 45.45 | ug/L | | 94 |
| 49) | 1,1-dichloropropene | 4.107 | 110 | 44564 | 48.23 | ug/L | | 95 |
| 50) | tert-amyl alcohol | 4.326 | 59 | 26231 | 214.30 | ug/L | | 79 |
| 51) | carbon tetrachloride | 4.070 | 119 | 122740 | 55.23 | ug/L | | 98 |
| 54) | 2,2,4-trimethylpentane | 4.264 | 57 | 282986 | 42.51 | ug/L | | 98 |
| 55) | tert-amyl methyl ether | 4.363 | 87 | 77898 | 52.36 | ug/L | # | 89 |
| 56) | n-butyl alcohol | 4.896 | 56 | 91280 | 2748.31 | ug/L | | 99 |
| 57) | benzene | 4.284 | 78 | 315308 | 47.77 | ug/L | | 99 |
| 58) | heptane | 4.452 | 57 | 54250 | 38.42 | ug/L | | 93 |
| 59) | isopropyl acetate | 4.363 | 87 | 77898 | 51.14 | ug/L | | 95 |
| 60) | 1,2-dichloroethane | 4.379 | 62 | 104681 | 49.94 | ug/L | | 99 |
| 61) | trichloroethene | 4.902 | 95 | 89128 | 49.69 | ug/L | | 97 |
| 62) | ethyl acrylate | 5.038 | 55 | 77358 | 52.78 | ug/L | | 97 |
| 63) | 2-nitropropane | 5.749 | 41 | 23963 | 53.64 | ug/L | # | 1 |
| 64) | 2-chloroethyl vinyl ether | 5.765 | 63 | 216240 | 249.08 | ug/L | | 96 |
| 65) | methyl methacrylate | 5.268 | 100 | 21209 | 57.27 | ug/L | # | 88 |
| 66) | 1,2-dichloropropane | 5.168 | 63 | 70253 | 44.79 | ug/L | | 91 |
| 67) | methylcyclohexane | 5.006 | 83 | 148981 | 44.49 | ug/L | | 98 |
| 68) | dibromomethane | 5.294 | 93 | 44031 | 51.27 | ug/L | | 91 |
| 69) | bromodichloromethane | 5.446 | 83 | 109432 | 54.87 | ug/L | | 97 |
| 70) | epichlorohydrin | 5.843 | 57 | 29228 | 268.34 | ug/L | | 99 |
| 71) | cis-1,3-dichloropropene | 5.890 | 75 | 131461 | 52.69 | ug/L | | 94 |
| 72) | 4-methyl-2-pentanone | 6.031 | 85 | 50171 | 240.19 | ug/L | # | 77 |
| 76) | toluene | 6.146 | 92 | 213529 | 46.77 | ug/L | | 95 |
| 77) | trans-1,3-dichloropropene | 6.434 | 75 | 114198 | 54.43 | ug/L | | 99 |
| 78) | ethyl methacrylate | 6.465 | 69 | 89076 | 51.05 | ug/L | | 96 |
| 79) | 1,1,2-trichloroethane | 6.596 | 83 | 53275 | 47.43 | ug/L | | 98 |
| 80) | 2-hexanone | 6.800 | 58 | 85855 | 199.75 | ug/L | | 87 |
| 81) | tetrachloroethene | 6.617 | 166 | 111897 | 51.66 | ug/L | | 99 |
| 82) | 1,3-dichloropropane | 6.748 | 76 | 109558 | 48.35 | ug/L | | 98 |
| 83) | butyl acetate | 6.889 | 56 | 40407 | 50.00 | ug/L | | 89 |
| 84) | dibromochloromethane | 6.915 | 129 | 82320 | 62.23 | ug/L | | 96 |
| 85) | 1,2-dibromoethane | 7.015 | 107 | 75519 | 46.34 | ug/L | | 98 |
| 86) | n-butyl ether | 7.470 | 57 | 301088 | 40.52 | ug/L | | 99 |
| 87) | chlorobenzene | 7.417 | 112 | 242834 | 48.31 | ug/L | | 98 |
| 88) | 1,1,1,2-tetrachloroethane | 7.501 | 131 | 91267 | 55.01 | ug/L | | 100 |
| 89) | ethylbenzene | 7.485 | 91 | 417499 | 47.25 | ug/L | | 98 |
| 90) | m,p-xylene | 7.595 | 106 | 323950 | 93.04 | ug/L | | 95 |
| 91) | o-xylene | 7.930 | 91 | 338576 | 48.45 | ug/L | | 98 |
| 92) | styrene | 7.956 | 104 | 270882 | 48.40 | ug/L | | 99 |
| 93) | bromoform | 8.129 | 173 | 54289 | 56.14 | ug/L | | 98 |
| 94) | butyl acrylate | 7.925 | 55 | 119928 | 49.41 | ug/L | | 98 |
| 95) | isopropylbenzene | 8.228 | 105 | 426299 | 47.87 | ug/L | | 99 |
| 96) | cis-1,4-dichloro-2-butene | 8.359 | 53 | 26328 | 53.53 | ug/L | # | 85 |
| 99) | bromobenzene | 8.505 | 156 | 113746 | 47.01 | ug/L | | 95 |
| 100) | 1,1,2,2-tetrachloroethane | 8.547 | 83 | 77293 | 46.97 | ug/L | | 99 |
| 101) | trans-1,4-dichloro-2-b... | 8.605 | 88 | 12843 | 56.52 | ug/L | | 89 |
| 102) | 1,2,3-trichloropropane | 8.584 | 110 | 26921 | 51.43 | ug/L | | 93 |
| 103) | n-propylbenzene | 8.563 | 91 | 487860 | 43.95 | ug/L | | 98 |
| 104) | 2-chlorotoluene | 8.652 | 126 | 104809 | 46.17 | ug/L | | 90 |
| 105) | 4-chlorotoluene | 8.751 | 126 | 106842 | 47.17 | ug/L | | 99 |
| 106) | 1,3,5-trimethylbenzene | 8.714 | 105 | 376701 | 46.64 | ug/L | | 98 |
| 107) | tert-butylbenzene | 8.966 | 119 | 332965 | 46.33 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151772.d
Acq On : 5 May 2019 12:35 pm
Operator : mariceld
Sample : CC6743-50 Inst : MS3C
Misc : MS34270,V3C6820,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:37:24 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

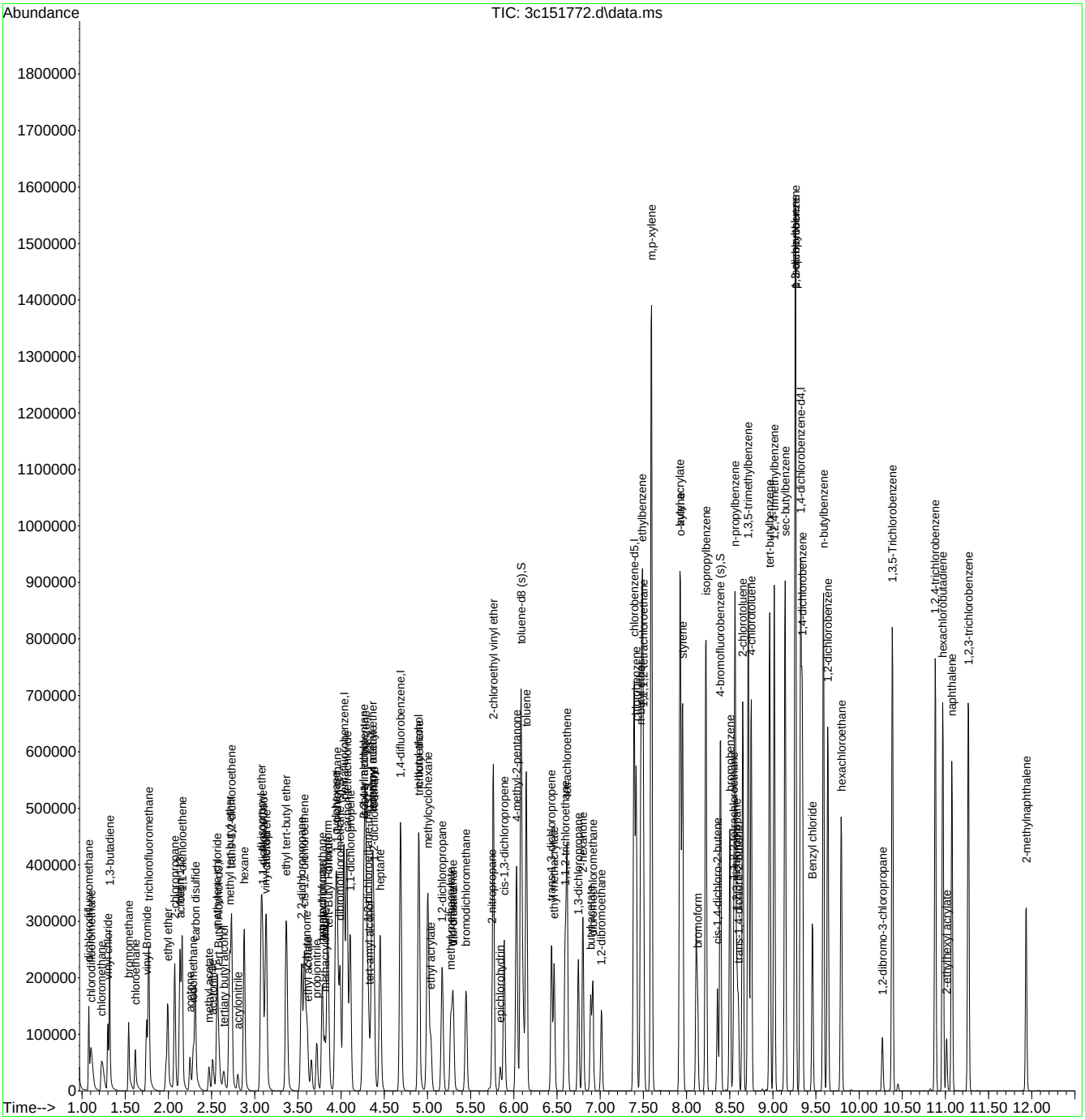
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 9.018 | 105 | 377933 | 45.98 | ug/L | 98 |
| 109) sec-butylbenzene | 9.143 | 105 | 474838 | 45.46 | ug/L | 98 |
| 110) 1,3-dichlorobenzene | 9.264 | 146 | 220758 | 46.44 | ug/L | 99 |
| 111) p-isopropyltoluene | 9.258 | 119 | 431207 | 46.92 | ug/L | 99 |
| 112) 1,4-dichlorobenzene | 9.342 | 146 | 223524 | 45.99 | ug/L | 99 |
| 113) 1,2-dichlorobenzene | 9.635 | 146 | 207940 | 46.67 | ug/L | 98 |
| 114) n-butylbenzene | 9.588 | 92 | 203473 | 44.80 | ug/L | 98 |
| 115) 1,2-dibromo-3-chloropr... | 10.273 | 157 | 22951 | 55.98 | ug/L | 97 |
| 116) 1,3,5-Trichlorobenzene | 10.383 | 180 | 216215 | 50.04 | ug/L | 98 |
| 117) 1,2,4-trichlorobenzene | 10.880 | 180 | 190157 | 51.10 | ug/L | 99 |
| 118) hexachlorobutadiene | 10.969 | 225 | 122839 | 53.00 | ug/L | 99 |
| 119) naphthalene | 11.073 | 128 | 346166 | 53.11 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 11.267 | 180 | 177896 | 51.55 | ug/L | 99 |
| 121) hexachloroethane | 9.797 | 201 | 75059 | 53.51 | ug/L # | 89 |
| 122) Benzyl chloride | 9.457 | 91 | 163531 | 56.87 | ug/L | 99 |
| 123) 2-ethylhexyl acrylate | 11.016 | 70 | 19083 | 10.32 | ug/L | 94 |
| 124) 2-methylnaphthalene | 11.936 | 142 | 119574 | 30.64 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\May-2019\5-7\v3c6820\
Data File : 3c151772.d
Acq On : 5 May 2019 12:35 pm
Operator : mariceld
Sample : CC6743-50 Inst : MS3C
Misc : MS34270,V3C6820,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 06 19:37:24 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-7-2019\lotusa\v3c6821\
Data File : 3c151801.d
Acq On : 6 May 2019 8:55 am
Operator : PrashanS
Sample : CC6743-50 Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 08 07:45:57 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Tert Butyl Alcohol-d9 | 2.574 | 65 | 58634 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 4.028 | 168 | 280510 | 50.00 | ug/L | 0.00 |
| 52) 1,4-difluorobenzene | 4.687 | 114 | 358158 | 50.00 | ug/L | 0.00 |
| 74) chlorobenzene-d5 | 7.391 | 117 | 320309 | 50.00 | ug/L | 0.00 |
| 97) 1,4-dichlorobenzene-d4 | 9.321 | 152 | 184327 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 45) dibromofluoromethane (s) | 3.986 | 113 | 100522 | 49.59 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.18% | | | |
| 53) 1,2-dichloroethane-d4 (s) | 4.305 | 65 | 103372 | 53.12 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 106.24% | | | |
| 75) toluene-d8 (s) | 6.084 | 98 | 408597 | 51.54 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 103.08% | | | |
| 98) 4-bromofluorobenzene (s) | 8.390 | 95 | 157352 | 51.92 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 103.84% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) tertiary butyl alcohol | 2.637 | 59 | 28904 | 223.62 | ug/L | 95 |
| 4) 1,4-dioxane | 5.289 | 88 | 18935 | 1201.95 | ug/L | 93 |
| 6) chlorodifluoromethane | 1.104 | 51 | 68122 | 40.09 | ug/L | 92 |
| 7) dichlorodifluoromethane | 1.078 | 85 | 113235 | 46.73 | ug/L | 99 |
| 8) chloromethane | 1.230 | 50 | 77648 | 38.82 | ug/L | 99 |
| 9) 1,3-butadiene | 1.319 | 54 | 55085 | 42.30 | ug/L | 100 |
| 10) vinyl chloride | 1.298 | 62 | 84770 | 42.12 | ug/L | 99 |
| 11) bromomethane | 1.539 | 94 | 53552 | 44.48 | ug/L | 97 |
| 12) chloroethane | 1.617 | 64 | 51587 | 43.14 | ug/L | 99 |
| 13) vinyl Bromide | 1.748 | 106 | 72765 | 42.13 | ug/L | 98 |
| 14) trichlorofluoromethane | 1.774 | 101 | 142966 | 48.00 | ug/L | 99 |
| 15) ethyl ether | 1.988 | 74 | 38378 | 45.25 | ug/L | 87 |
| 16) 2-chloropropane | 2.072 | 63 | 27770 | 41.01 | ug/L # | 79 |
| 17) acrolein | 2.140 | 56 | 8400 | 48.17 | ug/L | 93 |
| 18) freon 113 | 2.135 | 151 | 67503 | 47.41 | ug/L | 97 |
| 19) 1,1-dichloroethene | 2.161 | 96 | 69647 | 43.87 | ug/L | 93 |
| 20) acetone | 2.245 | 58 | 14912 | 170.63 | ug/L | 98 |
| 21) acetonitrile | 2.511 | 41 | 48127 | 356.84 | ug/L | 98 |
| 22) iodomethane | 2.286 | 142 | 67818 | 52.10 | ug/L | 99 |
| 23) carbon disulfide | 2.307 | 76 | 183141 | 41.18 | ug/L | 96 |
| 24) methylene chloride | 2.564 | 84 | 69981 | 40.32 | ug/L | 88 |
| 25) methyl acetate | 2.470 | 43 | 31086 | 37.14 | ug/L | 91 |
| 26) methyl tert butyl ether | 2.710 | 73 | 193294 | 45.69 | ug/L | 96 |
| 27) trans-1,2-dichloroethene | 2.731 | 96 | 75546 | 41.80 | ug/L | 93 |
| 28) hexane | 2.872 | 57 | 108233 | 37.84 | ug/L | 99 |
| 29) di-isopropyl ether | 3.076 | 45 | 185229 | 36.06 | ug/L | 95 |
| 30) ethyl tert-butyl ether | 3.364 | 59 | 213328 | 42.02 | ug/L | 96 |
| 31) 2-butanone | 3.599 | 72 | 25496 | 185.23 | ug/L # | 86 |
| 32) 1,1-dichloroethane | 3.092 | 63 | 120311 | 40.97 | ug/L | 97 |
| 33) chloroprene | 3.134 | 53 | 112064 | 42.95 | ug/L | 96 |
| 34) acrylonitrile | 2.804 | 53 | 15207 | 42.61 | ug/L | 93 |
| 35) vinyl acetate | 3.118 | 86 | 15059 | 47.07 | ug/L # | 72 |
| 36) ethyl acetate | 3.615 | 45 | 7268 | 40.55 | ug/L | 94 |
| 37) 2,2-dichloropropane | 3.542 | 77 | 119525 | 44.24 | ug/L | 98 |
| 38) cis-1,2-dichloroethene | 3.573 | 96 | 83623 | 42.82 | ug/L | 96 |
| 39) propionitrile | 3.714 | 54 | 66426 | 419.41 | ug/L | 98 |
| 40) bromochloromethane | 3.782 | 130 | 50931 | 46.51 | ug/L | 82 |
| 41) tetrahydrofuran | 3.777 | 71 | 6669 | 48.71 | ug/L # | 77 |
| 42) chloroform | 3.840 | 83 | 131948 | 41.55 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-7-2019\lotusa\v3c6821\
Data File : 3c151801.d
Acq On : 6 May 2019 8:55 am
Operator : PrashanS
Sample : CC6743-50 Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 08 07:45:57 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 43) | tert-Butyl Formate | 3.850 | 59 | 41613 | 41.41 | ug/L | | 93 |
| 44) | isobutyl alcohol | 4.263 | 41 | 86965 | 352.82 | ug/L | | 93 |
| 46) | methacrylonitrile | 3.808 | 67 | 21894 | 46.58 | ug/L | | 90 |
| 47) | 1,1,1-trichloroethane | 3.955 | 97 | 129796 | 45.29 | ug/L | | 97 |
| 48) | cyclohexane | 3.939 | 84 | 122345 | 41.74 | ug/L | | 93 |
| 49) | 1,1-dichloropropene | 4.101 | 110 | 39817 | 42.27 | ug/L | | 95 |
| 50) | tert-amyl alcohol | 4.326 | 59 | 22794 | 182.68 | ug/L | # | 68 |
| 51) | carbon tetrachloride | 4.065 | 119 | 112587 | 49.70 | ug/L | | 97 |
| 54) | 2,2,4-trimethylpentane | 4.263 | 57 | 264493 | 39.81 | ug/L | | 99 |
| 55) | tert-amyl methyl ether | 4.358 | 87 | 70448 | 47.45 | ug/L | | 92 |
| 56) | n-butyl alcohol | 4.891 | 56 | 78021 | 2353.98 | ug/L | | 100 |
| 57) | benzene | 4.284 | 78 | 287561 | 43.66 | ug/L | | 99 |
| 58) | heptane | 4.447 | 57 | 56287 | 39.95 | ug/L | | 98 |
| 59) | isopropyl acetate | 4.358 | 87 | 70448 | 46.34 | ug/L | # | 80 |
| 60) | 1,2-dichloroethane | 4.379 | 62 | 95517 | 45.67 | ug/L | | 99 |
| 61) | trichloroethene | 4.902 | 95 | 81161 | 45.34 | ug/L | | 96 |
| 62) | ethyl acrylate | 5.038 | 55 | 65293 | 44.64 | ug/L | | 97 |
| 63) | 2-nitropropane | 5.749 | 41 | 20820 | 46.70 | ug/L | # | 13 |
| 64) | 2-chloroethyl vinyl ether | 5.765 | 63 | 192508 | 222.20 | ug/L | | 96 |
| 65) | methyl methacrylate | 5.268 | 100 | 19110 | 51.71 | ug/L | # | 81 |
| 66) | 1,2-dichloropropane | 5.168 | 63 | 63119 | 40.33 | ug/L | | 87 |
| 67) | methylcyclohexane | 5.006 | 83 | 133647 | 39.99 | ug/L | | 99 |
| 68) | dibromomethane | 5.294 | 93 | 40384 | 47.12 | ug/L | | 87 |
| 69) | bromodichloromethane | 5.446 | 83 | 99827 | 50.16 | ug/L | | 99 |
| 70) | epichlorohydrin | 5.843 | 57 | 26794 | 246.51 | ug/L | | 99 |
| 71) | cis-1,3-dichloropropene | 5.885 | 75 | 119233 | 47.89 | ug/L | | 95 |
| 72) | 4-methyl-2-pentanone | 6.031 | 85 | 45445 | 218.02 | ug/L | # | 77 |
| 76) | toluene | 6.146 | 92 | 197279 | 43.16 | ug/L | | 99 |
| 77) | trans-1,3-dichloropropene | 6.434 | 75 | 105433 | 50.18 | ug/L | | 99 |
| 78) | ethyl methacrylate | 6.465 | 69 | 81339 | 46.56 | ug/L | | 92 |
| 79) | 1,1,2-trichloroethane | 6.596 | 83 | 49137 | 43.69 | ug/L | | 97 |
| 80) | 2-hexanone | 6.800 | 58 | 76895 | 178.67 | ug/L | # | 85 |
| 81) | tetrachloroethene | 6.617 | 166 | 102456 | 47.24 | ug/L | | 98 |
| 82) | 1,3-dichloropropane | 6.748 | 76 | 99112 | 43.68 | ug/L | | 97 |
| 83) | butyl acetate | 6.889 | 56 | 35438 | 43.80 | ug/L | | 94 |
| 84) | dibromochloromethane | 6.915 | 129 | 74780 | 56.45 | ug/L | | 97 |
| 85) | 1,2-dibromoethane | 7.015 | 107 | 68446 | 41.95 | ug/L | | 99 |
| 86) | n-butyl ether | 7.470 | 57 | 269059 | 36.16 | ug/L | | 99 |
| 87) | chlorobenzene | 7.417 | 112 | 220356 | 43.78 | ug/L | | 96 |
| 88) | 1,1,1,2-tetrachloroethane | 7.501 | 131 | 83481 | 50.25 | ug/L | | 97 |
| 89) | ethylbenzene | 7.491 | 91 | 379383 | 42.88 | ug/L | | 100 |
| 90) | m,p-xylene | 7.590 | 106 | 299669 | 85.95 | ug/L | | 94 |
| 91) | o-xylene | 7.930 | 91 | 310975 | 44.44 | ug/L | | 96 |
| 92) | styrene | 7.956 | 104 | 250977 | 44.79 | ug/L | | 99 |
| 93) | bromoform | 8.129 | 173 | 50938 | 52.75 | ug/L | | 97 |
| 94) | butyl acrylate | 7.925 | 55 | 108682 | 44.72 | ug/L | | 98 |
| 95) | isopropylbenzene | 8.223 | 105 | 395514 | 44.36 | ug/L | | 99 |
| 96) | cis-1,4-dichloro-2-butene | 8.359 | 53 | 23500 | 47.72 | ug/L | # | 86 |
| 99) | bromobenzene | 8.505 | 156 | 106266 | 43.49 | ug/L | | 92 |
| 100) | 1,1,2,2-tetrachloroethane | 8.547 | 83 | 69849 | 42.04 | ug/L | | 98 |
| 101) | trans-1,4-dichloro-2-b... | 8.605 | 88 | 11593 | 50.80 | ug/L | # | 86 |
| 102) | 1,2,3-trichloropropane | 8.584 | 110 | 23844 | 45.11 | ug/L | | 97 |
| 103) | n-propylbenzene | 8.563 | 91 | 448376 | 40.00 | ug/L | | 99 |
| 104) | 2-chlorotoluene | 8.652 | 126 | 96565 | 42.13 | ug/L | | 97 |
| 105) | 4-chlorotoluene | 8.751 | 126 | 97446 | 42.60 | ug/L | | 99 |
| 106) | 1,3,5-trimethylbenzene | 8.714 | 105 | 352883 | 43.27 | ug/L | | 96 |
| 107) | tert-butylbenzene | 8.965 | 119 | 306105 | 42.18 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-7-2019\lotusa\v3c6821\
Data File : 3c151801.d
Acq On : 6 May 2019 8:55 am
Operator : PrashanS
Sample : CC6743-50 Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 08 07:45:57 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration

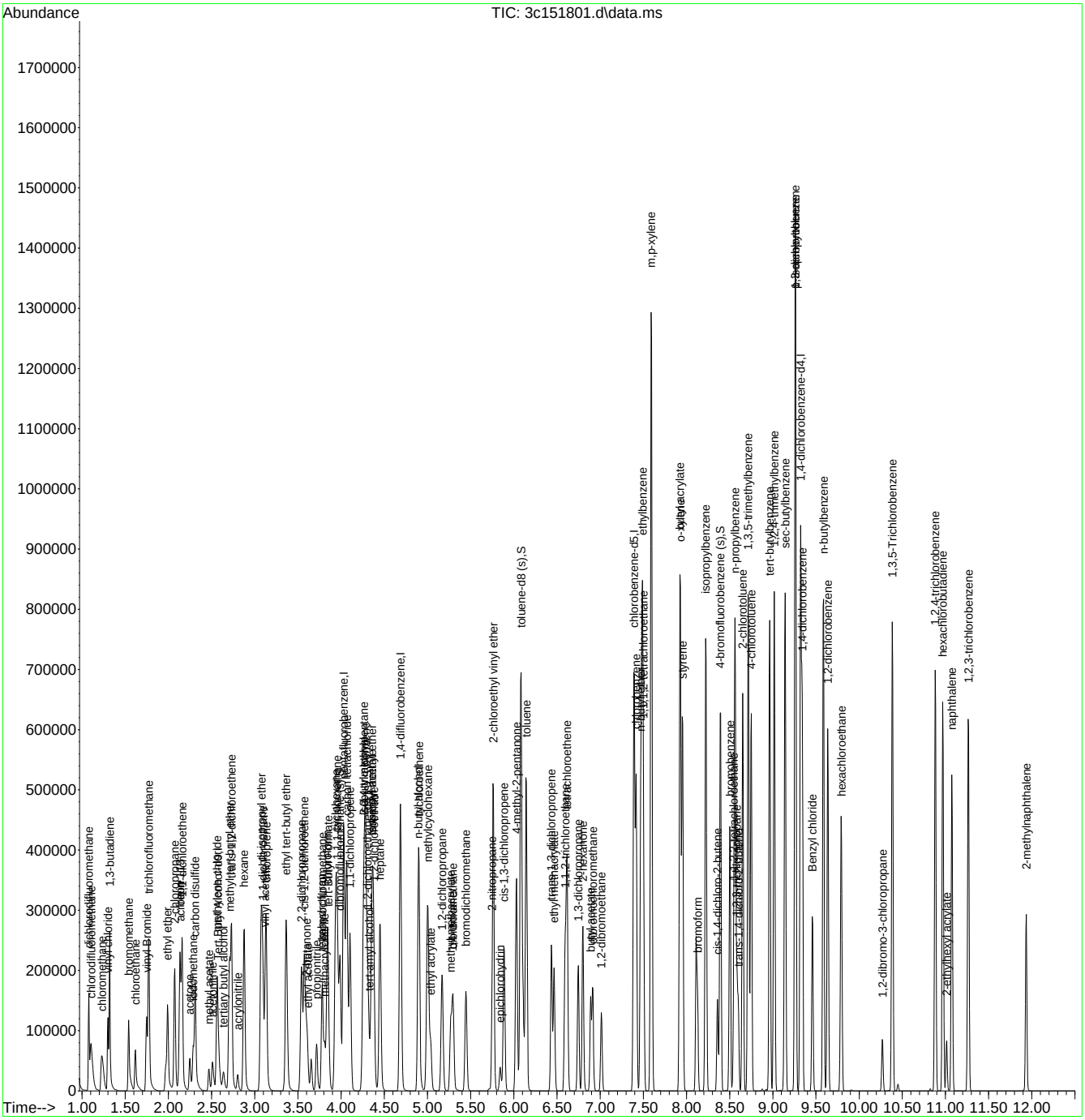
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 108) 1,2,4-trimethylbenzene | 9.018 | 105 | 348879 | 42.03 | ug/L | 96 |
| 109) sec-butylbenzene | 9.143 | 105 | 437552 | 41.48 | ug/L | 99 |
| 110) 1,3-dichlorobenzene | 9.258 | 146 | 206509 | 43.01 | ug/L | 97 |
| 111) p-isopropyltoluene | 9.258 | 119 | 399222 | 43.01 | ug/L | 97 |
| 112) 1,4-dichlorobenzene | 9.342 | 146 | 207111 | 42.20 | ug/L | 100 |
| 113) 1,2-dichlorobenzene | 9.635 | 146 | 192111 | 42.70 | ug/L | 98 |
| 114) n-butylbenzene | 9.588 | 92 | 192151 | 41.89 | ug/L | 98 |
| 115) 1,2-dibromo-3-chloropr... | 10.273 | 157 | 21235 | 51.41 | ug/L | 93 |
| 116) 1,3,5-Trichlorobenzene | 10.383 | 180 | 201922 | 46.27 | ug/L | 98 |
| 117) 1,2,4-trichlorobenzene | 10.880 | 180 | 178096 | 47.39 | ug/L | 100 |
| 118) hexachlorobutadiene | 10.969 | 225 | 117064 | 50.01 | ug/L | 98 |
| 119) naphthalene | 11.073 | 128 | 313041 | 47.56 | ug/L | 99 |
| 120) 1,2,3-trichlorobenzene | 11.267 | 180 | 164804 | 47.29 | ug/L | 98 |
| 121) hexachloroethane | 9.797 | 201 | 69742 | 49.42 | ug/L | 90 |
| 122) Benzyl chloride | 9.457 | 91 | 157172 | 54.13 | ug/L | 100 |
| 123) 2-ethylhexyl acrylate | 11.016 | 70 | 16805 | 9.09 | ug/L | 95 |
| 124) 2-methylnaphthalene | 11.936 | 142 | 108837 | 27.61 | ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : X:\voa-gcms\complete\2019\dayton201905\5-7-2019\lotusa\v3c6821\
Data File : 3c151801.d
Acq On : 6 May 2019 8:55 am
Operator : PrashanS
Sample : CC6743-50 Inst : MS3C
Misc : MS34371,V3C6821,5.0,,,,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M3C6743.M
Quant Results File: M3C6743.RES
Quant Time: May 08 07:45:57 2019
Quant Title : Method SW846 8260C, Rxi624 20m x 0.18mm x 1.0um
QLast Update : Fri Feb 15 09:30:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263011.D
Acq On : 14 Mar 2019 6:32 pm
Operator : juntaep
Sample : ic10606-0.5
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 15 14:22:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.484 | 65 | 99388 | 500.00 | ug/L | 0.01 |
| 5) pentafluorobenzene | 9.728 | 168 | 191550 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.685 | 114 | 285244 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.095 | 117 | 290419 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.741 | 152 | 159501 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.754 | 113 | 90144 | 49.87 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.74% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.188 | 65 | 107760 | 50.39 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.78% | | | |
| 76) toluene-d8 (s) | 12.421 | 98 | 349476 | 49.26 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.52% | | | |
| 100) 4-bromofluorobenzene (s) | 15.413 | 95 | 158685 | 53.69 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 107.38% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 6) chlorodifluoromethane | 4.398 | 51 | 2029 | 0.50 | ug/L | 70 |
| 8) chloromethane | 4.649 | 50 | 2140 | 0.48 | ug/L | 86 |
| 10) vinyl chloride | 4.942 | 62 | 2150 | 0.45 | ug/L | 90 |
| 12) chloroethane | 5.664 | 64 | 822 | 0.40 | ug/L # | 46 |
| 16) 2-chloropropane | 6.679 | 43 | 2519 | 0.55 | ug/L | 76 |
| 18) freon 113 | 6.919 | 151 | 1169 | 0.47 | ug/L | 84 |
| 19) 1,1-dichloroethene | 6.883 | 96 | 1227 | 0.52 | ug/L # | 74 |
| 22) iodomethane | 7.128 | 142 | 1705 | 0.46 | ug/L # | 47 |
| 23) carbon disulfide | 7.290 | 76 | 3816 | 0.50 | ug/L | 78 |
| 24) methylene chloride | 7.542 | 84 | 1292 | 0.52 | ug/L | 89 |
| 26) methyl tert butyl ether | 7.913 | 73 | 3845 | 0.54 | ug/L | 96 |
| 27) trans-1,2-dichloroethene | 7.939 | 96 | 1071 | 0.49 | ug/L | 90 |
| 28) hexane | 8.305 | 56 | 668 | 0.48 | ug/L # | 65 |
| 29) di-isopropyl ether | 8.499 | 45 | 4127 | 0.50 | ug/L | 92 |
| 31) 1,1-dichloroethane | 8.483 | 63 | 1867 | 0.48 | ug/L | 82 |
| 32) chloroprene | 8.608 | 53 | 1613 | 0.47 | ug/L | 87 |
| 35) ethyl tert-butyl ether | 8.959 | 59 | 4080 | 0.50 | ug/L | 97 |
| 37) 2,2-dichloropropane | 9.252 | 77 | 2257 | 0.55 | ug/L | 82 |
| 38) cis-1,2-dichloroethene | 9.189 | 96 | 1222 | 0.52 | ug/L # | 79 |
| 42) bromochloromethane | 9.487 | 128 | 436 | 0.41 | ug/L # | 57 |
| 44) chloroform | 9.571 | 83 | 2214 | 0.57 | ug/L | 97 |
| 45) tert-butyl formate | 9.623 | 59 | 1075 | 0.49 | ug/L | 83 |
| 47) 1,1,1-trichloroethane | 9.864 | 97 | 1910 | 0.48 | ug/L | 91 |
| 48) cyclohexane | 10.015 | 84 | 1825 | 0.45 | ug/L | 93 |
| 50) 1,1-dichloropropene | 10.041 | 75 | 1580 | 0.54 | ug/L | 89 |
| 51) carbon tetrachloride | 10.078 | 117 | 1619 | 0.47 | ug/L | 95 |
| 58) benzene | 10.287 | 78 | 4468 | 0.52 | ug/L | 95 |
| 59) tert-amyl methyl ether | 10.371 | 73 | 4189 | 0.53 | ug/L | 97 |
| 60) heptane | 10.575 | 57 | 541 | 0.47 | ug/L # | 76 |
| 63) trichloroethene | 11.030 | 95 | 1078 | 0.50 | ug/L | 93 |
| 64) 2-chloroethyl vinyl ether | 11.835 | 63 | 2441 | 2.16 | ug/L | 96 |
| 66) methylcyclohexane | 11.365 | 83 | 1732 | 0.47 | ug/L | 96 |
| 67) 1,2-dichloropropane | 11.307 | 63 | 1039 | 0.48 | ug/L | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263011.D
Acq On : 14 Mar 2019 6:32 pm
Operator : juntaep
Sample : ic10606-0.5
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 15 14:22:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

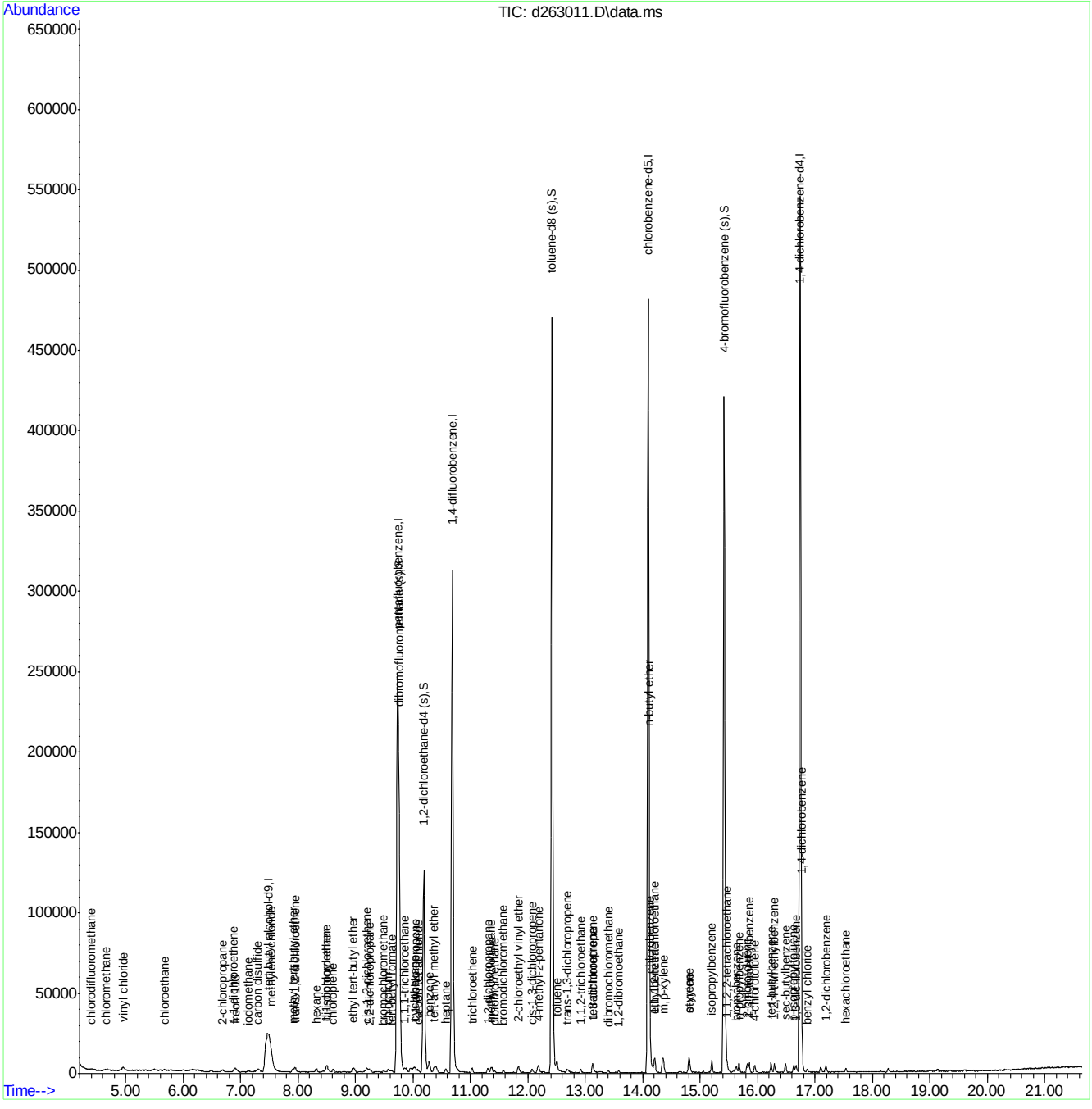
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 68) dibromomethane | 11.417 | 93 | 539 | 0.43 ug/L | 90 |
| 69) bromodichloromethane | 11.574 | 83 | 1357 | 0.47 ug/L | 96 |
| 72) cis-1,3-dichloropropene | 12.071 | 75 | 1692 | 0.49 ug/L | 98 |
| 73) 4-methyl-2-pentanone | 12.181 | 58 | 1344 | 1.79 ug/L # | 72 |
| 77) toluene | 12.505 | 92 | 2892 | 0.52 ug/L # | 85 |
| 79) trans-1,3-dichloropropene | 12.683 | 75 | 1555 | 0.48 ug/L | 80 |
| 80) 1,1,2-trichloroethane | 12.918 | 83 | 729 | 0.49 ug/L | 87 |
| 81) tetrachloroethene | 13.127 | 164 | 925 | 0.51 ug/L | 93 |
| 83) 1,3-dichloropropane | 13.127 | 76 | 1464 | 0.46 ug/L | 91 |
| 85) dibromochloromethane | 13.399 | 129 | 946 | 0.45 ug/L | 76 |
| 86) 1,2-dibromoethane | 13.582 | 107 | 999 | 0.43 ug/L | 93 |
| 87) n-butyl ether | 14.116 | 57 | 5111 | 0.50 ug/L | 83 |
| 88) chlorobenzene | 14.131 | 112 | 3283 | 0.51 ug/L | 95 |
| 89) 1,1,1,2-tetrachloroethane | 14.199 | 131 | 1094 | 0.44 ug/L | 70 |
| 90) ethylbenzene | 14.215 | 91 | 5595 | 0.51 ug/L | 94 |
| 91) m,p-xylene | 14.351 | 106 | 4168 | 0.99 ug/L | 99 |
| 92) o-xylene | 14.801 | 91 | 4621 | 0.50 ug/L | 88 |
| 93) styrene | 14.811 | 104 | 3456 | 0.48 ug/L | 95 |
| 96) isopropylbenzene | 15.198 | 105 | 5401 | 0.50 ug/L | 97 |
| 101) 1,1,2,2-tetrachloroethane | 15.476 | 83 | 1377 | 0.56 ug/L | 91 |
| 104) bromobenzene | 15.627 | 156 | 1437 | 0.51 ug/L | 94 |
| 105) n-propylbenzene | 15.680 | 91 | 6045 | 0.55 ug/L | 95 |
| 106) 2-chlorotoluene | 15.821 | 126 | 1296 | 0.52 ug/L # | 85 |
| 107) 4-chlorotoluene | 15.946 | 91 | 3845 | 0.53 ug/L | 96 |
| 108) 1,3,5-trimethylbenzene | 15.852 | 105 | 4368 | 0.52 ug/L | 95 |
| 109) tert-butylbenzene | 16.234 | 119 | 3474 | 0.53 ug/L | 97 |
| 110) 1,2,4-trimethylbenzene | 16.297 | 105 | 4276 | 0.51 ug/L | 98 |
| 111) sec-butylbenzene | 16.480 | 105 | 4987 | 0.52 ug/L | 97 |
| 112) p-isopropyltoluene | 16.631 | 119 | 3834 | 0.48 ug/L | 97 |
| 113) 1,3-dichlorobenzene | 16.668 | 146 | 2534 | 0.52 ug/L | 99 |
| 114) 1,4-dichlorobenzene | 16.767 | 146 | 2647 | 0.52 ug/L | 86 |
| 115) 1,2-dichlorobenzene | 17.191 | 146 | 2430 | 0.50 ug/L | 95 |
| 116) benzyl chloride | 16.867 | 91 | 2202 | 0.46 ug/L | 97 |
| 119) hexachloroethane | 17.531 | 201 | 597 | 0.48 ug/L # | 65 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263011.D
Acq On : 14 Mar 2019 6:32 pm
Operator : juntaep
Sample : ic10606-0.5
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 15 14:22:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263012.D
Acq On : 14 Mar 2019 7:01 pm
Operator : juntaep
Sample : ic10606-1
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 15 14:25:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.469 | 65 | 96612 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.728 | 168 | 188659 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.685 | 114 | 278156 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.095 | 117 | 285207 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.737 | 152 | 162480 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.760 | 113 | 88051 | 49.45 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.90% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.188 | 65 | 105051 | 50.37 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.74% | | | |
| 76) toluene-d8 (s) | 12.416 | 98 | 340640 | 48.89 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 97.78% | | | |
| 100) 4-bromofluorobenzene (s) | 15.413 | 95 | 158381 | 52.61 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 105.22% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.589 | 59 | 1081 | 4.12 | ug/L | 75 |
| 6) chlorodifluoromethane | 4.399 | 51 | 4002 | 1.01 | ug/L | 70 |
| 7) dichlorodifluoromethane | 4.430 | 85 | 4810 | 0.90 | ug/L | 94 |
| 8) chloromethane | 4.644 | 50 | 4210 | 0.95 | ug/L | 86 |
| 10) vinyl chloride | 4.927 | 62 | 4332 | 0.93 | ug/L | 91 |
| 11) bromomethane | 5.492 | 94 | 2148 | 0.93 | ug/L | 78 |
| 12) chloroethane | 5.654 | 64 | 1953 | 0.96 | ug/L | 75 |
| 13) trichlorofluoromethane | 6.151 | 101 | 3633 | 1.00 | ug/L | 78 |
| 14) vinyl bromide | 5.989 | 106 | 1816 | 0.88 | ug/L | 91 |
| 15) ethyl ether | 6.475 | 74 | 1057 | 1.06 | ug/L # | 79 |
| 16) 2-chloropropane | 6.689 | 43 | 4935 | 1.10 | ug/L | 94 |
| 18) freon 113 | 6.925 | 151 | 2338 | 0.95 | ug/L # | 74 |
| 19) 1,1-dichloroethene | 6.883 | 96 | 2384 | 1.02 | ug/L # | 72 |
| 21) acetonitrile | 7.244 | 41 | 3427 | 12.23 | ug/L | 67 |
| 22) iodomethane | 7.139 | 142 | 3640 | 0.99 | ug/L | 88 |
| 23) carbon disulfide | 7.301 | 76 | 7633 | 1.01 | ug/L | 93 |
| 24) methylene chloride | 7.542 | 84 | 2435 | 1.00 | ug/L | 89 |
| 26) methyl tert butyl ether | 7.908 | 73 | 7543 | 1.07 | ug/L | 95 |
| 27) trans-1,2-dichloroethene | 7.945 | 96 | 2177 | 1.02 | ug/L | 94 |
| 28) hexane | 8.311 | 56 | 1288 | 0.94 | ug/L | 82 |
| 29) di-isopropyl ether | 8.499 | 45 | 8418 | 1.04 | ug/L | 97 |
| 31) 1,1-dichloroethane | 8.489 | 63 | 3938 | 1.04 | ug/L | 95 |
| 32) chloroprene | 8.609 | 53 | 3317 | 0.98 | ug/L | 98 |
| 35) ethyl tert-butyl ether | 8.954 | 59 | 8338 | 1.05 | ug/L | 97 |
| 37) 2,2-dichloropropane | 9.252 | 77 | 4282 | 1.05 | ug/L | 90 |
| 38) cis-1,2-dichloroethene | 9.195 | 96 | 2318 | 0.99 | ug/L | 91 |
| 39) propionitrile | 9.169 | 54 | 2393 | 9.38 | ug/L | 79 |
| 42) bromochloromethane | 9.488 | 128 | 987 | 0.94 | ug/L # | 83 |
| 44) chloroform | 9.571 | 83 | 4080 | 1.06 | ug/L | 92 |
| 45) tert-butyl formate | 9.618 | 59 | 2125 | 0.98 | ug/L | 90 |
| 47) 1,1,1-trichloroethane | 9.864 | 97 | 4071 | 1.03 | ug/L | 93 |
| 48) cyclohexane | 10.011 | 84 | 4016 | 1.01 | ug/L | 90 |
| 50) 1,1-dichloropropene | 10.032 | 75 | 3021 | 1.04 | ug/L | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263012.D
Acq On : 14 Mar 2019 7:01 pm
Operator : juntaep
Sample : ic10606-1
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 15 14:25:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 51) carbon tetrachloride | 10.079 | 117 | 3440 | 1.02 ug/L | 94 |
| 52) tert-amyl alcohol | 10.115 | 73 | 697 | 5.85 ug/L # | 37 |
| 57) 2,2,4-trimethylpentane | 10.413 | 57 | 6347 | 0.94 ug/L | 93 |
| 58) benzene | 10.288 | 78 | 8845 | 1.05 ug/L | 93 |
| 59) tert-amyl methyl ether | 10.371 | 73 | 7872 | 1.02 ug/L | 94 |
| 60) heptane | 10.565 | 57 | 1124 | 1.00 ug/L | 95 |
| 61) 1,2-dichloroethane | 10.283 | 62 | 3491 | 1.15 ug/L | 93 |
| 63) trichloroethene | 11.025 | 95 | 2151 | 1.02 ug/L | 92 |
| 64) 2-chloroethyl vinyl ether | 11.825 | 63 | 5353 | 4.86 ug/L | 99 |
| 66) methylcyclohexane | 11.365 | 83 | 3767 | 1.05 ug/L | 93 |
| 67) 1,2-dichloropropane | 11.308 | 63 | 2090 | 1.00 ug/L | 89 |
| 68) dibromomethane | 11.412 | 93 | 1160 | 0.96 ug/L | 90 |
| 69) bromodichloromethane | 11.574 | 83 | 2882 | 1.03 ug/L | 98 |
| 72) cis-1,3-dichloropropene | 12.066 | 75 | 3395 | 1.00 ug/L | 96 |
| 73) 4-methyl-2-pentanone | 12.171 | 58 | 2786 | 3.81 ug/L | 95 |
| 77) toluene | 12.500 | 92 | 5369 | 0.98 ug/L | 97 |
| 78) ethyl methacrylate | 12.699 | 69 | 2160 | 0.88 ug/L | 90 |
| 79) trans-1,3-dichloropropene | 12.683 | 75 | 3147 | 0.99 ug/L | 90 |
| 80) 1,1,2-trichloroethane | 12.924 | 83 | 1409 | 0.97 ug/L | 93 |
| 81) tetrachloroethene | 13.128 | 164 | 1692 | 0.95 ug/L | 94 |
| 82) 2-hexanone | 13.123 | 58 | 2280 | 3.68 ug/L # | 84 |
| 83) 1,3-dichloropropane | 13.123 | 76 | 3266 | 1.04 ug/L | 96 |
| 85) dibromochloromethane | 13.400 | 129 | 2021 | 0.98 ug/L | 86 |
| 86) 1,2-dibromoethane | 13.583 | 107 | 2276 | 1.00 ug/L | 84 |
| 87) n-butyl ether | 14.116 | 57 | 10200 | 1.02 ug/L | 89 |
| 88) chlorobenzene | 14.127 | 112 | 6405 | 1.01 ug/L | 94 |
| 89) 1,1,1,2-tetrachloroethane | 14.200 | 131 | 2445 | 1.01 ug/L | 91 |
| 90) ethylbenzene | 14.210 | 91 | 11055 | 1.02 ug/L | 99 |
| 91) m,p-xylene | 14.346 | 106 | 8507 | 2.06 ug/L | 88 |
| 92) o-xylene | 14.801 | 91 | 9187 | 1.01 ug/L | 97 |
| 93) styrene | 14.812 | 104 | 6891 | 0.98 ug/L | 98 |
| 96) isopropylbenzene | 15.199 | 105 | 10767 | 1.02 ug/L | 96 |
| 97) bromoform | 15.052 | 173 | 1368 | 0.95 ug/L | 85 |
| 101) 1,1,2,2-tetrachloroethane | 15.481 | 83 | 2754 | 1.10 ug/L | 96 |
| 103) 1,2,3-trichloropropane | 15.575 | 110 | 743 | 1.04 ug/L # | 79 |
| 104) bromobenzene | 15.623 | 156 | 3147 | 1.11 ug/L | 90 |
| 105) n-propylbenzene | 15.675 | 91 | 12301 | 1.09 ug/L | 99 |
| 106) 2-chlorotoluene | 15.816 | 126 | 2682 | 1.06 ug/L | 96 |
| 107) 4-chlorotoluene | 15.947 | 91 | 7986 | 1.08 ug/L | 97 |
| 108) 1,3,5-trimethylbenzene | 15.847 | 105 | 9298 | 1.08 ug/L | 96 |
| 109) tert-butylbenzene | 16.234 | 119 | 7022 | 1.06 ug/L | 95 |
| 110) 1,2,4-trimethylbenzene | 16.292 | 105 | 9023 | 1.05 ug/L | 98 |
| 111) sec-butylbenzene | 16.486 | 105 | 10409 | 1.06 ug/L | 96 |
| 112) p-isopropyltoluene | 16.627 | 119 | 7895 | 0.97 ug/L | 96 |
| 113) 1,3-dichlorobenzene | 16.663 | 146 | 5157 | 1.04 ug/L | 94 |
| 114) 1,4-dichlorobenzene | 16.768 | 146 | 5523 | 1.07 ug/L | 95 |
| 115) 1,2-dichlorobenzene | 17.186 | 146 | 5096 | 1.02 ug/L | 91 |
| 116) benzyl chloride | 16.862 | 91 | 4444 | 0.92 ug/L | 100 |
| 117) n-butylbenzene | 17.097 | 92 | 3374 | 0.90 ug/L | 86 |
| 119) hexachloroethane | 17.532 | 201 | 1216 | 0.96 ug/L | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263012.D
Acq On : 14 Mar 2019 7:01 pm
Operator : juntaep
Sample : ic10606-1
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 15 14:25:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 123) hexachlorobutadiene | 19.132 | 225 | 1342 | 0.90 | ug/L | 89 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

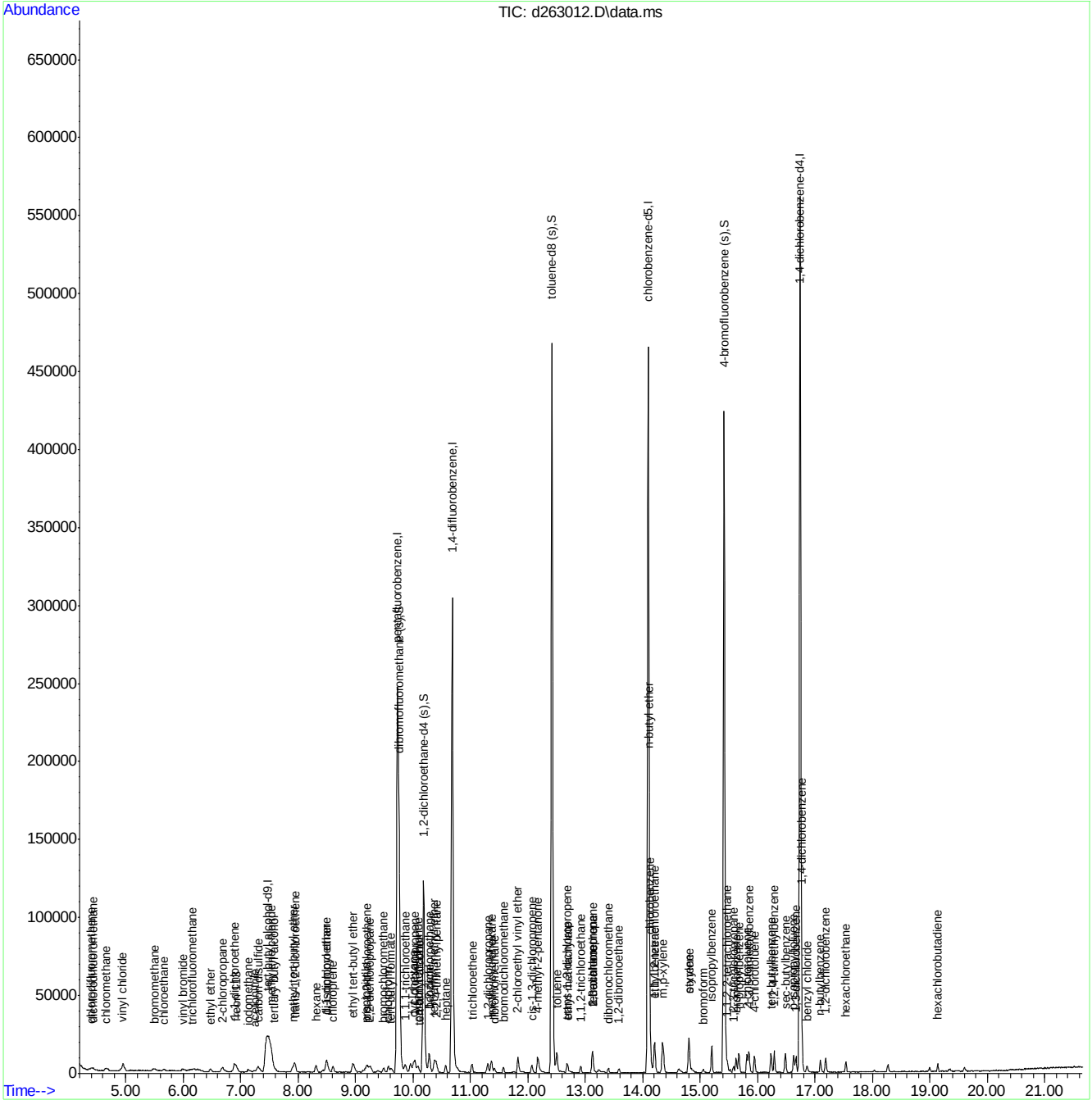
7.7.27

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263012.D
Acq On : 14 Mar 2019 7:01 pm
Operator : juntaep
Sample : ic10606-1
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 15 14:25:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263013.D
Acq On : 14 Mar 2019 7:30 pm
Operator : juntaep
Sample : ic10606-2
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 15 14:28:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.473 | 65 | 92253 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.727 | 168 | 188232 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.685 | 114 | 280288 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.095 | 117 | 286950 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.741 | 152 | 161340 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.754 | 113 | 88670 | 49.92 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.84% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.188 | 65 | 104538 | 49.74 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 99.48% | | | |
| 76) toluene-d8 (s) | 12.421 | 98 | 344293 | 49.12 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.24% | | | |
| 100) 4-bromofluorobenzene (s) | 15.413 | 95 | 156414 | 52.32 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 104.64% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.583 | 59 | 2119 | 8.47 | ug/L | 75 |
| 6) chlorodifluoromethane | 4.419 | 51 | 7789 | 1.96 | ug/L | 88 |
| 7) dichlorodifluoromethane | 4.435 | 85 | 10486 | 1.96 | ug/L | 94 |
| 8) chloromethane | 4.659 | 50 | 8496 | 1.92 | ug/L | 96 |
| 9) 1,3-butadiene | 4.952 | 54 | 4156 | 1.70 | ug/L | 97 |
| 10) vinyl chloride | 4.931 | 62 | 9353 | 2.01 | ug/L | 97 |
| 11) bromomethane | 5.486 | 94 | 4355 | 1.88 | ug/L | 93 |
| 12) chloroethane | 5.669 | 64 | 4005 | 1.96 | ug/L | 92 |
| 13) trichlorofluoromethane | 6.140 | 101 | 7535 | 2.09 | ug/L | 91 |
| 14) vinyl bromide | 5.998 | 106 | 3750 | 1.82 | ug/L | 95 |
| 15) ethyl ether | 6.474 | 74 | 1782 | 1.79 | ug/L | 83 |
| 16) 2-chloropropane | 6.678 | 43 | 8648 | 1.93 | ug/L | 95 |
| 18) freon 113 | 6.914 | 151 | 4515 | 1.83 | ug/L | 93 |
| 19) 1,1-dichloroethene | 6.893 | 96 | 4316 | 1.86 | ug/L | 90 |
| 20) acetone | 6.846 | 58 | 822 | 6.23 | ug/L # | 22 |
| 21) acetonitrile | 7.233 | 41 | 6031 | 21.57 | ug/L | 75 |
| 22) iodomethane | 7.133 | 142 | 6736 | 1.84 | ug/L | 96 |
| 23) carbon disulfide | 7.301 | 76 | 14057 | 1.86 | ug/L | 96 |
| 24) methylene chloride | 7.536 | 84 | 4616 | 1.89 | ug/L | 97 |
| 25) methyl acetate | 7.311 | 43 | 2307 | 1.80 | ug/L | 62 |
| 26) methyl tert butyl ether | 7.913 | 73 | 13662 | 1.94 | ug/L | 95 |
| 27) trans-1,2-dichloroethene | 7.944 | 96 | 3922 | 1.84 | ug/L | 94 |
| 28) hexane | 8.315 | 56 | 2690 | 1.96 | ug/L # | 82 |
| 29) di-isopropyl ether | 8.498 | 45 | 15340 | 1.90 | ug/L | 93 |
| 30) 2-butanone | 9.126 | 72 | 1091 | 6.65 | ug/L # | 78 |
| 31) 1,1-dichloroethane | 8.488 | 63 | 7046 | 1.86 | ug/L | 98 |
| 32) chloroprene | 8.608 | 53 | 6077 | 1.80 | ug/L | 95 |
| 35) ethyl tert-butyl ether | 8.953 | 59 | 14716 | 1.85 | ug/L | 97 |
| 37) 2,2-dichloropropane | 9.252 | 77 | 7772 | 1.91 | ug/L | 95 |
| 38) cis-1,2-dichloroethene | 9.199 | 96 | 4244 | 1.82 | ug/L | 94 |
| 39) propionitrile | 9.163 | 54 | 4816 | 18.93 | ug/L | 97 |
| 42) bromochloromethane | 9.487 | 128 | 1975 | 1.88 | ug/L | 93 |
| 44) chloroform | 9.571 | 83 | 7452 | 1.95 | ug/L | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263013.D
Acq On : 14 Mar 2019 7:30 pm
Operator : juntaep
Sample : ic10606-2
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 15 14:28:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 45) tert-butyl formate | 9.628 | 59 | 3887 | 1.80 ug/L | 90 |
| 47) 1,1,1-trichloroethane | 9.869 | 97 | 7440 | 1.89 ug/L | 96 |
| 48) cyclohexane | 10.015 | 84 | 7429 | 1.88 ug/L | 91 |
| 50) 1,1-dichloropropene | 10.041 | 75 | 5221 | 1.80 ug/L | 99 |
| 51) carbon tetrachloride | 10.088 | 117 | 6089 | 1.82 ug/L | 89 |
| 52) tert-amyl alcohol | 10.125 | 73 | 1043 | 8.78 ug/L | 89 |
| 57) 2,2,4-trimethylpentane | 10.402 | 57 | 11685 | 1.71 ug/L | 92 |
| 58) benzene | 10.282 | 78 | 15625 | 1.84 ug/L | 97 |
| 59) tert-amyl methyl ether | 10.371 | 73 | 14242 | 1.83 ug/L | 98 |
| 60) heptane | 10.570 | 57 | 2232 | 1.96 ug/L | 95 |
| 61) 1,2-dichloroethane | 10.277 | 62 | 5854 | 1.91 ug/L | 97 |
| 63) trichloroethene | 11.030 | 95 | 3987 | 1.88 ug/L | 96 |
| 64) 2-chloroethyl vinyl ether | 11.825 | 63 | 10186 | 9.19 ug/L | 97 |
| 66) methylcyclohexane | 11.370 | 83 | 6490 | 1.80 ug/L | 97 |
| 67) 1,2-dichloropropane | 11.307 | 63 | 3947 | 1.87 ug/L | 95 |
| 68) dibromomethane | 11.417 | 93 | 2351 | 1.92 ug/L | 93 |
| 69) bromodichloromethane | 11.568 | 83 | 5280 | 1.86 ug/L | 94 |
| 71) epichlorohydrin | 11.903 | 57 | 1822 | 9.65 ug/L | 79 |
| 72) cis-1,3-dichloropropene | 12.071 | 75 | 6221 | 1.82 ug/L | 92 |
| 73) 4-methyl-2-pentanone | 12.170 | 58 | 5781 | 7.84 ug/L | 91 |
| 74) isoamyl alcohol | 12.170 | 70 | 1517 | 3.89 ug/L # | 30 |
| 77) toluene | 12.505 | 92 | 10140 | 1.84 ug/L | 96 |
| 78) ethyl methacrylate | 12.698 | 69 | 4648 | 1.88 ug/L | 96 |
| 79) trans-1,3-dichloropropene | 12.677 | 75 | 5950 | 1.86 ug/L | 91 |
| 80) 1,1,2-trichloroethane | 12.918 | 83 | 2776 | 1.89 ug/L | 95 |
| 81) tetrachloroethene | 13.132 | 164 | 3280 | 1.83 ug/L | 97 |
| 82) 2-hexanone | 13.117 | 58 | 4317 | 6.93 ug/L # | 83 |
| 83) 1,3-dichloropropane | 13.122 | 76 | 5779 | 1.83 ug/L | 88 |
| 84) butyl acetate | 13.226 | 56 | 2123 | 1.65 ug/L # | 77 |
| 85) dibromochloromethane | 13.399 | 129 | 3693 | 1.79 ug/L | 89 |
| 86) 1,2-dibromoethane | 13.582 | 107 | 4167 | 1.83 ug/L | 92 |
| 87) n-butyl ether | 14.110 | 57 | 19068 | 1.90 ug/L | 88 |
| 88) chlorobenzene | 14.131 | 112 | 12093 | 1.90 ug/L | 98 |
| 89) 1,1,1,2-tetrachloroethane | 14.199 | 131 | 4401 | 1.80 ug/L | 95 |
| 90) ethylbenzene | 14.210 | 91 | 20411 | 1.87 ug/L | 97 |
| 91) m,p-xylene | 14.346 | 106 | 15319 | 3.69 ug/L | 99 |
| 92) o-xylene | 14.801 | 91 | 16904 | 1.85 ug/L | 98 |
| 93) styrene | 14.811 | 104 | 12617 | 1.78 ug/L | 96 |
| 94) butyl acrylate | 14.618 | 55 | 6372 | 1.63 ug/L | 93 |
| 96) isopropylbenzene | 15.198 | 105 | 19691 | 1.85 ug/L | 98 |
| 97) bromoform | 15.057 | 173 | 2581 | 1.77 ug/L | 98 |
| 101) 1,1,2,2-tetrachloroethane | 15.475 | 83 | 4905 | 1.97 ug/L | 92 |
| 102) trans-1,4-dichloro-2-b... | 15.517 | 53 | 1113 | 1.82 ug/L # | 73 |
| 103) 1,2,3-trichloropropane | 15.575 | 110 | 1412 | 1.99 ug/L | 95 |
| 104) bromobenzene | 15.627 | 156 | 5568 | 1.97 ug/L | 91 |
| 105) n-propylbenzene | 15.669 | 91 | 22061 | 1.97 ug/L | 97 |
| 106) 2-chlorotoluene | 15.815 | 126 | 5052 | 2.02 ug/L | 96 |
| 107) 4-chlorotoluene | 15.941 | 91 | 14484 | 1.96 ug/L | 97 |
| 108) 1,3,5-trimethylbenzene | 15.852 | 105 | 16546 | 1.94 ug/L | 97 |
| 109) tert-butylbenzene | 16.234 | 119 | 12834 | 1.94 ug/L | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263013.D
Acq On : 14 Mar 2019 7:30 pm
Operator : juntaep
Sample : ic10606-2
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 15 14:28:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 110) 1,2,4-trimethylbenzene | 16.291 | 105 | 16238 | 1.91 ug/L | 100 |
| 111) sec-butylbenzene | 16.485 | 105 | 18519 | 1.90 ug/L | 98 |
| 112) p-isopropyltoluene | 16.631 | 119 | 15245 | 1.88 ug/L | 98 |
| 113) 1,3-dichlorobenzene | 16.668 | 146 | 9353 | 1.89 ug/L | 97 |
| 114) 1,4-dichlorobenzene | 16.767 | 146 | 9740 | 1.90 ug/L | 94 |
| 115) 1,2-dichlorobenzene | 17.186 | 146 | 9418 | 1.90 ug/L | 98 |
| 116) benzyl chloride | 16.861 | 91 | 8358 | 1.74 ug/L | 100 |
| 117) n-butylbenzene | 17.091 | 92 | 6556 | 1.77 ug/L | 99 |
| 119) hexachloroethane | 17.531 | 201 | 2294 | 1.82 ug/L | 88 |
| 120) 1,2-dibromo-3-chloropr... | 18.028 | 75 | 622 | 1.42 ug/L | 87 |
| 121) 1,3,5-trichlorobenzene | 18.268 | 180 | 5104 | 1.64 ug/L | 96 |
| 123) hexachlorobutadiene | 19.136 | 225 | 2621 | 1.77 ug/L | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

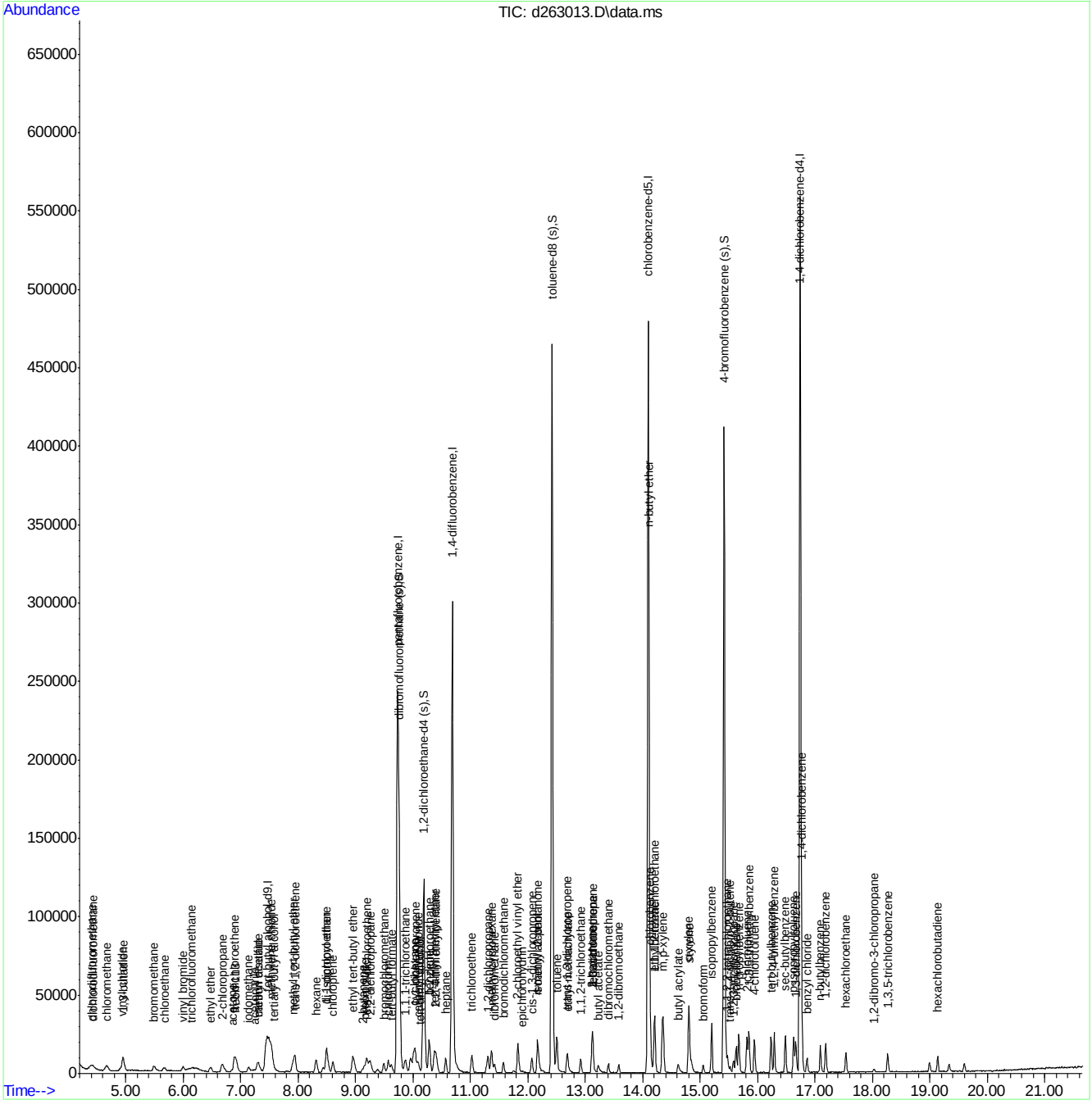
7.7.28

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263013.D
Acq On : 14 Mar 2019 7:30 pm
Operator : juntaep
Sample : ic10606-2
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 15 14:28:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263014.D
Acq On : 14 Mar 2019 7:58 pm
Operator : juntaep
Sample : ic10606-4
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 15 14:29:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.472 | 65 | 91322 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.732 | 168 | 189294 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.684 | 114 | 279021 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.094 | 117 | 278777 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.740 | 152 | 163641 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.758 | 113 | 89244 | 49.96 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.92% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.187 | 65 | 105585 | 50.47 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.94% | | | |
| 76) toluene-d8 (s) | 12.420 | 98 | 340687 | 50.03 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.06% | | | |
| 100) 4-bromofluorobenzene (s) | 15.412 | 95 | 156146 | 51.50 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 103.00% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.561 | 59 | 4861 | 19.62 | ug/L | 75 |
| 4) 1,4-dioxane | 11.369 | 88 | 1895 | 85.75 | ug/L | 90 |
| 6) chlorodifluoromethane | 4.413 | 51 | 15885 | 3.98 | ug/L | 99 |
| 7) dichlorodifluoromethane | 4.407 | 85 | 21671 | 4.02 | ug/L | 98 |
| 8) chloromethane | 4.669 | 50 | 17465 | 3.93 | ug/L | 94 |
| 9) 1,3-butadiene | 4.957 | 54 | 8851 | 3.60 | ug/L | 94 |
| 10) vinyl chloride | 4.941 | 62 | 18630 | 3.98 | ug/L | 95 |
| 11) bromomethane | 5.495 | 94 | 9037 | 3.88 | ug/L | 96 |
| 12) chloroethane | 5.673 | 64 | 8200 | 4.00 | ug/L | 92 |
| 13) trichlorofluoromethane | 6.149 | 101 | 16312 | 4.49 | ug/L | 99 |
| 14) vinyl bromide | 5.997 | 106 | 8190 | 3.95 | ug/L | 94 |
| 15) ethyl ether | 6.473 | 74 | 4086 | 4.08 | ug/L | 93 |
| 16) 2-chloropropane | 6.682 | 43 | 17755 | 3.94 | ug/L | 97 |
| 18) freon 113 | 6.928 | 151 | 9647 | 3.90 | ug/L | 98 |
| 19) 1,1-dichloroethene | 6.892 | 96 | 9226 | 3.95 | ug/L | 96 |
| 20) acetone | 6.845 | 58 | 2333 | 17.58 | ug/L # | 59 |
| 21) acetonitrile | 7.221 | 41 | 12366 | 43.98 | ug/L | 95 |
| 22) iodomethane | 7.138 | 142 | 14451 | 3.94 | ug/L | 95 |
| 23) carbon disulfide | 7.300 | 76 | 30171 | 3.96 | ug/L | 99 |
| 24) methylene chloride | 7.535 | 84 | 9901 | 4.04 | ug/L | 97 |
| 25) methyl acetate | 7.305 | 43 | 5302 | 4.11 | ug/L | 91 |
| 26) methyl tert butyl ether | 7.912 | 73 | 27220 | 3.84 | ug/L | 98 |
| 27) trans-1,2-dichloroethene | 7.943 | 96 | 8602 | 4.02 | ug/L | 92 |
| 28) hexane | 8.314 | 56 | 5593 | 4.06 | ug/L | 95 |
| 29) di-isopropyl ether | 8.503 | 45 | 31922 | 3.94 | ug/L | 98 |
| 30) 2-butanone | 9.114 | 72 | 2553 | 15.47 | ug/L | 99 |
| 31) 1,1-dichloroethane | 8.487 | 63 | 15683 | 4.11 | ug/L | 97 |
| 32) chloroprene | 8.602 | 53 | 13405 | 3.94 | ug/L | 98 |
| 33) acrylonitrile | 7.781 | 53 | 1962 | 3.60 | ug/L | 84 |
| 34) vinyl acetate | 8.435 | 86 | 1320 | 3.51 | ug/L # | 54 |
| 35) ethyl tert-butyl ether | 8.963 | 59 | 30860 | 3.86 | ug/L | 97 |
| 36) ethyl acetate | 9.151 | 45 | 780 | 3.19 | ug/L # | 59 |
| 37) 2,2-dichloropropane | 9.245 | 77 | 15635 | 3.82 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263014.D
Acq On : 14 Mar 2019 7:58 pm
Operator : juntaep
Sample : ic10606-4
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 15 14:29:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 38) cis-1,2-dichloroethene | 9.193 | 96 | 9636 | 4.11 | ug/L | | 90 |
| 39) propionitrile | 9.156 | 54 | 10554 | 41.25 | ug/L | | 93 |
| 40) methyl acrylate | 9.240 | 85 | 544 | 2.35 | ug/L | # | 40 |
| 41) methacrylonitrile | 9.376 | 67 | 2374 | 3.81 | ug/L | | 96 |
| 42) bromochloromethane | 9.491 | 128 | 4433 | 4.19 | ug/L | | 91 |
| 43) tetrahydrofuran | 9.533 | 42 | 1971 | 3.91 | ug/L | | 86 |
| 44) chloroform | 9.570 | 83 | 15065 | 3.91 | ug/L | | 97 |
| 45) tert-butyl formate | 9.617 | 59 | 8167 | 3.76 | ug/L | | 95 |
| 47) 1,1,1-trichloroethane | 9.868 | 97 | 15411 | 3.90 | ug/L | | 99 |
| 48) cyclohexane | 10.009 | 84 | 15810 | 3.98 | ug/L | | 97 |
| 50) 1,1-dichloropropene | 10.040 | 75 | 11370 | 3.90 | ug/L | | 99 |
| 51) carbon tetrachloride | 10.082 | 117 | 13116 | 3.89 | ug/L | | 98 |
| 52) tert-amyl alcohol | 10.119 | 73 | 2336 | 19.55 | ug/L | # | 74 |
| 53) isopropyl acetate | 10.176 | 87 | 1575 | 2.93 | ug/L | # | 51 |
| 56) n-butyl alcohol | 10.710 | 56 | 16460 | 165.59 | ug/L | | 82 |
| 57) 2,2,4-trimethylpentane | 10.412 | 57 | 25461 | 3.75 | ug/L | | 99 |
| 58) benzene | 10.286 | 78 | 33444 | 3.95 | ug/L | | 97 |
| 59) tert-amyl methyl ether | 10.370 | 73 | 29874 | 3.86 | ug/L | | 96 |
| 60) heptane | 10.568 | 57 | 4575 | 4.04 | ug/L | | 98 |
| 61) 1,2-dichloroethane | 10.281 | 62 | 11858 | 3.88 | ug/L | | 96 |
| 62) ethyl acrylate | 10.997 | 55 | 8129 | 4.33 | ug/L | | 92 |
| 63) trichloroethene | 11.024 | 95 | 8621 | 4.09 | ug/L | | 96 |
| 64) 2-chloroethyl vinyl ether | 11.824 | 63 | 21374 | 19.36 | ug/L | | 98 |
| 65) methyl methacrylate | 11.280 | 100 | 1521 | 3.36 | ug/L | # | 82 |
| 66) methylcyclohexane | 11.363 | 83 | 14069 | 3.92 | ug/L | | 93 |
| 67) 1,2-dichloropropane | 11.306 | 63 | 8338 | 3.96 | ug/L | | 94 |
| 68) dibromomethane | 11.416 | 93 | 4902 | 4.03 | ug/L | | 90 |
| 69) bromodichloromethane | 11.573 | 83 | 11065 | 3.92 | ug/L | | 97 |
| 70) 2-nitropropane | 11.756 | 41 | 1706 | 3.93 | ug/L | | 85 |
| 71) epichlorohydrin | 11.907 | 57 | 3947 | 21.00 | ug/L | | 93 |
| 72) cis-1,3-dichloropropene | 12.070 | 75 | 12937 | 3.81 | ug/L | | 97 |
| 73) 4-methyl-2-pentanone | 12.169 | 58 | 11824 | 16.11 | ug/L | | 96 |
| 74) isoamyl alcohol | 12.164 | 70 | 4171 | 10.74 | ug/L | # | 64 |
| 77) toluene | 12.498 | 92 | 21367 | 4.00 | ug/L | | 98 |
| 78) ethyl methacrylate | 12.687 | 69 | 9772 | 4.07 | ug/L | | 94 |
| 79) trans-1,3-dichloropropene | 12.676 | 75 | 12108 | 3.90 | ug/L | | 97 |
| 80) 1,1,2-trichloroethane | 12.917 | 83 | 5546 | 3.89 | ug/L | | 98 |
| 81) tetrachloroethene | 13.131 | 164 | 7071 | 4.06 | ug/L | | 97 |
| 82) 2-hexanone | 13.110 | 58 | 10464 | 17.28 | ug/L | | 98 |
| 83) 1,3-dichloropropane | 13.121 | 76 | 12610 | 4.11 | ug/L | | 91 |
| 84) butyl acetate | 13.215 | 56 | 4965 | 3.98 | ug/L | | 98 |
| 85) dibromochloromethane | 13.403 | 129 | 7716 | 3.85 | ug/L | | 99 |
| 86) 1,2-dibromoethane | 13.581 | 107 | 8758 | 3.96 | ug/L | | 97 |
| 87) n-butyl ether | 14.109 | 57 | 40387 | 4.15 | ug/L | | 96 |
| 88) chlorobenzene | 14.130 | 112 | 24714 | 4.00 | ug/L | | 94 |
| 89) 1,1,1,2-tetrachloroethane | 14.198 | 131 | 9205 | 3.87 | ug/L | | 95 |
| 90) ethylbenzene | 14.209 | 91 | 42248 | 3.99 | ug/L | | 99 |
| 91) m,p-xylene | 14.350 | 106 | 31565 | 7.83 | ug/L | | 97 |
| 92) o-xylene | 14.800 | 91 | 35138 | 3.97 | ug/L | | 98 |
| 93) styrene | 14.810 | 104 | 27198 | 3.96 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263014.D
Acq On : 14 Mar 2019 7:58 pm
Operator : juntaep
Sample : ic10606-4
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 15 14:29:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration

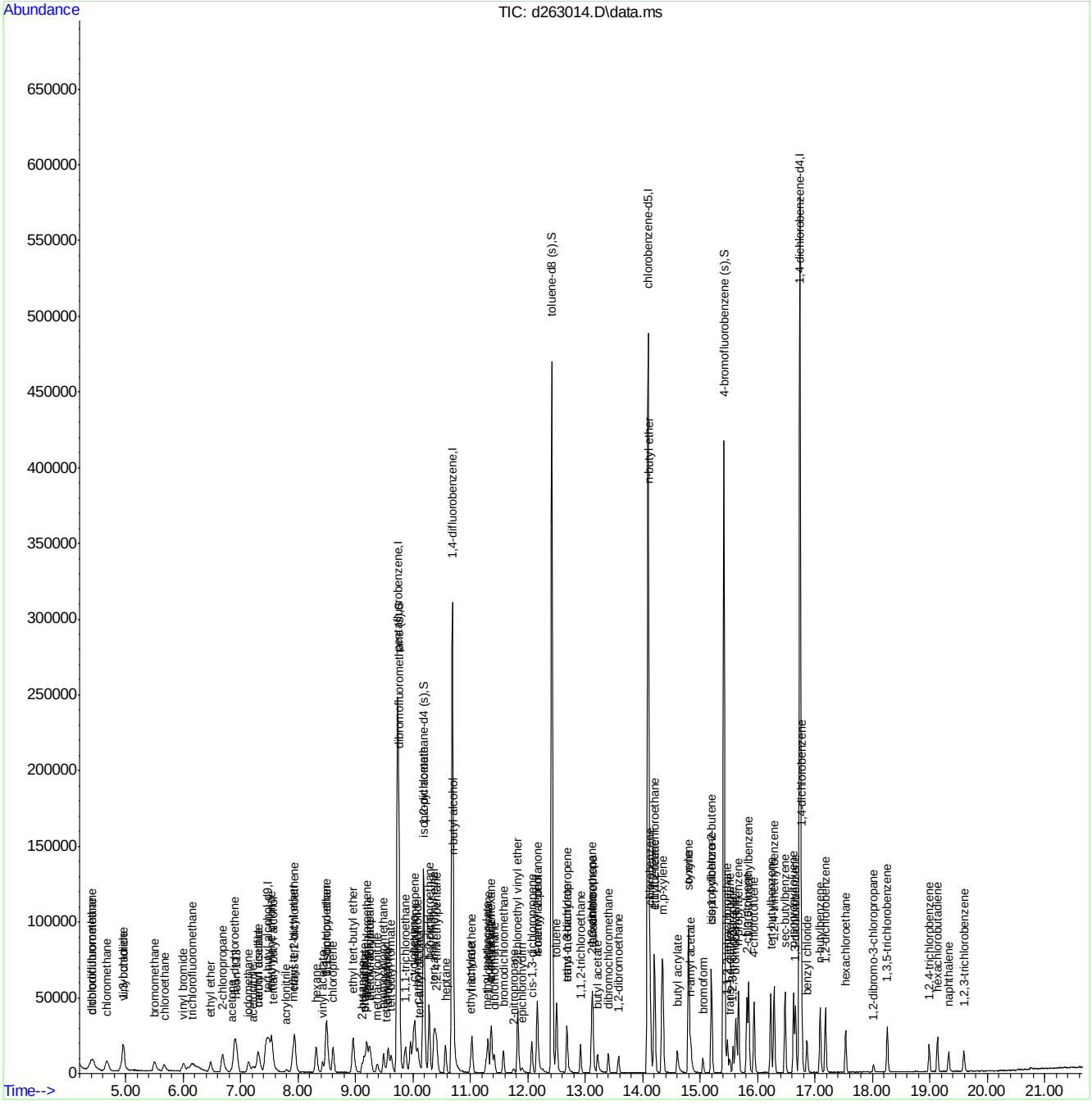
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 94) butyl acrylate | 14.601 | 55 | 14630 | 3.85 ug/L | 99 |
| 95) n-amyl acetate | 14.842 | 70 | 5397 | 3.55 ug/L # | 86 |
| 96) isopropylbenzene | 15.197 | 105 | 41212 | 3.99 ug/L | 100 |
| 97) bromoform | 15.051 | 173 | 5382 | 3.81 ug/L | 90 |
| 98) cis-1,4-dichloro-2-butene | 15.202 | 88 | 3433 | 4.03 ug/L | 93 |
| 101) 1,1,2,2-tetrachloroethane | 15.474 | 83 | 10629 | 4.20 ug/L | 98 |
| 102) trans-1,4-dichloro-2-b... | 15.516 | 53 | 2516 | 4.05 ug/L | 94 |
| 103) 1,2,3-trichloropropane | 15.574 | 110 | 3180 | 4.41 ug/L | 98 |
| 104) bromobenzene | 15.626 | 156 | 11701 | 4.08 ug/L | 86 |
| 105) n-propylbenzene | 15.668 | 91 | 46419 | 4.10 ug/L | 99 |
| 106) 2-chlorotoluene | 15.814 | 126 | 10308 | 4.06 ug/L | 97 |
| 107) 4-chlorotoluene | 15.940 | 91 | 30825 | 4.12 ug/L | 99 |
| 108) 1,3,5-trimethylbenzene | 15.846 | 105 | 35523 | 4.10 ug/L | 96 |
| 109) tert-butylbenzene | 16.233 | 119 | 26926 | 4.02 ug/L | 96 |
| 110) 1,2,4-trimethylbenzene | 16.290 | 105 | 35057 | 4.06 ug/L | 98 |
| 111) sec-butylbenzene | 16.479 | 105 | 40191 | 4.06 ug/L | 99 |
| 112) p-isopropyltoluene | 16.630 | 119 | 33652 | 4.09 ug/L | 98 |
| 113) 1,3-dichlorobenzene | 16.662 | 146 | 20132 | 4.02 ug/L | 95 |
| 114) 1,4-dichlorobenzene | 16.766 | 146 | 20589 | 3.96 ug/L | 97 |
| 115) 1,2-dichlorobenzene | 17.185 | 146 | 20329 | 4.05 ug/L | 100 |
| 116) benzyl chloride | 16.860 | 91 | 18551 | 3.80 ug/L | 96 |
| 117) n-butylbenzene | 17.090 | 92 | 14450 | 3.85 ug/L | 99 |
| 119) hexachloroethane | 17.540 | 201 | 4834 | 3.78 ug/L | 90 |
| 120) 1,2-dibromo-3-chloropr... | 18.016 | 75 | 1630 | 3.68 ug/L | 90 |
| 121) 1,3,5-trichlorobenzene | 18.262 | 180 | 11857 | 3.75 ug/L | 96 |
| 122) 1,2,4-trichlorobenzene | 18.989 | 180 | 7312 | 3.23 ug/L | 98 |
| 123) hexachlorobutadiene | 19.135 | 225 | 5787 | 3.85 ug/L | 93 |
| 124) naphthalene | 19.329 | 128 | 14437 | 3.04 ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 19.601 | 180 | 6245 | 3.21 ug/L | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263014.D
Acq On : 14 Mar 2019 7:58 pm
Operator : juntaep
Sample : ic10606-4
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 15 14:29:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:07:16 2019
Response via : Initial Calibration




MD10606.M Mon Mar 18 15:28:32 2019 RPT1 Page: 4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263015.D
Acq On : 14 Mar 2019 8:27 pm
Operator : juntaep
Sample : ic10606-8
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 15 14:30:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.462 | 65 | 92536 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.727 | 168 | 185394 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.684 | 114 | 276172 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.094 | 117 | 283163 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.740 | 152 | 167234 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.758 | 113 | 88130 | 49.59 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.18% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.182 | 65 | 105435 | 51.68 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 103.36% | | | |
| 76) toluene-d8 (s) | 12.420 | 98 | 345834 | 49.91 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.82% | | | |
| 100) 4-bromofluorobenzene (s) | 15.412 | 95 | 160912 | 54.86 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 109.72% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.588 | 59 | 10048 | 37.63 | ug/L | 75 |
| 4) 1,4-dioxane | 11.369 | 88 | 4391 | 184.68 | ug/L | 84 |
| 6) chlorodifluoromethane | 4.403 | 51 | 32562 | 7.99 | ug/L | 98 |
| 7) dichlorodifluoromethane | 4.413 | 85 | 44740 | 7.59 | ug/L | 97 |
| 8) chloromethane | 4.675 | 50 | 36109 | 7.10 | ug/L | 96 |
| 9) 1,3-butadiene | 4.957 | 54 | 18875 | 6.66 | ug/L | 95 |
| 10) vinyl chloride | 4.941 | 62 | 38147 | 7.51 | ug/L | 99 |
| 11) bromomethane | 5.496 | 94 | 18941 | 7.05 | ug/L | 97 |
| 12) chloroethane | 5.653 | 64 | 16622 | 7.52 | ug/L | 95 |
| 13) trichlorofluoromethane | 6.155 | 101 | 34023 | 7.37 | ug/L | 96 |
| 14) vinyl bromide | 6.003 | 106 | 17266 | 7.20 | ug/L | 98 |
| 15) ethyl ether | 6.474 | 74 | 8323 | 7.63 | ug/L | 95 |
| 16) 2-chloropropane | 6.678 | 43 | 34813 | 7.93 | ug/L | 99 |
| 17) acrolein | 6.662 | 56 | 2370 | 6.50 | ug/L | 81 |
| 18) freon 113 | 6.923 | 151 | 20023 | 7.63 | ug/L | 96 |
| 19) 1,1-dichloroethene | 6.887 | 96 | 18018 | 7.61 | ug/L | 99 |
| 20) acetone | 6.845 | 58 | 4769 | 30.27 | ug/L # | 83 |
| 21) acetonitrile | 7.211 | 41 | 25019 | 82.13 | ug/L | 99 |
| 22) iodomethane | 7.133 | 142 | 29050 | 7.55 | ug/L | 98 |
| 23) carbon disulfide | 7.300 | 76 | 61074 | 7.76 | ug/L | 100 |
| 24) methylene chloride | 7.535 | 84 | 19547 | 7.92 | ug/L | 99 |
| 25) methyl acetate | 7.300 | 43 | 10758 | 8.21 | ug/L | 93 |
| 26) methyl tert butyl ether | 7.912 | 73 | 55217 | 7.75 | ug/L | 97 |
| 27) trans-1,2-dichloroethene | 7.938 | 96 | 17128 | 7.80 | ug/L | 98 |
| 28) hexane | 8.315 | 56 | 11329 | 7.97 | ug/L | 89 |
| 29) di-isopropyl ether | 8.498 | 45 | 63900 | 7.69 | ug/L | 97 |
| 30) 2-butanone | 9.110 | 72 | 5626 | 30.41 | ug/L | 89 |
| 31) 1,1-dichloroethane | 8.487 | 63 | 30291 | 7.71 | ug/L | 99 |
| 32) chloroprene | 8.602 | 53 | 27771 | 7.62 | ug/L | 97 |
| 33) acrylonitrile | 7.781 | 53 | 4694 | 7.40 | ug/L | 96 |
| 34) vinyl acetate | 8.414 | 86 | 3135 | 6.88 | ug/L # | 71 |
| 35) ethyl tert-butyl ether | 8.953 | 59 | 62982 | 7.61 | ug/L | 98 |
| 36) ethyl acetate | 9.141 | 45 | 1979 | 7.70 | ug/L # | 92 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263015.D
Acq On : 14 Mar 2019 8:27 pm
Operator : juntaep
Sample : ic10606-8
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 15 14:30:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.246 | 77 | 32373 | 7.80 | ug/L | | 99 |
| 38) cis-1,2-dichloroethene | 9.193 | 96 | 18517 | 7.67 | ug/L | | 97 |
| 39) propionitrile | 9.146 | 54 | 21489 | 79.45 | ug/L | | 98 |
| 40) methyl acrylate | 9.235 | 85 | 1642 | 6.10 | ug/L | # | 87 |
| 41) methacrylonitrile | 9.366 | 67 | 5250 | 7.37 | ug/L | | 93 |
| 42) bromochloromethane | 9.486 | 128 | 8648 | 7.67 | ug/L | | 95 |
| 43) tetrahydrofuran | 9.533 | 42 | 4152 | 8.20 | ug/L | | 96 |
| 44) chloroform | 9.570 | 83 | 29580 | 7.80 | ug/L | | 99 |
| 45) tert-butyl formate | 9.622 | 59 | 16694 | 7.22 | ug/L | | 99 |
| 47) 1,1,1-trichloroethane | 9.863 | 97 | 31570 | 7.69 | ug/L | | 96 |
| 48) cyclohexane | 10.014 | 84 | 30873 | 7.33 | ug/L | | 97 |
| 50) 1,1-dichloropropene | 10.035 | 75 | 22836 | 7.65 | ug/L | | 99 |
| 51) carbon tetrachloride | 10.082 | 117 | 26289 | 7.45 | ug/L | | 99 |
| 52) tert-amyl alcohol | 10.119 | 73 | 4844 | 41.79 | ug/L | | 93 |
| 53) isopropyl acetate | 10.161 | 87 | 3378 | 7.25 | ug/L | # | 90 |
| 56) n-butyl alcohol | 10.705 | 56 | 30283 | 491.47 | ug/L | | 93 |
| 57) 2,2,4-trimethylpentane | 10.407 | 57 | 52152 | 6.92 | ug/L | | 96 |
| 58) benzene | 10.281 | 78 | 67942 | 7.90 | ug/L | | 99 |
| 59) tert-amyl methyl ether | 10.370 | 73 | 60172 | 7.63 | ug/L | | 99 |
| 60) heptane | 10.564 | 57 | 9069 | 7.80 | ug/L | | 95 |
| 61) 1,2-dichloroethane | 10.276 | 62 | 23614 | 8.13 | ug/L | | 97 |
| 62) ethyl acrylate | 10.993 | 55 | 17578 | 7.88 | ug/L | | 99 |
| 63) trichloroethene | 11.024 | 95 | 16811 | 7.85 | ug/L | | 93 |
| 64) 2-chloroethyl vinyl ether | 11.819 | 63 | 45797 | 39.02 | ug/L | | 99 |
| 65) methyl methacrylate | 11.270 | 100 | 3722 | 7.36 | ug/L | | 92 |
| 66) methylcyclohexane | 11.364 | 83 | 28970 | 7.77 | ug/L | | 95 |
| 67) 1,2-dichloropropane | 11.306 | 63 | 17396 | 8.03 | ug/L | | 97 |
| 68) dibromomethane | 11.411 | 93 | 10047 | 7.87 | ug/L | | 96 |
| 69) bromodichloromethane | 11.573 | 83 | 22474 | 7.67 | ug/L | | 98 |
| 70) 2-nitropropane | 11.746 | 41 | 3628 | 8.20 | ug/L | | 92 |
| 71) epichlorohydrin | 11.897 | 57 | 8606 | 41.15 | ug/L | | 98 |
| 72) cis-1,3-dichloropropene | 12.065 | 75 | 28002 | 7.91 | ug/L | | 96 |
| 73) 4-methyl-2-pentanone | 12.164 | 58 | 24503 | 32.29 | ug/L | | 94 |
| 74) isoamyl alcohol | 12.159 | 70 | 9628 | 150.30 | ug/L | # | 68 |
| 77) toluene | 12.499 | 92 | 43401 | 7.72 | ug/L | | 98 |
| 78) ethyl methacrylate | 12.687 | 69 | 21476 | 7.81 | ug/L | | 99 |
| 79) trans-1,3-dichloropropene | 12.677 | 75 | 25504 | 7.70 | ug/L | | 96 |
| 80) 1,1,2-trichloroethane | 12.917 | 83 | 11839 | 7.81 | ug/L | | 96 |
| 81) tetrachloroethene | 13.126 | 164 | 14220 | 7.75 | ug/L | | 97 |
| 82) 2-hexanone | 13.100 | 58 | 21716 | 30.93 | ug/L | | 98 |
| 83) 1,3-dichloropropane | 13.121 | 76 | 25527 | 7.92 | ug/L | | 99 |
| 84) butyl acetate | 13.210 | 56 | 10997 | 7.78 | ug/L | | 91 |
| 85) dibromochloromethane | 13.404 | 129 | 16089 | 7.32 | ug/L | | 95 |
| 86) 1,2-dibromoethane | 13.576 | 107 | 18642 | 7.77 | ug/L | | 96 |
| 87) n-butyl ether | 14.110 | 57 | 81950 | 8.16 | ug/L | | 98 |
| 88) chlorobenzene | 14.131 | 112 | 51162 | 7.96 | ug/L | | 96 |
| 89) 1,1,1,2-tetrachloroethane | 14.199 | 131 | 19294 | 7.45 | ug/L | | 99 |
| 90) ethylbenzene | 14.209 | 91 | 86975 | 7.86 | ug/L | | 99 |
| 91) m,p-xylene | 14.345 | 106 | 65880 | 15.50 | ug/L | | 99 |
| 92) o-xylene | 14.795 | 91 | 73457 | 7.90 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263015.D
Acq On : 14 Mar 2019 8:27 pm
Operator : juntaep
Sample : ic10606-8
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 15 14:30:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) styrene | 14.805 | 104 | 57251 | 7.78 ug/L | 97 |
| 94) butyl acrylate | 14.601 | 55 | 33112 | 7.08 ug/L | 99 |
| 95) n-amyl acetate | 14.837 | 70 | 12795 | 6.74 ug/L | 99 |
| 96) isopropylbenzene | 15.198 | 105 | 85248 | 7.84 ug/L | 98 |
| 97) bromoform | 15.051 | 173 | 11425 | 7.22 ug/L | 97 |
| 98) cis-1,4-dichloro-2-butene | 15.203 | 88 | 7313 | 7.13 ug/L | 98 |
| 101) 1,1,2,2-tetrachloroethane | 15.475 | 83 | 21382 | 8.50 ug/L | 98 |
| 102) trans-1,4-dichloro-2-b... | 15.517 | 53 | 5439 | 8.02 ug/L | 92 |
| 103) 1,2,3-trichloropropane | 15.579 | 110 | 6205 | 8.36 ug/L | 95 |
| 104) bromobenzene | 15.626 | 156 | 24395 | 8.38 ug/L | 88 |
| 105) n-propylbenzene | 15.668 | 91 | 95910 | 8.37 ug/L | 100 |
| 106) 2-chlorotoluene | 15.809 | 126 | 20881 | 8.04 ug/L | 97 |
| 107) 4-chlorotoluene | 15.940 | 91 | 63064 | 8.32 ug/L | 98 |
| 108) 1,3,5-trimethylbenzene | 15.846 | 105 | 72792 | 8.17 ug/L | 98 |
| 109) tert-butylbenzene | 16.233 | 119 | 56125 | 8.10 ug/L | 97 |
| 110) 1,2,4-trimethylbenzene | 16.285 | 105 | 74200 | 8.26 ug/L | 100 |
| 111) sec-butylbenzene | 16.479 | 105 | 84328 | 8.15 ug/L | 99 |
| 112) p-isopropyltoluene | 16.625 | 119 | 71076 | 7.94 ug/L | 98 |
| 113) 1,3-dichlorobenzene | 16.662 | 146 | 42098 | 8.10 ug/L | 99 |
| 114) 1,4-dichlorobenzene | 16.767 | 146 | 43031 | 8.04 ug/L | 99 |
| 115) 1,2-dichlorobenzene | 17.185 | 146 | 42426 | 7.99 ug/L | 100 |
| 116) benzyl chloride | 16.861 | 91 | 40097 | 7.17 ug/L | 98 |
| 117) n-butylbenzene | 17.091 | 92 | 33052 | 7.56 ug/L | 98 |
| 119) hexachloroethane | 17.535 | 201 | 10405 | 7.39 ug/L | 94 |
| 120) 1,2-dibromo-3-chloropr... | 18.017 | 75 | 3777 | 7.12 ug/L | 90 |
| 121) 1,3,5-trichlorobenzene | 18.262 | 180 | 27649 | 7.04 ug/L | 95 |
| 122) 1,2,4-trichlorobenzene | 18.989 | 180 | 18552 | 5.76 ug/L | 98 |
| 123) hexachlorobutadiene | 19.136 | 225 | 12828 | 7.26 ug/L | 98 |
| 124) naphthalene | 19.329 | 128 | 36977 | 5.18 ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 19.596 | 180 | 15718 | 5.58 ug/L | 96 |
| 126) 2-methylnaphthalene | 20.752 | 142 | 2738 | 1.73 ug/L | 89 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

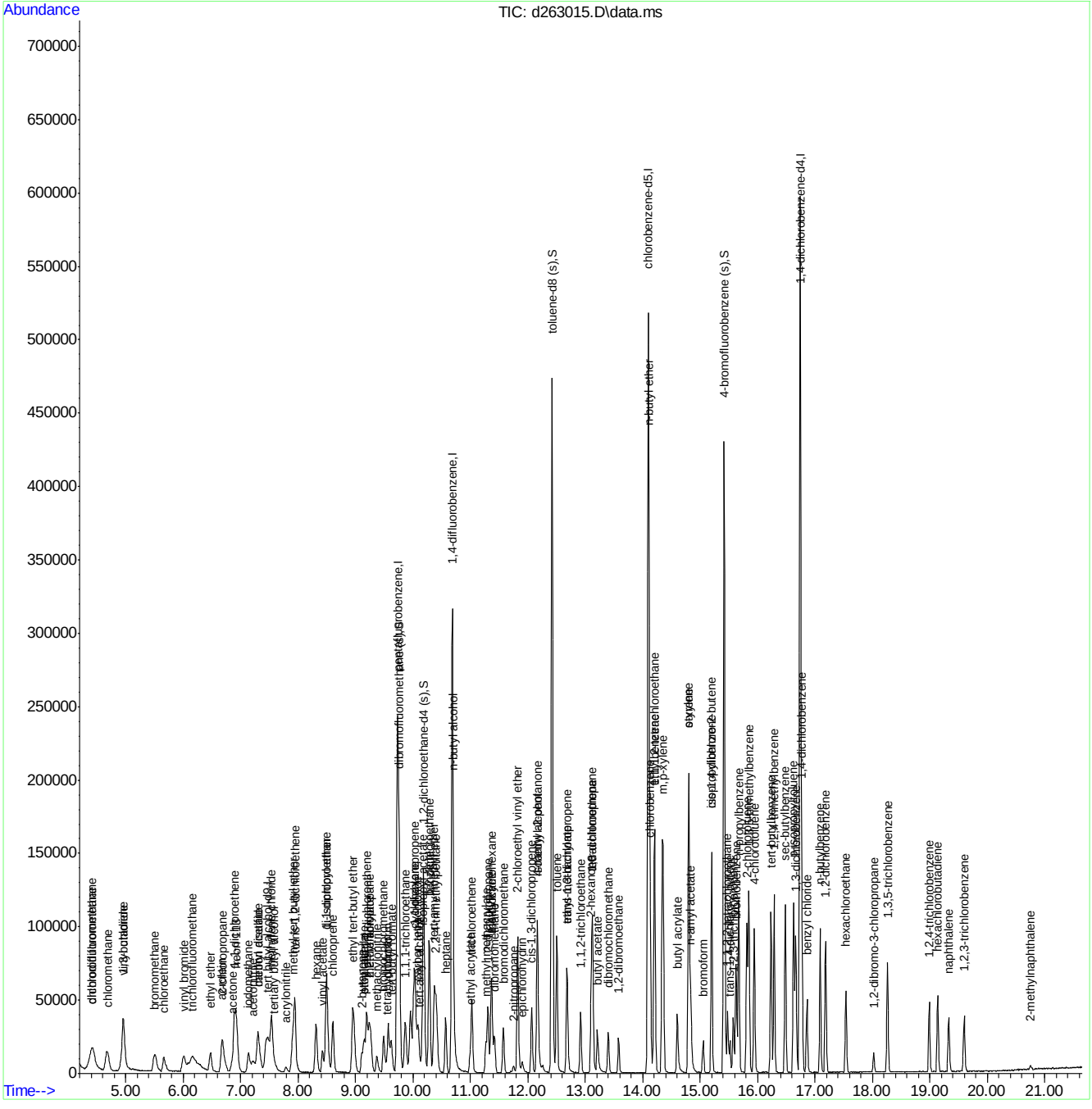
7.7.30

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263015.D
Acq On : 14 Mar 2019 8:27 pm
Operator : juntaep
Sample : ic10606-8
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 15 14:30:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263016.D
Acq On : 14 Mar 2019 8:56 pm
Operator : juntaep
Sample : ic10606-20
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 15 14:31:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.462 | 65 | 92161 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.726 | 168 | 190286 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.683 | 114 | 283837 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.093 | 117 | 287923 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.740 | 152 | 177702 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.758 | 113 | 90478 | 49.60 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.20% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.181 | 65 | 105229 | 50.18 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.36% | | | |
| 76) toluene-d8 (s) | 12.420 | 98 | 353611 | 50.19 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.38% | | | |
| 100) 4-bromofluorobenzene (s) | 15.411 | 95 | 161220 | 51.72 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 103.44% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.587 | 59 | 25734 | 96.77 | ug/L | 95 |
| 4) 1,4-dioxane | 11.358 | 88 | 11553 | 487.88 | ug/L | 95 |
| 6) chlorodifluoromethane | 4.402 | 51 | 80875 | 19.32 | ug/L | 98 |
| 7) dichlorodifluoromethane | 4.418 | 85 | 117055 | 19.35 | ug/L | 99 |
| 8) chloromethane | 4.679 | 50 | 96622 | 18.51 | ug/L | 99 |
| 9) 1,3-butadiene | 4.962 | 54 | 50815 | 17.46 | ug/L | 96 |
| 10) vinyl chloride | 4.946 | 62 | 99607 | 19.09 | ug/L | 99 |
| 11) bromomethane | 5.511 | 94 | 49957 | 18.13 | ug/L | 96 |
| 12) chloroethane | 5.662 | 64 | 42476 | 18.73 | ug/L | 97 |
| 13) trichlorofluoromethane | 6.144 | 101 | 89922 | 18.97 | ug/L | 99 |
| 14) vinyl bromide | 6.018 | 106 | 45207 | 18.37 | ug/L | 98 |
| 15) ethyl ether | 6.473 | 74 | 21509 | 19.21 | ug/L | 98 |
| 16) 2-chloropropane | 6.682 | 43 | 87332 | 19.37 | ug/L | 98 |
| 17) acrolein | 6.656 | 56 | 7084 | 18.93 | ug/L | 89 |
| 18) freon 113 | 6.923 | 151 | 50746 | 18.83 | ug/L | 98 |
| 19) 1,1-dichloroethene | 6.886 | 96 | 46029 | 18.95 | ug/L | 98 |
| 20) acetone | 6.839 | 58 | 12406 | 76.73 | ug/L | 97 |
| 21) acetonitrile | 7.216 | 41 | 61911 | 198.02 | ug/L | 99 |
| 22) iodomethane | 7.137 | 142 | 74823 | 18.94 | ug/L | 98 |
| 23) carbon disulfide | 7.299 | 76 | 154427 | 19.13 | ug/L | 100 |
| 24) methylene chloride | 7.540 | 84 | 49371 | 19.50 | ug/L | 98 |
| 25) methyl acetate | 7.294 | 43 | 26697 | 19.84 | ug/L | 97 |
| 26) methyl tert butyl ether | 7.911 | 73 | 140409 | 19.20 | ug/L | 98 |
| 27) trans-1,2-dichloroethene | 7.938 | 96 | 43806 | 19.45 | ug/L | 99 |
| 28) hexane | 8.314 | 56 | 28357 | 19.44 | ug/L | 94 |
| 29) di-isopropyl ether | 8.492 | 45 | 161831 | 18.97 | ug/L | 97 |
| 30) 2-butanone | 9.099 | 72 | 14502 | 76.36 | ug/L | 96 |
| 31) 1,1-dichloroethane | 8.487 | 63 | 77784 | 19.30 | ug/L | 99 |
| 32) chloroprene | 8.602 | 53 | 70203 | 18.78 | ug/L | 98 |
| 33) acrylonitrile | 7.781 | 53 | 12547 | 19.28 | ug/L | 99 |
| 34) vinyl acetate | 8.419 | 86 | 8780 | 18.77 | ug/L # | 76 |
| 35) ethyl tert-butyl ether | 8.957 | 59 | 160154 | 18.86 | ug/L | 99 |
| 36) ethyl acetate | 9.135 | 45 | 5175 | 19.62 | ug/L | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263016.D
Acq On : 14 Mar 2019 8:56 pm
Operator : juntaep
Sample : ic10606-20
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 15 14:31:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.250 | 77 | 80584 | 18.92 | ug/L | | 95 |
| 38) cis-1,2-dichloroethene | 9.193 | 96 | 47260 | 19.08 | ug/L | | 99 |
| 39) propionitrile | 9.146 | 54 | 54301 | 195.61 | ug/L | | 99 |
| 40) methyl acrylate | 9.229 | 85 | 4922 | 17.82 | ug/L | # | 91 |
| 41) methacrylonitrile | 9.365 | 67 | 13800 | 18.87 | ug/L | | 96 |
| 42) bromochloromethane | 9.486 | 128 | 22218 | 19.19 | ug/L | | 97 |
| 43) tetrahydrofuran | 9.528 | 42 | 10428 | 20.07 | ug/L | | 98 |
| 44) chloroform | 9.564 | 83 | 74487 | 19.14 | ug/L | | 97 |
| 45) tert-butyl formate | 9.616 | 59 | 43458 | 18.30 | ug/L | | 96 |
| 47) 1,1,1-trichloroethane | 9.867 | 97 | 79190 | 18.80 | ug/L | | 99 |
| 48) cyclohexane | 10.009 | 84 | 80514 | 18.63 | ug/L | | 98 |
| 50) 1,1-dichloropropene | 10.035 | 75 | 58671 | 19.16 | ug/L | | 99 |
| 51) carbon tetrachloride | 10.082 | 117 | 67332 | 18.58 | ug/L | | 97 |
| 52) tert-amyl alcohol | 10.124 | 73 | 12253 | 103.00 | ug/L | | 89 |
| 53) isopropyl acetate | 10.160 | 87 | 9117 | 19.06 | ug/L | # | 88 |
| 56) n-butyl alcohol | 10.694 | 56 | 67202 | 1061.18 | ug/L | | 94 |
| 57) 2,2,4-trimethylpentane | 10.411 | 57 | 138966 | 17.95 | ug/L | | 98 |
| 58) benzene | 10.281 | 78 | 171763 | 19.44 | ug/L | | 100 |
| 59) tert-amyl methyl ether | 10.370 | 73 | 154482 | 19.05 | ug/L | | 99 |
| 60) heptane | 10.568 | 57 | 23377 | 19.56 | ug/L | | 96 |
| 61) 1,2-dichloroethane | 10.275 | 62 | 58463 | 19.58 | ug/L | | 99 |
| 62) ethyl acrylate | 10.987 | 55 | 43924 | 19.15 | ug/L | | 98 |
| 63) trichloroethene | 11.023 | 95 | 42267 | 19.20 | ug/L | | 95 |
| 64) 2-chloroethyl vinyl ether | 11.818 | 63 | 116853 | 96.88 | ug/L | | 99 |
| 65) methyl methacrylate | 11.264 | 100 | 9757 | 18.77 | ug/L | | 91 |
| 66) methylcyclohexane | 11.363 | 83 | 71587 | 18.69 | ug/L | | 98 |
| 67) 1,2-dichloropropane | 11.306 | 63 | 43257 | 19.42 | ug/L | | 98 |
| 68) dibromomethane | 11.416 | 93 | 25398 | 19.35 | ug/L | | 97 |
| 69) bromodichloromethane | 11.572 | 83 | 58058 | 19.29 | ug/L | | 100 |
| 70) 2-nitropropane | 11.750 | 41 | 8678 | 19.08 | ug/L | | 86 |
| 71) epichlorohydrin | 11.902 | 57 | 20915 | 97.29 | ug/L | | 98 |
| 72) cis-1,3-dichloropropene | 12.064 | 75 | 70308 | 19.32 | ug/L | | 97 |
| 73) 4-methyl-2-pentanone | 12.158 | 58 | 60764 | 77.90 | ug/L | | 98 |
| 74) isoamyl alcohol | 12.153 | 70 | 25196 | 382.70 | ug/L | # | 86 |
| 77) toluene | 12.498 | 92 | 109134 | 19.08 | ug/L | | 100 |
| 78) ethyl methacrylate | 12.681 | 69 | 53865 | 19.26 | ug/L | | 98 |
| 79) trans-1,3-dichloropropene | 12.671 | 75 | 64537 | 19.17 | ug/L | | 98 |
| 80) 1,1,2-trichloroethane | 12.917 | 83 | 29386 | 19.06 | ug/L | | 100 |
| 81) tetrachloroethene | 13.131 | 164 | 35236 | 18.89 | ug/L | | 98 |
| 82) 2-hexanone | 13.100 | 58 | 55592 | 77.87 | ug/L | | 99 |
| 83) 1,3-dichloropropane | 13.115 | 76 | 63817 | 19.47 | ug/L | | 99 |
| 84) butyl acetate | 13.204 | 56 | 27664 | 19.25 | ug/L | | 98 |
| 85) dibromochloromethane | 13.398 | 129 | 41458 | 18.56 | ug/L | | 98 |
| 86) 1,2-dibromoethane | 13.576 | 107 | 46622 | 19.11 | ug/L | | 100 |
| 87) n-butyl ether | 14.104 | 57 | 201699 | 19.75 | ug/L | | 99 |
| 88) chlorobenzene | 14.130 | 112 | 126945 | 19.43 | ug/L | | 100 |
| 89) 1,1,1,2-tetrachloroethane | 14.198 | 131 | 48643 | 18.48 | ug/L | | 99 |
| 90) ethylbenzene | 14.208 | 91 | 217450 | 19.32 | ug/L | | 99 |
| 91) m,p-xylene | 14.344 | 106 | 164971 | 38.18 | ug/L | | 98 |
| 92) o-xylene | 14.794 | 91 | 182846 | 19.34 | ug/L | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263016.D
Acq On : 14 Mar 2019 8:56 pm
Operator : juntaep
Sample : ic10606-20
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 15 14:31:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) styrene | 14.805 | 104 | 144967 | 19.37 ug/L | 98 |
| 94) butyl acrylate | 14.595 | 55 | 88065 | 18.52 ug/L | 99 |
| 95) n-amyl acetate | 14.831 | 70 | 36036 | 18.68 ug/L | 99 |
| 96) isopropylbenzene | 15.197 | 105 | 211704 | 19.15 ug/L | 99 |
| 97) bromoform | 15.051 | 173 | 29919 | 18.61 ug/L | 96 |
| 98) cis-1,4-dichloro-2-butene | 15.202 | 88 | 19054 | 18.26 ug/L | 98 |
| 101) 1,1,2,2-tetrachloroethane | 15.474 | 83 | 53532 | 20.03 ug/L | 99 |
| 102) trans-1,4-dichloro-2-b... | 15.516 | 53 | 14090 | 19.54 ug/L | 95 |
| 103) 1,2,3-trichloropropane | 15.574 | 110 | 15963 | 20.25 ug/L | 92 |
| 104) bromobenzene | 15.621 | 156 | 60062 | 19.42 ug/L | 98 |
| 105) n-propylbenzene | 15.668 | 91 | 241155 | 19.81 ug/L | 100 |
| 106) 2-chlorotoluene | 15.814 | 126 | 54101 | 19.59 ug/L | 98 |
| 107) 4-chlorotoluene | 15.940 | 91 | 159836 | 19.84 ug/L | 99 |
| 108) 1,3,5-trimethylbenzene | 15.845 | 105 | 183703 | 19.39 ug/L | 100 |
| 109) tert-butylbenzene | 16.233 | 119 | 140017 | 19.03 ug/L | 100 |
| 110) 1,2,4-trimethylbenzene | 16.285 | 105 | 187296 | 19.62 ug/L | 100 |
| 111) sec-butylbenzene | 16.478 | 105 | 211850 | 19.27 ug/L | 99 |
| 112) p-isopropyltoluene | 16.625 | 119 | 182246 | 19.16 ug/L | 100 |
| 113) 1,3-dichlorobenzene | 16.661 | 146 | 107774 | 19.53 ug/L | 100 |
| 114) 1,4-dichlorobenzene | 16.766 | 146 | 112020 | 19.69 ug/L | 99 |
| 115) 1,2-dichlorobenzene | 17.179 | 146 | 108986 | 19.31 ug/L | 99 |
| 116) benzyl chloride | 16.855 | 91 | 110092 | 18.53 ug/L | 99 |
| 117) n-butylbenzene | 17.085 | 92 | 87712 | 18.87 ug/L | 96 |
| 118) 2-ethylhexyl acrylate | 18.989 | 70 | 1146 | 1.68 ug/L | 90 |
| 119) hexachloroethane | 17.535 | 201 | 26470 | 17.70 ug/L | 99 |
| 120) 1,2-dibromo-3-chloropr... | 18.016 | 75 | 10320 | 18.31 ug/L | 97 |
| 121) 1,3,5-trichlorobenzene | 18.262 | 180 | 75343 | 18.05 ug/L | 99 |
| 122) 1,2,4-trichlorobenzene | 18.984 | 180 | 56255 | 16.43 ug/L | 99 |
| 123) hexachlorobutadiene | 19.135 | 225 | 33523 | 17.86 ug/L | 99 |
| 124) naphthalene | 19.324 | 128 | 120043 | 15.84 ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 19.596 | 180 | 48495 | 16.21 ug/L | 97 |
| 126) 2-methylnaphthalene | 20.746 | 142 | 9843 | 5.87 ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

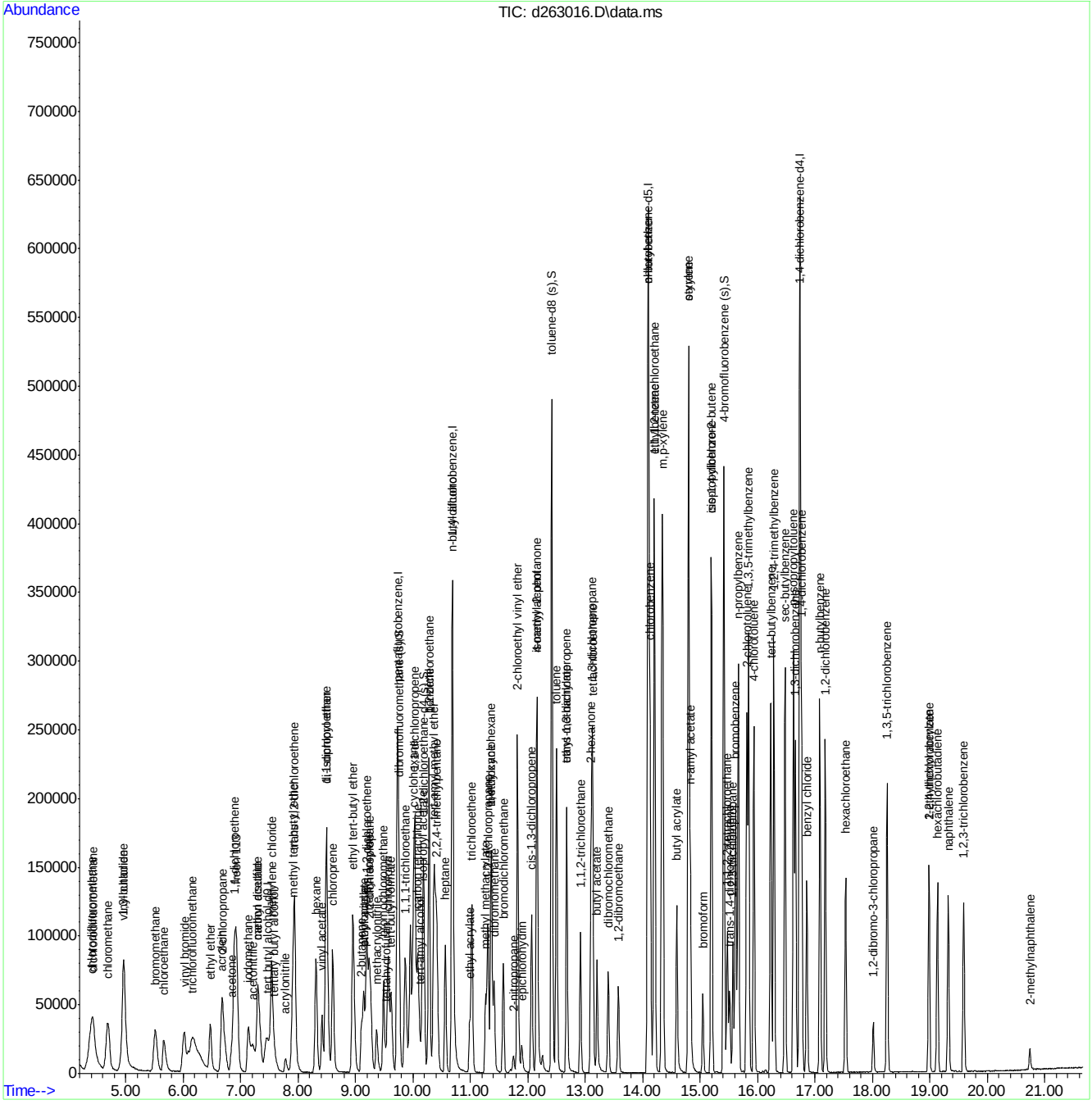
7.7.31

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263016.D
Acq On : 14 Mar 2019 8:56 pm
Operator : juntaep
Sample : ic10606-20
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 15 14:31:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263017.D
Acq On : 14 Mar 2019 9:25 pm
Operator : juntaep
Sample : icc10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 15 14:31:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.473 | 65 | 90501 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.727 | 168 | 188744 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.684 | 114 | 284207 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.094 | 117 | 284451 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.740 | 152 | 179389 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.758 | 113 | 90466 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 100.00% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.187 | 65 | 104983 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.00% | | | |
| 76) toluene-d8 (s) | 12.420 | 98 | 348019 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 100.00% | | | |
| 100) 4-bromofluorobenzene (s) | 15.412 | 95 | 157328 | 50.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 100.00% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.567 | 59 | 65282 | 250.00 | ug/L | 100 |
| 4) 1,4-dioxane | 11.353 | 88 | 29067 | 1250.00 | ug/L | 100 |
| 6) chlorodifluoromethane | 4.408 | 51 | 207572 | 50.00 | ug/L | 100 |
| 7) dichlorodifluoromethane | 4.413 | 85 | 300060 | 50.00 | ug/L | 100 |
| 8) chloromethane | 4.701 | 50 | 258947 | 50.00 | ug/L | 100 |
| 9) 1,3-butadiene | 4.983 | 54 | 144322 | 50.00 | ug/L | 100 |
| 10) vinyl chloride | 4.957 | 62 | 258723 | 50.00 | ug/L | 100 |
| 11) bromomethane | 5.522 | 94 | 136695 | 50.00 | ug/L | 100 |
| 12) chloroethane | 5.663 | 64 | 112499 | 50.00 | ug/L | 100 |
| 13) trichlorofluoromethane | 6.144 | 101 | 235126 | 50.00 | ug/L | 100 |
| 14) vinyl bromide | 6.019 | 106 | 122061 | 50.00 | ug/L | 100 |
| 15) ethyl ether | 6.474 | 74 | 55533 | 50.00 | ug/L | 100 |
| 16) 2-chloropropane | 6.678 | 43 | 223598 | 50.00 | ug/L | 100 |
| 17) acrolein | 6.657 | 56 | 18559 | 50.00 | ug/L | 100 |
| 18) freon 113 | 6.923 | 151 | 133629 | 50.00 | ug/L | 100 |
| 19) 1,1-dichloroethene | 6.892 | 96 | 120463 | 50.00 | ug/L | 100 |
| 20) acetone | 6.840 | 58 | 32074 | 200.00 | ug/L | 100 |
| 21) acetonitrile | 7.211 | 41 | 155059 | 500.00 | ug/L | 100 |
| 22) iodomethane | 7.138 | 142 | 195955 | 50.00 | ug/L | 100 |
| 23) carbon disulfide | 7.300 | 76 | 400394 | 50.00 | ug/L | 100 |
| 24) methylene chloride | 7.535 | 84 | 125574 | 50.00 | ug/L | 100 |
| 25) methyl acetate | 7.295 | 43 | 66730 | 50.00 | ug/L | 100 |
| 26) methyl tert butyl ether | 7.912 | 73 | 362663 | 50.00 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 7.938 | 96 | 111708 | 50.00 | ug/L | 100 |
| 28) hexane | 8.309 | 56 | 72354 | 50.00 | ug/L | 100 |
| 29) di-isopropyl ether | 8.498 | 45 | 423053 | 50.00 | ug/L | 100 |
| 30) 2-butanone | 9.099 | 72 | 37673 | 200.00 | ug/L | 100 |
| 31) 1,1-dichloroethane | 8.487 | 63 | 199916 | 50.00 | ug/L | 100 |
| 32) chloroprene | 8.602 | 53 | 185416 | 50.00 | ug/L | 100 |
| 33) acrylonitrile | 7.776 | 53 | 32271 | 50.00 | ug/L | 100 |
| 34) vinyl acetate | 8.409 | 86 | 23201 | 50.00 | ug/L | 100 |
| 35) ethyl tert-butyl ether | 8.953 | 59 | 421125 | 50.00 | ug/L | 100 |
| 36) ethyl acetate | 9.136 | 45 | 13079 | 50.00 | ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263017.D
Acq On : 14 Mar 2019 9:25 pm
Operator : juntaep
Sample : icc10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 15 14:31:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.246 | 77 | 211257 | 50.00 ug/L | 100 |
| 38) cis-1,2-dichloroethene | 9.193 | 96 | 122814 | 50.00 ug/L | 100 |
| 39) propionitrile | 9.146 | 54 | 137674 | 500.00 ug/L | 100 |
| 40) methyl acrylate | 9.225 | 85 | 13695 | 50.00 ug/L | 100 |
| 41) methacrylonitrile | 9.361 | 67 | 36262 | 50.00 ug/L | 100 |
| 42) bromochloromethane | 9.486 | 128 | 57430 | 50.00 ug/L | 100 |
| 43) tetrahydrofuran | 9.523 | 42 | 25768 | 50.00 ug/L | 100 |
| 44) chloroform | 9.565 | 83 | 193035 | 50.00 ug/L | 100 |
| 45) tert-butyl formate | 9.617 | 59 | 117766 | 50.00 ug/L | 100 |
| 47) 1,1,1-trichloroethane | 9.868 | 97 | 208923 | 50.00 ug/L | 100 |
| 48) cyclohexane | 10.014 | 84 | 214335 | 50.00 ug/L | 100 |
| 50) 1,1-dichloropropene | 10.035 | 75 | 151889 | 50.00 ug/L | 100 |
| 51) carbon tetrachloride | 10.082 | 117 | 179705 | 50.00 ug/L | 100 |
| 52) tert-amyl alcohol | 10.109 | 73 | 29499 | 250.00 ug/L | 100 |
| 53) isopropyl acetate | 10.161 | 87 | 23725 | 50.00 ug/L | 100 |
| 56) n-butyl alcohol | 10.689 | 56 | 158526 | 2500.00 ug/L | 100 |
| 57) 2,2,4-trimethylpentane | 10.412 | 57 | 387529 | 50.00 ug/L | 100 |
| 58) benzene | 10.281 | 78 | 442455 | 50.00 ug/L | 100 |
| 59) tert-amyl methyl ether | 10.370 | 73 | 406026 | 50.00 ug/L | 100 |
| 60) heptane | 10.564 | 57 | 59846 | 50.00 ug/L | 100 |
| 61) 1,2-dichloroethane | 10.276 | 62 | 149467 | 50.00 ug/L | 100 |
| 62) ethyl acrylate | 10.982 | 55 | 114815 | 50.00 ug/L | 100 |
| 63) trichloroethene | 11.024 | 95 | 110212 | 50.00 ug/L | 100 |
| 64) 2-chloroethyl vinyl ether | 11.819 | 63 | 301939 | 250.00 ug/L | 100 |
| 65) methyl methacrylate | 11.259 | 100 | 26023 | 50.00 ug/L | 100 |
| 66) methylcyclohexane | 11.364 | 83 | 191739 | 50.00 ug/L | 100 |
| 67) 1,2-dichloropropane | 11.301 | 63 | 111538 | 50.00 ug/L | 100 |
| 68) dibromomethane | 11.411 | 93 | 65711 | 50.00 ug/L | 100 |
| 69) bromodichloromethane | 11.568 | 83 | 150697 | 50.00 ug/L | 100 |
| 70) 2-nitropropane | 11.746 | 41 | 22765 | 50.00 ug/L | 100 |
| 71) epichlorohydrin | 11.897 | 57 | 53812 | 250.00 ug/L | 100 |
| 72) cis-1,3-dichloropropene | 12.065 | 75 | 182220 | 50.00 ug/L | 100 |
| 73) 4-methyl-2-pentanone | 12.159 | 58 | 156203 | 200.00 ug/L | 100 |
| 74) isoamyl alcohol | 12.148 | 70 | 65923 | 1000.00 ug/L | 100 |
| 77) toluene | 12.499 | 92 | 282548 | 50.00 ug/L | 100 |
| 78) ethyl methacrylate | 12.682 | 69 | 138118 | 50.00 ug/L | 100 |
| 79) trans-1,3-dichloropropene | 12.671 | 75 | 166298 | 50.00 ug/L | 100 |
| 80) 1,1,2-trichloroethane | 12.917 | 83 | 76145 | 50.00 ug/L | 100 |
| 81) tetrachloroethene | 13.126 | 164 | 92132 | 50.00 ug/L | 100 |
| 82) 2-hexanone | 13.095 | 58 | 141055 | 200.00 ug/L | 100 |
| 83) 1,3-dichloropropane | 13.116 | 76 | 161950 | 50.00 ug/L | 100 |
| 84) butyl acetate | 13.205 | 56 | 70993 | 50.00 ug/L | 100 |
| 85) dibromochloromethane | 13.398 | 129 | 110353 | 50.00 ug/L | 100 |
| 86) 1,2-dibromoethane | 13.576 | 107 | 120492 | 50.00 ug/L | 100 |
| 87) n-butyl ether | 14.104 | 57 | 504578 | 50.00 ug/L | 100 |
| 88) chlorobenzene | 14.131 | 112 | 322725 | 50.00 ug/L | 100 |
| 89) 1,1,1,2-tetrachloroethane | 14.199 | 131 | 130018 | 50.00 ug/L | 100 |
| 90) ethylbenzene | 14.209 | 91 | 555892 | 50.00 ug/L | 100 |
| 91) m,p-xylene | 14.345 | 106 | 426891 | 100.00 ug/L | 100 |
| 92) o-xylene | 14.795 | 91 | 466896 | 50.00 ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263017.D
Acq On : 14 Mar 2019 9:25 pm
Operator : juntaep
Sample : icc10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 15 14:31:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

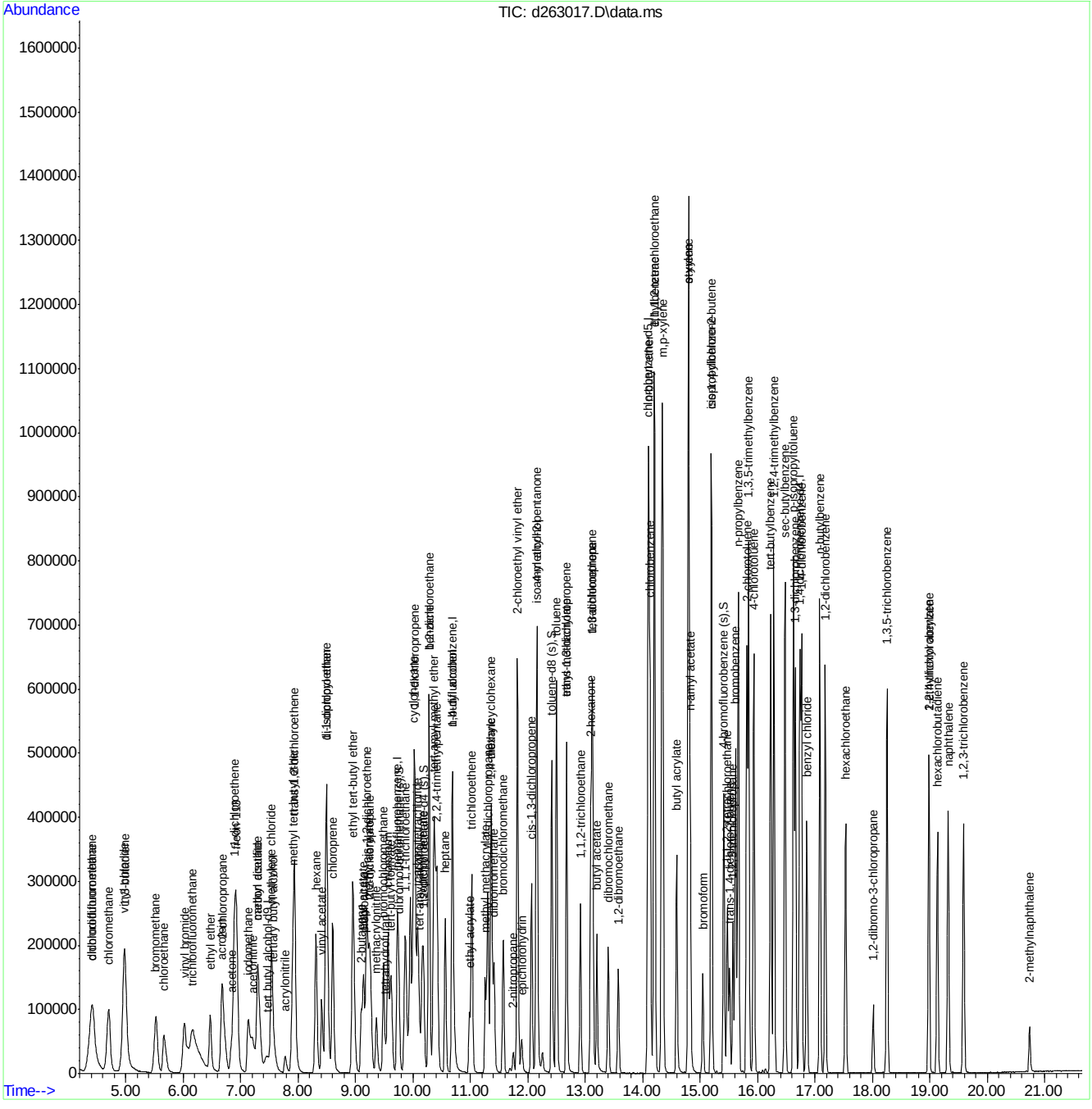
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 93) styrene | 14.805 | 104 | 369612 | 50.00 | ug/L | 100 |
| 94) butyl acrylate | 14.591 | 55 | 234870 | 50.00 | ug/L | 100 |
| 95) n-amyl acetate | 14.831 | 70 | 95299 | 50.00 | ug/L | 100 |
| 96) isopropylbenzene | 15.197 | 105 | 546136 | 50.00 | ug/L | 100 |
| 97) bromoform | 15.051 | 173 | 79428 | 50.00 | ug/L | 100 |
| 98) cis-1,4-dichloro-2-butene | 15.197 | 88 | 51535 | 50.00 | ug/L | 100 |
| 101) 1,1,2,2-tetrachloroethane | 15.475 | 83 | 134880 | 50.00 | ug/L | 100 |
| 102) trans-1,4-dichloro-2-b... | 15.511 | 53 | 36392 | 50.00 | ug/L | 100 |
| 103) 1,2,3-trichloropropane | 15.574 | 110 | 39797 | 50.00 | ug/L | 100 |
| 104) bromobenzene | 15.621 | 156 | 156121 | 50.00 | ug/L | 100 |
| 105) n-propylbenzene | 15.668 | 91 | 614411 | 50.00 | ug/L | 100 |
| 106) 2-chlorotoluene | 15.815 | 126 | 139362 | 50.00 | ug/L | 100 |
| 107) 4-chlorotoluene | 15.935 | 91 | 406593 | 50.00 | ug/L | 100 |
| 108) 1,3,5-trimethylbenzene | 15.846 | 105 | 478121 | 50.00 | ug/L | 100 |
| 109) tert-butylbenzene | 16.228 | 119 | 371419 | 50.00 | ug/L | 100 |
| 110) 1,2,4-trimethylbenzene | 16.285 | 105 | 481745 | 50.00 | ug/L | 100 |
| 111) sec-butylbenzene | 16.479 | 105 | 554972 | 50.00 | ug/L | 100 |
| 112) p-isopropyltoluene | 16.625 | 119 | 480032 | 50.00 | ug/L | 100 |
| 113) 1,3-dichlorobenzene | 16.662 | 146 | 278595 | 50.00 | ug/L | 100 |
| 114) 1,4-dichlorobenzene | 16.767 | 146 | 287178 | 50.00 | ug/L | 100 |
| 115) 1,2-dichlorobenzene | 17.180 | 146 | 284944 | 50.00 | ug/L | 100 |
| 116) benzyl chloride | 16.855 | 91 | 299845 | 50.00 | ug/L | 100 |
| 117) n-butylbenzene | 17.086 | 92 | 234621 | 50.00 | ug/L | 100 |
| 118) 2-ethylhexyl acrylate | 18.984 | 70 | 6867 | 10.00 | ug/L | 100 |
| 119) hexachloroethane | 17.535 | 201 | 75488 | 50.00 | ug/L | 100 |
| 120) 1,2-dibromo-3-chloropr... | 18.017 | 75 | 28456 | 50.00 | ug/L | 100 |
| 121) 1,3,5-trichlorobenzene | 18.257 | 180 | 210667 | 50.00 | ug/L | 100 |
| 122) 1,2,4-trichlorobenzene | 18.984 | 180 | 172844 | 50.00 | ug/L | 100 |
| 123) hexachlorobutadiene | 19.136 | 225 | 94727 | 50.00 | ug/L | 100 |
| 124) naphthalene | 19.324 | 128 | 382609 | 50.00 | ug/L | 100 |
| 125) 1,2,3-trichlorobenzene | 19.591 | 180 | 151005 | 50.00 | ug/L | 100 |
| 126) 2-methylnaphthalene | 20.741 | 142 | 42331 | 25.00 | ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263017.D
Acq On : 14 Mar 2019 9:25 pm
Operator : juntaep
Sample : icc10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 15 14:31:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263018.D
Acq On : 14 Mar 2019 9:54 pm
Operator : juntaep
Sample : ic10606-100
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 15 14:31:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.457 | 65 | 93777 | 500.00 | ug/L | -0.02 |
| 5) pentafluorobenzene | 9.727 | 168 | 198721 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.684 | 114 | 292304 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.094 | 117 | 288098 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.736 | 152 | 186790 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.753 | 113 | 93474 | 49.07 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.14% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.182 | 65 | 109003 | 50.48 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.96% | | | |
| 76) toluene-d8 (s) | 12.421 | 98 | 358480 | 50.85 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.70% | | | |
| 100) 4-bromofluorobenzene (s) | 15.412 | 95 | 161900 | 49.41 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 98.82% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.583 | 59 | 132209 | 488.61 | ug/L | 98 |
| 4) 1,4-dioxane | 11.354 | 88 | 58603 | 2432.13 | ug/L | 96 |
| 6) chlorodifluoromethane | 4.403 | 51 | 407279 | 93.18 | ug/L | 99 |
| 7) dichlorodifluoromethane | 4.413 | 85 | 583349 | 92.33 | ug/L | 98 |
| 8) chloromethane | 4.706 | 50 | 513703 | 94.21 | ug/L | 99 |
| 9) 1,3-butadiene | 4.989 | 54 | 298423 | 98.20 | ug/L | 97 |
| 10) vinyl chloride | 4.963 | 62 | 489722 | 89.89 | ug/L | 99 |
| 11) bromomethane | 5.527 | 94 | 267073 | 92.78 | ug/L | 96 |
| 12) chloroethane | 5.663 | 64 | 223903 | 94.52 | ug/L | 98 |
| 13) trichlorofluoromethane | 6.145 | 101 | 456892 | 92.28 | ug/L | 100 |
| 14) vinyl bromide | 6.019 | 106 | 237435 | 92.38 | ug/L | 99 |
| 15) ethyl ether | 6.469 | 74 | 113343 | 96.93 | ug/L | 92 |
| 16) 2-chloropropane | 6.678 | 43 | 450567 | 95.70 | ug/L | 98 |
| 17) acrolein | 6.652 | 56 | 37323 | 95.50 | ug/L | 91 |
| 18) freon 113 | 6.924 | 151 | 269822 | 95.89 | ug/L | 98 |
| 19) 1,1-dichloroethene | 6.887 | 96 | 244770 | 96.49 | ug/L | 98 |
| 20) acetone | 6.835 | 58 | 66249 | 392.36 | ug/L | 97 |
| 21) acetonitrile | 7.206 | 41 | 311918 | 955.31 | ug/L | 99 |
| 22) iodomethane | 7.138 | 142 | 396956 | 96.20 | ug/L | 99 |
| 23) carbon disulfide | 7.300 | 76 | 796578 | 94.48 | ug/L | 100 |
| 24) methylene chloride | 7.536 | 84 | 253898 | 96.02 | ug/L | 99 |
| 25) methyl acetate | 7.295 | 43 | 137937 | 98.17 | ug/L | 97 |
| 26) methyl tert butyl ether | 7.907 | 73 | 726433 | 95.12 | ug/L | 100 |
| 27) trans-1,2-dichloroethene | 7.938 | 96 | 224864 | 95.59 | ug/L | 99 |
| 28) hexane | 8.310 | 56 | 145245 | 95.33 | ug/L | 98 |
| 29) di-isopropyl ether | 8.498 | 45 | 844922 | 94.85 | ug/L | 100 |
| 30) 2-butanone | 9.100 | 72 | 80277 | 404.78 | ug/L | 98 |
| 31) 1,1-dichloroethane | 8.488 | 63 | 398037 | 94.55 | ug/L | 99 |
| 32) chloroprene | 8.603 | 53 | 370706 | 94.95 | ug/L | 98 |
| 33) acrylonitrile | 7.771 | 53 | 65568 | 96.49 | ug/L | 97 |
| 34) vinyl acetate | 8.409 | 86 | 46859 | 95.91 | ug/L | 97 |
| 35) ethyl tert-butyl ether | 8.953 | 59 | 849532 | 95.80 | ug/L | 99 |
| 36) ethyl acetate | 9.131 | 45 | 26884 | 97.62 | ug/L # | 81 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263018.D
Acq On : 14 Mar 2019 9:54 pm
Operator : juntaep
Sample : ic10606-100
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 15 14:31:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.251 | 77 | 414070 | 93.08 | ug/L | 99 |
| 38) cis-1,2-dichloroethene | 9.188 | 96 | 244462 | 94.53 | ug/L | 98 |
| 39) propionitrile | 9.141 | 54 | 279202 | 963.09 | ug/L | 99 |
| 40) methyl acrylate | 9.220 | 85 | 27938 | 96.88 | ug/L # | 90 |
| 41) methacrylonitrile | 9.361 | 67 | 75802 | 99.27 | ug/L | 92 |
| 42) bromochloromethane | 9.487 | 128 | 116247 | 96.13 | ug/L | 96 |
| 43) tetrahydrofuran | 9.523 | 42 | 53653 | 98.88 | ug/L | 99 |
| 44) chloroform | 9.565 | 83 | 387364 | 95.30 | ug/L | 98 |
| 45) tert-butyl formate | 9.617 | 59 | 242535 | 97.80 | ug/L | 100 |
| 47) 1,1,1-trichloroethane | 9.868 | 97 | 415885 | 94.53 | ug/L | 98 |
| 48) cyclohexane | 10.015 | 84 | 425513 | 94.28 | ug/L | 99 |
| 50) 1,1-dichloropropene | 10.036 | 75 | 305047 | 95.38 | ug/L | 100 |
| 51) carbon tetrachloride | 10.083 | 117 | 366398 | 96.83 | ug/L | 99 |
| 52) tert-amyl alcohol | 10.114 | 73 | 60611 | 487.88 | ug/L | 94 |
| 53) isopropyl acetate | 10.161 | 87 | 50797 | 101.68 | ug/L | 99 |
| 56) n-butyl alcohol | 10.690 | 56 | 316259 | 4849.34 | ug/L | 97 |
| 57) 2,2,4-trimethylpentane | 10.418 | 57 | 811279 | 101.77 | ug/L | 98 |
| 58) benzene | 10.282 | 78 | 889446 | 97.73 | ug/L | 100 |
| 59) tert-amyl methyl ether | 10.370 | 73 | 826493 | 98.96 | ug/L | 99 |
| 60) heptane | 10.564 | 57 | 120620 | 97.98 | ug/L | 99 |
| 61) 1,2-dichloroethane | 10.276 | 62 | 300945 | 97.88 | ug/L | 99 |
| 62) ethyl acrylate | 10.977 | 55 | 237046 | 100.37 | ug/L | 99 |
| 63) trichloroethene | 11.024 | 95 | 219819 | 96.96 | ug/L | 96 |
| 64) 2-chloroethyl vinyl ether | 11.819 | 63 | 621859 | 500.63 | ug/L | 99 |
| 65) methyl methacrylate | 11.260 | 100 | 53764 | 100.44 | ug/L | 93 |
| 66) methylcyclohexane | 11.364 | 83 | 389715 | 98.81 | ug/L | 99 |
| 67) 1,2-dichloropropane | 11.301 | 63 | 223895 | 97.59 | ug/L | 99 |
| 68) dibromomethane | 11.411 | 93 | 133946 | 99.10 | ug/L | 98 |
| 69) bromodichloromethane | 11.568 | 83 | 304671 | 98.29 | ug/L | 100 |
| 70) 2-nitropropane | 11.746 | 41 | 46475 | 99.25 | ug/L | 94 |
| 71) epichlorohydrin | 11.898 | 57 | 110026 | 497.00 | ug/L | 98 |
| 72) cis-1,3-dichloropropene | 12.065 | 75 | 367319 | 98.00 | ug/L | 99 |
| 73) 4-methyl-2-pentanone | 12.159 | 58 | 320070 | 398.46 | ug/L | 95 |
| 74) isoamyl alcohol | 12.149 | 70 | 135037 | 1991.66 | ug/L | 96 |
| 77) toluene | 12.499 | 92 | 562317 | 98.25 | ug/L | 99 |
| 78) ethyl methacrylate | 12.677 | 69 | 285698 | 102.12 | ug/L | 99 |
| 79) trans-1,3-dichloropropene | 12.672 | 75 | 334689 | 99.36 | ug/L | 98 |
| 80) 1,1,2-trichloroethane | 12.918 | 83 | 152264 | 98.72 | ug/L | 99 |
| 81) tetrachloroethene | 13.127 | 164 | 186089 | 99.71 | ug/L | 99 |
| 82) 2-hexanone | 13.095 | 58 | 291474 | 408.05 | ug/L | 99 |
| 83) 1,3-dichloropropane | 13.116 | 76 | 324671 | 98.97 | ug/L | 96 |
| 84) butyl acetate | 13.200 | 56 | 146863 | 102.13 | ug/L | 97 |
| 85) dibromochloromethane | 13.399 | 129 | 226469 | 101.31 | ug/L | 98 |
| 86) 1,2-dibromoethane | 13.577 | 107 | 242021 | 99.16 | ug/L | 99 |
| 87) n-butyl ether | 14.105 | 57 | 984591 | 96.33 | ug/L | 100 |
| 88) chlorobenzene | 14.131 | 112 | 633838 | 96.96 | ug/L | 99 |
| 89) 1,1,1,2-tetrachloroethane | 14.199 | 131 | 264540 | 100.44 | ug/L | 100 |
| 90) ethylbenzene | 14.204 | 91 | 1094782 | 97.22 | ug/L | 99 |
| 91) m,p-xylene | 14.345 | 106 | 848749 | 196.30 | ug/L | 98 |
| 92) o-xylene | 14.795 | 91 | 924543 | 97.76 | ug/L | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263018.D
Acq On : 14 Mar 2019 9:54 pm
Operator : juntaep
Sample : ic10606-100
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 15 14:31:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) styrene | 14.806 | 104 | 737899 | 98.56 ug/L | 99 |
| 94) butyl acrylate | 14.591 | 55 | 483550 | 101.64 ug/L | 100 |
| 95) n-amyl acetate | 14.832 | 70 | 205074 | 106.23 ug/L | 96 |
| 96) isopropylbenzene | 15.198 | 105 | 1076313 | 97.29 ug/L | 100 |
| 97) bromoform | 15.046 | 173 | 164783 | 102.42 ug/L | 99 |
| 98) cis-1,4-dichloro-2-butene | 15.198 | 88 | 106451 | 101.97 ug/L | 96 |
| 101) 1,1,2,2-tetrachloroethane | 15.475 | 83 | 265632 | 94.57 ug/L | 100 |
| 102) trans-1,4-dichloro-2-b... | 15.512 | 53 | 74218 | 97.93 ug/L | 98 |
| 103) 1,2,3-trichloropropane | 15.574 | 110 | 80083 | 96.63 ug/L | 93 |
| 104) bromobenzene | 15.622 | 156 | 311606 | 95.84 ug/L | 97 |
| 105) n-propylbenzene | 15.669 | 91 | 1204175 | 94.11 ug/L | 98 |
| 106) 2-chlorotoluene | 15.815 | 126 | 276310 | 95.21 ug/L | 96 |
| 107) 4-chlorotoluene | 15.935 | 91 | 808760 | 95.52 ug/L | 98 |
| 108) 1,3,5-trimethylbenzene | 15.846 | 105 | 948712 | 95.28 ug/L | 99 |
| 109) tert-butylbenzene | 16.228 | 119 | 751090 | 97.10 ug/L | 99 |
| 110) 1,2,4-trimethylbenzene | 16.286 | 105 | 957940 | 95.48 ug/L | 100 |
| 111) sec-butylbenzene | 16.479 | 105 | 1099455 | 95.13 ug/L | 99 |
| 112) p-isopropyltoluene | 16.626 | 119 | 951198 | 95.15 ug/L | 99 |
| 113) 1,3-dichlorobenzene | 16.662 | 146 | 562767 | 97.00 ug/L | 99 |
| 114) 1,4-dichlorobenzene | 16.767 | 146 | 581486 | 97.23 ug/L | 100 |
| 115) 1,2-dichlorobenzene | 17.180 | 146 | 571419 | 96.30 ug/L | 99 |
| 116) benzyl chloride | 16.856 | 91 | 619198 | 99.16 ug/L | 99 |
| 117) n-butylbenzene | 17.086 | 92 | 468310 | 95.85 ug/L | 99 |
| 118) 2-ethylhexyl acrylate | 18.984 | 70 | 22959 | 32.11 ug/L | 81 |
| 119) hexachloroethane | 17.536 | 201 | 159035 | 101.16 ug/L | 96 |
| 120) 1,2-dibromo-3-chloropr... | 18.012 | 75 | 58477 | 98.68 ug/L | 98 |
| 121) 1,3,5-trichlorobenzene | 18.258 | 180 | 431501 | 98.36 ug/L | 99 |
| 122) 1,2,4-trichlorobenzene | 18.984 | 180 | 368847 | 102.47 ug/L | 98 |
| 123) hexachlorobutadiene | 19.136 | 225 | 195059 | 98.88 ug/L | 99 |
| 124) naphthalene | 19.324 | 128 | 837271 | 105.08 ug/L | 100 |
| 125) 1,2,3-trichlorobenzene | 19.591 | 180 | 326441 | 103.81 ug/L | 100 |
| 126) 2-methylnaphthalene | 20.737 | 142 | 115812 | 65.69 ug/L | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

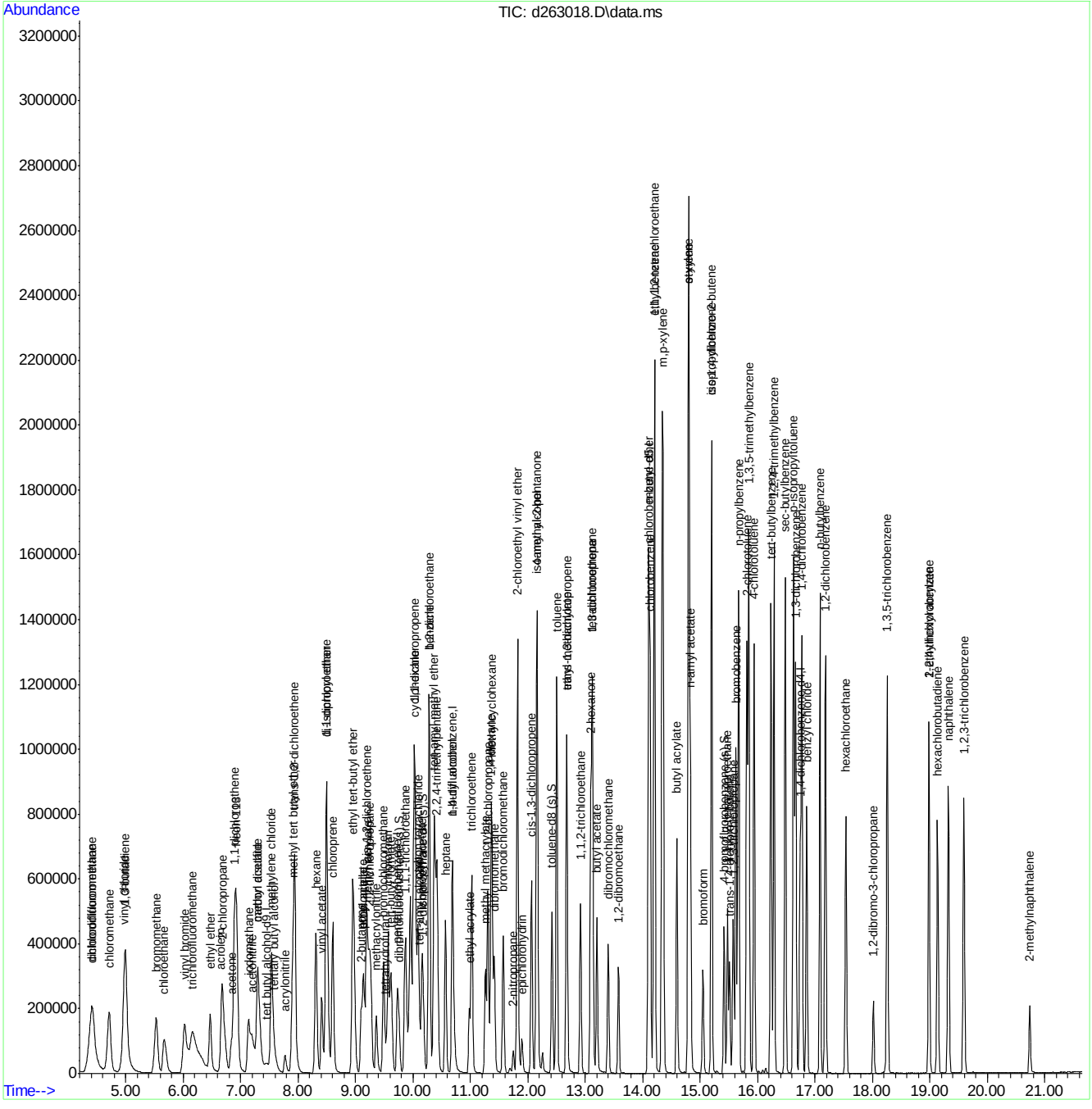
7.7.33

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263018.D
Acq On : 14 Mar 2019 9:54 pm
Operator : juntaep
Sample : ic10606-100
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 15 14:31:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263019.D
Acq On : 14 Mar 2019 10:23 pm
Operator : juntaep
Sample : ic10606-200
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 15 14:31:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.479 | 65 | 91305 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.728 | 168 | 200374 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.685 | 114 | 293222 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.096 | 117 | 290041 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.737 | 152 | 199160 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.755 | 113 | 93257 | 48.55 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.10% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.183 | 65 | 109009 | 50.32 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 100.64% | | | |
| 76) toluene-d8 (s) | 12.417 | 98 | 358552 | 50.52 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.04% | | | |
| 100) 4-bromofluorobenzene (s) | 15.414 | 95 | 165668 | 47.42 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 94.84% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.584 | 59 | 255750 | 970.78 | ug/L | 96 |
| 4) 1,4-dioxane | 11.355 | 88 | 113142 | 4822.72 | ug/L | 97 |
| 6) chlorodifluoromethane | 4.409 | 51 | 806016 | 182.88 | ug/L | 99 |
| 7) dichlorodifluoromethane | 4.409 | 85 | 1130589 | 177.46 | ug/L | 100 |
| 8) chloromethane | 4.723 | 50 | 1020835 | 185.67 | ug/L | 100 |
| 9) 1,3-butadiene | 5.000 | 54 | 606943 | 198.07 | ug/L | 99 |
| 10) vinyl chloride | 4.979 | 62 | 954155 | 173.69 | ug/L | 100 |
| 11) bromomethane | 5.534 | 94 | 529162 | 182.32 | ug/L | 97 |
| 12) chloroethane | 5.680 | 64 | 463245 | 193.94 | ug/L | 98 |
| 13) trichlorofluoromethane | 6.146 | 101 | 920053 | 184.30 | ug/L | 98 |
| 14) vinyl bromide | 6.025 | 106 | 484869 | 187.09 | ug/L | 99 |
| 15) ethyl ether | 6.470 | 74 | 221451 | 187.81 | ug/L | 96 |
| 16) 2-chloropropane | 6.679 | 43 | 896468 | 188.83 | ug/L | 99 |
| 17) acrolein | 6.653 | 56 | 74009 | 187.82 | ug/L | 95 |
| 18) freon 113 | 6.930 | 151 | 552363 | 194.68 | ug/L | 98 |
| 19) 1,1-dichloroethene | 6.894 | 96 | 503342 | 196.79 | ug/L | 99 |
| 20) acetone | 6.836 | 58 | 129487 | 760.56 | ug/L | 96 |
| 21) acetonitrile | 7.207 | 41 | 602832 | 1831.05 | ug/L | 98 |
| 22) iodomethane | 7.134 | 142 | 821140 | 197.36 | ug/L | 100 |
| 23) carbon disulfide | 7.302 | 76 | 1604701 | 188.76 | ug/L | 99 |
| 24) methylene chloride | 7.537 | 84 | 507317 | 190.27 | ug/L | 98 |
| 25) methyl acetate | 7.291 | 43 | 265475 | 187.37 | ug/L | 97 |
| 26) methyl tert butyl ether | 7.908 | 73 | 1430121 | 185.73 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 7.934 | 96 | 442870 | 186.72 | ug/L | 99 |
| 28) hexane | 8.306 | 56 | 284134 | 184.95 | ug/L | 99 |
| 29) di-isopropyl ether | 8.494 | 45 | 1681862 | 187.24 | ug/L | 100 |
| 30) 2-butanone | 9.101 | 72 | 150314 | 751.68 | ug/L | 99 |
| 31) 1,1-dichloroethane | 8.484 | 63 | 773145 | 182.14 | ug/L | 100 |
| 32) chloroprene | 8.599 | 53 | 723073 | 183.67 | ug/L | 97 |
| 33) acrylonitrile | 7.772 | 53 | 127080 | 185.47 | ug/L | 96 |
| 34) vinyl acetate | 8.405 | 86 | 90552 | 183.82 | ug/L | 96 |
| 35) ethyl tert-butyl ether | 8.954 | 59 | 1675688 | 187.41 | ug/L | 99 |
| 36) ethyl acetate | 9.132 | 45 | 51240 | 184.52 | ug/L # | 89 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263019.D
Acq On : 14 Mar 2019 10:23 pm
Operator : juntaep
Sample : ic10606-200
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 15 14:31:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.258 | 77 | 823434 | 183.58 | ug/L | | 96 |
| 38) cis-1,2-dichloroethene | 9.190 | 96 | 484391 | 185.76 | ug/L | | 97 |
| 39) propionitrile | 9.143 | 54 | 537197 | 1837.74 | ug/L | | 100 |
| 40) methyl acrylate | 9.216 | 85 | 54344 | 186.89 | ug/L | # | 87 |
| 41) methacrylonitrile | 9.362 | 67 | 148273 | 192.58 | ug/L | | 99 |
| 42) bromochloromethane | 9.483 | 128 | 230411 | 188.96 | ug/L | | 96 |
| 43) tetrahydrofuran | 9.524 | 42 | 102100 | 186.62 | ug/L | | 99 |
| 44) chloroform | 9.566 | 83 | 765873 | 186.86 | ug/L | | 98 |
| 45) tert-butyl formate | 9.619 | 59 | 490118 | 196.01 | ug/L | | 99 |
| 47) 1,1,1-trichloroethane | 9.870 | 97 | 838471 | 189.02 | ug/L | | 99 |
| 48) cyclohexane | 10.016 | 84 | 871448 | 191.49 | ug/L | | 100 |
| 50) 1,1-dichloropropene | 10.032 | 75 | 601169 | 186.41 | ug/L | | 99 |
| 51) carbon tetrachloride | 10.084 | 117 | 750915 | 196.80 | ug/L | | 99 |
| 52) tert-amyl alcohol | 10.115 | 73 | 121593 | 970.67 | ug/L | | 93 |
| 53) isopropyl acetate | 10.162 | 87 | 101145 | 200.79 | ug/L | # | 87 |
| 56) n-butyl alcohol | 10.691 | 56 | 597720 | 9136.41 | ug/L | | 98 |
| 57) 2,2,4-trimethylpentane | 10.419 | 57 | 1685978 | 210.84 | ug/L | | 98 |
| 58) benzene | 10.278 | 78 | 1743492 | 190.97 | ug/L | | 99 |
| 59) tert-amyl methyl ether | 10.372 | 73 | 1653002 | 197.30 | ug/L | | 99 |
| 60) heptane | 10.565 | 57 | 236498 | 191.51 | ug/L | | 98 |
| 61) 1,2-dichloroethane | 10.278 | 62 | 586068 | 190.03 | ug/L | | 99 |
| 62) ethyl acrylate | 10.978 | 55 | 452347 | 190.93 | ug/L | | 99 |
| 63) trichloroethene | 11.020 | 95 | 435778 | 191.62 | ug/L | | 97 |
| 64) 2-chloroethyl vinyl ether | 11.820 | 63 | 1199924 | 962.97 | ug/L | | 98 |
| 65) methyl methacrylate | 11.261 | 100 | 106178 | 197.74 | ug/L | | 90 |
| 66) methylcyclohexane | 11.365 | 83 | 787150 | 198.96 | ug/L | | 99 |
| 67) 1,2-dichloropropane | 11.303 | 63 | 440876 | 191.56 | ug/L | | 99 |
| 68) dibromomethane | 11.412 | 93 | 260886 | 192.41 | ug/L | | 97 |
| 69) bromodichloromethane | 11.569 | 83 | 604155 | 194.29 | ug/L | | 100 |
| 70) 2-nitropropane | 11.747 | 41 | 91729 | 195.28 | ug/L | | 94 |
| 71) epichlorohydrin | 11.894 | 57 | 209581 | 943.74 | ug/L | | 98 |
| 72) cis-1,3-dichloropropene | 12.061 | 75 | 721102 | 191.78 | ug/L | | 99 |
| 73) 4-methyl-2-pentanone | 12.160 | 58 | 620652 | 770.24 | ug/L | | 91 |
| 74) isoamyl alcohol | 12.145 | 70 | 254895 | 3747.68 | ug/L | | 90 |
| 77) toluene | 12.500 | 92 | 1107312 | 192.17 | ug/L | | 96 |
| 78) ethyl methacrylate | 12.678 | 69 | 555571 | 197.25 | ug/L | | 100 |
| 79) trans-1,3-dichloropropene | 12.673 | 75 | 654585 | 193.02 | ug/L | | 99 |
| 80) 1,1,2-trichloroethane | 12.914 | 83 | 299401 | 192.81 | ug/L | | 99 |
| 81) tetrachloroethene | 13.128 | 164 | 370346 | 197.11 | ug/L | | 99 |
| 82) 2-hexanone | 13.091 | 58 | 558889 | 777.17 | ug/L | | 99 |
| 83) 1,3-dichloropropane | 13.117 | 76 | 632809 | 191.61 | ug/L | | 95 |
| 84) butyl acetate | 13.201 | 56 | 288676 | 199.39 | ug/L | | 96 |
| 85) dibromochloromethane | 13.400 | 129 | 451815 | 200.77 | ug/L | | 99 |
| 86) 1,2-dibromoethane | 13.578 | 107 | 475111 | 193.35 | ug/L | | 99 |
| 87) n-butyl ether | 14.106 | 57 | 1884525 | 183.14 | ug/L | | 99 |
| 88) chlorobenzene | 14.127 | 112 | 1261211 | 191.63 | ug/L | | 97 |
| 89) 1,1,1,2-tetrachloroethane | 14.200 | 131 | 538014 | 202.91 | ug/L | | 99 |
| 90) ethylbenzene | 14.205 | 91 | 2156736 | 190.25 | ug/L | | 97 |
| 91) m,p-xylene | 14.347 | 106 | 1696395 | 389.72 | ug/L | | 95 |
| 92) o-xylene | 14.796 | 91 | 1825847 | 191.76 | ug/L | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263019.D
Acq On : 14 Mar 2019 10:23 pm
Operator : juntaep
Sample : ic10606-200
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 15 14:31:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) styrene | 14.802 | 104 | 1454068 | 192.91 ug/L | 95 |
| 94) butyl acrylate | 14.592 | 55 | 968336 | 202.17 ug/L | 99 |
| 95) n-amyl acetate | 14.828 | 70 | 418800 | 215.49 ug/L | 98 |
| 96) isopropylbenzene | 15.199 | 105 | 2140541 | 192.19 ug/L | 97 |
| 97) bromoform | 15.047 | 173 | 334380 | 206.44 ug/L | 100 |
| 98) cis-1,4-dichloro-2-butene | 15.199 | 88 | 214028 | 203.65 ug/L | 96 |
| 101) 1,1,2,2-tetrachloroethane | 15.476 | 83 | 523011 | 174.63 ug/L | 99 |
| 102) trans-1,4-dichloro-2-b... | 15.513 | 53 | 148335 | 183.57 ug/L | 97 |
| 103) 1,2,3-trichloropropane | 15.576 | 110 | 158437 | 179.30 ug/L | 87 |
| 104) bromobenzene | 15.623 | 156 | 637295 | 183.84 ug/L | 97 |
| 105) n-propylbenzene | 15.670 | 91 | 2389737 | 175.17 ug/L | 96 |
| 106) 2-chlorotoluene | 15.811 | 126 | 571634 | 184.73 ug/L | 95 |
| 107) 4-chlorotoluene | 15.937 | 91 | 1646666 | 182.39 ug/L | 97 |
| 108) 1,3,5-trimethylbenzene | 15.848 | 105 | 1935386 | 182.30 ug/L | 97 |
| 109) tert-butylbenzene | 16.229 | 119 | 1547293 | 187.62 ug/L | 98 |
| 110) 1,2,4-trimethylbenzene | 16.287 | 105 | 1942436 | 181.59 ug/L | 97 |
| 111) sec-butylbenzene | 16.480 | 105 | 2211043 | 179.43 ug/L | 96 |
| 112) p-isopropyltoluene | 16.627 | 119 | 1946117 | 182.58 ug/L | 98 |
| 113) 1,3-dichlorobenzene | 16.664 | 146 | 1168203 | 188.85 ug/L | 99 |
| 114) 1,4-dichlorobenzene | 16.768 | 146 | 1200195 | 188.22 ug/L | 99 |
| 115) 1,2-dichlorobenzene | 17.181 | 146 | 1168801 | 184.73 ug/L | 98 |
| 116) benzyl chloride | 16.857 | 91 | 1253689 | 188.30 ug/L | 98 |
| 117) n-butylbenzene | 17.087 | 92 | 968277 | 185.86 ug/L | 97 |
| 118) 2-ethylhexyl acrylate | 18.980 | 70 | 65576 | 86.01 ug/L | 80 |
| 119) hexachloroethane | 17.537 | 201 | 347214 | 207.15 ug/L | 96 |
| 120) 1,2-dibromo-3-chloropr... | 18.013 | 75 | 117088 | 185.31 ug/L | 98 |
| 121) 1,3,5-trichlorobenzene | 18.259 | 180 | 880795 | 188.30 ug/L | 100 |
| 122) 1,2,4-trichlorobenzene | 18.986 | 180 | 755373 | 196.82 ug/L | 98 |
| 123) hexachlorobutadiene | 19.132 | 225 | 399415 | 189.90 ug/L | 99 |
| 124) naphthalene | 19.320 | 128 | 1686059 | 198.46 ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 19.592 | 180 | 669779 | 199.76 ug/L | 99 |
| 126) 2-methylnaphthalene | 20.738 | 142 | 262936 | 139.87 ug/L | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

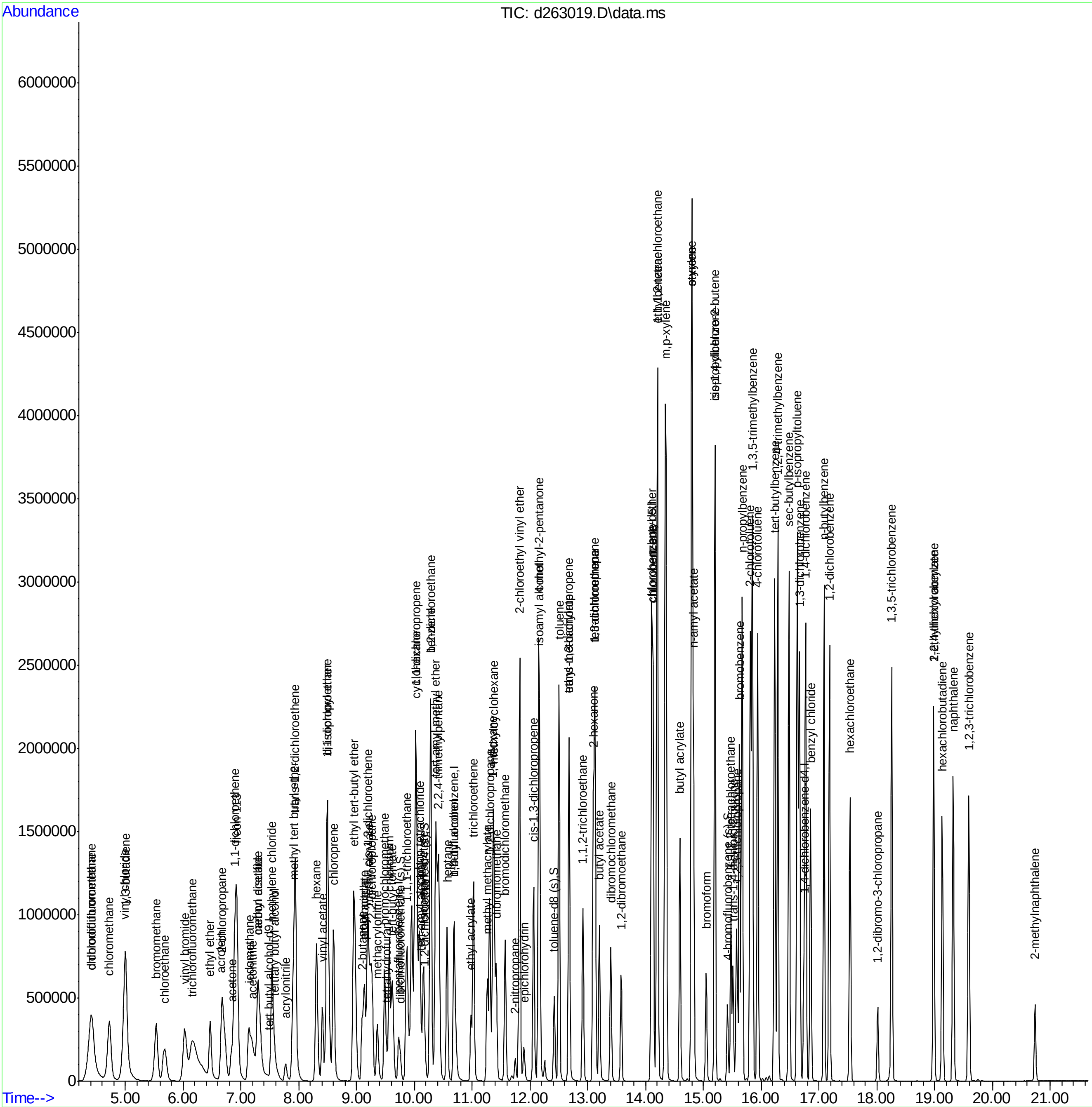
7.7.34

7

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263019.D
Acq On    : 14 Mar 2019  10:23 pm
Operator  : juntaep
Sample    : ic10606-200
Misc      : ms33018,vd10606,5,,100,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Mar 15 14:31:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title  : SW846 8260C, Rxi-624  MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:05:04 2019
Response via : Initial Calibration
```



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263022.D
Acq On : 14 Mar 2019 11:49 pm
Operator : juntaep
Sample : icv10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 15 14:34:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 14:33:32 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.473 | 65 | 94030 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.727 | 168 | 203543 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.684 | 114 | 301725 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.094 | 117 | 298120 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.735 | 152 | 190044 | 50.00 | ug/L | 0.00 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.758 | 113 | 95211 | 49.58 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 99.16% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.187 | 65 | 109047 | 48.21 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 96.42% | | | |
| 76) toluene-d8 (s) | 12.420 | 98 | 369681 | 50.85 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 101.70% | | | |
| 100) 4-bromofluorobenzene (s) | 15.412 | 95 | 166448 | 47.27 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 94.54% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.577 | 59 | 65894 | 264.33 | ug/L | 98 |
| 4) 1,4-dioxane | 11.359 | 88 | 31213 | 1373.36 | ug/L | 95 |
| 6) chlorodifluoromethane | 4.413 | 51 | 191561 | 44.61 | ug/L | 98 |
| 7) dichlorodifluoromethane | 4.424 | 85 | 255834 | 43.29 | ug/L | 100 |
| 8) chloromethane | 4.701 | 50 | 223274 | 45.12 | ug/L | 99 |
| 9) 1,3-butadiene | 4.983 | 54 | 148778 | 54.28 | ug/L | 96 |
| 10) vinyl chloride | 4.957 | 62 | 228226 | 45.33 | ug/L | 100 |
| 11) bromomethane | 5.532 | 94 | 126806 | 48.90 | ug/L | 99 |
| 12) chloroethane | 5.663 | 64 | 105444 | 47.81 | ug/L | 99 |
| 13) trichlorofluoromethane | 6.155 | 101 | 222248 | 49.01 | ug/L | 98 |
| 14) vinyl bromide | 6.024 | 106 | 113896 | 49.24 | ug/L | 99 |
| 15) ethyl ether | 6.474 | 74 | 57124 | 50.90 | ug/L | 96 |
| 16) 2-chloropropane | 6.678 | 43 | 215514 | 44.52 | ug/L | 98 |
| 17) acrolein | 6.662 | 56 | 20324 | 54.56 | ug/L | 98 |
| 18) freon 113 | 6.929 | 151 | 136460 | 51.27 | ug/L | 98 |
| 19) 1,1-dichloroethene | 6.892 | 96 | 111482 | 44.42 | ug/L | 98 |
| 20) acetone | 6.845 | 58 | 33996 | 215.48 | ug/L | 96 |
| 22) iodomethane | 7.138 | 142 | 218998 | 55.48 | ug/L | 98 |
| 23) carbon disulfide | 7.300 | 76 | 486772 | 59.49 | ug/L | 99 |
| 24) methylene chloride | 7.541 | 84 | 126090 | 47.80 | ug/L | 99 |
| 25) methyl acetate | 7.295 | 43 | 70895 | 50.76 | ug/L | 98 |
| 26) methyl tert butyl ether | 7.912 | 73 | 746919 | 97.95 | ug/L | 99 |
| 27) trans-1,2-dichloroethene | 7.938 | 96 | 109576 | 47.61 | ug/L | 98 |
| 28) hexane | 8.315 | 56 | 61148 | 41.29 | ug/L | 99 |
| 29) di-isopropyl ether | 8.498 | 45 | 406667 | 46.64 | ug/L | 100 |
| 30) 2-butanone | 9.105 | 72 | 40737 | 218.42 | ug/L | 97 |
| 31) 1,1-dichloroethane | 8.487 | 63 | 196778 | 48.03 | ug/L | 98 |
| 32) chloroprene | 8.602 | 53 | 186540 | 50.98 | ug/L | 98 |
| 33) acrylonitrile | 7.776 | 53 | 33052 | 51.43 | ug/L | 96 |
| 34) vinyl acetate | 8.409 | 86 | 22011 | 49.01 | ug/L | 97 |
| 35) ethyl tert-butyl ether | 8.958 | 59 | 416090 | 48.37 | ug/L | 99 |
| 36) ethyl acetate | 9.131 | 45 | 14933 | 56.86 | ug/L # | 58 |
| 37) 2,2-dichloropropane | 9.251 | 77 | 200120 | 45.53 | ug/L | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263022.D
Acq On : 14 Mar 2019 11:49 pm
Operator : juntaep
Sample : icv10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 15 14:34:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 14:33:32 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 38) cis-1,2-dichloroethene | 9.193 | 96 | 124268 | 49.35 ug/L | 98 |
| 39) propionitrile | 9.146 | 54 | 145574 | 519.13 ug/L | 95 |
| 40) methyl acrylate | 9.220 | 85 | 13887 | 50.30 ug/L # | 88 |
| 41) methacrylonitrile | 9.361 | 67 | 37804 | 51.45 ug/L | 98 |
| 42) bromochloromethane | 9.486 | 128 | 59245 | 52.14 ug/L | 97 |
| 43) tetrahydrofuran | 9.528 | 42 | 27254 | 49.84 ug/L | 96 |
| 44) chloroform | 9.570 | 83 | 193041 | 46.64 ug/L | 98 |
| 45) tert-butyl formate | 9.622 | 59 | 100663 | 43.13 ug/L | 98 |
| 47) 1,1,1-trichloroethane | 9.868 | 97 | 200658 | 47.26 ug/L | 99 |
| 48) cyclohexane | 10.015 | 84 | 206243 | 48.30 ug/L | 99 |
| 50) 1,1-dichloropropene | 10.035 | 75 | 151017 | 48.16 ug/L | 99 |
| 51) carbon tetrachloride | 10.083 | 117 | 175674 | 48.47 ug/L | 98 |
| 52) tert-amyl alcohol | 10.119 | 73 | 33134 | 257.92 ug/L | 96 |
| 53) isopropyl acetate | 10.161 | 87 | 23840 | 48.98 ug/L | 96 |
| 56) n-butyl alcohol | 10.694 | 56 | 163392 | 2242.03 ug/L | 99 |
| 57) 2,2,4-trimethylpentane | 10.412 | 57 | 361116 | 48.28 ug/L | 99 |
| 58) benzene | 10.281 | 78 | 445504 | 48.63 ug/L | 99 |
| 59) tert-amyl methyl ether | 10.370 | 73 | 393227 | 47.04 ug/L | 100 |
| 60) heptane | 10.564 | 57 | 62733 | 51.25 ug/L | 98 |
| 61) 1,2-dichloroethane | 10.276 | 62 | 152865 | 47.45 ug/L | 98 |
| 62) ethyl acrylate | 10.982 | 55 | 123699 | 52.47 ug/L | 99 |
| 63) trichloroethene | 11.024 | 95 | 111069 | 48.80 ug/L | 99 |
| 64) 2-chloroethyl vinyl ether | 11.819 | 63 | 321022 | 269.01 ug/L | 99 |
| 65) methyl methacrylate | 11.259 | 100 | 29092 | 56.46 ug/L | 95 |
| 66) methylcyclohexane | 11.369 | 83 | 181476 | 46.73 ug/L | 97 |
| 67) 1,2-dichloropropane | 11.301 | 63 | 114309 | 50.27 ug/L | 100 |
| 68) dibromomethane | 11.411 | 93 | 69724 | 53.04 ug/L | 99 |
| 69) bromodichloromethane | 11.573 | 83 | 152573 | 50.05 ug/L | 98 |
| 70) 2-nitropropane | 11.751 | 41 | 24952 | 52.48 ug/L | 99 |
| 71) epichlorohydrin | 11.897 | 57 | 57341 | 260.94 ug/L | 98 |
| 72) cis-1,3-dichloropropene | 12.065 | 75 | 187031 | 50.95 ug/L | 99 |
| 73) 4-methyl-2-pentanone | 12.159 | 58 | 164911 | 207.85 ug/L | 99 |
| 74) isoamyl alcohol | 12.148 | 70 | 68594 | 1103.40 ug/L | 99 |
| 77) toluene | 12.499 | 92 | 287995 | 50.50 ug/L | 99 |
| 78) ethyl methacrylate | 12.682 | 69 | 139716 | 51.73 ug/L | 99 |
| 79) trans-1,3-dichloropropene | 12.671 | 75 | 165262 | 49.88 ug/L | 97 |
| 80) 1,1,2-trichloroethane | 12.917 | 83 | 78409 | 51.57 ug/L | 98 |
| 82) 2-hexanone | 13.095 | 58 | 148451 | 215.89 ug/L | 98 |
| 83) 1,3-dichloropropane | 13.116 | 76 | 171158 | 52.28 ug/L | 98 |
| 84) butyl acetate | 13.205 | 56 | 73312 | 52.36 ug/L | 98 |
| 85) dibromochloromethane | 13.398 | 129 | 117730 | 54.96 ug/L | 99 |
| 86) 1,2-dibromoethane | 13.576 | 107 | 124852 | 52.82 ug/L | 98 |
| 87) n-butyl ether | 14.105 | 57 | 525666 | 50.58 ug/L | 99 |
| 88) chlorobenzene | 14.131 | 112 | 328973 | 49.82 ug/L | 99 |
| 89) 1,1,1,2-tetrachloroethane | 14.199 | 131 | 135682 | 53.48 ug/L | 99 |
| 90) ethylbenzene | 14.209 | 91 | 569165 | 50.36 ug/L | 100 |
| 91) m,p-xylene | 14.345 | 106 | 436110 | 101.28 ug/L | 99 |
| 92) o-xylene | 14.795 | 91 | 478588 | 50.59 ug/L | 100 |
| 93) styrene | 14.805 | 104 | 387457 | 52.82 ug/L | 98 |
| 94) butyl acrylate | 14.591 | 55 | 246552 | 55.60 ug/L | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263022.D
Acq On : 14 Mar 2019 11:49 pm
Operator : juntaep
Sample : icv10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 15 14:34:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 14:33:32 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 95) n-amyl acetate | 14.832 | 70 | 93566 | 49.84 ug/L | 99 |
| 96) isopropylbenzene | 15.198 | 105 | 556849 | 50.44 ug/L | 100 |
| 97) bromoform | 15.051 | 173 | 87668 | 56.79 ug/L | 99 |
| 98) cis-1,4-dichloro-2-butene | 15.203 | 88 | 52444 | 51.18 ug/L | 92 |
| 101) 1,1,2,2-tetrachloroethane | 15.475 | 83 | 138830 | 47.27 ug/L | 99 |
| 102) trans-1,4-dichloro-2-b... | 15.511 | 53 | 42994 | 58.48 ug/L | 99 |
| 103) 1,2,3-trichloropropane | 15.574 | 110 | 41806 | 49.38 ug/L | 91 |
| 104) bromobenzene | 15.621 | 156 | 163193 | 48.99 ug/L | 98 |
| 105) n-propylbenzene | 15.668 | 91 | 628198 | 47.73 ug/L | 100 |
| 106) 2-chlorotoluene | 15.815 | 126 | 142016 | 48.15 ug/L | 97 |
| 107) 4-chlorotoluene | 15.935 | 91 | 430848 | 49.59 ug/L | 98 |
| 108) 1,3,5-trimethylbenzene | 15.846 | 105 | 482334 | 47.95 ug/L | 99 |
| 109) tert-butylbenzene | 16.228 | 119 | 376662 | 48.28 ug/L | 99 |
| 110) 1,2,4-trimethylbenzene | 16.285 | 105 | 506357 | 50.49 ug/L | 100 |
| 111) sec-butylbenzene | 16.479 | 105 | 566485 | 49.29 ug/L | 100 |
| 112) p-isopropyltoluene | 16.625 | 119 | 491230 | 51.35 ug/L | 100 |
| 113) 1,3-dichlorobenzene | 16.662 | 146 | 292903 | 50.34 ug/L | 99 |
| 114) 1,4-dichlorobenzene | 16.767 | 146 | 301869 | 50.02 ug/L | 100 |
| 115) 1,2-dichlorobenzene | 17.180 | 146 | 291208 | 49.94 ug/L | 99 |
| 116) benzyl chloride | 16.856 | 91 | 240569 | 42.48 ug/L | 99 |
| 117) n-butylbenzene | 17.086 | 92 | 237076 | 53.06 ug/L | 99 |
| 118) 2-ethylhexyl acrylate | 18.984 | 70 | 7389 | 7.85 ug/L | 95 |
| 119) hexachloroethane | 17.535 | 201 | 77707 | 52.32 ug/L | 97 |
| 120) 1,2-dibromo-3-chloropr... | 18.017 | 75 | 28101 | 53.39 ug/L | 99 |
| 121) 1,3,5-trichlorobenzene | 18.257 | 180 | 214748 | 54.74 ug/L | 99 |
| 122) 1,2,4-trichlorobenzene | 18.984 | 180 | 173152 | 48.67 ug/L | 100 |
| 123) hexachlorobutadiene | 19.136 | 225 | 94106 | 52.63 ug/L | 99 |
| 124) naphthalene | 19.324 | 128 | 388539 | 49.04 ug/L | 100 |
| 125) 1,2,3-trichlorobenzene | 19.591 | 180 | 149079 | 47.61 ug/L | 99 |
| 126) 2-methylnaphthalene | 20.742 | 142 | 40206 | 23.68 ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

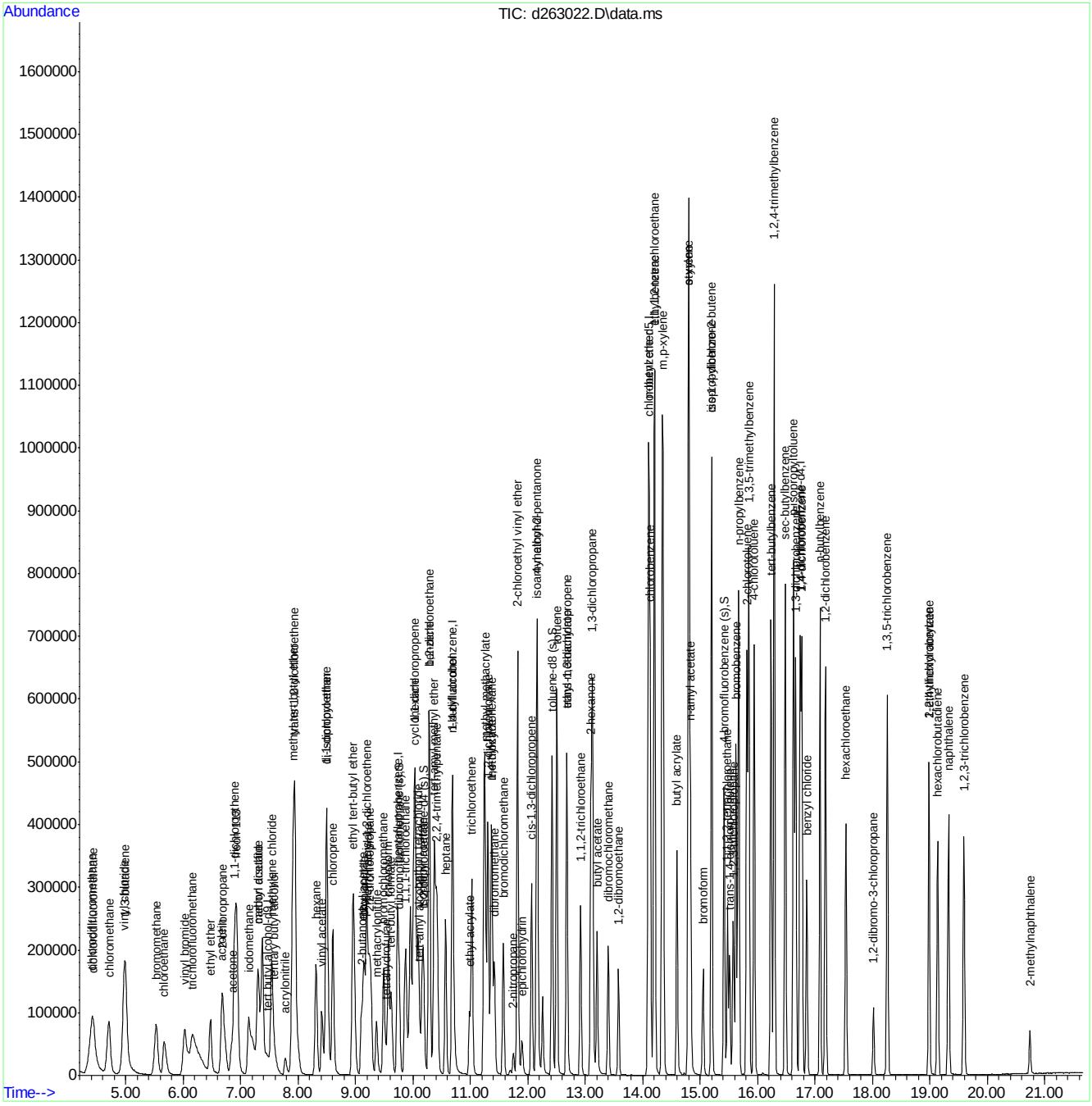
7.7.35

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263022.D
Acq On : 14 Mar 2019 11:49 pm
Operator : juntaep
Sample : icv10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 15 14:34:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 14:33:32 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263023.D
Acq On : 15 Mar 2019 12:18 am
Operator : juntaep
Sample : icv10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 15 14:35:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:17:57 2019
Response via : Initial Calibration

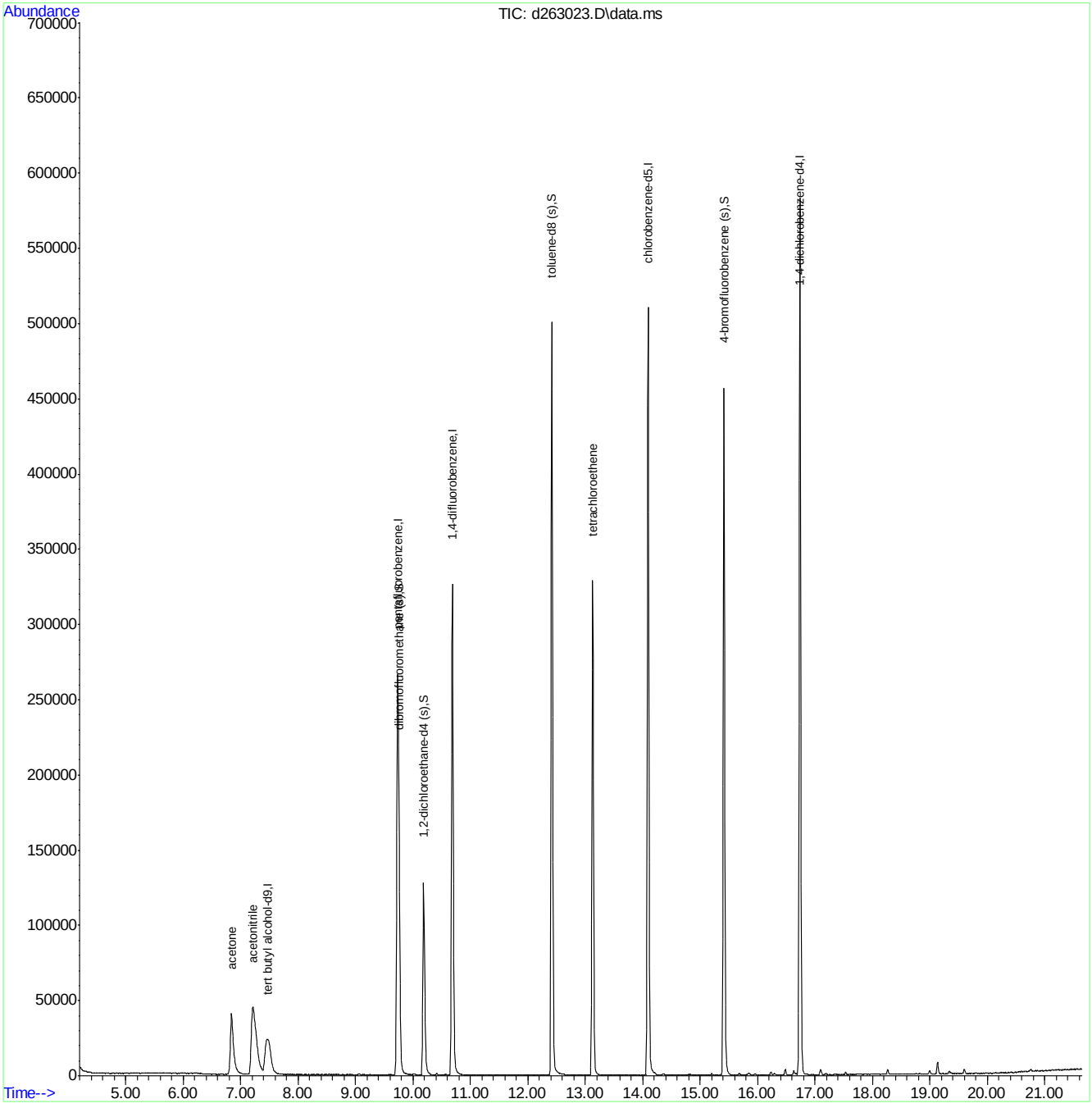
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.472 | 65 | 91042 | 500.00 | ug/L | 0.00 |
| 5) pentafluorobenzene | 9.731 | 168 | 206407 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.683 | 114 | 301306 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.093 | 117 | 309279 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.740 | 152 | 169188 | 50.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 46) dibromofluoromethane (s) | 9.757 | 113 | 94924 | 48.74 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 97.48% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.186 | 65 | 111263 | 49.26 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 98.52% | | | |
| 76) toluene-d8 (s) | 12.419 | 98 | 372100 | 49.34 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 98.68% | | | |
| 100) 4-bromofluorobenzene (s) | 15.416 | 95 | 170097 | 54.26 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 108.52% | | | |
| Target Compounds | | | | | | Qvalue |
| 20) acetone | 6.844 | 58 | 31777 | 198.62 | ug/L # | 84 |
| 21) acetonitrile | 7.210 | 41 | 152143 | 449.61 | ug/L | 99 |
| 81) tetrachloroethene | 13.131 | 164 | 85904 | 44.58 | ug/L | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10606\
Data File : d263023.D
Acq On : 15 Mar 2019 12:18 am
Operator : juntaep
Sample : icv10606-50
Misc : ms33018,vd10606,5,,100,5,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 15 14:35:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Fri Mar 15 07:17:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264356.D
Acq On : 8 May 2019 6:56 am
Operator : thienn
Sample : cc10606-50
Misc : ms34538,vd10654,5,,100,5,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 08 10:37:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) tert butyl alcohol-d9 | 7.460 | 65 | 128871 | 500.00 | ug/L | -0.01 |
| 5) pentafluorobenzene | 9.719 | 168 | 250397 | 50.00 | ug/L | 0.00 |
| 54) 1,4-difluorobenzene | 10.676 | 114 | 384549 | 50.00 | ug/L | 0.00 |
| 75) chlorobenzene-d5 | 14.086 | 117 | 378251 | 50.00 | ug/L | 0.00 |
| 99) 1,4-dichlorobenzene-d4 | 16.727 | 152 | 223810 | 50.00 | ug/L | -0.01 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 46) dibromofluoromethane (s) | 9.745 | 113 | 116664 | 49.38 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 75 - 127 | | Recovery = 98.76% | | | |
| 55) 1,2-dichloroethane-d4 (s) | 10.174 | 65 | 124351 | 43.14 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 75 - 130 | | Recovery = 86.28% | | | |
| 76) toluene-d8 (s) | 12.407 | 98 | 459033 | 49.77 | ug/L | -0.01 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 99.54% | | | |
| 100) 4-bromofluorobenzene (s) | 15.404 | 95 | 199558 | 48.12 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 79 - 127 | | Recovery = 96.24% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 3) tertiary butyl alcohol | 7.575 | 59 | 76486 | 223.87 | ug/L | 98 |
| 4) 1,4-dioxane | 11.346 | 88 | 35479 | 1139.02 | ug/L | 98 |
| 6) chlorodifluoromethane | 4.411 | 51 | 185731 | 35.16 | ug/L | 98 |
| 7) dichlorodifluoromethane | 4.411 | 85 | 241837 | 33.27 | ug/L | 99 |
| 8) chloromethane | 4.698 | 50 | 273031 | 44.85 | ug/L | 98 |
| 9) 1,3-butadiene | 4.975 | 54 | 136436 | 40.46 | ug/L | 93 |
| 10) vinyl chloride | 4.944 | 62 | 273350 | 44.13 | ug/L | 98 |
| 11) bromomethane | 5.519 | 94 | 151161 | 47.39 | ug/L | 99 |
| 12) chloroethane | 5.655 | 64 | 120784 | 44.52 | ug/L | 96 |
| 13) trichlorofluoromethane | 6.136 | 101 | 226951 | 40.68 | ug/L | 97 |
| 14) vinyl bromide | 6.011 | 106 | 154063 | 54.15 | ug/L | 96 |
| 15) ethyl ether | 6.466 | 74 | 71556 | 51.83 | ug/L | 92 |
| 16) 2-chloropropane | 6.675 | 43 | 250811 | 42.12 | ug/L | 94 |
| 17) acrolein | 6.644 | 56 | 25980 | 56.69 | ug/L | 93 |
| 18) freon 113 | 6.921 | 151 | 137660 | 42.04 | ug/L | 97 |
| 19) 1,1-dichloroethene | 6.879 | 96 | 139571 | 45.20 | ug/L | 94 |
| 20) acetone | 6.832 | 58 | 53757 | 276.97 | ug/L # | 81 |
| 21) acetonitrile | 7.198 | 41 | 200918 | 490.68 | ug/L | 97 |
| 22) iodomethane | 7.125 | 142 | 218310 | 44.95 | ug/L | 97 |
| 23) carbon disulfide | 7.292 | 76 | 455877 | 45.29 | ug/L | 99 |
| 24) methylene chloride | 7.528 | 84 | 153346 | 47.26 | ug/L | 99 |
| 25) methyl acetate | 7.287 | 43 | 83169 | 48.40 | ug/L | 96 |
| 26) methyl tert butyl ether | 7.904 | 73 | 424869 | 45.29 | ug/L | 97 |
| 27) trans-1,2-dichloroethene | 7.930 | 96 | 131820 | 46.56 | ug/L | 94 |
| 28) hexane | 8.302 | 56 | 93497 | 51.31 | ug/L | 98 |
| 29) di-isopropyl ether | 8.490 | 45 | 497249 | 46.36 | ug/L | 97 |
| 30) 2-butanone | 9.097 | 72 | 51361 | 223.86 | ug/L | 90 |
| 31) 1,1-dichloroethane | 8.480 | 63 | 230379 | 45.71 | ug/L | 99 |
| 32) chloroprene | 8.595 | 53 | 194130 | 43.13 | ug/L | 95 |
| 33) acrylonitrile | 7.768 | 53 | 42610 | 53.90 | ug/L | 93 |
| 34) vinyl acetate | 8.406 | 86 | 26086 | 47.21 | ug/L # | 87 |
| 35) ethyl tert-butyl ether | 8.950 | 59 | 485607 | 45.89 | ug/L | 98 |
| 36) ethyl acetate | 9.128 | 45 | 17205 | 53.25 | ug/L # | 88 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264356.D
Acq On : 8 May 2019 6:56 am
Operator : thienn
Sample : cc10606-50
Misc : ms34538,vd10654,5,,100,5,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 08 10:37:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 37) 2,2-dichloropropane | 9.238 | 77 | 235450 | 43.55 ug/L | 94 |
| 38) cis-1,2-dichloroethene | 9.186 | 96 | 145542 | 46.98 ug/L | 97 |
| 39) propionitrile | 9.133 | 54 | 179567 | 520.53 ug/L | 99 |
| 40) methyl acrylate | 9.217 | 85 | 15651 | 46.22 ug/L # | 88 |
| 41) methacrylonitrile | 9.353 | 67 | 45371 | 50.20 ug/L | 97 |
| 42) bromochloromethane | 9.479 | 128 | 67144 | 48.04 ug/L | 98 |
| 43) tetrahydrofuran | 9.515 | 42 | 32334 | 48.06 ug/L | 98 |
| 44) chloroform | 9.557 | 83 | 218014 | 42.82 ug/L | 97 |
| 45) tert-butyl formate | 9.609 | 59 | 131339 | 45.75 ug/L | 96 |
| 47) 1,1,1-trichloroethane | 9.860 | 97 | 221582 | 42.43 ug/L | 96 |
| 48) cyclohexane | 10.007 | 84 | 263990 | 50.26 ug/L | 96 |
| 50) 1,1-dichloropropene | 10.028 | 75 | 165278 | 42.84 ug/L | 98 |
| 51) carbon tetrachloride | 10.075 | 117 | 184298 | 41.33 ug/L | 98 |
| 52) tert-amyl alcohol | 10.106 | 73 | 36334 | 229.91 ug/L | 97 |
| 53) isopropyl acetate | 10.153 | 87 | 28358 | 47.36 ug/L # | 88 |
| 56) n-butyl alcohol | 10.681 | 56 | 202855 | 2184.02 ug/L | 96 |
| 57) 2,2,4-trimethylpentane | 10.404 | 57 | 483351 | 50.70 ug/L | 96 |
| 58) benzene | 10.274 | 78 | 523703 | 44.85 ug/L | 98 |
| 59) tert-amyl methyl ether | 10.362 | 73 | 462457 | 43.41 ug/L | 99 |
| 60) heptane | 10.556 | 57 | 79345 | 50.86 ug/L | 96 |
| 61) 1,2-dichloroethane | 10.268 | 62 | 152990 | 37.26 ug/L | 96 |
| 62) ethyl acrylate | 10.974 | 55 | 135210 | 45.00 ug/L | 99 |
| 63) trichloroethene | 11.011 | 95 | 126420 | 43.58 ug/L | 96 |
| 64) 2-chloroethyl vinyl ether | 11.811 | 63 | 366842 | 241.20 ug/L | 99 |
| 65) methyl methacrylate | 11.252 | 100 | 31022 | 47.23 ug/L | 87 |
| 66) methylcyclohexane | 11.356 | 83 | 246138 | 49.73 ug/L | 97 |
| 67) 1,2-dichloropropane | 11.293 | 63 | 134895 | 46.54 ug/L | 98 |
| 68) dibromomethane | 11.403 | 93 | 74256 | 44.32 ug/L | 96 |
| 69) bromodichloromethane | 11.560 | 83 | 169908 | 43.73 ug/L | 98 |
| 70) 2-nitropropane | 11.738 | 41 | 24423 | 40.30 ug/L | 95 |
| 71) epichlorohydrin | 11.884 | 57 | 67413 | 240.70 ug/L | 96 |
| 72) cis-1,3-dichloropropene | 12.057 | 75 | 212387 | 45.39 ug/L | 93 |
| 73) 4-methyl-2-pentanone | 12.151 | 58 | 194232 | 192.08 ug/L | 90 |
| 74) isoamyl alcohol | 12.141 | 70 | 81215 | 1025.05 ug/L | 98 |
| 77) toluene | 12.491 | 92 | 326795 | 45.17 ug/L | 98 |
| 78) ethyl methacrylate | 12.669 | 69 | 159314 | 46.49 ug/L | 97 |
| 79) trans-1,3-dichloropropene | 12.664 | 75 | 186386 | 44.34 ug/L | 93 |
| 80) 1,1,2-trichloroethane | 12.904 | 83 | 88458 | 45.85 ug/L | 97 |
| 81) tetrachloroethene | 13.119 | 164 | 106627 | 45.24 ug/L | 99 |
| 82) 2-hexanone | 13.087 | 58 | 183950 | 210.84 ug/L | 96 |
| 83) 1,3-dichloropropane | 13.108 | 76 | 181946 | 43.81 ug/L | 95 |
| 84) butyl acetate | 13.197 | 56 | 87209 | 49.09 ug/L | 93 |
| 85) dibromochloromethane | 13.391 | 129 | 126160 | 46.42 ug/L | 98 |
| 86) 1,2-dibromoethane | 13.569 | 107 | 126247 | 42.09 ug/L | 98 |
| 87) n-butyl ether | 14.097 | 57 | 605577 | 45.93 ug/L | 98 |
| 88) chlorobenzene | 14.123 | 112 | 356132 | 42.50 ug/L | 98 |
| 89) 1,1,1,2-tetrachloroethane | 14.191 | 131 | 143066 | 44.44 ug/L | 99 |
| 90) ethylbenzene | 14.196 | 91 | 642273 | 44.79 ug/L | 100 |
| 91) m,p-xylene | 14.337 | 106 | 497346 | 91.04 ug/L | 97 |
| 92) o-xylene | 14.787 | 91 | 544178 | 45.34 ug/L | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264356.D
Acq On : 8 May 2019 6:56 am
Operator : thienn
Sample : cc10606-50
Misc : ms34538,vd10654,5,,100,5,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 08 10:37:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 93) styrene | 14.792 | 104 | 421421 | 45.28 ug/L | 98 |
| 94) butyl acrylate | 14.583 | 55 | 277050 | 49.24 ug/L | 99 |
| 95) n-amyl acetate | 14.824 | 70 | 112312 | 47.15 ug/L | 94 |
| 96) isopropylbenzene | 15.190 | 105 | 687332 | 49.07 ug/L | 98 |
| 97) bromoform | 15.038 | 173 | 90748 | 46.33 ug/L | 99 |
| 98) cis-1,4-dichloro-2-butene | 15.190 | 88 | 55094 | 42.37 ug/L | 95 |
| 101) 1,1,2,2-tetrachloroethane | 15.467 | 83 | 159366 | 46.08 ug/L | 99 |
| 102) trans-1,4-dichloro-2-b... | 15.504 | 53 | 40830 | 47.16 ug/L | 90 |
| 103) 1,2,3-trichloropropane | 15.566 | 110 | 45265 | 45.40 ug/L | 93 |
| 104) bromobenzene | 15.613 | 156 | 173000 | 44.10 ug/L | 98 |
| 105) n-propylbenzene | 15.661 | 91 | 783314 | 50.54 ug/L | 99 |
| 106) 2-chlorotoluene | 15.802 | 126 | 163828 | 47.17 ug/L | 94 |
| 107) 4-chlorotoluene | 15.927 | 91 | 483510 | 47.26 ug/L | 99 |
| 108) 1,3,5-trimethylbenzene | 15.838 | 105 | 608656 | 51.38 ug/L | 99 |
| 109) tert-butylbenzene | 16.220 | 119 | 489534 | 53.28 ug/L | 98 |
| 110) 1,2,4-trimethylbenzene | 16.278 | 105 | 608743 | 51.54 ug/L | 100 |
| 111) sec-butylbenzene | 16.471 | 105 | 734656 | 54.28 ug/L | 99 |
| 112) p-isopropyltoluene | 16.618 | 119 | 629105 | 55.84 ug/L | 98 |
| 113) 1,3-dichlorobenzene | 16.654 | 146 | 333562 | 48.68 ug/L | 99 |
| 114) 1,4-dichlorobenzene | 16.759 | 146 | 340909 | 47.97 ug/L | 100 |
| 115) 1,2-dichlorobenzene | 17.172 | 146 | 340612 | 49.60 ug/L | 99 |
| 116) benzyl chloride | 16.848 | 91 | 378542 | 56.76 ug/L | 99 |
| 117) n-butylbenzene | 17.078 | 92 | 311583 | 59.22 ug/L | 99 |
| 118) 2-ethylhexyl acrylate | 18.976 | 70 | 30841 | 27.81 ug/L # | 73 |
| 119) hexachloroethane | 17.528 | 201 | 103242 | 59.03 ug/L | 95 |
| 120) 1,2-dibromo-3-chloropr... | 18.004 | 75 | 32279 | 52.07 ug/L | 98 |
| 121) 1,3,5-trichlorobenzene | 18.249 | 180 | 280541 | 60.72 ug/L | 99 |
| 122) 1,2,4-trichlorobenzene | 18.976 | 180 | 236025 | 56.10 ug/L | 97 |
| 123) hexachlorobutadiene | 19.123 | 225 | 108663 | 51.60 ug/L | 100 |
| 124) naphthalene | 19.311 | 128 | 514451 | 54.91 ug/L | 99 |
| 125) 1,2,3-trichlorobenzene | 19.578 | 180 | 202436 | 54.62 ug/L | 99 |
| 126) 2-methylnaphthalene | 20.729 | 142 | 87919 | 43.97 ug/L | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

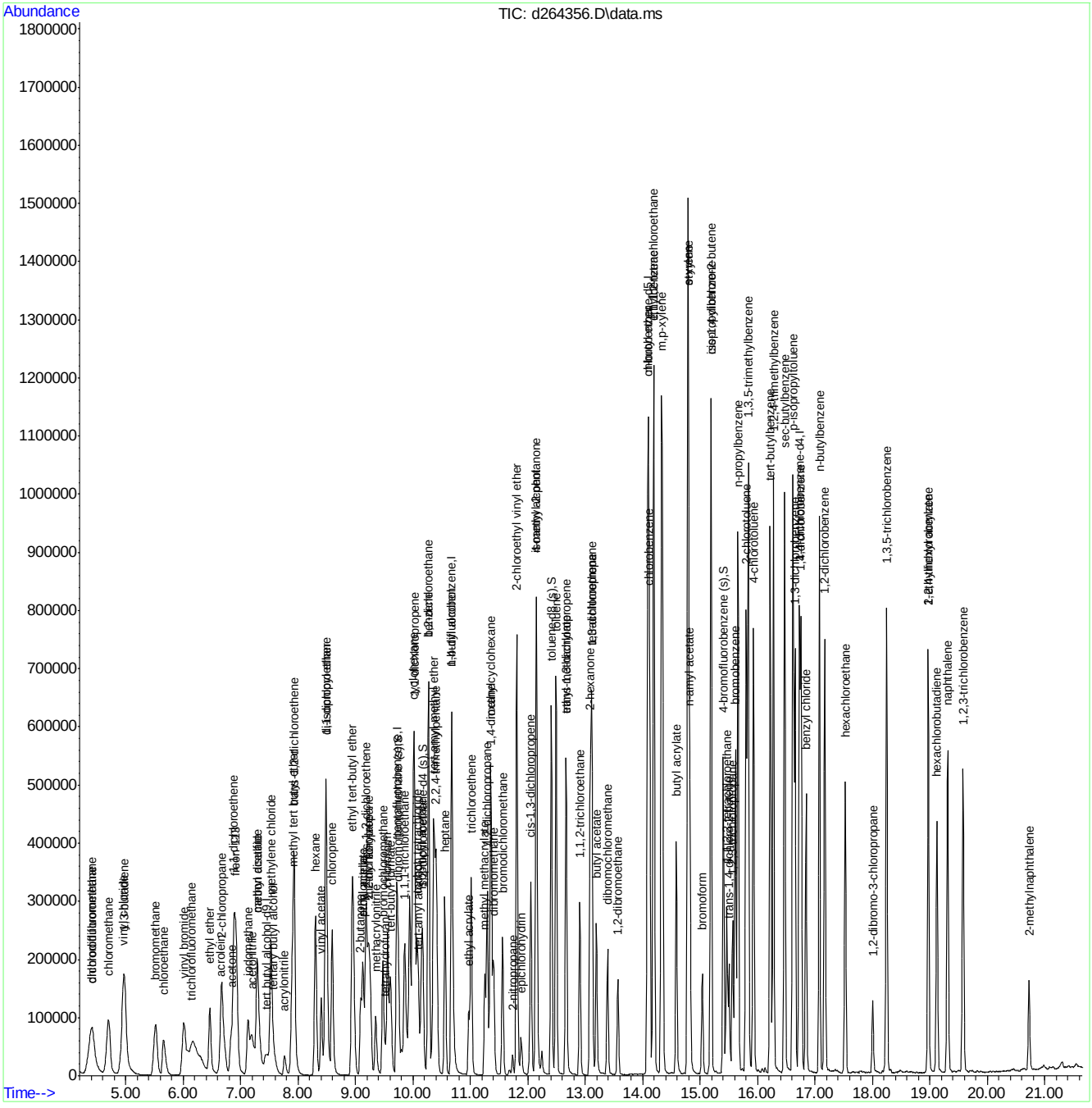
7.7.37

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VD10654\
Data File : d264356.D
Acq On : 8 May 2019 6:56 am
Operator : thienn
Sample : cc10606-50
Misc : ms34538,vd10654,5,,100,5,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 08 10:37:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MD10606.M
Quant Title : SW846 8260C, Rxi-624 MS 60m x 0.25mm x 1.4um
QLast Update : Wed Mar 27 14:25:51 2019
Response via : Initial Calibration



# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standard | ABK: V019-2648-72.23 | EC: V019-2648-80.11 | Acrolein V019-2648-54.40 | |
| Standard Concentrations | 100-10,000 PPM | 100 PPM | 100 PPM | |
| Internal Surrogate | V019-2648-64 | | | |
| I/S Concentration | 50/500 PPM | | | |
| Standard | ABK: V019-2648-52.7 | Ext EC: V019-2648-76.5 | Ext Acrolein: V019-2648-42.5 | Ext PA: V019-2648-79.1 |
| Standard Concentrations | 100-10000 PPM | 100 PPM | 100 PPM | 100/1000 PPM |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Rough reviewed by | | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS1C | Instrument ID: | Sequence loaded by | Robert Szot |
| Analysis Date | 4/19/1942 | Data processed by | Robert Szot |
| Column | Rxi-624(60mx0.25mmx1.4um) | Batch ID | V1C7200 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 4/24/19 | Approved By: | KANYAV |
| Init Calib Quant Method | M1CS7200 | Approved Date: | 4/25/2019 4:27:41 PM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164004 | BFB | | NA | | | 5 | 5 | | 1 | ok | 2:40 pm |
| 1C | 164005 | IC7200-0.5 | | NA | | 8260 initial calibration | 5 | 5 | | 2 | ok | 2.5 uL ABK, EC, Acrolein / 500 mL DI H2O |
| 1C | 164006 | IC7200-1 | | NA | | 8260 initial calibration | 5 | 5 | | 3 | ok | 2 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 1C | 164007 | IC7200-2 | | NA | | 8260 initial calibration | 5 | 5 | | 4 | ok | 4 uL ABK, EC, Acrolein / 200 mL DI H2O |
| 1C | 164008 | IC7200-4 | | NA | | 8260 initial calibration | 5 | 5 | | 5 | ok | 2 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164009 | IC7200-8 | | NA | | 8260 initial calibration | 5 | 5 | | 6 | ok | 4 uL ABK, EC, Acrolein / 50 mL DI H2O |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164010 | IC7200-20 | | NA | | 8260 initial calibration | 5 | 5 | | 7 | ok | 10 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164011 | IC7200-50 | | NA | | 8260 initial calibration | 5 | 5 | | 8 | ok | 25 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164012 | IC7200-100 | | NA | | 8260 initial calibration | 5 | 5 | | 9 | ok | 50 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164013 | IC7200-200 | | NA | | 8260 initial calibration | 5 | 5 | | 10 | ok | 100 uL ABK, EC, Acrolein / 50 mL DI H2O |
| 1C | 164014 | IB | | NA | | | 5 | 5 | | 11 | ok | |
| 1C | 164015 | IB | | NA | | | 5 | 5 | | 12 | ok | |
| 1C | 164016 | ICV7200-50 | | NA | | 8260 initial calibration | 5 | 5 | | 13 | ok | 25 uL Ext ABK, Ext EC, Ext Acrolein / 100 mL DI H2O |
| 1C | 164017 | ICV7200-50 | | NA | | 8260 initial calibration | 5 | 5 | | 14 | ok | 25 uL Ext PA / 100 mL DI H2O |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standard | ABK: V019-2648-72.63 | EC: V019-2648-98.5 | Acrolein: V019-2648-88.33 | |
| Standard Concentrations | 100-10,000ppm | 100ppm | 100ppm | |
| Internal Surrogate | V019-2648-97 | | | |
| I/S Concentration | 50/500ppm | | | |
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| Rough reviewed by | Prashant B. Shukla | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS1C | Instrument ID: | Sequence loaded by | Prashant B. Shukla |
| Analysis Date | 5/9/2019 | Data processed by | nizele |
| Column | Rxi-624(60mx0.25mmx1.4um) | Batch ID | V1C7215 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 4/24/19 | Approved By: | MOHUI |
| Init Calib Quant Method | M1CS7200 | Approved Date: | 5/10/2019 8:28:08 AM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164392 | CC7200-20 | | NA | | | 5.0 | 5 | | 1 | NG | 10uL Std.A/B/K,EC,Acrolein in 50mL DI H2O |
| 1C | 164393 | IB | | NA | | | 5.0 | 5 | | 2 | OK | |
| 1C | 164394 | BFB/CC7200-50 | | NA | | | 5.0 | 5 | | 1 | ok/ok | 25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O, # 7,8 low, 10:10 AM |
| 1C | 164395 | CC7200-4 | | NA | | | 5.0 | 5 | | 2 | ok | 2uL Std.A/B/K,EC,Acrolein in 50mL DI H2O, for # 7,8 |
| 1C | 164396 | BS | | NA | | | 5.0 | 5 | | 3 | ok | 25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O |
| 1C | 164397 | IB | | NA | | | 5.0 | 5 | | 4 | OK | |

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| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164398 | MB/JC80307E-9A | | NA | MS32143 | V8260SL | 5.0 | 5 | | 5 | ok | |
| 1C | 164399 | JC86986-2 | 11 | NA | MS34303 | V8260TCL20 | 4.09 | 5 | | 6 | ok | |
| 1C | 164400 | JC86986-6 | 4 | NA | MS34303 | V8260TCL20 | 5.62 | 5 | | 7 | ok | |
| 1C | 164401 | JC86986-2MS | 10 | NA | MS34303 | V8260TCL20 | 4.56 | 5 | | 8 | ok | 2.5uL Std.A/B/K,EC,Acrolein in sample |
| 1C | 164402 | JC86986-2MSD | 13 | NA | MS34303 | V8260TCL20 | 5.75 | 5 | | 9 | ok | 2.5uL Std.A/B/K,EC,Acrolein in sample |
| 1C | 164403 | IB | | NA | | | 5.0 | 5 | | 10 | OK | |
| 1C | 164404 | JC87208-9 | 2 | NA | MS34417 | V8260TCL | 5.0 | 5 | | 11 | ok | |
| 1C | 164405 | JC87500-1 | 4 | NA | MS34531 | V8260SCO | 5.25 | 5 | | 12 | ok | |
| 1C | 164406 | JC87500-2 | 4 | NA | MS34531 | V8260SCO | 5.25 | 5 | | 13 | ok | |
| 1C | 164407 | JC87266-17 | 5 | NA | MS34431 | V8260STD | 5.5 | 5 | | 14 | ok | |
| 1C | 164408 | JC87266-2 | 5 | NA | MS34431 | V8260STD | 5.6 | 5 | | 15 | ok | |
| 1C | 164409 | JC87266-3 | 5 | NA | MS34431 | V8260STD | 6.1 | 5 | | 16 | ok | |
| 1C | 164410 | JC87266-4 | 5 | NA | MS34431 | V8260STD | 6.1 | 5 | | 17 | ok | |
| 1C | 164411 | JC87266-5 | 5 | NA | MS34431 | V8260STD | 6.0 | 5 | | 18 | ok | |
| 1C | 164412 | JC87266-6 | 5 | NA | MS34431 | V8260STD | 4.3 | 5 | | 19 | ok | |
| 1C | 164413 | JC87266-7 | 5 | NA | MS34431 | V8260STD | 5.8 | 5 | | 20 | ok | |
| 1C | 164414 | JC87266-8 | 5 | NA | MS34431 | V8260STD | 5.3 | 5 | | 21 | ok | |
| 1C | 164415 | JC87266-9 | 5 | NA | MS34431 | V8260STD | 5.6 | 5 | | 22 | ok | |
| 1C | 164416 | JC87266-10 | 5 | NA | MS34431 | V8260STD | 5.2 | 5 | | 23 | ok | |
| 1C | 164417 | JC87266-11 | 5 | NA | MS34431 | V8260STD | 3.8 | 5 | | 24 | ok | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1C | 164418 | JC87266-1 | 5 | NA | MS34431 | V8260STD | 4.2 | 5 | | 25 | ok | |
| 1C | 164419 | JC87266-18 | 5 | NA | MS34431 | V8260STD | 4.4 | 5 | | 26 | ok | |
| 1C | 164420 | JC87651-1 | 4 | NA | MS34598 | V8260VTAROM | 14.5 | 5 | | 27 | ok | 9:50 pm |
| 1C | 164421 | IB | | NA | | | 5.0 | 5 | | 28 | OK | |
| 1C | 164422 | IB | | NA | | | 5.0 | 5 | | 29 | OK | |
| 1C | 164423 | IB | | NA | | | 5.0 | 5 | | 30 | OK | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standards | ABK: V018-2645-111.36 | EC: V018-2645-129.11 | Acrolein: V018-2645-85.7 | Acetone 3sd source:V018-2645-120.3 |
| Standard Concentrations | 100-10,000ppm | 100ppm | 100ppm | |
| Internal Surrogate | V018-2645-126 | | | |
| I/S Concentration | 50/500ppm | | | |
| Ext Standard | Ext ABK: V018-2645-109.5 | Ext EC: V018-2645-123.3 | Ext Acrolein: V018-2645-98.4 | Ext PA: V018-2645-130.3 |
| Standard Concentrations | 100-10,000ppm | 100ppm | 100ppm | 100/1000ppm |
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| Initial Calibration Method | M3C6743 | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS3C | Instrument ID: | Sequence loaded by | Austin Park |
| Analysis Date | 2/13/2019 | Data processed by | Robert Szot |
| Column | Rxi-624(20mx0.18mmx1.0um) | Batch ID | V3C6743 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 2/13/2019 | Approved By: | KANYAV |
| Init Calib Quant Method | M3C6743 | Approved Date: | 2/15/2019 1:47:07 AM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3C | 149621 | BFB | | NA | | V8260 SO Init. Cal. | | 5 | | 1 | ok | 5:27 pm |
| 3C | 149622 | IC6743-0.2 | | NA | | V8260 SO Init. Cal. | | 5 | | 2 | ok | 0.2ul ABK,EC,Acrolein/100ml |
| 3C | 149623 | IC6743-0.5 | | NA | | V8260 SO Init. Cal. | | 5 | | 3 | ok | 0.5ul ABK,EC,Acrolein/100ml |
| 3C | 149624 | IC6743-1 | | NA | | V8260 SO Init. Cal. | | 5 | | 4 | ok | 1ul ABK,EC,Acrolein/100ml |
| 3C | 149625 | IC6743-0.2 | | NA | | V8260 SO Init. Cal. | | 5 | | 2 | NG | Purged wrong position by accident |
| 3C | 149626 | IC6743-0.5 | | NA | | V8260 SO Init. Cal. | | 5 | | 3 | NG | Purged wrong position by accident |

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| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3C | 149627 | IC6743-1 | | NA | | V8260 SO Init. Cal. | | 5 | | 4 | NG | Purged wrong position by accident |
| 3C | 149628 | IC6743-2 | | NA | | V8260 SO Init. Cal. | | 5 | | 5 | ok | 2ul ABK,EC,Acrolein/100ml |
| 3C | 149629 | IC6743-4 | | NA | | V8260 SO Init. Cal. | | 5 | | 6 | ok | 4ul ABK,EC,Acrolein/100ml |
| 3C | 149630 | IC6743-8 | | NA | | V8260 SO Init. Cal. | | 5 | | 7 | ok | 8ul ABK,EC,Acrolein/100ml |
| 3C | 149631 | IC6743-20 | | NA | | V8260 SO Init. Cal. | | 5 | | 8 | ok | 20ul ABK,EC,Acrolein/100ml |
| 3C | 149632 | ICC6743-50 | | NA | | V8260 SO Init. Cal. | | 5 | | 9 | ok | 50ul ABK,EC,Acrolein/100ml |
| 3C | 149633 | IC6743-100 | | NA | | V8260 SO Init. Cal. | | 5 | | 10 | ok | 100ul ABK,EC,Acrolein/100ml |
| 3C | 149634 | IC6743-200 | | NA | | V8260 SO Init. Cal. | | 5 | | 11 | ok | 200ul ABK,EC,Acrolein/100ml |
| 3C | 149635 | IB | | NA | | V8260 SO Init. Cal. | | 5 | | 12 | ok | |
| 3C | 149636 | IB | | NA | | V8260 SO Init. Cal. | | 5 | | 13 | ok | |
| 3C | 149637 | ICV6743-50 | | NA | | V8260 SO Init. Cal. | | 5 | | 14 | ok | 50ul Ext. ABK,EC,Acrolein/100ml |
| 3C | 149638 | ICV6743-50 | | NA | | V8260 SO Init. Cal. | | 5 | | 15 | ok | 50ul Acetone 3rd, Ext. PA/100ml |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standard | ABK: V019-2648-72.63 | EC: V019-2648-98.5 | Acrolein: V019-2648-88.33 | |
| Standard Concentrations | 100-10,000 PPM | 100 PPM | 100 PPM | |
| Internal Surrogate | V019-2648-97 | | | |
| I/S Concentration | 50/500 PPM | | | |
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| Rough reviewed by | Prashant B. Shukla | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS3C | Instrument ID: | Sequence loaded by | Maricela Delgadillo |
| Analysis Date | 5/5/2019 | Data processed by | Lotusa |
| Column | Rxi-624(20mx0.18mmx1.0um) | Batch ID | V3C6820 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 2/13/2019 | Approved By: | KANYAV |
| Init Calib Quant Method | M3C6743 | Approved Date: | 5/8/2019 3:42:33 PM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3C | 151771 | IB | | NA | | | 5.0 | 5 | | 1 | OK | |
| 3C | 151772 | BFB/CC6743-50 | | NA | | | 5.0 | 5 | | 2 | OK/OK | 50ul ABK, EC, Acrolein/100L 12:35PM LOW #8, HIGH #72,84 |
| 3C | 151773 | CC6743-4 | | NA | | | 5.0 | 5 | | 3 | OK | 4ul ABK, EC, ACROLEIN/100ML FOR #8 |
| 3C | 151774 | BS | | NA | | | 5.0 | 5 | | 4 | OK | |
| 3C | 151775 | IB | | NA | | | 5.0 | 5 | | 5 | OK | |
| 3C | 151776 | MB | | NA | | | 5.0 | 5 | | 6 | OK | |

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| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3C | 151777 | JC87093-7 | 10 | NA | MS34369 | V8260TCL20 | 5.43 | 5 | | 7 | ok/rr | NG |
| 3C | 151778 | JC87093-2 | 4 | NA | MS34369 | V8260TCL20 | 4.83 | 5 | | 8 | OK | |
| 3C | 151779 | JC87093-7MS | 12 | NA | MS34369 | V8260TCL20 | 5.4 | 5 | | 9 | not used | 2.5ul ABK, EC, ACROLEIN IN SAMPLE |
| 3C | 151780 | JC87093-7MSD | 11 | NA | MS34369 | V8260TCL20 | 4.25 | 5 | | 10 | not used | 2.5ul ABK, EC, ACROLEIN IN SAMPLE |
| 3C | 151781 | IB | | NA | | | 5.0 | 5 | | 11 | OK | |
| 3C | 151782 | JC86986-4 | 4 | NA | MS34303 | V8260TCL20 | 5.53 | 5 | | 12 | OK | |
| 3C | 151783 | JC86986-5 | 4 | NA | MS34303 | V8260TCL20 | 6.07 | 5 | | 13 | ok/RR | Bad purged |
| 3C | 151784 | JC86986-7 | 5 | NA | MS34303 | V8260TCL20 | 3.58 | 5 | | 14 | OK | |
| 3C | 151785 | JC86986-8 | 4 | NA | MS34303 | V8260TCL20 | 4.65 | 5 | | 15 | OK | |
| 3C | 151786 | JC86986-10 | 4 | NA | MS34303 | V8260TCL20 | 5.57 | 5 | | 16 | OK | |
| 3C | 151787 | JC86986-12 | 5 | NA | MS34303 | V8260TCL20 | 5.0 | 5 | | 17 | OK | |
| 3C | 151788 | JC86986-13 | 4 | NA | MS34303 | V8260TCL20 | 5.85 | 5 | | 18 | OK | |
| 3C | 151789 | JC87093-5 | 4 | NA | MS34369 | V8260TCL20 | 4.23 | 5 | | 19 | ok/RR | Bad purged |
| 3C | 151790 | JC87093-9 | 4 | NA | MS34369 | V8260TCL20 | 5.41 | 5 | | 20 | OK | |
| 3C | 151791 | JC87093-10 | 4 | NA | MS34369 | V8260TCL20 | 4.09 | 5 | | 21 | ok/RR | Bad purged |
| 3C | 151792 | JC87093-11 | 4 | NA | MS34369 | V8260TCL20 | 4.95 | 5 | | 22 | OK | |
| 3C | 151793 | JC87093-12 | 4 | NA | MS34369 | V8260TCL20 | 4.67 | 5 | | 23 | ok/RR | Bad purged |
| 3C | 151794 | JC87123-1 | 4 | NA | MS34371 | V8260STD | 4.7 | 5 | | 24 | OK | |
| 3C | 151795 | JC87123-2 | 4 | NA | MS34371 | V8260STD | 6.6 | 5 | | 25 | OK | |
| 3C | 151796 | JC87123-3 | 4 | NA | MS34371 | V8260STD | 3.3 | 5 | | 26 | OK | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3C | 151797 | JC87123-4 | 4 | NA | MS34371 | V8260STD | 6.4 | 5 | | 27 | OK | |
| 3C | 151798 | JC87123-5 | 4 | NA | MS34371 | V8260STD | 4.5 | 5 | | 28 | OK | 11:58 PM |
| 3C | 151799 | IB | | NA | | | 5.0 | 5 | | 29 | OK | |
| 3C | 151800 | IB | | NA | | | 5.0 | 5 | | 30 | OK | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standard | ABK: V019-2648-72.39 | EC: V019-2648-98.5 | Acrolein: V019-2648-88.33 | |
| Standard Concentrations | 100-10,000 PPM | 100 PPM | 100 PPM | |
| Internal Surrogate | V019-2648-97 | | | |
| I/S Concentration | 50/500 PPM | | | |
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| Rough reviewed by | Prashant B. Shukla | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMS3C | Instrument ID: | Sequence loaded by | Prashant B. Shukla |
| Analysis Date | 5/6/2019 | Data processed by | Lotusa |
| Column | Rxi-624(20mx0.18mmx1.0um) | Batch ID | V3C6821 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 2/13/2019 | Approved By: | KANYAV |
| Init Calib Quant Method | M3C6743 | Approved Date: | 5/9/2019 5:02:47 PM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3C | 151801 | BFB/CC6743-50 | | NA | | | 5.0 | 5 | | 1 | OK | 25uL Std.ABK,EC,Acrolein in 50mL DI H2O, # 8,25 low, 8:55 AM Ave. of 8.380 to 8.401 |
| 3C | 151802 | CC6743-4 | | NA | | | 5.0 | 5 | | 2 | OK | 2uL Std.ABK,EC,Acrolein in 50mL DI H2O, for # 8 & 25 |
| 3C | 151803 | BS | | NA | | | 5.0 | 5 | | 3 | OK | 25uL Std.ABK,EC,Acrolein in 50mL DI H2O |
| 3C | 151804 | IB | | NA | | | 5.0 | 5 | | 4 | OK | |
| 3C | 151805 | MB/JC80307E-6A | | NA | MS32143 | V8260SL | 5.0 | 5 | | 5 | OK | |
| 3C | 151806 | JC86986-4DUP | 5 | NA | MS34303 | V8260TCL20 | 4.88 | 5 | | 6 | OK | V3C6820 |

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| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3C | 151807 | JC86986-8MS | 5 | NA | MS34303 | V8260TCL20 | 5.08 | 5 | | 7 | OK | 2.5uL Std.ABK,EC,Acrolein in sample |
| 3C | 151808 | IB | | NA | | | 5.0 | 5 | | 8 | OK | |
| 3C | 151809 | JC87093-7 | 13 | NA | MS34369 | V8260TCL20 | 5.18 | 5 | | 9 | ok/RR | One Int. low |
| 3C | 151810 | JC87123-6 | 4 | NA | MS34371 | V8260STD | 5.1 | 5 | | 10 | OK | |
| 3C | 151811 | JC87123-7DUP | 4 | NA | MS34371 | V8260STD | 4.3 | 5 | | 11 | OK | |
| 3C | 151812 | JC87123-8 | 4 | NA | MS34371 | V8260STD | 7.4 | 5 | | 12 | OK | |
| 3C | 151813 | JC87123-9 | 4 | NA | MS34371 | V8260STD | 5.3 | 5 | | 13 | OK | |
| 3C | 151814 | JC87093-7DUP | 15 | NA | MS34369 | V8260TCL20 | 4.87 | 5 | | 14 | ok/RR | One Int. low, RR SME, no sample for LL |
| 3C | 151815 | JC87123-10 | 4 | NA | MS34371 | V8260STD | 5.0 | 5 | | 15 | OK | |
| 3C | 151816 | JC87123-11 | 4 | NA | MS34371 | V8260STD | 5.8 | 5 | | 16 | OK | |
| 3C | 151817 | JC87123-13 | 4 | NA | MS34371 | V8260STD | 4.8 | 5 | | 17 | OK | |
| 3C | 151818 | JC87123-14 | 6 | NA | MS34371 | V8260STD | 5.6 | 5 | | 18 | OK | |
| 3C | 151819 | JC87093-7MS | 14 | NA | MS34369 | V8260TCL20 | 5.62 | 5 | | 19 | OK | 2.5uL Std.ABK,EC,Acrolein in sample |
| 3C | 151820 | JC87093-7MSD | 3 | NA | MS34369 | V8260TCL20 | 4.7 | 5 | | 20 | not used | 2.5uL Std.ABK,EC,Acrolein in sample, prep from intact soil |
| 3C | 151821 | JC87123-6MS | 5 | NA | MS34371 | V8260STD | 5.4 | 5 | | 21 | OK | 2.5uL Std.ABK,EC,Acrolein in sample |
| 3C | 151822 | JC87123-7 | 5 | NA | MS34371 | V8260STD | 4.8 | 5 | | 22 | OK | |
| 3C | 151823 | JC87123-12 | 2 | NA | MS34371 | V8260STD | 5.0 | 5 | | 23 | OK | |
| 3C | 151824 | JC86986-5 | 5 | NA | MS34303 | V8260TCL20 | 6.98 | 5 | | 24 | OK | |
| 3C | 151825 | JC86916-8 | 5 | NA | MS34270 | V8260TCL20 | 4.33 | 5 | | 25 | OK | |
| 3C | 151826 | JC87093-5 | 5 | NA | MS34369 | V8260TCL20 | 4.01 | 5 | | 26 | OK | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3C | 151827 | JC87093-10 | 5 | NA | MS34369 | V8260TCL20 | 3.79 | 5 | | 27 | OK | |
| 3C | 151828 | JC87093-12 | 5 | NA | MS34369 | V8260TCL20 | 4.13 | 5 | | 28 | OK/rr | surr out |
| 3C | 151829 | JC86916-9 | 4 | NA | MS34270 | V8260TCL20 | 5.25 | 5 | | 29 | OK | |
| 3C | 151830 | JC86916-10 | 5 | NA | MS34270 | V8260TCL20 | 4.71 | 5 | | 30 | OK | 8:45pm |
| 3C | 151831 | IB | | NA | | | 5.0 | 5 | | 31 | OK | |
| 3C | 151832 | IB | | NA | | | 5.0 | 5 | | 32 | OK | 5/7/19 |
| 3C | 151833 | IB | | NA | | | 5.0 | 5 | | 33 | OK | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standards | ABK: V018-2645-148.50 | EC: V019-2648-23.1 | Acrolein: V019-2648-21.13 | |
| Standard Concentration | 100/10000 PPM | 100 PPM | 100 PPM | |
| Internal Surrogate | V018-2645-147 | | | |
| Internal Surrogate Concentratio n | 250/2500 PPM | | | |
| | | | | |
| Ext. Standards | Ext. ABK: V019-2648-06.1 | Ext EC: V019-2648-25.2 | Ext Acrolein: V018-2645-142.7 | Ext PA: V019-2648-22.3 |
| Standard Concentration | 100/10000 PPM | 100 PPM | 100 PPM | 100/1000 PPM |
| | Acetone 3rd Source V019-2648-12.3 | | | |
| | 400 PPM | | | |
| Init Calib Quant Method | MD10606 | | | |
| | | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMSD | Instrument ID: | Sequence loaded by | Austin Park |
| Analysis Date | 3/14/2019 | Data processed by | Robert Szot |
| Column | Rxi-624 (60mx0.25mmx1.4 um) | Batch ID | VD10606 |
| Method | V8260C | Matrix | SO |
| Init Calib Date | 03/14/2019 | Approved By: | MEI |
| Init Calib Quant Method | MD10606 | Approved Date: | 3/19/2019 11:41:21 AM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 263009 | BFB | | NA | | Tune | | 5 | | 1 | OK | |
| D | 263010 | IC10606-0.2 | | NA | | IC8260 Soil | | 5 | | 2 | not used | 1uL Std.A/B/K,EC,Acrolein in 500mL DI H2O |
| D | 263011 | IC10606-0.5 | | NA | | IC8260 Soil | | 5 | | 3 | OK | 1uL Std.A/B/K,EC,Acrolein in 200mL DI H2O |
| D | 263012 | IC10606-1 | | NA | | IC8260 Soil | | 5 | | 4 | OK | 1uL Std.A/B/K,EC,Acrolein in 100mL DI H2O |
| D | 263013 | IC10606-2 | | NA | | IC8260 Soil | | 5 | | 5 | OK | 2uL Std.A/B/K,EC,Acrolein in 100mL DI H2O |
| D | 263014 | IC10606-4 | | NA | | IC8260 Soil | | 5 | | 6 | OK | 4uL Std.A/B/K,EC,Acrolein in 100mL DI H2O |

OR049-01
Rev Date: 12/18/2017

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 263015 | IC10606-8 | | NA | | IC8260 Soil | | 5 | | 7 | OK | 8uL Std.A/B/K,EC,Acrolein in 100mL DI H2O |
| D | 263016 | IC10606-20 | | NA | | IC8260 Soil | | 5 | | 8 | OK | 20uL Std.A/B/K,EC,Acrolein in 100mL DI H2O |
| D | 263017 | ICC10606-50 | | NA | | IC8260 Soil | | 5 | | 9 | OK | 50uL Std.A/B/K,EC,Acrolein in 100mL DI H2O |
| D | 263018 | IC10606-100 | | NA | | IC8260 Soil | | 5 | | 10 | OK | 100uL Std.A/B/K,EC,Acrolein in 100mL DI H2O |
| D | 263019 | IC10606-200 | | NA | | IC8260 Soil | | 5 | | 11 | OK | 200uL Std.A/B/K,EC,Acrolein in 100mL DI H2O |
| D | 263020 | IB | | NA | | | | 5 | | 12 | OK | |
| D | 263021 | IB | | NA | | | | 5 | | 13 | OK | |
| D | 263022 | ICV10606-50 | | NA | | ICV8260 Soil | | 5 | | 14 | OK | 50uL Ext.A/B/K,EC,Acrolein in 100mL DI H2O |
| D | 263023 | ICV10606-50 | | NA | | ICV8260 Soil | | 5 | | 15 | OK | 50uL Ext.PA,Aceton 3rd source in 100mL DI H2O |
| D | 263024 | IB | | NA | | | | 5 | | 16 | OK | |

# GCMS Volatile Run Log

| Standard / Reagents | Lot # | | | |
|---|---|---|---|---|
| Standards | ABK:V019-2648-72.24 | EC: V019-2648-98.2 | Acrolein: V019-2648-88.7 | MeOH LOT# 187026, Fisher Chemical |
| Standard Concentration | 100-10,000ppm | 100ppm | 100ppm | |
| Internal Surrogate | V019-2648-96 | | | |
| I/S Concentration | 250/2500ppm | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Method | v8260c | | | |
| Init Calib Quant Method | md10606 | | | |

| Standard / Reagents | | | |
|---|---|---|---|
| GCMSD | Instrument ID: | Sequence loaded by | thienn |
| Analysis Date | 5/8/5019 | Data processed by | Lotusa |
| Column | Rxi-624(60mx0.25mmx1.4um) | Batch ID | VD10654 |
| | | Matrix | SO |
| | | Approved By: | MOHUI |
| | | Approved Date: | 5/9/2019 10:26:06 AM |
| DI Purge Volume | 5 | | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 264356 | BFB/CC10606-50 | | NA | | | | 5 | | 1 | ok/ok | 6.56am, ABK, EC, ACROLEIN, 25ul/50ml DI water |
| D | 264357 | CC10606-1 | | NA | | | | 5 | | 2 | ok | for # 61, ABK, EC, ACROLEIN, 1ul/100ml DI water |
| D | 264358 | CC10606-4 | | NA | | | | 5 | | 3 | OK | for # 7, ABK, EC, ACROLEIN, 2ul/50ml DI water |
| D | 264359 | BS | | NA | | | | 5 | | 4 | OK | ABK, EC, ACROLEIN, 25ul/50ml DI water |
| D | 264360 | IB | | NA | | | | 5 | | 5 | ok | |
| D | 264361 | MB/JC80308E-8A | | NA | MS32144 | V8260SL | 5 | 5 | 100 | 6 | OK | Daily blank disp #55 MeOH lot # 178026, Fisher Chemical |

OR049-01
Rev Date: 12/18/2017

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 264362 | JC87652-1 | 4 | NA | MS34579 | V8260TCL20+ | 10.1 | 10 | 100 | 7 | OK | QC sample, Dilution due to non targets high. |
| D | 264363 | JC87652-1MS | 4 | NA | MS34579 | V8260TCL20+ | 10.1 | 10 | 100 | 8 | OK | ABK, EC, ACROLEIN, 25ul/50ml sample |
| D | 264364 | JC87652-1MSD | 4 | NA | MS34579 | V8260TCL20+ | 10.1 | 10 | 100 | 9 | OK | ABK, EC, ACROLEIN, 25ul/50ml sample |
| D | 264365 | IB | | NA | | | | 5 | | 10 | ok | |
| D | 264366 | JC80308E-8B | | NA | MS32144 | V8260SL | 5 | 5 | 100 | 11 | ng | c/o. Daily blank disp #54 MeOH lot # 178026, Fisher Chemical |
| D | 264367 | JC87516-1 | 2 | NA | MS34538 | V8260PADFTMBMTBE | 5.01 | 10 | 100 | 12 | OK | |
| D | 264368 | JC80308E-8B | | NA | MS32144 | V8260SL | 5 | | 100 | 13 | OK | Daily blank disp #54 MeOH lot # 178026, Fisher Chemical |
| D | 264369 | JC87523-1 | 2 | NA | MS34538 | V8260PADFTMBMTBE | 4.76 | 10 | 100 | 14 | ok | |
| D | 264370 | JC87523-2 | 2 | NA | MS34538 | V8260PADFTMBMTBE | 4.9 | 10 | 100 | 15 | ok | |
| D | 264371 | JC87517-1 | 2 | NA | MS34538 | V8260PADFTMBMTBE | 5.04 | 10 | 100 | 16 | OK | |
| D | 264372 | JC87523-3 | 2 | NA | MS34538 | V8260PADFTMBMTBE | 4.84 | 10 | 10 | 17 | OK/rr | rr 2x |
| D | 264373 | JC87523-4 | 2 | NA | MS34538 | V8260PADFTMBMTBE | 5.04 | 10 | 10 | 18 | OK/rr | rr 5x |
| D | 264374 | JC87093-3 | 3 | NA | MS34369 | V8260TCL20 | 4.27 | 10 | 100 | 19 | rr | c/o, rr |
| D | 264375 | JC87093-8 | 3 | NA | MS34369 | V8260TCL20 | 3.22 | 10 | 100 | 20 | OK | |
| D | 264376 | JC87093-6 | 3 | NA | MS34369 | V8260TCL20 | 4.93 | 10 | 20 | 21 | OK | |
| D | 264377 | JC86986-11 | 3 | NA | MS34303 | V8260TCL20 | 4.11 | 10 | 50 | 22 | OK | |
| D | 264378 | JC86986-3 | 3 | NA | MS34303 | V8260TCL20 | 3.36 | 10 | 20 | 23 | OK | |
| D | 264379 | JC86986-9 | 3 | NA | MS34303 | V8260TCL20 | 3.73 | 10 | 5 | 24 | OK | 6:18pm |
| D | 264380 | IB | | NA | | | | 5 | | 25 | OK | |
| D | 264381 | IB | | NA | | | | 5 | | 26 | OK | |

| Data File | | Sample ID | Bot # | Dil | Workgroup # | Test | Smpl Amt (g) | MeOH/ DI FV (ml) | MeOH Purge (uL) | ALS # | Status | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 264382 | IB | | NA | | | | 5 | | 27 | OK | |
| D | 264383 | IB | | NA | | | | 5 | | 28 | OK | |
| D | 264384 | IB | | NA | | | | 5 | | 29 | OK | |
| D | 264385 | IB | | NA | | | | 5 | | 30 | OK | |

# MS Semi-volatiles

## QC Data Summaries

Includes the following where applicable:

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

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-MB1 | 6P481552.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 67 | 16 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 170 | 20 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 170 | 28 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 170 | 59 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 170 | 130 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 170 | 36 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 67 | 21 | ug/kg | |
| | 3&4-Methylphenol | ND | 67 | 27 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 170 | 22 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 330 | 89 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 130 | 31 | ug/kg | |
| 108-95-2 | Phenol | ND | 67 | 17 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 170 | 25 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 170 | 20 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 33 | 11 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 33 | 17 | ug/kg | |
| 120-12-7 | Anthracene | ND | 33 | 20 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 33 | 9.4 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 33 | 15 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 33 | 15 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 33 | 17 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 33 | 16 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 67 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 67 | 8.1 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 67 | 7.9 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 170 | 12 | ug/kg | |
| 86-74-8 | Carbazole | ND | 67 | 4.8 | ug/kg | |
| 218-01-9 | Chrysene | ND | 33 | 10 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 67 | 7.1 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 67 | 14 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 67 | 12 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 67 | 11 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 67 | 9.6 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 67 | 7.1 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 67 | 8.1 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 33 | 10 | ug/kg | |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-MB1 | 6P481552.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 606-20-2 | 2,6-Dinitrotoluene | ND | 33 | 17 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 67 | 28 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 33 | 15 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 67 | 14 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 67 | 5.4 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 67 | 8.3 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 67 | 7.1 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 67 | 5.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 67 | 7.8 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 33 | 15 | ug/kg | |
| 86-73-7 | Fluorene | ND | 33 | 15 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 67 | 8.4 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 33 | 13 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 330 | 13 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 170 | 16 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 33 | 16 | ug/kg | |
| 78-59-1 | Isophorone | ND | 67 | 7.1 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 33 | 7.5 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 170 | 7.9 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 170 | 8.3 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 170 | 8.6 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 33 | 9.4 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 67 | 13 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 67 | 9.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 170 | 12 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 33 | 11 | ug/kg | |
| 129-00-0 | Pyrene | ND | 33 | 11 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 67 | 8.7 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 93% | 23-115% |
| 4165-62-2 | Phenol-d5 | 93% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 82% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 94% | 26-134% |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-MB1 | 6P481552.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 321-60-8 | 2-Fluorobiphenyl | 76% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 94% | 36-134% |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MB | P129369.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 67 | 16 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 170 | 20 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 170 | 28 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 170 | 59 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 170 | 130 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 170 | 36 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 67 | 21 | ug/kg | |
| | 3&4-Methylphenol | ND | 67 | 27 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 170 | 22 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 330 | 89 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 130 | 31 | ug/kg | |
| 108-95-2 | Phenol | ND | 67 | 17 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 170 | 25 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 170 | 20 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 33 | 11 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 33 | 17 | ug/kg | |
| 120-12-7 | Anthracene | ND | 33 | 20 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 33 | 9.4 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 33 | 15 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 33 | 15 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 33 | 17 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 33 | 16 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 67 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 67 | 8.1 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 67 | 7.9 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 170 | 12 | ug/kg | |
| 86-74-8 | Carbazole | ND | 67 | 4.8 | ug/kg | |
| 218-01-9 | Chrysene | ND | 33 | 10 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 67 | 7.1 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 67 | 14 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 67 | 12 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 67 | 11 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 67 | 9.6 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 67 | 7.1 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 67 | 8.1 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 33 | 10 | ug/kg | |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MB | P129369.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 606-20-2 | 2,6-Dinitrotoluene | ND | 33 | 17 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 67 | 28 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 33 | 15 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 67 | 14 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 67 | 5.4 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 67 | 8.3 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 67 | 7.1 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 67 | 5.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 67 | 7.8 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 33 | 15 | ug/kg | |
| 86-73-7 | Fluorene | ND | 33 | 15 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 67 | 8.4 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 33 | 13 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 330 | 13 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 170 | 16 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 33 | 16 | ug/kg | |
| 78-59-1 | Isophorone | ND | 67 | 7.1 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 33 | 7.5 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 170 | 7.9 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 170 | 8.3 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 170 | 8.6 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 33 | 9.4 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 67 | 13 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 67 | 9.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 170 | 12 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 33 | 11 | ug/kg | |
| 129-00-0 | Pyrene | ND | 33 | 11 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 67 | 8.7 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 78% | 23-115% |
| 4165-62-2 | Phenol-d5 | 79% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 72% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 83% | 26-134% |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MB | P129369.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 321-60-8 | 2-Fluorobiphenyl | 86% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 79% | 36-134% |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MB | 6P481789.D | 1 | 05/10/19 | AR | 05/06/19 | OP20110 | E6P2588 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | 67 | 16 | ug/kg | |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | 170 | 20 | ug/kg | |
| 120-83-2 | 2,4-Dichlorophenol | ND | 170 | 28 | ug/kg | |
| 105-67-9 | 2,4-Dimethylphenol | ND | 170 | 59 | ug/kg | |
| 51-28-5 | 2,4-Dinitrophenol | ND | 170 | 130 | ug/kg | |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | 170 | 36 | ug/kg | |
| 95-48-7 | 2-Methylphenol | ND | 67 | 21 | ug/kg | |
| | 3&4-Methylphenol | ND | 67 | 27 | ug/kg | |
| 88-75-5 | 2-Nitrophenol | ND | 170 | 22 | ug/kg | |
| 100-02-7 | 4-Nitrophenol | ND | 330 | 89 | ug/kg | |
| 87-86-5 | Pentachlorophenol | ND | 130 | 31 | ug/kg | |
| 108-95-2 | Phenol | ND | 67 | 17 | ug/kg | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | 170 | 25 | ug/kg | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | 170 | 20 | ug/kg | |
| 83-32-9 | Acenaphthene | ND | 33 | 11 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 33 | 17 | ug/kg | |
| 120-12-7 | Anthracene | ND | 33 | 20 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 33 | 9.4 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 33 | 15 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 33 | 15 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 33 | 17 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 33 | 16 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 67 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 67 | 8.1 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 67 | 7.9 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 170 | 12 | ug/kg | |
| 86-74-8 | Carbazole | ND | 67 | 4.8 | ug/kg | |
| 218-01-9 | Chrysene | ND | 33 | 10 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 67 | 7.1 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 67 | 14 | ug/kg | |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | 67 | 12 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 67 | 11 | ug/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 67 | 9.6 | ug/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 67 | 7.1 | ug/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 67 | 8.1 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 33 | 10 | ug/kg | |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MB | 6P481789.D | 1 | 05/10/19 | AR | 05/06/19 | OP20110 | E6P2588 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 606-20-2 | 2,6-Dinitrotoluene | ND | 33 | 17 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 67 | 28 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 33 | 15 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 67 | 14 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 67 | 5.4 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 67 | 8.3 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 67 | 7.1 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 67 | 5.9 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 67 | 7.8 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 33 | 15 | ug/kg | |
| 86-73-7 | Fluorene | ND | 33 | 15 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 67 | 8.4 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 33 | 13 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 330 | 13 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 170 | 16 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 33 | 16 | ug/kg | |
| 78-59-1 | Isophorone | ND | 67 | 7.1 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 33 | 7.5 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 170 | 7.9 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 170 | 8.3 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 170 | 8.6 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 33 | 9.4 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 67 | 13 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 67 | 9.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 170 | 12 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 33 | 11 | ug/kg | |
| 129-00-0 | Pyrene | ND | 33 | 11 | ug/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 67 | 8.7 | ug/kg | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 81% | 23-115% |
| 4165-62-2 | Phenol-d5 | 83% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 65% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 89% | 26-134% |

# Method Blank Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MB | 6P481789.D | 1 | 05/10/19 | AR | 05/06/19 | OP20110 | E6P2588 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 321-60-8 | 2-Fluorobiphenyl | 80% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 79% | 36-134% |

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-BS1 | 6P481553.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | 1670 | 1340 | 80 | 44-122 |
| 59-50-7 | 4-Chloro-3-methyl phenol | 1670 | 1500 | 90 | 50-123 |
| 120-83-2 | 2,4-Dichlorophenol | 1670 | 1440 | 86 | 48-122 |
| 105-67-9 | 2,4-Dimethylphenol | 1670 | 1720 | 103 | 48-124 |
| 51-28-5 | 2,4-Dinitrophenol | 3330 | 1990 | 60 | 34-146 |
| 534-52-1 | 4,6-Dinitro-o-cresol | 1670 | 1010 | 61 | 49-140 |
| 95-48-7 | 2-Methylphenol | 1670 | 1400 | 84 | 40-126 |
| | 3&4-Methylphenol | 1670 | 1440 | 86 | 40-127 |
| 88-75-5 | 2-Nitrophenol | 1670 | 1480 | 89 | 44-133 |
| 100-02-7 | 4-Nitrophenol | 1670 | 1310 | 79 | 35-153 |
| 87-86-5 | Pentachlorophenol | 1670 | 1230 | 74 | 15-149 |
| 108-95-2 | Phenol | 1670 | 1280 | 77 | 50-109 |
| 95-95-4 | 2,4,5-Trichlorophenol | 1670 | 1260 | 76 | 45-124 |
| 88-06-2 | 2,4,6-Trichlorophenol | 1670 | 1280 | 77 | 57-122 |
| 83-32-9 | Acenaphthene | 1670 | 1440 | 86 | 53-119 |
| 208-96-8 | Acenaphthylene | 1670 | 1530 | 92 | 41-125 |
| 120-12-7 | Anthracene | 1670 | 1430 | 86 | 51-120 |
| 56-55-3 | Benzo(a)anthracene | 1670 | 1190 | 71 | 54-118 |
| 50-32-8 | Benzo(a)pyrene | 1670 | 1390 | 83 | 55-121 |
| 205-99-2 | Benzo(b)fluoranthene | 1670 | 1310 | 79 | 57-116 |
| 191-24-2 | Benzo(g,h,i)perylene | 1670 | 1370 | 82 | 40-124 |
| 207-08-9 | Benzo(k)fluoranthene | 1670 | 1400 | 84 | 59-116 |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1670 | 1230 | 74 | 60-122 |
| 85-68-7 | Butyl benzyl phthalate | 1670 | 1490 | 89 | 51-134 |
| 91-58-7 | 2-Chloronaphthalene | 1670 | 1230 | 74 | 49-120 |
| 106-47-8 | 4-Chloroaniline | 1670 | 947 | 57 | 10-115 |
| 86-74-8 | Carbazole | 1670 | 1460 | 88 | 52-124 |
| 218-01-9 | Chrysene | 1670 | 1150 | 69 | 51-115 |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1670 | 1450 | 87 | 36-131 |
| 111-44-4 | bis(2-Chloroethyl)ether | 1670 | 1330 | 80 | 41-131 |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | 1670 | 1490 | 89 | 22-134 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1670 | 1170 | 70 | 56-118 |
| 95-50-1 | 1,2-Dichlorobenzene | 1670 | 1270 | 76 | 41-124 |
| 541-73-1 | 1,3-Dichlorobenzene | 1670 | 1240 | 74 | 36-126 |
| 106-46-7 | 1,4-Dichlorobenzene | 1670 | 1250 | 75 | 40-124 |
| 121-14-2 | 2,4-Dinitrotoluene | 1670 | 1330 | 80 | 57-131 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-BS1 | 6P481553.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 606-20-2 | 2,6-Dinitrotoluene | 1670 | 1460 | 88 | 57-132 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 3330 | 2340 | 70 | 10-129 |
| 53-70-3 | Dibenzo(a,h)anthracene | 1670 | 1320 | 79 | 48-121 |
| 132-64-9 | Dibenzofuran | 1670 | 1400 | 84 | 51-119 |
| 84-74-2 | Di-n-butyl phthalate | 1670 | 1510 | 91 | 59-125 |
| 117-84-0 | Di-n-octyl phthalate | 1670 | 1710 | 103 | 47-147 |
| 84-66-2 | Diethyl phthalate | 1670 | 1250 | 75 | 57-116 |
| 131-11-3 | Dimethyl phthalate | 1670 | 1430 | 86 | 56-116 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1670 | 1500 | 90 | 53-133 |
| 206-44-0 | Fluoranthene | 1670 | 1300 | 78 | 58-117 |
| 86-73-7 | Fluorene | 1670 | 1300 | 78 | 56-114 |
| 118-74-1 | Hexachlorobenzene | 1670 | 1240 | 74 | 50-128 |
| 87-68-3 | Hexachlorobutadiene | 1670 | 1320 | 79 | 43-129 |
| 77-47-4 | Hexachlorocyclopentadiene | 3330 | 1970 | 59 | 15-140 |
| 67-72-1 | Hexachloroethane | 1670 | 1170 | 70 | 43-123 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1670 | 1350 | 81 | 49-124 |
| 78-59-1 | Isophorone | 1670 | 1480 | 89 | 38-128 |
| 91-57-6 | 2-Methylnaphthalene | 1670 | 1510 | 91 | 37-124 |
| 88-74-4 | 2-Nitroaniline | 1670 | 1770 | 106 | 45-144 |
| 99-09-2 | 3-Nitroaniline | 1670 | 1150 | 69 | 10-134 |
| 100-01-6 | 4-Nitroaniline | 1670 | 1230 | 74 | 41-130 |
| 91-20-3 | Naphthalene | 1670 | 1430 | 86 | 44-116 |
| 98-95-3 | Nitrobenzene | 1670 | 1420 | 85 | 36-132 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 1670 | 1370 | 82 | 38-125 |
| 86-30-6 | N-Nitrosodiphenylamine | 1670 | 1250 | 75 | 51-122 |
| 85-01-8 | Phenanthrene | 1670 | 1390 | 83 | 53-119 |
| 129-00-0 | Pyrene | 1670 | 1280 | 77 | 54-124 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1670 | 1280 | 77 | 42-122 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 86% | 23-115% |
| 4165-62-2 | Phenol-d5 | 87% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 77% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 90% | 26-134% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-BS1 | 6P481553.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 321-60-8 | 2-Fluorobiphenyl | 74% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 80% | 36-134% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-BS | P129370.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | 1670 | 1320 | 79 | 44-122 |
| 59-50-7 | 4-Chloro-3-methyl phenol | 1670 | 1450 | 87 | 50-123 |
| 120-83-2 | 2,4-Dichlorophenol | 1670 | 1470 | 88 | 48-122 |
| 105-67-9 | 2,4-Dimethylphenol | 1670 | 1750 | 105 | 48-124 |
| 51-28-5 | 2,4-Dinitrophenol | 3330 | 2290 | 69 | 34-146 |
| 534-52-1 | 4,6-Dinitro-o-cresol | 1670 | 1230 | 74 | 49-140 |
| 95-48-7 | 2-Methylphenol | 1670 | 1360 | 82 | 40-126 |
| | 3&4-Methylphenol | 1670 | 1410 | 85 | 40-127 |
| 88-75-5 | 2-Nitrophenol | 1670 | 1520 | 91 | 44-133 |
| 100-02-7 | 4-Nitrophenol | 1670 | 1530 | 92 | 35-153 |
| 87-86-5 | Pentachlorophenol | 1670 | 1310 | 79 | 15-149 |
| 108-95-2 | Phenol | 1670 | 1340 | 80 | 50-109 |
| 95-95-4 | 2,4,5-Trichlorophenol | 1670 | 1560 | 94 | 45-124 |
| 88-06-2 | 2,4,6-Trichlorophenol | 1670 | 1560 | 94 | 57-122 |
| 83-32-9 | Acenaphthene | 1670 | 1470 | 88 | 53-119 |
| 208-96-8 | Acenaphthylene | 1670 | 1440 | 86 | 41-125 |
| 120-12-7 | Anthracene | 1670 | 1410 | 85 | 51-120 |
| 56-55-3 | Benzo(a)anthracene | 1670 | 1240 | 74 | 54-118 |
| 50-32-8 | Benzo(a)pyrene | 1670 | 1430 | 86 | 55-121 |
| 205-99-2 | Benzo(b)fluoranthene | 1670 | 1360 | 82 | 57-116 |
| 191-24-2 | Benzo(g,h,i)perylene | 1670 | 1470 | 88 | 40-124 |
| 207-08-9 | Benzo(k)fluoranthene | 1670 | 1470 | 88 | 59-116 |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1670 | 1380 | 83 | 60-122 |
| 85-68-7 | Butyl benzyl phthalate | 1670 | 1370 | 82 | 51-134 |
| 91-58-7 | 2-Chloronaphthalene | 1670 | 1510 | 91 | 49-120 |
| 106-47-8 | 4-Chloroaniline | 1670 | 772 | 46 | 10-115 |
| 86-74-8 | Carbazole | 1670 | 1330 | 80 | 52-124 |
| 218-01-9 | Chrysene | 1670 | 1280 | 77 | 51-115 |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1670 | 1520 | 91 | 36-131 |
| 111-44-4 | bis(2-Chloroethyl)ether | 1670 | 1320 | 79 | 41-131 |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | 1670 | 1480 | 89 | 22-134 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1670 | 1400 | 84 | 56-118 |
| 95-50-1 | 1,2-Dichlorobenzene | 1670 | 1320 | 79 | 41-124 |
| 541-73-1 | 1,3-Dichlorobenzene | 1670 | 1270 | 76 | 36-126 |
| 106-46-7 | 1,4-Dichlorobenzene | 1670 | 1320 | 79 | 40-124 |
| 121-14-2 | 2,4-Dinitrotoluene | 1670 | 1390 | 83 | 57-131 |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-BS | P129370.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Compound | Spike ug/kg | BSP ug/kg | BSP % | Limits |
|---|---|---|---|---|---|
| 606-20-2 | 2,6-Dinitrotoluene | 1670 | 1430 | 86 | 57-132 |
| 91-94-1 | 3,3'-Dichlorobenzidine | 3330 | 2080 | 62 | 10-129 |
| 53-70-3 | Dibenzo(a,h)anthracene | 1670 | 1360 | 82 | 48-121 |
| 132-64-9 | Dibenzofuran | 1670 | 1390 | 83 | 51-119 |
| 84-74-2 | Di-n-butyl phthalate | 1670 | 1380 | 83 | 59-125 |
| 117-84-0 | Di-n-octyl phthalate | 1670 | 1560 | 94 | 47-147 |
| 84-66-2 | Diethyl phthalate | 1670 | 1420 | 85 | 57-116 |
| 131-11-3 | Dimethyl phthalate | 1670 | 1390 | 83 | 56-116 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1670 | 1380 | 83 | 53-133 |
| 206-44-0 | Fluoranthene | 1670 | 1370 | 82 | 58-117 |
| 86-73-7 | Fluorene | 1670 | 1480 | 89 | 56-114 |
| 118-74-1 | Hexachlorobenzene | 1670 | 1330 | 80 | 50-128 |
| 87-68-3 | Hexachlorobutadiene | 1670 | 1480 | 89 | 43-129 |
| 77-47-4 | Hexachlorocyclopentadiene | 3330 | 3490 | 105 | 15-140 |
| 67-72-1 | Hexachloroethane | 1670 | 1270 | 76 | 43-123 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1670 | 1430 | 86 | 49-124 |
| 78-59-1 | Isophorone | 1670 | 1530 | 92 | 38-128 |
| 91-57-6 | 2-Methylnaphthalene | 1670 | 1450 | 87 | 37-124 |
| 88-74-4 | 2-Nitroaniline | 1670 | 1420 | 85 | 45-144 |
| 99-09-2 | 3-Nitroaniline | 1670 | 829 | 50 | 10-134 |
| 100-01-6 | 4-Nitroaniline | 1670 | 1270 | 76 | 41-130 |
| 91-20-3 | Naphthalene | 1670 | 1500 | 90 | 44-116 |
| 98-95-3 | Nitrobenzene | 1670 | 1410 | 85 | 36-132 |
| 621-64-7 | N-Nitroso-di-n-propylamine | 1670 | 1270 | 76 | 38-125 |
| 86-30-6 | N-Nitrosodiphenylamine | 1670 | 1380 | 83 | 51-122 |
| 85-01-8 | Phenanthrene | 1670 | 1400 | 84 | 53-119 |
| 129-00-0 | Pyrene | 1670 | 1340 | 80 | 54-124 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1670 | 1430 | 86 | 42-122 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 91% | 23-115% |
| 4165-62-2 | Phenol-d5 | 89% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 79% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 87% | 26-134% |

* = Outside of Control Limits.

# Blank Spike Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-BS | P129370.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 321-60-8 | 2-Fluorobiphenyl | 89% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 85% | 36-134% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-MS | 6P481567.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |
| OP20081-MSD | 6P481568.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |
| JC86986-2 | 6P481566.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Compound | JC86986-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | | 3100 | 1850 | 60 | 3090 | 1900 | 62 | 3 | 10-137/34 |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | | 3100 | 2050 | 66 | 3090 | 2100 | 68 | 2 | 11-147/35 |
| 120-83-2 | 2,4-Dichlorophenol | ND | | 3100 | 2070 | 67 | 3090 | 2140 | 69 | 3 | 15-140/34 |
| 105-67-9 | 2,4-Dimethylphenol | ND | | 3100 | 2410 | 78 | 3090 | 2440 | 79 | 1 | 10-151/34 |
| 51-28-5 | 2,4-Dinitrophenol | ND | | 6200 | 1270 | 20 | 6180 | 1580 | 26 | 22 | 10-148/49 |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | | 3100 | 436 | 14 | 3090 | 620 | 20 | 35 | 10-150/48 |
| 95-48-7 | 2-Methylphenol | ND | | 3100 | 1970 | 64 | 3090 | 2010 | 65 | 2 | 10-138/33 |
| | 3&4-Methylphenol | 349 | | 3100 | 2480 | 69 | 3090 | 2500 | 70 | 1 | 10-143/33 |
| 88-75-5 | 2-Nitrophenol | ND | | 3100 | 1880 | 61 | 3090 | 1980 | 64 | 5 | 10-150/39 |
| 100-02-7 | 4-Nitrophenol | ND | | 3100 | 2260 | 73 | 3090 | 2210 | 72 | 2 | 10-163/38 |
| 87-86-5 | Pentachlorophenol | ND | | 3100 | 1490 | 48 | 3090 | 1700 | 55 | 13 | 10-148/39 |
| 108-95-2 | Phenol | ND | | 3100 | 1680 | 54 | 3090 | 1730 | 56 | 3 | 24-114/32 |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | 3100 | 1670 | 54 | 3090 | 1770 | 57 | 6 | 10-146/36 |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | 3100 | 1760 | 57 | 3090 | 1950 | 63 | 10 | 16-148/36 |
| 83-32-9 | Acenaphthene | 45.3 | J | 3100 | 2080 | 66 | 3090 | 2110 | 67 | 1 | 21-136/34 |
| 208-96-8 | Acenaphthylene | 63.4 | | 3100 | 2120 | 66 | 3090 | 2010 | 63 | 5 | 10-143/36 |
| 120-12-7 | Anthracene | 70.2 | | 3100 | 2100 | 65 | 3090 | 2130 | 67 | 1 | 10-147/39 |
| 56-55-3 | Benzo(a)anthracene | 170 | | 3100 | 1920 | 56 | 3090 | 1970 | 58 | 3 | 10-151/41 |
| 50-32-8 | Benzo(a)pyrene | 200 | | 3100 | 2200 | 65 | 3090 | 2230 | 66 | 1 | 10-149/40 |
| 205-99-2 | Benzo(b)fluoranthene | 207 | | 3100 | 2190 | 64 | 3090 | 2140 | 63 | 2 | 10-147/42 |
| 191-24-2 | Benzo(g,h,i)perylene | 122 | | 3100 | 2060 | 63 | 3090 | 2170 | 66 | 5 | 10-150/41 |
| 207-08-9 | Benzo(k)fluoranthene | 79.8 | | 3100 | 1970 | 61 | 3090 | 2110 | 66 | 7 | 12-142/41 |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | 3100 | 1820 | 59 | 3090 | 1800 | 58 | 1 | 26-138/37 |
| 85-68-7 | Butyl benzyl phthalate | ND | | 3100 | 2190 | 71 | 3090 | 2180 | 71 | 0 | 24-143/36 |
| 91-58-7 | 2-Chloronaphthalene | ND | | 3100 | 1820 | 59 | 3090 | 1750 | 57 | 4 | 24-130/31 |
| 106-47-8 | 4-Chloroaniline | ND | | 3100 | 1570 | 51 | 3090 | 1860 | 60 | 17 | 10-111/52 |
| 86-74-8 | Carbazole | 18.4 | J | 3100 | 2540 | 81 | 3090 | 2670 | 86 | 5 | 12-146/39 |
| 218-01-9 | Chrysene | 181 | | 3100 | 1780 | 52 | 3090 | 1770 | 51 | 1 | 10-151/41 |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | 3100 | 1960 | 63 | 3090 | 1970 | 64 | 1 | 10-144/35 |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | 3100 | 1810 | 58 | 3090 | 1810 | 59 | 0 | 12-142/35 |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | 3100 | 2050 | 66 | 3090 | 2060 | 67 | 0 | 10-137/33 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | 3100 | 1770 | 57 | 3090 | 1840 | 60 | 4 | 21-136/35 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 3100 | 1760 | 57 | 3090 | 1730 | 56 | 2 | 11-134/31 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 3100 | 1690 | 55 | 3090 | 1670 | 54 | 1 | 10-140/31 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 3100 | 1740 | 56 | 3090 | 1720 | 56 | 1 | 10-139/31 |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | 3100 | 1950 | 63 | 3090 | 1970 | 64 | 1 | 14-148/41 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-MS | 6P481567.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |
| OP20081-MSD | 6P481568.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |
| JC86986-2 | 6P481566.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Compound | JC86986-2 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 606-20-2 | 2,6-Dinitrotoluene | ND | | 3100 | 1870 | 60 | 3090 | 1850 | 60 | 1 | 14-152/40 |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | 6200 | 3490 | 56 | 6180 | 3640 | 59 | 4 | 10-137/47 |
| 53-70-3 | Dibenzo(a,h)anthracene | 28.1 | J | 3100 | 1870 | 59 | 3090 | 1940 | 62 | 4 | 10-152/38 |
| 132-64-9 | Dibenzofuran | 29.2 | J | 3100 | 2550 | 81 | 3090 | 2690 | 86 | 5 | 17-141/36 |
| 84-74-2 | Di-n-butyl phthalate | ND | | 3100 | 2160 | 70 | 3090 | 2220 | 72 | 3 | 26-137/35 |
| 117-84-0 | Di-n-octyl phthalate | ND | | 3100 | 2670 | 86 | 3090 | 2670 | 86 | 0 | 23-145/36 |
| 84-66-2 | Diethyl phthalate | ND | | 3100 | 2100 | 68 | 3090 | 2100 | 68 | 0 | 25-133/35 |
| 131-11-3 | Dimethyl phthalate | ND | | 3100 | 1750 | 56 | 3090 | 1760 | 57 | 1 | 21-134/36 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | 3100 | 2190 | 71 | 3090 | 2220 | 72 | 1 | 26-144/39 |
| 206-44-0 | Fluoranthene | 284 | | 3100 | 2210 | 62 | 3090 | 2290 | 65 | 4 | 10-151/44 |
| 86-73-7 | Fluorene | 54.4 | J | 3100 | 2170 | 68 | 3090 | 2240 | 71 | 3 | 19-133/36 |
| 118-74-1 | Hexachlorobenzene | ND | | 3100 | 1740 | 56 | 3090 | 1740 | 56 | 0 | 18-142/37 |
| 87-68-3 | Hexachlorobutadiene | ND | | 3100 | 1840 | 59 | 3090 | 1780 | 58 | 3 | 16-137/32 |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | 6200 | 2050 | 33 | 6180 | 1860 | 30 | 10 | 10-150/50 |
| 67-72-1 | Hexachloroethane | ND | | 3100 | 1500 | 48 | 3090 | 1470 | 48 | 2 | 10-131/38 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 95.6 | | 3100 | 2010 | 62 | 3090 | 2090 | 65 | 4 | 10-148/41 |
| 78-59-1 | Isophorone | ND | | 3100 | 2020 | 65 | 3090 | 2030 | 66 | 0 | 11-142/33 |
| 91-57-6 | 2-Methylnaphthalene | 92.5 | | 3100 | 2630 | 82 | 3090 | 2790 | 87 | 6 | 10-141/35 |
| 88-74-4 | 2-Nitroaniline | ND | | 3100 | 2580 | 83 | 3090 | 2630 | 85 | 2 | 14-156/38 |
| 99-09-2 | 3-Nitroaniline | ND | | 3100 | 1910 | 62 | 3090 | 2230 | 72 | 15 | 10-144/45 |
| 100-01-6 | 4-Nitroaniline | ND | | 3100 | 2400 | 77 | 3090 | 2530 | 82 | 5 | 10-156/44 |
| 91-20-3 | Naphthalene | 406 | | 3100 | 2470 | 67 | 3090 | 2560 | 70 | 4 | 10-136/36 |
| 98-95-3 | Nitrobenzene | ND | | 3100 | 1900 | 61 | 3090 | 1880 | 61 | 1 | 10-142/34 |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | | 3100 | 1930 | 62 | 3090 | 1890 | 61 | 2 | 10-142/31 |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | 3100 | 2030 | 66 | 3090 | 1910 | 62 | 6 | 10-156/37 |
| 85-01-8 | Phenanthrene | 210 | | 3100 | 2230 | 65 | 3090 | 2260 | 66 | 1 | 11-145/45 |
| 129-00-0 | Pyrene | 336 | | 3100 | 2260 | 62 | 3090 | 2280 | 63 | 1 | 11-155/44 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 3100 | 1750 | 56 | 3090 | 1770 | 57 | 1 | 12-135/33 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC86986-2 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 77% | 84% | 65% | 23-115% |
| 4165-62-2 | Phenol-d5 | 79% | 82% | 70% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 73% | 76% | 63% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 82% | 84% | 75% | 26-134% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20081-MS | 6P481567.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |
| OP20081-MSD | 6P481568.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |
| JC86986-2 | 6P481566.D | 1 | 05/02/19 | AR | 05/01/19 | OP20081 | E6P2579 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

| CAS No. | Surrogate Recoveries | MS | MSD | JC86986-2 | Limits |
|---|---|---|---|---|---|
| 321-60-8 | 2-Fluorobiphenyl | 68% | 73% | 72% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 74% | 78% | 73% | 36-134% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MS | P129374.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |
| OP20110-MSD | P129375.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |
| JC87093-7 | P129376.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Compound | JC87093-7 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | ND | | 2790 | 1660 | 59 | 2720 | 1680 | 62 | 1 | 10-137/34 |
| 59-50-7 | 4-Chloro-3-methyl phenol | ND | | 2790 | 2080 | 74 | 2720 | 1970 | 72 | 5 | 11-147/35 |
| 120-83-2 | 2,4-Dichlorophenol | ND | | 2790 | 2050 | 73 | 2720 | 1920 | 71 | 7 | 15-140/34 |
| 105-67-9 | 2,4-Dimethylphenol | ND | | 2790 | 2380 | 85 | 2720 | 2280 | 84 | 4 | 10-151/34 |
| 51-28-5 | 2,4-Dinitrophenol | ND | | 5580 | 2360 | 42 | 5440 | 2290 | 42 | 3 | 10-148/49 |
| 534-52-1 | 4,6-Dinitro-o-cresol | ND | | 2790 | 1460 | 52 | 2720 | 1370 | 50 | 6 | 10-150/48 |
| 95-48-7 | 2-Methylphenol | ND | | 2790 | 1710 | 61 | 2720 | 1710 | 63 | 0 | 10-138/33 |
| | 3&4-Methylphenol | ND | | 2790 | 1850 | 66 | 2720 | 1810 | 67 | 2 | 10-143/33 |
| 88-75-5 | 2-Nitrophenol | ND | | 2790 | 2000 | 72 | 2720 | 2000 | 74 | 0 | 10-150/39 |
| 100-02-7 | 4-Nitrophenol | ND | | 2790 | 1960 | 70 | 2720 | 1880 | 69 | 4 | 10-163/38 |
| 87-86-5 | Pentachlorophenol | ND | | 2790 | 1840 | 66 | 2720 | 1760 | 65 | 4 | 10-148/39 |
| 108-95-2 | Phenol | ND | | 2790 | 1640 | 59 | 2720 | 1620 | 60 | 1 | 24-114/32 |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | 2790 | 2230 | 80 | 2720 | 2010 | 74 | 10 | 10-146/36 |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | 2790 | 2300 | 82 | 2720 | 2150 | 79 | 7 | 16-148/36 |
| 83-32-9 | Acenaphthene | 23.1 | J | 2790 | 2410 | 85 | 2720 | 2230 | 81 | 8 | 21-136/34 |
| 208-96-8 | Acenaphthylene | ND | | 2790 | 2440 | 87 | 2720 | 2290 | 84 | 6 | 10-143/36 |
| 120-12-7 | Anthracene | ND | | 2790 | 2330 | 83 | 2720 | 2160 | 79 | 8 | 10-147/39 |
| 56-55-3 | Benzo(a)anthracene | 35.1 | J | 2790 | 2040 | 72 | 2720 | 1890 | 68 | 8 | 10-151/41 |
| 50-32-8 | Benzo(a)pyrene | 32.2 | J | 2790 | 2350 | 83 | 2720 | 2200 | 80 | 7 | 10-149/40 |
| 205-99-2 | Benzo(b)fluoranthene | 33.2 | J | 2790 | 2180 | 77 | 2720 | 2040 | 74 | 7 | 10-147/42 |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | 2790 | 2490 | 89 | 2720 | 2340 | 86 | 6 | 10-150/41 |
| 207-08-9 | Benzo(k)fluoranthene | ND | | 2790 | 2330 | 83 | 2720 | 2190 | 80 | 6 | 12-142/41 |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | 2790 | 2230 | 80 | 2720 | 2120 | 78 | 5 | 26-138/37 |
| 85-68-7 | Butyl benzyl phthalate | ND | | 2790 | 2270 | 81 | 2720 | 2100 | 77 | 8 | 24-143/36 |
| 91-58-7 | 2-Chloronaphthalene | ND | | 2790 | 2440 | 87 | 2720 | 2250 | 83 | 8 | 24-130/31 |
| 106-47-8 | 4-Chloroaniline | ND | | 2790 | 1430 | 51 | 2720 | 1360 | 50 | 5 | 10-111/52 |
| 86-74-8 | Carbazole | 8.5 | J | 2790 | 2240 | 80 | 2720 | 2050 | 75 | 9 | 12-146/39 |
| 218-01-9 | Chrysene | 45.5 | J | 2790 | 2160 | 76 | 2720 | 1980 | 71 | 9 | 10-151/41 |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | | 2790 | 2280 | 82 | 2720 | 2220 | 82 | 3 | 10-144/35 |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | | 2790 | 1910 | 68 | 2720 | 1910 | 70 | 0 | 12-142/35 |
| 108-60-1 | 2,2'-Oxybis(1-chloropropane) | ND | | 2790 | 2100 | 75 | 2720 | 2200 | 81 | 5 | 10-137/33 |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | 2790 | 2390 | 86 | 2720 | 2130 | 78 | 12 | 21-136/35 |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | 2790 | 1850 | 66 | 2720 | 1840 | 68 | 1 | 11-134/31 |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | 2790 | 1790 | 64 | 2720 | 1830 | 67 | 2 | 10-140/31 |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | 2790 | 1860 | 67 | 2720 | 1890 | 69 | 2 | 10-139/31 |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | 2790 | 2390 | 86 | 2720 | 2140 | 79 | 11 | 14-148/41 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MS | P129374.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |
| OP20110-MSD | P129375.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |
| JC87093-7 | P129376.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Compound | JC87093-7 ug/kg | Q | Spike ug/kg | MS ug/kg | MS % | Spike ug/kg | MSD ug/kg | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 606-20-2 | 2,6-Dinitrotoluene | ND | | 2790 | 2450 | 88 | 2720 | 2280 | 84 | 7 | 14-152/40 |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | | 5580 | 4010 | 72 | 5440 | 3700 | 68 | 8 | 10-137/47 |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | 2790 | 2280 | 82 | 2720 | 2110 | 78 | 8 | 10-152/38 |
| 132-64-9 | Dibenzofuran | ND | | 2790 | 2400 | 86 | 2720 | 2160 | 79 | 11 | 17-141/36 |
| 84-74-2 | Di-n-butyl phthalate | ND | | 2790 | 2250 | 81 | 2720 | 2090 | 77 | 7 | 26-137/35 |
| 117-84-0 | Di-n-octyl phthalate | ND | | 2790 | 2410 | 86 | 2720 | 2280 | 84 | 6 | 23-145/36 |
| 84-66-2 | Diethyl phthalate | ND | | 2790 | 2370 | 85 | 2720 | 2180 | 80 | 8 | 25-133/35 |
| 131-11-3 | Dimethyl phthalate | ND | | 2790 | 2380 | 85 | 2720 | 2130 | 78 | 11 | 21-134/36 |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | | 2790 | 2280 | 82 | 2720 | 2090 | 77 | 9 | 26-144/39 |
| 206-44-0 | Fluoranthene | 57.7 | | 2790 | 2120 | 74 | 2720 | 1920 | 68 | 10 | 10-151/44 |
| 86-73-7 | Fluorene | 31.5 | J | 2790 | 2490 | 88 | 2720 | 2270 | 82 | 9 | 19-133/36 |
| 118-74-1 | Hexachlorobenzene | ND | | 2790 | 2120 | 76 | 2720 | 1960 | 72 | 8 | 18-142/37 |
| 87-68-3 | Hexachlorobutadiene | ND | | 2790 | 2070 | 74 | 2720 | 2110 | 78 | 2 | 16-137/32 |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | 5580 | 3980 | 71 | 5440 | 3520 | 65 | 12 | 10-150/50 |
| 67-72-1 | Hexachloroethane | ND | | 2790 | 1710 | 61 | 2720 | 1750 | 64 | 2 | 10-131/38 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | 2790 | 2420 | 87 | 2720 | 2240 | 82 | 8 | 10-148/41 |
| 78-59-1 | Isophorone | ND | | 2790 | 2330 | 83 | 2720 | 2280 | 84 | 2 | 11-142/33 |
| 91-57-6 | 2-Methylnaphthalene | 30.0 | J | 2790 | 2240 | 79 | 2720 | 2170 | 79 | 3 | 10-141/35 |
| 88-74-4 | 2-Nitroaniline | ND | | 2790 | 2510 | 90 | 2720 | 2290 | 84 | 9 | 14-156/38 |
| 99-09-2 | 3-Nitroaniline | ND | | 2790 | 1850 | 66 | 2720 | 1560 | 57 | 17 | 10-144/45 |
| 100-01-6 | 4-Nitroaniline | ND | | 2790 | 2230 | 80 | 2720 | 1970 | 72 | 12 | 10-156/44 |
| 91-20-3 | Naphthalene | 156 | | 2790 | 2350 | 79 | 2720 | 2350 | 81 | 0 | 10-136/36 |
| 98-95-3 | Nitrobenzene | ND | | 2790 | 2090 | 75 | 2720 | 2050 | 75 | 2 | 10-142/34 |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | | 2790 | 1830 | 66 | 2720 | 1840 | 68 | 1 | 10-142/31 |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | 2790 | 2320 | 83 | 2720 | 2160 | 79 | 7 | 10-156/37 |
| 85-01-8 | Phenanthrene | 62.5 | | 2790 | 2370 | 83 | 2720 | 2210 | 79 | 7 | 11-145/45 |
| 129-00-0 | Pyrene | 65.4 | | 2790 | 2330 | 81 | 2720 | 2140 | 76 | 9 | 11-155/44 |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | 2790 | 2080 | 74 | 2720 | 2100 | 77 | 1 | 12-135/33 |

| CAS No. | Surrogate Recoveries | MS | MSD | JC87093-7 | Limits |
|---|---|---|---|---|---|
| 367-12-4 | 2-Fluorophenol | 77% | 80% | 67% | 23-115% |
| 4165-62-2 | Phenol-d5 | 79% | 80% | 67% | 27-114% |
| 118-79-6 | 2,4,6-Tribromophenol | 80% | 75% | 69% | 19-152% |
| 4165-60-0 | Nitrobenzene-d5 | 79% | 81% | 74% | 26-134% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP20110-MS | P129374.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |
| OP20110-MSD | P129375.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |
| JC87093-7 | P129376.D | 1 | 05/07/19 | CC | 05/06/19 | OP20110 | EP5856 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270D

JC86986-6

| CAS No. | Surrogate Recoveries | MS | MSD | JC87093-7 | Limits |
|---|---|---|---|---|---|
| 321-60-8 | 2-Fluorobiphenyl | 88% | 83% | 83% | 39-124% |
| 1718-51-0 | Terphenyl-d14 | 85% | 81% | 77% | 36-134% |

* = Outside of Control Limits.

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-DFTPP
**Lab File ID:** 6P481126.D
**Instrument ID:** GCMS6P
**Injection Date:** 04/16/19
**Injection Time:** 09:34

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 133701 | 36.3 | | Pass |
| 68 | Less than 2.0% of mass 69 | 2251 | 0.61 | (1.65) [a] | Pass |
| 69 | Mass 69 relative abundance | 136031 | 36.9 | | Pass |
| 70 | Less than 2.0% of mass 69 | 671 | 0.18 | (0.49) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 189621 | 51.5 | | Pass |
| 197 | Less than 1.0% of mass 198 | 428 | 0.12 | | Pass |
| 198 | Base peak, 100% relative abundance | 368448 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 24693 | 6.70 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 103277 | 28.0 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 14732 | 4.00 | | Pass |
| 441 | Present, but less than mass 443 | 39477 | 10.7 | (81.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 250821 | 68.1 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 48343 | 13.1 | (19.3) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2562-IC2562 | 6P481127.D | 04/16/19 | 09:55 | 00:21 | Initial cal 100 |
| E6P2562-IC2562 | 6P481128.D | 04/16/19 | 10:18 | 00:44 | Initial cal 80 |
| E6P2562-ICC2562 | 6P481129.D | 04/16/19 | 10:42 | 01:08 | Initial cal 50 |
| E6P2562-IC2562 | 6P481130.D | 04/16/19 | 11:06 | 01:32 | Initial cal 25 |
| E6P2562-IC2562 | 6P481131.D | 04/16/19 | 11:30 | 01:56 | Initial cal 10 |
| E6P2562-IC2562 | 6P481132.D | 04/16/19 | 11:54 | 02:20 | Initial cal 5 |
| E6P2562-IC2562 | 6P481133.D | 04/16/19 | 12:18 | 02:44 | Initial cal 2 |
| E6P2562-IC2562 | 6P481134.D | 04/16/19 | 12:42 | 03:08 | Initial cal 1 |
| E6P2562-ICV2562 | 6P481135.D | 04/16/19 | 13:06 | 03:32 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481136.D | 04/16/19 | 13:29 | 03:55 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481137.D | 04/16/19 | 13:53 | 04:19 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481138.D | 04/16/19 | 14:18 | 04:44 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481139.D | 04/16/19 | 14:42 | 05:08 | Initial cal verification 50 |
| E6P2562-ICV2562 | 6P481140.D | 04/16/19 | 15:06 | 05:32 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2563-DFTPP
**Lab File ID:** 6P481141.D
**Instrument ID:** GCMS6P
**Injection Date:** 04/16/19
**Injection Time:** 15:25

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 129768 | 35.7 | | Pass |
| 68 | Less than 2.0% of mass 69 | 2510 | 0.69 | (1.85) [a] | Pass |
| 69 | Mass 69 relative abundance | 135637 | 37.3 | | Pass |
| 70 | Less than 2.0% of mass 69 | 674 | 0.19 | (0.50) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 184520 | 50.8 | | Pass |
| 197 | Less than 1.0% of mass 198 | 403 | 0.11 | | Pass |
| 198 | Base peak, 100% relative abundance | 363402 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 24236 | 6.67 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 102661 | 28.2 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 14598 | 4.02 | | Pass |
| 441 | Present, but less than mass 443 | 39268 | 10.8 | (85.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 236114 | 65.0 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 45838 | 12.6 | (19.4) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2563-IC2563 | 6P481142.D | 04/16/19 | 15:39 | 00:14 | Initial cal 100 |
| E6P2563-IC2563 | 6P481143.D | 04/16/19 | 16:03 | 00:38 | Initial cal 80 |
| E6P2563-ICC2563 | 6P481144.D | 04/16/19 | 16:27 | 01:02 | Initial cal 50 |
| E6P2563-IC2563 | 6P481145.D | 04/16/19 | 16:51 | 01:26 | Initial cal 25 |
| E6P2563-IC2563 | 6P481146.D | 04/16/19 | 17:15 | 01:50 | Initial cal 10 |
| E6P2563-IC2563 | 6P481147.D | 04/16/19 | 17:39 | 02:14 | Initial cal 5 |
| E6P2563-IC2563 | 6P481148.D | 04/16/19 | 18:03 | 02:38 | Initial cal 2 |
| E6P2563-IC2563 | 6P481149.D | 04/16/19 | 18:28 | 03:03 | Initial cal 1 |
| E6P2563-ICV2563 | 6P481150.D | 04/16/19 | 18:52 | 03:27 | Initial cal verification 50 |
| E6P2563-ICV2563 | 6P481151.D | 04/16/19 | 19:16 | 03:51 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2566-DFTPP
**Lab File ID:** 6P481197.D
**Instrument ID:** GCMS6P
**Injection Date:** 04/18/19
**Injection Time:** 00:44

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 115586 | 34.6 | | Pass |
| 68 | Less than 2.0% of mass 69 | 2287 | 0.68 | (1.92) [a] | Pass |
| 69 | Mass 69 relative abundance | 119281 | 35.7 | | Pass |
| 70 | Less than 2.0% of mass 69 | 744 | 0.22 | (0.62) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 167242 | 50.0 | | Pass |
| 197 | Less than 1.0% of mass 198 | 1015 | 0.30 | | Pass |
| 198 | Base peak, 100% relative abundance | 334357 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 23137 | 6.92 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 93432 | 27.9 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 14022 | 4.19 | | Pass |
| 441 | Present, but less than mass 443 | 36962 | 11.1 | (83.5) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 228512 | 68.3 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 44265 | 13.2 | (19.4) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2566-IC2566 | 6P481198.D | 04/18/19 | 01:13 | 00:29 | Initial cal 100 |
| E6P2566-IC2566 | 6P481199.D | 04/18/19 | 01:37 | 00:53 | Initial cal 80 |
| E6P2566-ICC2566 | 6P481200.D | 04/18/19 | 02:01 | 01:17 | Initial cal 50 |
| E6P2566-IC2566 | 6P481201.D | 04/18/19 | 02:25 | 01:41 | Initial cal 25 |
| E6P2566-IC2566 | 6P481202.D | 04/18/19 | 02:49 | 02:05 | Initial cal 10 |
| E6P2566-IC2566 | 6P481203.D | 04/18/19 | 03:13 | 02:29 | Initial cal 5 |
| E6P2566-IC2566 | 6P481204.D | 04/18/19 | 03:38 | 02:54 | Initial cal 2 |
| E6P2566-IC2566 | 6P481205.D | 04/18/19 | 04:02 | 03:18 | Initial cal 1 |
| E6P2566-ICV2566 | 6P481206.D | 04/18/19 | 04:26 | 03:42 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2579-DFTPP
**Lab File ID:** 6P481547.D
**Instrument ID:** GCMS6P
**Injection Date:** 05/02/19
**Injection Time:** 08:56

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 117185 | 39.5 | | Pass |
| 68 | Less than 2.0% of mass 69 | 2209 | 0.75 | (1.73) [a] | Pass |
| 69 | Mass 69 relative abundance | 127596 | 43.0 | | Pass |
| 70 | Less than 2.0% of mass 69 | 725 | 0.24 | (0.57) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 171707 | 57.9 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 296453 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 21069 | 7.11 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 87640 | 29.6 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 12543 | 4.23 | | Pass |
| 441 | Present, but less than mass 443 | 37256 | 12.6 | (76.5) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 242643 | 81.8 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 48728 | 16.4 | (20.1) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2579-CC2562 | 6P481548.D | 05/02/19 | 09:08 | 00:12 | Continuing cal 50 |
| E6P2579-CC2563 | 6P481549.D | 05/02/19 | 09:32 | 00:36 | Continuing cal 50 |
| E6P2579-CC2566 | 6P481550.D | 05/02/19 | 09:57 | 01:01 | Continuing cal 50 |
| OP20081-MB1 | 6P481552.D | 05/02/19 | 10:45 | 01:49 | Method Blank |
| OP20081-BS1 | 6P481553.D | 05/02/19 | 11:09 | 02:13 | Blank Spike |
| JC86986-5 | 6P481554.D | 05/02/19 | 11:34 | 02:38 | S-146(14-16) |
| ZZZZZZ | 6P481556.D | 05/02/19 | 12:23 | 03:27 | (unrelated sample) |
| ZZZZZZ | 6P481557.D | 05/02/19 | 12:47 | 03:51 | (unrelated sample) |
| ZZZZZZ | 6P481558.D | 05/02/19 | 13:11 | 04:15 | (unrelated sample) |
| JC86986-13 | 6P481559.D | 05/02/19 | 13:36 | 04:40 | SO-DUP-0425 |
| ZZZZZZ | 6P481560.D | 05/02/19 | 14:00 | 05:04 | (unrelated sample) |
| JC86986-8 | 6P481561.D | 05/02/19 | 14:25 | 05:29 | S-147(18-20) |
| JC86986-4 | 6P481562.D | 05/02/19 | 14:50 | 05:54 | S-149(18.5-20.5) |
| JC86986-10 | 6P481563A.D | 05/02/19 | 15:25 | 06:29 | S-148(16-18) |
| JC86986-12 | 6P481564.D | 05/02/19 | 15:50 | 06:54 | S-151(3-5) |
| JC86986-7 | 6P481565.D | 05/02/19 | 16:14 | 07:18 | S-147(12-14) |
| JC86986-2 | 6P481566.D | 05/02/19 | 16:39 | 07:43 | S-142(7-8) |
| OP20081-MS | 6P481567.D | 05/02/19 | 17:03 | 08:07 | Matrix Spike |
| OP20081-MSD | 6P481568.D | 05/02/19 | 17:28 | 08:32 | Matrix Spike Duplicate |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2579-DFTPP
**Lab File ID:** 6P481547.D
**Instrument ID:** GCMS6P
**Injection Date:** 05/02/19
**Injection Time:** 08:56

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| ZZZZZZ | 6P481569.D | 05/02/19 | 17:53 | 08:57 | (unrelated sample) |
| ZZZZZZ | 6P481570A.D | 05/02/19 | 18:21 | 09:25 | (unrelated sample) |
| ZZZZZZ | 6P481571.D | 05/02/19 | 18:45 | 09:49 | (unrelated sample) |
| ZZZZZZ | 6P481572.D | 05/02/19 | 19:10 | 10:14 | (unrelated sample) |
| ZZZZZZ | 6P481573.D | 05/02/19 | 19:34 | 10:38 | (unrelated sample) |
| JC86986-11 | 6P481574.D | 05/02/19 | 19:59 | 11:03 | S-151(0.5-2) |
| JC86986-3 | 6P481575.D | 05/02/19 | 20:23 | 11:27 | S-149(8-10) |
| JC86986-9 | 6P481576.D | 05/02/19 | 20:48 | 11:52 | S-148(8-10) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2581-DFTPP
**Lab File ID:** 6P481611.D
**Instrument ID:** GCMS6P
**Injection Date:** 05/03/19
**Injection Time:** 13:27

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 126130 | 38.4 | | Pass |
| 68 | Less than 2.0% of mass 69 | 2689 | 0.82 | (1.95) [a] | Pass |
| 69 | Mass 69 relative abundance | 138014 | 42.0 | | Pass |
| 70 | Less than 2.0% of mass 69 | 773 | 0.24 | (0.56) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 186471 | 56.8 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 328234 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 22438 | 6.84 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 89594 | 27.3 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 14527 | 4.43 | | Pass |
| 441 | Present, but less than mass 443 | 43212 | 13.2 | (80.5) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 281778 | 85.8 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 53702 | 16.4 | (19.1) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2581-CC2562 | 6P481612.D | 05/03/19 | 13:40 | 00:13 | Continuing cal 25 |
| E6P2581-CC2563 | 6P481613.D | 05/03/19 | 14:04 | 00:37 | Continuing cal 25 |
| JC86986-11 | 6P481616.D | 05/03/19 | 15:18 | 01:51 | S-151(0.5-2) |
| JC86986-3 | 6P481617.D | 05/03/19 | 15:42 | 02:15 | S-149(8-10) |
| JC86986-9 | 6P481618.D | 05/03/19 | 16:06 | 02:39 | S-148(8-10) |
| ZZZZZZ | 6P481619.D | 05/03/19 | 16:31 | 03:04 | (unrelated sample) |
| JC86986-11 | 6P481620.D | 05/03/19 | 16:55 | 03:28 | S-151(0.5-2) |
| JC86986-3 | 6P481621.D | 05/03/19 | 17:19 | 03:52 | S-149(8-10) |
| JC86986-9 | 6P481622.D | 05/03/19 | 17:44 | 04:17 | S-148(8-10) |
| E6P2581-ECC2562 | 6P481623.D | 05/03/19 | 18:08 | 04:41 | Ending cal 25 |
| E6P2581-ECC2563 | 6P481624.D | 05/03/19 | 18:32 | 05:05 | Ending cal 25 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2588-DFTPP
**Lab File ID:** 6P481782.D
**Instrument ID:** GCMS6P
**Injection Date:** 05/10/19
**Injection Time:** 08:59

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 93631 | 35.3 | | Pass |
| 68 | Less than 2.0% of mass 69 | 1210 | 0.46 | (1.20) [a] | Pass |
| 69 | Mass 69 relative abundance | 100922 | 38.1 | | Pass |
| 70 | Less than 2.0% of mass 69 | 379 | 0.14 | (0.38) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 145813 | 55.0 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 264920 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 18114 | 6.84 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 74194 | 28.0 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 12288 | 4.64 | | Pass |
| 441 | Present, but less than mass 443 | 35856 | 13.5 | (75.7) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 250069 | 94.4 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 47370 | 17.9 | (18.9) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| E6P2588-CC2562 | 6P481783.D | 05/10/19 | 09:11 | 00:12 | Continuing cal 50 |
| E6P2588-CC2563 | 6P481784.D | 05/10/19 | 09:35 | 00:36 | Continuing cal 50 |
| OP20135-MB2 | 6P481786.D | 05/10/19 | 10:24 | 01:25 | Method Blank |
| OP20233-MB | 6P481786.D | 05/10/19 | 10:24 | 01:25 | Method Blank |
| OP20233-LB21 | 6P481787.D | 05/10/19 | 10:48 | 01:49 | Leachate Blank |
| OP20233-BS | 6P481788.D | 05/10/19 | 11:12 | 02:13 | Blank Spike |
| OP20135-BS2 | 6P481788.D | 05/10/19 | 11:12 | 02:13 | Blank Spike |
| OP20110-MB | 6P481789.D | 05/10/19 | 11:37 | 02:38 | Method Blank |
| ZZZZZZ | 6P481790.D | 05/10/19 | 12:01 | 03:02 | (unrelated sample) |
| ZZZZZZ | 6P481791.D | 05/10/19 | 12:25 | 03:26 | (unrelated sample) |
| ZZZZZZ | 6P481792.D | 05/10/19 | 12:50 | 03:51 | (unrelated sample) |
| ZZZZZZ | 6P481793.D | 05/10/19 | 13:14 | 04:15 | (unrelated sample) |
| ZZZZZZ | 6P481794.D | 05/10/19 | 13:38 | 04:39 | (unrelated sample) |
| ZZZZZZ | 6P481795.D | 05/10/19 | 14:03 | 05:04 | (unrelated sample) |
| ZZZZZZ | 6P481796.D | 05/10/19 | 14:27 | 05:28 | (unrelated sample) |
| ZZZZZZ | 6P481797.D | 05/10/19 | 14:52 | 05:53 | (unrelated sample) |
| OP20233-MS | 6P481798.D | 05/10/19 | 15:16 | 06:17 | Matrix Spike |
| OP20233-LS13 | 6P481798.D | 05/10/19 | 15:16 | 06:17 | Leachate Spike |
| OP20233-MSD | 6P481799.D | 05/10/19 | 15:41 | 06:42 | Matrix Spike Duplicate |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2588-DFTPP
**Lab File ID:** 6P481782.D
**Instrument ID:** GCMS6P
**Injection Date:** 05/10/19
**Injection Time:** 08:59

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| OP20315-MB1 | 6P481803.D | 05/10/19 | 16:05 | 07:06 | Method Blank |
| OP20315-BS1 | 6P481804.D | 05/10/19 | 16:30 | 07:31 | Blank Spike |
| JC87814-1 | 6P481805.D | 05/10/19 | 16:54 | 07:55 | (used for QC only; not part of job JC86986) |
| JC87814-1 | 6P481809.D | 05/10/19 | 17:19 | 08:20 | (used for QC only; not part of job JC86986) |
| OP20315-MS | 6P481806.D | 05/10/19 | 19:26 | 10:27 | Matrix Spike |
| OP20315-MSD | 6P481807.D | 05/10/19 | 19:50 | 10:51 | Matrix Spike Duplicate |
| ZZZZZZ | 6P481800.D | 05/10/19 | 20:14 | 11:15 | (unrelated sample) |
| ZZZZZZ | 6P481801.D | 05/10/19 | 20:39 | 11:40 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EP5844-DFTPP
**Lab File ID:** P129140.D
**Instrument ID:** GCMSP
**Injection Date:** 04/23/19
**Injection Time:** 22:58

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 56915 | 32.1 | | Pass |
| 68 | Less than 2.0% of mass 69 | 179 | 0.10 | (0.25) [a] | Pass |
| 69 | Mass 69 relative abundance | 71554 | 40.4 | | Pass |
| 70 | Less than 2.0% of mass 69 | 52 | 0.03 | (0.07) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 85866 | 48.5 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 177125 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 12424 | 7.01 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 43450 | 24.5 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 6536 | 3.69 | | Pass |
| 441 | Present, but less than mass 443 | 13691 | 7.73 | (72.9) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 94040 | 53.1 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 18788 | 10.6 | (20.0) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EP5844-IC5844 | P129141A.D | 04/24/19 | 02:03 | 03:05 | Initial cal 100 |
| EP5844-IC5844 | P129142A.D | 04/24/19 | 02:30 | 03:32 | Initial cal 80 |
| EP5844-ICC5844 | P129143A.D | 04/24/19 | 02:57 | 03:59 | Initial cal 50 |
| EP5844-IC5844 | P129144A.D | 04/24/19 | 03:24 | 04:26 | Initial cal 25 |
| EP5844-IC5844 | P129145A.D | 04/24/19 | 03:51 | 04:53 | Initial cal 10 |
| EP5844-IC5844 | P129146A.D | 04/24/19 | 04:18 | 05:20 | Initial cal 5 |
| EP5844-IC5844 | P129147.D | 04/24/19 | 04:45 | 05:47 | Initial cal 2 |
| EP5844-IC5844 | P129148.D | 04/24/19 | 05:12 | 06:14 | Initial cal 1 |
| EP5844-ICV5844 | P129149.D | 04/24/19 | 05:39 | 06:41 | Initial cal verification 50 |
| EP5844-ICV5844 | P129150.D | 04/24/19 | 06:06 | 07:08 | Initial cal verification 50 |
| EP5844-ICV5844 | P129151.D | 04/24/19 | 06:33 | 07:35 | Initial cal verification 50 |
| EP5844-ICV5844 | P129152.D | 04/24/19 | 07:00 | 08:02 | Initial cal verification 50 |
| EP5844-ICV5844 | P129153.D | 04/24/19 | 07:27 | 08:29 | Initial cal verification 50 |
| EP5844-ICV5844 | P129154.D | 04/24/19 | 07:54 | 08:56 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EP5845-DFTPP
**Lab File ID:** P129155.D
**Instrument ID:** GCMSP
**Injection Date:** 04/24/19
**Injection Time:** 08:17

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 44871 | 36.9 | | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.00 | (0.00) [a] | Pass |
| 69 | Mass 69 relative abundance | 55085 | 45.3 | | Pass |
| 70 | Less than 2.0% of mass 69 | 231 | 0.19 | (0.42) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 62498 | 51.4 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 121520 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 7568 | 6.23 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 30287 | 24.9 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 5190 | 4.27 | | Pass |
| 441 | Present, but less than mass 443 | 9479 | 7.80 | (86.3) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 61008 | 50.2 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 10978 | 9.03 | (18.0) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EP5845-IC5845 | P129156.D | 04/24/19 | 08:30 | 00:13 | Initial cal 100 |
| EP5845-IC5845 | P129157.D | 04/24/19 | 08:57 | 00:40 | Initial cal 80 |
| EP5845-ICC5845 | P129158.D | 04/24/19 | 09:24 | 01:07 | Initial cal 50 |
| EP5845-IC5845 | P129159.D | 04/24/19 | 09:51 | 01:34 | Initial cal 25 |
| EP5845-IC5845 | P129160.D | 04/24/19 | 10:18 | 02:01 | Initial cal 10 |
| EP5845-IC5845 | P129161.D | 04/24/19 | 10:45 | 02:28 | Initial cal 5 |
| EP5845-IC5845 | P129162.D | 04/24/19 | 11:12 | 02:55 | Initial cal 2 |
| EP5845-IC5845 | P129163.D | 04/24/19 | 11:39 | 03:22 | Initial cal 1 |
| EP5845-ICV5845 | P129164.D | 04/24/19 | 12:07 | 03:50 | Initial cal verification 50 |
| EP5845-ICV5845 | P129165.D | 04/24/19 | 12:34 | 04:17 | Initial cal verification 50 |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EP5856-DFTPP
**Lab File ID:** P129365.D
**Instrument ID:** GCMSP
**Injection Date:** 05/07/19
**Injection Time:** 12:32

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 48117 | 41.6 | | Pass |
| 68 | Less than 2.0% of mass 69 | 747 | 0.65 | (1.26) [a] | Pass |
| 69 | Mass 69 relative abundance | 59428 | 51.4 | | Pass |
| 70 | Less than 2.0% of mass 69 | 406 | 0.35 | (0.68) [a] | Pass |
| 127 | 40.0 - 60.0% of mass 198 | 64885 | 56.1 | | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.00 | | Pass |
| 198 | Base peak, 100% relative abundance | 115658 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 7801 | 6.74 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 27192 | 23.5 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 4550 | 3.93 | | Pass |
| 441 | Present, but less than mass 443 | 7276 | 6.29 | (77.0) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 48488 | 41.9 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 9454 | 8.17 | (19.5) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| EP5856-CC5844 | P129366.D | 05/07/19 | 12:44 | 00:12 | Continuing cal 25 |
| EP5856-CC5845 | P129367.D | 05/07/19 | 13:11 | 00:39 | Continuing cal 25 |
| OP20145-MB1 | P129368.D | 05/07/19 | 13:38 | 01:06 | Method Blank |
| OP20110-MB | P129369.D | 05/07/19 | 14:13 | 01:41 | Method Blank |
| OP20110-BS | P129370.D | 05/07/19 | 14:40 | 02:08 | Blank Spike |
| ZZZZZZ | P129371.D | 05/07/19 | 15:07 | 02:35 | (unrelated sample) |
| ZZZZZZ | P129372.D | 05/07/19 | 15:34 | 03:02 | (unrelated sample) |
| OP20110-MS | P129374.D | 05/07/19 | 16:28 | 03:56 | Matrix Spike |
| OP20110-MSD | P129375.D | 05/07/19 | 16:56 | 04:24 | Matrix Spike Duplicate |
| JC87093-7 | P129376.D | 05/07/19 | 17:23 | 04:51 | (used for QC only; not part of job JC86986) |
| JC86986-6 | P129377.D | 05/07/19 | 17:50 | 05:18 | S-146(17-19) |
| ZZZZZZ | P129378.D | 05/07/19 | 18:17 | 05:45 | (unrelated sample) |
| ZZZZZZ | P129379.D | 05/07/19 | 18:44 | 06:12 | (unrelated sample) |
| ZZZZZZ | P129380.D | 05/07/19 | 19:12 | 06:40 | (unrelated sample) |
| ZZZZZZ | P129381.D | 05/07/19 | 19:39 | 07:07 | (unrelated sample) |
| ZZZZZZ | P129382.D | 05/07/19 | 20:06 | 07:34 | (unrelated sample) |
| ZZZZZZ | P129383.D | 05/07/19 | 20:33 | 08:01 | (unrelated sample) |
| ZZZZZZ | P129384.D | 05/07/19 | 21:01 | 08:29 | (unrelated sample) |
| ZZZZZZ | P129385.D | 05/07/19 | 21:28 | 08:56 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Sample:** | EP5856-DFTPP | **Injection Date:** | 05/07/19 |
| **Lab File ID:** | P129365.D | **Injection Time:** | 12:32 |
| **Instrument ID:** | GCMSP | | |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| ZZZZZZ | P129386.D | 05/07/19 | 21:55 | 09:23 | (unrelated sample) |
| ZZZZZZ | P129387.D | 05/07/19 | 22:22 | 09:50 | (unrelated sample) |
| ZZZZZZ | P129388.D | 05/07/19 | 22:49 | 10:17 | (unrelated sample) |

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E6P2579-CC2562 | **Injection Date:** | 05/02/19 |
| **Lab File ID:** | 6P481548.D | **Injection Time:** | 09:08 |
| **Instrument ID:** | GCMS6P | **Method:** | SW846 8270D |

| | IS 1 | | IS 2 | | IS 3 | | IS 4 | | IS 5 | | IS 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AREA | RT | AREA | RT | AREA | RT | AREA | RT | AREA | RT | AREA | RT |
| Check Std | 619465 | 4.15 | 2635361 | 5.12 | 1541320 | 6.77 | 2723777 | 8.43 | 2403459 | 11.59 | 2647628 | 13.17 |
| Upper Limit [a] | 1238930 | 4.65 | 5270722 | 5.62 | 3082640 | 7.27 | 5447554 | 8.93 | 4806918 | 12.09 | 5295256 | 13.67 |
| Lower Limit [b] | 309733 | 3.65 | 1317681 | 4.62 | 770660 | 6.27 | 1361889 | 7.93 | 1201730 | 11.09 | 1323814 | 12.67 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20081-MB1 | 538809 | 4.15 | 1943864 | 5.11 | 1257202 | 6.76 | 2269595 | 8.42 | 1895465 | 11.56 | 1862159 | 13.16 |
| OP20081-BS1 | 561855 | 4.14 | 2041641 | 5.11 | 1297406 | 6.77 | 2328418 | 8.42 | 2115468 | 11.57 | 1922894 | 13.16 |
| JC86986-5 | 496620 | 4.15 | 1860968 | 5.11 | 1161881 | 6.76 | 1903900 | 8.42 | 1680744 | 11.56 | 1842160 | 13.15 |
| ZZZZZZ | 505988 | 4.15 | 1845579 | 5.11 | 1043479 | 6.76 | 1960491 | 8.41 | 1871988 | 11.56 | 1737200 | 13.15 |
| ZZZZZZ | 532670 | 4.14 | 1936875 | 5.11 | 1047630 | 6.76 | 2099406 | 8.41 | 1674287 | 11.56 | 1807819 | 13.15 |
| ZZZZZZ | 555157 | 4.15 | 1962439 | 5.11 | 1101851 | 6.76 | 2183965 | 8.41 | 1883704 | 11.56 | 1807239 | 13.15 |
| JC86986-13 | 531073 | 4.15 | 1969065 | 5.11 | 1243477 | 6.76 | 2245547 | 8.41 | 1957166 | 11.56 | 1908725 | 13.15 |
| ZZZZZZ | 503662 | 4.15 | 1859185 | 5.11 | 1139206 | 6.76 | 2056171 | 8.41 | 1776150 | 11.56 | 1720791 | 13.15 |
| JC86986-8 | 512430 | 4.15 | 1831184 | 5.11 | 1057135 | 6.76 | 1992807 | 8.41 | 1649936 | 11.56 | 1746587 | 13.15 |
| JC86986-4 | 534209 | 4.15 | 1934032 | 5.11 | 1138377 | 6.76 | 2069868 | 8.41 | 1762338 | 11.56 | 1659766 | 13.15 |
| JC86986-10 | 510149 | 4.15 | 1919018 | 5.11 | 1128634 | 6.76 | 2008353 | 8.41 | 1746551 | 11.56 | 1710068 | 13.15 |
| JC86986-12 | 583482 | 4.15 | 2165860 | 5.11 | 1111859 | 6.76 | 2022749 | 8.41 | 1734241 | 11.56 | 1730103 | 13.15 |
| JC86986-7 | 530304 | 4.15 | 1945616 | 5.11 | 1281927 | 6.78 | 2276546 | 8.43 | 1792038 | 11.56 | 1759137 | 13.15 |
| JC86986-2 | 585204 | 4.15 | 2130827 | 5.11 | 1099332 | 6.76 | 2058118 | 8.41 | 1770080 | 11.56 | 1966781 | 13.16 |
| OP20081-MS | 523677 | 4.14 | 1942384 | 5.11 | 1198106 | 6.76 | 2163142 | 8.42 | 1929485 | 11.56 | 1782081 | 13.16 |
| OP20081-MSD | 532384 | 4.15 | 1965476 | 5.11 | 1201866 | 6.76 | 2266032 | 8.42 | 2039317 | 11.57 | 1876067 | 13.16 |
| ZZZZZZ | 544418 | 4.14 | 1930499 | 5.11 | 1033105 | 6.76 | 2042278 | 8.41 | 1710238 | 11.56 | 1707705 | 13.15 |
| ZZZZZZ | 481628 | 4.15 | 1840584 | 5.11 | 945644 | 6.76 | 1910751 | 8.41 | 1567109 | 11.56 | 1635932 | 13.15 |
| ZZZZZZ | 589558 | 4.15 | 2141862 | 5.11 | 1221109 | 6.76 | 2178608 | 8.42 | 1953296 | 11.56 | 1950206 | 13.16 |
| ZZZZZZ | 534520 | 4.15 | 1920590 | 5.12 | 1099087 | 6.77 | 2040094 | 8.42 | 1753337 | 11.56 | 1832383 | 13.16 |
| ZZZZZZ | 552802 | 4.15 | 2073570 | 5.11 | 1199401 | 6.77 | 2566007 | 8.43 | 2804741 | 11.62 | 2930450 | 13.22 |
| JC86986-11 | 517711 | 4.14 | 1829266 | 5.12 | 1147716 | 6.77 | 2179031 | 8.49 | 2535224 | 11.69 | 2465161 | 13.28 |
| JC86986-3 [c] | 487971 | 4.15 | 2025755 | 5.14 | 1299446 | 6.78 | 1926800 | 8.51 | 2365774 | 11.74 | 3008468 | 13.33 |
| JC86986-9 [d] | 582799 | 4.15 | 1510784 | 5.16 | 1525935 | 6.79 | 1967740 | 8.51 | 2737698 | 11.76 | 3669466 | 13.33 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Dilution required due to viscosity of the extract matrix.

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E6P2579-CC2562 | **Injection Date:** | 05/02/19 |
| **Lab File ID:** | 6P481548.D | **Injection Time:** | 09:08 |
| **Instrument ID:** | GCMS6P | **Method:** | SW846 8270D |

| Lab | IS 1 | | IS 2 | | IS 3 | | IS 4 | | IS 5 | | IS 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | **AREA** | **RT** | **AREA** | **RT** | **AREA** | **RT** | **AREA** | **RT** | **AREA** | **RT** | **AREA** | **RT** |

(d) Elevated detection limit due to low volume of sample extracted. Dilution required due to the viscosity of the extract matrix.

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E6P2581-CC2562 | **Injection Date:** | 05/03/19 |
| **Lab File ID:** | 6P481612.D | **Injection Time:** | 13:40 |
| **Instrument ID:** | GCMS6P | **Method:** | SW846 8270D |

| | IS 1 | | IS 2 | | IS 3 | | IS 4 | | IS 5 | | IS 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AREA | RT | AREA | RT | AREA | RT | AREA | RT | AREA | RT | AREA | RT |
| Check Std | 547238 | 4.12 | 2175756 | 5.09 | 1466634 | 6.74 | 2382172 | 8.40 | 1824069 | 11.55 | 2114035 | 13.14 |
| Upper Limit [a] | 1094476 | 4.62 | 4351512 | 5.59 | 2933268 | 7.24 | 4764344 | 8.90 | 3648138 | 12.05 | 4228070 | 13.64 |
| Lower Limit [b] | 273619 | 3.62 | 1087878 | 4.59 | 733317 | 6.24 | 1191086 | 7.90 | 912035 | 11.05 | 1057018 | 12.64 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JC86986-11 | 492151 | 4.12 | 1838871 | 5.09 | 1008038 | 6.74 | 2048795 | 8.40 | 1801204 | 11.54 | 1766264 | 13.14 |
| JC86986-3 | 549902 | 4.12 | 2067477 | 5.09 | 1128684 | 6.74 | 2001899 | 8.40 | 1761008 | 11.54 | 1771064 | 13.14 |
| JC86986-9 | 502531 | 4.12 | 1812630 | 5.09 | 1019270 | 6.74 | 2020871 | 8.40 | 1782407 | 11.54 | 1731624 | 13.14 |
| ZZZZZZ | 544094 | 4.12 | 1900957 | 5.09 | 978234 | 6.74 | 1816339 | 8.40 | 1798608 | 11.55 | 1786726 | 13.15 |
| JC86986-11 | 561593 | 4.12 | 2079964 | 5.09 | 1127276 | 6.74 | 2001370 | 8.40 | 2009623 | 11.56 | 1775125 | 13.15 |
| JC86986-3 | 510280 | 4.12 | 1907989 | 5.09 | 1053029 | 6.74 | 2032804 | 8.42 | 2074520 | 11.57 | 1886549 | 13.16 |
| JC86986-9 | 542893 | 4.12 | 2077124 | 5.10 | 1129287 | 6.74 | 2058504 | 8.42 | 2039664 | 11.57 | 1862395 | 13.16 |
| E6P2581-ECC2562 | 600551 | 4.12 | 2378778 | 5.09 | 1384264 | 6.74 | 2177932 | 8.40 | 1866145 | 11.55 | 1950006 | 13.14 |
| E6P2581-ECC2563 | 518274 | 4.12 | 2155787 | 5.09 | 1228533 | 6.74 | 1953132 | 8.40 | 1655186 | 11.54 | 1833626 | 13.14 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | E6P2588-CC2562 | **Injection Date:** | 05/10/19 |
| **Lab File ID:** | 6P481783.D | **Injection Time:** | 09:11 |
| **Instrument ID:** | GCMS6P | **Method:** | SW846 8270D |

| | IS 1 | | IS 2 | | IS 3 | | IS 4 | | IS 5 | | IS 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AREA | RT | AREA | RT | AREA | RT | AREA | RT | AREA | RT | AREA | RT |
| Check Std | 553833 | 4.21 | 2315101 | 5.19 | 1363428 | 6.86 | 2439898 | 8.53 | 2093121 | 11.69 | 2208009 | 13.29 |
| Upper Limit [a] | 1107666 | 4.71 | 4630202 | 5.69 | 2726856 | 7.36 | 4879796 | 9.03 | 4186242 | 12.19 | 4416018 | 13.79 |
| Lower Limit [b] | 276917 | 3.71 | 1157551 | 4.69 | 681714 | 6.36 | 1219949 | 8.03 | 1046561 | 11.19 | 1104005 | 12.79 |

| Lab Sample ID | IS 1 AREA | IS 1 RT | IS 2 AREA | IS 2 RT | IS 3 AREA | IS 3 RT | IS 4 AREA | IS 4 RT | IS 5 AREA | IS 5 RT | IS 6 AREA | IS 6 RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20135-MB2 | 472124 | 4.21 | 1808049 | 5.18 | 991365 | 6.85 | 1893948 | 8.52 | 1744796 | 11.68 | 1792086 | 13.28 |
| OP20233-MB | 472124 | 4.21 | 1808049 | 5.18 | 991365 | 6.85 | 1893948 | 8.52 | 1744796 | 11.68 | 1792086 | 13.28 |
| OP20233-LB21 | 490193 | 4.21 | 1850877 | 5.18 | 1016909 | 6.85 | 1930495 | 8.52 | 1783618 | 11.68 | 1838320 | 13.28 |
| OP20233-BS | 513601 | 4.21 | 1924014 | 5.18 | 1043946 | 6.85 | 1910543 | 8.52 | 1768507 | 11.69 | 1720538 | 13.28 |
| OP20135-BS2 | 513601 | 4.21 | 1924014 | 5.18 | 1043946 | 6.85 | 1910543 | 8.52 | 1768507 | 11.69 | 1720538 | 13.28 |
| OP20110-MB | 510409 | 4.21 | 1876568 | 5.18 | 987686 | 6.85 | 1786422 | 8.51 | 1561293 | 11.68 | 1489418 | 13.28 |
| ZZZZZZ | 508403 | 4.21 | 1965771 | 5.18 | 1077959 | 6.85 | 2033682 | 8.51 | 1903514 | 11.68 | 1979968 | 13.28 |
| ZZZZZZ | 489460 | 4.21 | 1882365 | 5.18 | 1027714 | 6.85 | 1992558 | 8.52 | 1936958 | 11.68 | 1928942 | 13.28 |
| ZZZZZZ | 511455 | 4.21 | 1958665 | 5.18 | 1083460 | 6.85 | 2041956 | 8.52 | 1997388 | 11.69 | 2034813 | 13.29 |
| ZZZZZZ | 475059 | 4.21 | 1725055 | 5.18 | 898626 | 6.85 | 1720200 | 8.51 | 1328346 | 11.68 | 1293463 | 13.28 |
| ZZZZZZ | 531020 | 4.21 | 2106986 | 5.19 | 1191377 | 6.86 | 2162959 | 8.53 | 2107959 | 11.70 | 1954323 | 13.30 |
| ZZZZZZ | 495399 | 4.21 | 1909390 | 5.18 | 984501 | 6.85 | 1866442 | 8.51 | 1724189 | 11.68 | 1713730 | 13.28 |
| ZZZZZZ | 518380 | 4.21 | 1969950 | 5.18 | 1062532 | 6.85 | 2040228 | 8.52 | 1875909 | 11.68 | 1657946 | 13.29 |
| ZZZZZZ | 508075 | 4.21 | 2016204 | 5.18 | 1254843 | 6.86 | 2177542 | 8.53 | 1875022 | 11.68 | 1923434 | 13.28 |
| OP20233-MS | 465707 | 4.21 | 1752362 | 5.18 | 1001183 | 6.85 | 1750147 | 8.52 | 1688033 | 11.69 | 1506875 | 13.29 |
| OP20233-LS13 | 465707 | 4.21 | 1752362 | 5.18 | 1001183 | 6.85 | 1750147 | 8.52 | 1688033 | 11.69 | 1506875 | 13.29 |
| OP20233-MSD | 430337 | 4.21 | 1647432 | 5.18 | 893574 | 6.85 | 1676933 | 8.52 | 1580837 | 11.68 | 1380623 | 13.29 |
| OP20315-MB1 | 482477 | 4.21 | 1835189 | 5.18 | 988650 | 6.85 | 1852359 | 8.52 | 1764636 | 11.68 | 1752416 | 13.28 |
| OP20315-BS1 | 467326 | 4.21 | 1730621 | 5.18 | 925548 | 6.85 | 1687734 | 8.52 | 1485850 | 11.68 | 1517668 | 13.28 |
| JC87814-1 | 487579 | 4.21 | 1841307 | 5.18 | 1105389 | 6.86 | 2355973 | 8.56 | 2060817 | 11.72 | 1621794 | 13.29 |
| JC87814-1 | 435535 | 4.21 | 1655569 | 5.18 | 880997 | 6.85 | 2098141 | 8.53 | 1338585 | 11.68 | 1368970 | 13.28 |
| OP20315-MS | 421945 | 4.21 | 1637417 | 5.18 | 944693 | 6.86 | 2411637 | 8.56 | 1615031 | 11.71 | 1189654 | 13.29 |
| OP20315-MSD | 519310 | 4.21 | 1979287 | 5.18 | 1132494 | 6.86 | 2523590 | 8.56 | 1938140 | 11.71 | 1351834 | 13.29 |
| ZZZZZZ | 474015 | 4.21 | 1842114 | 5.18 | 1049881 | 6.85 | 1948948 | 8.52 | 1625297 | 11.68 | 1653259 | 13.28 |
| ZZZZZZ | 501282 | 4.21 | 1926127 | 5.18 | 1047548 | 6.85 | 2066756 | 8.51 | 1810396 | 11.68 | 1811266 | 13.28 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Internal Standard Area Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | |
|---|---|---|---|
| **Check Std:** | EP5856-CC5844 | **Injection Date:** | 05/07/19 |
| **Lab File ID:** | P129366.D | **Injection Time:** | 12:44 |
| **Instrument ID:** | GCMSP | **Method:** | SW846 8270D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 177681 | 3.76 | 616625 | 4.70 | 374206 | 5.94 | 627554 | 7.33 | 558176 | 11.97 | 580998 | 14.90 |
| Upper Limit [a] | 355362 | 4.26 | 1233250 | 5.20 | 748412 | 6.44 | 1255108 | 7.83 | 1116352 | 12.47 | 1161996 | 15.40 |
| Lower Limit [b] | 88841 | 3.26 | 308313 | 4.20 | 187103 | 5.44 | 313777 | 6.83 | 279088 | 11.47 | 290499 | 14.40 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT | IS 6 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OP20145-MB1 | 200282 | 3.76 | 688120 | 4.69 | 375507 | 5.94 | 671849 | 7.33 | 584458 | 11.96 | 563334 | 14.89 |
| OP20110-MB | 192020 | 3.76 | 659405 | 4.69 | 353720 | 5.94 | 618727 | 7.33 | 530688 | 11.96 | 503785 | 14.89 |
| OP20110-BS | 164210 | 3.76 | 524726 | 4.70 | 297525 | 5.94 | 521331 | 7.33 | 492289 | 11.97 | 453527 | 14.89 |
| ZZZZZZ | 165890 | 3.76 | 564566 | 4.70 | 305381 | 5.94 | 544816 | 7.33 | 493341 | 11.96 | 484916 | 14.89 |
| ZZZZZZ | 172627 | 3.76 | 585098 | 4.70 | 306813 | 5.94 | 543874 | 7.33 | 483603 | 11.96 | 474298 | 14.90 |
| OP20110-MS | 153344 | 3.76 | 484634 | 4.70 | 266878 | 5.94 | 475598 | 7.34 | 434661 | 11.97 | 431476 | 14.90 |
| OP20110-MSD | 157674 | 3.76 | 501689 | 4.70 | 282104 | 5.94 | 487087 | 7.34 | 445894 | 11.97 | 426745 | 14.90 |
| JC87093-7 | 179257 | 3.76 | 590135 | 4.70 | 298917 | 5.94 | 521492 | 7.33 | 440447 | 11.97 | 439326 | 14.90 |
| JC86986-6 | 182123 | 3.76 | 598085 | 4.70 | 308301 | 5.94 | 541790 | 7.33 | 466700 | 11.96 | 446714 | 14.90 |
| ZZZZZZ | 177461 | 3.76 | 595967 | 4.70 | 304572 | 5.94 | 500461 | 7.33 | 459532 | 11.97 | 448510 | 14.90 |
| ZZZZZZ | 172256 | 3.76 | 568145 | 4.70 | 264804 | 5.94 | 455599 | 7.36 | 434077 | 12.00 | 456260 | 14.91 |
| ZZZZZZ | 158807 | 3.76 | 439103 | 4.71 | 182781* | 5.97 | 386669 | 7.40 | 417353 | 11.99 | 440354 | 14.91 |
| ZZZZZZ | 187257 | 3.76 | 610208 | 4.70 | 306726 | 5.94 | 525191 | 7.34 | 460693 | 11.98 | 461011 | 14.92 |
| ZZZZZZ | 169434 | 3.76 | 551922 | 4.70 | 276306 | 5.94 | 469217 | 7.34 | 426467 | 11.99 | 441169 | 14.92 |
| ZZZZZZ | 169094 | 3.76 | 536654 | 4.70 | 267912 | 5.94 | 471682 | 7.34 | 425992 | 11.99 | 442162 | 14.92 |
| ZZZZZZ | 176903 | 3.76 | 602639 | 4.70 | 308108 | 5.94 | 539550 | 7.33 | 462838 | 11.97 | 452902 | 14.91 |
| ZZZZZZ | 182292 | 3.76 | 603755 | 4.70 | 315110 | 5.94 | 540466 | 7.33 | 467635 | 11.98 | 477266 | 14.91 |
| ZZZZZZ | 185700 | 3.76 | 601560 | 4.70 | 313854 | 5.94 | 533507 | 7.33 | 449580 | 11.99 | 478587 | 14.93 |
| ZZZZZZ | 193972 | 3.76 | 613712 | 4.70 | 291741 | 5.94 | 531545 | 7.34 | 458621 | 12.01 | 491974 | 14.96 |
| ZZZZZZ | 177812 | 3.76 | 591347 | 4.70 | 303841 | 5.94 | 519622 | 7.34 | 460837 | 12.01 | 488912 | 14.94 |

**IS 1** = 1,4-Dichlorobenzene-d4
**IS 2** = Naphthalene-d8
**IS 3** = Acenaphthene-D10
**IS 4** = Phenanthrene-d10
**IS 5** = Chrysene-d12
**IS 6** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Surrogate Recovery Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Method:** SW846 8270D **Matrix:** SO

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 | S4 | S5 | S6 |
|---|---|---|---|---|---|---|---|
| JC86986-2 | 6P481566.D | 65 | 70 | 63 | 75 | 72 | 73 |
| JC86986-3 | 6P481617.D | 55 | 59 | 0* [a] | 60 | 54 | 69 |
| JC86986-3 | 6P481621.D | 63 | 68 | 53 | 77 | 67 | 47 |
| JC86986-3 | 6P481575.D | 60 | 62 | 80 | 65 | 50 | 54 |
| JC86986-4 | 6P481562.D | 79 | 79 | 76 | 83 | 80 | 81 |
| JC86986-5 | 6P481554.D | 78 | 78 | 73 | 78 | 75 | 83 |
| JC86986-6 | P129377.D | 60 | 60 | 56 | 68 | 71 | 64 |
| JC86986-7 | 6P481565.D | 68 | 68 | 74 | 69 | 66 | 69 |
| JC86986-8 | 6P481561.D | 74 | 74 | 70 | 80 | 69 | 81 |
| JC86986-9 | 6P481618.D | 0* [a] | 0* [a] | 0* [a] | 0* [a] | 0* [a] | 0* [a] |
| JC86986-9 | 6P481622.D | 58 | 68 | 63 | 74 | 60 | 52 |
| JC86986-9 | 6P481576.D | 57 | 70 | 91 | 120 | 50 | 54 |
| JC86986-10 | 6P481563A.D | 74 | 74 | 72 | 78 | 76 | 78 |
| JC86986-11 | 6P481616.D | 59 | 66 | 67 | 59 | 69 | 80 |
| JC86986-11 | 6P481574.D | 64 | 65 | 67 | 73 | 63 | 58 |
| JC86986-11 | 6P481620.D | 59 | 67 | 60 | 71 | 69 | 64 |
| JC86986-12 | 6P481564.D | 83 | 82 | 77 | 86 | 82 | 84 |
| JC86986-13 | 6P481559.D | 76 | 76 | 69 | 79 | 68 | 78 |
| OP20081-BS1 | 6P481553.D | 86 | 87 | 77 | 90 | 74 | 80 |
| OP20081-MB1 | 6P481552.D | 93 | 93 | 82 | 94 | 76 | 94 |
| OP20081-MS | 6P481567.D | 77 | 79 | 73 | 82 | 68 | 74 |
| OP20081-MSD | 6P481568.D | 84 | 82 | 76 | 84 | 73 | 78 |
| OP20110-BS | P129370.D | 91 | 89 | 79 | 87 | 89 | 85 |
| OP20110-MB | P129369.D | 78 | 79 | 72 | 83 | 86 | 79 |
| OP20110-MB | 6P481789.D | 81 | 83 | 65 | 89 | 80 | 79 |
| OP20110-MS | P129374.D | 77 | 79 | 80 | 79 | 88 | 85 |
| OP20110-MSD | P129375.D | 80 | 80 | 75 | 81 | 83 | 81 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| **S1** = 2-Fluorophenol | 23-115% |
| **S2** = Phenol-d5 | 27-114% |
| **S3** = 2,4,6-Tribromophenol | 19-152% |
| **S4** = Nitrobenzene-d5 | 26-134% |
| **S5** = 2-Fluorobiphenyl | 39-124% |
| **S6** = Terphenyl-d14 | 36-134% |

(a) Outside control limits due to dilution.

# Initial Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2562-ICC2562
**Lab FileID:** 6P481129.D

Response Factor Report MS6P

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
Last Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

Calibration Files
2 =6p481133.D 5 =6p481132.D 25 =6p481130.D 80 =6p481128.D
100 =6p481127.D 50 =6p481129.D 1 =6p481134.D 10 =6p481131.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 1 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) I 1,4-Dichlorobenzene-d | ----------ISTD---------- | | | | | | | | | |
| 2) 1,4-Dioxane | 0.507 | 0.517 | 0.531 | 0.535 | 0.516 | 0.545 | 0.522 | 0.540 | 0.527 | 2.50 |
| 3) Pyridine | 0.956 | 1.065 | 1.279 | 1.285 | 1.239 | 1.288 | | 1.272 | 1.198 | 11.09 |
| 4) N-Nitrosodim | 0.665 | 0.691 | 0.766 | 0.742 | 0.723 | 0.748 | 0.499 | 0.751 | 0.698 | 12.47 |
| 5) 2-Fluorophen | 0.975 | 1.137 | 1.280 | 1.294 | 1.267 | 1.326 | 0.856 | 1.226 | 1.170 | 14.52 |
| 6) Indene | 2.226 | 2.253 | 2.221 | 2.064 | 1.997 | 2.189 | 2.143 | 2.257 | 2.169 | 4.35 |
| 7) Cumene | 3.240 | 3.194 | 3.159 | 2.901 | 2.782 | 3.095 | 3.218 | 3.268 | 3.107 | 5.63 |
| 8) Phenol-d5 | 1.361 | 1.468 | 1.510 | 1.418 | 1.379 | 1.483 | 1.299 | 1.512 | 1.429 | 5.42 |
| 9) Phenol | 1.713 | 1.778 | 1.823 | 1.681 | 1.632 | 1.796 | 1.694 | 1.835 | 1.744 | 4.24 |
| 10) Aniline | 1.610 | 1.766 | 1.558 | 1.420 | 1.307 | 1.491 | | 1.742 | 1.556 | 10.69 |
| 11) bis(2-Chloro | 1.258 | 1.218 | 1.241 | 1.185 | 1.174 | 1.221 | 1.127 | 1.241 | 1.208 | 3.60 |
| 12) 2-Chlorophen | 1.308 | 1.414 | 1.431 | 1.390 | 1.353 | 1.454 | 1.263 | 1.451 | 1.383 | 5.03 |
| 13) Decane | 1.155 | 1.114 | 1.077 | 0.953 | 0.902 | 1.028 | 1.136 | 1.127 | 1.061 | 8.71 |
| 14) 1,3-Dichloro | 1.584 | 1.588 | 1.594 | 1.533 | 1.475 | 1.588 | 1.620 | 1.631 | 1.577 | 3.19 |
| 15) 1,4-Dichloro | 1.620 | 1.613 | 1.621 | 1.536 | 1.493 | 1.622 | 1.755 | 1.650 | 1.614 | 4.80 |
| 16) Benzyl alcoh | 0.676 | 0.713 | 0.796 | 0.758 | 0.753 | 0.807 | | 0.754 | 0.751 | 6.02 |
| 17) 1,2-Dichloro | 1.486 | 1.497 | 1.526 | 1.399 | 1.367 | 1.492 | 1.526 | 1.567 | 1.482 | 4.52 |
| 18) Acetophenone | 1.854 | 1.904 | 1.917 | 1.806 | 1.795 | 1.905 | 1.744 | 1.948 | 1.859 | 3.84 |
| 19) 2-Methylphen | 1.144 | 1.191 | 1.239 | 1.170 | 1.149 | 1.224 | 1.026 | 1.248 | 1.174 | 6.11 |
| 20) 2,2'-oxybis( | 0.417 | 0.432 | 0.438 | 0.435 | 0.427 | 0.442 | 0.418 | 0.439 | 0.431 | 2.21 |
| 21) 3&4-Methylph | 1.166 | 1.217 | 1.340 | 1.262 | 1.242 | 1.320 | 1.011 | 1.316 | 1.234 | 8.71 |
| 22) n-Nitroso-di | 0.819 | 0.846 | 0.864 | 0.799 | 0.791 | 0.843 | 0.808 | 0.883 | 0.832 | 3.93 |
| 23) Hexachloroet | 0.519 | 0.553 | 0.571 | 0.586 | 0.581 | 0.587 | 0.535 | 0.574 | 0.563 | 4.48 |
| 24) I Naphthalene-d8 | ----------ISTD---------- | | | | | | | | | |
| 25) Nitrobenzene | 0.337 | 0.344 | 0.344 | 0.324 | 0.313 | 0.342 | 0.307 | 0.352 | 0.333 | 4.88 |
| 26) Nitrobenzene | 0.343 | 0.360 | 0.354 | 0.325 | 0.311 | 0.343 | 0.312 | 0.362 | 0.339 | 6.06 |
| 27) Quinoline | 0.676 | 0.741 | 0.754 | 0.744 | 0.728 | 0.767 | 0.632 | 0.763 | 0.726 | 6.54 |
| 28) Isophorone | 0.587 | 0.612 | 0.600 | 0.545 | 0.523 | 0.581 | 0.560 | 0.622 | 0.579 | 5.86 |
| 29) 2-Nitropheno | 0.177 | 0.205 | 0.214 | 0.200 | 0.189 | 0.215 | 0.168 | 0.216 | 0.198 | 9.29 |
| 30) 2,4-Dimethyl | | 0.247 | 0.316 | 0.322 | 0.317 | 0.331 | | 0.281 | 0.302 | 10.54 |
| 31) Benzoic acid | | | 0.304 | 0.325 | 0.315 | 0.326 | | 0.257 | 0.305 | 9.36 |
| 32) bis(2-Chloro | 0.374 | 0.388 | 0.372 | 0.347 | 0.332 | 0.369 | 0.340 | 0.387 | 0.364 | 5.88 |
| 33) 2,4-Dichloro | 0.268 | 0.308 | 0.316 | 0.305 | 0.293 | 0.319 | 0.262 | 0.319 | 0.299 | 7.49 |
| 34) 2,6-Dichloro | 0.283 | 0.303 | 0.308 | 0.294 | 0.287 | 0.309 | 0.273 | 0.310 | 0.296 | 4.63 |
| 35) 1,3,5-Trichl | 0.359 | 0.366 | 0.364 | 0.338 | 0.319 | 0.355 | 0.365 | 0.367 | 0.354 | 4.87 |
| 36) 1,2,4-Trichl | 0.348 | 0.347 | 0.345 | 0.335 | 0.324 | 0.347 | 0.344 | 0.348 | 0.342 | 2.49 |
| 37) 1,2,3-Trichl | 0.335 | 0.347 | 0.348 | 0.336 | 0.327 | 0.346 | 0.340 | 0.346 | 0.340 | 2.20 |
| 38) Naphthalene | 1.086 | 1.111 | 1.056 | 0.946 | 0.891 | 1.022 | 1.116 | 1.106 | 1.042 | 8.01 |
| 39) 4-Chloroanil | 0.434 | 0.452 | 0.426 | 0.384 | 0.374 | 0.411 | 0.419 | 0.457 | 0.420 | 7.05 |
| 40) 2,3-Dichloro | 0.372 | 0.381 | 0.392 | 0.380 | 0.364 | 0.391 | 0.365 | 0.389 | 0.379 | 2.93 |
| 41) Caprolactam | 0.109 | 0.129 | 0.138 | 0.134 | 0.138 | 0.139 | 0.099 | 0.137 | 0.128 | 11.86 |
| 42) Hexachlorobu | 0.184 | 0.195 | 0.197 | 0.197 | 0.191 | 0.200 | 0.194 | 0.198 | 0.195 | 2.54 |
| 43) 4-Chloro-3-m | 0.279 | 0.305 | 0.324 | 0.315 | 0.313 | 0.328 | 0.265 | 0.325 | 0.307 | 7.53 |
| 44) 2-Methylnaph | 0.590 | 0.614 | 0.602 | 0.554 | 0.535 | 0.590 | 0.604 | 0.624 | 0.589 | 5.12 |
| 45) 1-Methylnaph | 0.697 | 0.702 | 0.671 | 0.611 | 0.587 | 0.649 | 0.656 | 0.693 | 0.658 | 6.34 |

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2562-ICC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481129.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
46) Dimethylnaph 0.678 0.727 0.719 0.670 0.651 0.708 0.726 0.724 0.700   4.23

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy       0.128 0.233 0.299 0.298 0.280       0.179 0.236  29.77
         ----- Quadratic regression -----                Coefficient =  0.9993
              Response Ratio = -0.05520 + 0.29029 *A + 0.00428 *A^2

49) 2,4,6-Trichl 0.338 0.363 0.390 0.398 0.400 0.398 0.308 0.390 0.373   9.08
50) 2,4,5-Trichl 0.349 0.377 0.419 0.431 0.429 0.431 0.331 0.409 0.397  10.02
51) 2-Fluorobiph 1.464 1.454 1.426 1.331 1.300 1.400 1.463 1.467 1.413   4.60
52) 2-Chloronaph 1.198 1.208 1.194 1.133 1.095 1.185 1.202 1.222 1.180   3.67
53) Biphenyl     1.589 1.575 1.567 1.441 1.384 1.517 1.569 1.597 1.530   5.08
54) 2-Nitroanili 0.273 0.312 0.336 0.320 0.311 0.335 0.236 0.332 0.307  11.47
55) Dimethylphth 1.364 1.396 1.387 1.331 1.320 1.390 1.360 1.414 1.370   2.39
56) Acenaphthyle 1.825 1.873 1.881 1.741 1.687 1.842 1.795 1.918 1.820   4.21
57) 2,6-Dinitrot 0.269 0.303 0.329 0.339 0.334 0.342 0.236 0.328 0.310  12.38
58) 3-Nitroanili 0.297 0.338 0.358 0.365 0.357 0.373 0.244 0.363 0.337  13.17
59) Acenaphthene 1.236 1.251 1.234 1.146 1.110 1.214 1.216 1.261 1.208   4.40
60) 2,4-Dinitrop 0.066 0.119 0.197 0.221 0.225 0.220       0.165 0.173  35.24
         ----- Quadratic regression -----                Coefficient =  0.9998
              Response Ratio = -0.02391 + 0.22118 *A + 0.00178 *A^2

61) 4-Nitropheno       0.155 0.176 0.177 0.175 0.184       0.169 0.173   5.84
62) Dibenzofuran 1.738 1.744 1.709 1.574 1.544 1.665 1.728 1.759 1.683   4.85
63) 2,4-Dinitrot 0.370 0.434 0.462 0.460 0.461 0.469 0.320 0.466 0.430  12.84
64) 2,3,4,6-Tetr 0.289 0.307 0.341 0.362 0.367 0.358 0.246 0.328 0.325  12.99
65) Diethylphtha 1.329 1.382 1.388 1.322 1.293 1.369 1.308 1.416 1.351   3.23
66) Fluorene     1.383 1.400 1.393 1.303 1.259 1.372 1.363 1.454 1.366   4.40
67) 4-Chlorophen 0.688 0.702 0.695 0.692 0.678 0.704 0.671 0.711 0.693   1.97
68) 4-Nitroanili       0.323 0.358 0.368 0.365 0.372       0.353 0.357   4.98

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro-       0.114 0.158 0.169 0.169 0.169       0.148 0.154  14.05
71) n-Nitrosodip 0.546 0.558 0.570 0.545 0.531 0.562 0.531 0.577 0.553   3.11
72) 1,2-Diphenyl 0.624 0.660 0.659 0.591 0.563 0.636 0.599 0.676 0.626   6.29
73) 2,4,6-Tribro       0.108 0.125 0.139 0.145 0.135       0.119 0.129  10.80
74) 4-Bromopheny 0.200 0.209 0.223 0.226 0.224 0.227 0.194 0.217 0.215   5.84
75) Hexachlorobe 0.233 0.243 0.257 0.270 0.268 0.263 0.235 0.252 0.252   5.69
76) Pentachlorop 0.093 0.115 0.155 0.177 0.178 0.169       0.140 0.147  22.23
         ----- Quadratic regression -----                Coefficient =  0.9998
              Response Ratio = -0.01244 + 0.16584 *A + 0.00311 *A^2

77) Phenanthrene 1.111 1.089 1.071 1.026 0.984 1.062 1.127 1.121 1.074   4.62
78) Anthracene   1.054 1.116 1.121 1.047 1.010 1.088 1.039 1.142 1.077   4.32
79) Carbazole    1.010 1.048 1.059 0.999 0.950 1.050 0.955 1.086 1.020   4.85
80) Di-n-butylph 1.122 1.223 1.279 1.178 1.132 1.264 1.017 1.312 1.191   8.23
81) Fluoranthene 1.117 1.188 1.209 1.146 1.122 1.215 1.099 1.240 1.167   4.52
82) Octadecane   0.366 0.384 0.381 0.331 0.312 0.360 0.353 0.393 0.360   7.66

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.329 1.346 1.379 1.305 1.265 1.353 1.308 1.376 1.333   2.91
85) Terphenyl-d1 0.891 0.914 0.946 0.972 0.947 0.965 0.889 0.930 0.932   3.39
86) Butylbenzylp 0.508 0.580 0.635 0.612 0.589 0.630 0.425 0.617 0.574  12.67
87) Benzo[a]anth 1.235 1.250 1.303 1.276 1.230 1.321 1.279 1.298 1.274   2.61
88) 3,3'-Dichlor 0.407 0.451 0.519 0.534 0.511 0.541 0.371 0.496 0.479  13.08
89) Chrysene     1.251 1.270 1.255 1.252 1.228 1.285 1.209 1.245 1.249   1.86
90) bis(2-Ethylh 0.678 0.807 0.883 0.841 0.817 0.876 0.587 0.863 0.794  13.34

91) I   Perylene-d12          ----------------ISTD---------------------
92) Di-n-octylph 0.906 1.138 1.329 1.228 1.163 1.307       1.270 1.192  12.11
```

8.7.1

8

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2562-ICC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481129.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
 93) Benzo[b]fluo 1.077 1.098 1.280 1.410 1.426 1.310 0.966 1.205 1.222  13.50
 94) Benzo[k]fluo 1.026 1.122 1.101 1.055 0.970 1.187 1.077 1.113 1.082   6.10
 95) Benzo[a]pyre 0.888 0.962 1.057 1.087 1.080 1.099 0.838 1.019 1.004   9.78
 96) Indeno[1,2,3 1.167 1.241 1.398 1.489 1.466 1.499 1.124 1.337 1.340  11.05
 97) Dibenz(a,h)a 0.832 0.915 1.039 1.110 1.098 1.110 0.774 0.997 0.984  13.31
 98) Dibenz[a,h]a 1.039 1.103 1.224 1.337 1.295 1.343 1.001 1.161 1.188  11.22
 99) 7,12-Dimethy       0.319 0.514 0.588 0.586 0.583       0.416 0.501  22.28
          ----- Quadratic regression -----                Coefficient =  0.9997
               Response Ratio = -0.04819 + 0.62160 *A + -0.00574 *A^2

100) Benzo[g,h,i] 0.950 0.978 1.077 1.141 1.134 1.145 0.902 1.035 1.045   9.01


 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M6P2562.M         Tue Apr 16 16:13:42 2019   ACLIMS
```

8.7.1

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481135.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481135.D Vial: 10
Acq On : 16 Apr 2019 1:06 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
Last Update : Tue Apr 16 15:28:32 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 81 | 0.00 | 4.32 |
| 4 | t | N-Nitrosodimethylamine | 0.698 | 0.724 | -3.7 | 78 | 0.02 | 2.10 |
| 11 | t | bis(2-Chloroethyl)ether | 1.208 | 1.199 | 0.7 | 79 | 0.00 | 4.14 |
| 14 | t | 1,3-Dichlorobenzene | 1.577 | 1.503 | 4.7 | 76 | 0.00 | 4.28 |
| 15 | t | 1,4-Dichlorobenzene | 1.614 | 1.583 | 1.9 | 79 | 0.00 | 4.33 |
| 17 | t | 1,2-Dichlorobenzene | 1.482 | 1.468 | 0.9 | 79 | 0.00 | 4.45 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.431 | 0.501 | -16.2 | 92 | 0.00 | 4.53 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.832 | 0.847 | -1.8 | 81 | -0.01 | 4.63 |
| 23 | t | Hexachloroethane | 0.563 | 0.552 | 2.0 | 76 | 0.00 | 4.69 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 79 | 0.00 | 5.31 |
| 26 | t | Nitrobenzene | 0.339 | 0.325 | 4.1 | 75 | 0.00 | 4.75 |
| 28 | t | Isophorone | 0.579 | 0.579 | 0.0 | 79 | -0.01 | 4.93 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.364 | 0.358 | 1.6 | 77 | 0.00 | 5.12 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.342 | 0.330 | 3.5 | 75 | 0.00 | 5.27 |
| 38 | t | Naphthalene | 1.042 | 1.012 | 2.9 | 78 | 0.00 | 5.33 |
| 42 | t | Hexachlorobutadiene | 0.195 | 0.191 | 2.1 | 76 | 0.00 | 5.44 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 78 | 0.00 | 6.99 |
| 52 | t | 2-Chloronaphthalene | 1.180 | 1.102 | 6.6 | 72 | 0.00 | 6.42 |
| 55 | t | Dimethylphthalate | 1.370 | 1.268 | 7.4 | 71 | 0.00 | 6.74 |
| 56 | t | Acenaphthylene | 1.820 | 1.753 | 3.7 | 74 | 0.00 | 6.84 |
| 57 | t | 2,6-Dinitrotoluene | 0.310 | 0.292 | 5.8 | 66 | 0.00 | 6.79 |
| 59 | t | Acenaphthene | 1.208 | 1.111 | 8.0 | 71 | 0.00 | 7.03 |
| 63 | t | 2,4-Dinitrotoluene | 0.430 | 0.394 | 8.4 | 65 | 0.00 | 7.24 |
| 65 | t | Diethylphthalate | 1.351 | 1.241 | 8.1 | 70 | 0.00 | 7.51 |
| 66 | t | Fluorene | 1.366 | 1.286 | 5.9 | 73 | 0.00 | 7.60 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.693 | 0.653 | 5.8 | 72 | 0.00 | 7.61 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 75 | 0.00 | 8.67 |
| 71 | t | n-Nitrosodiphenylamine | 0.553 | 0.502 | 9.2 | 67 | -0.01 | 7.75 |
| 72 | t | 1,2-Diphenylhydrazine | 0.626 | 0.619 | 1.1 | 73 | 0.00 | 7.79 |
| 74 | t | 4-Bromophenyl-phenylether | 0.215 | 0.215 | 0.0 | 71 | 0.00 | 8.16 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.240 | 4.8 | 68 | 0.00 | 8.23 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 77 | t | Phenanthrene | 1.074 | 1.008 | 6.1 | 71 | 0.00 | 8.69 |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** E6P2562-ICV2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481135.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 78 | t | Anthracene | 1.077 | 1.052 | 2.3 | 72 | 0.00 | 8.75 |
| 80 | t | Di-n-butylphthalate | 1.191 | 1.150 | 3.4 | 68 | 0.00 | 9.42 |
| 81 | t | Fluoranthene | 1.167 | 1.118 | 4.2 | 69 | 0.00 | 10.10 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 68 | 0.00 | 11.82 |
| 84 | t | Pyrene | 1.333 | 1.349 | -1.2 | 68 | 0.00 | 10.36 |
| 86 | t | Butylbenzylphthalate | 0.574 | 0.594 | -3.5 | 64 | 0.00 | 11.21 |
| 87 | t | Benzo[a]anthracene | 1.274 | 1.217 | 4.5 | 63 | 0.00 | 11.81 |
| 89 | t | Chrysene | 1.249 | 1.211 | 3.0 | 64 | 0.00 | 11.85 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.794 | 0.833 | -4.9 | 65 | 0.00 | 11.92 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 67 | 0.00 | 13.42 |
| 92 | t | Di-n-octylphthalate | 1.192 | 1.224 | -2.7 | 63 | 0.00 | 12.66 |
| 93 | t | Benzo[b]fluoranthene | 1.222 | 1.062 | 13.1 | 54 | -0.01 | 13.03 |
| 94 | t | Benzo[k]fluoranthene | 1.082 | 1.121 | -3.6 | 63 | -0.01 | 13.05 |
| 95 | t | Benzo[a]pyrene | 1.004 | 1.013 | -0.9 | 62 | 0.00 | 13.36 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 1.340 | 1.278 | 4.6 | 57 | 0.00 | 14.46 |
| 98 | t | Dibenz[a,h]anthracene | 1.188 | 1.097 | 7.7 | 55 | 0.00 | 14.47 |

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 100 | t | Benzo[g,h,i]perylene | 1.045 | 1.037 | 0.8 | 61 | 0.00 | 14.73 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481129.D M6P2562.M Tue Apr 16 15:43:13 2019 ACLIMS

8.7.2

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481136.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481136.D Vial: 11
Acq On : 16 Apr 2019 1:29 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
Last Update : Tue Apr 16 15:28:32 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 79 | 0.00 | 4.32 |
| 2 | t | 1,4-Dioxane | 0.527 | 0.493 | 6.5 | 71 | 0.02 | 1.79 |
| 6 | t | Indene | 2.169 | 2.230 | -2.8 | 80 | 0.00 | 4.51 |
| 7 | t | Cumene | 3.107 | 2.885 | 7.1 | 74 | 0.00 | 3.72 |
| 13 | t | Decane | 1.061 | 0.953 | 10.2 | 73 | 0.00 | 4.22 |
| 18 | t | Acetophenone | 1.859 | 1.737 | 6.6 | 72 | 0.00 | 4.62 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 75 | 0.00 | 5.31 |
| 27 | t | Quinoline | 0.726 | 0.680 | 6.3 | 67 | -0.03 | 5.62 |
| 40 | t | 2,3-Dichloroaniline | 0.379 | 0.326 | 14.0 | 63 | 0.00 | 6.22 |
| 41 | t | Caprolactam | 0.128 | 0.113 | 11.7 | 61 | -0.04 | 5.69 |
| 45 | t | 1-Methylnaphthalene | 0.658 | 0.588 | 10.6 | 68 | 0.00 | 6.04 |
| 46 | t | Dimethylnaphthalene | 0.700 | 0.653 | 6.7 | 69 | 0.00 | 6.56 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 72 | 0.00 | 6.99 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 48 | t | Hexachlorocyclopentadiene | 50.000 | 44.526 | 10.9 | 61 | 0.00 | 6.10 |
| 53 | t | Biphenyl | 1.530 | 1.464 | 4.3 | 70 | 0.00 | 6.40 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 68 | 0.00 | 8.66 |
| 82 | t | Octadecane | 0.360 | 0.348 | 3.3 | 66 | 0.00 | 8.62 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 62 | -0.01 | 11.82 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 56 | 0.00 | 13.42 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 50.000 | 42.786 | 14.4 | 47 | -0.01 | 13.01 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481129.D M6P2562.M Tue Apr 16 15:43:15 2019 ACLIMS

8.7.3

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481137.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E6P2562\6p481137.D         Vial: 12
Acq On    : 16 Apr 2019   1:53 pm                    Operator: angelar
Sample    : icv2562-50                               Inst    : MS6P
Misc      : op17006,e6p2562,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
Last Update  : Tue Apr 16 15:28:32 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 77 | 0.00 | 4.32 |
| 5 | S | 2-Fluorophenol | 1.170 | 1.167 | 0.3 | 68 | 0.00 | 3.36 |
| 8 | S | Phenol-d5 | 1.429 | 1.402 | 1.9 | 73 | 0.00 | 4.09 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 72 | 0.00 | 5.31 |
| 25 | S | Nitrobenzene-d5 | 0.333 | 0.292 | 12.3 | 62 | 0.00 | 4.74 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 67 | 0.00 | 6.99 |
| 51 | S | 2-Fluorobiphenyl | 1.413 | 1.357 | 4.0 | 65 | 0.00 | 6.30 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 65 | 0.00 | 8.66 |
| 73 | S | 2,4,6-Tribromophenol | 0.129 | 0.115 | 10.9 | 55 | -0.01 | 7.87 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 55 | -0.01 | 11.82 |
| 85 | S | Terphenyl-d14 | 0.932 | 1.021 | -9.5 | 59 | 0.00 | 10.59 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
6p481129.D M6P2562.M  Tue Apr 16 15:44:54 2019  ACLIMS

8.7.4

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481138.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2562\6p481138.D Vial: 13
Acq On : 16 Apr 2019 2:18 pm Operator: angelar
Sample : icv2562-50 Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
Last Update : Tue Apr 16 16:05:20 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 1 I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 68 | 0.00 | 4.32 |
| 3 t | Pyridine | 1.198 | 1.186 | 1.0 | 63 | 0.14 | 2.25 |
| 10 | Aniline | 1.556 | 1.927 | -23.8 | 88 | 0.00 | 4.09 |
| 16 t | Benzyl alcohol | 0.751 | 0.880 | -17.2 | 74 | 0.00 | 4.45 |
| 24 I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 69 | 0.00 | 5.31 |
| 39 t | 4-Chloroaniline | 0.420 | 0.416 | 1.0 | 69 | 0.00 | 5.38 |
| 44 t | 2-Methylnaphthalene | 0.589 | 0.581 | 1.4 | 67 | 0.00 | 5.94 |
| 47 I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 70 | 0.00 | 6.99 |
| 54 t | 2-Nitroaniline | 0.307 | 0.264 | 14.0 | 55 | -0.01 | 6.54 |
| 58 t | 3-Nitroaniline | 0.337 | 0.321 | 4.7 | 60 | 0.00 | 6.98 |
| 62 t | Dibenzofuran | 1.683 | 1.629 | 3.2 | 68 | 0.00 | 7.22 |
| 68 t | 4-Nitroaniline | 0.357 | 0.316 | 11.5 | 59 | -0.02 | 7.65 |
| 69 I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 67 | 0.00 | 8.67 |
| 79 t | Carbazole | 1.020 | 0.935 | 8.3 | 60 | 0.00 | 8.97 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481129.D M6P2562.M Tue Apr 16 16:12:00 2019 ACLIMS

8.7.5
8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481139.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E6P2562\6p481139.D         Vial: 14
Acq On    : 16 Apr 2019   2:42 pm                    Operator: angelar
Sample    : icv2562-50                               Inst    : MS6P
Misc      : op17006,e6p2562,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
Last Update  : Tue Apr 16 16:05:20 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 1 I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 72 | 0.00 | 4.32 |
| 9 t | Phenol | 1.744 | 1.634 | 6.3 | 66 | 0.00 | 4.10 |
| 12 t | 2-Chlorophenol | 1.383 | 1.457 | -5.4 | 72 | 0.00 | 4.18 |
| 19 t | 2-Methylphenol | 1.174 | 1.221 | -4.0 | 72 | -0.01 | 4.53 |
| 21 t | 3&4-Methylphenol | 1.234 | 1.292 | -4.7 | 71 | 0.00 | 4.65 |
| 24 I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 70 | 0.00 | 5.31 |
| 29 t | 2-Nitrophenol | 0.198 | 0.216 | -9.1 | 70 | 0.00 | 5.00 |
| 30 t | 2,4-Dimethylphenol | 0.302 | 0.348 | -15.2 | 73 | 0.00 | 5.05 |
| 31 t | Benzoic acid | 0.305 | 0.235 | 23.0 | 50 | -0.02 | 5.20 |
| 33 t | 2,4-Dichlorophenol | 0.299 | 0.318 | -6.4 | 70 | 0.00 | 5.21 |
| 34 t | 2,6-Dichlorophenol | 0.296 | 0.323 | -9.1 | 73 | 0.00 | 5.39 |
| 43 t | 4-Chloro-3-methylphenol | 0.307 | 0.312 | -1.6 | 66 | -0.02 | 5.83 |
| 47 I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 64 | 0.00 | 6.99 |
| | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 49 t | 2,4,6-Trichlorophenol | 0.373 | 0.425 | -13.9 | 69 | 0.00 | 6.23 |
| 50 t | 2,4,5-Trichlorophenol | 0.397 | 0.448 | -12.8 | 67 | -0.02 | 6.27 |
| | ---------- | True | Calc. | % Drift | | ---------- | |
| 60 t | 2,4-Dinitrophenol | 50.000 | 44.876 | 10.2 | 54 | 0.00 | 7.10 |
| | ---------- | AvgRF | CCRF | % Dev | | ---------- | |
| 61 t | 4-Nitrophenol | 0.173 | 0.163 | 5.8 | 57 | -0.02 | 7.21 |
| 64 | 2,3,4,6-Tetrachlorophenol | 0.325 | 0.343 | -5.5 | 62 | 0.00 | 7.37 |
| 69 I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 63 | 0.00 | 8.67 |
| 70 t | 4,6-Dinitro-2-methylpheno | 0.154 | 0.151 | 1.9 | 57 | -0.01 | 7.69 |
| | ---------- | True | Calc. | % Drift | | ---------- | |
| 76 t | Pentachlorophenol | 50.000 | 52.246 | -4.5 | 63 | 0.00 | 8.47 |

```
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range                SPCC's out = 0  CCC's out = 0
    6p481129.D M6P2562.M        Tue Apr 16 16:12:02 2019   ACLIMS
```

8.7.6

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2562-ICV2562
**Lab FileID:** 6P481140.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\msdchem\1\DATA\E6P2562\6p481140.D         Vial: 15
 Acq On    : 16 Apr 2019   3:06 pm                    Operator: angelar
 Sample    : icv2562-50                               Inst    : MS6P
 Misc      : op17006,e6p2562,1000,,,1,1               Multiplr: 1.00
 MS Integration Params: rteint.p

 Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
 Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
 Last Update  : Tue Apr 16 16:05:20 2019
 Response via : Multiple Level Calibration

 Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  30%     Max. Rel. Area : 200%

        Compound                    AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
 ---------------------------------------------------------------------------


83 I   Chrysene-d12                1.000   1.000      0.0  116   0.00   11.82
88 t   3,3'-Dichlorobenzidine      0.479   0.487     -1.7  104   0.00   11.81

---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    6p481129.D M6P2562.M        Tue Apr 16 16:13:30 2019   ACLIMS
```

# Initial Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2563-ICC2563
**Lab FileID:** 6P481144.D

```
                          Response Factor Report  MS6P

  Method       : C:\MSDCHEM\1\METHODS\M6P2563.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
  Last Update  : Wed Apr 17 09:00:59 2019
  Response via : Initial Calibration

  Calibration Files
  2   =6p481148.D  5   =6p481147.D  25  =6p481145.D  80  =6p481143.D
  100 =6p481142.D  50  =6p481144.D  1   =6p481149.D  10  =6p481146.D

   Compound         2     5     25    80    100   50    1     10    Avg %RSD
  ---------------------------------------------------------------------------


101)     1,4-Dichlorobenzene-d ----------------ISTD---------------------
102) Benzaldehyde 0.939 0.911 1.115 1.020 1.017 1.074 0.883 0.983 0.993   8.04

103)     Acenaphthene-d10a     ----------------ISTD---------------------
104) 1,2,4,5-Tetr 0.510 0.526 0.568 0.540 0.544 0.549 0.503 0.530 0.534   3.98

105)     Phenanthrene-d10a     ----------------ISTD---------------------
106) 1-chloroocta 0.200 0.232 0.283 0.267 0.234 0.265 0.183 0.248 0.239  14.37
107) o-terphenyl  0.539 0.560 0.622 0.637 0.594 0.612 0.546 0.558 0.584   6.43
108) Atrazine     0.072 0.091 0.115 0.119 0.117 0.117 0.072 0.099 0.100  20.08
          ----- Quadratic regression -----                Coefficient =  0.9998
               Response Ratio = -0.00312 + 0.12068 *A + -0.00070 *A^2


111) I   Naphthalene-d8a       ----------------ISTD---------------------
112) Hydroquinone             0.310 0.331 0.328 0.336       0.231 0.307  14.27

113)     Phenanthrene-d10b     ----------------ISTD---------------------
114) Pentachloron       0.039 0.052 0.055 0.054 0.052       0.042 0.049# 13.84

 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M6P2562.M         Wed Apr 17 09:04:49 2019   ACLIMS
```

8.7.8

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2563-ICV2563
**Lab FileID:** 6P481150.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E6P2562\6p481150.D         Vial: 24
Acq On    : 16 Apr 2019   6:52 pm                    Operator: angelar
Sample    : icv2563-50                               Inst    : MS6P
Misc      : op17006,e6p2563,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
Last Update  : Wed Apr 17 09:00:59 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 4.32 |
| 102 | Benzaldehyde | 0.993 | 1.075 | -8.3 | 103 | -0.03 | 4.00 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 6.99 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.534 | 0.524 | 1.9 | 101 | 0.00 | 6.11 |
| 105 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 8.67 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 108 | Atrazine | 50.000 | 49.867 | 0.3 | 107 | 0.01 | 8.40 |
| | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 113 | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 107 | 0.00 | 8.67 |
| 114 | Pentachloronitrobenzene | 0.049 | 0.042# | 14.3 | 86 | 0.00 | 8.49 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
6p481144a.D M6P2562.M  Wed Apr 17 09:07:17 2019  ACLIMS

8.7.9

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2563-ICV2563
**Lab FileID:** 6P481151.D

Evaluate Continuing Calibration Report

```
  Data File : C:\msdchem\1\DATA\E6P2562\6p481151.D         Vial: 25
  Acq On    : 16 Apr 2019   7:16 pm                    Operator: angelar
  Sample    : icv2563-50                               Inst    : MS6P
  Misc      : op17006,e6p2563,1000,,,1,1               Multiplr: 1.00
  MS Integration Params: rteint.p

  Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
  Last Update  : Wed Apr 17 09:00:59 2019
  Response via : Multiple Level Calibration

  Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 5.31 |
| 112 T | Hydroquinone | 0.307 | 0.322 | -4.9 | 92 | -0.04 | 5.71 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
6p481144a.D M6P2562.M  Wed Apr 17 09:07:19 2019  ACLIMS

8.7.10

8

# Initial Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2566-ICC2566
**Lab FileID:** 6P481200.D

```
                          Response Factor Report  MS6P

  Method       : C:\MSDCHEM\1\METHODS\M6P2566.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:27:18 2019
  Last Update  : Thu Apr 18 09:27:18 2019
  Response via : Initial Calibration

  Calibration Files
  2   =6p481204.D  5   =6p481203.D  25  =6p481201.D  80  =6p481199.D
  100 =6p481198.D  50  =6p481200.D  1   =6p481205.D  10  =6p481202.D

   Compound         2     5     25    80    100   50    1     10    Avg %RSD
  ---------------------------------------------------------------------------



109) I   Chrysene-d12a         ----------------ISTD---------------------
110) benzidine                0.802 0.925 0.893 0.865       0.630 0.823  14.18

 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M6P2562.M         Thu Apr 18 09:28:51 2019   ACLIMS
```

8.7.11

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2566-ICV2566
**Lab FileID:** 6P481206.D

```
                    Evaluate Continuing Calibration Report

  Data File : C:\msdchem\1\DATA\E6P2566\6p481206.D         Vial: 10
  Acq On    : 18 Apr 2019   4:26 am                    Operator: chriss2
  Sample    : icv2566-50                               Inst    : MS6P
  Misc      : op17006,e6p2566,1000,,,1,1               Multiplr: 1.00
  MS Integration Params: rteint.p

  Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:27:18 2019
  Last Update  : Thu Apr 18 09:27:18 2019
  Response via : Multiple Level Calibration

  Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  30%     Max. Rel. Area : 200%

        Compound                   AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
  ---------------------------------------------------------------------------

           ----------------------- AvgRF   CCRF     % Dev   -------------
109 I   Chrysene-d12a               1.000   1.000      0.0  138   0.00   11.78
110 T   benzidine                   0.823   0.731     11.2  116   0.00   10.26

 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     6p481200a.D M6P2562.M        Thu Apr 18 09:29:13 2019   ACLIMS
```

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2579-CC2562
**Lab FileID:** 6P481548.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jeryllr\e6p2579\6p481548.d Vial: 2
Acq On : 2 May 2019 9:08 am Operator: angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
Last Update : Wed Apr 17 09:00:59 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 94 | -0.18 | 4.15 |
| 2 | t | 1,4-Dioxane | 0.527 | 0.512 | 2.8 | 88 | -0.23 | 1.54 |
| 3 | t | Pyridine | 1.198 | 1.207 | -0.8 | 88 | -0.27 | 1.84 |
| 4 | t | N-Nitrosodimethylamine | 0.698 | 0.683 | 2.1 | 86 | -0.26 | 1.82 |
| 5 | S | 2-Fluorophenol | 1.170 | 1.394 | -19.1 | 99 | -0.19 | 3.16 |
| 6 | t | Indene | 2.169 | 2.264 | -4.4 | 97 | -0.17 | 4.34 |
| 7 | t | Cumene | 3.107 | 3.173 | -2.1 | 96 | -0.19 | 3.53 |
| 8 | S | Phenol-d5 | 1.429 | 1.536 | -7.5 | 97 | -0.17 | 3.93 |
| 9 | t | Phenol | 1.744 | 1.690 | 3.1 | 88 | -0.17 | 3.94 |
| 10 | | Aniline | 1.556 | 1.848 | -18.8 | 116 | -0.18 | 3.91 |
| 11 | t | bis(2-Chloroethyl)ether | 1.208 | 1.163 | 3.7 | 90 | -0.17 | 3.96 |
| 12 | t | 2-Chlorophenol | 1.383 | 1.518 | -9.8 | 98 | -0.17 | 4.01 |
| 13 | t | Decane | 1.061 | 1.094 | -3.1 | 100 | -0.17 | 4.04 |
| 14 | t | 1,3-Dichlorobenzene | 1.577 | 1.611 | -2.2 | 95 | -0.18 | 4.10 |
| 15 | t | 1,4-Dichlorobenzene | 1.614 | 1.630 | -1.0 | 94 | -0.17 | 4.16 |
| 16 | t | Benzyl alcohol | 0.751 | 0.867 | -15.4 | 101 | -0.17 | 4.27 |
| 17 | t | 1,2-Dichlorobenzene | 1.482 | 1.503 | -1.4 | 95 | -0.17 | 4.27 |
| 18 | t | Acetophenone | 1.859 | 1.971 | -6.0 | 97 | -0.17 | 4.46 |
| 19 | t | 2-Methylphenol | 1.174 | 1.271 | -8.3 | 98 | -0.17 | 4.38 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.431 | 0.439 | -1.9 | 93 | -0.17 | 4.36 |
| 21 | t | 3&4-Methylphenol | 1.234 | 1.354 | -9.7 | 96 | -0.17 | 4.49 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.832 | 0.918 | -10.3 | 102 | -0.17 | 4.47 |
| 23 | t | Hexachloroethane | 0.563 | 0.502 | 10.8 | 80 | -0.18 | 4.51 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 99 | -0.19 | 5.12 |
| 25 | S | Nitrobenzene-d5 | 0.333 | 0.391 | -17.4 | 113 | -0.18 | 4.56 |
| 26 | t | Nitrobenzene | 0.339 | 0.386 | -13.9 | 111 | -0.18 | 4.58 |
| 27 | t | Quinoline | 0.726 | 0.719 | 1.0 | 93 | -0.21 | 5.44 |
| 28 | t | Isophorone | 0.579 | 0.662 | -14.3 | 113 | -0.18 | 4.77 |
| 29 | t | 2-Nitrophenol | 0.198 | 0.218 | -10.1 | 100 | -0.18 | 4.82 |
| 30 | t | 2,4-Dimethylphenol | 0.302 | 0.374 | -23.8# | 112 | -0.17 | 4.88 |
| 31 | t | Benzoic acid | 0.305 | 0.343 | -12.5 | 104 | -0.17 | 5.04 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.364 | 0.389 | -6.9 | 104 | -0.18 | 4.94 |
| 33 | t | 2,4-Dichlorophenol | 0.299 | 0.317 | -6.0 | 98 | -0.18 | 5.03 |
| 34 | t | 2,6-Dichlorophenol | 0.296 | 0.303 | -2.4 | 97 | -0.19 | 5.20 |
| 35 | | 1,3,5-Trichlorobenzene | 0.354 | 0.342 | 3.4 | 95 | -0.19 | 4.82 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.342 | 0.321 | 6.1 | 91 | -0.19 | 5.08 |
| 37 | | 1,2,3-Trichlorobenzene | 0.340 | 0.316 | 7.1 | 90 | -0.20 | 5.26 |
| 38 | t | Naphthalene | 1.042 | 1.066 | -2.3 | 103 | -0.19 | 5.13 |
| 39 | t | 4-Chloroaniline | 0.420 | 0.439 | -4.5 | 106 | -0.19 | 5.20 |
| 40 | t | 2,3-Dichloroaniline | 0.379 | 0.378 | 0.3 | 96 | -0.21 | 6.02 |
| 41 | t | Caprolactam | 0.128 | 0.127 | 0.8 | 90 | -0.19 | 5.53 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2579-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481548.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.195 | 0.172 | 11.8 | 85 | -0.19 | 5.25 |
| 43 | t | 4-Chloro-3-methylphenol | 0.307 | 0.352 | -14.7 | 106 | -0.19 | 5.66 |
| 44 | t | 2-Methylnaphthalene | 0.589 | 0.612 | -3.9 | 102 | -0.21 | 5.74 |
| 45 | t | 1-Methylnaphthalene | 0.658 | 0.642 | 2.4 | 98 | -0.21 | 5.83 |
| 46 | t | Dimethylnaphthalene | 0.700 | 0.680 | 2.9 | 95 | -0.22 | 6.35 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 94 | -0.23 | 6.77 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 48 | t | Hexachlorocyclopentadiene | 100.000 | 78.636 | 21.4# | 72 | -0.21 | 5.89 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 49 | t | 2,4,6-Trichlorophenol | 0.373 | 0.384 | -2.9 | 91 | -0.21 | 6.03 |
| 50 | t | 2,4,5-Trichlorophenol | 0.397 | 0.404 | -1.8 | 88 | -0.21 | 6.08 |
| 51 | S | 2-Fluorobiphenyl | 1.413 | 1.411 | 0.1 | 95 | -0.21 | 6.10 |
| 52 | t | 2-Chloronaphthalene | 1.180 | 1.160 | 1.7 | 92 | -0.22 | 6.20 |
| 53 | t | Biphenyl | 1.530 | 1.565 | -2.3 | 97 | -0.21 | 6.19 |
| 54 | t | 2-Nitroaniline | 0.307 | 0.364 | -18.6 | 102 | -0.22 | 6.33 |
| 55 | t | Dimethylphthalate | 1.370 | 1.374 | -0.3 | 93 | -0.21 | 6.53 |
| 56 | t | Acenaphthylene | 1.820 | 1.833 | -0.7 | 94 | -0.23 | 6.62 |
| 57 | t | 2,6-Dinitrotoluene | 0.310 | 0.330 | -6.5 | 91 | -0.21 | 6.59 |
| 58 | t | 3-Nitroaniline | 0.337 | 0.374 | -11.0 | 94 | -0.22 | 6.77 |
| 59 | t | Acenaphthene | 1.208 | 1.269 | -5.0 | 98 | -0.23 | 6.81 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 60 | t | 2,4-Dinitrophenol | 100.000 | 68.934 | 31.1# | 62 | -0.21 | 6.90 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 61 | t | 4-Nitrophenol | 0.173 | 0.218 | -26.0# | 112 | -0.21 | 7.01 |
| 62 | t | Dibenzofuran | 1.683 | 1.829 | -8.7 | 103 | -0.23 | 7.00 |
| 63 | t | 2,4-Dinitrotoluene | 0.430 | 0.492 | -14.4 | 99 | -0.22 | 7.03 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.325 | 0.328 | -0.9 | 86 | -0.22 | 7.16 |
| 65 | t | Diethylphthalate | 1.351 | 1.505 | -11.4 | 104 | -0.22 | 7.29 |
| 66 | t | Fluorene | 1.366 | 1.515 | -10.9 | 104 | -0.23 | 7.37 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.693 | 0.678 | 2.2 | 91 | -0.23 | 7.38 |
| 68 | t | 4-Nitroaniline | 0.357 | 0.370 | -3.6 | 94 | -0.23 | 7.44 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 90 | -0.24 | 8.43 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.154 | 0.130 | 15.6 | 69 | -0.21 | 7.49 |
| 71 | t | n-Nitrosodiphenylamine | 0.553 | 0.610 | -10.3 | 98 | -0.23 | 7.53 |
| 72 | t | 1,2-Diphenylhydrazine | 0.626 | 0.794 | -26.8# | 113 | -0.23 | 7.56 |
| 73 | S | 2,4,6-Tribromophenol | 0.129 | 0.138 | -7.0 | 93 | -0.23 | 7.65 |
| 74 | t | 4-Bromophenyl-phenylether | 0.215 | 0.216 | -0.5 | 86 | -0.23 | 7.93 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.261 | -3.6 | 90 | -0.23 | 8.01 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 76 | t | Pentachlorophenol | 100.000 | 94.450 | 5.5 | 85 | -0.23 | 8.25 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 77 | t | Phenanthrene | 1.074 | 1.155 | -7.5 | 98 | -0.24 | 8.46 |
| 78 | t | Anthracene | 1.077 | 1.207 | -12.1 | 100 | -0.24 | 8.52 |
| 79 | t | Carbazole | 1.020 | 1.095 | -7.4 | 94 | -0.23 | 8.73 |
| 80 | t | Di-n-butylphthalate | 1.191 | 1.400 | -17.5 | 100 | -0.23 | 9.19 |
| 81 | t | Fluoranthene | 1.167 | 1.145 | 1.9 | 85 | -0.24 | 9.86 |
| 82 | t | Octadecane | 0.360 | 0.440 | -22.2# | 110 | -0.22 | 8.40 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 84 | -0.24 | 11.59 |
| 84 | t | Pyrene | 1.333 | 1.325 | 0.6 | 82 | -0.25 | 10.12 |
| 85 | S | Terphenyl-d14 | 0.932 | 0.965 | -3.5 | 84 | -0.24 | 10.35 |
| 86 | t | Butylbenzylphthalate | 0.574 | 0.748 | -30.3# | 100 | -0.23 | 10.98 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2579-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481548.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.274 | 1.326 | -4.1 | 84 | -0.24 | 11.57 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.479 | 0.515 | -7.5 | 80 | -0.24 | 11.57 |
| 89 | t | Chrysene | 1.249 | 1.262 | -1.0 | 82 | -0.25 | 11.61 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.794 | 1.046 | -31.7# | 100 | -0.23 | 11.70 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 80 | -0.25 | 13.17 |
| 92 | t | Di-n-octylphthalate | 1.192 | 1.541 | -29.3# | 95 | -0.23 | 12.44 |
| 93 | t | Benzo[b]fluoranthene | 1.222 | 1.367 | -11.9 | 84 | -0.24 | 12.79 |
| 94 | t | Benzo[k]fluoranthene | 1.082 | 1.127 | -4.2 | 76 | -0.24 | 12.82 |
| 95 | t | Benzo[a]pyrene | 1.004 | 1.129 | -12.5 | 83 | -0.24 | 13.12 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 1.340 | 1.544 | -15.2 | 83 | -0.27 | 14.19 |
| 97 | t | Dibenz(a,h)acridine | 0.984 | 1.122 | -14.0 | 81 | -0.25 | 13.98 |
| 98 | t | Dibenz[a,h]anthracene | 1.188 | 1.393 | -17.3 | 84 | -0.27 | 14.21 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 50.000 | 52.497 | -5.0 | 84 | -0.24 | 12.78 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 100 | t | Benzo[g,h,i]perylene | 1.045 | 1.143 | -9.4 | 80 | -0.30 | 14.44 |

---
---

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481144a.D M6P2562.M Fri May 03 04:41:37 2019

8.7.13

8

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2579-CC2563
**Lab FileID:** 6P481549.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jeryllr\e6p2579\6p481549.d Vial: 3
Acq On : 2 May 2019 9:32 am Operator: angelar
Sample : cc2563-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
Last Update : Fri May 03 04:45:32 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 105 | 0.00 | 4.15 |
| 102 | Benzaldehyde | 0.993 | 0.992 | 0.1 | 97 | -0.04 | 3.82 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 6.77 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.534 | 0.496 | 7.1 | 91 | -0.02 | 5.90 |
| 105 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 8.42 |
| 106 S | 1-chlorooctadecane | 0.239 | 0.302 | -26.4# | 109 | 0.05 | 9.81 |
| 107 S | o-terphenyl | 0.584 | 0.592 | -1.4 | 93 | 0.02 | 8.91 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 108 | Atrazine | 50.000 | 50.620 | -1.2 | 97 | 0.02 | 8.17 |
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 5.11 |
| 112 T | Hydroquinone | 0.307 | 0.365 | -18.9 | 113 | 0.00 | 5.53 |
| 113 | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 96 | 0.00 | 8.42 |
| 114 | Pentachloronitrobenzene | 0.049 | 0.048# | 2.0 | 89 | 0.00 | 8.25 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481144a.D M6P2562.M Fri May 03 04:49:34 2019

8.7.14

8

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2579-CC2566
**Lab FileID:** 6P481550.D

```
                    Evaluate Continuing Calibration Report

  Data File : C:\msdchem\1\data\jeryllr\e6p2579\6p481550.d Vial: 4
  Acq On    :  2 May 2019   9:57 am                    Operator: angelar
  Sample    : cc2566-50                                Inst    : MS6P
  Misc      : op17006,e6p2579,1000,,,1,1               Multiplr: 1.00
  MS Integration Params: rteint.p

  Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
  Last Update  : Fri May 03 04:53:16 2019
  Response via : Multiple Level Calibration

  Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  20%     Max. Rel. Area : 200%

         Compound                   AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
  ---------------------------------------------------------------------------

109 I   Chrysene-d12a               1.000   1.000      0.0   86   0.00   11.57
110 T   benzidine                   0.823   0.839     -1.9   83  -0.01   10.06

 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     6p481200a.D M6P2562.M        Fri May 03 04:55:34 2019
```

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2581-CC2562
**Lab FileID:** 6P481612.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2581\6p481612.D Vial: 2
Acq On : 3 May 2019 1:40 pm Operator: angelar
Sample : cc2562-25 Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 14:25:38 2019
Last Update : Fri May 03 14:25:38 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 73 | -0.01 | 4.12 |
| 2 | t | 1,4-Dioxane | 0.527 | 0.570 | -8.2 | 79 | -0.17 | 1.53 |
| 3 | t | Pyridine | 1.198 | 1.356 | -13.2 | 78 | -0.03 | 1.82 |
| 4 | t | N-Nitrosodimethylamine | 0.698 | 0.762 | -9.2 | 73 | -0.02 | 1.80 |
| 5 | S | 2-Fluorophenol | 1.170 | 1.333 | -13.9 | 76 | -0.02 | 3.14 |
| 6 | t | Indene | 2.169 | 2.374 | -9.5 | 79 | 0.00 | 4.32 |
| 7 | t | Cumene | 3.107 | 3.475 | -11.8 | 81 | 0.00 | 3.51 |
| 8 | S | Phenol-d5 | 1.429 | 1.631 | -14.1 | 79 | -0.02 | 3.90 |
| 9 | t | Phenol | 1.744 | 1.765 | -1.2 | 71 | 0.00 | 3.92 |
| 10 | | Aniline | 1.556 | 1.961 | -26.0# | 92 | -0.02 | 3.89 |
| 11 | t | bis(2-Chloroethyl)ether | 1.208 | 1.272 | -5.3 | 75 | -0.01 | 3.94 |
| 12 | t | 2-Chlorophenol | 1.383 | 1.466 | -6.0 | 75 | -0.02 | 3.98 |
| 13 | t | Decane | 1.061 | 1.147 | -8.1 | 78 | -0.01 | 4.02 |
| 14 | t | 1,3-Dichlorobenzene | 1.577 | 1.621 | -2.8 | 75 | -0.01 | 4.08 |
| 15 | t | 1,4-Dichlorobenzene | 1.614 | 1.664 | -3.1 | 75 | 0.00 | 4.14 |
| 16 | t | Benzyl alcohol | 0.751 | 0.876 | -16.6 | 81 | 0.00 | 4.25 |
| 17 | t | 1,2-Dichlorobenzene | 1.482 | 1.560 | -5.3 | 75 | 0.00 | 4.25 |
| 18 | t | Acetophenone | 1.859 | 2.047 | -10.1 | 78 | 0.00 | 4.43 |
| 19 | t | 2-Methylphenol | 1.174 | 1.305 | -11.2 | 77 | 0.00 | 4.35 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.431 | 0.437 | -1.4 | 73 | 0.00 | 4.34 |
| 21 | t | 3&4-Methylphenol | 1.234 | 1.403 | -13.7 | 77 | 0.01 | 4.47 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.832 | 0.912 | -9.6 | 78 | 0.00 | 4.44 |
| 23 | t | Hexachloroethane | 0.563 | 0.523 | 7.1 | 67 | 0.00 | 4.49 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 73 | 0.00 | 5.09 |
| 25 | S | Nitrobenzene-d5 | 0.333 | 0.404 | -21.3# | 86 | 0.00 | 4.54 |
| 26 | t | Nitrobenzene | 0.339 | 0.376 | -10.9 | 78 | 0.00 | 4.56 |
| 27 | t | Quinoline | 0.726 | 0.824 | -13.5 | 80 | 0.00 | 5.41 |
| 28 | t | Isophorone | 0.579 | 0.659 | -13.8 | 81 | 0.00 | 4.74 |
| 29 | t | 2-Nitrophenol | 0.198 | 0.221 | -11.6 | 76 | 0.00 | 4.80 |
| 30 | t | 2,4-Dimethylphenol | 0.302 | 0.364 | -20.5# | 85 | 0.00 | 4.86 |
| 31 | t | Benzoic acid | 0.305 | 0.342 | -12.1 | 83 | 0.00 | 5.00 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.364 | 0.388 | -6.6 | 77 | 0.00 | 4.92 |
| 33 | t | 2,4-Dichlorophenol | 0.299 | 0.319 | -6.7 | 74 | 0.00 | 5.00 |
| 34 | t | 2,6-Dichlorophenol | 0.296 | 0.308 | -4.1 | 74 | 0.00 | 5.18 |
| 35 | | 1,3,5-Trichlorobenzene | 0.354 | 0.348 | 1.7 | 70 | 0.00 | 4.80 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.342 | 0.329 | 3.8 | 70 | 0.00 | 5.05 |
| 37 | | 1,2,3-Trichlorobenzene | 0.340 | 0.324 | 4.7 | 68 | 0.00 | 5.23 |
| 38 | t | Naphthalene | 1.042 | 1.116 | -7.1 | 78 | 0.00 | 5.11 |
| 39 | t | 4-Chloroaniline | 0.420 | 0.438 | -4.3 | 75 | 0.00 | 5.17 |
| 40 | t | 2,3-Dichloroaniline | 0.379 | 0.426 | -12.4 | 80 | 0.02 | 5.99 |
| 41 | t | Caprolactam | 0.128 | 0.166 | -29.7# | 88 | 0.00 | 5.49 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2581-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481612.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.195 | 0.174 | 10.8 | 65 | 0.00 | 5.22 |
| 43 | t | 4-Chloro-3-methylphenol | 0.307 | 0.400 | -30.3# | 91 | 0.01 | 5.63 |
| 44 | t | 2-Methylnaphthalene | 0.589 | 0.668 | -13.4 | 81 | 0.00 | 5.71 |
| 45 | t | 1-Methylnaphthalene | 0.658 | 0.737 | -12.0 | 81 | 0.00 | 5.80 |
| 46 | t | Dimethylnaphthalene | 0.700 | 0.778 | -11.1 | 79 | 0.02 | 6.32 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 81 | 0.00 | 6.74 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 48 | t | Hexachlorocyclopentadiene | 50.000 | 34.697 | 30.6# | 55 | -0.02 | 5.87 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 49 | t | 2,4,6-Trichlorophenol | 0.373 | 0.343 | 8.0 | 71 | -0.02 | 6.00 |
| 50 | t | 2,4,5-Trichlorophenol | 0.397 | 0.360 | 9.3 | 69 | 0.00 | 6.05 |
| 51 | S | 2-Fluorobiphenyl | 1.413 | 1.358 | 3.9 | 77 | 0.00 | 6.07 |
| 52 | t | 2-Chloronaphthalene | 1.180 | 1.170 | 0.8 | 79 | -0.02 | 6.18 |
| 53 | t | Biphenyl | 1.530 | 1.613 | -5.4 | 83 | -0.01 | 6.17 |
| 54 | t | 2-Nitroaniline | 0.307 | 0.408 | -32.9# | 98 | -0.02 | 6.30 |
| 55 | t | Dimethylphthalate | 1.370 | 1.372 | -0.1 | 80 | 0.00 | 6.50 |
| 56 | t | Acenaphthylene | 1.820 | 1.959 | -7.6 | 84 | -0.01 | 6.59 |
| 57 | t | 2,6-Dinitrotoluene | 0.310 | 0.324 | -4.5 | 80 | 0.00 | 6.56 |
| 58 | t | 3-Nitroaniline | 0.337 | 0.350 | -3.9 | 79 | 0.00 | 6.73 |
| 59 | t | Acenaphthene | 1.208 | 1.275 | -5.5 | 84 | 0.00 | 6.78 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 36.819 | 26.4# | 60 | 0.01 | 6.87 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 61 | t | 4-Nitrophenol | 0.173 | 0.224 | -29.5# | 103 | -0.02 | 6.99 |
| 62 | t | Dibenzofuran | 1.683 | 1.692 | -0.5 | 80 | 0.00 | 6.96 |
| 63 | t | 2,4-Dinitrotoluene | 0.430 | 0.455 | -5.8 | 80 | 0.01 | 7.00 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.325 | 0.289 | 11.1 | 68 | 0.00 | 7.12 |
| 65 | t | Diethylphthalate | 1.351 | 1.466 | -8.5 | 85 | 0.02 | 7.26 |
| 66 | t | Fluorene | 1.366 | 1.391 | -1.8 | 81 | 0.00 | 7.34 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.693 | 0.600 | 13.4 | 70 | 0.02 | 7.35 |
| 68 | t | 4-Nitroaniline | 0.357 | 0.312 | 12.6 | 70 | 0.01 | 7.41 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 72 | 0.00 | 8.40 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.154 | 0.137 | 11.0 | 62 | -0.01 | 7.46 |
| 71 | t | n-Nitrosodiphenylamine | 0.553 | 0.596 | -7.8 | 75 | -0.03 | 7.50 |
| 72 | t | 1,2-Diphenylhydrazine | 0.626 | 0.898 | -43.5# | 98 | -0.03 | 7.53 |
| 73 | S | 2,4,6-Tribromophenol | 0.129 | 0.122 | 5.4 | 70 | 0.00 | 7.62 |
| 74 | t | 4-Bromophenyl-phenylether | 0.215 | 0.208 | 3.3 | 67 | -0.02 | 7.90 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.240 | 4.8 | 67 | -0.02 | 7.97 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 76 | t | Pentachlorophenol | 50.000 | 45.308 | 9.4 | 67 | 0.00 | 8.22 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 77 | t | Phenanthrene | 1.074 | 1.152 | -7.3 | 77 | -0.02 | 8.42 |
| 78 | t | Anthracene | 1.077 | 1.210 | -12.3 | 78 | -0.01 | 8.48 |
| 79 | t | Carbazole | 1.020 | 1.028 | -0.8 | 70 | 0.00 | 8.70 |
| 80 | t | Di-n-butylphthalate | 1.191 | 1.434 | -20.4# | 81 | 0.03 | 9.17 |
| 81 | t | Fluoranthene | 1.167 | 1.135 | 2.7 | 67 | 0.02 | 9.83 |
| 82 | t | Octadecane | 0.360 | 0.515 | -43.1# | 97 | 0.00 | 8.37 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 60 | 0.00 | 11.55 |
| 84 | t | Pyrene | 1.333 | 1.533 | -15.0 | 66 | -0.01 | 10.09 |
| 85 | S | Terphenyl-d14 | 0.932 | 1.022 | -9.7 | 64 | 0.00 | 10.32 |
| 86 | t | Butylbenzylphthalate | 0.574 | 0.850 | -48.1# | 80 | 0.00 | 10.94 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2581-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481612.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.274 | 1.335 | -4.8 | 61 | -0.01 | 11.53 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.479 | 0.488 | -1.9 | 56 | -0.01 | 11.54 |
| 89 | t | Chrysene | 1.249 | 1.278 | -2.3 | 61 | -0.01 | 11.57 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.794 | 1.079 | -35.9# | 73 | -0.01 | 11.67 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 60 | -0.01 | 13.14 |
| 92 | t | Di-n-octylphthalate | 1.192 | 1.594 | -33.7# | 72 | -0.01 | 12.40 |
| 93 | t | Benzo[b]fluoranthene | 1.222 | 1.237 | -1.2 | 58 | -0.01 | 12.75 |
| 94 | t | Benzo[k]fluoranthene | 1.082 | 1.136 | -5.0 | 62 | -0.01 | 12.78 |
| 95 | t | Benzo[a]pyrene | 1.004 | 1.085 | -8.1 | 62 | -0.01 | 13.08 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 1.340 | 1.432 | -6.9 | 62 | -0.02 | 14.15 |
| 97 | t | Dibenz(a,h)acridine | 0.984 | 1.075 | -9.2 | 62 | 0.00 | 13.94 |
| 98 | t | Dibenz[a,h]anthracene | 1.188 | 1.262 | -6.2 | 62 | -0.01 | 14.16 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 25.000 | 26.210 | -4.8 | 67 | 0.00 | 12.74 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 100 | t | Benzo[g,h,i]perylene | 1.045 | 1.111 | -6.3 | 62 | -0.02 | 14.39 |

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(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481201a.D M6P2562.M Fri May 03 14:27:34 2019 ACLIMS

8.7.16

8

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** E6P2581-CC2563
**Lab FileID:** 6P481613.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E6P2581\6p481613.D         Vial: 3
Acq On    :  3 May 2019   2:04 pm                    Operator: angelar
Sample    : cc2563-25                                Inst    : MS6P
Misc      : op17006,e6p2581,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 14:25:38 2019
Last Update  : Fri May 03 14:25:38 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 106 | -0.01 | 4.12 |
| 102 | Benzaldehyde | 0.993 | 1.188 | -19.6 | 113 | -0.06 | 3.80 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 112 | 0.00 | 6.74 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.534 | 0.513 | 3.9 | 101 | -0.03 | 5.88 |
| 105 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 95 | -0.01 | 8.40 |
| 106 S | 1-chlorooctadecane | 0.239 | 0.322 | -34.7# | 108 | 0.05 | 9.79 |
| 107 S | o-terphenyl | 0.584 | 0.605 | -3.6 | 93 | 0.00 | 8.88 |
| | ---------- | True | Calc. | % Drift | | ---------- | |
| 108 | Atrazine | 25.000 | 28.072 | -12.3 | 108 | 0.00 | 8.15 |
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 104 | -0.01 | 5.09 |
| 112 T | Hydroquinone | 0.307 | 0.390 | -27.0# | 131 | -0.02 | 5.50 |
| 113 | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 95 | -0.01 | 8.40 |
| 114 | Pentachloronitrobenzene | 0.049 | 0.051 | -4.1 | 94 | -0.01 | 8.22 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
6p481201a.D M6P2562.M  Fri May 03 14:30:13 2019  ACLIMS

8.7.17

8

# Continuing Calibration Summary



**Job Number:** JC86986 **Sample:** E6P2581-ECC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481623.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\mi...lc\e6p2581\6p481623.d Vial: 2
Acq On : 3 May 2019 6:08 pm Operator: angelar
Sample : ecc2562-25 Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
Last Update : Mon May 06 02:34:48 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 81 | -0.20 | 4.12 |
| 2 | t | 1,4-Dioxane | 0.527 | 0.534 | -1.3 | 81 | -0.24 | 1.53 |
| 3 | t | Pyridine | 1.198 | 1.320 | -10.2 | 83 | -0.29 | 1.82 |
| 4 | t | N-Nitrosodimethylamine | 0.698 | 0.721 | -3.3 | 76 | -0.28 | 1.80 |
| 5 | S | 2-Fluorophenol | 1.170 | 1.257 | -7.4 | 79 | -0.22 | 3.13 |
| 6 | t | Indene | 2.169 | 2.431 | -12.1 | 88 | -0.20 | 4.31 |
| 7 | t | Cumene | 3.107 | 3.590 | -15.5 | 92 | -0.21 | 3.51 |
| 8 | S | Phenol-d5 | 1.429 | 1.624 | -13.6 | 87 | -0.20 | 3.90 |
| 9 | t | Phenol | 1.744 | 1.912 | -9.6 | 85 | -0.19 | 3.91 |
| 10 | | Aniline | 1.556 | 2.034 | -30.7 | 105 | -0.20 | 3.89 |
| 11 | t | bis(2-Chloroethyl)ether | 1.208 | 1.269 | -5.0 | 82 | -0.19 | 3.94 |
| 12 | t | 2-Chlorophenol | 1.383 | 1.438 | -4.0 | 81 | -0.20 | 3.98 |
| 13 | t | Decane | 1.061 | 1.193 | -12.4 | 89 | -0.19 | 4.02 |
| 14 | t | 1,3-Dichlorobenzene | 1.577 | 1.558 | 1.2 | 79 | -0.20 | 4.08 |
| 15 | t | 1,4-Dichlorobenzene | 1.614 | 1.622 | -0.5 | 81 | -0.20 | 4.13 |
| 16 | t | Benzyl alcohol | 0.751 | 0.842 | -12.1 | 85 | -0.19 | 4.25 |
| 17 | t | 1,2-Dichlorobenzene | 1.482 | 1.474 | 0.5 | 78 | -0.20 | 4.25 |
| 18 | t | Acetophenone | 1.859 | 2.127 | -14.4 | 89 | -0.19 | 4.43 |
| 19 | t | 2-Methylphenol | 1.174 | 1.349 | -14.9 | 88 | -0.19 | 4.35 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.431 | 0.450 | -4.4 | 83 | -0.19 | 4.34 |
| 21 | t | 3&4-Methylphenol | 1.234 | 1.375 | -11.4 | 83 | -0.19 | 4.47 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.832 | 0.985 | -18.4 | 92 | -0.20 | 4.44 |
| 23 | t | Hexachloroethane | 0.563 | 0.484 | 14.0 | 68 | -0.20 | 4.49 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 80 | -0.22 | 5.09 |
| 25 | S | Nitrobenzene-d5 | 0.333 | 0.397 | -19.2 | 93 | -0.20 | 4.54 |
| 26 | t | Nitrobenzene | 0.339 | 0.403 | -18.9 | 91 | -0.20 | 4.56 |
| 27 | t | Quinoline | 0.726 | 0.739 | -1.8 | 79 | -0.25 | 5.40 |
| 28 | t | Isophorone | 0.579 | 0.643 | -11.1 | 86 | -0.21 | 4.74 |
| 29 | t | 2-Nitrophenol | 0.198 | 0.209 | -5.6 | 78 | -0.21 | 4.80 |
| 30 | t | 2,4-Dimethylphenol | 0.302 | 0.345 | -14.2 | 88 | -0.20 | 4.86 |
| 31 | t | Benzoic acid | 0.305 | 0.316 | -3.6 | 84 | -0.22 | 5.00 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.364 | 0.410 | -12.6 | 88 | -0.21 | 4.92 |
| 33 | t | 2,4-Dichlorophenol | 0.299 | 0.298 | 0.3 | 76 | -0.21 | 5.00 |
| 34 | t | 2,6-Dichlorophenol | 0.296 | 0.301 | -1.7 | 79 | -0.22 | 5.18 |
| 35 | | 1,3,5-Trichlorobenzene | 0.354 | 0.324 | 8.5 | 72 | -0.21 | 4.80 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.342 | 0.312 | 8.8 | 73 | -0.22 | 5.05 |
| 37 | | 1,2,3-Trichlorobenzene | 0.340 | 0.312 | 8.2 | 72 | -0.23 | 5.23 |
| 38 | t | Naphthalene | 1.042 | 1.107 | -6.2 | 84 | -0.22 | 5.11 |
| 39 | t | 4-Chloroaniline | 0.420 | 0.456 | -8.6 | 86 | -0.22 | 5.17 |
| 40 | t | 2,3-Dichloroaniline | 0.379 | 0.373 | 1.6 | 76 | -0.24 | 5.99 |
| 41 | t | Caprolactam | 0.128 | 0.140 | -9.4 | 82 | -0.24 | 5.49 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2581-ECC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481623.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.195 | 0.171 | 12.3 | 69 | -0.22 | 5.22 |
| 43 | t | 4-Chloro-3-methylphenol | 0.307 | 0.353 | -15.0 | 88 | -0.23 | 5.63 |
| 44 | t | 2-Methylnaphthalene | 0.589 | 0.613 | -4.1 | 82 | -0.23 | 5.71 |
| 45 | t | 1-Methylnaphthalene | 0.658 | 0.699 | -6.2 | 84 | -0.24 | 5.80 |
| 46 | t | Dimethylnaphthalene | 0.700 | 0.682 | 2.6 | 76 | -0.24 | 6.32 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 76 | -0.25 | 6.74 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 48 | t | Hexachlorocyclopentadiene | 50.000 | 21.706 | 56.6# | 27 | -0.24 | 5.86 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 49 | t | 2,4,6-Trichlorophenol | 0.373 | 0.343 | 8.0 | 67 | -0.24 | 6.00 |
| 50 | t | 2,4,5-Trichlorophenol | 0.397 | 0.359 | 9.6 | 65 | -0.24 | 6.05 |
| 51 | S | 2-Fluorobiphenyl | 1.413 | 1.366 | 3.3 | 73 | -0.24 | 6.07 |
| 52 | t | 2-Chloronaphthalene | 1.180 | 1.121 | 5.0 | 72 | -0.25 | 6.18 |
| 53 | t | Biphenyl | 1.530 | 1.533 | -0.2 | 75 | -0.24 | 6.16 |
| 54 | t | 2-Nitroaniline | 0.307 | 0.407 | -32.6 | 93 | -0.25 | 6.30 |
| 55 | t | Dimethylphthalate | 1.370 | 1.324 | 3.4 | 73 | -0.24 | 6.49 |
| 56 | t | Acenaphthylene | 1.820 | 1.876 | -3.1 | 76 | -0.26 | 6.59 |
| 57 | t | 2,6-Dinitrotoluene | 0.310 | 0.309 | 0.3 | 72 | -0.24 | 6.56 |
| 58 | t | 3-Nitroaniline | 0.337 | 0.380 | -12.8 | 81 | -0.25 | 6.73 |
| 59 | t | Acenaphthene | 1.208 | 1.296 | -7.3 | 80 | -0.26 | 6.78 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 35.905 | 28.2 | 55 | -0.24 | 6.87 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 61 | t | 4-Nitrophenol | 0.173 | 0.208 | -20.2 | 90 | -0.24 | 6.99 |
| 62 | t | Dibenzofuran | 1.683 | 1.705 | -1.3 | 76 | -0.26 | 6.96 |
| 63 | t | 2,4-Dinitrotoluene | 0.430 | 0.454 | -5.6 | 75 | -0.24 | 7.00 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.325 | 0.283 | 12.9 | 63 | -0.25 | 7.12 |
| 65 | t | Diethylphthalate | 1.351 | 1.446 | -7.0 | 80 | -0.25 | 7.26 |
| 66 | t | Fluorene | 1.366 | 1.404 | -2.8 | 77 | -0.26 | 7.34 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.693 | 0.614 | 11.4 | 67 | -0.25 | 7.35 |
| 68 | t | 4-Nitroaniline | 0.357 | 0.355 | 0.6 | 76 | -0.26 | 7.41 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 66 | -0.27 | 8.40 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.154 | 0.136 | 11.7 | 56 | -0.24 | 7.46 |
| 71 | t | n-Nitrosodiphenylamine | 0.553 | 0.622 | -12.5 | 72 | -0.26 | 7.50 |
| 72 | t | 1,2-Diphenylhydrazine | 0.626 | 0.870 | -39.0 | 87 | -0.26 | 7.53 |
| 73 | S | 2,4,6-Tribromophenol | 0.129 | 0.126 | 2.3 | 66 | -0.26 | 7.62 |
| 74 | t | 4-Bromophenyl-phenylether | 0.215 | 0.212 | 1.4 | 62 | -0.26 | 7.90 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.246 | 2.4 | 63 | -0.26 | 7.97 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 76 | t | Pentachlorophenol | 50.000 | 43.776 | 12.4 | 59 | -0.26 | 8.22 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 77 | t | Phenanthrene | 1.074 | 1.152 | -7.3 | 71 | -0.27 | 8.42 |
| 78 | t | Anthracene | 1.077 | 1.224 | -13.6 | 72 | -0.27 | 8.48 |
| 79 | t | Carbazole | 1.020 | 1.178 | -15.5 | 73 | -0.27 | 8.70 |
| 80 | t | Di-n-butylphthalate | 1.191 | 1.542 | -29.5 | 79 | -0.25 | 9.17 |
| 81 | t | Fluoranthene | 1.167 | 1.200 | -2.8 | 65 | -0.28 | 9.83 |
| 82 | t | Octadecane | 0.360 | 0.477 | -32.5 | 82 | -0.25 | 8.37 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 61 | -0.28 | 11.55 |
| 84 | t | Pyrene | 1.333 | 1.470 | -10.3 | 65 | -0.28 | 10.09 |
| 85 | S | Terphenyl-d14 | 0.932 | 0.929 | 0.3 | 60 | -0.27 | 10.32 |
| 86 | t | Butylbenzylphthalate | 0.574 | 0.799 | -39.2 | 77 | -0.26 | 10.94 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2581-ECC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481623.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.274 | 1.333 | -4.6 | 62 | -0.28 | 11.53 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.479 | 0.512 | -6.9 | 60 | -0.27 | 11.54 |
| 89 | t | Chrysene | 1.249 | 1.227 | 1.8 | 60 | -0.29 | 11.57 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.794 | 1.062 | -33.8 | 73 | -0.26 | 11.67 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 56 | -0.29 | 13.14 |
| 92 | t | Di-n-octylphthalate | 1.192 | 1.719 | -44.2 | 72 | -0.26 | 12.40 |
| 93 | t | Benzo[b]fluoranthene | 1.222 | 1.270 | -3.9 | 55 | -0.29 | 12.75 |
| 94 | t | Benzo[k]fluoranthene | 1.082 | 1.136 | -5.0 | 57 | -0.29 | 12.78 |
| 95 | t | Benzo[a]pyrene | 1.004 | 1.080 | -7.6 | 57 | -0.29 | 13.08 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 1.340 | 1.356 | -1.2 | 54 | -0.32 | 14.15 |
| 97 | t | Dibenz(a,h)acridine | 0.984 | 0.980 | 0.4 | 53 | -0.29 | 13.94 |
| 98 | t | Dibenz[a,h]anthracene | 1.188 | 1.206 | -1.5 | 55 | -0.32 | 14.16 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 25.000 | 26.430 | -5.7 | 62 | -0.29 | 12.73 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 100 | t | Benzo[g,h,i]perylene | 1.045 | 0.935 | 10.5 | 48# | -0.35 | 14.39 |

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(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481145a.D M6P2562.M Mon May 06 03:04:00 2019

8.7.18

8

# Continuing Calibration Summary



**Job Number:** JC86986 **Sample:** E6P2581-ECC2563
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481624.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\data\mi...lc\e6p2581\6p481624.d Vial: 3
Acq On    :  3 May 2019   6:32 pm                    Operator: angelar
Sample    : ecc2563-25                                Inst    : MS6P
Misc      : op17006,e6p2581,1000,,,1,1                Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
Last Update  : Mon May 06 02:34:48 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  50%     Max. Rel. Area : 200%
```

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 105 | -0.20 | 4.12 |
| 102 | Benzaldehyde | 0.993 | 1.166 | -17.4 | 109 | -0.23 | 3.80 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 108 | -0.25 | 6.74 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.534 | 0.493 | 7.7 | 94 | -0.24 | 5.88 |
| 105 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 95 | -0.27 | 8.40 |
| 106 S | 1-chlorooctadecane | 0.239 | 0.383 | -60.3# | 128 | -0.25 | 9.79 |
| 107 S | o-terphenyl | 0.584 | 0.595 | -1.9 | 91 | -0.26 | 8.88 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 108 | Atrazine | 25.000 | 24.937 | 0.3 | 95 | -0.25 | 8.14 |
| | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 109 I | Chrysene-d12a | 1.000 | 1.000 | 0.0 | 91 | -0.28 | 11.54 |
| 110 T | benzidine | | ----------NA---------- | | | | |
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 110 | -0.22 | 5.09 |
| 112 T | Hydroquinone | 0.307 | 0.357 | -16.3 | 126 | -0.25 | 5.50 |
| 113 | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 95 | -0.27 | 8.40 |
| 114 | Pentachloronitrobenzene | 0.049 | 0.046# | 6.1 | 84 | -0.26 | 8.22 |
| 115 I | Chrysene-d12b | 1.000 | 1.000 | 0.0 | 91 | -0.28 | 11.54 |
| 116 | 2,3,7,8-TCDD | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481145a.D M6P2562.M Mon May 06 03:04:08 2019

8.7.19

8

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2588-CC2562
**Lab FileID:** 6P481783.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E6P2588\6p481783.D Vial: 2
Acq On : 10 May 2019 9:11 am Operator: angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2588,1000,,,1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
Last Update : Mon May 06 09:58:38 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 84 | -0.04 | 4.21 |
| 2 | t | 1,4-Dioxane | 0.527 | 0.614 | -16.5 | 95 | -0.12 | 1.62 |
| 3 | t | Pyridine | 1.198 | 1.461 | -22.0# | 95 | 0.03 | 1.94 |
| 4 | t | N-Nitrosodimethylamine | 0.698 | 0.824 | -18.1 | 93 | 0.04 | 1.91 |
| 5 | S | 2-Fluorophenol | 1.170 | 1.341 | -14.6 | 85 | 0.00 | 3.24 |
| 6 | t | Indene | 2.169 | 2.420 | -11.6 | 93 | -0.04 | 4.40 |
| 7 | t | Cumene | 3.107 | 3.546 | -14.1 | 96 | -0.06 | 3.60 |
| 8 | S | Phenol-d5 | 1.429 | 1.678 | -17.4 | 95 | -0.04 | 3.99 |
| 9 | t | Phenol | 1.744 | 1.846 | -5.8 | 86 | -0.04 | 4.00 |
| 10 | | Aniline | 1.556 | 1.809 | -16.3 | 102 | -0.05 | 3.97 |
| 11 | t | bis(2-Chloroethyl)ether | 1.208 | 1.321 | -9.4 | 91 | -0.04 | 4.03 |
| 12 | t | 2-Chlorophenol | 1.383 | 1.479 | -6.9 | 85 | -0.04 | 4.07 |
| 13 | t | Decane | 1.061 | 1.209 | -13.9 | 99 | -0.04 | 4.10 |
| 14 | t | 1,3-Dichlorobenzene | 1.577 | 1.621 | -2.8 | 86 | -0.04 | 4.17 |
| 15 | t | 1,4-Dichlorobenzene | 1.614 | 1.653 | -2.4 | 86 | -0.04 | 4.22 |
| 16 | t | Benzyl alcohol | 0.751 | 0.931 | -24.0# | 97 | -0.03 | 4.34 |
| 17 | t | 1,2-Dichlorobenzene | 1.482 | 1.571 | -6.0 | 88 | -0.04 | 4.33 |
| 18 | t | Acetophenone | 1.859 | 2.153 | -15.8 | 95 | -0.03 | 4.52 |
| 19 | t | 2-Methylphenol | 1.174 | 1.359 | -15.8 | 93 | -0.03 | 4.44 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.431 | 0.468 | -8.6 | 89 | -0.03 | 4.42 |
| 21 | t | 3&4-Methylphenol | 1.234 | 1.435 | -16.3 | 91 | -0.03 | 4.55 |
| 22 | t | n-Nitroso-di-n-propylamin | 0.832 | 0.976 | -17.3 | 97 | -0.03 | 4.53 |
| 23 | t | Hexachloroethane | 0.563 | 0.543 | 3.6 | 78 | -0.04 | 4.57 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 87 | -0.04 | 5.19 |
| 25 | S | Nitrobenzene-d5 | 0.333 | 0.383 | -15.0 | 97 | -0.03 | 4.63 |
| 26 | t | Nitrobenzene | 0.339 | 0.383 | -13.0 | 97 | -0.04 | 4.64 |
| 27 | t | Quinoline | 0.726 | 0.754 | -3.9 | 85 | -0.05 | 5.51 |
| 28 | t | Isophorone | 0.579 | 0.649 | -12.1 | 97 | -0.04 | 4.83 |
| 29 | t | 2-Nitrophenol | 0.198 | 0.218 | -10.1 | 88 | -0.04 | 4.89 |
| 30 | t | 2,4-Dimethylphenol | 0.302 | 0.389 | -28.8# | 102 | -0.03 | 4.95 |
| 31 | t | Benzoic acid | 0.305 | 0.316 | -3.6 | 84 | -0.02 | 5.12 |
| 32 | t | bis(2-Chloroethoxy)methan | 0.364 | 0.421 | -15.7 | 99 | -0.04 | 5.00 |
| 33 | t | 2,4-Dichlorophenol | 0.299 | 0.299 | 0.0 | 82 | -0.03 | 5.10 |
| 34 | t | 2,6-Dichlorophenol | 0.296 | 0.300 | -1.4 | 84 | -0.04 | 5.27 |
| 35 | | 1,3,5-Trichlorobenzene | 0.354 | 0.333 | 5.9 | 82 | -0.04 | 4.89 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.342 | 0.310 | 9.4 | 78 | -0.04 | 5.15 |
| 37 | | 1,2,3-Trichlorobenzene | 0.340 | 0.314 | 7.6 | 79 | -0.04 | 5.33 |
| 38 | t | Naphthalene | 1.042 | 1.077 | -3.4 | 91 | -0.04 | 5.20 |
| 39 | t | 4-Chloroaniline | 0.420 | 0.437 | -4.0 | 92 | -0.04 | 5.27 |
| 40 | t | 2,3-Dichloroaniline | 0.379 | 0.372 | 1.8 | 83 | -0.03 | 6.10 |
| 41 | t | Caprolactam | 0.128 | 0.149 | -16.4 | 93 | -0.02 | 5.62 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2588-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481783.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 42 | t | Hexachlorobutadiene | 0.195 | 0.177 | 9.2 | 77 | -0.05 | 5.31 |
| 43 | t | 4-Chloro-3-methylphenol | 0.307 | 0.349 | -13.7 | 92 | -0.03 | 5.73 |
| 44 | t | 2-Methylnaphthalene | 0.589 | 0.606 | -2.9 | 89 | -0.04 | 5.81 |
| 45 | t | 1-Methylnaphthalene | 0.658 | 0.688 | -4.6 | 92 | -0.04 | 5.90 |
| 46 | t | Dimethylnaphthalene | 0.700 | 0.700 | 0.0 | 86 | -0.03 | 6.43 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 83 | -0.05 | 6.86 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 48 | t | Hexachlorocyclopentadiene | 100.000 | 74.819 | 25.2# | 60 | -0.06 | 5.97 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 49 | t | 2,4,6-Trichlorophenol | 0.373 | 0.364 | 2.4 | 76 | -0.05 | 6.11 |
| 50 | t | 2,4,5-Trichlorophenol | 0.397 | 0.394 | 0.8 | 76 | -0.04 | 6.17 |
| 51 | S | 2-Fluorobiphenyl | 1.413 | 1.435 | -1.6 | 85 | -0.05 | 6.17 |
| 52 | t | 2-Chloronaphthalene | 1.180 | 1.166 | 1.2 | 82 | -0.06 | 6.29 |
| 53 | t | Biphenyl | 1.530 | 1.608 | -5.1 | 88 | -0.05 | 6.27 |
| 54 | t | 2-Nitroaniline | 0.307 | 0.380 | -23.8# | 95 | -0.05 | 6.42 |
| 55 | t | Dimethylphthalate | 1.370 | 1.392 | -1.6 | 83 | -0.05 | 6.61 |
| 56 | t | Acenaphthylene | 1.820 | 1.972 | -8.4 | 89 | -0.06 | 6.71 |
| 57 | t | 2,6-Dinitrotoluene | 0.310 | 0.339 | -9.4 | 83 | -0.04 | 6.68 |
| 58 | t | 3-Nitroaniline | 0.337 | 0.376 | -11.6 | 84 | -0.04 | 6.86 |
| 59 | t | Acenaphthene | 1.208 | 1.276 | -5.6 | 88 | -0.05 | 6.89 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 60 | t | 2,4-Dinitrophenol | 100.000 | 89.120 | 10.9 | 72 | -0.03 | 6.99 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 61 | t | 4-Nitrophenol | 0.173 | 0.195 | -12.7 | 88 | -0.05 | 7.11 |
| 62 | t | Dibenzofuran | 1.683 | 1.703 | -1.2 | 85 | -0.05 | 7.08 |
| 63 | t | 2,4-Dinitrotoluene | 0.430 | 0.458 | -6.5 | 81 | -0.03 | 7.12 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.325 | 0.303 | 6.8 | 71 | -0.04 | 7.25 |
| 65 | t | Diethylphthalate | 1.351 | 1.420 | -5.1 | 86 | -0.04 | 7.38 |
| 66 | t | Fluorene | 1.366 | 1.417 | -3.7 | 86 | -0.05 | 7.46 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.693 | 0.664 | 4.2 | 79 | -0.04 | 7.47 |
| 68 | t | 4-Nitroaniline | 0.357 | 0.346 | 3.1 | 77 | -0.03 | 7.54 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 81 | -0.05 | 8.53 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.154 | 0.150 | 2.6 | 72 | -0.04 | 7.59 |
| 71 | t | n-Nitrosodiphenylamine | 0.553 | 0.567 | -2.5 | 82 | -0.06 | 7.62 |
| 72 | t | 1,2-Diphenylhydrazine | 0.626 | 0.761 | -21.6# | 97 | -0.06 | 7.65 |
| 73 | S | 2,4,6-Tribromophenol | 0.129 | 0.117 | 9.3 | 70 | -0.04 | 7.74 |
| 74 | t | 4-Bromophenyl-phenylether | 0.215 | 0.204 | 5.1 | 73 | -0.06 | 8.02 |
| 75 | t | Hexachlorobenzene | 0.252 | 0.239 | 5.2 | 73 | -0.05 | 8.10 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 76 | t | Pentachlorophenol | 100.000 | 86.440 | 13.6 | 69 | -0.04 | 8.35 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 77 | t | Phenanthrene | 1.074 | 1.137 | -5.9 | 87 | -0.05 | 8.56 |
| 78 | t | Anthracene | 1.077 | 1.169 | -8.5 | 87 | -0.05 | 8.62 |
| 79 | t | Carbazole | 1.020 | 1.081 | -6.0 | 83 | -0.05 | 8.83 |
| 80 | t | Di-n-butylphthalate | 1.191 | 1.495 | -25.5# | 96 | -0.04 | 9.29 |
| 81 | t | Fluoranthene | 1.167 | 1.193 | -2.2 | 79 | -0.04 | 9.96 |
| 82 | t | Octadecane | 0.360 | 0.505 | -40.3# | 113 | -0.05 | 8.48 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 73 | -0.04 | 11.69 |
| 84 | t | Pyrene | 1.333 | 1.465 | -9.9 | 79 | -0.03 | 10.23 |
| 85 | S | Terphenyl-d14 | 0.932 | 0.959 | -2.9 | 73 | -0.03 | 10.45 |
| 86 | t | Butylbenzylphthalate | 0.574 | 0.778 | -35.5# | 90 | -0.05 | 11.07 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** E6P2588-CC2562
**Account:** BBLNYS Arcadis **Lab FileID:** 6P481783.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 87 | t | Benzo[a]anthracene | 1.274 | 1.397 | -9.7 | 77 | -0.05 | 11.68 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.479 | 0.567 | -18.4 | 77 | -0.05 | 11.68 |
| 89 | t | Chrysene | 1.249 | 1.263 | -1.1 | 72 | -0.04 | 11.72 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.794 | 1.118 | -40.8# | 93 | -0.07 | 11.79 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 67 | -0.04 | 13.29 |
| 92 | t | Di-n-octylphthalate | 1.192 | 1.818 | -52.5# | 93 | -0.05 | 12.53 |
| 93 | t | Benzo[b]fluoranthene | 1.222 | 1.353 | -10.7 | 69 | -0.03 | 12.91 |
| 94 | t | Benzo[k]fluoranthene | 1.082 | 1.234 | -14.0 | 70 | -0.03 | 12.93 |
| 95 | t | Benzo[a]pyrene | 1.004 | 1.118 | -11.4 | 68 | -0.03 | 13.24 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 1.340 | 1.582 | -18.1 | 71 | -0.02 | 14.33 |
| 97 | t | Dibenz(a,h)acridine | 0.984 | 1.138 | -15.7 | 69 | -0.24 | 14.10 |
| 98 | t | Dibenz[a,h]anthracene | 1.188 | 1.473 | -24.0# | 74 | -0.03 | 14.33 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 50.000 | 50.868 | -1.7 | 67 | -0.23 | 12.88 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 100 | t | Benzo[g,h,i]perylene | 1.045 | 1.135 | -8.6 | 67 | -0.02 | 14.59 |

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(#) = Out of Range SPCC's out = 0 CCC's out = 0
6p481200a.D M6P2562.M Fri May 10 10:35:57 2019 ACLIMS

8.7.20

8

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** E6P2588-CC2563
**Lab FileID:** 6P481784.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E6P2588\6p481784.D         Vial: 3
Acq On    : 10 May 2019   9:35 am                    Operator: angelar
Sample    : cc2563-50                                Inst    : MS6P
Misc      : op17006,e6p2588,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M6P2562.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
Last Update  : Mon May 06 09:58:38 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 101 | 1,4-Dichlorobenzene-d4a | 1.000 | 1.000 | 0.0 | 95 | -0.04 | 4.21 |
| 102 | Benzaldehyde | 0.993 | 1.213 | -22.2# | 107 | -0.08 | 3.88 |
| 103 | Acenaphthene-d10a | 1.000 | 1.000 | 0.0 | 93 | -0.06 | 6.85 |
| 104 | 1,2,4,5-Tetrachlorobenzen | 0.534 | 0.506 | 5.2 | 85 | -0.06 | 5.98 |
| 105 | Phenanthrene-d10a | 1.000 | 1.000 | 0.0 | 93 | -0.06 | 8.52 |
| 106 S | 1-chlorooctadecane | 0.239 | 0.315 | -31.8# | 111 | -0.04 | 9.90 |
| 107 S | o-terphenyl | 0.584 | 0.604 | -3.4 | 92 | -0.05 | 9.00 |
| | ---------- | True | Calc. | % Drift | ---------- | | |
| 108 | Atrazine | 50.000 | 49.727 | 0.5 | 93 | -0.04 | 8.26 |
| 111 I | Naphthalene-d8a | 1.000 | 1.000 | 0.0 | 97 | -0.05 | 5.18 |
| 112 T | Hydroquinone | 0.307 | 0.398 | -29.6# | 114 | -0.06 | 5.61 |
| 113 | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 93 | -0.06 | 8.52 |
| 114 | Pentachloronitrobenzene | 0.049 | 0.047# | 4.1 | 83 | -0.06 | 8.34 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
6p481200a.D M6P2562.M  Fri May 10 10:35:59 2019  ACLIMS

8.7.21

8

# Initial Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5844-ICC5844
**Lab FileID:** P129143A.D

Response Factor Report MSVOAMSP

Method : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

Calibration Files
2 =p129147.D 5 =p129146a.D 25 =p129144a.D 80 =p129142a.D
100 =p129141a.D 50 =p129143a.D 10 =p129145a.D 1 =p129148.D

| Compound | 2 | 5 | 25 | 80 | 100 | 50 | 10 | 1 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) I 1,4-Dichlorobenzene-d | ----------ISTD---------- | | | | | | | | | |
| 2) 1,4-Dioxane | 0.609 | 0.573 | 0.660 | 0.694 | 0.677 | 0.670 | 0.642 | 0.664 | 0.649 | 6.12 |
| 3) Pyridine | 1.136 | 1.435 | 1.179 | 1.211 | 1.399 | 1.142 | 1.412 | 0.920 | 1.229 | 14.40 |
| 4) N-Nitrosodim | 0.521 | 0.576 | 0.727 | 0.697 | 0.731 | 0.700 | 0.689 | 0.591 | 0.654 | 12.16 |
| 5) 2-Fluorophen | 1.018 | 1.118 | 1.405 | 1.523 | 1.546 | 1.512 | 1.260 | 0.900 | 1.285 | 19.48 |
| 6) Indene | 2.063 | 2.085 | 2.134 | 2.048 | 1.992 | 2.226 | 2.127 | 2.081 | 2.095 | 3.32 |
| 7) Cumene | 3.265 | 3.366 | 3.597 | 3.389 | 3.209 | 3.640 | 3.523 | 3.365 | 3.419 | 4.50 |
| 8) Phenol-d5 | 1.436 | 1.593 | 1.747 | 1.684 | 1.688 | 1.854 | 1.713 | 1.341 | 1.632 | 10.35 |
| 9) Phenol | 1.668 | 1.721 | 1.881 | 1.790 | 1.748 | 1.975 | 1.840 | 1.603 | 1.778 | 6.74 |
| 10) Aniline | 1.804 | 1.907 | 0.842 | 0.983 | 1.020 | 0.699 | 1.771 | 1.844 | 1.359 | 37.97 |
| ---- Quadratic regression ---- Coefficient = 0.9863 | | | | | | | | | | |
| Response Ratio = 0.13877 + 0.43487 *A + 0.21626 *A^2 | | | | | | | | | | |
| 11) bis(2-Chloro | 1.321 | 1.280 | 1.566 | 1.380 | 1.351 | 1.623 | 1.461 | 1.291 | 1.409 | 9.13 |
| 12) 2-Chlorophen | 1.314 | 1.298 | 1.366 | 1.357 | 1.380 | 1.437 | 1.355 | 1.216 | 1.340 | 4.88 |
| 13) Decane | 1.104 | 1.038 | 1.011 | 0.870 | 0.807 | 0.952 | 1.023 | 1.098 | 0.988 | 10.65 |
| 14) 1,3-Dichloro | 1.570 | 1.637 | 1.614 | 1.534 | 1.475 | 1.614 | 1.619 | 1.548 | 1.576 | 3.49 |
| 15) 1,4-Dichloro | 1.500 | 1.513 | 1.529 | 1.502 | 1.446 | 1.601 | 1.532 | 1.593 | 1.527 | 3.32 |
| 16) Benzyl alcoh | 0.533 | 0.634 | 0.690 | 0.764 | 0.792 | 0.756 | 0.724 | 0.336 | 0.653 | 23.43 |
| ---- Quadratic regression ---- Coefficient = 0.9998 | | | | | | | | | | |
| Response Ratio = -0.00771 + 0.70401 *A + 0.03537 *A^2 | | | | | | | | | | |
| 17) 1,2-Dichloro | 1.536 | 1.466 | 1.571 | 1.541 | 1.488 | 1.590 | 1.525 | 1.489 | 1.526 | 2.81 |
| 18) Acetophenone | 2.002 | 1.982 | 1.942 | 1.901 | 1.946 | 2.029 | 1.997 | 1.884 | 1.960 | 2.59 |
| 19) 2-Methylphen | 1.141 | 1.146 | 1.277 | 1.242 | 1.269 | 1.300 | 1.281 | 1.293 | 1.244 | 5.17 |
| 20) 2,2'-oxybis( | 0.301 | 0.319 | 0.331 | 0.331 | 0.330 | 0.341 | 0.345 | 0.324 | 0.328 | 4.17 |
| 21) 3&4-Methylph | 1.233 | 1.172 | 1.227 | 1.229 | 1.262 | 1.299 | 1.317 | 1.002 | 1.218 | 8.05 |
| 22) n-Nitroso-di | 0.970 | 0.960 | 0.898 | 0.862 | 0.875 | 0.940 | 0.961 | 0.984 | 0.931 | 5.01 |
| 23) Hexachloroet | 0.638 | 0.616 | 0.631 | 0.622 | 0.598 | 0.648 | 0.635 | 0.611 | 0.625 | 2.56 |
| 24) I Naphthalene-d8 | ----------ISTD---------- | | | | | | | | | |
| 25) Nitrobenzene | 0.434 | 0.436 | 0.428 | 0.415 | 0.407 | 0.442 | 0.452 | 0.425 | 0.430 | 3.38 |
| 26) Nitrobenzene | 0.463 | 0.463 | 0.428 | 0.394 | 0.391 | 0.427 | 0.452 | 0.461 | 0.435 | 6.89 |
| 27) Quinoline | 0.650 | 0.686 | 0.727 | 0.778 | 0.794 | 0.780 | 0.712 | 0.674 | 0.725 | 7.46 |
| 28) Isophorone | 0.741 | 0.744 | 0.767 | 0.721 | 0.704 | 0.768 | 0.774 | 0.752 | 0.747 | 3.28 |
| 29) 2-Nitropheno | 0.167 | 0.206 | 0.218 | 0.195 | 0.192 | 0.223 | 0.207 | 0.167 | 0.197 | 10.76 |
| 30) 2,4-Dimethyl | | 0.248 | 0.371 | 0.391 | 0.382 | 0.402 | 0.301 | | 0.349 | 17.52 |
| 31) Benzoic acid | | 0.104 | 0.279 | 0.301 | 0.301 | 0.305 | 0.169 | | 0.243 | 35.19 |
| ---- Quadratic regression ---- Coefficient = 0.9997 | | | | | | | | | | |
| Response Ratio = -0.03614 + 0.34636 *A + -0.01255 *A^2 | | | | | | | | | | |
| 32) bis(2-Chloro | 0.407 | 0.439 | 0.437 | 0.438 | 0.414 | 0.456 | 0.450 | 0.417 | 0.432 | 4.08 |
| 33) 2,4-Dichloro | 0.254 | 0.318 | 0.346 | 0.367 | 0.367 | 0.366 | 0.336 | 0.279 | 0.329 | 13.00 |
| 34) 2,6-Dichloro | 0.302 | 0.314 | 0.337 | 0.327 | 0.326 | 0.351 | 0.321 | 0.292 | 0.321 | 5.85 |
| 35) 1,3,5-Trichl | 0.361 | 0.377 | 0.408 | 0.387 | 0.360 | 0.415 | 0.393 | 0.397 | 0.387 | 5.20 |
| 36) 1,2,4-Trichl | 0.357 | 0.361 | 0.386 | 0.371 | 0.364 | 0.392 | 0.379 | 0.348 | 0.370 | 4.10 |

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** EP5844-ICC5844
**Account:** BBLNYS Arcadis **Lab FileID:** P129143A.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 37) | 1,2,3-Trichl | 0.342 | 0.360 | 0.364 | 0.346 | 0.322 | 0.370 | 0.358 | 0.332 | 0.349 | 4.70 |
| 38) | Naphthalene | 0.970 | 0.925 | 0.962 | 0.944 | 0.918 | 1.031 | 0.964 | 0.926 | 0.955 | 3.84 |
| 39) | 4-Chloroanil | 0.369 | 0.410 | 0.359 | 0.355 | 0.334 | 0.367 | 0.406 | 0.375 | 0.372 | 6.84 |
| 40) | 2,3-Dichloro | 0.387 | 0.411 | 0.416 | 0.427 | 0.433 | 0.446 | 0.417 | 0.379 | 0.414 | 5.42 |
| 41) | Caprolactam | 0.146 | 0.157 | 0.154 | 0.143 | 0.122 | 0.161 | 0.160 | 0.111 | 0.144 | 12.81 |
| 42) | Hexachlorobu | 0.228 | 0.225 | 0.240 | 0.219 | 0.209 | 0.245 | 0.234 | 0.230 | 0.229 | 4.99 |
| 43) | 4-Chloro-3-m | 0.326 | 0.337 | 0.361 | 0.363 | 0.357 | 0.384 | 0.352 | 0.289 | 0.346 | 8.34 |
| 44) | 2-Methylnaph | 0.545 | 0.556 | 0.571 | 0.535 | 0.510 | 0.583 | 0.555 | 0.526 | 0.548 | 4.36 |
| 45) | 1-Methylnaph | 0.689 | 0.707 | 0.736 | 0.708 | 0.688 | 0.750 | 0.714 | 0.683 | 0.709 | 3.35 |
| 46) | Dimethylnaph | 0.609 | 0.632 | 0.651 | 0.621 | 0.623 | 0.686 | 0.651 | 0.600 | 0.634 | 4.37 |
| 47) | I Acenaphthene-d10 | ----------ISTD---------- | | | | | | | | | |
| 48) | Hexachlorocy | | 0.204 | 0.346 | 0.346 | 0.314 | 0.352 | 0.272 | | 0.306 | 19.01 |
| 49) | 2,4,6-Trichl | 0.373 | 0.390 | 0.422 | 0.410 | 0.392 | 0.414 | 0.404 | 0.365 | 0.396 | 5.09 |
| 50) | 2,4,5-Trichl | 0.381 | 0.370 | 0.447 | 0.402 | 0.374 | 0.436 | 0.423 | 0.308 | 0.393 | 11.35 |
| 51) | 2-Fluorobiph | 1.310 | 1.323 | 1.364 | 1.146 | 1.054 | 1.293 | 1.369 | 1.281 | 1.267 | 8.73 |
| 52) | 2-Chloronaph | 1.128 | 1.146 | 1.143 | 1.011 | 0.894 | 1.118 | 1.152 | 1.083 | 1.084 | 8.28 |
| 53) | Biphenyl | 1.372 | 1.363 | 1.470 | 1.207 | 1.110 | 1.405 | 1.431 | 1.429 | 1.348 | 9.25 |
| 54) | 2-Nitroanili | 0.411 | 0.394 | 0.375 | 0.291 | 0.270 | 0.355 | 0.408 | 0.355 | 0.357 | 14.63 |
| 55) | Dimethylphth | 1.378 | 1.389 | 1.438 | 1.398 | 1.326 | 1.445 | 1.445 | 1.363 | 1.398 | 3.07 |
| 56) | Acenaphthyle | 1.728 | 1.758 | 1.763 | 1.593 | 1.569 | 1.737 | 1.809 | 1.734 | 1.711 | 4.94 |
| 57) | 2,6-Dinitrot | 0.278 | 0.288 | 0.302 | 0.302 | 0.292 | 0.317 | 0.302 | 0.262 | 0.293 | 5.89 |
| 58) | 3-Nitroanili | 0.309 | 0.299 | 0.327 | 0.310 | 0.306 | 0.324 | 0.339 | 0.240 | 0.307 | 9.83 |
| 59) | Acenaphthene | 1.056 | 1.057 | 1.083 | 1.043 | 0.932 | 1.099 | 1.091 | 1.055 | 1.052 | 4.96 |
| 60) | 2,4-Dinitrop | 0.036 | 0.102 | 0.176 | 0.210 | 0.209 | 0.195 | 0.138 | | 0.152 | 42.51 |
| | ---- Quadratic regression ---- Coefficient = 0.9995 | | | | | | | | | | |
| | Response Ratio = -0.02450 + 0.19639 *A + 0.00395 *A^2 | | | | | | | | | | |
| 61) | 4-Nitropheno | 0.196 | 0.184 | 0.229 | 0.233 | 0.229 | 0.239 | 0.225 | | 0.220 | 9.44 |
| 62) | Dibenzofuran | 1.544 | 1.572 | 1.671 | 1.591 | 1.533 | 1.659 | 1.662 | 1.530 | 1.595 | 3.79 |
| 63) | 2,4-Dinitrot | 0.361 | 0.408 | 0.406 | 0.402 | 0.402 | 0.410 | 0.424 | 0.306 | 0.390 | 9.87 |
| 64) | 2,3,4,6-Tetr | 0.303 | 0.316 | 0.369 | 0.394 | 0.396 | 0.394 | 0.360 | 0.221 | 0.344 | 17.74 |
| 65) | Diethylphtha | 1.395 | 1.462 | 1.463 | 1.378 | 1.322 | 1.456 | 1.512 | 1.394 | 1.423 | 4.28 |
| 66) | Fluorene | 1.275 | 1.302 | 1.355 | 1.221 | 1.124 | 1.343 | 1.367 | 1.240 | 1.279 | 6.41 |
| 67) | 4-Chlorophen | 0.628 | 0.644 | 0.671 | 0.621 | 0.577 | 0.665 | 0.656 | 0.597 | 0.632 | 5.26 |
| 68) | 4-Nitroanili | 0.246 | 0.296 | 0.297 | 0.308 | 0.310 | 0.317 | 0.317 | 0.253 | 0.293 | 9.55 |
| 69) | I Phenanthrene-d10 | ----------ISTD---------- | | | | | | | | | |
| 70) | 4,6-Dinitro- | | 0.120 | 0.150 | 0.166 | 0.169 | 0.161 | 0.132 | | 0.150 | 13.26 |
| 71) | n-Nitrosodip | 0.480 | 0.490 | 0.534 | 0.549 | 0.535 | 0.551 | 0.506 | 0.503 | 0.518 | 5.28 |
| 72) | 1,2-Diphenyl | 0.842 | 0.818 | 0.793 | 0.781 | 0.731 | 0.793 | 0.842 | 0.882 | 0.810 | 5.72 |
| 73) | 2,4,6-Tribro | 0.100 | 0.110 | 0.137 | 0.157 | 0.158 | 0.144 | 0.126 | | 0.133 | 16.88 |
| 74) | 4-Bromopheny | 0.204 | 0.215 | 0.252 | 0.282 | 0.270 | 0.270 | 0.235 | 0.216 | 0.243 | 12.13 |
| 75) | Hexachlorobe | 0.255 | 0.250 | 0.283 | 0.305 | 0.300 | 0.300 | 0.270 | 0.255 | 0.277 | 8.18 |
| 76) | Pentachlorop | 0.075 | 0.115 | 0.172 | 0.198 | 0.199 | 0.190 | 0.137 | | 0.155 | 30.69 |
| | ---- Quadratic regression ---- Coefficient = 0.9997 | | | | | | | | | | |
| | Response Ratio = -0.02002 + 0.19009 *A + 0.00271 *A^2 | | | | | | | | | | |
| 77) | Phenanthrene | 0.995 | 0.981 | 1.054 | 1.097 | 1.068 | 1.114 | 1.026 | 1.004 | 1.042 | 4.67 |
| 78) | Anthracene | 1.040 | 1.052 | 1.108 | 1.136 | 1.114 | 1.144 | 1.069 | 1.051 | 1.089 | 3.78 |
| 79) | Carbazole | 0.978 | 1.021 | 1.067 | 1.094 | 1.105 | 1.111 | 1.054 | 0.983 | 1.052 | 5.02 |
| 80) | Di-n-butylph | 1.370 | 1.442 | 1.567 | 1.561 | 1.513 | 1.615 | 1.513 | 1.358 | 1.492 | 6.30 |
| 81) | Fluoranthene | 1.163 | 1.212 | 1.333 | 1.386 | 1.384 | 1.404 | 1.308 | 1.096 | 1.286 | 8.96 |
| 82) | Octadecane | 0.416 | 0.404 | 0.420 | 0.382 | 0.349 | 0.412 | 0.425 | 0.455 | 0.408 | 7.73 |
| 83) | I Chrysene-d12 | ----------ISTD---------- | | | | | | | | | |
| 84) | Pyrene | 1.333 | 1.321 | 1.447 | 1.441 | 1.353 | 1.467 | 1.362 | 1.354 | 1.385 | 4.14 |
| 85) | Terphenyl-d1 | 0.800 | 0.822 | 0.950 | 1.024 | 0.968 | 0.974 | 0.876 | 0.835 | 0.906 | 9.17 |
| 86) | Butylbenzylp | 0.649 | 0.677 | 0.754 | 0.745 | 0.692 | 0.756 | 0.726 | 0.700 | 0.712 | 5.46 |
| 87) | Benzo[a]anth | 1.254 | 1.266 | 1.318 | 1.358 | 1.348 | 1.364 | 1.274 | 1.367 | 1.319 | 3.60 |

# Initial Calibration Summary

**Job Number:** JC86986 **Sample:** EP5844-ICC5844
**Account:** BBLNYS Arcadis **Lab FileID:** P129143A.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

```
 88) 3,3'-Dichlor 0.366 0.406 0.466 0.496 0.495 0.492 0.434 0.313 0.434  15.57
 89) Chrysene     1.074 1.109 1.203 1.235 1.197 1.239 1.131 1.103 1.161   5.56
 90) bis(2-Ethylh 0.847 0.921 1.027 1.025 0.947 1.035 0.964 0.857 0.953   7.84

 91) I   Perylene-d12          ----------------ISTD--------------------
 92) Di-n-octylph 1.289 1.451 1.750 1.756 1.525 1.773 1.590 1.237 1.546  13.61
 93) Benzo[b]fluo 1.030 1.063 1.240 1.467 1.466 1.365 1.175 0.947 1.219  16.42
 94) Benzo[k]fluo 0.999 1.046 1.122 0.991 0.908 1.073 1.052 1.016 1.026   6.20
 95) Benzo[a]pyre 0.942 0.966 1.072 1.128 1.110 1.129 1.013 0.888 1.031   8.96
 96) Indeno[1,2,3 0.809 0.900 0.989 1.035 1.099 1.043 0.958 0.706 0.942  13.95
 97) Dibenz(a,h)a 0.777 0.825 0.968 1.028 1.054 1.023 0.919 0.673 0.908  15.13
 98) Dibenz[a,h]a 0.856 0.914 0.996 1.064 1.140 1.053 0.943 0.720 0.961  13.82
 99) 7,12-Dimethy 0.263 0.286 0.492 0.580 0.552 0.558 0.375 0.249 0.419  33.84
             ---- Quadratic regression ----  Coefficient =  0.9981
               Response Ratio = -0.03113 + 0.58812 *A + -0.00582 *A^2

100) Benzo[g,h,i] 0.873 0.923 0.983 0.996 1.074 1.022 0.962 0.767 0.950  10.07


 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MP5844.M          Fri Apr 26 12:00:18 2019   ACLIMS
```

8.7.22

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5844-ICV5844
**Lab FileID:** P129149.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5844\p129149.D          Vial: 10
Acq On    : 24 Apr 2019   5:39 am                   Operator: chriss2
Sample    : icv5844-50                              Inst    : MSVOAMSP
Misc      : op13894,ep5844,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Apr 26 11:57:54 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 114 | 0.00 | 3.84 |
| 4 | t | N-Nitrosodimethylamine | 0.654 | 0.653 | 0.2 | 107 | 0.04 | 1.47 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 11 | t | bis(2-Chloroethyl)ether | 1.409 | 1.360 | 3.5 | 96 | 0.00 | 3.66 |
| 14 | t | 1,3-Dichlorobenzene | 1.576 | 1.601 | -1.6 | 113 | 0.00 | 3.80 |
| 15 | t | 1,4-Dichlorobenzene | 1.527 | 1.527 | 0.0 | 109 | 0.00 | 3.85 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 17 | t | 1,2-Dichlorobenzene | 1.526 | 1.458 | 4.5 | 105 | 0.00 | 3.97 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.328 | 0.370 | -12.8 | 124 | 0.00 | 4.07 |
| 22 | | n-Nitroso-di-n-propylamin | 0.931 | 0.909 | 2.4 | 111 | -0.01 | 4.17 |
| 23 | t | Hexachloroethane | 0.625 | 0.587 | 6.1 | 104 | 0.00 | 4.21 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 108 | 0.00 | 4.77 |
| 26 | t | Nitrobenzene | 0.435 | 0.412 | 5.3 | 104 | 0.00 | 4.28 |
| 28 | t | Isophorone | 0.747 | 0.754 | -0.9 | 106 | -0.01 | 4.45 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 32 | t | bis(2-Chloroethoxy)methan | 0.432 | 0.458 | -6.0 | 109 | 0.00 | 4.63 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.370 | 0.385 | -4.1 | 106 | 0.00 | 4.74 |
| 38 | t | Naphthalene | 0.955 | 0.975 | -2.1 | 102 | 0.00 | 4.79 |
| 42 | t | Hexachlorobutadiene | 0.229 | 0.242 | -5.7 | 107 | 0.00 | 4.89 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 6.02 |
| 48 | t | Hexachlorocyclopentadiene | 0.306 | 0.348 | -13.7 | 75 | 0.00 | 5.40 |

# Initial Calibration Verification

**Job Number:** JC86986 **Sample:** EP5844-ICV5844
**Account:** BBLNYS Arcadis **Lab FileID:** P129149.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 52 | t | 2-Chloronaphthalene | 1.084 | 1.204 | -11.1 | 105 | 0.00 | 5.63 |
| 55 | t | Dimethylphthalate | 1.398 | 1.363 | 2.5 | 92 | 0.00 | 5.85 |
| 56 | t | Acenaphthylene | 1.711 | 1.697 | 0.8 | 96 | 0.00 | 5.92 |
| 57 | t | 2,6-Dinitrotoluene | 0.293 | 0.279 | 4.8 | 86 | 0.00 | 5.89 |
| 59 | t | Acenaphthene | 1.052 | 1.029 | 2.2 | 92 | 0.00 | 6.04 |
| 63 | t | 2,4-Dinitrotoluene | 0.390 | 0.376 | 3.6 | 90 | 0.00 | 6.19 |
| 65 | t | Diethylphthalate | 1.423 | 1.382 | 2.9 | 93 | 0.00 | 6.40 |
| 66 | t | Fluorene | 1.279 | 1.272 | 0.5 | 93 | 0.00 | 6.47 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.632 | 0.605 | 4.3 | 89 | 0.00 | 6.48 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 103 | -0.01 | 7.45 |
| 71 | t | n-Nitrosodiphenylamine | 0.518 | 0.469 | 9.5 | 87 | 0.00 | 6.59 |
| 72 | t | 1,2-Diphenylhydrazine | 0.810 | 0.727 | 10.2 | 94 | 0.00 | 6.63 |
| 74 | t | 4-Bromophenyl-phenylether | 0.243 | 0.229 | 5.8 | 87 | 0.00 | 6.96 |
| 75 | t | Hexachlorobenzene | 0.277 | 0.246 | 11.2 | 84 | 0.00 | 7.02 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 77 | t | Phenanthrene | 1.042 | 0.974 | 6.5 | 90 | -0.01 | 7.49 |
| 78 | t | Anthracene | 1.089 | 0.990 | 9.1 | 89 | 0.00 | 7.56 |
| 80 | t | Di-n-butylphthalate | 1.492 | 1.313 | 12.0 | 84 | 0.00 | 8.42 |
| 81 | t | Fluoranthene | 1.286 | 1.161 | 9.7 | 85 | 0.00 | 9.30 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 85 | 0.00 | 12.17 |
| 84 | t | Pyrene | 1.385 | 1.381 | 0.3 | 80 | 0.00 | 9.69 |
| 86 | t | Butylbenzylphthalate | 0.712 | 0.720 | -1.1 | 81 | 0.00 | 11.26 |
| 87 | t | Benzo[a]anthracene | 1.319 | 1.254 | 4.9 | 78 | 0.00 | 12.15 |
| 89 | t | Chrysene | 1.161 | 1.147 | 1.2 | 79 | -0.01 | 12.22 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.953 | 0.959 | -0.6 | 79 | 0.00 | 12.65 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 83 | -0.01 | 15.10 |
| 92 | t | Di-n-octylphthalate | 1.546 | 1.626 | -5.2 | 76 | -0.01 | 14.06 |
| 93 | t | Benzo[b]fluoranthene | 1.219 | 1.107 | 9.2 | 68 | -0.02 | 14.38 |
| 94 | t | Benzo[k]fluoranthene | 1.026 | 1.051 | -2.4 | 82 | -0.02 | 14.44 |
| 95 | t | Benzo[a]pyrene | 1.031 | 1.052 | -2.0 | 78 | -0.01 | 14.99 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.942 | 0.966 | -2.5 | 77 | -0.02 | 17.02 |
| 98 | t | Dibenz[a,h]anthracene | 0.961 | 0.917 | 4.6 | 73 | -0.01 | 17.09 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 100 | t | Benzo[g,h,i]perylene | 0.950 | 0.963 | -1.4 | 78 | -0.01 | 17.43 |

---

(#) = Out of Range SPCC's out = 0 CCC's out = 0

8.7.23

8

# Initial Calibration Verification

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EP5844-ICV5844
**Lab FileID:** P129149.D

p129143a.D MP5844.M Fri Apr 26 12:15:51 2019 ACLIMS

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5844-ICV5844
**Lab FileID:** P129150.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5844\p129150.D          Vial: 11
Acq On    : 24 Apr 2019   6:06 am                   Operator: chriss2
Sample    : icv5844-50                              Inst    : MSVOAMSP
Misc      : op13894,ep5844,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Apr 26 11:57:54 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 115 | 0.00 | 3.84 |
| 2 | t | 1,4-Dioxane | 0.649 | 0.596 | 8.2 | 102 | 0.04 | 1.25 |
| 6 | t | Indene | 2.095 | 2.265 | -8.1 | 117 | 0.00 | 4.03 |
| 7 | t | Cumene | 3.419 | 3.267 | 4.4 | 103 | 0.00 | 3.21 |
| 13 | t | Decane | 0.988 | 0.946 | 4.3 | 114 | 0.00 | 3.75 |
| 18 | t | Acetophenone | 1.960 | 1.831 | 6.6 | 104 | 0.00 | 4.15 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 120 | 0.00 | 4.77 |
| 27 | t | Quinoline | 0.725 | 0.632 | 12.8 | 97 | -0.03 | 5.03 |
| 40 | t | 2,3-Dichloroaniline | 0.414 | 0.316 | 23.7 | 85 | 0.00 | 5.49 |
| 41 | t | Caprolactam | 0.144 | 0.120 | 16.7 | 89 | -0.04 | 5.11 |
| 45 | t | 1-Methylnaphthalene | 0.709 | 0.621 | 12.4 | 99 | 0.00 | 5.36 |
| 46 | t | Dimethylnaphthalene | 0.634 | 0.569 | 10.3 | 99 | 0.00 | 5.73 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 6.02 |
| 53 | t | Biphenyl | 1.348 | 1.360 | -0.9 | 98 | 0.00 | 5.62 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 100 | -0.01 | 7.46 |
| 82 | t | Octadecane | 0.408 | 0.393 | 3.7 | 95 | 0.00 | 7.44 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 94 | -0.02 | 12.15 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 90 | -0.02 | 15.09 |
| | | | True | Calc. | % Drift | | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 50.000 | 38.460 | 23.1 | 68 | -0.03 | 14.39 |

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 p129143a.D MP5844.M          Fri Apr 26 12:27:58 2019   ACLIMS
```

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EP5844-ICV5844
**Lab FileID:** P129151.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5844\p129151.D          Vial: 12
Acq On    : 24 Apr 2019   6:33 am                   Operator: chriss2
Sample    : icv5844-50                              Inst    : MSVOAMSP
Misc      : op13894,ep5844,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Apr 26 11:57:54 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 79 | 0.00 | 3.84 |
| 3 | t | Pyridine | 1.229 | 1.202 | 2.2 | 83 | 0.14 | 1.62 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 10 | t | Aniline | 50.000 | 75.169 | -50.3# | 156 | 0.00 | 3.62 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 16 | t | Benzyl alcohol | 50.000 | 62.800 | -25.6 | 99 | 0.00 | 3.99 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 91 | 0.00 | 4.77 |
| 39 | t | 4-Chloroaniline | 0.372 | 0.349 | 6.2 | 87 | 0.00 | 4.85 |
| 44 | t | 2-Methylnaphthalene | 0.548 | 0.548 | 0.0 | 85 | 0.00 | 5.29 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 85 | 0.00 | 6.02 |
| 54 | t | 2-Nitroaniline | 0.357 | 0.379 | -6.2 | 91 | 0.00 | 5.72 |
| 58 | t | 3-Nitroaniline | 0.307 | 0.321 | -4.6 | 85 | 0.00 | 6.01 |
| 62 | t | Dibenzofuran | 1.595 | 1.579 | 1.0 | 81 | 0.00 | 6.18 |
| 68 | t | 4-Nitroaniline | 0.293 | 0.329 | -12.3 | 89 | -0.02 | 6.52 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 94 | -0.01 | 7.46 |
| 79 | t | Carbazole | 1.052 | 1.023 | 2.8 | 86 | 0.00 | 7.81 |

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 p129143a.D MP5844.M          Fri Apr 26 12:15:55 2019   ACLIMS
```

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5844-ICV5844
**Lab FileID:** P129152.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5844\p129152.D  Vial: 13
Acq On : 24 Apr 2019 7:00 am  Operator: chriss2
Sample : icv5844-50  Inst : MSVOAMSP
Misc : op13894,ep5844,1000,,,1,1  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Fri Apr 26 11:57:54 2019
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 113 | 0.00 | 3.84 |
| 9 | t | Phenol | 1.778 | 1.866 | -4.9 | 107 | 0.00 | 3.66 |
| 12 | t | 2-Chlorophenol | 1.340 | 1.408 | -5.1 | 111 | 0.00 | 3.70 |
| 19 | t | 2-Methylphenol | 1.244 | 1.339 | -7.6 | 117 | -0.02 | 4.09 |
| 21 | t | 3&4-Methylphenol | 1.218 | 1.351 | -10.9 | 118 | 0.00 | 4.21 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 4.77 |
| 29 | t | 2-Nitrophenol | 0.197 | 0.237 | -20.3 | 109 | 0.00 | 4.51 |
| 30 | t | 2,4-Dimethylphenol | 0.349 | 0.419 | -20.1 | 107 | 0.00 | 4.58 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 31 | t | Benzoic acid | 50.000 | 47.288 | 5.4 | 95 | 0.00 | 4.75 |
| 33 | t | 2,4-Dichlorophenol | 0.329 | 0.367 | -11.6 | 102 | -0.01 | 4.70 |
| 34 | | 2,6-Dichlorophenol | 0.321 | 0.359 | -11.8 | 105 | 0.00 | 4.85 |
| 43 | t | 4-Chloro-3-methylphenol | 0.346 | 0.381 | -10.1 | 102 | -0.02 | 5.23 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 99 | 0.00 | 6.02 |
| 49 | t | 2,4,6-Trichlorophenol | 0.396 | 0.474 | -19.7 | 113 | 0.00 | 5.51 |
| 50 | t | 2,4,5-Trichlorophenol | 0.393 | 0.444 | -13.0 | 101 | -0.02 | 5.54 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 47.748 | 4.5 | 74 | 0.00 | 6.09 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 61 | t | 4-Nitrophenol | 0.220 | 0.236 | -7.3 | 98 | -0.01 | 6.20 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.344 | 0.368 | -7.0 | 92 | -0.01 | 6.30 |

# Initial Calibration Verification

**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** EP5844-ICV5844
**Lab FileID:** P129152.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 99 | -0.01 | 7.46 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.150 | 0.157 | -4.7 | 96 | -0.02 | 6.54 |

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 76 | t | Pentachlorophenol | 50.000 | 55.000 | -10.0 | 84 | 0.00 | 7.27 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
p129143a.D MP5844.M Fri Apr 26 12:15:57 2019 ACLIMS

8.7.26

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5844-ICV5844
**Lab FileID:** P129153.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5844\p129153.D          Vial: 14
Acq On    : 24 Apr 2019   7:27 am                   Operator: chriss2
Sample    : icv5844-50                              Inst    : MSVOAMSP
Misc      : op13894,ep5844,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Apr 26 11:57:54 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 118 | 0.00 | 3.84 |
| 5 | S | 2-Fluorophenol | 1.285 | 1.286 | -0.1 | 100 | 0.00 | 2.84 |
| 8 | S | Phenol-d5 | 1.632 | 1.598 | 2.1 | 102 | 0.00 | 3.65 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 120 | 0.00 | 4.77 |
| 25 | S | Nitrobenzene-d5 | 0.430 | 0.419 | 2.6 | 113 | 0.00 | 4.26 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 6.02 |
| 51 | S | 2-Fluorobiphenyl | 1.267 | 1.329 | -4.9 | 105 | 0.00 | 5.55 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 102 | -0.01 | 7.45 |
| 73 | S | 2,4,6-Tribromophenol | 0.133 | 0.125 | 6.0 | 89 | -0.01 | 6.70 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 85 | -0.02 | 12.15 |
| 85 | S | Terphenyl-d14 | 0.906 | 1.017 | -12.3 | 88 | 0.00 | 10.12 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
p129143a.D MP5844.M  Fri Apr 26 12:15:59 2019  ACLIMS

8.7.27

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5844-ICV5844
**Lab FileID:** P129154.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5844\p129154.D          Vial: 15
Acq On    : 24 Apr 2019   7:54 am                   Operator: chriss2
Sample    : icv5844-50                              Inst    : MSVOAMSP
Misc      : op13894,ep5844,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Apr 26 11:57:54 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 164 | -0.01 | 12.16 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.434 | 0.459 | -5.8 | 153 | 0.00 | 12.24 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
p129143a.D MP5844.M  Fri Apr 26 12:16:01 2019  ACLIMS

# Initial Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5845-ICC5845
**Lab FileID:** P129158.D

```
                          Response Factor Report  MSVOAMSP

  Method       : C:\MSDCHEM\1\METHODS\MP5845.M (RTE Integrator)
  Title        : Semi Volatile Extractables by GC/MS
  Last Update  : Wed Apr 24 13:36:52 2019
  Response via : Initial Calibration

  Calibration Files
  2   =p129162.D  5   =p129161.D  25  =p129159.D  80  =p129157.D
  100 =p129156.D  50  =p129158.D  10  =p129160.D  1   =p129163.D

   Compound         2     5     25    80    100   50    10    1     Avg %RSD
  ---------------------------------------------------------------------------

  1
157) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
158) Benzaldehyde 0.928 1.060 1.189 1.118 1.086 1.117 1.053 0.803 1.044  11.78

159) I   Phenanthrene-d10b     ----------------ISTD---------------------
160) Atrazine     0.194 0.205 0.234 0.237 0.230 0.224 0.208 0.188 0.215   8.74


163) I   Naphthalene-d8b       ----------------ISTD---------------------
164) Hydroquinone             0.265 0.309 0.282 0.270 0.208       0.267  13.90

165) I   Acenaphthene-d10b     ----------------ISTD---------------------
166) 1,2,4,5-Tetr 0.554 0.574 0.614 0.614 0.626 0.635 0.570 0.519 0.588   6.90


 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MP5844.M          Wed Apr 24 13:41:34 2019   ACLIMS
```

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5845-ICV5845
**Lab FileID:** P129164.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5844\p129164.D          Vial: 24
Acq On    : 24 Apr 2019  12:07 pm                   Operator: chriss2
Sample    : icv5845-50                              Inst    : MSVOAMSP
Misc      : op13894,ep5845,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Wed Apr 24 13:36:52 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 157 | I | 1,4-Dichlorobenzene-d4b | 1.000 | 1.000 | 0.0 | 84 | 0.00 | 3.84 |
| 158 | | Benzaldehyde | 1.044 | 1.188 | -13.8 | 89 | -0.02 | 3.50 |
| 159 | I | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 93 | 0.01 | 7.46 |
| 160 | | Atrazine | 0.215 | 0.238 | -10.7 | 99 | 0.02 | 7.20 |
| 165 | I | Acenaphthene-d10b | 1.000 | 1.000 | 0.0 | 90 | 0.00 | 6.02 |
| 166 | | 1,2,4,5-Tetrachlorobenzen | 0.588 | 0.615 | -4.6 | 87 | 0.00 | 5.41 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
p129158a.D MP5844.M  Wed Apr 24 13:48:19 2019  ACLIMS

8.7.30

8

# Initial Calibration Verification



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5845-ICV5845
**Lab FileID:** P129165.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5844\p129165.D          Vial: 25
Acq On    : 24 Apr 2019  12:34 pm                   Operator: chriss2
Sample    : icv5845-50                              Inst    : MSVOAMSP
Misc      : op13894,ep5845,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Wed Apr 24 13:36:52 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 163 I | Naphthalene-d8b | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 4.77 |
| 164 | Hydroquinone | 0.267 | 0.321 | -20.2 | 126 | -0.04 | 5.15 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
p129158a.D MP5844.M  Wed Apr 24 13:48:21 2019  ACLIMS

# Continuing Calibration Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA
**Sample:** EP5856-CC5844
**Lab FileID:** P129366.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5856\p129366.D          Vial: 2
Acq On    :  7 May 2019  12:44 pm                   Operator: christc2
Sample    : cc5844-25                               Inst    : MSVOAMSP
Misc      : op13894,ep5856,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Apr 26 12:50:52 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 73 | -0.08 | 3.76 |
| 2 | t | 1,4-Dioxane | 0.649 | 0.838 | -29.1# | 92 | -0.06 | 1.15 |
| 3 | t | Pyridine | 1.229 | 1.973 | -60.5# | 122 | -0.12 | 1.36 |
| 4 | t | N-Nitrosodimethylamine | 0.654 | 0.844 | -29.1# | 84 | -0.07 | 1.35 |
| 5 | S | 2-Fluorophenol | 1.285 | 1.572 | -22.3# | 81 | -0.05 | 2.80 |
| 6 | t | Indene | 2.095 | 2.232 | -6.5 | 76 | -0.08 | 3.95 |
| 7 | t | Cumene | 3.419 | 3.947 | -15.4 | 80 | -0.09 | 3.12 |
| 8 | S | Phenol-d5 | 1.632 | 2.039 | -24.9# | 85 | -0.03 | 3.62 |
| 9 | t | Phenol | 1.778 | 1.963 | -10.4 | 76 | -0.03 | 3.64 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 10 | t | Aniline | 25.000 | 55.414 | -121.7# | 160 | -0.09 | 3.53 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 11 | t | bis(2-Chloroethyl)ether | 1.409 | 1.527 | -8.4 | 71 | -0.07 | 3.59 |
| 12 | t | 2-Chlorophenol | 1.340 | 1.454 | -8.5 | 77 | -0.06 | 3.65 |
| 13 | t | Decane | 0.988 | 1.137 | -15.1 | 82 | -0.08 | 3.67 |
| 14 | t | 1,3-Dichlorobenzene | 1.576 | 1.608 | -2.0 | 72 | -0.08 | 3.72 |
| 15 | t | 1,4-Dichlorobenzene | 1.527 | 1.571 | -2.9 | 75 | -0.08 | 3.77 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 16 | t | Benzyl alcohol | 25.000 | 29.268 | -17.1 | 89 | -0.07 | 3.91 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 17 | t | 1,2-Dichlorobenzene | 1.526 | 1.627 | -6.6 | 75 | -0.08 | 3.89 |
| 18 | t | Acetophenone | 1.960 | 2.005 | -2.3 | 75 | -0.08 | 4.08 |
| 19 | t | 2-Methylphenol | 1.244 | 1.321 | -6.2 | 75 | -0.05 | 4.05 |
| 20 | t | 2,2'-oxybis(1-Chloropropa | 0.328 | 0.334 | -1.8 | 73 | -0.07 | 4.00 |
| 21 | t | 3&4-Methylphenol | 1.218 | 1.372 | -12.6 | 81 | -0.04 | 4.17 |
| 22 | | n-Nitroso-di-n-propylamin | 0.931 | 0.951 | -2.1 | 77 | -0.09 | 4.09 |
| 23 | t | Hexachloroethane | 0.625 | 0.625 | 0.0 | 72 | -0.08 | 4.13 |
| 24 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 70 | -0.08 | 4.70 |
| 25 | S | Nitrobenzene-d5 | 0.430 | 0.471 | -9.5 | 77 | -0.08 | 4.19 |
| 26 | t | Nitrobenzene | 0.435 | 0.497 | -14.3 | 82 | -0.08 | 4.20 |
| 27 | t | Quinoline | 0.725 | 0.735 | -1.4 | 71 | -0.10 | 4.96 |
| 28 | t | Isophorone | 0.747 | 0.832 | -11.4 | 76 | -0.08 | 4.38 |
| 29 | t | 2-Nitrophenol | 0.197 | 0.227 | -15.2 | 73 | -0.07 | 4.44 |
| 30 | t | 2,4-Dimethylphenol | 0.349 | 0.409 | -17.2 | 78 | -0.05 | 4.53 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 31 | t | Benzoic acid | 25.000 | 28.634 | -14.5 | 83 | -0.08 | 4.68 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** EP5856-CC5844
**Account:** BBLNYS Arcadis **Lab FileID:** P129366.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | AvgRF | CCRF | % Dev | | | |
|---|---|---|---|---|---|---|---|---|
| 32 | t | bis(2-Chloroethoxy)methan | 0.432 | 0.478 | -10.6 | 77 | -0.08 | 4.55 |
| 33 | t | 2,4-Dichlorophenol | 0.329 | 0.363 | -10.3 | 74 | -0.06 | 4.66 |
| 34 | | 2,6-Dichlorophenol | 0.321 | 0.349 | -8.7 | 73 | -0.07 | 4.79 |
| 35 | | 1,3,5-Trichlorobenzene | 0.387 | 0.420 | -8.5 | 72 | -0.08 | 4.44 |
| 36 | t | 1,2,4-Trichlorobenzene | 0.370 | 0.392 | -5.9 | 71 | -0.07 | 4.67 |
| 37 | | 1,2,3-Trichlorobenzene | 0.349 | 0.371 | -6.3 | 72 | -0.08 | 4.82 |
| 38 | t | Naphthalene | 0.955 | 1.042 | -9.1 | 76 | -0.08 | 4.71 |
| 39 | t | 4-Chloroaniline | 0.372 | 0.434 | -16.7 | 85 | -0.07 | 4.78 |
| 40 | t | 2,3-Dichloroaniline | 0.414 | 0.424 | -2.4 | 72 | -0.07 | 5.42 |
| 41 | t | Caprolactam | 0.144 | 0.175 | -21.5# | 80 | -0.10 | 5.05 |
| 42 | t | Hexachlorobutadiene | 0.229 | 0.236 | -3.1 | 69 | -0.08 | 4.82 |
| 43 | t | 4-Chloro-3-methylphenol | 0.346 | 0.386 | -11.6 | 75 | -0.06 | 5.19 |
| 44 | t | 2-Methylnaphthalene | 0.548 | 0.606 | -10.6 | 75 | -0.08 | 5.21 |
| 45 | t | 1-Methylnaphthalene | 0.709 | 0.732 | -3.2 | 70 | -0.08 | 5.28 |
| 46 | t | Dimethylnaphthalene | 0.634 | 0.621 | 2.1 | 67 | -0.08 | 5.65 |
| 47 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 68 | -0.09 | 5.94 |
| 48 | t | Hexachlorocyclopentadiene | 0.306 | 0.352 | -15.0 | 69 | -0.07 | 5.33 |
| 49 | t | 2,4,6-Trichlorophenol | 0.396 | 0.424 | -7.1 | 68 | -0.07 | 5.44 |
| 50 | t | 2,4,5-Trichlorophenol | 0.393 | 0.430 | -9.4 | 66 | -0.06 | 5.49 |
| 51 | S | 2-Fluorobiphenyl | 1.267 | 1.365 | -7.7 | 68 | -0.07 | 5.48 |
| 52 | t | 2-Chloronaphthalene | 1.084 | 1.190 | -9.8 | 71 | -0.08 | 5.55 |
| 53 | t | Biphenyl | 1.348 | 1.478 | -9.6 | 69 | -0.08 | 5.54 |
| 54 | t | 2-Nitroaniline | 0.357 | 0.402 | -12.6 | 73 | -0.07 | 5.65 |
| 55 | t | Dimethylphthalate | 1.398 | 1.400 | -0.1 | 66 | -0.07 | 5.78 |
| 56 | t | Acenaphthylene | 1.711 | 1.845 | -7.8 | 71 | -0.08 | 5.84 |
| 57 | t | 2,6-Dinitrotoluene | 0.293 | 0.305 | -4.1 | 69 | -0.08 | 5.81 |
| 58 | t | 3-Nitroaniline | 0.307 | 0.311 | -1.3 | 65 | -0.07 | 5.94 |
| 59 | t | Acenaphthene | 1.052 | 1.112 | -5.7 | 70 | -0.09 | 5.96 |
| | | | True | Calc. | % Drift | | | |
| 60 | t | 2,4-Dinitrophenol | 50.000 | 42.292 | 15.4 | 58 | -0.09 | 6.02 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | t | 4-Nitrophenol | 0.220 | 0.239 | -8.6 | 71 | -0.04 | 6.17 |
| 62 | t | Dibenzofuran | 1.595 | 1.676 | -5.1 | 68 | -0.09 | 6.09 |
| 63 | t | 2,4-Dinitrotoluene | 0.390 | 0.395 | -1.3 | 67 | -0.09 | 6.11 |
| 64 | | 2,3,4,6-Tetrachlorophenol | 0.344 | 0.363 | -5.5 | 67 | -0.09 | 6.22 |
| 65 | t | Diethylphthalate | 1.423 | 1.457 | -2.4 | 68 | -0.10 | 6.31 |
| 66 | t | Fluorene | 1.279 | 1.337 | -4.5 | 67 | -0.10 | 6.37 |
| 67 | t | 4-Chlorophenyl-phenylethe | 0.632 | 0.639 | -1.1 | 65 | -0.10 | 6.38 |
| 68 | t | 4-Nitroaniline | 0.293 | 0.302 | -3.1 | 69 | -0.10 | 6.44 |
| 69 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 65 | -0.13 | 7.33 |
| 70 | t | 4,6-Dinitro-2-methylpheno | 0.150 | 0.142 | 5.3 | 61 | -0.10 | 6.46 |
| 71 | t | n-Nitrosodiphenylamine | 0.518 | 0.534 | -3.1 | 65 | -0.10 | 6.50 |
| 72 | t | 1,2-Diphenylhydrazine | 0.810 | 1.019 | -25.8# | 84 | -0.11 | 6.53 |
| 73 | S | 2,4,6-Tribromophenol | 0.133 | 0.131 | 1.5 | 62 | -0.11 | 6.60 |
| 74 | t | 4-Bromophenyl-phenylether | 0.243 | 0.242 | 0.4 | 63 | -0.12 | 6.85 |
| 75 | t | Hexachlorobenzene | 0.277 | 0.276 | 0.4 | 64 | -0.12 | 6.90 |
| | | | True | Calc. | % Drift | | | |
| 76 | t | Pentachlorophenol | 50.000 | 47.118 | 5.8 | 63 | -0.12 | 7.16 |
| | | | AvgRF | CCRF | % Dev | | | |
| 77 | t | Phenanthrene | 1.042 | 1.083 | -3.9 | 67 | -0.14 | 7.36 |
| 78 | t | Anthracene | 1.089 | 1.141 | -4.8 | 67 | -0.14 | 7.42 |
| 79 | t | Carbazole | 1.052 | 1.081 | -2.8 | 66 | -0.13 | 7.68 |

# Continuing Calibration Summary

**Job Number:** JC86986 **Sample:** EP5856-CC5844
**Account:** BBLNYS Arcadis **Lab FileID:** P129366.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 80 | t | Di-n-butylphthalate | 1.492 | 1.592 | -6.7 | 66 | -0.15 | 8.28 |
| 81 | t | Fluoranthene | 1.286 | 1.320 | -2.6 | 65 | -0.18 | 9.13 |
| 82 | t | Octadecane | 0.408 | 0.476 | -16.7 | 74 | -0.13 | 7.32 |
| 83 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 62 | -0.20 | 11.97 |
| 84 | t | Pyrene | 1.385 | 1.543 | -11.4 | 66 | -0.19 | 9.51 |
| 85 | S | Terphenyl-d14 | 0.906 | 0.937 | -3.4 | 61 | -0.18 | 9.94 |
| 86 | t | Butylbenzylphthalate | 0.712 | 0.806 | -13.2 | 66 | -0.18 | 11.08 |
| 87 | t | Benzo[a]anthracene | 1.319 | 1.372 | -4.0 | 64 | -0.20 | 11.95 |
| 88 | t | 3,3'-Dichlorobenzidine | 0.434 | 0.446 | -2.8 | 59 | -0.19 | 12.05 |
| 89 | t | Chrysene | 1.161 | 1.210 | -4.2 | 62 | -0.21 | 12.02 |
| 90 | t | bis(2-Ethylhexyl)phthalat | 0.953 | 1.083 | -13.6 | 65 | -0.19 | 12.47 |
| 91 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 62 | -0.21 | 14.90 |
| 92 | t | Di-n-octylphthalate | 1.546 | 1.830 | -18.4 | 65 | -0.19 | 13.88 |
| 93 | t | Benzo[b]fluoranthene | 1.219 | 1.265 | -3.8 | 64 | -0.22 | 14.18 |
| 94 | t | Benzo[k]fluoranthene | 1.026 | 1.126 | -9.7 | 63 | -0.23 | 14.23 |
| 95 | t | Benzo[a]pyrene | 1.031 | 1.117 | -8.3 | 65 | -0.22 | 14.77 |
| 96 | t | Indeno[1,2,3-cd]pyrene | 0.942 | 1.059 | -12.4 | 67 | -0.23 | 16.80 |
| 97 | t | Dibenz(a,h)acridine | 0.908 | 1.001 | -10.2 | 64 | -0.22 | 16.47 |
| 98 | t | Dibenz[a,h]anthracene | 0.961 | 1.056 | -9.9 | 66 | -0.22 | 16.87 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 99 | t | 7,12-Dimethylbenz(a)anthr | 25.000 | 24.870 | 0.5 | 67 | -0.22 | 14.20 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 100 | t | Benzo[g,h,i]perylene | 0.950 | 1.067 | -12.3 | 68 | -0.24 | 17.21 |

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(#) = Out of Range SPCC's out = 0 CCC's out = 0
p129175a.D MP5844.M Tue May 07 14:48:51 2019 ACLIMS

8.7.32

8

# Continuing Calibration Summary



**Job Number:** JC86986 **Sample:** EP5856-CC5845
**Account:** BBLNYS Arcadis **Lab FileID:** P129367.D
**Project:** National Grid, Philly Coke, Philadelphia, PA

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EP5856\p129367.D          Vial: 3
Acq On    :  7 May 2019   1:11 pm                   Operator: christc2
Sample    : cc5845-25                               Inst    : MSVOAMSP
Misc      : op13894,ep5856,1000,,,1,1               Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP5844.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Fri Apr 26 12:50:52 2019
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 101 | I | 1,4-Dichlorobenzene-d4b | 1.000 | 1.000 | 0.0 | 102 | -0.08 | 3.76 |
| 102 | | Benzaldehyde | 1.044 | 1.197 | -14.7 | 103 | -0.10 | 3.42 |
| 103 | I | Phenanthrene-d10b | 1.000 | 1.000 | 0.0 | 84 | -0.12 | 7.33 |
| 104 | | Atrazine | 0.215 | 0.243 | -13.0 | 87 | -0.10 | 7.09 |
| 107 | I | Naphthalene-d8b | 1.000 | 1.000 | 0.0 | 99 | -0.08 | 4.69 |
| 108 | | Hydroquinone | 0.267 | 0.359 | -34.5# | 134 | -0.05 | 5.12 |
| 109 | I | Acenaphthene-d10b | 1.000 | 1.000 | 0.0 | 89 | -0.08 | 5.94 |
| 110 | | 1,2,4,5-Tetrachlorobenzen | 0.588 | 0.643 | -9.4 | 93 | -0.08 | 5.33 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
p129175a.D MP5844.M Tue May 07 14:48:53 2019 ACLIMS

8.7.33

8

# MS Semi-volatiles

## Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481566.d
Acq On : 2 May 2019 4:39 pm
Operator : angelar
Sample : jc86986-2 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:58:20 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

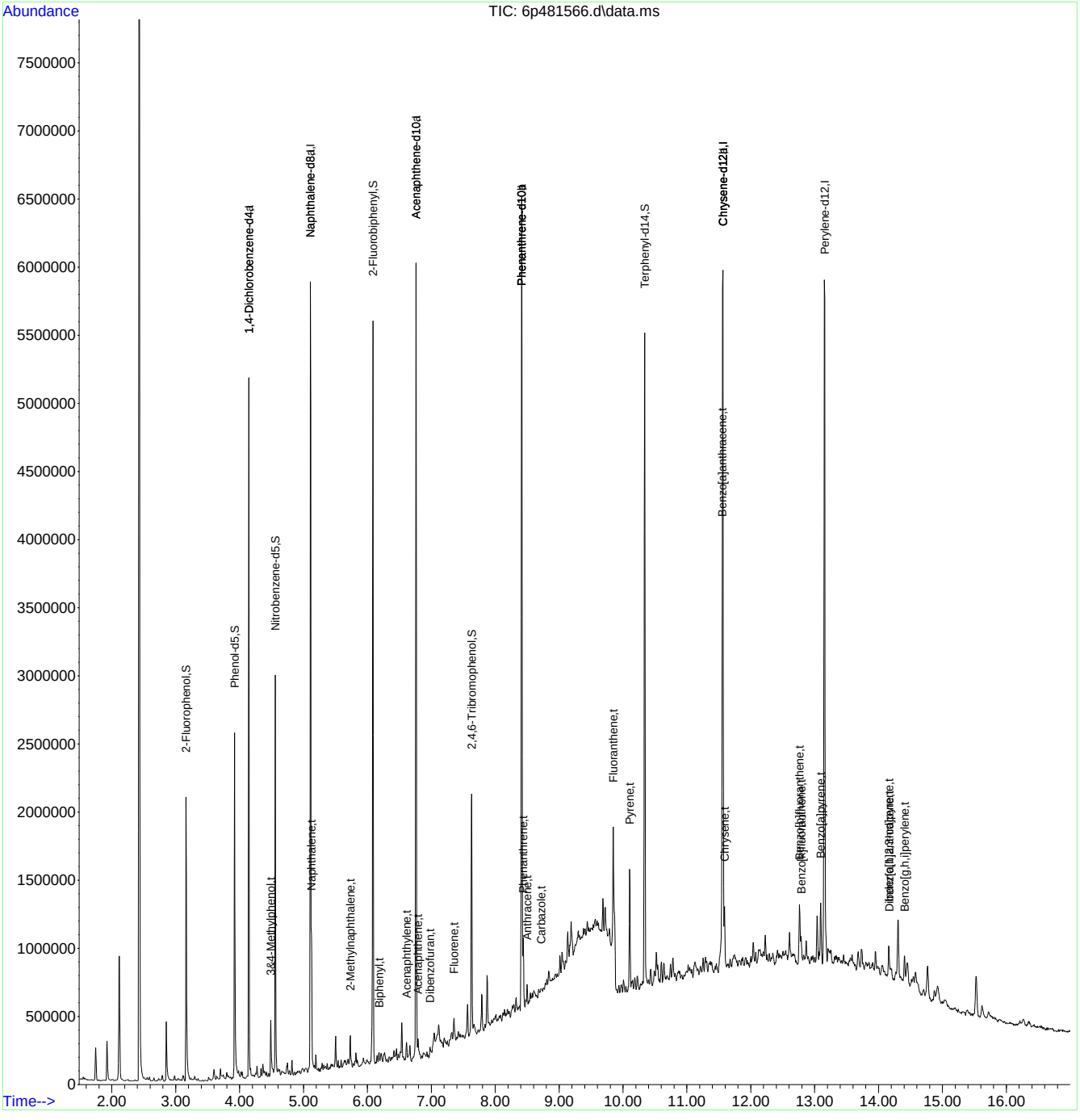
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 585204 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.108 | 136 | 2130827 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1099332 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.413 | 188 | 2058118 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.564 | 240 | 1770080 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.158 | 264 | 1966781 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 585204 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1099332 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.413 | 188 | 2058118 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.564 | 240 | 1770080 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.108 | 136 | 2130827 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.413 | 188 | 2058118 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.564 | 240 | 1770080 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 554849 | 32.41 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 64.82% | |
| 8) Phenol-d5 | 3.920 | 99 | 728594 | 34.86 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 69.72% | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 661496 | 37.30 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 74.60% | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1406938 | 36.23 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 72.46% | |
| 73) 2,4,6-Tribromophenol | 7.632 | 330 | 210183 | 31.74 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 63.48% | |
| 85) Terphenyl-d14 | 10.339 | 244 | 1505103 | 36.50 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 73.00% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 21) 3&4-Methylphenol | 4.487 | 108 | 101334 | 5.61 | ppm | 100 |
| 38) Naphthalene | 5.124 | 128 | 362138 | 6.53 | ppm | 97 |
| 44) 2-Methylnaphthalene | 5.734 | 141 | 46670 | 1.49 | ppm | 96 |
| 53) Biphenyl | 6.183 | 154 | 15104 | 0.36 | ppm | 92 |
| 56) Acenaphthylene | 6.611 | 152 | 51007 | 1.02 | ppm | 97 |
| 59) Acenaphthene | 6.793 | 153 | 24193 | 0.73 | ppm | 98 |
| 62) Dibenzofuran | 6.980 | 168 | 21751 | 0.47 | ppm | 97 |
| 66) Fluorene | 7.354 | 166 | 32815 | 0.87 | ppm | 97 |
| 77) Phenanthrene | 8.440 | 178 | 186744 | 3.38 | ppm | 98 |
| 78) Anthracene | 8.499 | 178 | 62570 | 1.13 | ppm | 94 |
| 79) Carbazole | 8.718 | 167 | 15509 | 0.30 | ppm | 99 |
| 81) Fluoranthene | 9.847 | 202 | 273962 | 4.56 | ppm | 97 |
| 84) Pyrene | 10.103 | 202 | 318337 | 5.40 | ppm | 97 |
| 87) Benzo[a]anthracene | 11.553 | 228 | 153982 | 2.73 | ppm | 95 |
| 89) Chrysene | 11.590 | 228 | 160948 | 2.91 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 12.762 | 252 | 200263m | 3.33 | ppm | |
| 94) Benzo[k]fluoranthene | 12.788 | 252 | 68235m | 1.28 | ppm | |
| 95) Benzo[a]pyrene | 13.093 | 252 | 158471 | 3.21 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.163 | 276 | 101289 | 1.54 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 14.168 | 278 | 26362m | 0.45 | ppm | |
| 100) Benzo[g,h,i]perylene | 14.409 | 276 | 101112 | 1.97 | ppm | 98 |

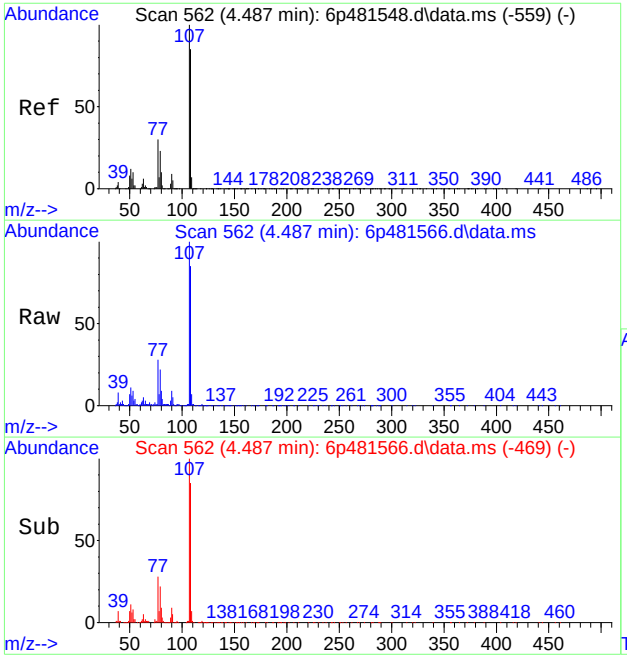
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481566.d
Acq On : 2 May 2019 4:39 pm
Operator : angelar
Sample : jc86986-2 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:58:20 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

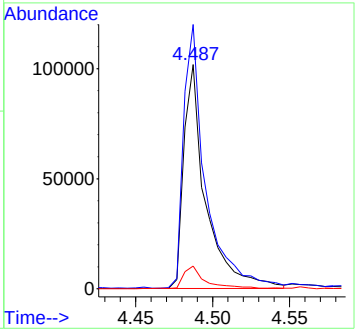


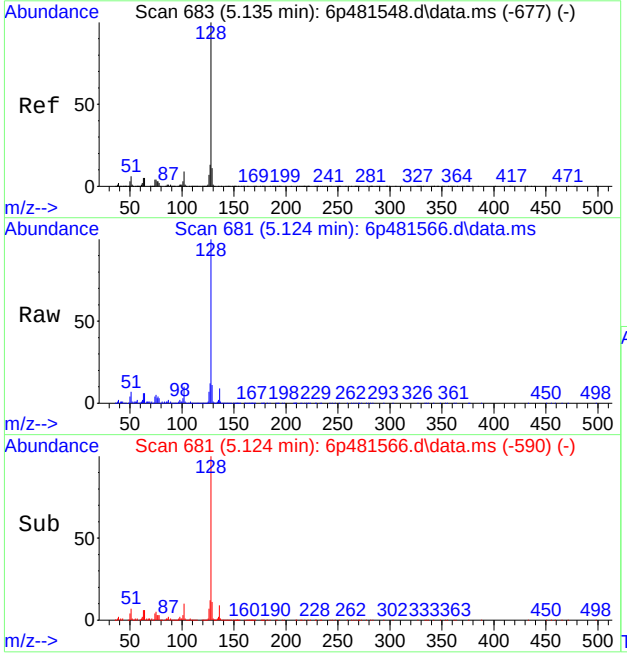



#21
3&4-Methylphenol
Concen: 5.61 ppm
RT: 4.487 min Scan# 562
Delta R.T. 0.000 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:108 Resp: 101334

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 118.0 | 88.3 | 148.3 |
| 90 | 10.0 | 0.0 | 40.2 |

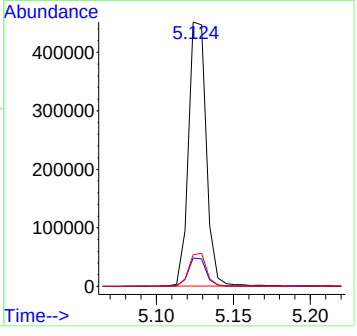


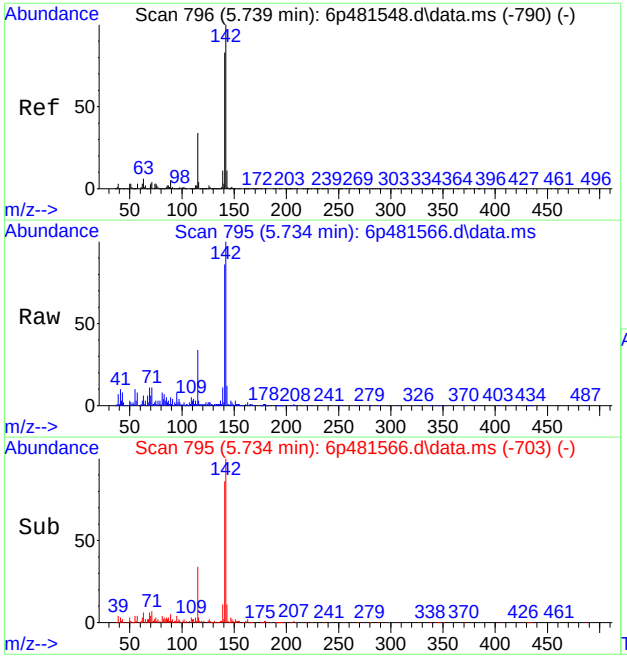




#38
Naphthalene
Concen: 6.53 ppm
RT: 5.124 min Scan# 681
Delta R.T. -0.011 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:128 Resp: 362138

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 10.7 | 0.0 | 41.4 |
| 127 | 12.0 | 0.0 | 43.3 |

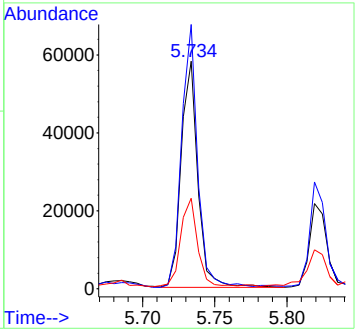


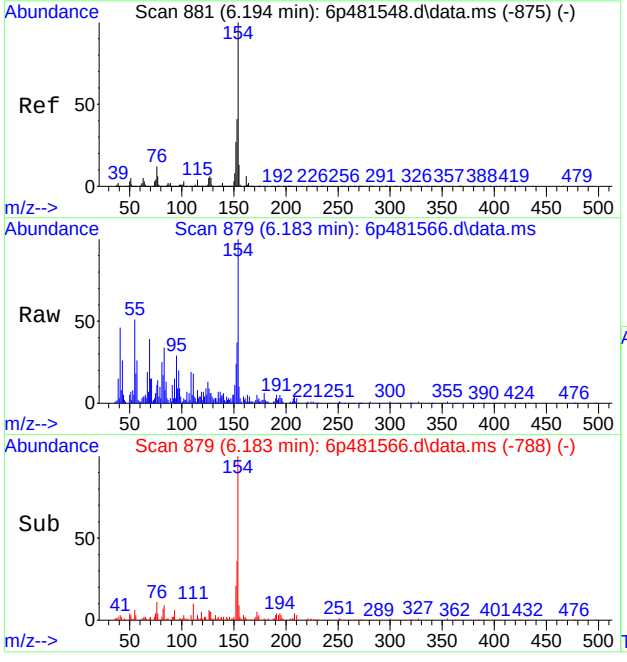



#44
2-Methylnaphthalene
Concen: 1.49 ppm
RT: 5.734 min Scan# 795
Delta R.T. -0.005 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:141 Resp: 46670

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 116.2 | 90.7 | 150.7 |
| 115 | 38.4 | 11.4 | 71.4 |

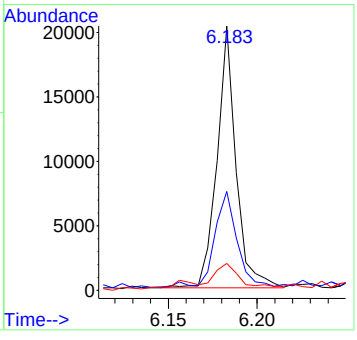


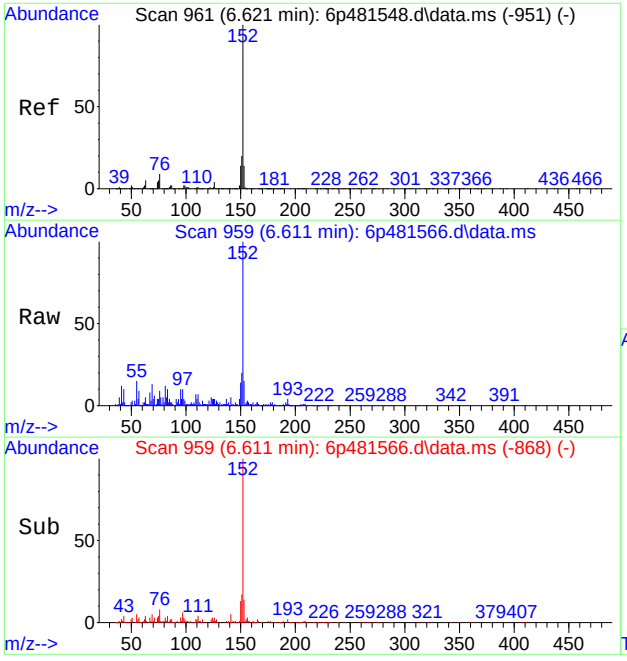




#53
Biphenyl
Concen: 0.36 ppm
RT: 6.183 min Scan# 879
Delta R.T. -0.011 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:154 Resp: 15104

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 36.1 | 10.5 | 70.5 |
| 155 | 8.9 | 0.0 | 43.2 |

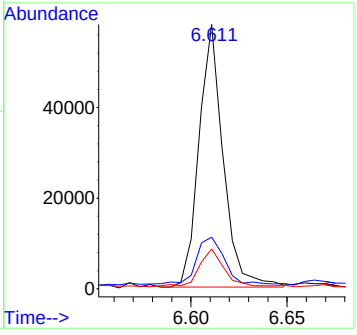


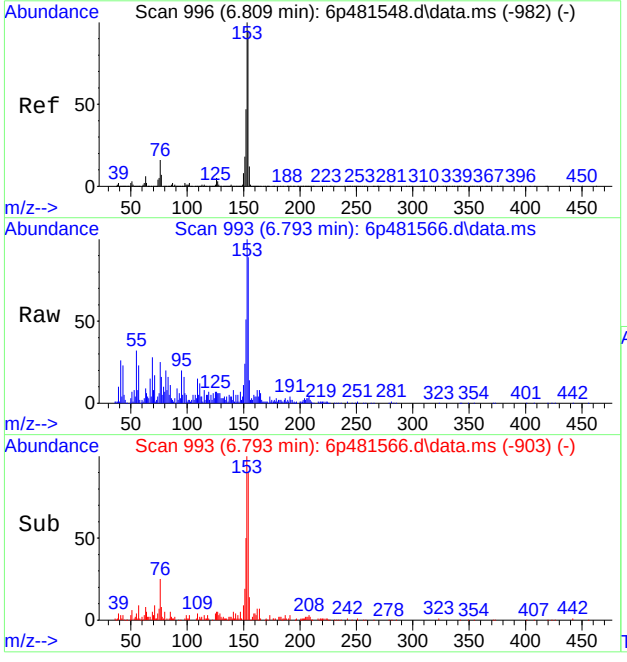



#56
Acenaphthylene
Concen: 1.02 ppm
RT: 6.611 min Scan# 959
Delta R.T. -0.011 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:152 Resp: 51007

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 17.8 | 0.0 | 50.1 |
| 153 | 13.6 | 0.0 | 43.5 |

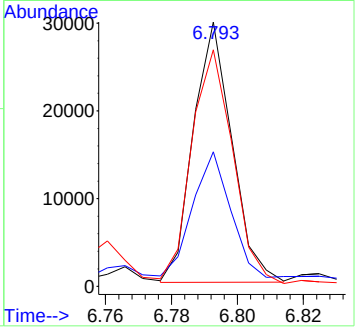



#59
Acenaphthene
Concen: 0.73 ppm
RT: 6.793 min Scan# 993
Delta R.T. -0.016 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

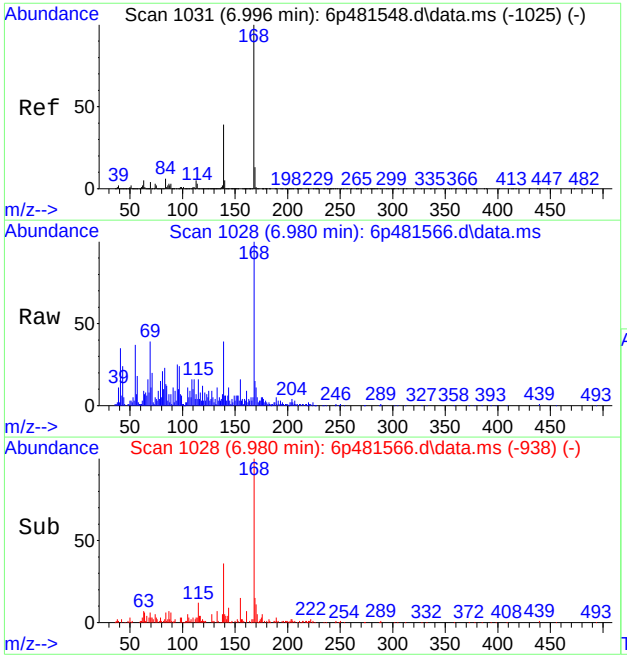
Tgt Ion:153 Resp: 24193

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 48.1 | 16.6 | 76.6 |
| 154 | 89.4 | 60.7 | 120.7 |




9.1.1

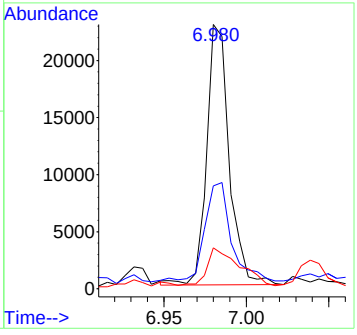
9

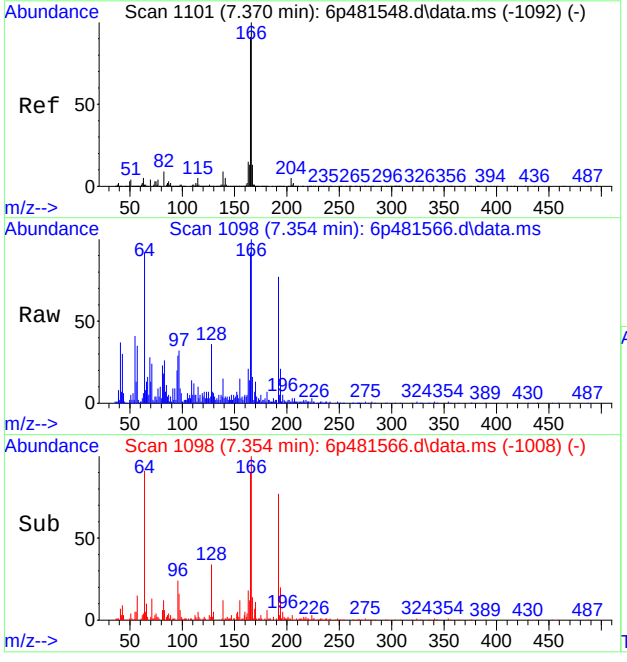



#62
Dibenzofuran
Concen: 0.47 ppm
RT: 6.980 min Scan# 1028
Delta R.T. -0.016 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:168 Resp: 21751

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 36.9 | 8.8 | 68.8 |
| 169 | 13.8 | 0.0 | 43.0 |

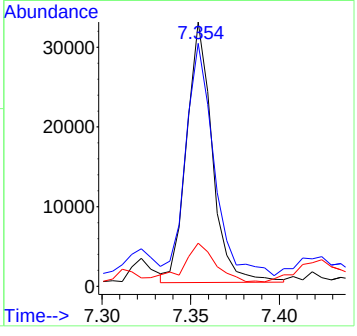



#66
Fluorene
Concen: 0.87 ppm
RT: 7.354 min Scan# 1098
Delta R.T. -0.016 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

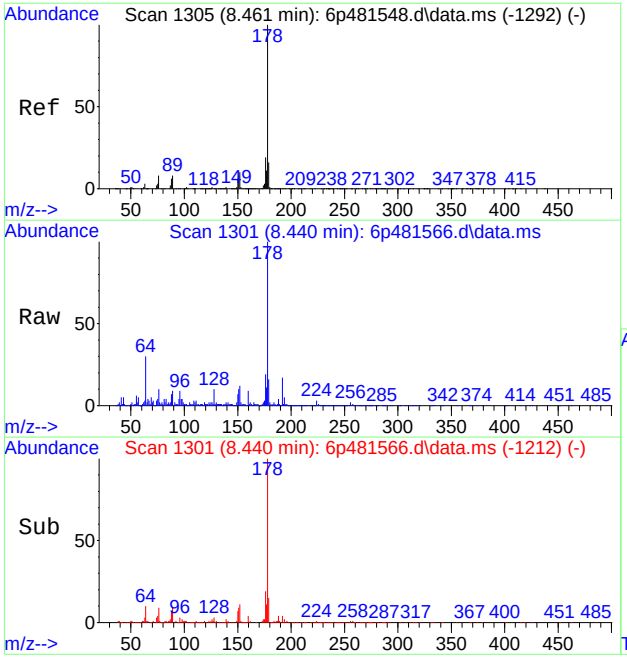
Tgt Ion:166 Resp: 32815

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 88.0 | 60.9 | 120.9 |
| 167 | 12.4 | 0.0 | 43.1 |




9.1.1

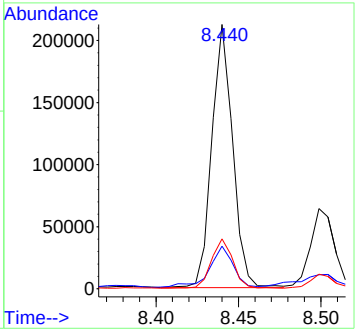
9

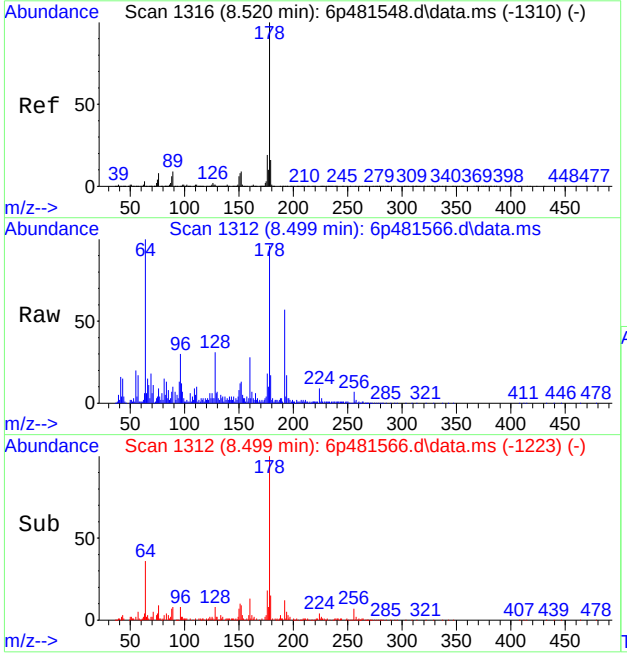



#77
Phenanthrene
Concen: 3.38 ppm
RT: 8.440 min Scan# 1301
Delta R.T. -0.021 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:178 Resp: 186744

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 14.6 | 0.0 | 45.9 |
| 176 | 18.7 | 0.0 | 49.1 |

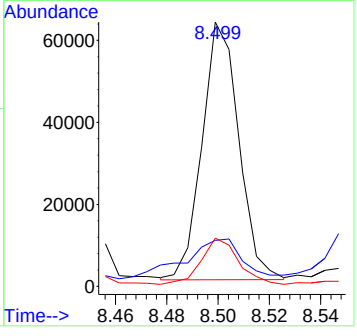


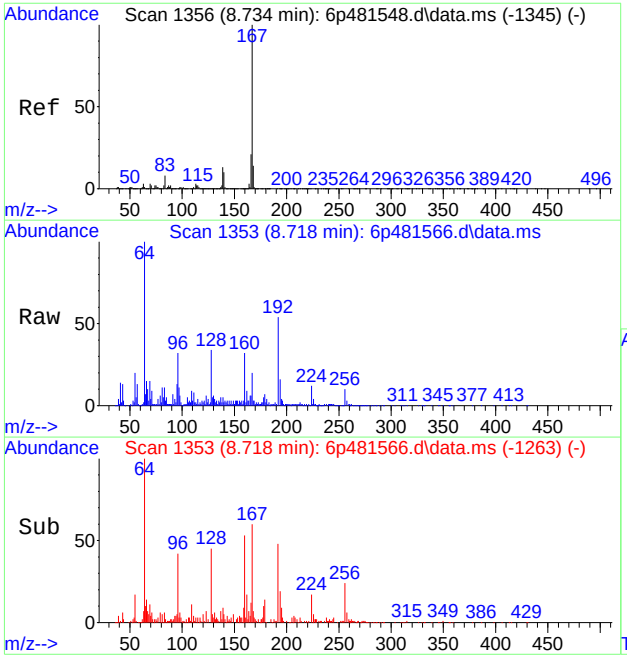




#78
Anthracene
Concen: 1.13 ppm
RT: 8.499 min Scan# 1312
Delta R.T. -0.021 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:178 Resp: 62570

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 11.6 | 0.0 | 46.1 |
| 176 | 18.1 | 0.0 | 49.3 |

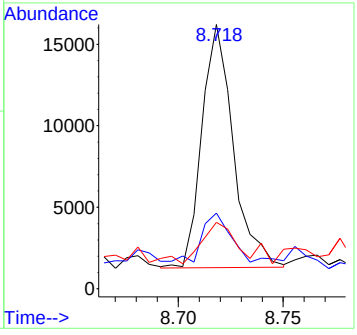


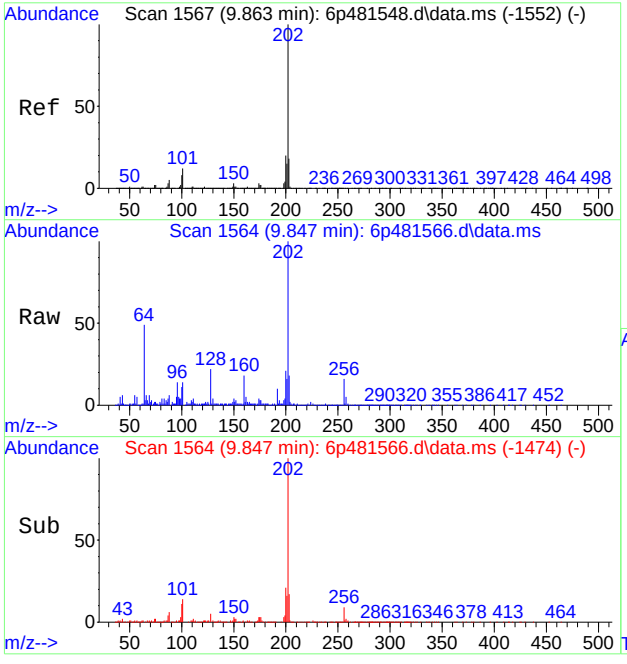



#79
Carbazole
Concen: 0.30 ppm
RT: 8.718 min Scan# 1353
Delta R.T. -0.016 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:167 Resp: 15509

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 19.8 | 0.0 | 50.7 |
| 139 | 13.1 | 0.0 | 43.3 |

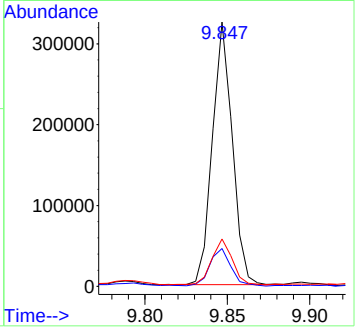



#81
Fluoranthene
Concen: 4.56 ppm
RT: 9.847 min Scan# 1564
Delta R.T. -0.016 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

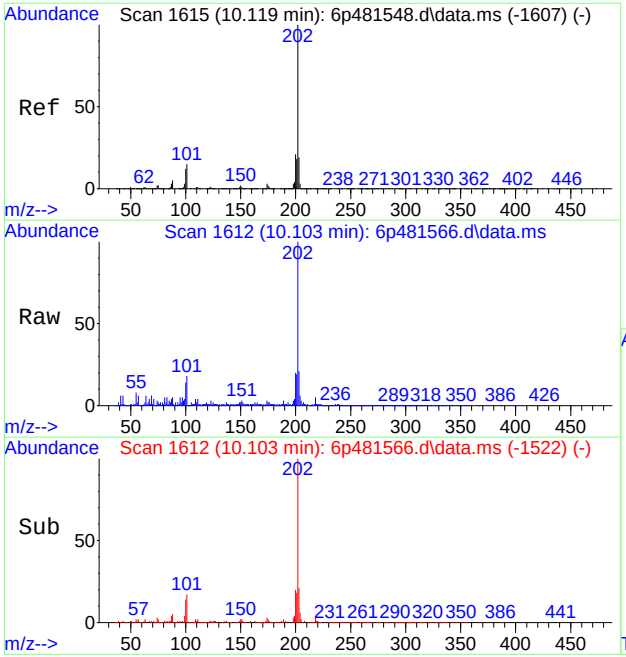
Tgt Ion:202 Resp: 273962

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.1 | 0.0 | 41.6 |
| 203 | 17.4 | 0.0 | 47.6 |




9.1.1

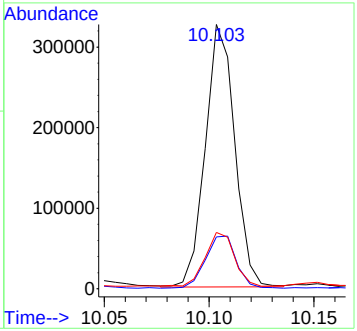
9

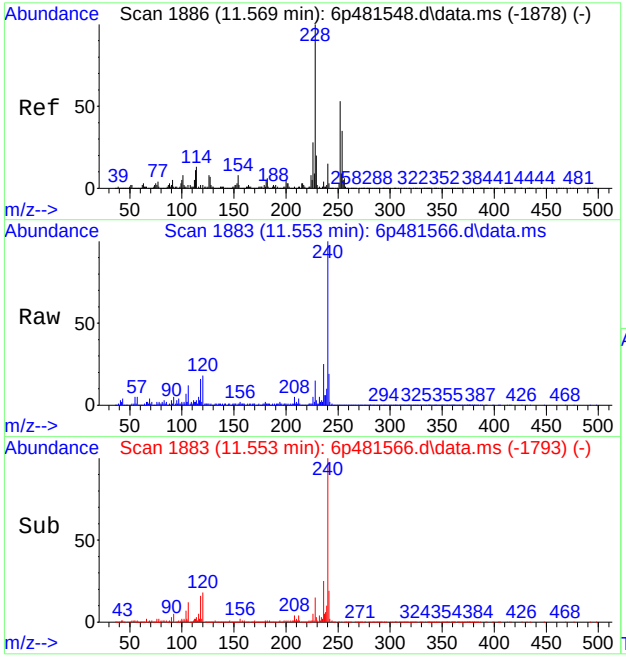



#84
Pyrene
Concen: 5.40 ppm
RT: 10.103 min Scan# 1612
Delta R.T. -0.016 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:202 Resp: 318337

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 19.6 | 0.0 | 50.9 |
| 203 | 20.4 | 0.0 | 48.9 |

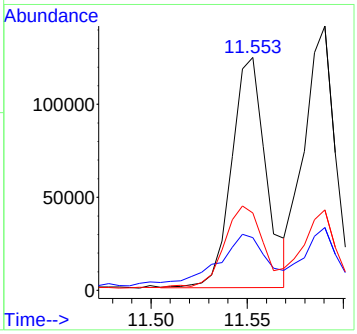


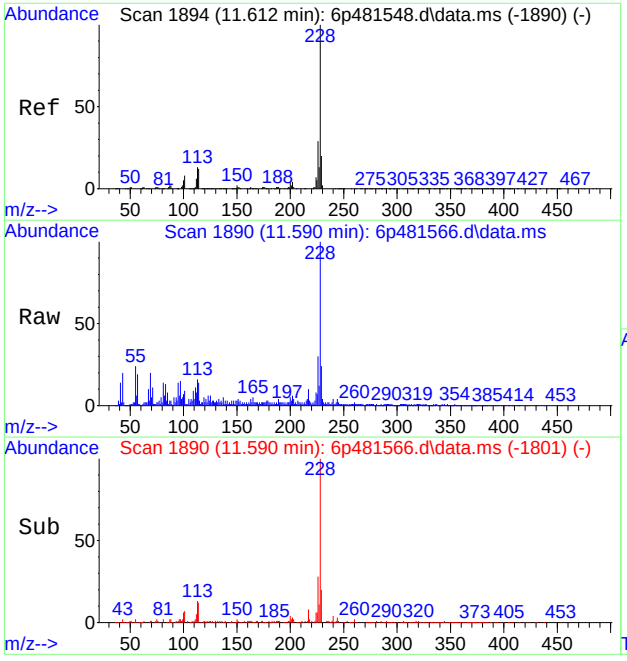




#87
Benzo[a]anthracene
Concen: 2.73 ppm
RT: 11.553 min Scan# 1883
Delta R.T. -0.016 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:228 Resp: 153982

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 19.0 | 0.0 | 50.1 |
| 226 | 31.7 | 0.0 | 57.7 |

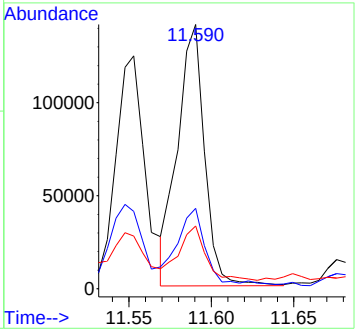


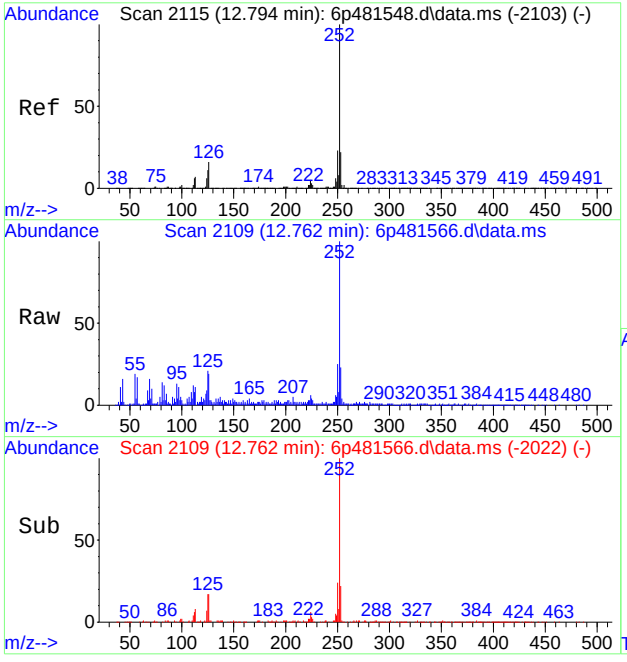



#89
Chrysene
Concen: 2.91 ppm
RT: 11.590 min Scan# 1890
Delta R.T. -0.021 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:228 Resp: 160948

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 28.5 | 0.0 | 59.3 |
| 229 | 19.9 | 0.0 | 50.2 |

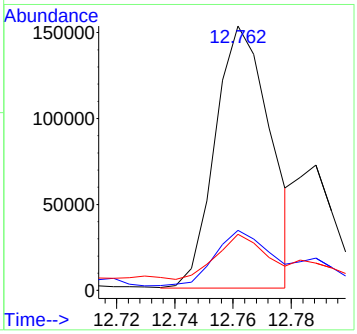


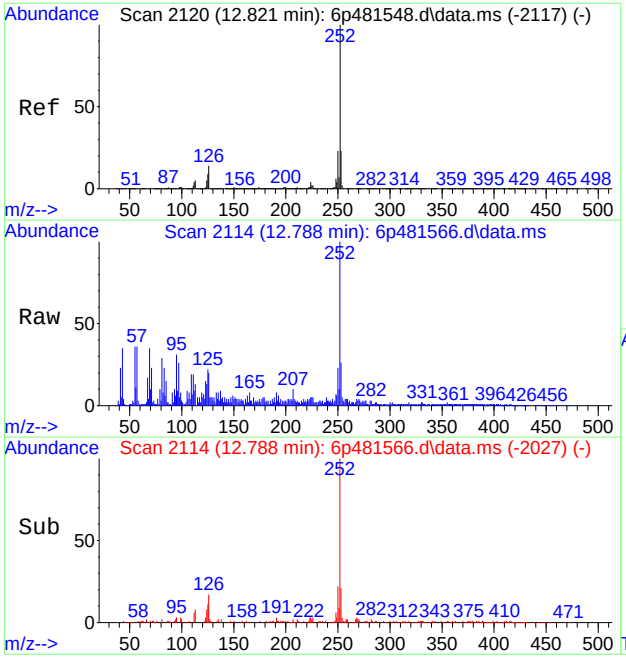




#93
Benzo[b]fluoranthene
Concen: 3.33 ppm m
RT: 12.762 min Scan# 2109
Delta R.T. -0.032 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:252 Resp: 200263

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.7 | 0.0 | 52.6 |
| 125 | 21.2 | 0.0 | 39.9 |

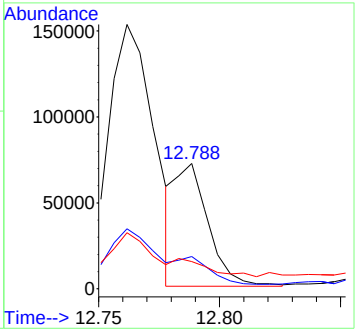


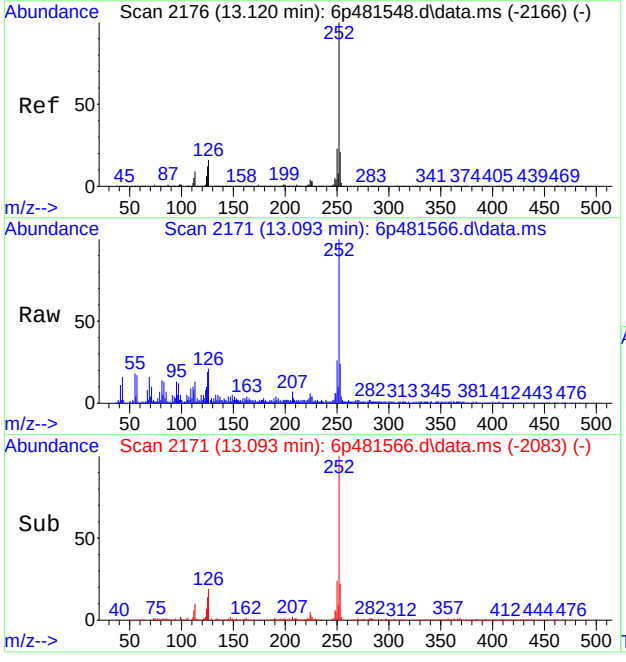



#94
Benzo[k]fluoranthene
Concen: 1.28 ppm m
RT: 12.788 min Scan# 2114
Delta R.T. -0.032 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:252 Resp: 68235

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 25.8 | 0.0 | 52.5 |
| 125 | 21.8 | 0.0 | 39.7 |

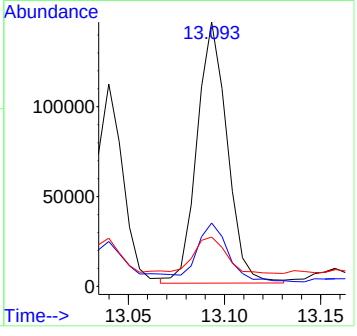


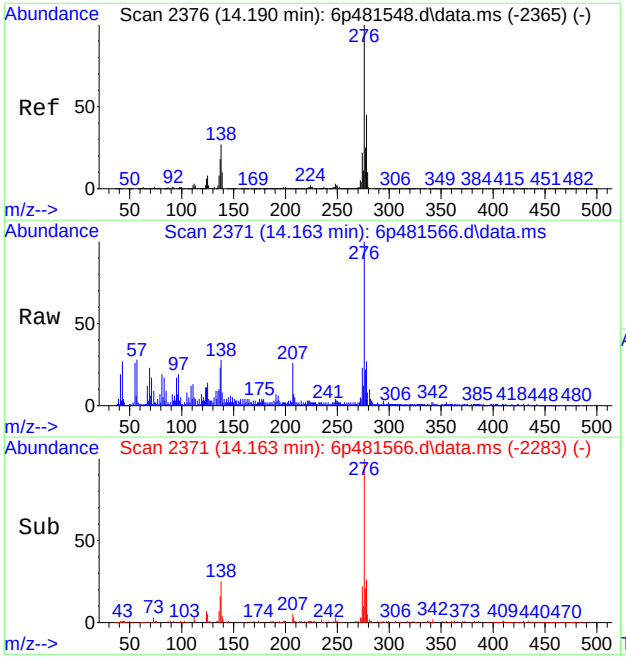




#95
Benzo[a]pyrene
Concen: 3.21 ppm
RT: 13.093 min Scan# 2171
Delta R.T. -0.027 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:252 Resp: 158471

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.1 | 0.0 | 51.4 |
| 125 | 13.7 | 0.0 | 41.7 |

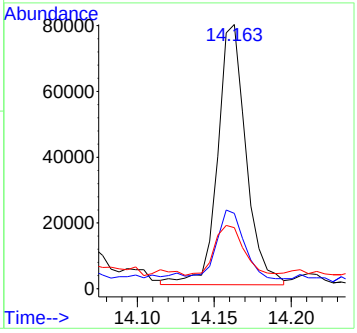


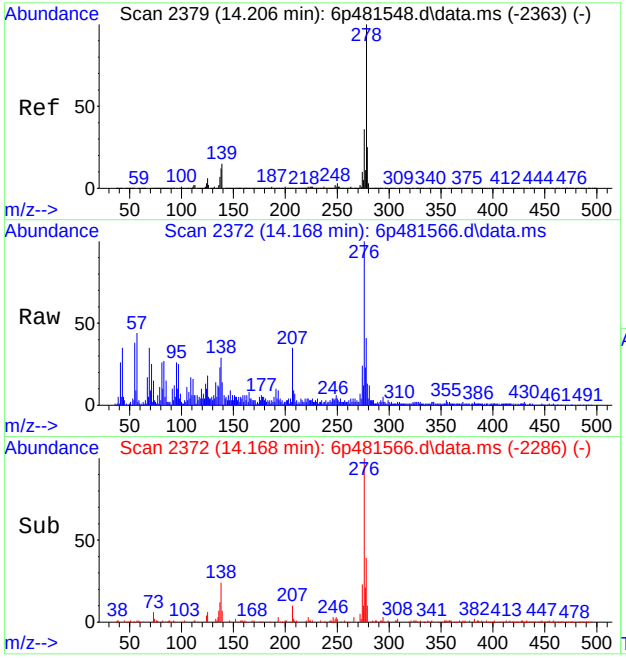



#96
Indeno[1,2,3-cd]pyrene
Concen: 1.54 ppm
RT: 14.163 min Scan# 2371
Delta R.T. -0.027 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:276 Resp: 101289

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.0 | 0.0 | 56.6 |
| 137 | 17.1 | 0.0 | 47.6 |

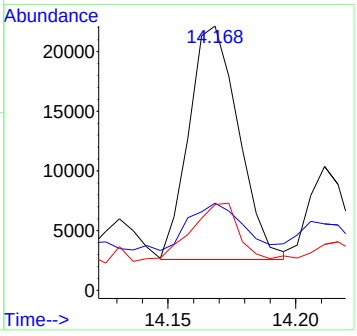


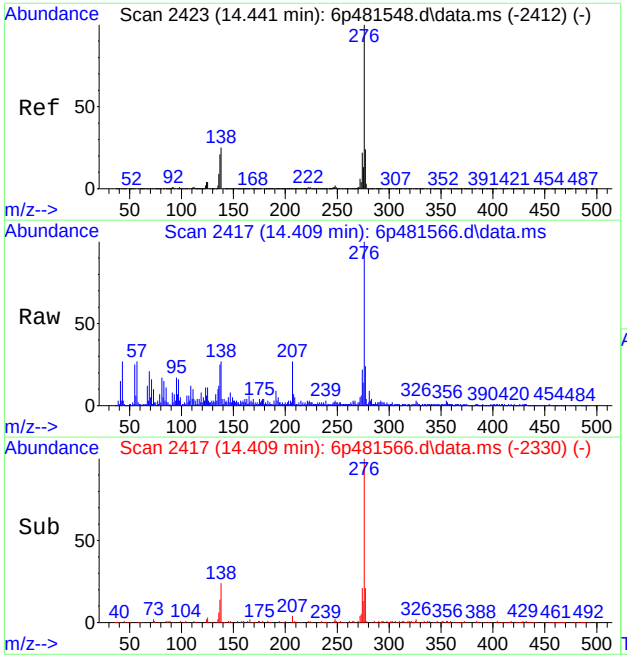




#98
Dibenz[a,h]anthracene
Concen: 0.45 ppm m
RT: 14.168 min Scan# 2372
Delta R.T. -0.037 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:278 Resp: 26362

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 33.0 | 0.0 | 45.4 |
| 279 | 32.5 | 0.0 | 54.8 |

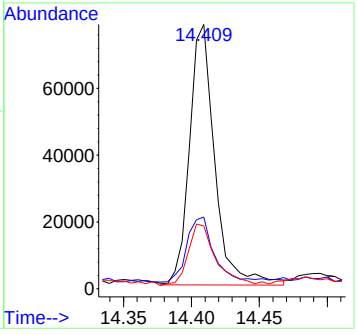





#100
Benzo[g,h,i]perylene
Concen: 1.97 ppm
RT: 14.409 min Scan# 2417
Delta R.T. -0.032 min
Lab File: 6p481566.d
Acq: 2 May 2019 4:39 pm

Tgt Ion:276 Resp: 101112

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.4 | 0.0 | 54.7 |
| 277 | 22.2 | 0.0 | 53.6 |




9.1.1

9

# Manual Integration Approval Summary



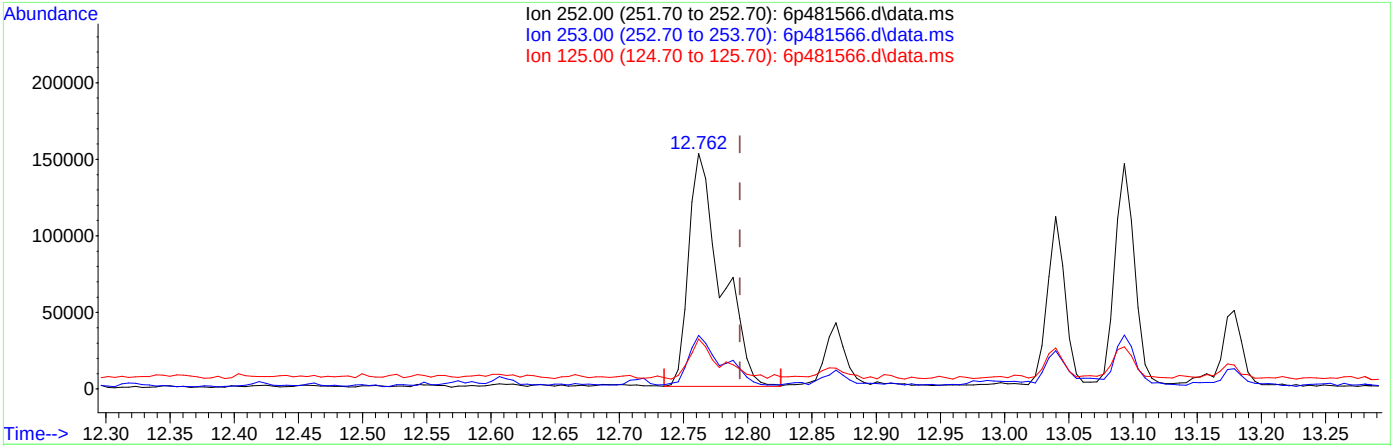
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-2 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481566.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 16:39 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

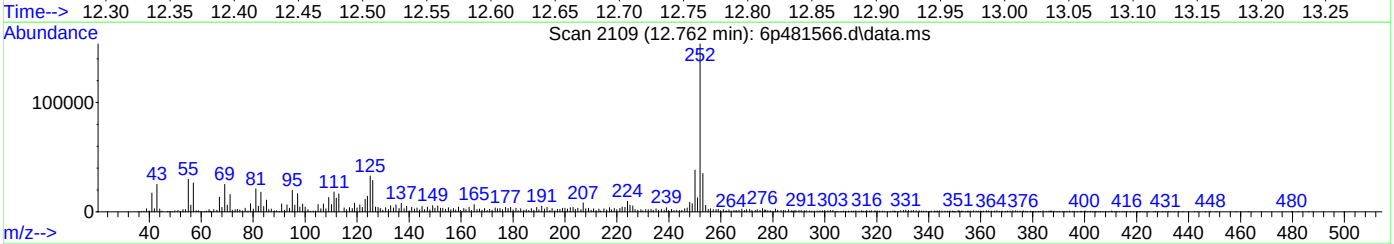
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzo(b)fluoranthene | 205-99-2 | | 12.76 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.79 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.17 | Poor instrument integration |

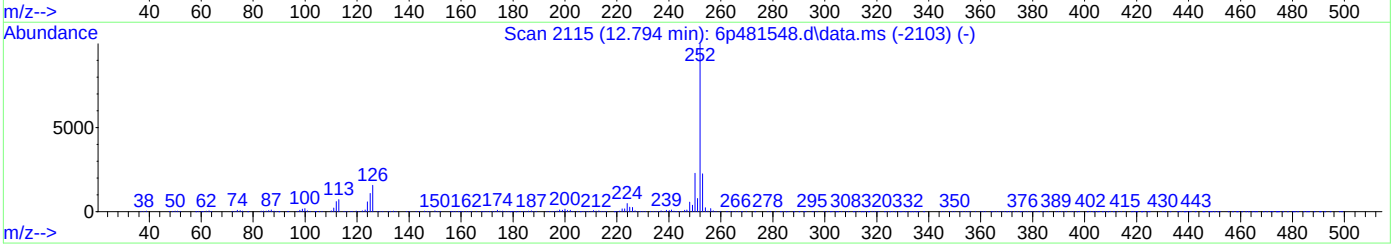
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481566.d
Acq On : 2 May 2019 4:39 pm
Operator : angelar
Sample : jc86986-2 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:16 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481566.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.762min (-0.032) 4.45ppm

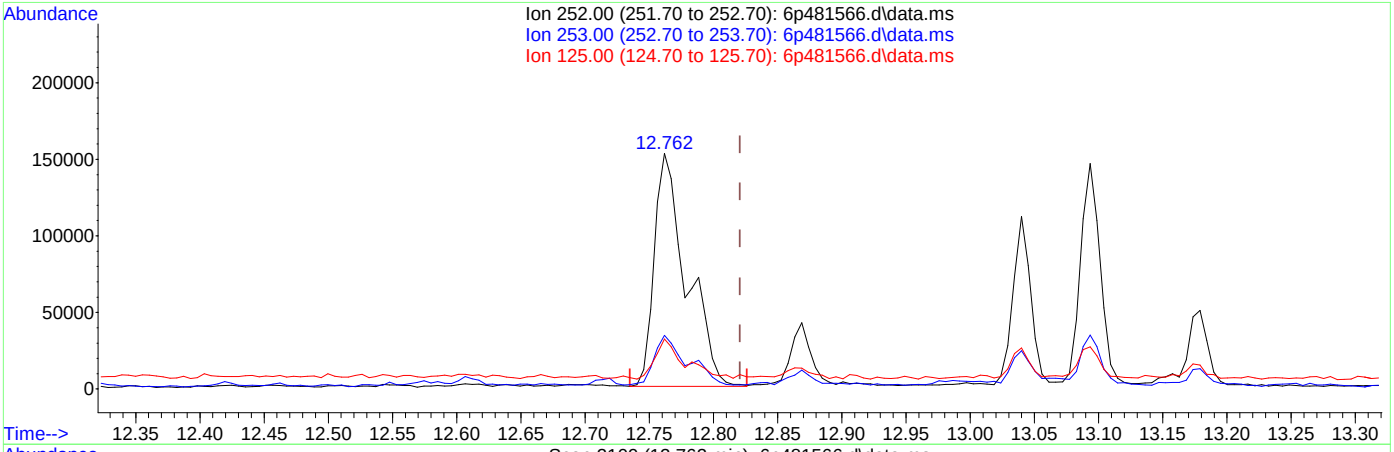
response 267158

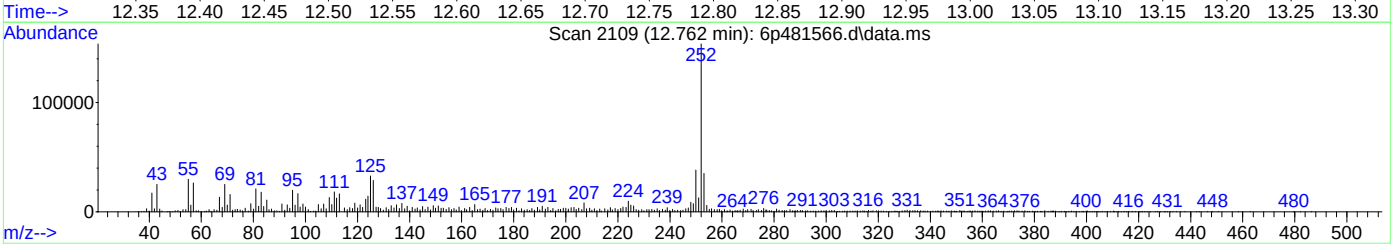
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 21.18 |
| 125.00 | 9.90 | 16.45 |
| 0.00 | 0.00 | 0.00 |

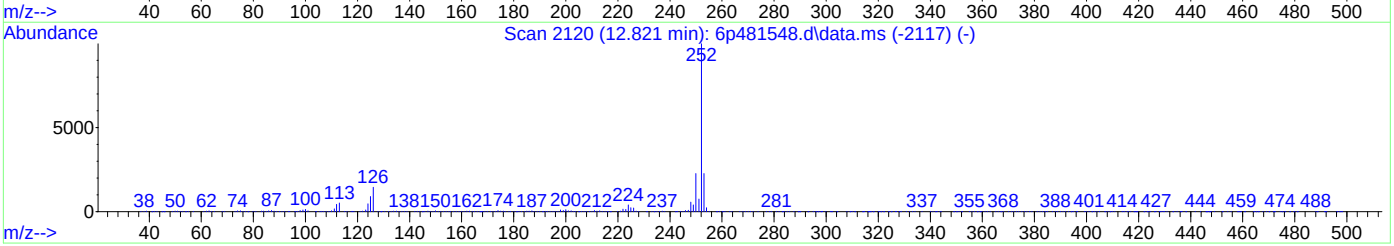
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481566.d
Acq On : 2 May 2019 4:39 pm
Operator : angelar
Sample : jc86986-2 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:16 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481566.d\data.ms

(94) Benzo[k]fluoranthene (t)

12.762min (-0.059) 5.02ppm

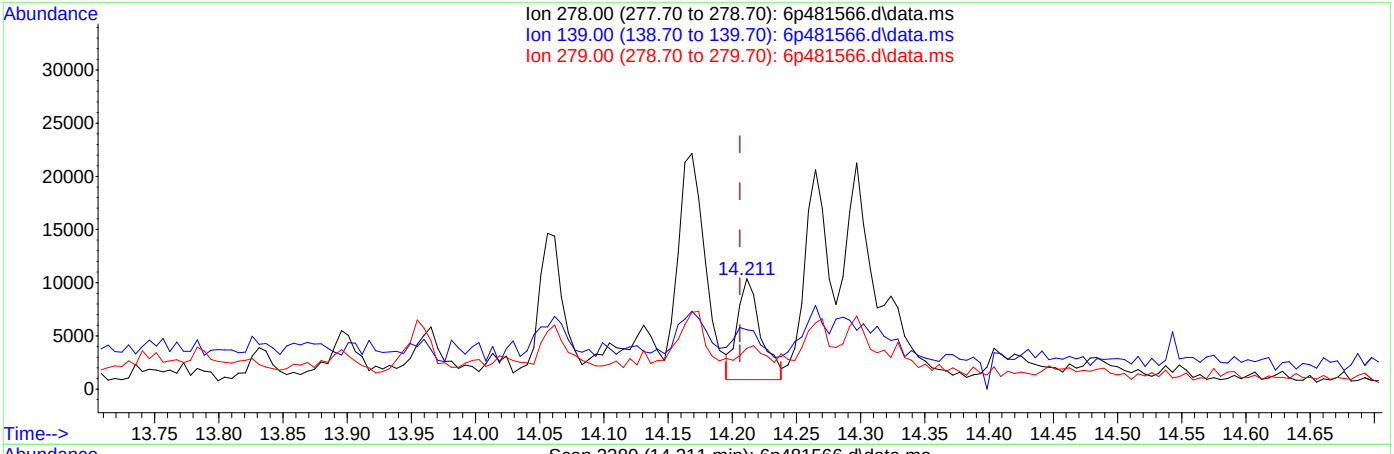
response 267158

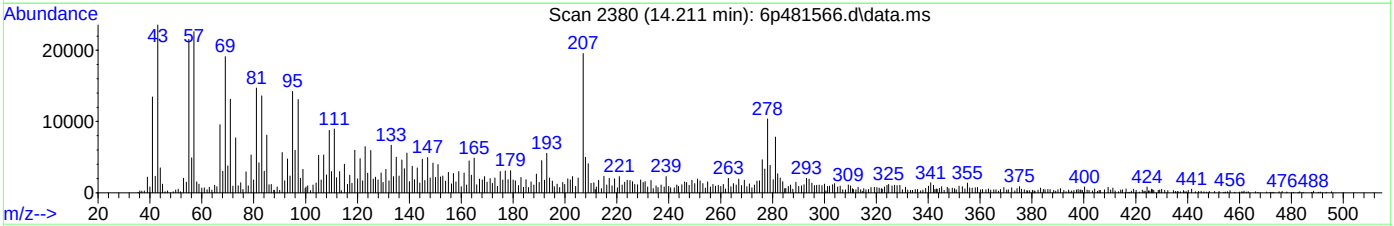
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.50 | 21.18 |
| 125.00 | 9.70 | 16.45 |
| 0.00 | 0.00 | 0.00 |

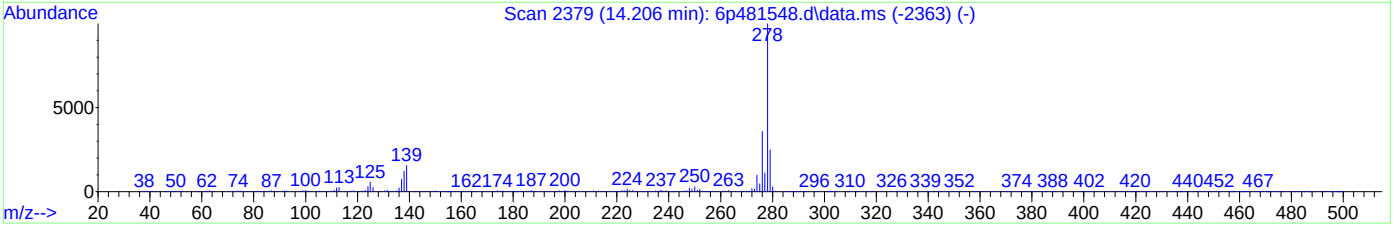
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481566.d
Acq On : 2 May 2019 4:39 pm
Operator : angelar
Sample : jc86986-2 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:16 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481566.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.211min (+0.005) 0.20ppm

response 11958

| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 15.40 | 17.73 |
| 279.00 | 24.80 | 9.47 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 11:32

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 09 12:06:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 487971 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.140 | 136 | 2025755 | 40.00 | ppm | 0.03 |
| 47) Acenaphthene-d10 | 6.777 | 164 | 1299446 | 40.00 | ppm | 0.01 |
| 69) Phenanthrene-d10 | 8.510 | 188 | 1926800 | 40.00 | ppm | 0.09 |
| 83) Chrysene-d12 | 11.740 | 240 | 2365774 | 40.00 | ppm | 0.17 |
| 91) Perylene-d12 | 13.334 | 264 | 3008468 | 40.00 | ppm | 0.17 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 487971 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.777 | 164 | 1299446 | 40.00 | ppm | 0.01 |
| 105) Phenanthrene-d10a | 8.510 | 188 | 1926800 | 40.00 | ppm | 0.09 |
| 109) Chrysene-d12a | 11.740 | 240 | 2365774 | 40.00 | ppm | 0.17 |
| 111) Naphthalene-d8a | 5.140 | 136 | 2025755 | 40.00 | ppm | 0.03 |
| 113) Phenanthrene-d10b | 8.510 | 188 | 1926800 | 40.00 | ppm | # 0.09 |
| 115) Chrysene-d12b | 11.740 | 240 | 2365774 | 40.00 | ppm | 0.17 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.166 | 112 | 214115 | 15.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 30.00% | | | |
| 8) Phenol-d5 | 3.931 | 99 | 269979 | 15.49 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 30.98% | | | |
| 25) Nitrobenzene-d5 | 4.568 | 82 | 272919 | 16.19 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 32.38% | | | |
| 51) 2-Fluorobiphenyl | 6.097 | 172 | 571406 | 12.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 24.90% | | | |
| 73) 2,4,6-Tribromophenol | 7.670 | 330 | 123434 | 19.91 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery = 39.82% | | | |
| 85) Terphenyl-d14 | 10.414 | 244 | 737542m | 13.38 | ppm | 0.06 |
| Spiked Amount 50.000 | | | Recovery = 26.76% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.942 | 94 | 197137 | 9.27 | ppm | 83 |
| 19) 2-Methylphenol | 4.375 | 108 | 100930 | 7.05 | ppm | 95 |
| 21) 3&4-Methylphenol | 4.493 | 108 | 309855 | 20.58 | ppm | 91 |
| 30) 2,4-Dimethylphenol | 4.894 | 107 | 145394 | 9.50 | ppm | 98 |
| 38) Naphthalene | 5.135 | 128 | 26978549m | 511.36 | ppm | |
| 44) 2-Methylnaphthalene | 5.760 | 141 | 10033119 | 336.22 | ppm | 82 |
| 53) Biphenyl | 6.199 | 154 | 9939116 | 199.95 | ppm | 75 |
| 56) Acenaphthylene | 6.632 | 152 | 20558596m | 347.63 | ppm | |
| 59) Acenaphthene | 6.819 | 153 | 5562374 | 141.68 | ppm | 94 |
| 62) Dibenzofuran | 7.001 | 168 | 24493747m | 448.05 | ppm | |
| 66) Fluorene | 7.386 | 166 | 33247322m | 749.14 | ppm | |
| 77) Phenanthrene | 8.472 | 178 | 79847519m | 1543.47 | ppm | |
| 78) Anthracene | 8.617 | 178 | 20658484m | 398.17 | ppm | |
| 79) Carbazole | 8.782 | 167 | 27890400m | 567.88 | ppm | |
| 81) Fluoranthene | 9.900 | 202 | 77796183m | 1384.15 | ppm | |
| 84) Pyrene | 10.200 | 202 | 65276649m | 828.24 | ppm | |
| 87) Benzo[a]anthracene | 11.628 | 228 | 69318564m | 919.90 | ppm | |
| 89) Chrysene | 11.730 | 228 | 28403475m | 384.37 | ppm | |

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 09 12:06:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 93) | Benzo[b]fluoranthene | 12.863 | 252 | 51797134m | 563.69 | ppm | |
| 94) | Benzo[k]fluoranthene | 12.928 | 252 | 37412885m | 459.93 | ppm | |
| 95) | Benzo[a]pyrene | 13.270 | 252 | 24120658m | 319.51 | ppm | |
| 96) | Indeno[1,2,3-cd]pyrene | 14.318 | 276 | 53115632m | 526.92 | ppm | |
| 98) | Dibenz[a,h]anthracene | 14.361 | 278 | 28040431m | 313.90 | ppm | |
| 100) | Benzo[g,h,i]perylene | 14.607 | 276 | 49441878m | 628.96 | ppm | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

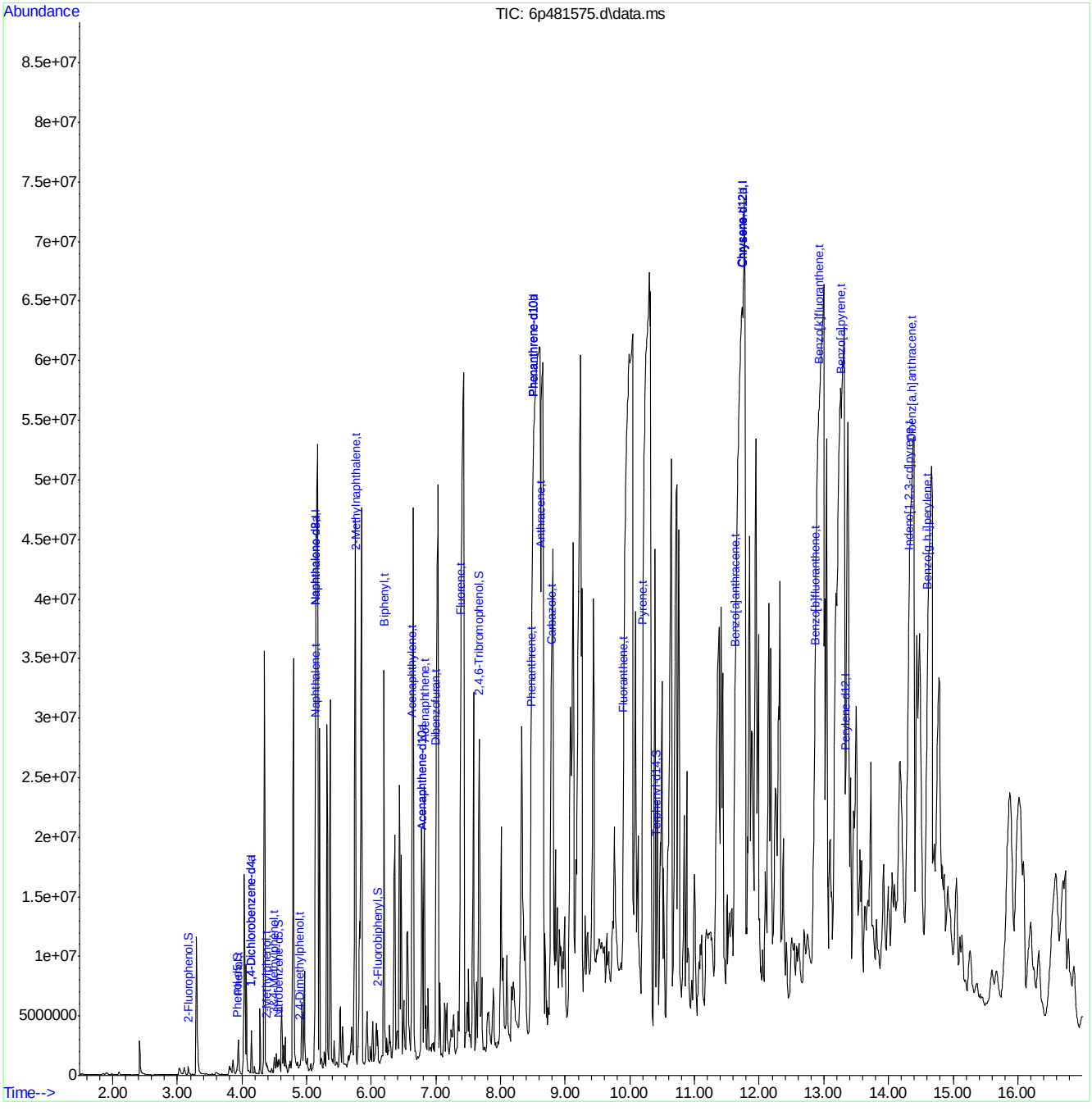
9.1.2

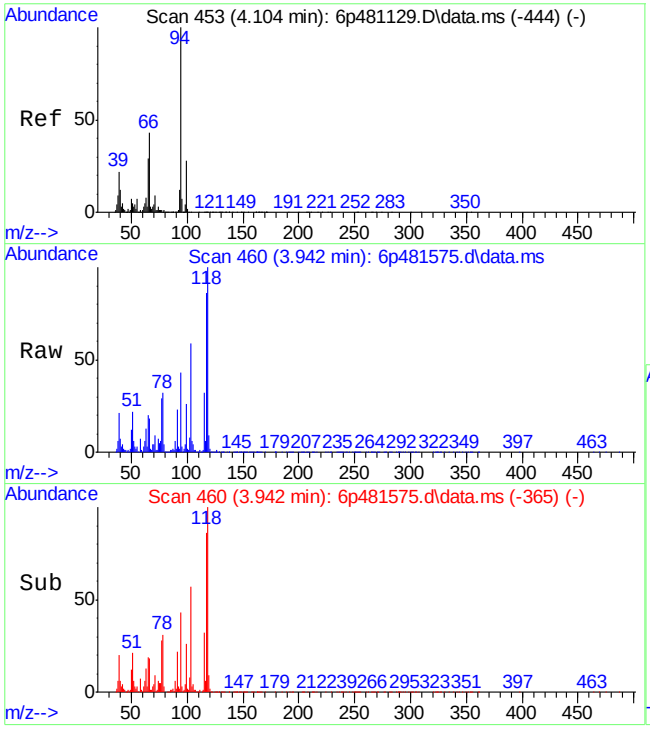
9

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 09 12:06:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

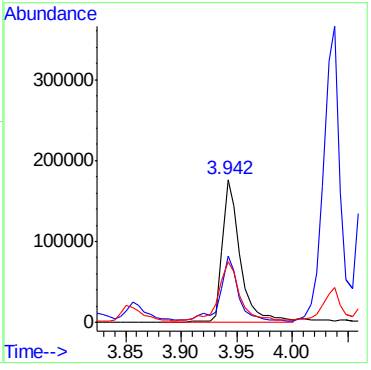


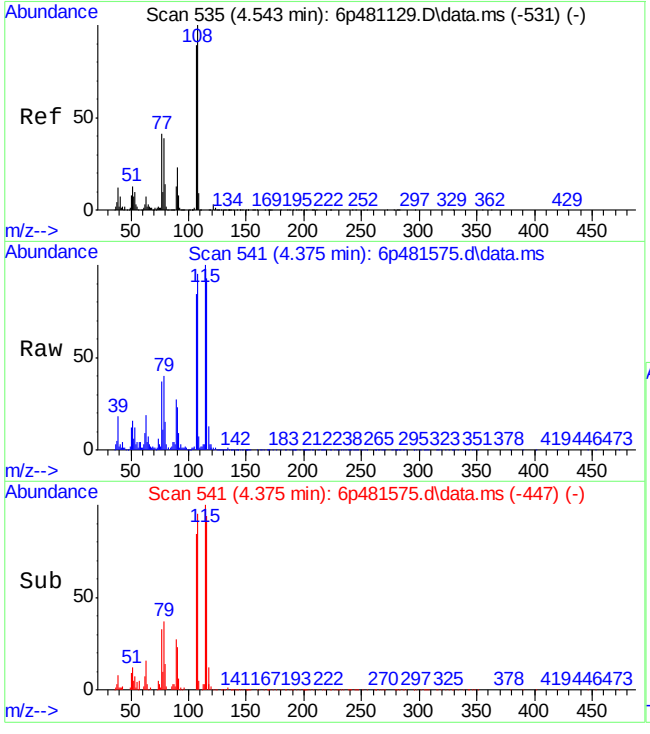



#9
Phenol
Concen: 9.27 ppm
RT: 3.942 min Scan# 460
Delta R.T. 0.005 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion: 94 Resp: 197137

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 44.8 | 0.0 | 56.0 |
| 66 | 41.1 | 8.4 | 68.4 |

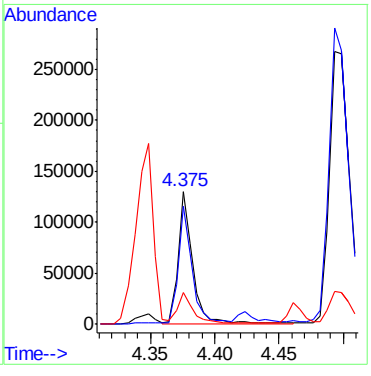


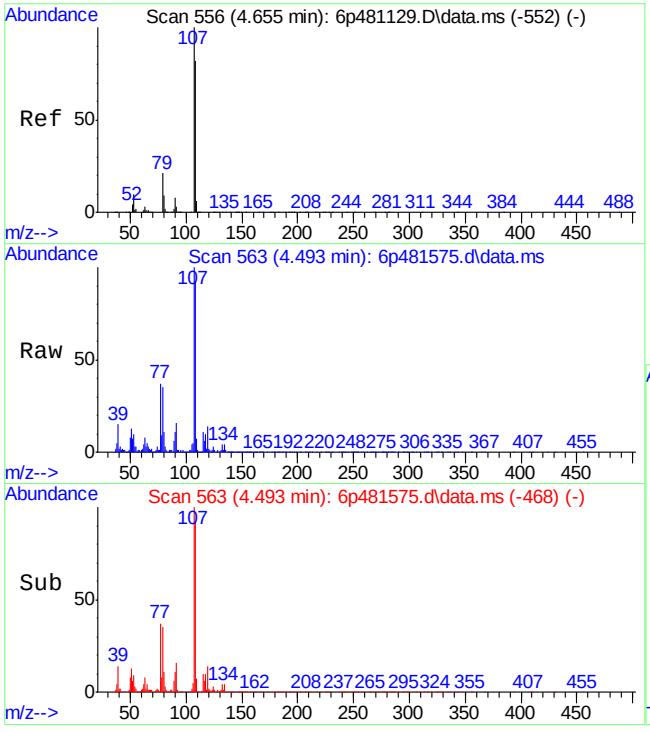




#19
2-Methylphenol
Concen: 7.05 ppm
RT: 4.375 min Scan# 541
Delta R.T. 0.000 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:108 Resp: 100930

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 88.1 | 59.8 | 119.8 |
| 90 | 14.1 | 0.0 | 53.6 |

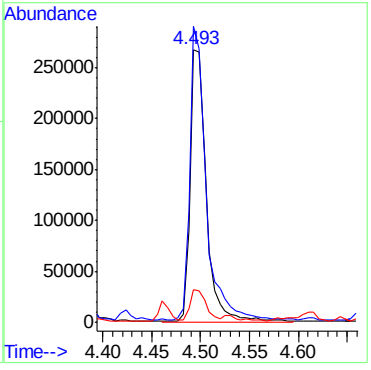


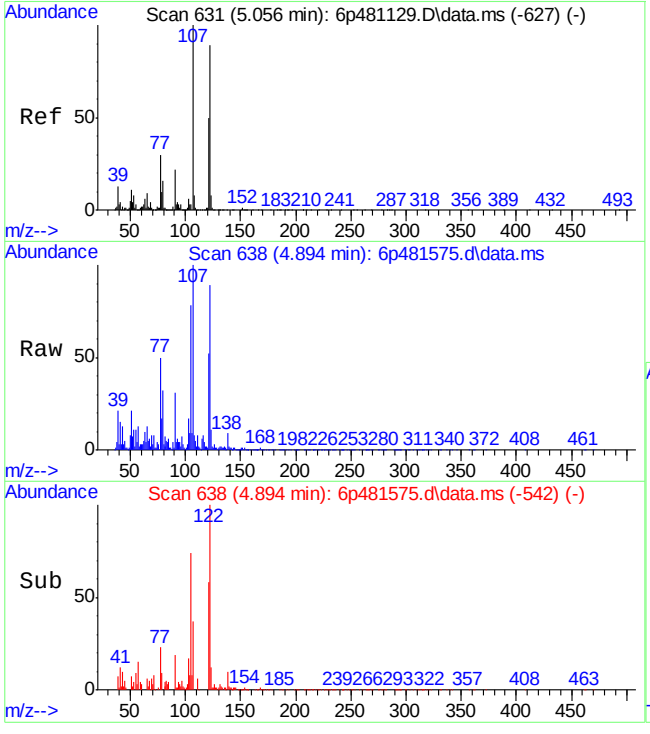



#21
3&4-Methylphenol
Concen: 20.58 ppm
RT: 4.493 min Scan# 563
Delta R.T. 0.005 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:108 Resp: 309855

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 107.8 | 88.3 | 148.3 |
| 90 | 7.1 | 0.0 | 40.2 |

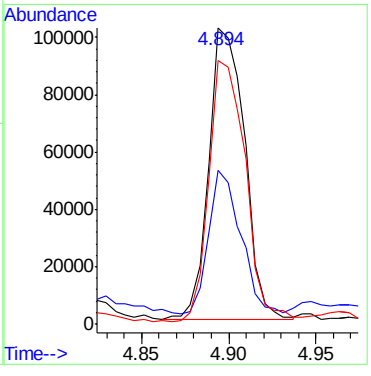



#30
2,4-Dimethylphenol
Concen: 9.50 ppm
RT: 4.894 min Scan# 638
Delta R.T. 0.011 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

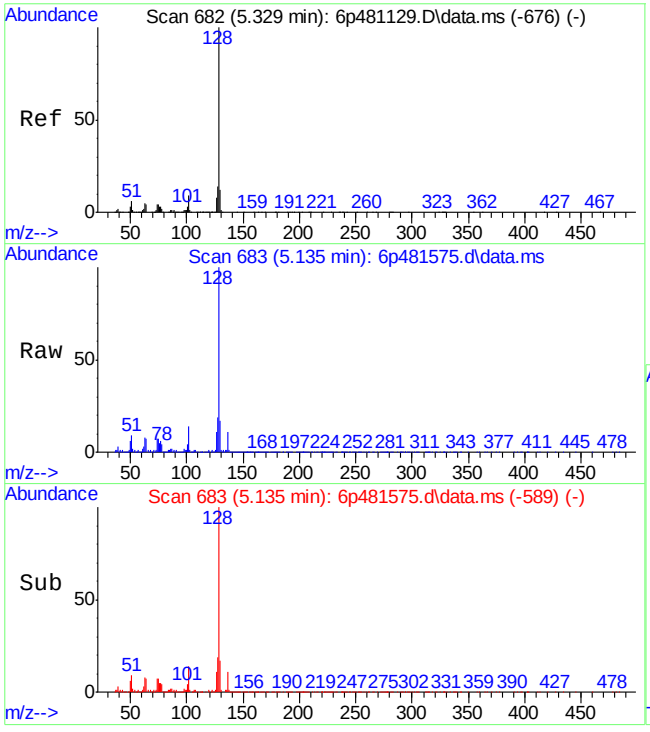
Tgt Ion:107 Resp: 145394

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 47.9 | 20.7 | 80.7 |
| 122 | 88.9 | 59.5 | 119.5 |




9.1.2

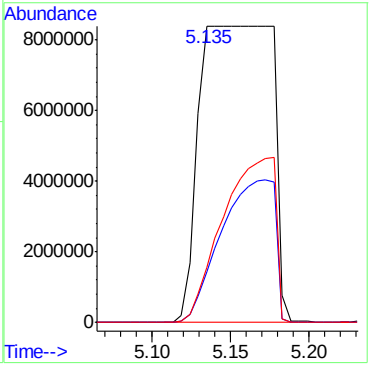
9

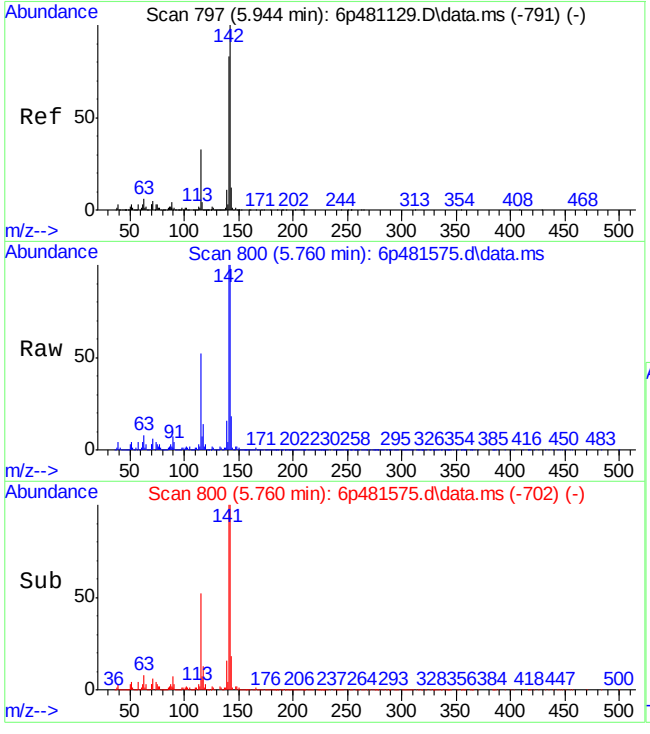



#38
Naphthalene
Concen: 511.36 ppm m
RT: 5.135 min Scan# 683
Delta R.T. 0.000 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:128 Resp:26978549

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 16.9 | 0.0 | 41.4 |
| 127 | 18.6 | 0.0 | 43.3 |

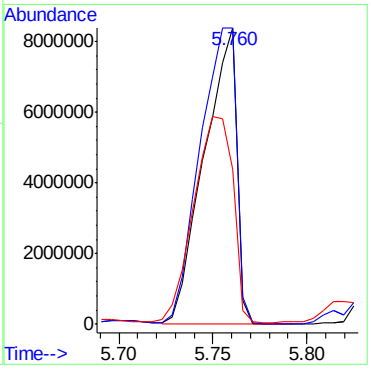


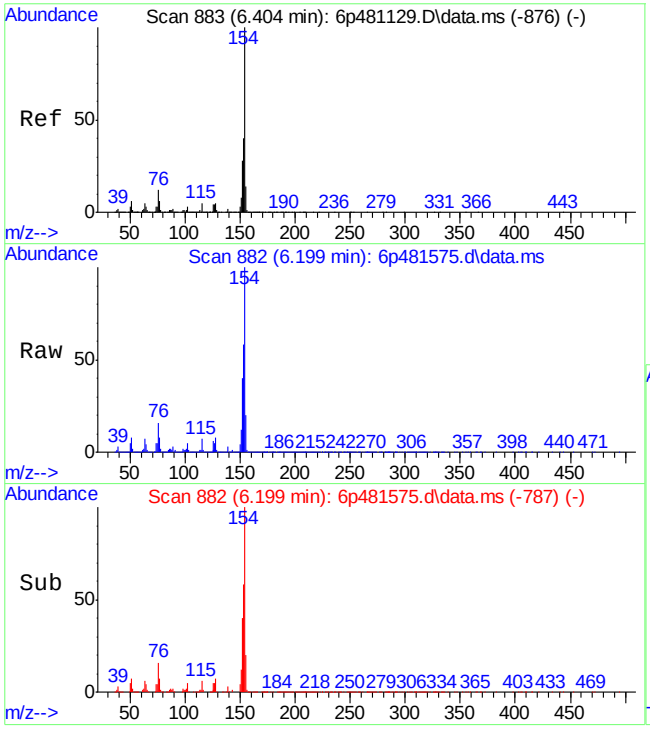




#44
2-Methylnaphthalene
Concen: 336.22 ppm
RT: 5.760 min Scan# 800
Delta R.T. 0.022 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:141 Resp:10033119

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 100.0 | 90.7 | 150.7 |
| 115 | 51.1 | 11.4 | 71.4 |

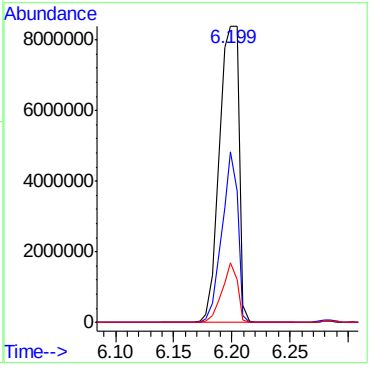


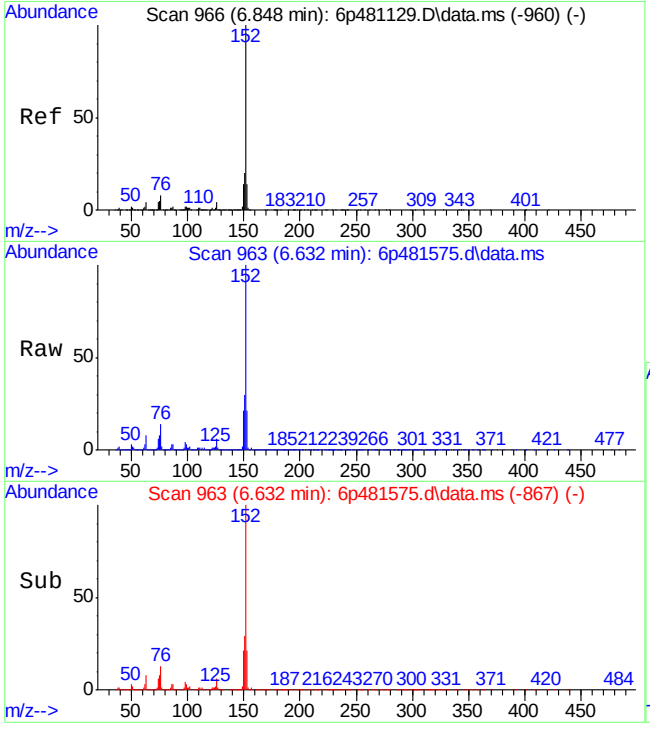



#53
Biphenyl
Concen: 199.95 ppm
RT: 6.199 min Scan# 882
Delta R.T. 0.005 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:154 Resp: 9939116

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 57.7 | 10.5 | 70.5 |
| 155 | 19.9 | 0.0 | 43.2 |

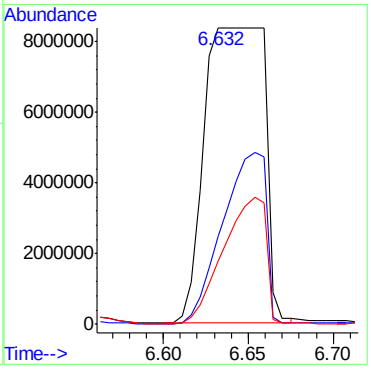


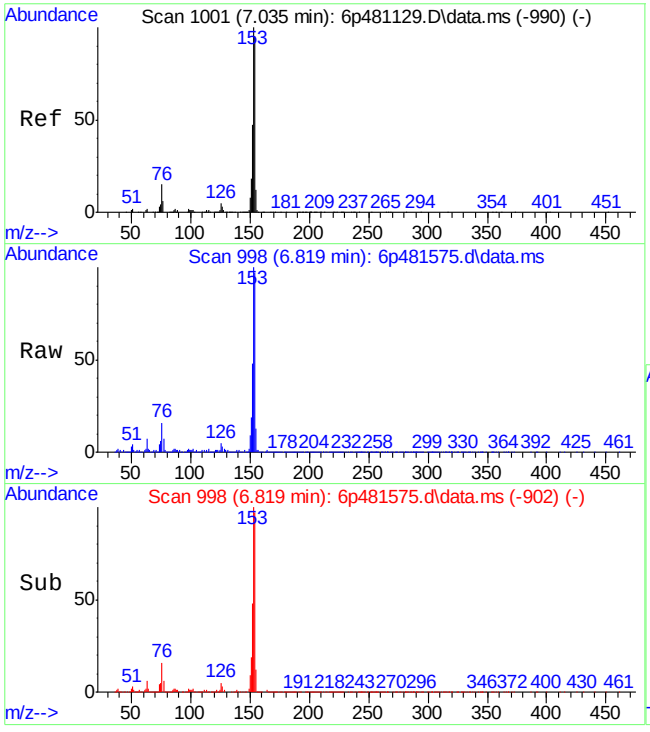




#56
Acenaphthylene
Concen: 347.63 ppm m
RT: 6.632 min Scan# 963
Delta R.T. 0.011 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:152 Resp:20558596

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 29.5 | 0.0 | 50.1 |
| 153 | 21.1 | 0.0 | 43.5 |

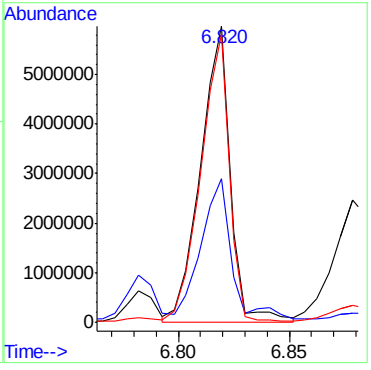


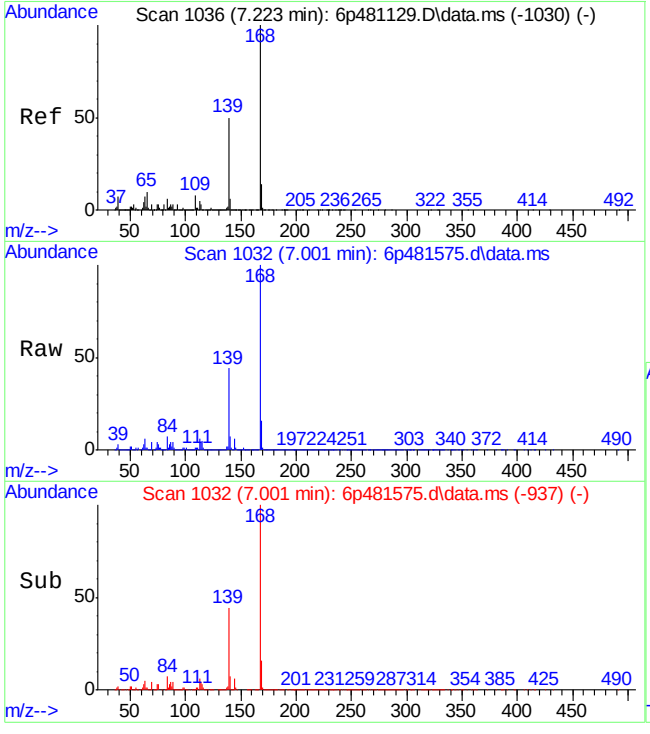



#59
Acenaphthene
Concen: 141.68 ppm
RT: 6.819 min Scan# 998
Delta R.T. 0.011 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:153 Resp: 5562374

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 47.1 | 16.6 | 76.6 |
| 154 | 98.6 | 60.7 | 120.7 |

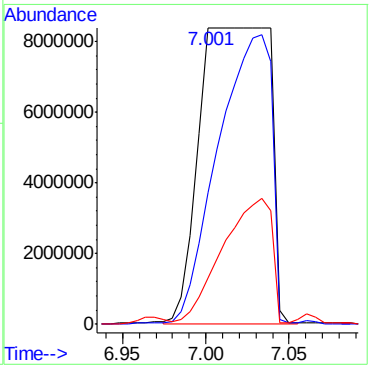



#62
Dibenzofuran
Concen: 448.05 ppm m
RT: 7.001 min Scan# 1032
Delta R.T. 0.005 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

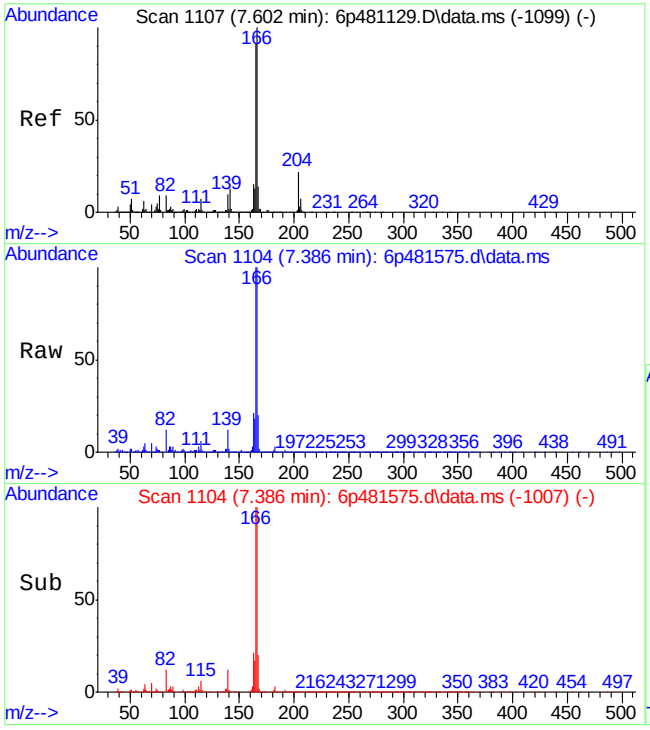
Tgt Ion:168 Resp:24493747

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 44.2 | 8.8 | 68.8 |
| 169 | 15.7 | 0.0 | 43.0 |




9.1.2

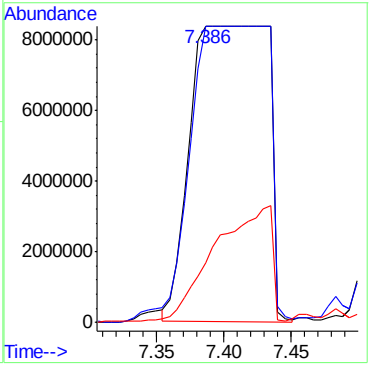
9

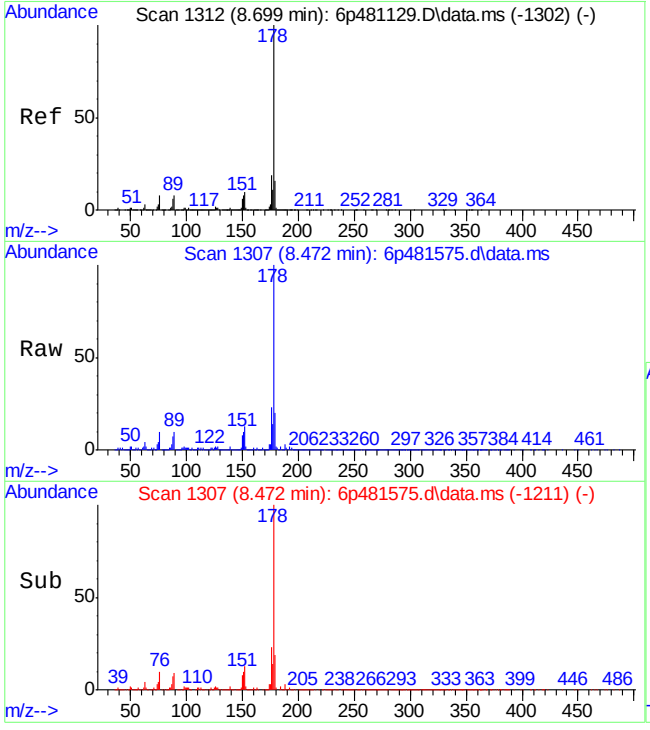



#66
Fluorene
Concen: 749.14 ppm m
RT: 7.386 min Scan# 1104
Delta R.T. 0.016 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:166 Resp:33247322

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 100.0 | 60.9 | 120.9 |
| 167 | 20.1 | 0.0 | 43.1 |

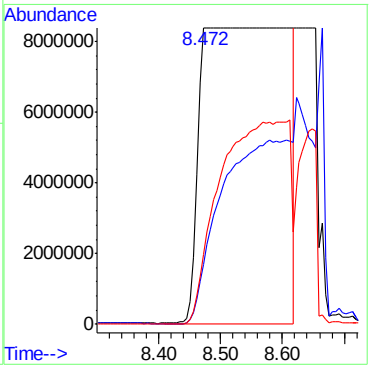


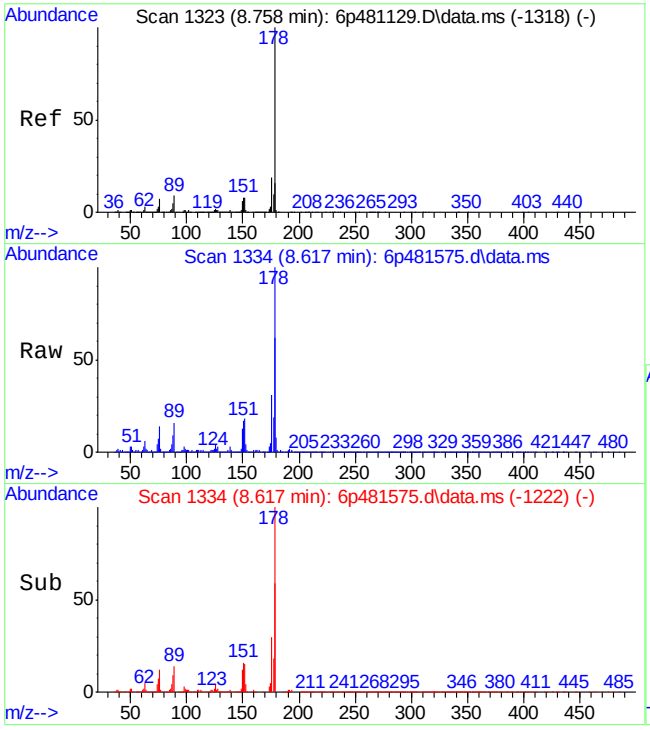

#77
Phenanthrene
Concen: 1543.47 ppm m
RT: 8.472 min Scan# 1307
Delta R.T. 0.011 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:178 Resp:79847519

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 20.3 | 0.0 | 45.9 |
| 176 | 23.5 | 0.0 | 49.1 |



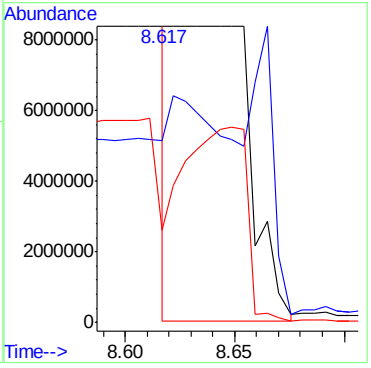

9.1.2
9

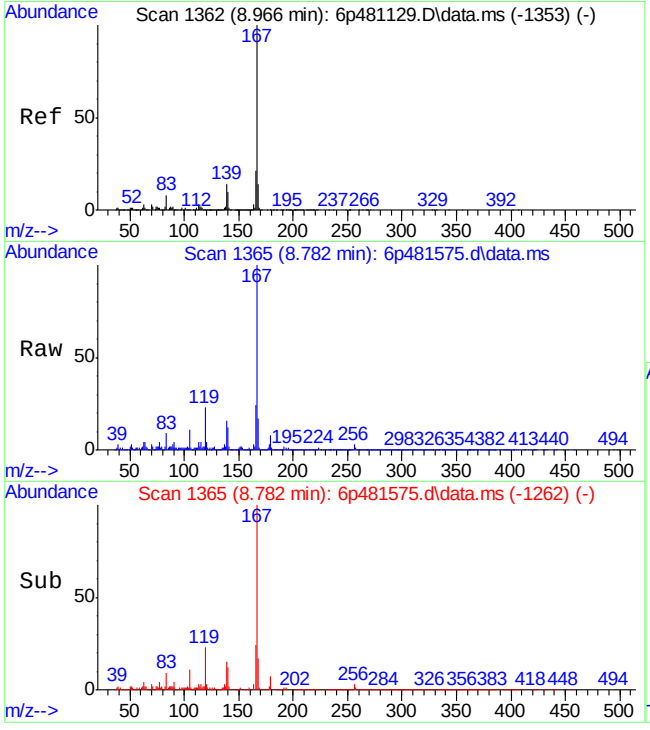



#78
Anthracene
Concen: 398.17 ppm m
RT: 8.617 min Scan# 1334
Delta R.T. 0.096 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:178 Resp:20658484

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 61.5 | 0.0 | 46.1# |
| 176 | 31.2 | 0.0 | 49.3 |

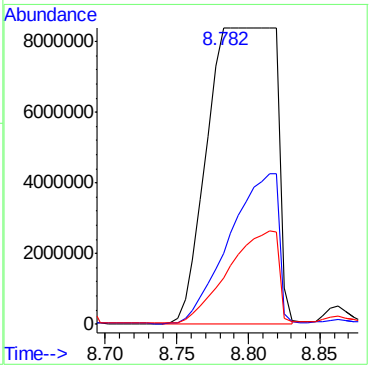


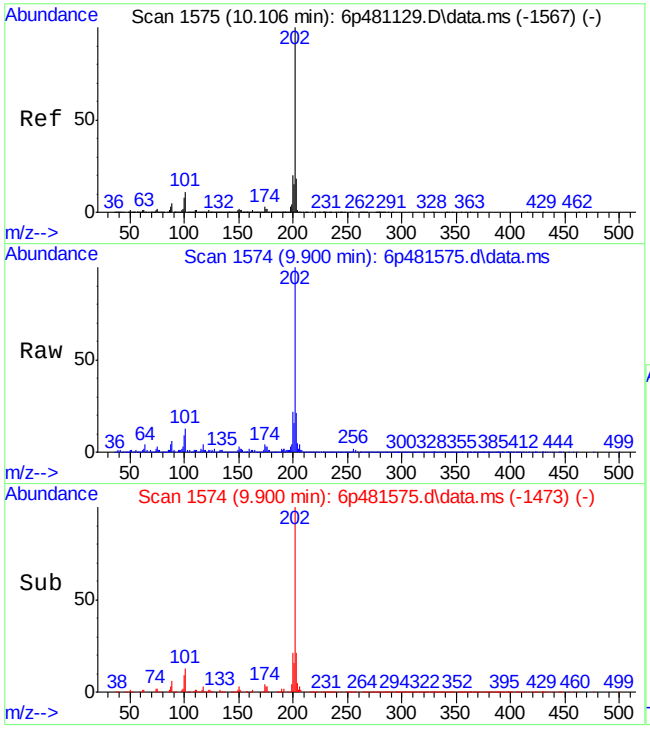




#79
Carbazole
Concen: 567.88 ppm m
RT: 8.782 min Scan# 1365
Delta R.T. 0.048 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:167 Resp:27890400

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 24.0 | 0.0 | 50.7 |
| 139 | 15.5 | 0.0 | 43.3 |

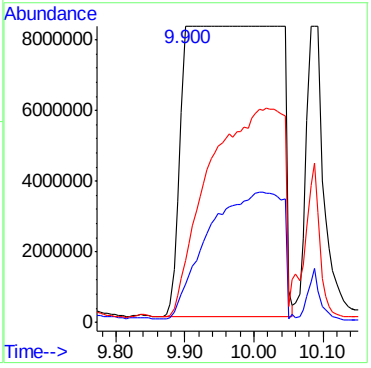


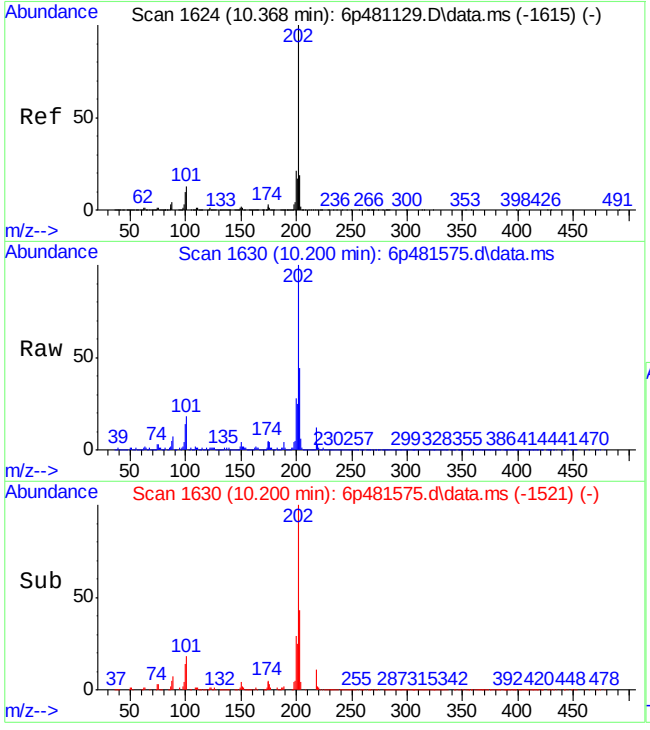



#81
Fluoranthene
Concen: 1384.15 ppm m
RT: 9.900 min Scan# 1574
Delta R.T. 0.038 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:202 Resp:77796183

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 12.9 | 0.0 | 41.6 |
| 203 | 20.8 | 0.0 | 47.6 |

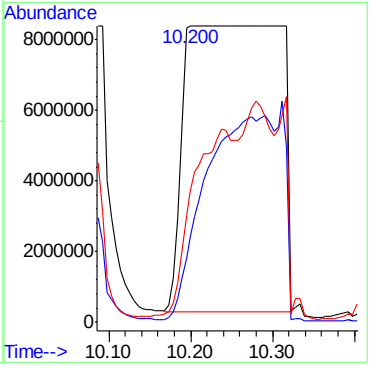


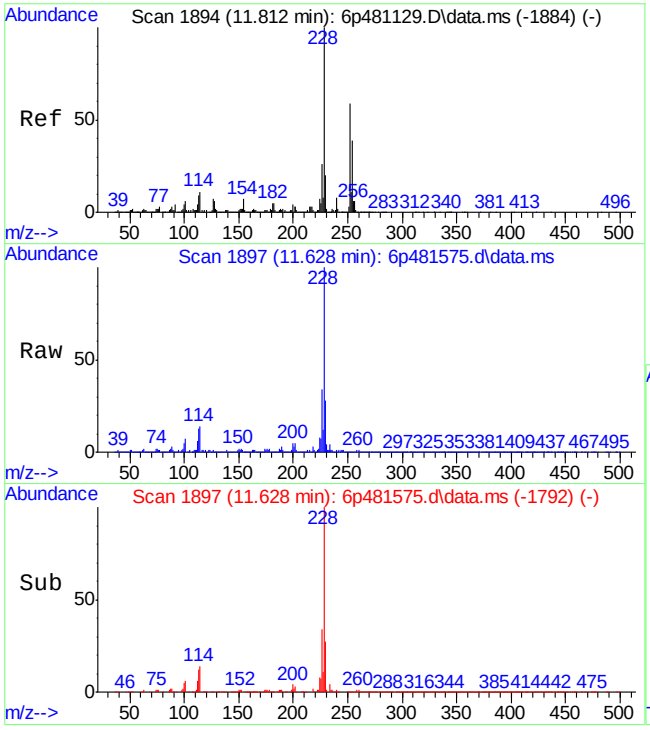




#84
Pyrene
Concen: 828.24 ppm m
RT: 10.200 min Scan# 1630
Delta R.T. 0.080 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:202 Resp:65276649

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 28.5 | 0.0 | 50.9 |
| 203 | 43.8 | 0.0 | 48.9 |

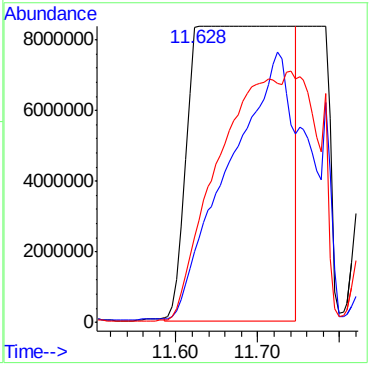


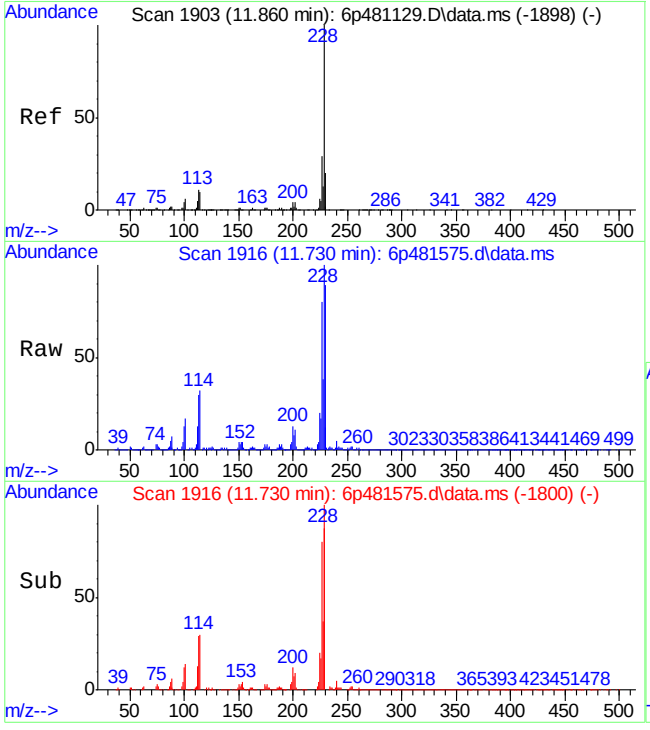



#87
Benzo[a]anthracene
Concen: 919.90 ppm m
RT: 11.628 min Scan# 1897
Delta R.T. 0.059 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:228 Resp:69318564

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 28.3 | 0.0 | 50.1 |
| 226 | 34.4 | 0.0 | 57.7 |

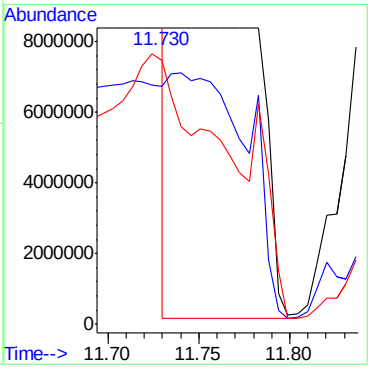


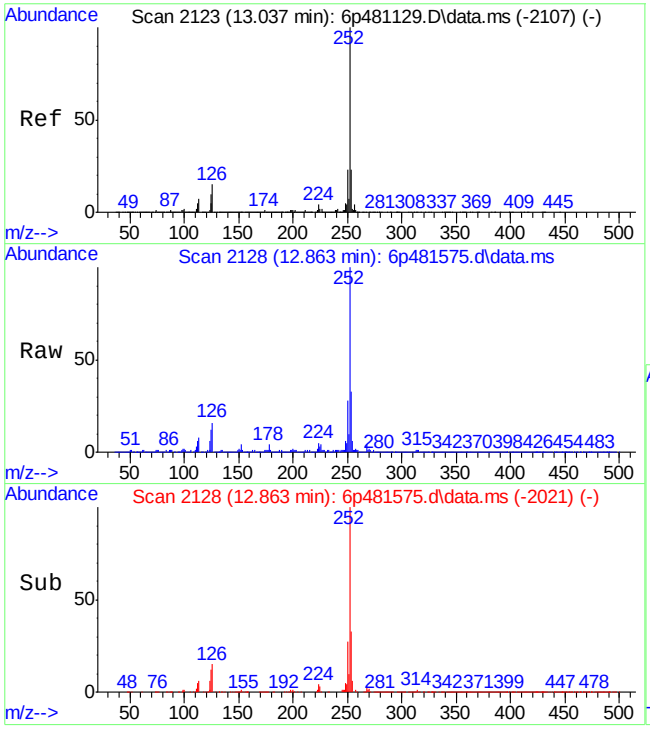




#89
Chrysene
Concen: 384.37 ppm m
RT: 11.730 min Scan# 1916
Delta R.T. 0.118 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:228 Resp:28403475

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 80.2 | 0.0 | 59.3# |
| 229 | 89.1 | 0.0 | 50.2# |

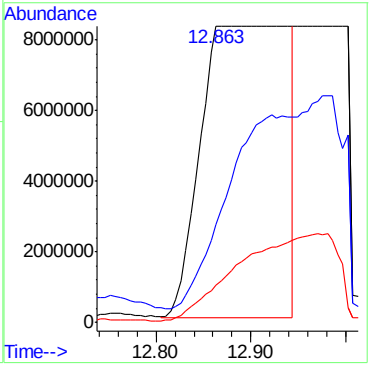


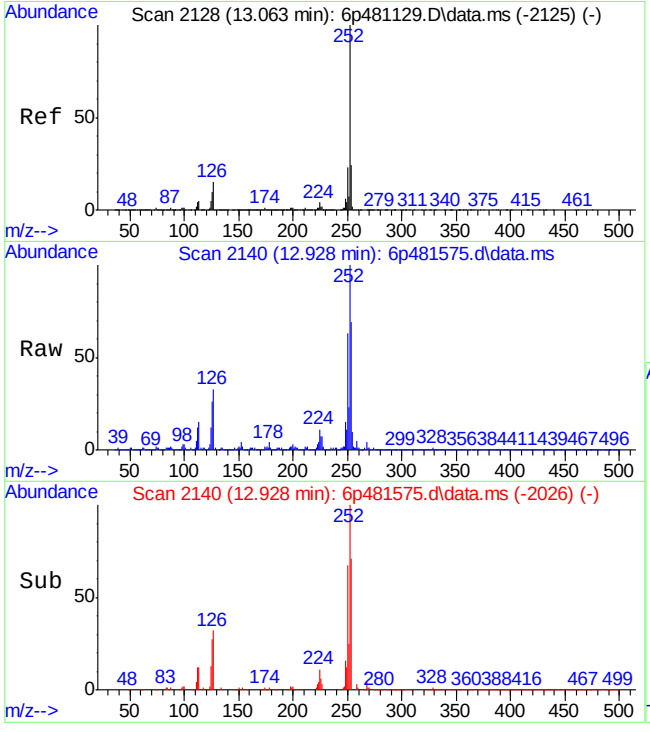



#93
Benzo[b]fluoranthene
Concen: 563.69 ppm m
RT: 12.863 min Scan# 2128
Delta R.T. 0.070 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:252 Resp:51797134

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 33.1 | 0.0 | 52.6 |
| 125 | 12.4 | 0.0 | 39.9 |

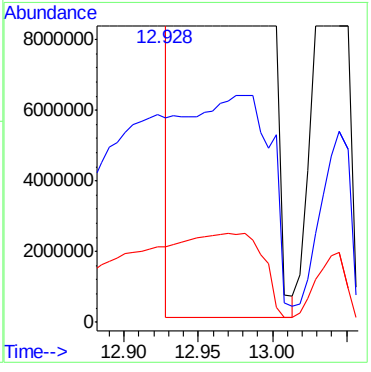


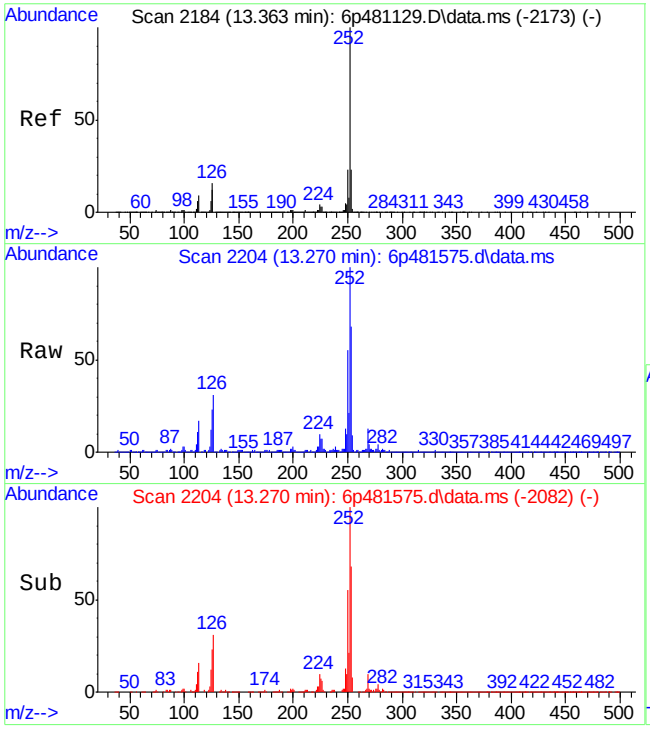




#94
Benzo[k]fluoranthene
Concen: 459.93 ppm m
RT: 12.928 min Scan# 2140
Delta R.T. 0.107 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:252 Resp:37412885

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 68.8 | 0.0 | 52.5# |
| 125 | 25.6 | 0.0 | 39.7 |

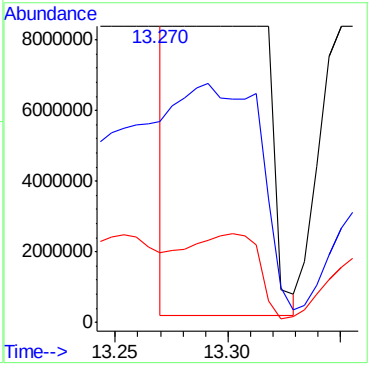


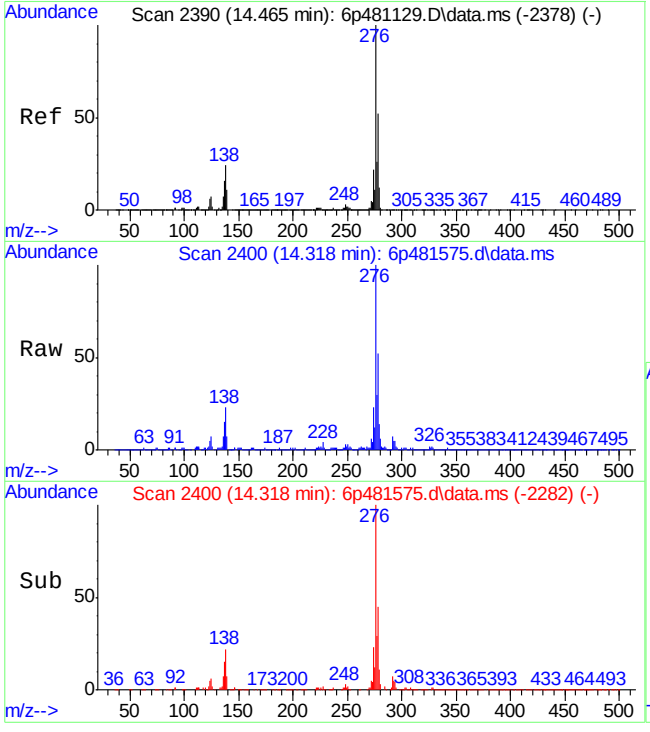



#95
Benzo[a]pyrene
Concen: 319.51 ppm m
RT: 13.270 min Scan# 2204
Delta R.T. 0.150 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:252 Resp:24120658

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 67.9 | 0.0 | 51.4# |
| 125 | 23.4 | 0.0 | 41.7 |

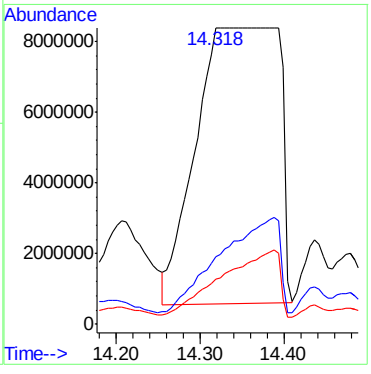


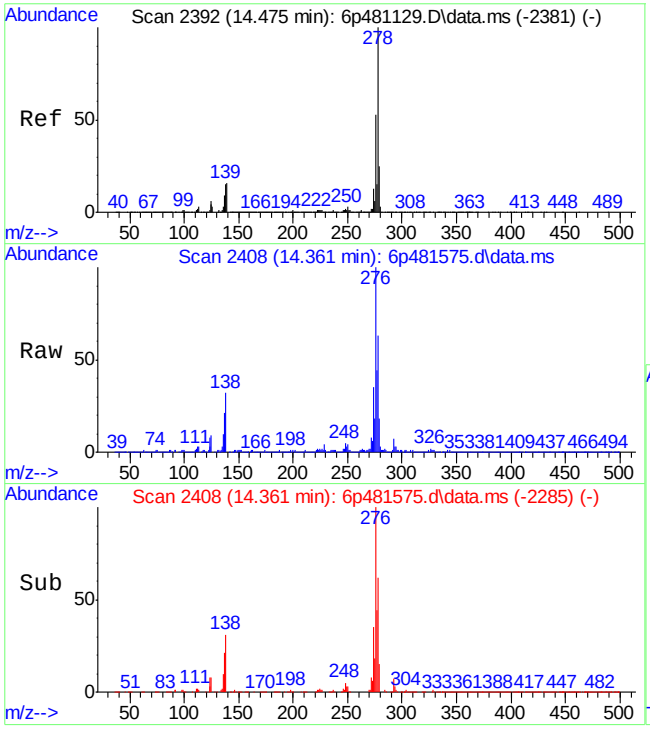




#96
Indeno[1,2,3-cd]pyrene
Concen: 526.92 ppm m
RT: 14.318 min Scan# 2400
Delta R.T. 0.128 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:276 Resp:53115632

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 22.7 | 0.0 | 56.6 |
| 137 | 15.3 | 0.0 | 47.6 |

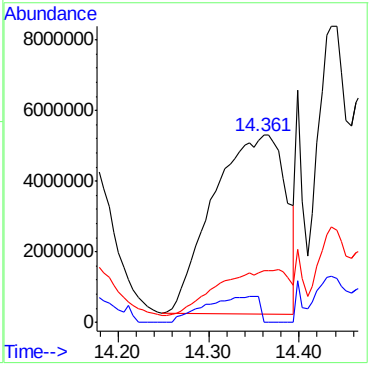


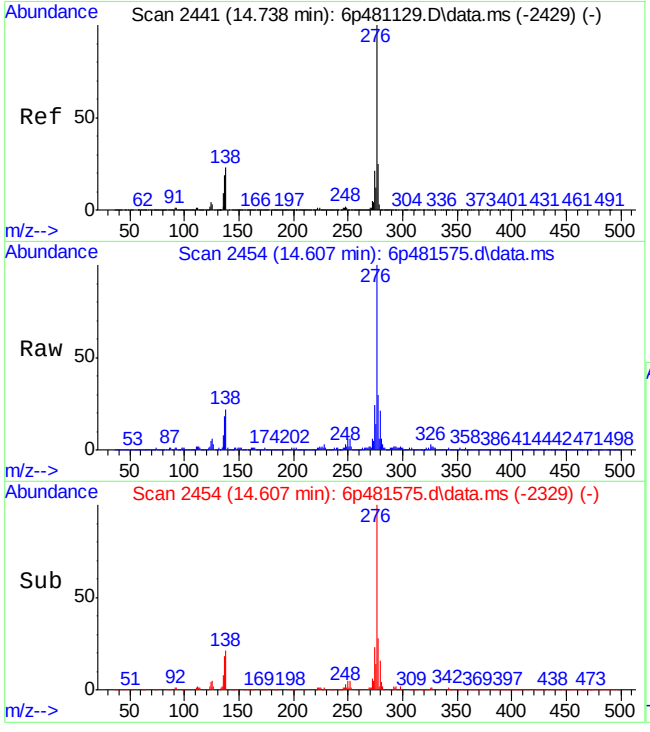



#98
Dibenz[a,h]anthracene
Concen: 313.90 ppm m
RT: 14.361 min Scan# 2408
Delta R.T. 0.155 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:278 Resp:28040431

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 0.0 | 0.0 | 45.4 |
| 279 | 27.7 | 0.0 | 54.8 |

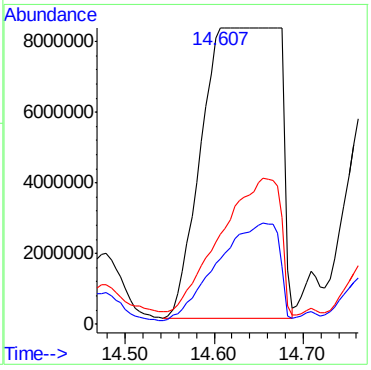



#100
Benzo[g,h,i]perylene
Concen: 628.96 ppm m
RT: 14.607 min Scan# 2454
Delta R.T. 0.166 min
Lab File: 6p481575.d
Acq: 2 May 2019 8:23 pm

Tgt Ion:276 Resp:49441878

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 22.0 | 0.0 | 54.7 |
| 277 | 30.2 | 0.0 | 53.6 |




9.1.2

9

# Manual Integration Approval Summary



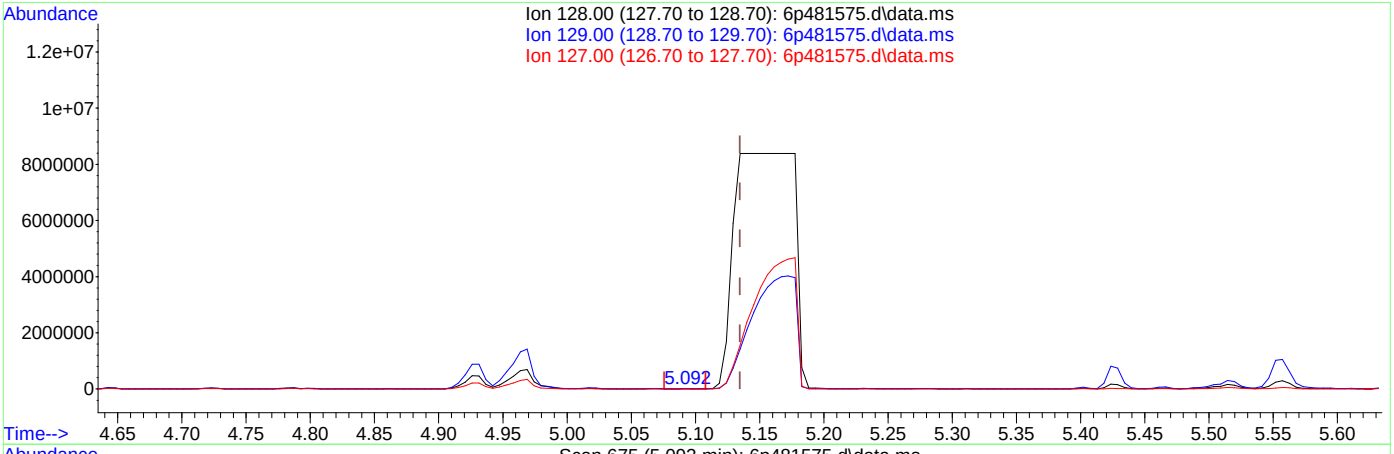
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-3 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481575.D | **Analyst approved:** | 05/09/19 11:27 Kristi Schollenberger |
| **Injection Time:** | 05/02/19 20:23 | **Supervisor approved:** | 05/09/19 11:32 Kristi Schollenberger |

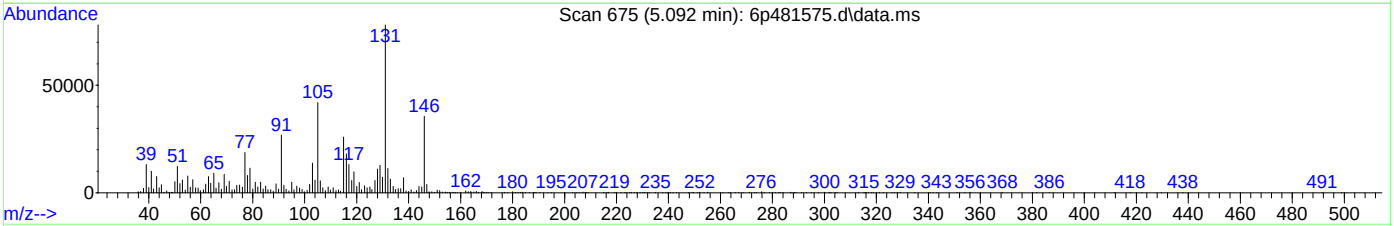
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.13 | Poor instrument integration |
| Acenaphthylene | 208-96-8 | | 6.63 | Poor instrument integration |
| Dibenzofuran | 132-64-9 | | 7.00 | Poor instrument integration |
| Fluorene | 86-73-7 | | 7.39 | Poor instrument integration |
| Phenanthrene | 85-01-8 | | 8.47 | Poor instrument integration |
| Anthracene | 120-12-7 | | 8.62 | Poor instrument integration |
| Carbazole | 86-74-8 | | 8.78 | Poor instrument integration |
| Fluoranthene | 206-44-0 | | 9.90 | Poor instrument integration |
| Pyrene | 129-00-0 | | 10.20 | Poor instrument integration |
| Terphenyl-d14 | 1718-51-0 | | 10.41 | Poor instrument integration |
| Benzo(a)anthracene | 56-55-3 | | 11.63 | Poor instrument integration |
| Chrysene | 218-01-9 | | 11.73 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.86 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.93 | Poor instrument integration |
| Benzo(a)pyrene | 50-32-8 | | 13.35 | Poor instrument integration |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 14.32 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.36 | Poor instrument integration |
| Benzo(g,h,i)perylene | 191-24-2 | | 14.61 | Poor instrument integration |

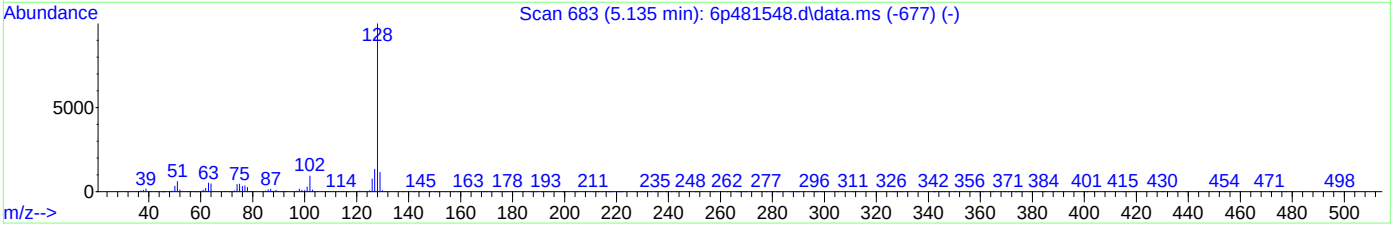
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(38) Naphthalene (t)

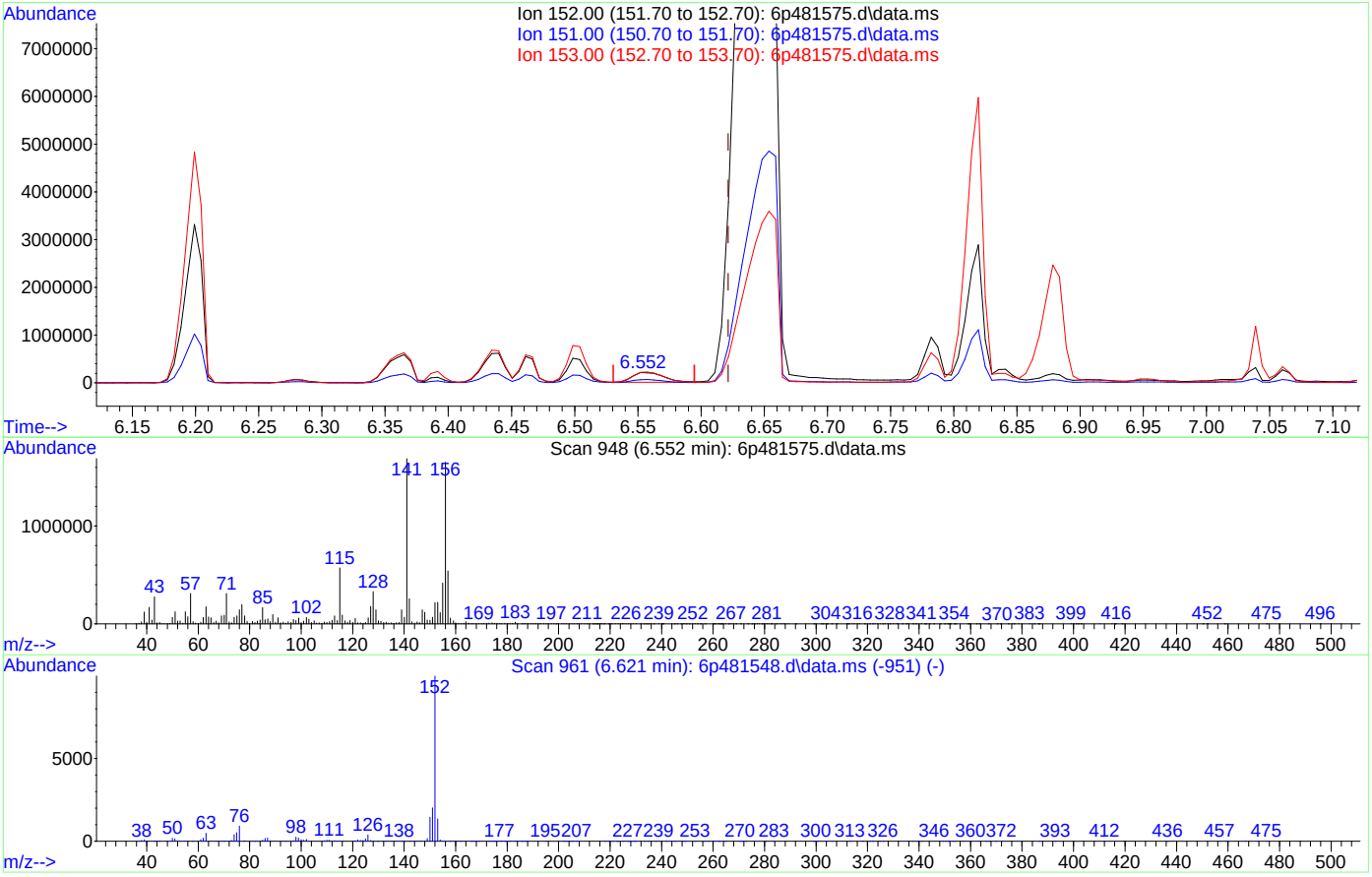
5.092min (-0.043) 0.16ppm

response 8271

| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.40 | 78.21# |
| 127.00 | 13.30 | 58.85# |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(56) Acenaphthylene (t)

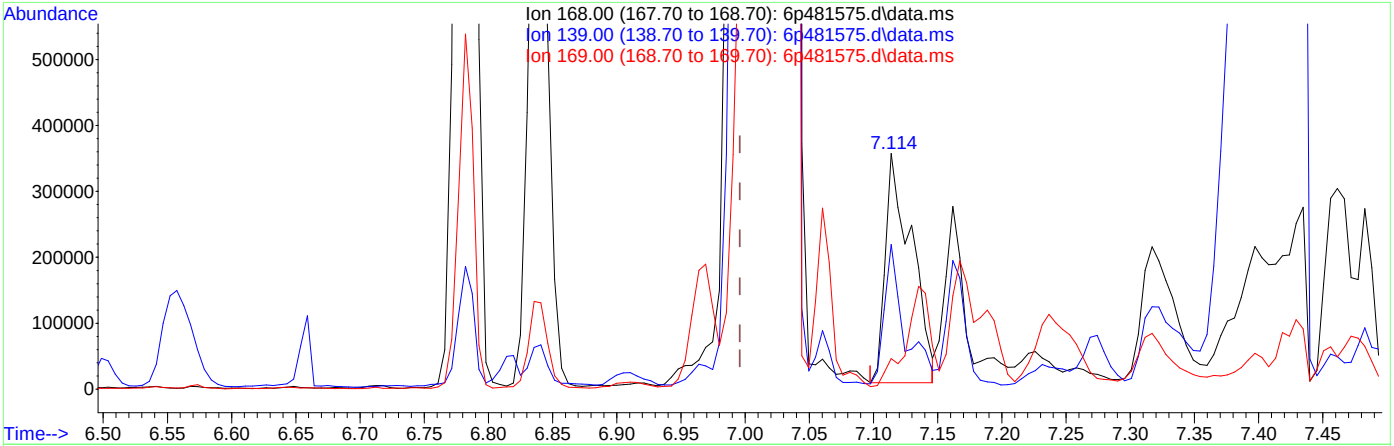
6.552min (-0.069) 5.94ppm

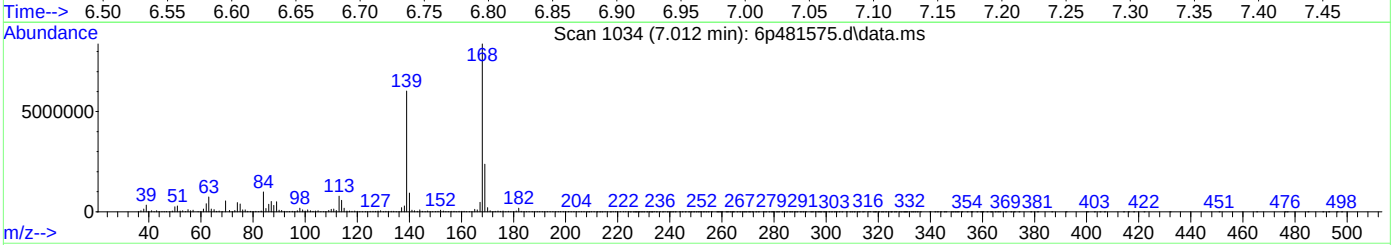
response 351300

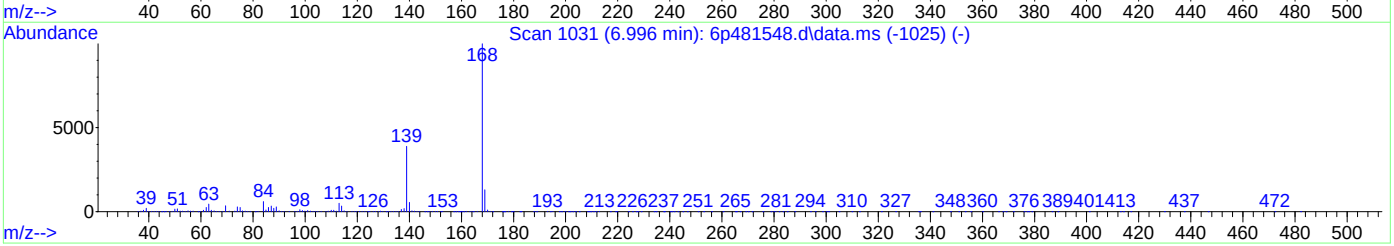
| Ion | Exp% | Act% |
|---|---|---|
| 152.00 | 100 | 100 |
| 151.00 | 20.10 | 29.44 |
| 153.00 | 13.50 | 103.62# |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(62) Dibenzofuran (t)

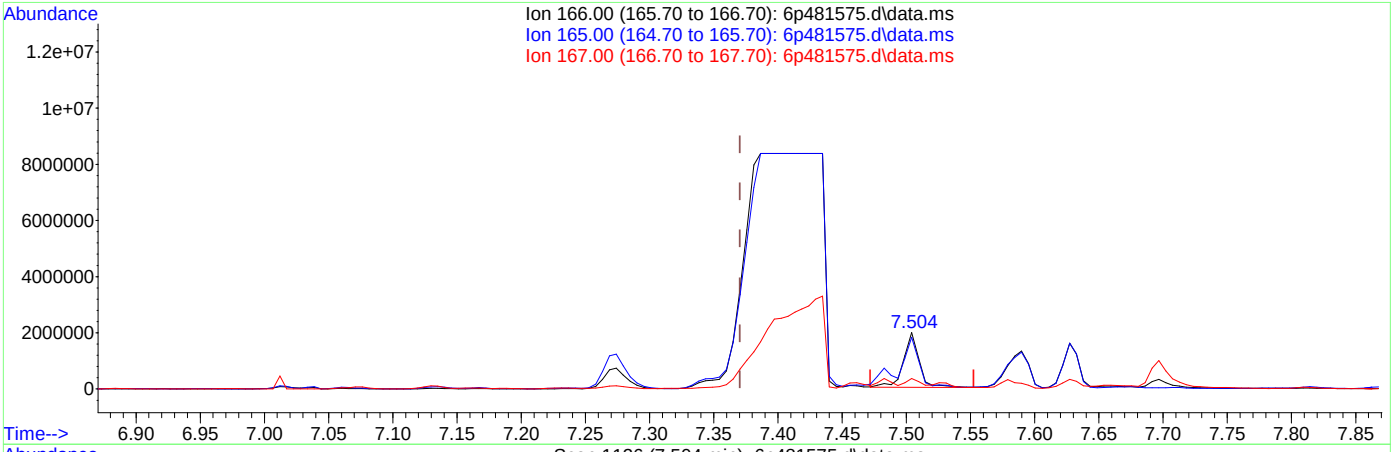
7.114min (+0.118) 9.04ppm

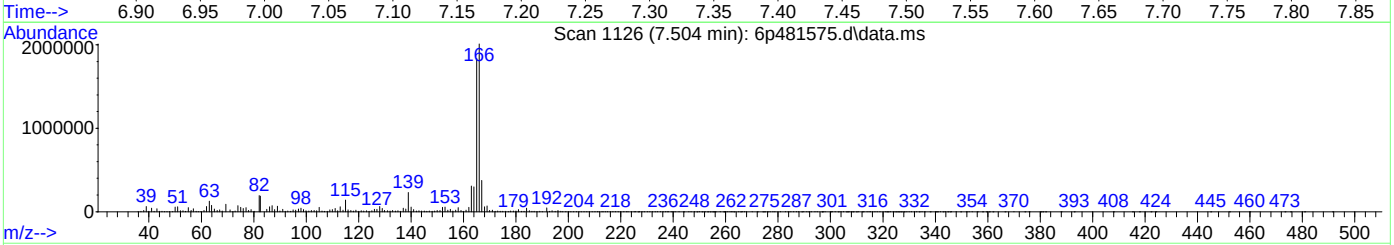
response 494242

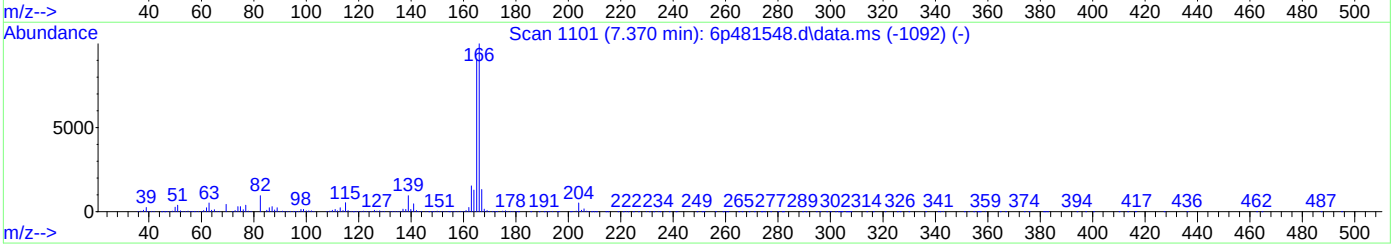
| Ion | Exp% | Act% |
|---|---|---|
| 168.00 | 100 | 100 |
| 139.00 | 38.80 | 61.14 |
| 169.00 | 13.00 | 3.50 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(66) Fluorene (t)

7.504min (+0.134) 37.33ppm

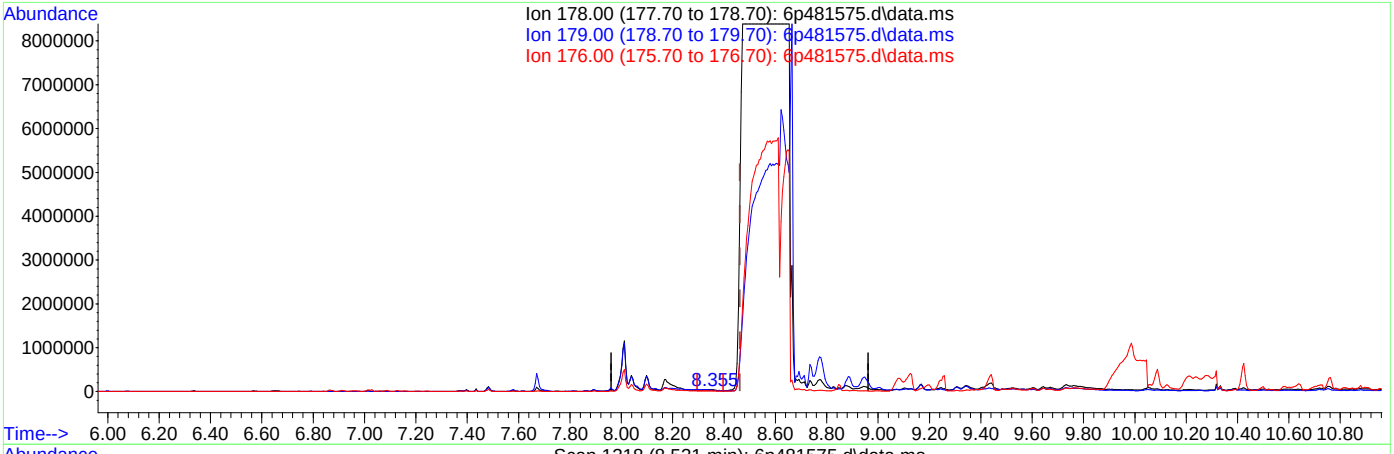
response 1656919

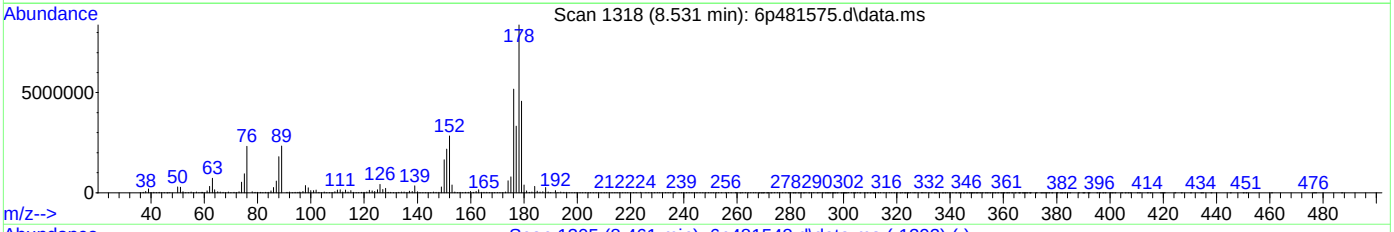
| Ion | Exp% | Act% |
|---|---|---|
| 166.00 | 100 | 100 |
| 165.00 | 90.90 | 88.31 |
| 167.00 | 13.10 | 14.78 |
| 0.00 | 0.00 | 0.00 |

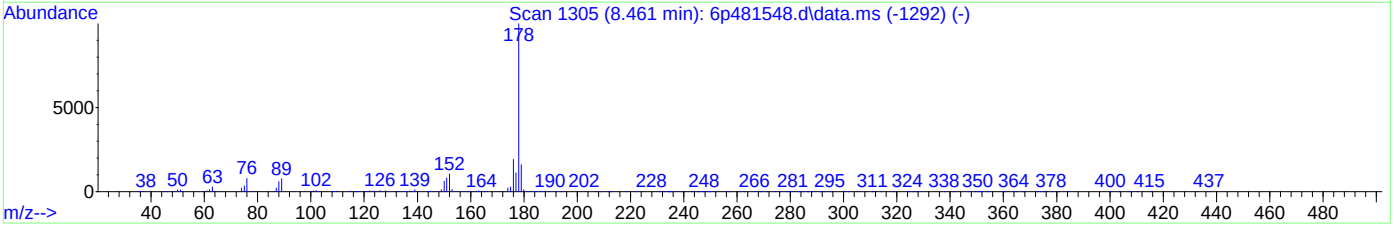
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(77) Phenanthrene (t)

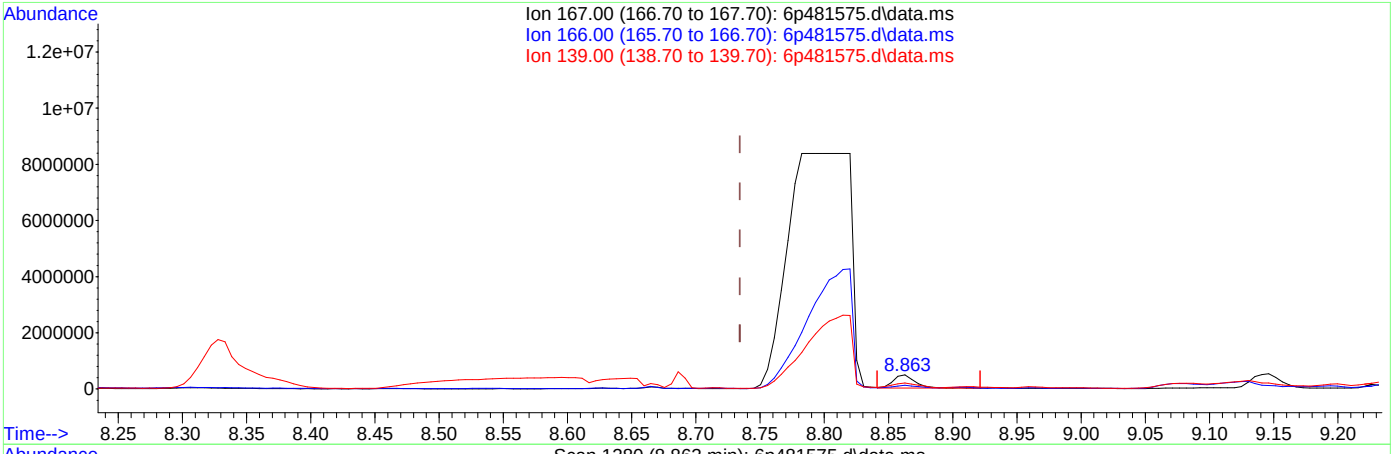
8.355min (-0.107) 1.62ppm

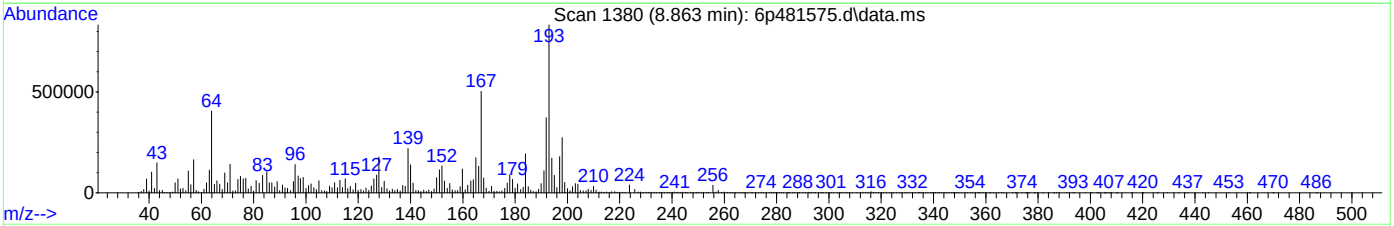
response 84003

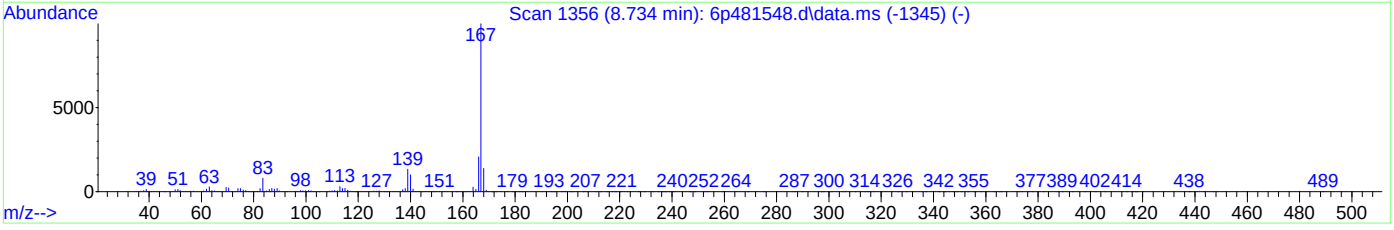
| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 0.00 |
| 176.00 | 19.10 | 32.64 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                  Inst    : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(79) Carbazole (t)

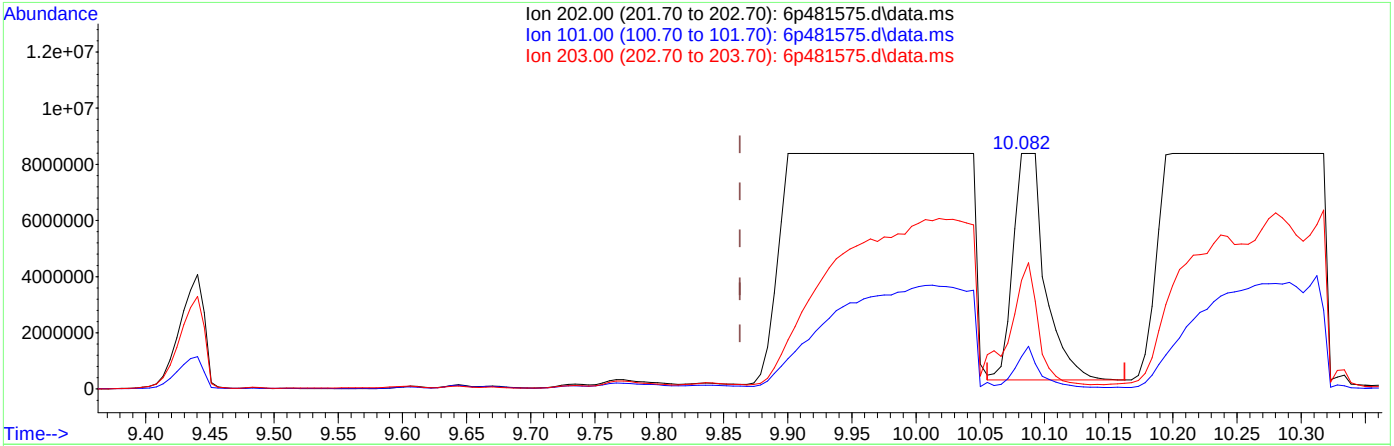
8.863min (+0.128) 11.33ppm

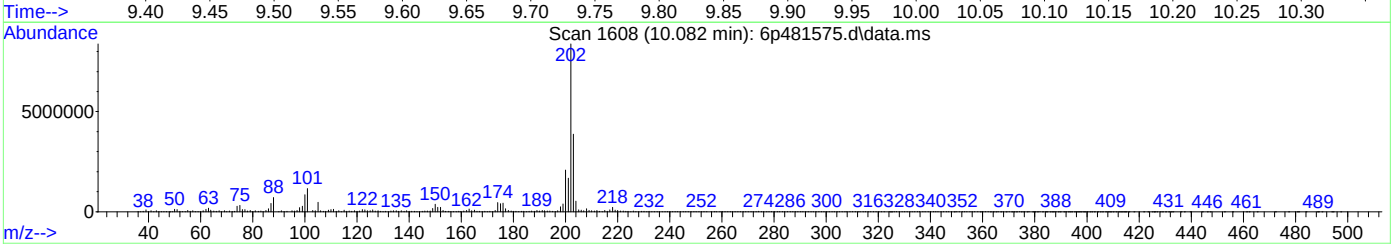
response 556578

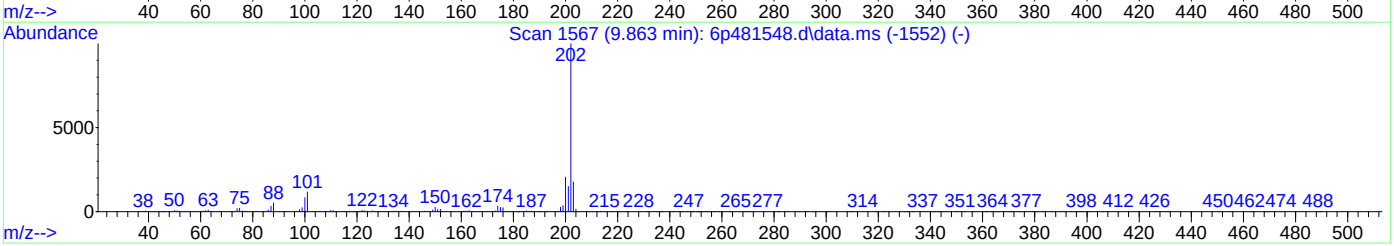
| Ion | Exp% | Act% |
|---|---|---|
| 167.00 | 100 | 100 |
| 166.00 | 20.70 | 20.79 |
| 139.00 | 13.30 | 33.92 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                Inst    : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(81) Fluoranthene (t)

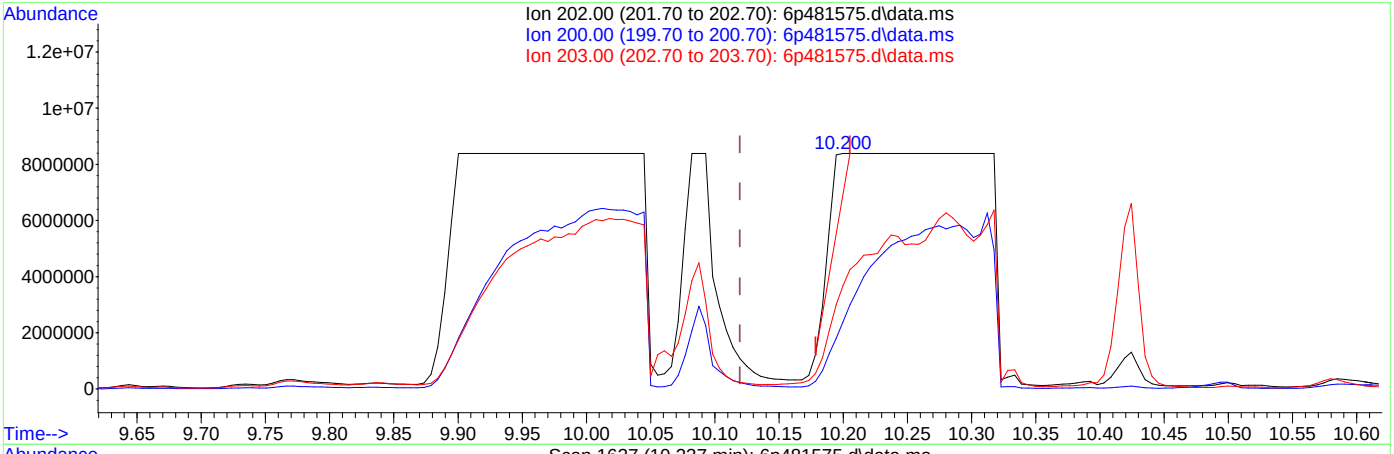
10.082min (+0.219) 247.78ppm

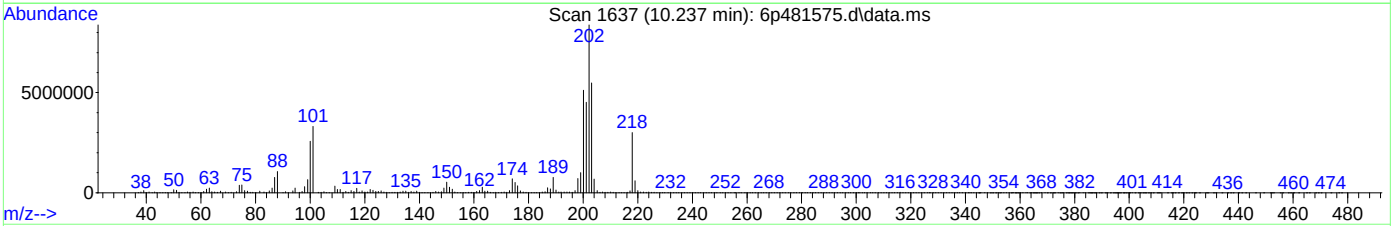
response 13926403

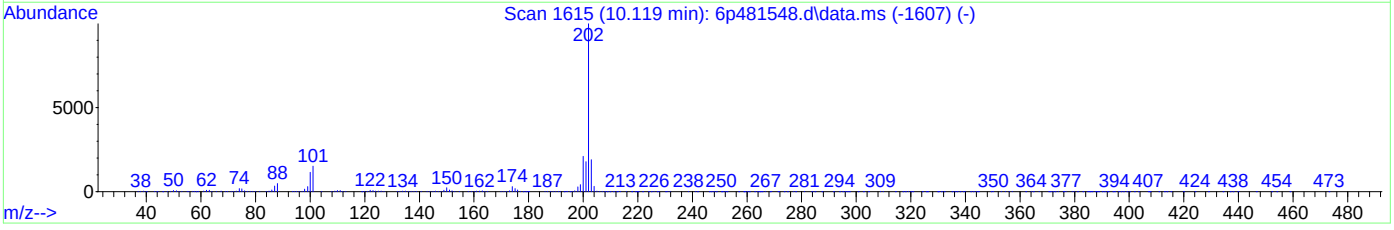
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 101.00 | 11.60 | 12.64 |
| 203.00 | 17.60 | 39.56 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                  Inst    : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(84) Pyrene (t)

10.200min (+0.080) 43.18ppm

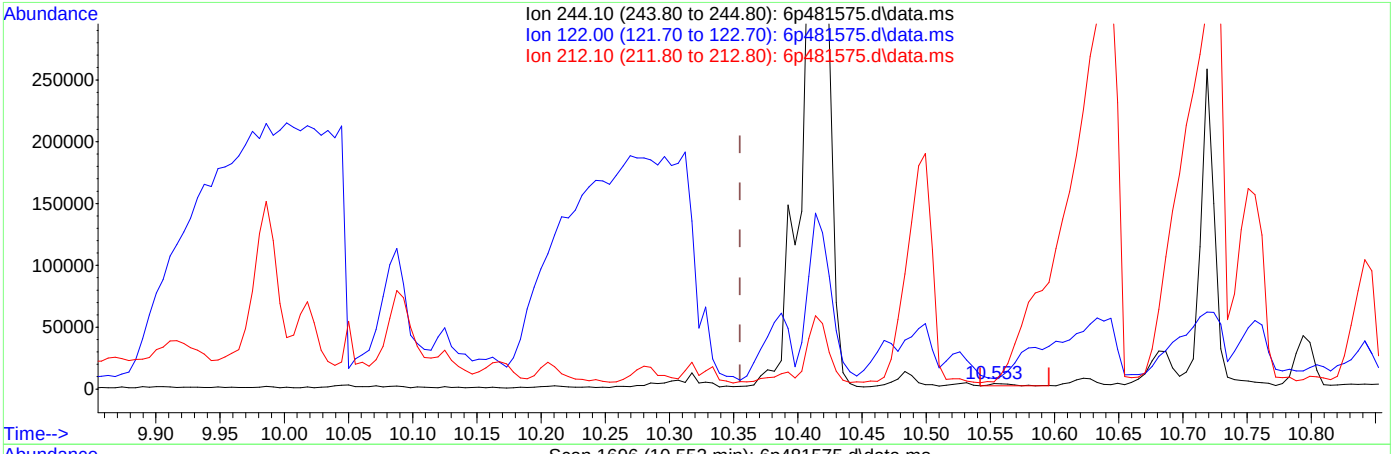
response 3403026

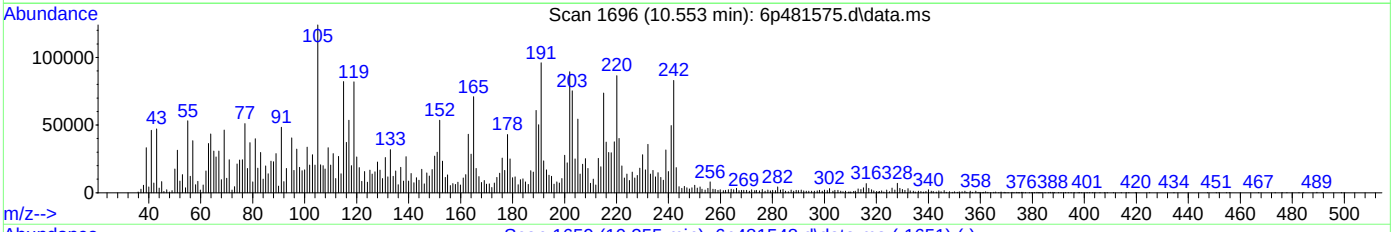
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 200.00 | 20.90 | 20.97 |
| 203.00 | 18.90 | 35.41 |
| 0.00 | 0.00 | 0.00 |

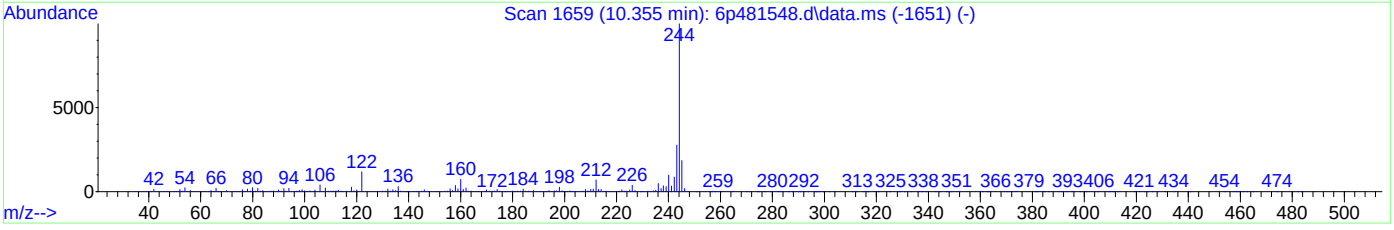
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(85) Terphenyl-d14 (S)

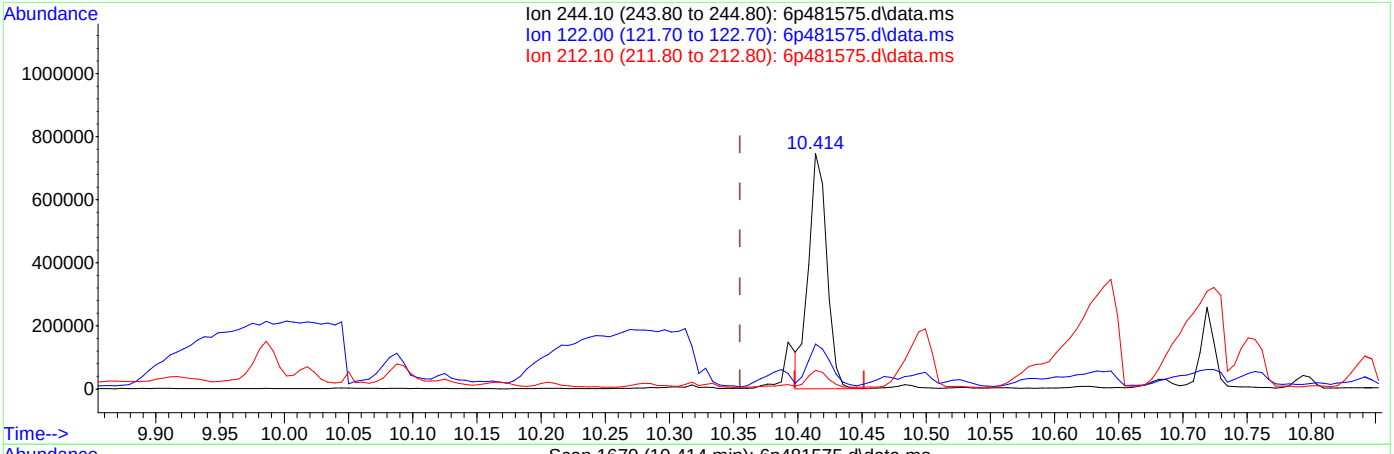
10.553min (+0.198) 0.03ppm

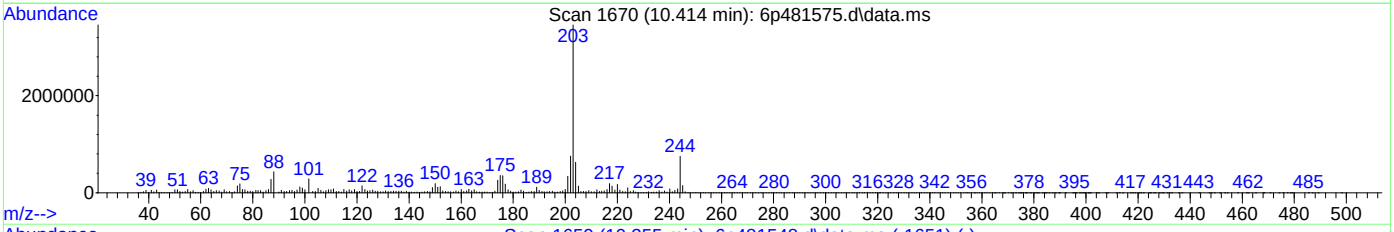
response 1754

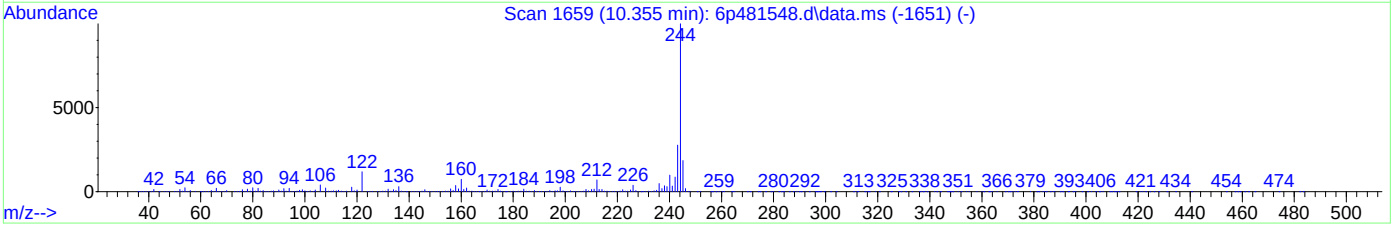
| Ion | Exp% | Act% |
|---|---|---|
| 244.10 | 100 | 100 |
| 122.00 | 11.70 | 0.00 |
| 212.10 | 6.90 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(85) Terphenyl-d14 (S)

10.414min (+0.059) 13.38ppm m

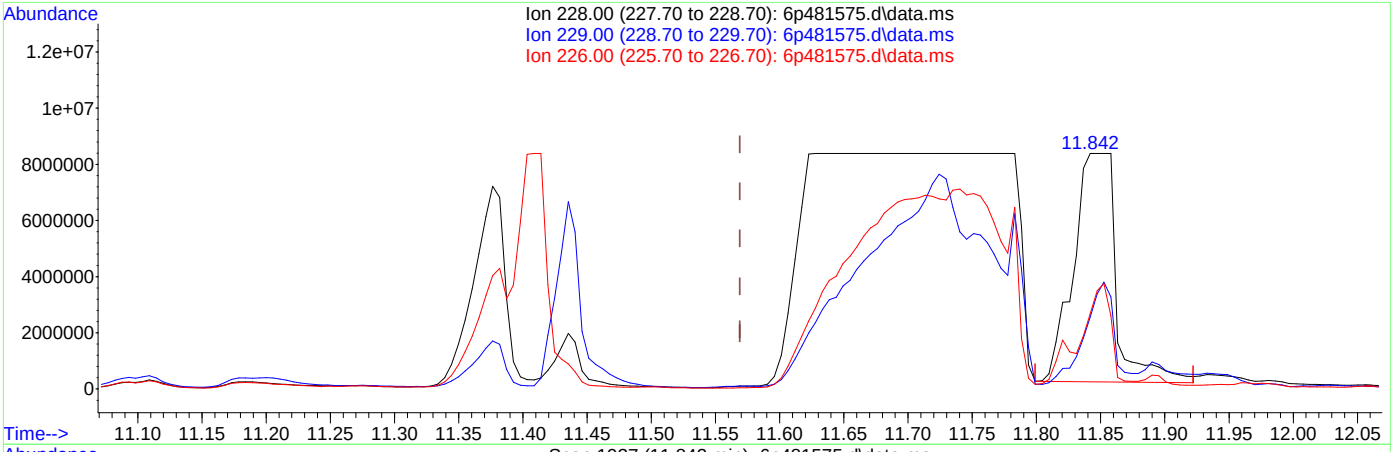
response 737542

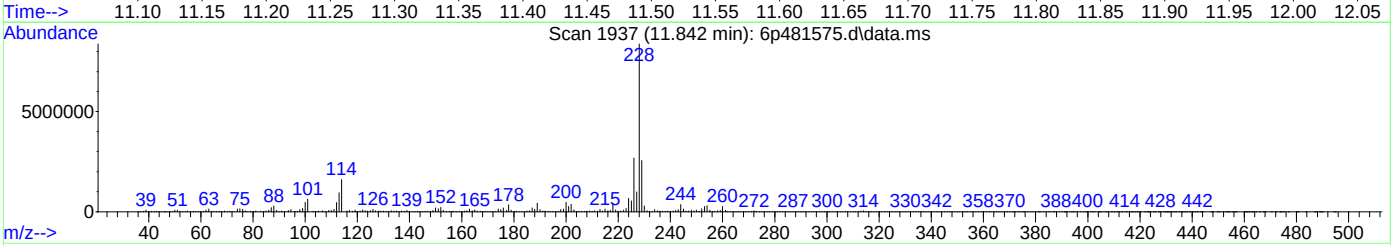
| Ion | Exp% | Act% |
|---|---|---|
| 244.10 | 100 | 100 |
| 122.00 | 11.70 | 19.06 |
| 212.10 | 6.90 | 7.94 |
| 0.00 | 0.00 | 0.00 |

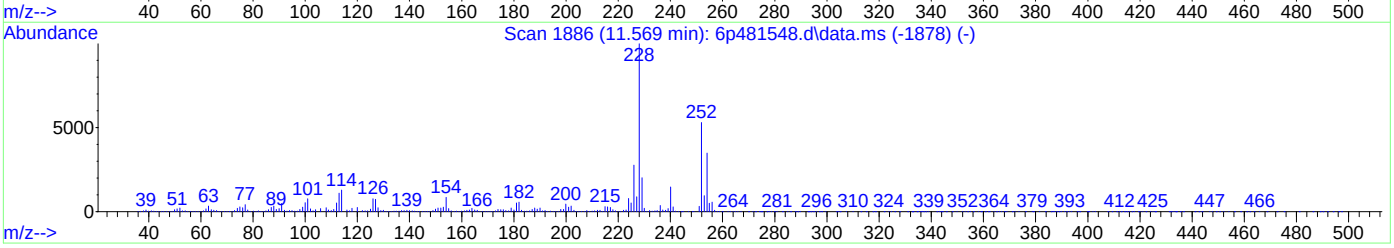
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(87) Benzo[a]anthracene (t)

11.842min (+0.273) 250.73ppm

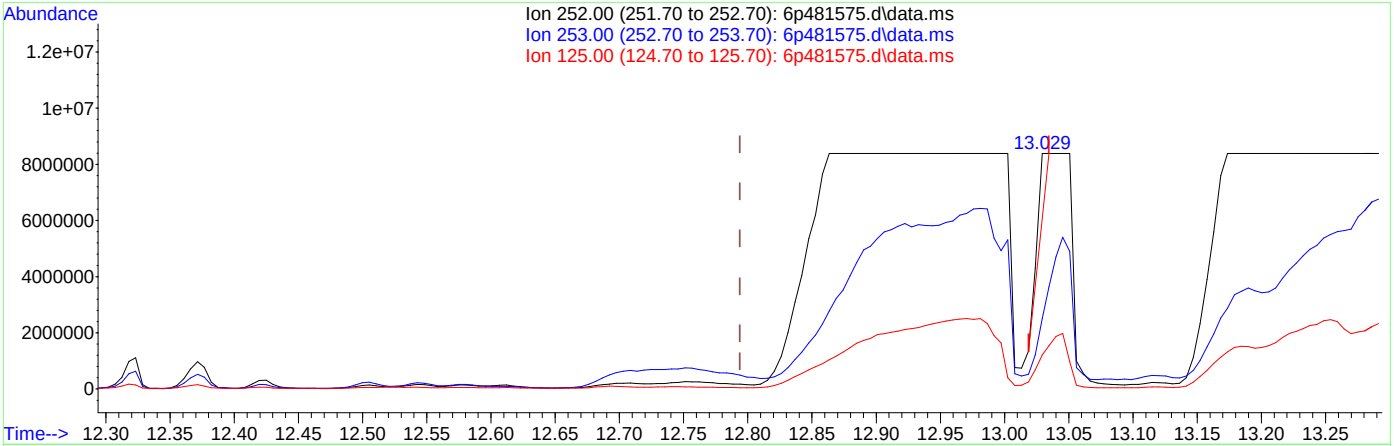
response 18893362

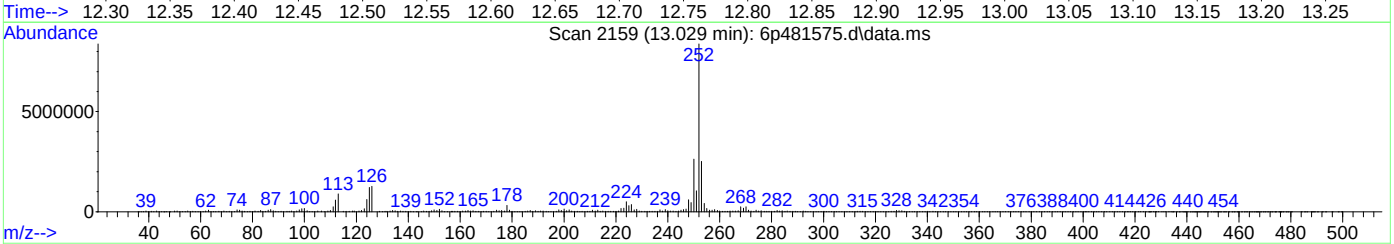
| Ion | Exp% | Act% |
|---|---|---|
| 228.00 | 100 | 100 |
| 229.00 | 20.10 | 27.49 |
| 226.00 | 27.70 | 31.45 |
| 0.00 | 0.00 | 0.00 |

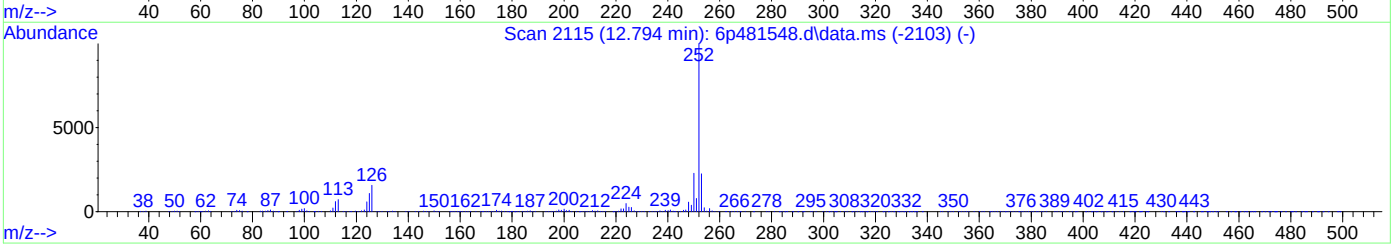
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(93) Benzo[b]fluoranthene (t)

13.029min (+0.235) 24.70ppm

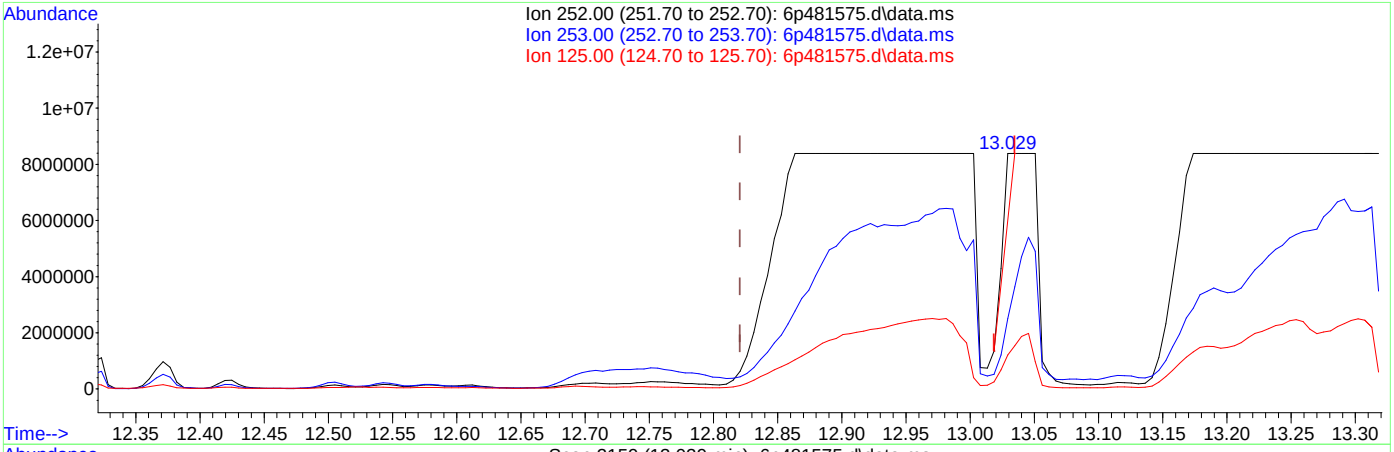
response 2269845

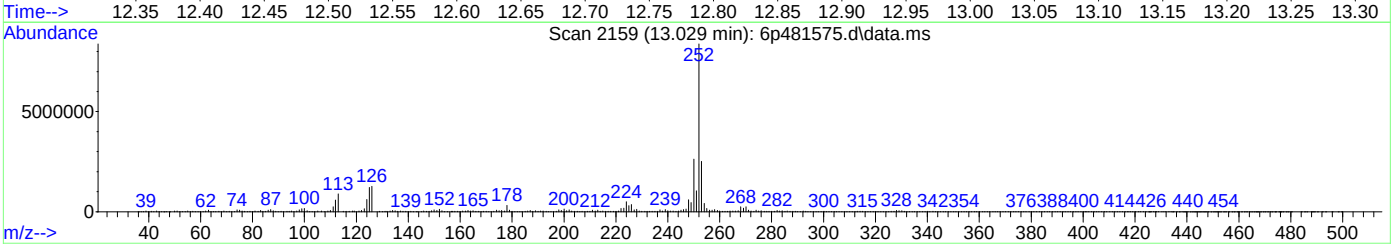
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 12.27 |
| 125.00 | 9.90 | 9.12 |
| 0.00 | 0.00 | 0.00 |

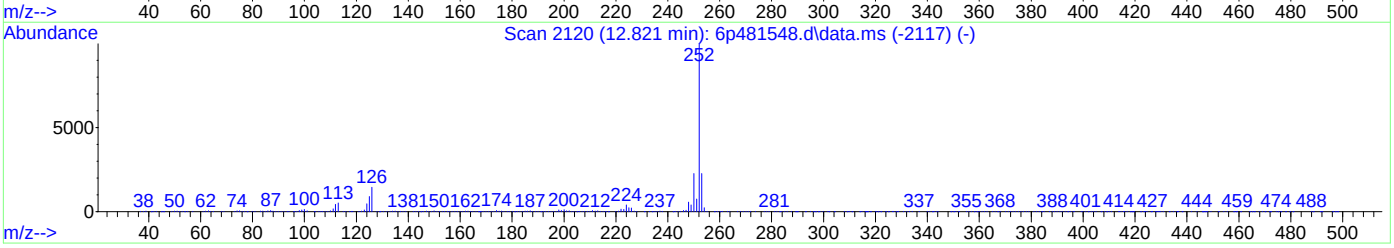
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(94) Benzo[k]fluoranthene (t)

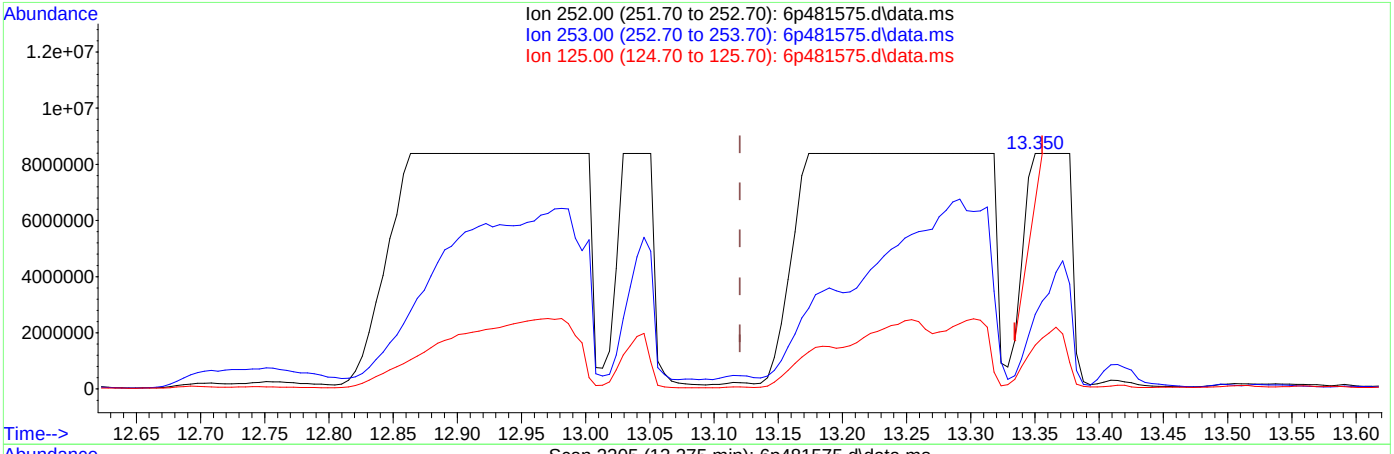
13.029min (+0.209) 27.90ppm

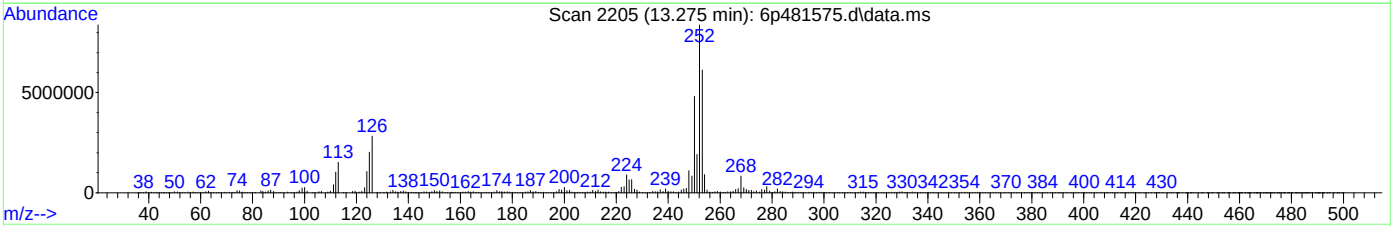
response 2269845

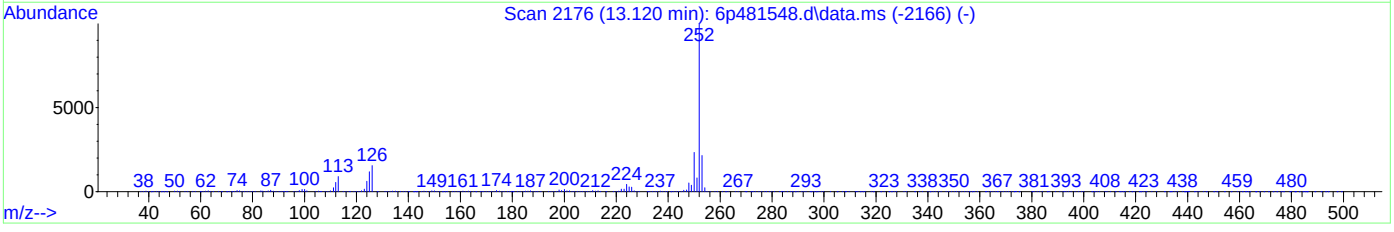
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.50 | 12.27 |
| 125.00 | 9.70 | 9.12 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                  Inst    : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(95) Benzo[a]pyrene (t)

13.350min (+0.230) 40.16ppm

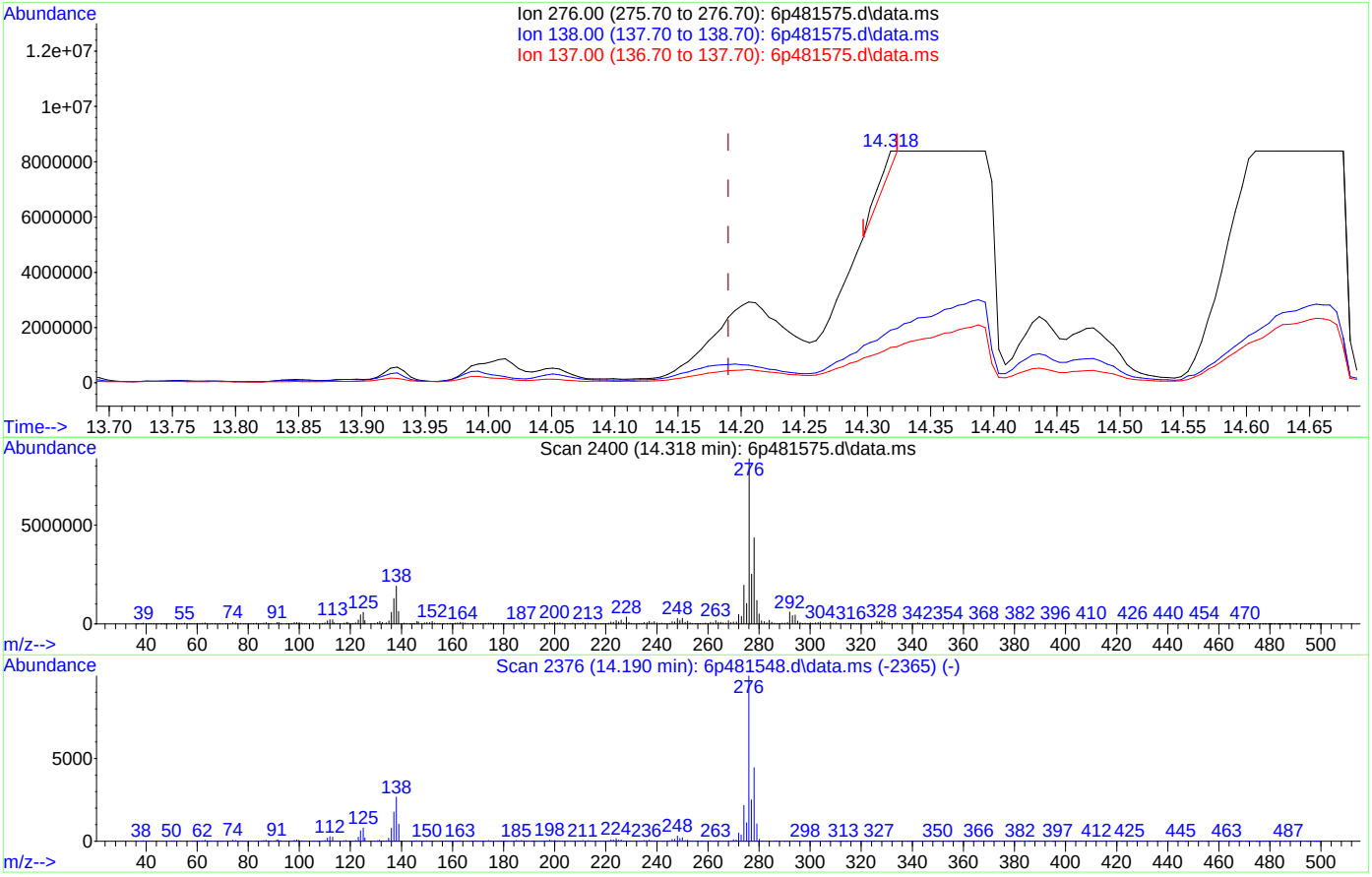
response 3031596

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 21.40 | 25.76 |
| 125.00 | 11.70 | 14.46 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

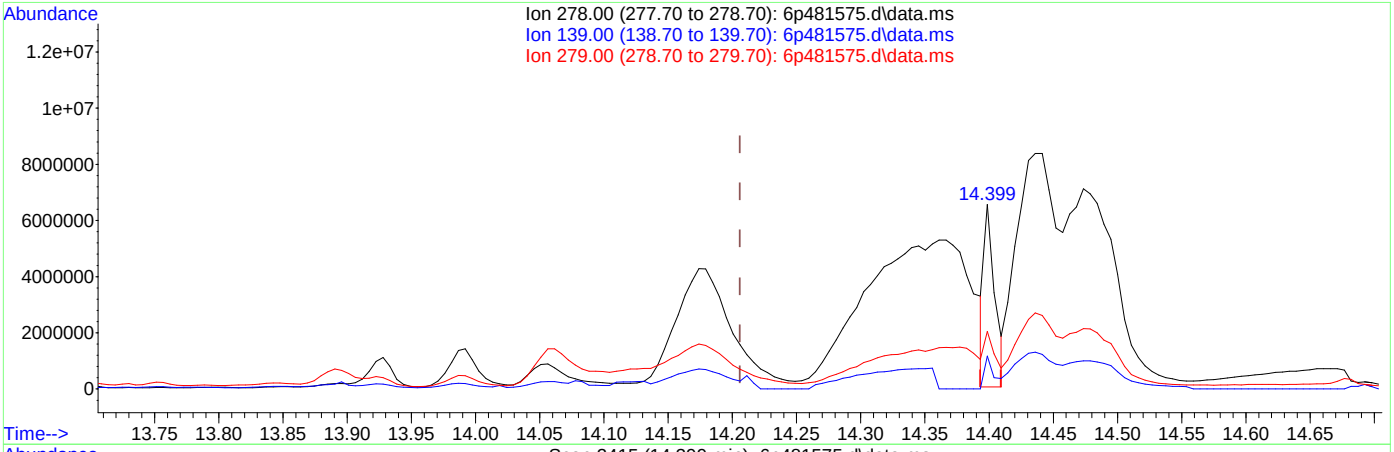
14.318min (+0.128) 23.62ppm

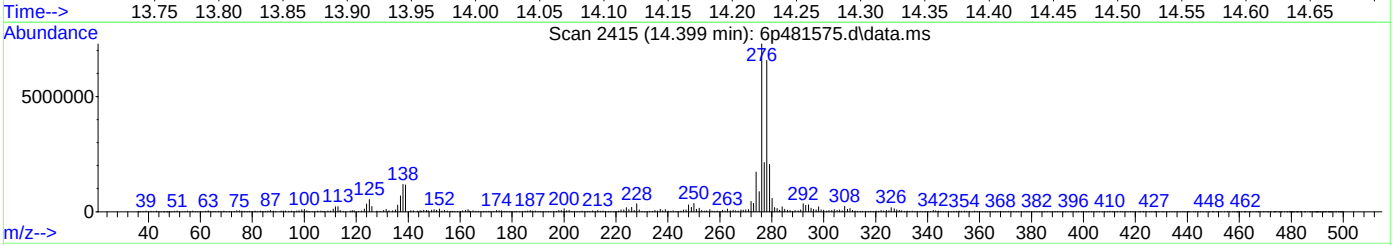
response 2381044

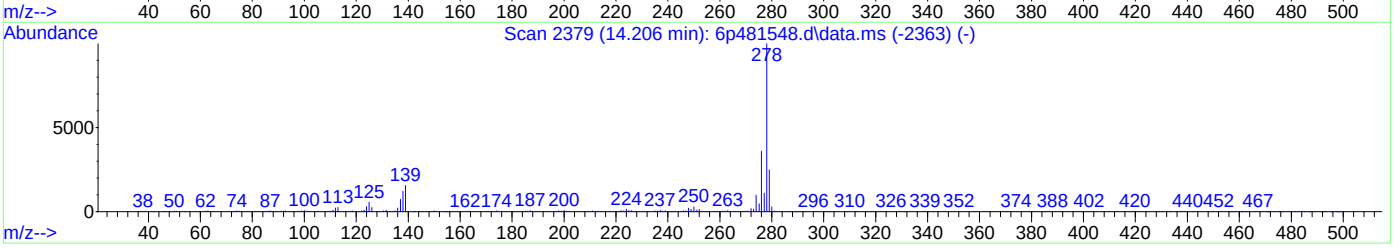
| Ion | Exp% | Act% |
|---|---|---|
| 276.00 | 100 | 100 |
| 138.00 | 26.60 | 15.81 |
| 137.00 | 17.60 | 11.29 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On    :  2 May 2019   8:23 pm
Operator  : angelar
Sample    : jc86986-3                                Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,2
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481575.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.399min (+0.193) 41.84ppm

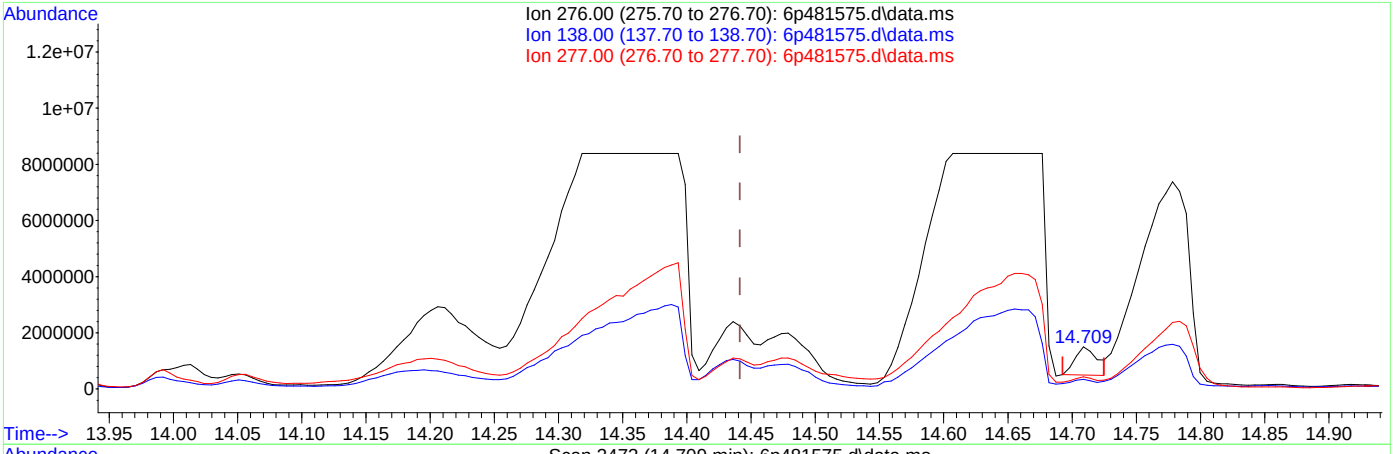
response 3737819

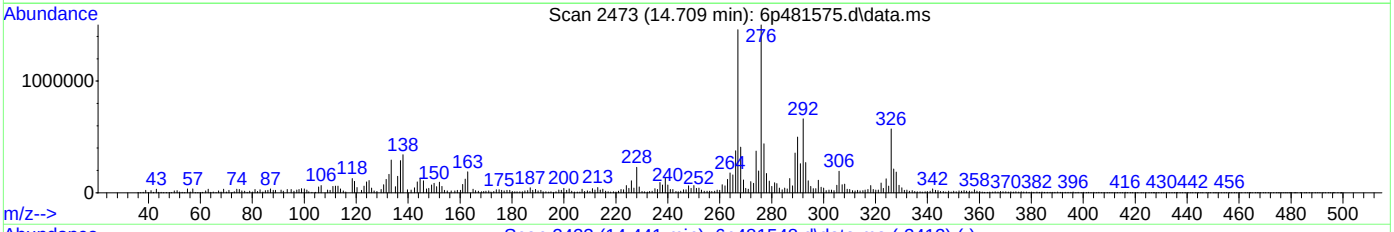
| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 15.40 | 24.66 |
| 279.00 | 24.80 | 29.00 |
| 0.00 | 0.00 | 0.00 |

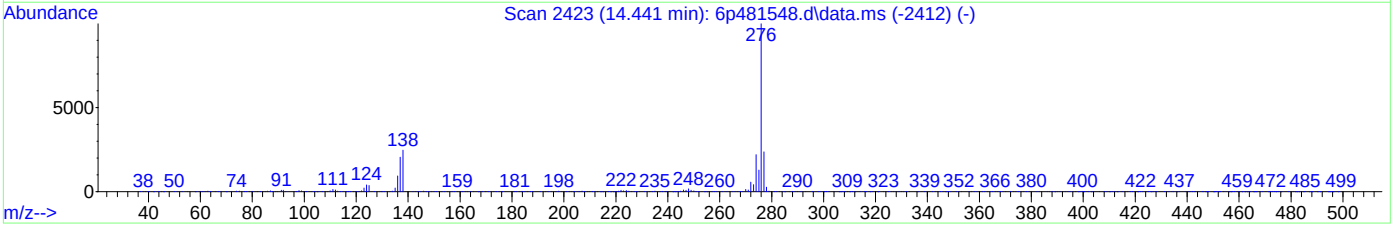
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(100) Benzo[g,h,i]perylene (t)

14.709min (+0.268) 15.77ppm

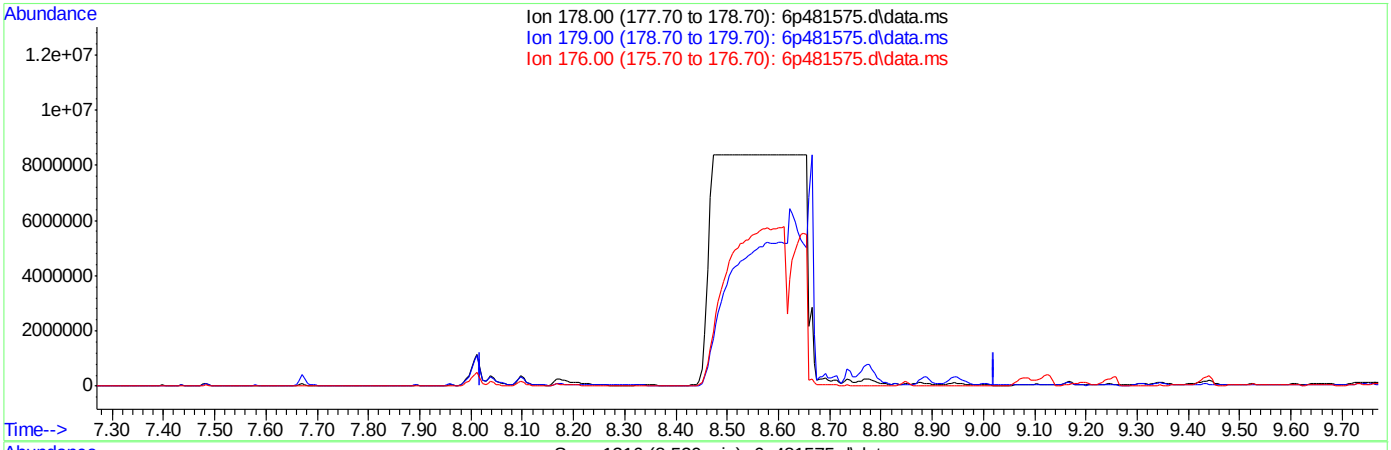
response 1239560

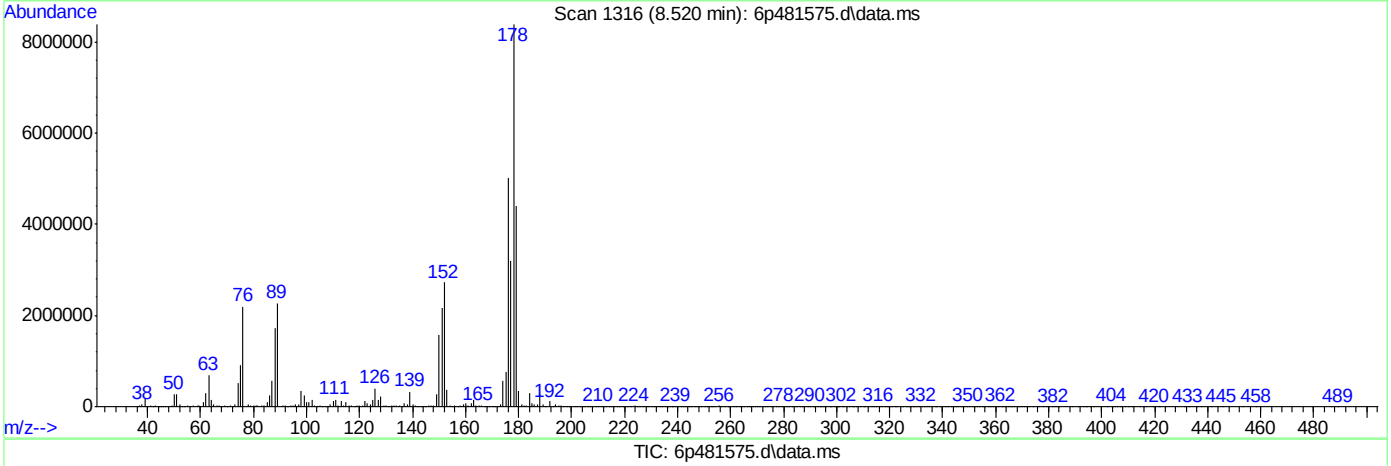
| Ion | Exp% | Act% |
|---|---|---|
| 276.00 | 100 | 100 |
| 138.00 | 24.70 | 9.02 |
| 277.00 | 23.60 | 21.23 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 03 06:55:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




(78) Anthracene (t)

8.520min 0.00ppm d

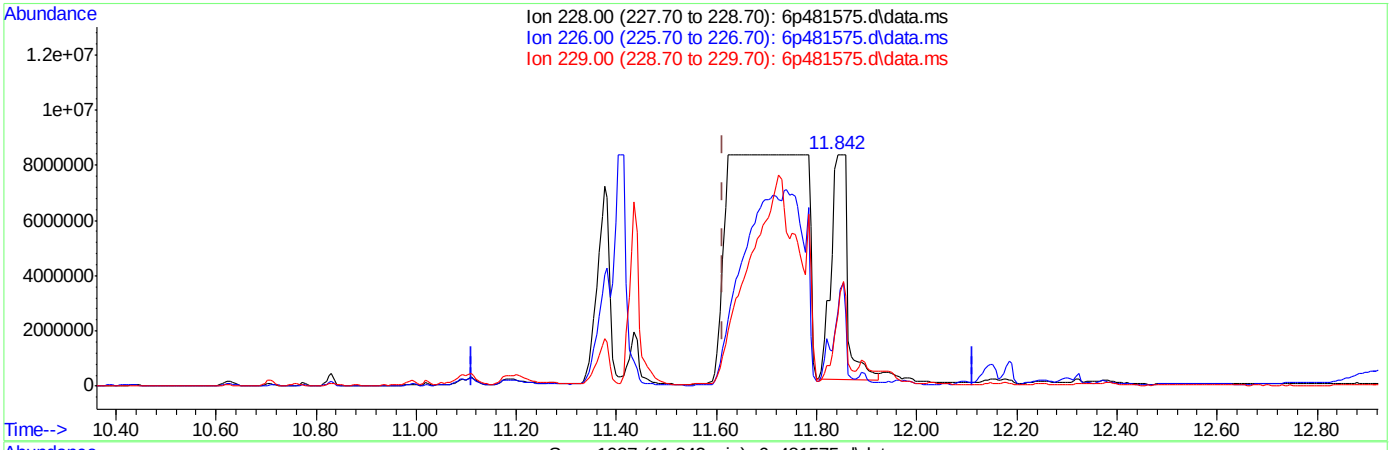
response 0

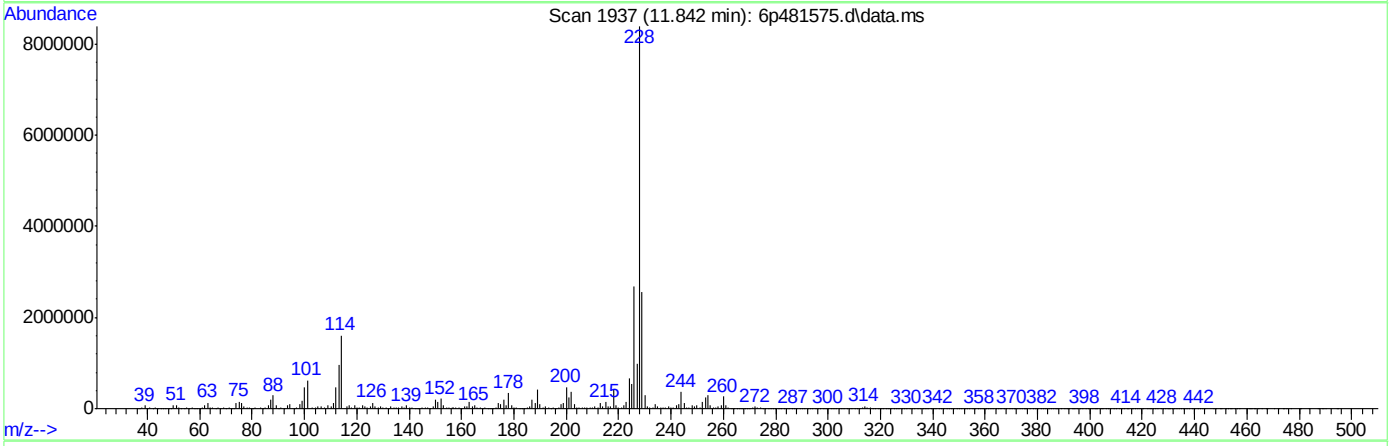
| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 0.00 |
| 179.00 | 16.10 | 0.00 |
| 176.00 | 19.30 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481575.d
Acq On : 2 May 2019 8:23 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2579,30.1,,,1,2
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 09 11:21:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481575.d\data.ms

(89) Chrysene (t)

11.842min (+0.230) 254.84ppm

response 18831934

| Ion | Exp% | Act% |
|---|---|---|
| 228.00 | 100 | 100 |
| 226.00 | 29.30 | 31.45 |
| 229.00 | 20.20 | 27.49 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 11:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481617.D
Acq On : 3 May 2019 3:42 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2581,30.1,,,1,200
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 16:10:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 549902 | 40.00 | ppm | -0.01 |
| 24) Naphthalene-d8 | 5.086 | 136 | 2067477 | 40.00 | ppm | -0.01 |
| 47) Acenaphthene-d10 | 6.739 | 164 | 1128684 | 40.00 | ppm | -0.01 |
| 69) Phenanthrene-d10 | 8.397 | 188 | 2001899 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.542 | 240 | 1761008 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.136 | 264 | 1771064 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 549902 | 40.00 | ppm | -0.01 |
| 103) Acenaphthene-d10a | 6.739 | 164 | 1128684 | 40.00 | ppm | -0.01 |
| 105) Phenanthrene-d10a | 8.397 | 188 | 2001899 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.542 | 240 | 1761008 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.086 | 136 | 2067477 | 40.00 | ppm | -0.01 |
| 113) Phenanthrene-d10b | 8.397 | 188 | 2001899 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.542 | 240 | 1761008 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.172 | 112 | 2220 | 0.14 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 0.28% | |
| 8) Phenol-d5 | 3.931 | 99 | 2874 | 0.15 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 0.30% | |
| 25) Nitrobenzene-d5 | 4.552 | 82 | 2561 | 0.15 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 0.30% | |
| 51) 2-Fluorobiphenyl | 6.065 | 172 | 5370 | 0.13 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 0.26% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 10.317 | 244 | 7101 | 0.17 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 0.34% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.108 | 128 | 1433682 | 26.63 | ppm | 100 |
| 44) 2-Methylnaphthalene | 5.712 | 141 | 121263 | 3.98 | ppm | 95 |
| 53) Biphenyl | 6.161 | 154 | 117633 | 2.72 | ppm | 99 |
| 56) Acenaphthylene | 6.589 | 152 | 377923 | 7.36 | ppm | 98 |
| 59) Acenaphthene | 6.771 | 153 | 49990 | 1.47 | ppm | 94 |
| 62) Dibenzofuran | 6.964 | 168 | 559621 | 11.79 | ppm | 91 |
| 66) Fluorene | 7.338 | 166 | 755282 | 19.59 | ppm | 99 |
| 77) Phenanthrene | 8.429 | 178 | 3903768 | 72.63 | ppm | 99 |
| 78) Anthracene | 8.483 | 178 | 1025188 | 19.02 | ppm | 98 |
| 79) Carbazole | 8.697 | 167 | 496753 | 9.74 | ppm | 99 |
| 81) Fluoranthene | 9.831 | 202 | 3534489 | 60.53 | ppm | 98 |
| 84) Pyrene | 10.087 | 202 | 2609875 | 44.49 | ppm | 99 |
| 87) Benzo[a]anthracene | 11.532 | 228 | 1073953 | 19.15 | ppm | 99 |
| 89) Chrysene | 11.569 | 228 | 976862 | 17.76 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 12.746 | 252 | 1144238m | 21.15 | ppm | |
| 94) Benzo[k]fluoranthene | 12.767 | 252 | 309293m | 6.46 | ppm | |
| 95) Benzo[a]pyrene | 13.077 | 252 | 724943 | 16.31 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 14.142 | 276 | 476148 | 8.02 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481617.D
Acq On : 3 May 2019 3:42 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2581,30.1,,,1,200
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 16:10:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 98) | Dibenz[a,h]anthracene | 14.147 | 278 | 129021 | 2.45 ppm | 97 |
| 100) | Benzo[g,h,i]perylene | 14.382 | 276 | 430636 | 9.31 ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

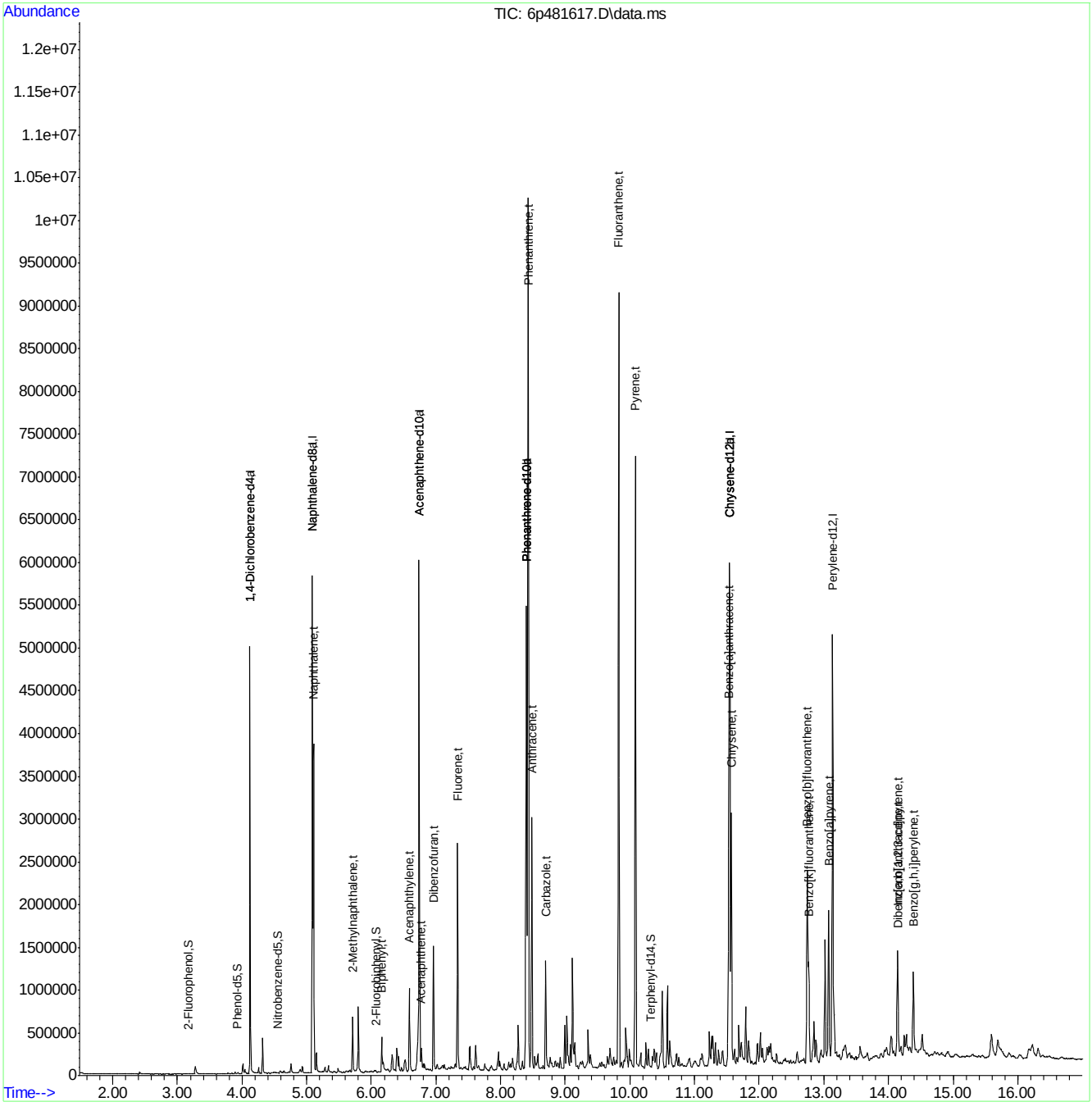
9.1.3

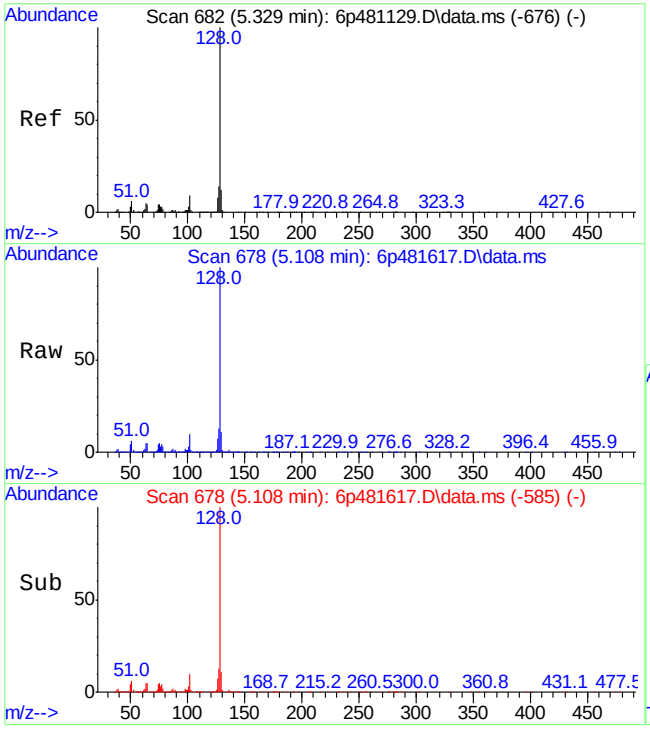
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481617.D
Acq On : 3 May 2019 3:42 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2581,30.1,,,1,200
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 16:10:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration

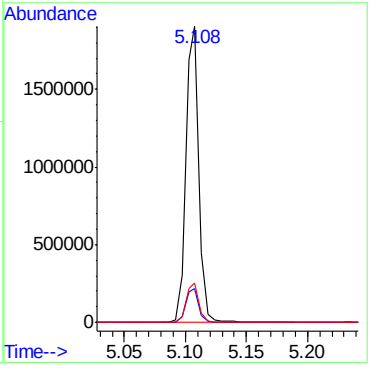


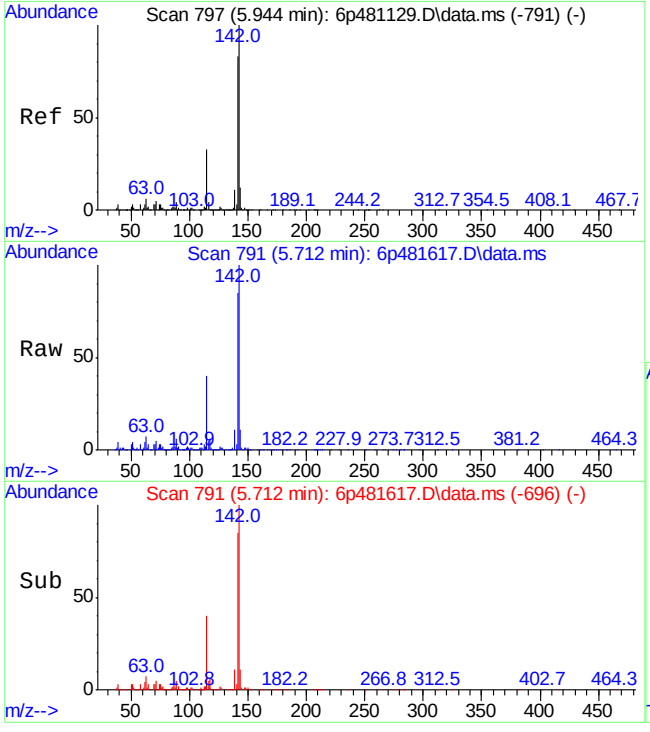



#38
Naphthalene
Concen: 26.63 ppm
RT: 5.108 min Scan# 678
Delta R.T. -0.005 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:128 Resp: 1433682

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.4 | 0.0 | 41.5 |
| 127 | 13.3 | 0.0 | 43.5 |

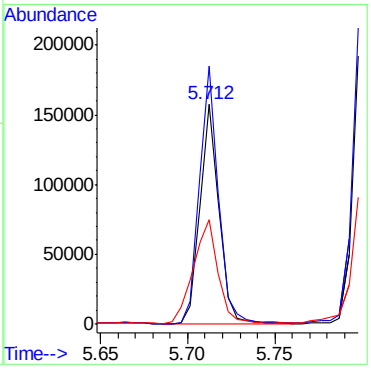


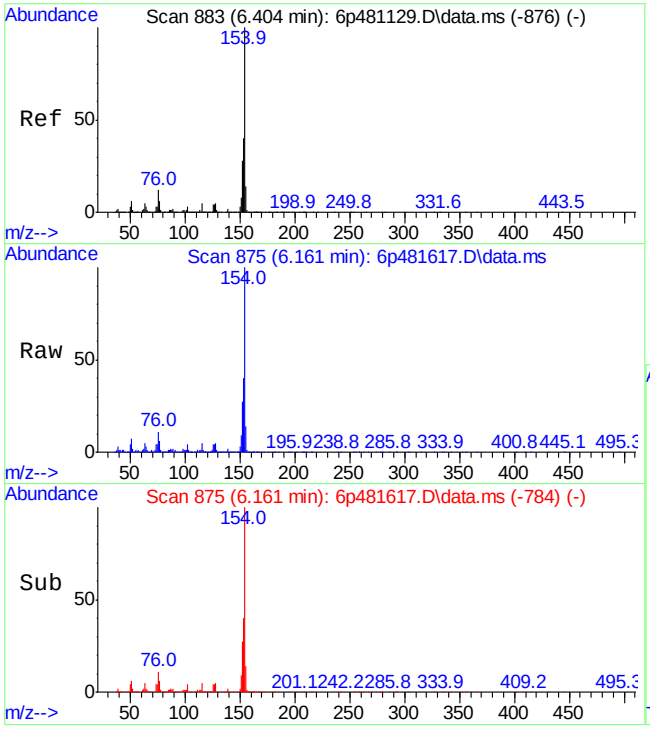




#44
2-Methylnaphthalene
Concen: 3.98 ppm
RT: 5.712 min Scan# 791
Delta R.T. 0.009 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:141 Resp: 121263

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 117.0 | 91.1 | 151.1 |
| 115 | 46.8 | 10.5 | 70.5 |

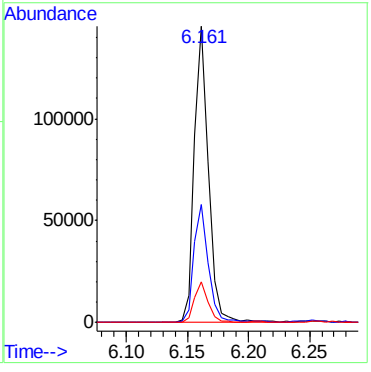


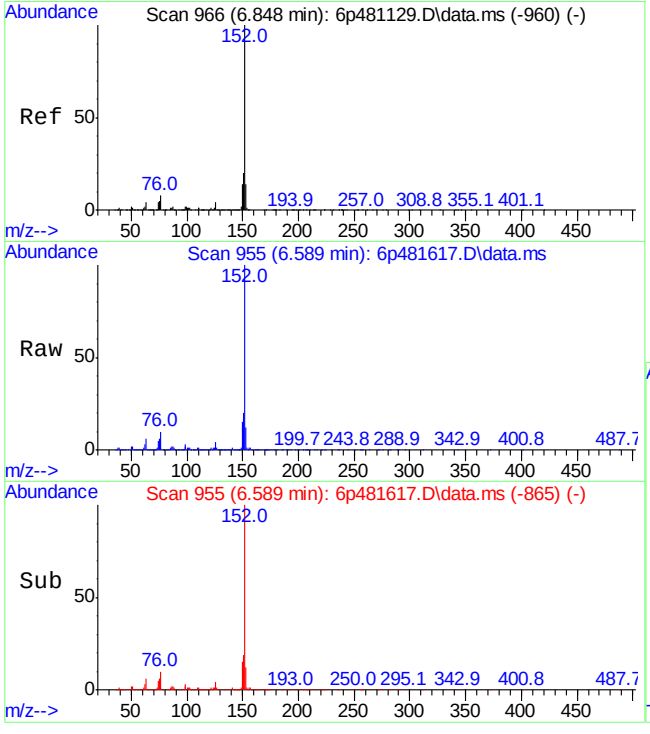



#53
Biphenyl
Concen: 2.72 ppm
RT: 6.161 min Scan# 875
Delta R.T. -0.016 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:154 Resp: 117633

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 39.6 | 10.2 | 70.2 |
| 155 | 13.5 | 0.0 | 43.5 |

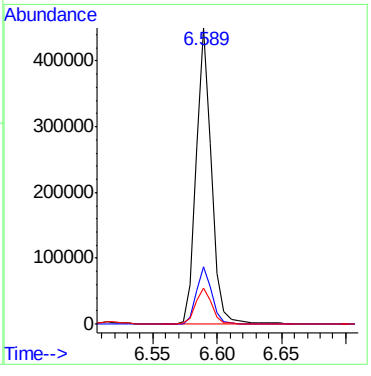


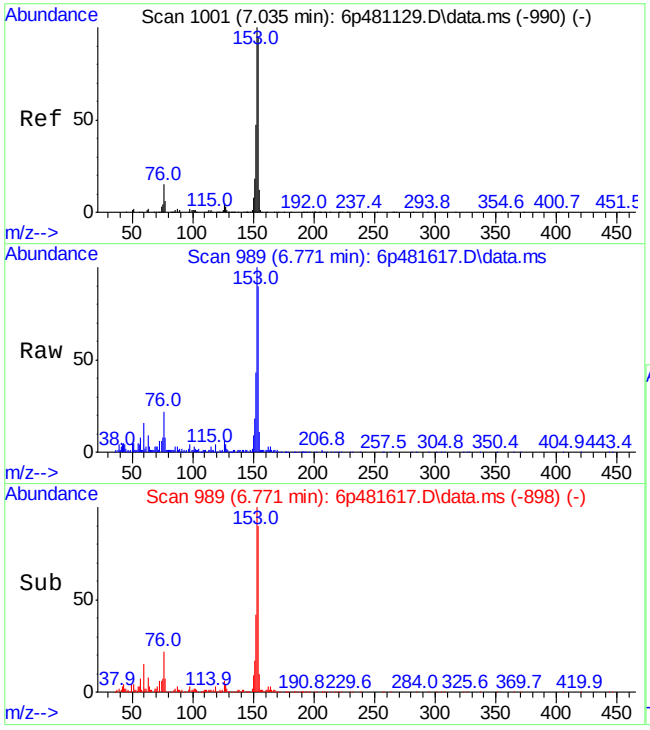




#56
Acenaphthylene
Concen: 7.36 ppm
RT: 6.589 min Scan# 955
Delta R.T. -0.016 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:152 Resp: 377923

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 19.5 | 0.0 | 50.3 |
| 153 | 12.2 | 0.0 | 43.6 |

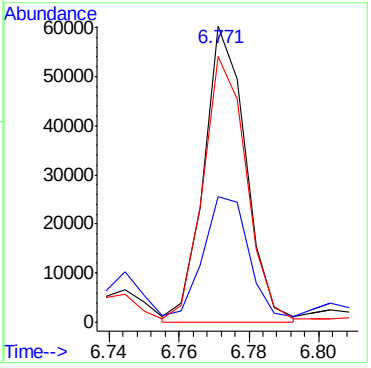


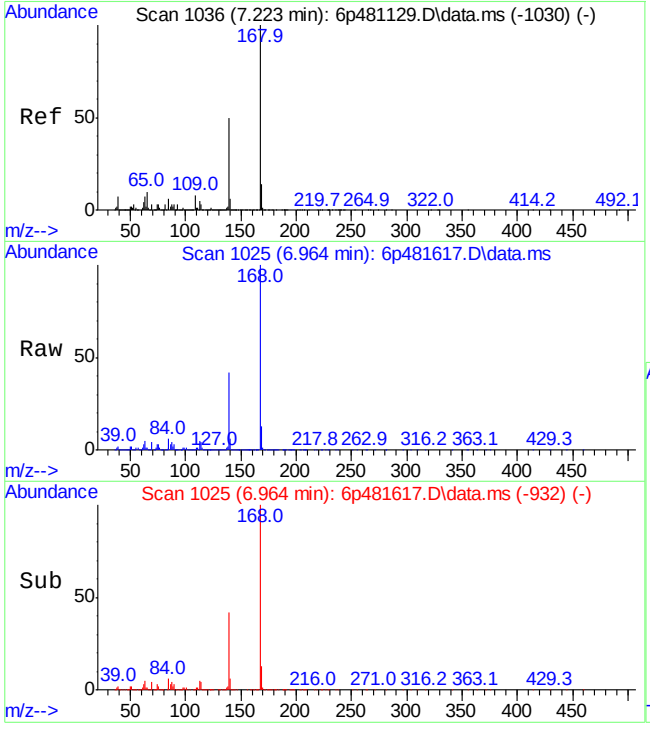



#59
Acenaphthene
Concen: 1.47 ppm
RT: 6.771 min Scan# 989
Delta R.T. -0.015 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:153 Resp: 49990

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 41.4 | 16.9 | 76.9 |
| 154 | 90.4 | 65.0 | 125.0 |

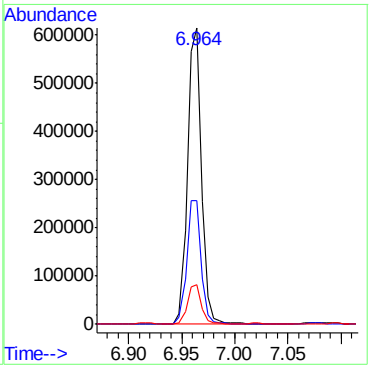


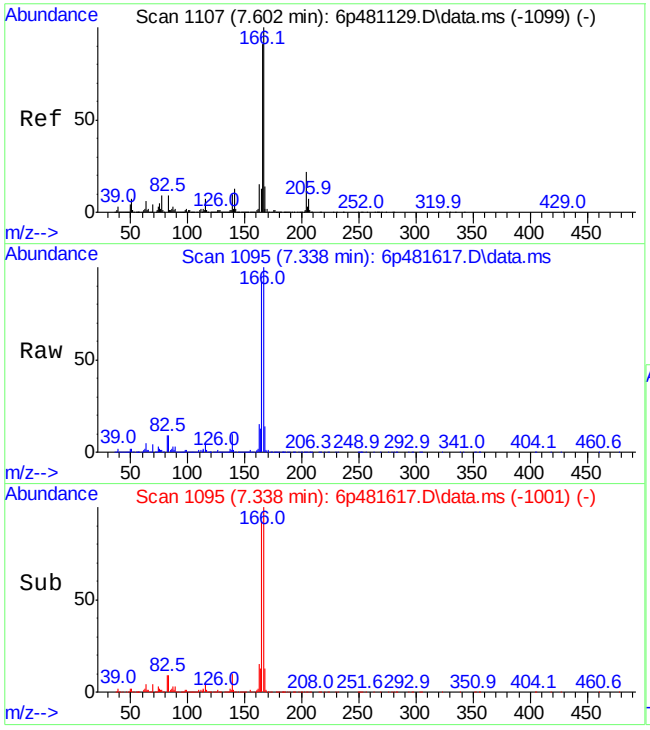




#62
Dibenzofuran
Concen: 11.79 ppm
RT: 6.964 min Scan# 1025
Delta R.T. -0.003 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:168 Resp: 559621

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 41.7 | 19.5 | 79.5 |
| 169 | 13.1 | 0.0 | 43.8 |

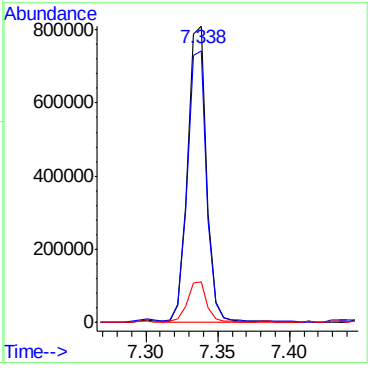


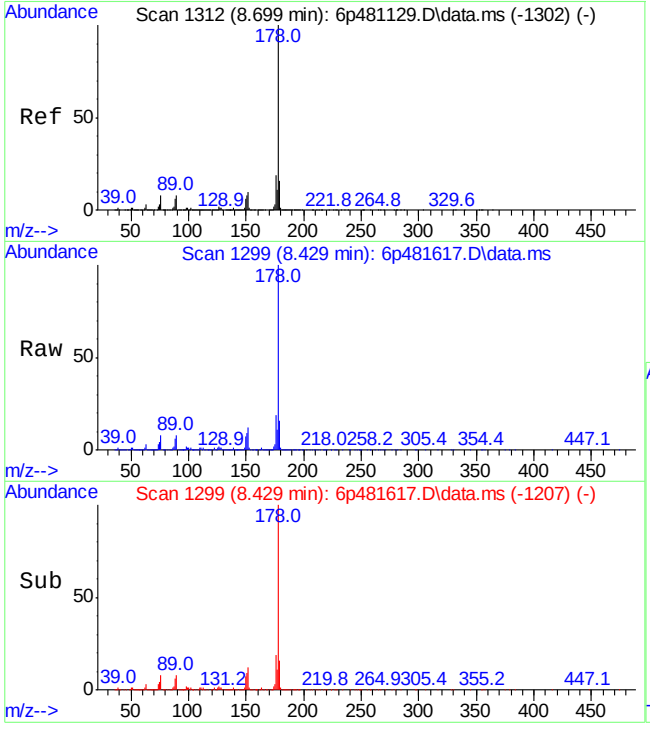



#66
Fluorene
Concen: 19.59 ppm
RT: 7.338 min Scan# 1095
Delta R.T. 0.005 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:166 Resp: 755282

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 91.5 | 61.0 | 121.0 |
| 167 | 13.4 | 0.0 | 43.5 |

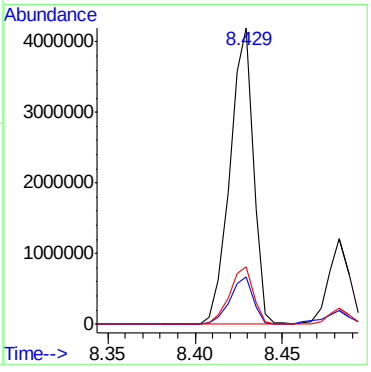


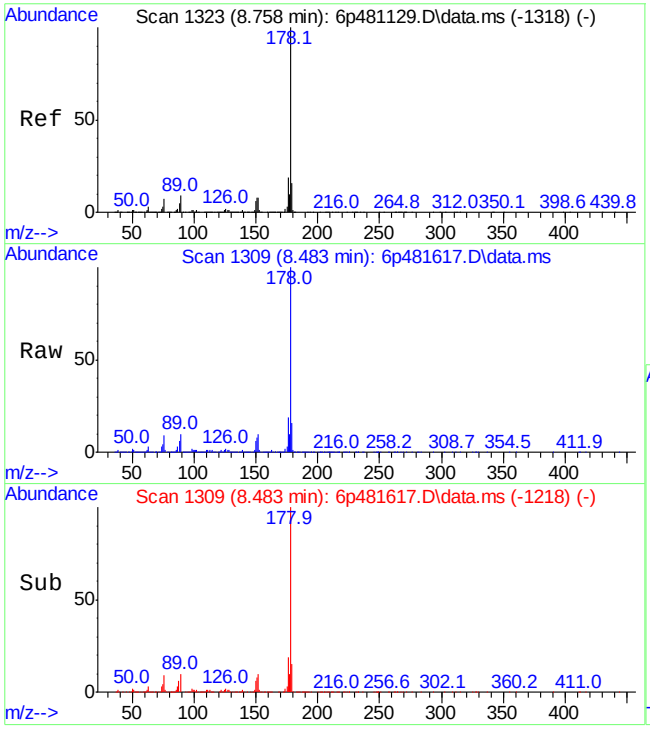




#77
Phenanthrene
Concen: 72.63 ppm
RT: 8.429 min Scan# 1299
Delta R.T. -0.010 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:178 Resp: 3903768

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.8 | 0.0 | 46.1 |
| 176 | 19.4 | 0.0 | 49.3 |

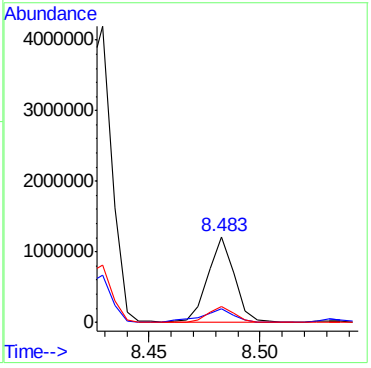


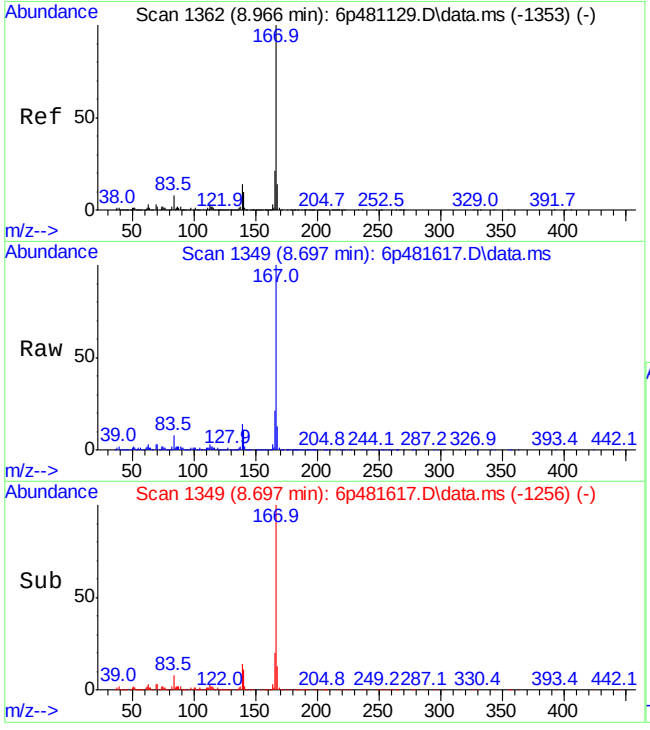



#78
Anthracene
Concen: 19.02 ppm
RT: 8.483 min Scan# 1309
Delta R.T. -0.013 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:178 Resp: 1025188

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.3 | 0.0 | 46.3 |
| 176 | 19.1 | 0.0 | 48.6 |

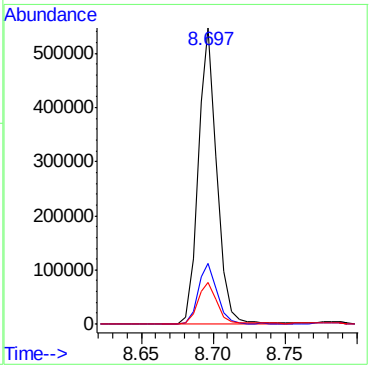



#79
Carbazole
Concen: 9.74 ppm
RT: 8.697 min Scan# 1349
Delta R.T. -0.002 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

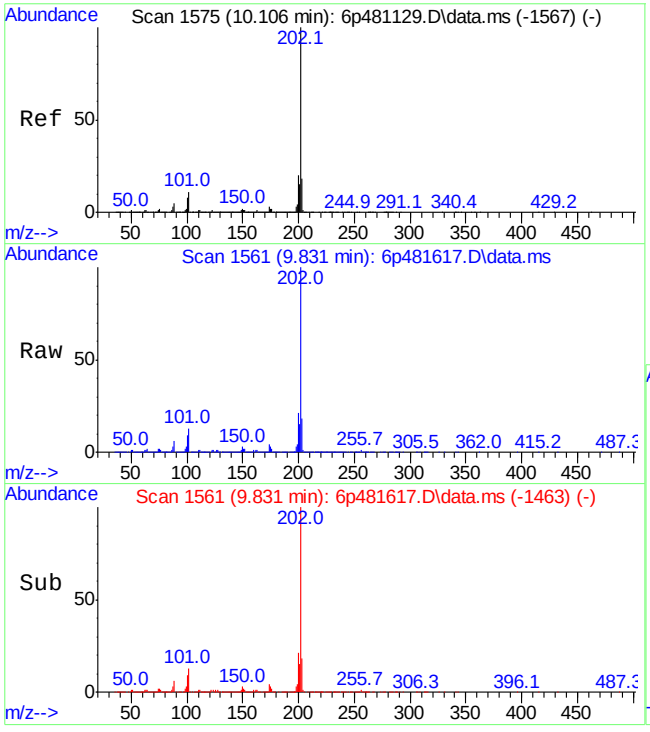
Tgt Ion:167 Resp: 496753

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.6 | 0.0 | 50.7 |
| 139 | 14.0 | 0.0 | 43.6 |




9.1.3

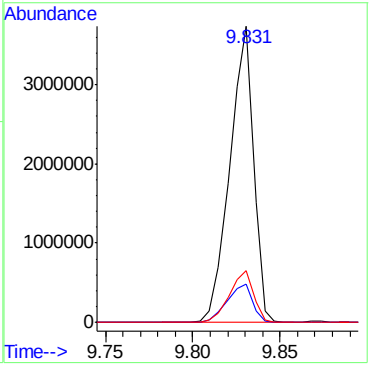
9

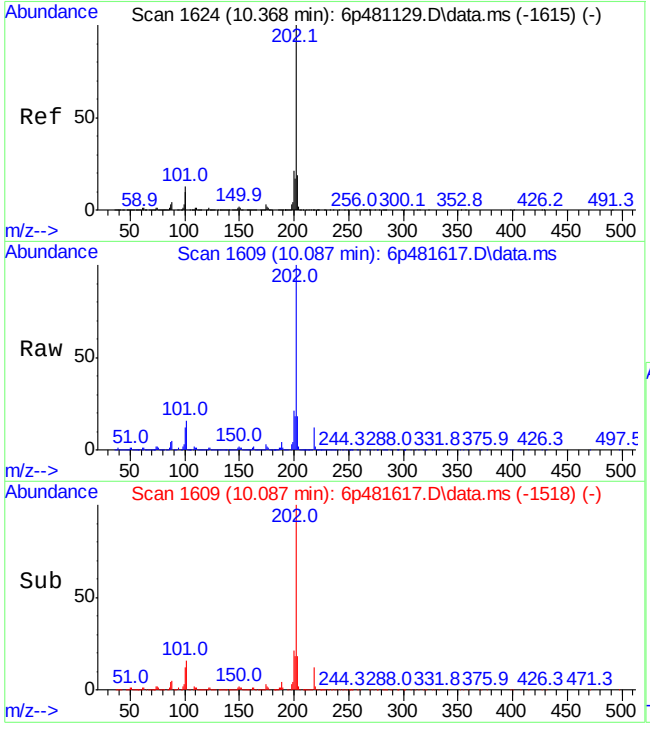



#81
Fluoranthene
Concen: 60.53 ppm
RT: 9.831 min Scan# 1561
Delta R.T. 0.027 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:202 Resp: 3534489

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 12.8 | 0.0 | 40.6 |
| 203 | 17.6 | 0.0 | 47.8 |

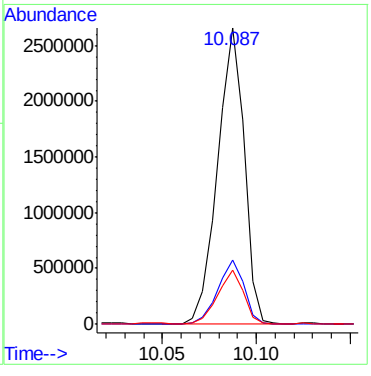


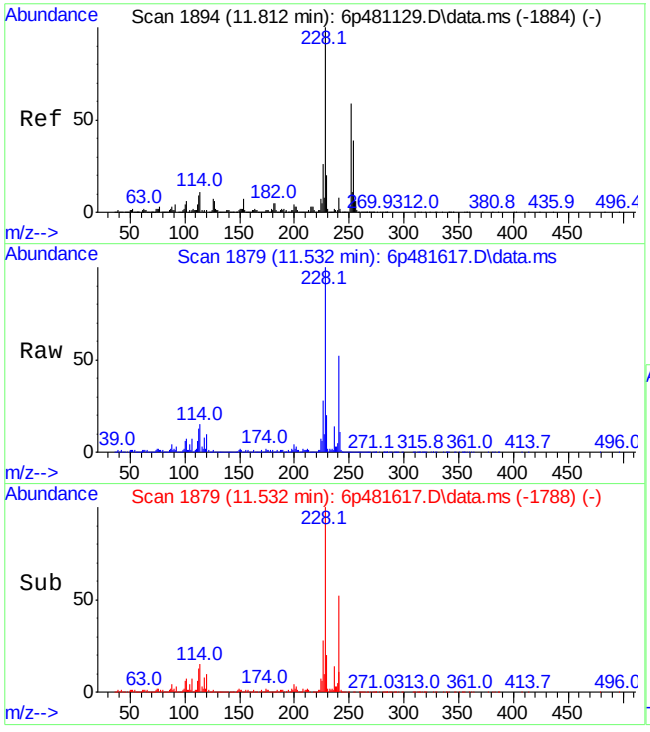




#84
Pyrene
Concen: 44.49 ppm
RT: 10.087 min Scan# 1609
Delta R.T. -0.011 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:202 Resp: 2609875

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 21.4 | 0.0 | 51.3 |
| 203 | 18.1 | 0.0 | 46.8 |

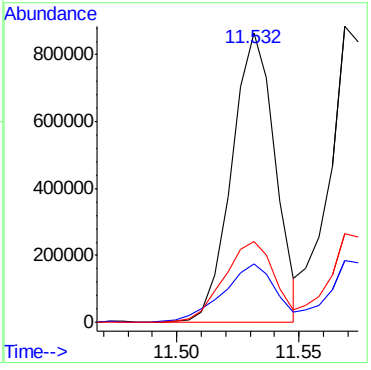


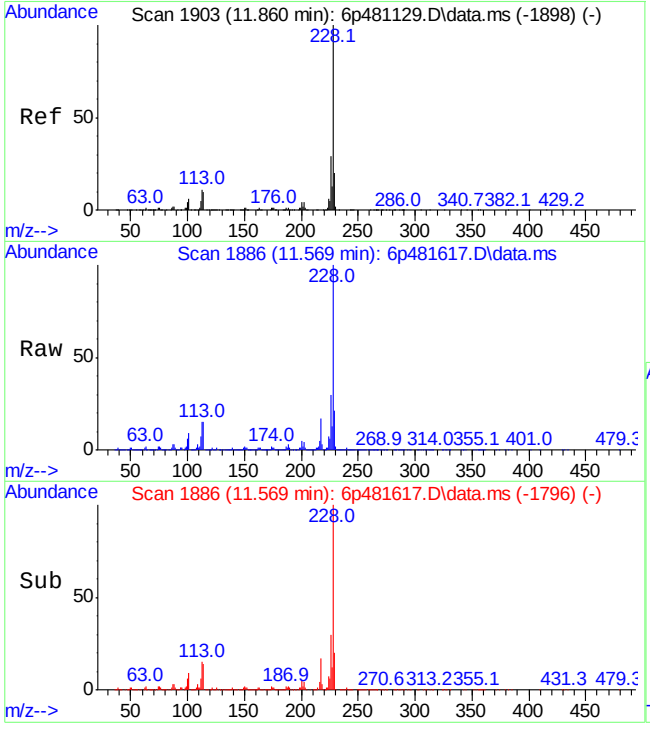



#87
Benzo[a]anthracene
Concen: 19.15 ppm
RT: 11.532 min Scan# 1879
Delta R.T. -0.011 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:228 Resp: 1073953

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.0 | 0.0 | 49.8 |
| 226 | 28.0 | 0.0 | 57.5 |

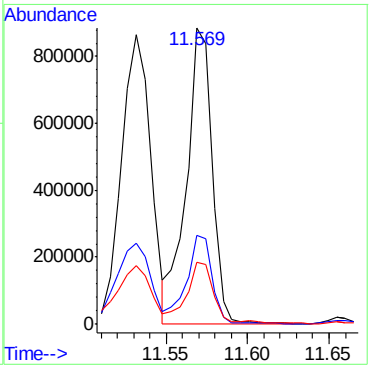


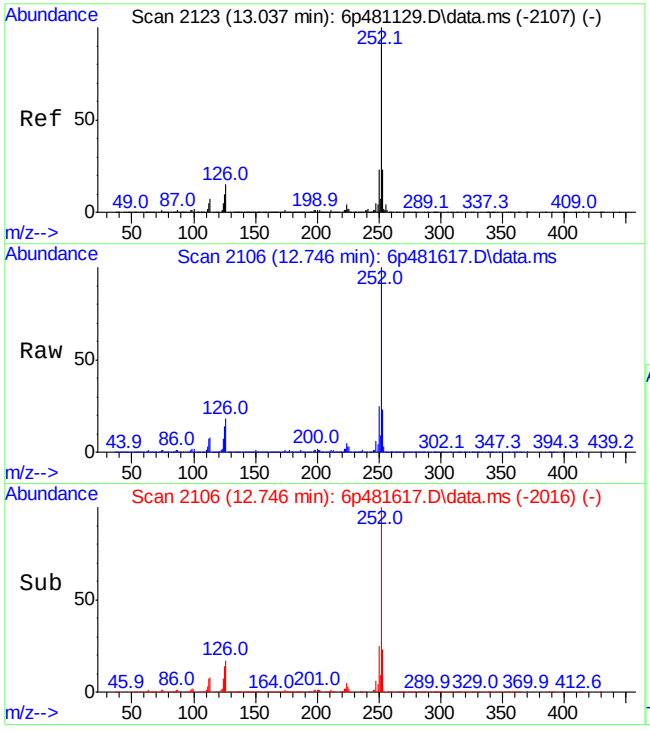




#89
Chrysene
Concen: 17.76 ppm
RT: 11.569 min Scan# 1886
Delta R.T. -0.016 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:228 Resp: 976862

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 30.0 | 0.0 | 59.3 |
| 229 | 20.5 | 0.0 | 50.0 |

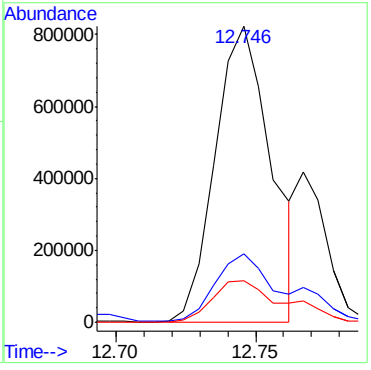


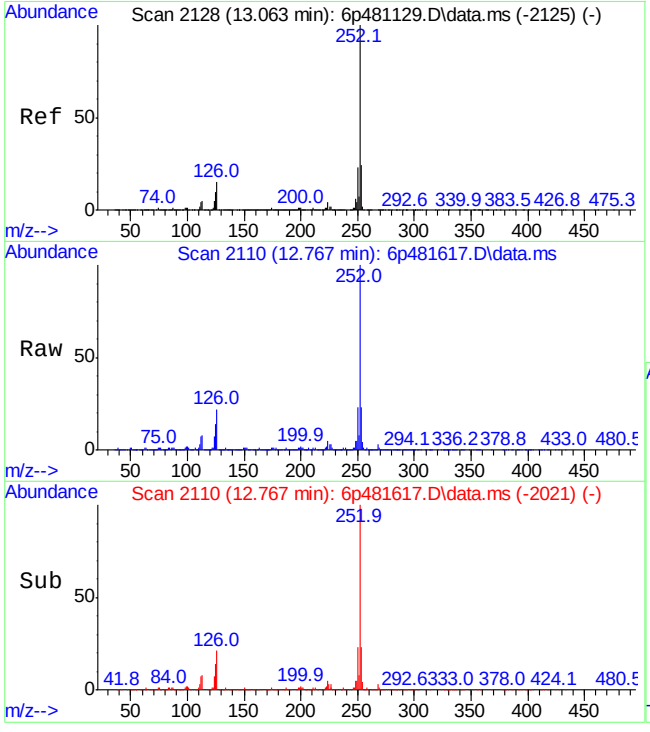



#93
Benzo[b]fluoranthene
Concen: 21.15 ppm m
RT: 12.746 min Scan# 2106
Delta R.T. -0.016 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:252 Resp: 1144238

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.2 | 0.0 | 52.9 |
| 125 | 14.1 | 0.0 | 43.3 |

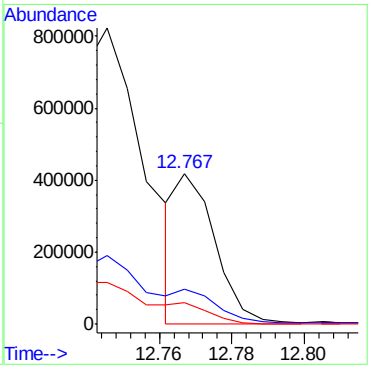


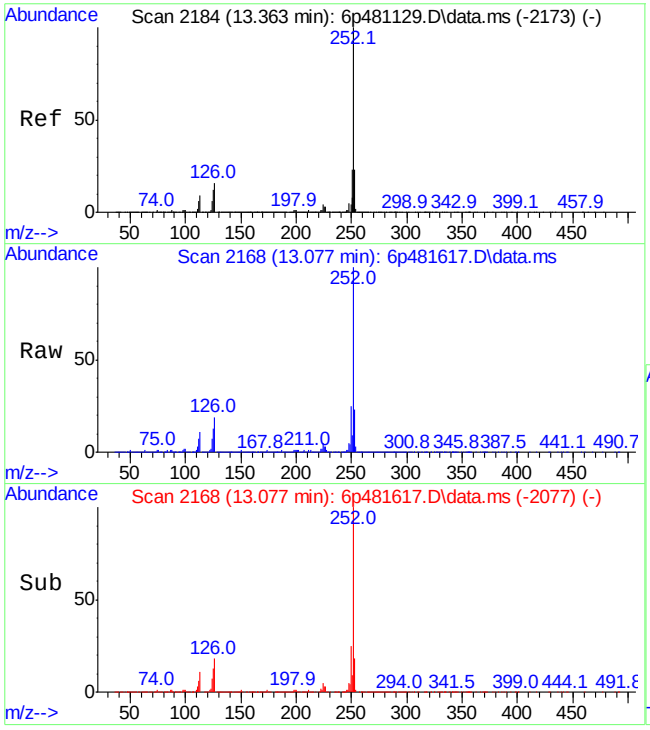




#94
Benzo[k]fluoranthene
Concen: 6.46 ppm m
RT: 12.767 min Scan# 2110
Delta R.T. -0.022 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:252 Resp: 309293

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.9 | 0.0 | 52.4 |
| 125 | 13.9 | 0.0 | 43.1 |

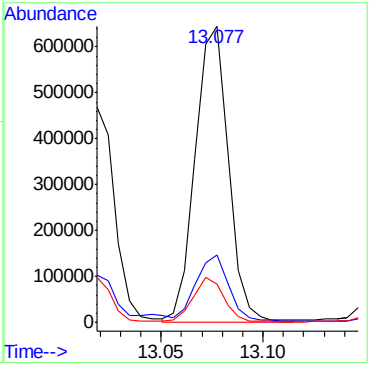


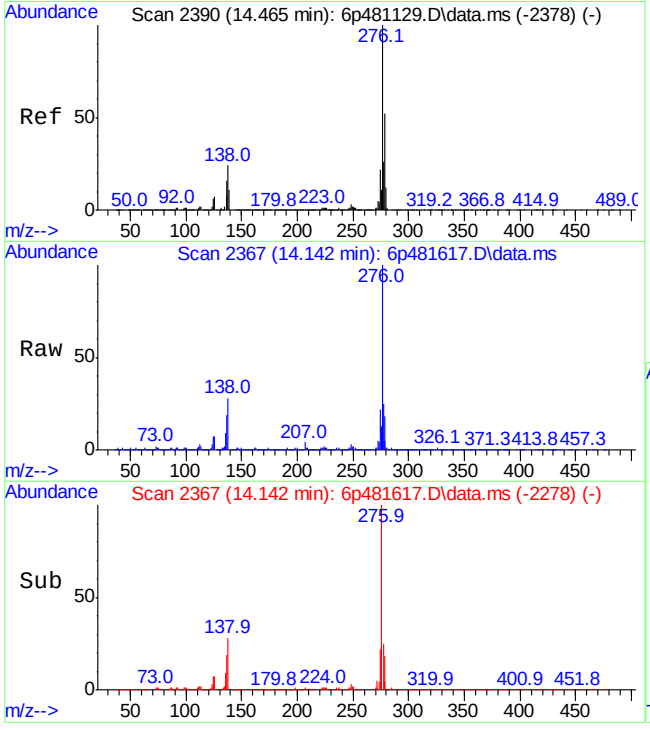



#95
Benzo[a]pyrene
Concen: 16.31 ppm
RT: 13.077 min Scan# 2168
Delta R.T. -0.011 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:252 Resp: 724943

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.7 | 0.0 | 52.1 |
| 125 | 12.8 | 0.0 | 45.1 |

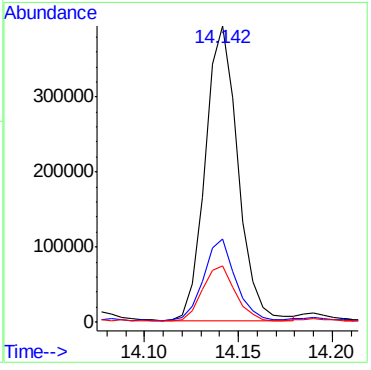


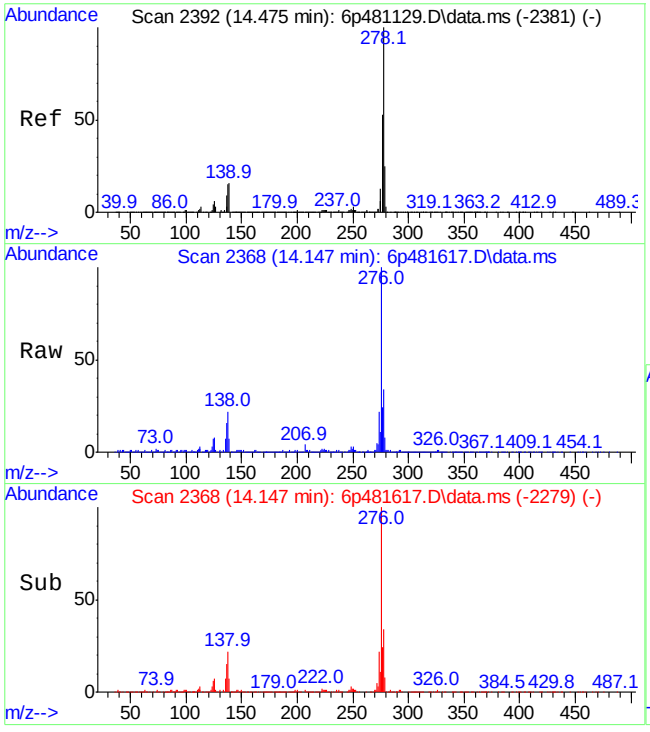




#96
Indeno[1,2,3-cd]pyrene
Concen: 8.02 ppm
RT: 14.142 min Scan# 2367
Delta R.T. -0.022 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:276 Resp: 476148

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 27.8 | 0.0 | 60.0 |
| 137 | 18.6 | 0.0 | 49.6 |

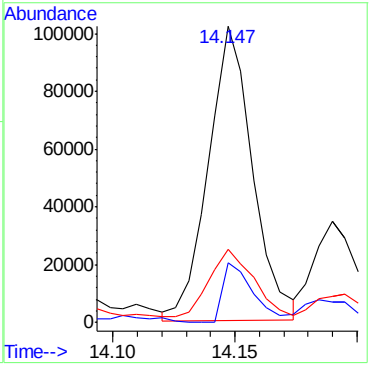


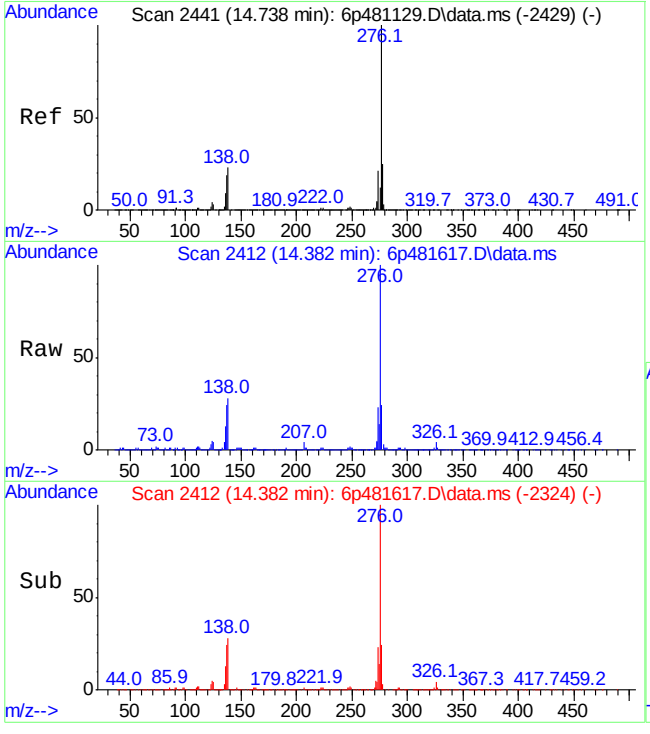



#98
Dibenz[a,h]anthracene
Concen: 2.45 ppm
RT: 14.147 min Scan# 2368
Delta R.T. -0.022 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:278 Resp: 129021

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 19.2 | 0.0 | 51.8 |
| 279 | 23.8 | 0.0 | 54.3 |

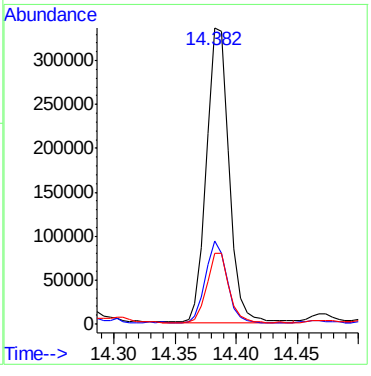



#100
Benzo[g,h,i]perylene
Concen: 9.31 ppm
RT: 14.382 min Scan# 2412
Delta R.T. -0.027 min
Lab File: 6p481617.D
Acq: 3 May 2019 3:42 pm

Tgt Ion:276 Resp: 430636

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 27.7 | 0.0 | 54.9 |
| 277 | 23.6 | 0.0 | 53.8 |



# Manual Integration Approval Summary



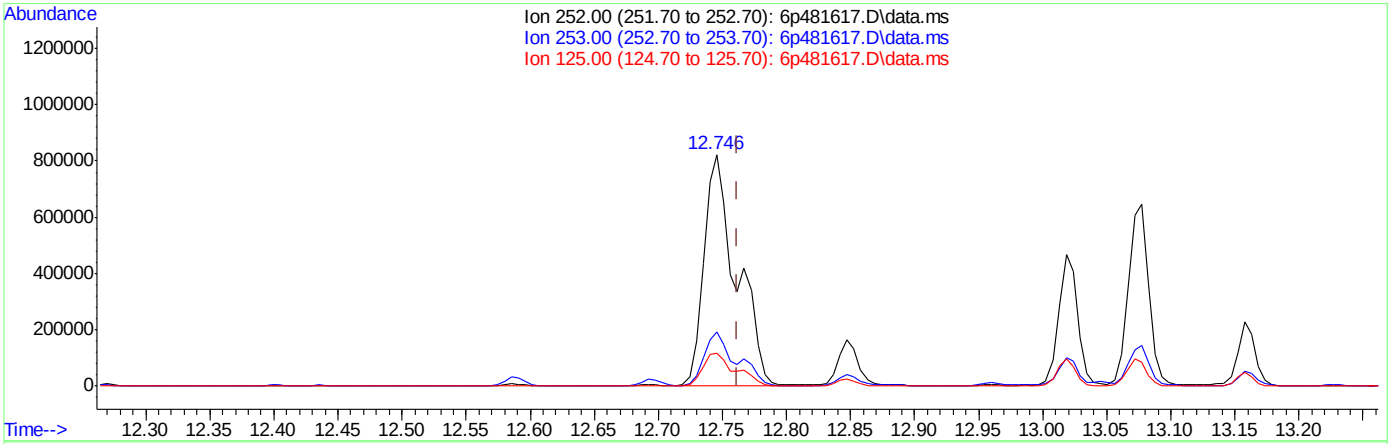
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-3 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481617.D | **Analyst approved:** | 05/03/19 16:11 Ying Li |
| **Injection Time:** | 05/03/19 15:42 | **Supervisor approved:** | 05/09/19 11:32 Kristi Schollenberger |

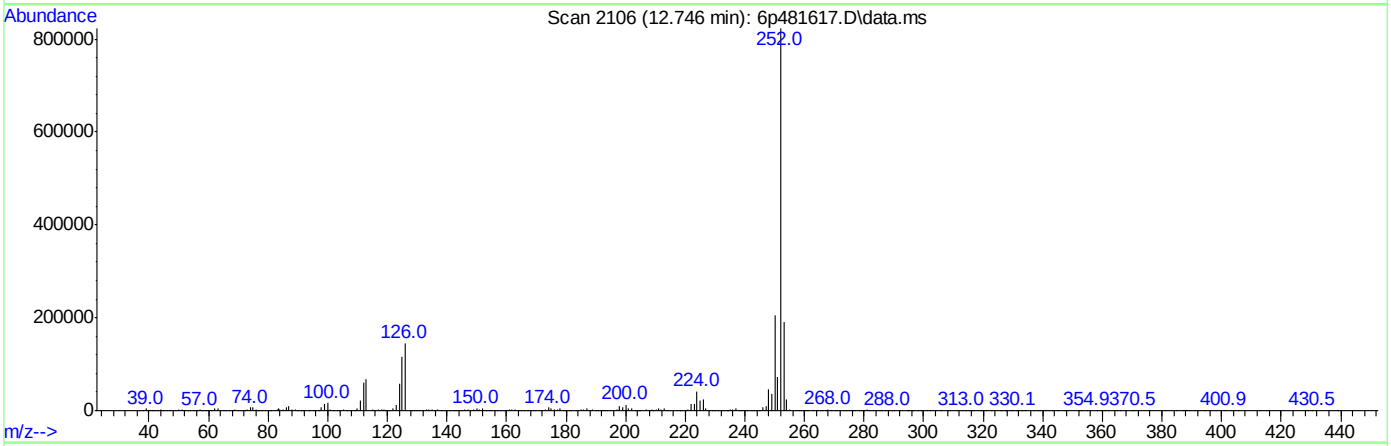
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzo(b)fluoranthene | 205-99-2 | | 12.75 | Overlapping peak |
| Benzo(k)fluoranthene | 207-08-9 | | 12.77 | Overlapping peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481617.D
Acq On : 3 May 2019 3:42 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2581,30.1,,,1,200
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 15:59:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration




TIC: 6p481617.D\data.ms

(93) Benzo[b]fluoranthene (t)

12.746min (-0.016) 26.91ppm

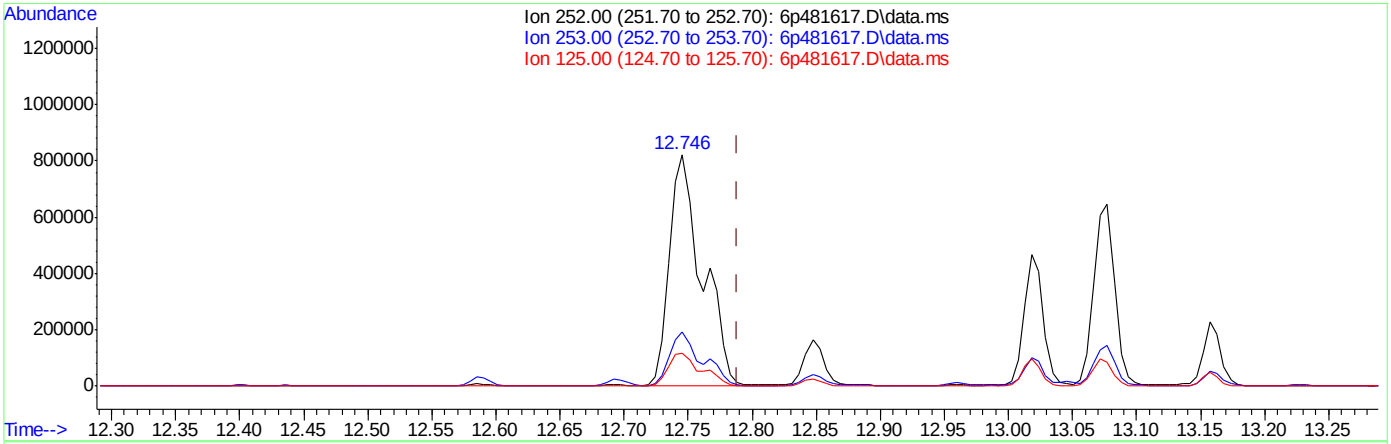
response 1455843

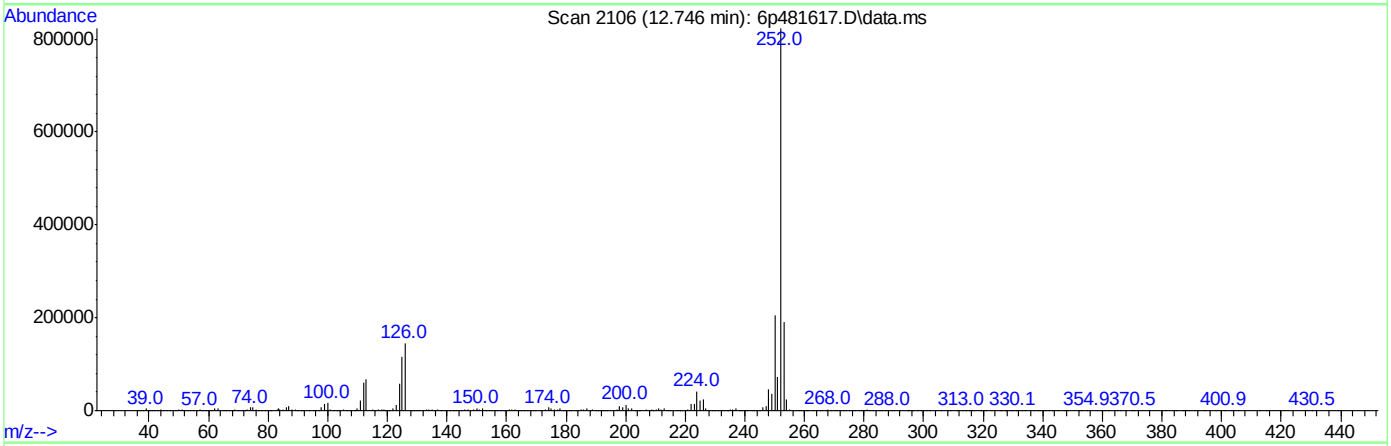
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.90 | 22.94 |
| 125.00 | 13.30 | 14.07 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481617.D
Acq On : 3 May 2019 3:42 pm
Operator : angelar
Sample : jc86986-3
Misc : op20081,e6p2581,30.1,,,1,200
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 15:59:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration




TIC: 6p481617.D\data.ms

(94) Benzo[k]fluoranthene (t)

12.746min (-0.043) 30.44ppm

response 1457868

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.40 | 22.94 |
| 125.00 | 13.10 | 14.07 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 11:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481621.d
Acq On : 3 May 2019 5:19 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2581,30.1,,,1,20
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:46:45 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

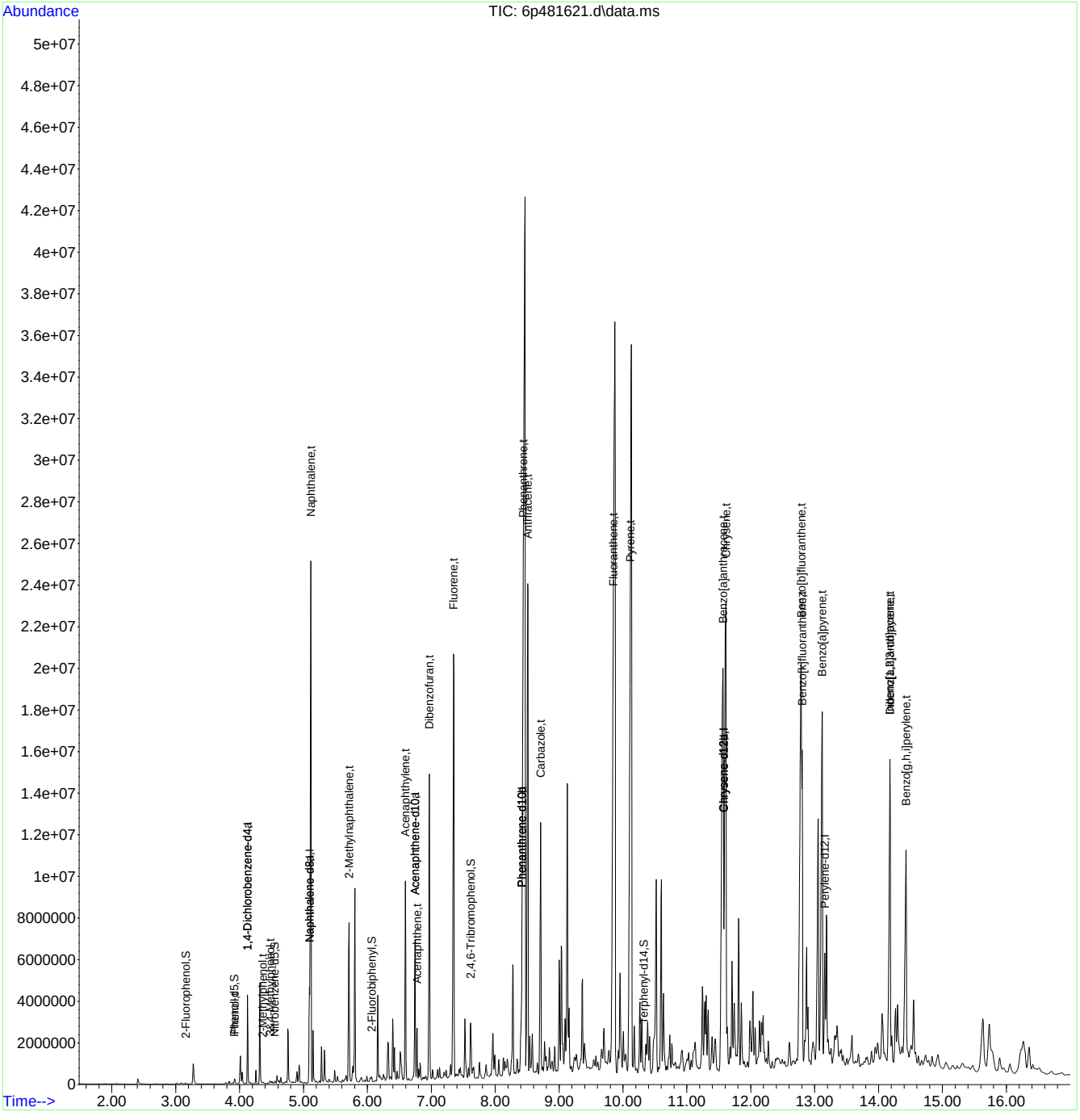
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 510280 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.092 | 136 | 1907989 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.745 | 164 | 1053029 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.419 | 188 | 2032804 | 40.00 | ppm | 0.02 |
| 83) Chrysene-d12 | 11.574 | 240 | 2074520 | 40.00 | ppm | 0.03 |
| 91) Perylene-d12 | 13.158 | 264 | 1886549 | 40.00 | ppm | 0.02 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 510280 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.745 | 164 | 1053029 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.419 | 188 | 2032804 | 40.00 | ppm | 0.02 |
| 109) Chrysene-d12a | 11.574 | 240 | 2074520 | 40.00 | ppm | 0.03 |
| 111) Naphthalene-d8a | 5.092 | 136 | 1907989 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.419 | 188 | 2032804 | 40.00 | ppm | 0.02 |
| 115) Chrysene-d12b | 11.574 | 240 | 2074520 | 40.00 | ppm | 0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.156 | 112 | 23335 | 1.56 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 3.12% | |
| 8) Phenol-d5 | 3.915 | 99 | 31023 | 1.70 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 3.40% | |
| 25) Nitrobenzene-d5 | 4.546 | 82 | 30404 | 1.91 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.82% | |
| 51) 2-Fluorobiphenyl | 6.065 | 172 | 62349 | 1.68 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.36% | |
| 73) 2,4,6-Tribromophenol | 7.616 | 330 | 8633 | 1.32 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 2.64% | |
| 85) Terphenyl-d14 | 10.323 | 244 | 56711 | 1.17 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 2.34% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.926 | 94 | 21758 | 0.98 | ppm | 74 |
| 19) 2-Methylphenol | 4.359 | 108 | 11440 | 0.76 | ppm | 95 |
| 21) 3&4-Methylphenol | 4.477 | 108 | 34011 | 2.16 | ppm | 77 |
| 38) Naphthalene | 5.113 | 128 | 9416895 | 189.51 | ppm | 81 |
| 44) 2-Methylnaphthalene | 5.712 | 141 | 1221554 | 43.46 | ppm | 93 |
| 56) Acenaphthylene | 6.595 | 152 | 3827190 | 79.86 | ppm | 98 |
| 59) Acenaphthene | 6.777 | 153 | 533463 | 16.77 | ppm | 99 |
| 62) Dibenzofuran | 6.969 | 168 | 5780320 | 130.48 | ppm | 99 |
| 66) Fluorene | 7.349 | 166 | 7387607 | 205.41 | ppm | 99 |
| 77) Phenanthrene | 8.440 | 178 | 25061017m | 459.17 | ppm | |
| 78) Anthracene | 8.510 | 178 | 9747427 | 178.07 | ppm | 93 |
| 79) Carbazole | 8.713 | 167 | 5047719 | 97.42 | ppm | 100 |
| 81) Fluoranthene | 9.847 | 202 | 24925707m | 420.35 | ppm | |
| 84) Pyrene | 10.114 | 202 | 21137790m | 305.85 | ppm | |
| 87) Benzo[a]anthracene | 11.564 | 228 | 12986880 | 196.54 | ppm | 97 |
| 89) Chrysene | 11.612 | 228 | 11353306 | 175.21 | ppm | 93 |
| 93) Benzo[b]fluoranthene | 12.789 | 252 | 15290773m | 265.37 | ppm | |
| 94) Benzo[k]fluoranthene | 12.805 | 252 | 3056388m | 59.92 | ppm | |
| 95) Benzo[a]pyrene | 13.115 | 252 | 9195902 | 194.25 | ppm | 96 |
| 96) Indeno[1,2,3-cd]pyrene | 14.179 | 276 | 6473696 | 102.41 | ppm | 93 |
| 98) Dibenz[a,h]anthracene | 14.179 | 278 | 1825603m | 32.59 | ppm | |
| 100) Benzo[g,h,i]perylene | 14.431 | 276 | 5417365 | 109.90 | ppm | 97 |

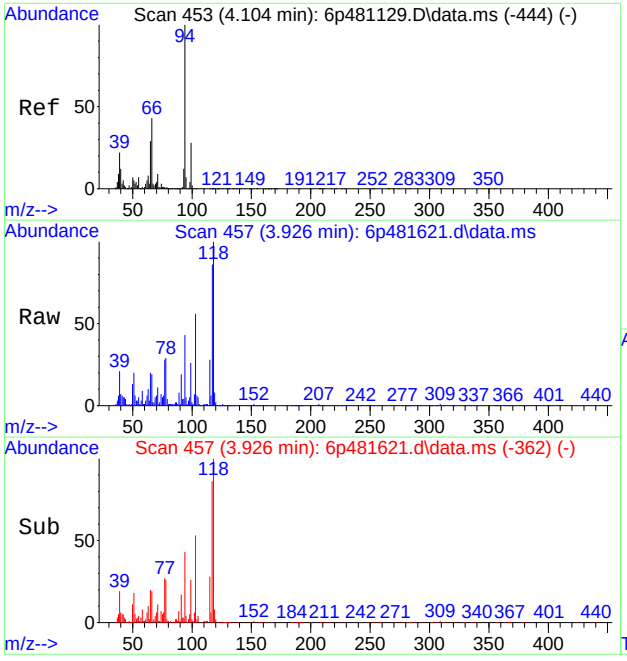
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481621.d
Acq On : 3 May 2019 5:19 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2581,30.1,,,1,20
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:46:45 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

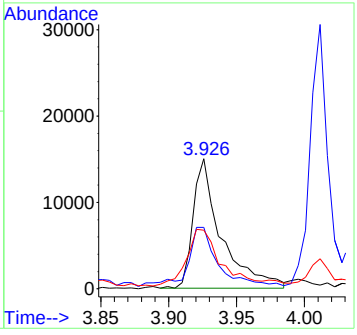


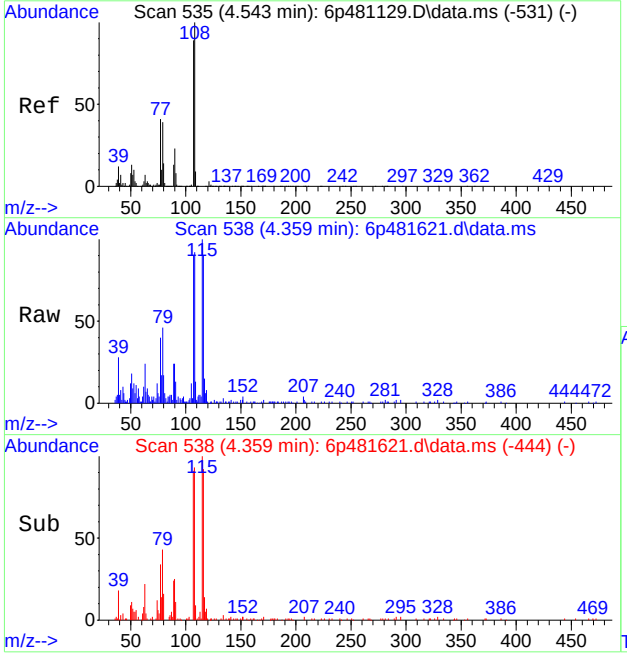



#9
Phenol
Concen: 0.98 ppm
RT: 3.926 min Scan# 457
Delta R.T. 0.011 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion: 94 Resp: 21758

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 44.6 | 0.0 | 54.6 |
| 66 | 42.2 | 3.7 | 63.7 |

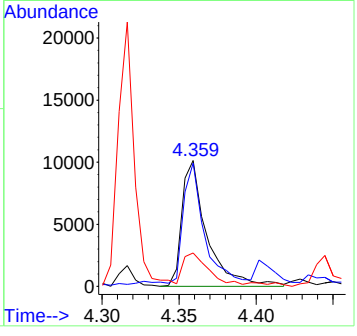



#19
2-Methylphenol
Concen: 0.76 ppm
RT: 4.359 min Scan# 538
Delta R.T. 0.005 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

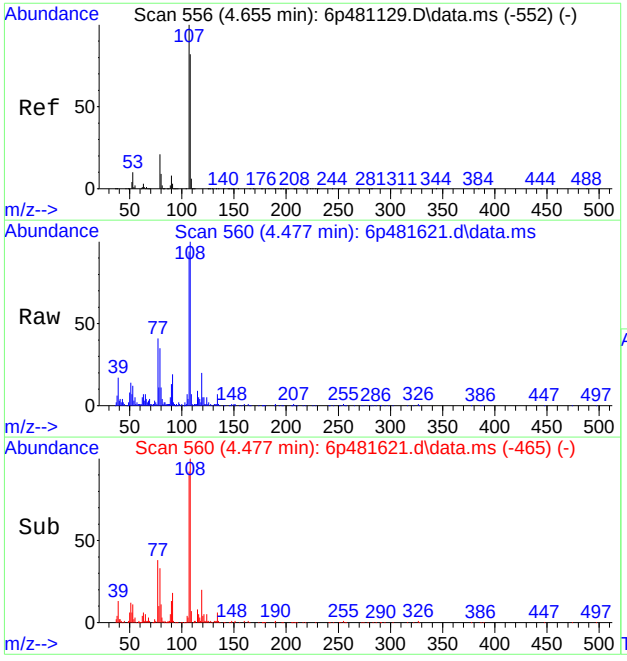
Tgt Ion:108 Resp: 11440

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 94.1 | 58.7 | 118.7 |
| 90 | 23.6 | 0.0 | 53.1 |




9.1.4

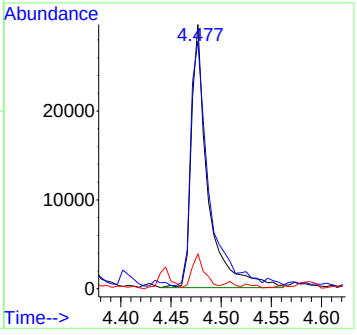
9

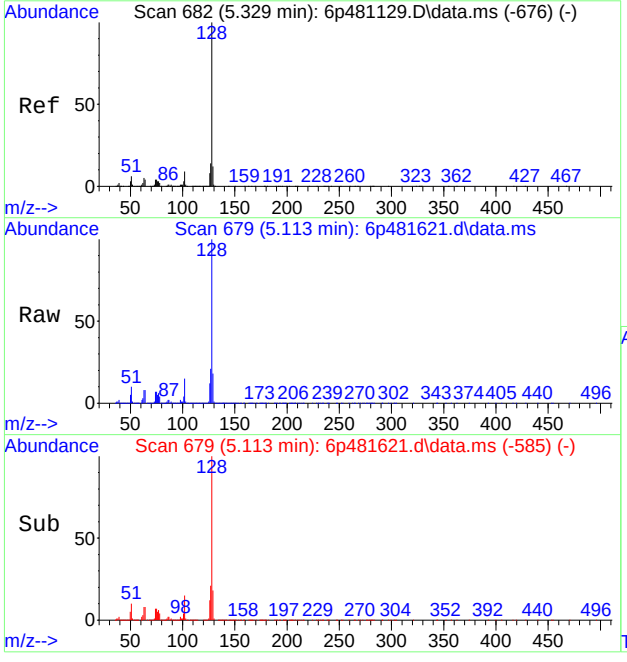



#21
3&4-Methylphenol
Concen: 2.16 ppm
RT: 4.477 min Scan# 560
Delta R.T. 0.011 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:108 Resp: 34011

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 92.4 | 89.5 | 149.5 |
| 90 | 9.9 | 0.0 | 40.1 |

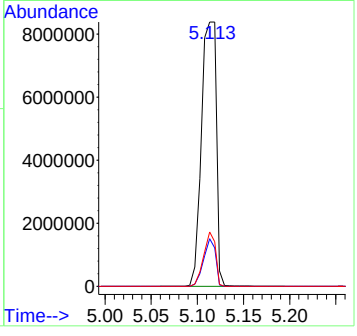



#38
Naphthalene
Concen: 189.51 ppm
RT: 5.113 min Scan# 679
Delta R.T. 0.005 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

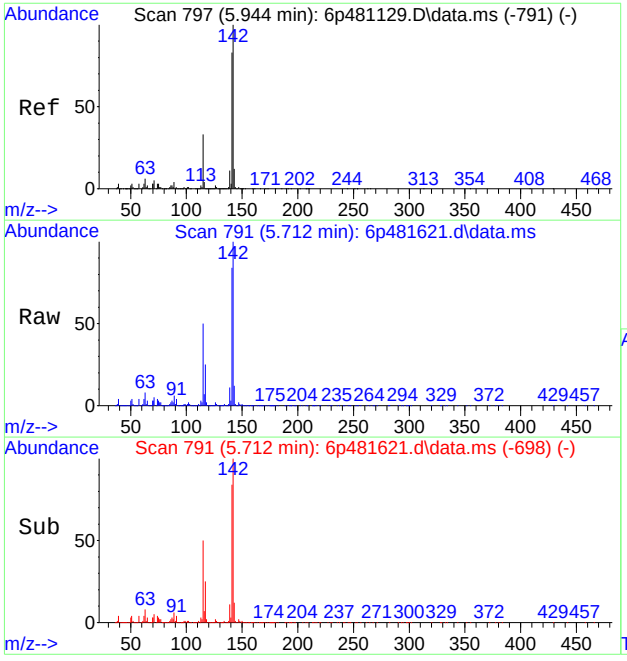
Tgt Ion:128 Resp: 9416895

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 18.1 | 0.0 | 41.2 |
| 127 | 20.6 | 0.0 | 42.8 |




9.1.4

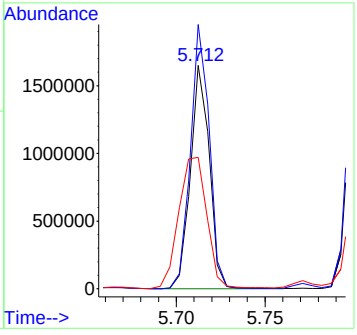
9

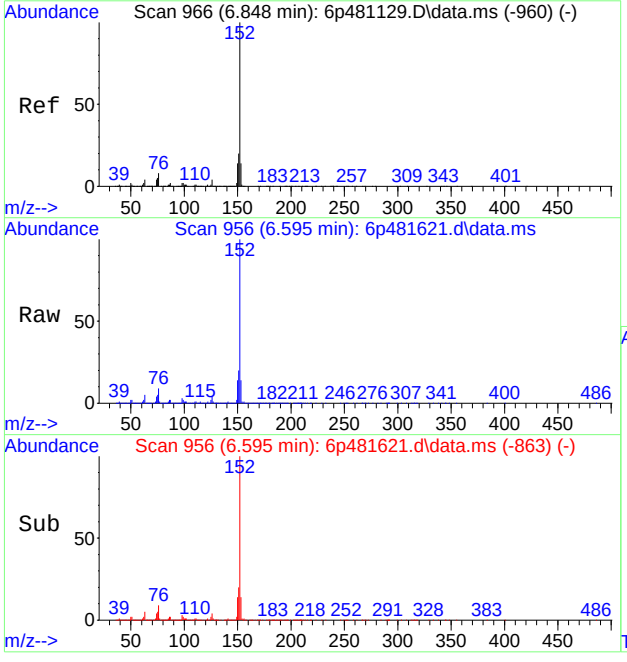



#44
2-Methylnaphthalene
Concen: 43.46 ppm
RT: 5.712 min Scan# 791
Delta R.T. 0.000 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:141 Resp: 1221554

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 118.3 | 87.9 | 147.9 |
| 115 | 58.0 | 11.7 | 71.7 |

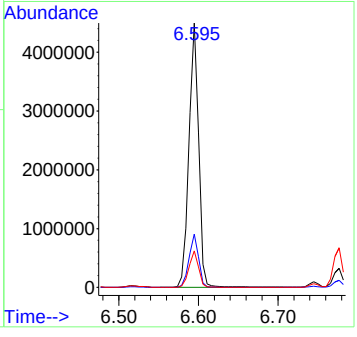


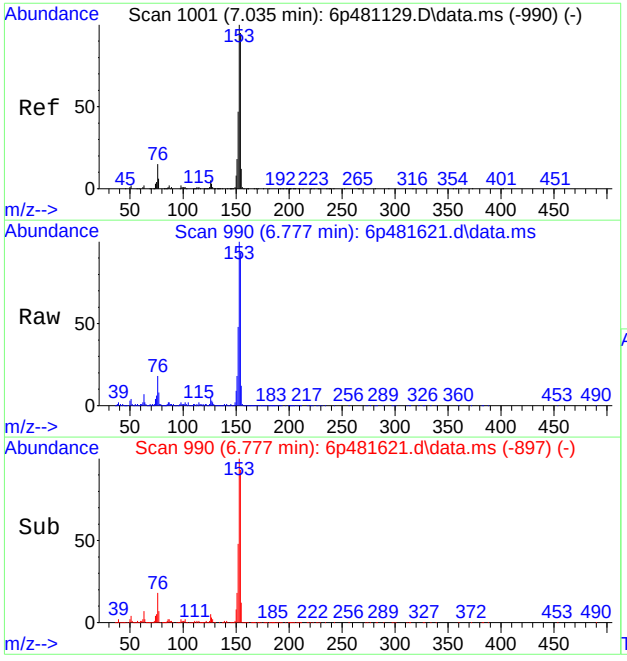




#56
Acenaphthylene
Concen: 79.86 ppm
RT: 6.595 min Scan# 956
Delta R.T. 0.000 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:152 Resp: 3827190

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 20.1 | 0.0 | 49.6 |
| 153 | 13.8 | 0.0 | 42.6 |

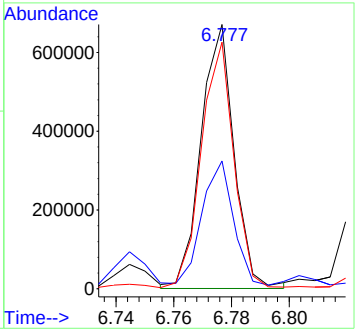


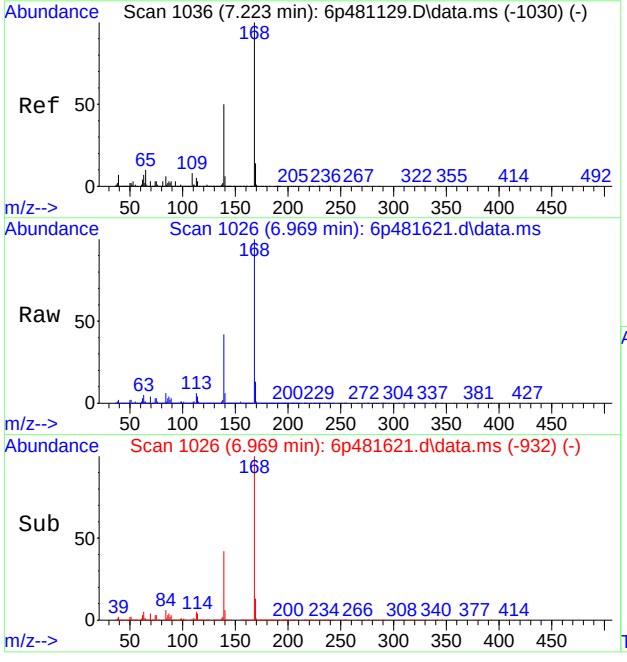



#59
Acenaphthene
Concen: 16.77 ppm
RT: 6.777 min Scan# 990
Delta R.T. 0.000 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:153 Resp: 533463

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 46.8 | 16.6 | 76.6 |
| 154 | 94.6 | 62.8 | 122.8 |

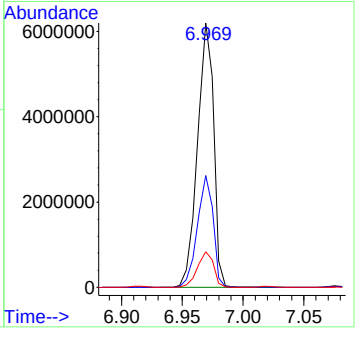



#62
Dibenzofuran
Concen: 130.48 ppm
RT: 6.969 min Scan# 1026
Delta R.T. 0.005 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

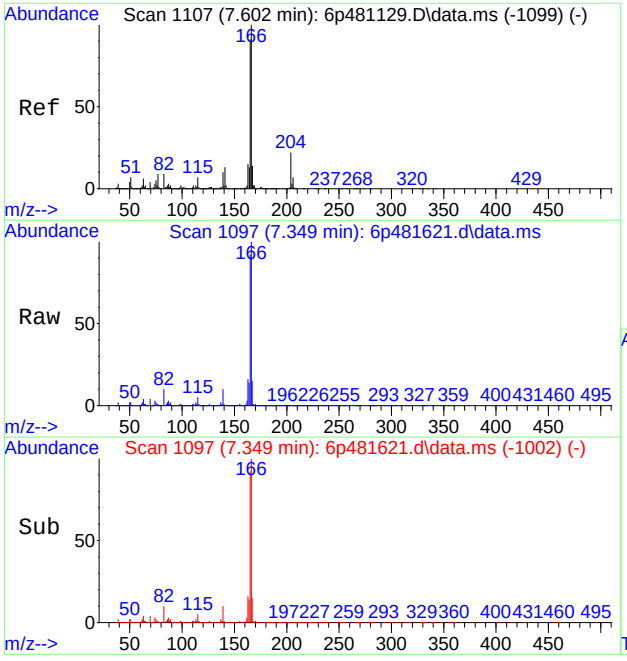
Tgt Ion:168 Resp: 5780320

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 42.3 | 13.3 | 73.3 |
| 169 | 13.4 | 0.0 | 43.3 |




9.1.4

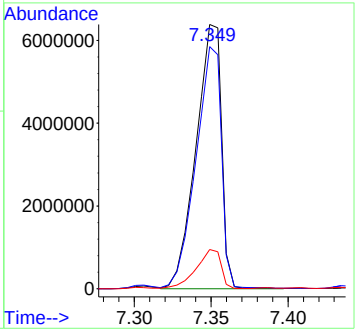
9

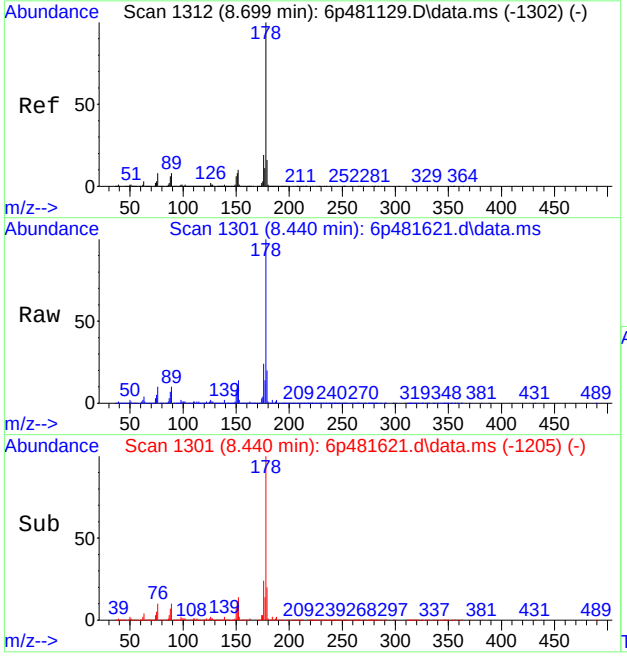



#66
Fluorene
Concen: 205.41 ppm
RT: 7.349 min Scan# 1097
Delta R.T. 0.011 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:166 Resp: 7387607

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 91.4 | 61.8 | 121.8 |
| 167 | 14.7 | 0.0 | 43.9 |

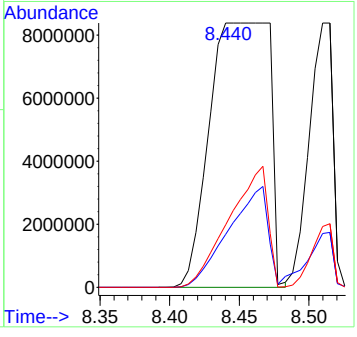



#77
Phenanthrene
Concen: 459.17 ppm m
RT: 8.440 min Scan# 1301
Delta R.T. 0.016 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

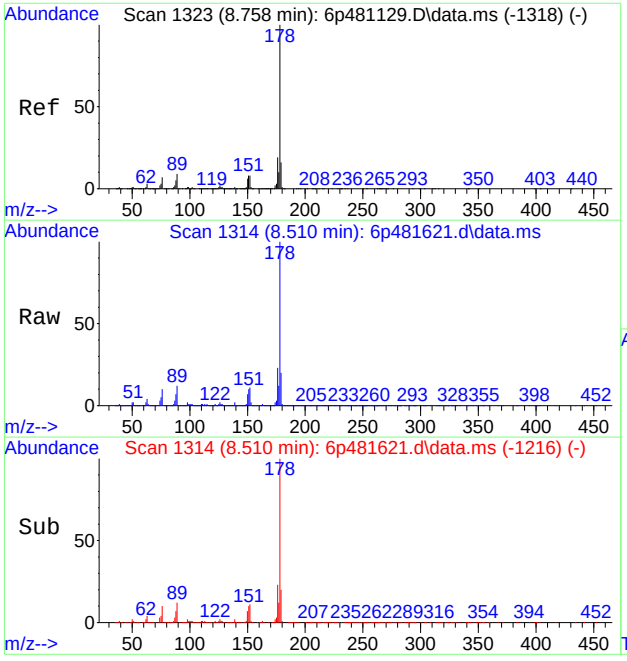
Tgt Ion:178 Resp:25061017

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 20.1 | 0.0 | 45.5 |
| 176 | 23.6 | 0.0 | 49.4 |




9.1.4

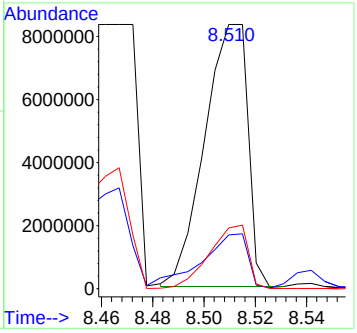
9

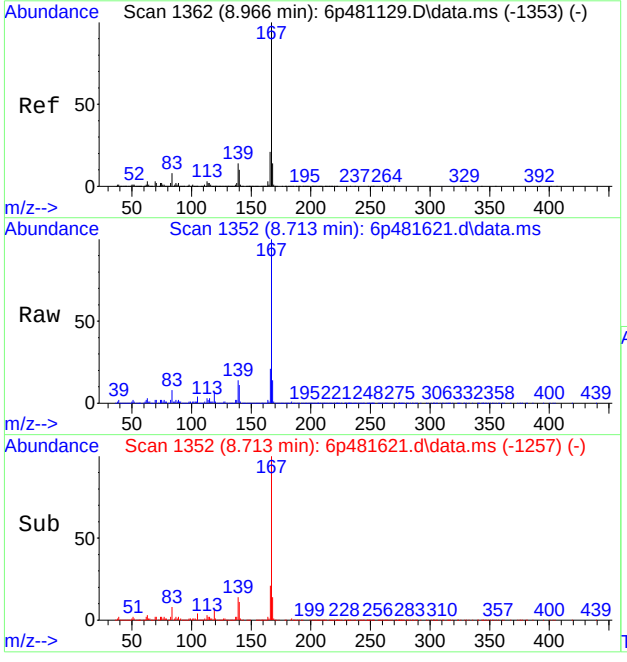



#78
Anthracene
Concen: 178.07 ppm
RT: 8.510 min Scan# 1314
Delta R.T. 0.027 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:178 Resp: 9747427

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 17.6 | 0.0 | 46.0 |
| 176 | 23.2 | 0.0 | 48.5 |

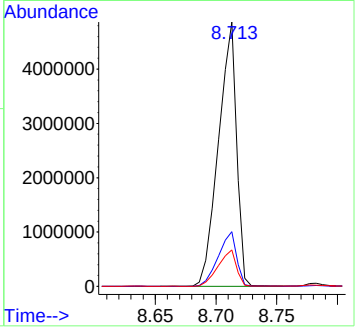



#79
Carbazole
Concen: 97.42 ppm
RT: 8.713 min Scan# 1352
Delta R.T. 0.011 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

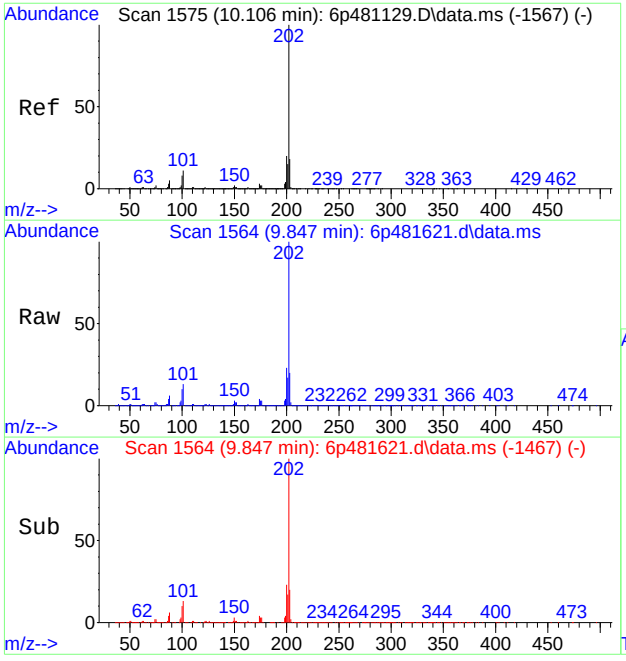
Tgt Ion:167 Resp: 5047719

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 20.7 | 0.0 | 50.5 |
| 139 | 13.7 | 0.0 | 43.7 |




9.1.4

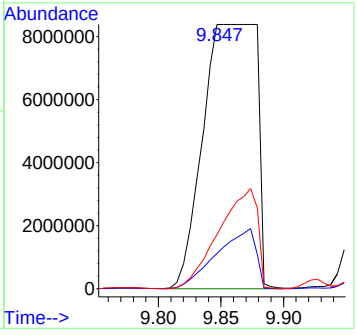
9

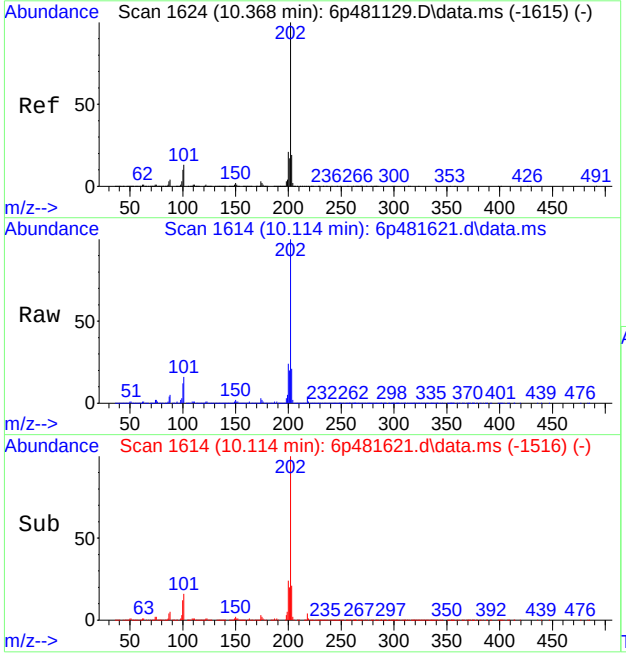



#81
Fluoranthene
Concen: 420.35 ppm m
RT: 9.847 min Scan# 1564
Delta R.T. 0.021 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:202 Resp:24925707

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.4 | 0.0 | 43.2 |
| 203 | 20.5 | 0.0 | 46.9 |

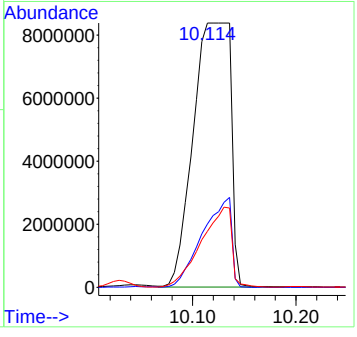


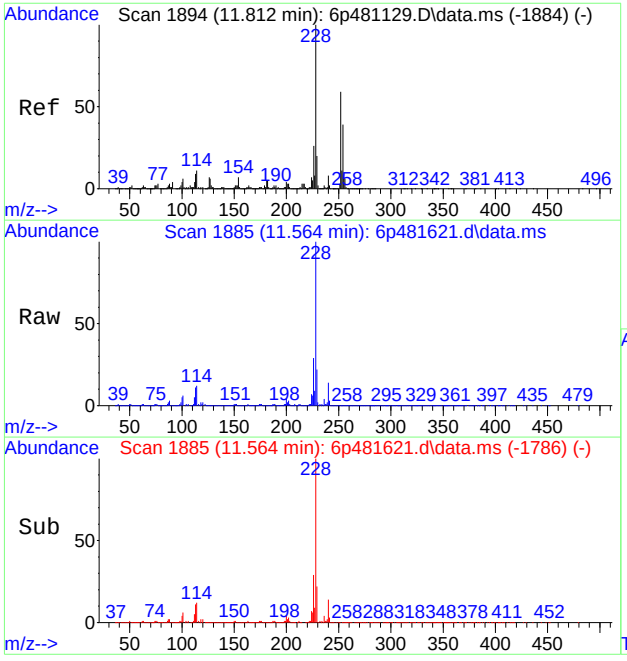




#84
Pyrene
Concen: 305.85 ppm m
RT: 10.114 min Scan# 1614
Delta R.T. 0.027 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:202 Resp:21137790

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 24.0 | 0.0 | 51.0 |
| 203 | 21.2 | 0.0 | 48.2 |

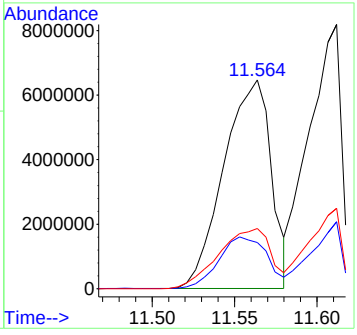


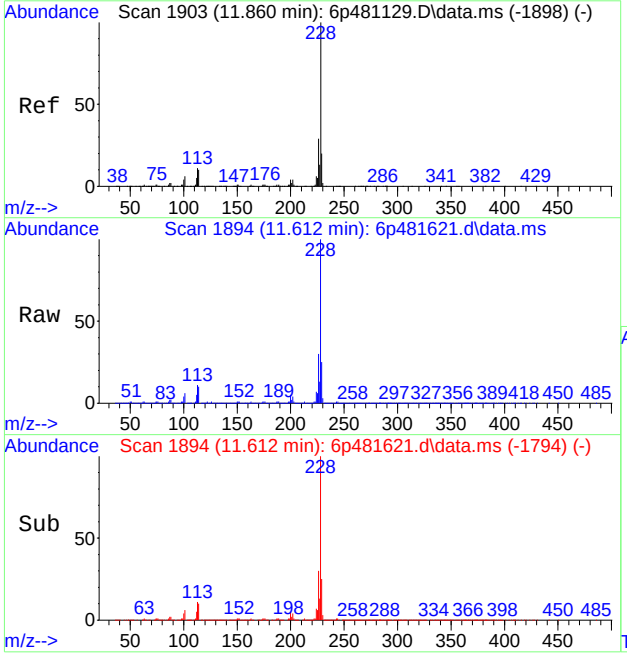



#87
Benzo[a]anthracene
Concen: 196.54 ppm
RT: 11.564 min Scan# 1885
Delta R.T. 0.032 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:228 Resp:12986880

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 22.0 | 0.0 | 50.0 |
| 226 | 28.4 | 0.0 | 57.2 |

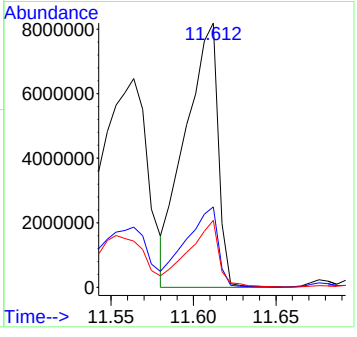



#89
Chrysene
Concen: 175.21 ppm
RT: 11.612 min Scan# 1894
Delta R.T. 0.037 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

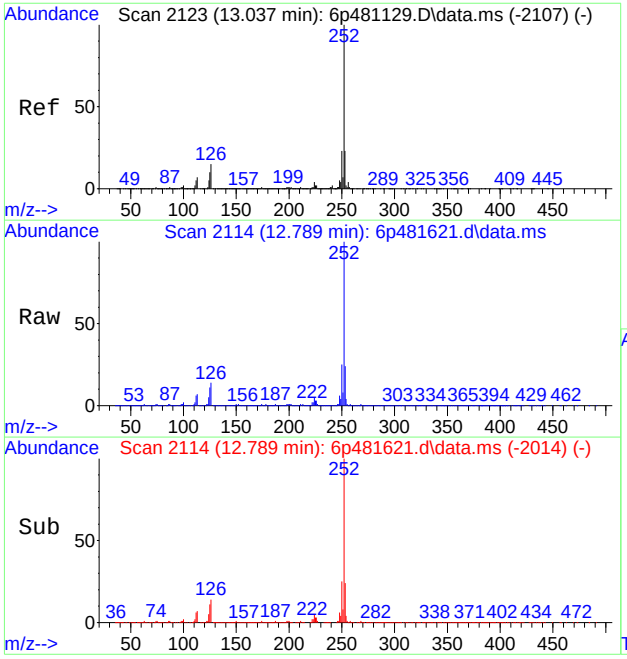
Tgt Ion:228 Resp:11353306

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 30.3 | 0.0 | 59.4 |
| 229 | 25.5 | 0.0 | 49.1 |




9.1.4

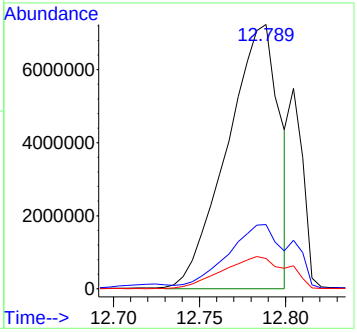
9

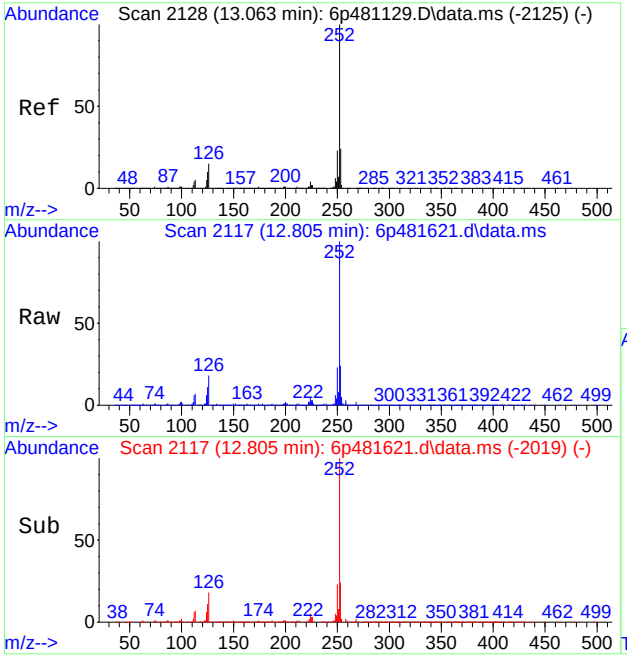



#93
Benzo[b]fluoranthene
Concen: 265.37 ppm m
RT: 12.789 min Scan# 2114
Delta R.T. 0.037 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:252 Resp:15290773

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 24.3 | 0.0 | 52.6 |
| 125 | 11.5 | 0.0 | 41.9 |

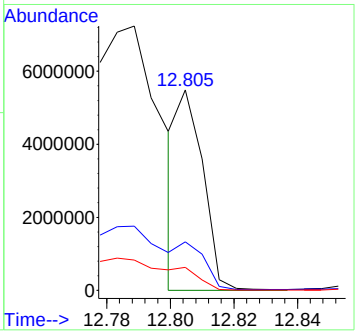


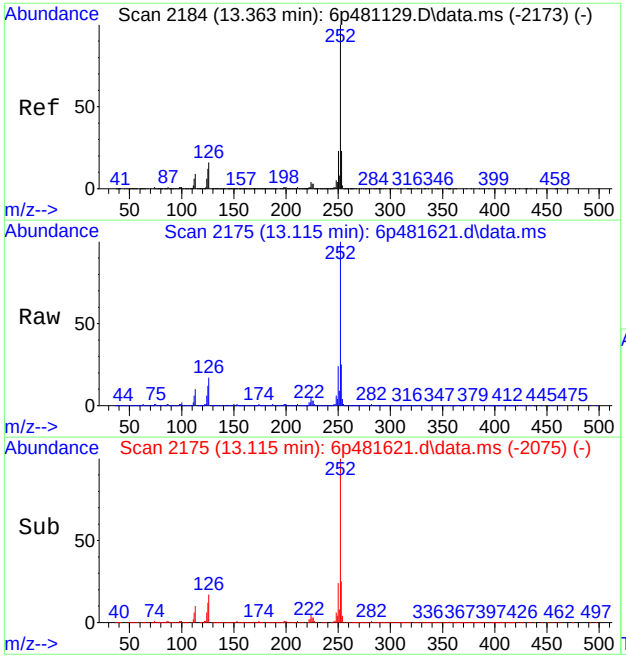




#94
Benzo[k]fluoranthene
Concen: 59.92 ppm m
RT: 12.805 min Scan# 2117
Delta R.T. 0.027 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:252 Resp: 3056388

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 24.2 | 0.0 | 52.1 |
| 125 | 11.5 | 0.0 | 42.0 |

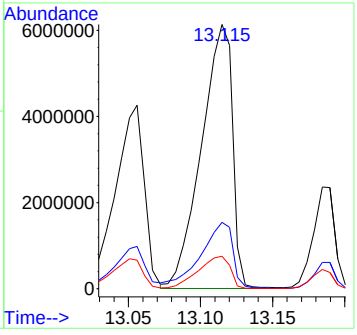


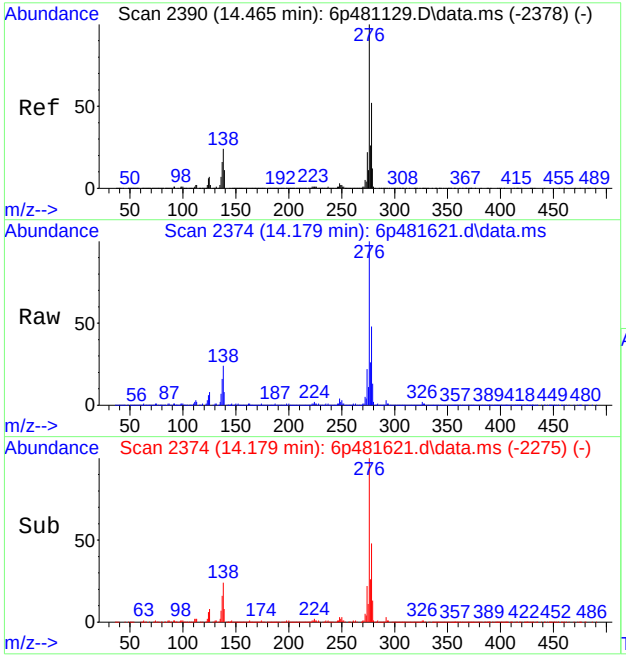



#95
Benzo[a]pyrene
Concen: 194.25 ppm
RT: 13.115 min Scan# 2175
Delta R.T. 0.037 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:252 Resp: 9195902

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 24.1 | 0.0 | 52.2 |
| 125 | 12.3 | 0.0 | 44.4 |

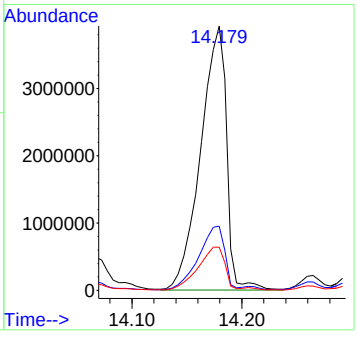


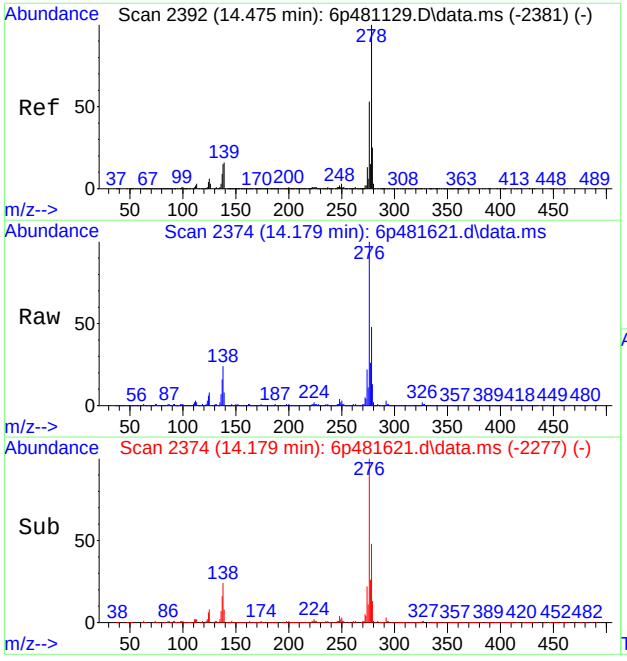




#96
Indeno[1,2,3-cd]pyrene
Concen: 102.41 ppm
RT: 14.179 min Scan# 2374
Delta R.T. 0.032 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:276 Resp: 6473696

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 24.1 | 0.0 | 58.7 |
| 137 | 16.3 | 0.0 | 48.8 |

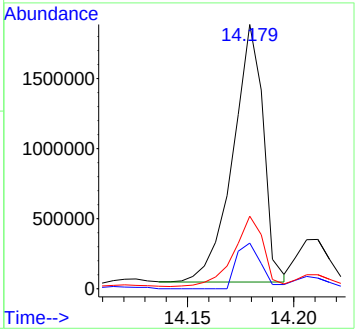


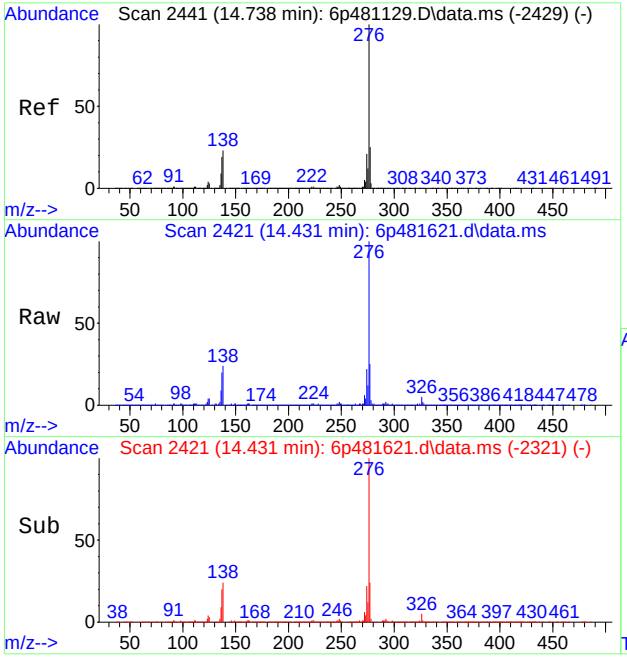



#98
Dibenz[a,h]anthracene
Concen: 32.59 ppm m
RT: 14.179 min Scan# 2374
Delta R.T. 0.021 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:278 Resp: 1825603

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 17.3 | 0.0 | 49.1 |
| 279 | 27.5 | 0.0 | 53.6 |

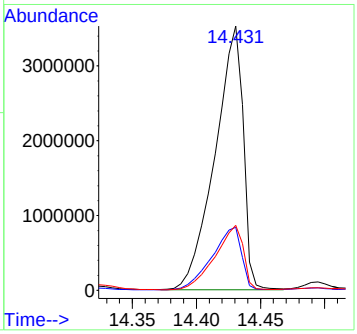



#100
Benzo[g,h,i]perylene
Concen: 109.90 ppm
RT: 14.431 min Scan# 2421
Delta R.T. 0.037 min
Lab File: 6p481621.d
Acq: 3 May 2019 5:19 pm

Tgt Ion:276 Resp: 5417365

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 23.6 | 0.0 | 55.6 |
| 277 | 24.3 | 0.0 | 53.1 |




9.1.4

9

# Manual Integration Approval Summary

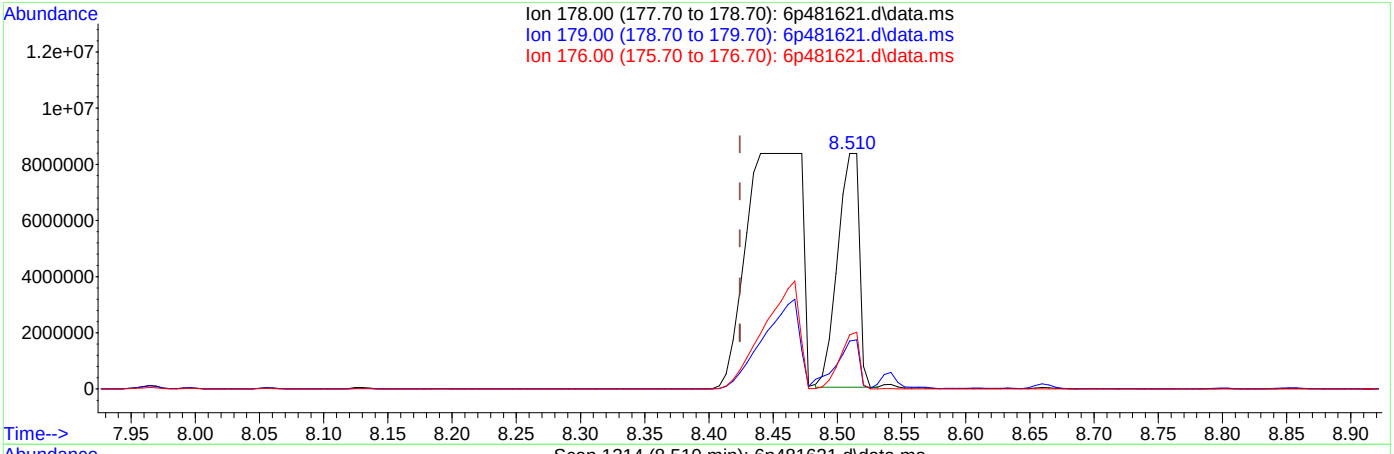


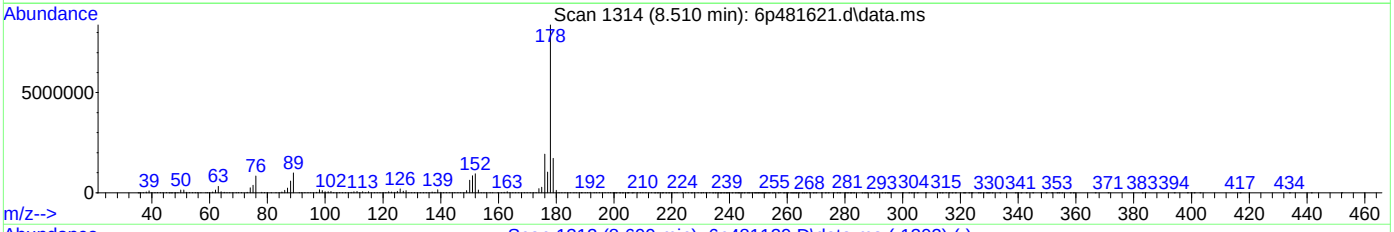
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-3 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481621.D | **Analyst approved:** | 05/06/19 03:07 Michelle Co |
| **Injection Time:** | 05/03/19 17:19 | **Supervisor approved:** | 05/09/19 11:32 Kristi Schollenberger |

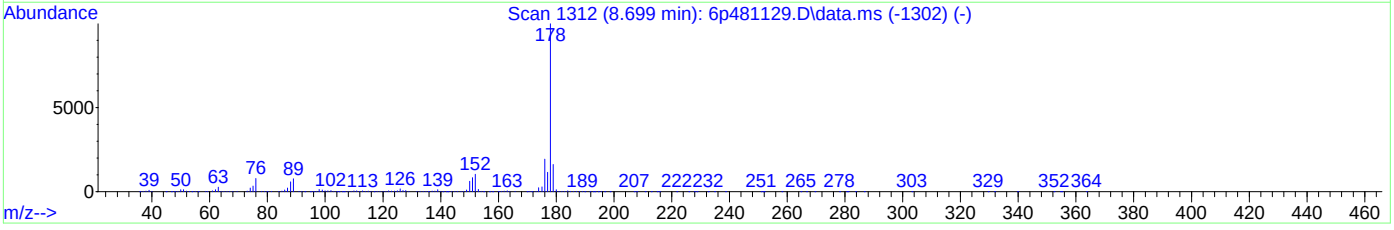
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Phenanthrene | 85-01-8 | | 8.44 | Poor instrument integration |
| Fluoranthene | 206-44-0 | | 9.85 | Poor instrument integration |
| Pyrene | 129-00-0 | | 10.11 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.79 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.80 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.18 | Poor instrument integration |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481621.d
Acq On    :  3 May 2019   5:19 pm
Operator  : angelar
Sample    : jc86986-3                                  Inst    : MS6P
Misc      : op20081,e6p2581,30.1,,,1,20
ALS Vial  : 11   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:34 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration
```




TIC: 6p481621.d\data.ms

(77) Phenanthrene (t)

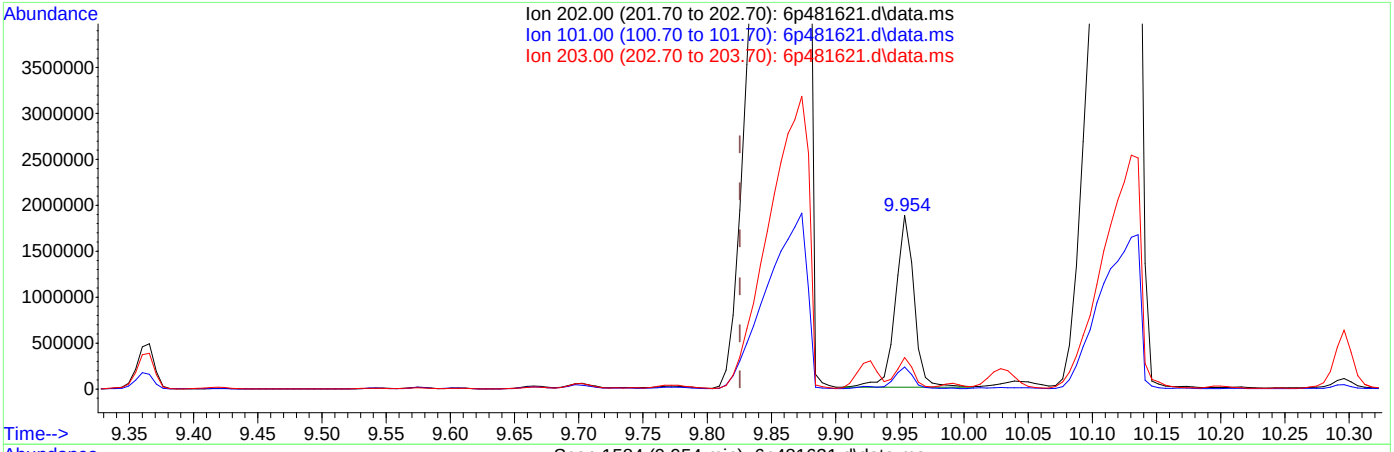
8.510min (+0.086) 178.59ppm

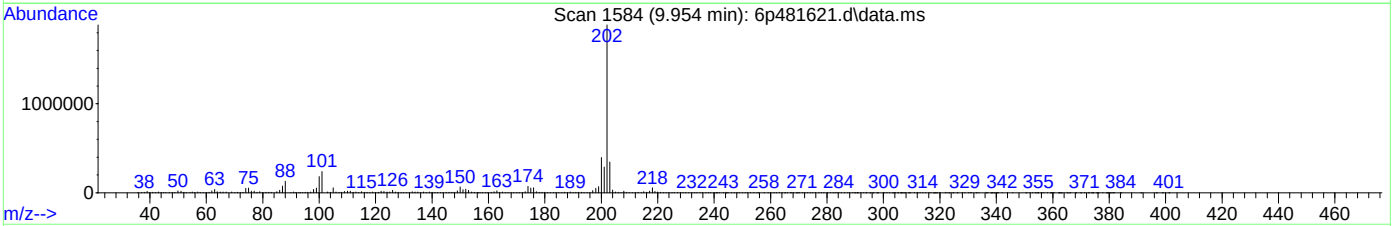
response 9747427

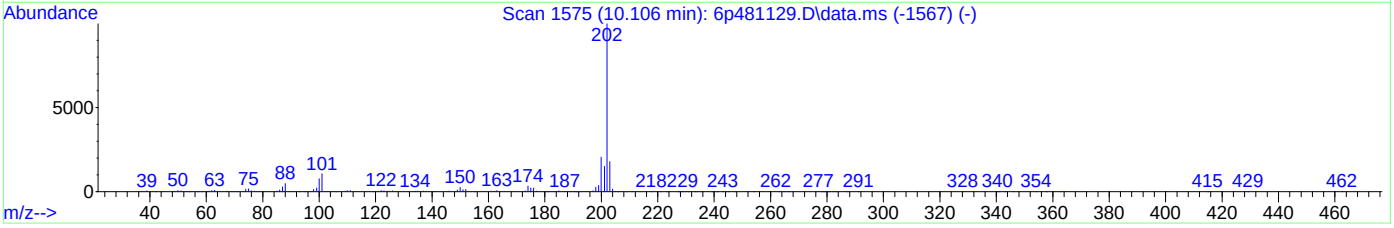
| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.50 | 17.58 |
| 176.00 | 19.40 | 23.16 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481621.d
Acq On    :  3 May 2019   5:19 pm
Operator  : angelar
Sample    : jc86986-3                                  Inst     : MS6P
Misc      : op20081,e6p2581,30.1,,,1,20
ALS Vial  : 11   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:34 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration
```




TIC: 6p481621.d\data.ms

(81) Fluoranthene (t)

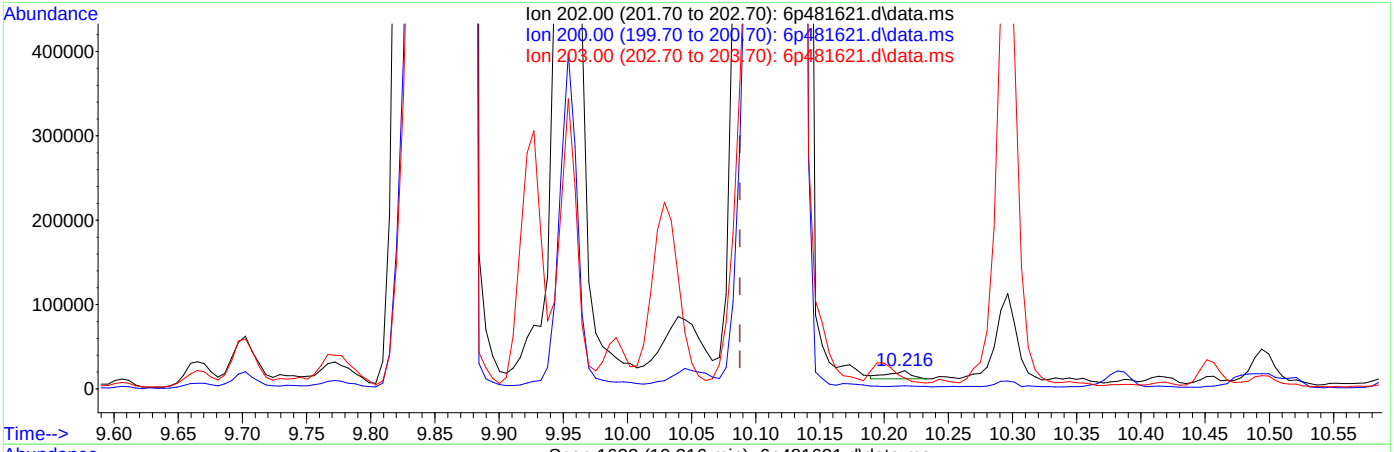
9.954min (+0.128) 31.87ppm

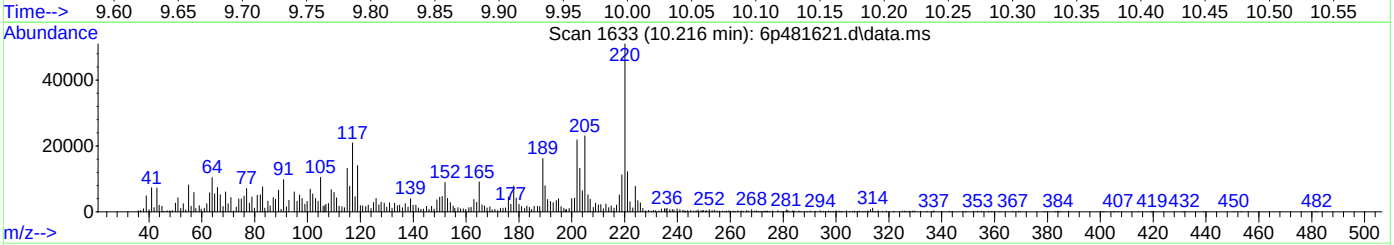
response 1889926

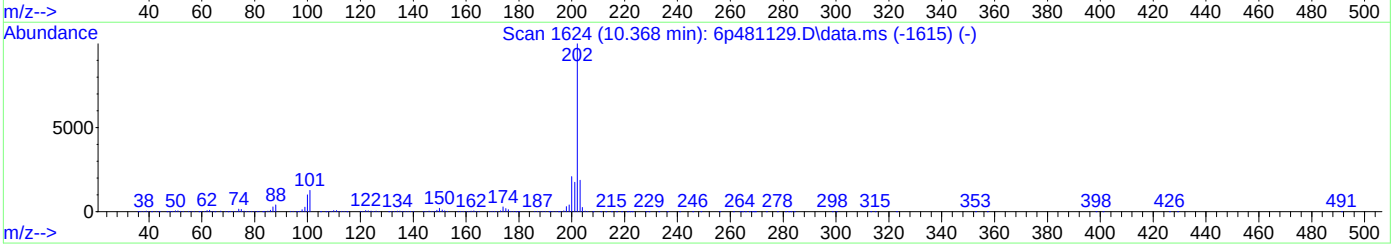
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 101.00 | 13.20 | 12.40 |
| 203.00 | 16.90 | 17.31 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481621.d
Acq On    :  3 May 2019   5:19 pm
Operator  : angelar
Sample    : jc86986-3                                  Inst     : MS6P
Misc      : op20081,e6p2581,30.1,,,1,20
ALS Vial  : 11   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:34 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration
```




TIC: 6p481621.d\data.ms

(84) Pyrene (t)

10.216min (+0.128) 0.17ppm

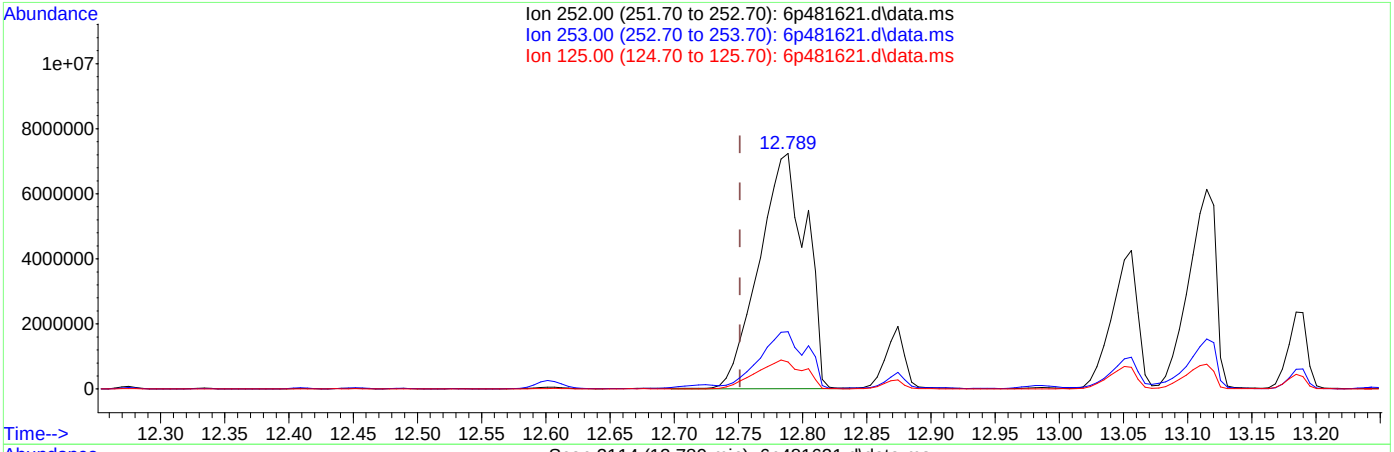
response 11942

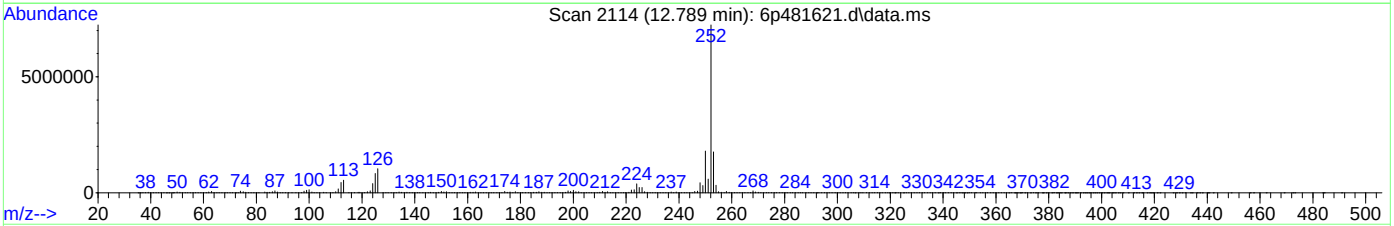
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 200.00 | 21.00 | 9.07 |
| 203.00 | 18.20 | 0.00 |
| 0.00 | 0.00 | 0.00 |

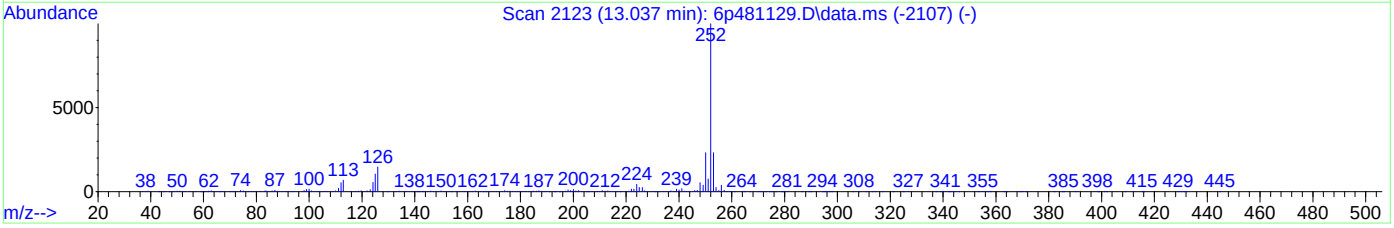
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481621.d
Acq On : 3 May 2019 5:19 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2581,30.1,,,1,20
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481621.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.789min (+0.037) 318.16ppm

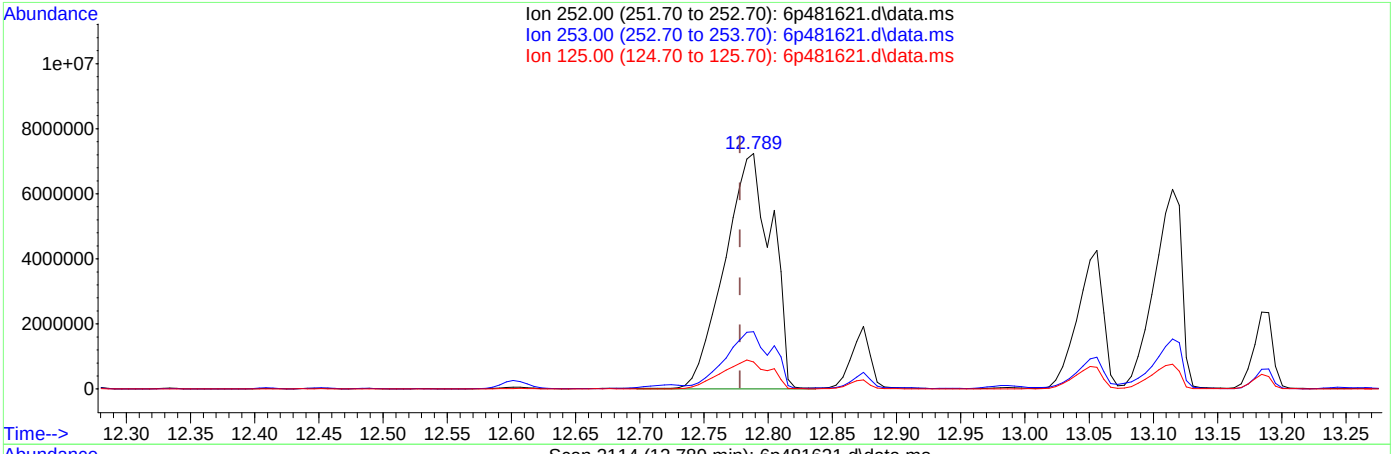
response 18333064

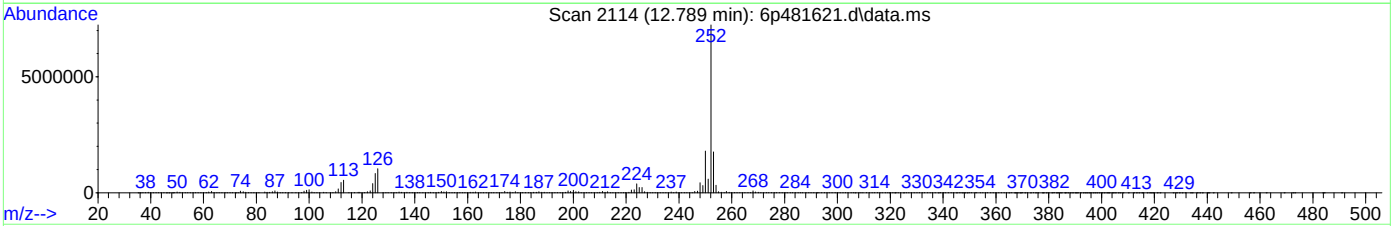
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 23.88 |
| 125.00 | 11.90 | 11.39 |
| 0.00 | 0.00 | 0.00 |

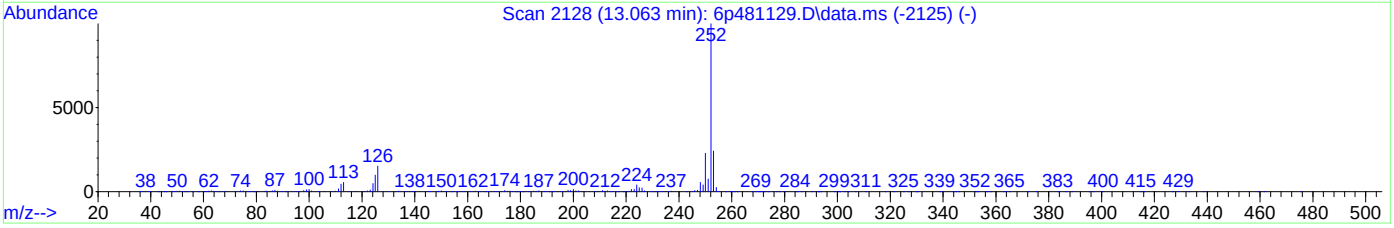
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481621.d
Acq On : 3 May 2019 5:19 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2581,30.1,,,1,20
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481621.d\data.ms

(94) Benzo[k]fluoranthene (t)

12.789min (+0.011) 359.76ppm

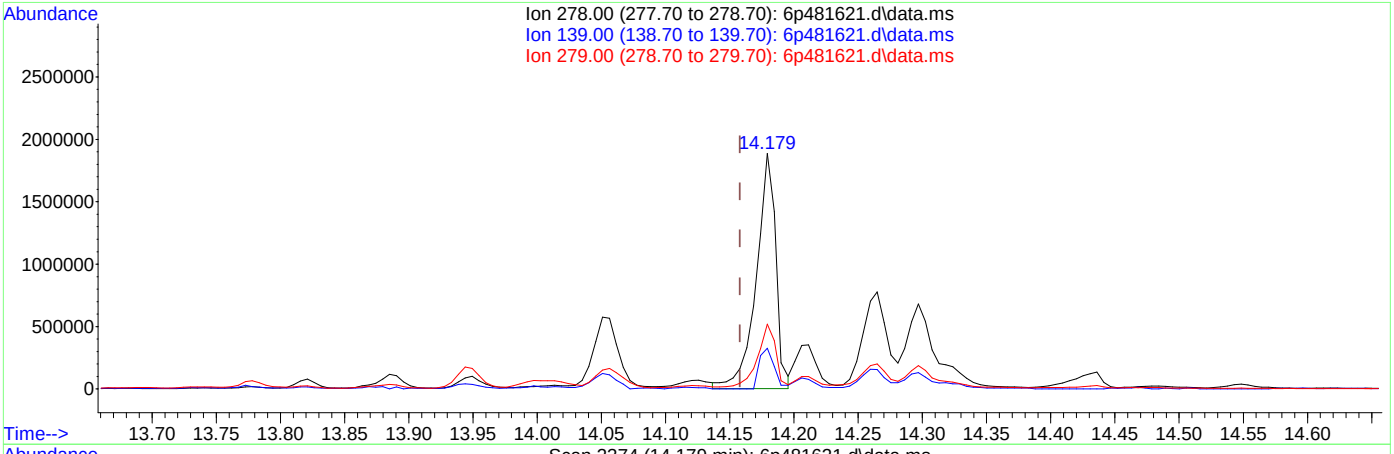
response 18351304

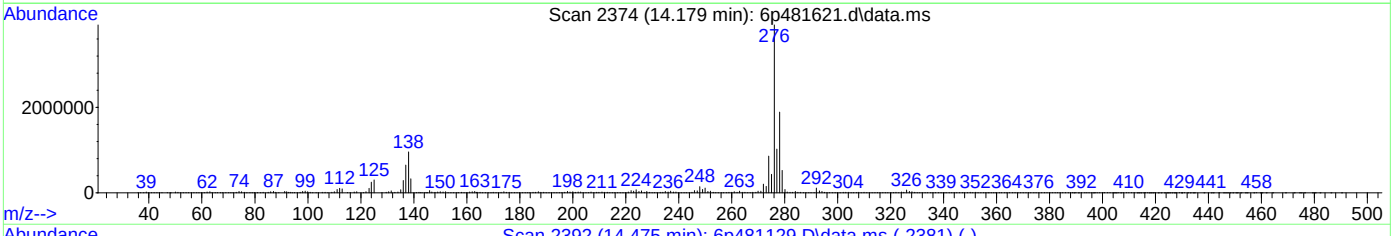
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.10 | 23.88 |
| 125.00 | 12.00 | 11.39 |
| 0.00 | 0.00 | 0.00 |

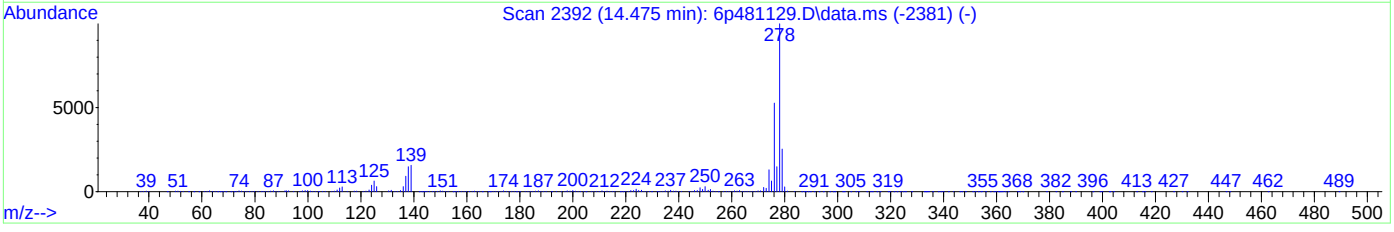
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481621.d
Acq On : 3 May 2019 5:19 pm
Operator : angelar
Sample : jc86986-3 Inst : MS6P
Misc : op20081,e6p2581,30.1,,,1,20
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481621.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.179min (+0.021) 35.35ppm

response 1980327

| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 19.10 | 17.14 |
| 279.00 | 23.60 | 27.21 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481562.d
Acq On : 2 May 2019 2:50 pm
Operator : angelar
Sample : jc86986-4 Inst : MS6P
Misc : op20081,e6p2579,30.4,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:39:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

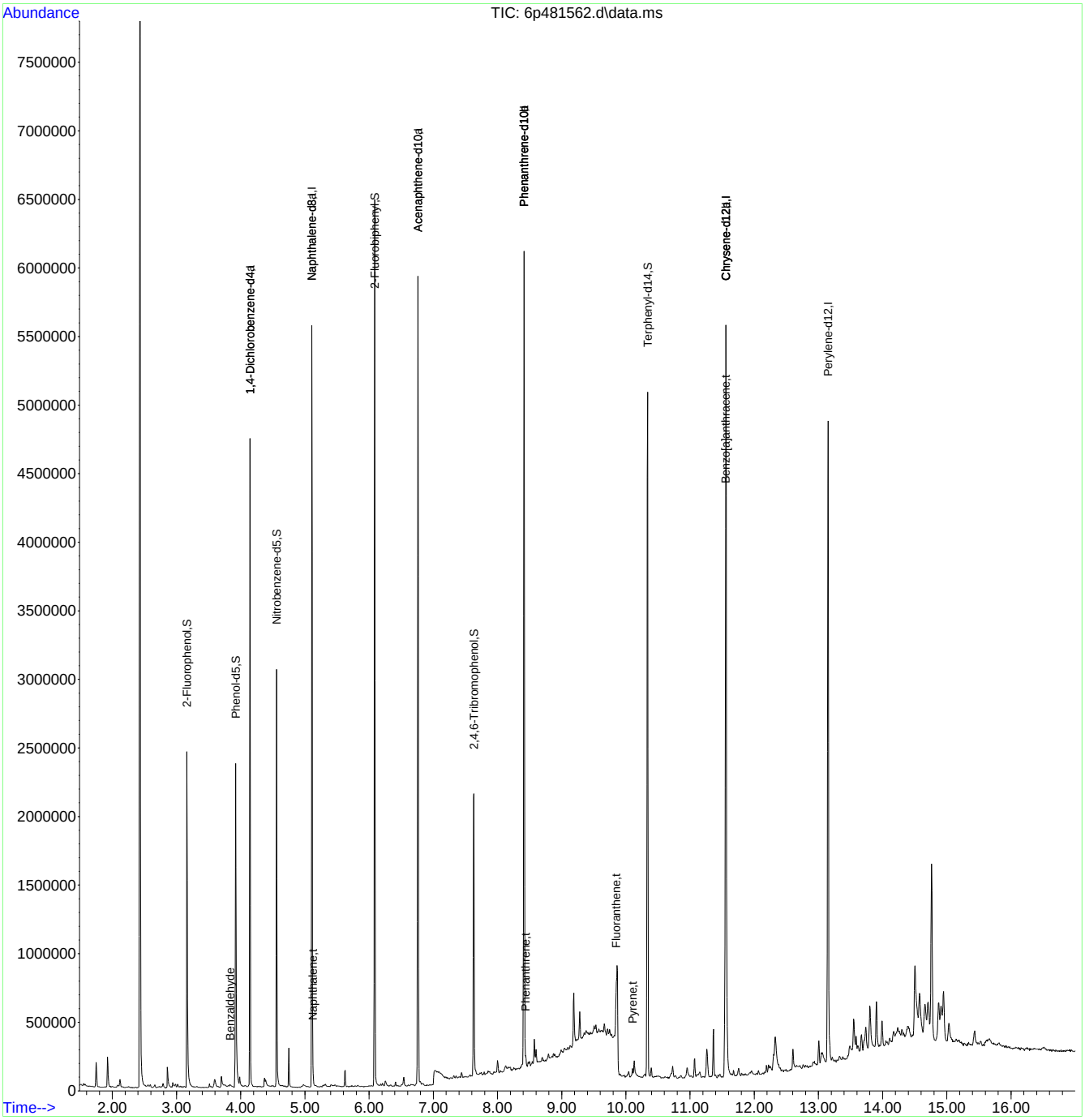
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 534209 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.108 | 136 | 1934032 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1138377 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.413 | 188 | 2069868 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.558 | 240 | 1762338 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.152 | 264 | 1659766 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 534209 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1138377 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.413 | 188 | 2069868 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.558 | 240 | 1762338 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.108 | 136 | 1934032 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.413 | 188 | 2069868 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.558 | 240 | 1762338 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 617337 | 39.50 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 79.00% | | | |
| 8) Phenol-d5 | 3.920 | 99 | 750884 | 39.35 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 78.70% | | | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 668692 | 41.55 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 83.10% | | | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1606882 | 39.96 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 79.92% | | | |
| 73) 2,4,6-Tribromophenol | 7.632 | 330 | 252017 | 37.84 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 75.68% | | | |
| 85) Terphenyl-d14 | 10.339 | 244 | 1668013 | 40.63 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 81.26% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.124 | 128 | 28845m | 0.57 | ppm | |
| 77) Phenanthrene | 8.440 | 178 | 23378m | 0.42 | ppm | |
| 81) Fluoranthene | 9.847 | 202 | 27551 | 0.46 | ppm | 95 |
| 84) Pyrene | 10.103 | 202 | 22842 | 0.39 | ppm | 92 |
| 87) Benzo[a]anthracene | 11.553 | 228 | 15124 | 0.27 | ppm | 94 |
| 102) Benzaldehyde | 3.835 | 105 | 4767 | 0.36 | ppm | 89 |

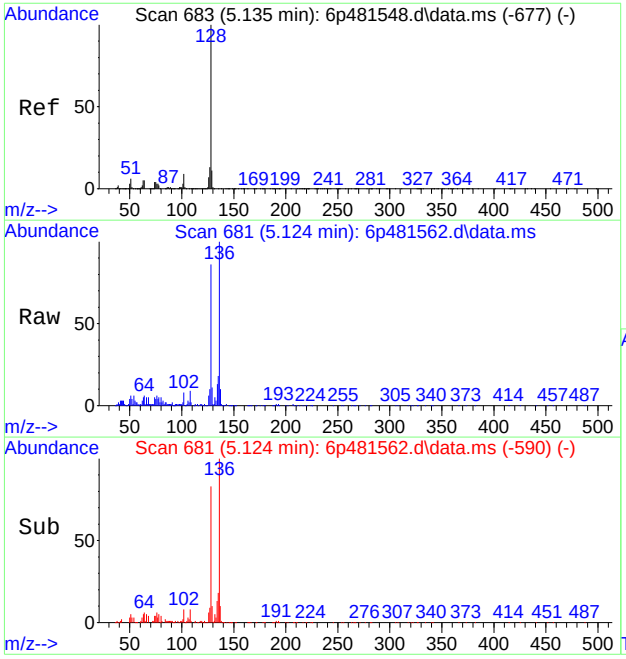
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481562.d
Acq On : 2 May 2019 2:50 pm
Operator : angelar
Sample : jc86986-4 Inst : MS6P
Misc : op20081,e6p2579,30.4,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:39:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

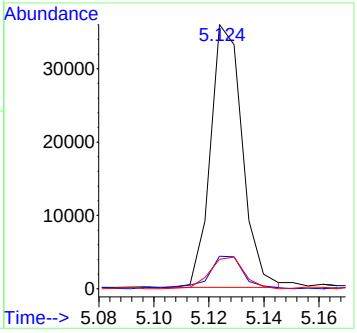


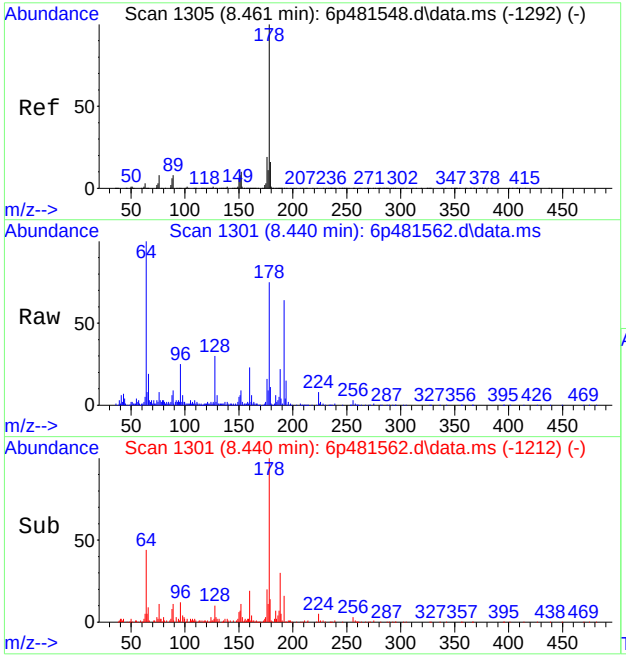



#38
Naphthalene
Concen: 0.57 ppm m
RT: 5.124 min Scan# 681
Delta R.T. -0.011 min
Lab File: 6p481562.d
Acq: 2 May 2019 2:50 pm

Tgt Ion:128 Resp: 28845

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 12.3 | 0.0 | 41.4 |
| 127 | 11.1 | 0.0 | 43.3 |

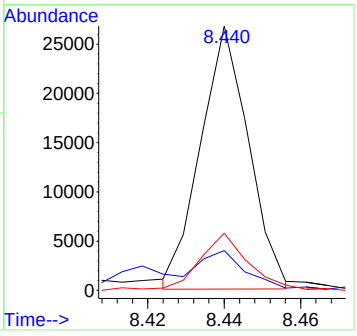


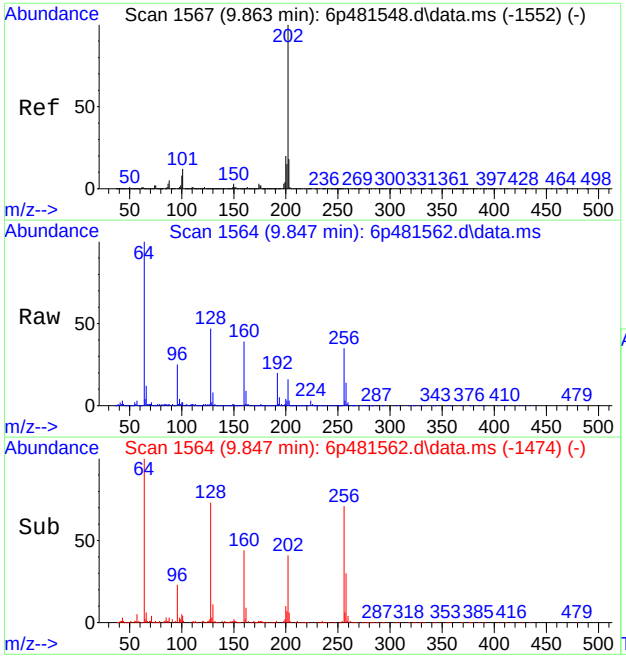




#77
Phenanthrene
Concen: 0.42 ppm m
RT: 8.440 min Scan# 1301
Delta R.T. -0.021 min
Lab File: 6p481562.d
Acq: 2 May 2019 2:50 pm

Tgt Ion:178 Resp: 23378

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.1 | 0.0 | 45.9 |
| 176 | 21.7 | 0.0 | 49.1 |

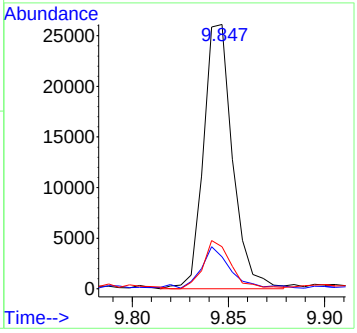


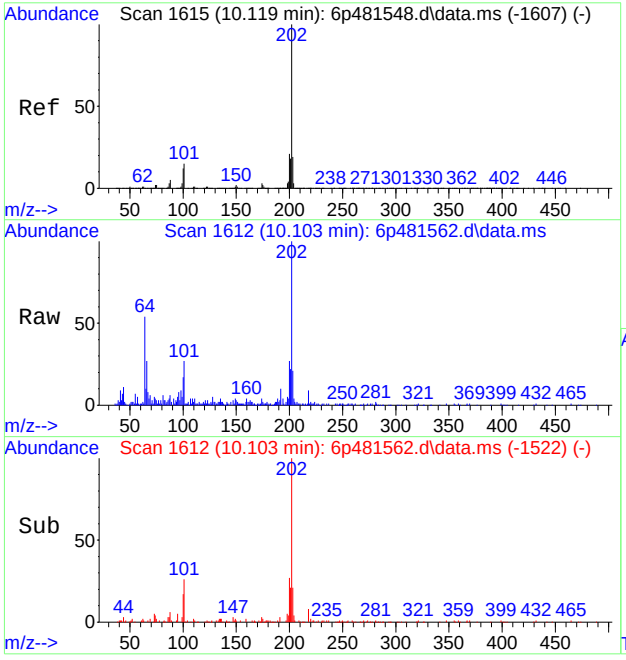



#81
Fluoranthene
Concen: 0.46 ppm
RT: 9.847 min Scan# 1564
Delta R.T. -0.016 min
Lab File: 6p481562.d
Acq: 2 May 2019 2:50 pm

Tgt Ion:202 Resp: 27551

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.3 | 0.0 | 41.6 |
| 203 | 15.4 | 0.0 | 47.6 |

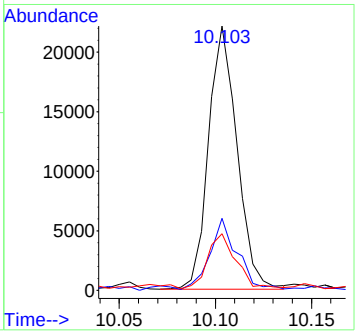


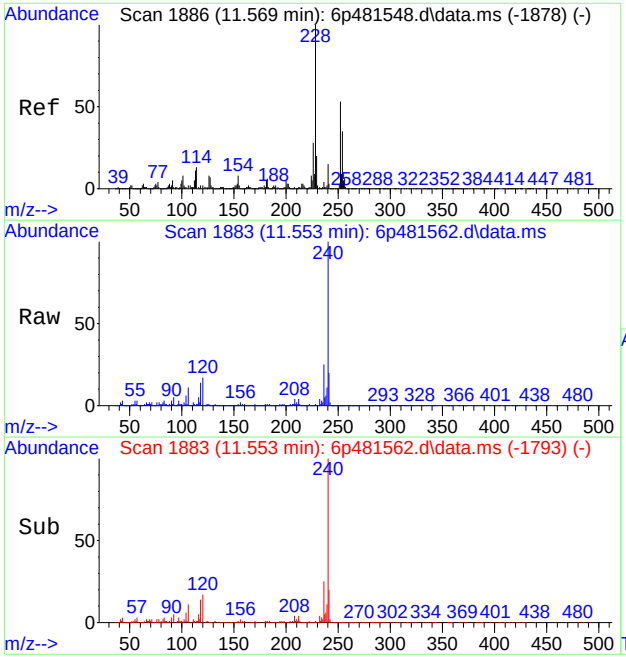




#84
Pyrene
Concen: 0.39 ppm
RT: 10.103 min Scan# 1612
Delta R.T. -0.016 min
Lab File: 6p481562.d
Acq: 2 May 2019 2:50 pm

Tgt Ion:202 Resp: 22842

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 26.4 | 0.0 | 50.9 |
| 203 | 20.3 | 0.0 | 48.9 |

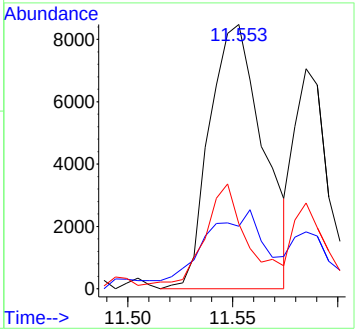


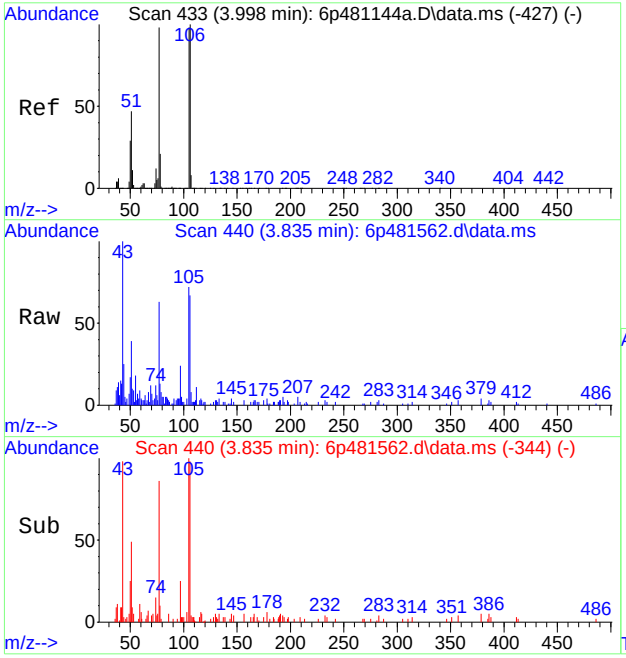



#87
Benzo[a]anthracene
Concen: 0.27 ppm
RT: 11.553 min Scan# 1883
Delta R.T. -0.016 min
Lab File: 6p481562.d
Acq: 2 May 2019 2:50 pm

Tgt Ion:228 Resp: 15124

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 19.2 | 0.0 | 50.1 |
| 226 | 22.9 | 0.0 | 57.7 |

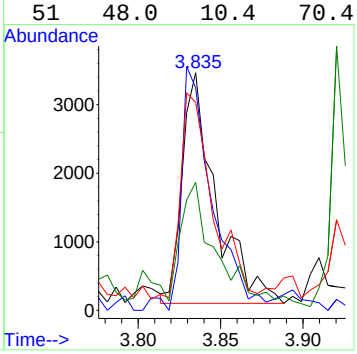



#102
Benzaldehyde
Concen: 0.36 ppm
RT: 3.835 min Scan# 440
Delta R.T. 0.016 min
Lab File: 6p481562.d
Acq: 2 May 2019 2:50 pm

Tgt Ion:105 Resp: 4767

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 106 | 92.4 | 71.5 | 131.5 |
| 77 | 79.7 | 62.8 | 122.8 |
| 51 | 48.0 | 10.4 | 70.4 |



# Manual Integration Approval Summary



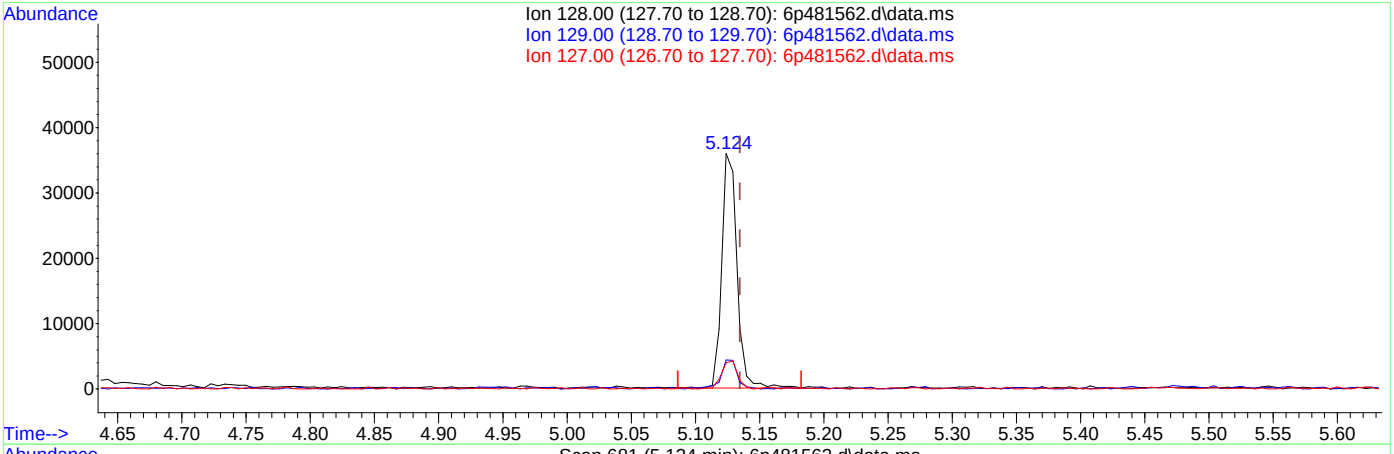
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-4 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481562.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 14:50 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

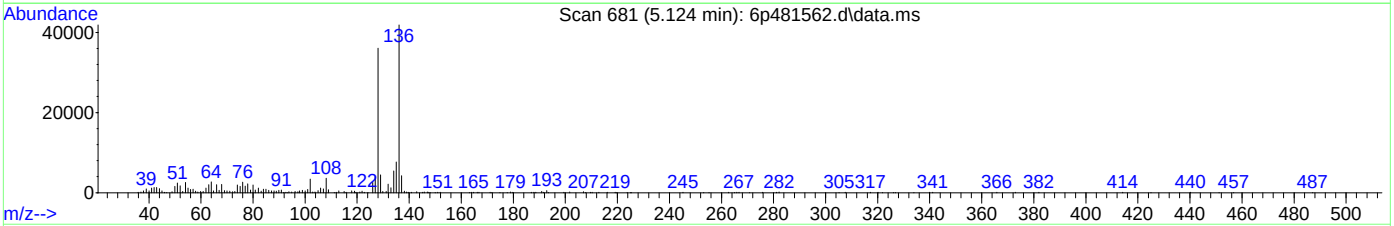
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.12 | Poor instrument integration |
| Phenanthrene | 85-01-8 | | 8.44 | Poor instrument integration |

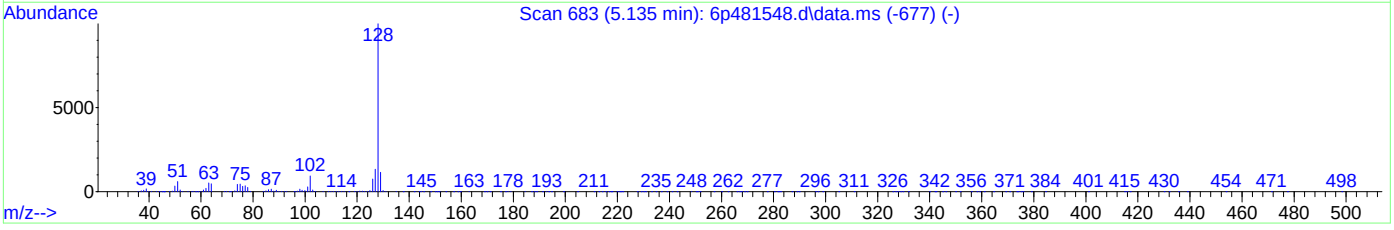
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481562.d
Acq On : 2 May 2019 2:50 pm
Operator : angelar
Sample : jc86986-4 Inst : MS6P
Misc : op20081,e6p2579,30.4,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481562.d\data.ms

(38) Naphthalene (t)

5.124min (-0.011) 0.59ppm

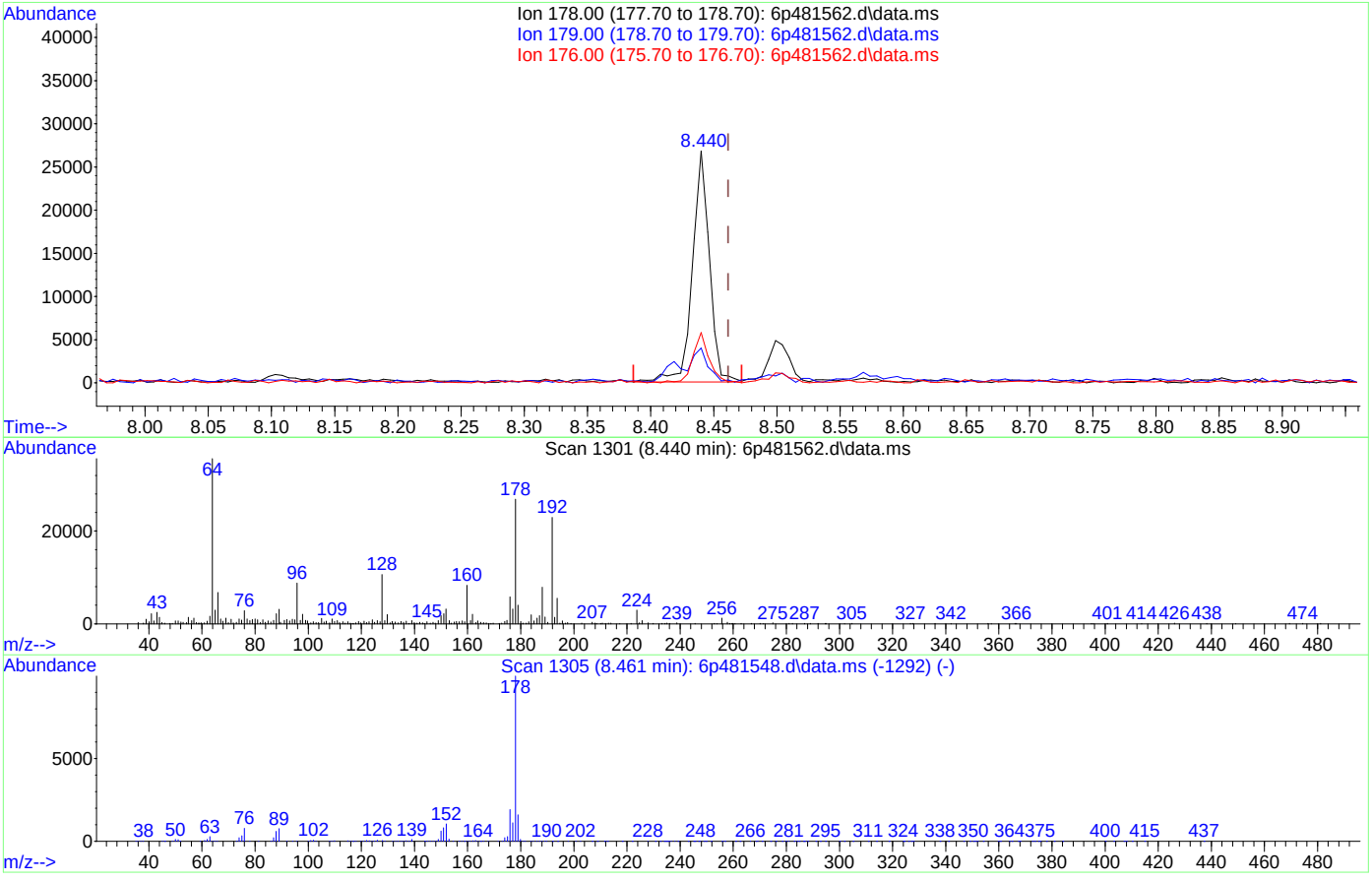
response 29859

| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.40 | 12.20 |
| 127.00 | 13.30 | 10.75 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481562.d
Acq On : 2 May 2019 2:50 pm
Operator : angelar
Sample : jc86986-4 Inst : MS6P
Misc : op20081,e6p2579,30.4,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:41 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481562.d\data.ms

(77) Phenanthrene (t)

8.440min (-0.021) 0.45ppm

response 25112

| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 13.99 |
| 176.00 | 19.10 | 21.39 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481554.d
Acq On : 2 May 2019 11:34 am
Operator : angelar
Sample : jc86986-5 Inst : MS6P
Misc : op20081,e6p2579,30.3,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:14:37 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

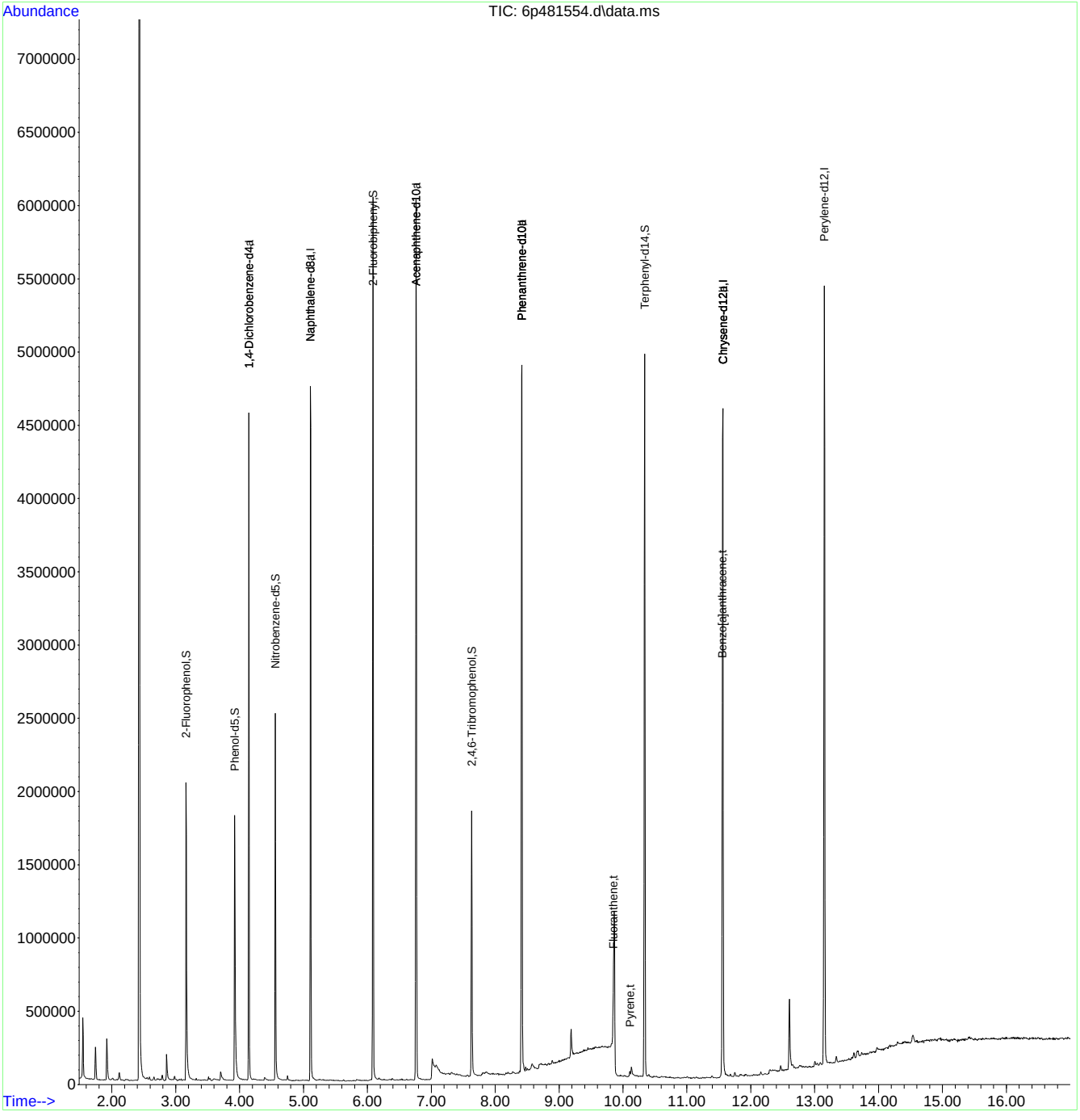
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 496620 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.108 | 136 | 1860968 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1161881 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.419 | 188 | 1903900 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.564 | 240 | 1680744 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.152 | 264 | 1842160 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 496620 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1161881 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.419 | 188 | 1903900 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.564 | 240 | 1680744 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.108 | 136 | 1860968 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.419 | 188 | 1903900 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.564 | 240 | 1680744 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 567950 | 39.09 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 78.18% | | | |
| 8) Phenol-d5 | 3.920 | 99 | 692712 | 39.05 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 78.10% | | | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 604269 | 39.02 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 78.04% | | | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1529204 | 37.25 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 74.50% | | | |
| 73) 2,4,6-Tribromophenol | 7.632 | 330 | 225026 | 36.73 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 73.46% | | | |
| 85) Terphenyl-d14 | 10.339 | 244 | 1621321 | 41.41 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 82.82% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 81) Fluoranthene | 9.847 | 202 | 19921 | 0.36 | ppm | 97 |
| 84) Pyrene | 10.109 | 202 | 13942 | 0.25 | ppm | 97 |
| 87) Benzo[a]anthracene | 11.553 | 228 | 11486 | 0.21 | ppm | 92 |

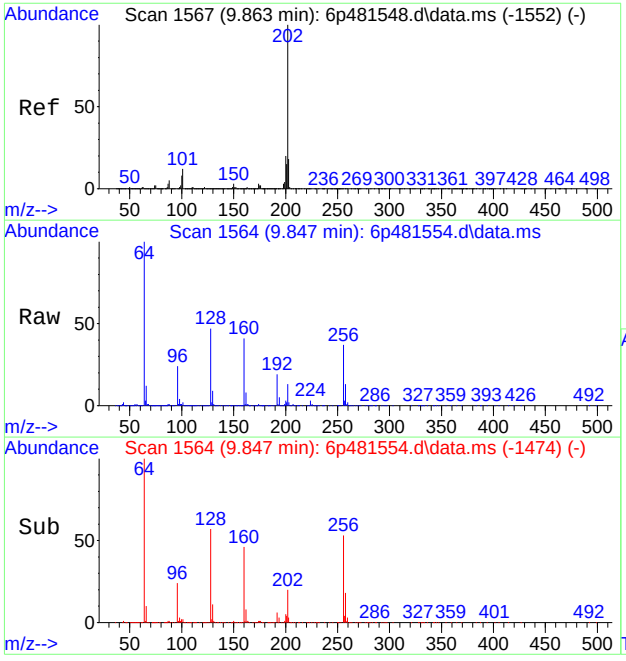
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481554.d
Acq On : 2 May 2019 11:34 am
Operator : angelar
Sample : jc86986-5 Inst : MS6P
Misc : op20081,e6p2579,30.3,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:14:37 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

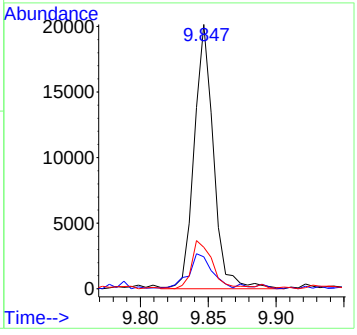


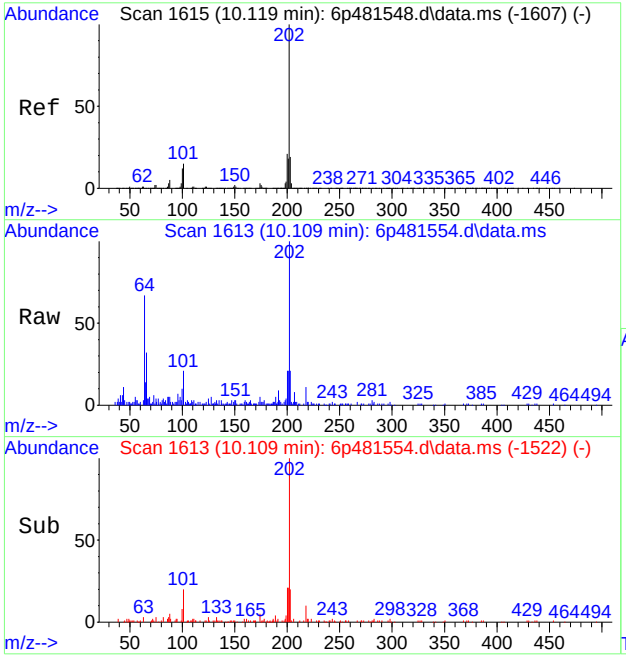



#81
Fluoranthene
Concen: 0.36 ppm
RT: 9.847 min Scan# 1564
Delta R.T. -0.016 min
Lab File: 6p481554.d
Acq: 2 May 2019 11:34 am

Tgt Ion:202 Resp: 19921

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 11.6 | 0.0 | 41.6 |
| 203 | 15.3 | 0.0 | 47.6 |

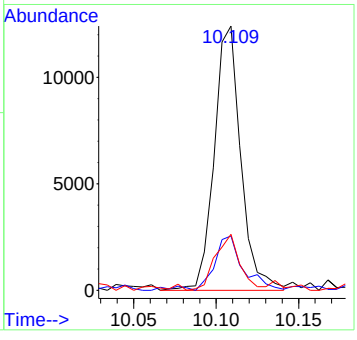


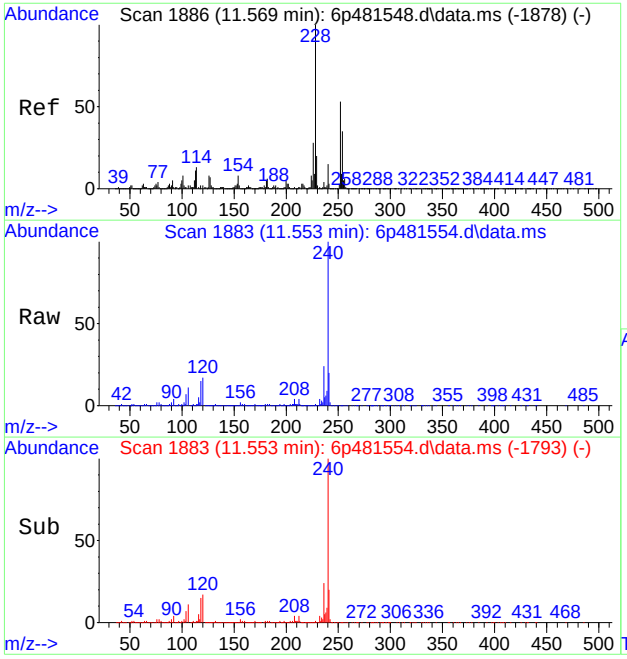




#84
Pyrene
Concen: 0.25 ppm
RT: 10.109 min Scan# 1613
Delta R.T. -0.011 min
Lab File: 6p481554.d
Acq: 2 May 2019 11:34 am

Tgt Ion:202 Resp: 13942

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 19.9 | 0.0 | 50.9 |
| 203 | 20.4 | 0.0 | 48.9 |

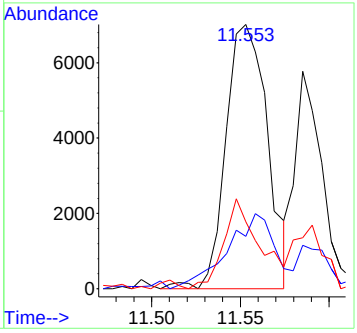





#87
Benzo[a]anthracene
Concen: 0.21 ppm
RT: 11.553 min Scan# 1883
Delta R.T. -0.016 min
Lab File: 6p481554.d
Acq: 2 May 2019 11:34 am

Tgt Ion:228 Resp: 11486

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 16.6 | 0.0 | 50.1 |
| 226 | 23.2 | 0.0 | 57.7 |




9.1.6

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129377.d
Acq On : 7 May 2019 5:50 pm
Operator : christc2
Sample : jc86986-6 Inst : MSVOAMSP
Misc : op20110,ep5856,30.0,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:13:47 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.764 | 152 | 182123 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.699 | 136 | 598085 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 5.938 | 164 | 308301 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.332 | 188 | 541790 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.964 | 240 | 466700 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 14.897 | 264 | 446714 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4b | 3.764 | 152 | 182123 | 40.00 | ppm | 0.00 |
| 103) Phenanthrene-d10b | 7.332 | 188 | 541790 | 40.00 | ppm | 0.00 |
| 105) Chrysene-d12b | 11.964 | 240 | 466700 | 40.00 | ppm | 0.00 |
| 107) Naphthalene-d8b | 4.699 | 136 | 598085 | 40.00 | ppm | 0.00 |
| 109) Acenaphthene-d10b | 5.938 | 164 | 308301 | 40.00 | ppm | 0.00 |
| 111) Chrysene-d12d | 11.964 | 240 | 466700 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.807 | 112 | 176346 | 30.14 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 60.28% | | | |
| 8) Phenol-d5 | 3.625 | 99 | 222164 | 29.90 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 59.80% | | | |
| 25) Nitrobenzene-d5 | 4.186 | 82 | 216851 | 33.75 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 67.50% | | | |
| 51) 2-Fluorobiphenyl | 5.479 | 172 | 348161 | 35.64 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 71.28% | | | |
| 73) 2,4,6-Tribromophenol | 6.600 | 330 | 50468 | 27.99 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 55.98% | | | |
| 85) Terphenyl-d14 | 9.950 | 244 | 336053 | 31.78 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 63.56% | | | |

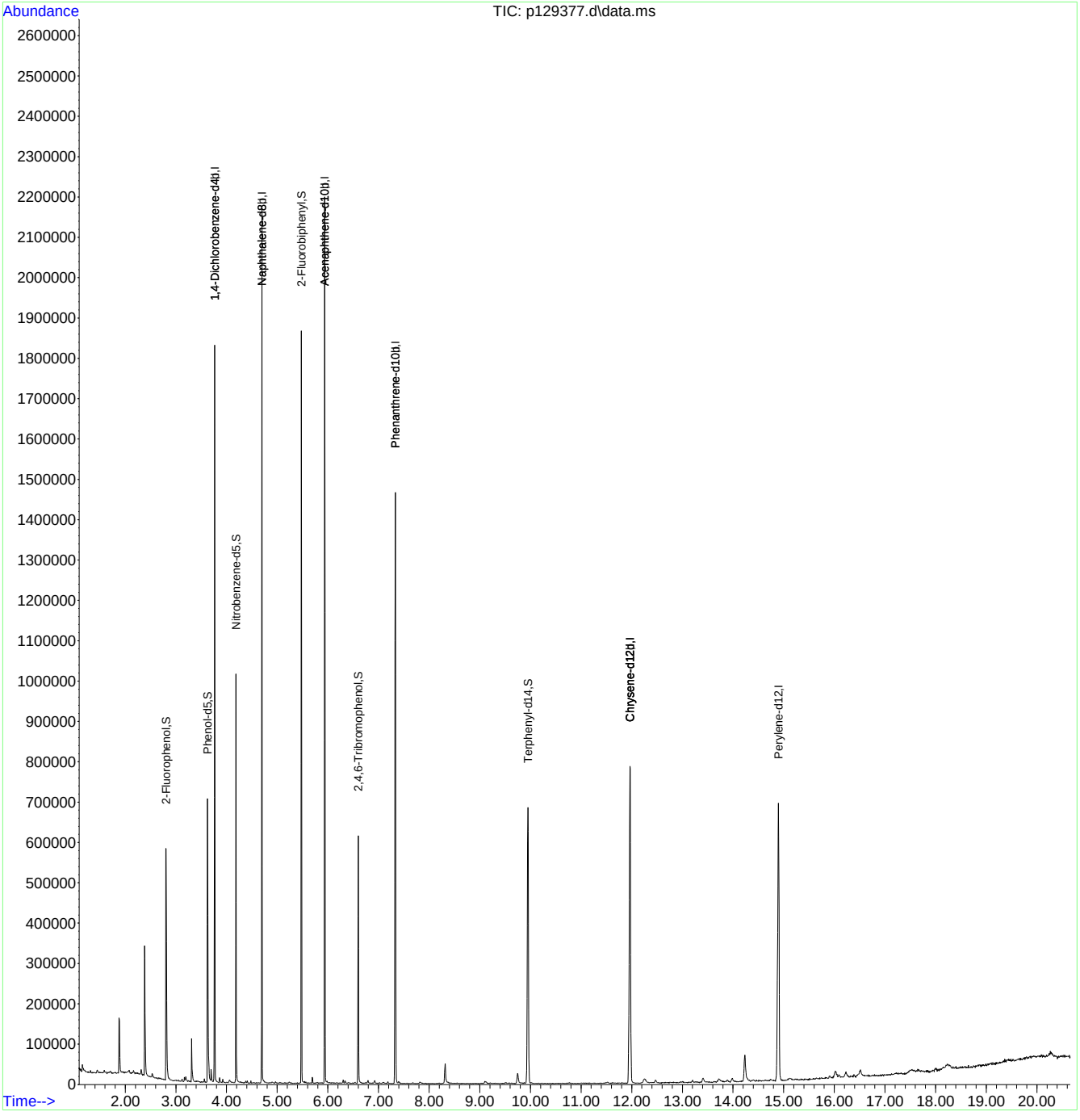
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129377.d
Acq On : 7 May 2019 5:50 pm
Operator : christc2
Sample : jc86986-6 Inst : MSVOAMSP
Misc : op20110,ep5856,30.0,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:13:47 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration




MP5844.M Wed May 08 05:05:16 2019 Page: 2

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481565.d
Acq On : 2 May 2019 4:14 pm
Operator : angelar
Sample : jc86986-7 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:53:58 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 530304 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.113 | 136 | 1945616 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.777 | 164 | 1281927 | 40.00 | ppm | 0.01 |
| 69) Phenanthrene-d10 | 8.435 | 188 | 2276546 | 40.00 | ppm | 0.01 |
| 83) Chrysene-d12 | 11.564 | 240 | 1792038 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.152 | 264 | 1759137 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 530304 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.777 | 164 | 1281927 | 40.00 | ppm | 0.01 |
| 105) Phenanthrene-d10a | 8.435 | 188 | 2276546 | 40.00 | ppm | 0.01 |
| 109) Chrysene-d12a | 11.564 | 240 | 1792038 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.113 | 136 | 1945616 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.435 | 188 | 2278162 | 40.00 | ppm | 0.01 |
| 115) Chrysene-d12b | 11.564 | 240 | 1792038 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 527902 | 34.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 68.06% | |
| 8) Phenol-d5 | 3.920 | 99 | 639683 | 33.77 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 67.54% | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 560937 | 34.64 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 69.28% | |
| 51) 2-Fluorobiphenyl | 6.092 | 172 | 1504105 | 33.21 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 66.42% | |
| 73) 2,4,6-Tribromophenol | 7.654 | 330 | 272436 | 37.19 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 74.38% | |
| 85) Terphenyl-d14 | 10.344 | 244 | 1445626 | 34.63 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 69.26% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.129 | 128 | 1990127m | 39.28 | ppm | |
| 44) 2-Methylnaphthalene | 5.739 | 141 | 887140 | 30.95 | ppm | 100 |
| 53) Biphenyl | 6.188 | 154 | 197379 | 4.03 | ppm | 95 |
| 59) Acenaphthene | 6.809 | 153 | 108578 | 2.80 | ppm | 90 |
| 62) Dibenzofuran | 6.996 | 168 | 266609 | 4.94 | ppm | 93 |
| 66) Fluorene | 7.370 | 166 | 344158 | 7.86 | ppm | 90 |
| 77) Phenanthrene | 8.461 | 178 | 539499m | 8.83 | ppm | |
| 78) Anthracene | 8.520 | 178 | 383536 | 6.26 | ppm | 68 |
| 79) Carbazole | 8.734 | 167 | 824624 | 14.21 | ppm | 94 |
| 81) Fluoranthene | 9.863 | 202 | 728269 | 10.97 | ppm | 98 |
| 84) Pyrene | 10.119 | 202 | 708499 | 11.87 | ppm | 97 |
| 87) Benzo[a]anthracene | 11.553 | 228 | 144511 | 2.53 | ppm | 95 |
| 89) Chrysene | 11.590 | 228 | 136371 | 2.44 | ppm | 94 |
| 93) Benzo[b]fluoranthene | 12.762 | 252 | 118184m | 2.20 | ppm | |
| 94) Benzo[k]fluoranthene | 12.788 | 252 | 35214m | 0.74 | ppm | |
| 95) Benzo[a]pyrene | 13.093 | 252 | 65906 | 1.49 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 14.158 | 276 | 40956 | 0.69 | ppm | 93 |
| 100) Benzo[g,h,i]perylene | 14.409 | 276 | 45611 | 0.99 | ppm | 88 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

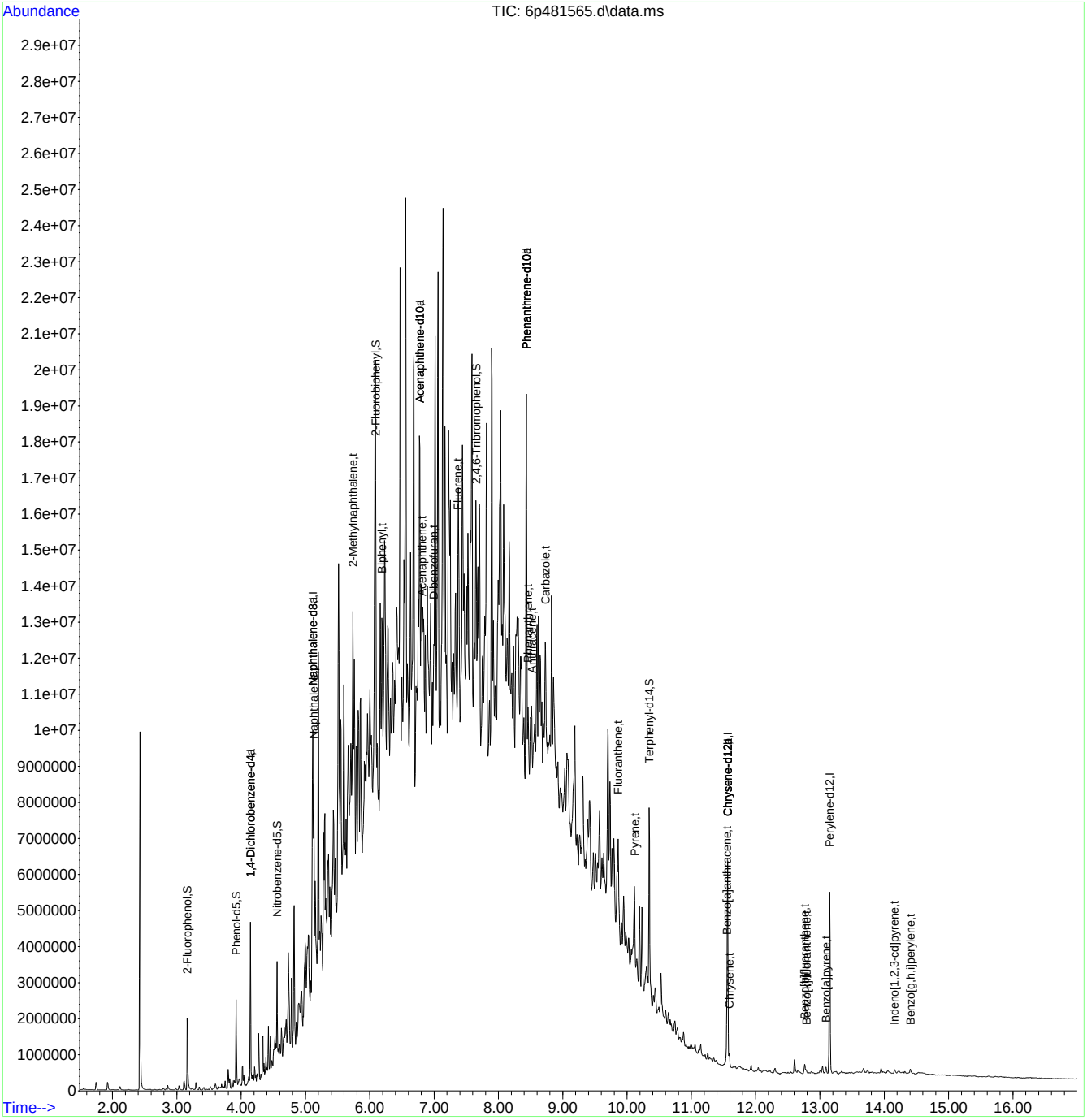
9.1.8

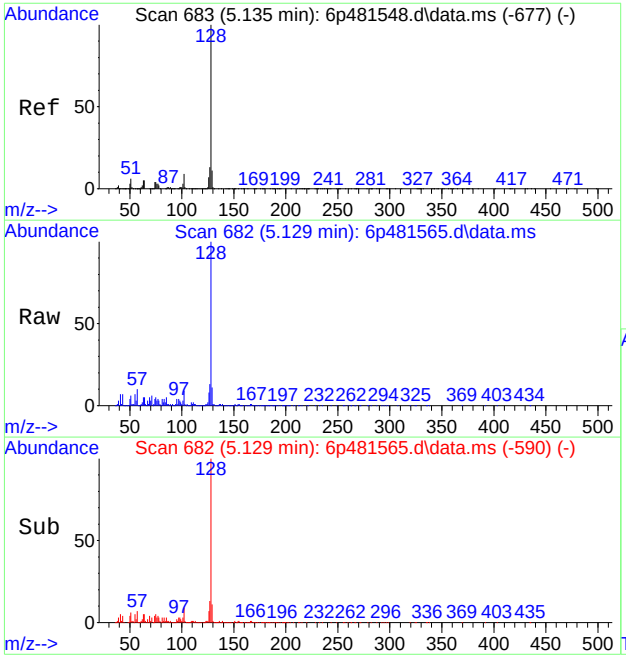
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481565.d
Acq On : 2 May 2019 4:14 pm
Operator : angelar
Sample : jc86986-7 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:53:58 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

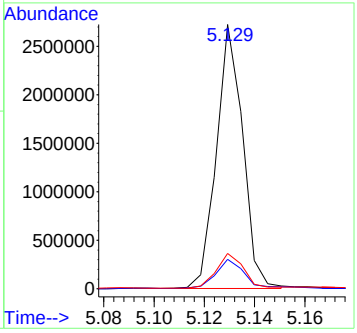


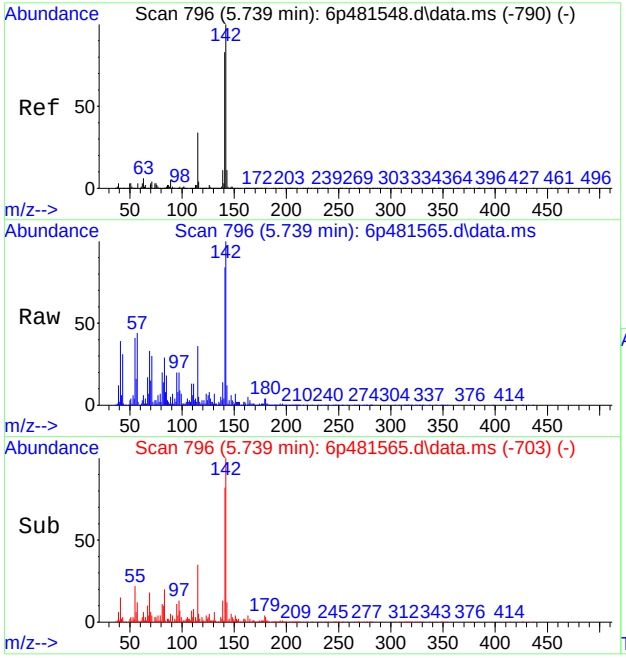



#38
Naphthalene
Concen: 39.28 ppm m
RT: 5.129 min Scan# 682
Delta R.T. -0.005 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:128 Resp: 1990127

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.2 | 0.0 | 41.4 |
| 127 | 13.4 | 0.0 | 43.3 |

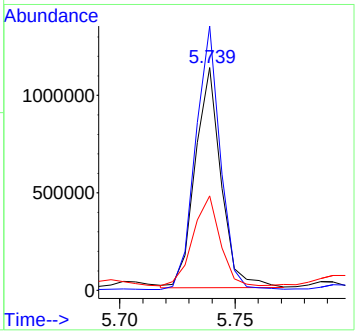


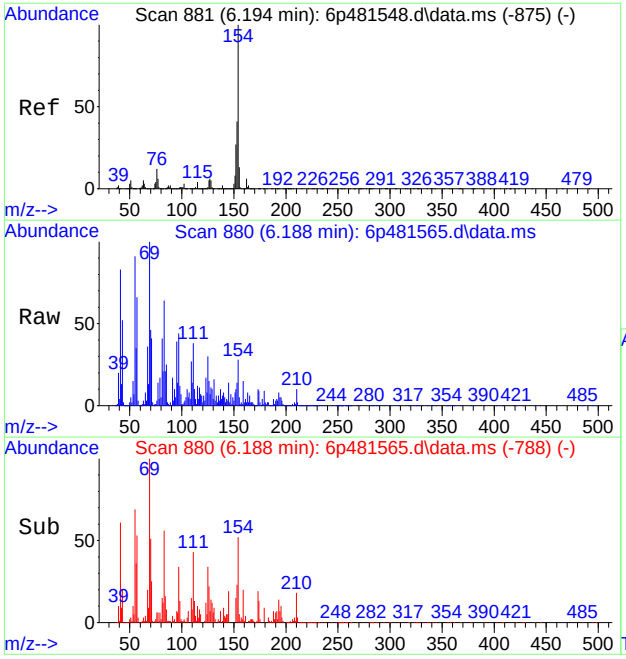




#44
2-Methylnaphthalene
Concen: 30.95 ppm
RT: 5.739 min Scan# 796
Delta R.T. -0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:141 Resp: 887140

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 120.6 | 90.7 | 150.7 |
| 115 | 40.8 | 11.4 | 71.4 |

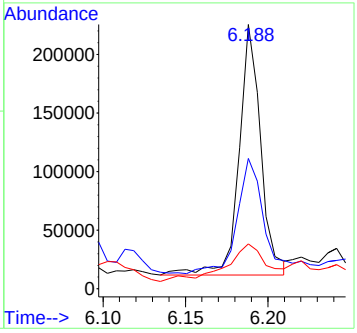


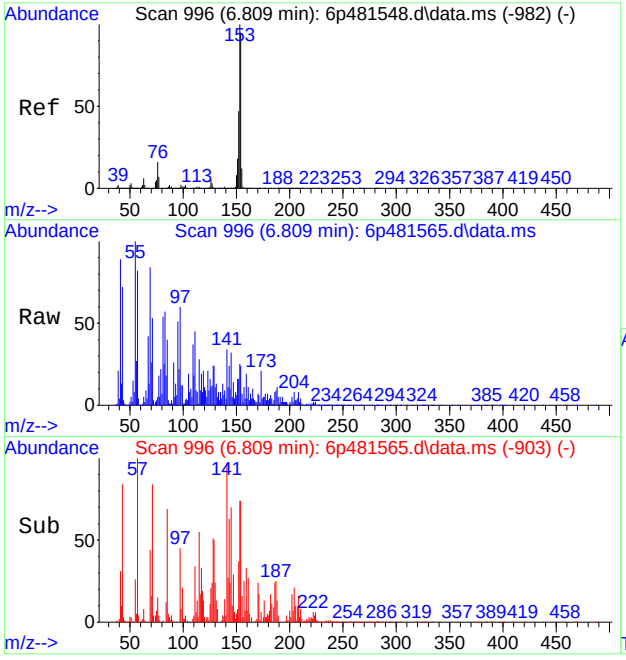



#53
Biphenyl
Concen: 4.03 ppm
RT: 6.188 min Scan# 880
Delta R.T. -0.005 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:154 Resp: 197379

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 44.3 | 10.5 | 70.5 |
| 155 | 12.7 | 0.0 | 43.2 |

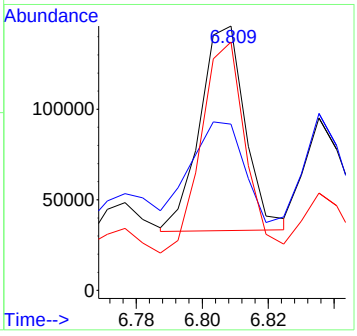


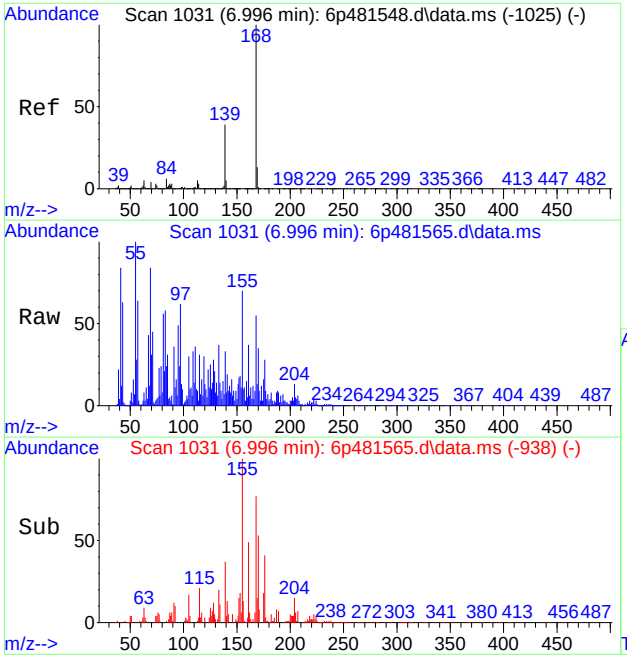




#59
Acenaphthene
Concen: 2.80 ppm
RT: 6.809 min Scan# 996
Delta R.T. 0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:153 Resp: 108578

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 45.4 | 16.6 | 76.6 |
| 154 | 104.8 | 60.7 | 120.7 |

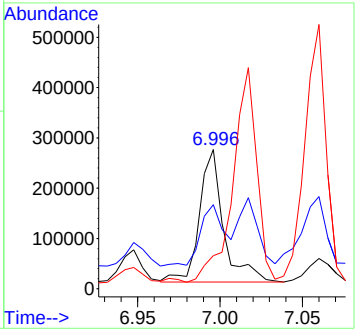


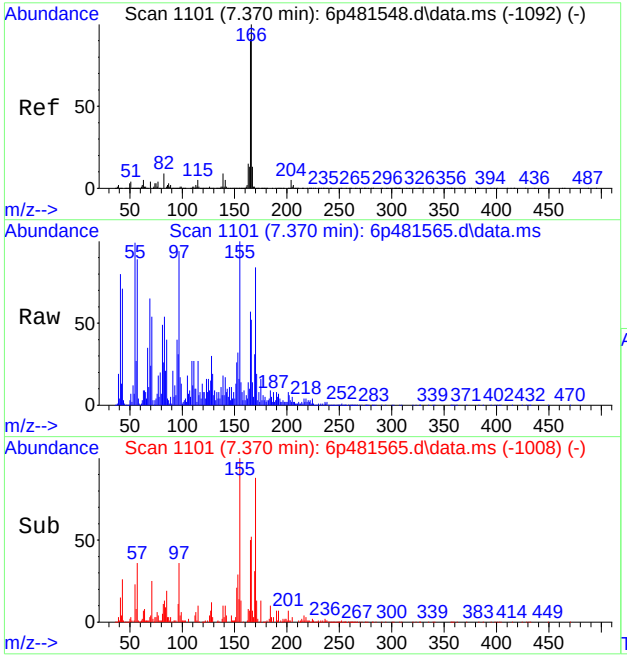



#62
Dibenzofuran
Concen: 4.94 ppm
RT: 6.996 min Scan# 1031
Delta R.T. 0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:168 Resp: 266609

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 41.9 | 8.8 | 68.8 |
| 169 | 17.4 | 0.0 | 43.0 |

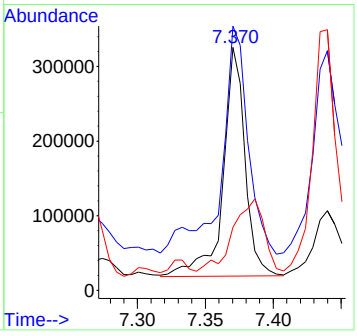


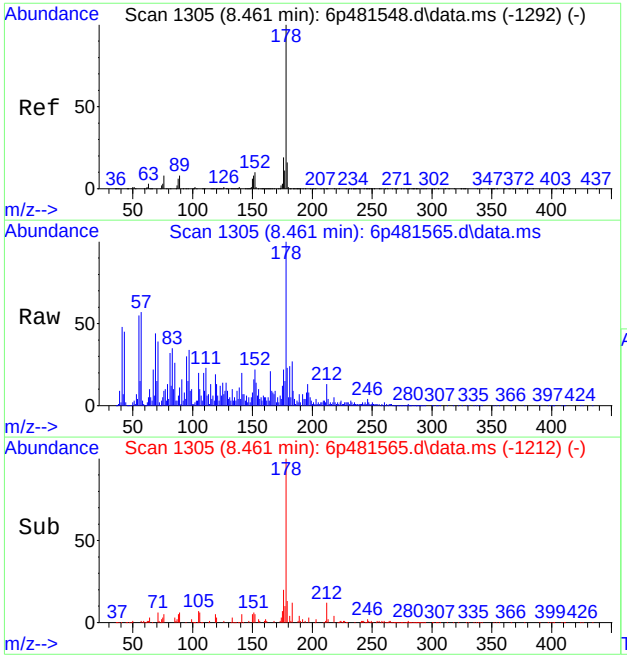




#66
Fluorene
Concen: 7.86 ppm
RT: 7.370 min Scan# 1101
Delta R.T. -0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:166 Resp: 344158

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 99.7 | 60.9 | 120.9 |
| 167 | 19.5 | 0.0 | 43.1 |

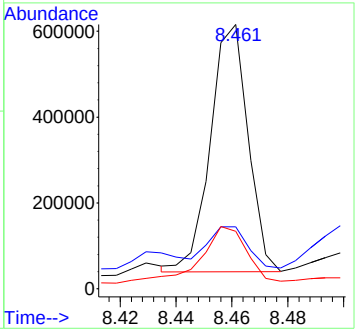


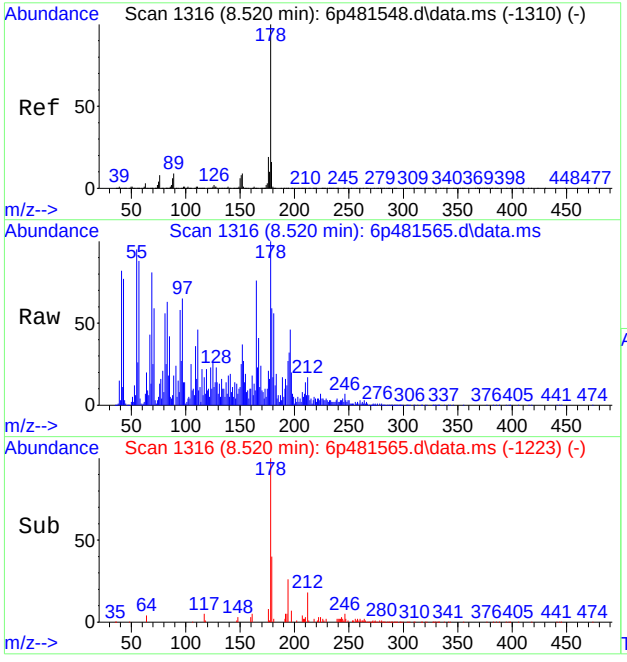



#77
Phenanthrene
Concen: 8.83 ppm m
RT: 8.461 min Scan# 1305
Delta R.T. 0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:178 Resp: 539499

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 23.4 | 0.0 | 45.9 |
| 176 | 21.8 | 0.0 | 49.1 |

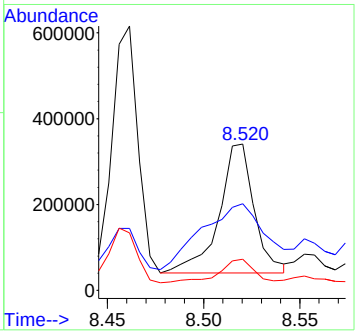


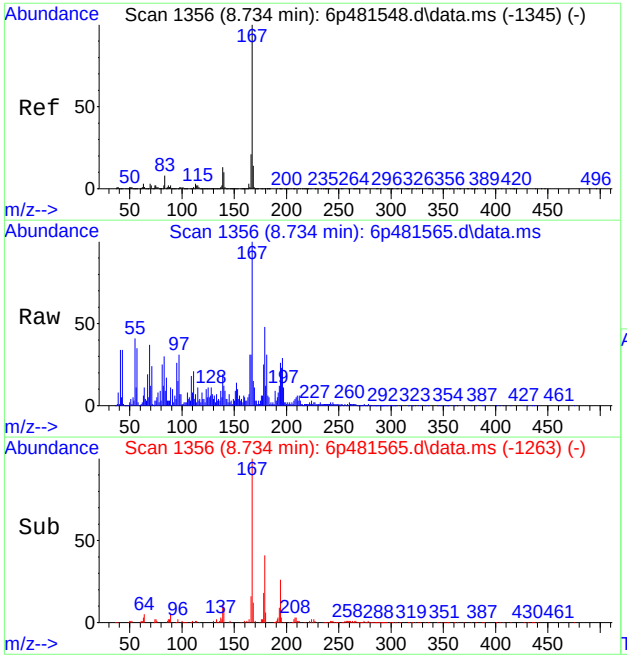




#78
Anthracene
Concen: 6.26 ppm
RT: 8.520 min Scan# 1316
Delta R.T. 0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:178 Resp: 383536

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 45.0 | 0.0 | 46.1 |
| 176 | 18.0 | 0.0 | 49.3 |

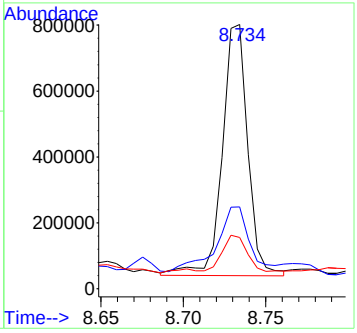


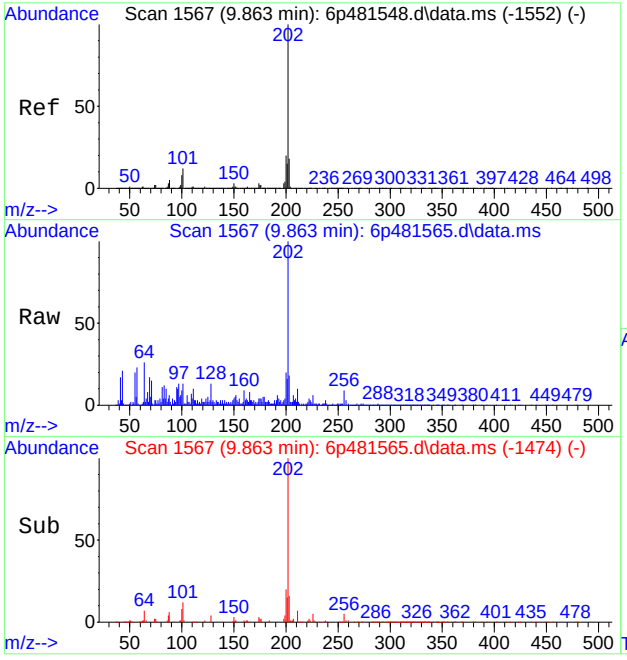



#79
Carbazole
Concen: 14.21 ppm
RT: 8.734 min Scan# 1356
Delta R.T. 0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:167 Resp: 824624

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 24.5 | 0.0 | 50.7 |
| 139 | 13.9 | 0.0 | 43.3 |

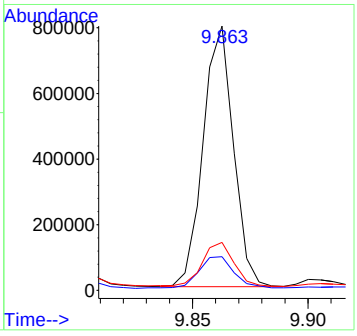


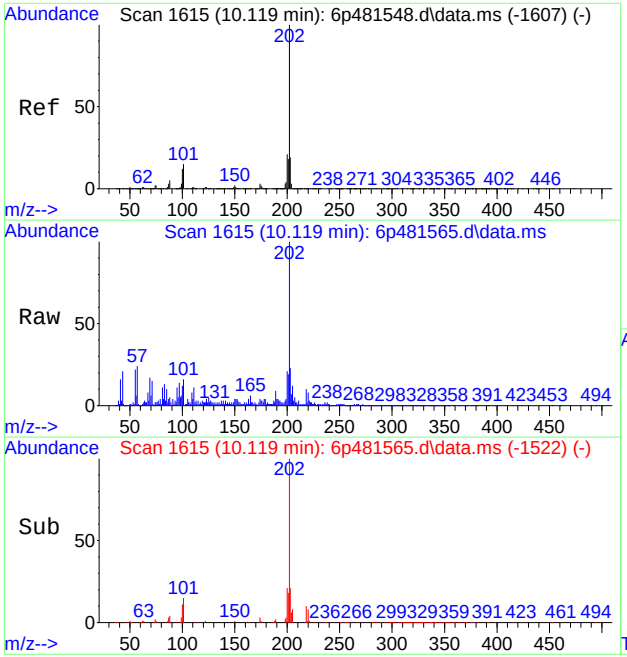




#81
Fluoranthene
Concen: 10.97 ppm
RT: 9.863 min Scan# 1567
Delta R.T. -0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:202 Resp: 728269

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 12.0 | 0.0 | 41.6 |
| 203 | 16.7 | 0.0 | 47.6 |

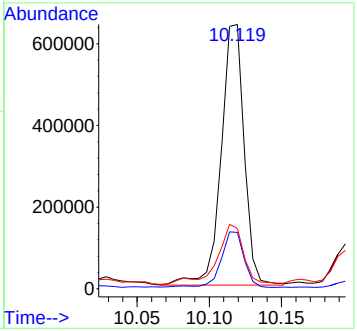


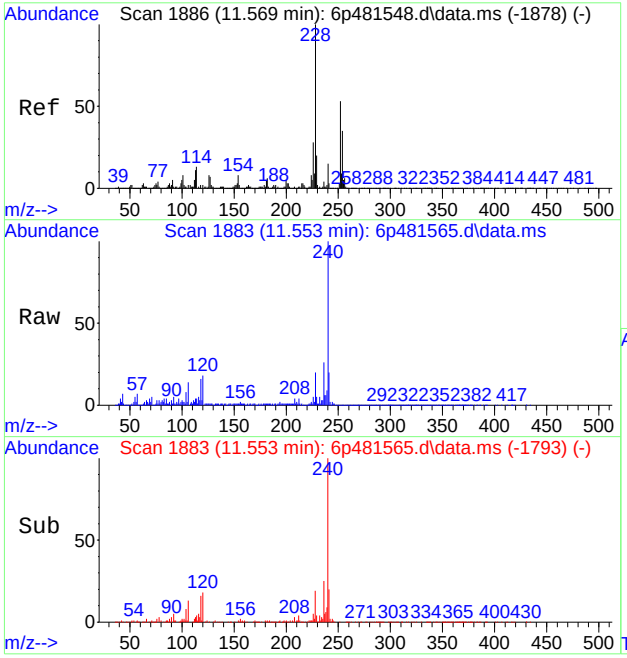



#84
Pyrene
Concen: 11.87 ppm
RT: 10.119 min Scan# 1615
Delta R.T. -0.000 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:202 Resp: 708499

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 21.0 | 0.0 | 50.9 |
| 203 | 21.3 | 0.0 | 48.9 |

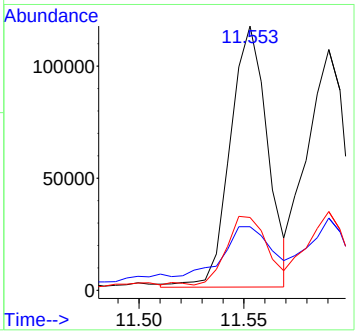


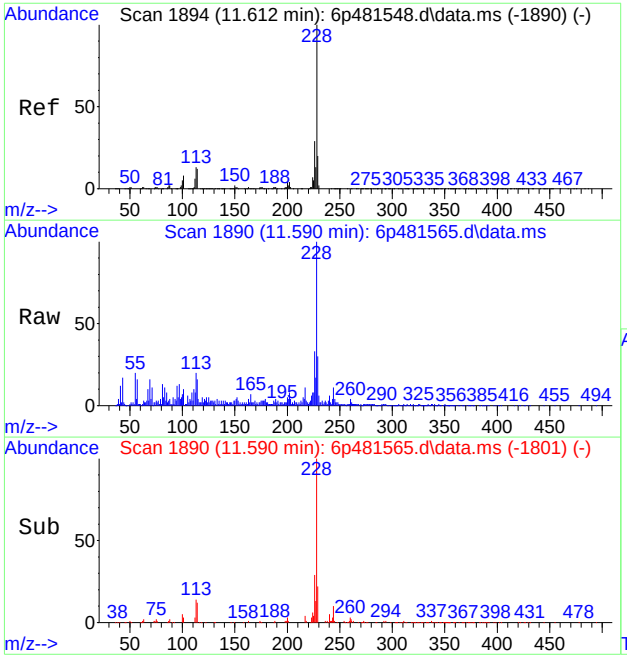




#87
Benzo[a]anthracene
Concen: 2.53 ppm
RT: 11.553 min Scan# 1883
Delta R.T. -0.016 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:228 Resp: 144511

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 17.3 | 0.0 | 50.1 |
| 226 | 25.7 | 0.0 | 57.7 |

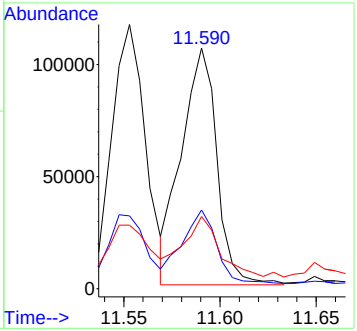


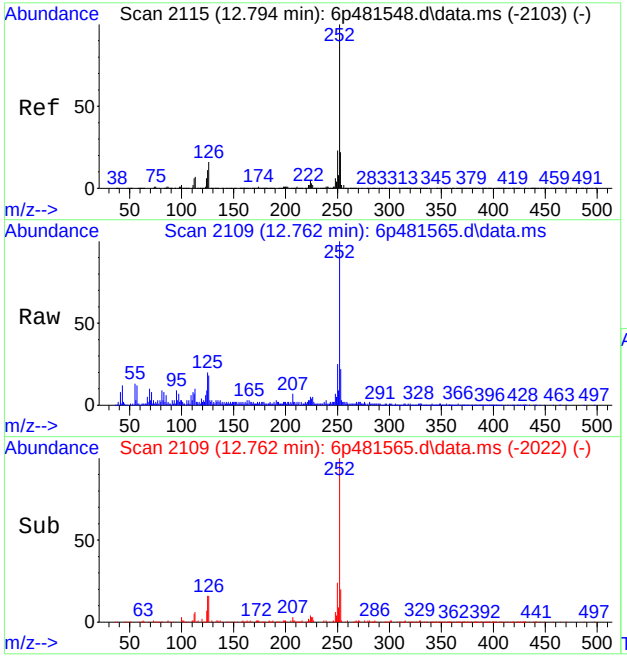



#89
Chrysene
Concen: 2.44 ppm
RT: 11.590 min Scan# 1890
Delta R.T. -0.021 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:228 Resp: 136371

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 31.3 | 0.0 | 59.3 |
| 229 | 24.4 | 0.0 | 50.2 |

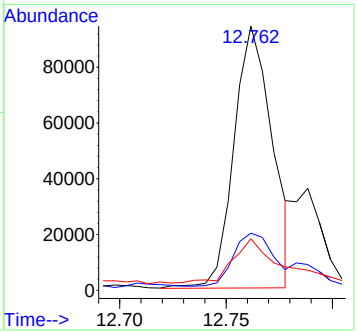


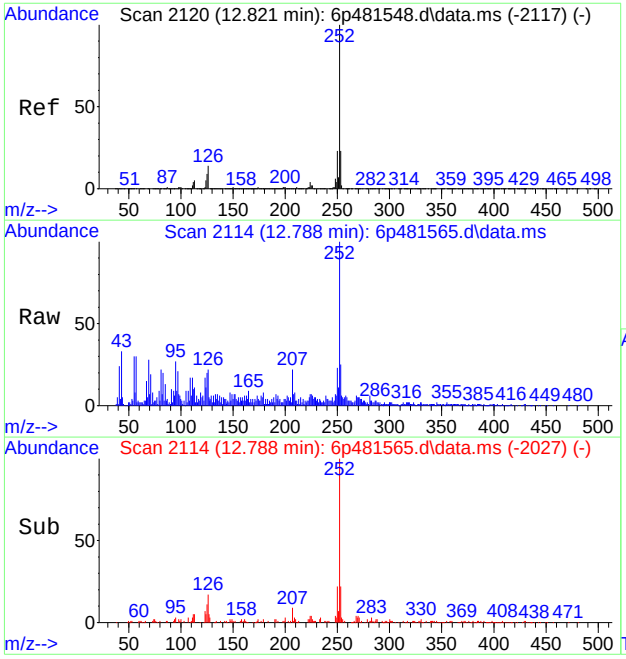




#93
Benzo[b]fluoranthene
Concen: 2.20 ppm m
RT: 12.762 min Scan# 2109
Delta R.T. -0.032 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:252 Resp: 118184

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.6 | 0.0 | 52.6 |
| 125 | 19.5 | 0.0 | 39.9 |

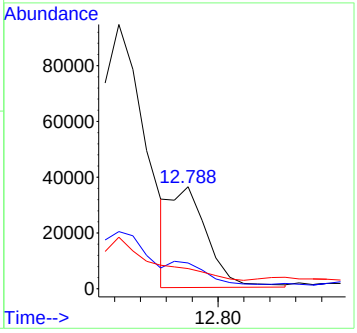


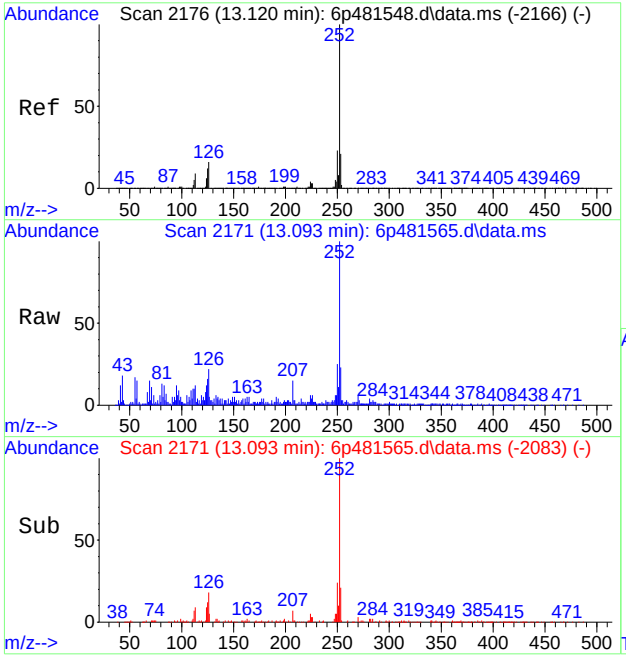



#94
Benzo[k]fluoranthene
Concen: 0.74 ppm m
RT: 12.788 min Scan# 2114
Delta R.T. -0.032 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:252 Resp: 35214

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 25.2 | 0.0 | 52.5 |
| 125 | 19.8 | 0.0 | 39.7 |

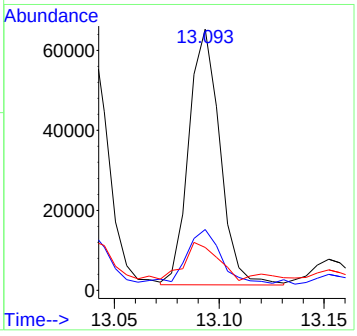


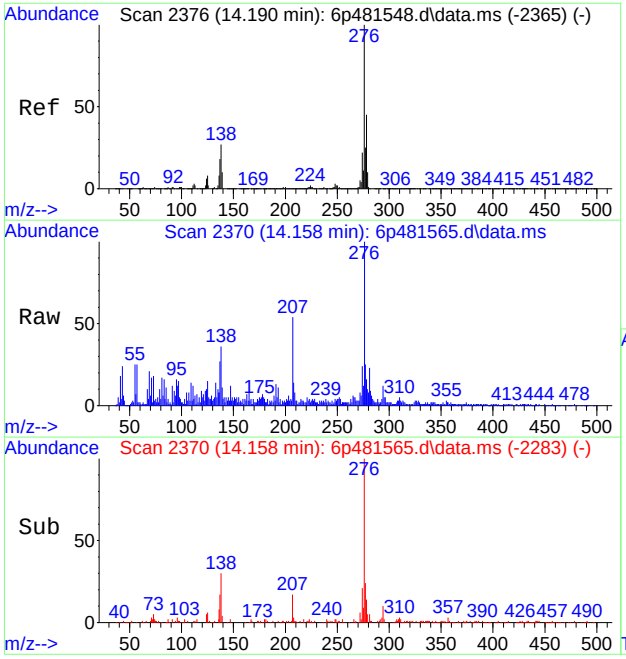




#95
Benzo[a]pyrene
Concen: 1.49 ppm
RT: 13.093 min Scan# 2171
Delta R.T. -0.027 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:252 Resp: 65906

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 19.7 | 0.0 | 51.4 |
| 125 | 12.2 | 0.0 | 41.7 |

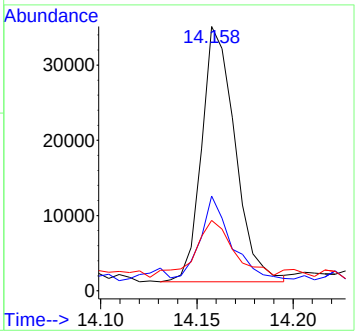


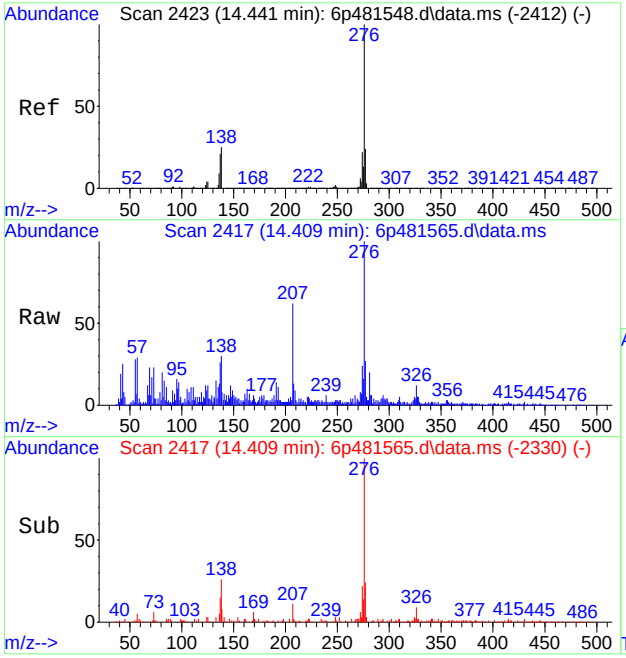



#96
Indeno[1,2,3-cd]pyrene
Concen: 0.69 ppm
RT: 14.158 min Scan# 2370
Delta R.T. -0.032 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:276 Resp: 40956

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 30.6 | 0.0 | 56.6 |
| 137 | 19.7 | 0.0 | 47.6 |

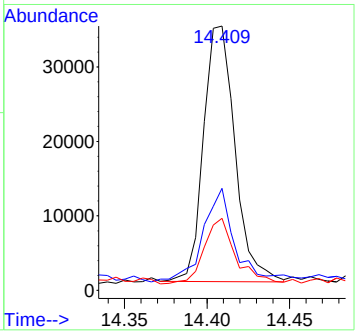



#100
Benzo[g,h,i]perylene
Concen: 0.99 ppm
RT: 14.409 min Scan# 2417
Delta R.T. -0.032 min
Lab File: 6p481565.d
Acq: 2 May 2019 4:14 pm

Tgt Ion:276 Resp: 45611

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 34.9 | 0.0 | 54.7 |
| 277 | 25.5 | 0.0 | 53.6 |



# Manual Integration Approval Summary

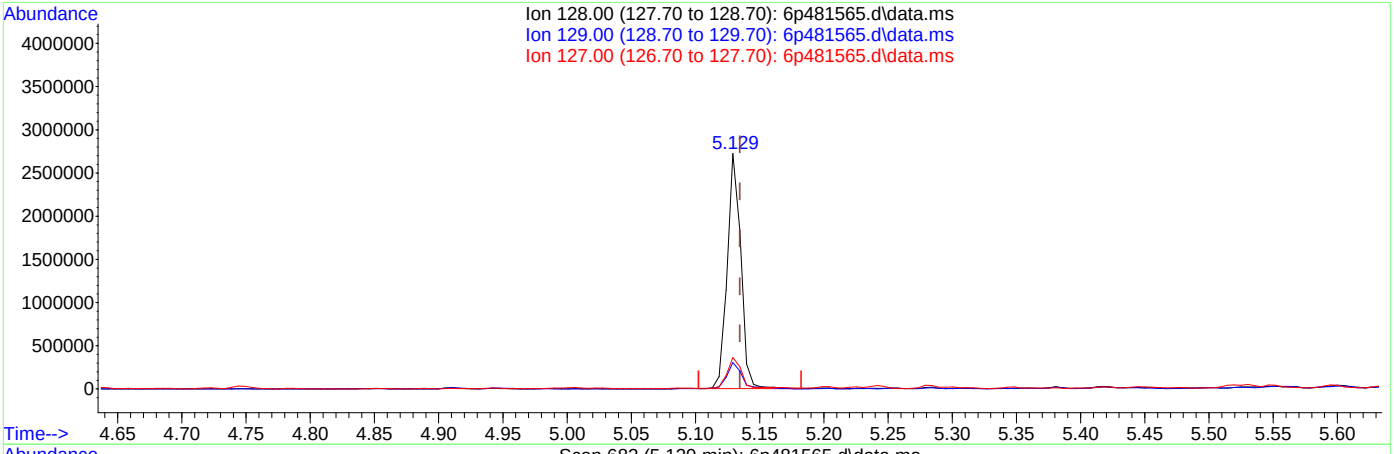


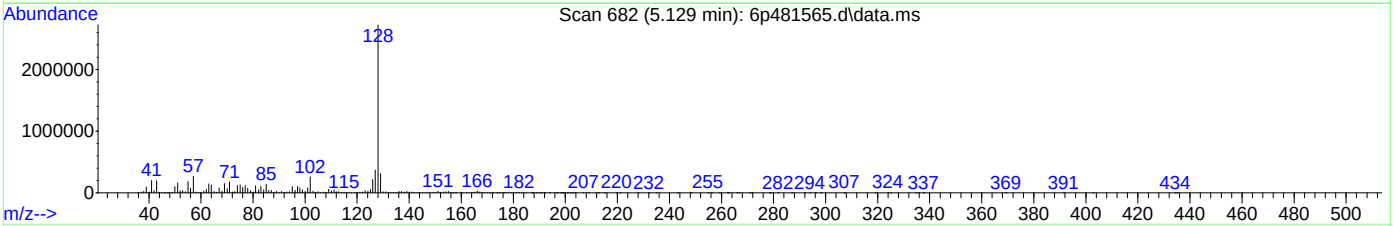
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-7 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481565.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 16:14 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

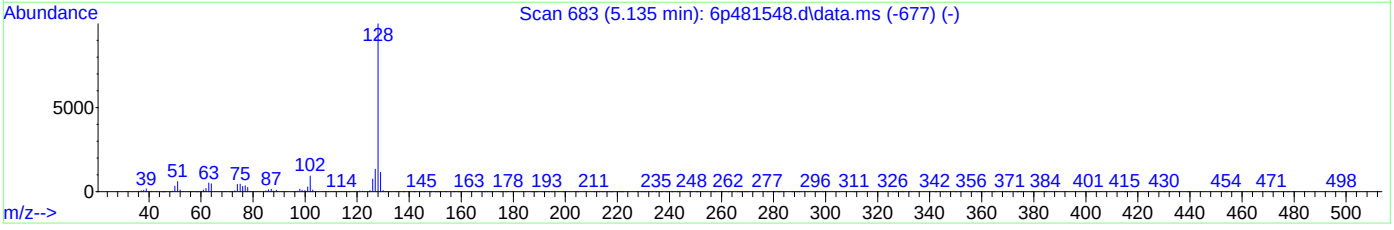
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.13 | Poor instrument integration |
| Phenanthrene | 85-01-8 | | 8.46 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.76 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.79 | Poor instrument integration |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481565.d
Acq On    :  2 May 2019   4:14 pm
Operator  : angelar
Sample    : jc86986-7                                  Inst    : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 19   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:07 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481565.d\data.ms

(38) Naphthalene (t)

5.129min (-0.005) 39.56ppm

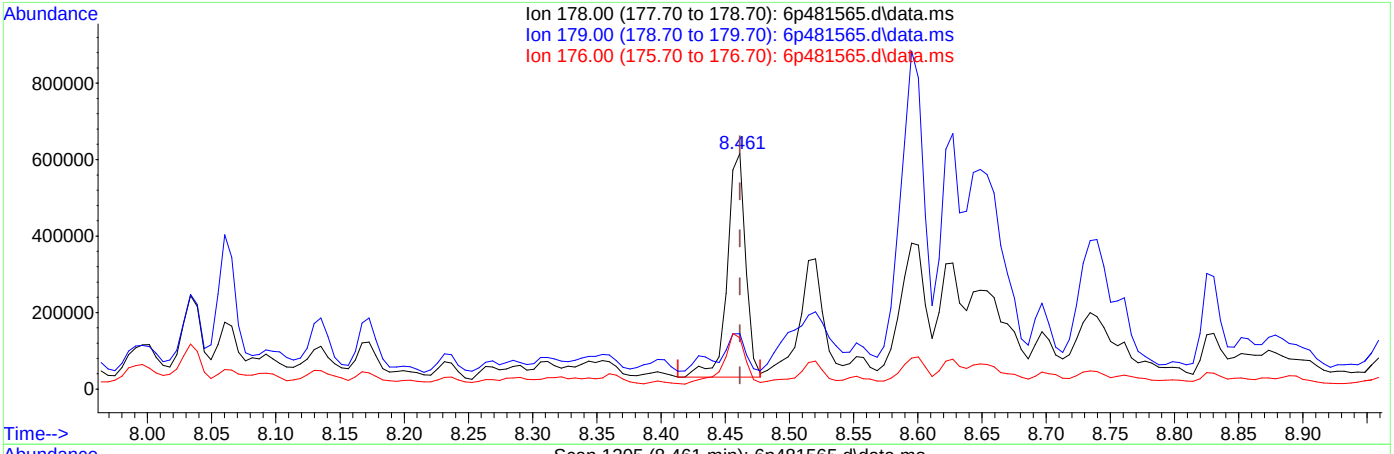
response 2004420

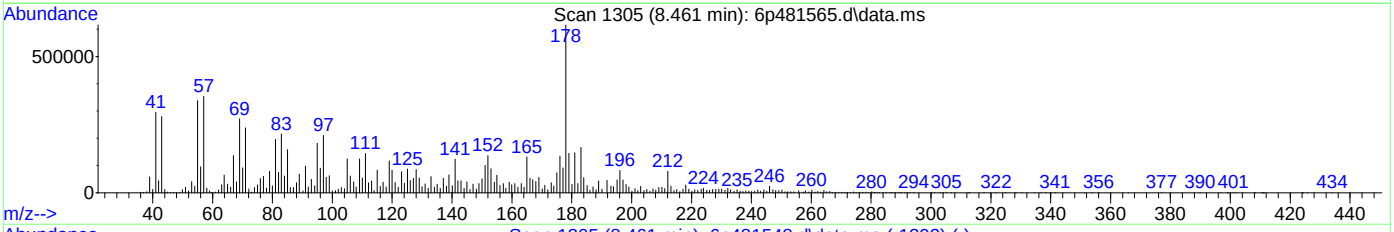
| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.40 | 11.10 |
| 127.00 | 13.30 | 13.06 |
| 0.00 | 0.00 | 0.00 |

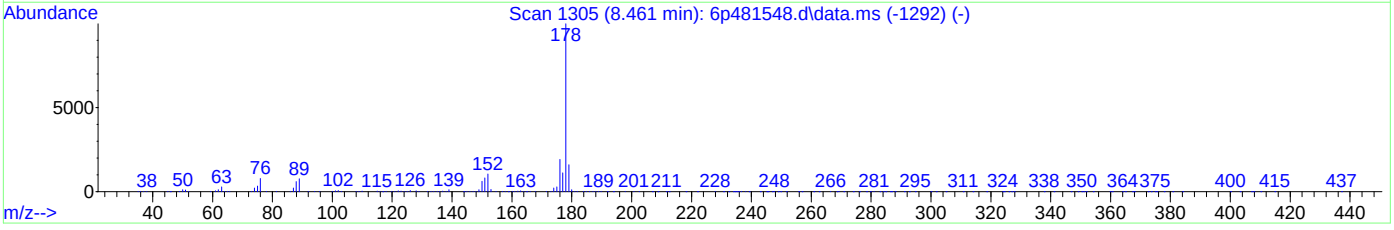
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481565.d
Acq On : 2 May 2019 4:14 pm
Operator : angelar
Sample : jc86986-7 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:07 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481565.d\data.ms

(77) Phenanthrene (t)

8.461min (0.000) 9.54ppm

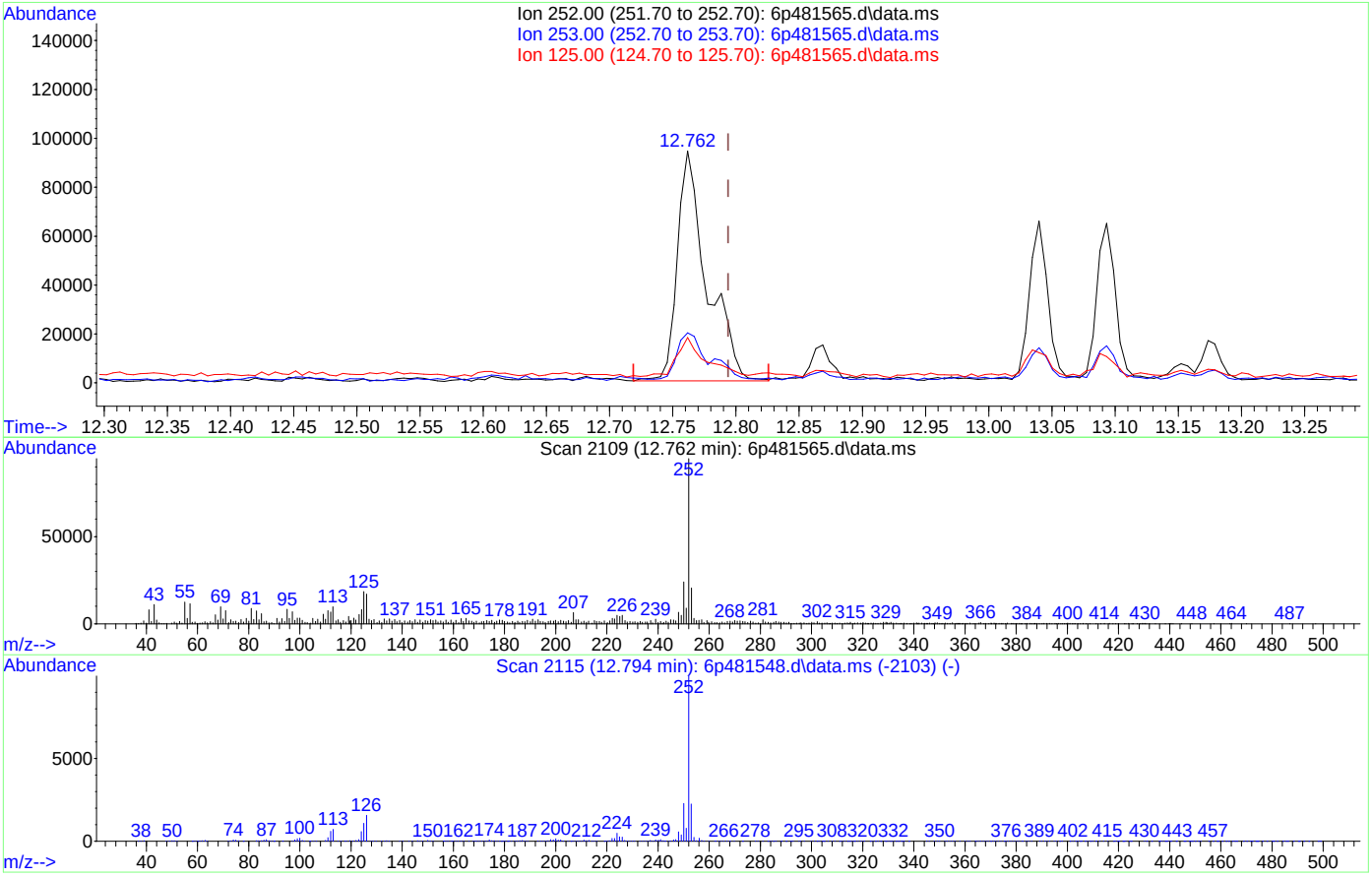
response 583103

| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 16.70 |
| 176.00 | 19.10 | 20.37 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481565.d
Acq On : 2 May 2019 4:14 pm
Operator : angelar
Sample : jc86986-7 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:07 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481565.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.762min (-0.032) 2.84ppm

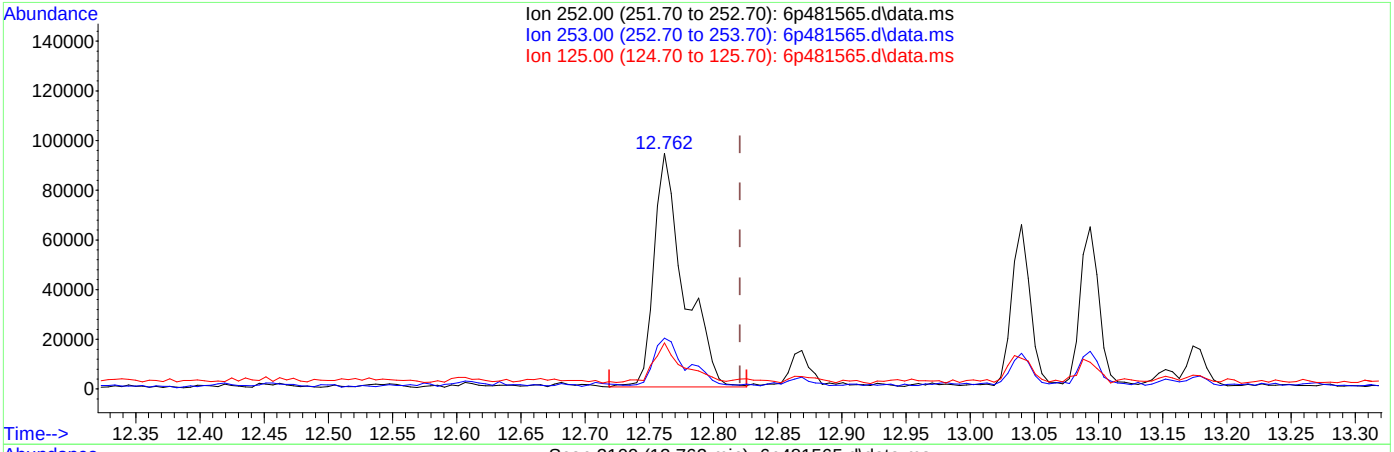
response 152505

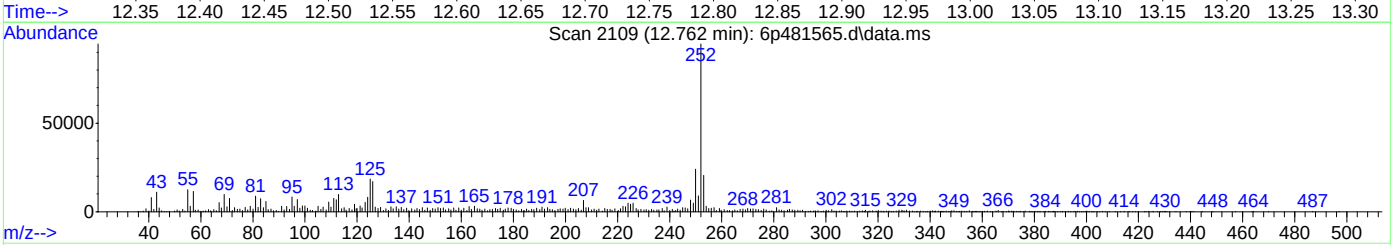
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 19.80 |
| 125.00 | 9.90 | 15.91 |
| 0.00 | 0.00 | 0.00 |

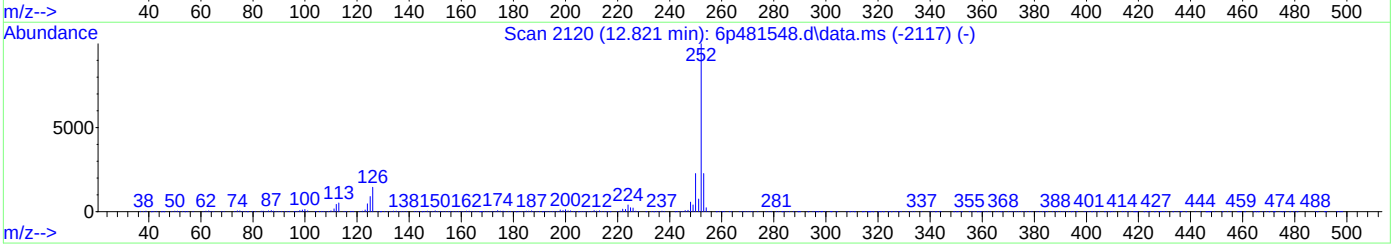
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481565.d
Acq On : 2 May 2019 4:14 pm
Operator : angelar
Sample : jc86986-7 Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:07 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481565.d\data.ms

(94) Benzo[k]fluoranthene (t)

12.762min (-0.059) 3.21ppm

response 152505

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.50 | 19.80 |
| 125.00 | 9.70 | 15.91 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481561.d
Acq On : 2 May 2019 2:25 pm
Operator : angelar
Sample : jc86986-8 Inst : MS6P
Misc : op20081,e6p2579,30.4,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:36:38 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 512430 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.108 | 136 | 1831184 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1057135 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.413 | 188 | 1992807 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.558 | 240 | 1649936 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.152 | 264 | 1746587 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 512430 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1057135 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.413 | 188 | 1992807 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.558 | 240 | 1649936 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.108 | 136 | 1831184 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.413 | 188 | 1992807 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.558 | 240 | 1649936 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 554336 | 36.98 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 73.96% | | | |
| 8) Phenol-d5 | 3.920 | 99 | 681233 | 37.22 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 74.44% | | | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 608021 | 39.90 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 79.80% | | | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1287964 | 34.49 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 68.98% | | | |
| 73) 2,4,6-Tribromophenol | 7.632 | 330 | 225171 | 35.11 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 70.22% | | | |
| 85) Terphenyl-d14 | 10.339 | 244 | 1559815 | 40.58 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 81.16% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.124 | 128 | 96064m | 2.01 | ppm | |
| 44) 2-Methylnaphthalene | 5.734 | 141 | 10549 | 0.39 | ppm | 85 |
| 53) Biphenyl | 6.183 | 154 | 8573 | 0.21 | ppm | 95 |
| 56) Acenaphthylene | 6.611 | 152 | 12594 | 0.26 | ppm | 91 |
| 59) Acenaphthene | 6.793 | 153 | 5108 | 0.16 | ppm | 86 |
| 62) Dibenzofuran | 6.980 | 168 | 27064 | 0.61 | ppm | 92 |
| 66) Fluorene | 7.354 | 166 | 29725 | 0.82 | ppm | 96 |
| 77) Phenanthrene | 8.440 | 178 | 145129m | 2.71 | ppm | |
| 78) Anthracene | 8.499 | 178 | 48112 | 0.90 | ppm | 95 |
| 79) Carbazole | 8.718 | 167 | 15397 | 0.30 | ppm | 95 |
| 81) Fluoranthene | 9.841 | 202 | 108374 | 1.86 | ppm | 97 |
| 84) Pyrene | 10.104 | 202 | 79084 | 1.44 | ppm | 96 |
| 87) Benzo[a]anthracene | 11.548 | 228 | 44028 | 0.84 | ppm | 97 |
| 89) Chrysene | 11.585 | 228 | 36971 | 0.72 | ppm | 91 |
| 93) Benzo[b]fluoranthene | 12.762 | 252 | 34718m | 0.65 | ppm | |
| 95) Benzo[a]pyrene | 13.093 | 252 | 23617 | 0.54 | ppm | 92 |
| 96) Indeno[1,2,3-cd]pyrene | 14.163 | 276 | 18358 | 0.31 | ppm | 90 |
| 100) Benzo[g,h,i]perylene | 14.409 | 276 | 14178 | 0.31 | ppm | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

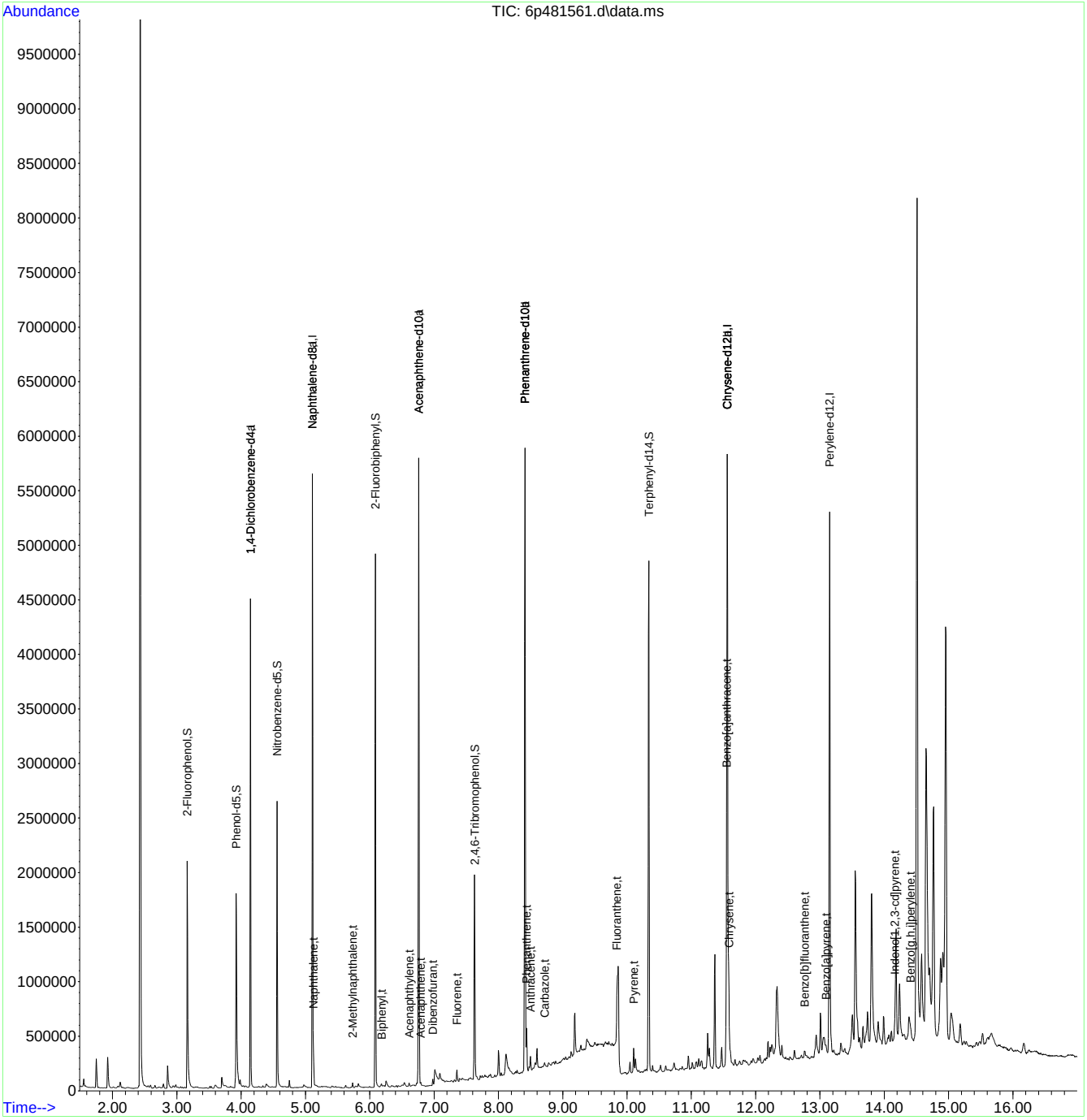
9.1.9

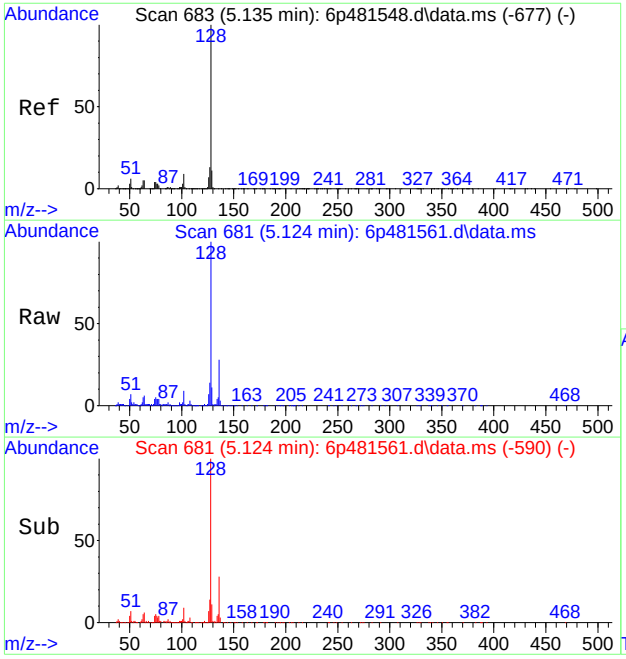
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481561.d
Acq On : 2 May 2019 2:25 pm
Operator : angelar
Sample : jc86986-8 Inst : MS6P
Misc : op20081,e6p2579,30.4,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:36:38 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

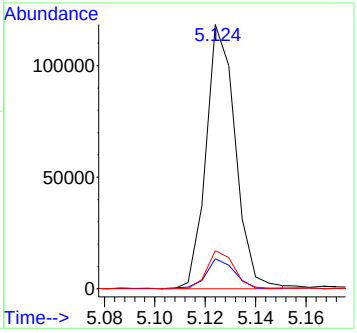


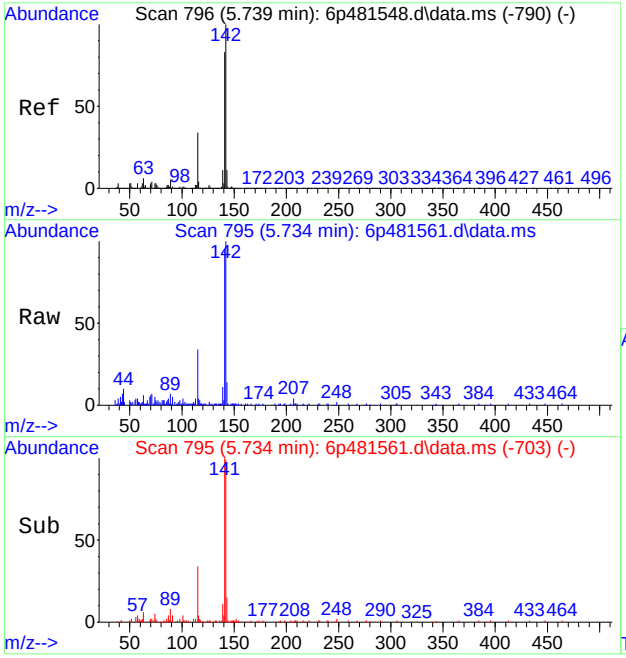



#38
Naphthalene
Concen: 2.01 ppm m
RT: 5.124 min Scan# 681
Delta R.T. -0.011 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:128 Resp: 96064

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.3 | 0.0 | 41.4 |
| 127 | 14.4 | 0.0 | 43.3 |

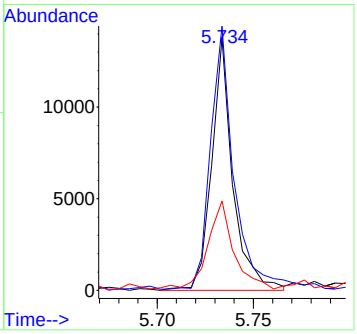


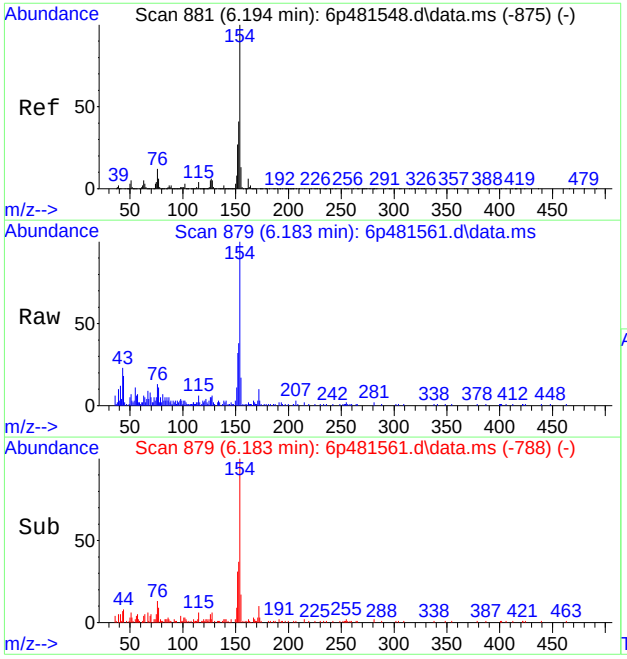




#44
2-Methylnaphthalene
Concen: 0.39 ppm
RT: 5.734 min Scan# 795
Delta R.T. -0.005 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:141 Resp: 10549

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 103.2 | 90.7 | 150.7 |
| 115 | 33.9 | 11.4 | 71.4 |

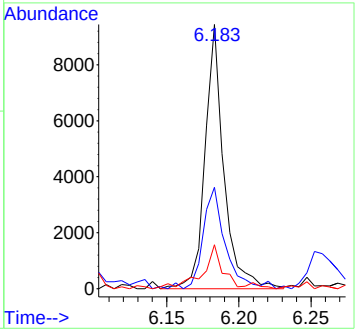


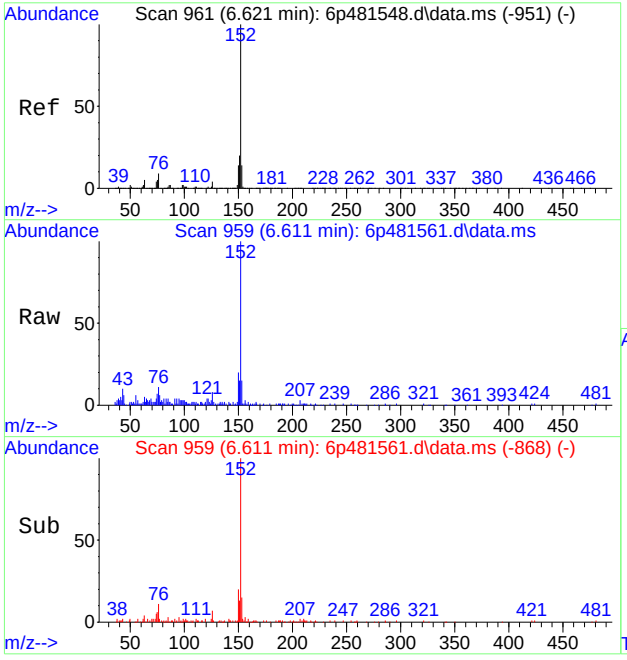



#53
Biphenyl
Concen: 0.21 ppm
RT: 6.183 min Scan# 879
Delta R.T. -0.011 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:154 Resp: 8573

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 37.5 | 10.5 | 70.5 |
| 155 | 15.6 | 0.0 | 43.2 |

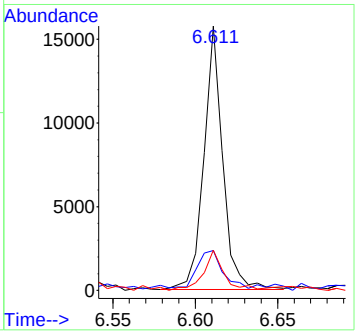


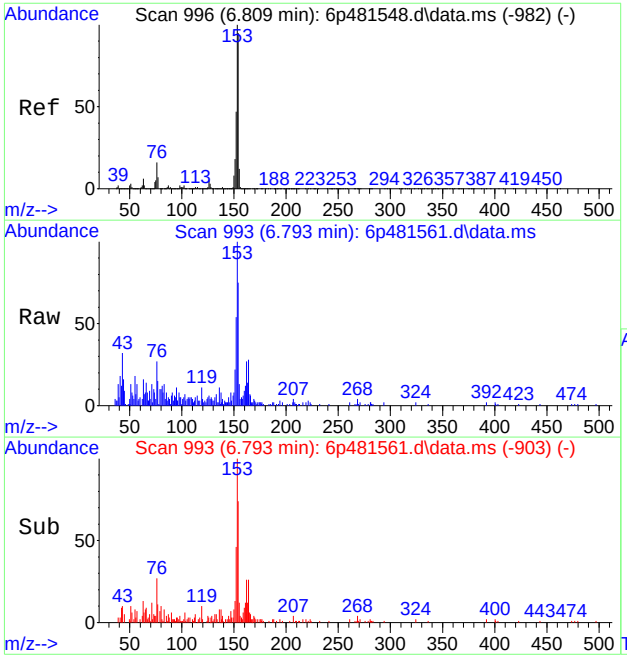




#56
Acenaphthylene
Concen: 0.26 ppm
RT: 6.611 min Scan# 959
Delta R.T. -0.011 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:152 Resp: 12594

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 13.3 | 0.0 | 50.1 |
| 153 | 13.9 | 0.0 | 43.5 |

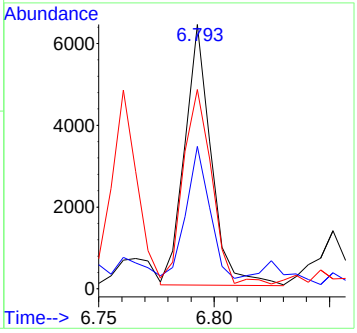


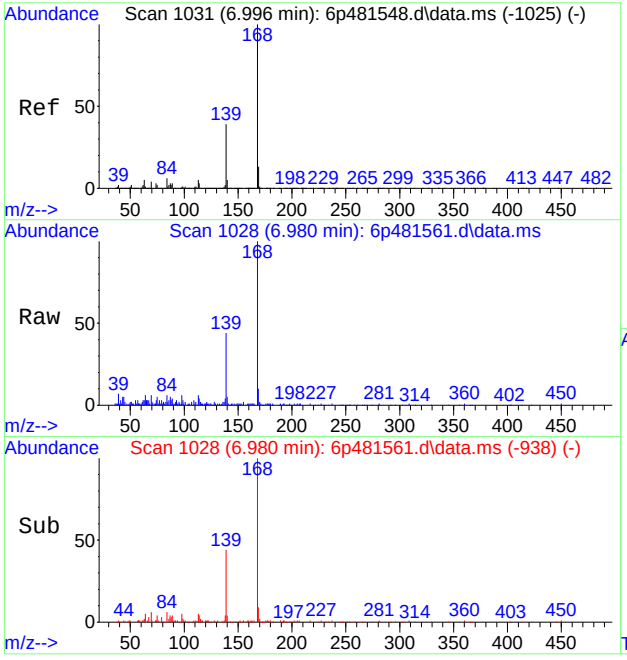



#59
Acenaphthene
Concen: 0.16 ppm
RT: 6.793 min Scan# 993
Delta R.T. -0.016 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:153 Resp: 5108

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 49.8 | 16.6 | 76.6 |
| 154 | 73.1 | 60.7 | 120.7 |

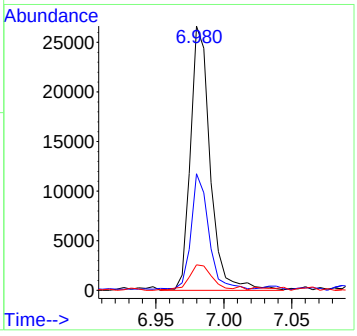


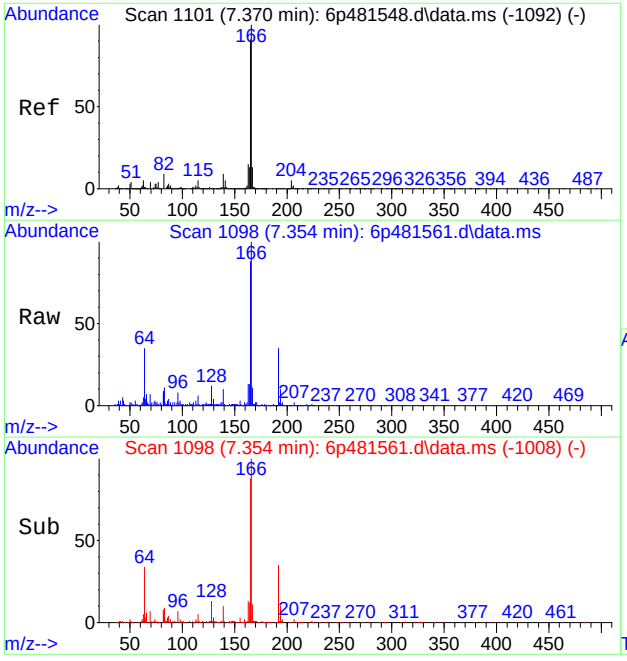




#62
Dibenzofuran
Concen: 0.61 ppm
RT: 6.980 min Scan# 1028
Delta R.T. -0.016 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:168 Resp: 27064

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 43.5 | 8.8 | 68.8 |
| 169 | 8.9 | 0.0 | 43.0 |

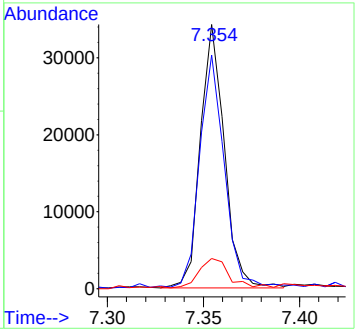


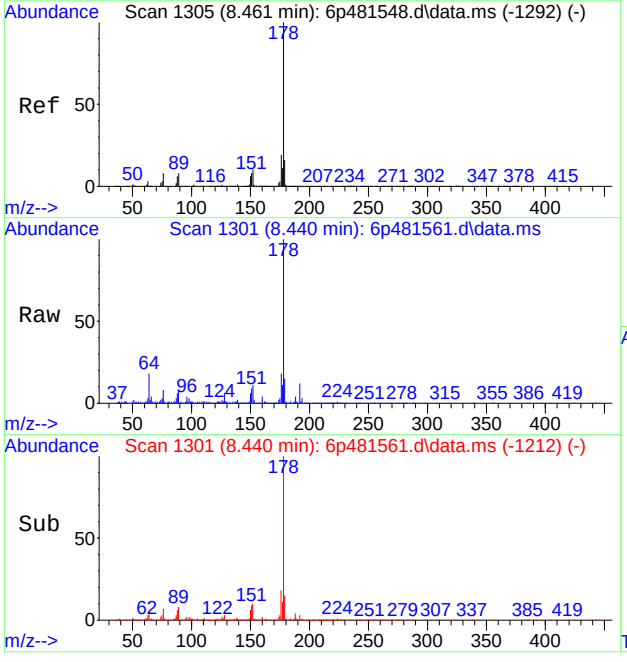



#66
Fluorene
Concen: 0.82 ppm
RT: 7.354 min Scan# 1098
Delta R.T. -0.016 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:166 Resp: 29725

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 87.7 | 60.9 | 120.9 |
| 167 | 9.7 | 0.0 | 43.1 |

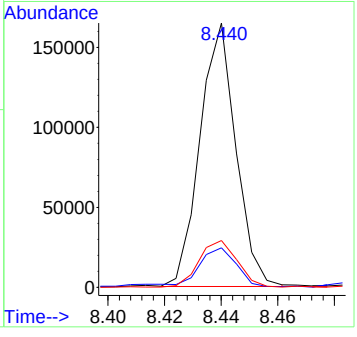


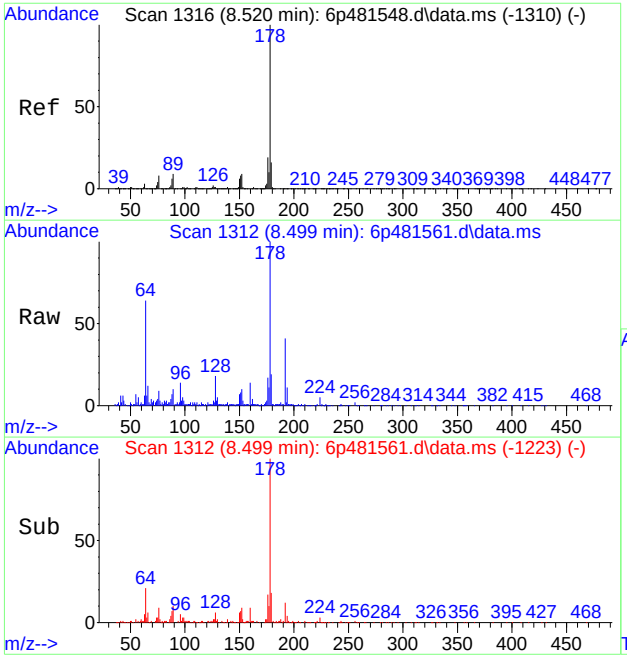




#77
Phenanthrene
Concen: 2.71 ppm m
RT: 8.440 min Scan# 1301
Delta R.T. -0.021 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:178 Resp: 145129

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.0 | 0.0 | 45.9 |
| 176 | 17.7 | 0.0 | 49.1 |

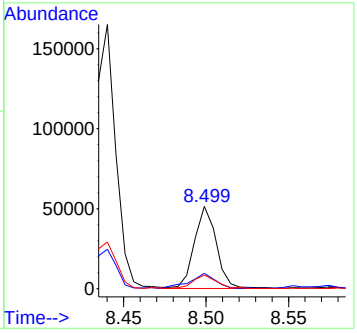


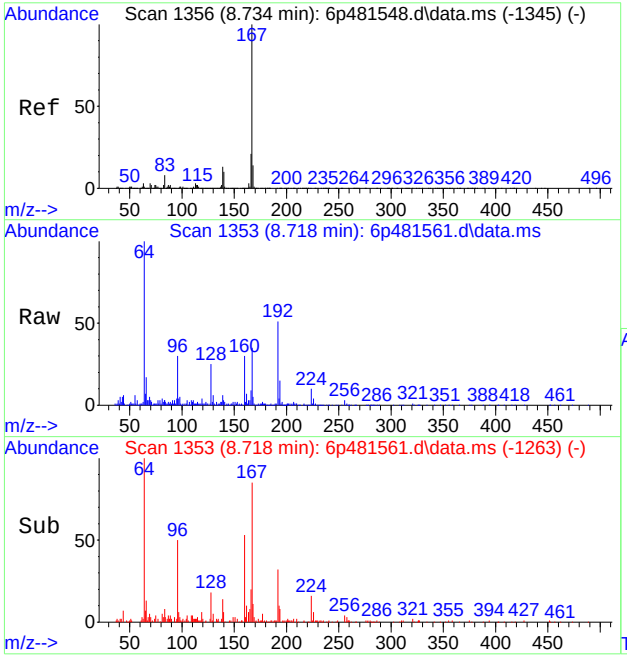



#78
Anthracene
Concen: 0.90 ppm
RT: 8.499 min Scan# 1312
Delta R.T. -0.021 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:178 Resp: 48112

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 17.7 | 0.0 | 46.1 |
| 176 | 16.2 | 0.0 | 49.3 |

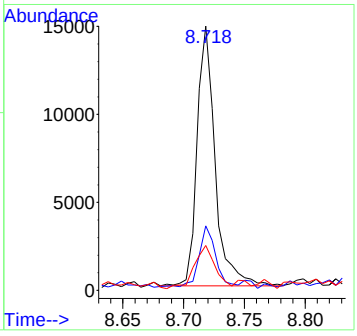


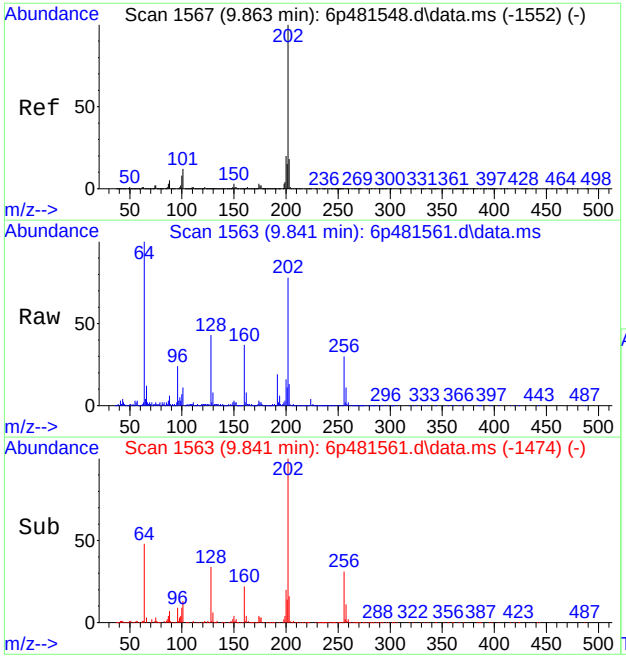




#79
Carbazole
Concen: 0.30 ppm
RT: 8.718 min Scan# 1353
Delta R.T. -0.016 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:167 Resp: 15397

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 23.3 | 0.0 | 50.7 |
| 139 | 14.9 | 0.0 | 43.3 |

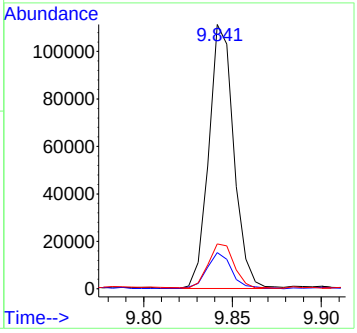


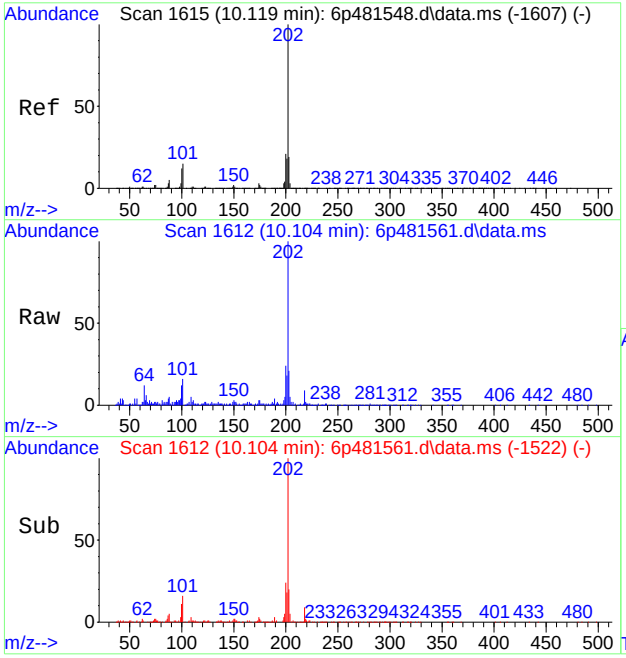



#81
Fluoranthene
Concen: 1.86 ppm
RT: 9.841 min Scan# 1563
Delta R.T. -0.021 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:202 Resp: 108374

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.6 | 0.0 | 41.6 |
| 203 | 16.6 | 0.0 | 47.6 |

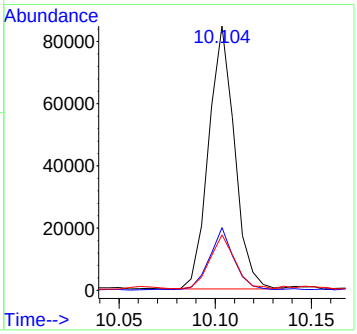


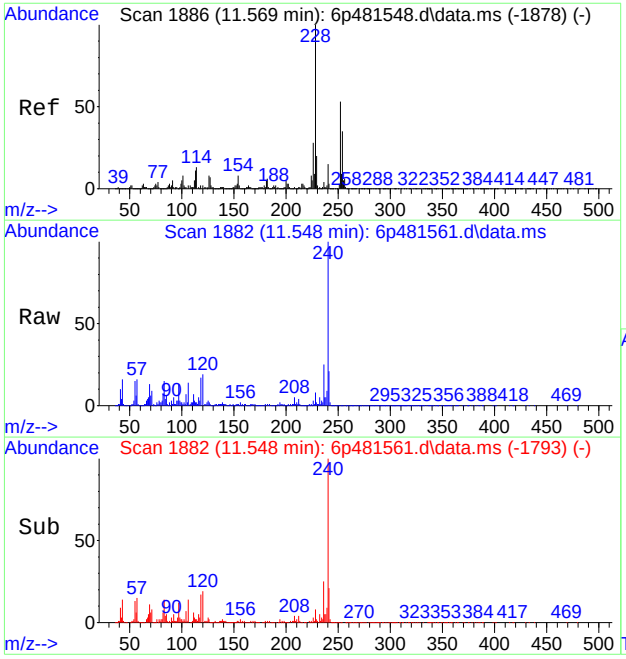




#84
Pyrene
Concen: 1.44 ppm
RT: 10.104 min Scan# 1612
Delta R.T. -0.016 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:202 Resp: 79084

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 23.5 | 0.0 | 50.9 |
| 203 | 19.8 | 0.0 | 48.9 |

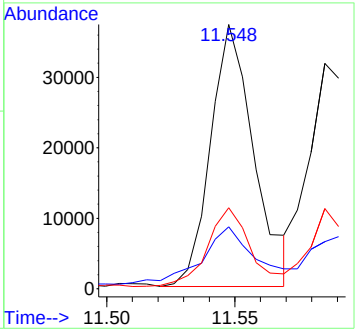


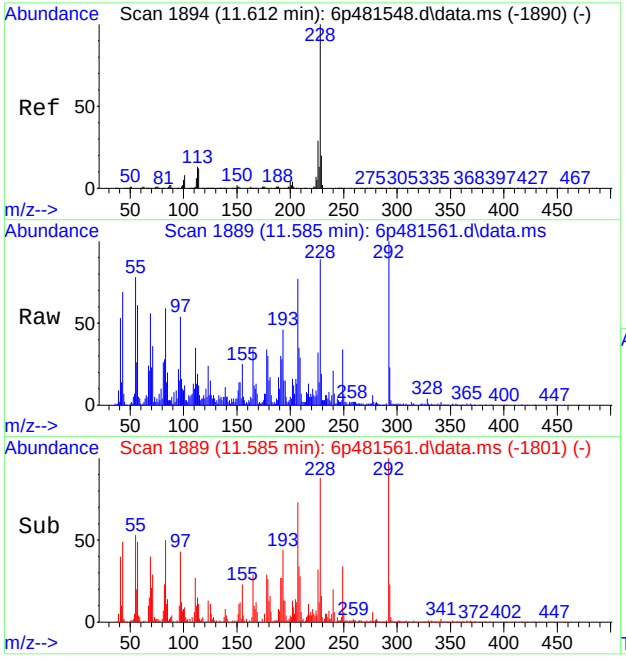



#87
Benzo[a]anthracene
Concen: 0.84 ppm
RT: 11.548 min Scan# 1882
Delta R.T. -0.021 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:228 Resp: 44028

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.3 | 0.0 | 50.1 |
| 226 | 30.4 | 0.0 | 57.7 |

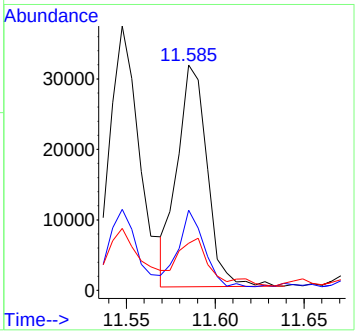


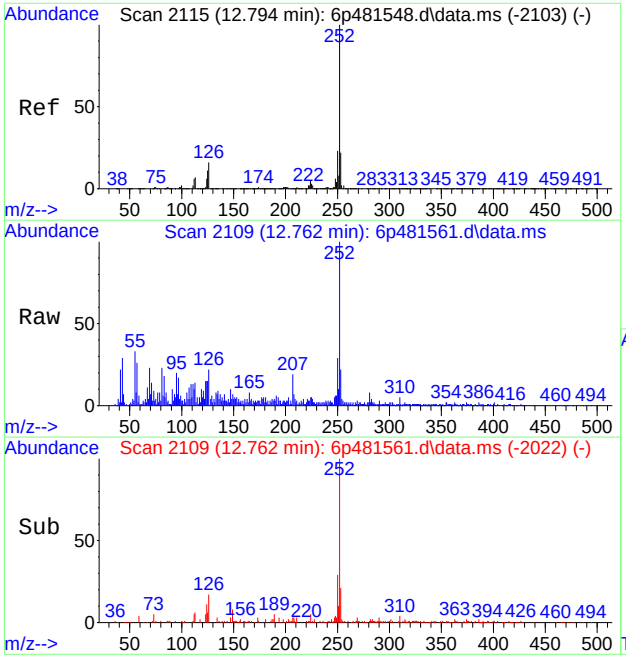




#89
Chrysene
Concen: 0.72 ppm
RT: 11.585 min Scan# 1889
Delta R.T. -0.027 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:228 Resp: 36971

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 35.1 | 0.0 | 59.3 |
| 229 | 17.1 | 0.0 | 50.2 |

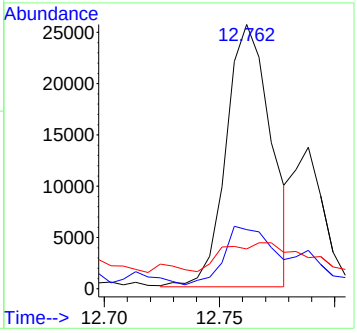


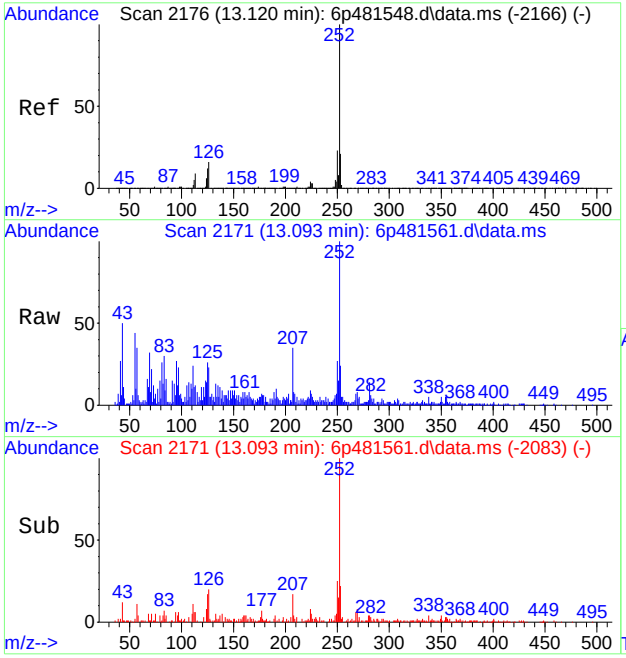



#93
Benzo[b]fluoranthene
Concen: 0.65 ppm m
RT: 12.762 min Scan# 2109
Delta R.T. -0.032 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:252 Resp: 34718

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.4 | 0.0 | 52.6 |
| 125 | 15.1 | 0.0 | 39.9 |

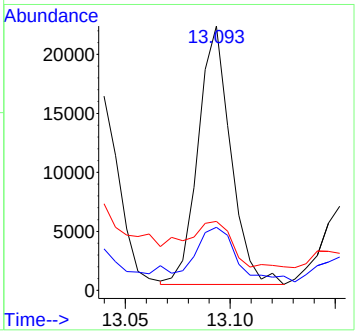


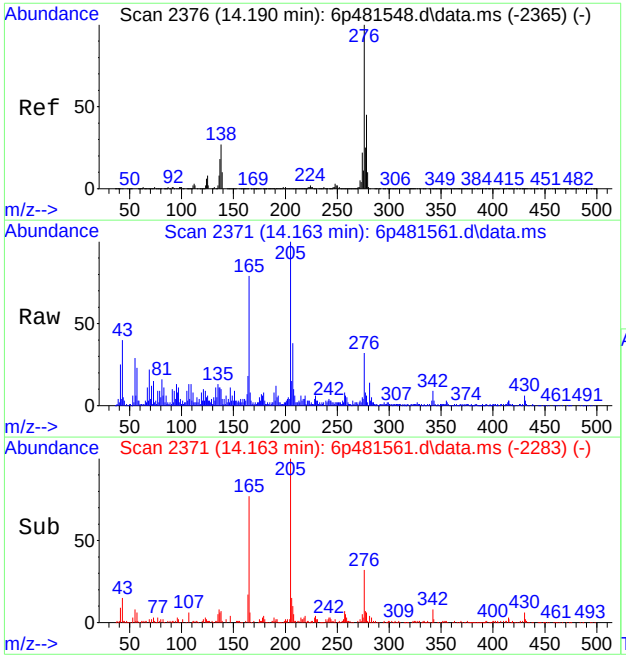




#95
Benzo[a]pyrene
Concen: 0.54 ppm
RT: 13.093 min Scan# 2171
Delta R.T. -0.027 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:252 Resp: 23617

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 17.0 | 0.0 | 51.4 |
| 125 | 13.7 | 0.0 | 41.7 |

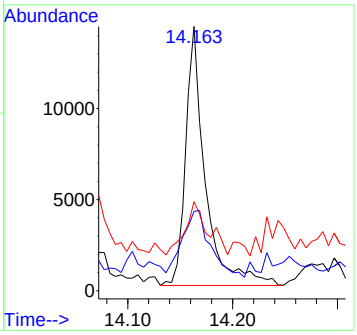


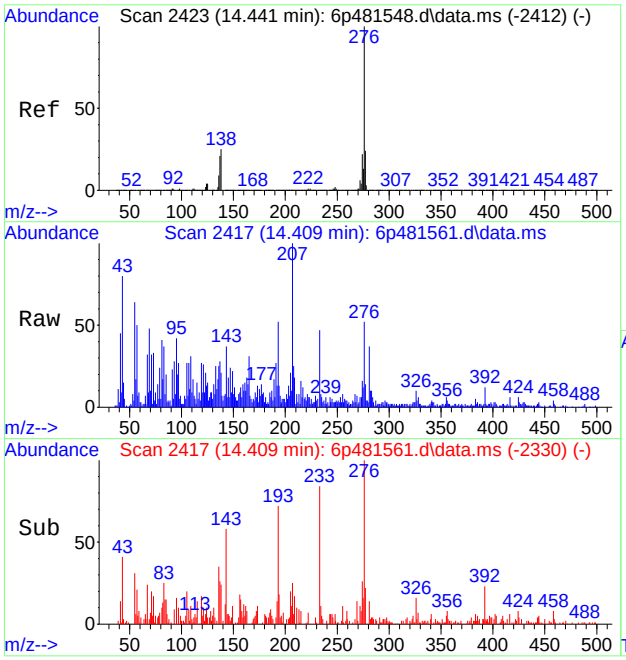



#96
Indeno[1,2,3-cd]pyrene
Concen: 0.31 ppm
RT: 14.163 min Scan# 2371
Delta R.T. -0.027 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:276 Resp: 18358

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 20.4 | 0.0 | 56.6 |
| 137 | 14.3 | 0.0 | 47.6 |

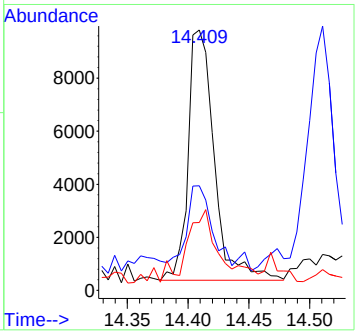



#100
Benzo[g,h,i]perylene
Concen: 0.31 ppm
RT: 14.409 min Scan# 2417
Delta R.T. -0.032 min
Lab File: 6p481561.d
Acq: 2 May 2019 2:25 pm

Tgt Ion:276 Resp: 14178

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 29.7 | 0.0 | 54.7 |
| 277 | 21.7 | 0.0 | 53.6 |



# Manual Integration Approval Summary



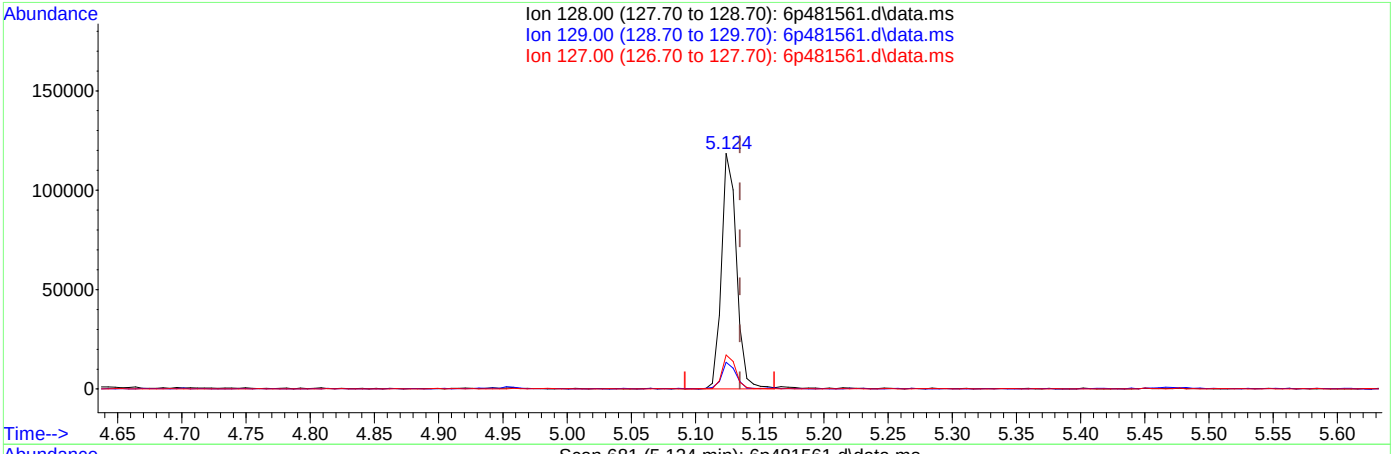
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-8 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481561.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 14:25 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

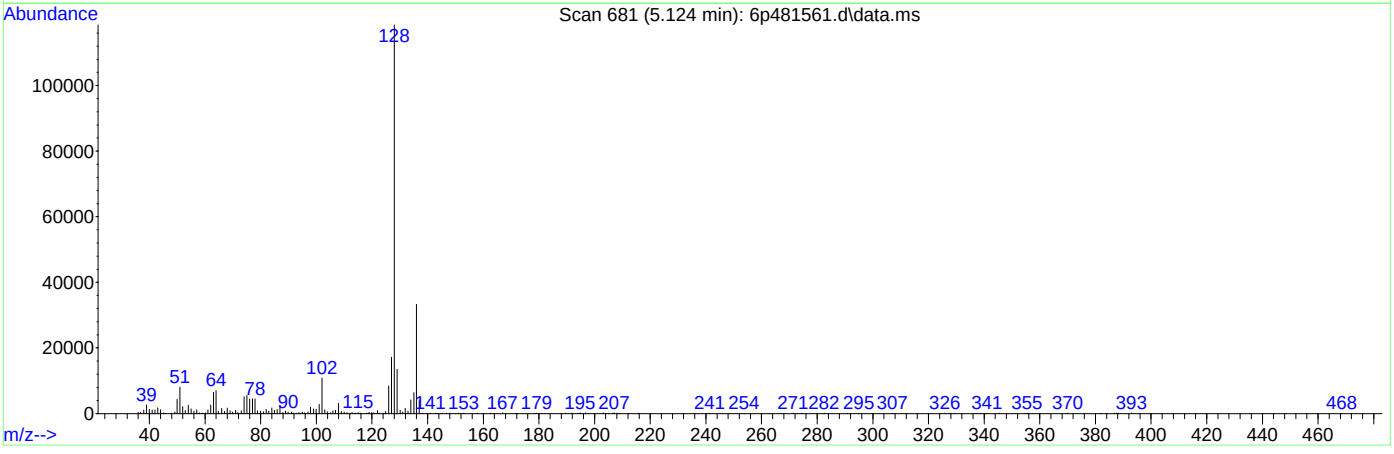
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.12 | Poor instrument integration |
| Phenanthrene | 85-01-8 | | 8.44 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.76 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481561.d
Acq On : 2 May 2019 2:25 pm
Operator : angelar
Sample : jc86986-8 Inst : MS6P
Misc : op20081,e6p2579,30.4,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481561.d\data.ms

(38) Naphthalene (t)

5.124min (-0.011) 2.02ppm

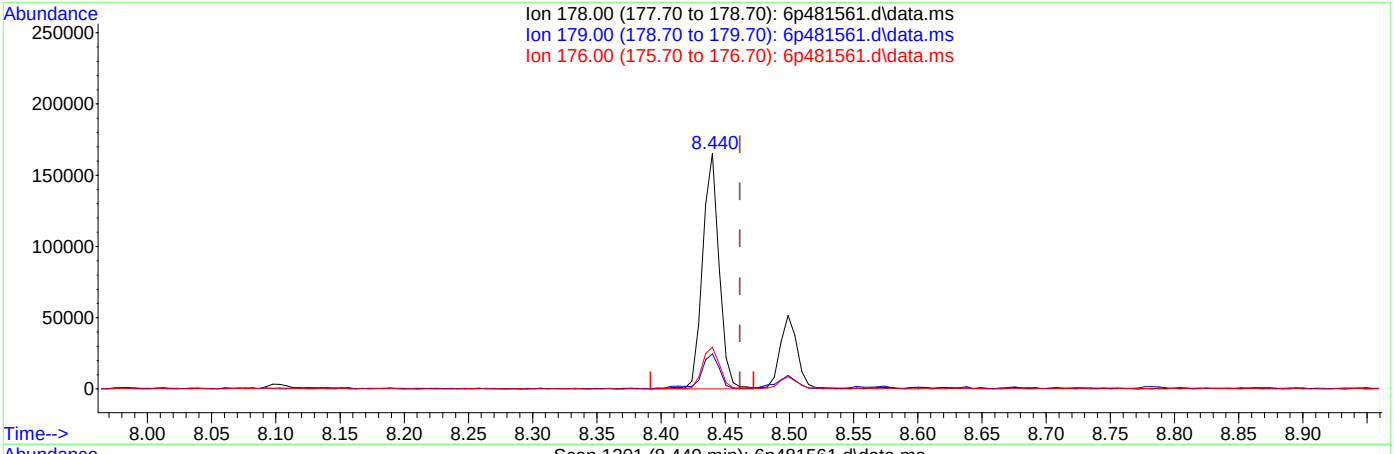
response 96322

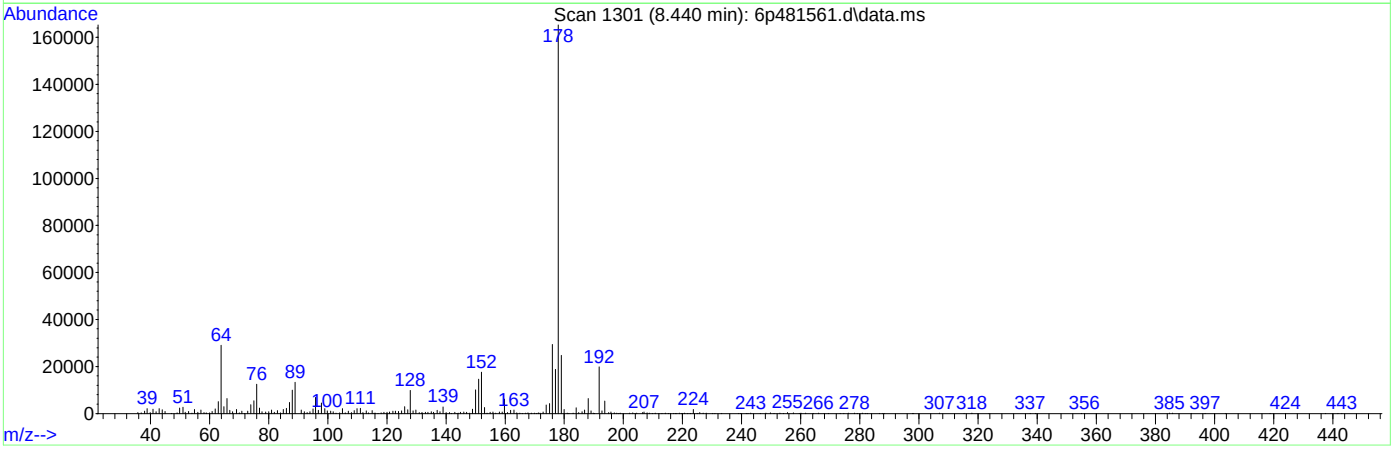
| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.40 | 11.11 |
| 127.00 | 13.30 | 14.34 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481561.d
Acq On : 2 May 2019 2:25 pm
Operator : angelar
Sample : jc86986-8 Inst : MS6P
Misc : op20081,e6p2579,30.4,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481561.d\data.ms

(77) Phenanthrene (t)

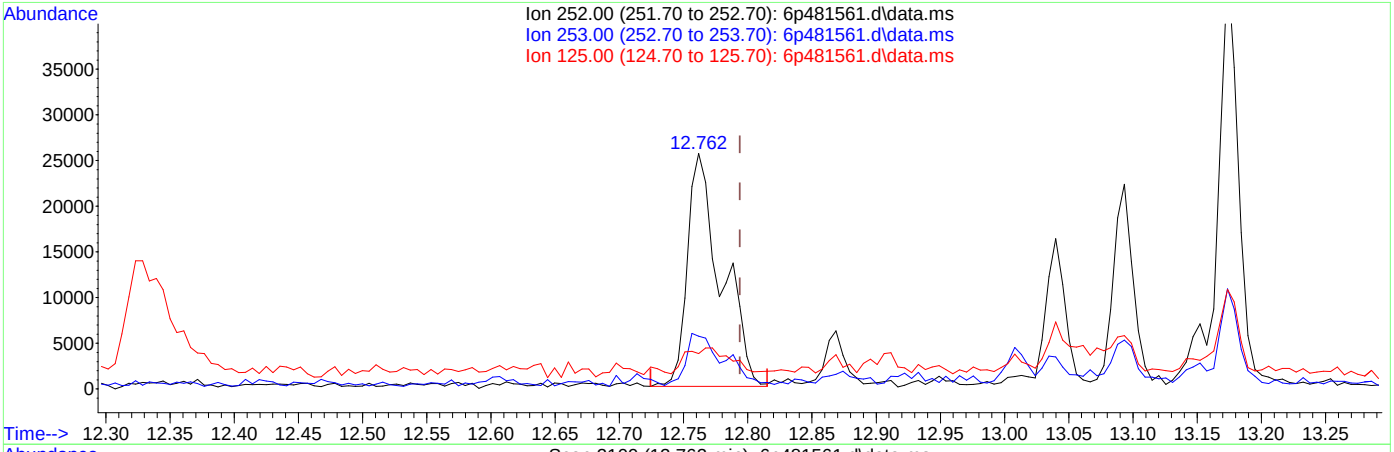
8.440min (-0.021) 2.77ppm

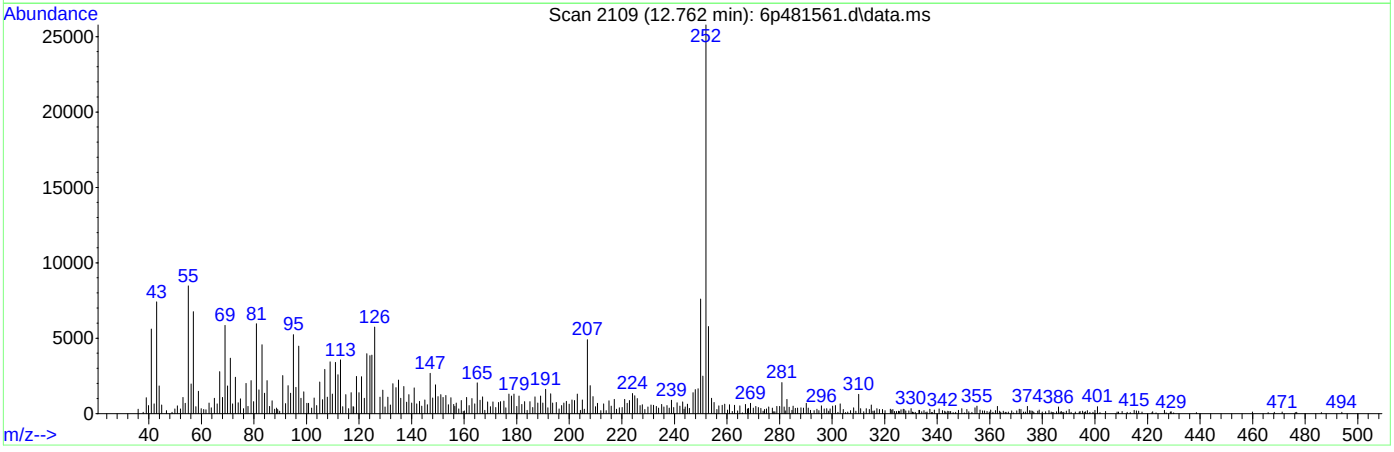
response 148258

| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 14.81 |
| 176.00 | 19.10 | 17.63 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481561.d
Acq On    :  2 May 2019   2:25 pm
Operator  : angelar
Sample    : jc86986-8                                Inst     : MS6P
Misc      : op20081,e6p2579,30.4,,,1,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:34 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481561.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.762min (-0.032) 0.88ppm

response 46716

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 19.25 |
| 125.00 | 9.90 | 6.70 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 11:58

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 09 12:08:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.150 | 152 | 582799 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.161 | 136 | 1510784 | 40.00 | ppm | 0.05 |
| 47) Acenaphthene-d10 | 6.787 | 164 | 1525935 | 40.00 | ppm | 0.02 |
| 69) Phenanthrene-d10 | 8.510 | 188 | 1967740 | 40.00 | ppm | 0.09 |
| 83) Chrysene-d12 | 11.756 | 240 | 2737698 | 40.00 | ppm | 0.19 |
| 91) Perylene-d12 | 13.334 | 264 | 3669466 | 40.00 | ppm | 0.17 |
| 101) 1,4-Dichlorobenzene-d4a | 4.150 | 152 | 582799 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.787 | 164 | 1525935 | 40.00 | ppm | 0.02 |
| 105) Phenanthrene-d10a | 8.510 | 188 | 1967740 | 40.00 | ppm | 0.09 |
| 109) Chrysene-d12a | 11.756 | 240 | 2737698 | 40.00 | ppm | 0.19 |
| 111) Naphthalene-d8a | 5.161 | 136 | 1510784 | 40.00 | ppm | 0.05 |
| 113) Phenanthrene-d10b | 8.510 | 188 | 1967740 | 40.00 | ppm | # 0.09 |
| 115) Chrysene-d12b | 11.756 | 240 | 2737698 | 40.00 | ppm | 0.19 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.172 | 112 | 97182 | 5.70 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 11.40% | |
| 8) Phenol-d5 | 3.931 | 99 | 144724 | 6.95 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 13.90% | |
| 25) Nitrobenzene-d5 | 4.573 | 82 | 151090 | 12.02 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 24.04% | |
| 51) 2-Fluorobiphenyl | 6.097 | 172 | 271940 | 5.04 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 10.08% | |
| 73) 2,4,6-Tribromophenol | 7.697 | 330 | 57816 | 9.13 | ppm | 0.05 |
| Spiked Amount 50.000 | | | Recovery | = | 18.26% | |
| 85) Terphenyl-d14 | 10.424 | 244 | 342052m | 5.36 | ppm | 0.07 |
| Spiked Amount 50.000 | | | Recovery | = | 10.72% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.942 | 94 | 2608600 | 102.67 | ppm | 98 |
| 19) 2-Methylphenol | 4.375 | 108 | 648964 | 37.95 | ppm | 98 |
| 21) 3&4-Methylphenol | 4.498 | 108 | 2341948 | 130.23 | ppm | 84 |
| 30) 2,4-Dimethylphenol | 4.915 | 107 | 641032 | 56.14 | ppm | 93 |
| 38) Naphthalene | 5.135 | 128 | 52787666m | 1341.62 | ppm | |
| 44) 2-Methylnaphthalene | 5.760 | 141 | 22827192m | 1025.71 | ppm | |
| 53) Biphenyl | 6.204 | 154 | 12999607 | 222.71 | ppm | 69 |
| 56) Acenaphthylene | 6.638 | 152 | 30938030m | 445.49 | ppm | |
| 59) Acenaphthene | 6.830 | 153 | 8278219 | 179.56 | ppm | 93 |
| 62) Dibenzofuran | 7.012 | 168 | 34710673m | 540.70 | ppm | |
| 66) Fluorene | 7.397 | 166 | 45941630m | 881.53 | ppm | |
| 77) Phenanthrene | 8.483 | 178 | 98363433m | 1861.83 | ppm | |
| 78) Anthracene | 8.665 | 178 | 24246041m | 457.59 | ppm | |
| 79) Carbazole | 8.809 | 167 | 38011031m | 757.85 | ppm | |
| 81) Fluoranthene | 9.916 | 202 | 80743735m | 1406.70 | ppm | |
| 84) Pyrene | 10.210 | 202 | 66450724m | 728.60 | ppm | |
| 87) Benzo[a]anthracene | 11.633 | 228 | 70144698m | 804.40 | ppm | |
| 89) Chrysene | 11.756 | 228 | 22214518m | 259.78 | ppm | |

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 09 12:08:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 93) | Benzo[b]fluoranthene | 12.869 | 252 | 52906928m | 472.05 | ppm | |
| 94) | Benzo[k]fluoranthene | 12.954 | 252 | 24389511m | 245.82 | ppm | |
| 95) | Benzo[a]pyrene | 13.270 | 252 | 26849267m | 291.59 | ppm | |
| 96) | Indeno[1,2,3-cd]pyrene | 14.324 | 276 | 49333291m | 401.24 | ppm | |
| 98) | Dibenz[a,h]anthracene | 14.361 | 278 | 27688426m | 254.12 | ppm | |
| 100) | Benzo[g,h,i]perylene | 14.612 | 276 | 45588327m | 475.47 | ppm | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

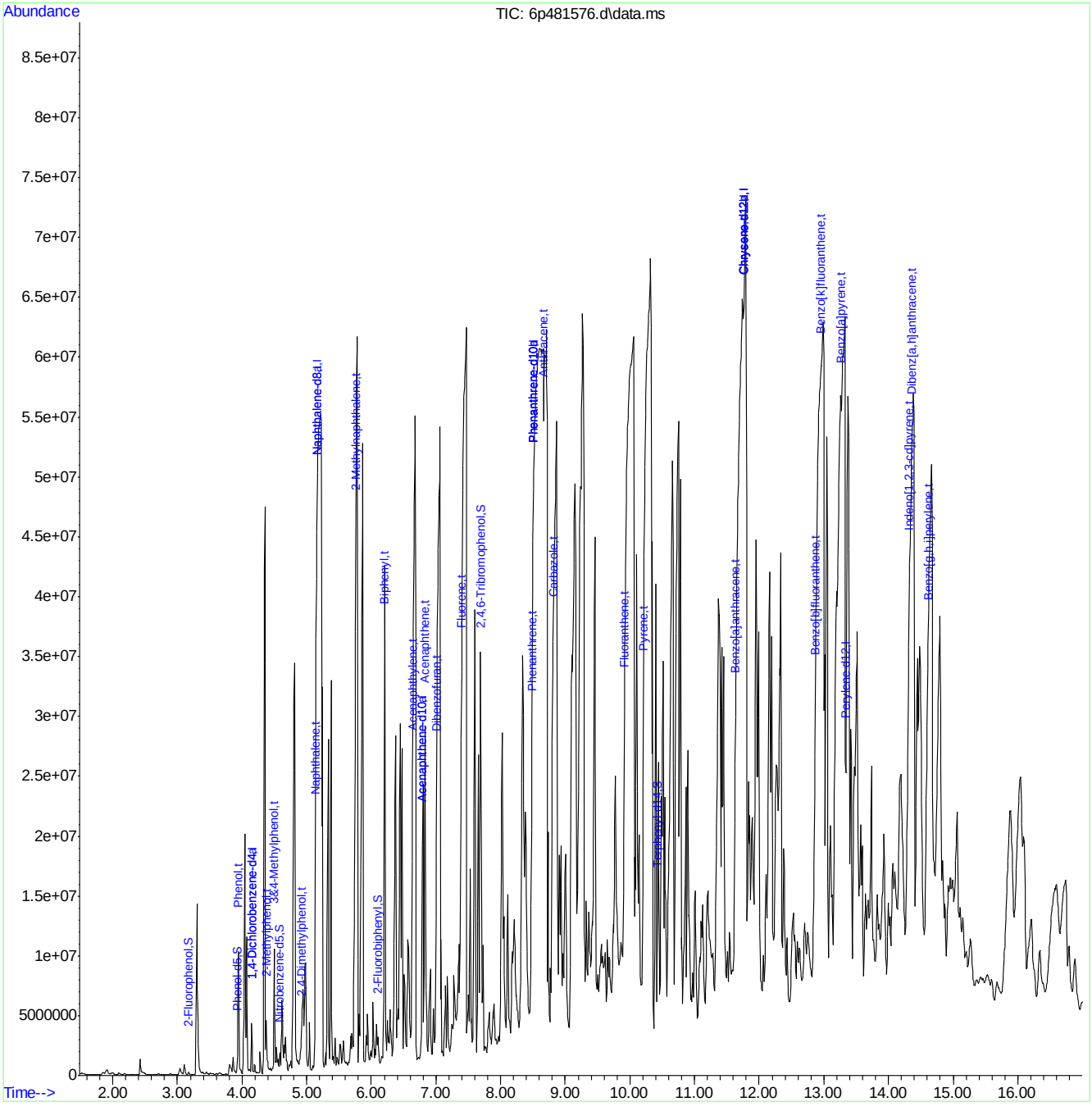
9.1.10

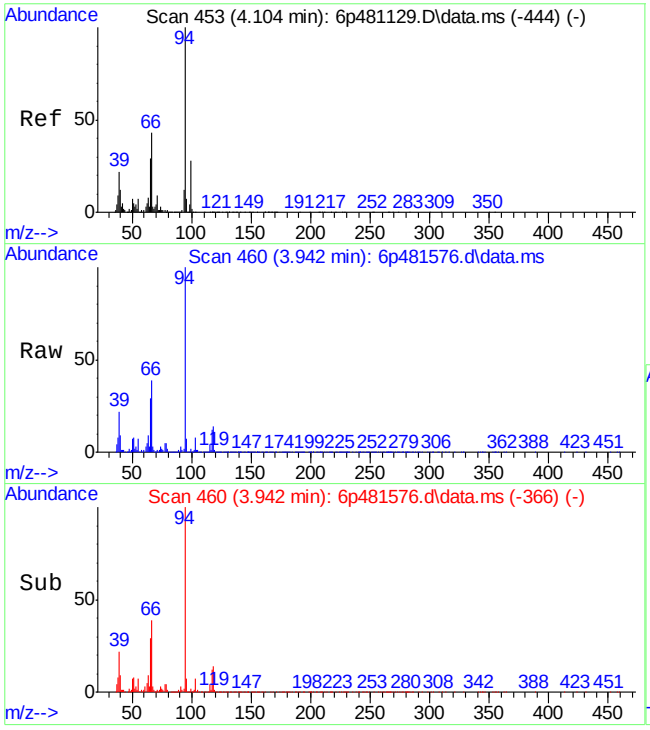
9

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 09 12:08:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

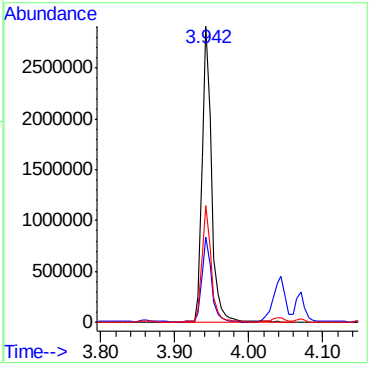


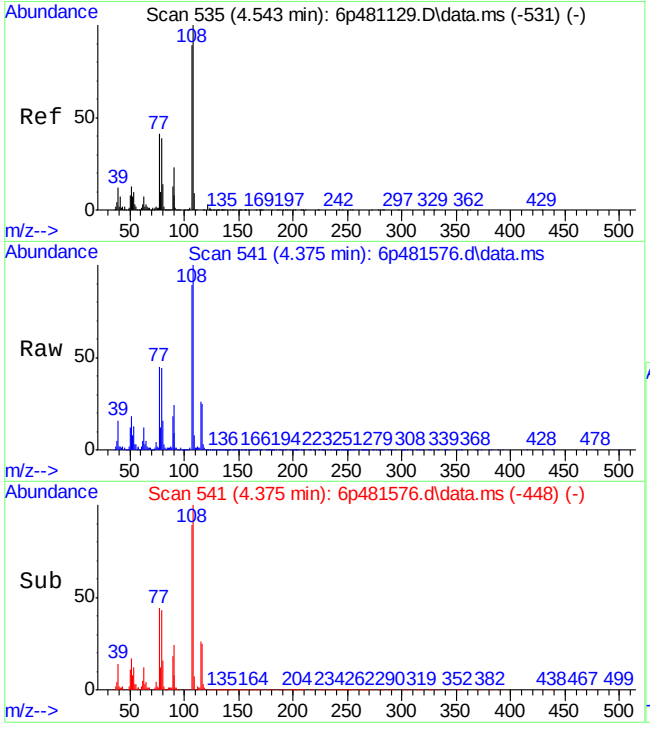



#9
Phenol
Concen: 102.67 ppm
RT: 3.942 min Scan# 460
Delta R.T. 0.005 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion: 94 Resp: 2608600

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 27.3 | 0.0 | 56.0 |
| 66 | 39.0 | 8.4 | 68.4 |

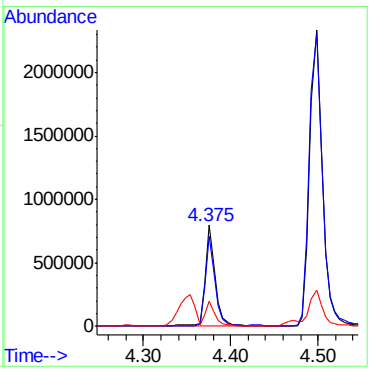


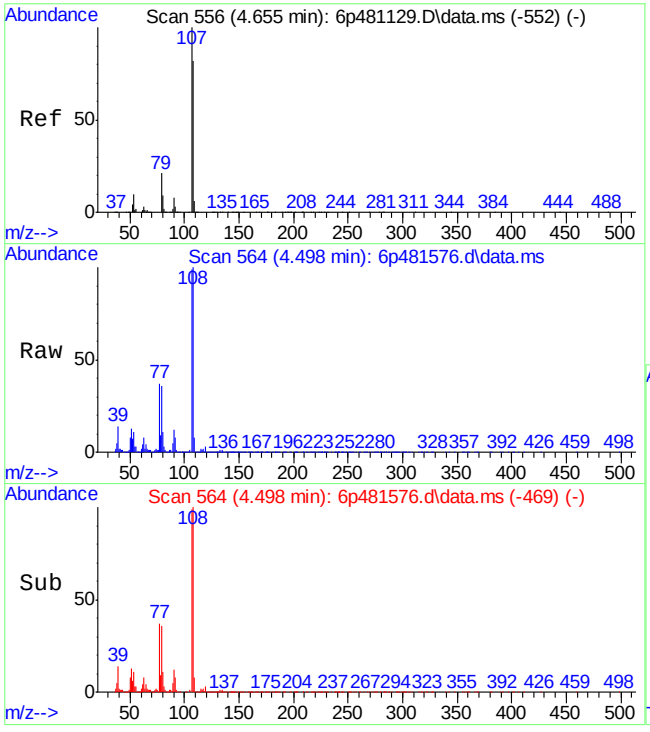




#19
2-Methylphenol
Concen: 37.95 ppm
RT: 4.375 min Scan# 541
Delta R.T. 0.000 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:108 Resp: 648964

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 88.8 | 59.8 | 119.8 |
| 90 | 21.6 | 0.0 | 53.6 |

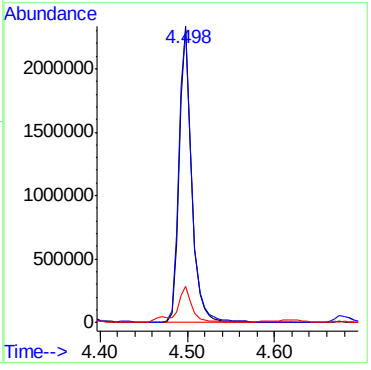


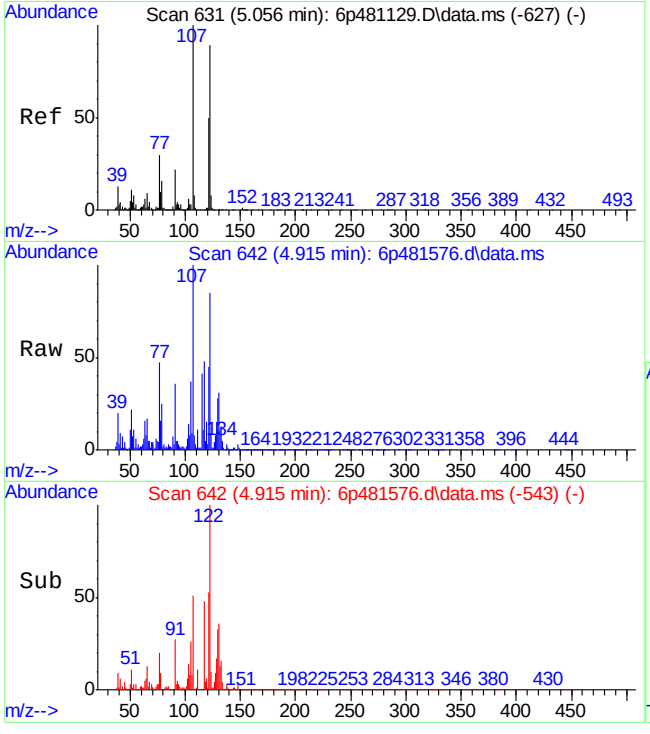



#21
3&4-Methylphenol
Concen: 130.23 ppm
RT: 4.498 min Scan# 564
Delta R.T. 0.011 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:108 Resp: 2341948

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 98.8 | 88.3 | 148.3 |
| 90 | 10.7 | 0.0 | 40.2 |

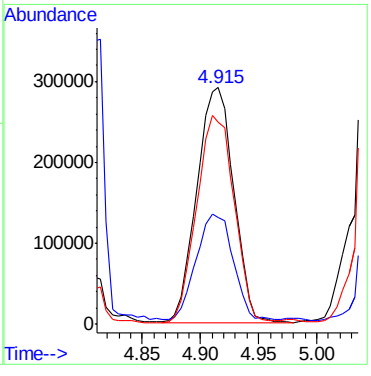


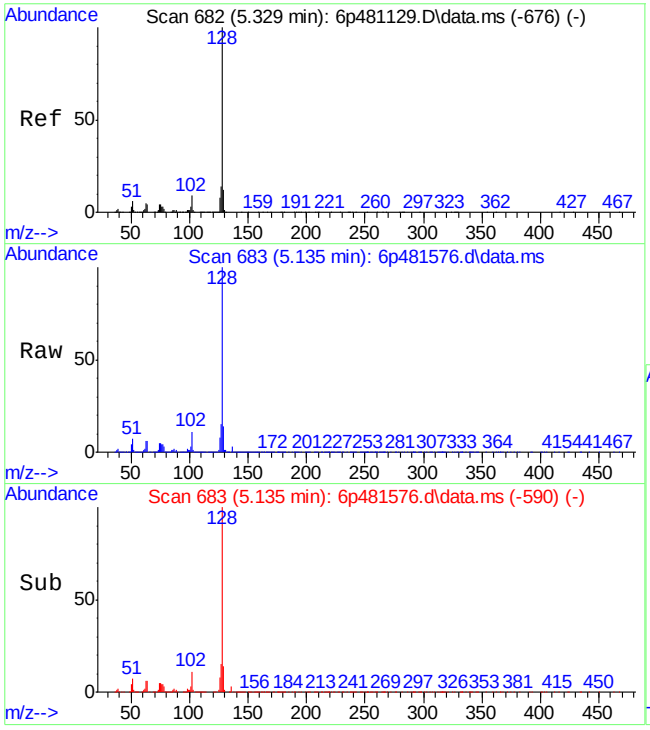




#30
2,4-Dimethylphenol
Concen: 56.14 ppm
RT: 4.915 min Scan# 642
Delta R.T. 0.032 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:107 Resp: 641032

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 43.5 | 20.7 | 80.7 |
| 122 | 85.2 | 59.5 | 119.5 |

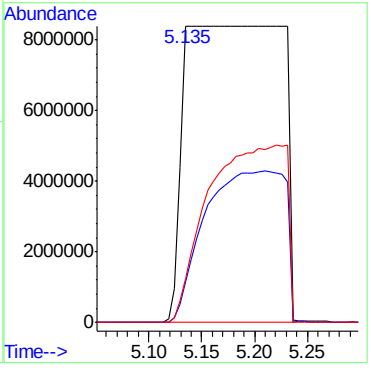


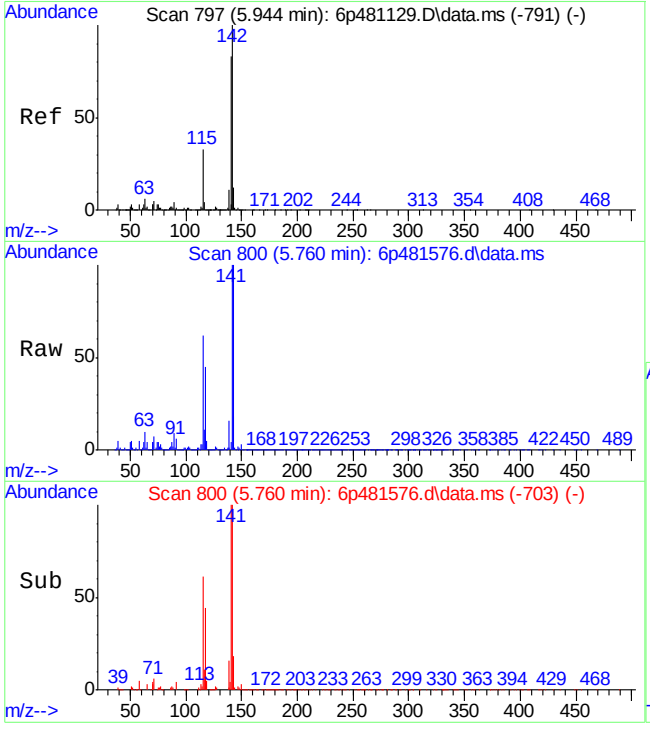



#38
Naphthalene
Concen: 1341.62 ppm m
RT: 5.135 min Scan# 683
Delta R.T. 0.000 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:128 Resp:52787666

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 13.6 | 0.0 | 41.4 |
| 127 | 15.0 | 0.0 | 43.3 |

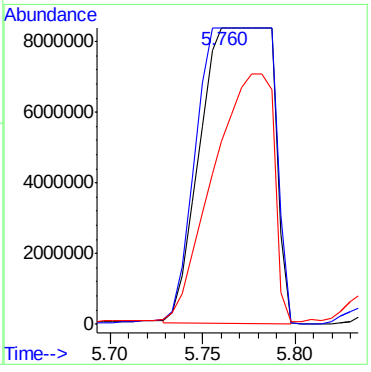


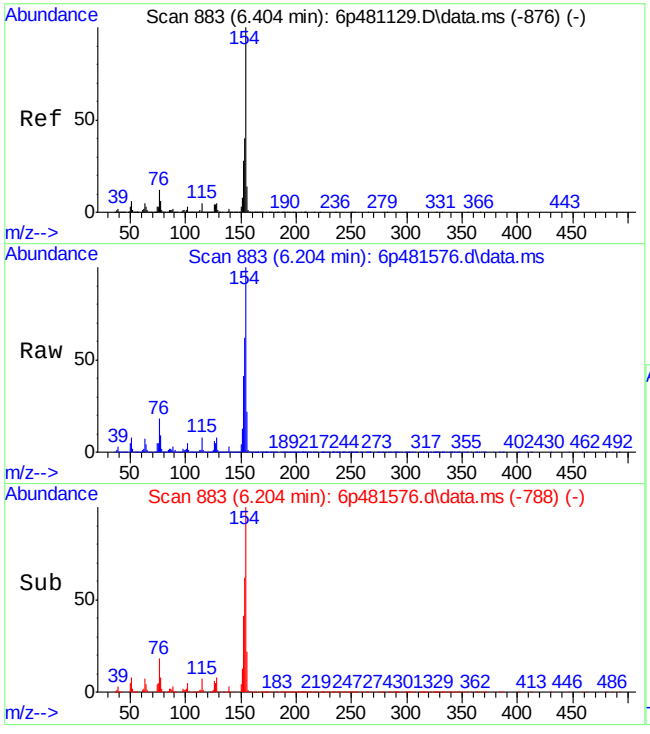




#44
2-Methylnaphthalene
Concen: 1025.71 ppm m
RT: 5.760 min Scan# 800
Delta R.T. 0.021 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:141 Resp:22827192

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 100.0 | 90.7 | 150.7 |
| 115 | 61.9 | 11.4 | 71.4 |

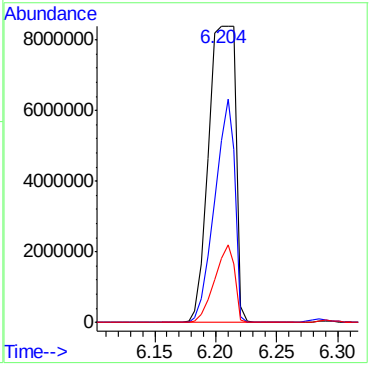


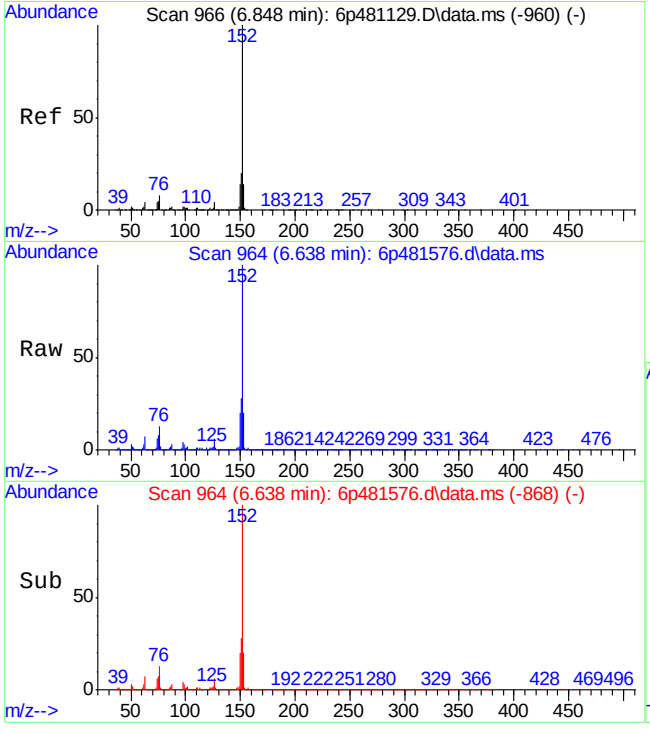



#53
Biphenyl
Concen: 222.71 ppm
RT: 6.204 min Scan# 883
Delta R.T. 0.011 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:154 Resp:12999607

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 61.5 | 10.5 | 70.5 |
| 155 | 21.5 | 0.0 | 43.2 |

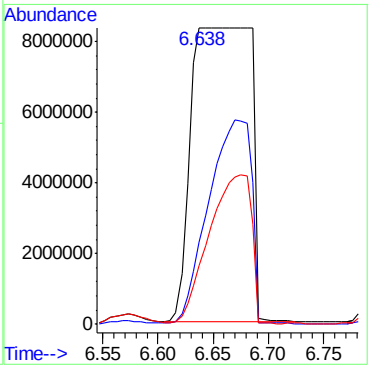


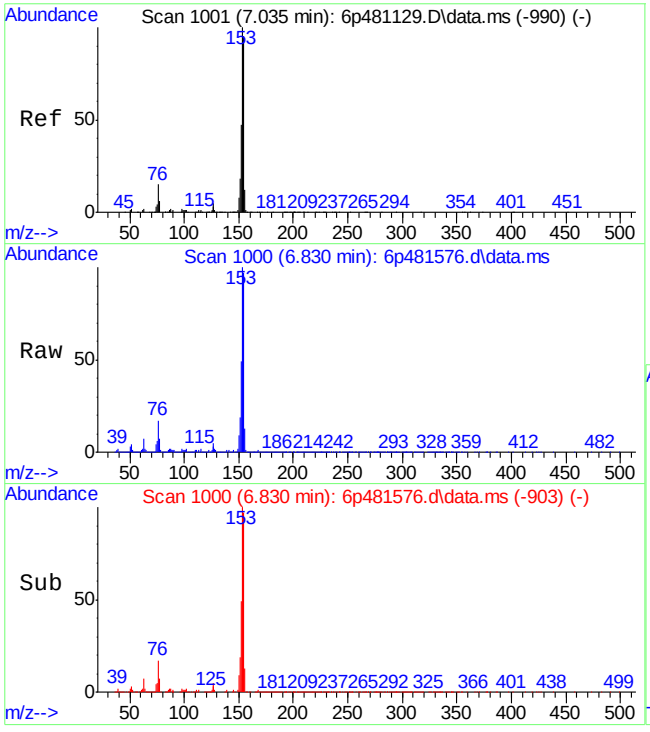




#56
Acenaphthylene
Concen: 445.49 ppm m
RT: 6.638 min Scan# 964
Delta R.T. 0.016 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:152 Resp:30938030

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 27.6 | 0.0 | 50.1 |
| 153 | 19.9 | 0.0 | 43.5 |

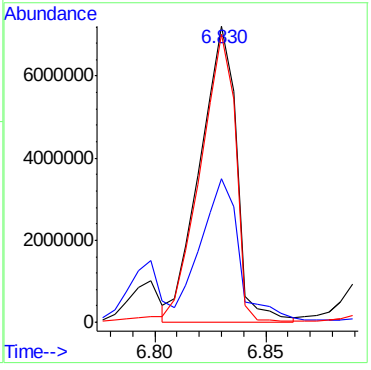


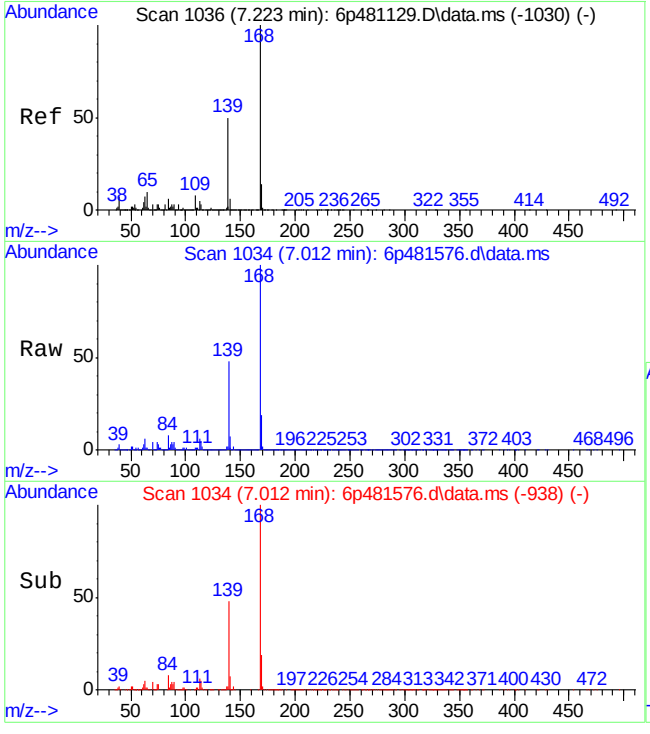



#59
Acenaphthene
Concen: 179.56 ppm
RT: 6.830 min Scan# 1000
Delta R.T. 0.021 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:153 Resp: 8278219

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 45.9 | 16.6 | 76.6 |
| 154 | 99.7 | 60.7 | 120.7 |

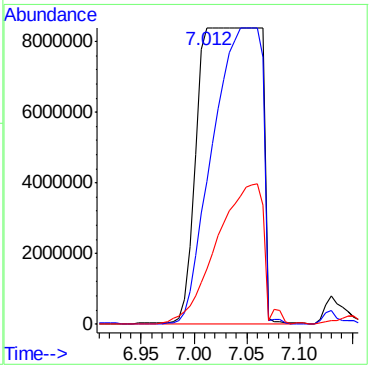



#62
Dibenzofuran
Concen: 540.70 ppm m
RT: 7.012 min Scan# 1034
Delta R.T. 0.016 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

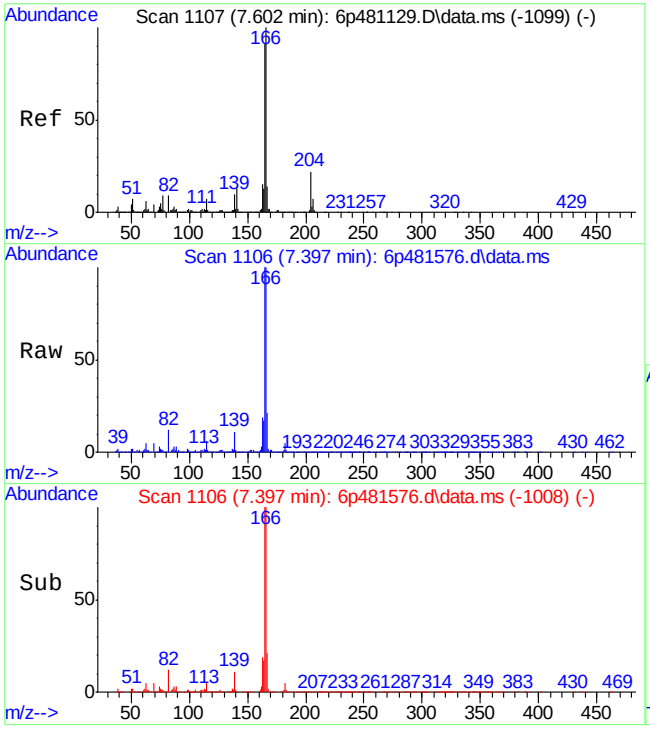
Tgt Ion:168 Resp:34710673

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 48.3 | 8.8 | 68.8 |
| 169 | 18.7 | 0.0 | 43.0 |




9.1.10

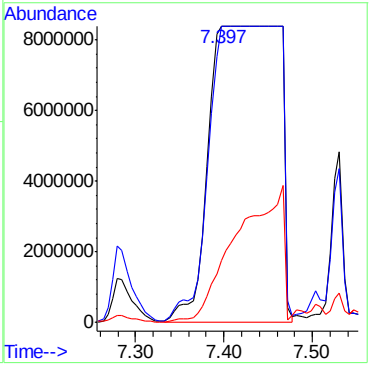
9

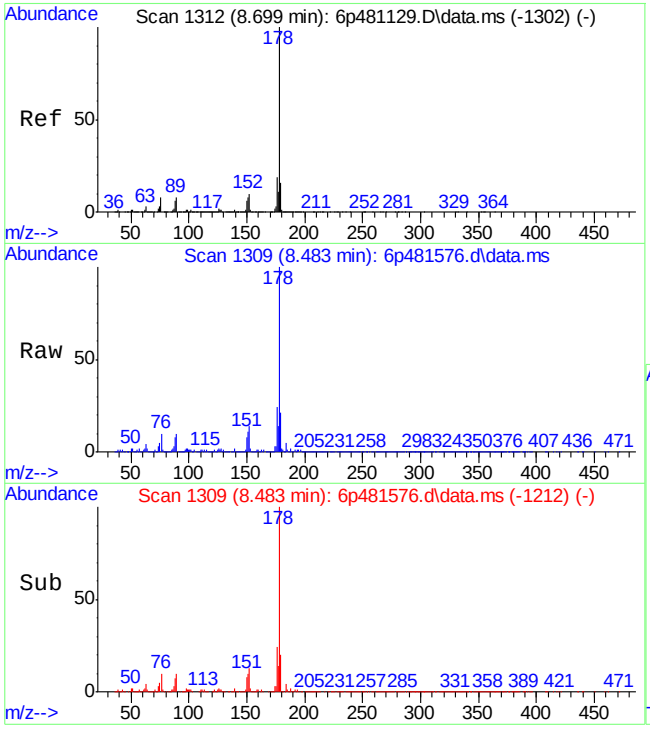



#66
Fluorene
Concen: 881.53 ppm m
RT: 7.397 min Scan# 1106
Delta R.T. 0.027 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:166 Resp:45941630

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 100.0 | 60.9 | 120.9 |
| 167 | 20.8 | 0.0 | 43.1 |

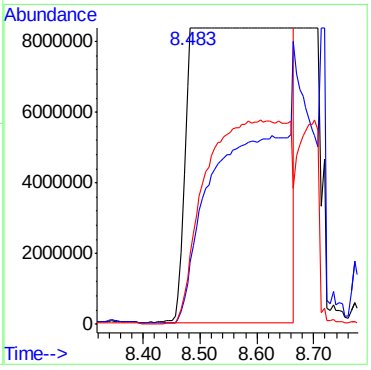



#77
Phenanthrene
Concen: 1861.83 ppm m
RT: 8.483 min Scan# 1309
Delta R.T. 0.021 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

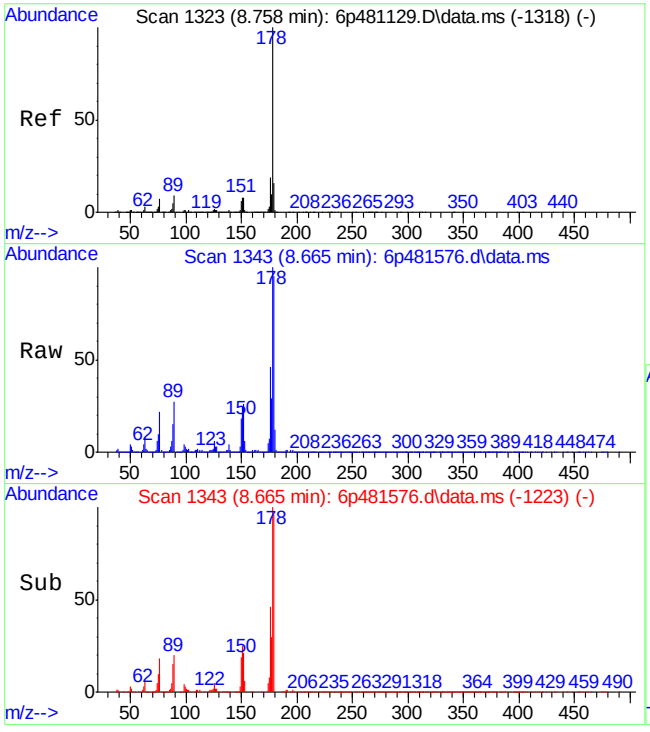
Tgt Ion:178 Resp:98363433

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 20.7 | 0.0 | 45.9 |
| 176 | 23.6 | 0.0 | 49.1 |




9.1.10

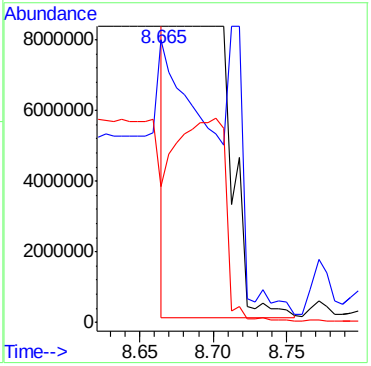
9

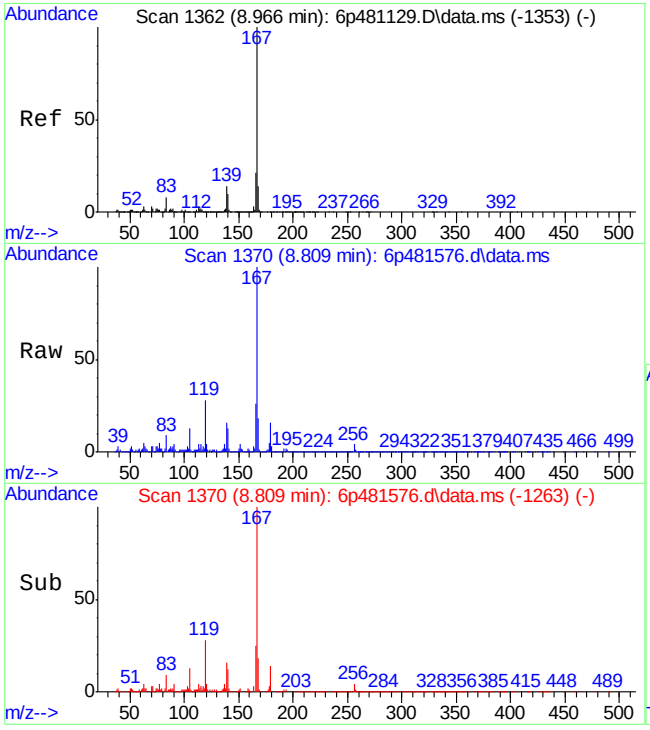



#78
Anthracene
Concen: 457.59 ppm m
RT: 8.665 min Scan# 1343
Delta R.T. 0.144 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:178 Resp:24246041

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 95.3 | 0.0 | 46.1# |
| 176 | 45.7 | 0.0 | 49.3 |

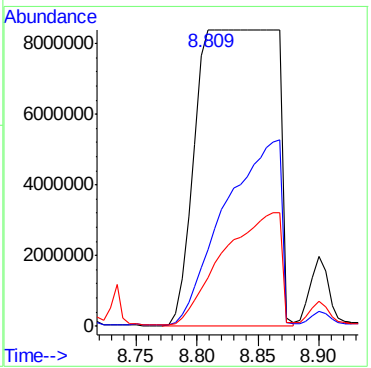


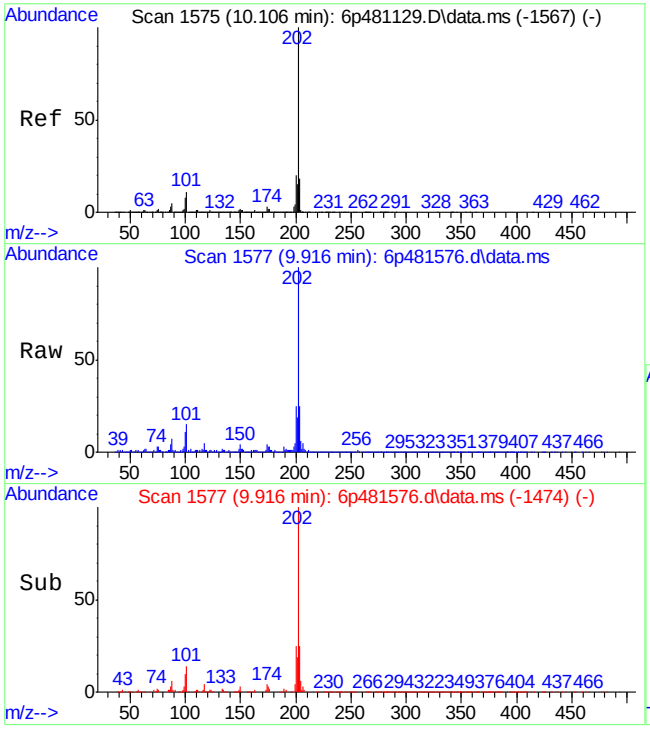




#79
Carbazole
Concen: 757.85 ppm m
RT: 8.809 min Scan# 1370
Delta R.T. 0.075 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:167 Resp:38011031

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 25.9 | 0.0 | 50.7 |
| 139 | 16.2 | 0.0 | 43.3 |

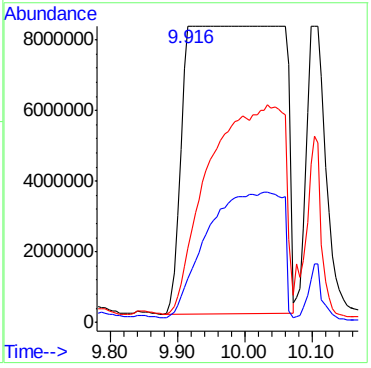


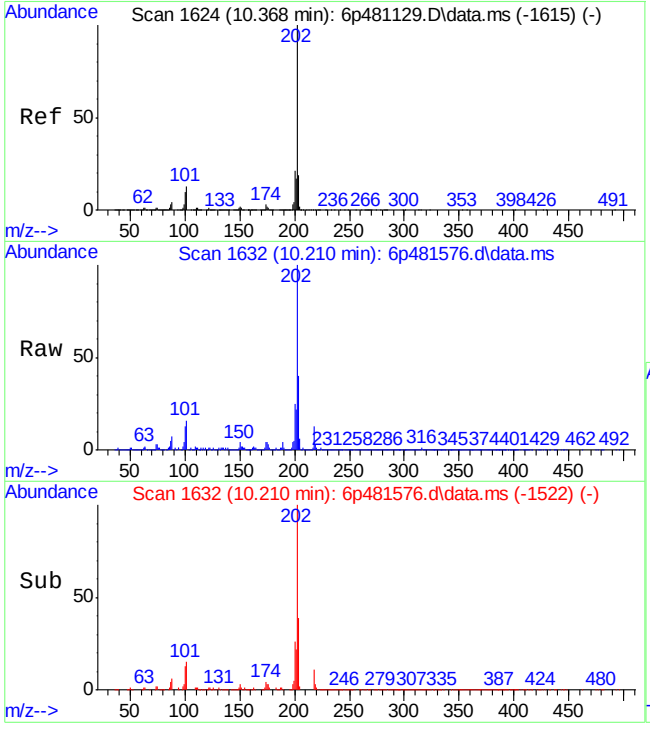



#81
Fluoranthene
Concen: 1406.70 ppm m
RT: 9.916 min Scan# 1577
Delta R.T. 0.054 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:202 Resp:80743735

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.8 | 0.0 | 41.6 |
| 203 | 25.1 | 0.0 | 47.6 |

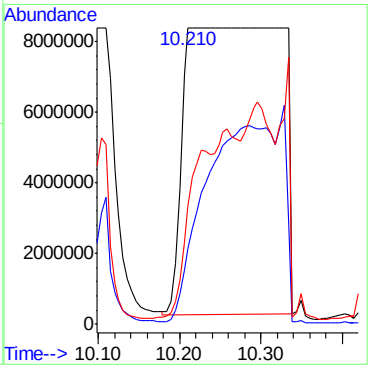


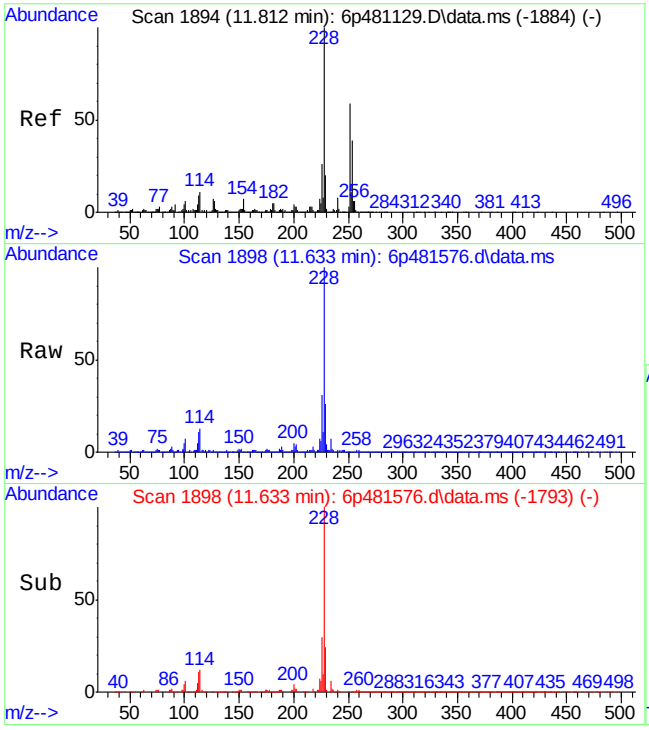




#84
Pyrene
Concen: 728.60 ppm m
RT: 10.210 min Scan# 1632
Delta R.T. 0.091 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:202 Resp:66450724

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 25.5 | 0.0 | 50.9 |
| 203 | 39.9 | 0.0 | 48.9 |

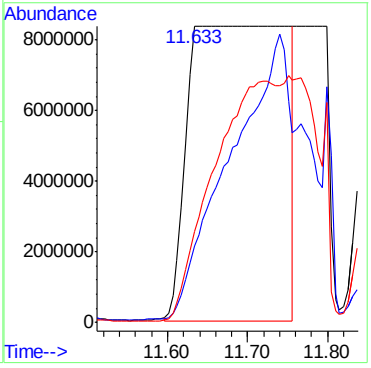


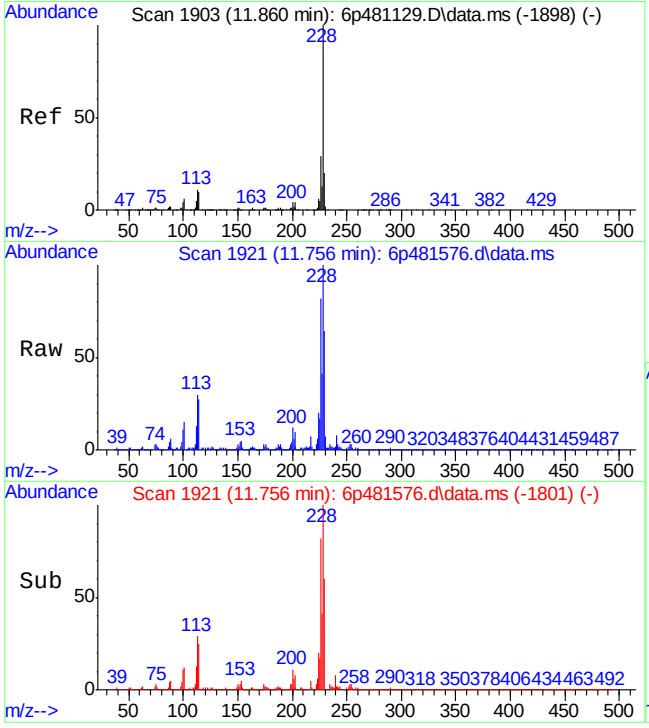



#87
Benzo[a]anthracene
Concen: 804.40 ppm m
RT: 11.633 min Scan# 1898
Delta R.T. 0.064 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:228 Resp:70144698

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 25.6 | 0.0 | 50.1 |
| 226 | 30.6 | 0.0 | 57.7 |

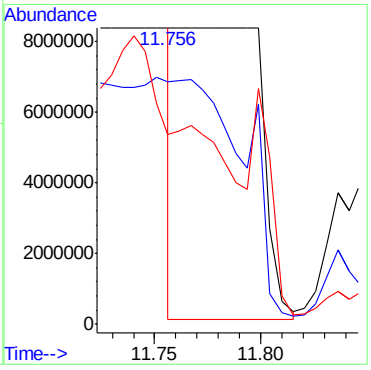


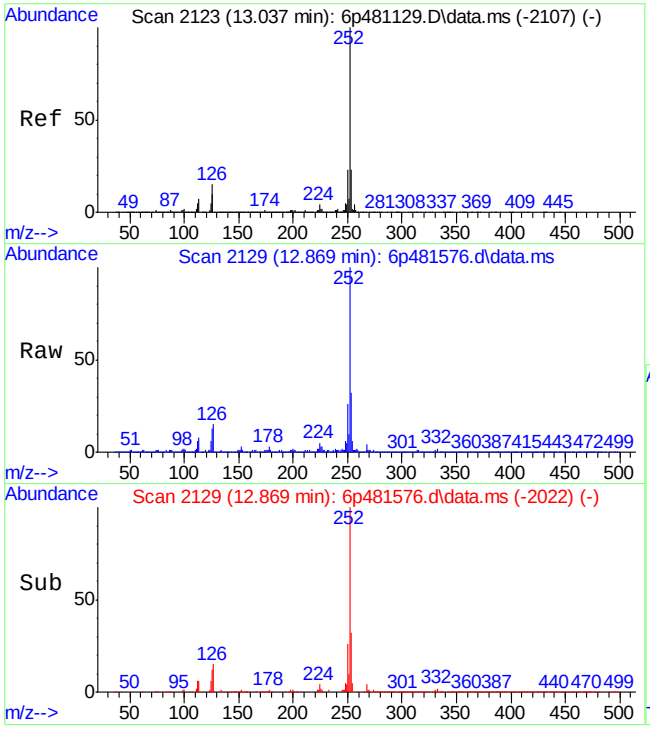




#89
Chrysene
Concen: 259.78 ppm m
RT: 11.756 min Scan# 1921
Delta R.T. 0.144 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:228 Resp:22214518

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 82.0 | 0.0 | 59.3# |
| 229 | 64.2 | 0.0 | 50.2# |

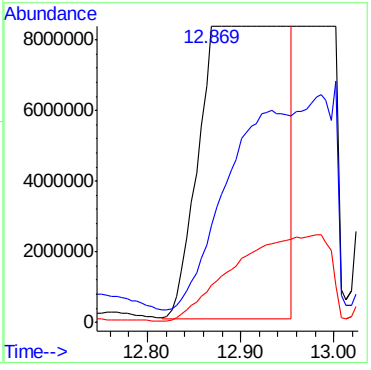


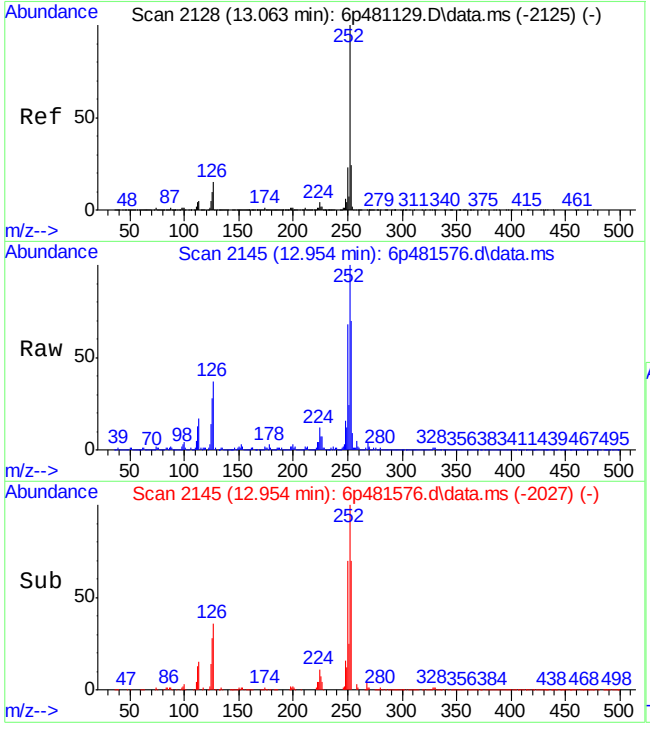



#93
Benzo[b]fluoranthene
Concen: 472.05 ppm m
RT: 12.869 min Scan# 2129
Delta R.T. 0.075 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:252 Resp:52906928

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 32.5 | 0.0 | 52.6 |
| 125 | 12.5 | 0.0 | 39.9 |

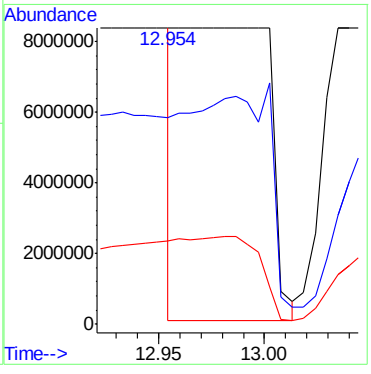


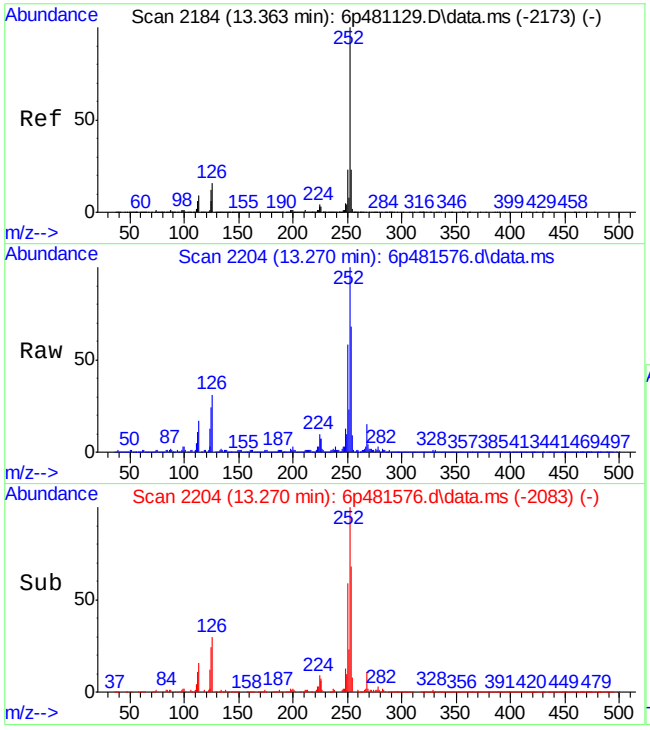




#94
Benzo[k]fluoranthene
Concen: 245.82 ppm m
RT: 12.954 min Scan# 2145
Delta R.T. 0.134 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:252 Resp:24389511

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 69.9 | 0.0 | 52.5# |
| 125 | 28.1 | 0.0 | 39.7 |

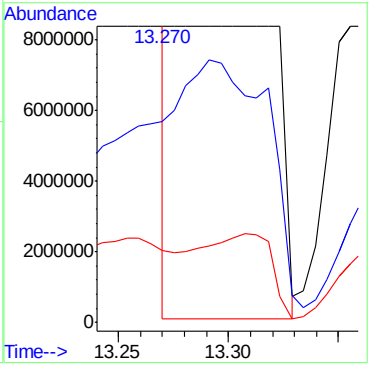


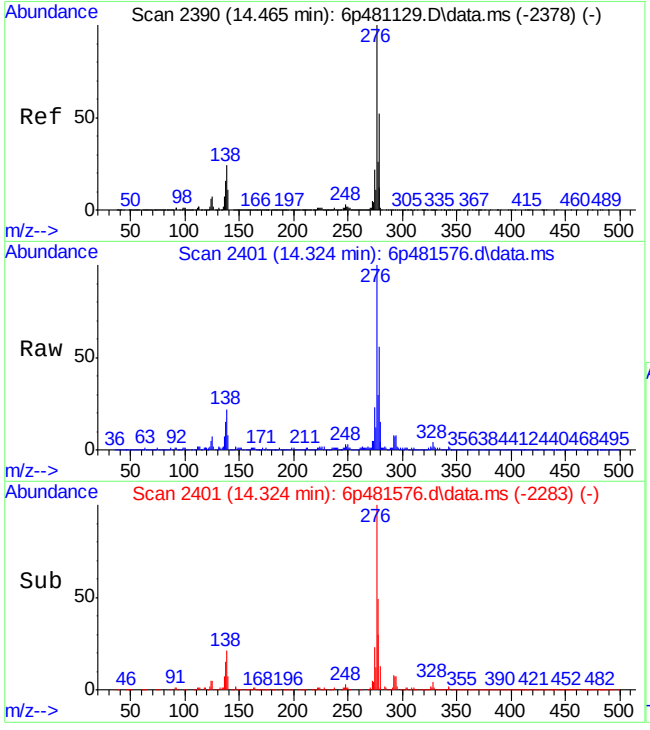



#95
Benzo[a]pyrene
Concen: 291.59 ppm m
RT: 13.270 min Scan# 2204
Delta R.T. 0.150 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:252 Resp:26849267

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 67.9 | 0.0 | 51.4# |
| 125 | 24.3 | 0.0 | 41.7 |

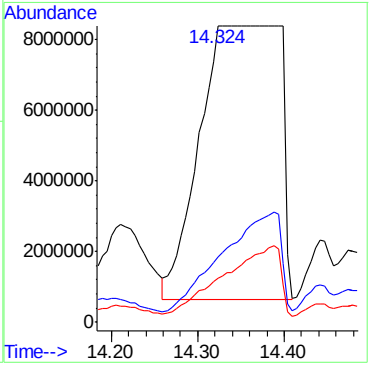


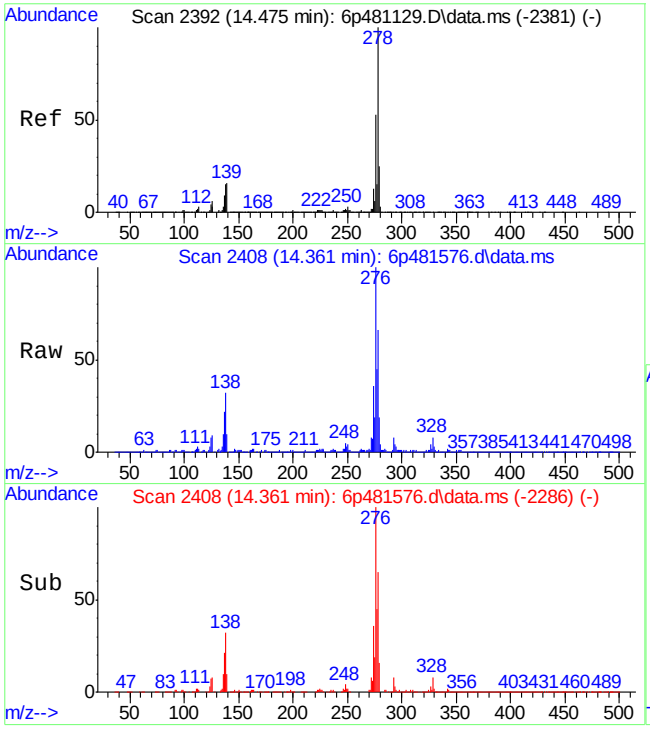




#96
Indeno[1,2,3-cd]pyrene
Concen: 401.24 ppm m
RT: 14.324 min Scan# 2401
Delta R.T. 0.134 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:276 Resp:49333291

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 22.2 | 0.0 | 56.6 |
| 137 | 14.9 | 0.0 | 47.6 |

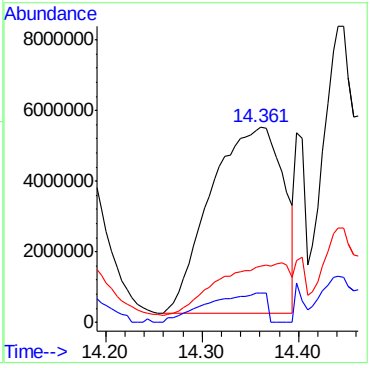


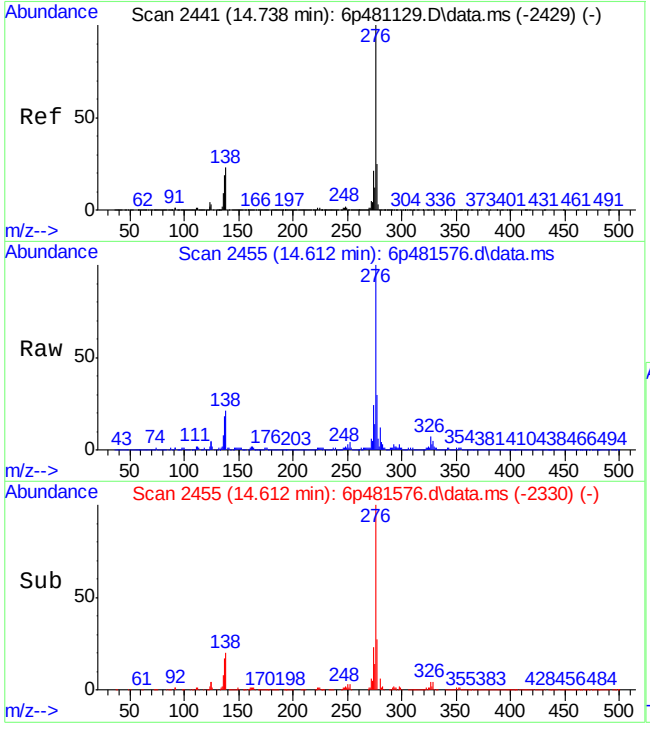



#98
Dibenz[a,h]anthracene
Concen: 254.12 ppm m
RT: 14.361 min Scan# 2408
Delta R.T. 0.155 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:278 Resp:27688426

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 14.8 | 0.0 | 45.4 |
| 279 | 28.5 | 0.0 | 54.8 |

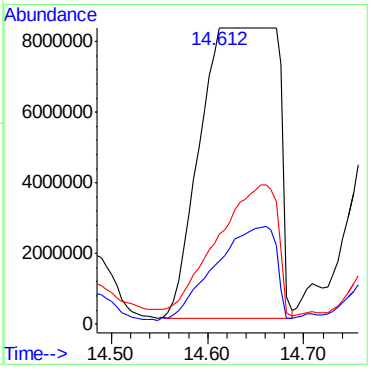



#100
Benzo[g,h,i]perylene
Concen: 475.47 ppm m
RT: 14.612 min Scan# 2455
Delta R.T. 0.171 min
Lab File: 6p481576.d
Acq: 2 May 2019 8:48 pm

Tgt Ion:276 Resp:45588327

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 21.4 | 0.0 | 54.7 |
| 277 | 30.2 | 0.0 | 53.6 |



# Manual Integration Approval Summary

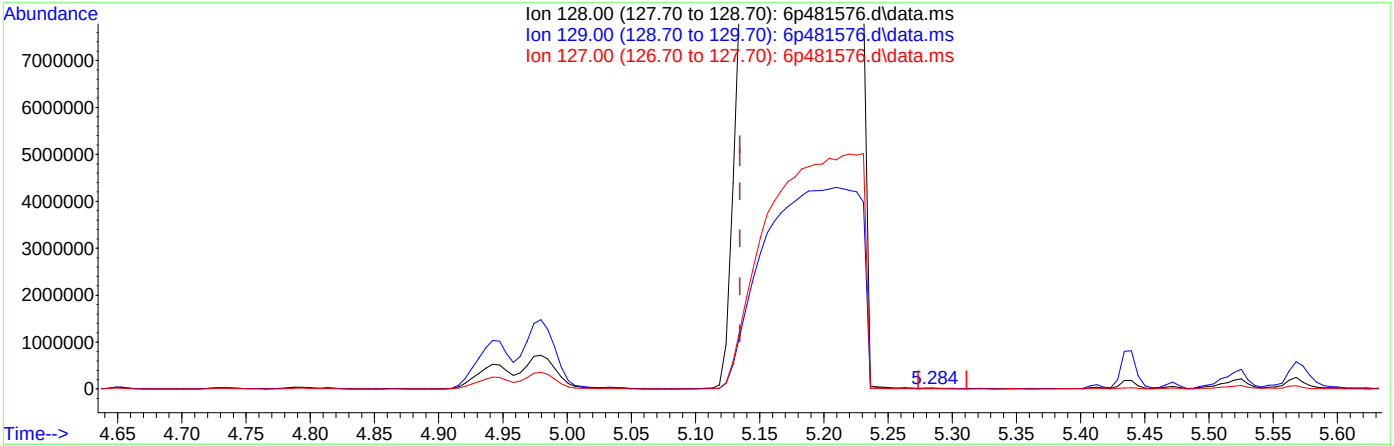


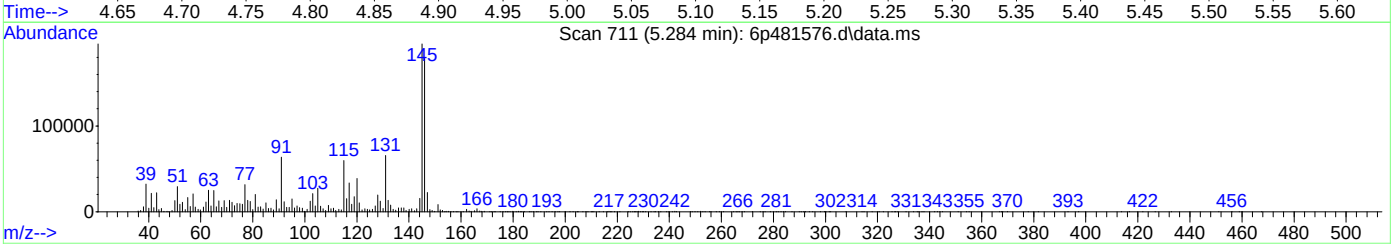
**Sample Number:** JC86986-9 **Method:** SW846 8270D
**Lab FileID:** 6P481576.D **Analyst approved:** 05/09/19 11:42 Kristi Schollenberger
**Injection Time:** 05/02/19 20:48 **Supervisor approved:** 05/09/19 11:58 Kristi Schollenberger

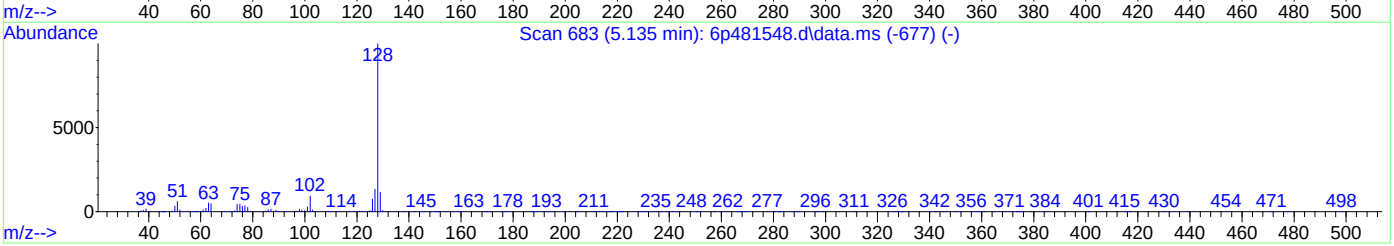
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.13 | Poor instrument integration |
| 2-Methylnaphthalene | 91-57-6 | | 5.76 | Poor instrument integration |
| Acenaphthylene | 208-96-8 | | 6.64 | Poor instrument integration |
| Dibenzofuran | 132-64-9 | | 7.01 | Poor instrument integration |
| Fluorene | 86-73-7 | | 7.40 | Poor instrument integration |
| Phenanthrene | 85-01-8 | | 8.48 | Poor instrument integration |
| Anthracene | 120-12-7 | | 8.66 | Poor instrument integration |
| Carbazole | 86-74-8 | | 8.81 | Poor instrument integration |
| Fluoranthene | 206-44-0 | | 9.92 | Poor instrument integration |
| Pyrene | 129-00-0 | | 10.21 | Poor instrument integration |
| Terphenyl-d14 | 1718-51-0 | | 10.42 | Poor instrument integration |
| Benzo(a)anthracene | 56-55-3 | | 11.63 | Poor instrument integration |
| Chrysene | 218-01-9 | | 11.76 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.87 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.95 | Poor instrument integration |
| Benzo(a)pyrene | 50-32-8 | | 13.36 | Poor instrument integration |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 14.32 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.36 | Poor instrument integration |
| Benzo(g,h,i)perylene | 191-24-2 | | 14.61 | Poor instrument integration |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(38) Naphthalene (t)

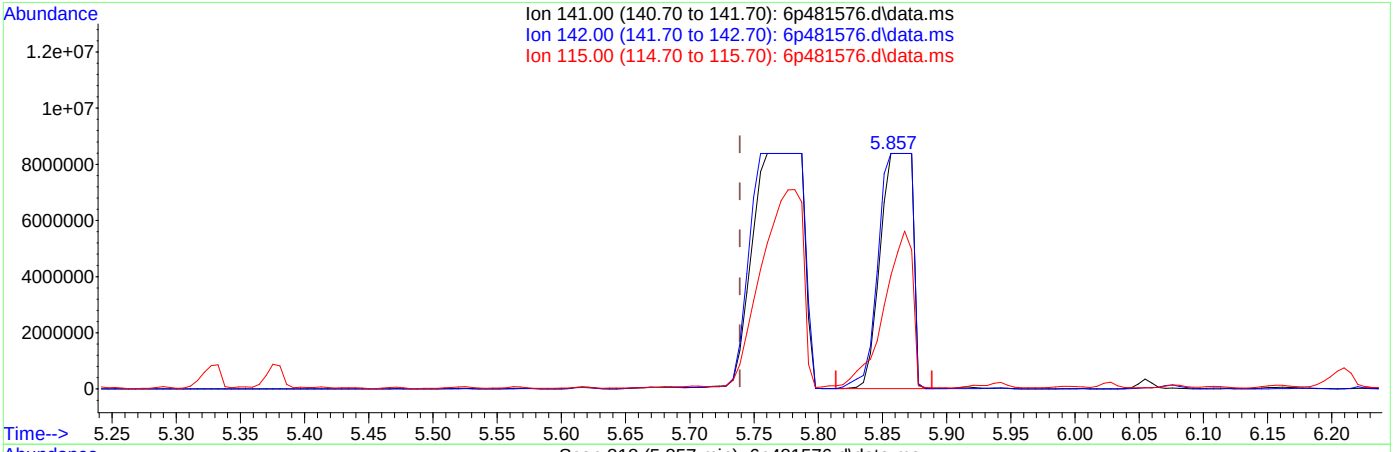
5.284min (+0.150) 0.30ppm

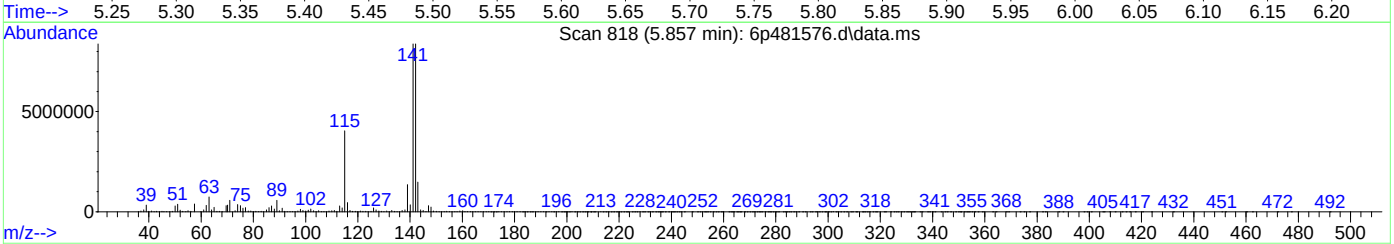
response 11864

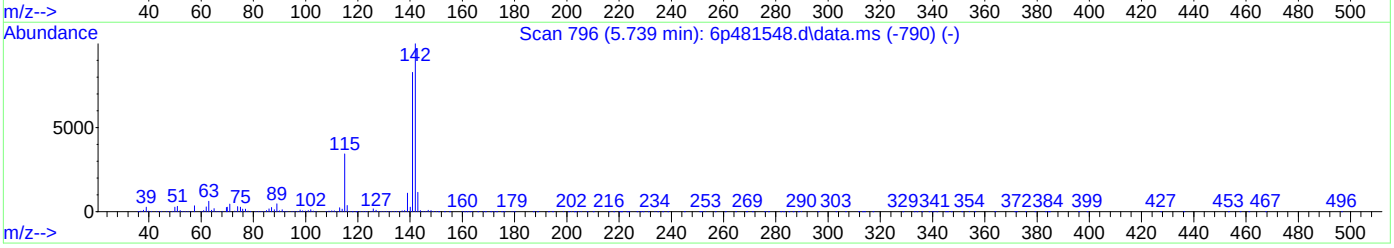
| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.40 | 96.64# |
| 127.00 | 13.30 | 34.03 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(44) 2-Methylnaphthalene (t)

5.857min (+0.118) 655.41ppm

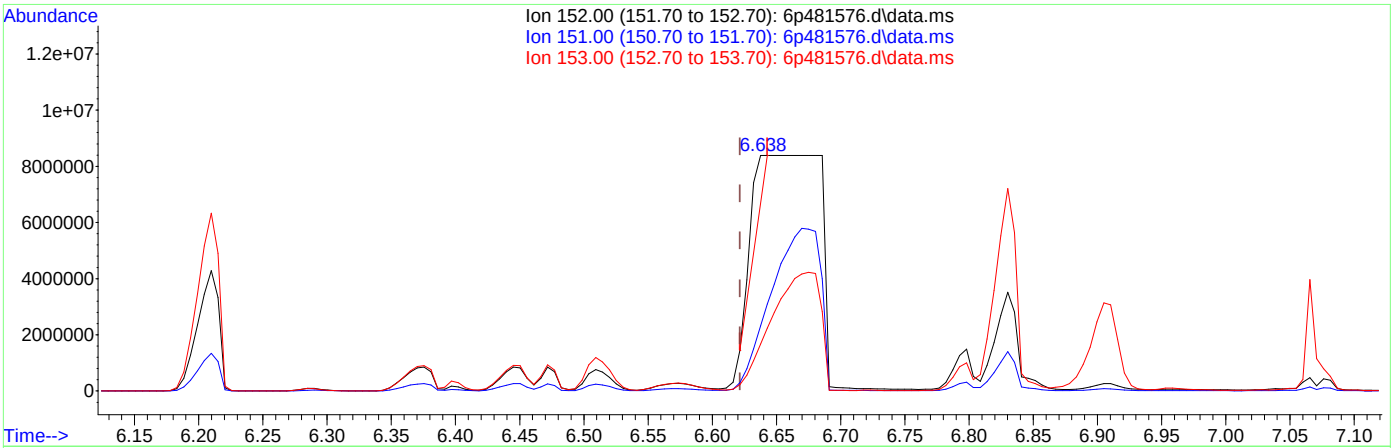
response 14586198

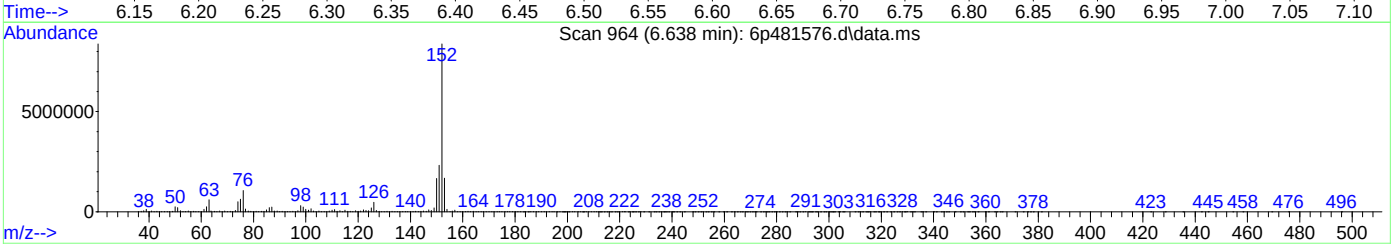
| Ion | Exp% | Act% |
|---|---|---|
| 141.00 | 100 | 100 |
| 142.00 | 120.70 | 99.94 |
| 115.00 | 41.40 | 47.35 |
| 0.00 | 0.00 | 0.00 |

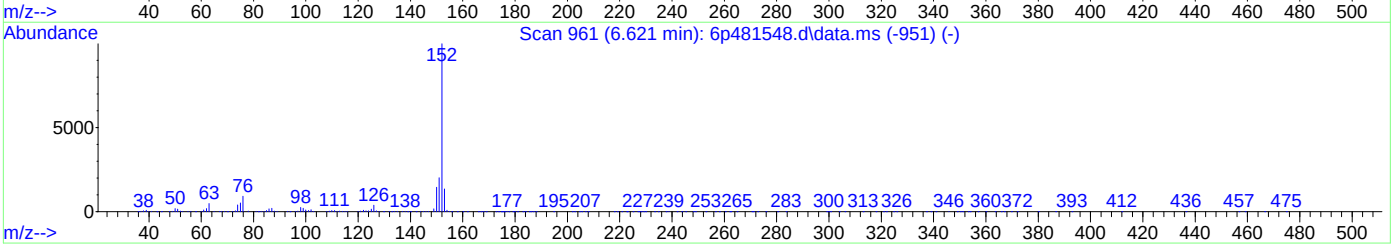
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(56) Acenaphthylene (t)

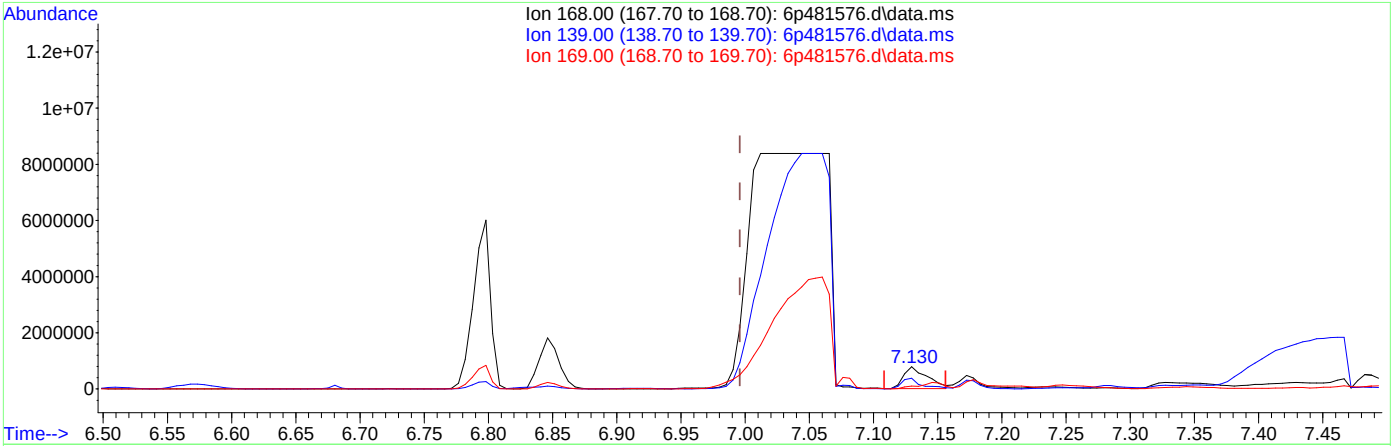
6.638min (+0.016) 45.53ppm

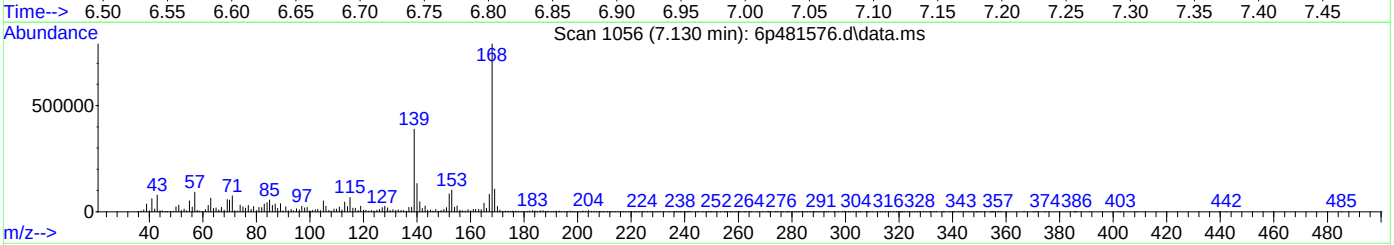
response 3161823

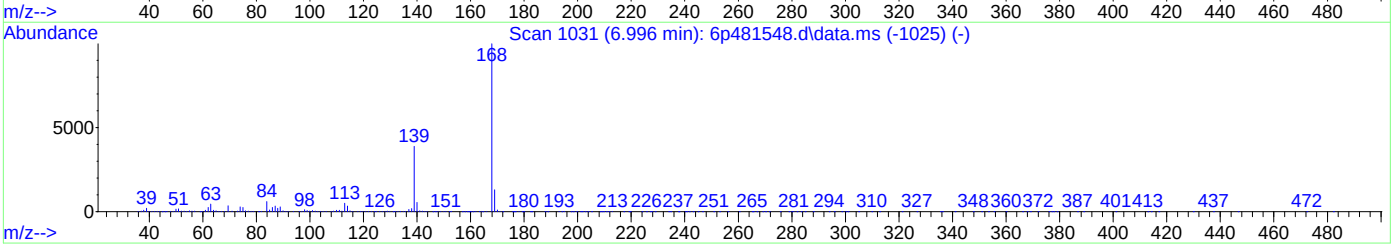
| Ion | Exp% | Act% |
|---|---|---|
| 152.00 | 100 | 100 |
| 151.00 | 20.10 | 17.92 |
| 153.00 | 13.50 | 12.64 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(62) Dibenzofuran (t)

7.130min (+0.134) 15.43ppm

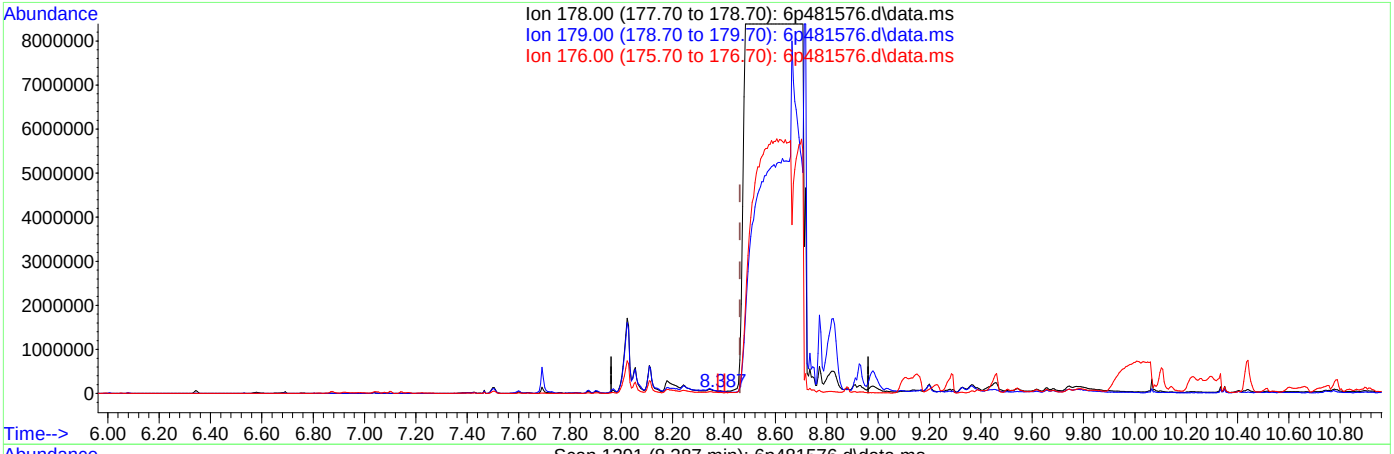
response 990429

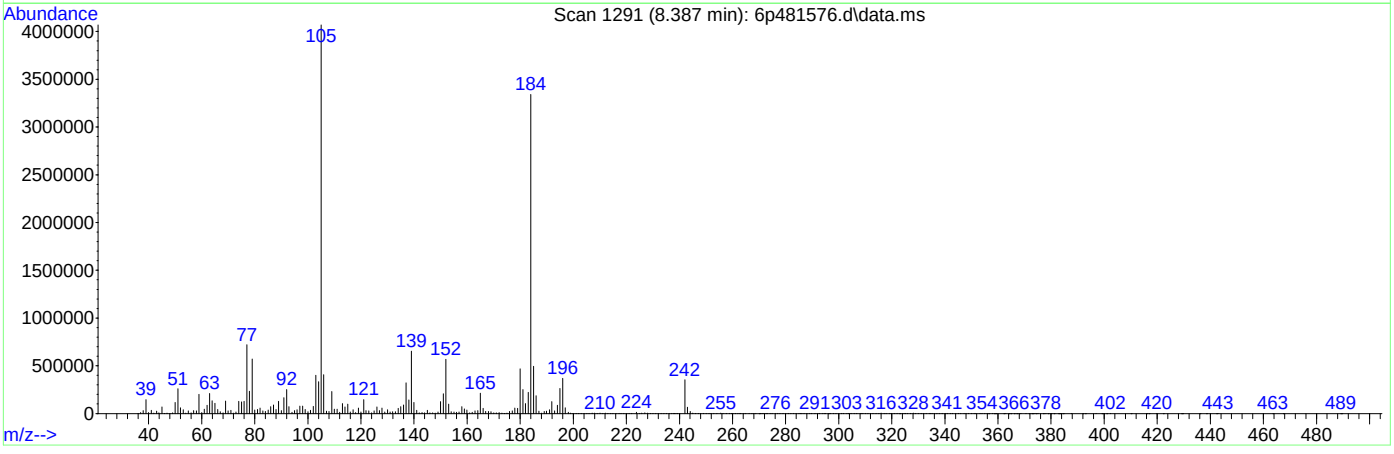
| Ion | Exp% | Act% |
|---|---|---|
| 168.00 | 100 | 100 |
| 139.00 | 38.80 | 50.16 |
| 169.00 | 13.00 | 6.42 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(77) Phenanthrene (t)

8.387min (-0.075) 0.15ppm

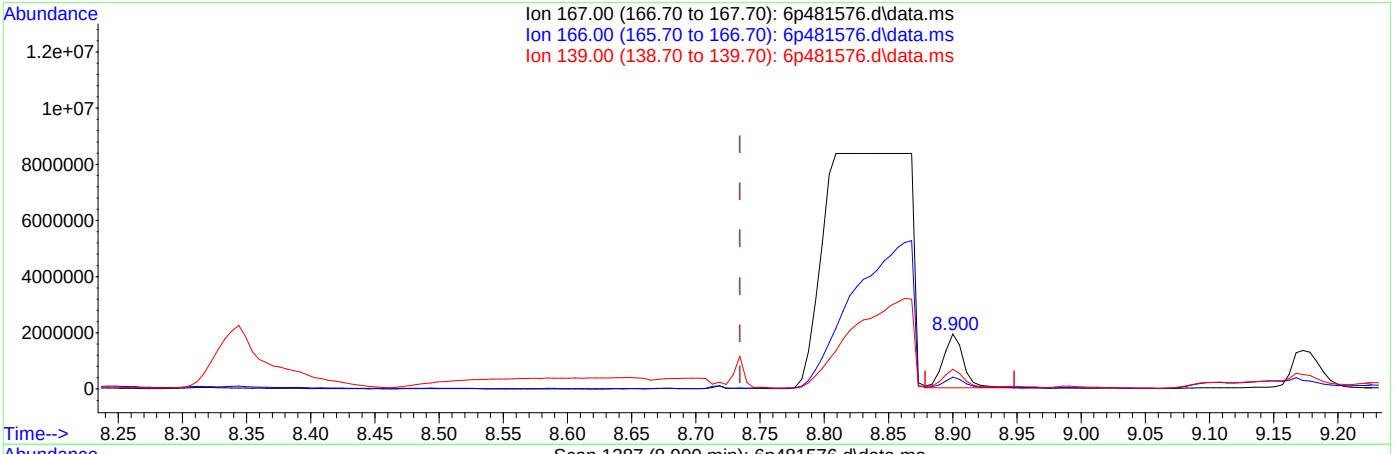
response 8125

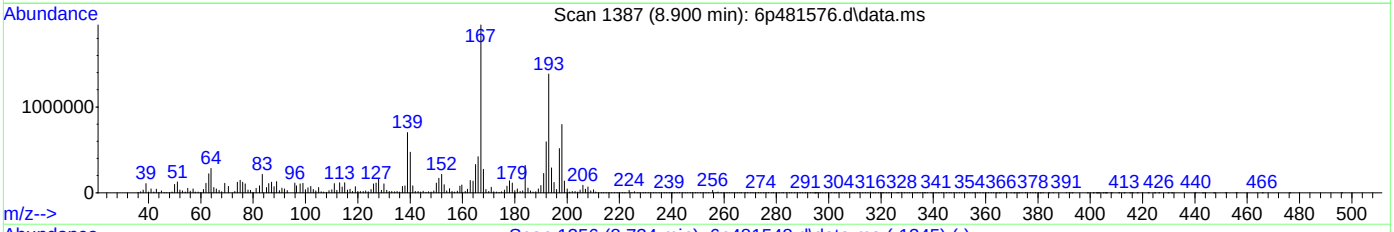
| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 154.34# |
| 176.00 | 19.10 | 37.47 |
| 0.00 | 0.00 | 0.00 |

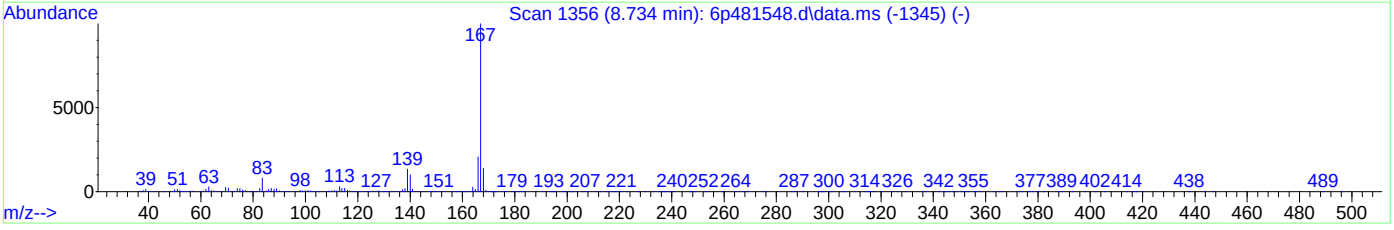
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(79) Carbazole (t)

8.900min (+0.166) 40.98ppm

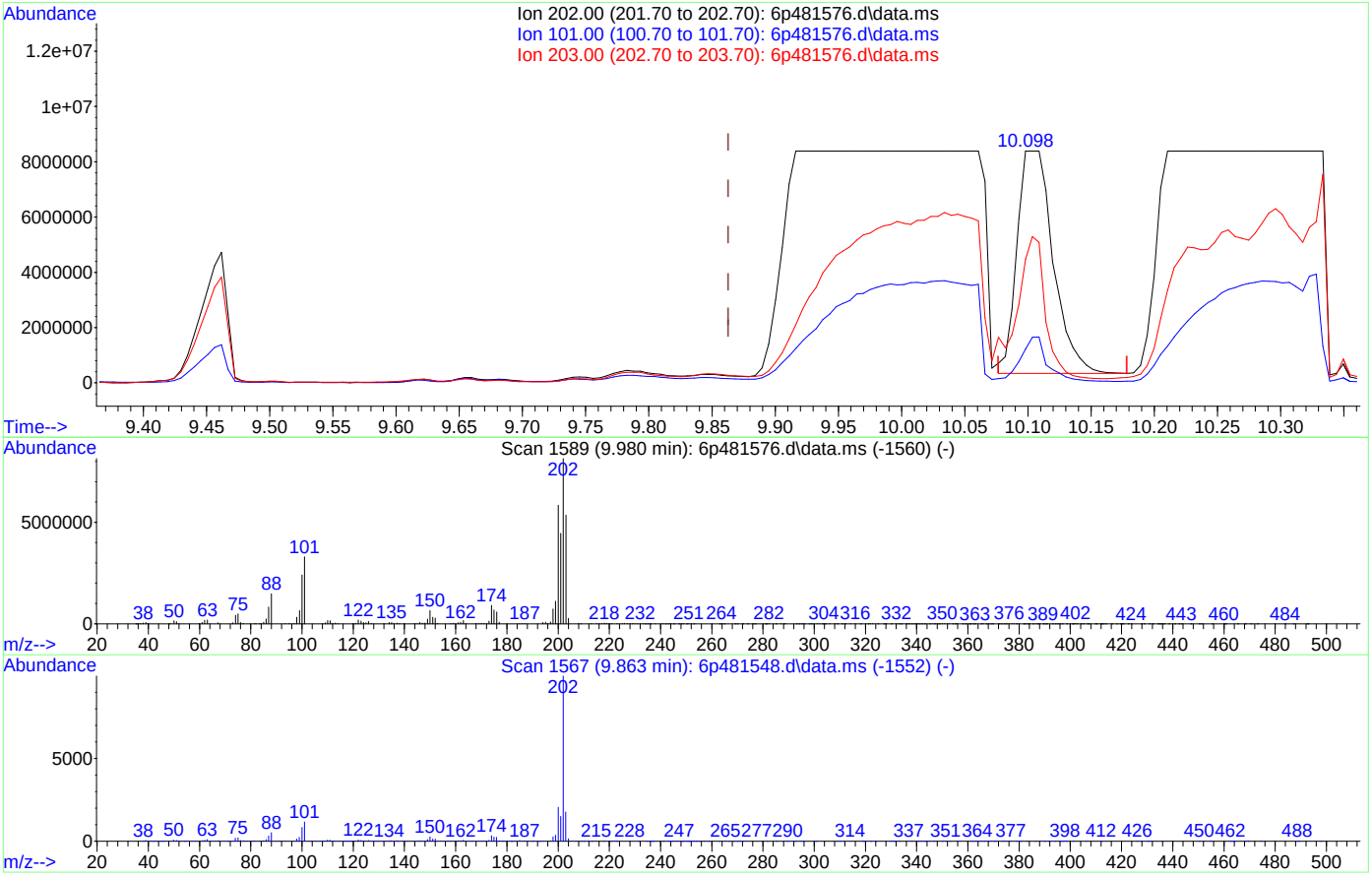
response 2055214

| Ion | Exp% | Act% |
|---|---|---|
| 167.00 | 100 | 100 |
| 166.00 | 20.70 | 19.09 |
| 139.00 | 13.30 | 32.17 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(81) Fluoranthene (t)

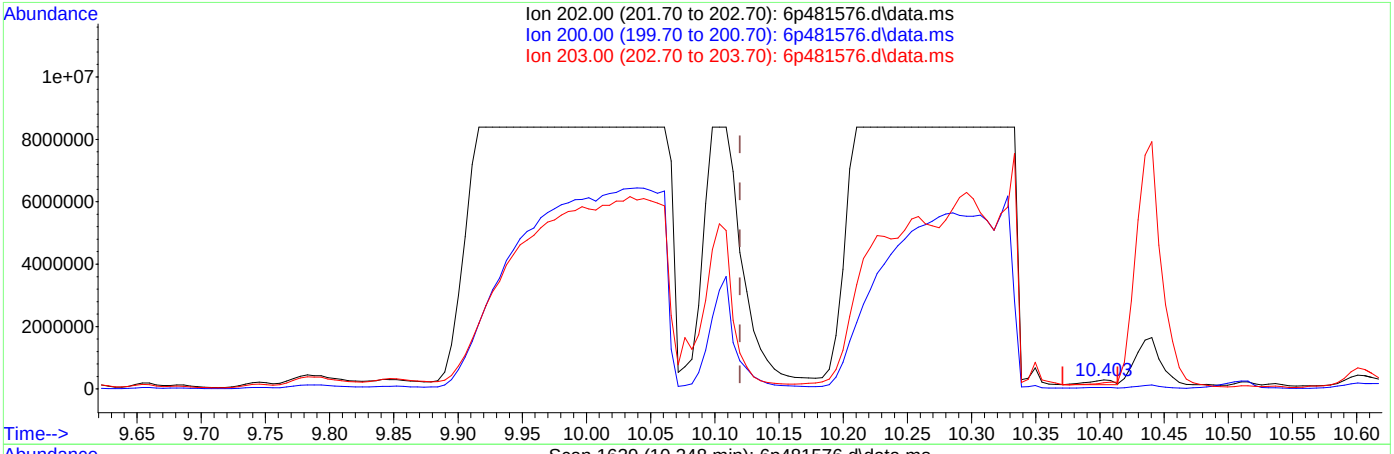
10.098min (+0.235) 277.59ppm

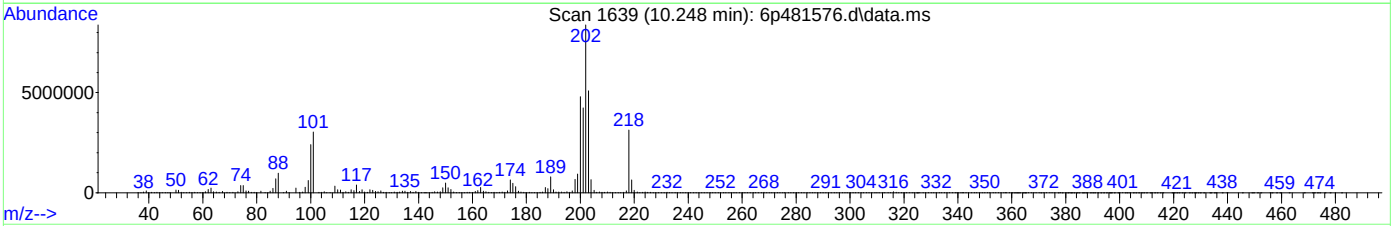
response 15933425

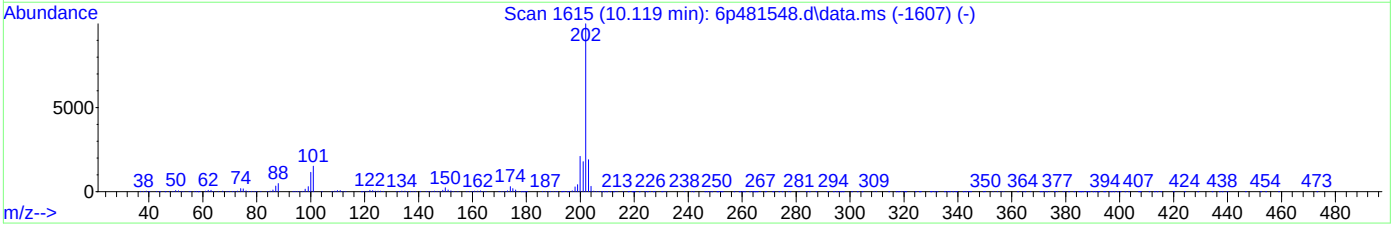
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 101.00 | 11.60 | 14.20 |
| 203.00 | 17.60 | 45.14 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(84) Pyrene (t)

10.403min (+0.284) 2.23ppm

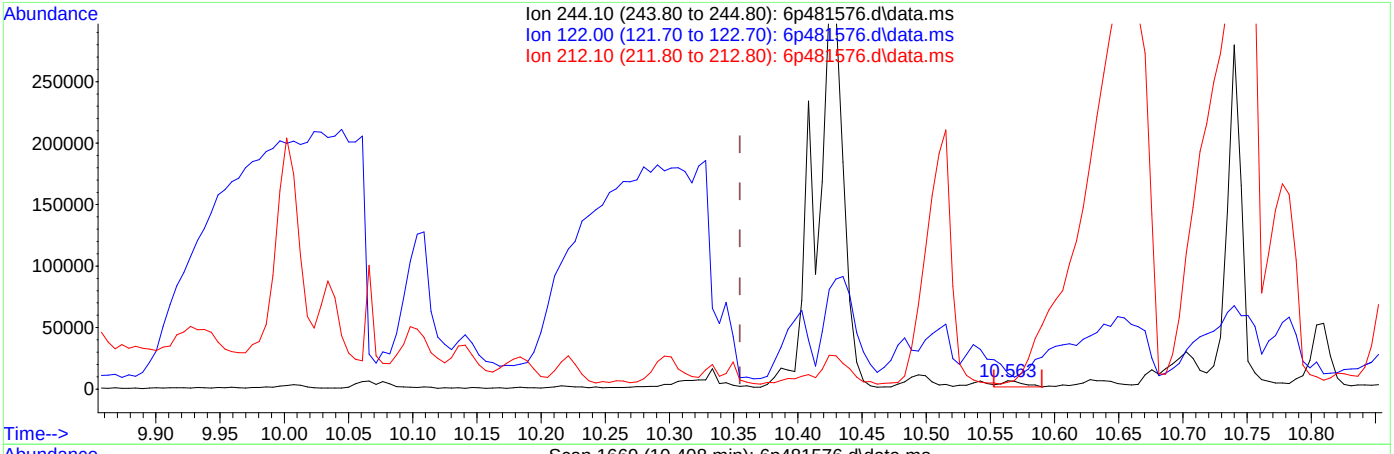
response 203572

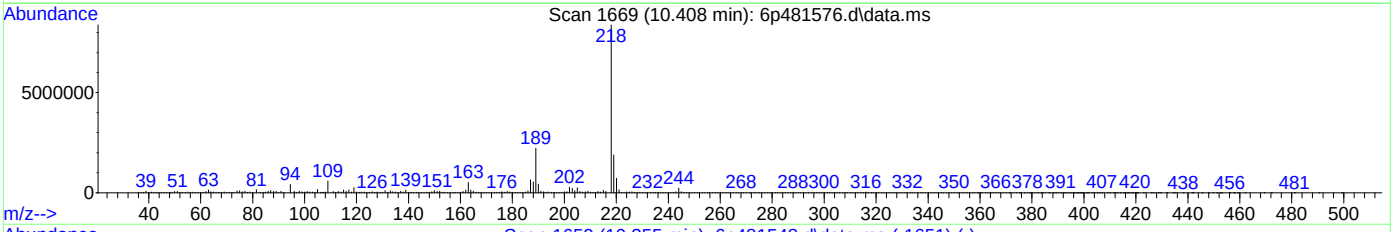
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 200.00 | 20.90 | 17.28 |
| 203.00 | 18.90 | 11.30 |
| 0.00 | 0.00 | 0.00 |

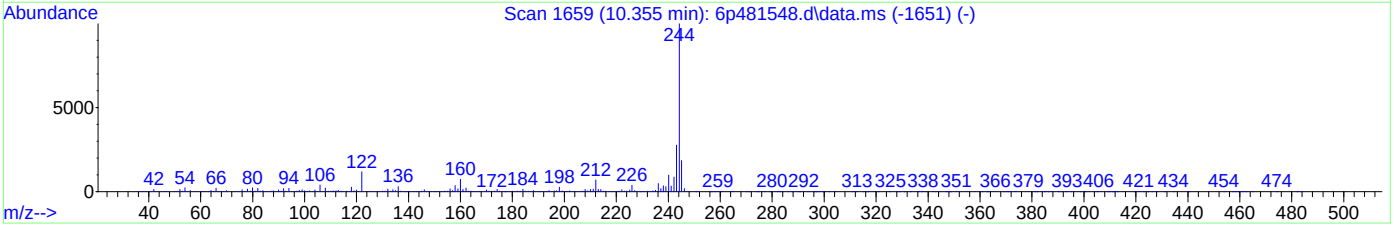
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(85) Terphenyl-d14 (S)

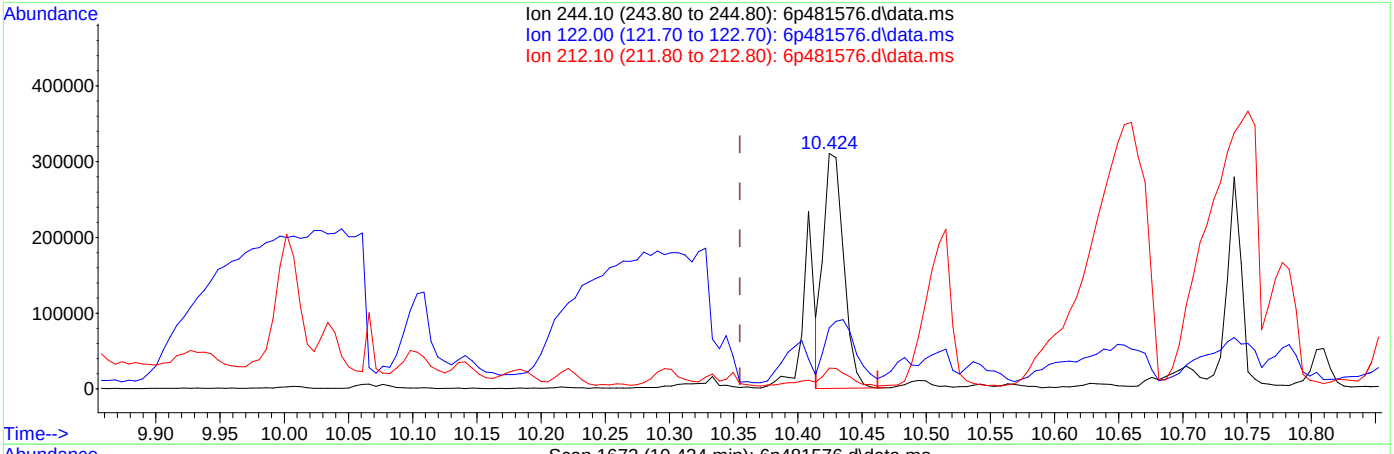
10.563min (+0.209) 0.09ppm

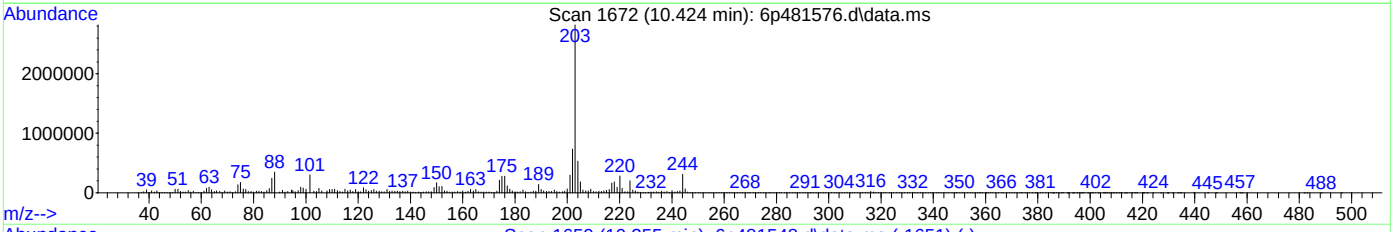
response 5770

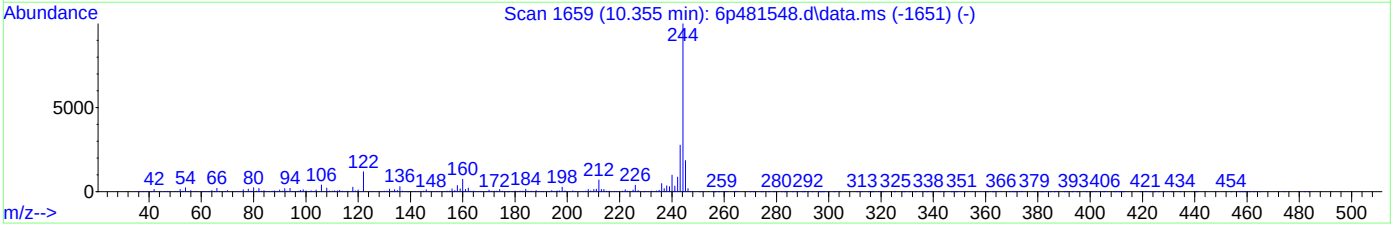
| Ion | Exp% | Act% |
|---|---|---|
| 244.10 | 100 | 100 |
| 122.00 | 11.70 | 0.00 |
| 212.10 | 6.90 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(85) Terphenyl-d14 (S)

10.424min (+0.070) 5.36ppm m

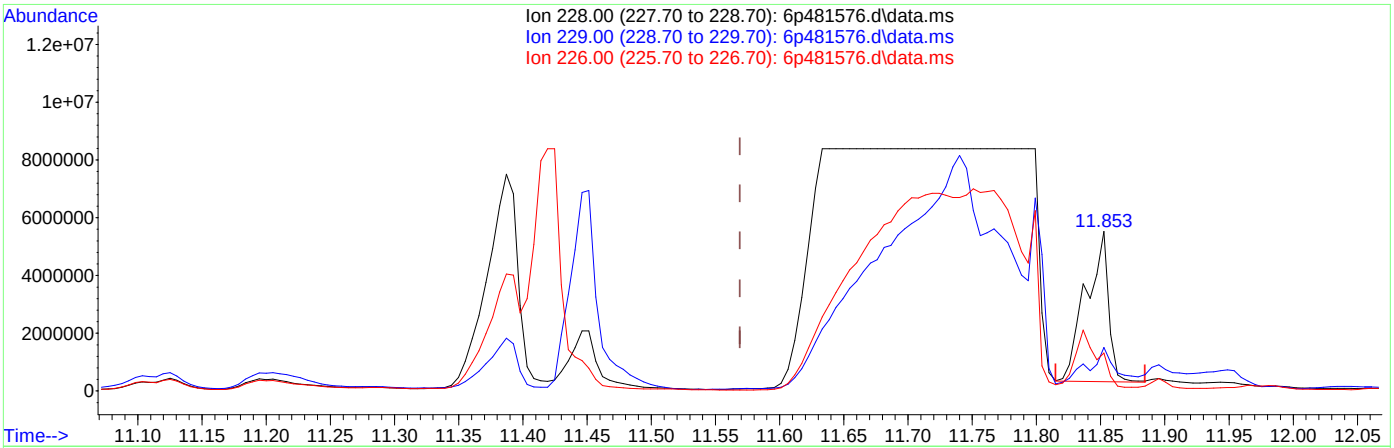
response 342052

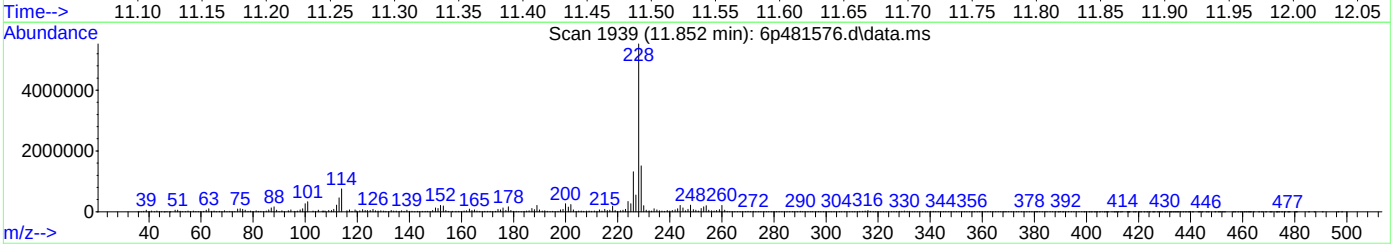
| Ion | Exp% | Act% |
|---|---|---|
| 244.10 | 100 | 100 |
| 122.00 | 11.70 | 26.03 |
| 212.10 | 6.90 | 8.84 |
| 0.00 | 0.00 | 0.00 |

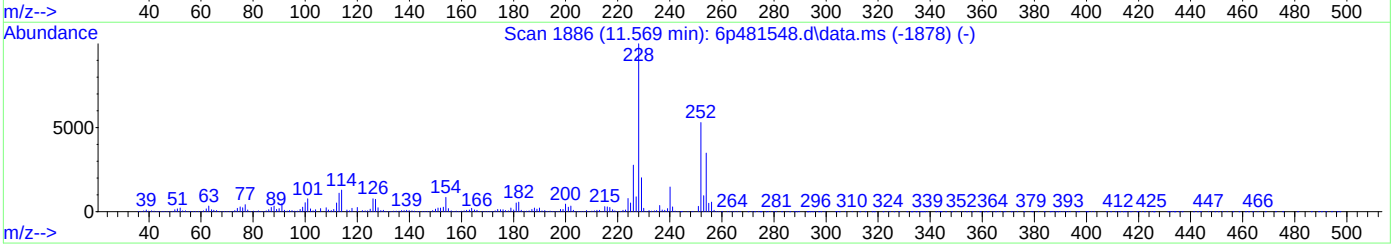
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(87) Benzo[a]anthracene (t)

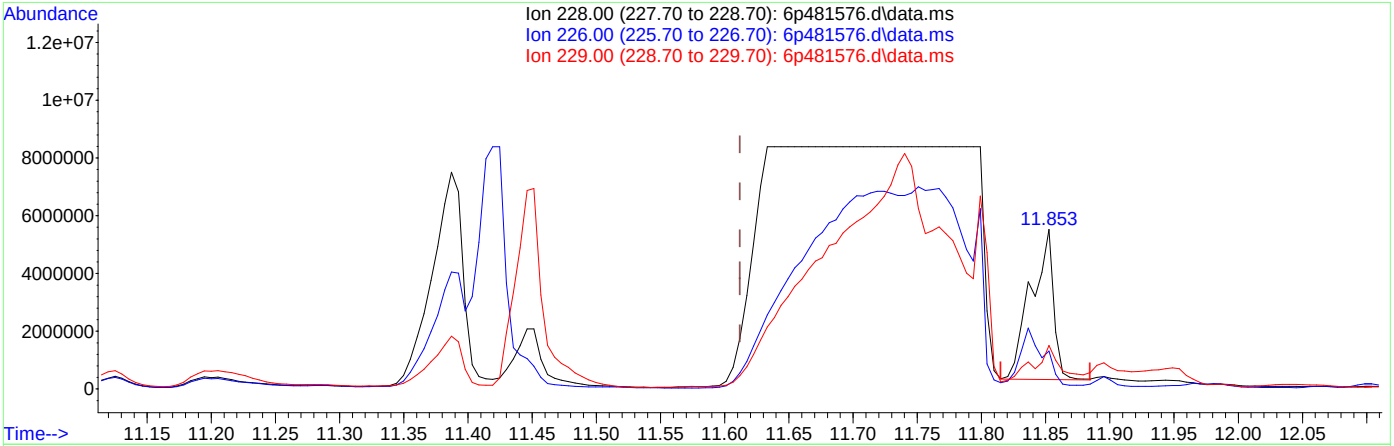
11.852min (+0.284) 73.06ppm

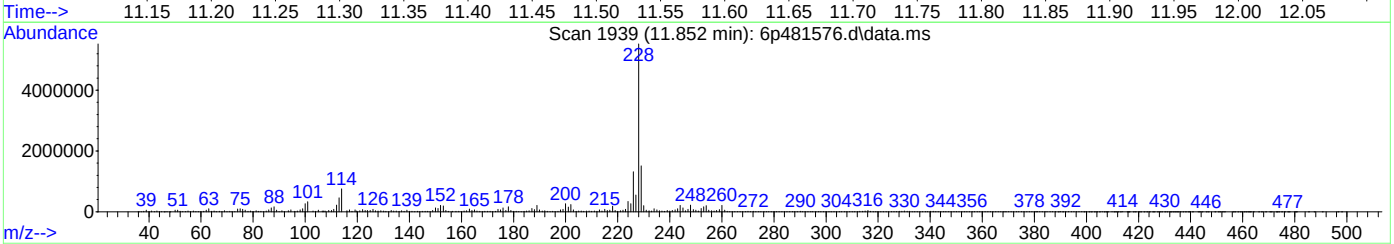
response 6371257

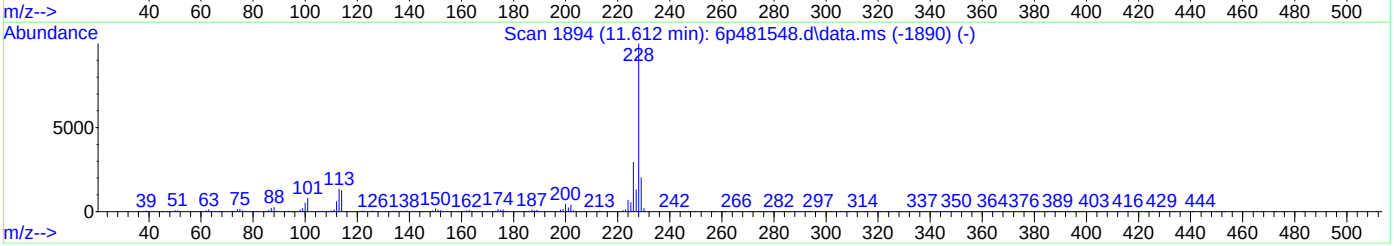
| Ion | Exp% | Act% |
|---|---|---|
| 228.00 | 100 | 100 |
| 229.00 | 20.10 | 21.20 |
| 226.00 | 27.70 | 21.68 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(89) Chrysene (t)

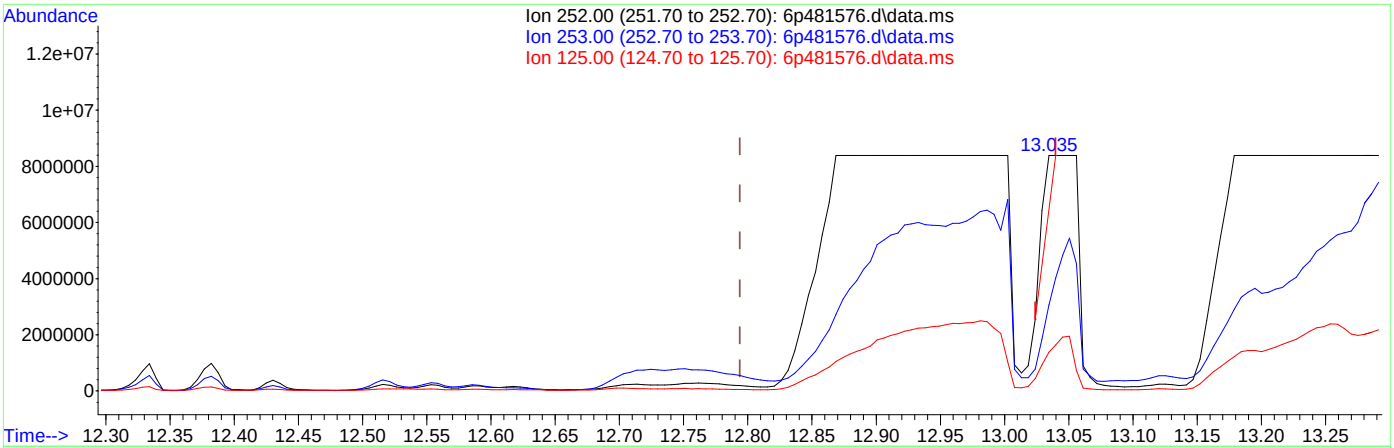
11.852min (+0.241) 74.22ppm

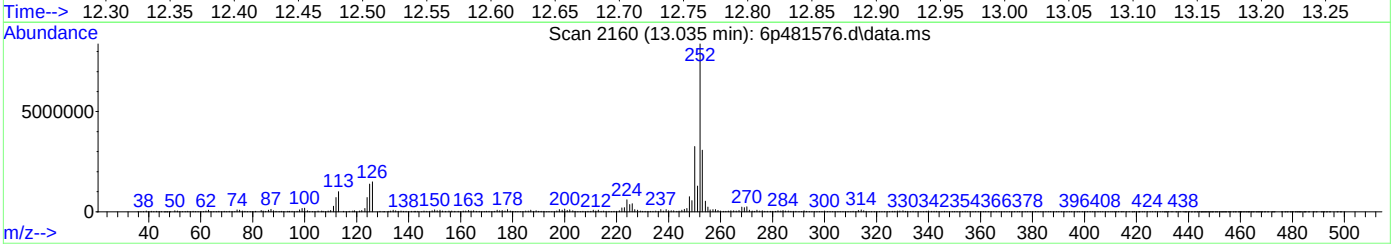
response 6346421

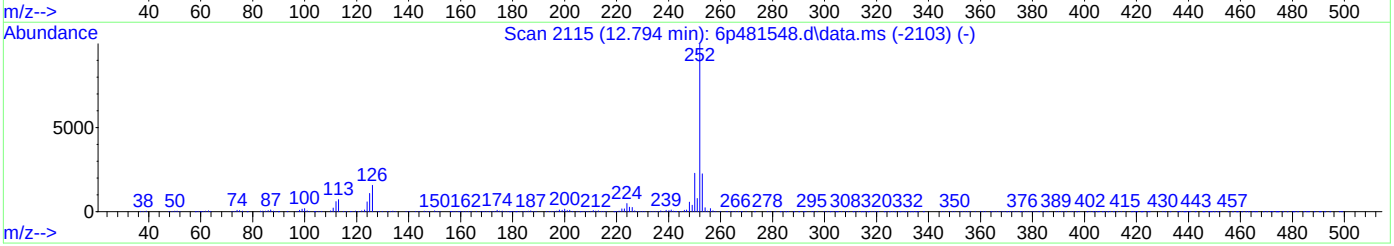
| Ion | Exp% | Act% |
|---|---|---|
| 228.00 | 100 | 100 |
| 226.00 | 29.30 | 21.68 |
| 229.00 | 20.20 | 21.20 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst    : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(93) Benzo[b]fluoranthene (t)

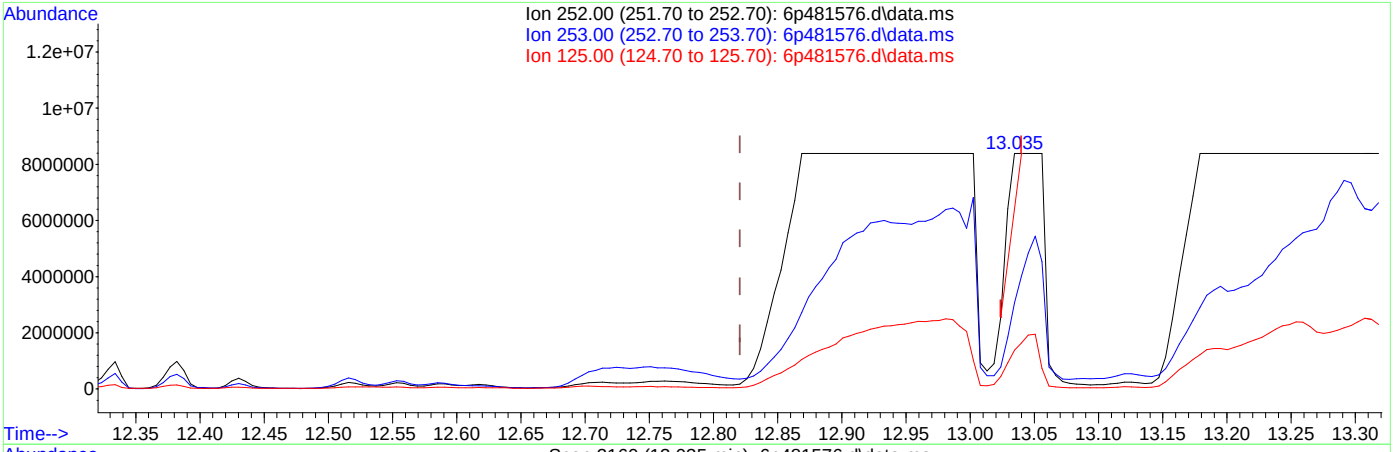
13.035min (+0.241) 24.89ppm

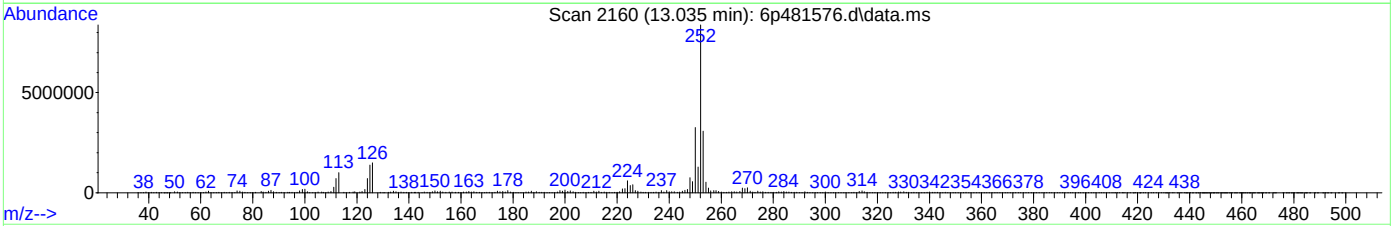
response 2789978

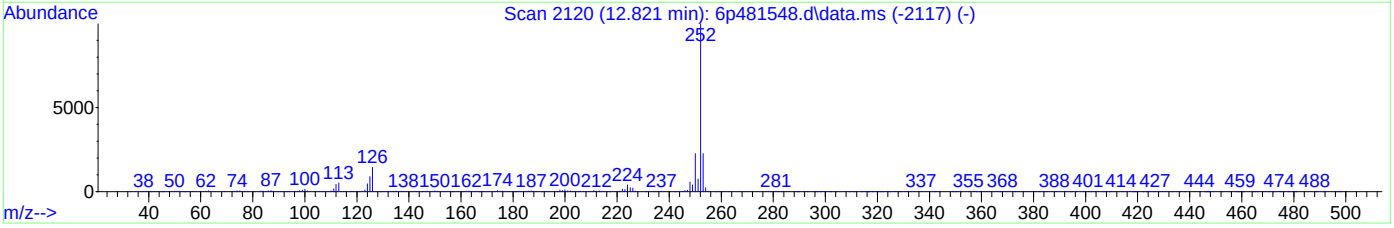
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 22.79 |
| 125.00 | 9.90 | 11.73 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(94) Benzo[k]fluoranthene (t)

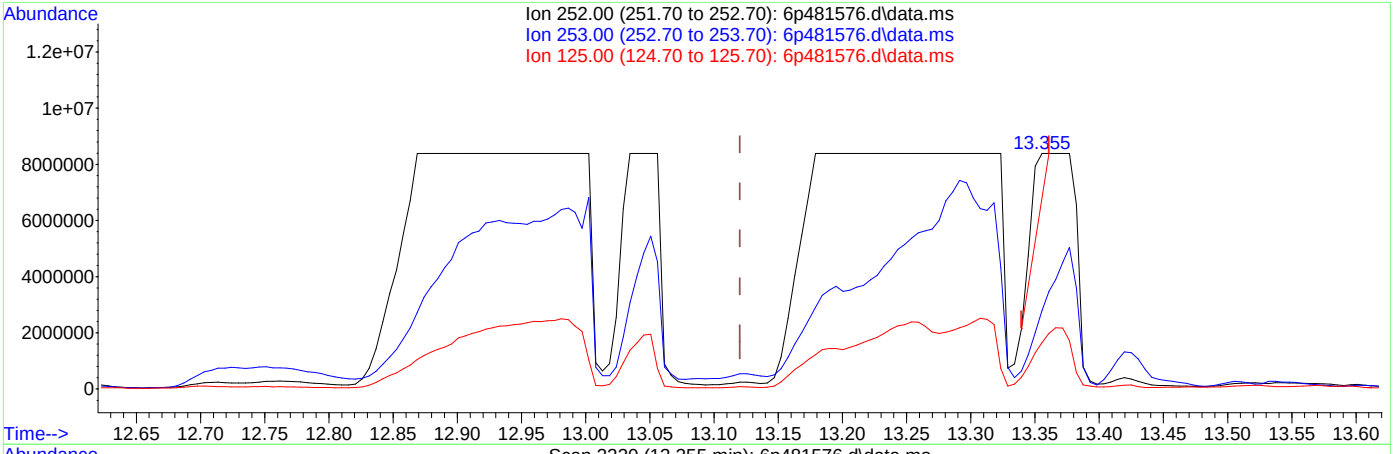
13.035min (+0.214) 28.12ppm

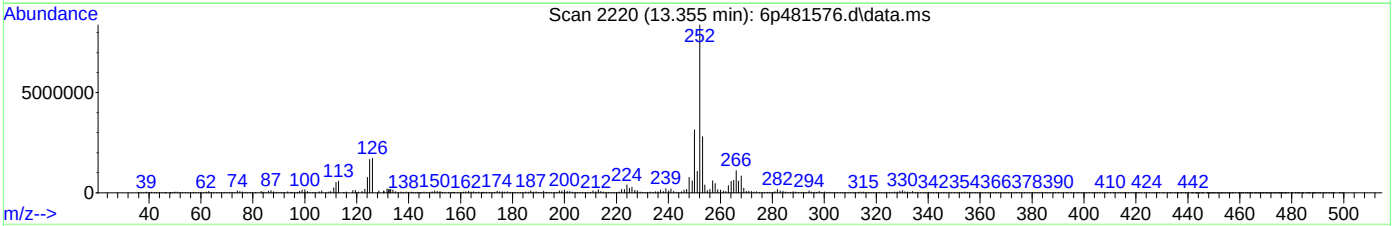
response 2789978

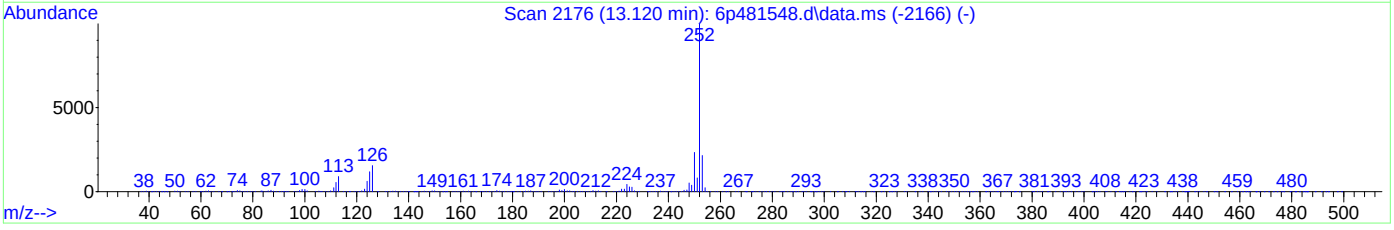
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.50 | 22.79 |
| 125.00 | 9.70 | 11.73 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(95) Benzo[a]pyrene (t)

13.355min (+0.235) 33.55ppm

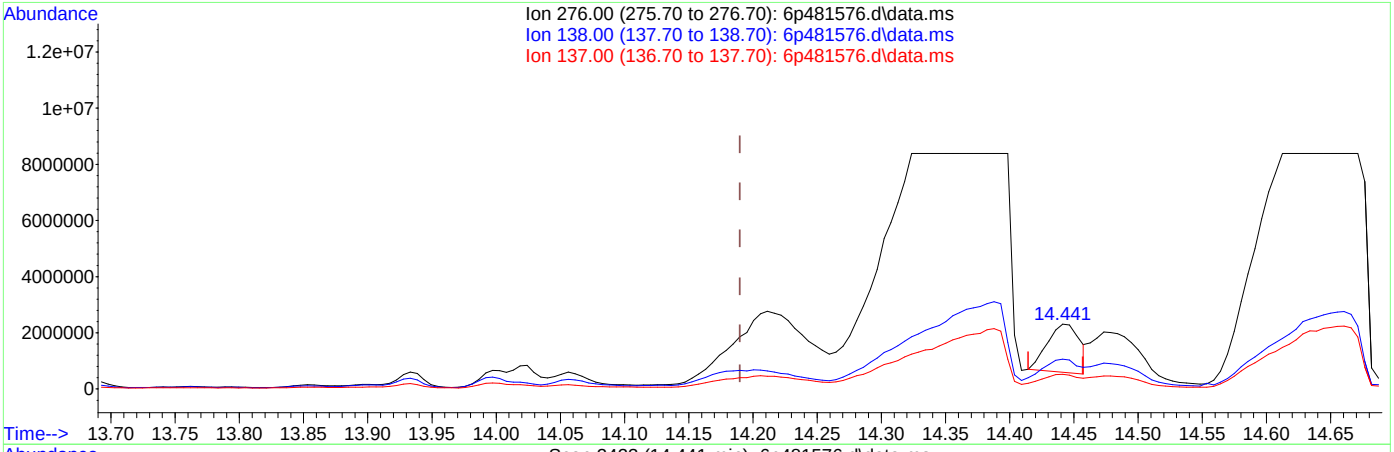
response 3089427

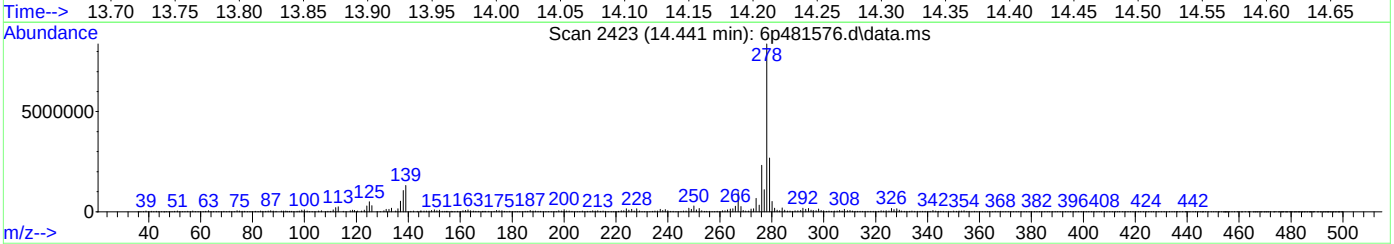
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 21.40 | 23.42 |
| 125.00 | 11.70 | 14.64 |
| 0.00 | 0.00 | 0.00 |

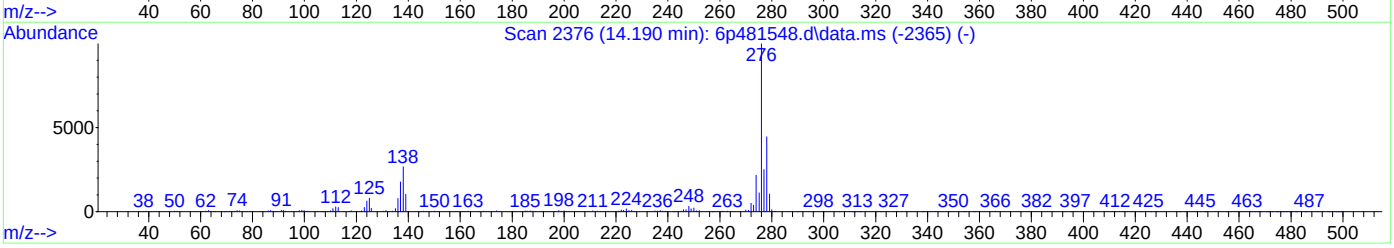
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.441min (+0.251) 24.11ppm

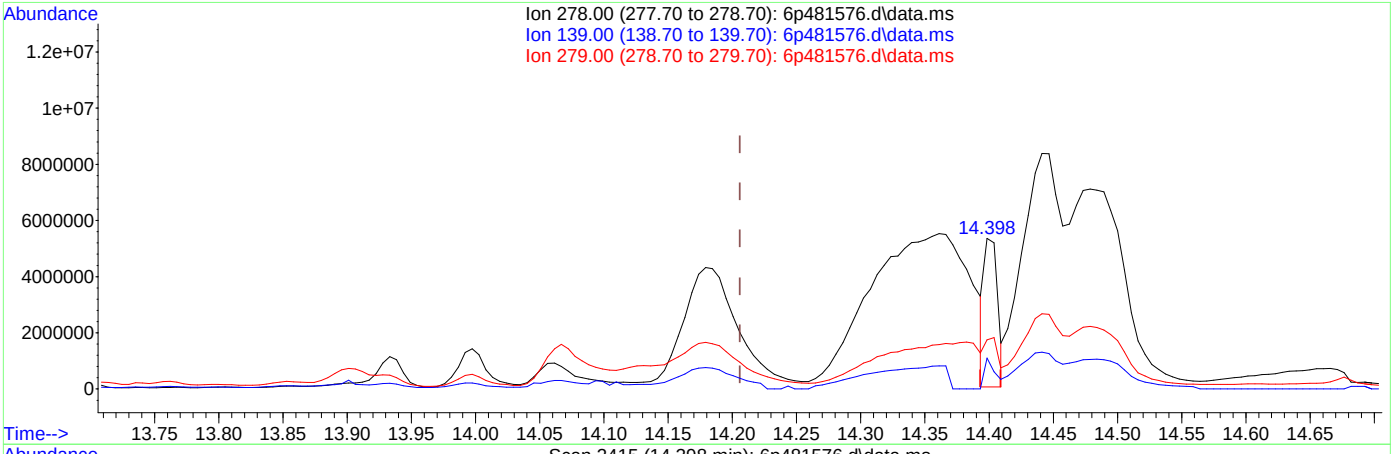
response 2964053

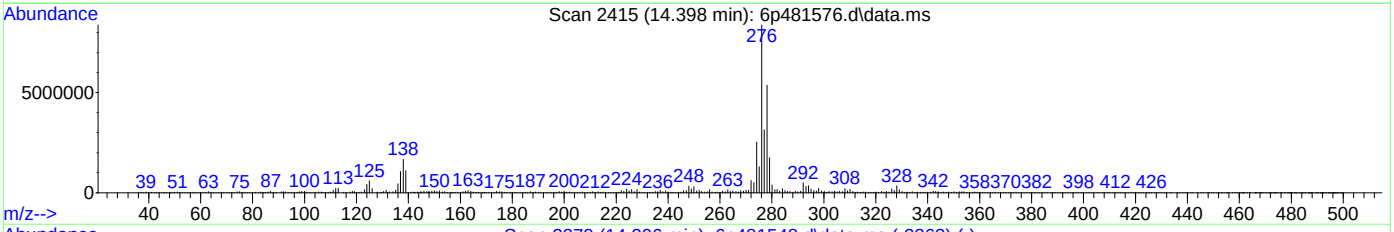
| Ion | Exp% | Act% |
|---|---|---|
| 276.00 | 100 | 100 |
| 138.00 | 26.60 | 40.35 |
| 137.00 | 17.60 | 19.75 |
| 0.00 | 0.00 | 0.00 |

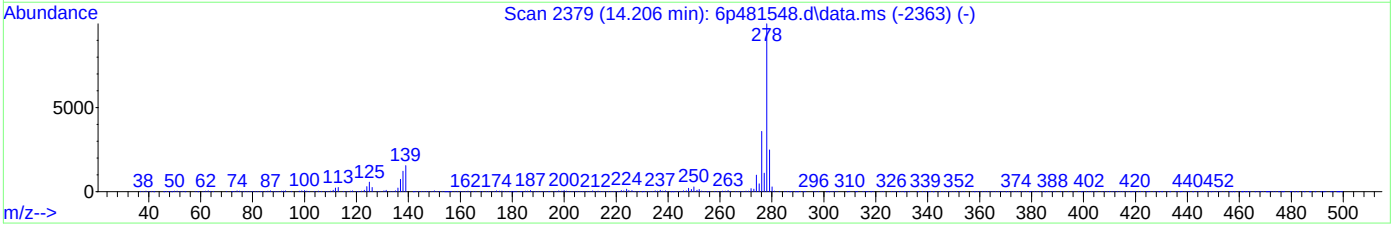
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(98) Dibenz[a,h]anthracene (t)

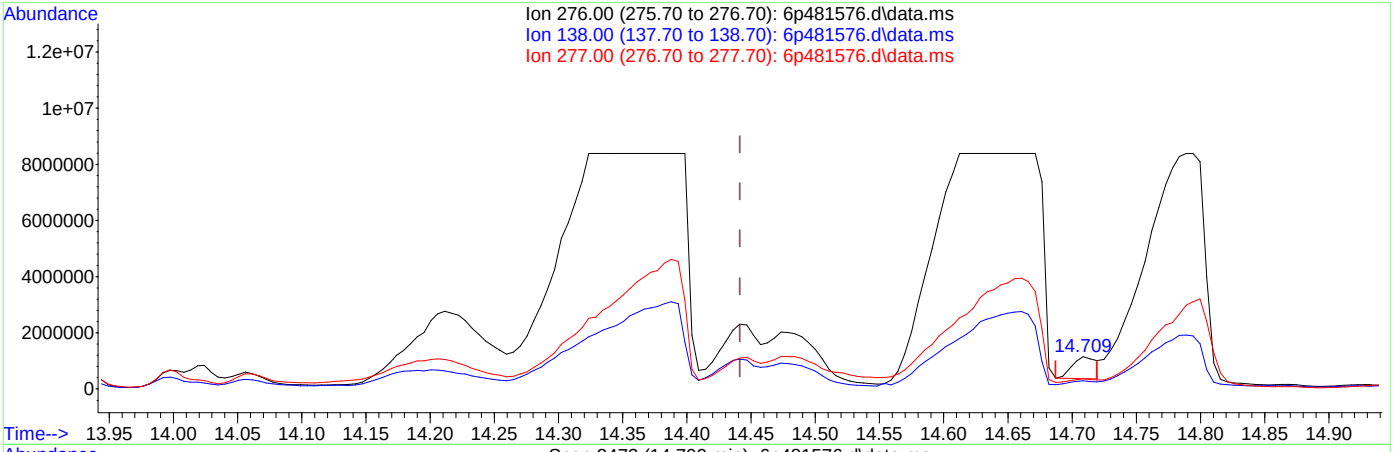
14.398min (+0.193) 35.24ppm

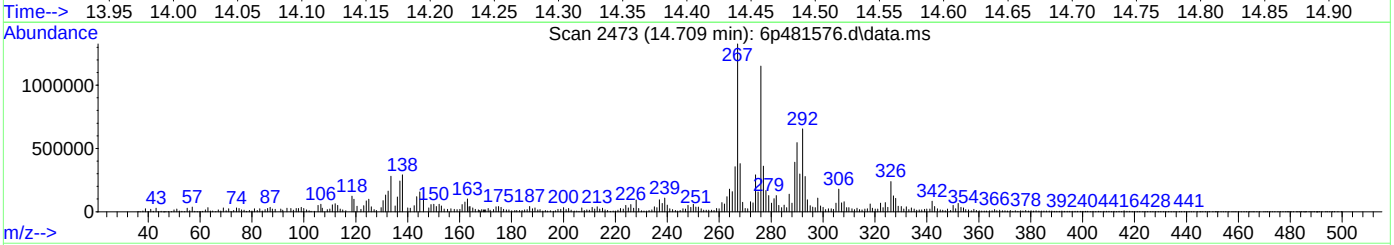
response 3839890

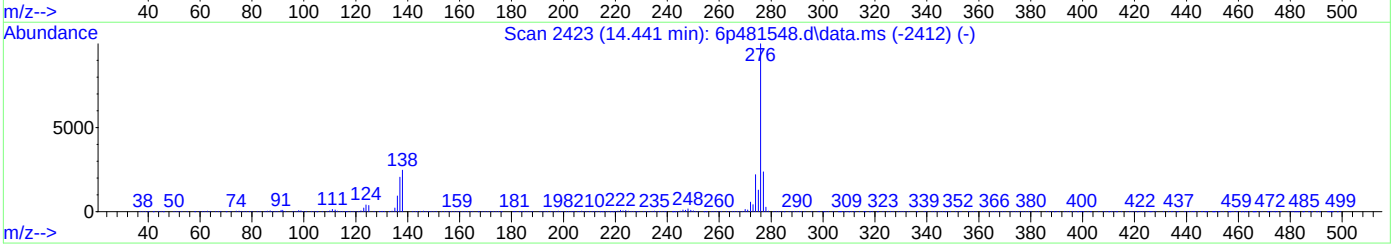
| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 15.40 | 31.97 |
| 279.00 | 24.80 | 25.11 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On    :  2 May 2019   8:48 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst     : MS6P
Misc      : op20081,e6p2579,20.0,,,1,5
ALS Vial  : 30   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:51 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481576.d\data.ms

(100) Benzo[g,h,i]perylene (t)

14.709min (+0.267) 10.60ppm

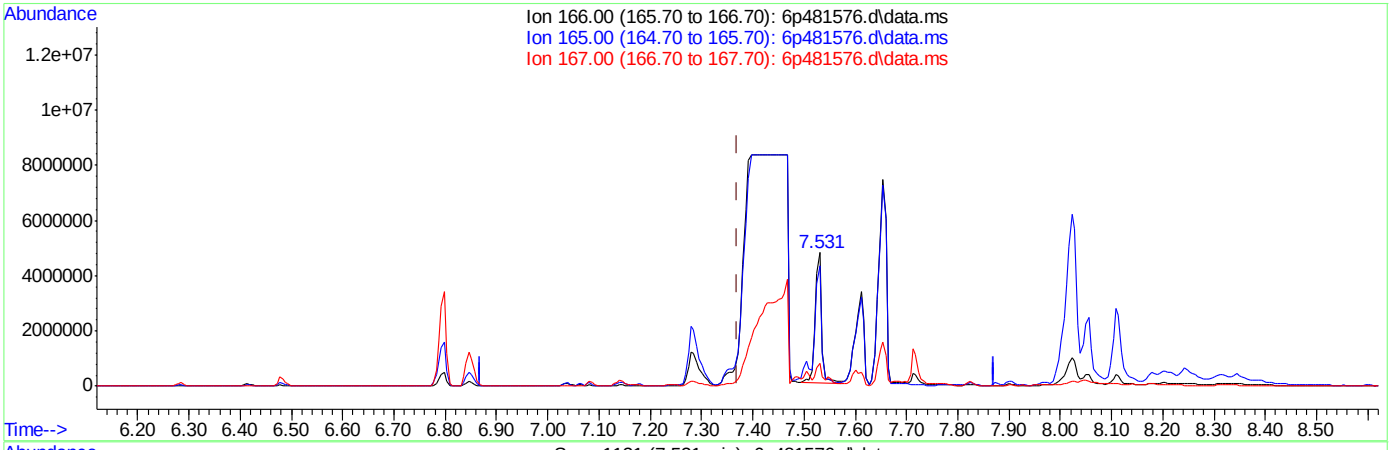
response 1016753

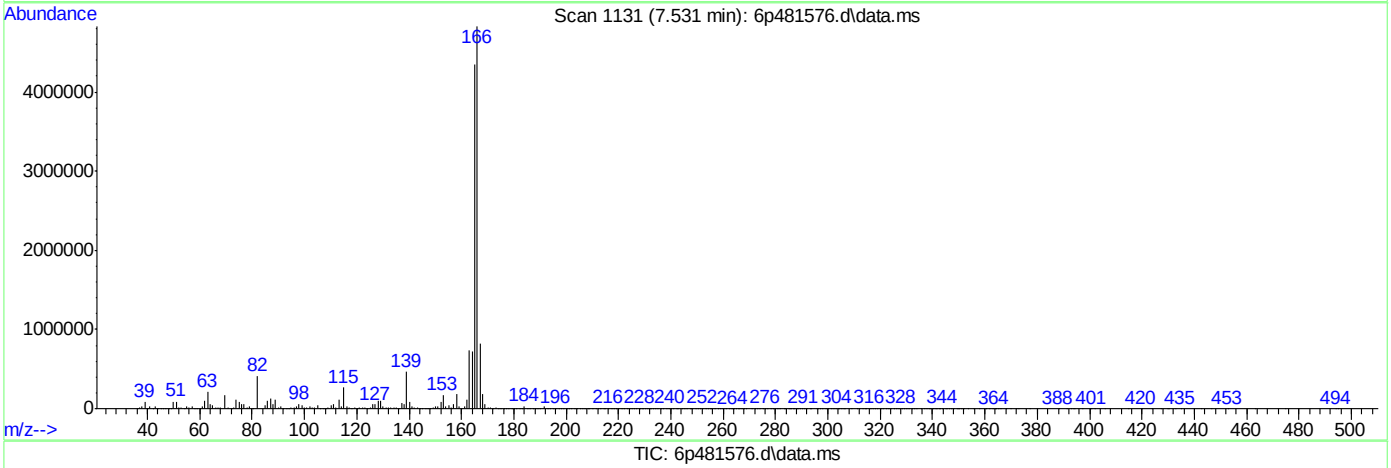
| Ion | Exp% | Act% |
|---|---|---|
| 276.00 | 100 | 100 |
| 138.00 | 24.70 | 19.23 |
| 277.00 | 23.60 | 18.72 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 03 07:08:29 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481576.d\data.ms

(66) Fluorene (t)

7.531min (+0.161) 79.55ppm

response 4145948

| Ion | Exp% | Act% |
|---|---|---|
| 166.00 | 100 | 100 |
| 165.00 | 90.90 | 87.70 |
| 167.00 | 13.10 | 14.13 |
| 0.00 | 0.00 | 0.00 |

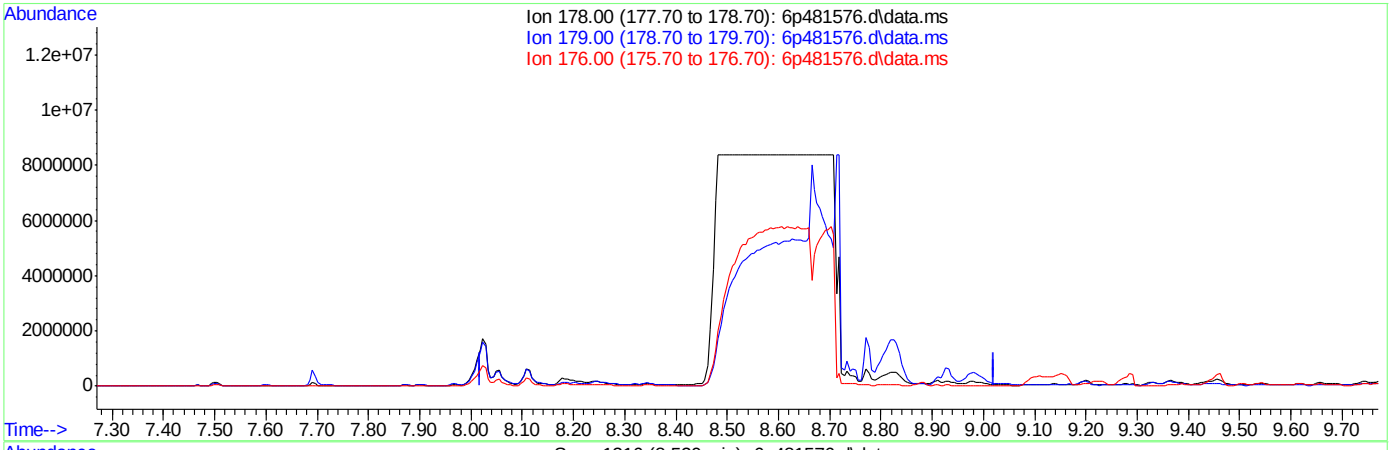


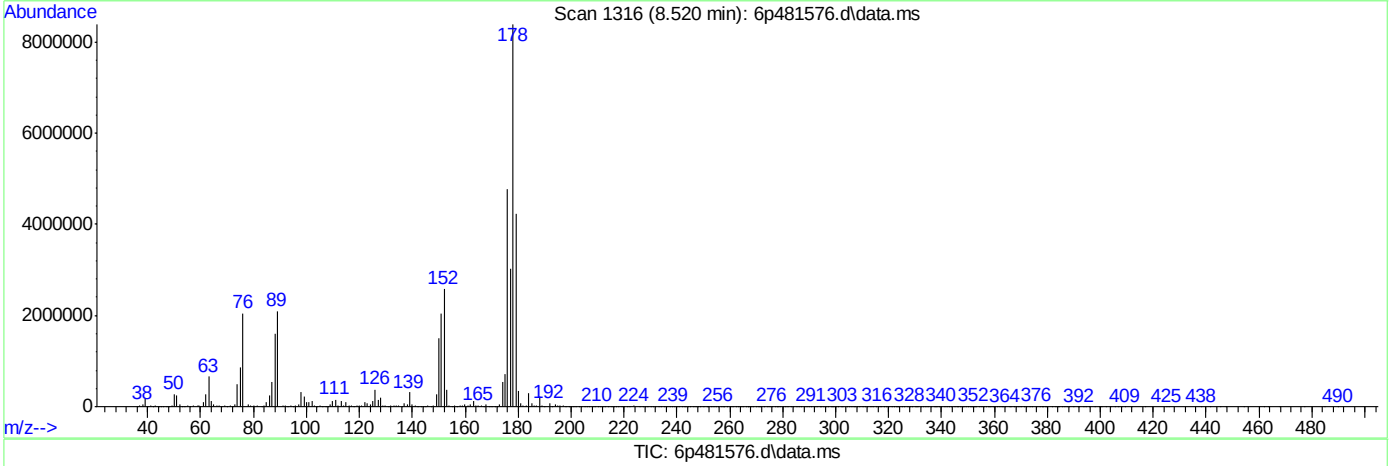
9.1.10.20
9

Quantitation Report (Qedit)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481576.d
Acq On : 2 May 2019 8:48 pm
Operator : angelar
Sample : jc86986-9
Misc : op20081,e6p2579,20.0,,,1,5
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 03 07:08:29 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




(78) Anthracene (t)

8.520min 0.00ppm d

response 0

| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 0.00 |
| 179.00 | 16.10 | 0.00 |
| 176.00 | 19.30 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 11:58

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481618.d
Acq On : 3 May 2019 4:06 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,500
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:37:50 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:34:48 2019
Response via : Initial Calibration

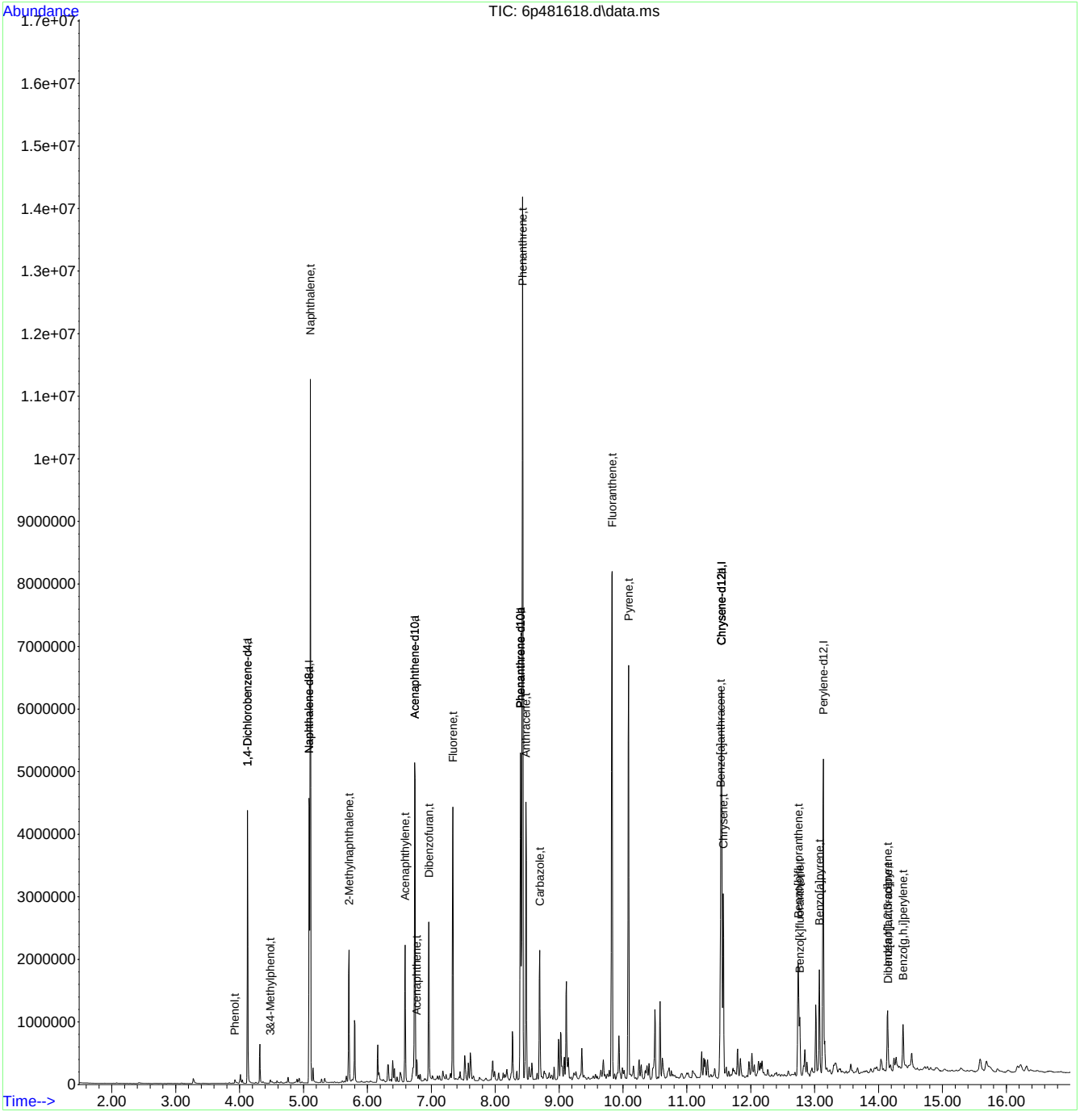
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 502531 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.086 | 136 | 1812630 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.739 | 164 | 1019270 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.397 | 188 | 2020871 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.542 | 240 | 1782407 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.136 | 264 | 1731624 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 502531 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.739 | 164 | 1019270 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.397 | 188 | 2020871 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.542 | 240 | 1782407 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.086 | 136 | 1812630 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.397 | 188 | 2020871 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.542 | 240 | 1782407 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.926 | 94 | 21511 | 0.98 | ppm | 84 |
| 21) 3&4-Methylphenol | 4.482 | 108 | 17870 | 1.15 | ppm # | 73 |
| 38) Naphthalene | 5.108 | 128 | 3926297 | 83.17 | ppm | 99 |
| 44) 2-Methylnaphthalene | 5.712 | 141 | 416505 | 15.60 | ppm | 98 |
| 56) Acenaphthylene | 6.589 | 152 | 841203 | 18.13 | ppm | 99 |
| 59) Acenaphthene | 6.771 | 153 | 68555 | 2.23 | ppm | 99 |
| 62) Dibenzofuran | 6.964 | 168 | 972759 | 22.69 | ppm | 97 |
| 66) Fluorene | 7.338 | 166 | 1210972 | 34.79 | ppm | 100 |
| 77) Phenanthrene | 8.429 | 178 | 5327930 | 98.20 | ppm | 99 |
| 78) Anthracene | 8.483 | 178 | 1662531 | 30.55 | ppm | 99 |
| 79) Carbazole | 8.697 | 167 | 797795 | 15.49 | ppm | 99 |
| 81) Fluoranthene | 9.831 | 202 | 3420745 | 58.03 | ppm | 98 |
| 84) Pyrene | 10.087 | 202 | 2252746 | 37.94 | ppm | 99 |
| 87) Benzo[a]anthracene | 11.532 | 228 | 985582 | 17.36 | ppm | 100 |
| 89) Chrysene | 11.569 | 228 | 881327 | 15.83 | ppm | 98 |
| 93) Benzo[b]fluoranthene | 12.746 | 252 | 832941m | 15.75 | ppm | |
| 94) Benzo[k]fluoranthene | 12.767 | 252 | 312327m | 6.67 | ppm | |
| 95) Benzo[a]pyrene | 13.072 | 252 | 600084 | 13.81 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 14.142 | 276 | 362271 | 6.24 | ppm | 95 |
| 98) Dibenz[a,h]anthracene | 14.147 | 278 | 96145m | 1.87 | ppm | |
| 100) Benzo[g,h,i]perylene | 14.382 | 276 | 305483 | 6.75 | ppm | 97 |

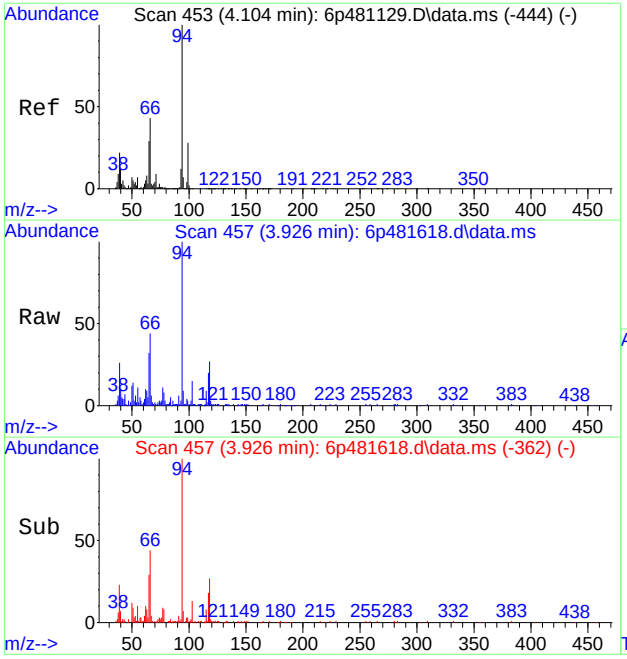
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481618.d
Acq On : 3 May 2019 4:06 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,500
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:37:50 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:34:48 2019
Response via : Initial Calibration

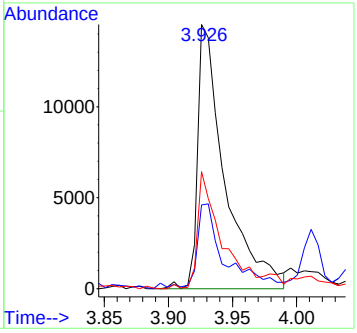


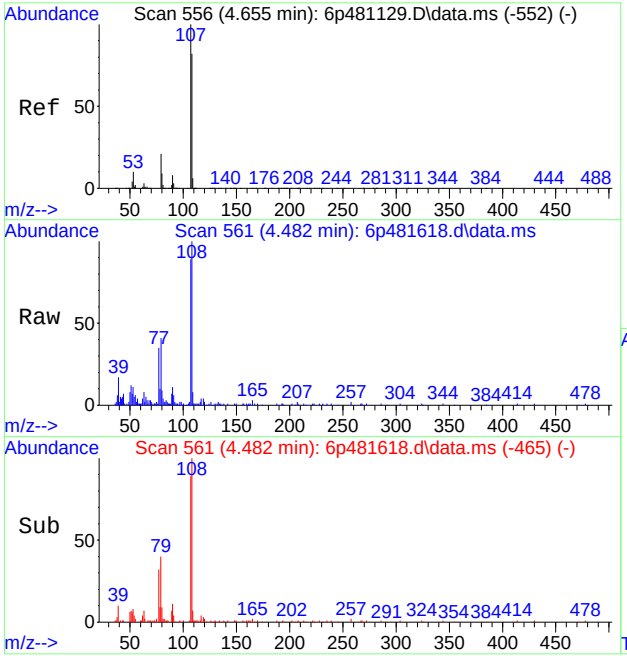



#9
Phenol
Concen: 0.98 ppm
RT: 3.926 min Scan# 457
Delta R.T. 0.011 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion: 94 Resp: 21511

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 30.3 | 0.0 | 54.6 |
| 66 | 44.8 | 3.7 | 63.7 |

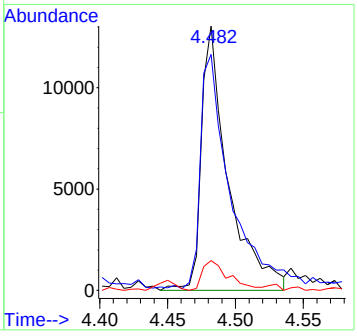


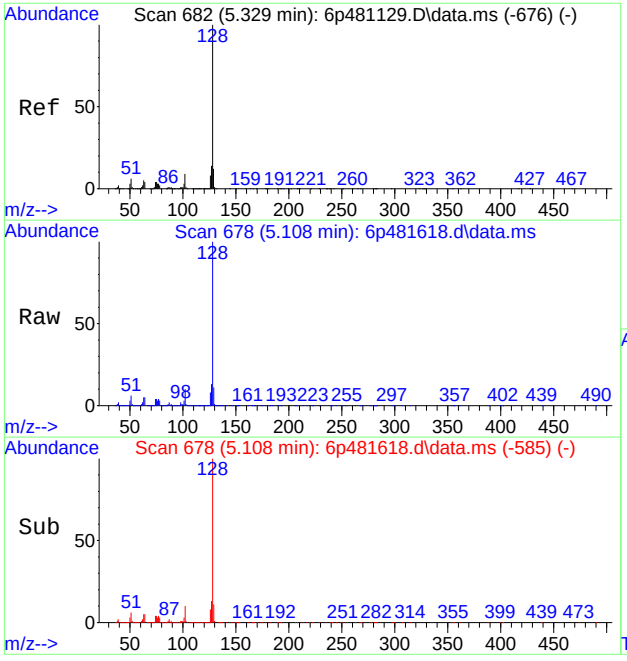




#21
3&4-Methylphenol
Concen: 1.15 ppm
RT: 4.482 min Scan# 561
Delta R.T. 0.016 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:108 Resp: 17870

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 86.9 | 89.5 | 149.5# |
| 90 | 10.2 | 0.0 | 40.1 |

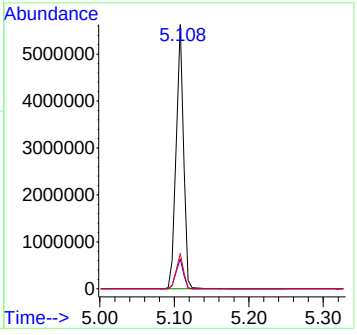


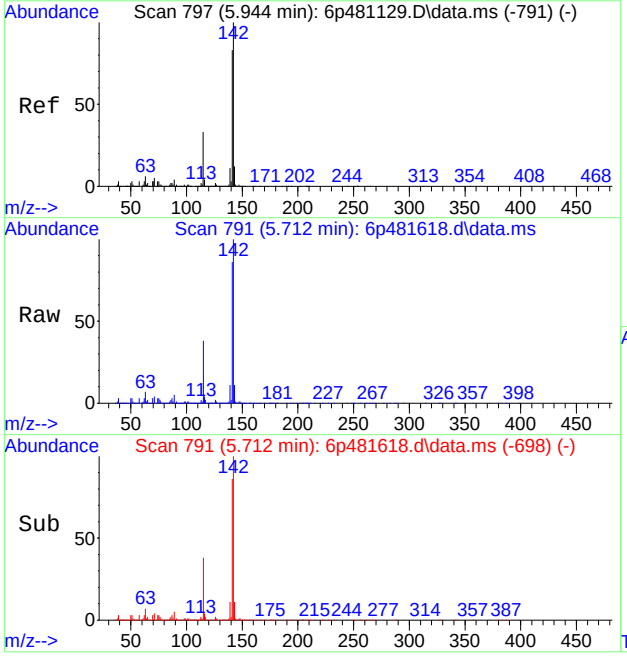



#38
Naphthalene
Concen: 83.17 ppm
RT: 5.108 min Scan# 678
Delta R.T. -0.000 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:128 Resp: 3926297

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.3 | 0.0 | 41.2 |
| 127 | 13.4 | 0.0 | 42.8 |

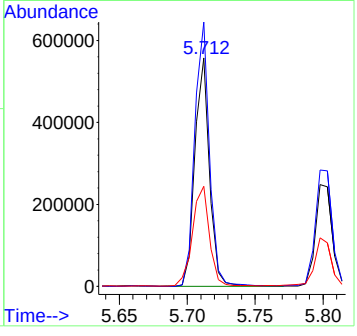


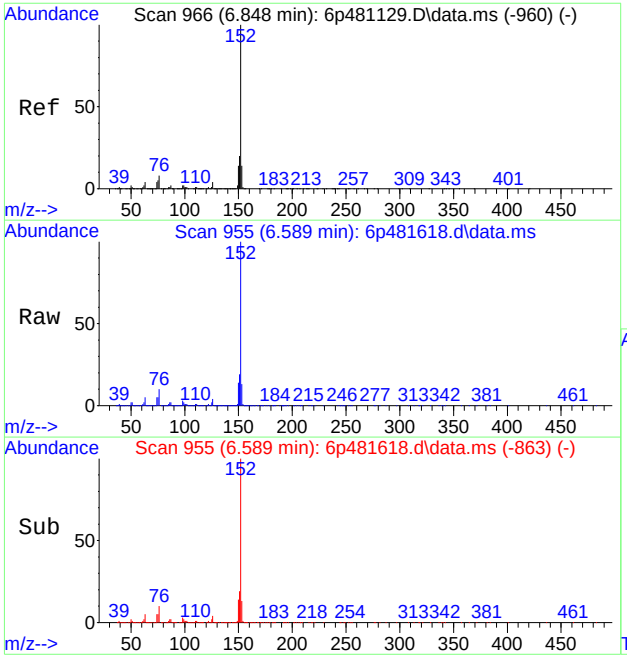




#44
2-Methylnaphthalene
Concen: 15.60 ppm
RT: 5.712 min Scan# 791
Delta R.T. -0.000 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:141 Resp: 416505

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 115.7 | 87.9 | 147.9 |
| 115 | 43.5 | 11.7 | 71.7 |

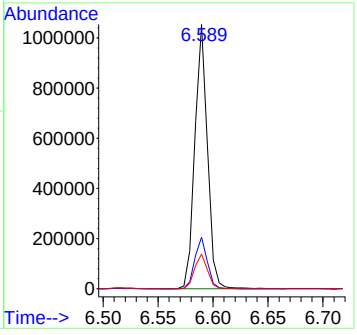


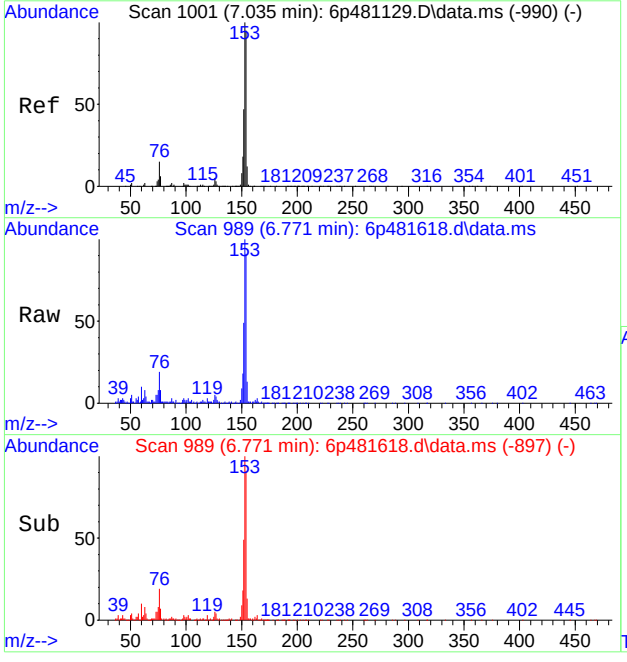



#56
Acenaphthylene
Concen: 18.13 ppm
RT: 6.589 min Scan# 955
Delta R.T. -0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:152 Resp: 841203

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 19.5 | 0.0 | 49.6 |
| 153 | 13.1 | 0.0 | 42.6 |

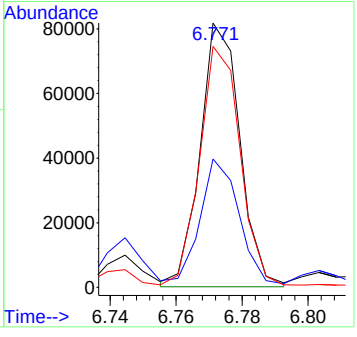


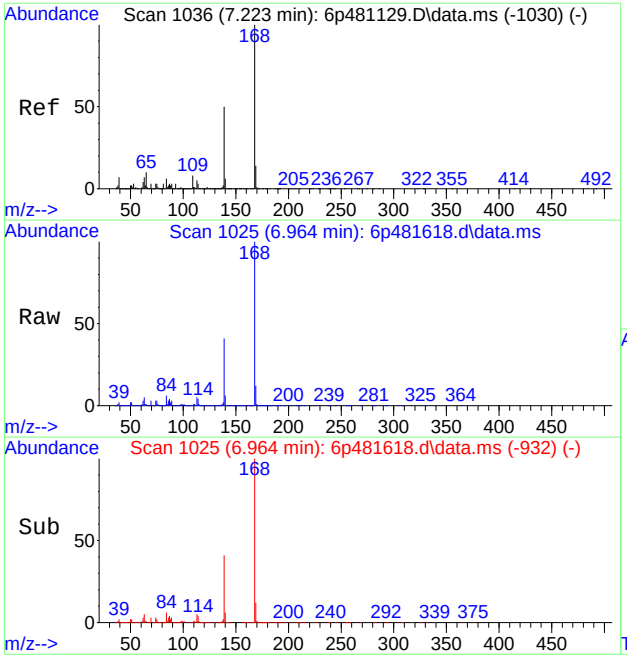




#59
Acenaphthene
Concen: 2.23 ppm
RT: 6.771 min Scan# 989
Delta R.T. -0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:153 Resp: 68555

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 47.5 | 16.6 | 76.6 |
| 154 | 91.9 | 62.8 | 122.8 |

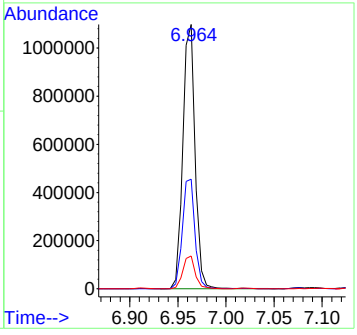


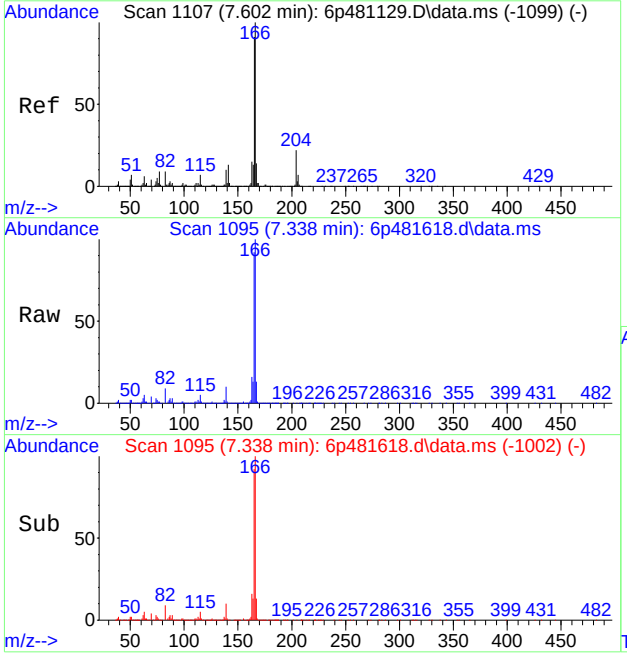



#62
Dibenzofuran
Concen: 22.69 ppm
RT: 6.964 min Scan# 1025
Delta R.T. -0.000 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:168 Resp: 972759

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 41.5 | 13.3 | 73.3 |
| 169 | 12.4 | 0.0 | 43.3 |

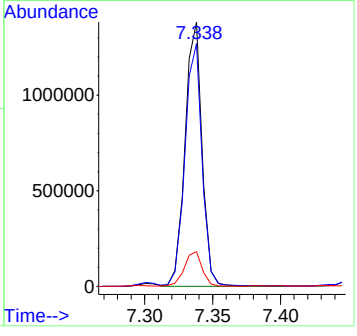


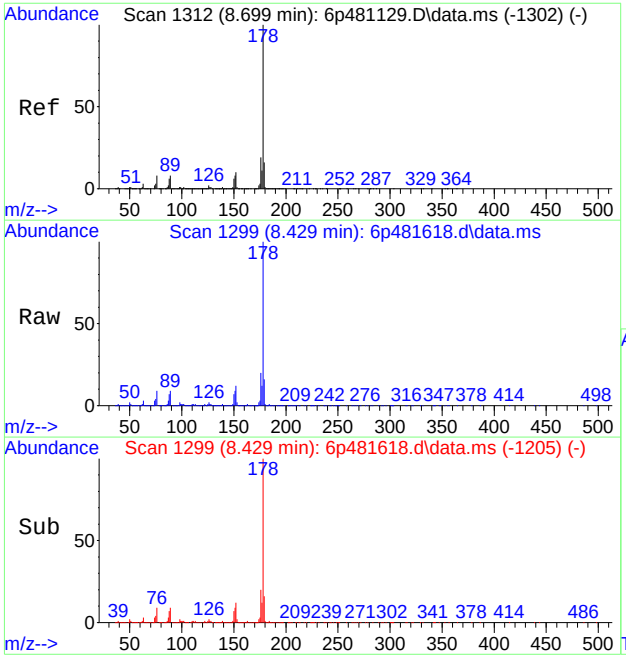




#66
Fluorene
Concen: 34.79 ppm
RT: 7.338 min Scan# 1095
Delta R.T. -0.000 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:166 Resp: 1210972

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 91.6 | 61.8 | 121.8 |
| 167 | 13.0 | 0.0 | 43.9 |

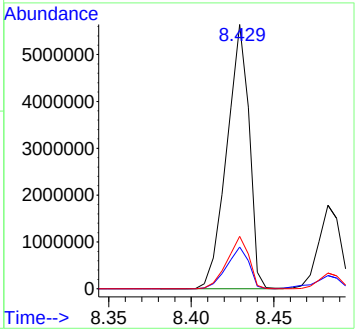


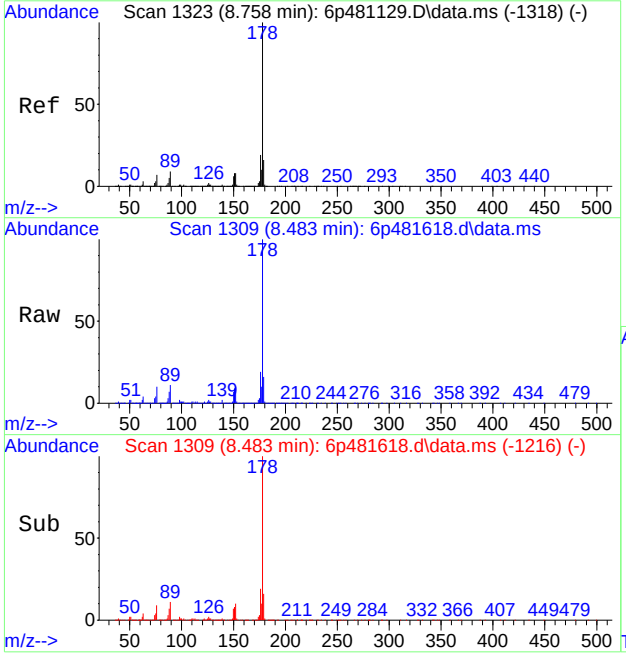



#77
Phenanthrene
Concen: 98.20 ppm
RT: 8.429 min Scan# 1299
Delta R.T. 0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:178 Resp: 5327930

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.8 | 0.0 | 45.5 |
| 176 | 19.8 | 0.0 | 49.4 |

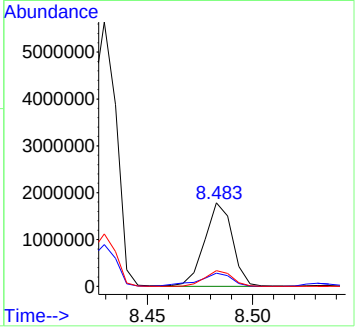



#78
Anthracene
Concen: 30.55 ppm
RT: 8.483 min Scan# 1309
Delta R.T. -0.000 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

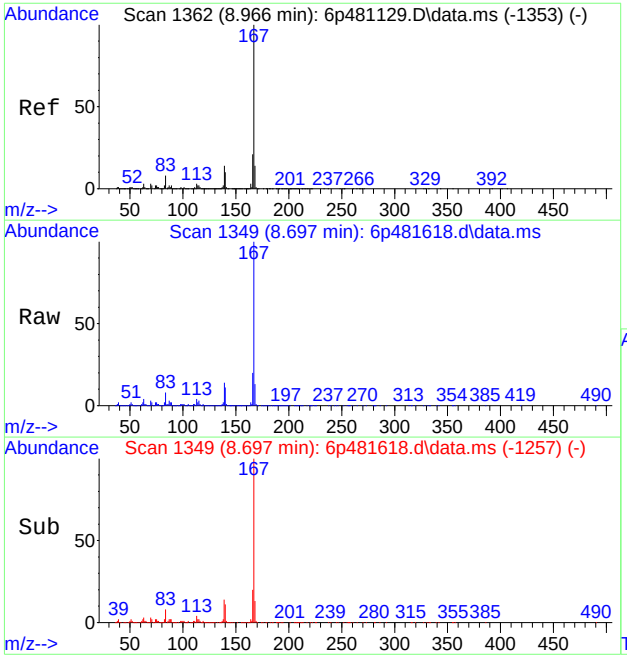
Tgt Ion:178 Resp: 1662531

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.6 | 0.0 | 46.0 |
| 176 | 19.0 | 0.0 | 48.5 |




9.1.11

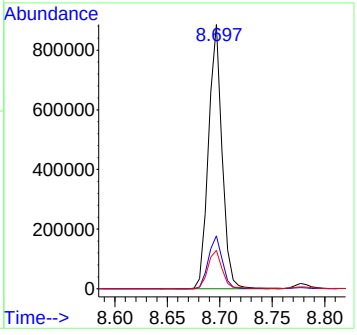
9

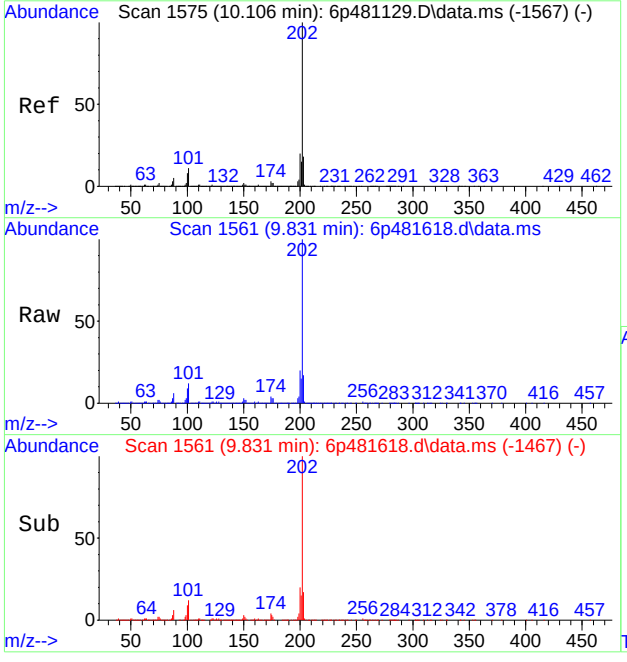



#79
Carbazole
Concen: 15.49 ppm
RT: 8.697 min Scan# 1349
Delta R.T. -0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:167 Resp: 797795

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 19.9 | 0.0 | 50.5 |
| 139 | 14.4 | 0.0 | 43.7 |

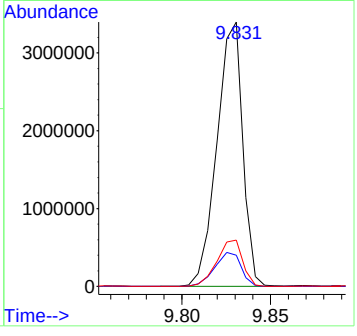



#81
Fluoranthene
Concen: 58.03 ppm
RT: 9.831 min Scan# 1561
Delta R.T. 0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

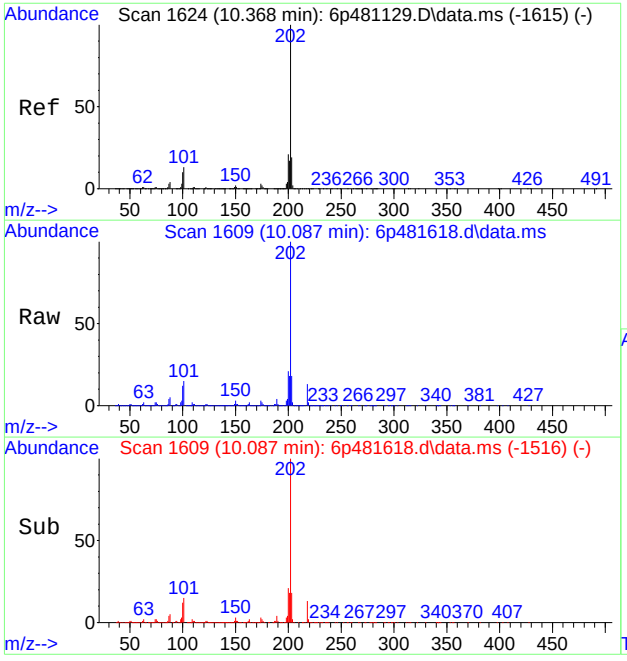
Tgt Ion:202 Resp: 3420745

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 11.7 | 0.0 | 43.2 |
| 203 | 17.5 | 0.0 | 46.9 |




9.1.11

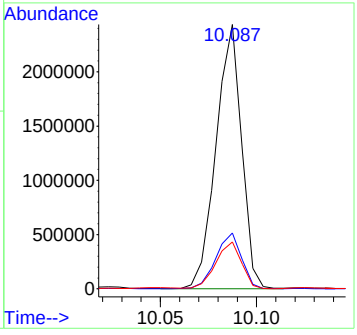
9

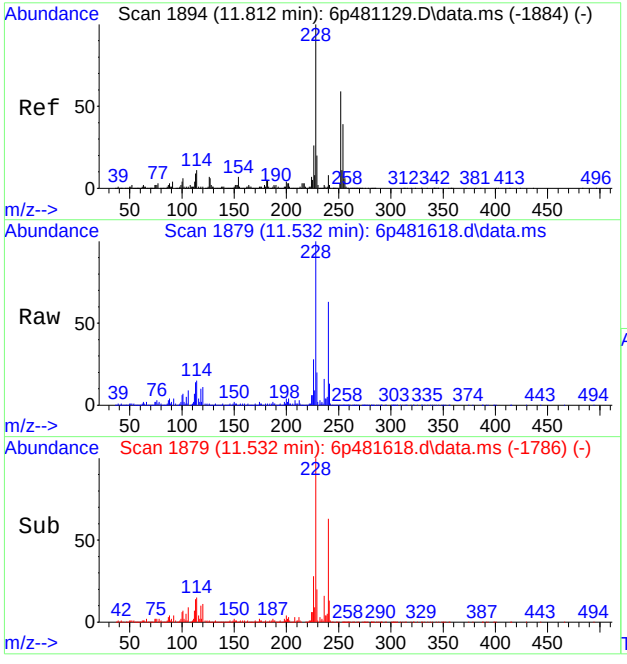



#84
Pyrene
Concen: 37.94 ppm
RT: 10.087 min Scan# 1609
Delta R.T. -0.000 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:202 Resp: 2252746

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 21.1 | 0.0 | 51.0 |
| 203 | 17.5 | 0.0 | 48.2 |

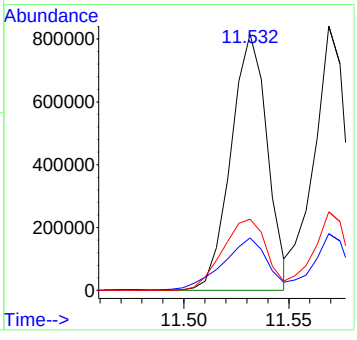



#87
Benzo[a]anthracene
Concen: 17.36 ppm
RT: 11.532 min Scan# 1879
Delta R.T. -0.000 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

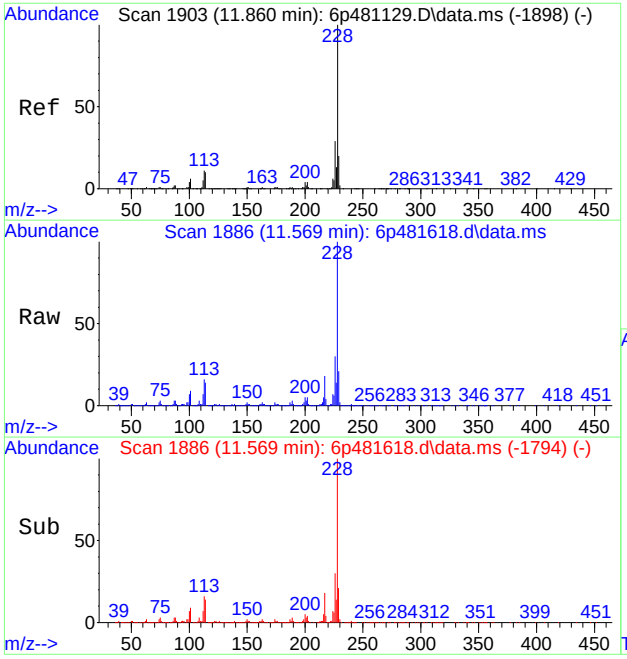
Tgt Ion:228 Resp: 985582

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.0 | 0.0 | 50.0 |
| 226 | 27.6 | 0.0 | 57.2 |




9.1.11

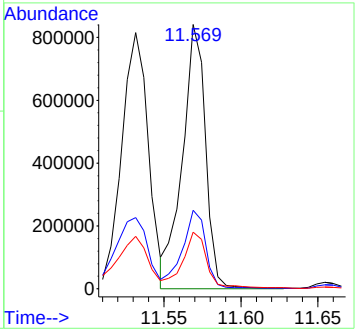
9

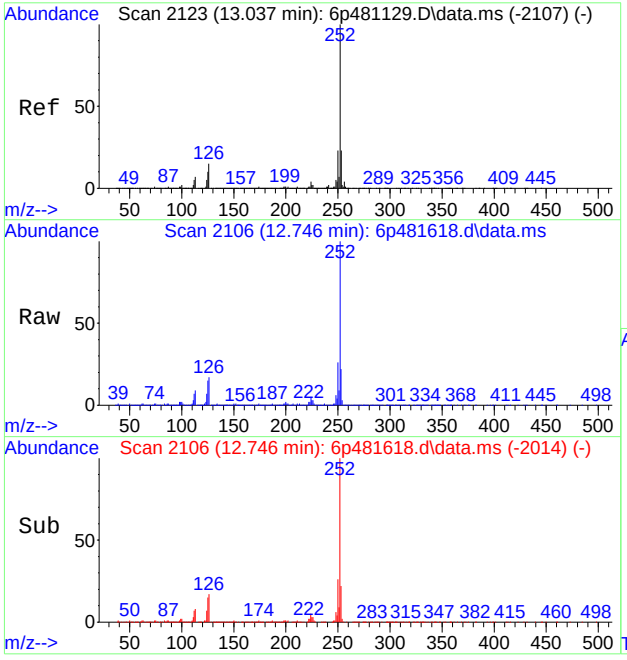



#89
Chrysene
Concen: 15.83 ppm
RT: 11.569 min Scan# 1886
Delta R.T. -0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:228 Resp: 881327

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 29.6 | 0.0 | 59.4 |
| 229 | 21.0 | 0.0 | 49.1 |

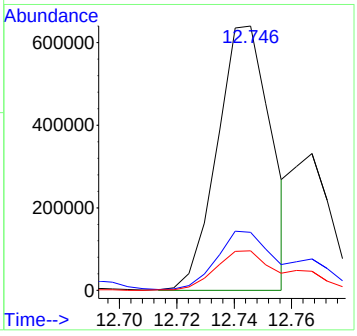


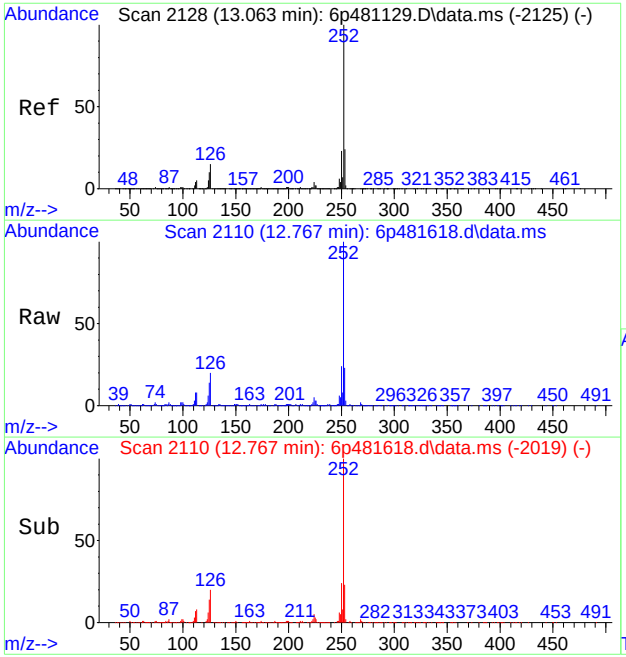




#93
Benzo[b]fluoranthene
Concen: 15.75 ppm m
RT: 12.746 min Scan# 2106
Delta R.T. -0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:252 Resp: 832941

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.0 | 0.0 | 52.6 |
| 125 | 14.9 | 0.0 | 41.9 |

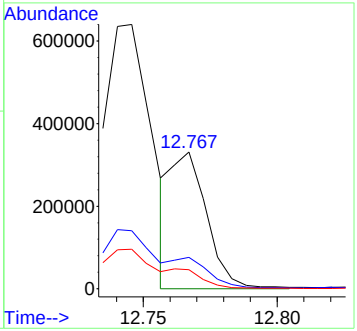


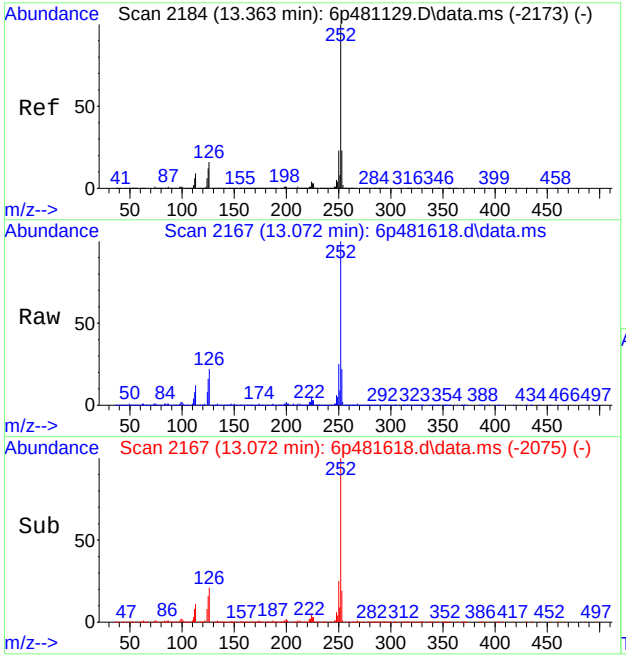



#94
Benzo[k]fluoranthene
Concen: 6.67 ppm m
RT: 12.767 min Scan# 2110
Delta R.T. -0.011 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:252 Resp: 312327

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.0 | 0.0 | 52.1 |
| 125 | 13.9 | 0.0 | 42.0 |

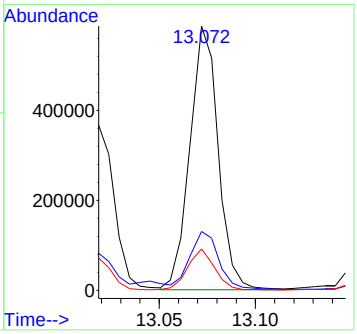


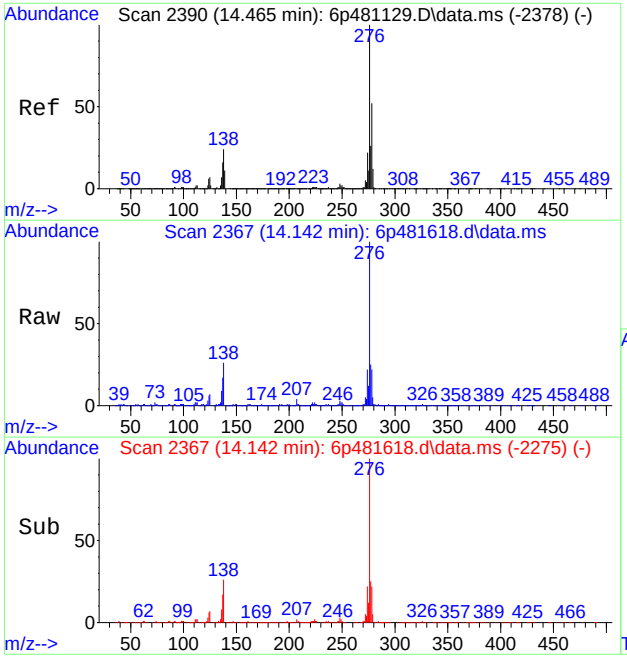




#95
Benzo[a]pyrene
Concen: 13.81 ppm
RT: 13.072 min Scan# 2167
Delta R.T. -0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:252 Resp: 600084

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.0 | 0.0 | 52.2 |
| 125 | 15.6 | 0.0 | 44.4 |

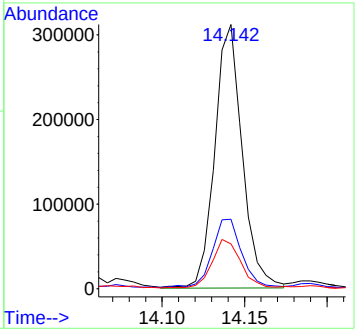


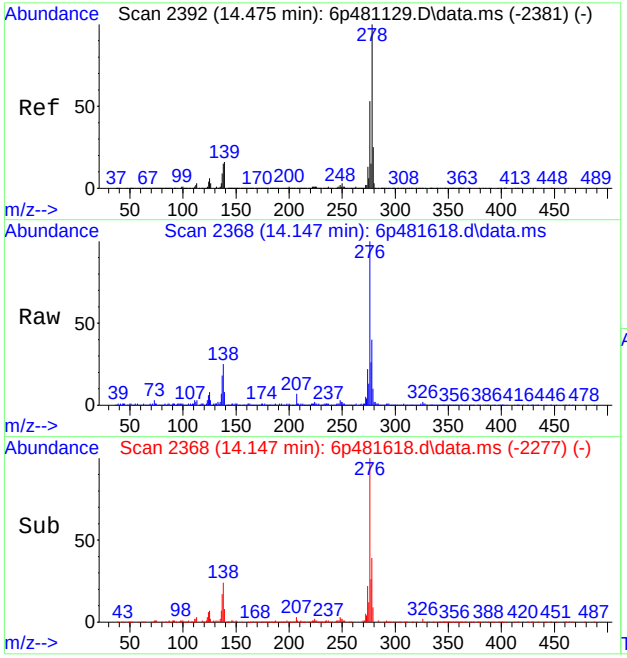



#96
Indeno[1,2,3-cd]pyrene
Concen: 6.24 ppm
RT: 14.142 min Scan# 2367
Delta R.T. -0.005 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:276 Resp: 362271

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.7 | 0.0 | 58.7 |
| 137 | 16.5 | 0.0 | 48.8 |

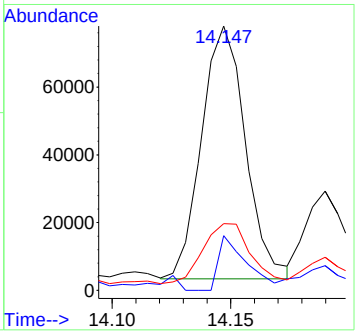


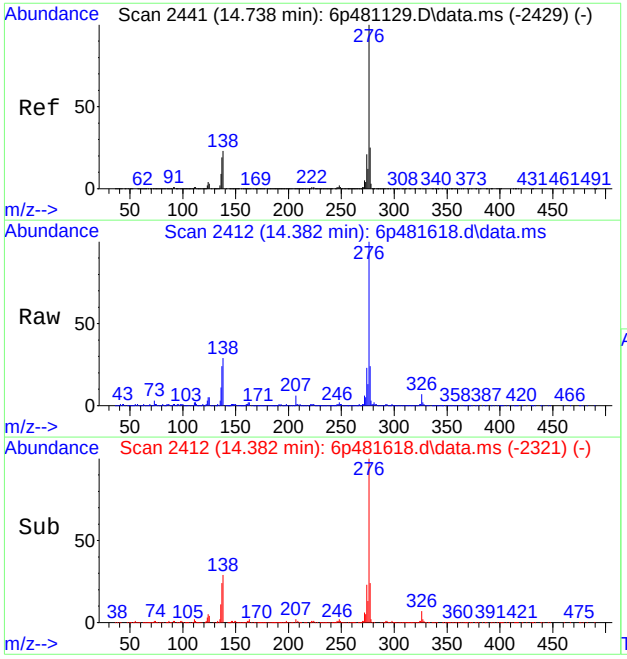




#98
Dibenz[a,h]anthracene
Concen: 1.87 ppm m
RT: 14.147 min Scan# 2368
Delta R.T. -0.011 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:278 Resp: 96145

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 20.7 | 0.0 | 49.1 |
| 279 | 25.2 | 0.0 | 53.6 |

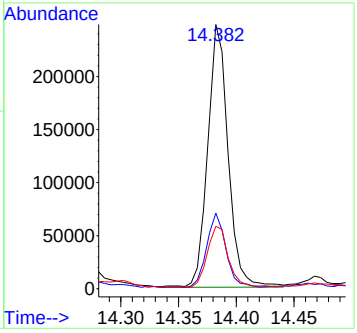





#100
Benzo[g,h,i]perylene
Concen: 6.75 ppm
RT: 14.382 min Scan# 2412
Delta R.T. -0.011 min
Lab File: 6p481618.d
Acq: 3 May 2019 4:06 pm

Tgt Ion:276 Resp: 305483

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 27.9 | 0.0 | 55.6 |
| 277 | 23.0 | 0.0 | 53.1 |




9.1.11

9

# Manual Integration Approval Summary



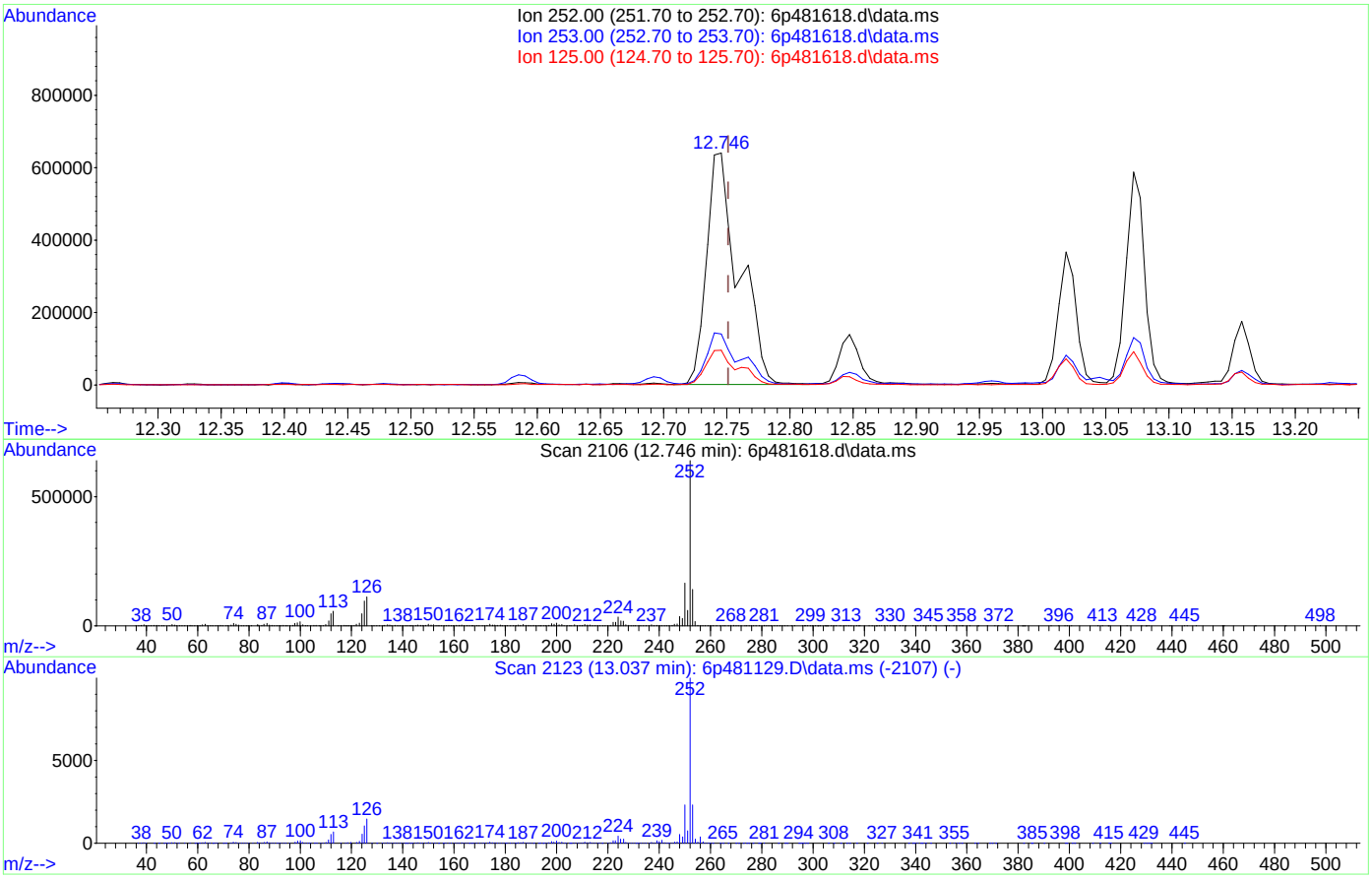
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-9 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481618.D | **Analyst approved:** | 05/06/19 03:07 Michelle Co |
| **Injection Time:** | 05/03/19 16:06 | **Supervisor approved:** | 05/09/19 11:58 Kristi Schollenberger |

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzo(b)fluoranthene | 205-99-2 | | 12.75 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.77 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.15 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481618.d
Acq On : 3 May 2019 4:06 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,500
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:09 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481618.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.746min (-0.005) 21.59ppm

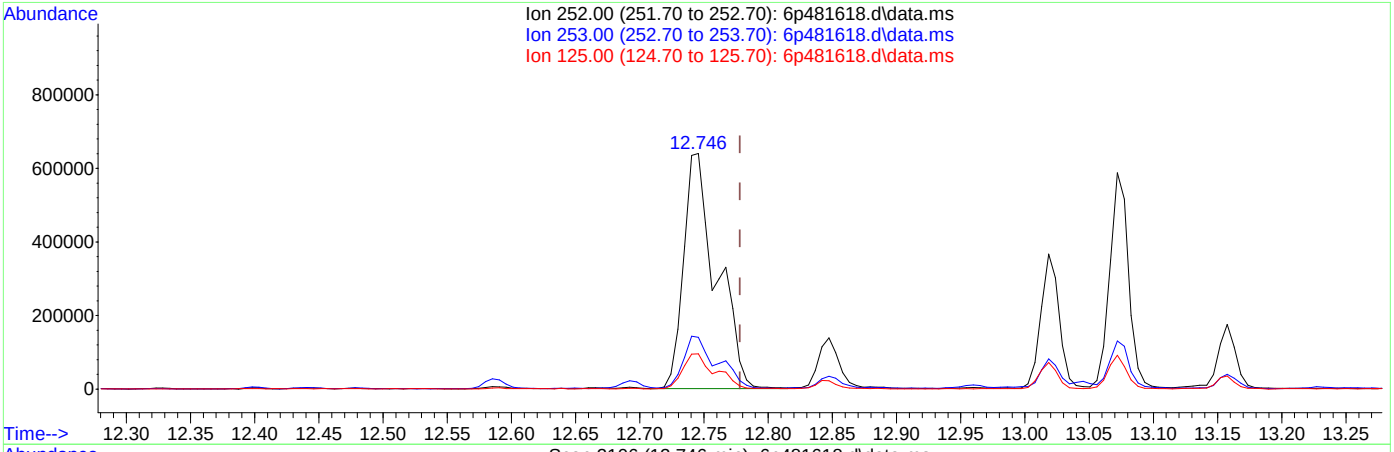
response 1141857

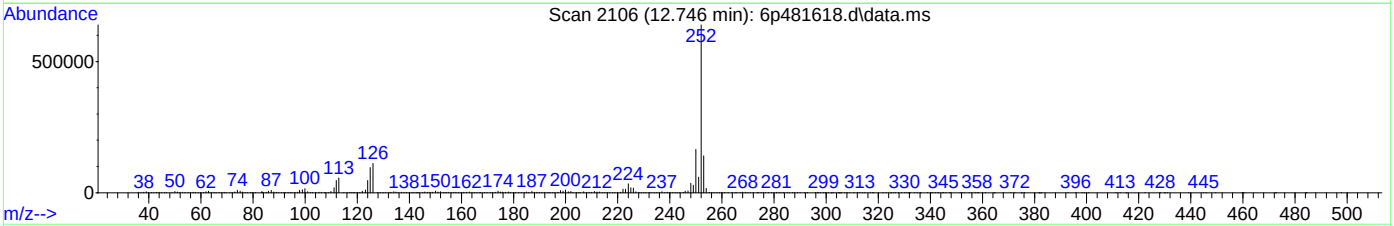
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 21.50 |
| 125.00 | 11.90 | 14.86 |
| 0.00 | 0.00 | 0.00 |

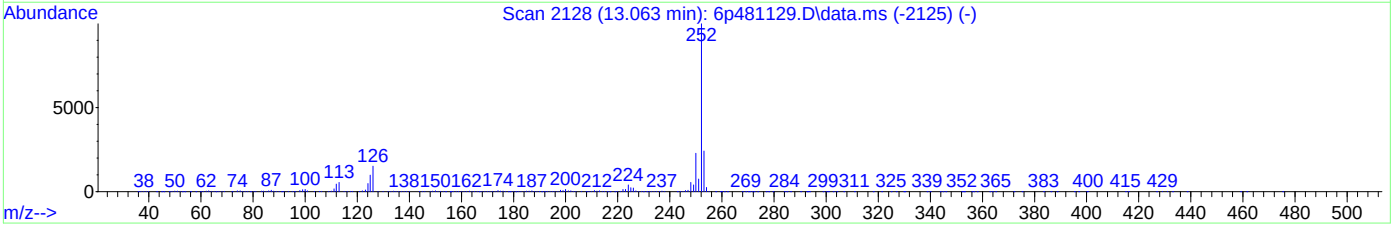
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481618.d
Acq On : 3 May 2019 4:06 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,500
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:09 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481618.d\data.ms

(94) Benzo[k]fluoranthene (t)

12.746min (-0.032) 24.39ppm

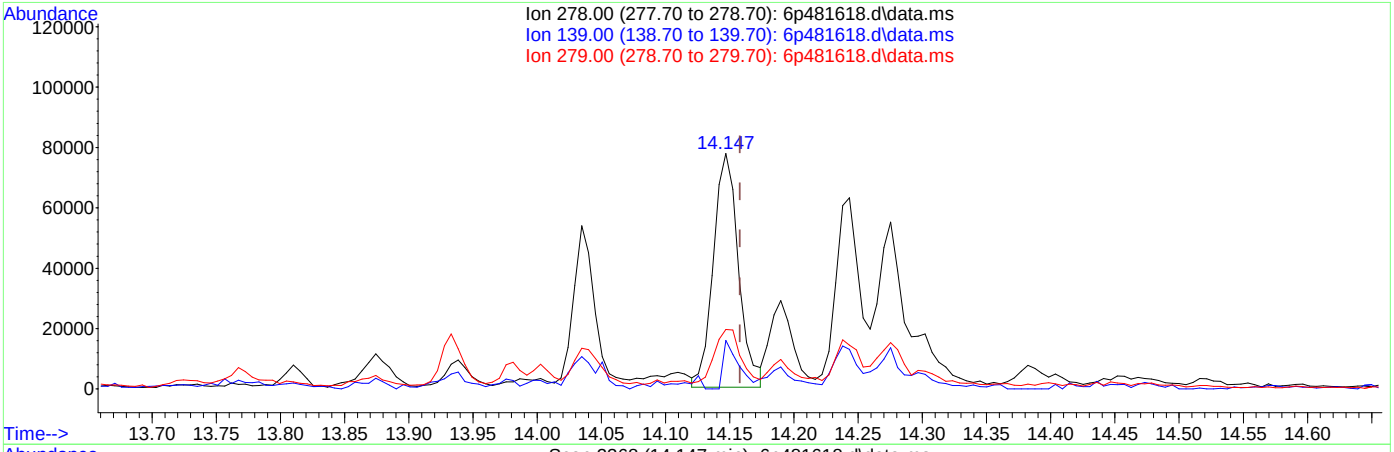
response 1141857

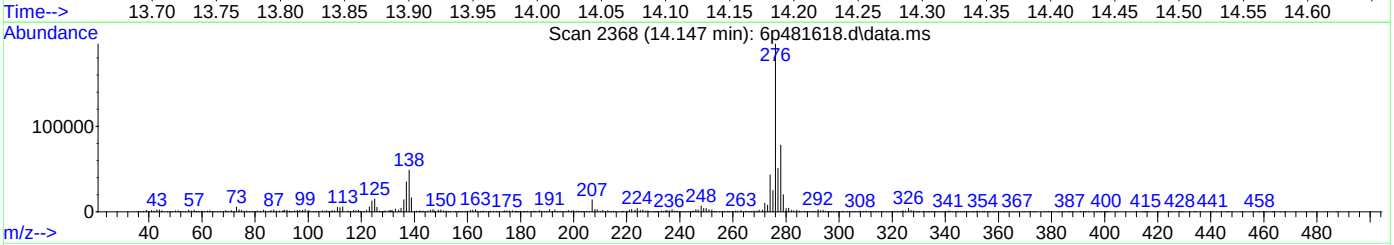
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.10 | 21.50 |
| 125.00 | 12.00 | 14.86 |
| 0.00 | 0.00 | 0.00 |

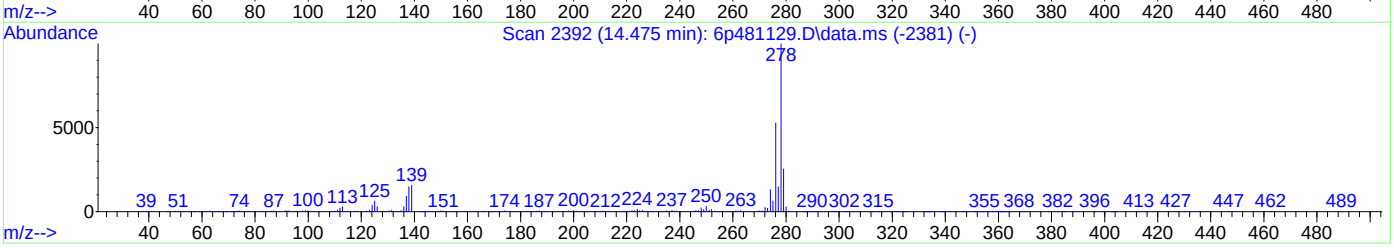
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481618.d
Acq On : 3 May 2019 4:06 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,500
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:09 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481618.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.147min (-0.011) 2.05ppm

response 105353

| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 19.10 | 18.50 |
| 279.00 | 23.60 | 23.61 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 11:58

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On : 3 May 2019 5:44 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,50
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:59:52 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 542893 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.103 | 136 | 2077124 | 40.00 | ppm | 0.02 |
| 47) Acenaphthene-d10 | 6.745 | 164 | 1129287 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.424 | 188 | 2058504 | 40.00 | ppm | 0.03 |
| 83) Chrysene-d12 | 11.569 | 240 | 2039664 | 40.00 | ppm | 0.03 |
| 91) Perylene-d12 | 13.158 | 264 | 1862395 | 40.00 | ppm | 0.02 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 542893 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.745 | 164 | 1129287 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.424 | 188 | 2058504 | 40.00 | ppm | 0.03 |
| 109) Chrysene-d12a | 11.569 | 240 | 2039664 | 40.00 | ppm | 0.03 |
| 111) Naphthalene-d8a | 5.103 | 136 | 2077124 | 40.00 | ppm | 0.02 |
| 113) Phenanthrene-d10b | 8.424 | 188 | 2058504 | 40.00 | ppm | 0.03 |
| 115) Chrysene-d12b | 11.569 | 240 | 2039664 | 40.00 | ppm | 0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.156 | 112 | 9155 | 0.58 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 1.16% | |
| 8) Phenol-d5 | 3.904 | 99 | 13150 | 0.68 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.36% | |
| 25) Nitrobenzene-d5 | 4.546 | 82 | 12817 | 0.74 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.48% | |
| 51) 2-Fluorobiphenyl | 6.071 | 172 | 24112 | 0.60 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.20% | |
| 73) 2,4,6-Tribromophenol | 7.622 | 330 | 4165 | 0.63 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.26% | |
| 85) Terphenyl-d14 | 10.323 | 244 | 24575 | 0.52 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.04% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.915 | 94 | 277989 | 11.75 | ppm | 93 |
| 19) 2-Methylphenol | 4.354 | 108 | 60253 | 3.78 | ppm | 89 |
| 21) 3&4-Methylphenol | 4.466 | 108 | 213336 | 12.74 | ppm | 87 |
| 30) 2,4-Dimethylphenol | 4.862 | 107 | 62600 | 3.99 | ppm | 98 |
| 38) Naphthalene | 5.108 | 128 | 17726675m | 327.69 | ppm | |
| 44) 2-Methylnaphthalene | 5.718 | 141 | 4198520 | 137.22 | ppm | 94 |
| 53) Biphenyl | 6.162 | 154 | 1747213 | 40.45 | ppm | 98 |
| 56) Acenaphthylene | 6.600 | 152 | 8646747 | 168.24 | ppm | 92 |
| 59) Acenaphthene | 6.777 | 153 | 706600 | 20.71 | ppm | 98 |
| 62) Dibenzofuran | 6.975 | 168 | 9623842 | 202.57 | ppm | 95 |
| 66) Fluorene | 7.360 | 166 | 11770513 | 305.18 | ppm | 92 |
| 77) Phenanthrene | 8.440 | 178 | 27900899m | 504.82 | ppm | |
| 78) Anthracene | 8.515 | 178 | 12421110 | 224.08 | ppm | 91 |
| 79) Carbazole | 8.718 | 167 | 8306995 | 158.32 | ppm | 99 |
| 81) Fluoranthene | 9.852 | 202 | 24632077m | 410.21 | ppm | |
| 84) Pyrene | 10.114 | 202 | 19727663 | 290.33 | ppm | 92 |
| 87) Benzo[a]anthracene | 11.564 | 228 | 11775675 | 181.26 | ppm | 97 |
| 89) Chrysene | 11.607 | 228 | 10295569 | 161.60 | ppm | 94 |
| 93) Benzo[b]fluoranthene | 12.783 | 252 | 11920788m | 209.56 | ppm | |
| 94) Benzo[k]fluoranthene | 12.799 | 252 | 2810004m | 55.80 | ppm | |
| 95) Benzo[a]pyrene | 13.115 | 252 | 7962357 | 170.38 | ppm | 95 |
| 96) Indeno[1,2,3-cd]pyrene | 14.174 | 276 | 4658970 | 74.66 | ppm | 94 |
| 98) Dibenz[a,h]anthracene | 14.174 | 278 | 1422646m | 25.73 | ppm | |
| 100) Benzo[g,h,i]perylene | 14.425 | 276 | 3755666 | 77.18 | ppm | 95 |

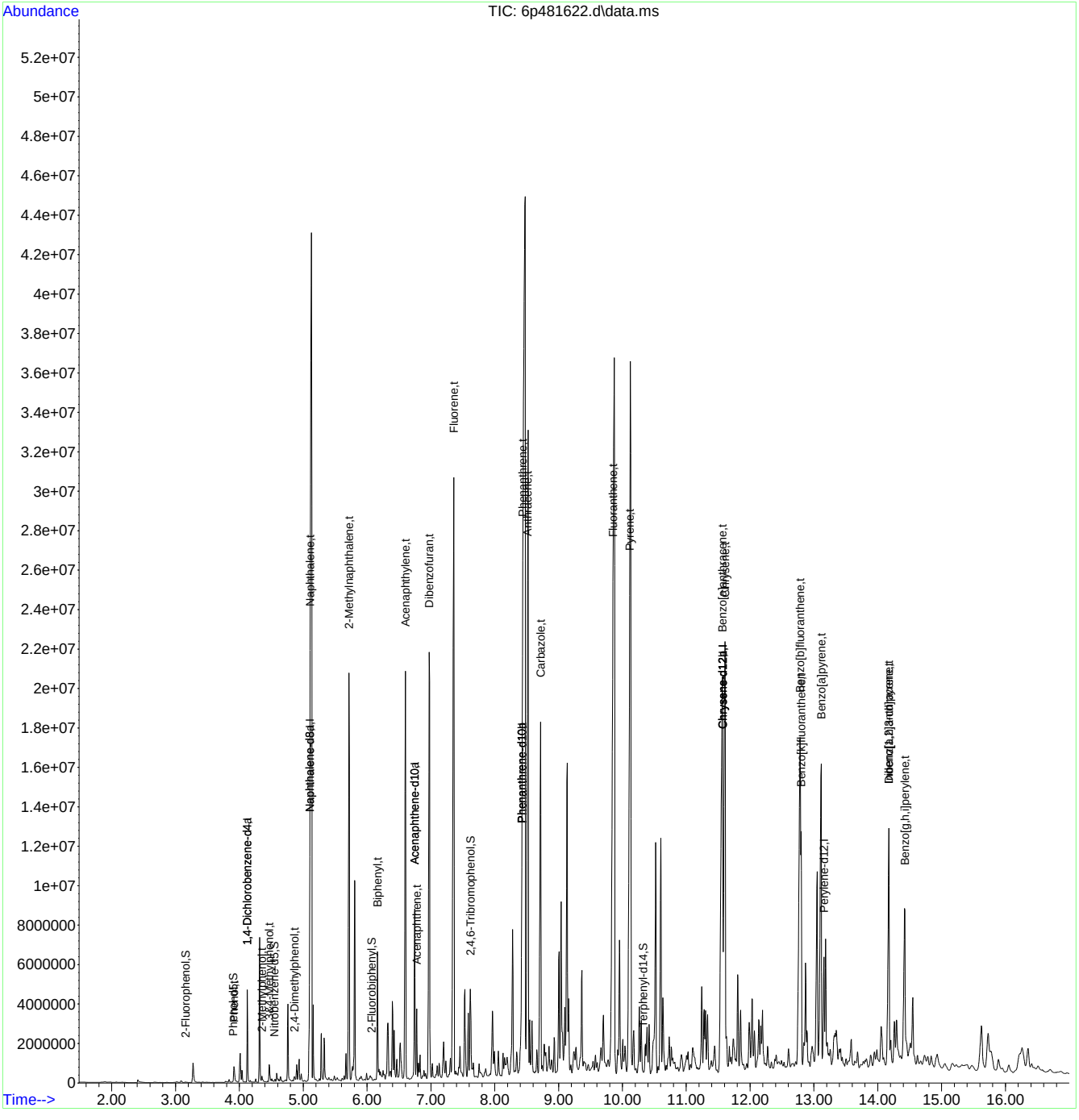
Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On    :  3 May 2019   5:44 pm
Operator  : angelar
Sample    : jc86986-9                                Inst    : MS6P
Misc      : op20081,e6p2581,20.0,,,1,50
ALS Vial  : 12   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:59:52 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

        Compound                   R.T. QIon  Response  Conc Units Dev(Min)
 ---------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

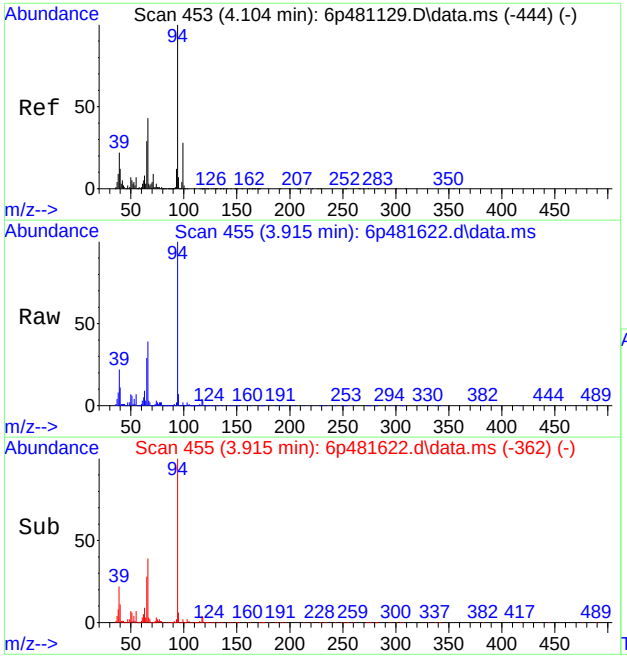
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On : 3 May 2019 5:44 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,50
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:59:52 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration



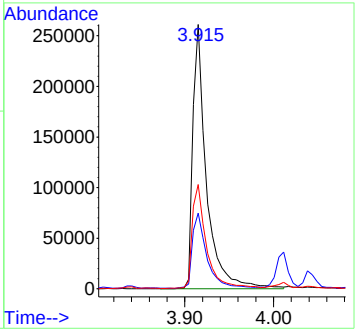

M6P2562.M Mon May 06 03:02:43 2019 Page: 3

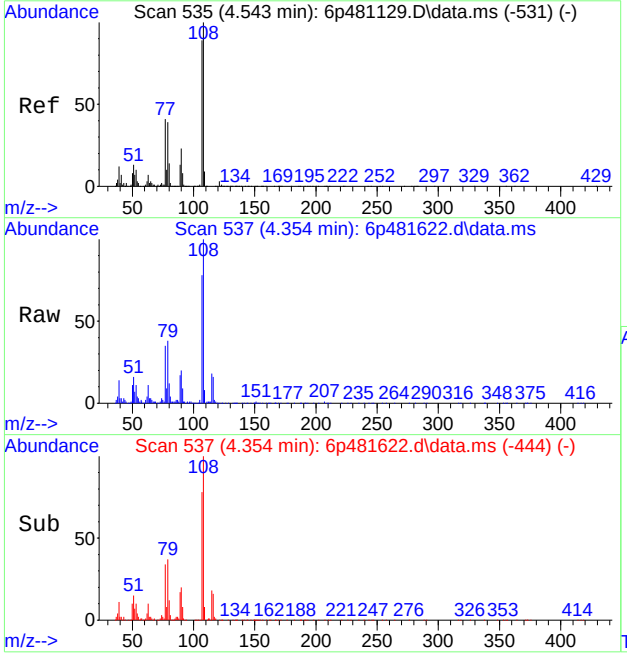



#9
Phenol
Concen: 11.75 ppm
RT: 3.915 min Scan# 455
Delta R.T. 0.000 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion: 94 Resp: 277989

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 21.6 | 0.0 | 54.6 |
| 66 | 38.2 | 3.7 | 63.7 |

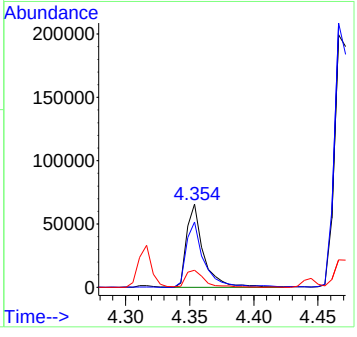



#19
2-Methylphenol
Concen: 3.78 ppm
RT: 4.354 min Scan# 537
Delta R.T. -0.000 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:108 Resp: 60253

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 78.3 | 58.7 | 118.7 |
| 90 | 18.5 | 0.0 | 53.1 |




9.1.12

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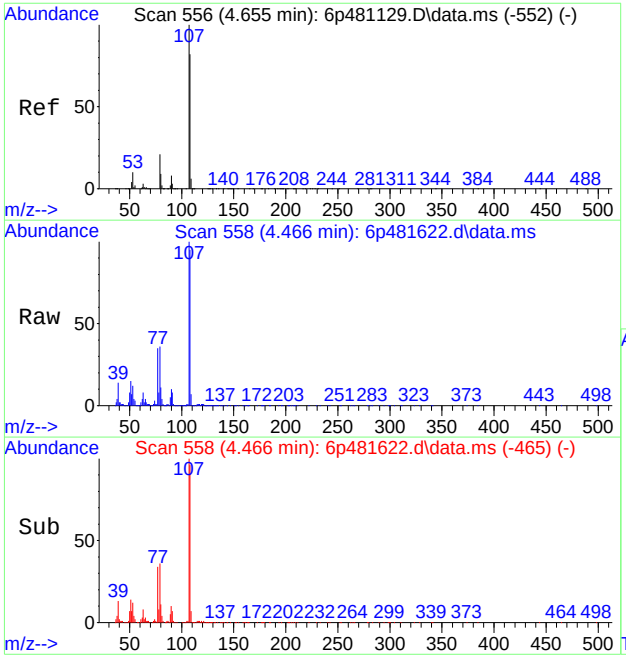
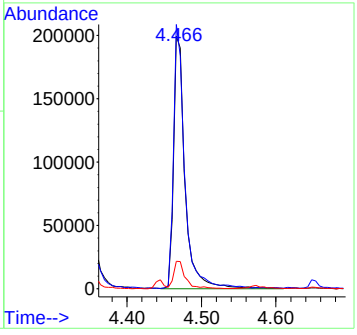
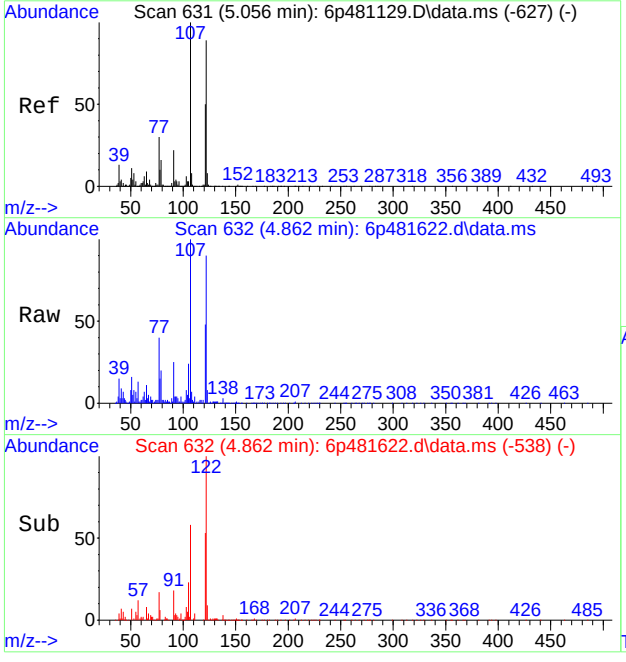



#21
3&4-Methylphenol
Concen: 12.74 ppm
RT: 4.466 min Scan# 558
Delta R.T. 0.000 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:108 Resp: 213336

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 104.7 | 89.5 | 149.5 |
| 90 | 9.1 | 0.0 | 40.1 |

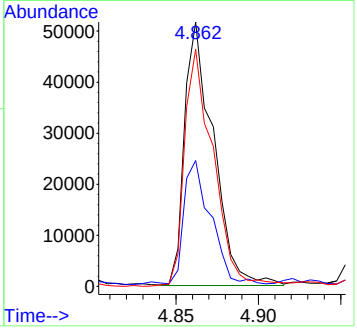


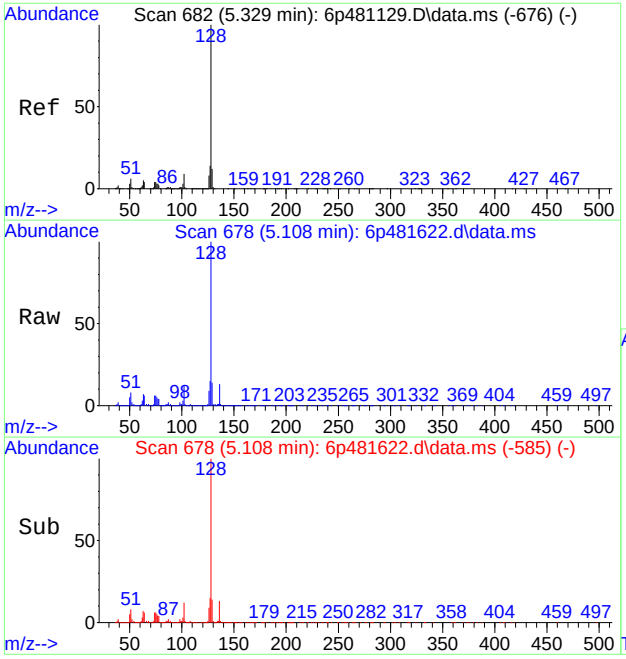




#30
2,4-Dimethylphenol
Concen: 3.99 ppm
RT: 4.862 min Scan# 632
Delta R.T. 0.005 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:107 Resp: 62600

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 46.1 | 20.1 | 80.1 |
| 122 | 89.4 | 59.3 | 119.3 |

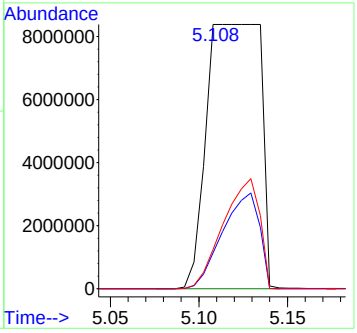


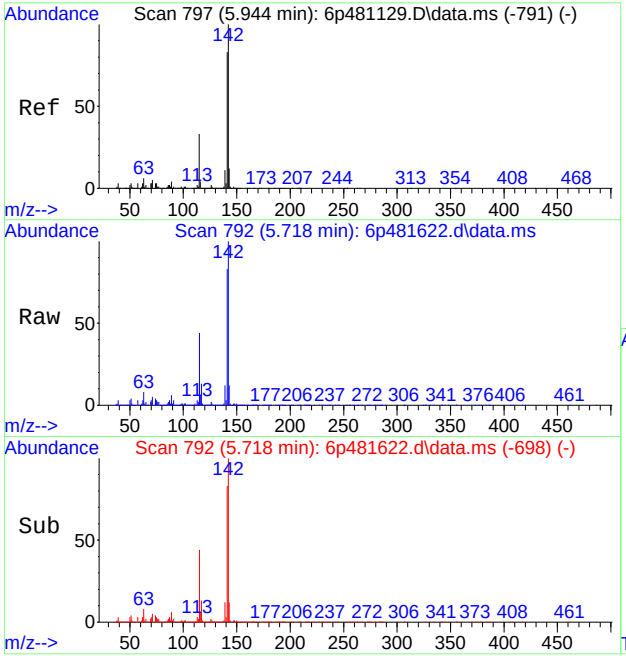



#38
Naphthalene
Concen: 327.69 ppm m
RT: 5.108 min Scan# 678
Delta R.T. 0.000 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:128 Resp:17726675

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 13.6 | 0.0 | 41.2 |
| 127 | 14.9 | 0.0 | 42.8 |

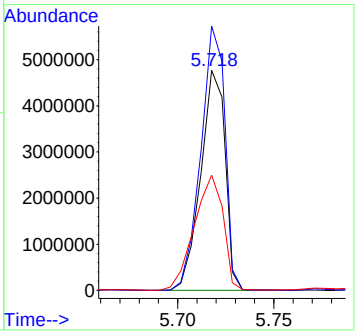


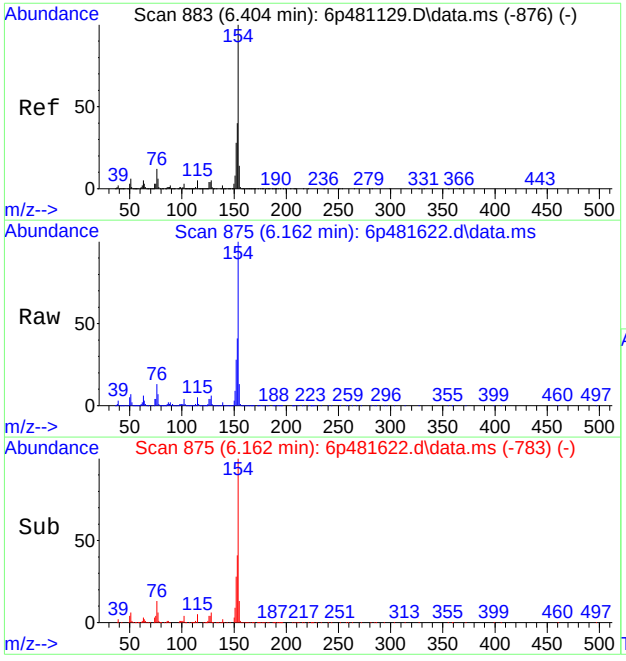




#44
2-Methylnaphthalene
Concen: 137.22 ppm
RT: 5.718 min Scan# 792
Delta R.T. 0.005 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:141 Resp: 4198520

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 120.2 | 87.9 | 147.9 |
| 115 | 52.2 | 11.7 | 71.7 |

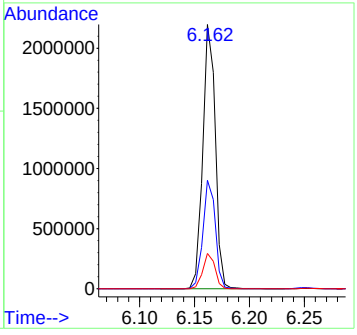


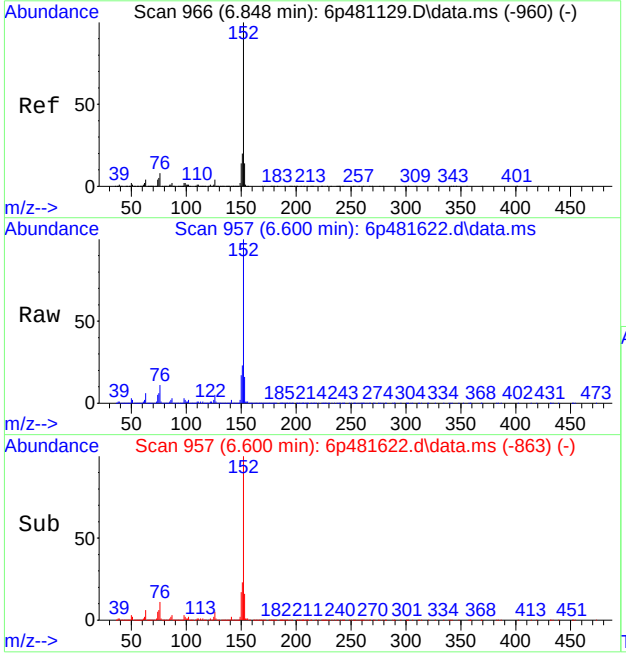



#53
Biphenyl
Concen: 40.45 ppm
RT: 6.162 min Scan# 875
Delta R.T. -0.005 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:154 Resp: 1747213

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 41.0 | 10.0 | 70.0 |
| 155 | 13.4 | 0.0 | 42.9 |

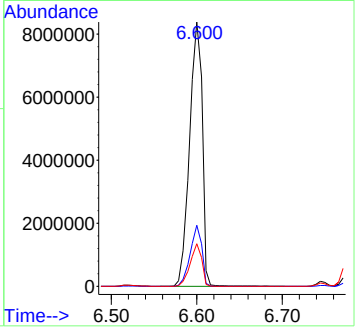



#56
Acenaphthylene
Concen: 168.24 ppm
RT: 6.600 min Scan# 957
Delta R.T. 0.005 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:152 Resp: 8646747

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 23.2 | 0.0 | 49.6 |
| 153 | 16.1 | 0.0 | 42.6 |




9.1.12

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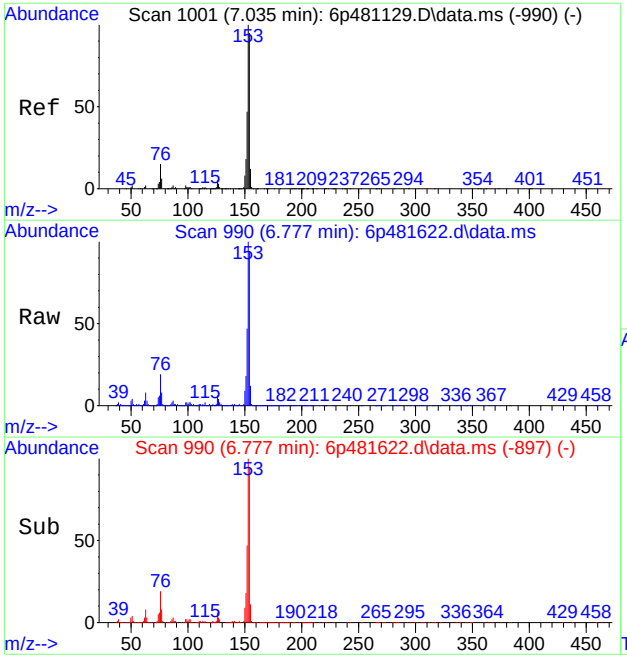
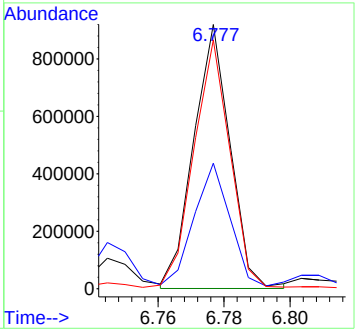
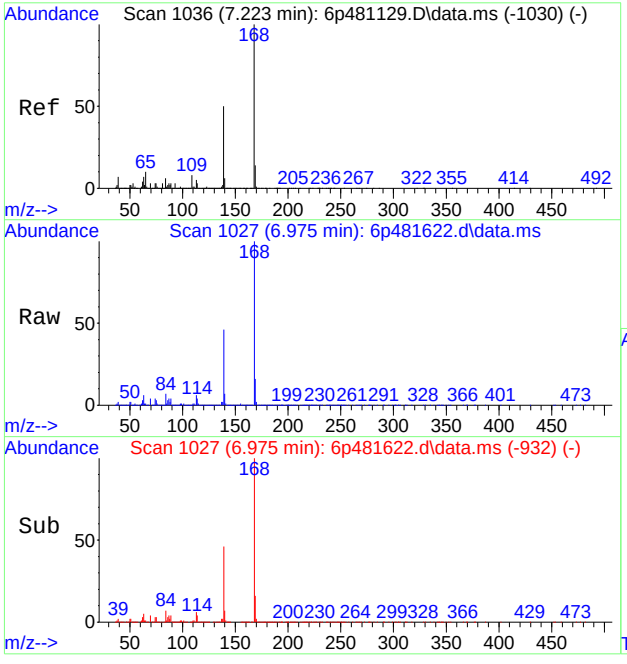



#59
Acenaphthene
Concen: 20.71 ppm
RT: 6.777 min Scan# 990
Delta R.T. -0.000 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:153 Resp: 706600

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 46.3 | 16.6 | 76.6 |
| 154 | 94.9 | 62.8 | 122.8 |

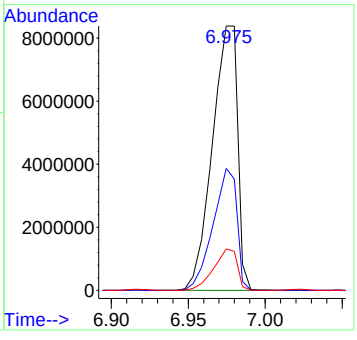



#62
Dibenzofuran
Concen: 202.57 ppm
RT: 6.975 min Scan# 1027
Delta R.T. 0.011 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:168 Resp: 9623842

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 46.1 | 13.3 | 73.3 |
| 169 | 15.6 | 0.0 | 43.3 |




9.1.12

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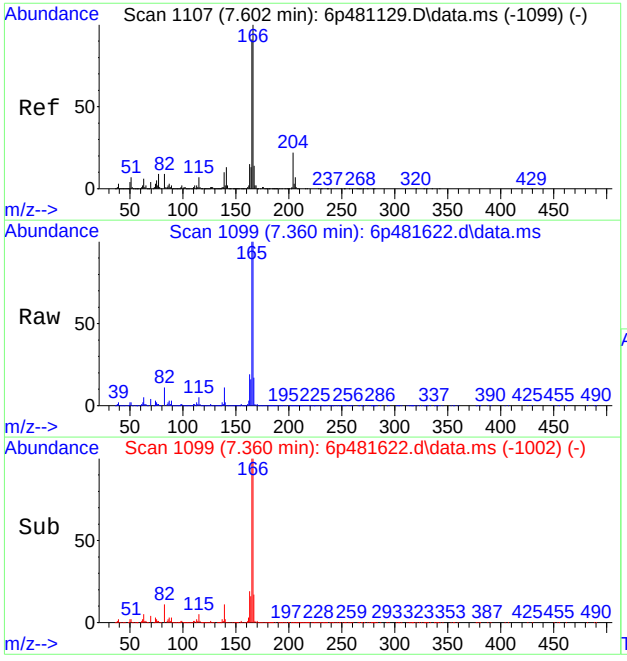
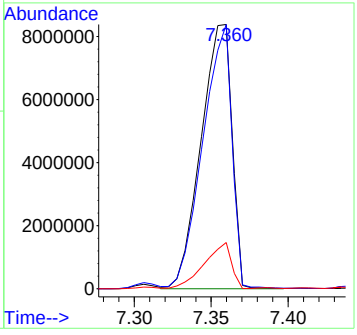
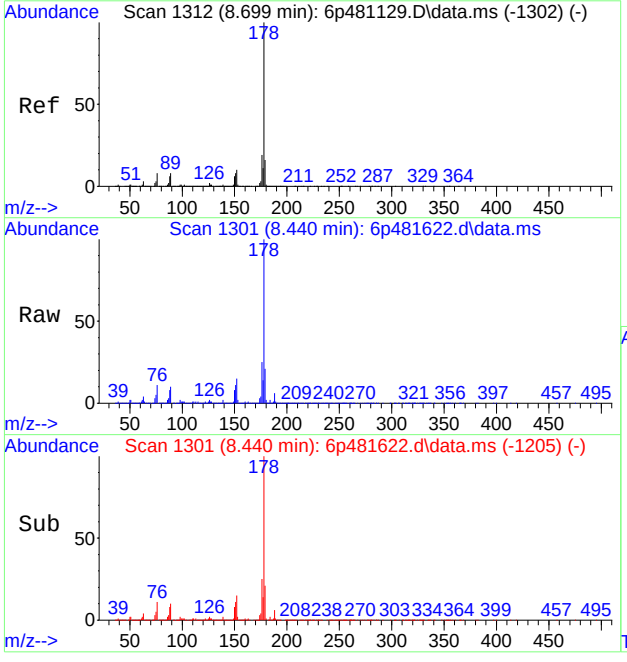



#66
Fluorene
Concen: 305.18 ppm
RT: 7.360 min Scan# 1099
Delta R.T. 0.021 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:166 Resp:11770513

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 99.8 | 61.8 | 121.8 |
| 167 | 17.3 | 0.0 | 43.9 |

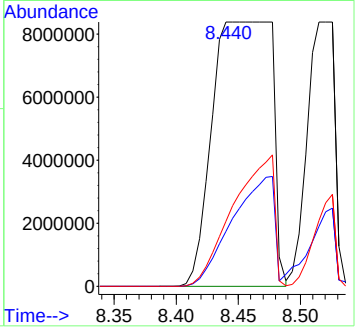



#77
Phenanthrene
Concen: 504.82 ppm m
RT: 8.440 min Scan# 1301
Delta R.T. 0.016 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:178 Resp:27900899

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 20.8 | 0.0 | 45.5 |
| 176 | 24.6 | 0.0 | 49.4 |




9.1.12

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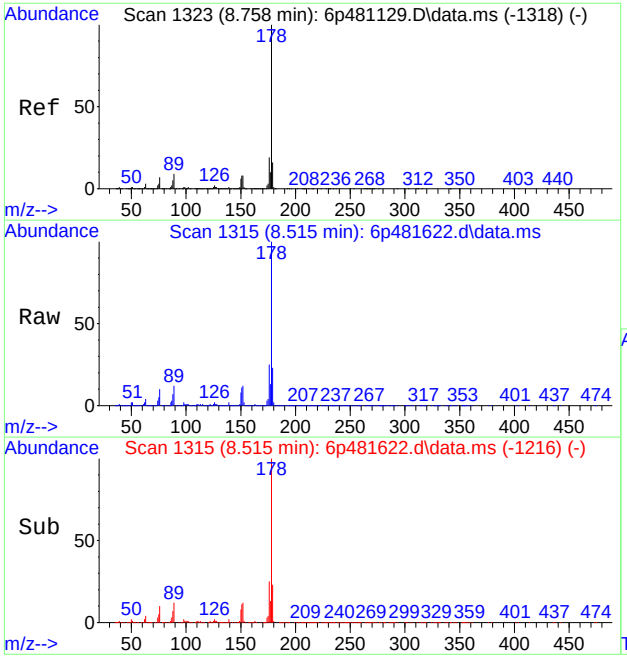
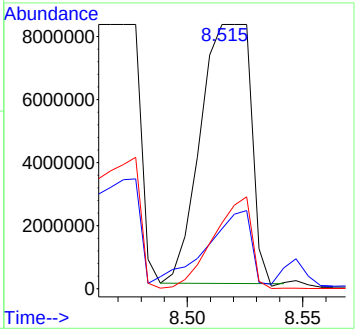
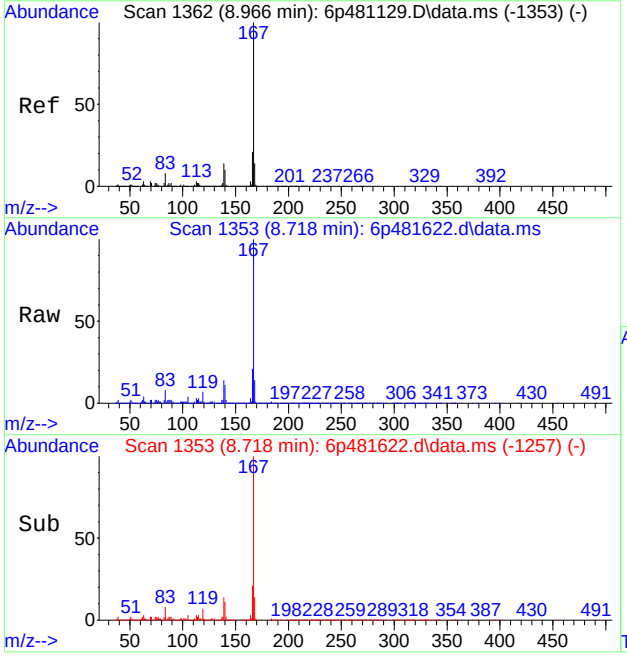



#78
Anthracene
Concen: 224.08 ppm
RT: 8.515 min Scan# 1315
Delta R.T. 0.032 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:178 Resp:12421110

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.8 | 0.0 | 46.0 |
| 176 | 25.2 | 0.0 | 48.5 |

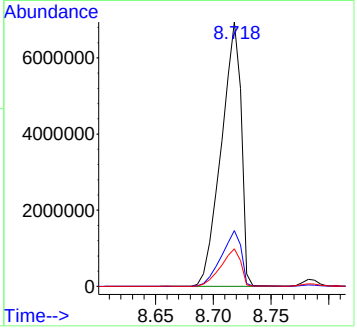



#79
Carbazole
Concen: 158.32 ppm
RT: 8.718 min Scan# 1353
Delta R.T. 0.016 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

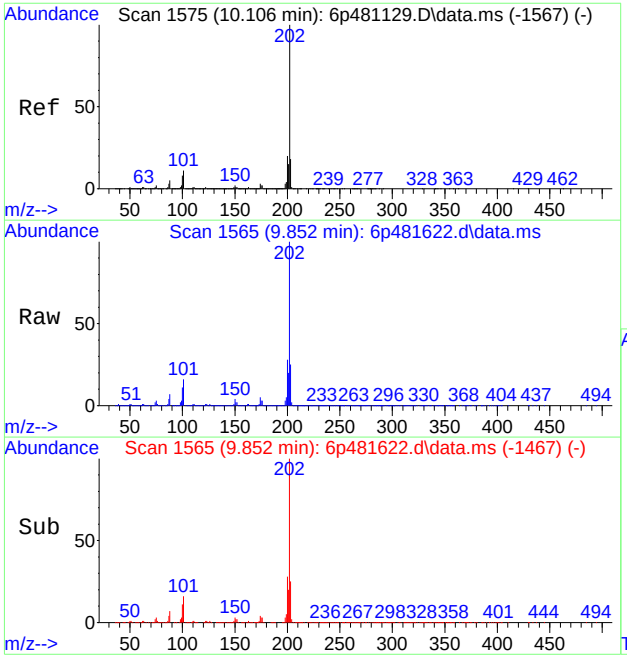
Tgt Ion:167 Resp: 8306995

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 21.1 | 0.0 | 50.5 |
| 139 | 14.2 | 0.0 | 43.7 |




9.1.12

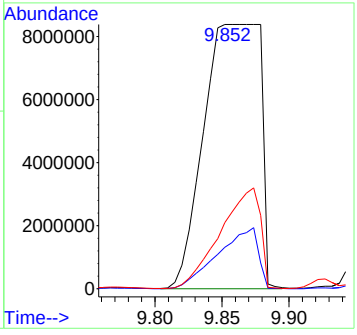
9

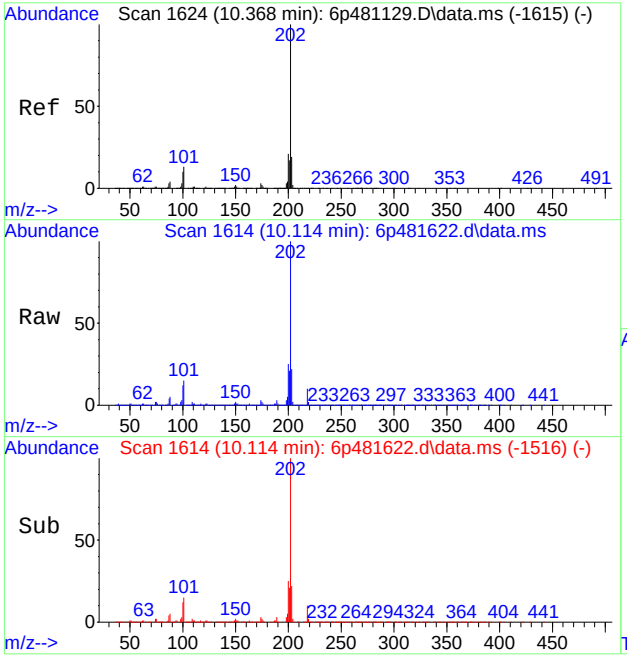



#81
Fluoranthene
Concen: 410.21 ppm m
RT: 9.852 min Scan# 1565
Delta R.T. 0.027 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:202 Resp:24632077

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 15.7 | 0.0 | 43.2 |
| 203 | 25.0 | 0.0 | 46.9 |

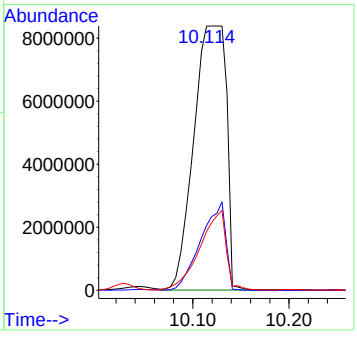


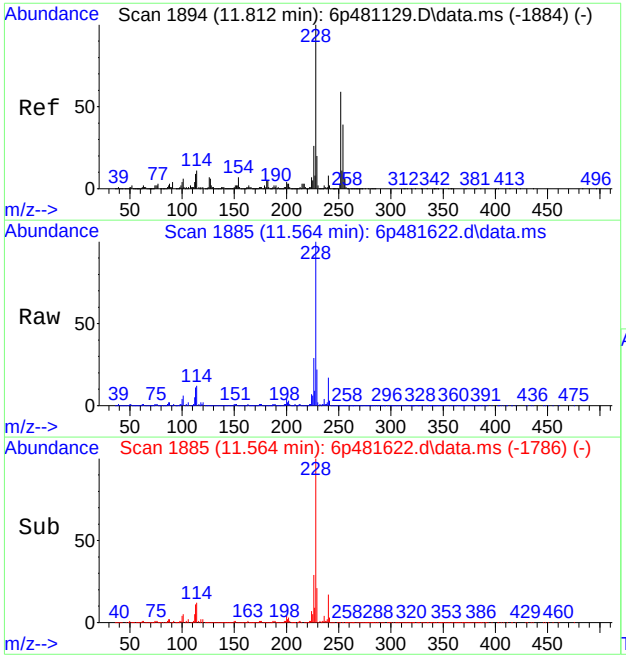




#84
Pyrene
Concen: 290.33 ppm
RT: 10.114 min Scan# 1614
Delta R.T. 0.027 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:202 Resp:19727663

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 24.6 | 0.0 | 51.0 |
| 203 | 22.0 | 0.0 | 48.2 |

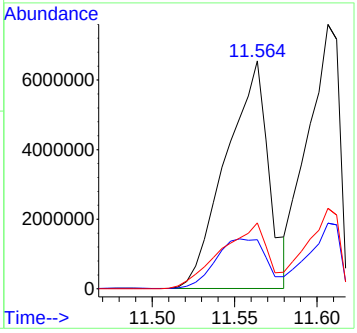


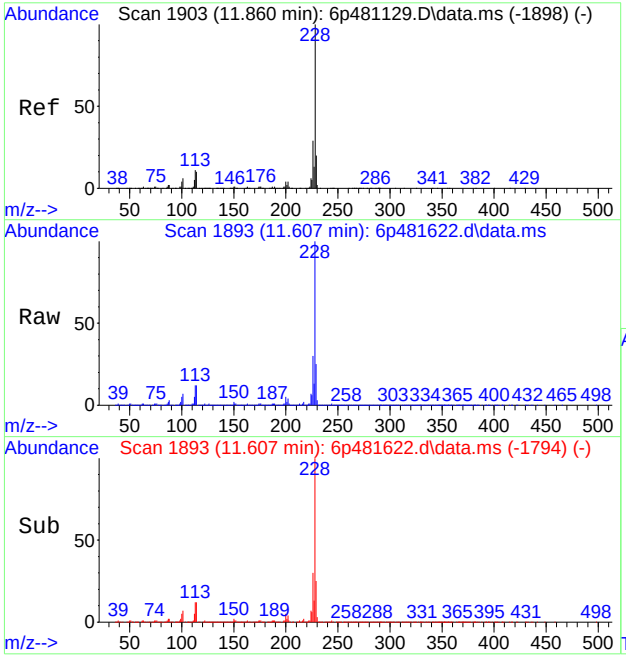



#87
Benzo[a]anthracene
Concen: 181.26 ppm
RT: 11.564 min Scan# 1885
Delta R.T. 0.032 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:228 Resp:11775675

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 21.2 | 0.0 | 50.0 |
| 226 | 28.5 | 0.0 | 57.2 |

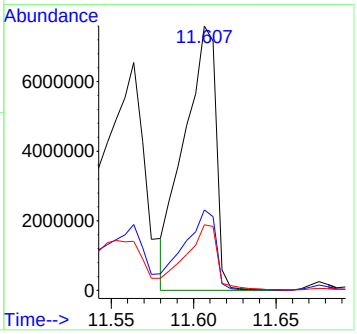


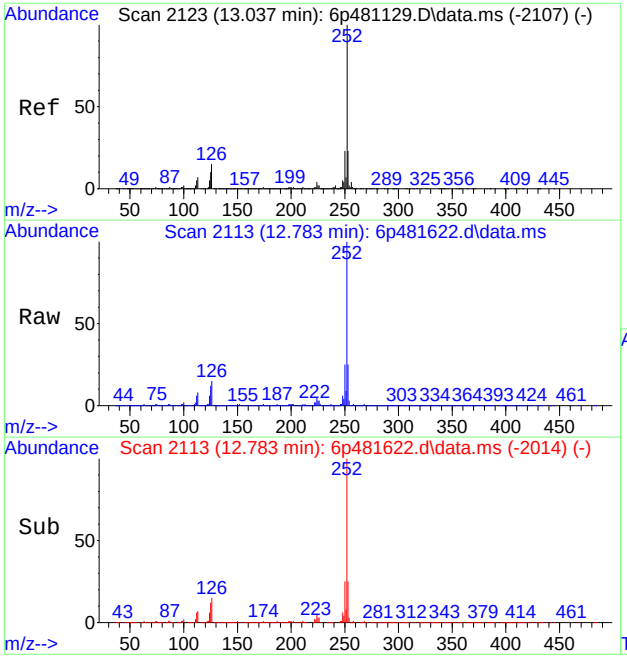




#89
Chrysene
Concen: 161.60 ppm
RT: 11.607 min Scan# 1893
Delta R.T. 0.032 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:228 Resp:10295569

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 30.3 | 0.0 | 59.4 |
| 229 | 25.0 | 0.0 | 49.1 |

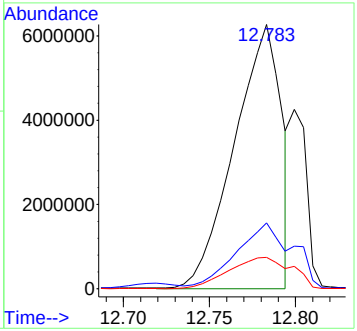


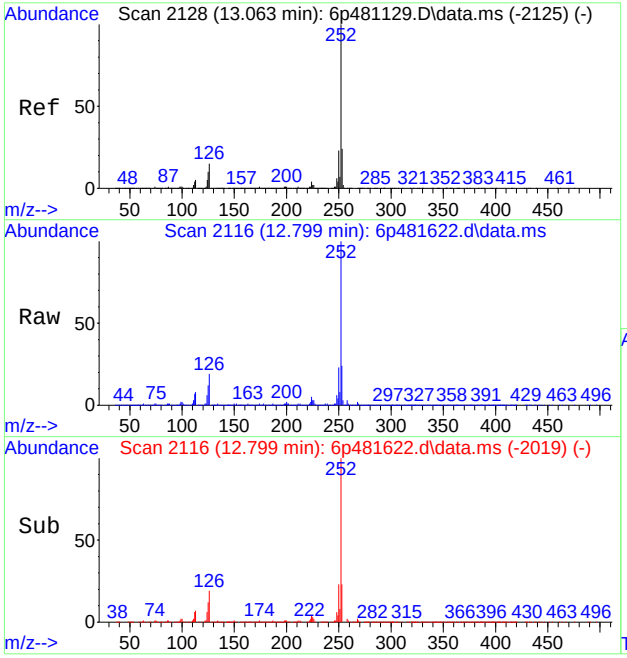



#93
Benzo[b]fluoranthene
Concen: 209.56 ppm m
RT: 12.783 min Scan# 2113
Delta R.T. 0.032 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:252 Resp:11920788

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 24.9 | 0.0 | 52.6 |
| 125 | 11.9 | 0.0 | 41.9 |

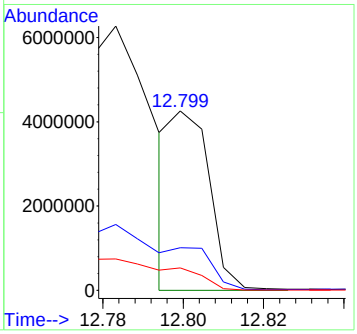



#94
Benzo[k]fluoranthene
Concen: 55.80 ppm m
RT: 12.799 min Scan# 2116
Delta R.T. 0.021 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

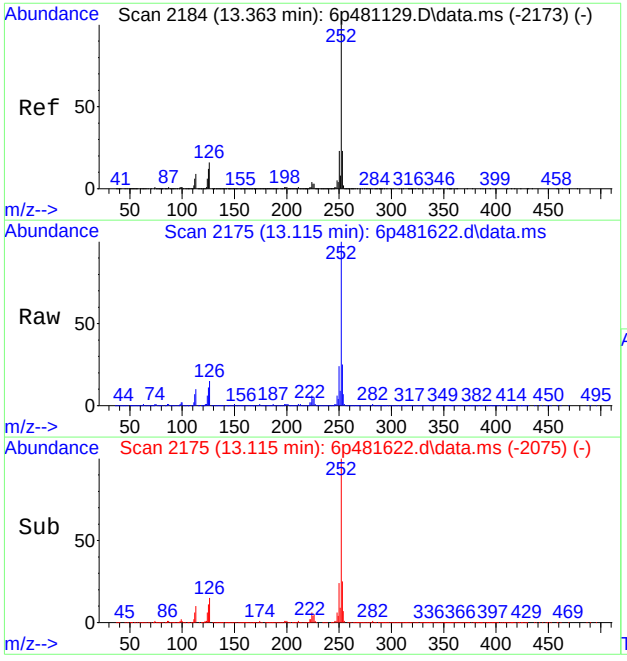
Tgt Ion:252 Resp: 2810004

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.8 | 0.0 | 52.1 |
| 125 | 12.5 | 0.0 | 42.0 |




9.1.12

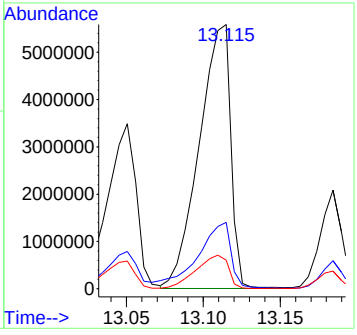
9

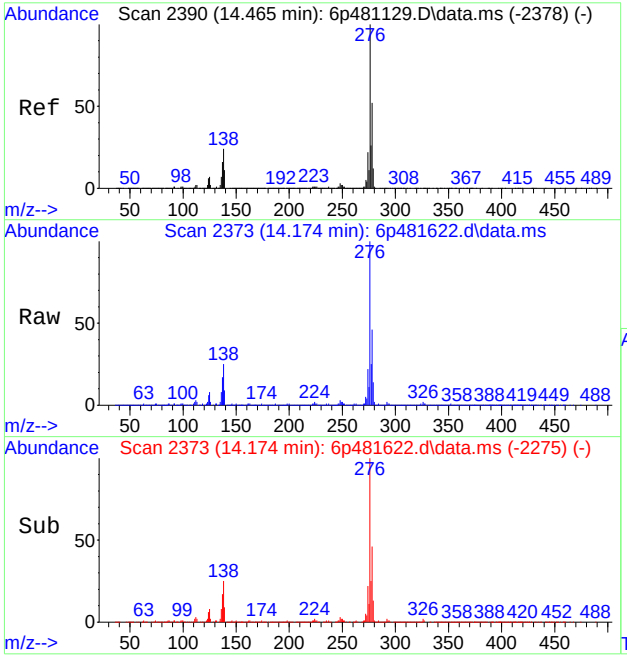



#95
Benzo[a]pyrene
Concen: 170.38 ppm
RT: 13.115 min Scan# 2175
Delta R.T. 0.037 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:252 Resp: 7962357

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.7 | 0.0 | 52.2 |
| 125 | 10.7 | 0.0 | 44.4 |

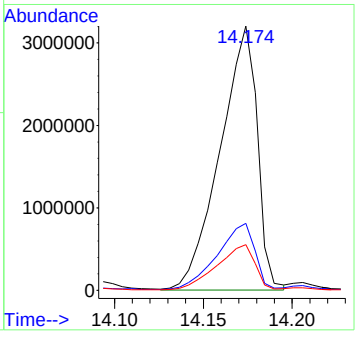


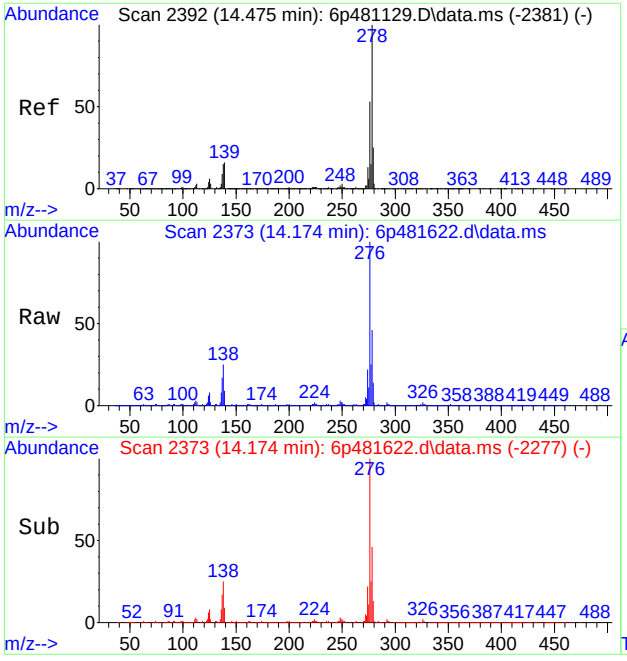




#96
Indeno[1,2,3-cd]pyrene
Concen: 74.66 ppm
RT: 14.174 min Scan# 2373
Delta R.T. 0.027 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:276 Resp: 4658970

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 25.1 | 0.0 | 58.7 |
| 137 | 17.1 | 0.0 | 48.8 |

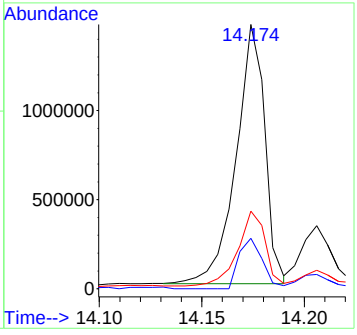


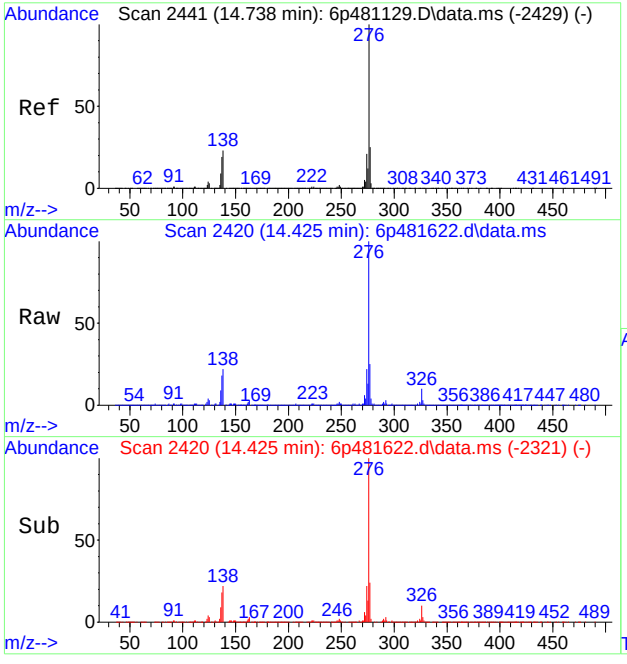



#98
Dibenz[a,h]anthracene
Concen: 25.73 ppm m
RT: 14.174 min Scan# 2373
Delta R.T. 0.016 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:278 Resp: 1422646

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 19.1 | 0.0 | 49.1 |
| 279 | 29.4 | 0.0 | 53.6 |

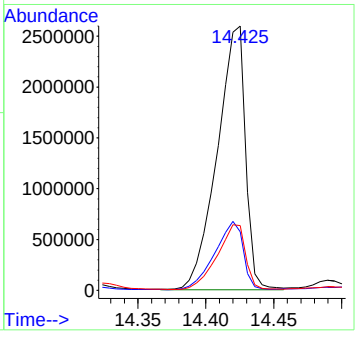



#100
Benzo[g,h,i]perylene
Concen: 77.18 ppm
RT: 14.425 min Scan# 2420
Delta R.T. 0.032 min
Lab File: 6p481622.d
Acq: 3 May 2019 5:44 pm

Tgt Ion:276 Resp: 3755666

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 21.8 | 0.0 | 55.6 |
| 277 | 24.2 | 0.0 | 53.1 |




9.1.12

9

# Manual Integration Approval Summary



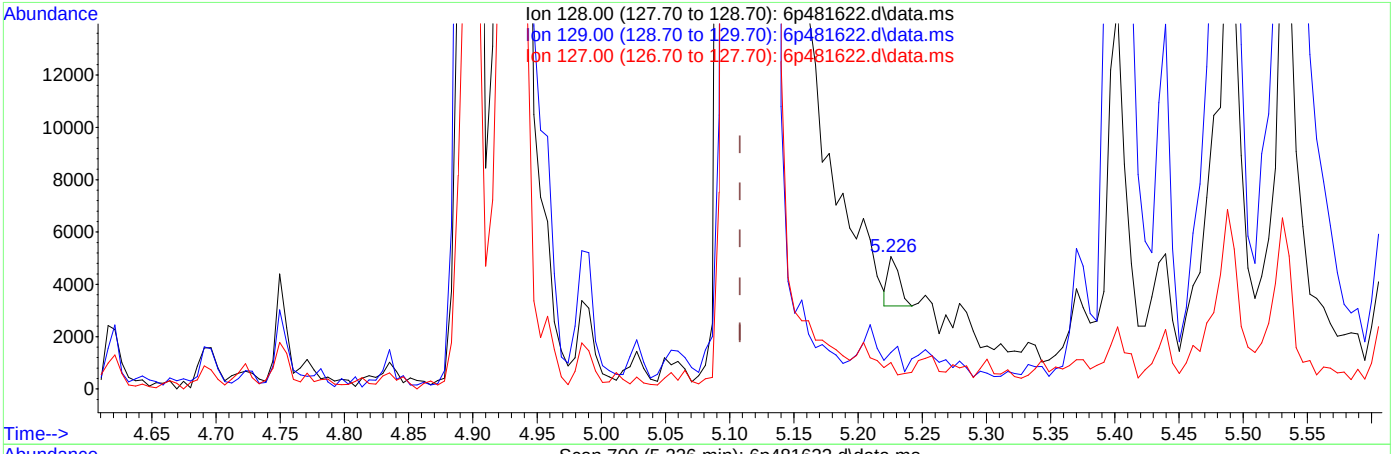
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-9 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481622.D | **Analyst approved:** | 05/06/19 03:07 Michelle Co |
| **Injection Time:** | 05/03/19 17:44 | **Supervisor approved:** | 05/09/19 11:58 Kristi Schollenberger |

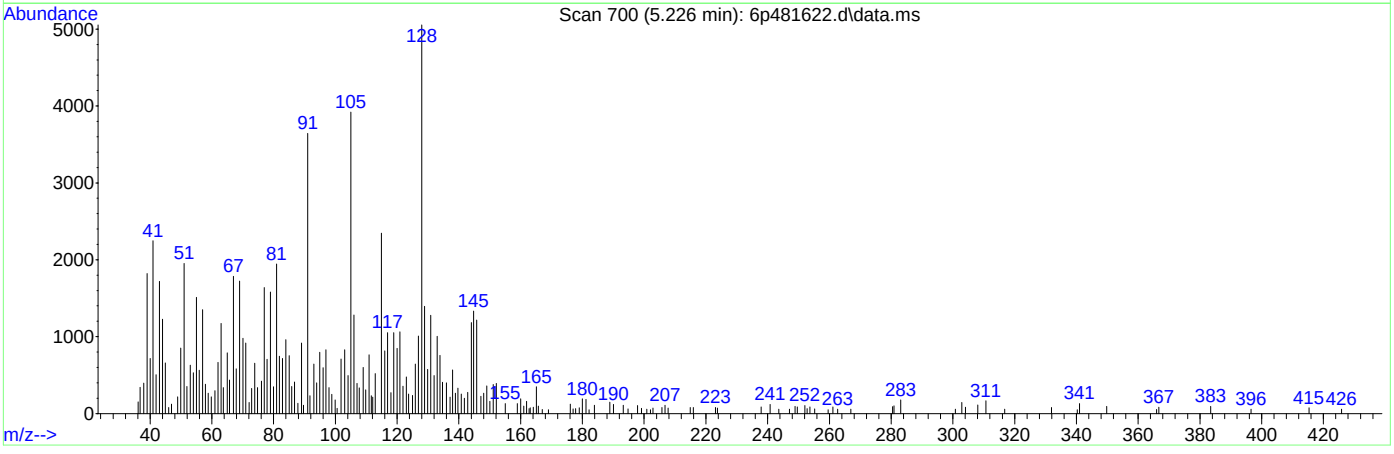
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.11 | Poor instrument integration |
| Phenanthrene | 85-01-8 | | 8.44 | Poor instrument integration |
| Fluoranthene | 206-44-0 | | 9.85 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.78 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.80 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.17 | Poor instrument integration |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On    :  3 May 2019   5:44 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst    : MS6P
Misc      : op20081,e6p2581,20.0,,,1,50
ALS Vial  : 12   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:42 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration
```




TIC: 6p481622.d\data.ms

(38) Naphthalene (t)

5.226min (+0.118) 0.02ppm

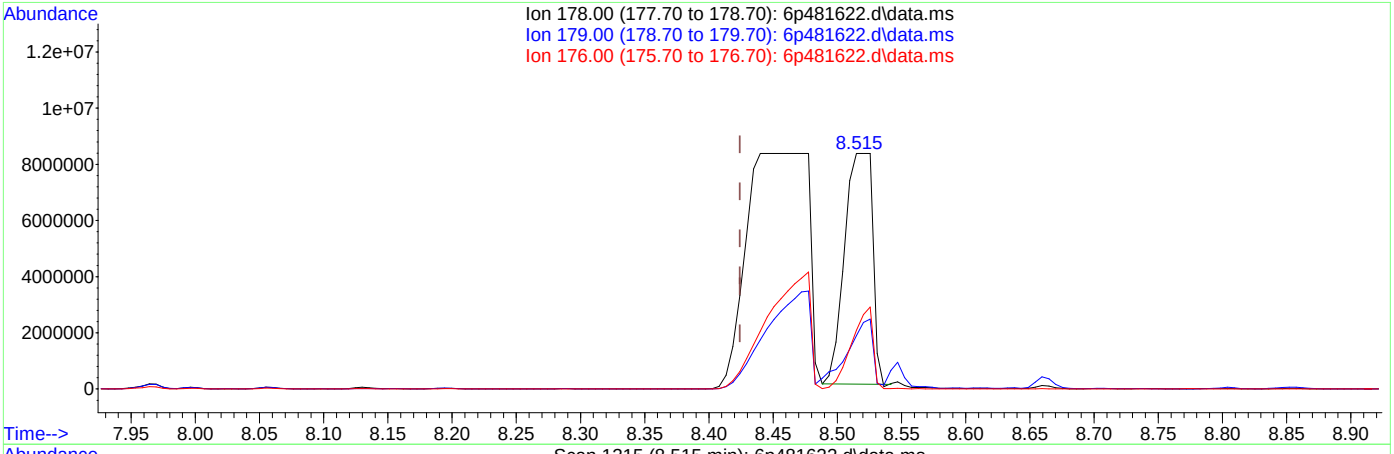
response 1132

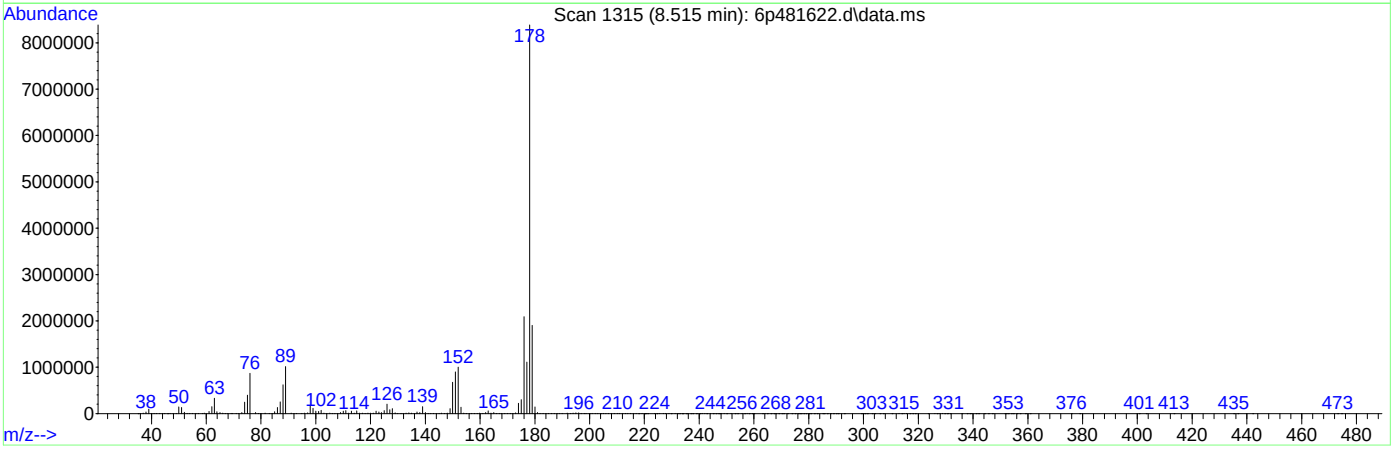
| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.20 | 17.00 |
| 127.00 | 12.80 | 17.35 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On : 3 May 2019 5:44 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,50
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:42 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481622.d\data.ms

(77) Phenanthrene (t)

8.515min (+0.091) 224.77ppm

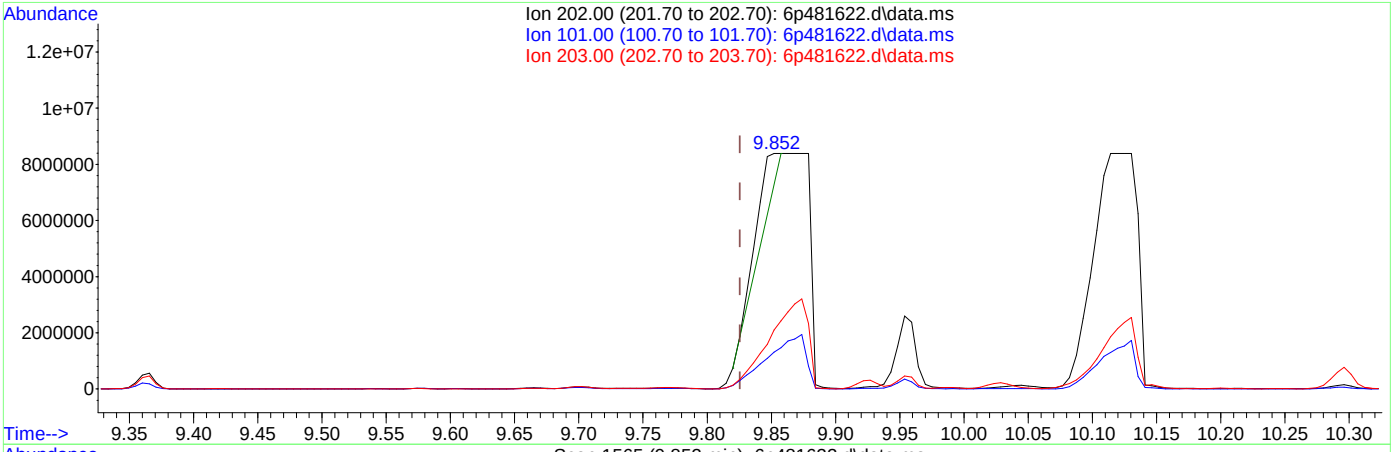
response 12422881

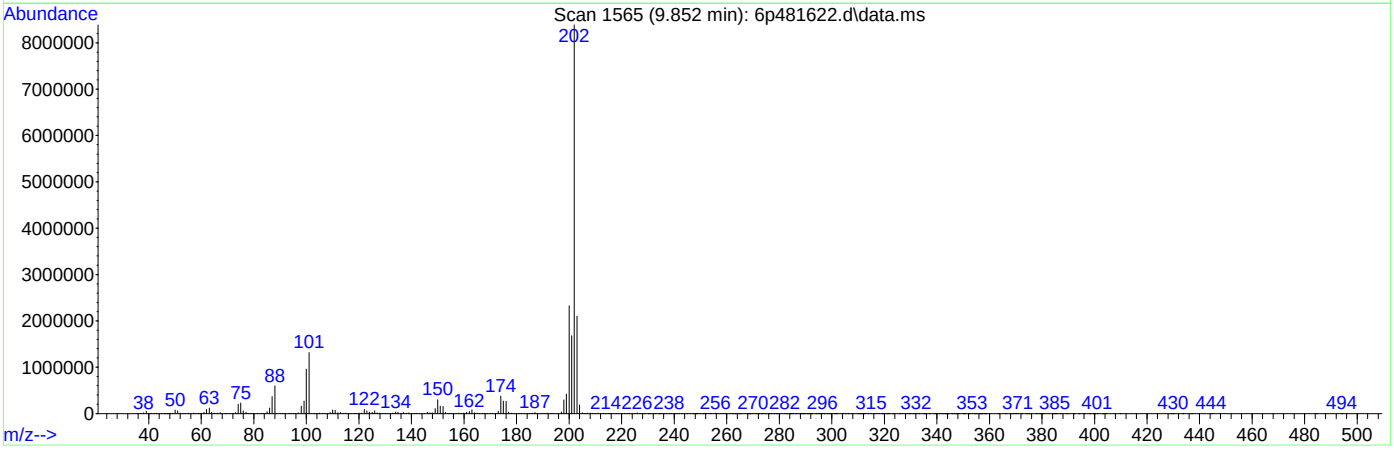
| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.50 | 16.80 |
| 176.00 | 19.40 | 25.25 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On : 3 May 2019 5:44 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,50
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:42 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481622.d\data.ms

(81) Fluoranthene (t)

9.852min (+0.027) 57.34ppm

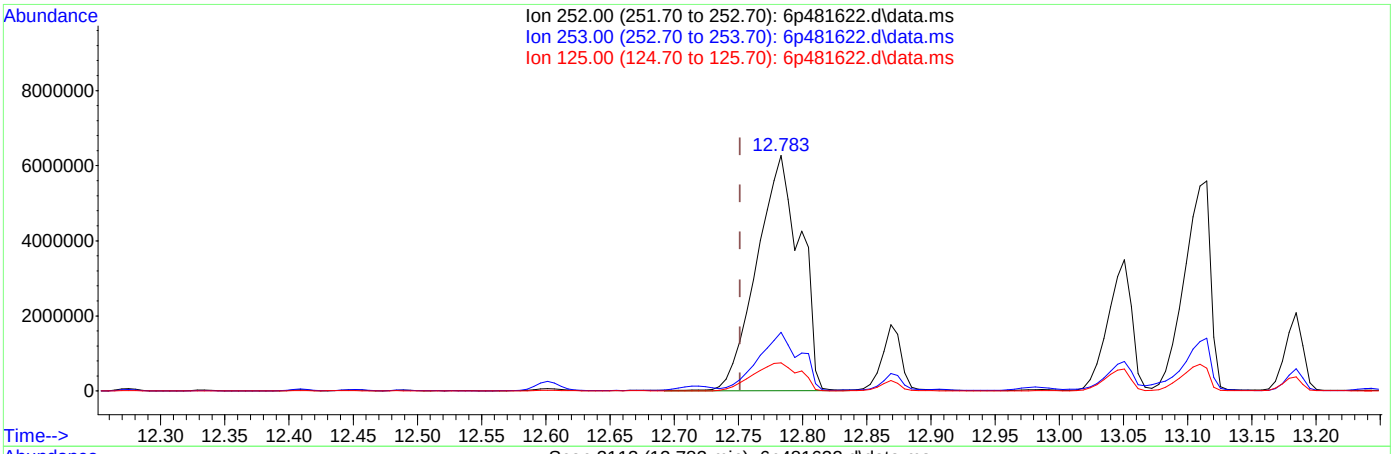
response 3442973

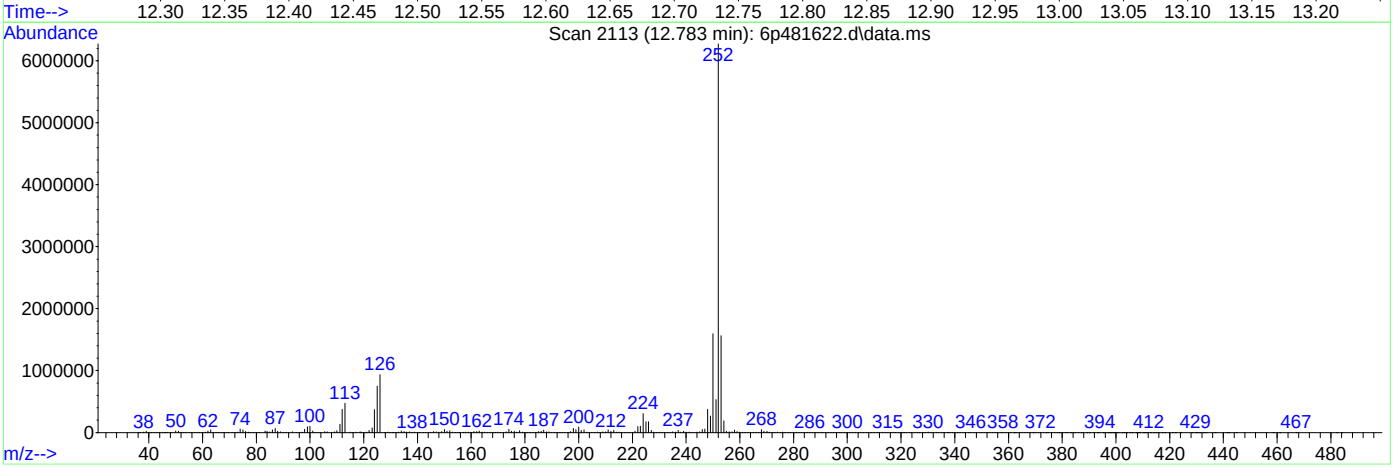
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 101.00 | 13.20 | 13.46 |
| 203.00 | 16.90 | 21.30 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On : 3 May 2019 5:44 pm
Operator : angelar
Sample : jc86986-9 Inst : MS6P
Misc : op20081,e6p2581,20.0,,,1,50
ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:42 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481622.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.783min (+0.032) 258.75ppm

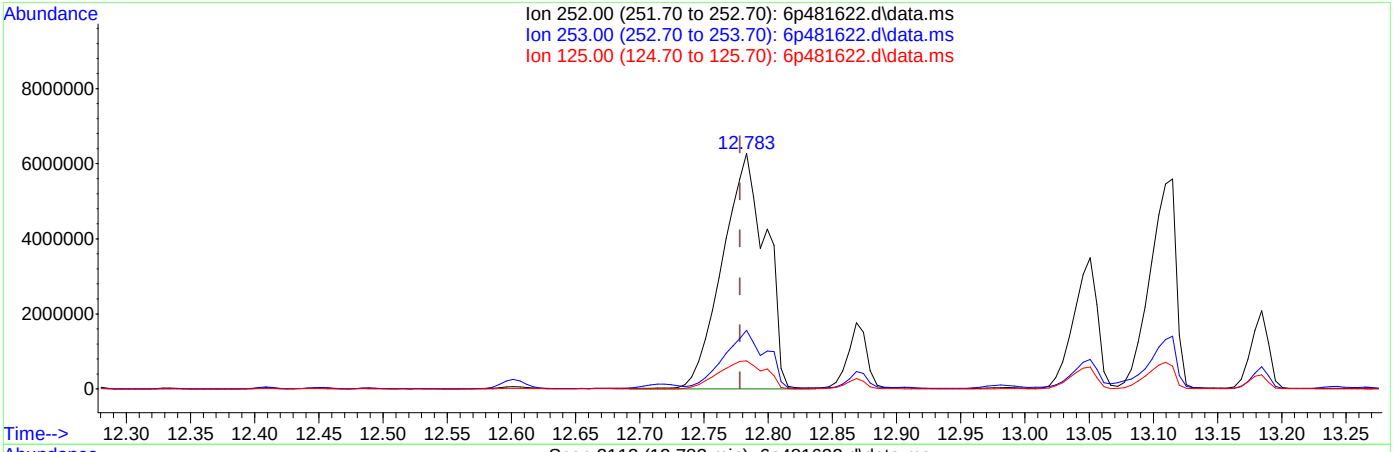
response 14718642

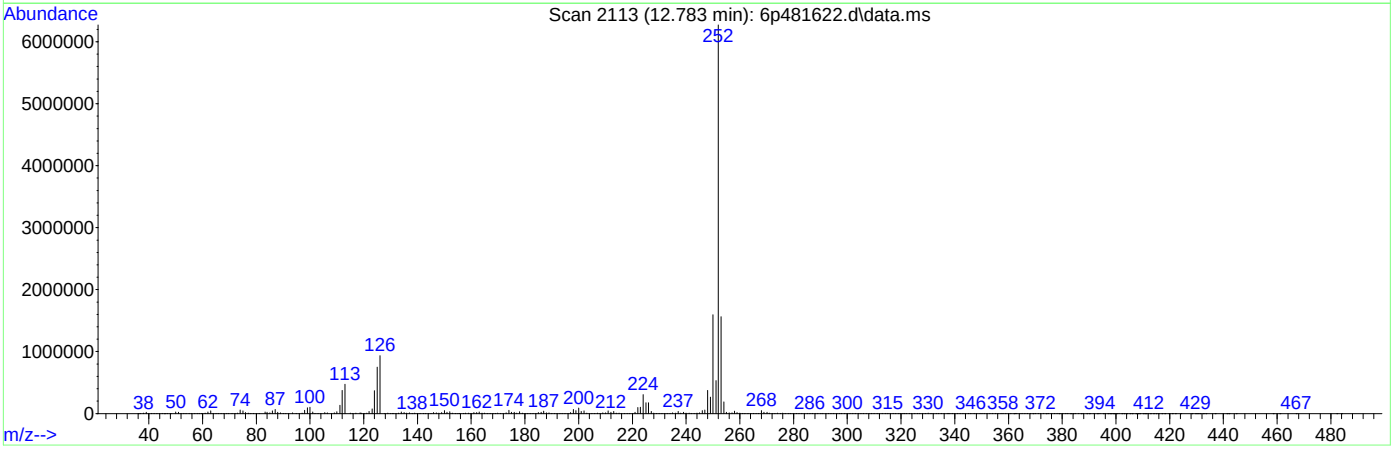
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 24.59 |
| 125.00 | 11.90 | 11.86 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On    :  3 May 2019   5:44 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst     : MS6P
Misc      : op20081,e6p2581,20.0,,,1,50
ALS Vial  : 12   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:42 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration
```




TIC: 6p481622.d\data.ms

(94) Benzo[k]fluoranthene (t)

12.783min (+0.005) 292.71ppm

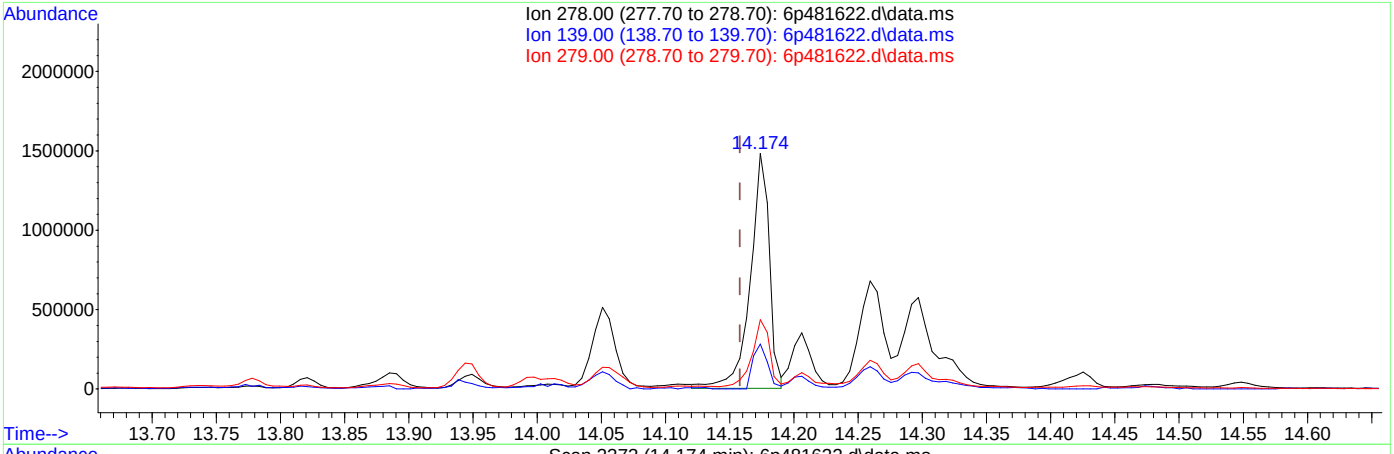
response 14740144

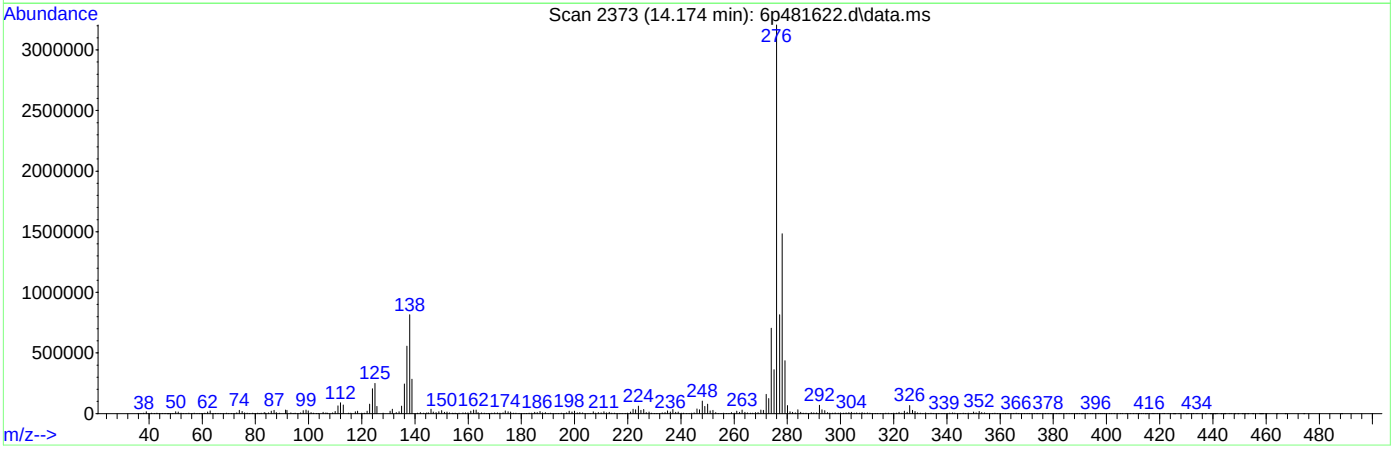
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.10 | 24.59 |
| 125.00 | 12.00 | 11.86 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481622.d
Acq On    :  3 May 2019   5:44 pm
Operator  : angelar
Sample    : jc86986-9                                  Inst     : MS6P
Misc      : op20081,e6p2581,20.0,,,1,50
ALS Vial  : 12   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:07:42 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration
```




TIC: 6p481622.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.174min (+0.016) 27.57ppm

response 1524435

| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 19.10 | 18.88 |
| 279.00 | 23.60 | 28.80 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481563a.d
Acq On : 2 May 2019 3:25 pm
Operator : angelar
Sample : jc86986-10 Inst : MS6P
Misc : op20081,e6p2579,31.1,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:43:06 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 510149 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.108 | 136 | 1919018 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1128634 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.413 | 188 | 2008353 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.564 | 240 | 1746551 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.152 | 264 | 1710068 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 510149 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1128634 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.413 | 188 | 2008353 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.564 | 240 | 1746551 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.108 | 136 | 1919018 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.413 | 188 | 2008353 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.564 | 240 | 1746551 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 555513 | 37.22 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 74.44% | |
| 8) Phenol-d5 | 3.921 | 99 | 675211 | 37.06 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 74.12% | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 623856 | 39.06 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 78.12% | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1512625 | 37.94 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 75.88% | |
| 73) 2,4,6-Tribromophenol | 7.633 | 330 | 233875 | 36.19 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 72.38% | |
| 85) Terphenyl-d14 | 10.344 | 244 | 1580110 | 38.83 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 77.66% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.124 | 128 | 70106 | 1.40 | ppm | 98 |
| 44) 2-Methylnaphthalene | 5.734 | 141 | 5364 | 0.19 | ppm | 94 |
| 62) Dibenzofuran | 6.980 | 168 | 9503 | 0.20 | ppm | 92 |
| 66) Fluorene | 7.354 | 166 | 8859 | 0.23 | ppm | 96 |
| 77) Phenanthrene | 8.440 | 178 | 42783m | 0.79 | ppm | |
| 78) Anthracene | 8.504 | 178 | 10680 | 0.20 | ppm | 88 |
| 81) Fluoranthene | 9.842 | 202 | 41386 | 0.71 | ppm | 96 |
| 84) Pyrene | 10.104 | 202 | 32224 | 0.55 | ppm | 94 |
| 87) Benzo[a]anthracene | 11.553 | 228 | 18423 | 0.33 | ppm | 92 |
| 89) Chrysene | 11.591 | 228 | 13043 | 0.24 | ppm | 89 |
| 102) Benzaldehyde | 3.824 | 105 | 14553 | 1.15 | ppm | 95 |

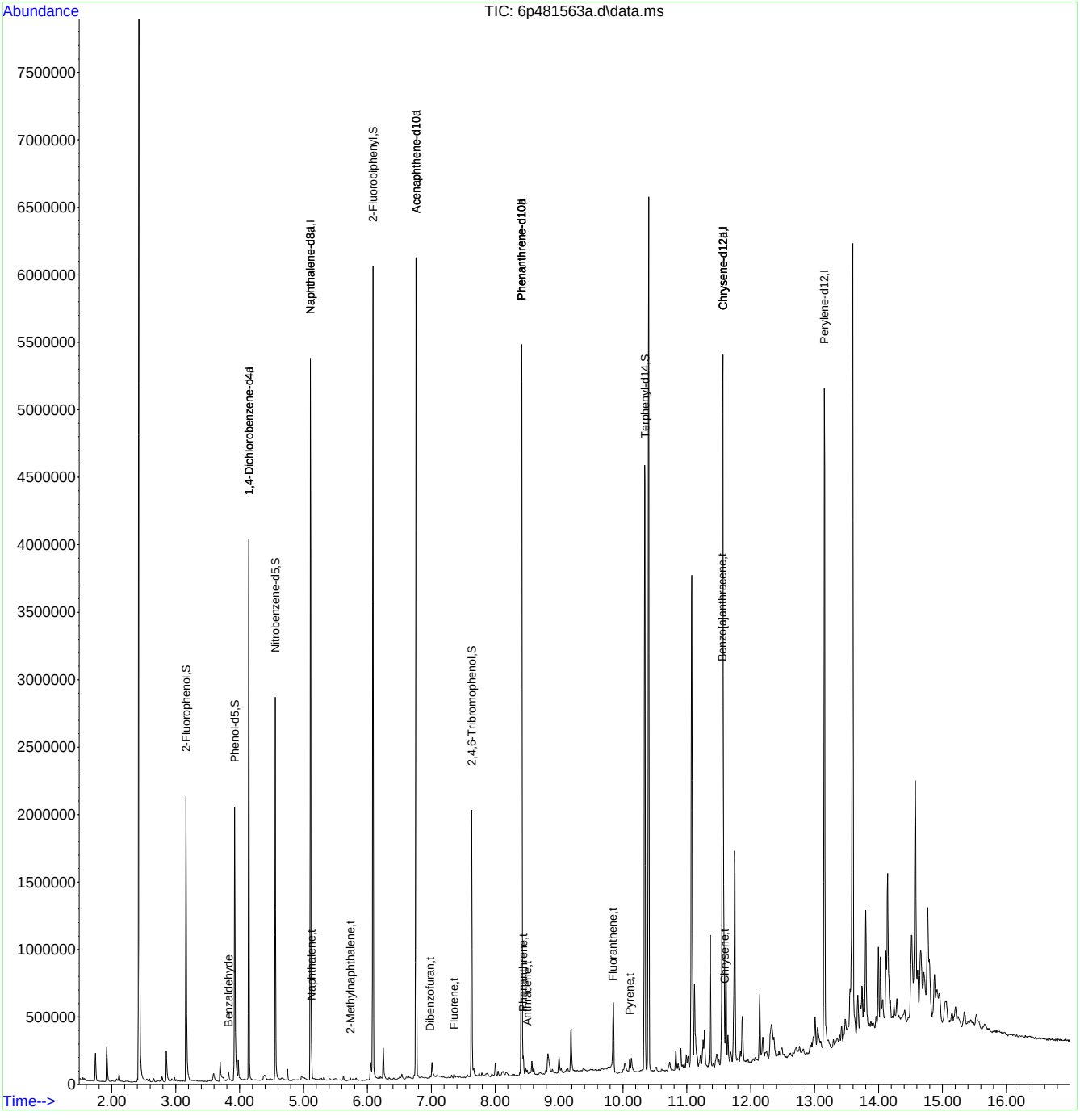
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.1.13
9

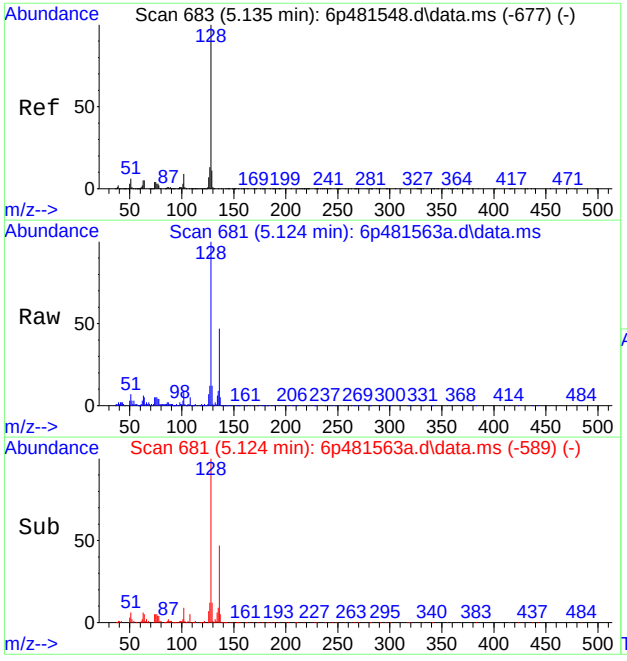
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481563a.d
Acq On : 2 May 2019 3:25 pm
Operator : angelar
Sample : jc86986-10 Inst : MS6P
Misc : op20081,e6p2579,31.1,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:43:06 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration



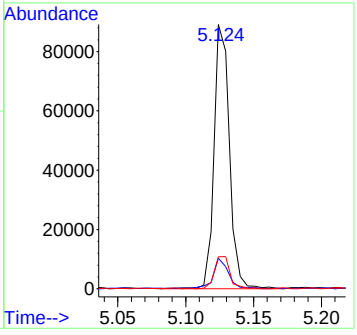

M6P2562.M Fri May 03 07:09:42 2019 Page: 2

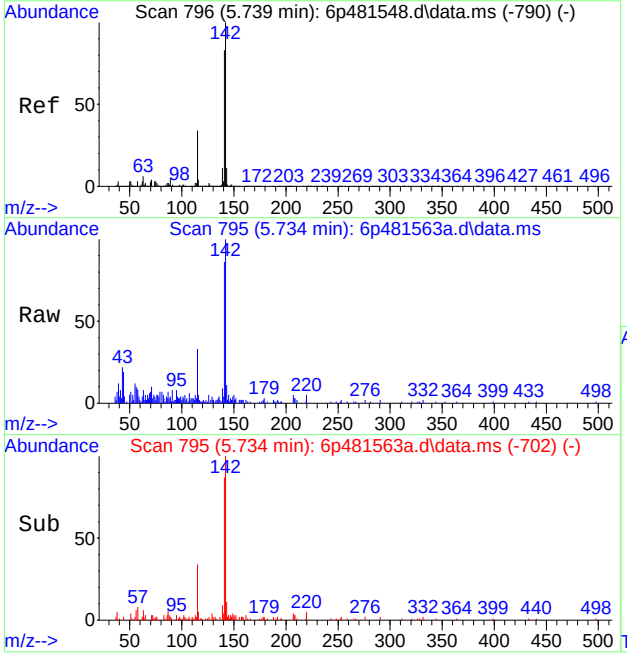



#38
Naphthalene
Concen: 1.40 ppm
RT: 5.124 min Scan# 681
Delta R.T. -0.011 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:128 Resp: 70106

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.4 | 0.0 | 41.4 |
| 127 | 11.8 | 0.0 | 43.3 |

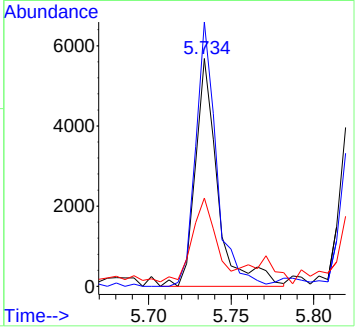


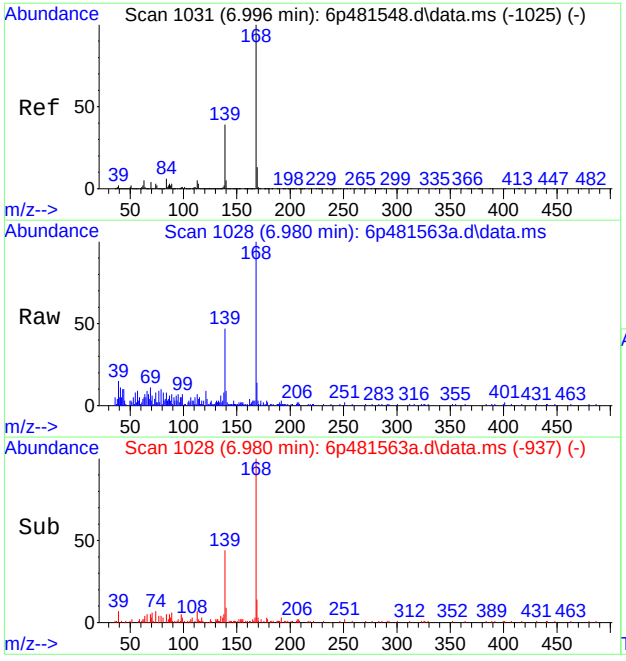




#44
2-Methylnaphthalene
Concen: 0.19 ppm
RT: 5.734 min Scan# 795
Delta R.T. -0.005 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:141 Resp: 5364

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 114.9 | 90.7 | 150.7 |
| 115 | 34.9 | 11.4 | 71.4 |

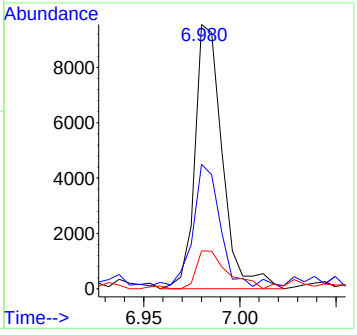


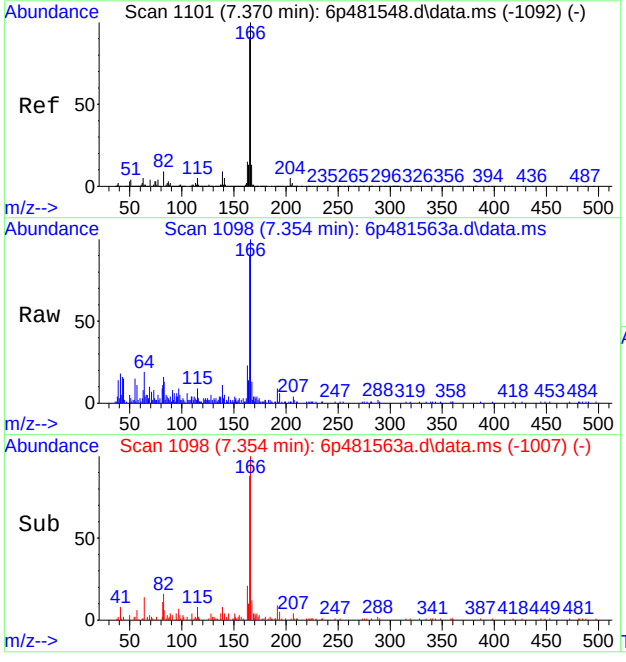



#62
Dibenzofuran
Concen: 0.20 ppm
RT: 6.980 min Scan# 1028
Delta R.T. -0.016 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:168 Resp: 9503

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 45.3 | 8.8 | 68.8 |
| 169 | 13.2 | 0.0 | 43.0 |

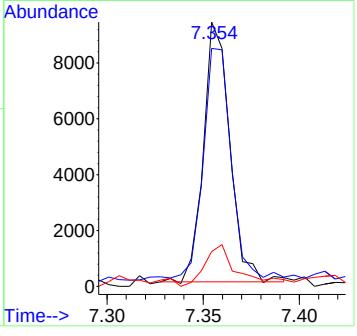


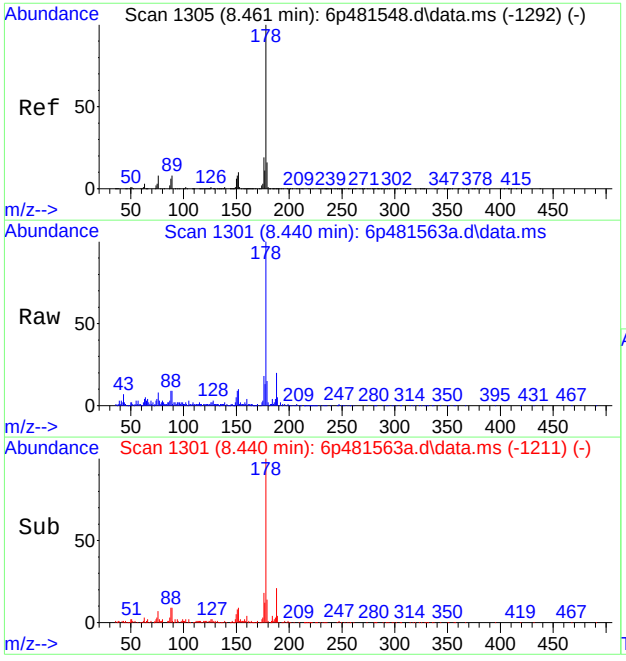




#66
Fluorene
Concen: 0.23 ppm
RT: 7.354 min Scan# 1098
Delta R.T. -0.016 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:166 Resp: 8859

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 87.8 | 60.9 | 120.9 |
| 167 | 11.0 | 0.0 | 43.1 |

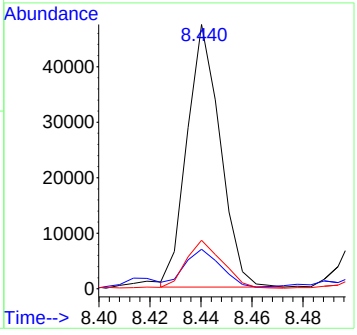


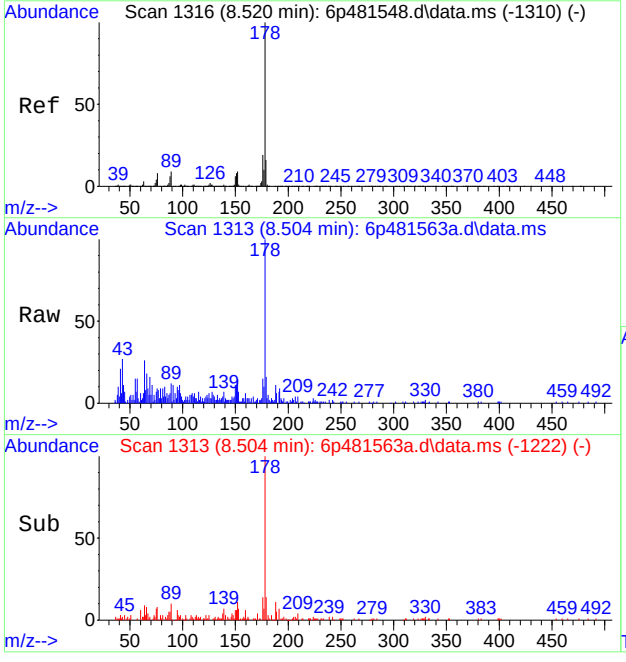



#77
Phenanthrene
Concen: 0.79 ppm m
RT: 8.440 min Scan# 1301
Delta R.T. -0.021 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:178 Resp: 42783

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 14.9 | 0.0 | 45.9 |
| 176 | 18.4 | 0.0 | 49.1 |

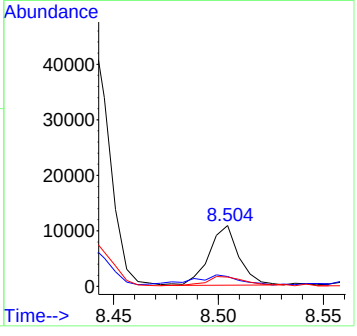



#78
Anthracene
Concen: 0.20 ppm
RT: 8.504 min Scan# 1313
Delta R.T. -0.016 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

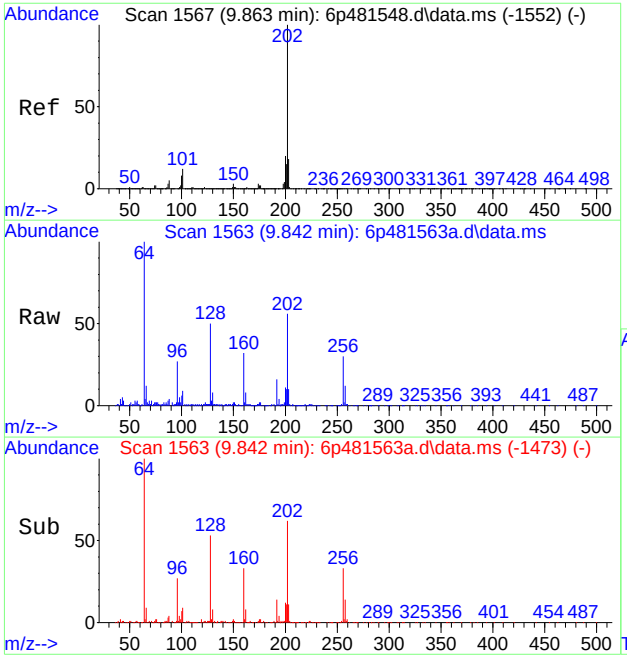
Tgt Ion:178 Resp: 10680

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 11.7 | 0.0 | 46.1 |
| 176 | 13.6 | 0.0 | 49.3 |




9.1.13

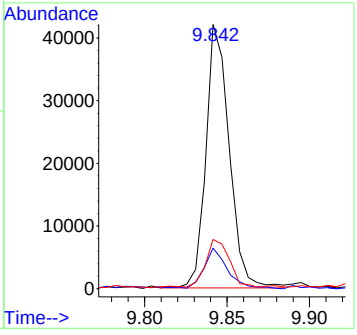
9

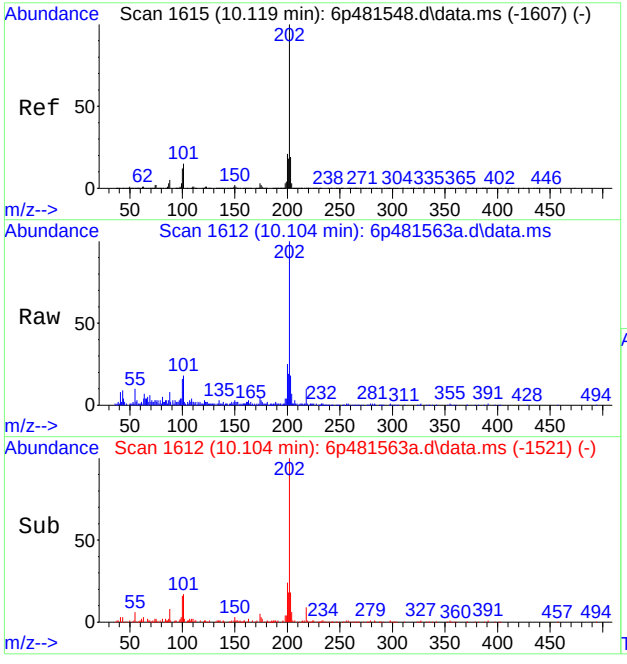



#81
Fluoranthene
Concen: 0.71 ppm
RT: 9.842 min Scan# 1563
Delta R.T. -0.021 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:202 Resp: 41386

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 15.1 | 0.0 | 41.6 |
| 203 | 18.1 | 0.0 | 47.6 |

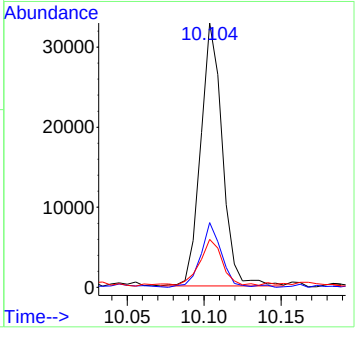


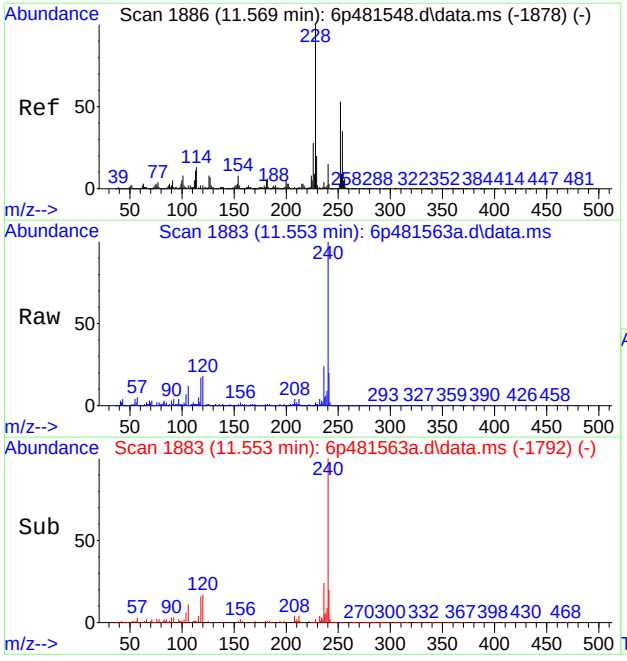




#84
Pyrene
Concen: 0.55 ppm
RT: 10.104 min Scan# 1612
Delta R.T. -0.016 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:202 Resp: 32224

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 24.5 | 0.0 | 50.9 |
| 203 | 16.9 | 0.0 | 48.9 |

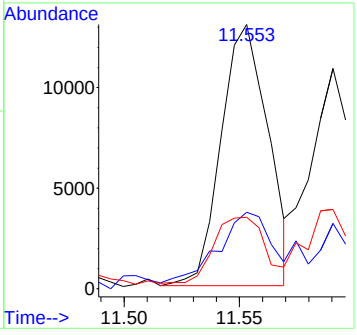


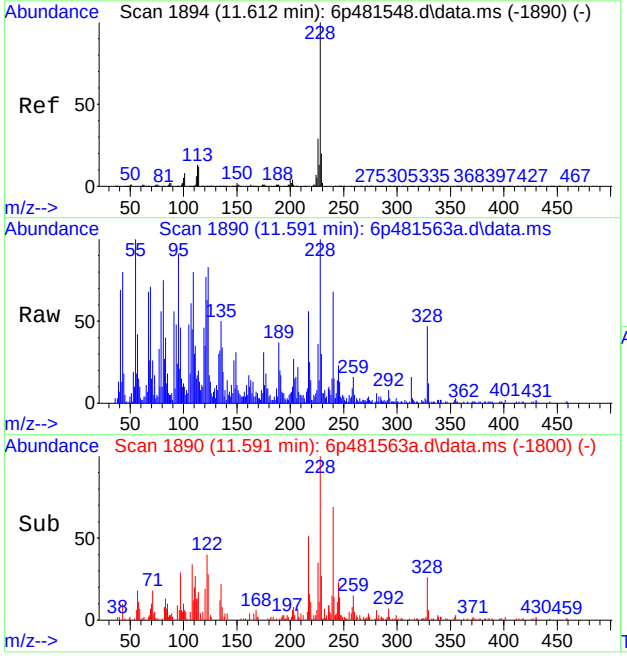



#87
Benzo[a]anthracene
Concen: 0.33 ppm
RT: 11.553 min Scan# 1883
Delta R.T. -0.016 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:228 Resp: 18423

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 26.3 | 0.0 | 50.1 |
| 226 | 25.4 | 0.0 | 50.7 |

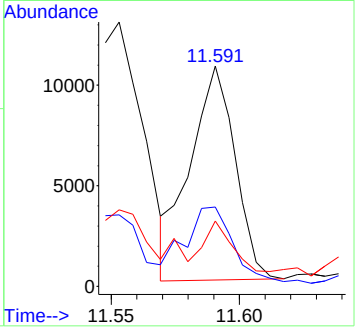


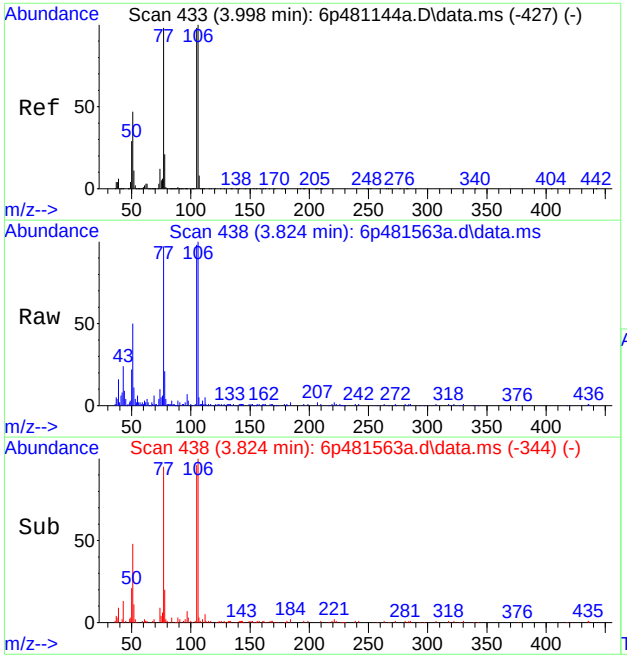




#89
Chrysene
Concen: 0.24 ppm
RT: 11.591 min Scan# 1890
Delta R.T. -0.021 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:228 Resp: 13043

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 36.3 | 0.0 | 59.3 |
| 229 | 24.0 | 0.0 | 50.2 |

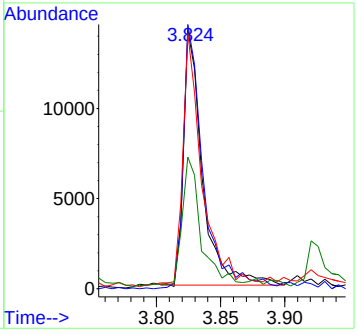





#102
Benzaldehyde
Concen: 1.15 ppm
RT: 3.824 min Scan# 438
Delta R.T. 0.005 min
Lab File: 6p481563a.d
Acq: 2 May 2019 3:25 pm

Tgt Ion:105 Resp: 14553

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 105 | 100 | | |
| 106 | 102.5 | 71.5 | 131.5 |
| 77 | 96.9 | 62.8 | 122.8 |
| 51 | 49.6 | 10.4 | 70.4 |



# Manual Integration Approval Summary



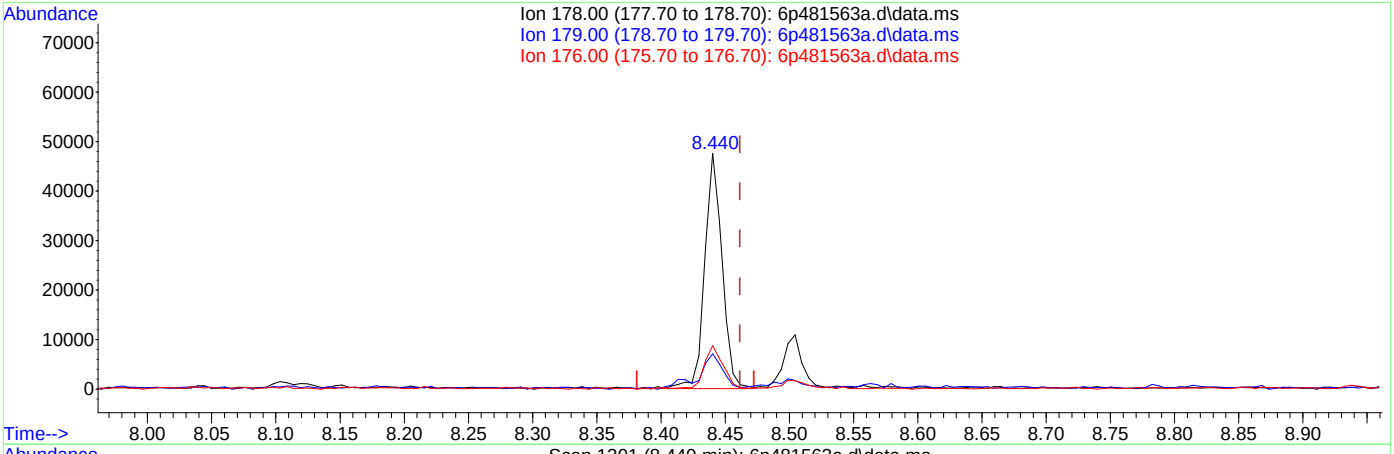
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-10 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481563A.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 15:25 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

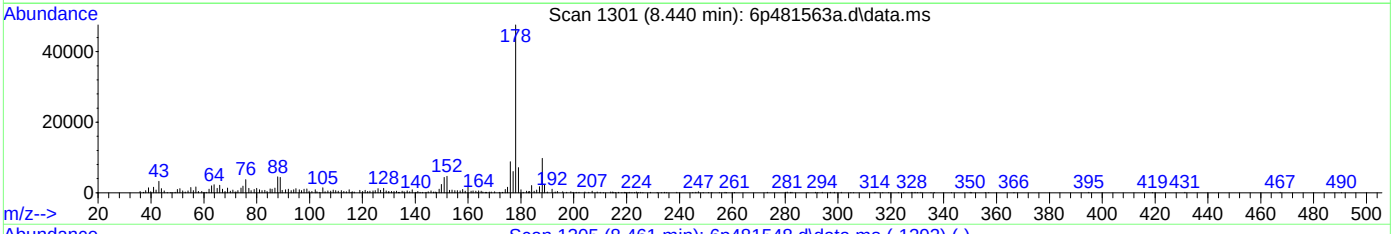
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Phenanthrene | 85-01-8 | | 8.44 | Poor instrument integration |

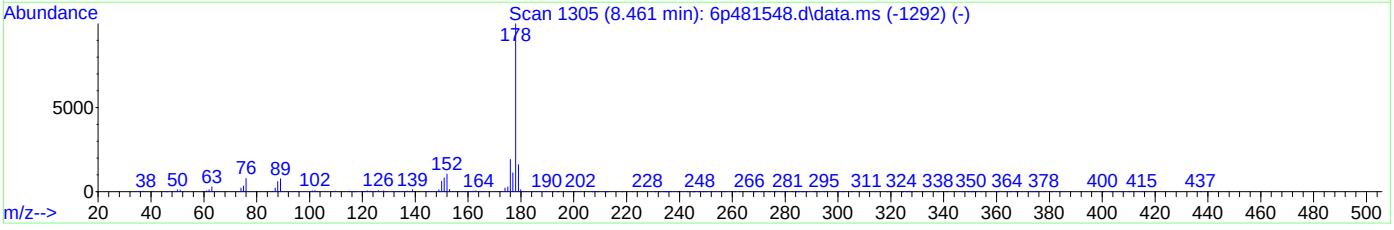
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481563a.d
Acq On : 2 May 2019 3:25 pm
Operator : angelar
Sample : jc86986-10 Inst : MS6P
Misc : op20081,e6p2579,31.1,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:47 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481563a.d\data.ms

(77) Phenanthrene (t)

8.440min (-0.021) 0.83ppm

response 44935

| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 14.29 |
| 176.00 | 19.10 | 18.34 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 12:18

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 09 12:10:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 517711 | 40.00 ppm | 0.00 |
| 24) Naphthalene-d8 | 5.124 | 136 | 1829266 | 40.00 ppm | 0.01 |
| 47) Acenaphthene-d10 | 6.771 | 164 | 1147716 | 40.00 ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.488 | 188 | 2179031 | 40.00 ppm | 0.06 |
| 83) Chrysene-d12 | 11.686 | 240 | 2535224 | 40.00 ppm | 0.12 |
| 91) Perylene-d12 | 13.280 | 264 | 2465161 | 40.00 ppm | 0.12 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 517711 | 40.00 ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.771 | 164 | 1147716 | 40.00 ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.488 | 188 | 2179031 | 40.00 ppm | 0.06 |
| 109) Chrysene-d12a | 11.686 | 240 | 2535224 | 40.00 ppm | 0.12 |
| 111) Naphthalene-d8a | 5.124 | 136 | 1829266 | 40.00 ppm | 0.01 |
| 113) Phenanthrene-d10b | 8.488 | 188 | 2179031 | 40.00 ppm | 0.06 |
| 115) Chrysene-d12b | 11.686 | 240 | 2535224 | 40.00 ppm | 0.12 |
| System Monitoring Compounds | | | | | |
| 5) 2-Fluorophenol | 3.166 | 112 | 241470 | 15.94 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 31.88% | |
| 8) Phenol-d5 | 3.931 | 99 | 300876 | 16.27 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 32.54% | |
| 25) Nitrobenzene-d5 | 4.562 | 82 | 279350 | 18.35 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 36.70% | |
| 51) 2-Fluorobiphenyl | 6.092 | 172 | 639701 | 15.78 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 31.56% | |
| 73) 2,4,6-Tribromophenol | 7.654 | 330 | 116677 | 16.64 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 33.28% | |
| 85) Terphenyl-d14 | 10.381 | 244 | 855602m | 14.49 ppm | 0.03 |
| Spiked Amount 50.000 | | | Recovery | = 28.98% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 ppm | |
| Target Compounds | | | | | Qvalue |
| 9) Phenol | 3.942 | 94 | 28183 | 1.25 ppm | 68 |
| 19) 2-Methylphenol | 4.375 | 108 | 6253 | 0.41 ppm | 83 |
| 21) 3&4-Methylphenol | 4.498 | 108 | 25508 | 1.60 ppm | 89 |
| 30) 2,4-Dimethylphenol | 4.888 | 107 | 12834 | 0.93 ppm | 97 |
| 38) Naphthalene | 5.134 | 128 | 19293973m | 404.99 ppm | |
| 44) 2-Methylnaphthalene | 5.744 | 141 | 7598141 | 281.97 ppm | 93 |
| 53) Biphenyl | 6.188 | 154 | 3042022 | 69.29 ppm | 99 |
| 56) Acenaphthylene | 6.627 | 152 | 16280971 | 311.70 ppm | 80 |
| 59) Acenaphthene | 6.803 | 153 | 2370058 | 68.35 ppm | 96 |
| 62) Dibenzofuran | 6.996 | 168 | 18528617m | 383.74 ppm | |
| 66) Fluorene | 7.381 | 166 | 23836287m | 608.09 ppm | |
| 77) Phenanthrene | 8.467 | 178 | 60998441m | 1042.63 ppm | |
| 78) Anthracene | 8.579 | 178 | 18958102m | 323.10 ppm | |
| 79) Carbazole | 8.761 | 167 | 16584200m | 298.59 ppm | |
| 81) Fluoranthene | 9.879 | 202 | 64573374m | 1015.90 ppm | |
| 84) Pyrene | 10.162 | 202 | 55993417m | 662.97 ppm | |
| 87) Benzo[a]anthracene | 11.606 | 228 | 51173641m | 633.71 ppm | |
| 89) Chrysene | 11.686 | 228 | 21751655m | 274.68 ppm | |

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 09 12:10:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 93) | Benzo[b]fluoranthene | 12.842 | 252 | 59971833m | 796.50 | ppm | |
| 94) | Benzo[k]fluoranthene | 12.933 | 252 | 3179834m | 47.71 | ppm | |
| 95) | Benzo[a]pyrene | 13.211 | 252 | 25000731m | 404.15 | ppm | |
| 96) | Indeno[1,2,3-cd]pyrene | 14.286 | 276 | 42784838m | 517.98 | ppm | |
| 98) | Dibenz[a,h]anthracene | 14.302 | 278 | 17008910m | 232.37 | ppm | |
| 100) | Benzo[g,h,i]perylene | 14.559 | 276 | 40784057m | 633.17 | ppm | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

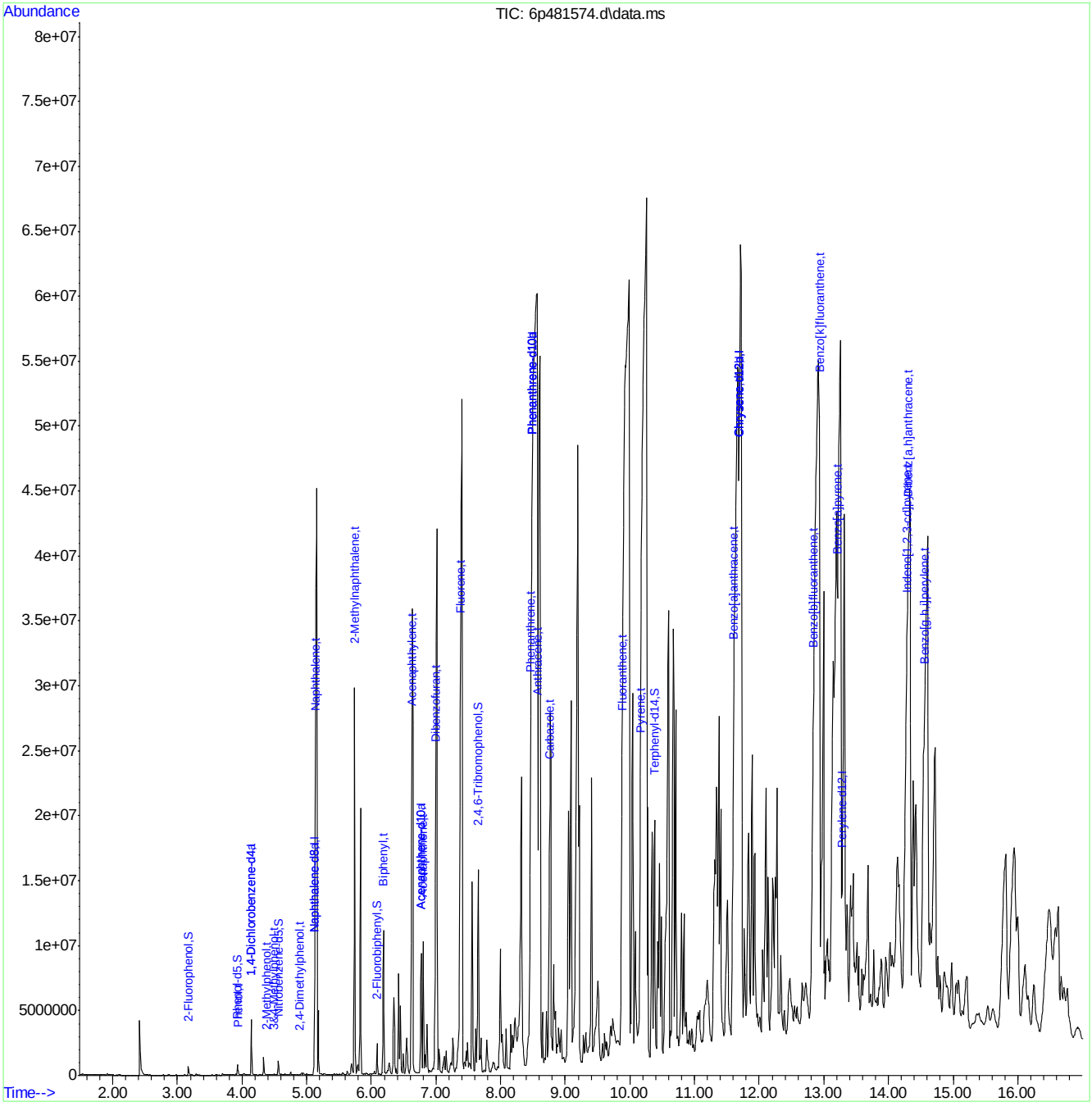
9.1.14

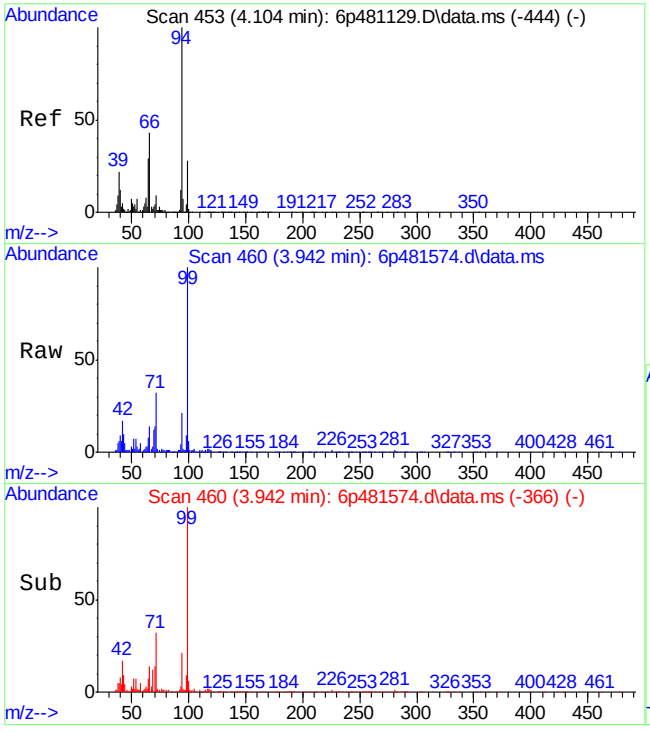
9

Quantitation Report (QT Reviewed)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 09 12:10:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

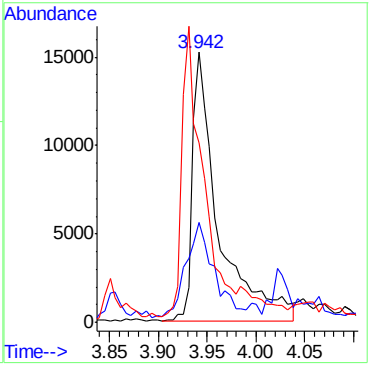


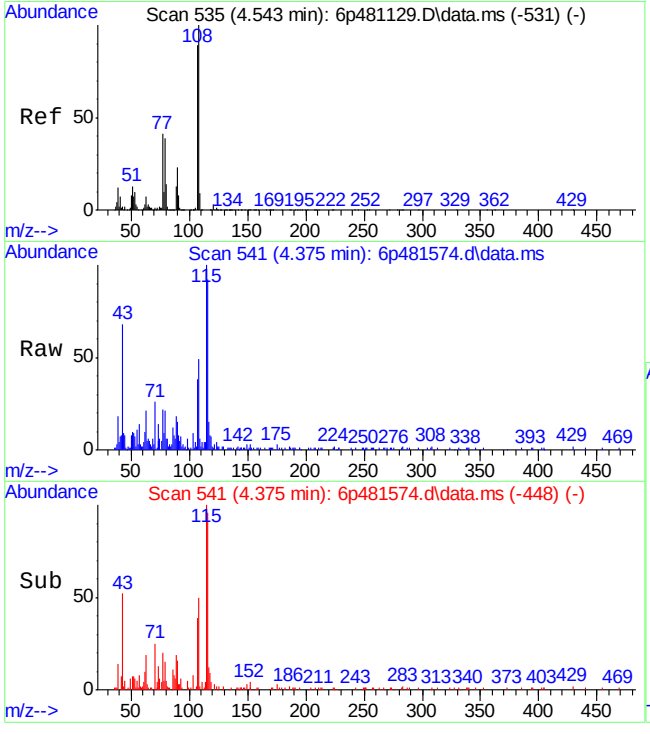



#9
Phenol
Concen: 1.25 ppm
RT: 3.942 min Scan# 460
Delta R.T. 0.005 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion: 94 Resp: 28183

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 94 | 100 | | |
| 65 | 34.6 | 0.0 | 56.0 |
| 66 | 64.3 | 8.4 | 68.4 |

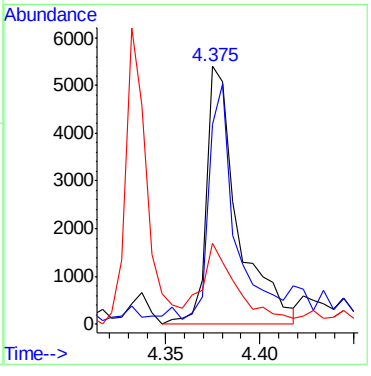


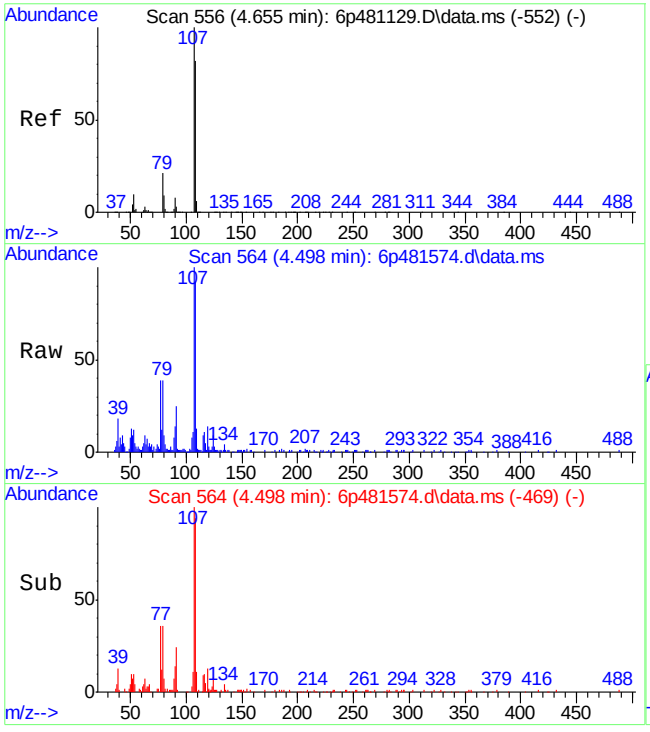




#19
2-Methylphenol
Concen: 0.41 ppm
RT: 4.375 min Scan# 541
Delta R.T. -0.000 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:108 Resp: 6253

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 70.6 | 59.8 | 119.8 |
| 90 | 25.2 | 0.0 | 53.6 |

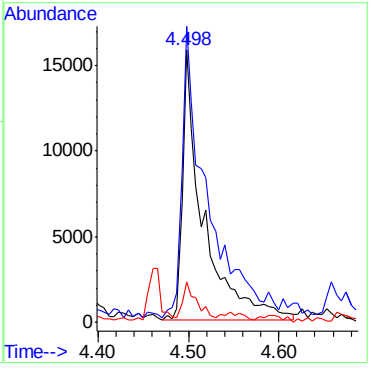


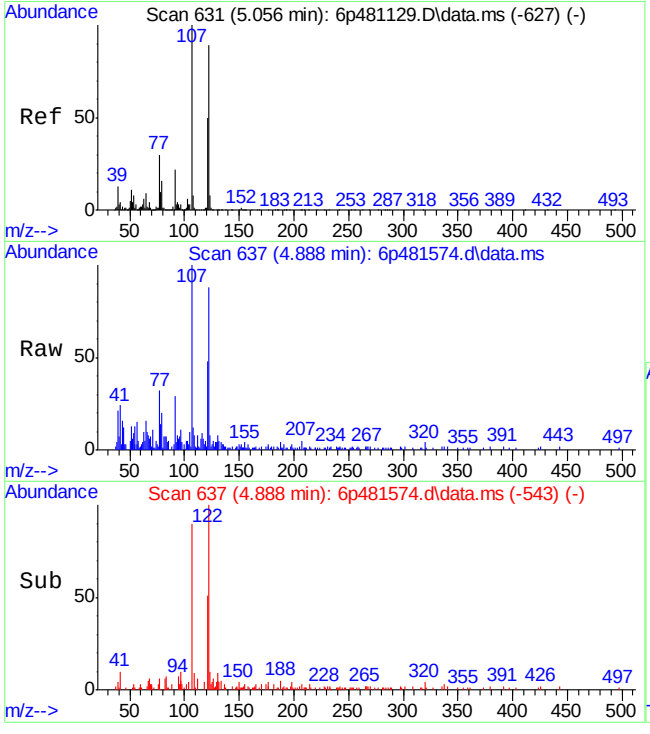



#21
3&4-Methylphenol
Concen: 1.60 ppm
RT: 4.498 min Scan# 564
Delta R.T. 0.011 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:108 Resp: 25508

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 108 | 100 | | |
| 107 | 106.1 | 88.3 | 148.3 |
| 90 | 13.2 | 0.0 | 40.2 |

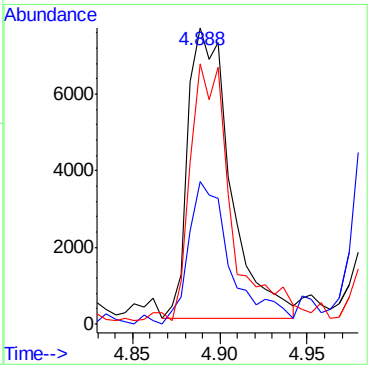


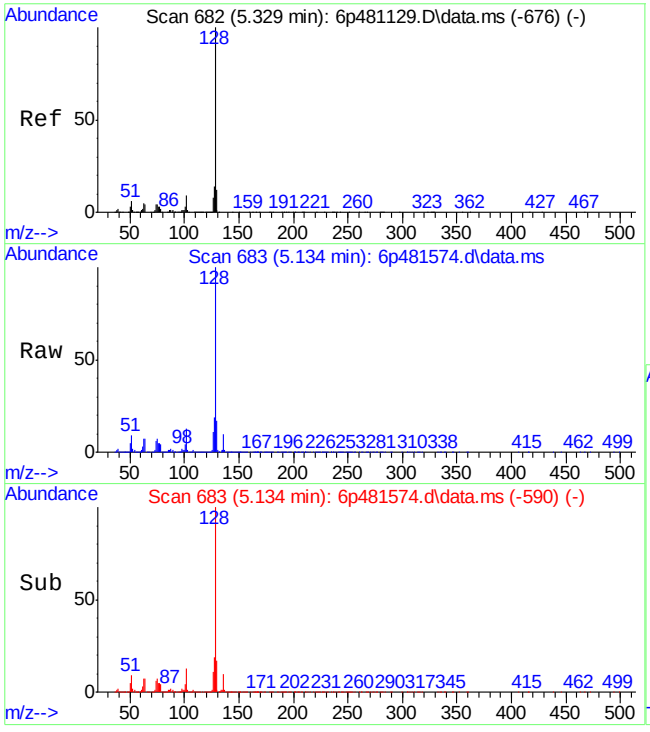




#30
2,4-Dimethylphenol
Concen: 0.93 ppm
RT: 4.888 min Scan# 637
Delta R.T. 0.005 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:107 Resp: 12834

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 107 | 100 | | |
| 121 | 49.0 | 20.7 | 80.7 |
| 122 | 86.2 | 59.5 | 119.5 |

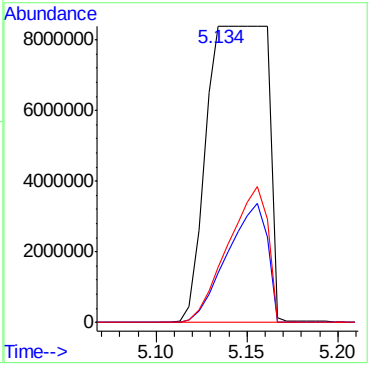


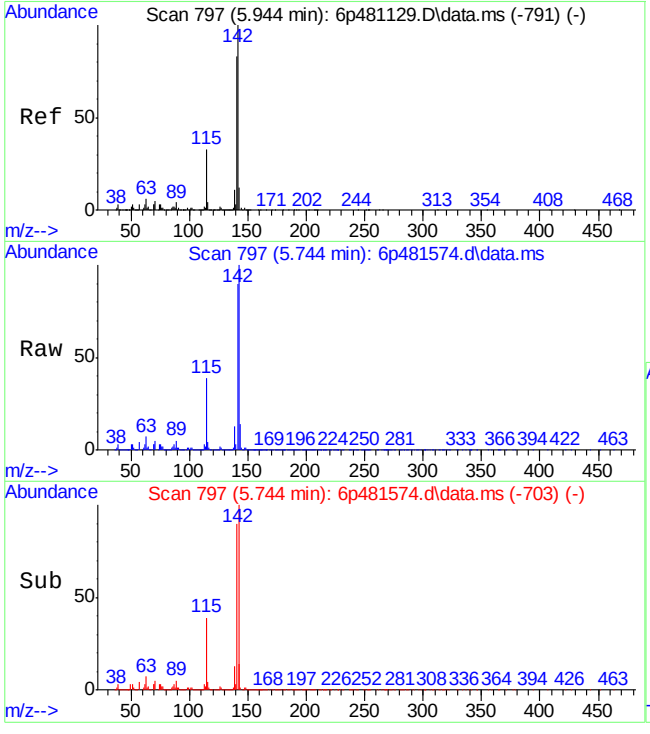



#38
Naphthalene
Concen: 404.99 ppm m
RT: 5.134 min Scan# 683
Delta R.T. -0.000 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:128 Resp:19293973

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 16.8 | 0.0 | 41.4 |
| 127 | 18.6 | 0.0 | 43.3 |

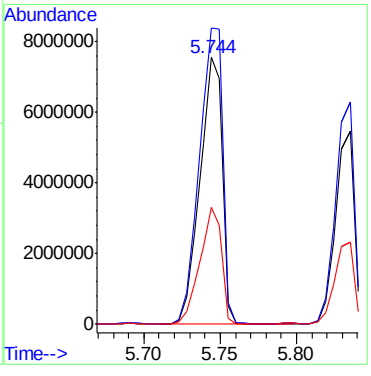


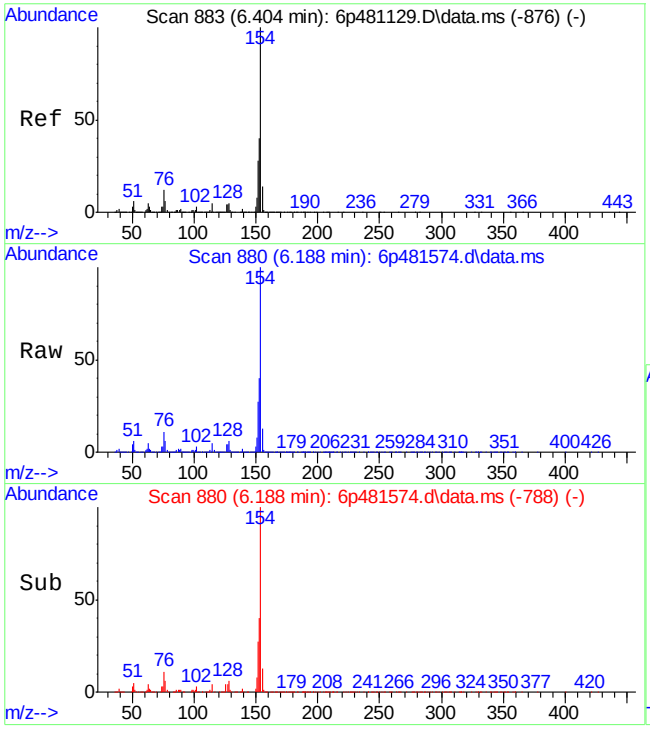




#44
2-Methylnaphthalene
Concen: 281.97 ppm
RT: 5.744 min Scan# 797
Delta R.T. 0.005 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:141 Resp: 7598141

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 110.8 | 90.7 | 150.7 |
| 115 | 43.4 | 11.4 | 71.4 |

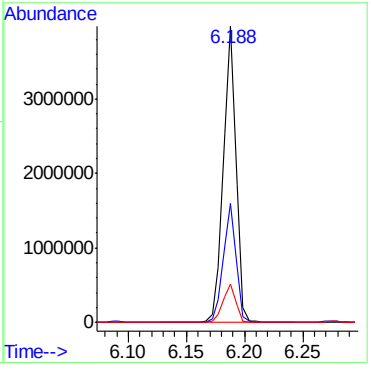


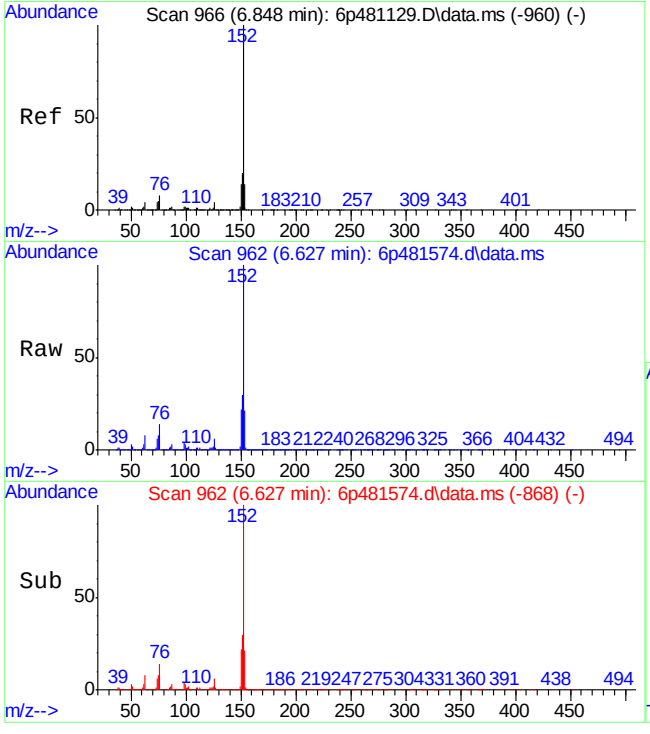



#53
Biphenyl
Concen: 69.29 ppm
RT: 6.188 min Scan# 880
Delta R.T. -0.006 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:154 Resp: 3042022

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 40.3 | 10.5 | 70.5 |
| 155 | 12.8 | 0.0 | 43.2 |

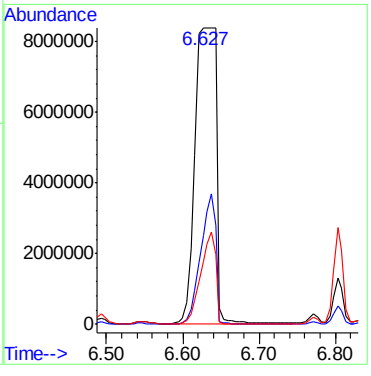



#56
Acenaphthylene
Concen: 311.70 ppm
RT: 6.627 min Scan# 962
Delta R.T. 0.005 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:152 Resp:16280971

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 29.8 | 0.0 | 50.1 |
| 153 | 21.4 | 0.0 | 43.5 |




9.1.14

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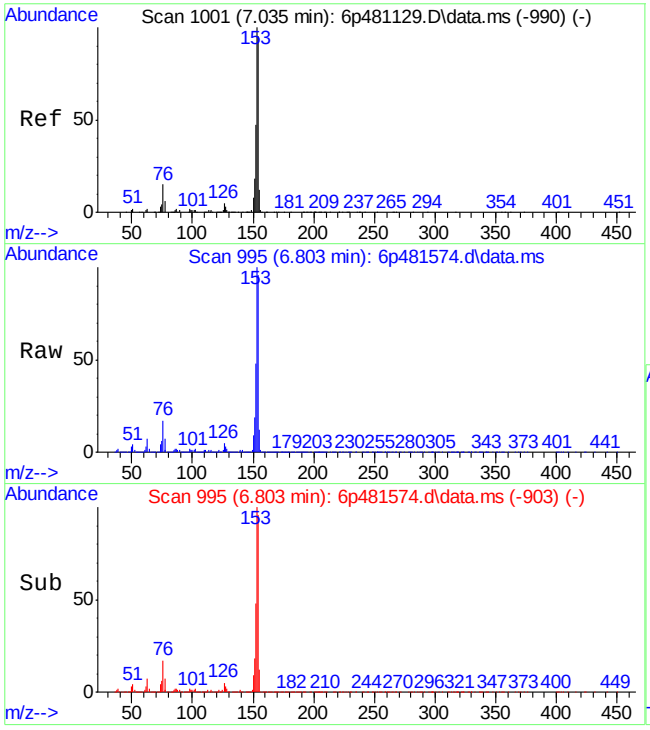
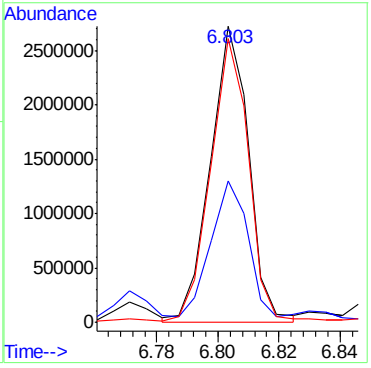
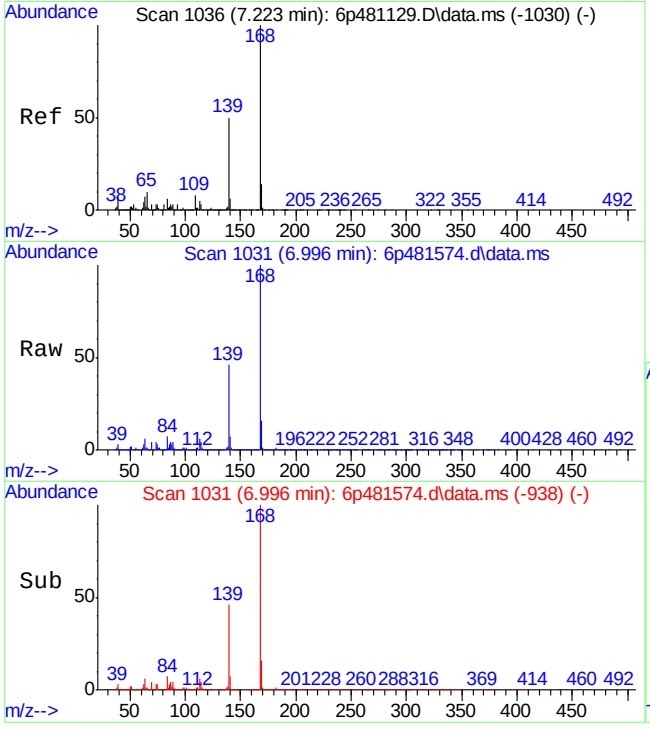



#59
Acenaphthene
Concen: 68.35 ppm
RT: 6.803 min Scan# 995
Delta R.T. -0.005 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:153 Resp: 2370058

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 46.3 | 16.6 | 76.6 |
| 154 | 96.9 | 60.7 | 120.7 |

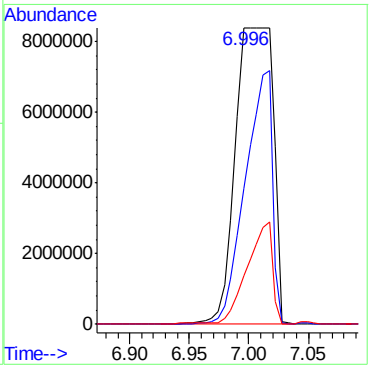



#62
Dibenzofuran
Concen: 383.74 ppm m
RT: 6.996 min Scan# 1031
Delta R.T. -0.000 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:168 Resp:18528617

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 45.9 | 8.8 | 68.8 |
| 169 | 16.4 | 0.0 | 43.0 |




9.1.14

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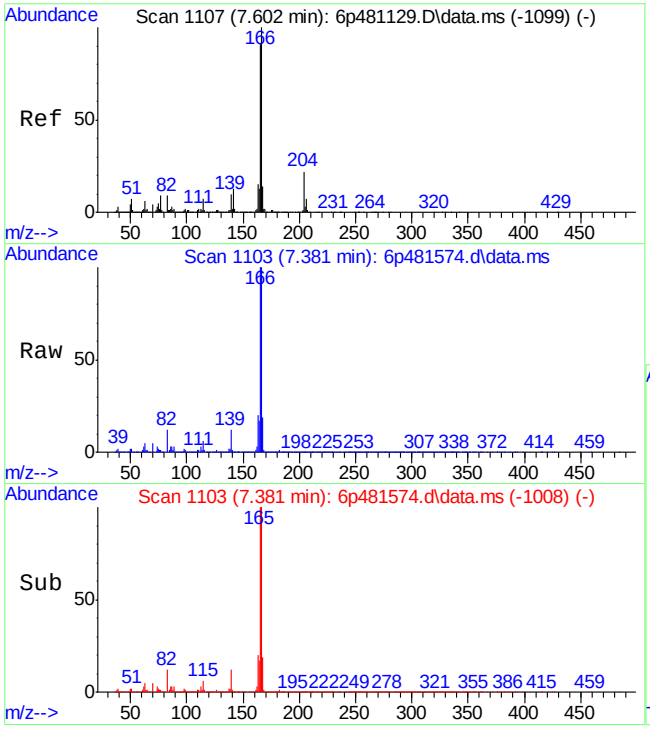
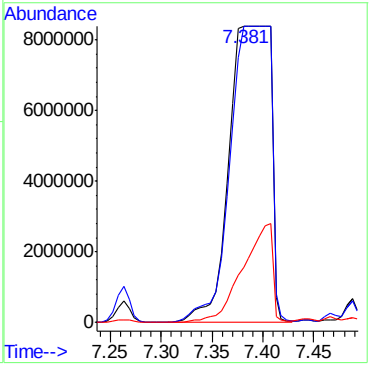
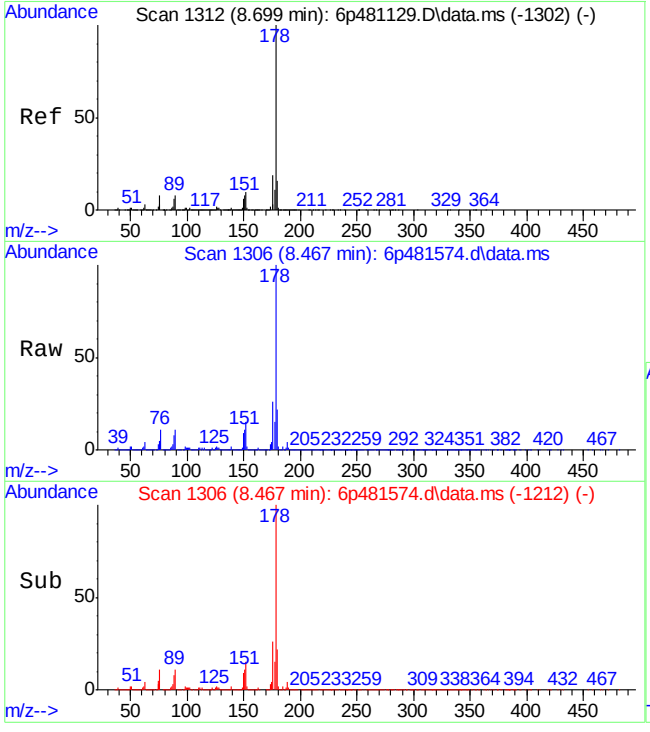



#66
Fluorene
Concen: 608.09 ppm m
RT: 7.381 min Scan# 1103
Delta R.T. 0.011 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:166 Resp:23836287

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 100.0 | 60.9 | 120.9 |
| 167 | 18.7 | 0.0 | 43.1 |

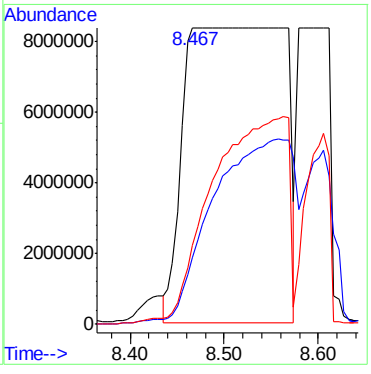



#77
Phenanthrene
Concen: 1042.63 ppm m
RT: 8.467 min Scan# 1306
Delta R.T. 0.005 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:178 Resp:60998441

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 22.4 | 0.0 | 45.9 |
| 176 | 26.4 | 0.0 | 49.1 |




9.1.14

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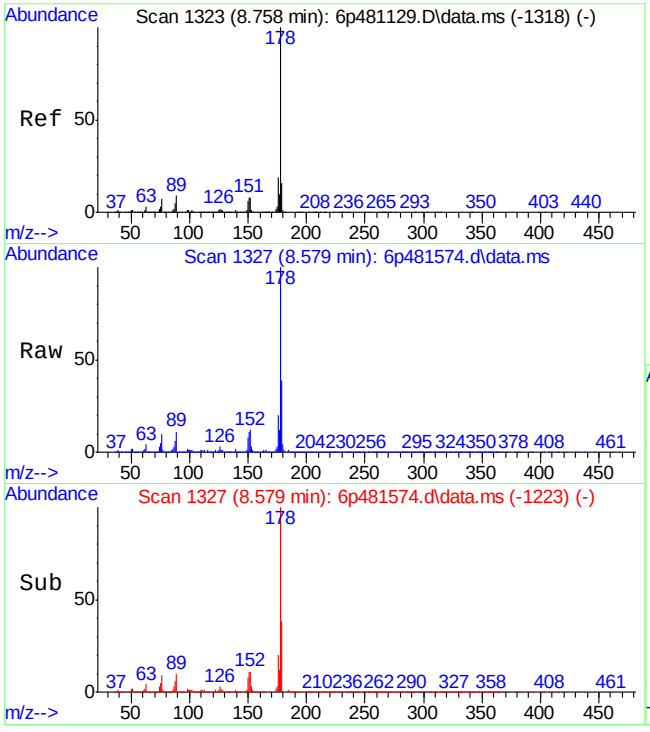
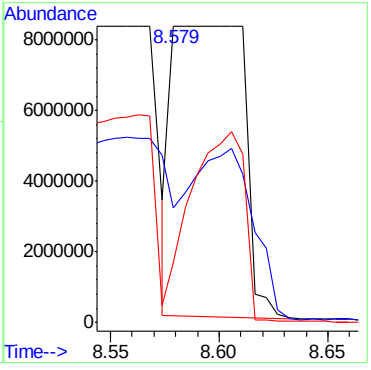
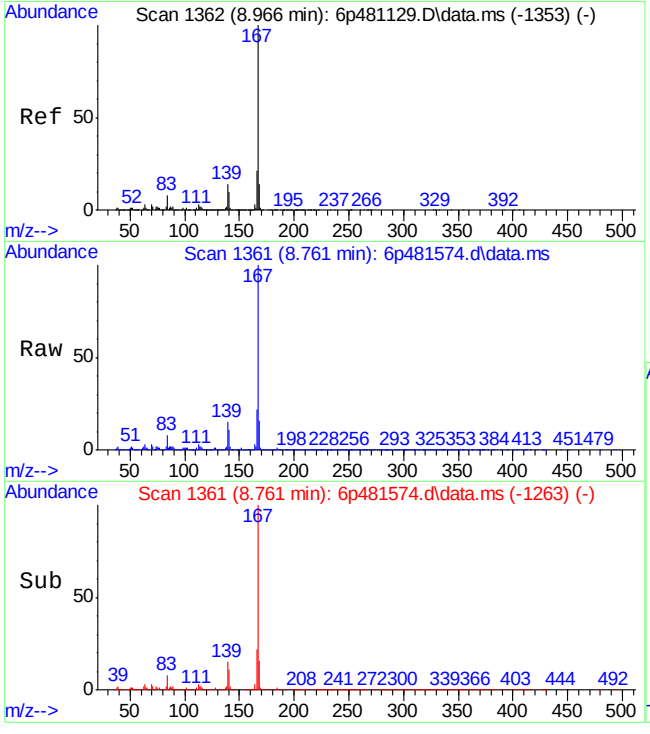



#78
Anthracene
Concen: 323.10 ppm m
RT: 8.579 min Scan# 1327
Delta R.T. 0.059 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:178 Resp:18958102

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 38.5 | 0.0 | 46.1 |
| 176 | 20.3 | 0.0 | 49.3 |

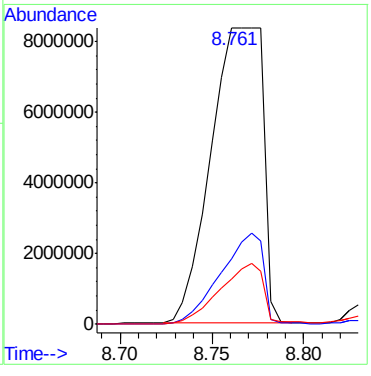



#79
Carbazole
Concen: 298.59 ppm m
RT: 8.761 min Scan# 1361
Delta R.T. 0.027 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:167 Resp:16584200

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 22.2 | 0.0 | 50.7 |
| 139 | 15.1 | 0.0 | 43.3 |




9.1.14

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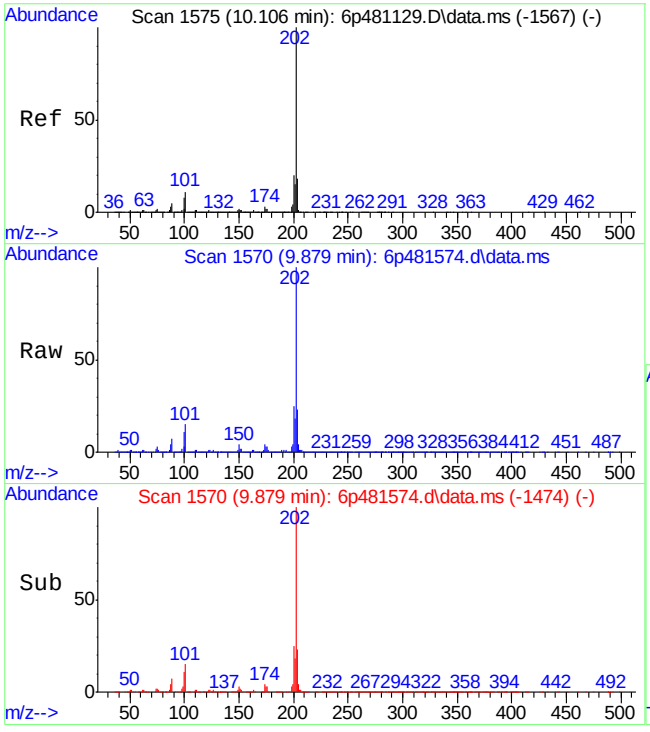
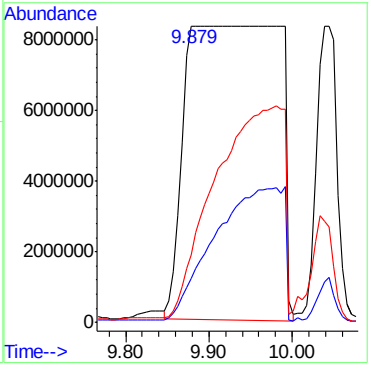
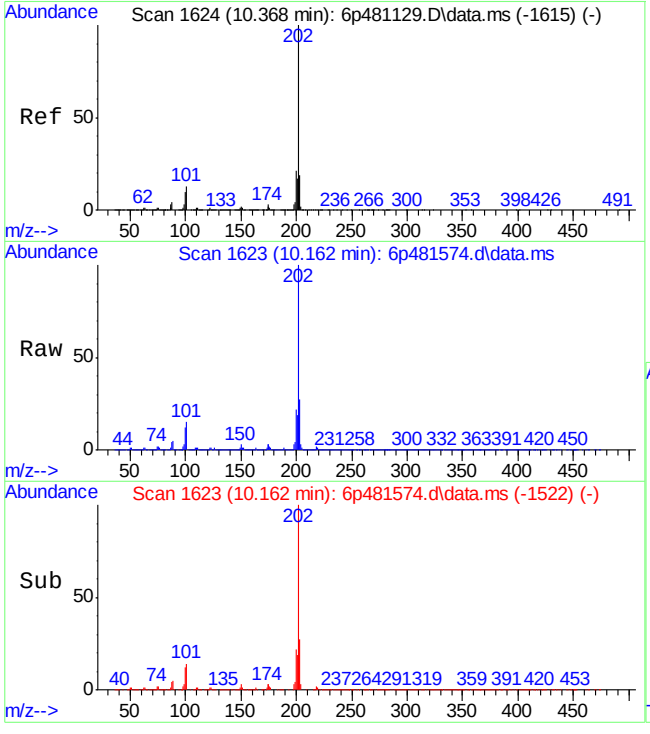



#81
Fluoranthene
Concen: 1015.90 ppm m
RT: 9.879 min Scan# 1570
Delta R.T. 0.016 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:202 Resp:64573374

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 15.0 | 0.0 | 41.6 |
| 203 | 22.7 | 0.0 | 47.6 |

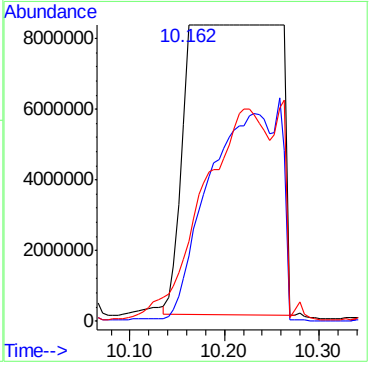


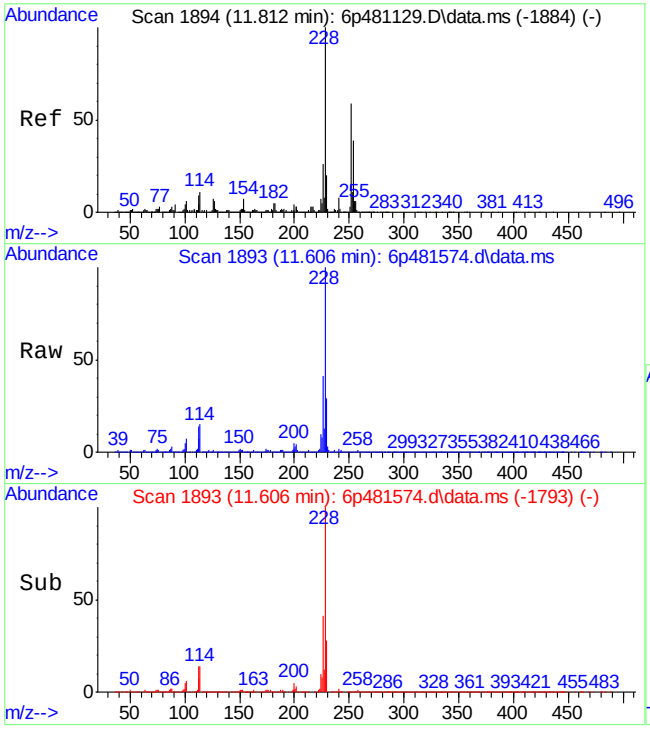




#84
Pyrene
Concen: 662.97 ppm m
RT: 10.162 min Scan# 1623
Delta R.T. 0.043 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:202 Resp:55993417

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 22.1 | 0.0 | 50.9 |
| 203 | 26.8 | 0.0 | 48.9 |

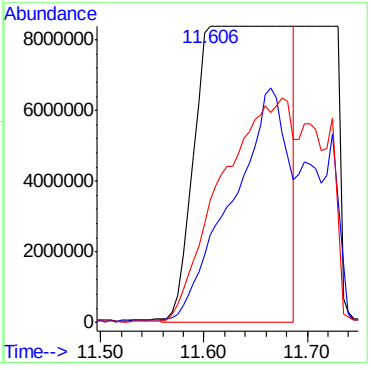


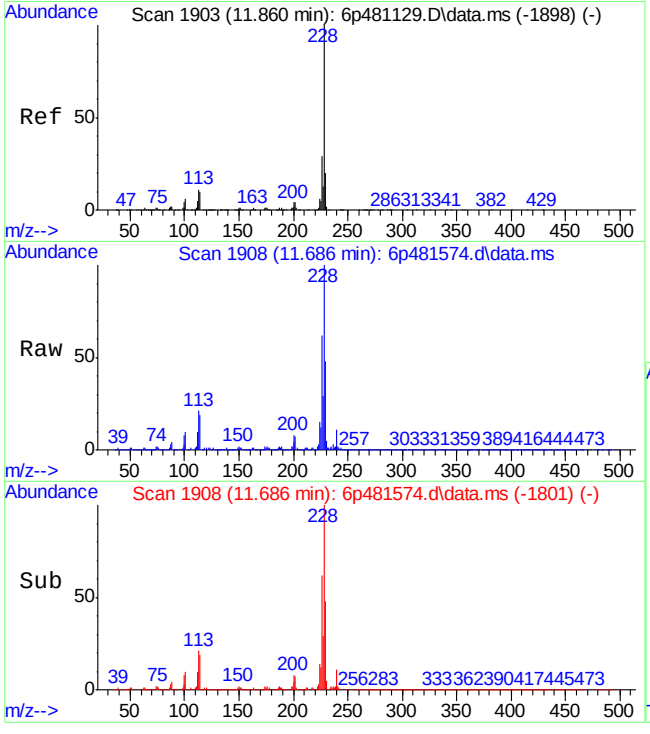



#87
Benzo[a]anthracene
Concen: 633.71 ppm m
RT: 11.606 min Scan# 1893
Delta R.T. 0.037 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:228 Resp:51173641

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 29.5 | 0.0 | 50.1 |
| 226 | 41.2 | 0.0 | 57.7 |

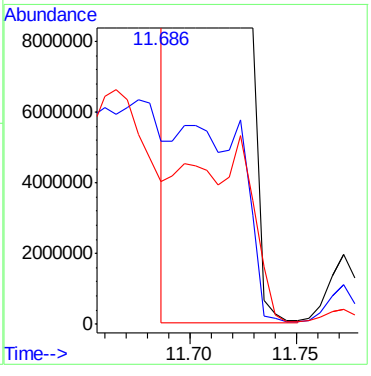


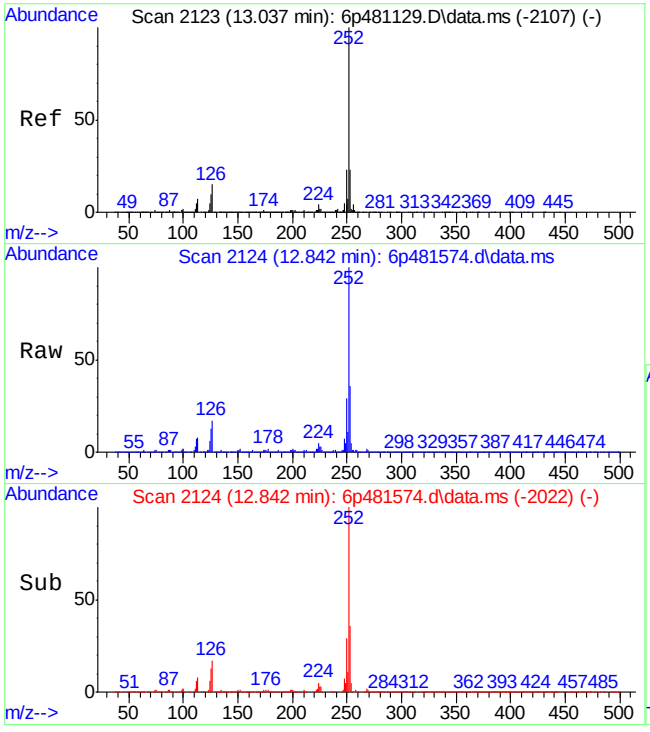




#89
Chrysene
Concen: 274.68 ppm m
RT: 11.686 min Scan# 1908
Delta R.T. 0.075 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:228 Resp:21751655

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 61.7 | 0.0 | 59.3# |
| 229 | 48.0 | 0.0 | 50.2 |

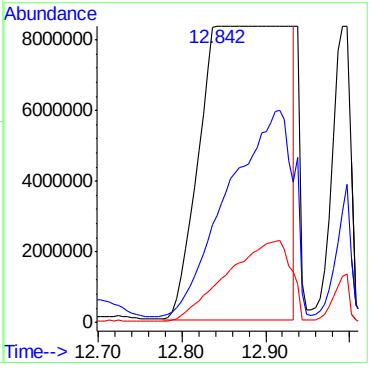


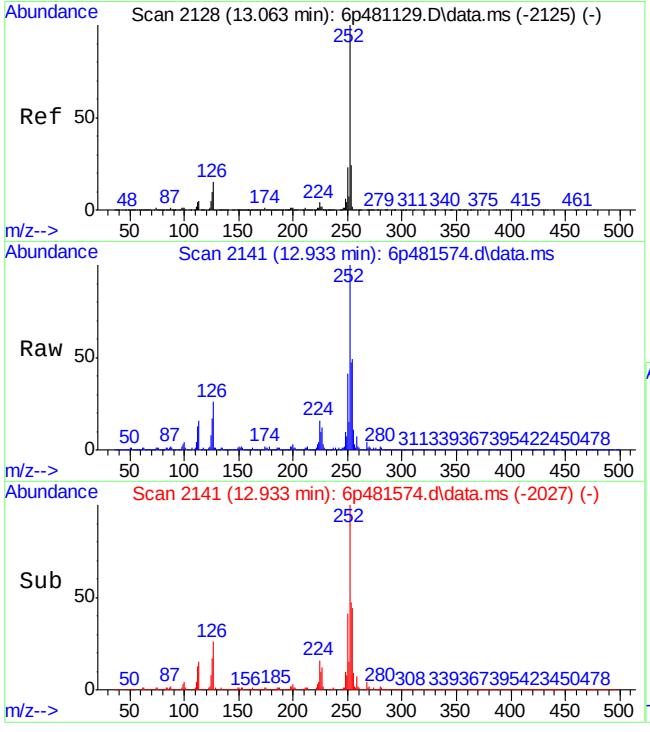



#93
Benzo[b]fluoranthene
Concen: 796.50 ppm m
RT: 12.842 min Scan# 2124
Delta R.T. 0.048 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:252 Resp:59971833

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 36.1 | 0.0 | 52.6 |
| 125 | 13.2 | 0.0 | 39.9 |

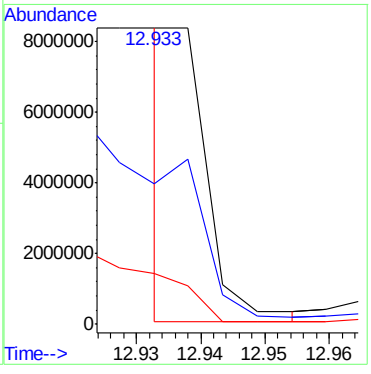



#94
Benzo[k]fluoranthene
Concen: 47.71 ppm m
RT: 12.933 min Scan# 2141
Delta R.T. 0.112 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

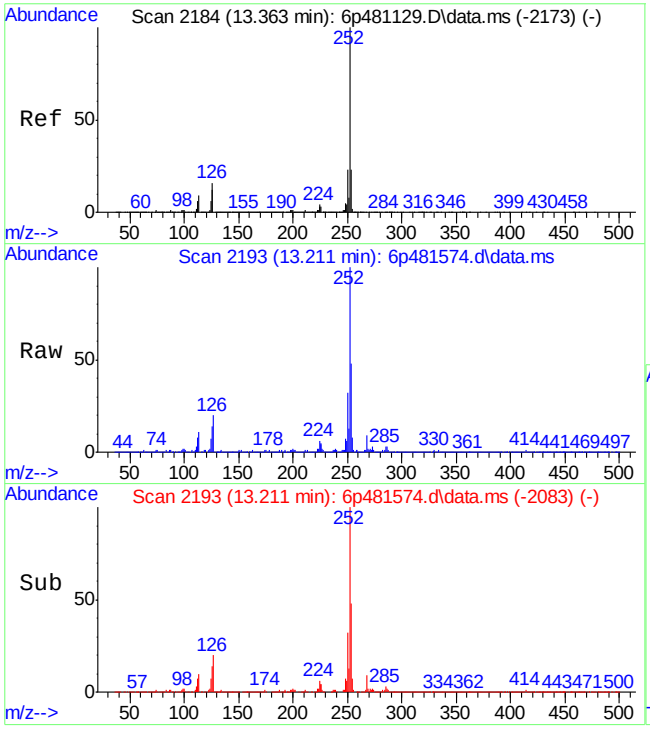
Tgt Ion:252 Resp: 3179834

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 47.4 | 0.0 | 52.5 |
| 125 | 17.1 | 0.0 | 39.7 |




9.1.14

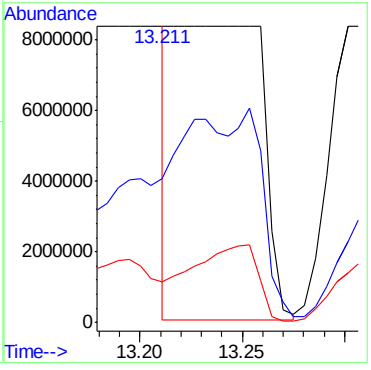
9

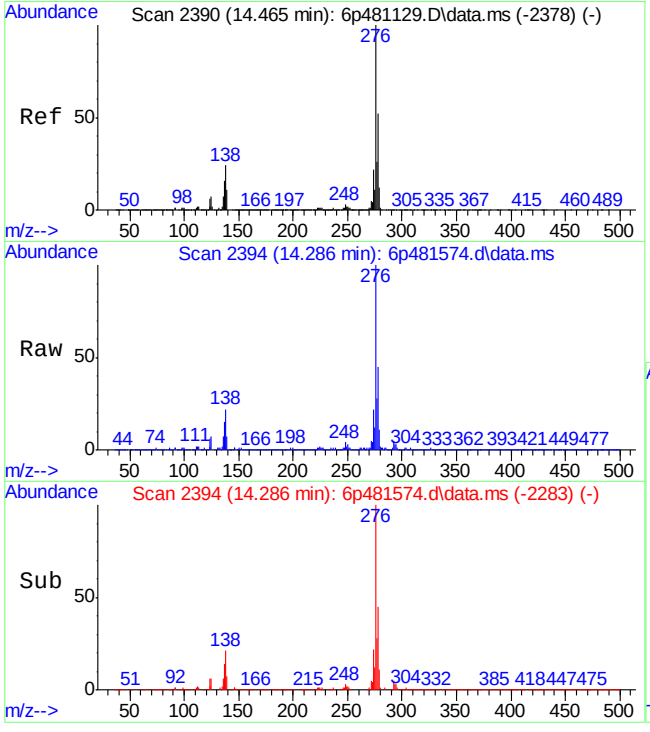



#95
Benzo[a]pyrene
Concen: 404.15 ppm m
RT: 13.211 min Scan# 2193
Delta R.T. 0.091 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:252 Resp:25000731

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 48.5 | 0.0 | 51.4 |
| 125 | 13.6 | 0.0 | 41.7 |

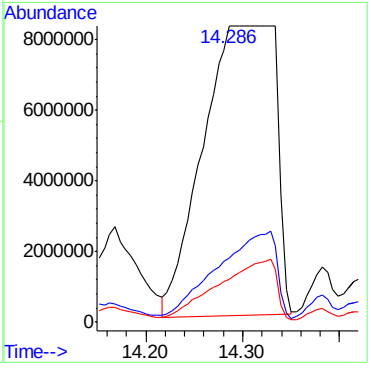


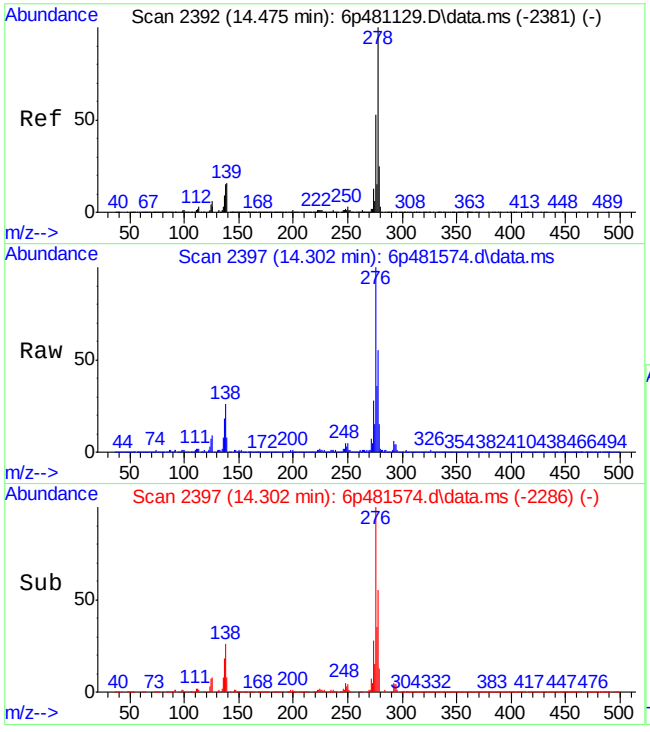




#96
Indeno[1,2,3-cd]pyrene
Concen: 517.98 ppm m
RT: 14.286 min Scan# 2394
Delta R.T. 0.096 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:276 Resp:42784838

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 21.7 | 0.0 | 56.6 |
| 137 | 14.6 | 0.0 | 47.6 |

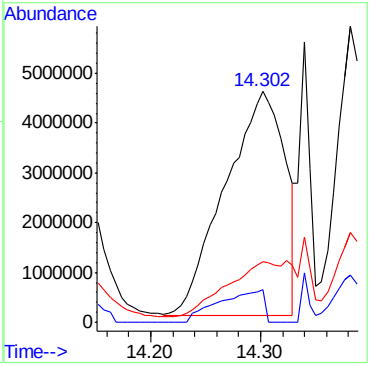


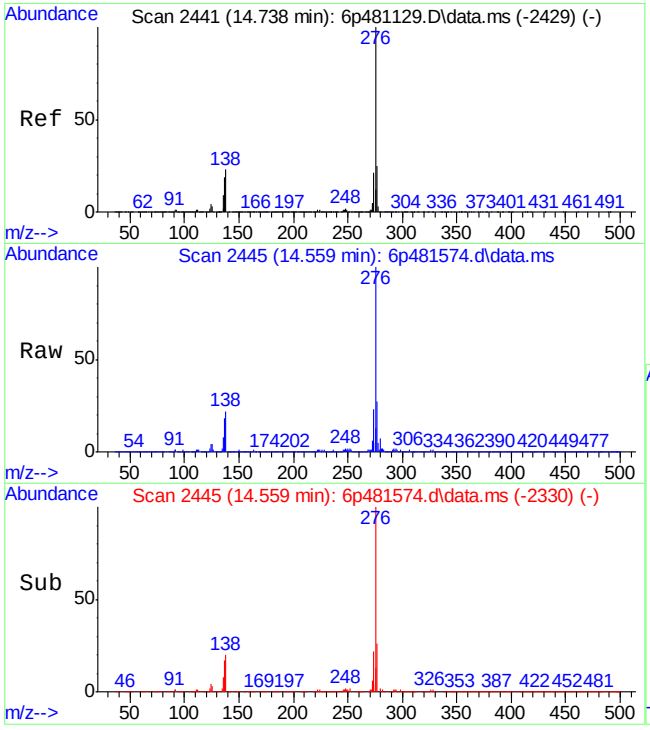



#98
Dibenz[a,h]anthracene
Concen: 232.37 ppm m
RT: 14.302 min Scan# 2397
Delta R.T. 0.096 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:278 Resp:17008910

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 14.2 | 0.0 | 45.4 |
| 279 | 26.2 | 0.0 | 54.8 |

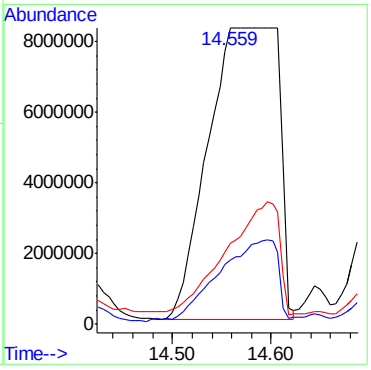



#100
Benzo[g,h,i]perylene
Concen: 633.17 ppm m
RT: 14.559 min Scan# 2445
Delta R.T. 0.118 min
Lab File: 6p481574.d
Acq: 2 May 2019 7:59 pm

Tgt Ion:276 Resp:40784057

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 21.8 | 0.0 | 54.7 |
| 277 | 27.5 | 0.0 | 53.6 |



# Manual Integration Approval Summary



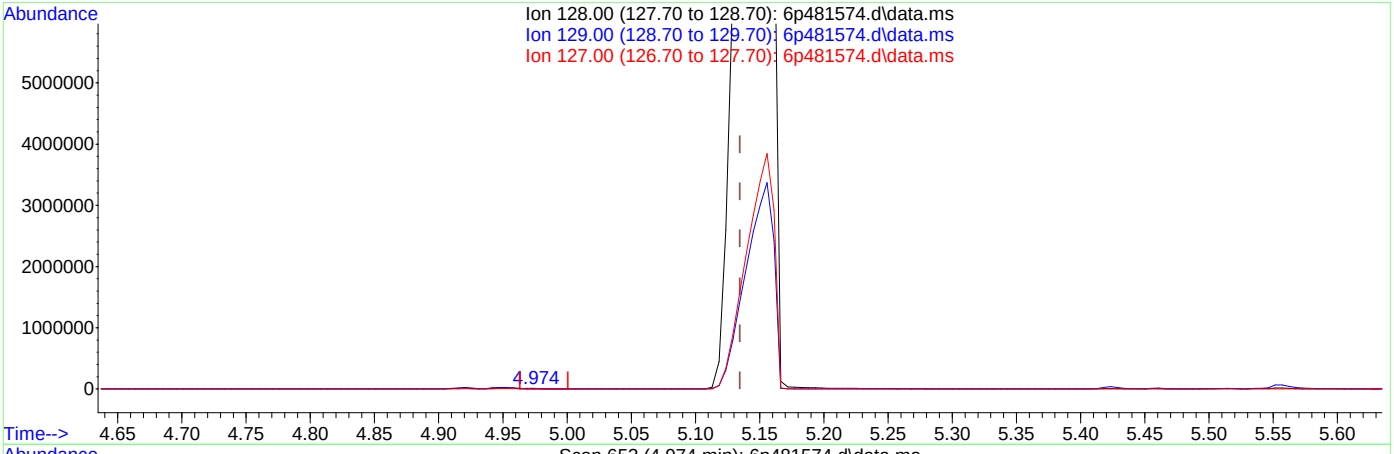
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-11 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481574.D | **Analyst approved:** | 05/09/19 12:12 Kristi Schollenberger |
| **Injection Time:** | 05/02/19 19:59 | **Supervisor approved:** | 05/09/19 12:18 Kristi Schollenberger |

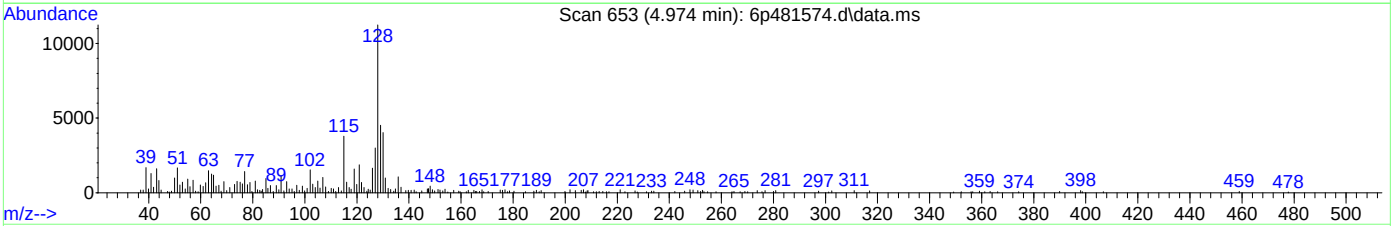
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.13 | Poor instrument integration |
| Dibenzofuran | 132-64-9 | | 7.00 | Poor instrument integration |
| Fluorene | 86-73-7 | | 7.38 | Poor instrument integration |
| Phenanthrene | 85-01-8 | | 8.47 | Poor instrument integration |
| Anthracene | 120-12-7 | | 8.58 | Poor instrument integration |
| Carbazole | 86-74-8 | | 8.76 | Poor instrument integration |
| Fluoranthene | 206-44-0 | | 9.88 | Poor instrument integration |
| Pyrene | 129-00-0 | | 10.16 | Poor instrument integration |
| Terphenyl-d14 | 1718-51-0 | | 10.38 | Poor instrument integration |
| Benzo(a)anthracene | 56-55-3 | | 11.61 | Poor instrument integration |
| Chrysene | 218-01-9 | | 11.69 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.84 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.93 | Poor instrument integration |
| Benzo(a)pyrene | 50-32-8 | | 13.21 | Poor instrument integration |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | 14.29 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.30 | Poor instrument integration |
| Benzo(g,h,i)perylene | 191-24-2 | | 14.56 | Poor instrument integration |

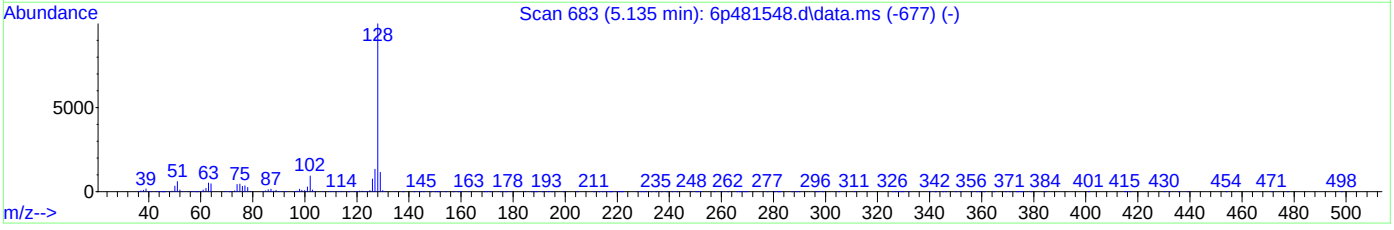
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(38) Naphthalene (t)

4.974min (-0.161) 0.23ppm

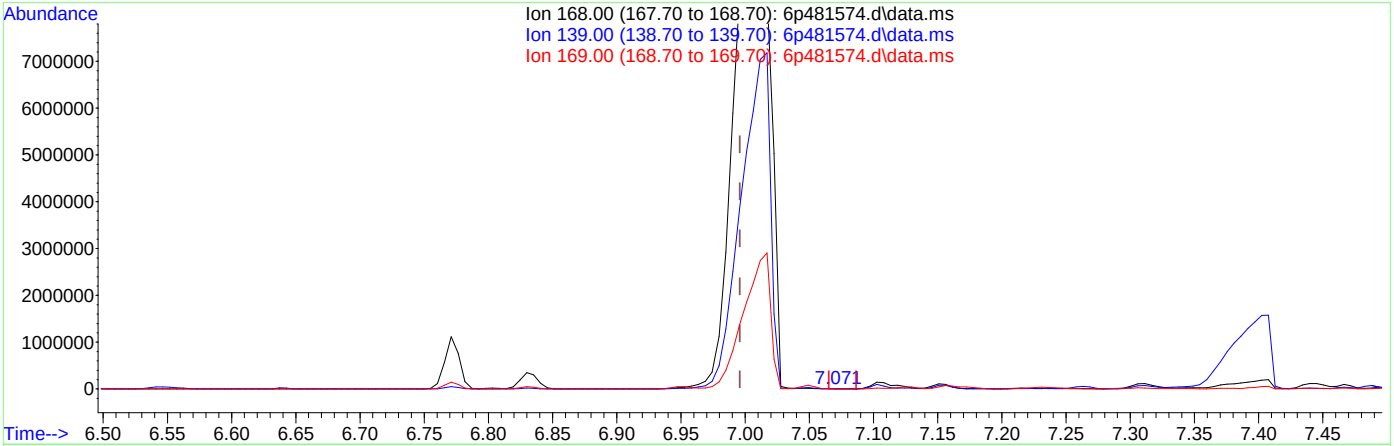
response 11133

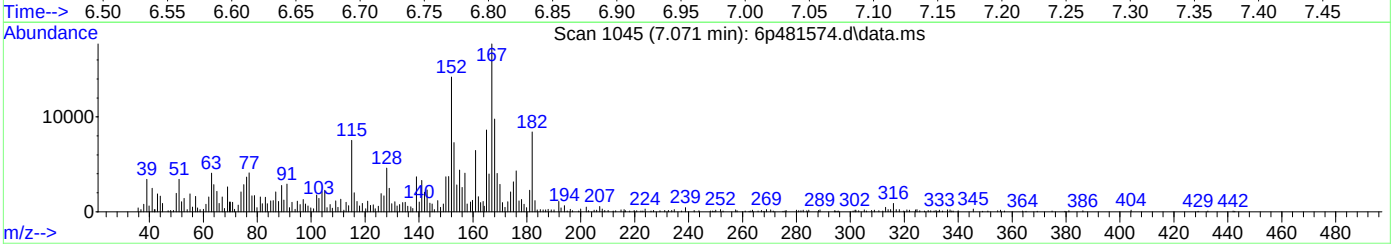
| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.40 | 0.00 |
| 127.00 | 13.30 | 18.37 |
| 0.00 | 0.00 | 0.00 |

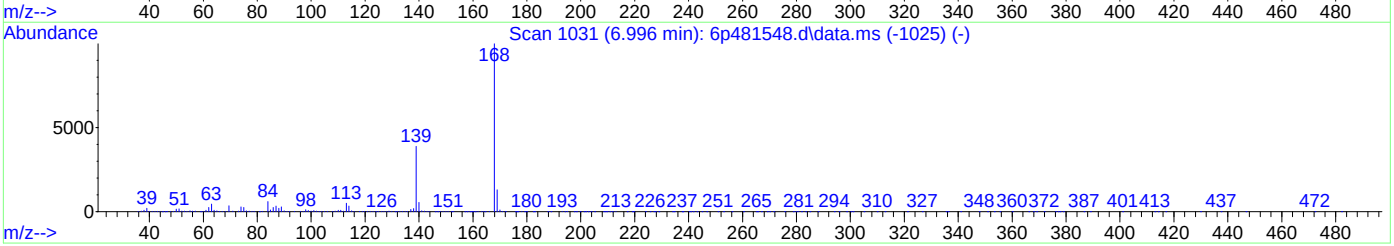
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst     : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(62) Dibenzofuran (t)

7.071min (+0.075) 0.07ppm

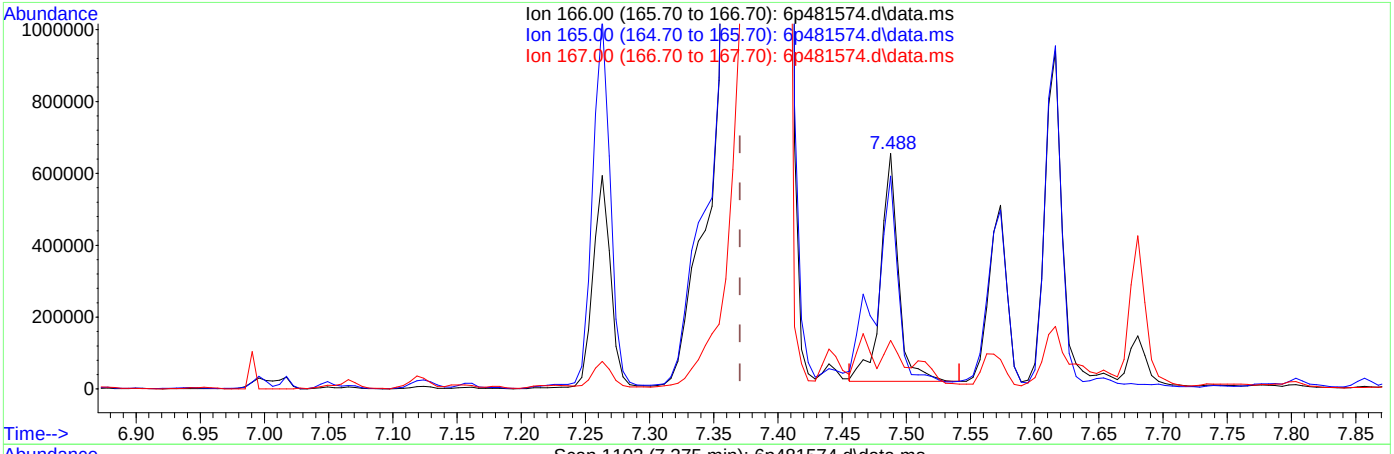
response 3249

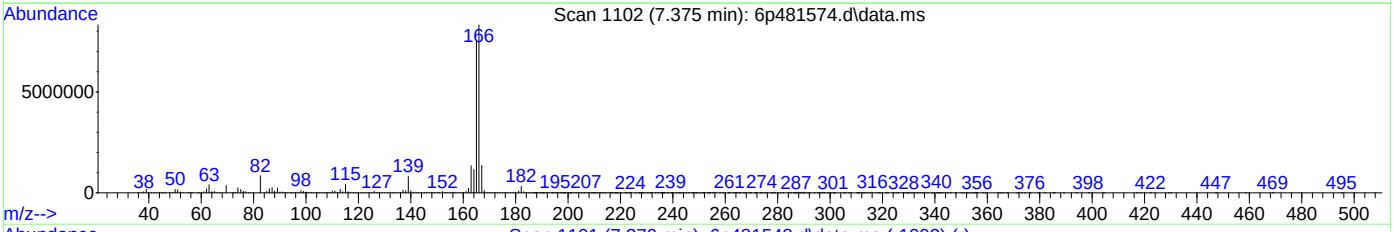
| Ion | Exp% | Act% |
|---|---|---|
| 168.00 | 100 | 100 |
| 139.00 | 38.80 | 10.82 |
| 169.00 | 13.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

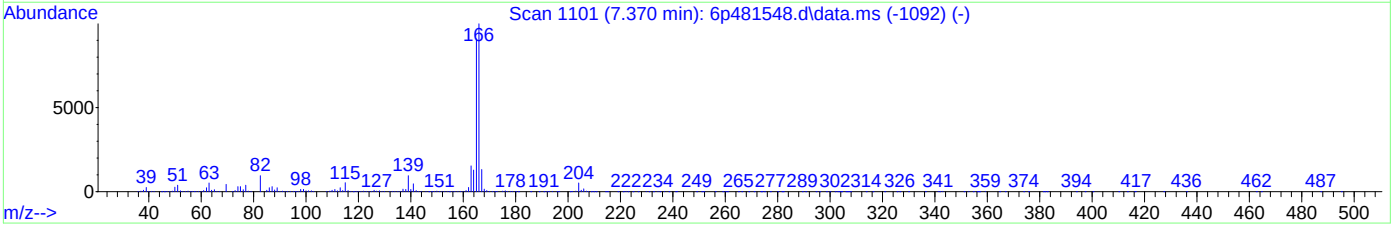
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(66) Fluorene (t)

7.488min (+0.118) 15.62ppm

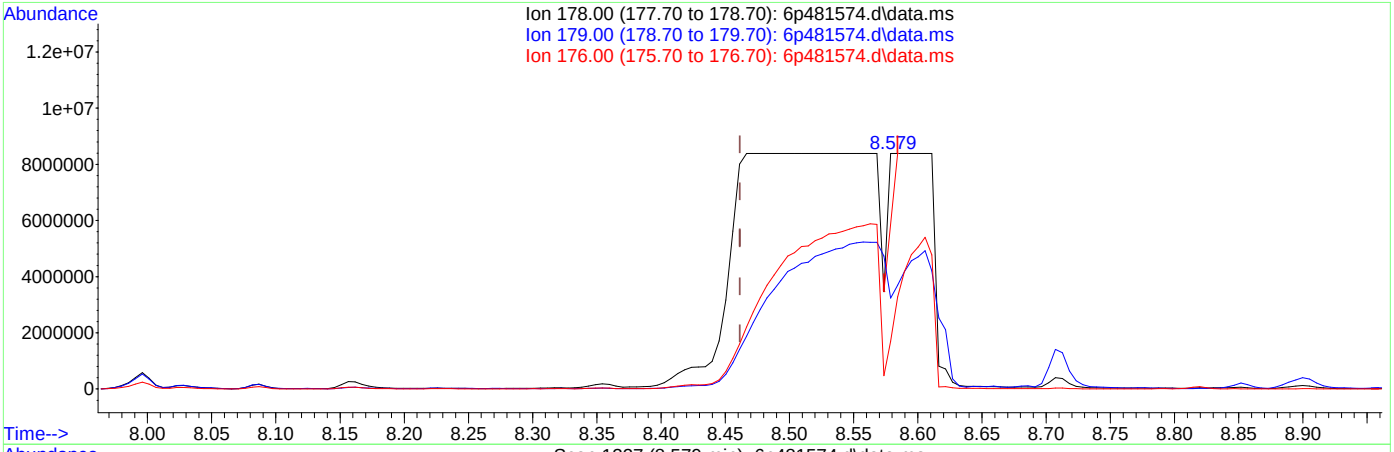
response 612285

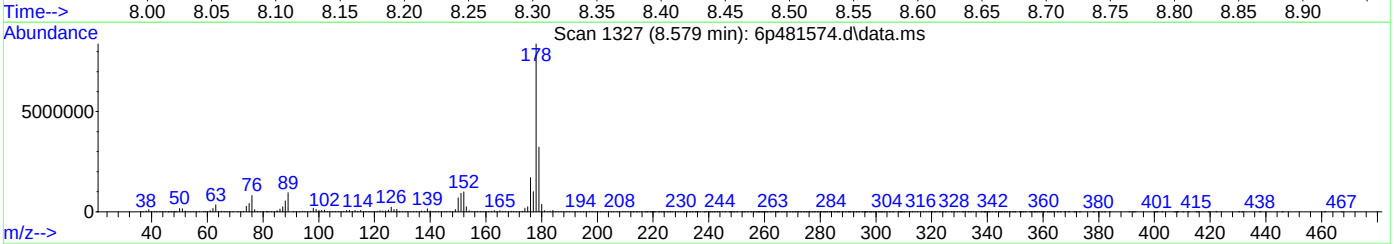
| Ion | Exp% | Act% |
|---|---|---|
| 166.00 | 100 | 100 |
| 165.00 | 90.90 | 88.26 |
| 167.00 | 13.10 | 17.23 |
| 0.00 | 0.00 | 0.00 |

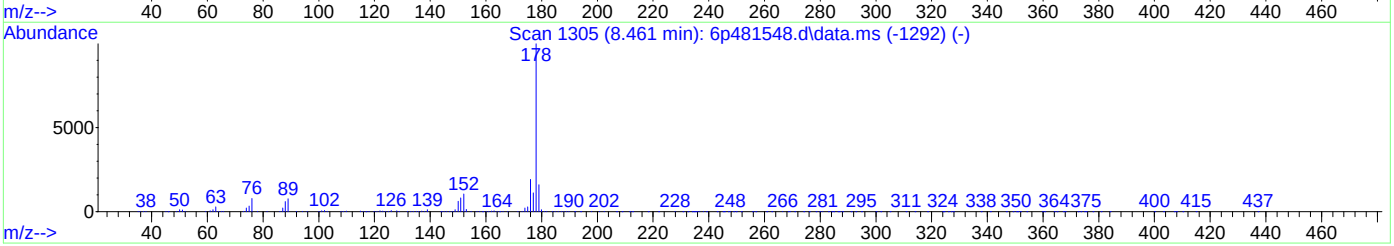
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst    : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(77) Phenanthrene (t)

8.579min (+0.118) 26.99ppm

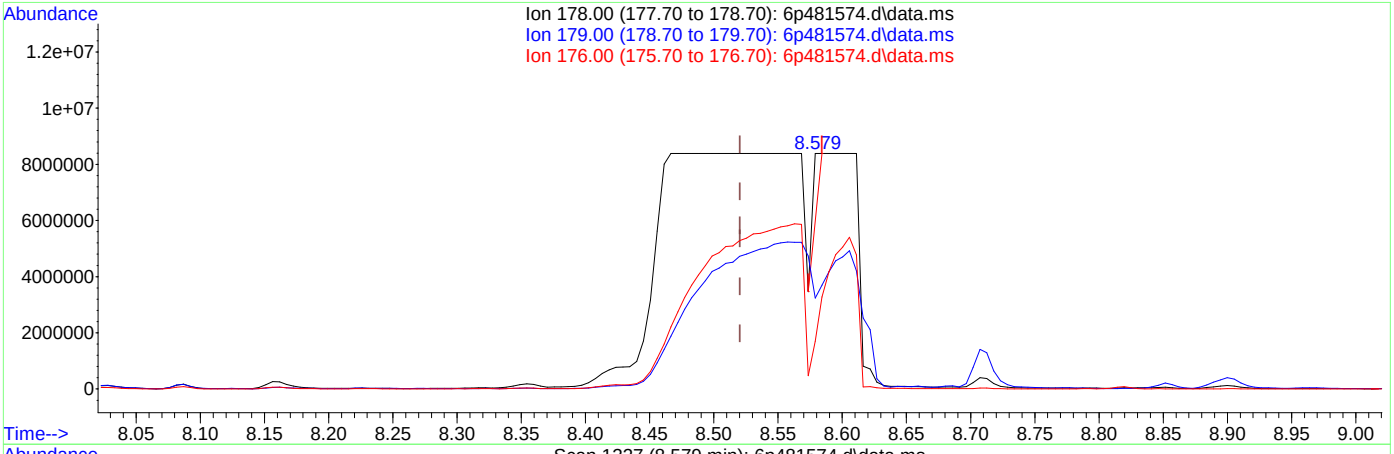
response 1578765

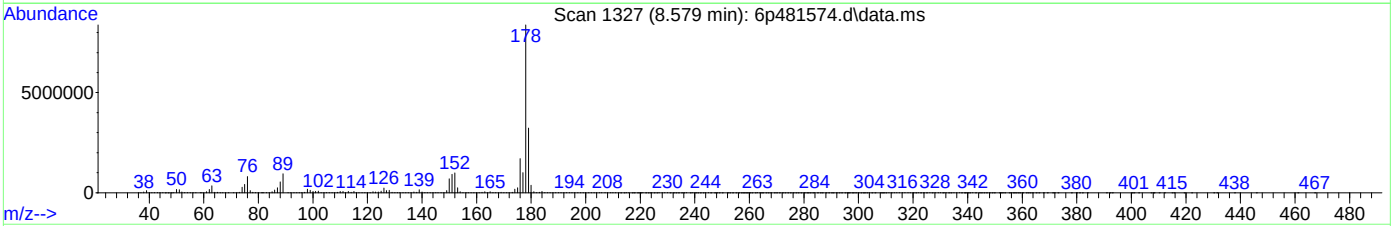
| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 0.00 |
| 176.00 | 19.10 | 0.00 |
| 0.00 | 0.00 | 0.00 |

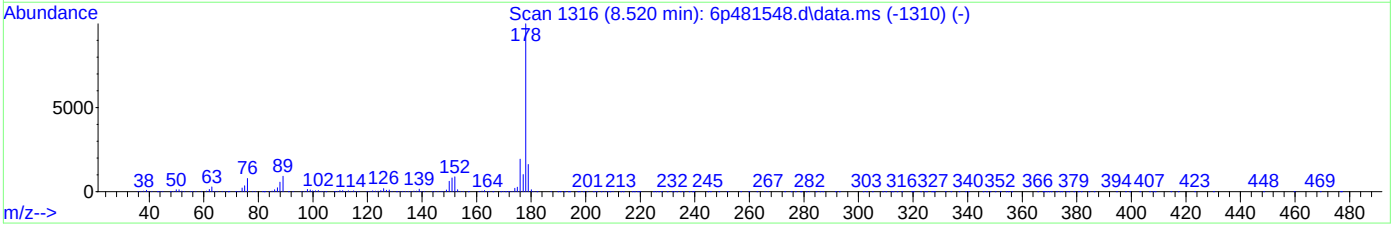
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst    : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(78) Anthracene (t)

8.579min (+0.059) 26.91ppm

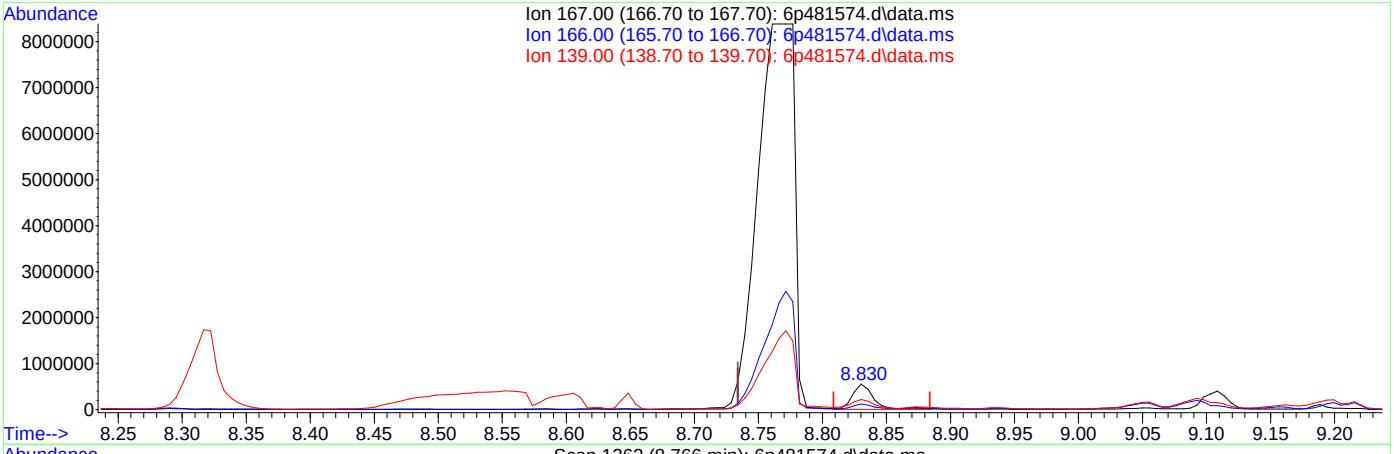
response 1578765

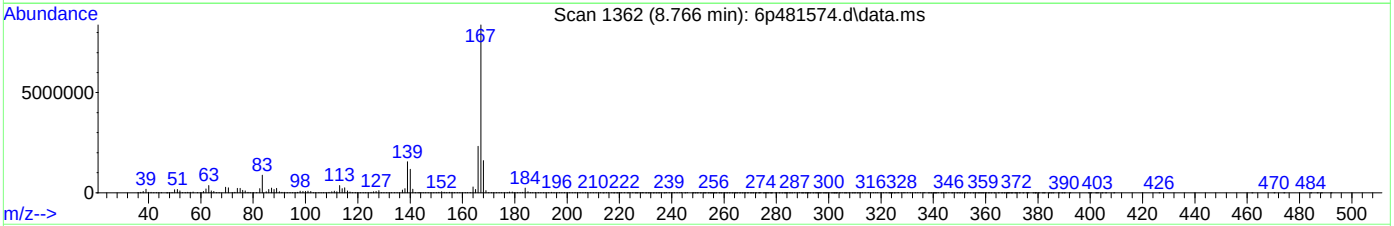
| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 16.10 | 0.00 |
| 176.00 | 19.30 | 0.00 |
| 0.00 | 0.00 | 0.00 |

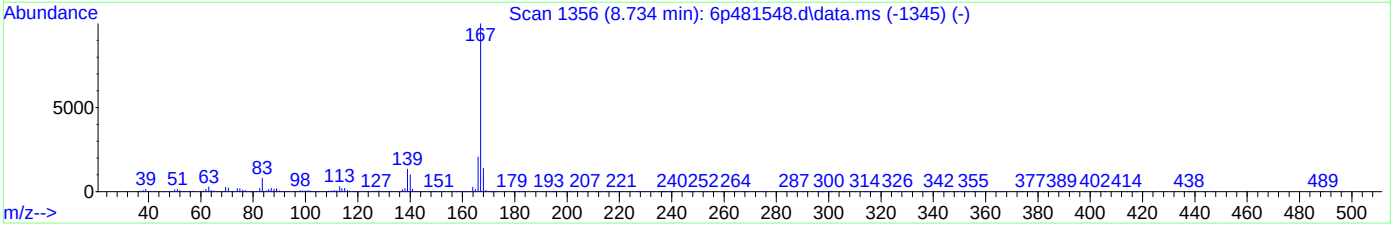
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst    : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(79) Carbazole (t)

8.830min (+0.096) 10.97ppm

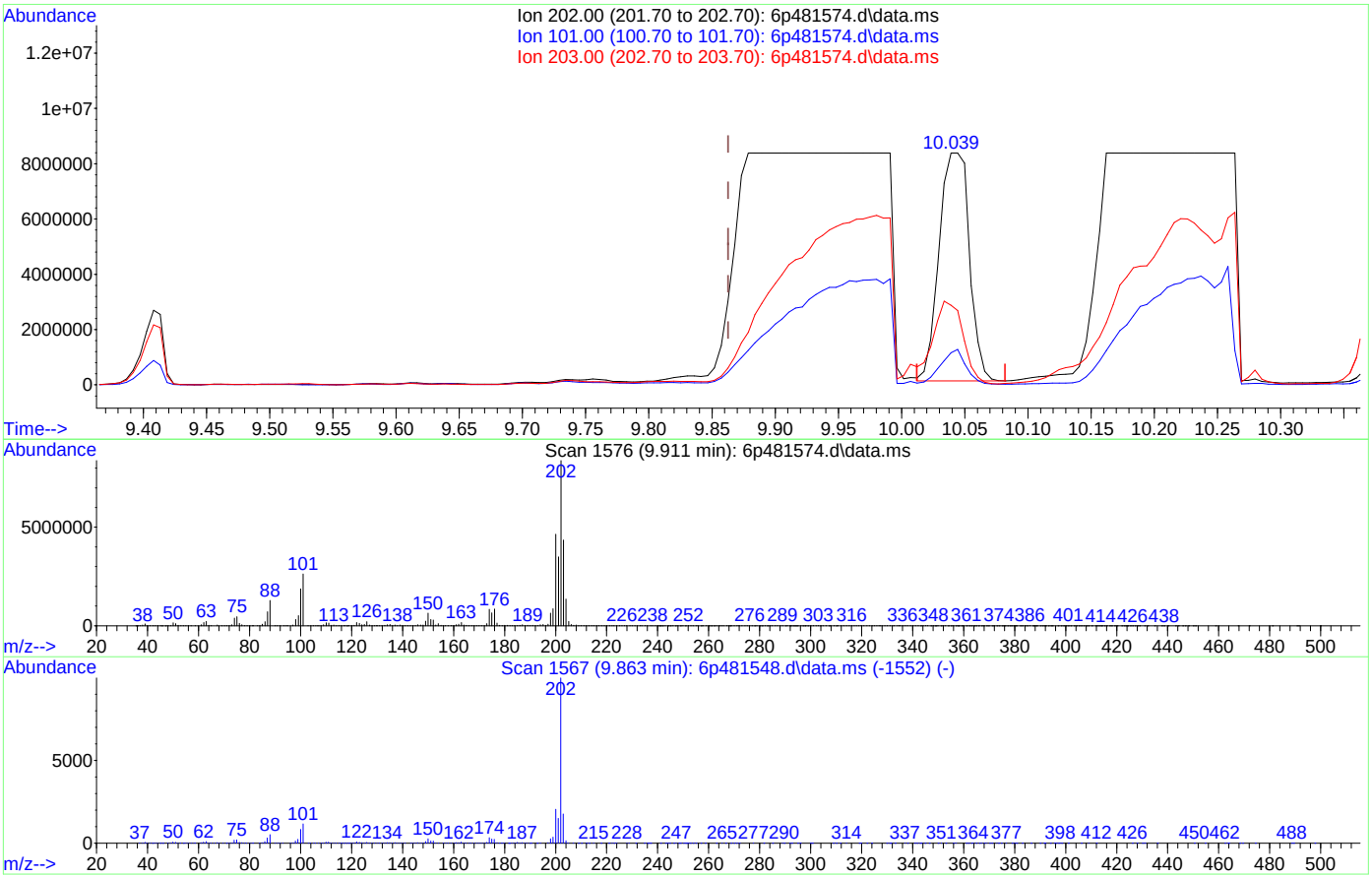
response 609209

| Ion | Exp% | Act% |
|---|---|---|
| 167.00 | 100 | 100 |
| 166.00 | 20.70 | 18.72 |
| 139.00 | 13.30 | 32.01 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(81) Fluoranthene (t)

10.039min (+0.176) 215.33ppm

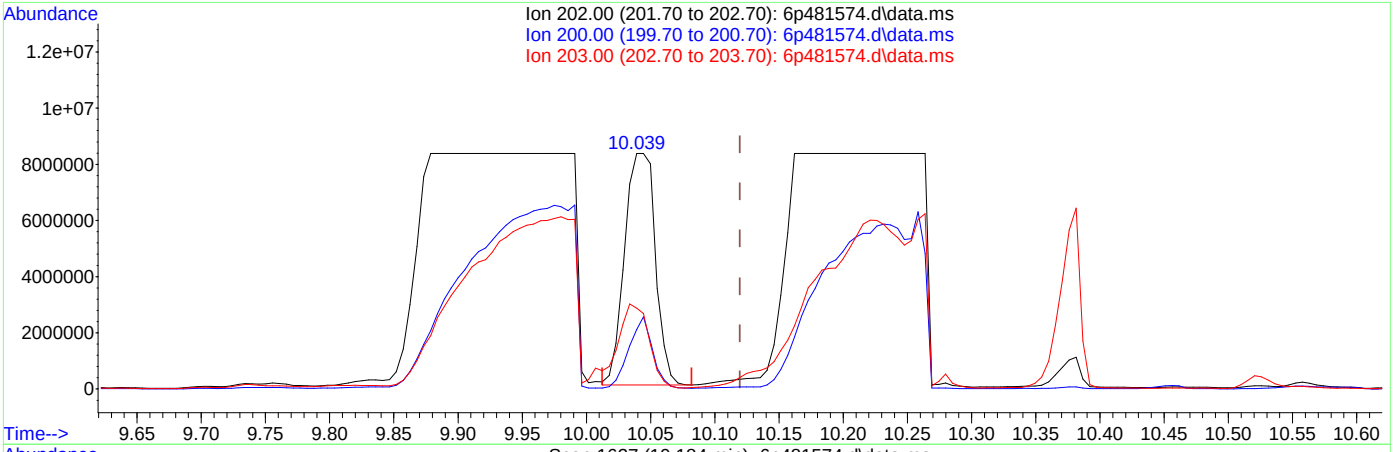
response 13687077

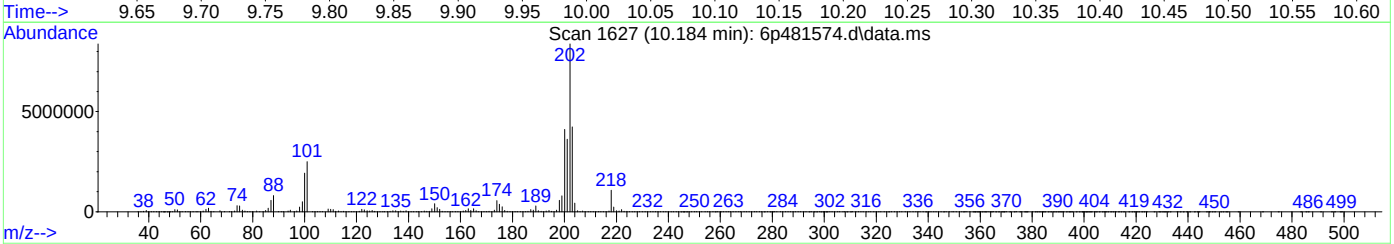
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 101.00 | 11.60 | 13.64 |
| 203.00 | 17.60 | 30.81 |
| 0.00 | 0.00 | 0.00 |

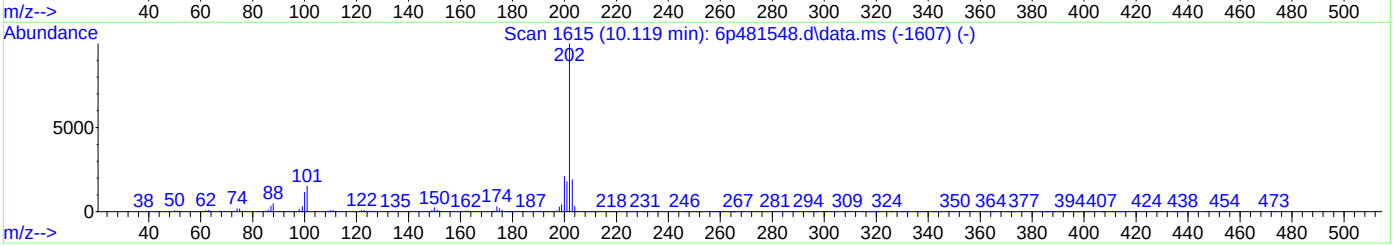
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst    : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(84) Pyrene (t)

10.039min (-0.080) 162.06ppm

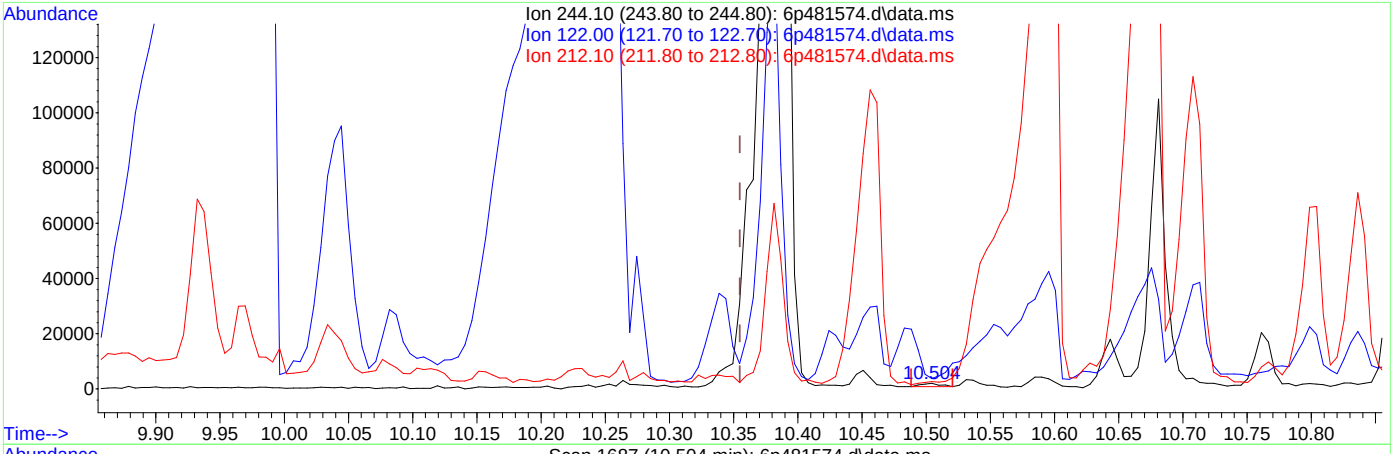
response 13687077

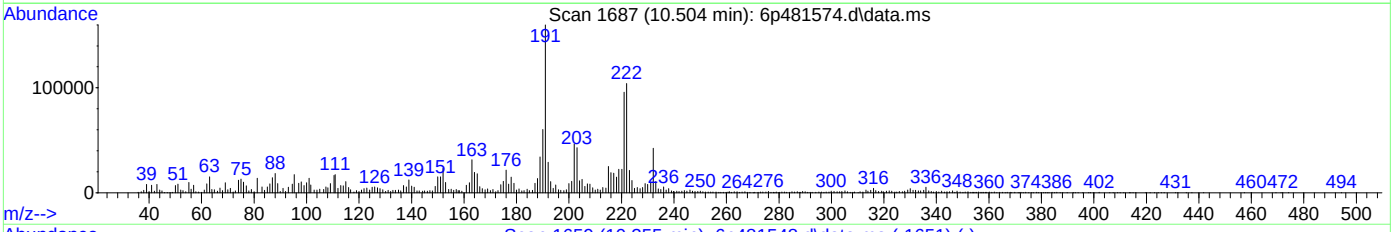
| Ion | Exp% | Act% |
|---|---|---|
| 202.00 | 100 | 100 |
| 200.00 | 20.90 | 25.53 |
| 203.00 | 18.90 | 30.81 |
| 0.00 | 0.00 | 0.00 |

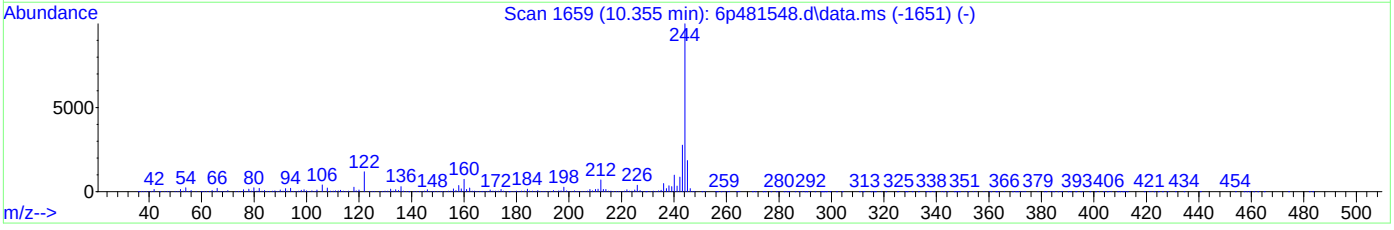
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(85) Terphenyl-d14 (S)

10.504min (+0.150) 0.02ppm

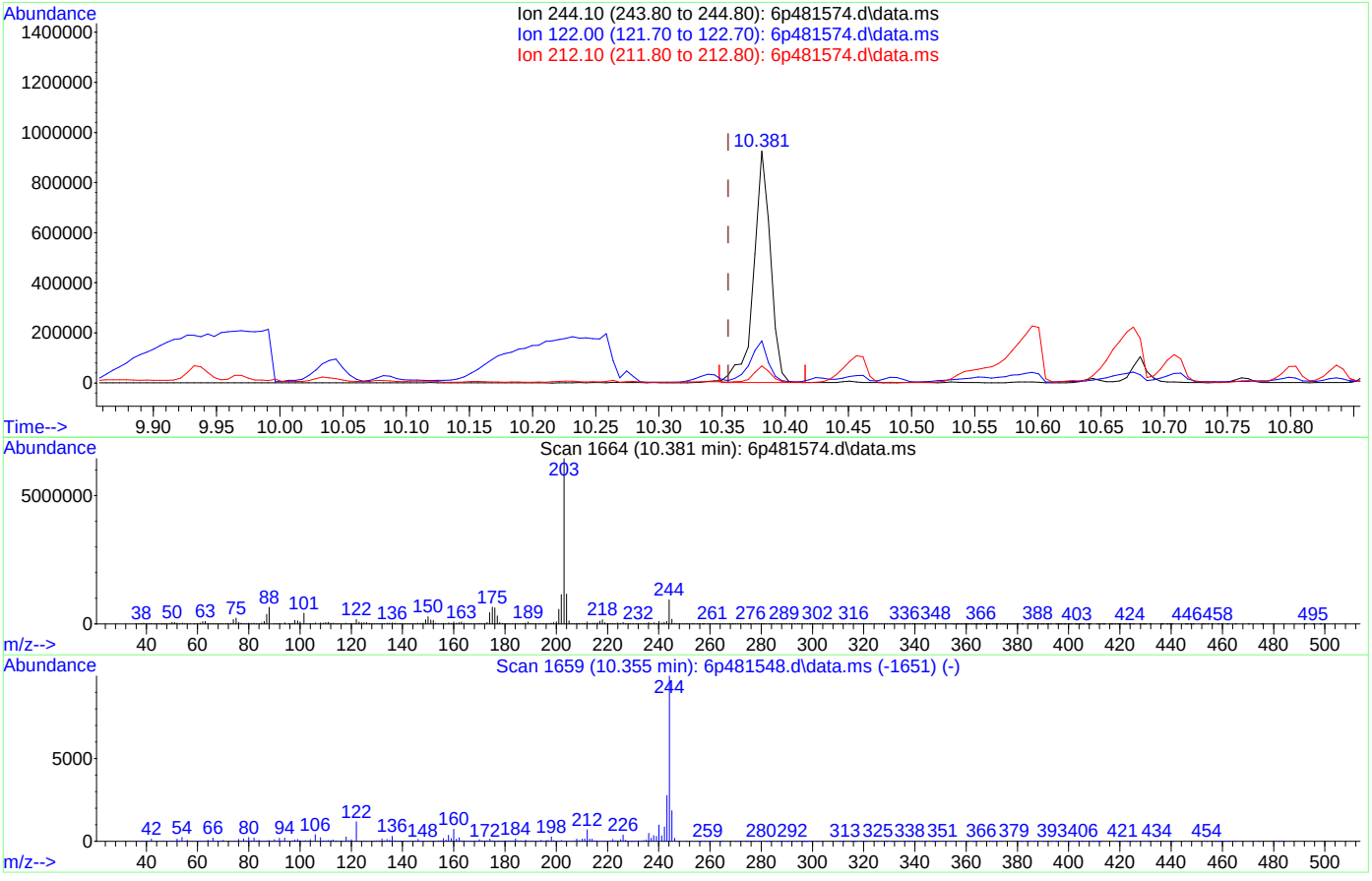
response 1218

| Ion | Exp% | Act% |
|---|---|---|
| 244.10 | 100 | 100 |
| 122.00 | 11.70 | 0.00 |
| 212.10 | 6.90 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst    : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(85) Terphenyl-d14 (S)

10.381min (+0.027) 14.49ppm m

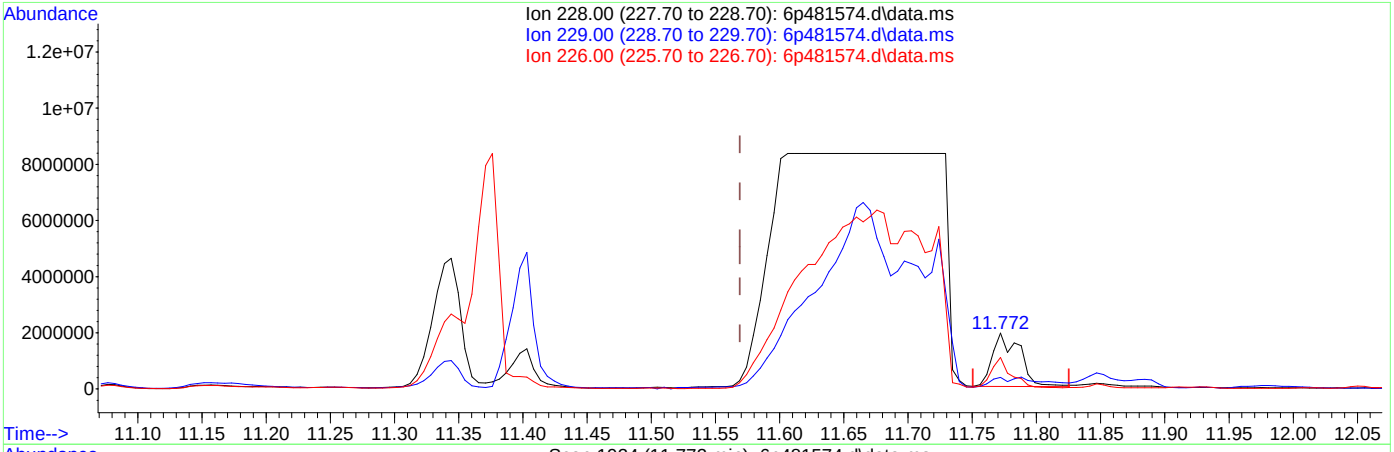
response 855602

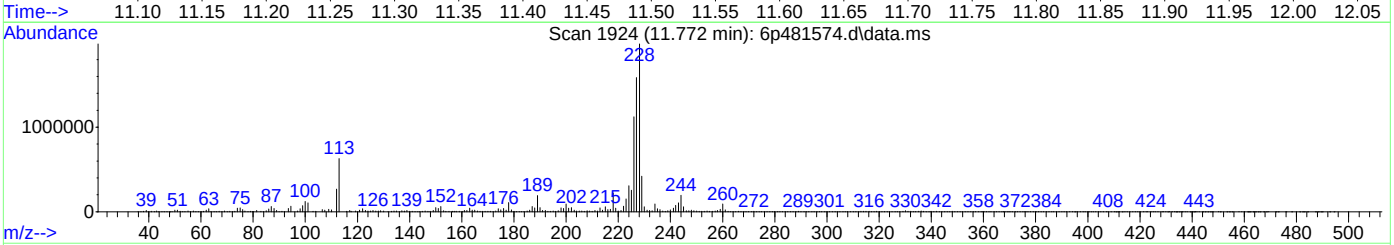
| Ion | Exp% | Act% |
|---|---|---|
| 244.10 | 100 | 100 |
| 122.00 | 11.70 | 18.11 |
| 212.10 | 6.90 | 7.26 |
| 0.00 | 0.00 | 0.00 |

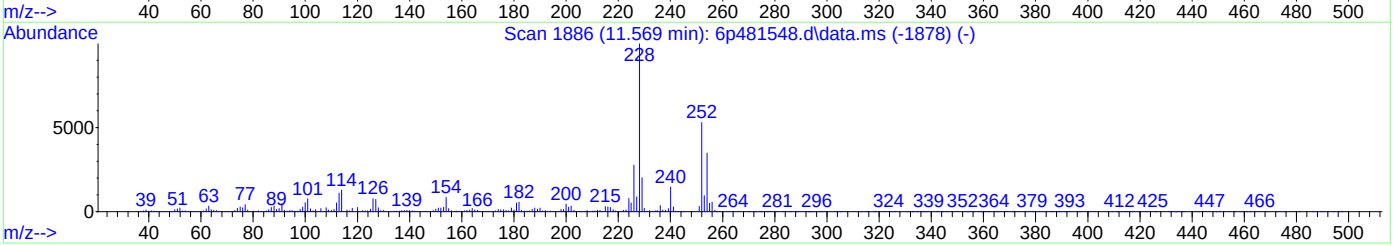
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(87) Benzo[a]anthracene (t)

11.772min (+0.203) 34.86ppm

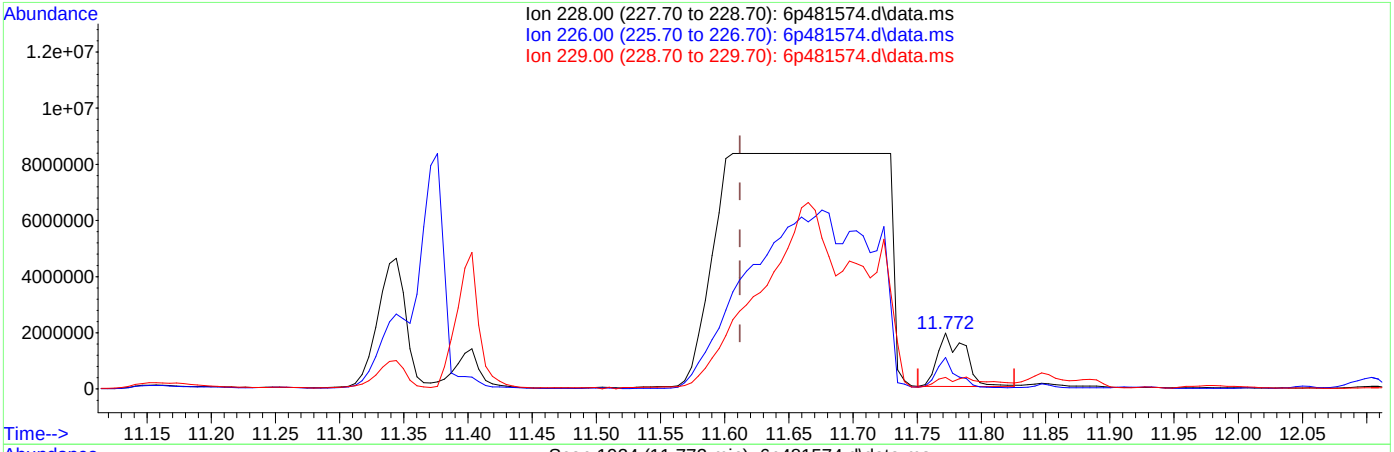
response 2815164

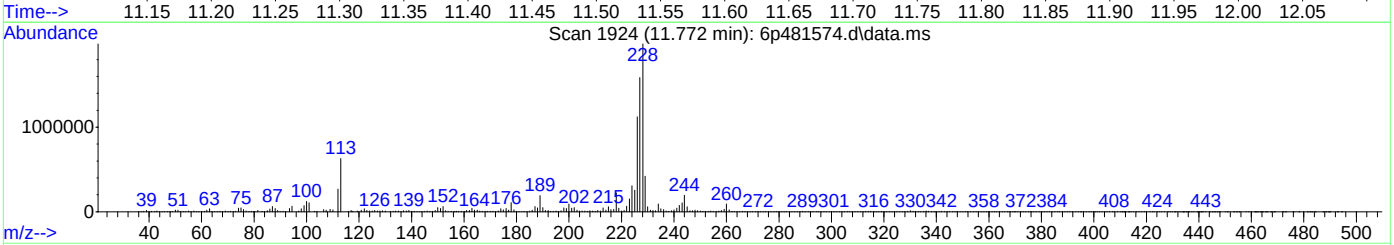
| Ion | Exp% | Act% |
|---|---|---|
| 228.00 | 100 | 100 |
| 229.00 | 20.10 | 14.81 |
| 226.00 | 27.70 | 56.88 |
| 0.00 | 0.00 | 0.00 |

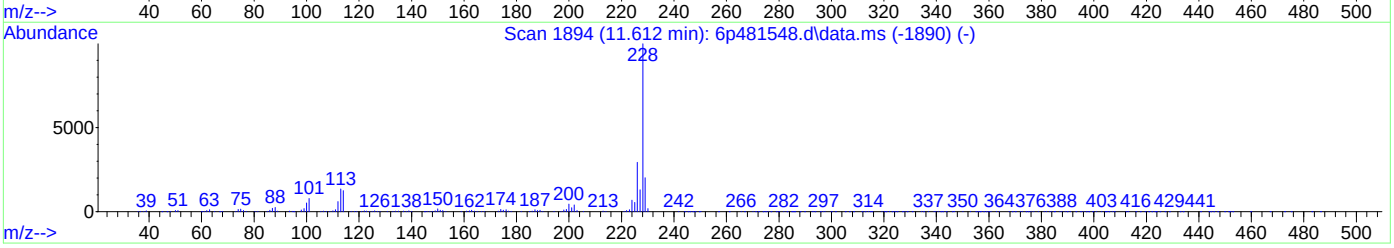
# Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(89) Chrysene (t)

11.772min (+0.160) 35.55ppm

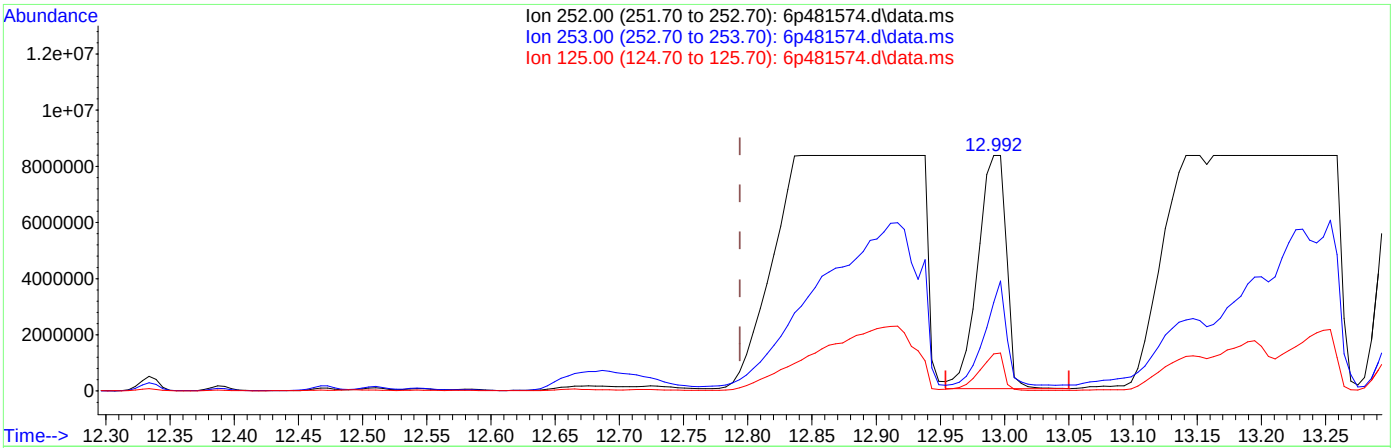
response 2815164

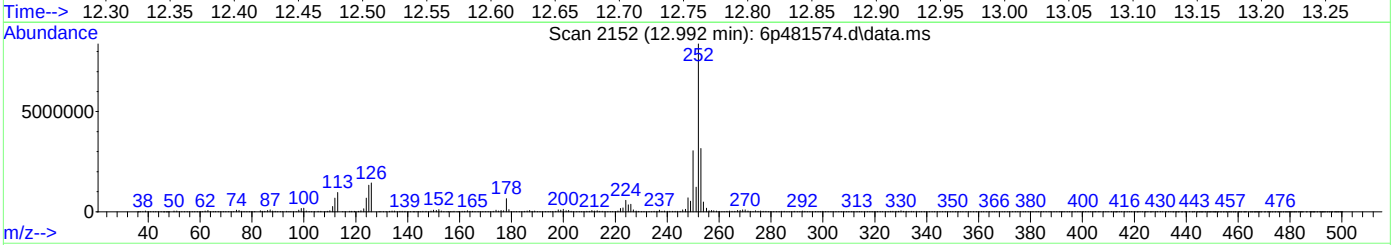
| Ion | Exp% | Act% |
|---|---|---|
| 228.00 | 100 | 100 |
| 226.00 | 29.30 | 56.88 |
| 229.00 | 20.20 | 14.81 |
| 0.00 | 0.00 | 0.00 |

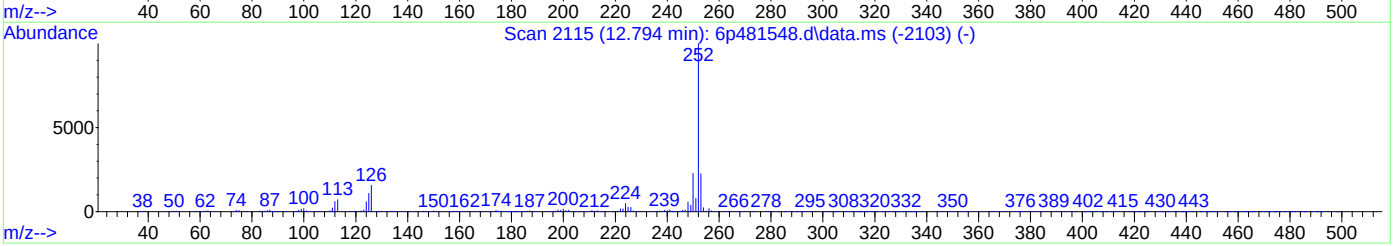
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst    : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.992min (+0.198) 169.00ppm

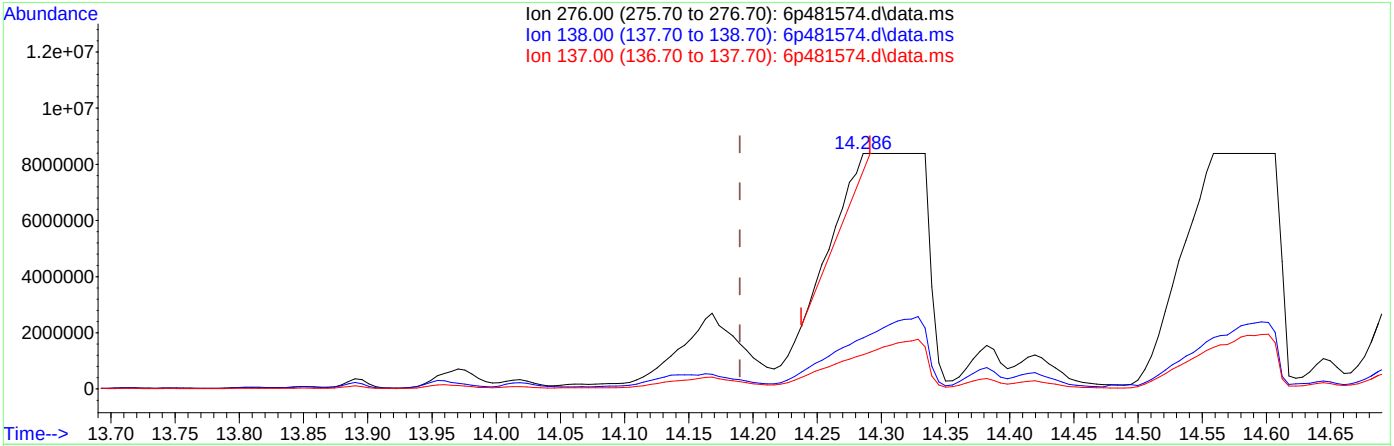
response 12725090

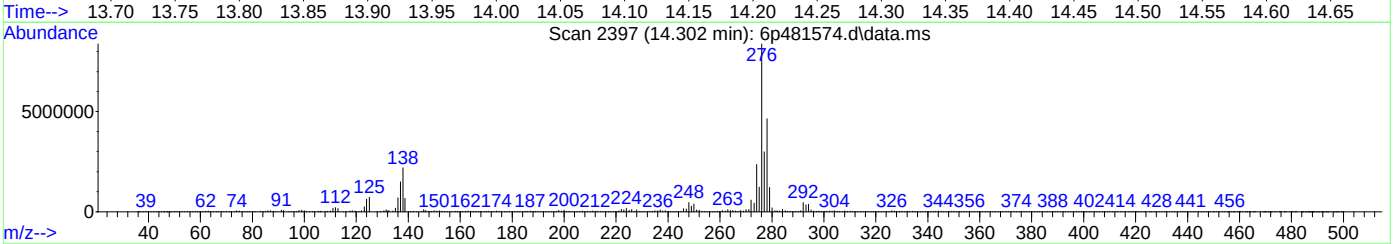
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 36.03 |
| 125.00 | 9.90 | 15.60 |
| 0.00 | 0.00 | 0.00 |

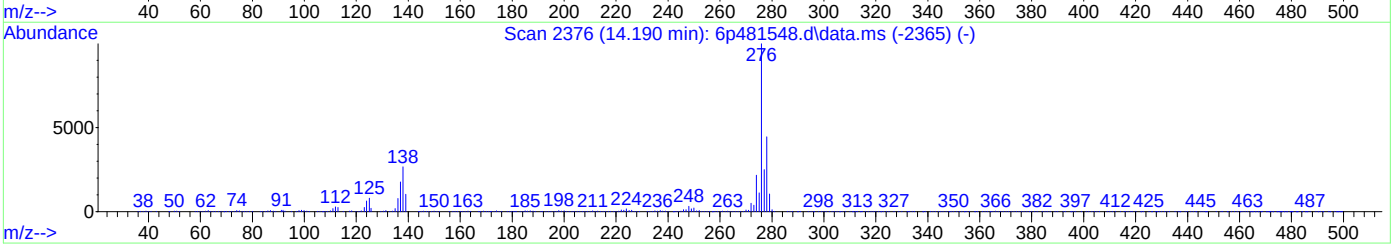
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst    : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.286min (+0.096) 32.59ppm

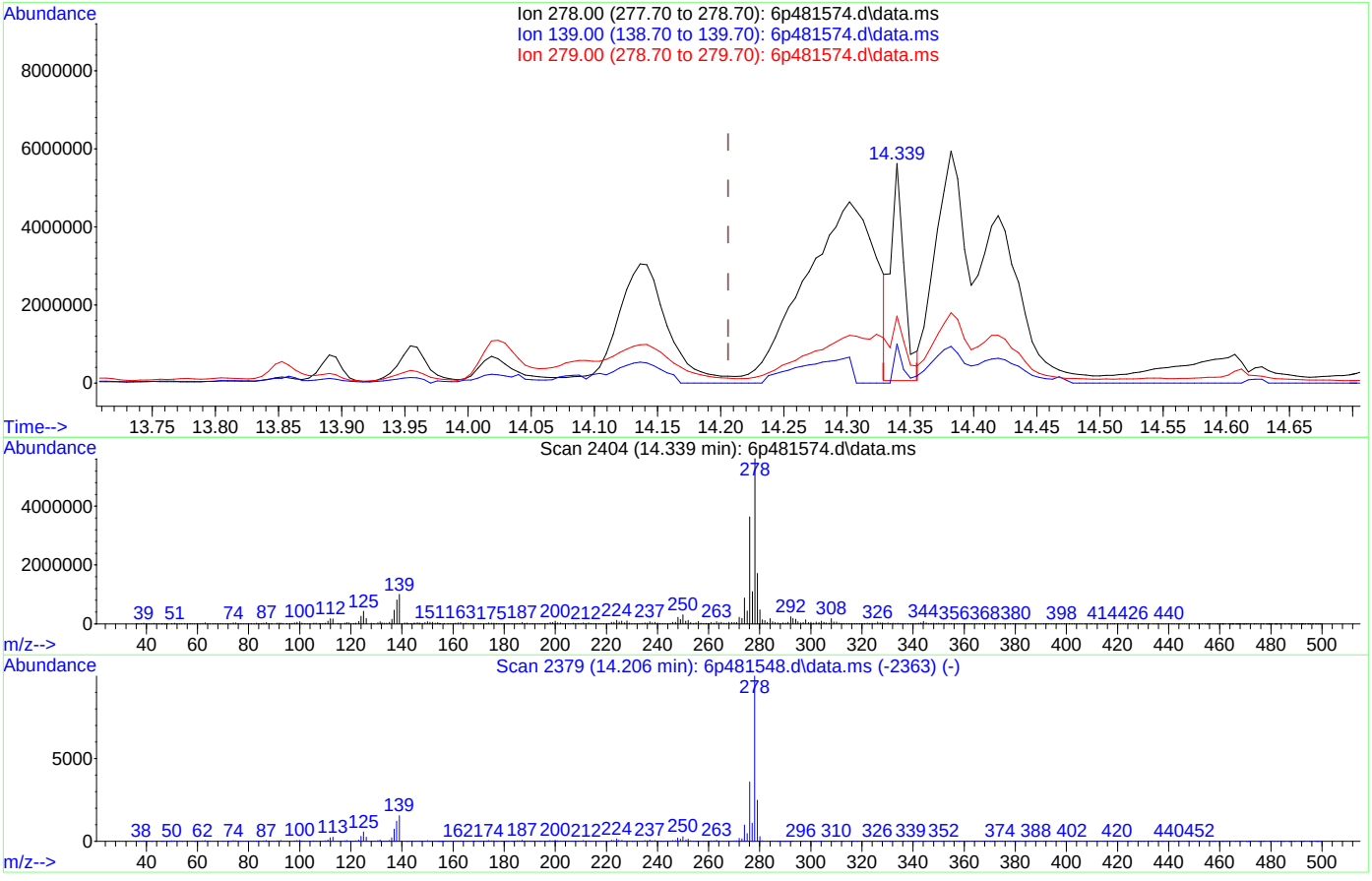
response 2692089

| Ion | Exp% | Act% |
|---|---|---|
| 276.00 | 100 | 100 |
| 138.00 | 26.60 | 23.63 |
| 137.00 | 17.60 | 11.76 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.339min (+0.134) 56.01ppm

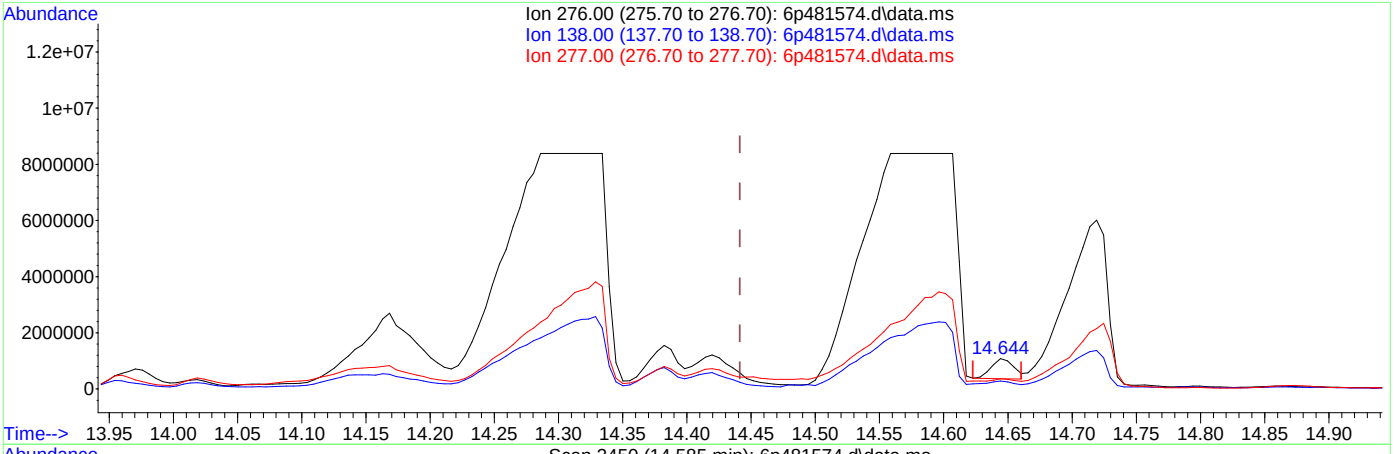
response 4100073

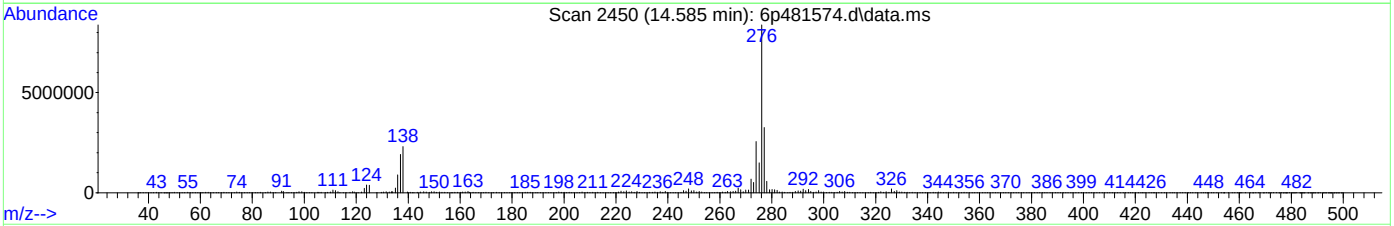
| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 15.40 | 23.73 |
| 279.00 | 24.80 | 23.93 |
| 0.00 | 0.00 | 0.00 |

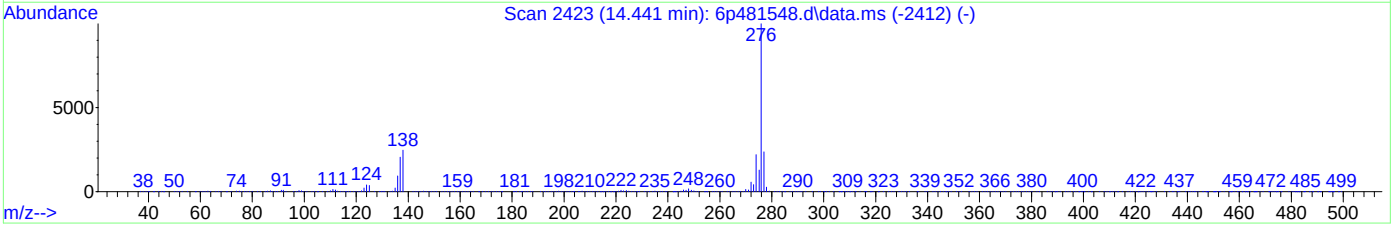
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On    :  2 May 2019   7:59 pm
Operator  : angelar
Sample    : jc86986-11                                Inst     : MS6P
Misc      : op20081,e6p2579,30.0,,,1,2
ALS Vial  : 28   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:05:29 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481574.d\data.ms

(100) Benzo[g,h,i]perylene (t)

14.644min (+0.203) 13.69ppm

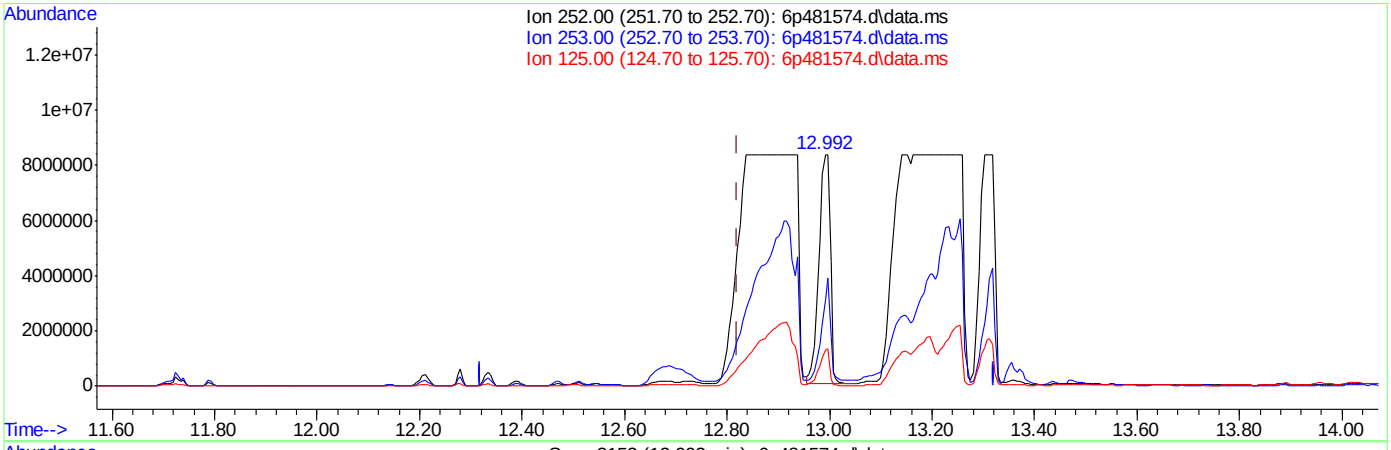
response 881602

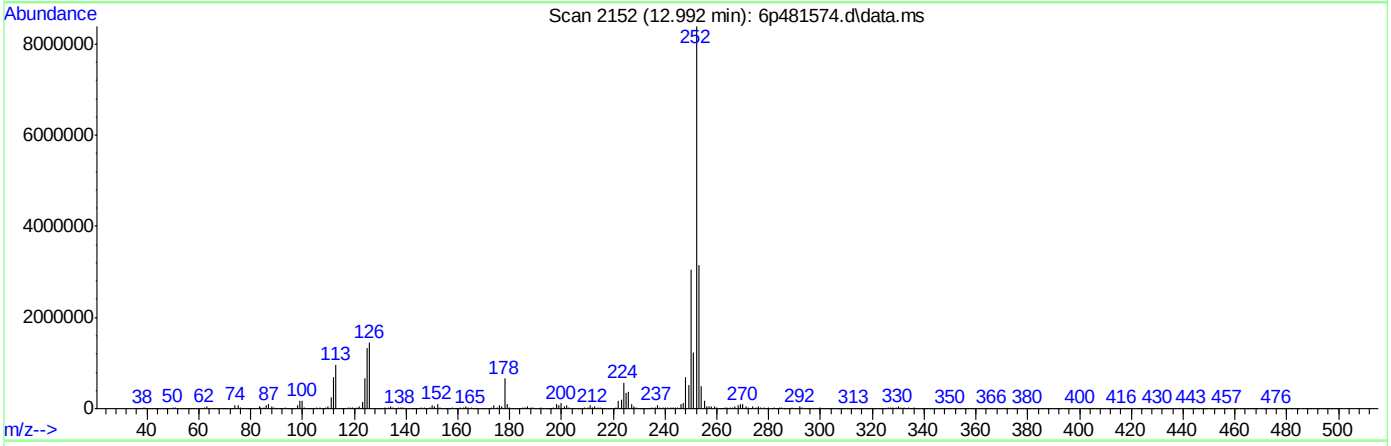
| Ion | Exp% | Act% |
|---|---|---|
| 276.00 | 100 | 100 |
| 138.00 | 24.70 | 10.44 |
| 277.00 | 23.60 | 13.10 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 03 06:42:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(94) Benzo[k]fluoranthene (t)

12.992min (+0.171) 190.91ppm

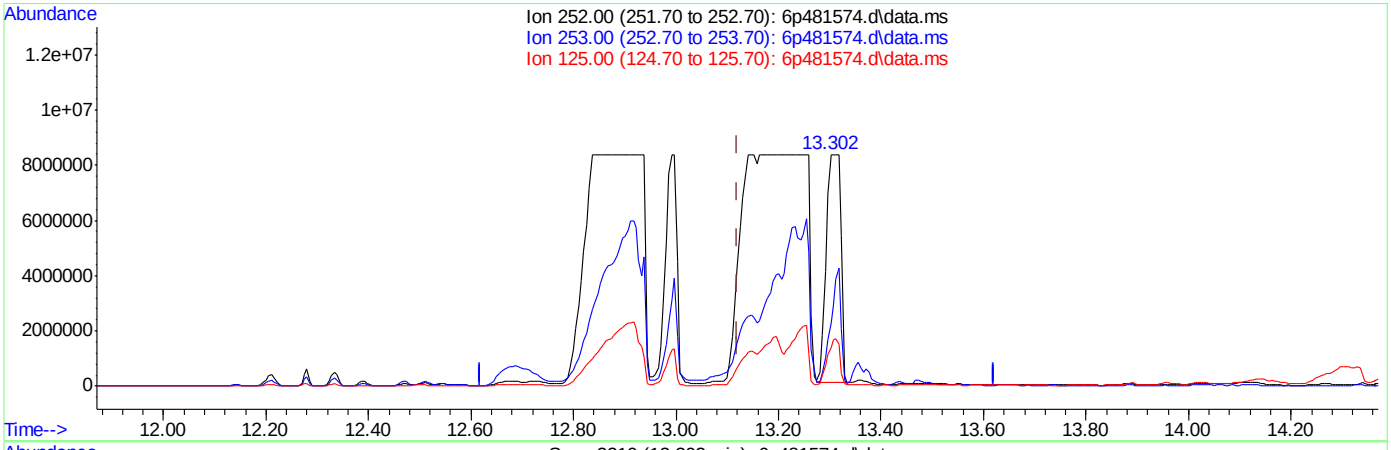
response 12725090

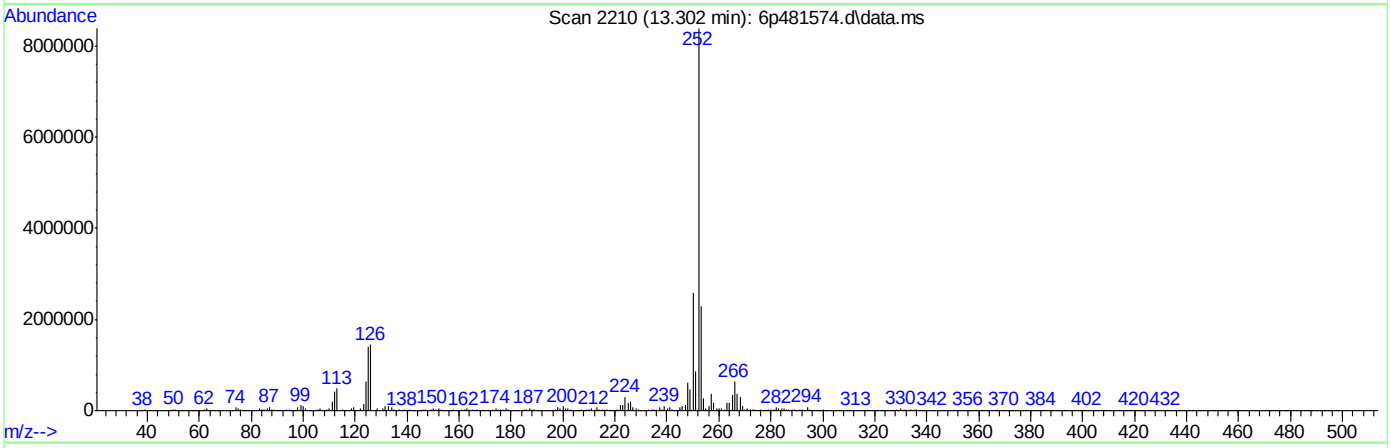
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.50 | 36.03 |
| 125.00 | 9.70 | 15.60 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : Z:\svoa-gcms\completed\05_may\05-03-2019\jeryllr\e6p2579\
Data File : 6p481574.d
Acq On : 2 May 2019 7:59 pm
Operator : angelar
Sample : jc86986-11
Misc : op20081,e6p2579,30.0,,,1,2
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 09 12:03:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481574.d\data.ms

(95) Benzo[a]pyrene (t)

13.302min (+0.182) 268.21ppm

response 16591253

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 21.40 | 25.86 |
| 125.00 | 11.70 | 16.45 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 12:18

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481616.D
Acq On : 3 May 2019 3:18 pm
Operator : angelar
Sample : jc86986-11
Misc : o20081,e6p2581,30.0,,,1,200
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 16:06:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 492151 | 40.00 | ppm | -0.01 |
| 24) Naphthalene-d8 | 5.092 | 136 | 1838871 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.739 | 164 | 1008038 | 40.00 | ppm | -0.01 |
| 69) Phenanthrene-d10 | 8.397 | 188 | 2048795 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.542 | 240 | 1801204 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.136 | 264 | 1766264 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 492151 | 40.00 | ppm | -0.01 |
| 103) Acenaphthene-d10a | 6.739 | 164 | 1008038 | 40.00 | ppm | -0.01 |
| 105) Phenanthrene-d10a | 8.397 | 188 | 2048795 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.542 | 240 | 1801204 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.092 | 136 | 1838871 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.397 | 188 | 2048795 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.542 | 240 | 1801204 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.172 | 112 | 2123 | 0.15 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 0.30% | |
| 8) Phenol-d5 | 3.936 | 99 | 2893 | 0.16 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 0.32% | |
| 25) Nitrobenzene-d5 | 4.552 | 82 | 2239 | 0.15 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 0.30% | |
| 51) 2-Fluorobiphenyl | 6.071 | 172 | 6149 | 0.17 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 0.34% | |
| 73) 2,4,6-Tribromophenol | 7.622 | 330 | 1103 | 0.17 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 0.34% | |
| 85) Terphenyl-d14 | 10.317 | 244 | 8358 | 0.20 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 0.40% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.108 | 128 | 644513 | 13.46 | ppm | 99 |
| 44) 2-Methylnaphthalene | 5.712 | 141 | 83477 | 3.08 | ppm | 99 |
| 53) Biphenyl | 6.162 | 154 | 27593 | 0.72 | ppm | 97 |
| 56) Acenaphthylene | 6.589 | 152 | 239730 | 5.23 | ppm | 99 |
| 59) Acenaphthene | 6.771 | 153 | 20460 | 0.67 | ppm | 98 |
| 62) Dibenzofuran | 6.964 | 168 | 304125 | 7.17 | ppm | 86 |
| 66) Fluorene | 7.333 | 166 | 425563 | 12.36 | ppm | 99 |
| 77) Phenanthrene | 8.424 | 178 | 2617364 | 47.58 | ppm | 100 |
| 78) Anthracene | 8.483 | 178 | 584966 | 10.60 | ppm | 99 |
| 79) Carbazole | 8.697 | 167 | 198838 | 3.81 | ppm | 98 |
| 81) Fluoranthene | 9.825 | 202 | 2451355 | 41.02 | ppm | 97 |
| 84) Pyrene | 10.087 | 202 | 1832597 | 30.54 | ppm | 99 |
| 87) Benzo[a]anthracene | 11.532 | 228 | 718843 | 12.53 | ppm | 99 |
| 89) Chrysene | 11.569 | 228 | 582539 | 10.35 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 12.746 | 252 | 731570m | 13.56 | ppm | |
| 94) Benzo[k]fluoranthene | 12.767 | 252 | 258740m | 5.42 | ppm | |
| 95) Benzo[a]pyrene | 13.072 | 252 | 515078 | 11.62 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.142 | 276 | 359678 | 6.08 | ppm | 92 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481616.D
Acq On : 3 May 2019 3:18 pm
Operator : angelar
Sample : jc86986-11
Misc : o20081,e6p2581,30.0,,,1,200
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 16:06:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 98) | Dibenz[a,h]anthracene | 14.147 | 278 | 91279 | 1.74 ppm | 94 |
| 100) | Benzo[g,h,i]perylene | 14.382 | 276 | 339221 | 7.35 ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

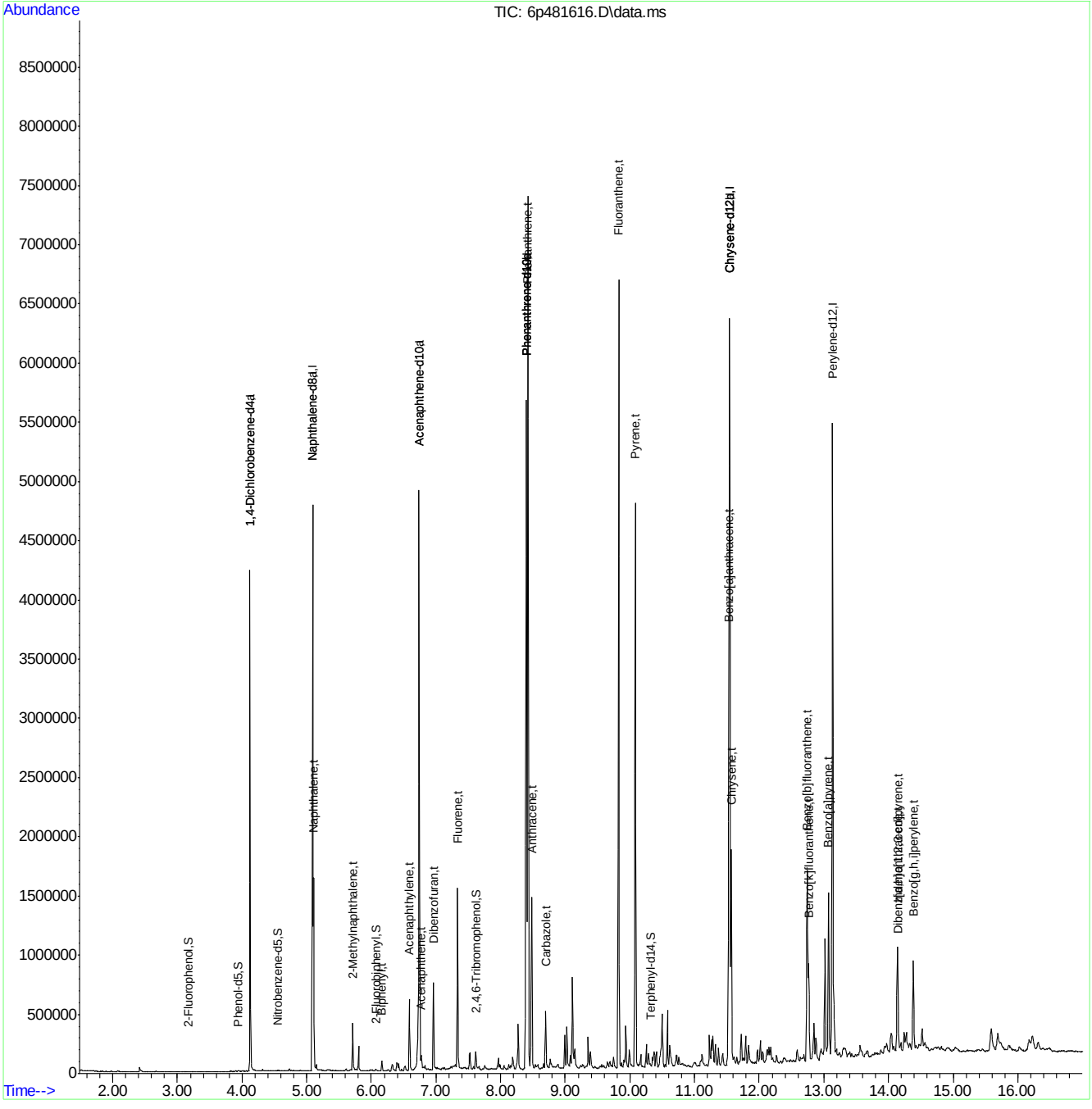
9.1.15

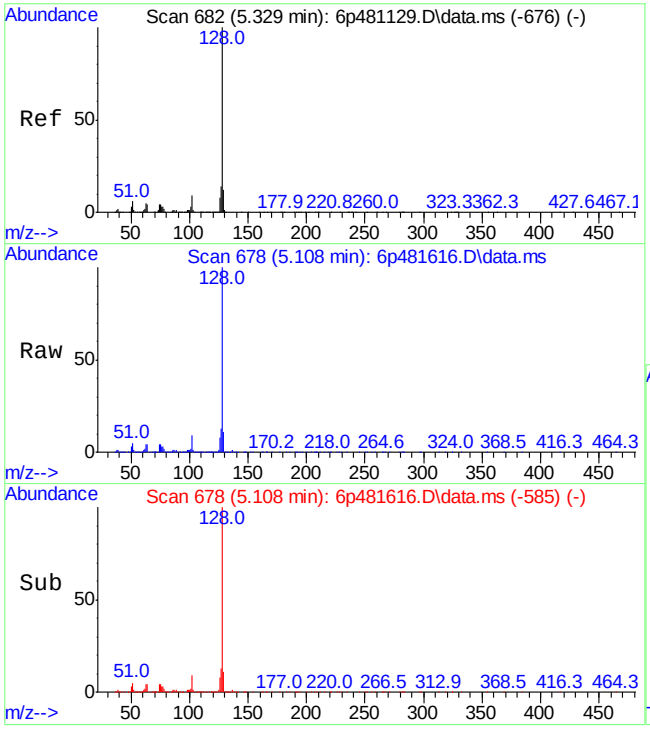
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481616.D
Acq On : 3 May 2019 3:18 pm
Operator : angelar
Sample : jc86986-11
Misc : o20081,e6p2581,30.0,,,1,200
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 16:06:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration

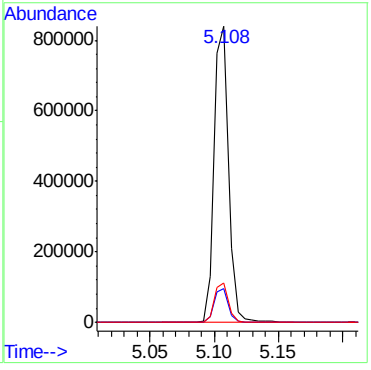


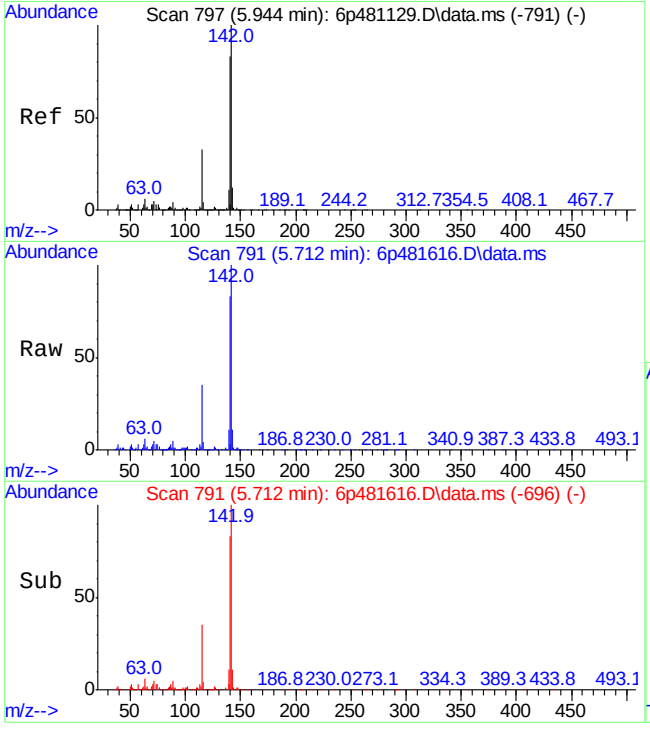



#38
Naphthalene
Concen: 13.46 ppm
RT: 5.108 min Scan# 678
Delta R.T. -0.005 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:128 Resp: 644513

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 11.2 | 0.0 | 41.5 |
| 127 | 13.2 | 0.0 | 43.5 |

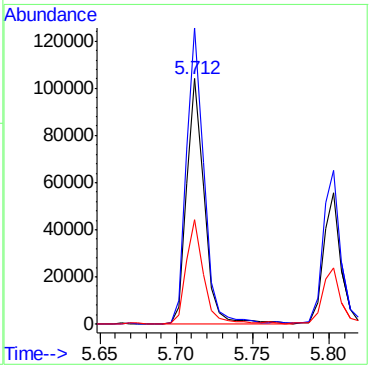


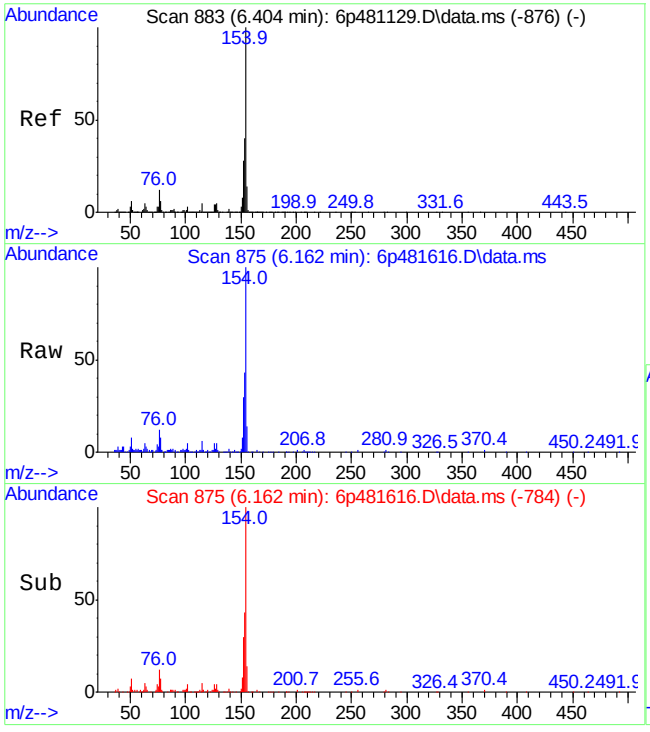




#44
2-Methylnaphthalene
Concen: 3.08 ppm
RT: 5.712 min Scan# 791
Delta R.T. 0.009 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:141 Resp: 83477

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 120.6 | 91.1 | 151.1 |
| 115 | 42.5 | 10.5 | 70.5 |

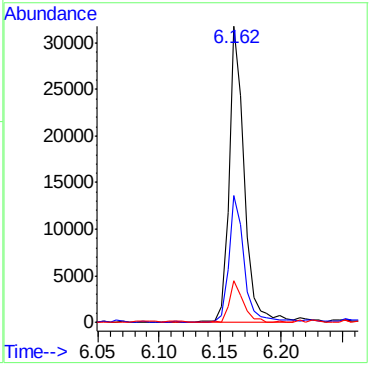


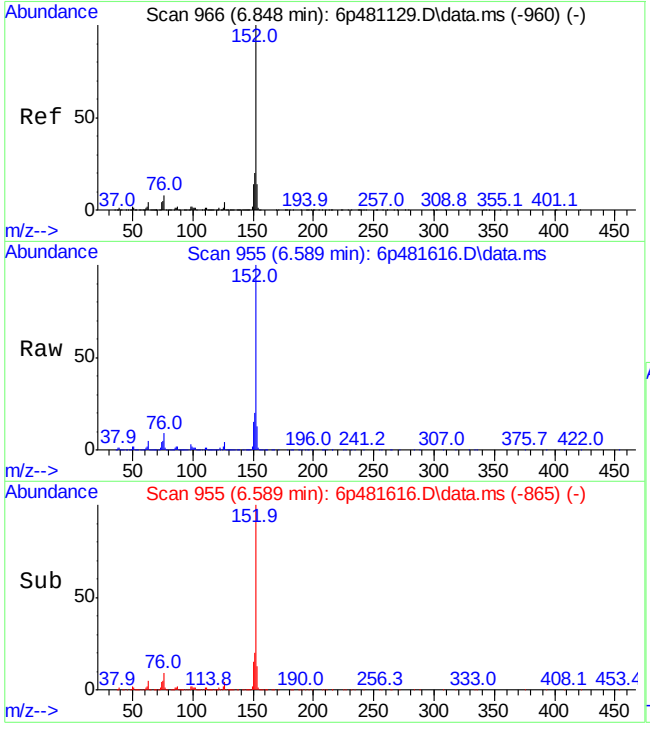



#53
Biphenyl
Concen: 0.72 ppm
RT: 6.162 min Scan# 875
Delta R.T. -0.016 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:154 Resp: 27593

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 42.6 | 10.2 | 70.2 |
| 155 | 13.9 | 0.0 | 43.5 |

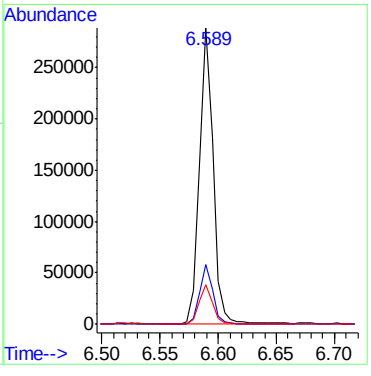


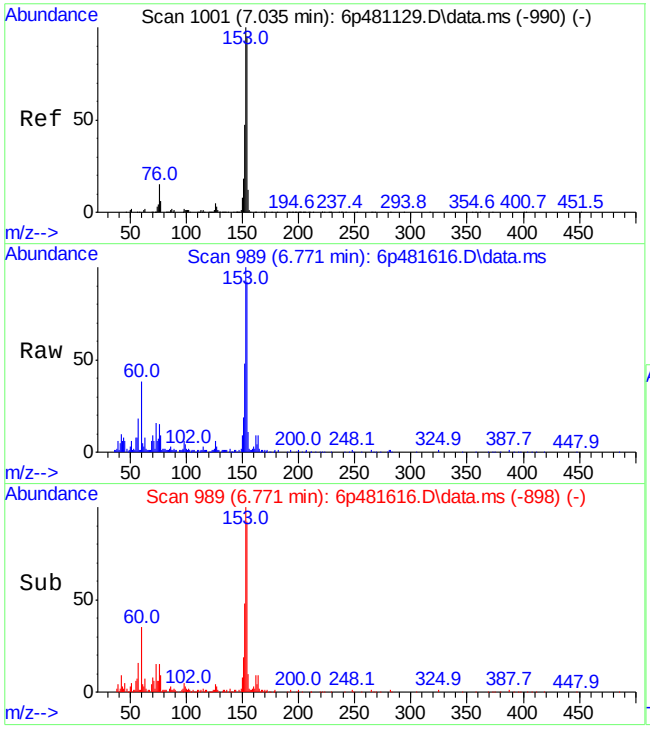




#56
Acenaphthylene
Concen: 5.23 ppm
RT: 6.589 min Scan# 955
Delta R.T. -0.016 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:152 Resp: 239730

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 20.1 | 0.0 | 50.3 |
| 153 | 13.3 | 0.0 | 43.6 |

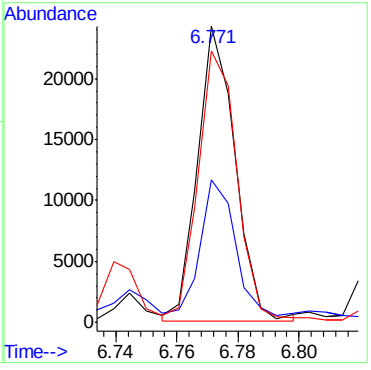


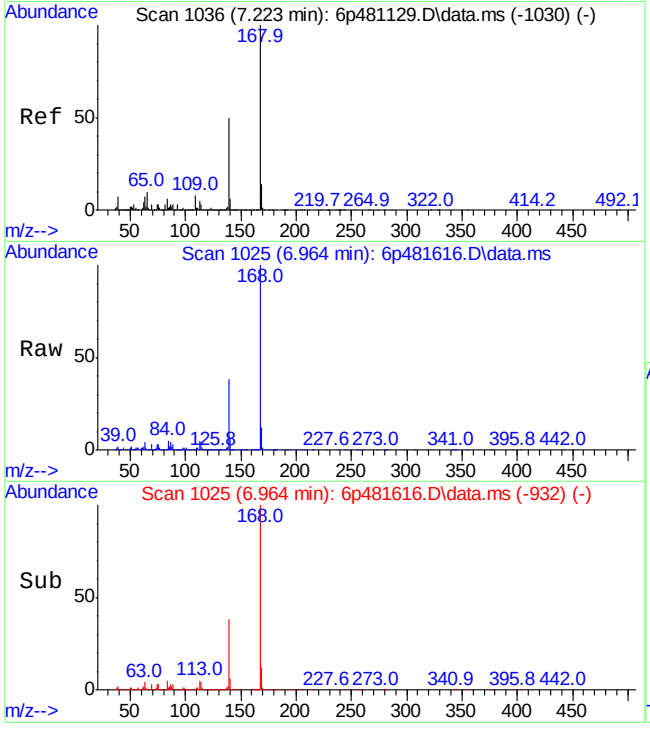



#59
Acenaphthene
Concen: 0.67 ppm
RT: 6.771 min Scan# 989
Delta R.T. -0.015 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:153 Resp: 20460

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 46.1 | 16.9 | 76.9 |
| 154 | 92.0 | 65.0 | 125.0 |

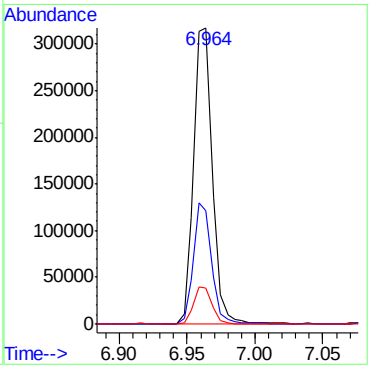


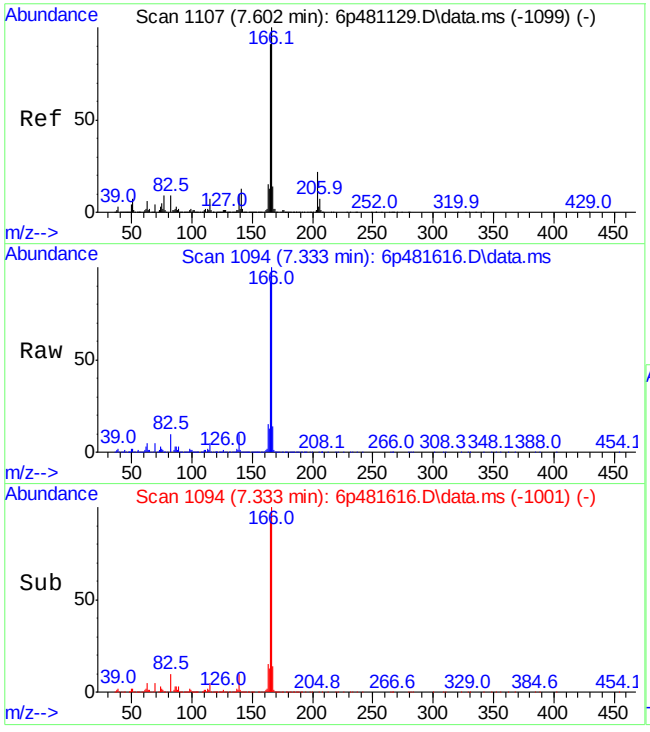




#62
Dibenzofuran
Concen: 7.17 ppm
RT: 6.964 min Scan# 1025
Delta R.T. -0.003 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:168 Resp: 304125

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 38.4 | 19.5 | 79.5 |
| 169 | 12.1 | 0.0 | 43.8 |

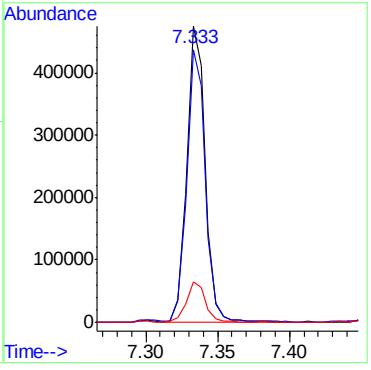


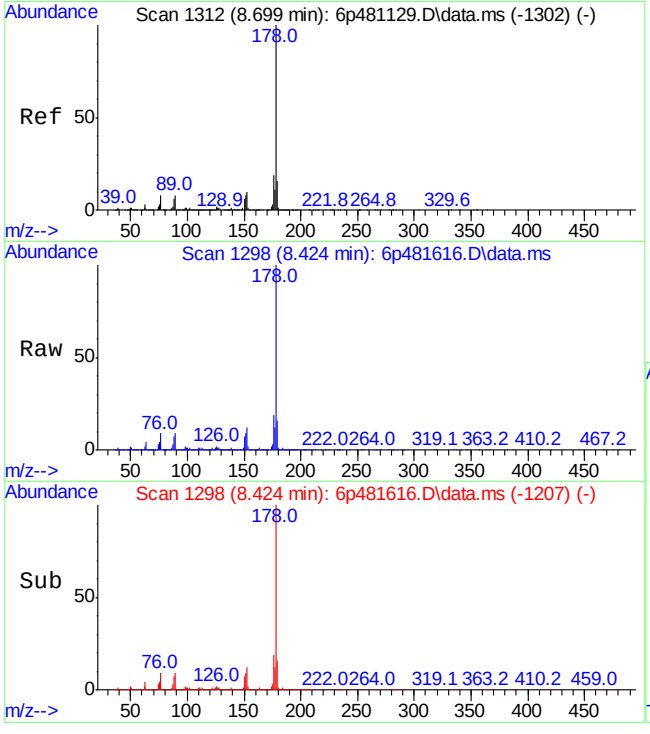



#66
Fluorene
Concen: 12.36 ppm
RT: 7.333 min Scan# 1094
Delta R.T. -0.000 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:166 Resp: 425563

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 92.1 | 61.0 | 121.0 |
| 167 | 13.6 | 0.0 | 43.5 |

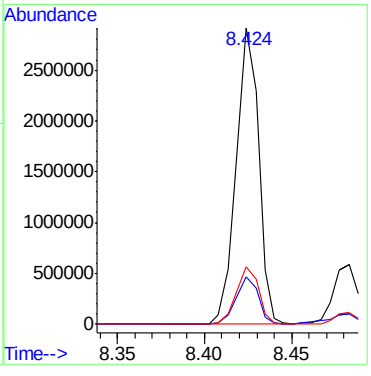


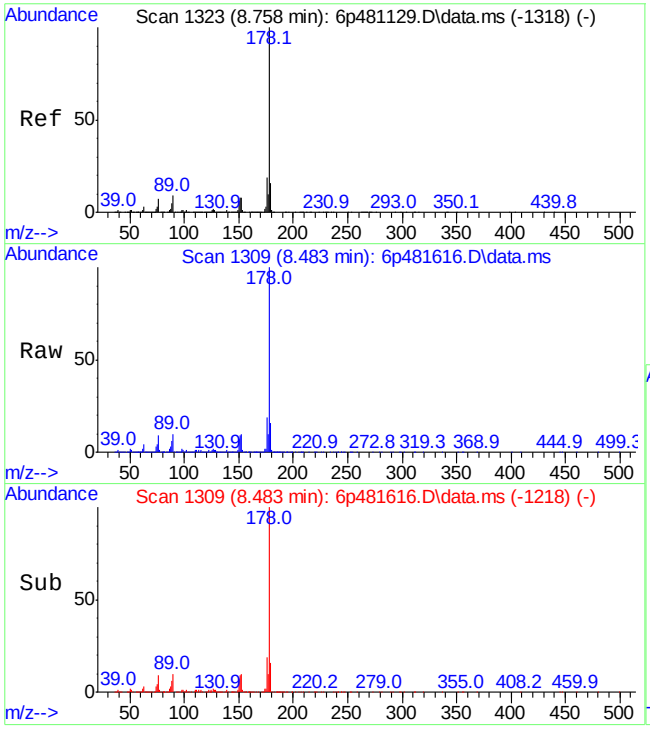




#77
Phenanthrene
Concen: 47.58 ppm
RT: 8.424 min Scan# 1298
Delta R.T. -0.015 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:178 Resp: 2617364

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.1 | 0.0 | 46.1 |
| 176 | 19.4 | 0.0 | 49.3 |

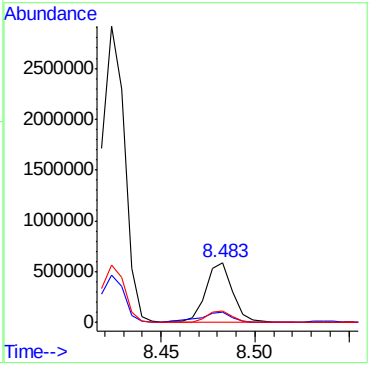


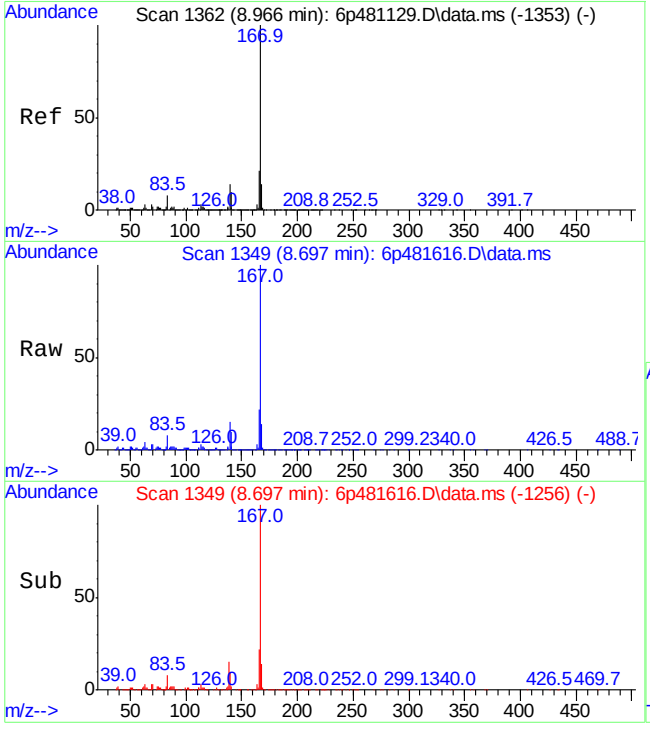



#78
Anthracene
Concen: 10.60 ppm
RT: 8.483 min Scan# 1309
Delta R.T. -0.013 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:178 Resp: 584966

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 16.0 | 0.0 | 46.3 |
| 176 | 19.3 | 0.0 | 48.6 |

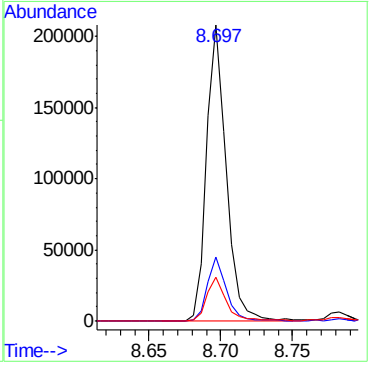


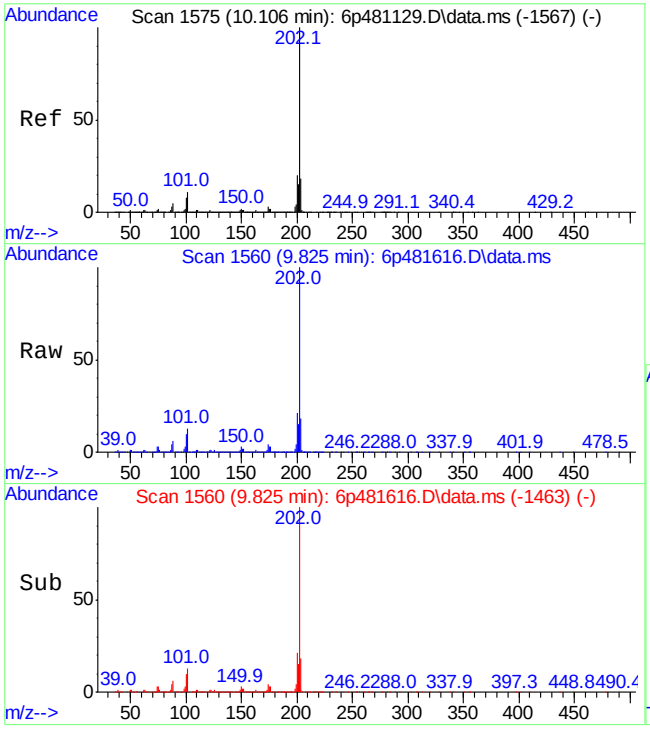




#79
Carbazole
Concen: 3.81 ppm
RT: 8.697 min Scan# 1349
Delta R.T. -0.002 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:167 Resp: 198838

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 21.6 | 0.0 | 50.7 |
| 139 | 14.6 | 0.0 | 43.6 |

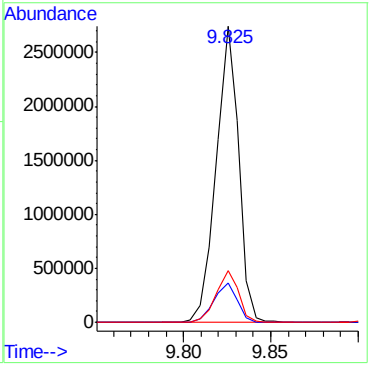


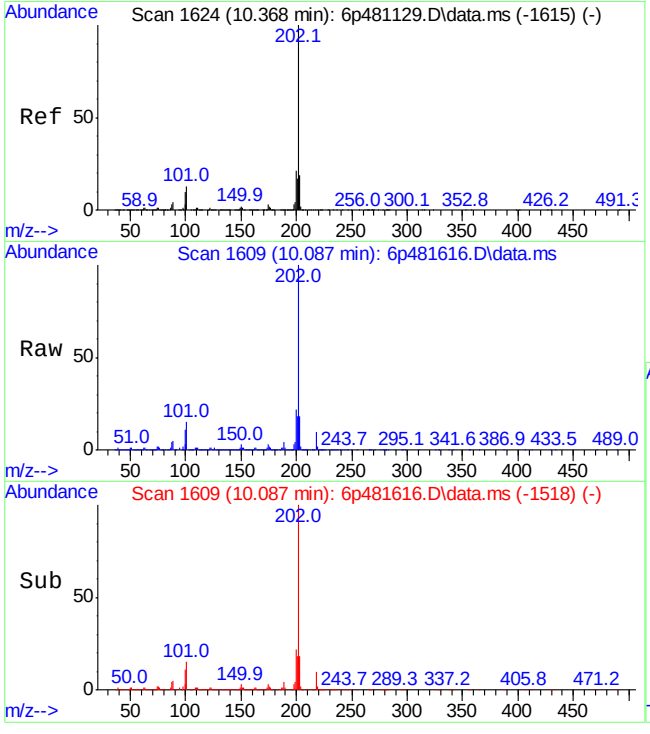



#81
Fluoranthene
Concen: 41.02 ppm
RT: 9.825 min Scan# 1560
Delta R.T. 0.021 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:202 Resp: 2451355

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.4 | 0.0 | 40.6 |
| 203 | 17.5 | 0.0 | 47.8 |

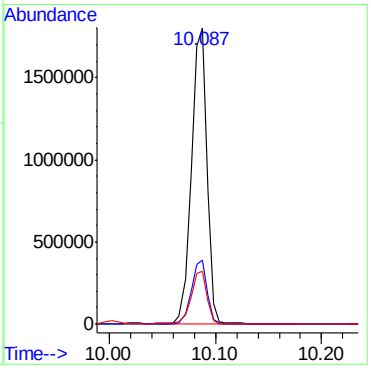


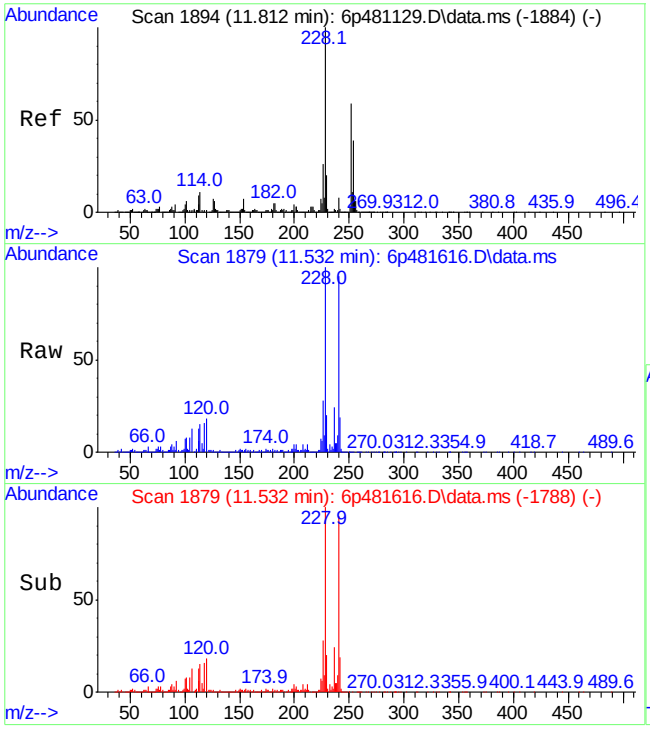




#84
Pyrene
Concen: 30.54 ppm
RT: 10.087 min Scan# 1609
Delta R.T. -0.011 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:202 Resp: 1832597

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 21.7 | 0.0 | 51.3 |
| 203 | 17.7 | 0.0 | 46.8 |

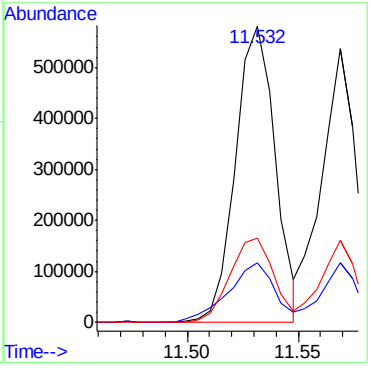


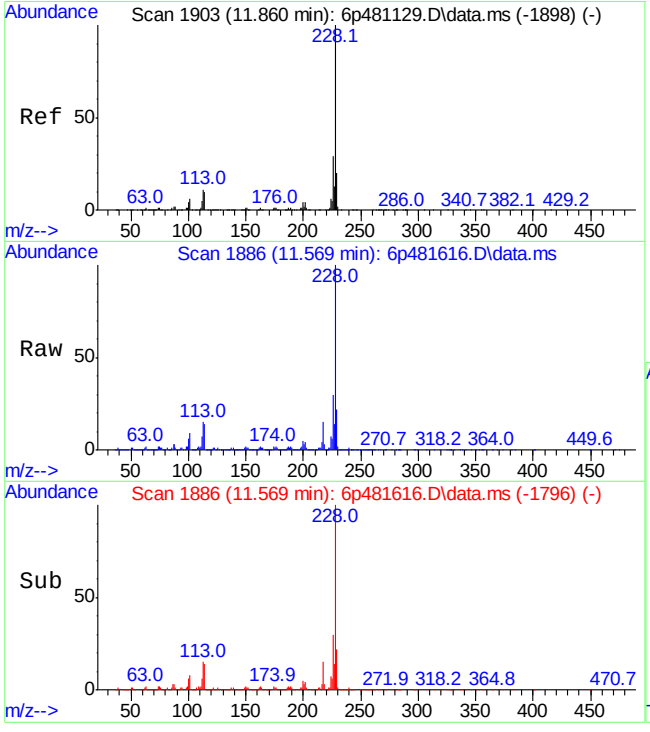



#87
Benzo[a]anthracene
Concen: 12.53 ppm
RT: 11.532 min Scan# 1879
Delta R.T. -0.011 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:228 Resp: 718843

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 19.8 | 0.0 | 49.8 |
| 226 | 28.6 | 0.0 | 57.5 |

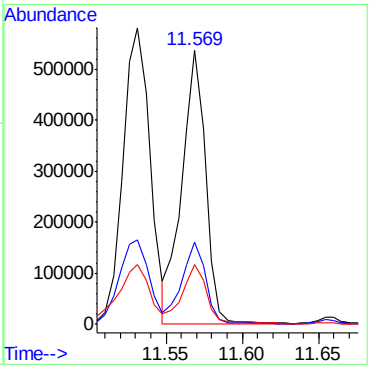



#89
Chrysene
Concen: 10.35 ppm
RT: 11.569 min Scan# 1886
Delta R.T. -0.016 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

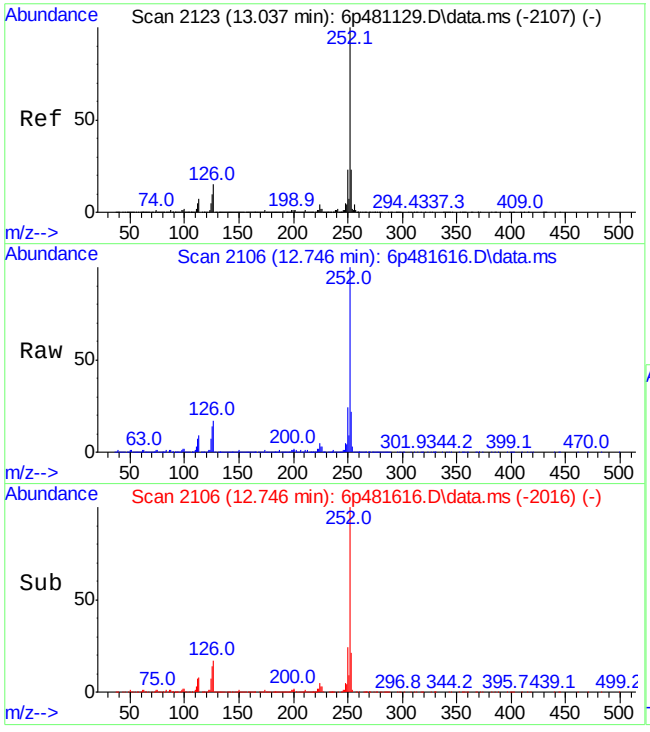
Tgt Ion:228 Resp: 582539

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 30.3 | 0.0 | 59.3 |
| 229 | 21.6 | 0.0 | 50.0 |




9.1.15

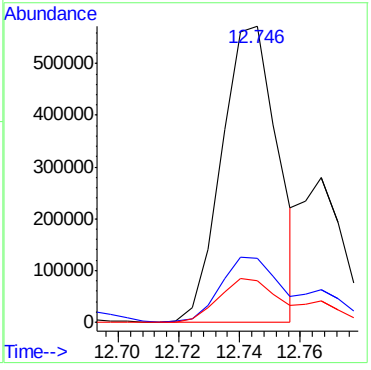
9

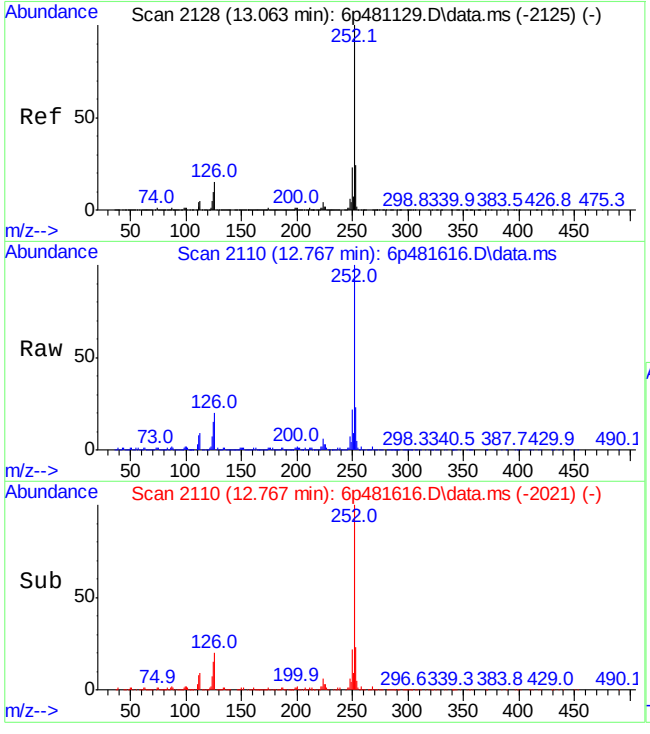



#93
Benzo[b]fluoranthene
Concen: 13.56 ppm m
RT: 12.746 min Scan# 2106
Delta R.T. -0.016 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:252 Resp: 731570

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.6 | 0.0 | 52.9 |
| 125 | 14.0 | 0.0 | 43.3 |

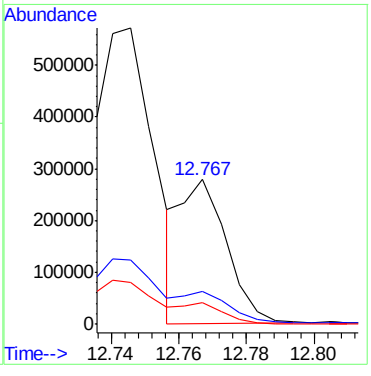


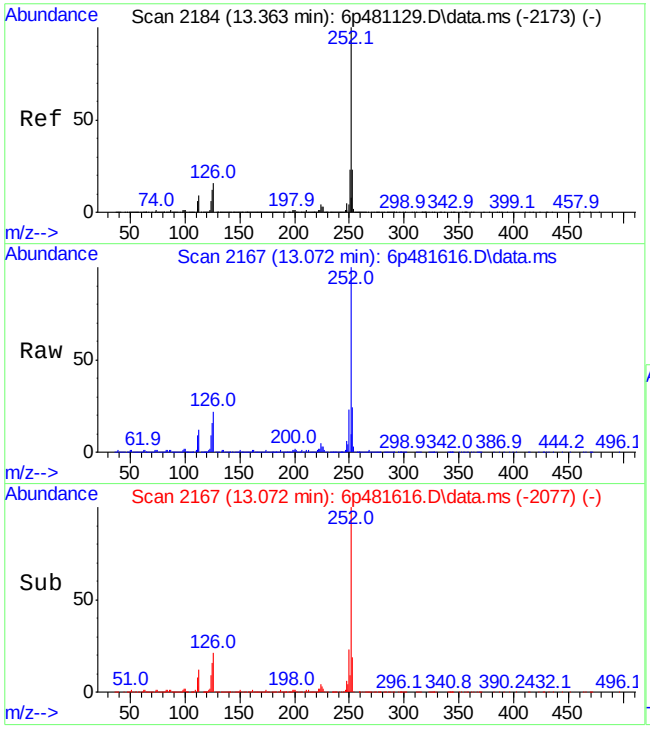

#94
Benzo[k]fluoranthene
Concen: 5.42 ppm m
RT: 12.767 min Scan# 2110
Delta R.T. -0.022 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:252 Resp: 258740

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.9 | 0.0 | 52.4 |
| 125 | 14.7 | 0.0 | 43.1 |



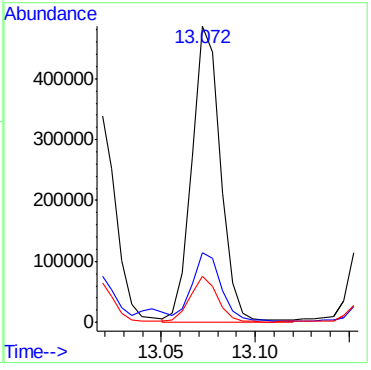

9.1.15
9

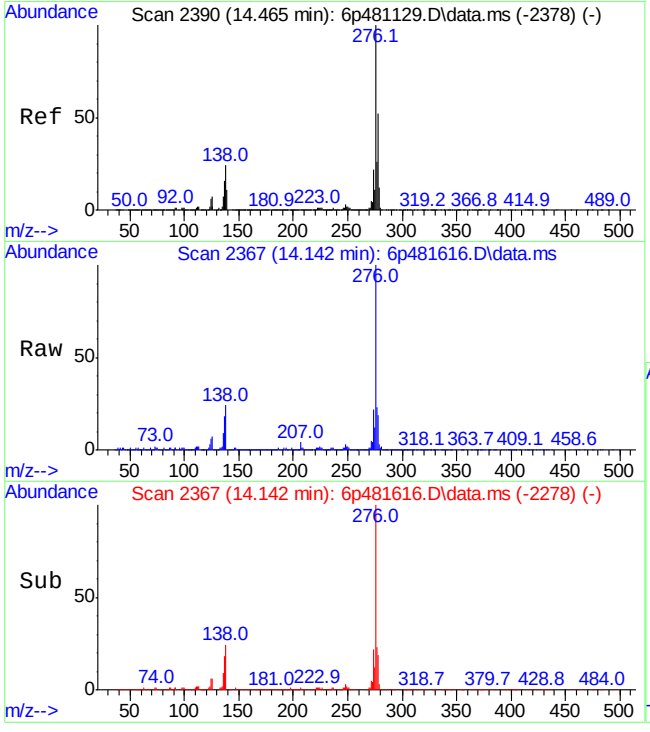



#95
Benzo[a]pyrene
Concen: 11.62 ppm
RT: 13.072 min Scan# 2167
Delta R.T. -0.016 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:252 Resp: 515078

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.9 | 0.0 | 52.1 |
| 125 | 15.5 | 0.0 | 45.1 |

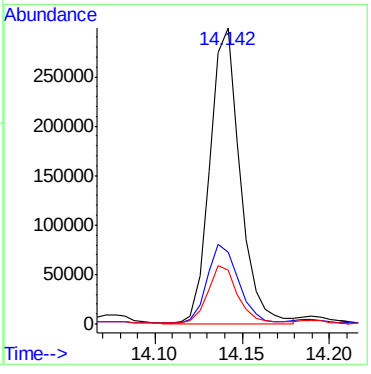


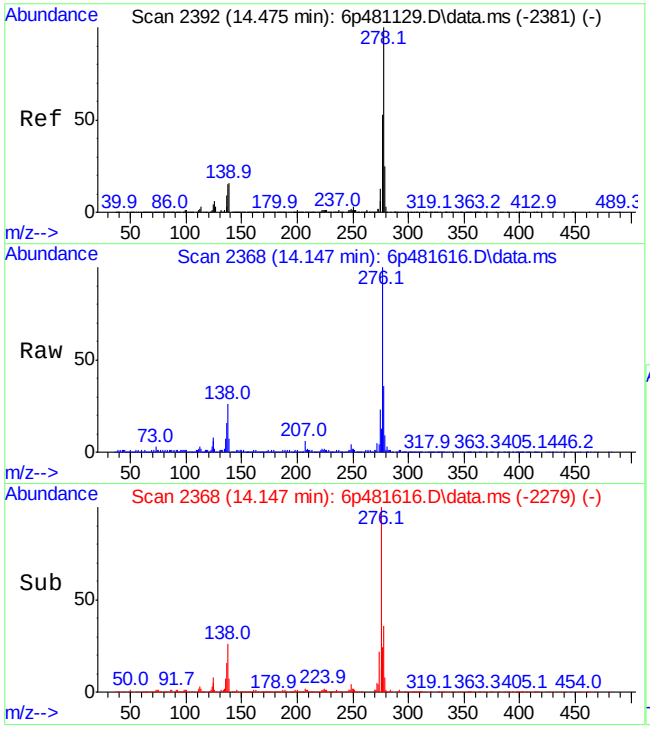




#96
Indeno[1,2,3-cd]pyrene
Concen: 6.08 ppm
RT: 14.142 min Scan# 2367
Delta R.T. -0.022 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:276 Resp: 359678

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 23.9 | 0.0 | 60.0 |
| 137 | 17.9 | 0.0 | 49.6 |

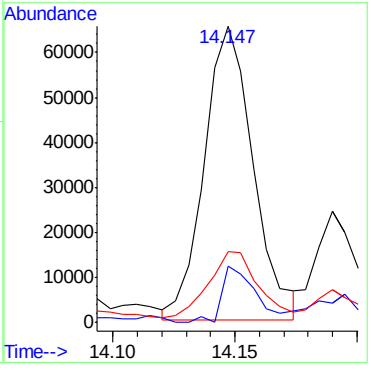


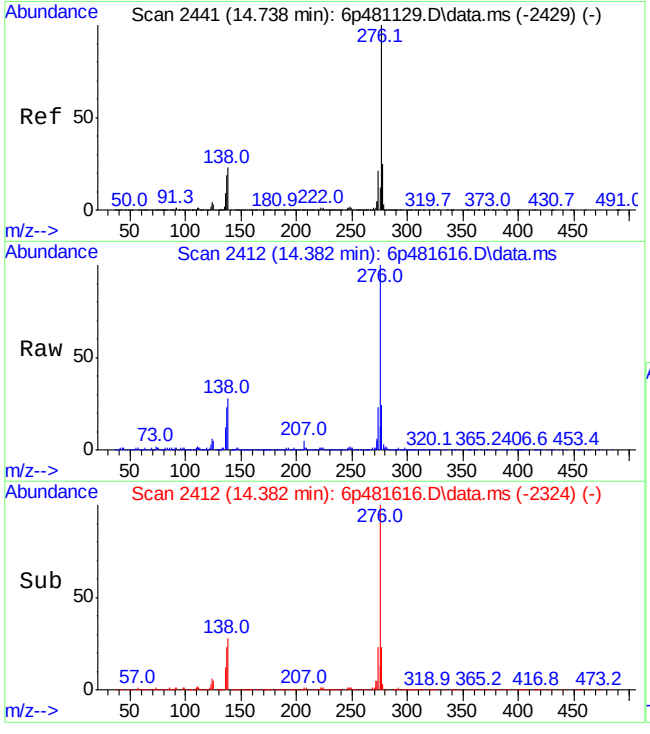



#98
Dibenz[a,h]anthracene
Concen: 1.74 ppm
RT: 14.147 min Scan# 2368
Delta R.T. -0.022 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:278 Resp: 91279

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 17.6 | 0.0 | 51.8 |
| 279 | 22.9 | 0.0 | 54.3 |

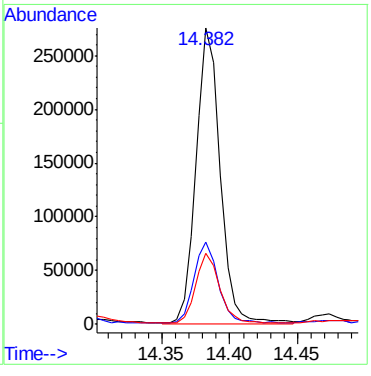



#100
Benzo[g,h,i]perylene
Concen: 7.35 ppm
RT: 14.382 min Scan# 2412
Delta R.T. -0.027 min
Lab File: 6p481616.D
Acq: 3 May 2019 3:18 pm

Tgt Ion:276 Resp: 339221

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 27.2 | 0.0 | 54.9 |
| 277 | 23.3 | 0.0 | 53.8 |



# Manual Integration Approval Summary



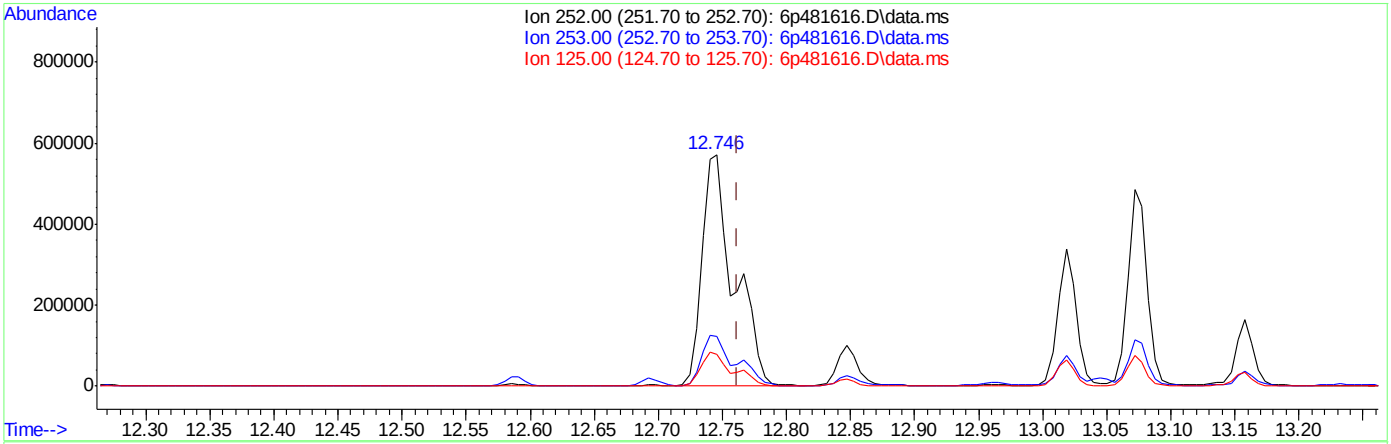
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-11 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481616.D | **Analyst approved:** | 05/03/19 16:15 Ying Li |
| **Injection Time:** | 05/03/19 15:18 | **Supervisor approved:** | 05/09/19 12:18 Kristi Schollenberger |

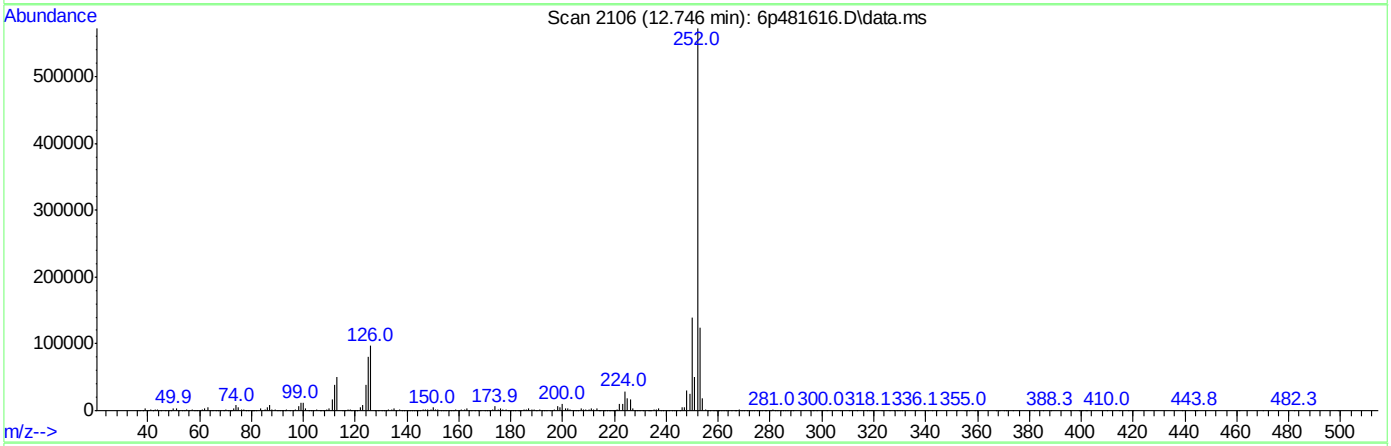
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzo(b)fluoranthene | 205-99-2 | | 12.75 | Overlapping peak |
| Benzo(k)fluoranthene | 207-08-9 | | 12.77 | Overlapping peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481616.D
Acq On : 3 May 2019 3:18 pm
Operator : angelar
Sample : jc86986-11
Misc : o20081,e6p2581,30.0,,,1,200
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 15:35:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration




TIC: 6p481616.D\data.ms

(93) Benzo[b]fluoranthene (t)

12.746min (-0.016) 18.41ppm

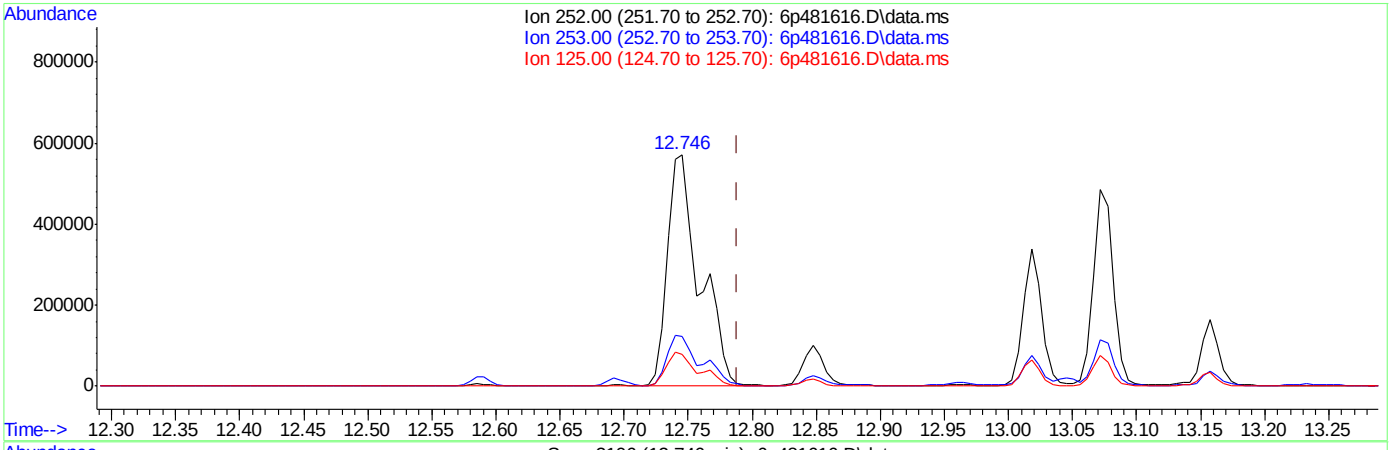
response 993392

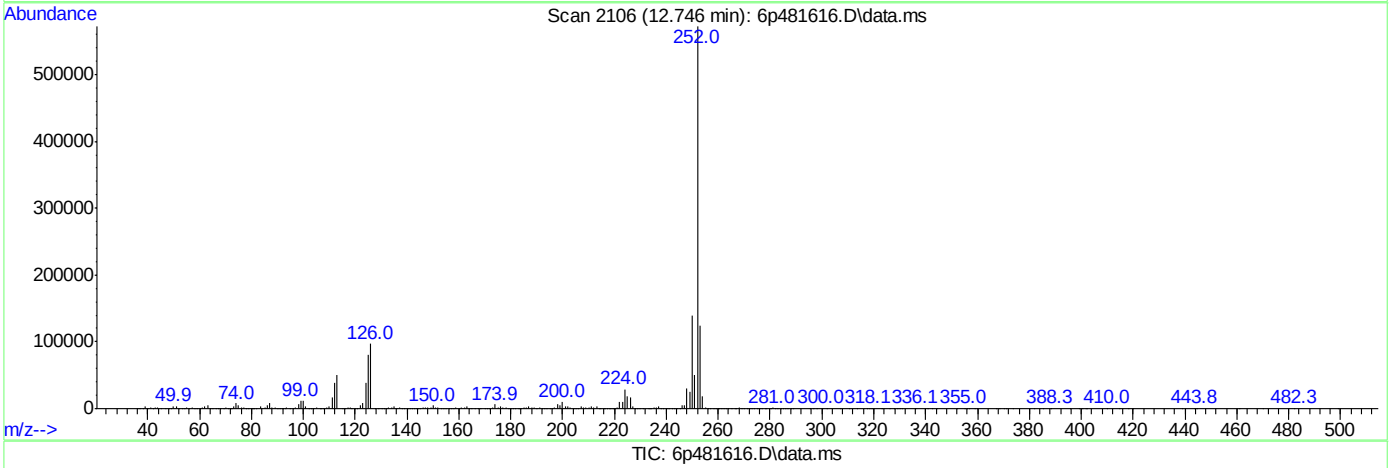
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.90 | 21.26 |
| 125.00 | 13.30 | 13.85 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481616.D
Acq On : 3 May 2019 3:18 pm
Operator : angelar
Sample : jc86986-11
Misc : o20081,e6p2581,30.0,,,1,200
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 15:35:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 10:56:42 2019
Response via : Initial Calibration




TIC: 6p481616.D\data.ms

(94) Benzo[k]fluoranthene (t)

12.746min (-0.043) 20.80ppm

response 993392

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.40 | 21.26 |
| 125.00 | 13.10 | 13.85 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/09/19 12:18

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481620.d
Acq On : 3 May 2019 4:55 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2581,30.0,,,1,20
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:40:04 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 561593 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.092 | 136 | 2079964 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.739 | 164 | 1127276 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.403 | 188 | 2001370 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.558 | 240 | 2009623 | 40.00 | ppm | 0.02 |
| 91) Perylene-d12 | 13.152 | 264 | 1775125 | 40.00 | ppm | 0.02 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 561593 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.739 | 164 | 1127276 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.403 | 188 | 2001370 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.558 | 240 | 2009623 | 40.00 | ppm | 0.02 |
| 111) Naphthalene-d8a | 5.092 | 136 | 2079964 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.403 | 188 | 2001370 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.558 | 240 | 2009623 | 40.00 | ppm | 0.02 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.150 | 112 | 24151 | 1.47 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 2.94% | |
| 8) Phenol-d5 | 3.915 | 99 | 33406 | 1.67 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 3.34% | |
| 25) Nitrobenzene-d5 | 4.546 | 82 | 30552 | 1.76 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.52% | |
| 51) 2-Fluorobiphenyl | 6.065 | 172 | 68649 | 1.72 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.44% | |
| 73) 2,4,6-Tribromophenol | 7.616 | 330 | 9729 | 1.51 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.02% | |
| 85) Terphenyl-d14 | 10.317 | 244 | 75239 | 1.61 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.22% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.108 | 128 | 6518688 | 120.34 | ppm | 98 |
| 44) 2-Methylnaphthalene | 5.712 | 141 | 909746 | 29.69 | ppm | 100 |
| 56) Acenaphthylene | 6.595 | 152 | 2781972 | 54.23 | ppm | 98 |
| 59) Acenaphthene | 6.771 | 153 | 244862 | 7.19 | ppm | 99 |
| 62) Dibenzofuran | 6.964 | 168 | 3357971 | 70.81 | ppm | 100 |
| 66) Fluorene | 7.344 | 166 | 4268073 | 110.86 | ppm | 99 |
| 77) Phenanthrene | 8.440 | 178 | 18093943 | 336.73 | ppm | 90 |
| 78) Anthracene | 8.499 | 178 | 6154901 | 114.21 | ppm | 98 |
| 79) Carbazole | 8.702 | 167 | 2018107 | 39.56 | ppm | 99 |
| 81) Fluoranthene | 9.847 | 202 | 18844689 | 322.79 | ppm | 93 |
| 84) Pyrene | 10.114 | 202 | 16264629 | 242.94 | ppm | 91 |
| 87) Benzo[a]anthracene | 11.553 | 228 | 8175065 | 127.71 | ppm | 98 |
| 89) Chrysene | 11.596 | 228 | 6415529 | 102.20 | ppm | 95 |
| 93) Benzo[b]fluoranthene | 12.772 | 252 | 9393396m | 173.25 | ppm | |
| 94) Benzo[k]fluoranthene | 12.794 | 252 | 2797273m | 58.28 | ppm | |
| 95) Benzo[a]pyrene | 13.099 | 252 | 6508826 | 146.12 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.168 | 276 | 4550776 | 76.51 | ppm | 92 |
| 98) Dibenz[a,h]anthracene | 14.168 | 278 | 1163580m | 22.08 | ppm | |
| 100) Benzo[g,h,i]perylene | 14.420 | 276 | 4038698 | 87.07 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

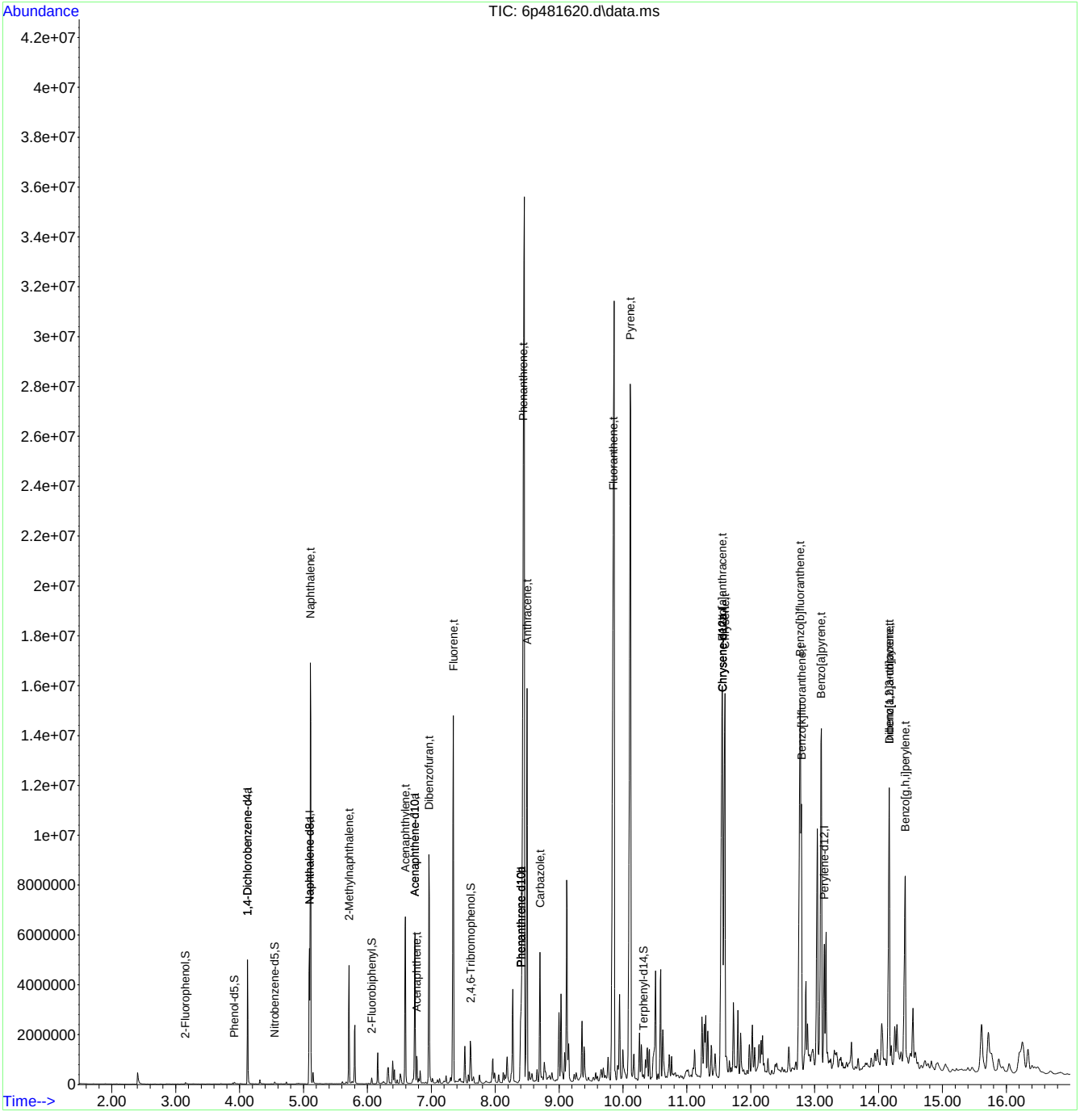
9.1.16

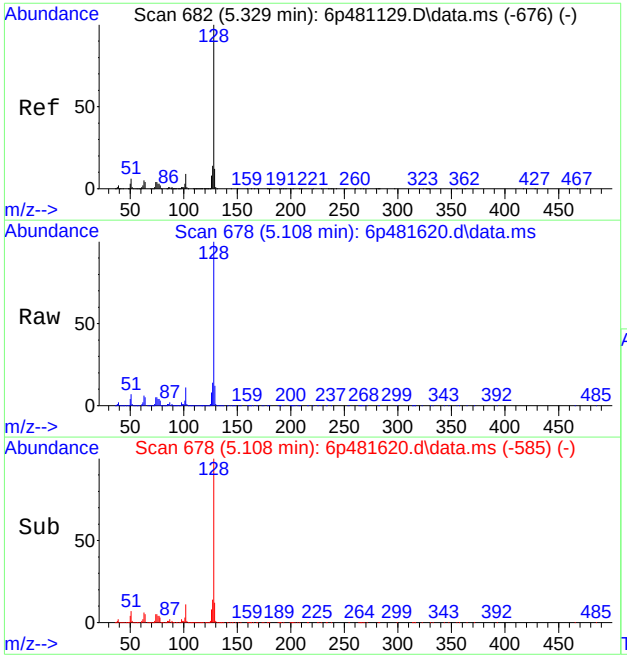
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481620.d
Acq On : 3 May 2019 4:55 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2581,30.0,,,1,20
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:40:04 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

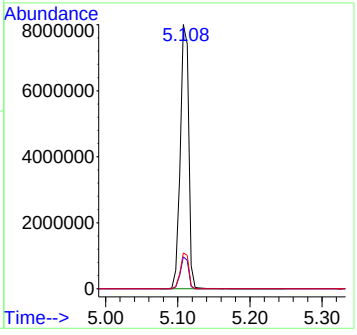


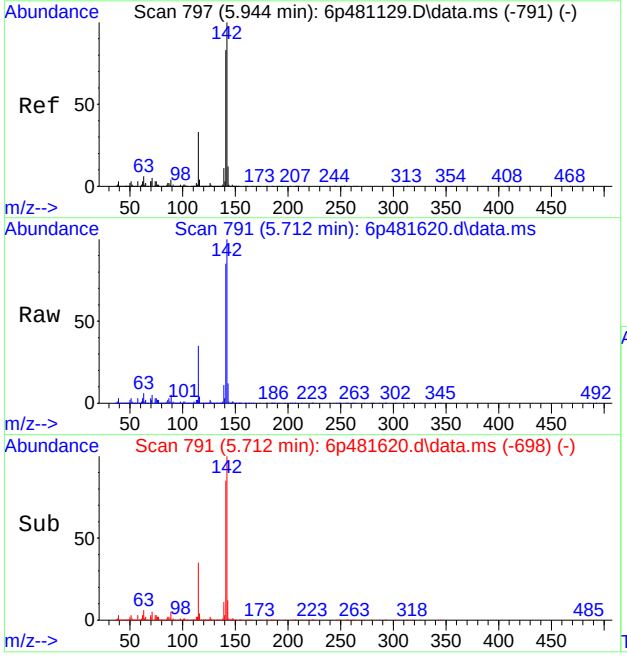



#38
Naphthalene
Concen: 120.34 ppm
RT: 5.108 min Scan# 678
Delta R.T. -0.000 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:128 Resp: 6518688

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 12.1 | 0.0 | 41.2 |
| 127 | 13.6 | 0.0 | 42.8 |

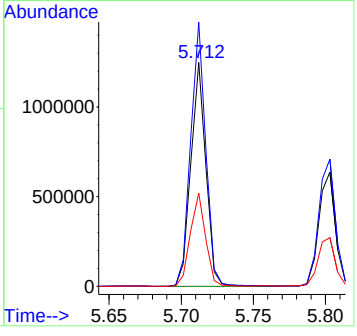



#44
2-Methylnaphthalene
Concen: 29.69 ppm
RT: 5.712 min Scan# 791
Delta R.T. -0.000 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

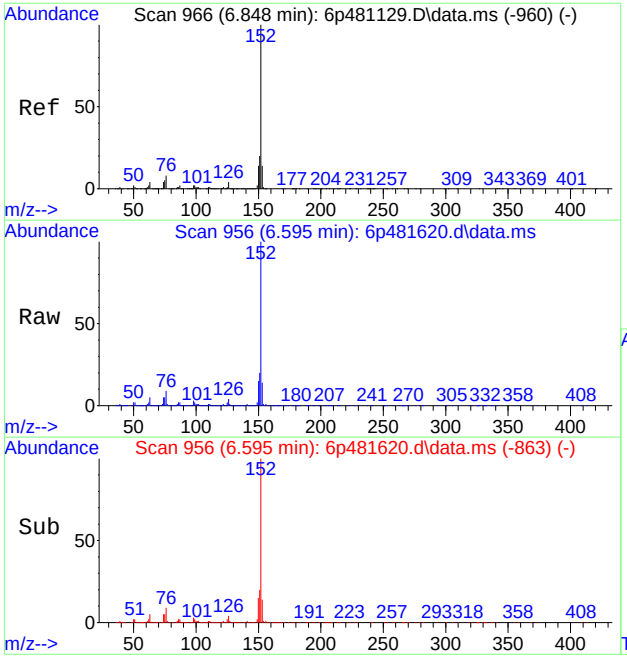
Tgt Ion:141 Resp: 909746

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 118.0 | 87.9 | 147.9 |
| 115 | 41.6 | 11.7 | 71.7 |




9.1.16

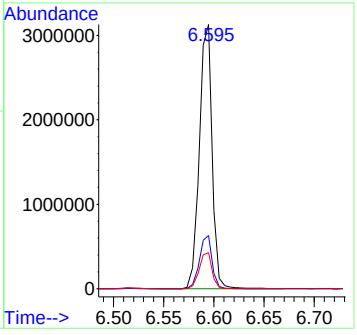
9

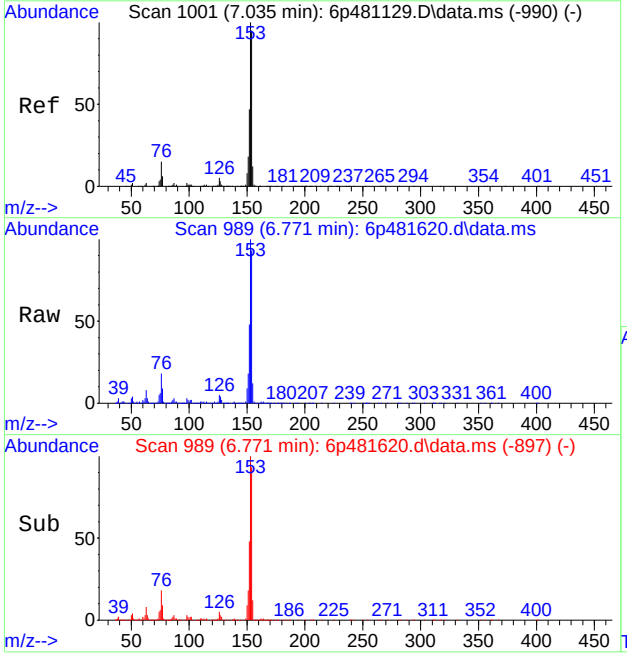



#56
Acenaphthylene
Concen: 54.23 ppm
RT: 6.595 min Scan# 956
Delta R.T. -0.000 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:152 Resp: 2781972

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 20.1 | 0.0 | 49.6 |
| 153 | 13.7 | 0.0 | 42.6 |

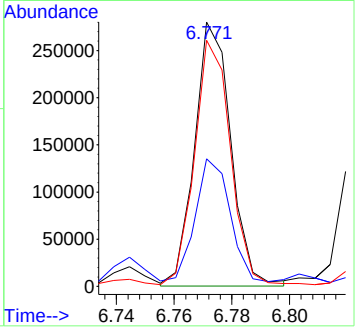


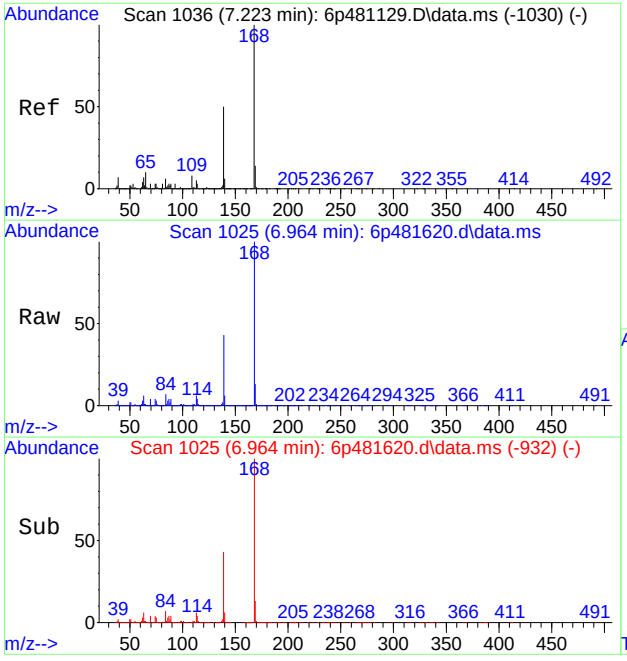




#59
Acenaphthene
Concen: 7.19 ppm
RT: 6.771 min Scan# 989
Delta R.T. -0.005 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:153 Resp: 244862

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 46.7 | 16.6 | 76.6 |
| 154 | 93.8 | 62.8 | 122.8 |

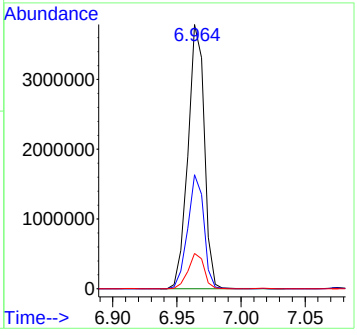


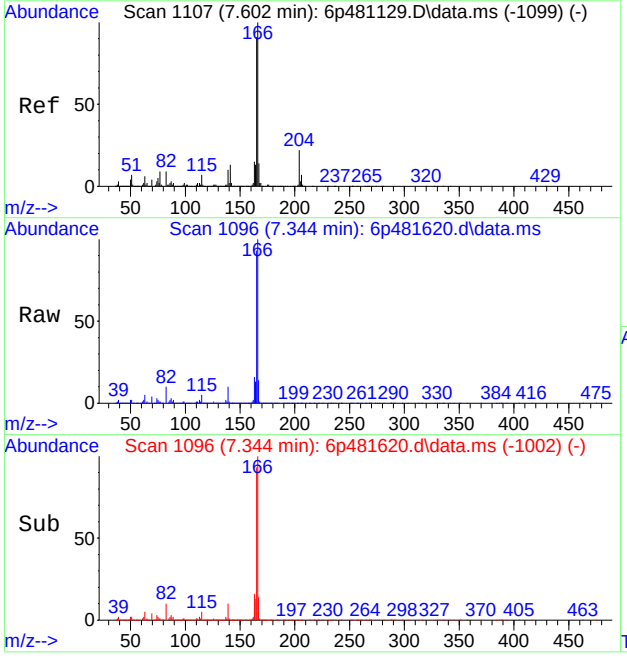



#62
Dibenzofuran
Concen: 70.81 ppm
RT: 6.964 min Scan# 1025
Delta R.T. -0.000 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:168 Resp: 3357971

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 43.1 | 13.3 | 73.3 |
| 169 | 13.4 | 0.0 | 43.3 |

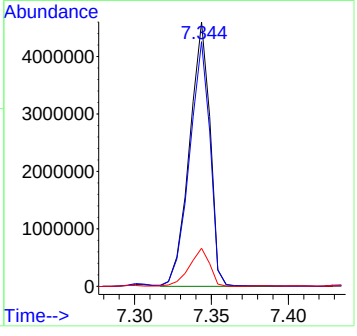



#66
Fluorene
Concen: 110.86 ppm
RT: 7.344 min Scan# 1096
Delta R.T. 0.005 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

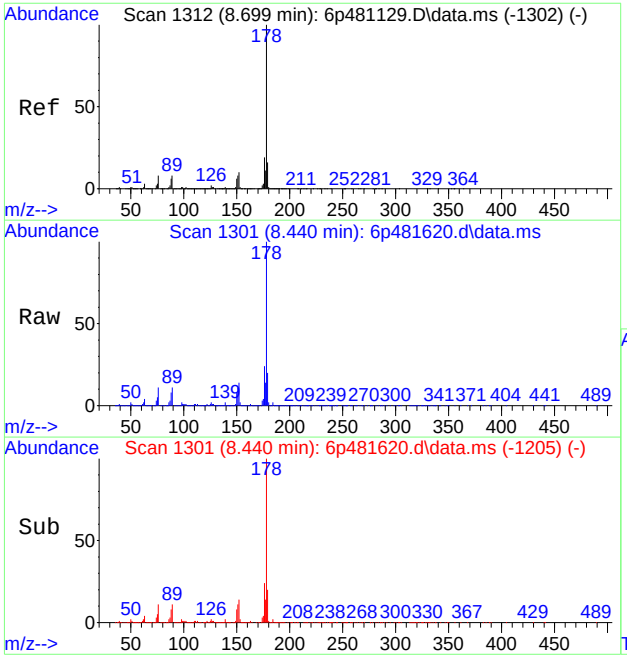
Tgt Ion:166 Resp: 4268073

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 92.5 | 61.8 | 121.8 |
| 167 | 14.3 | 0.0 | 43.9 |




9.1.16

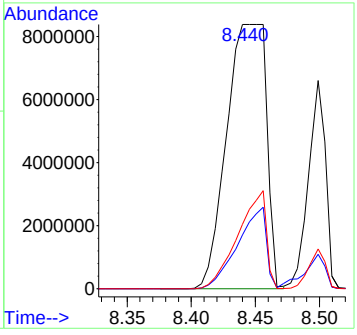
9

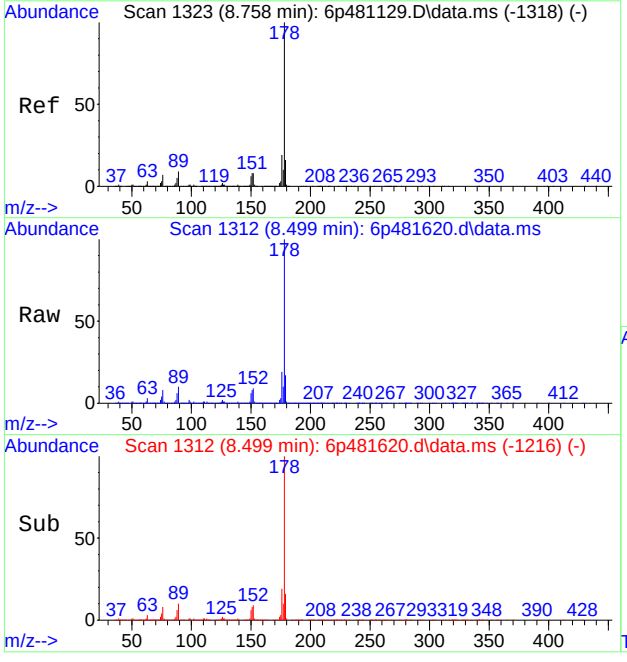



#77
Phenanthrene
Concen: 336.73 ppm
RT: 8.440 min Scan# 1301
Delta R.T. 0.016 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:178 Resp:18093943

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 19.5 | 0.0 | 45.5 |
| 176 | 24.5 | 0.0 | 49.4 |

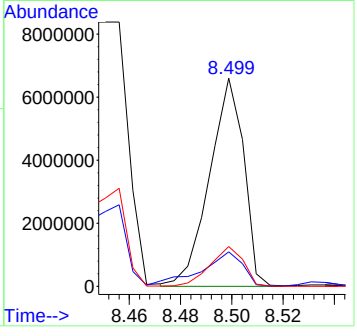


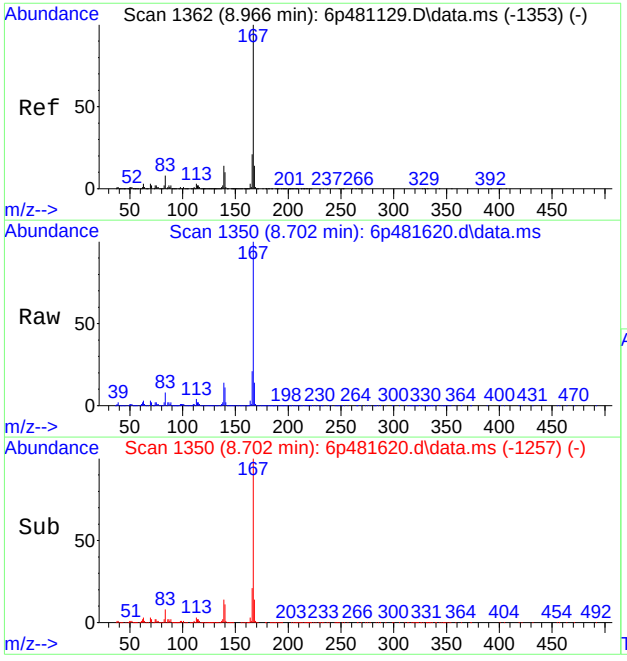




#78
Anthracene
Concen: 114.21 ppm
RT: 8.499 min Scan# 1312
Delta R.T. 0.016 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:178 Resp: 6154901

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.3 | 0.0 | 46.0 |
| 176 | 19.2 | 0.0 | 48.5 |

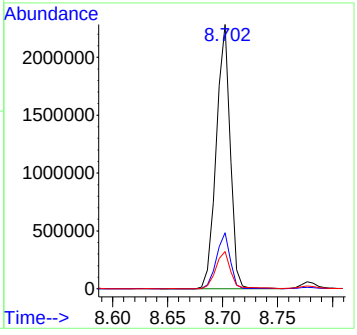


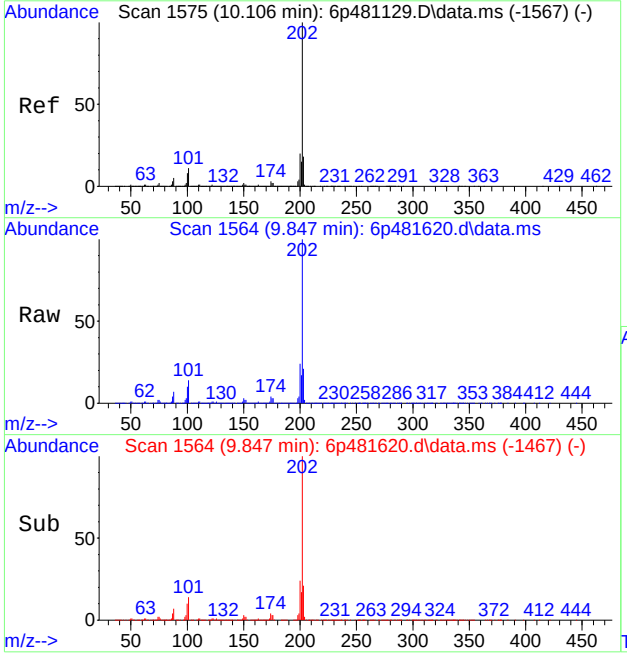



#79
Carbazole
Concen: 39.56 ppm
RT: 8.702 min Scan# 1350
Delta R.T. -0.000 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:167 Resp: 2018107

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 21.2 | 0.0 | 50.5 |
| 139 | 14.0 | 0.0 | 43.7 |

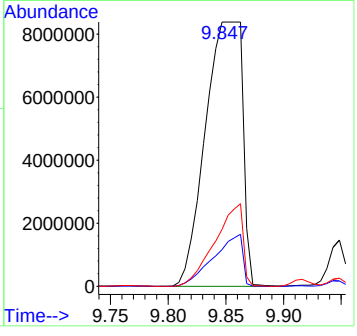


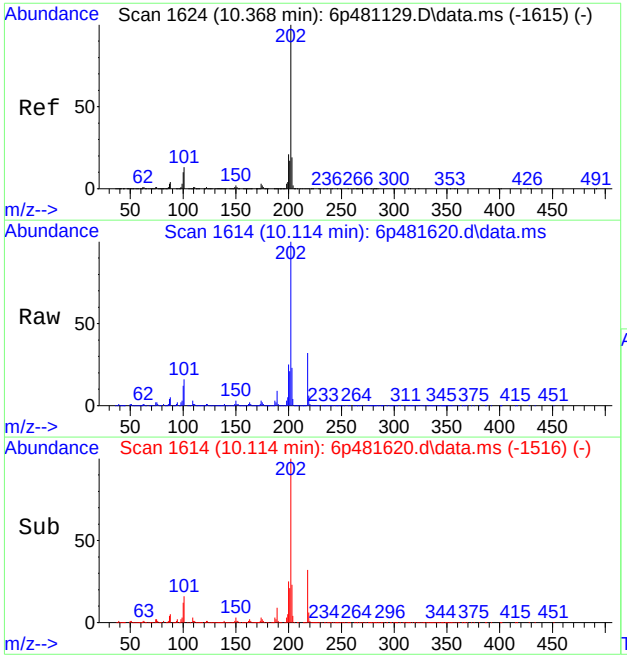




#81
Fluoranthene
Concen: 322.79 ppm
RT: 9.847 min Scan# 1564
Delta R.T. 0.021 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:202 Resp:18844689

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.9 | 0.0 | 43.2 |
| 203 | 21.4 | 0.0 | 46.9 |

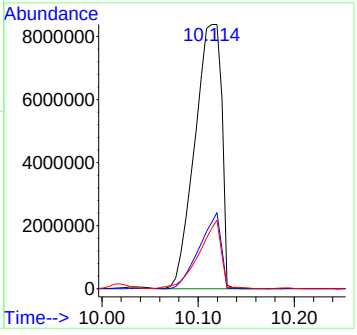


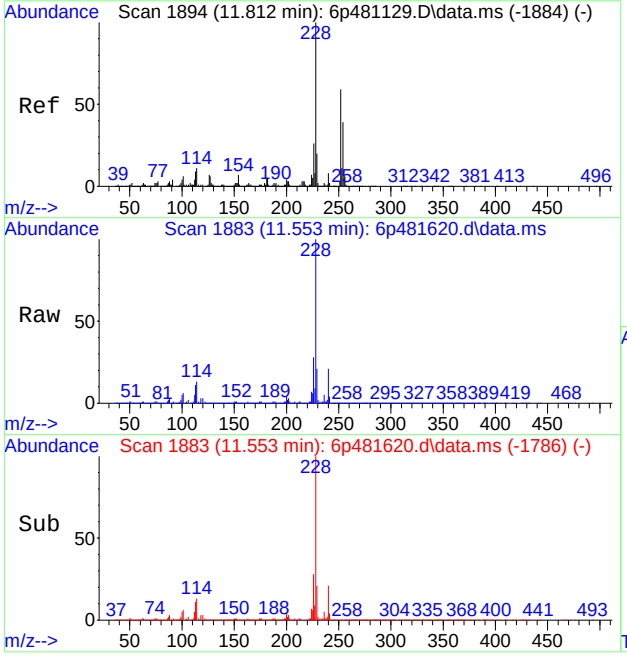



#84
Pyrene
Concen: 242.94 ppm
RT: 10.114 min Scan# 1614
Delta R.T. 0.027 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:202 Resp:16264629

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 25.0 | 0.0 | 51.0 |
| 203 | 22.4 | 0.0 | 48.2 |

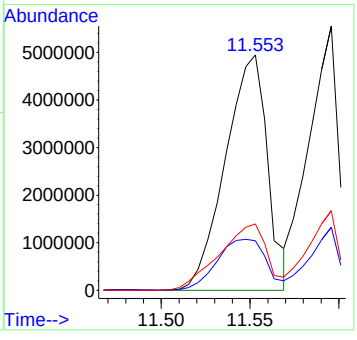



#87
Benzo[a]anthracene
Concen: 127.71 ppm
RT: 11.553 min Scan# 1883
Delta R.T. 0.021 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:228 Resp: 8175065

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 20.9 | 0.0 | 50.0 |
| 226 | 27.9 | 0.0 | 57.2 |

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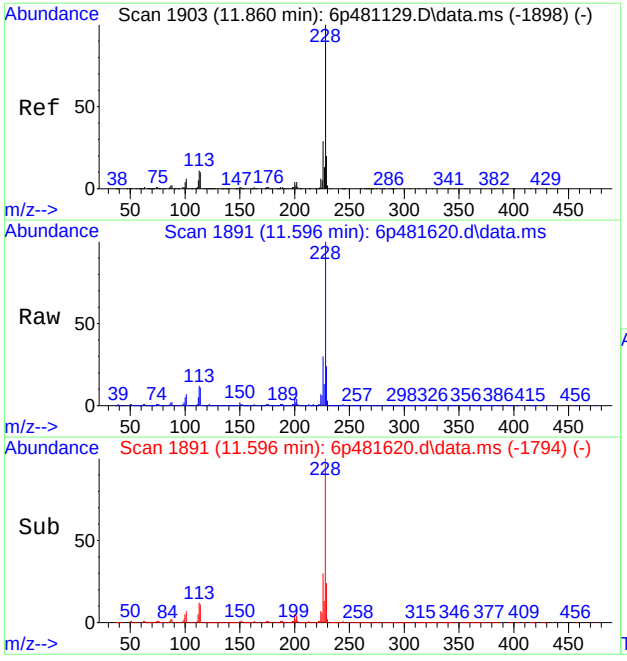
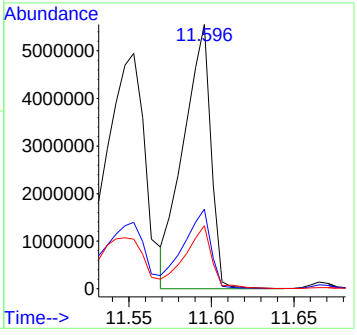
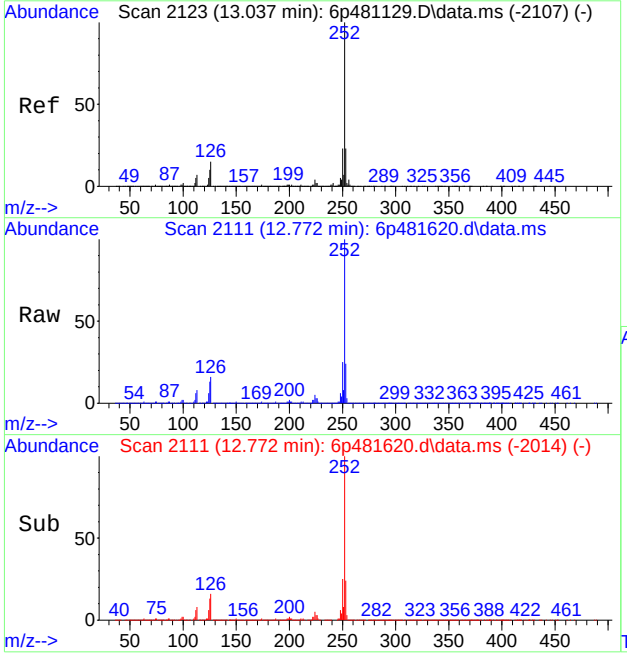



#89
Chrysene
Concen: 102.20 ppm
RT: 11.596 min Scan# 1891
Delta R.T. 0.021 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:228 Resp: 6415529

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 30.0 | 0.0 | 59.4 |
| 229 | 23.9 | 0.0 | 49.1 |

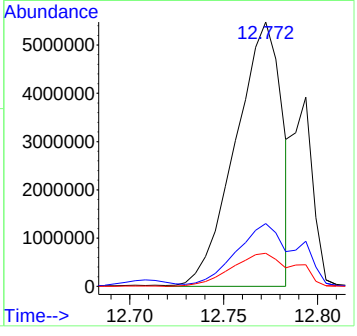


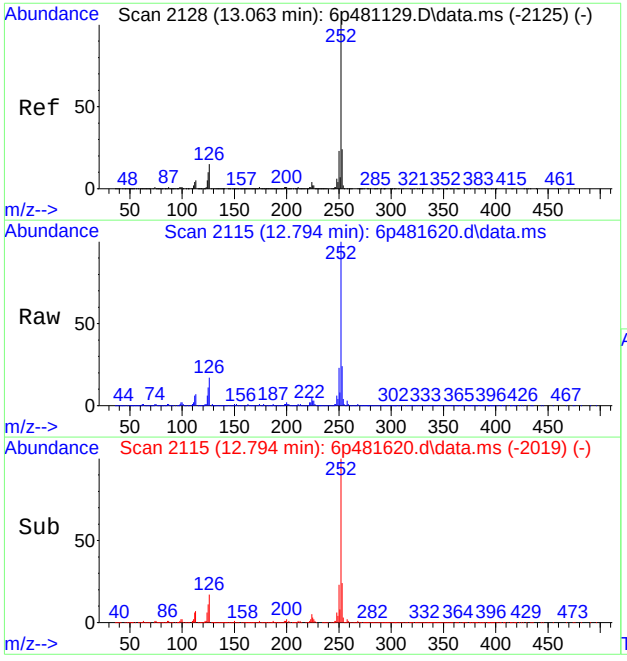




#93
Benzo[b]fluoranthene
Concen: 173.25 ppm m
RT: 12.772 min Scan# 2111
Delta R.T. 0.021 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:252 Resp: 9393396

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.8 | 0.0 | 52.6 |
| 125 | 12.5 | 0.0 | 41.9 |

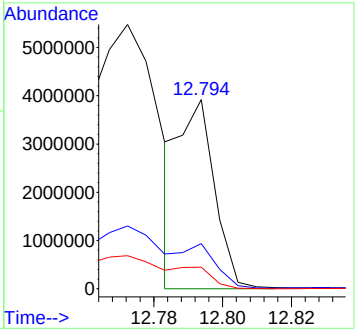


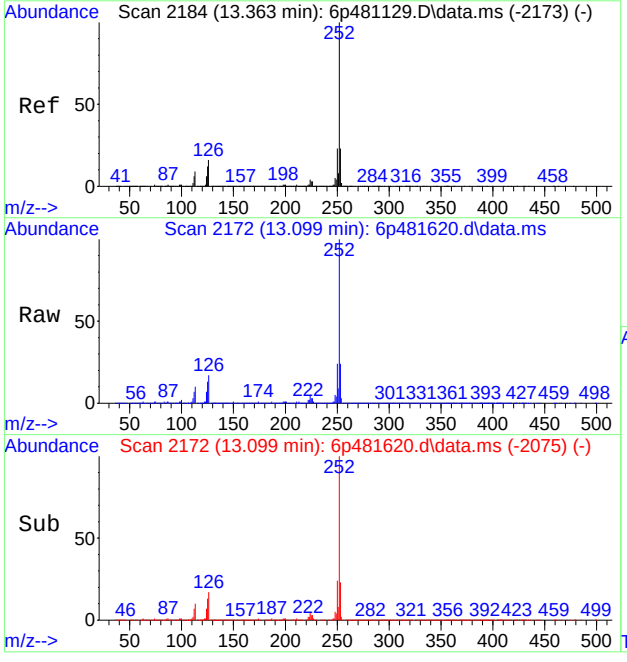



#94
Benzo[k]fluoranthene
Concen: 58.28 ppm m
RT: 12.794 min Scan# 2115
Delta R.T. 0.016 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:252 Resp: 2797273

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 23.8 | 0.0 | 52.1 |
| 125 | 11.4 | 0.0 | 42.0 |

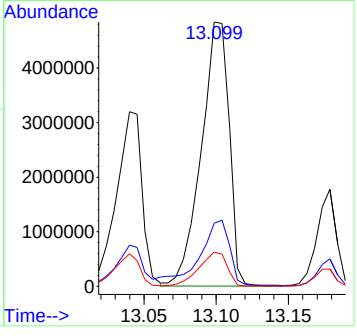


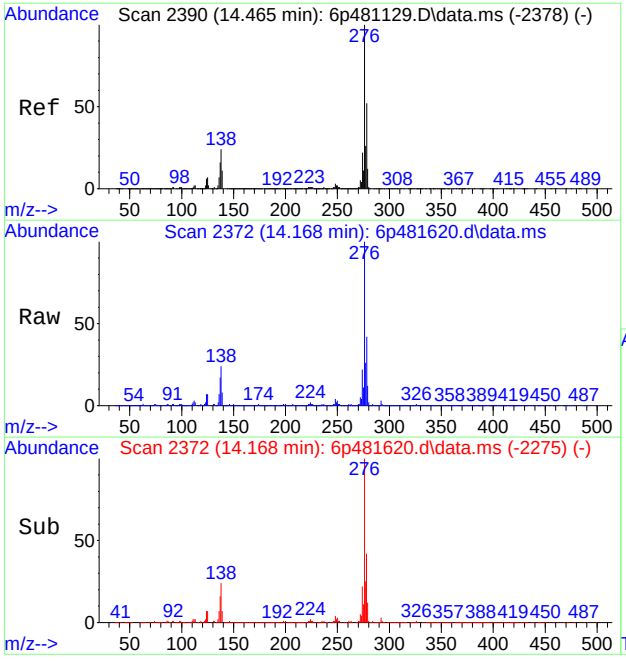




#95
Benzo[a]pyrene
Concen: 146.12 ppm
RT: 13.099 min Scan# 2172
Delta R.T. 0.021 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:252 Resp: 6508826

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.2 | 0.0 | 52.2 |
| 125 | 12.8 | 0.0 | 44.4 |

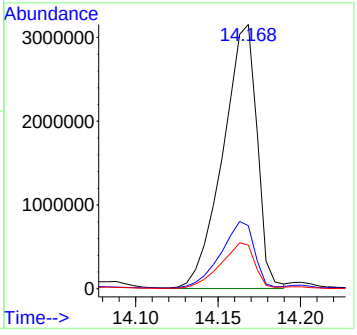


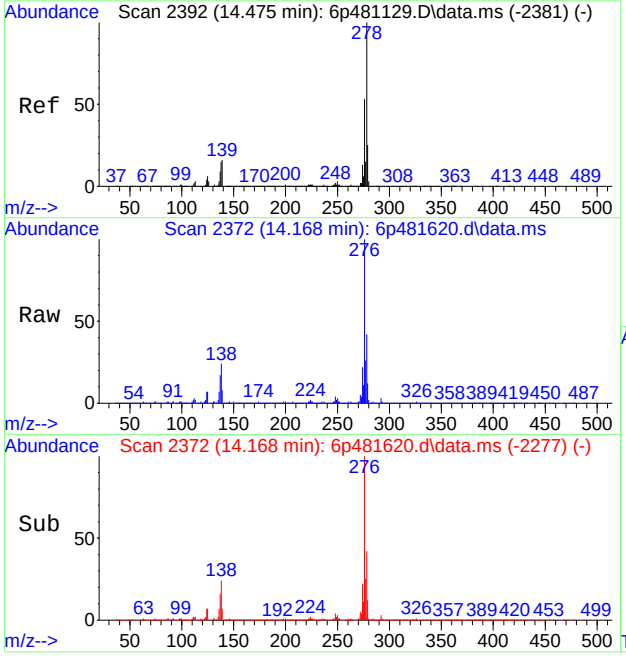



#96
Indeno[1,2,3-cd]pyrene
Concen: 76.51 ppm
RT: 14.168 min Scan# 2372
Delta R.T. 0.021 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:276 Resp: 4550776

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 23.5 | 0.0 | 58.7 |
| 137 | 16.3 | 0.0 | 48.8 |

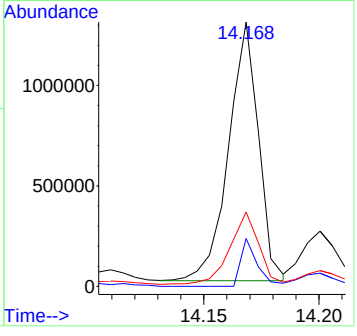



#98
Dibenz[a,h]anthracene
Concen: 22.08 ppm m
RT: 14.168 min Scan# 2372
Delta R.T. 0.011 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:278 Resp: 1163580

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 278 | 100 | | |
| 139 | 18.1 | 0.0 | 49.1 |
| 279 | 28.1 | 0.0 | 53.6 |

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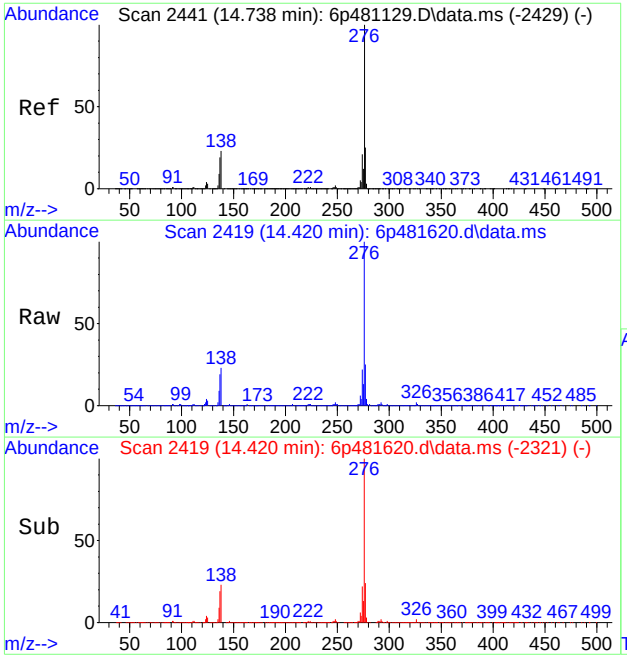
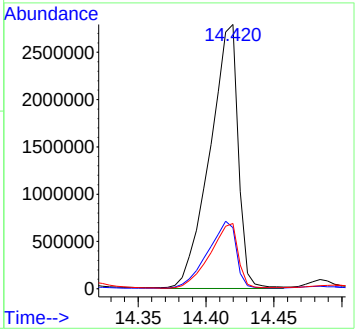



#100
Benzo[g,h,i]perylene
Concen: 87.07 ppm
RT: 14.420 min Scan# 2419
Delta R.T. 0.027 min
Lab File: 6p481620.d
Acq: 3 May 2019 4:55 pm

Tgt Ion:276 Resp: 4038698

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 23.0 | 0.0 | 55.6 |
| 277 | 24.5 | 0.0 | 53.1 |




9.1.16

9

# Manual Integration Approval Summary



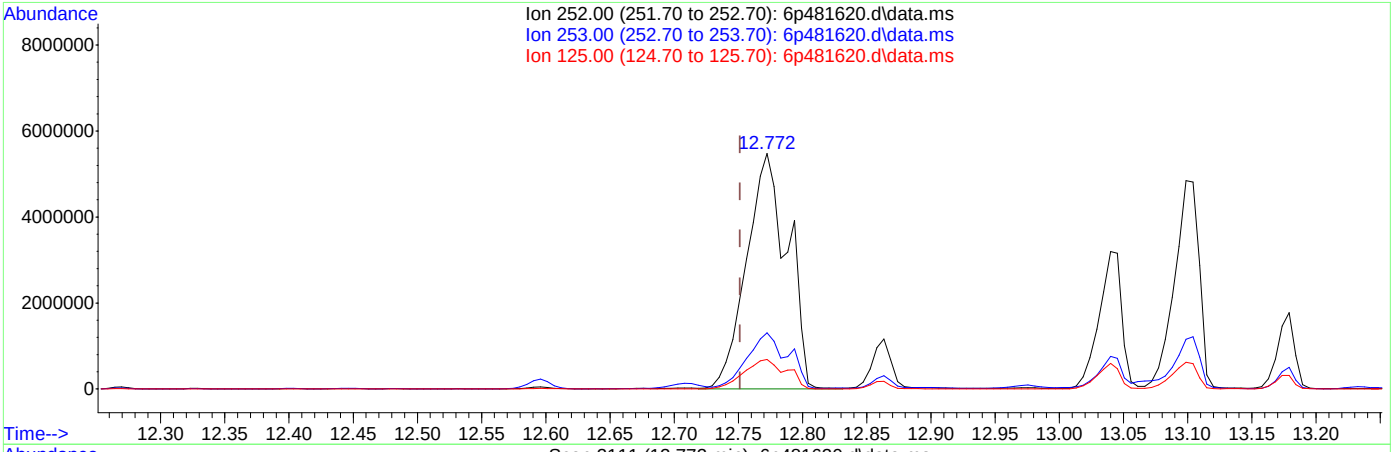
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-11 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481620.D | **Analyst approved:** | 05/06/19 03:07 Michelle Co |
| **Injection Time:** | 05/03/19 16:55 | **Supervisor approved:** | 05/09/19 12:18 Kristi Schollenberger |

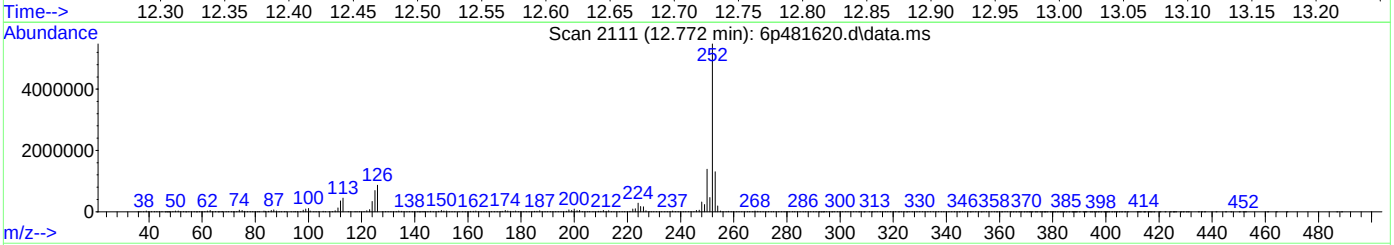
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzo(b)fluoranthene | 205-99-2 | | 12.77 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.79 | Poor instrument integration |
| Dibenzo(a,h)anthracene | 53-70-3 | | 14.17 | Poor instrument integration |

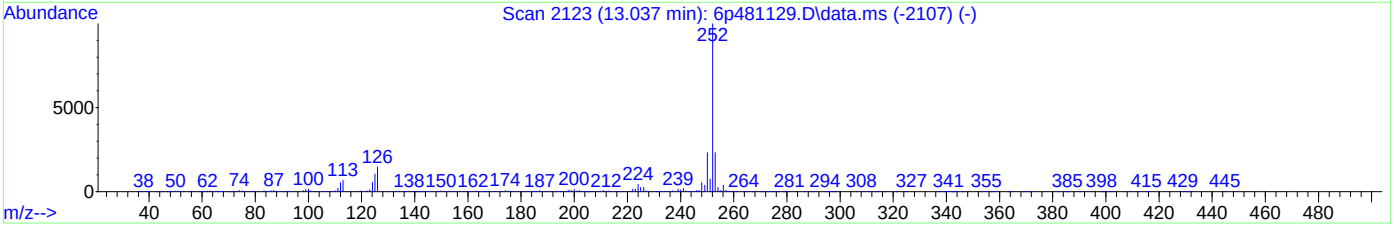
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481620.d
Acq On : 3 May 2019 4:55 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2581,30.0,,,1,20
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:33:03 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481620.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.772min (+0.021) 224.58ppm

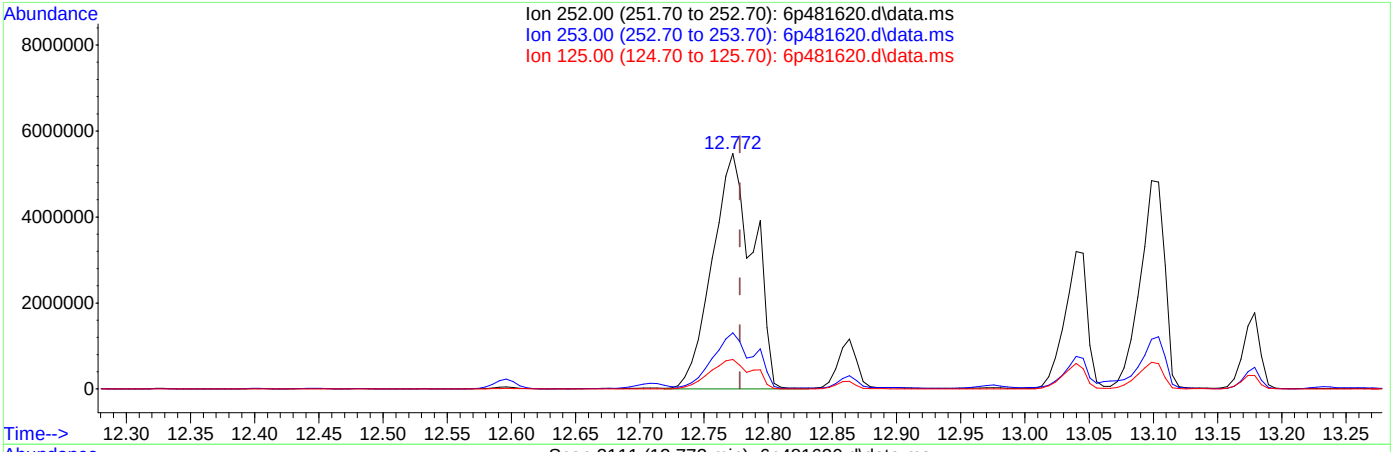
response 12176373

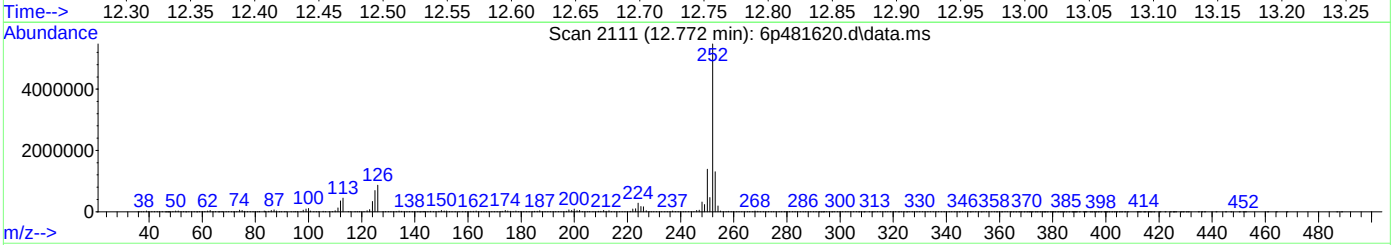
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 22.88 |
| 125.00 | 11.90 | 12.50 |
| 0.00 | 0.00 | 0.00 |

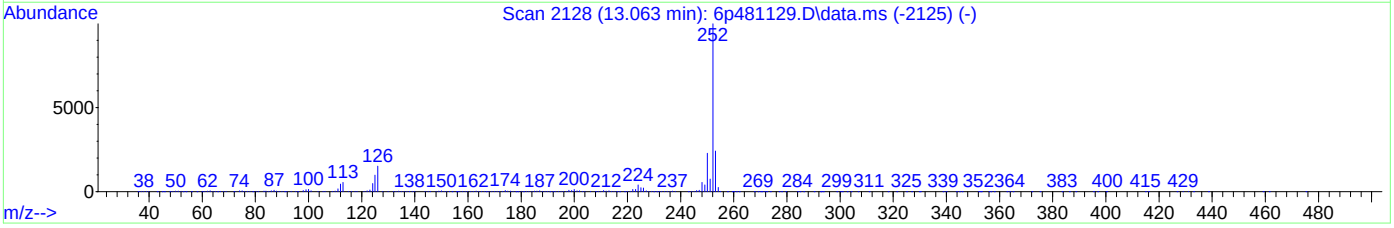
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481620.d
Acq On : 3 May 2019 4:55 pm
Operator : angelar
Sample : jc86986-11 Inst : MS6P
Misc : op20081,e6p2581,30.0,,,1,20
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:33:03 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration




TIC: 6p481620.d\data.ms

(94) Benzo[k]fluoranthene (t)

12.772min (-0.005) 253.87ppm

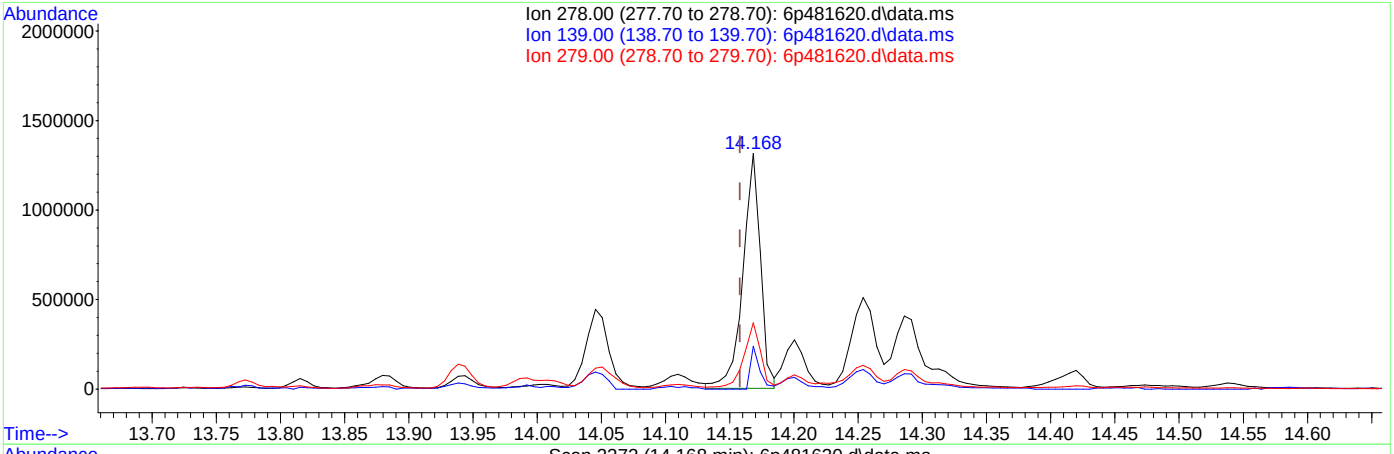
response 12184928

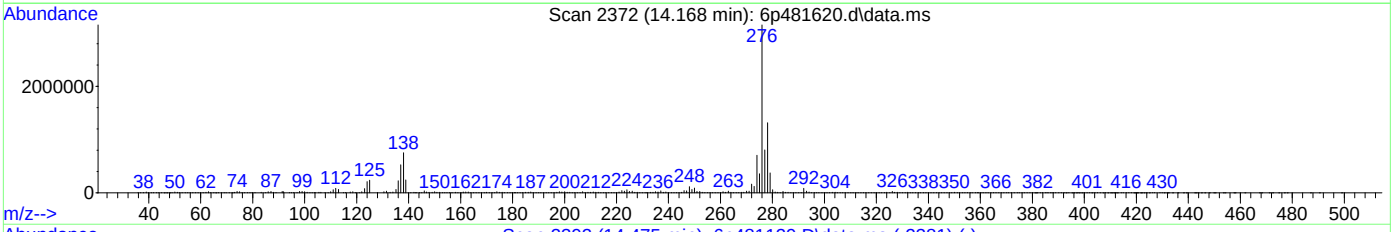
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.10 | 22.88 |
| 125.00 | 12.00 | 12.50 |
| 0.00 | 0.00 | 0.00 |

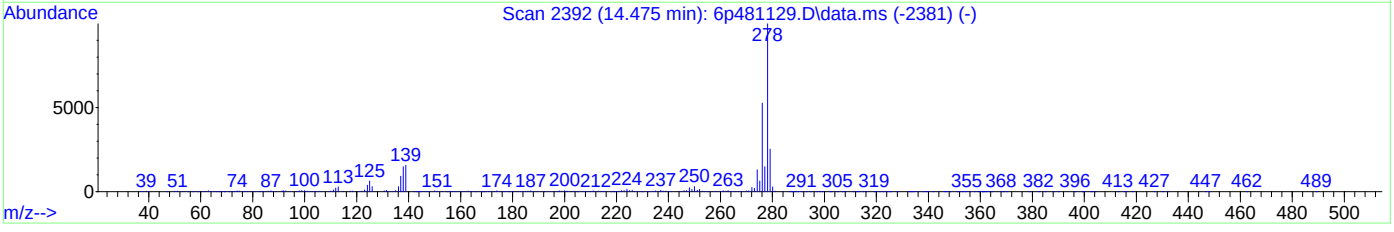
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481620.d
Acq On    :  3 May 2019   4:55 pm
Operator  : angelar
Sample    : jc86986-11                                  Inst     : MS6P
Misc      : op20081,e6p2581,30.0,,,1,20
ALS Vial  : 10   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 02:33:03 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration
```




TIC: 6p481620.d\data.ms

(98) Dibenz[a,h]anthracene (t)

14.168min (+0.011) 23.61ppm

response 1244534

| Ion | Exp% | Act% |
|---|---|---|
| 278.00 | 100 | 100 |
| 139.00 | 19.10 | 18.12 |
| 279.00 | 23.60 | 27.84 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481564.d
Acq On : 2 May 2019 3:50 pm
Operator : angelar
Sample : jc86986-12 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:48:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 583482 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.108 | 136 | 2165860 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1111859 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.413 | 188 | 2022749 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.564 | 240 | 1734241 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.152 | 264 | 1730103 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 583482 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1111859 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.413 | 188 | 2022749 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.564 | 240 | 1734241 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.108 | 136 | 2165860 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.413 | 188 | 2022749 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.564 | 240 | 1734241 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 705863 | 41.35 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 82.70% | |
| 8) Phenol-d5 | 3.921 | 99 | 855187 | 41.03 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 82.06% | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 771101 | 42.78 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 85.56% | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1603867 | 40.83 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 81.66% | |
| 73) 2,4,6-Tribromophenol | 7.632 | 330 | 249414 | 38.32 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 76.64% | |
| 85) Terphenyl-d14 | 10.339 | 244 | 1705789 | 42.22 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 84.44% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 38) Naphthalene | 5.124 | 128 | 16176m | 0.29 | ppm | |
| 44) 2-Methylnaphthalene | 5.734 | 141 | 6710 | 0.21 | ppm | 92 |
| 53) Biphenyl | 6.183 | 154 | 6984 | 0.16 | ppm | 94 |
| 56) Acenaphthylene | 6.611 | 152 | 12244 | 0.24 | ppm | 90 |
| 59) Acenaphthene | 6.793 | 153 | 14787 | 0.44 | ppm | 95 |
| 62) Dibenzofuran | 6.980 | 168 | 11832 | 0.25 | ppm | 98 |
| 66) Fluorene | 7.354 | 166 | 18809 | 0.50 | ppm | 95 |
| 77) Phenanthrene | 8.440 | 178 | 257278 | 4.74 | ppm | 99 |
| 78) Anthracene | 8.499 | 178 | 67179 | 1.23 | ppm | 96 |
| 79) Carbazole | 8.718 | 167 | 29586 | 0.57 | ppm | 96 |
| 81) Fluoranthene | 9.841 | 202 | 390939 | 6.63 | ppm | 97 |
| 84) Pyrene | 10.104 | 202 | 336732 | 5.83 | ppm | 97 |
| 87) Benzo[a]anthracene | 11.548 | 228 | 179336 | 3.25 | ppm | 97 |
| 89) Chrysene | 11.590 | 228 | 160070 | 2.95 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 12.762 | 252 | 190584m | 3.61 | ppm | |
| 94) Benzo[k]fluoranthene | 12.783 | 252 | 59410m | 1.27 | ppm | |
| 95) Benzo[a]pyrene | 13.093 | 252 | 136619 | 3.15 | ppm | 96 |
| 96) Indeno[1,2,3-cd]pyrene | 14.158 | 276 | 93447 | 1.61 | ppm | 96 |
| 100) Benzo[g,h,i]perylene | 14.404 | 276 | 87682 | 1.94 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.1.17
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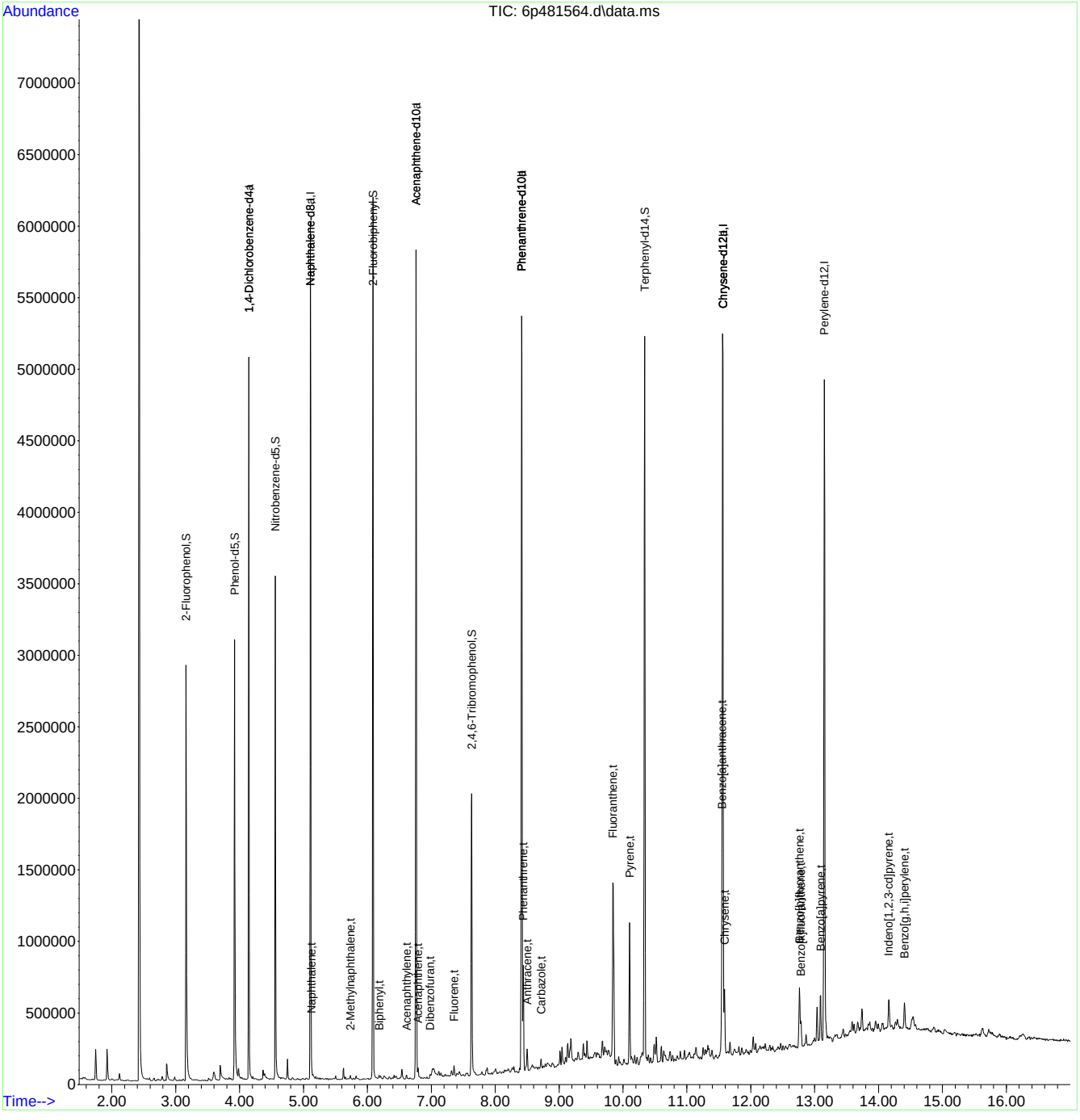
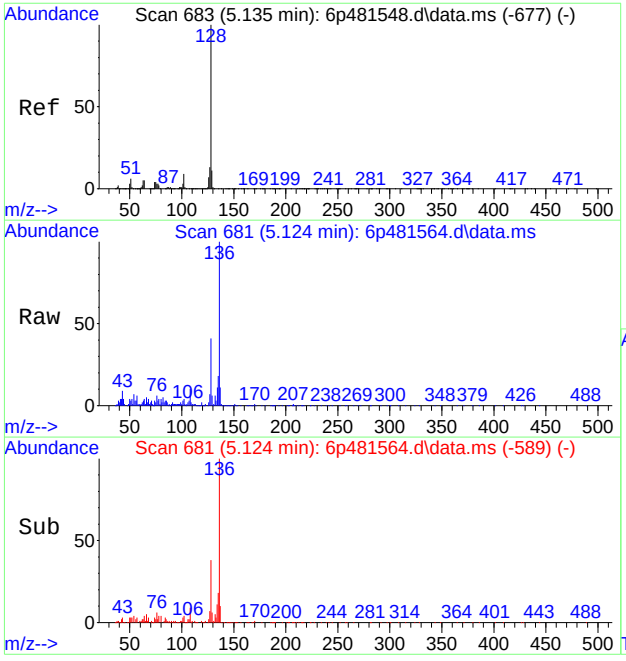
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481564.d
Acq On : 2 May 2019 3:50 pm
Operator : angelar
Sample : jc86986-12 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:48:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration



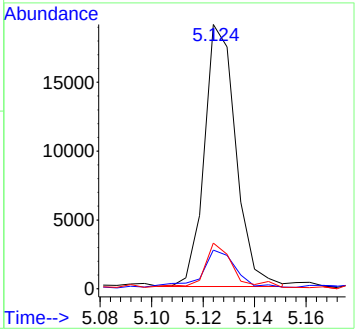

M6P2562.M Fri May 03 07:09:47 2019 Page: 2

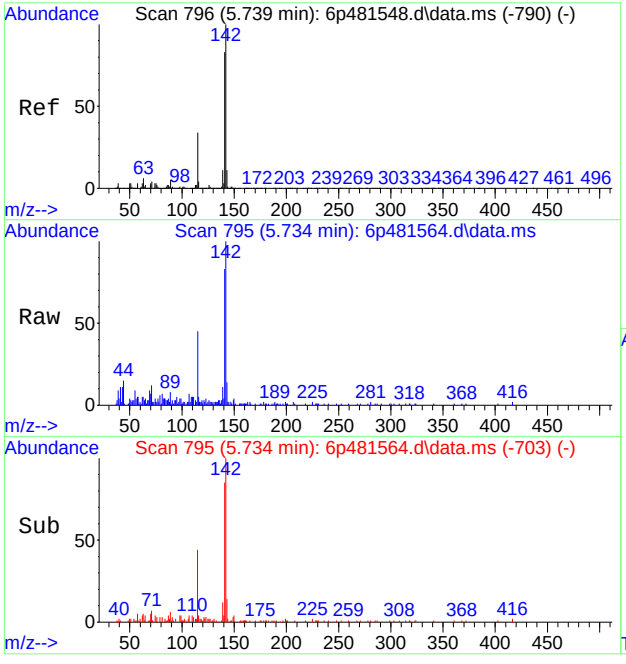



#38
Naphthalene
Concen: 0.29 ppm m
RT: 5.124 min Scan# 681
Delta R.T. -0.011 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:128 Resp: 16176

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 129 | 14.7 | 0.0 | 41.4 |
| 127 | 17.2 | 0.0 | 43.3 |

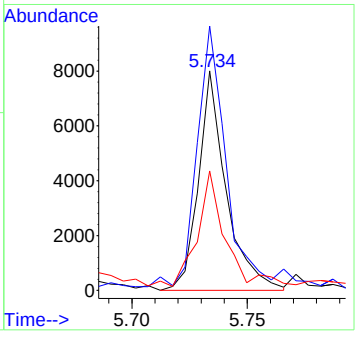



#44
2-Methylnaphthalene
Concen: 0.21 ppm
RT: 5.734 min Scan# 795
Delta R.T. -0.005 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:141 Resp: 6710

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 141 | 100 | | |
| 142 | 113.4 | 90.7 | 150.7 |
| 115 | 49.7 | 11.4 | 71.4 |

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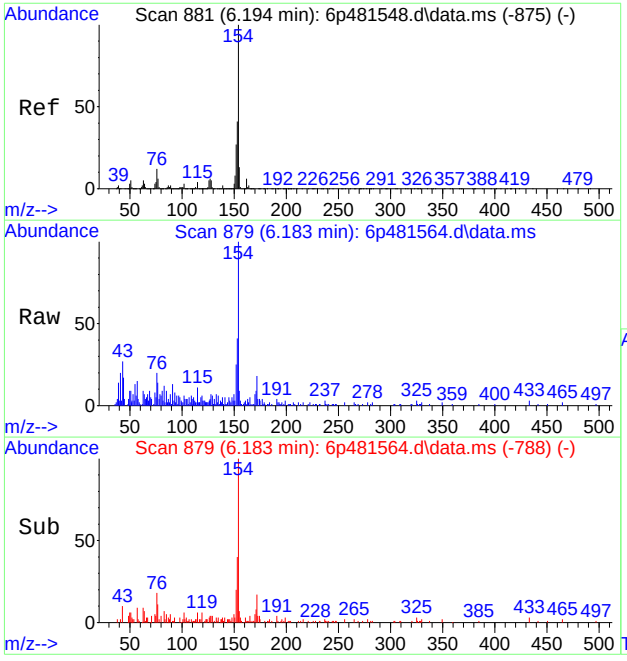
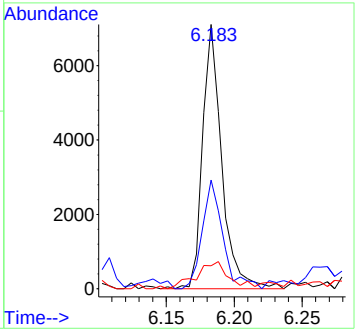
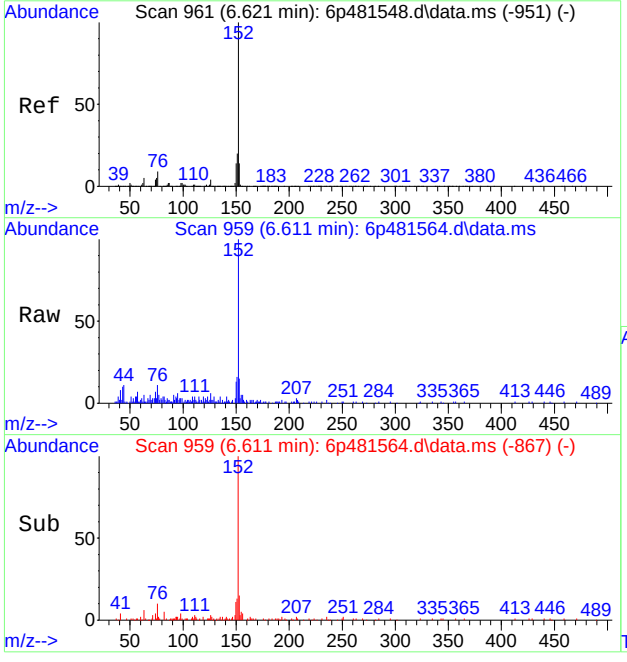



#53
Biphenyl
Concen: 0.16 ppm
RT: 6.183 min Scan# 879
Delta R.T. -0.011 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:154 Resp: 6984

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 38.6 | 10.5 | 70.5 |
| 155 | 7.8 | 0.0 | 43.2 |

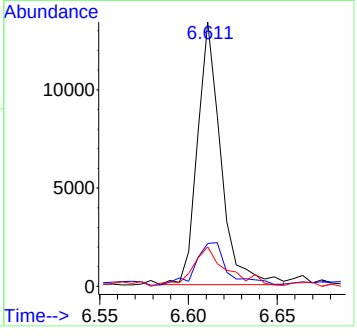


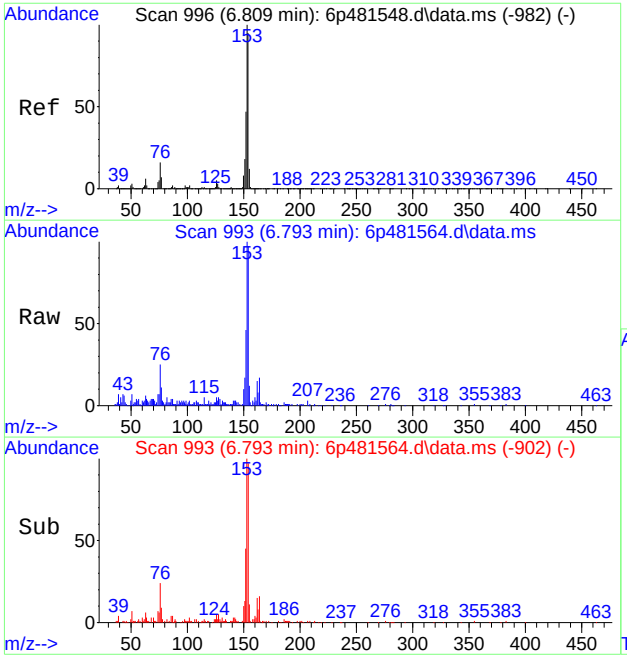




#56
Acenaphthylene
Concen: 0.24 ppm
RT: 6.611 min Scan# 959
Delta R.T. -0.011 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:152 Resp: 12244

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 152 | 100 | | |
| 151 | 15.7 | 0.0 | 50.1 |
| 153 | 17.4 | 0.0 | 43.5 |

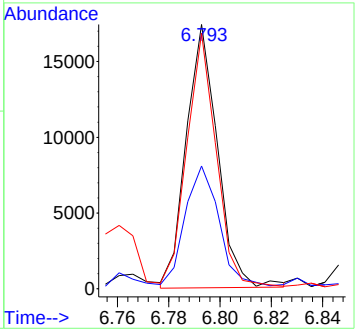


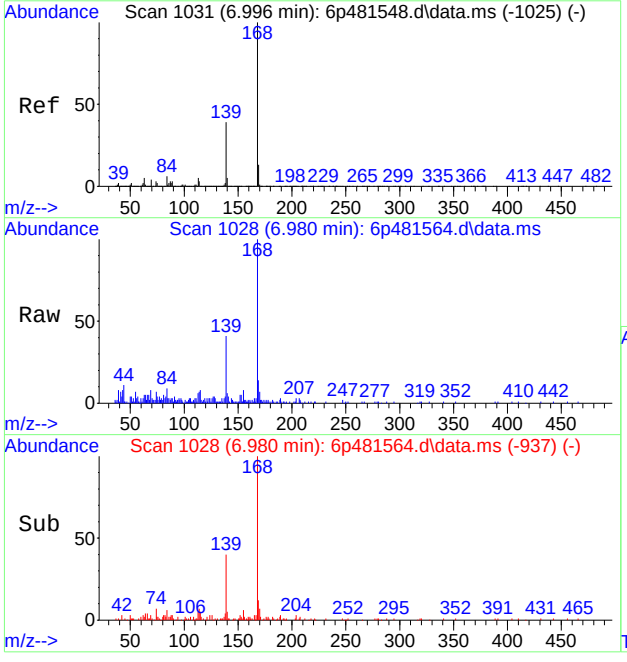



#59
Acenaphthene
Concen: 0.44 ppm
RT: 6.793 min Scan# 993
Delta R.T. -0.016 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:153 Resp: 14787

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 153 | 100 | | |
| 152 | 45.9 | 16.6 | 76.6 |
| 154 | 97.3 | 60.7 | 120.7 |

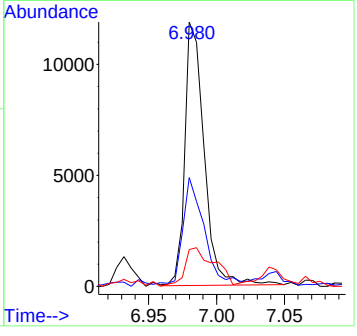



#62
Dibenzofuran
Concen: 0.25 ppm
RT: 6.980 min Scan# 1028
Delta R.T. -0.016 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:168 Resp: 11832

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 168 | 100 | | |
| 139 | 39.8 | 8.8 | 68.8 |
| 169 | 12.5 | 0.0 | 43.0 |

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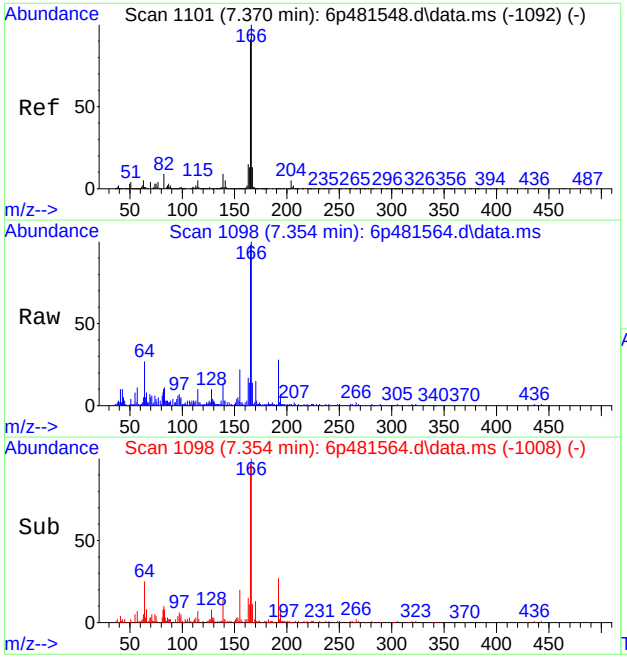
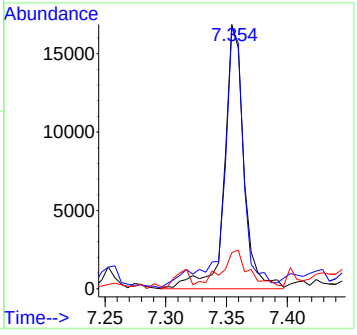
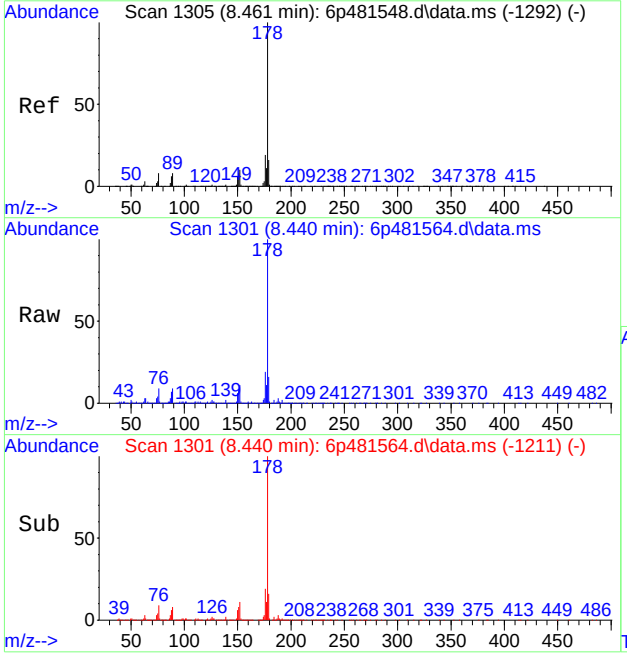



#66
Fluorene
Concen: 0.50 ppm
RT: 7.354 min Scan# 1098
Delta R.T. -0.016 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:166 Resp: 18809

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 166 | 100 | | |
| 165 | 96.5 | 60.9 | 120.9 |
| 167 | 12.7 | 0.0 | 43.1 |

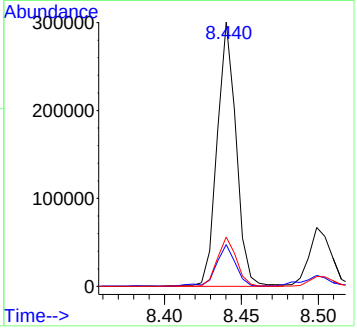



#77
Phenanthrene
Concen: 4.74 ppm
RT: 8.440 min Scan# 1301
Delta R.T. -0.021 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:178 Resp: 257278

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 15.5 | 0.0 | 45.9 |
| 176 | 18.6 | 0.0 | 49.1 |

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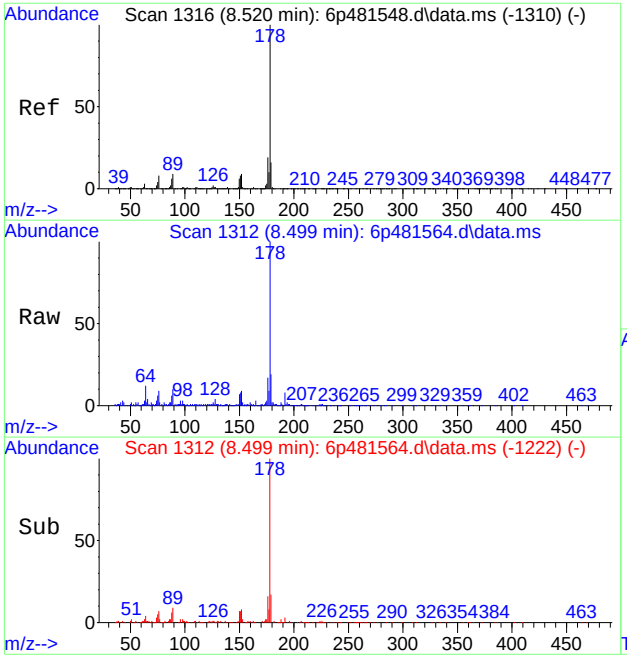
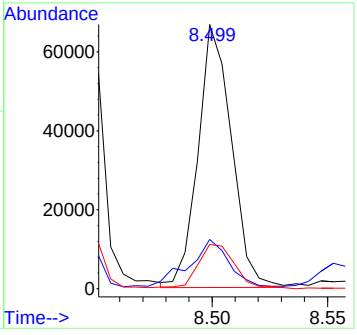
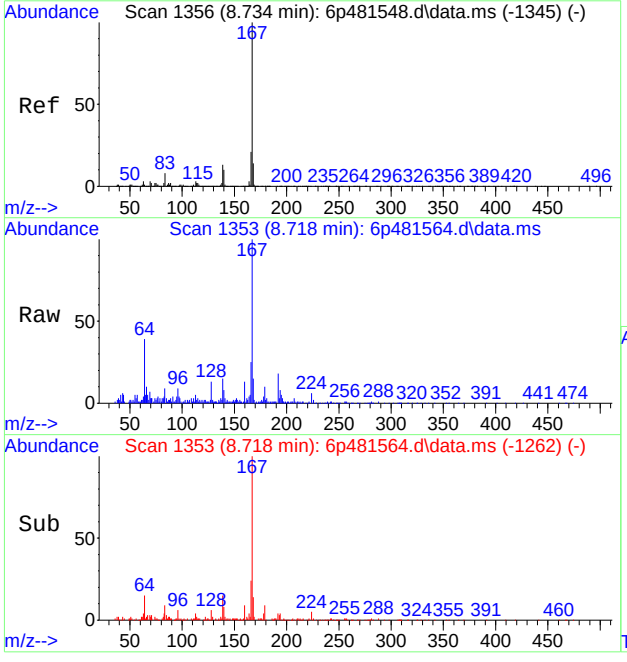



#78
Anthracene
Concen: 1.23 ppm
RT: 8.499 min Scan# 1312
Delta R.T. -0.021 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:178 Resp: 67179

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 17.1 | 0.0 | 46.1 |
| 176 | 16.5 | 0.0 | 49.3 |

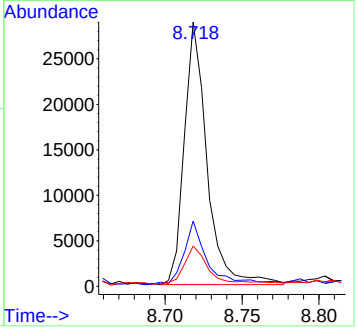


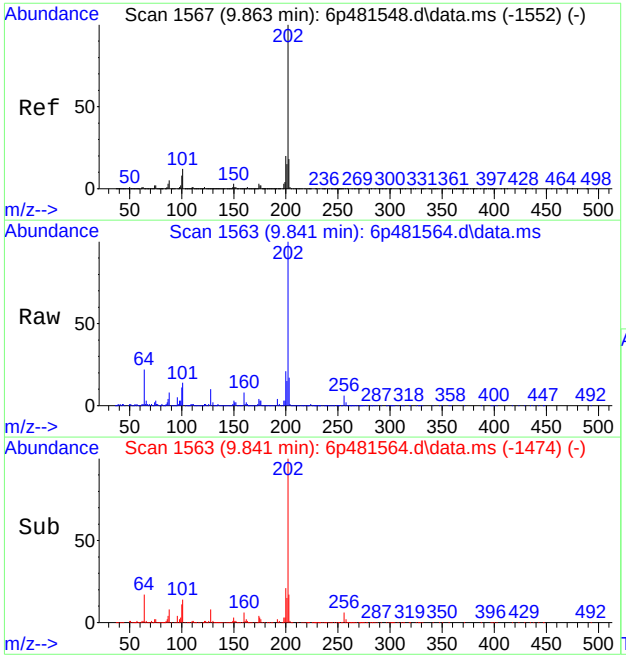




#79
Carbazole
Concen: 0.57 ppm
RT: 8.718 min Scan# 1353
Delta R.T. -0.016 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:167 Resp: 29586

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 167 | 100 | | |
| 166 | 23.4 | 0.0 | 50.7 |
| 139 | 14.2 | 0.0 | 43.3 |

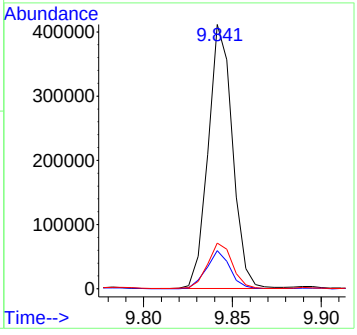


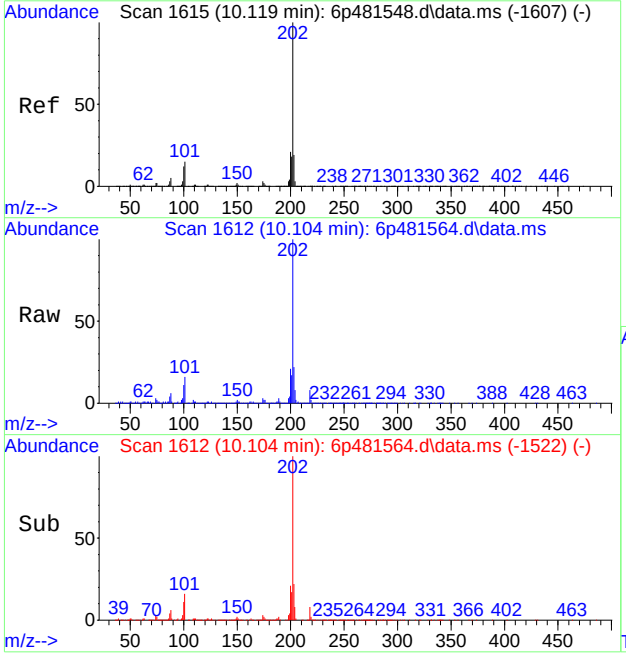



#81
Fluoranthene
Concen: 6.63 ppm
RT: 9.841 min Scan# 1563
Delta R.T. -0.021 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:202 Resp: 390939

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 14.4 | 0.0 | 41.6 |
| 203 | 17.3 | 0.0 | 47.6 |

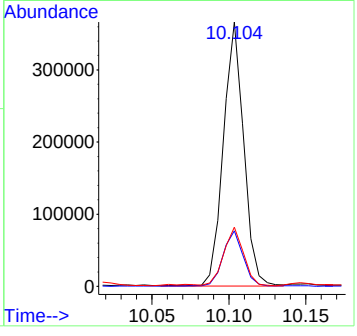



#84
Pyrene
Concen: 5.83 ppm
RT: 10.104 min Scan# 1612
Delta R.T. -0.016 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:202 Resp: 336732

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 20.9 | 0.0 | 50.9 |
| 203 | 21.9 | 0.0 | 48.9 |




9.1.17

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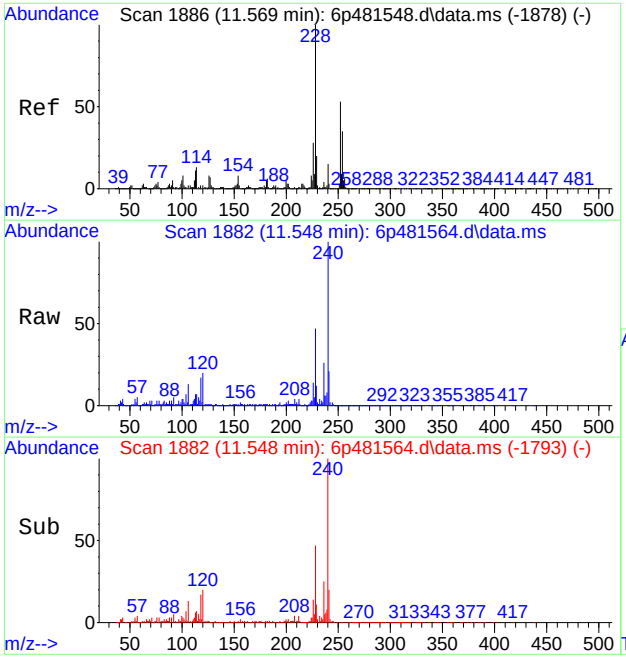
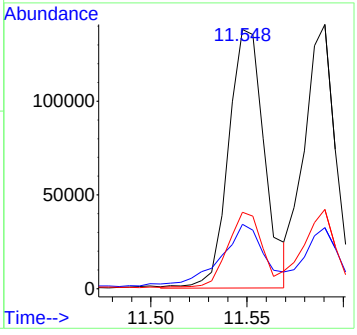
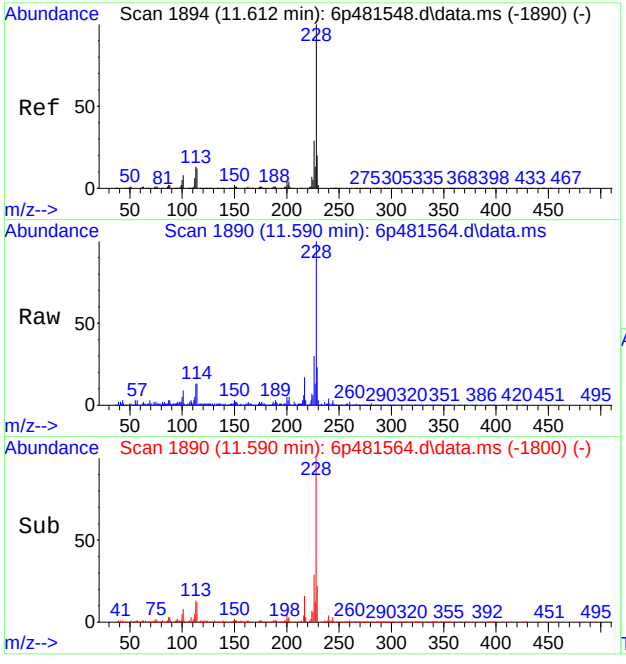



#87
Benzo[a]anthracene
Concen: 3.25 ppm
RT: 11.548 min Scan# 1882
Delta R.T. -0.021 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:228 Resp: 179336

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 22.8 | 0.0 | 50.1 |
| 226 | 28.4 | 0.0 | 57.7 |

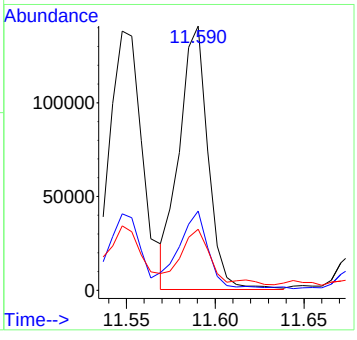


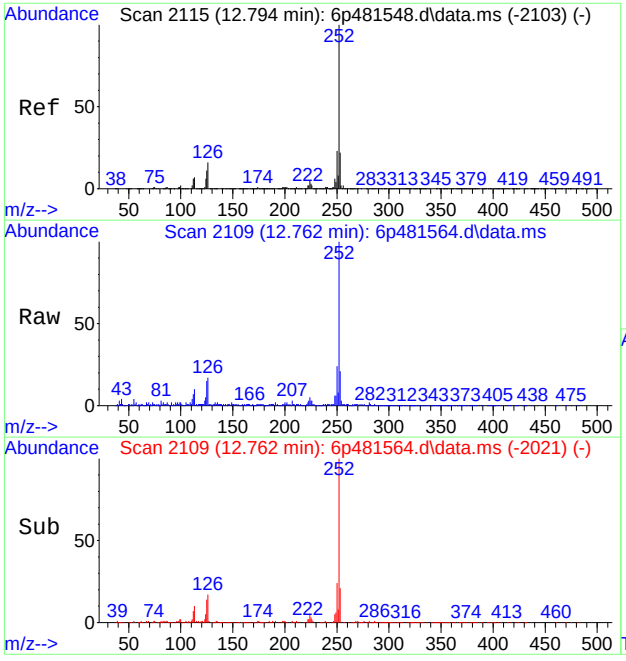




#89
Chrysene
Concen: 2.95 ppm
RT: 11.590 min Scan# 1890
Delta R.T. -0.021 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:228 Resp: 160070

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 28.7 | 0.0 | 59.3 |
| 229 | 20.4 | 0.0 | 50.2 |

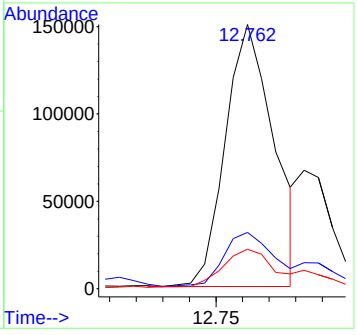


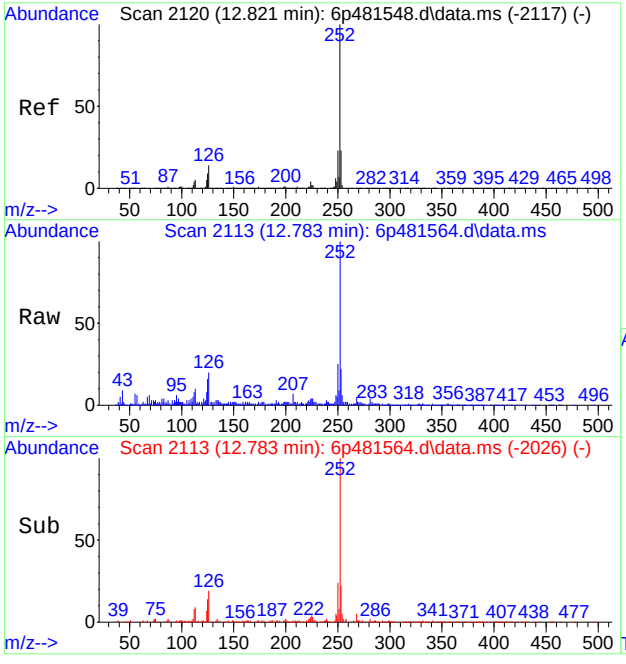



#93
Benzo[b]fluoranthene
Concen: 3.61 ppm m
RT: 12.762 min Scan# 2109
Delta R.T. -0.032 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:252 Resp: 190584

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 21.3 | 0.0 | 52.6 |
| 125 | 15.0 | 0.0 | 39.9 |

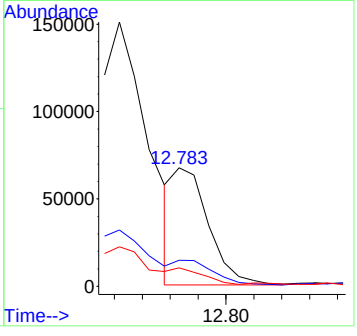



#94
Benzo[k]fluoranthene
Concen: 1.27 ppm m
RT: 12.783 min Scan# 2113
Delta R.T. -0.037 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

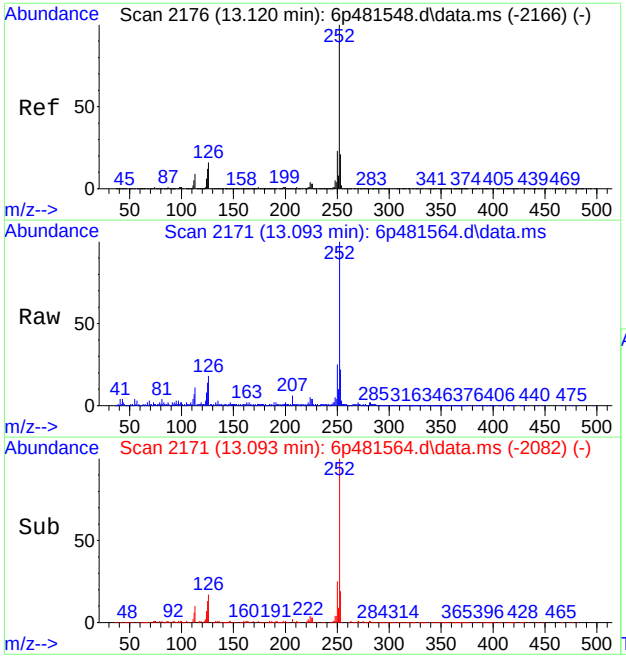
Tgt Ion:252 Resp: 59410

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 22.0 | 0.0 | 52.5 |
| 125 | 15.7 | 0.0 | 39.7 |




9.1.17

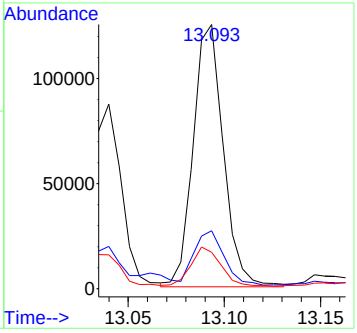
9

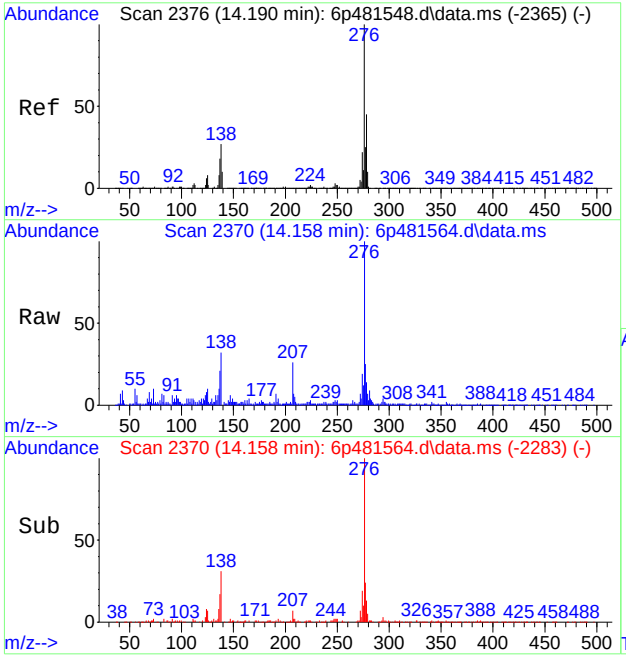



#95
Benzo[a]pyrene
Concen: 3.15 ppm
RT: 13.093 min Scan# 2171
Delta R.T. -0.027 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:252 Resp: 136619

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 19.0 | 0.0 | 51.4 |
| 125 | 12.9 | 0.0 | 41.7 |

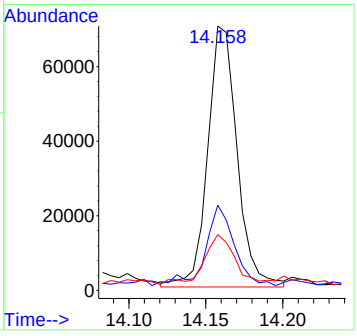


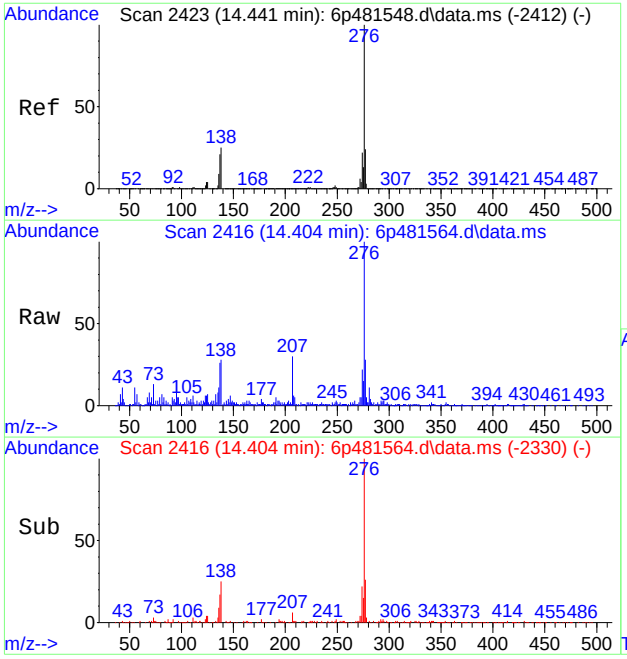




#96
Indeno[1,2,3-cd]pyrene
Concen: 1.61 ppm
RT: 14.158 min Scan# 2370
Delta R.T. -0.032 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:276 Resp: 93447

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 30.1 | 0.0 | 56.6 |
| 137 | 17.8 | 0.0 | 47.6 |

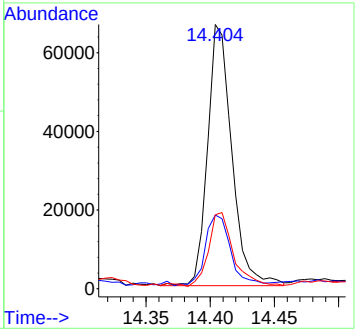





#100
Benzo[g,h,i]perylene
Concen: 1.94 ppm
RT: 14.404 min Scan# 2416
Delta R.T. -0.037 min
Lab File: 6p481564.d
Acq: 2 May 2019 3:50 pm

Tgt Ion:276 Resp: 87682

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 26.1 | 0.0 | 54.7 |
| 277 | 27.2 | 0.0 | 53.6 |




9.1.17

9

# Manual Integration Approval Summary



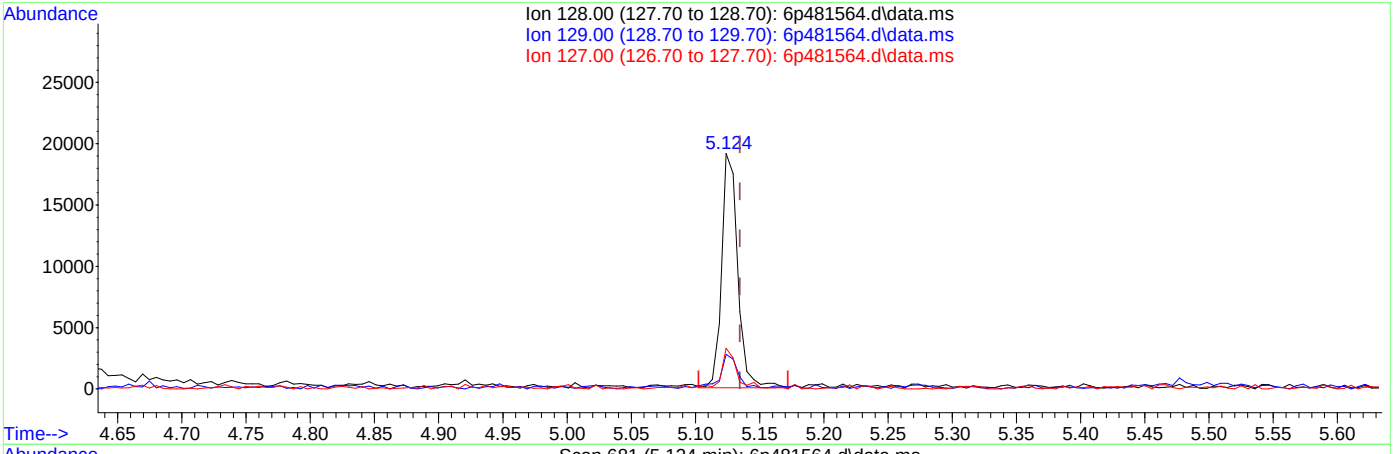
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-12 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481564.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 15:50 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

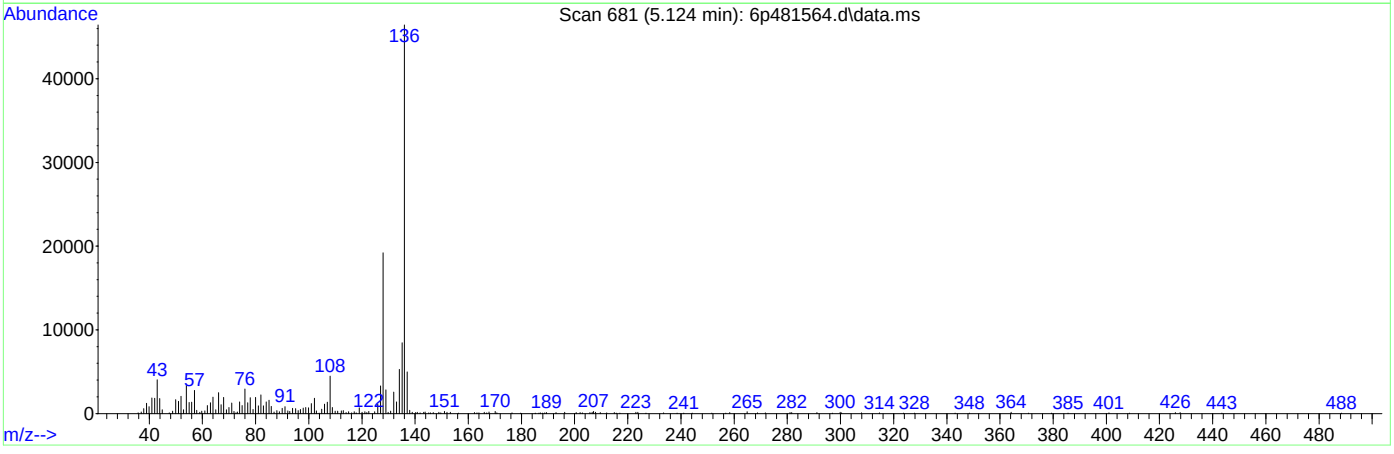
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Naphthalene | 91-20-3 | | 5.12 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.76 | Poor instrument integration |
| Benzo(k)fluoranthene | 207-08-9 | | 12.78 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481564.d
Acq On : 2 May 2019 3:50 pm
Operator : angelar
Sample : jc86986-12 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:56 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481564.d\data.ms

(38) Naphthalene (t)

5.124min (-0.011) 0.30ppm

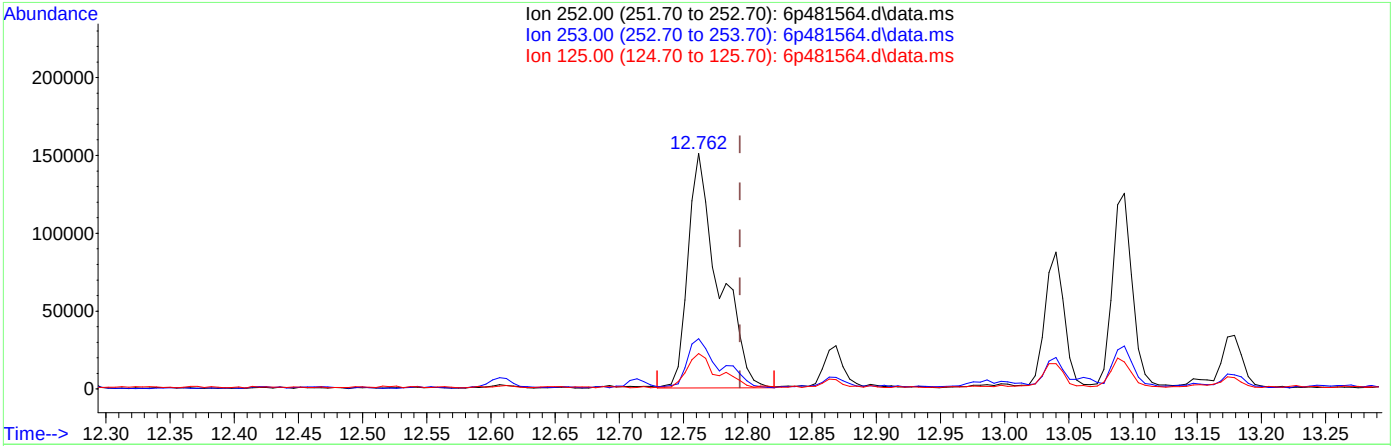
response 16644

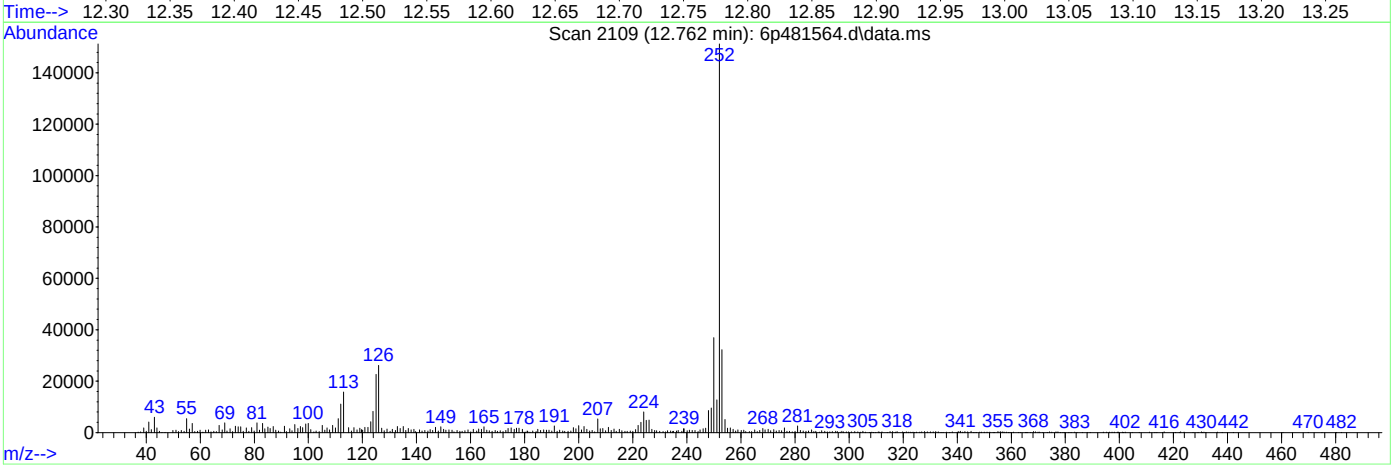
| Ion | Exp% | Act% |
|---|---|---|
| 128.00 | 100 | 100 |
| 129.00 | 11.40 | 13.58 |
| 127.00 | 13.30 | 16.90 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481564.d
Acq On : 2 May 2019 3:50 pm
Operator : angelar
Sample : jc86986-12 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:56 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481564.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.762min (-0.032) 4.77ppm

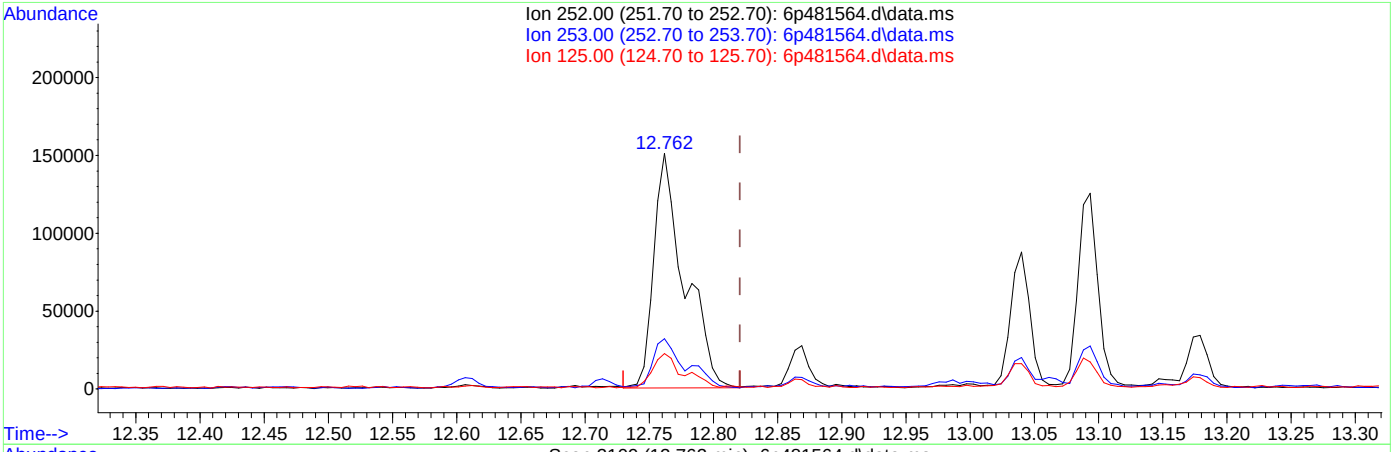
response 251989

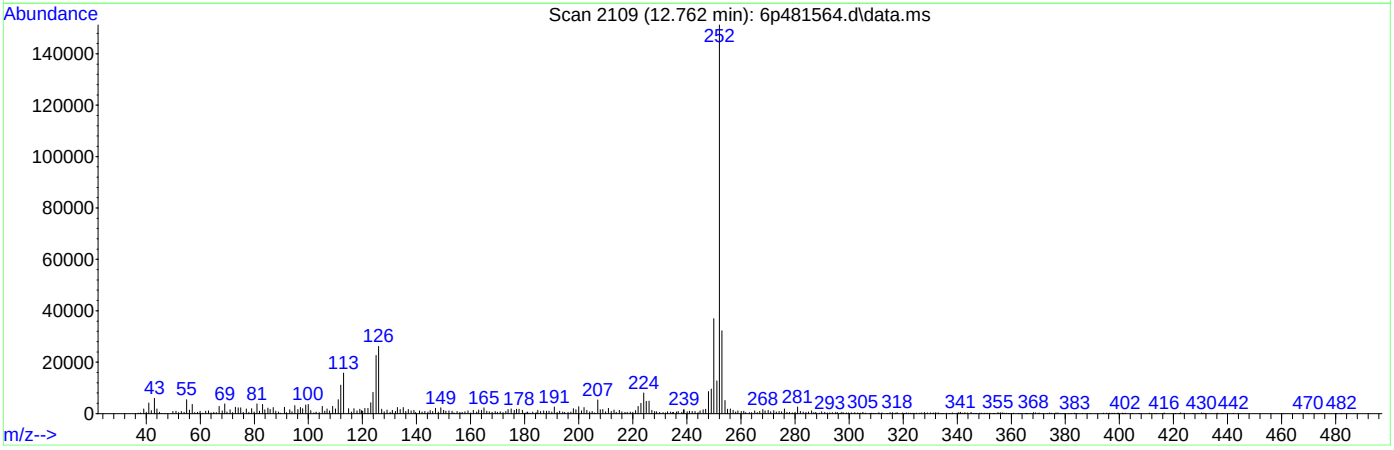
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 20.71 |
| 125.00 | 9.90 | 14.31 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481564.d
Acq On : 2 May 2019 3:50 pm
Operator : angelar
Sample : jc86986-12 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:03:56 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481564.d\data.ms

(94) Benzo[k]fluoranthene (t)

12.762min (-0.059) 5.39ppm

response 251989

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.50 | 20.71 |
| 125.00 | 9.70 | 14.31 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481559.d
Acq On : 2 May 2019 1:36 pm
Operator : angelar
Sample : jc86986-13 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:28:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 531073 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.108 | 136 | 1969065 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1243477 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.413 | 188 | 2245547 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.558 | 240 | 1957166 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.152 | 264 | 1908725 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 531073 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1243477 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.413 | 188 | 2245547 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.558 | 240 | 1957166 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.108 | 136 | 1969065 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.413 | 188 | 2245547 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.558 | 240 | 1957166 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 586983 | 37.78 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 75.56% | | | |
| 8) Phenol-d5 | 3.921 | 99 | 719204 | 37.91 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 75.82% | | | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 649854 | 39.66 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 79.32% | | | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1493342 | 33.99 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 67.98% | | | |
| 73) 2,4,6-Tribromophenol | 7.633 | 330 | 250303 | 34.64 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 69.28% | | | |
| 85) Terphenyl-d14 | 10.339 | 244 | 1784709 | 39.14 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 78.28% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 77) Phenanthrene | 8.440 | 178 | 34214m | 0.57 | ppm | |
| 78) Anthracene | 8.499 | 178 | 9363 | 0.15 | ppm | 87 |
| 81) Fluoranthene | 9.841 | 202 | 45178 | 0.69 | ppm | 97 |
| 84) Pyrene | 10.104 | 202 | 46457 | 0.71 | ppm | 95 |
| 87) Benzo[a]anthracene | 11.548 | 228 | 29340 | 0.47 | ppm | 96 |
| 89) Chrysene | 11.585 | 228 | 22631 | 0.37 | ppm | 95 |
| 93) Benzo[b]fluoranthene | 12.762 | 252 | 27038m | 0.46 | ppm | |
| 95) Benzo[a]pyrene | 13.093 | 252 | 19153 | 0.40 | ppm | 93 |
| 96) Indeno[1,2,3-cd]pyrene | 14.163 | 276 | 12840 | 0.20 | ppm | 92 |
| 100) Benzo[g,h,i]perylene | 14.409 | 276 | 14334 | 0.29 | ppm | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

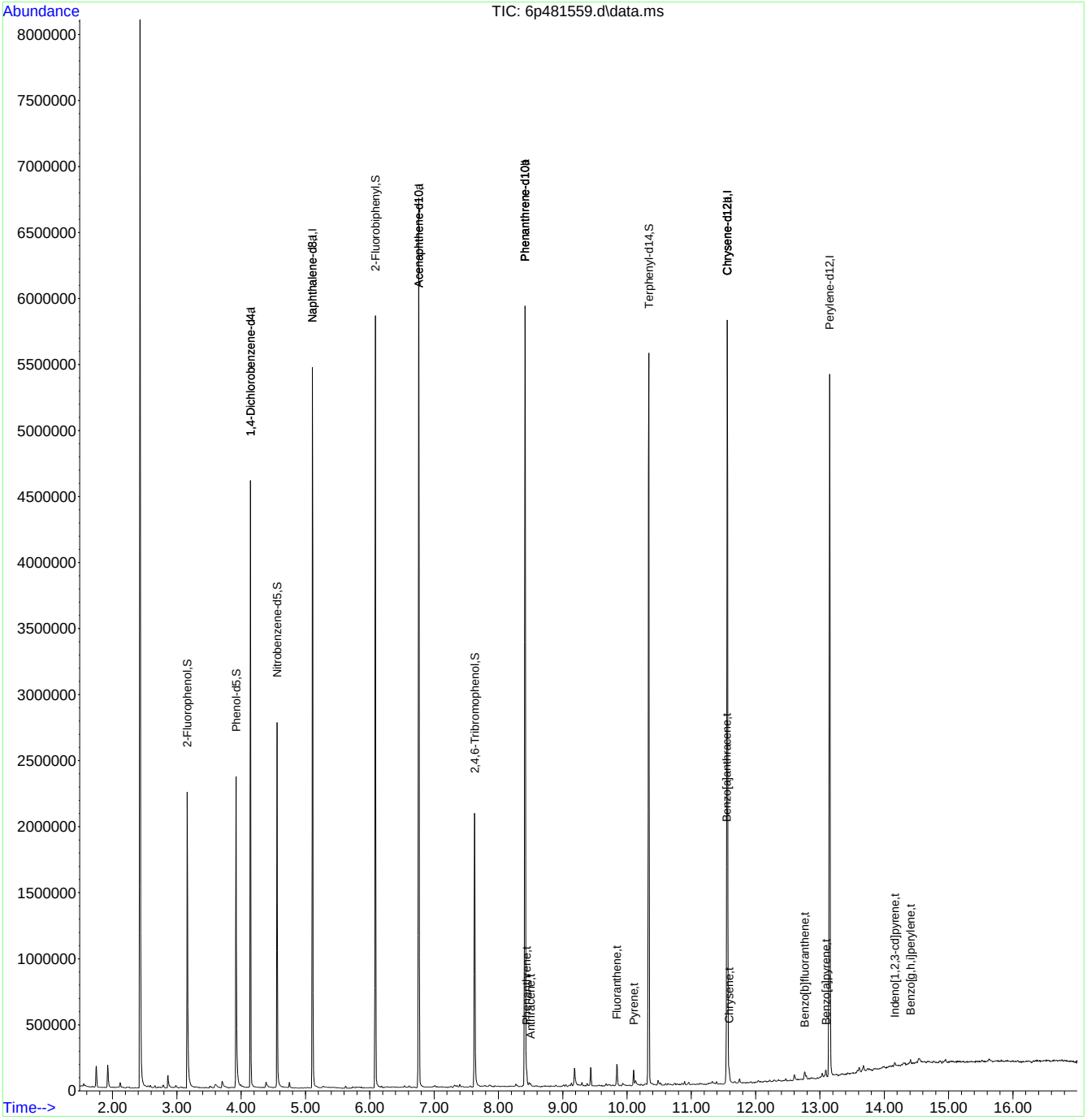
9.1.18

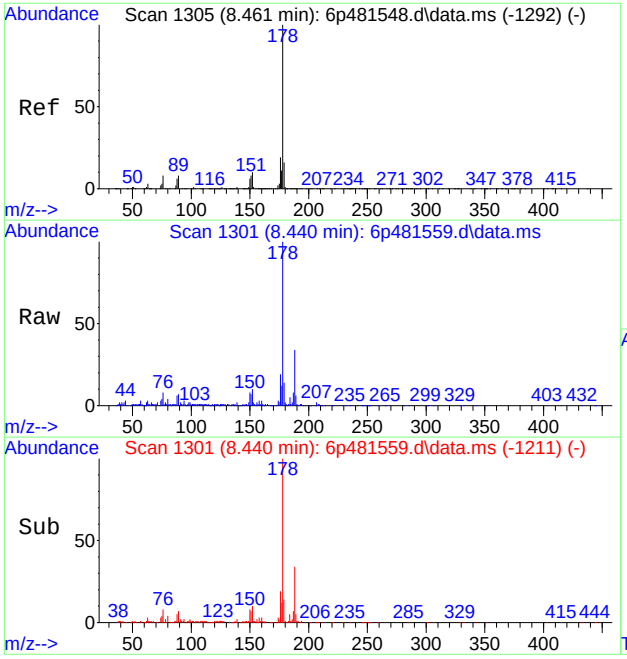
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481559.d
Acq On : 2 May 2019 1:36 pm
Operator : angelar
Sample : jc86986-13 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:28:29 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

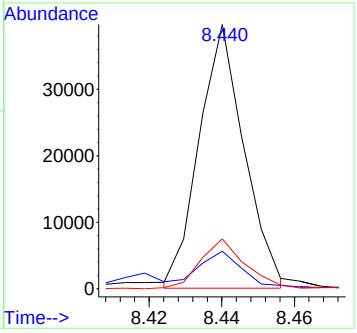


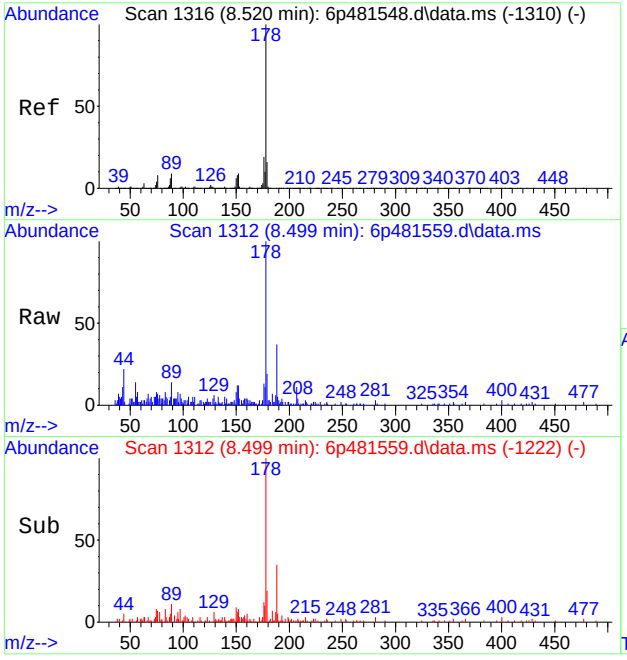



#77
Phenanthrene
Concen: 0.57 ppm m
RT: 8.440 min Scan# 1301
Delta R.T. -0.021 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:178 Resp: 34214

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 14.2 | 0.0 | 45.9 |
| 176 | 18.8 | 0.0 | 49.1 |

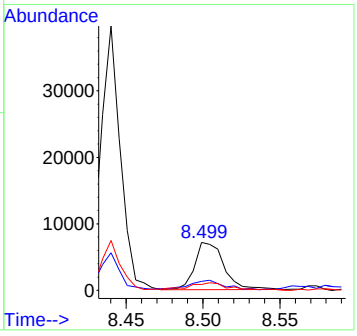


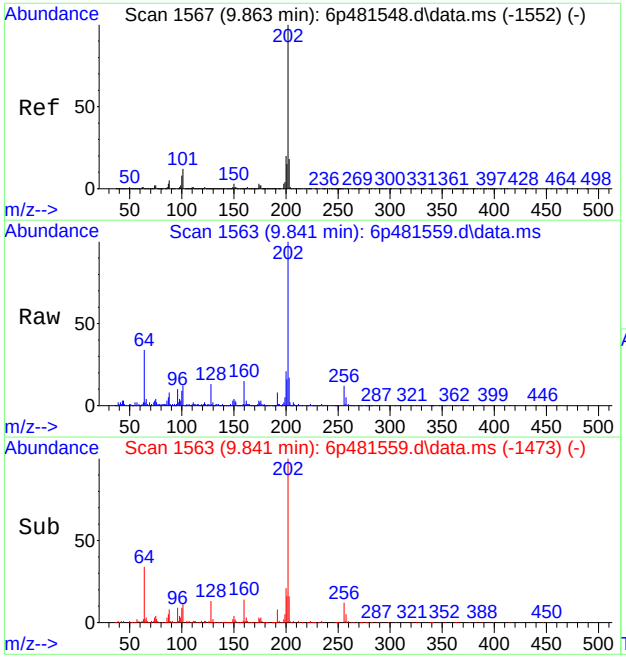




#78
Anthracene
Concen: 0.15 ppm
RT: 8.499 min Scan# 1312
Delta R.T. -0.021 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:178 Resp: 9363

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 178 | 100 | | |
| 179 | 12.7 | 0.0 | 46.1 |
| 176 | 11.6 | 0.0 | 49.3 |

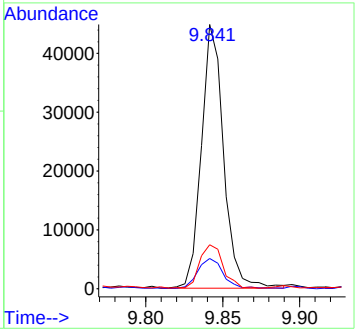


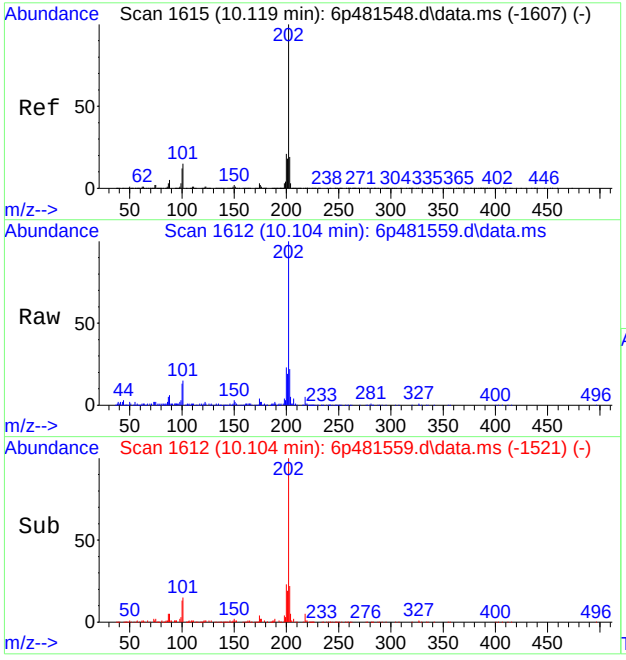



#81
Fluoranthene
Concen: 0.69 ppm
RT: 9.841 min Scan# 1563
Delta R.T. -0.021 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:202 Resp: 45178

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 11.4 | 0.0 | 41.6 |
| 203 | 15.9 | 0.0 | 47.6 |

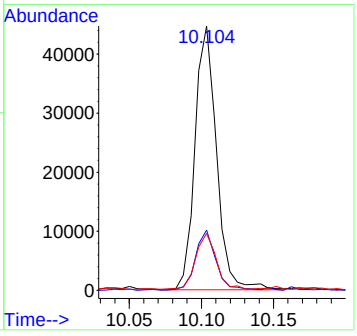


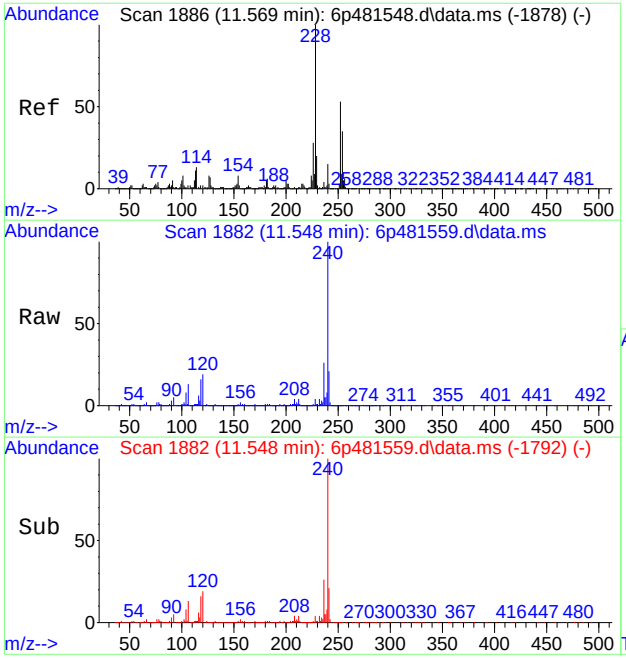




#84
Pyrene
Concen: 0.71 ppm
RT: 10.104 min Scan# 1612
Delta R.T. -0.016 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:202 Resp: 46457

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 200 | 22.9 | 0.0 | 50.9 |
| 203 | 21.2 | 0.0 | 48.9 |

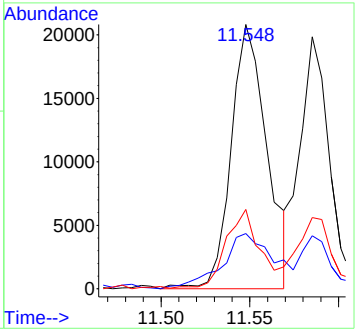


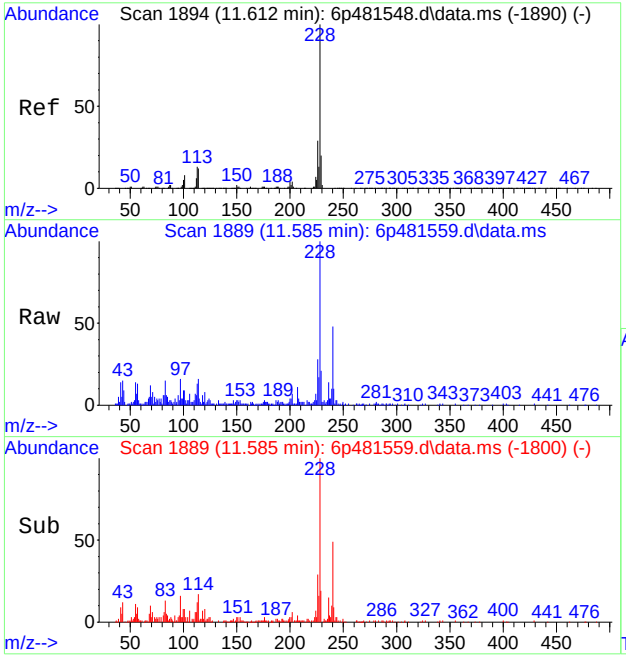



#87
Benzo[a]anthracene
Concen: 0.47 ppm
RT: 11.548 min Scan# 1882
Delta R.T. -0.021 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:228 Resp: 29340

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 229 | 18.1 | 0.0 | 50.1 |
| 226 | 29.8 | 0.0 | 50.7 |

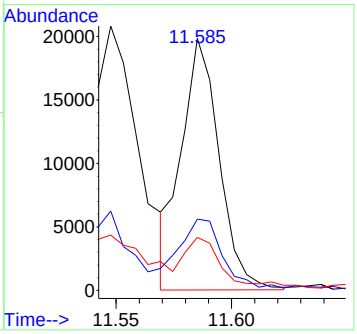



#89
Chrysene
Concen: 0.37 ppm
RT: 11.585 min Scan# 1889
Delta R.T. -0.027 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

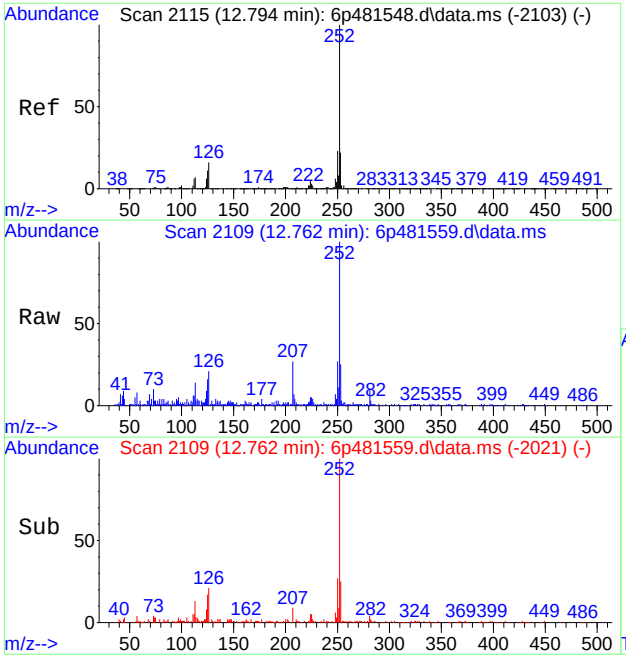
Tgt Ion:228 Resp: 22631

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 228 | 100 | | |
| 226 | 28.0 | 0.0 | 59.3 |
| 229 | 16.3 | 0.0 | 50.2 |




9.1.18

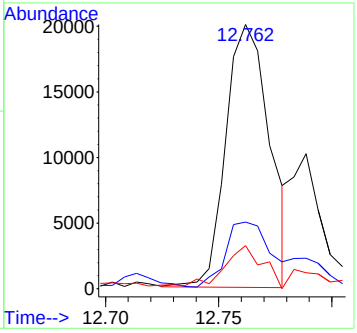
9

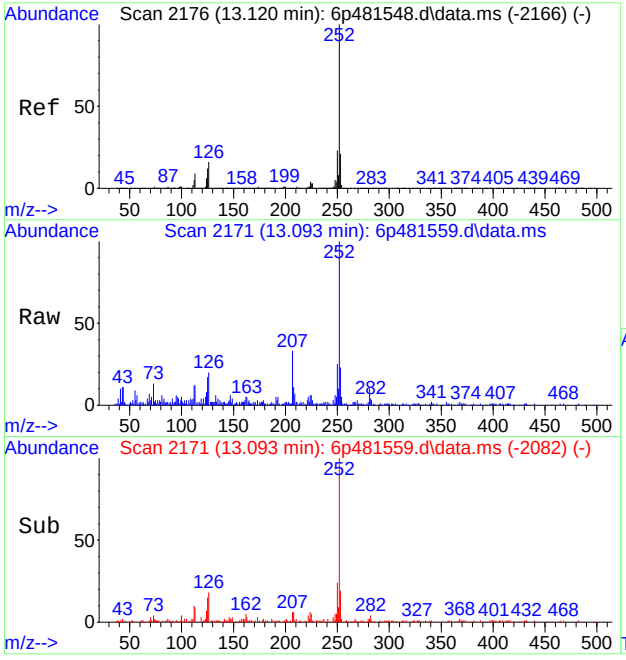



#93
Benzo[b]fluoranthene
Concen: 0.46 ppm m
RT: 12.762 min Scan# 2109
Delta R.T. -0.032 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:252 Resp: 27038

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 25.3 | 0.0 | 52.6 |
| 125 | 16.4 | 0.0 | 39.9 |

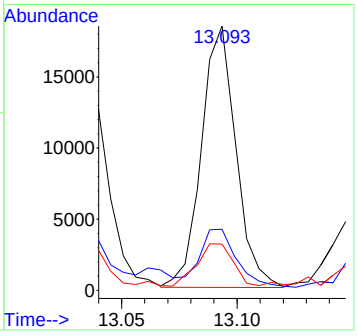


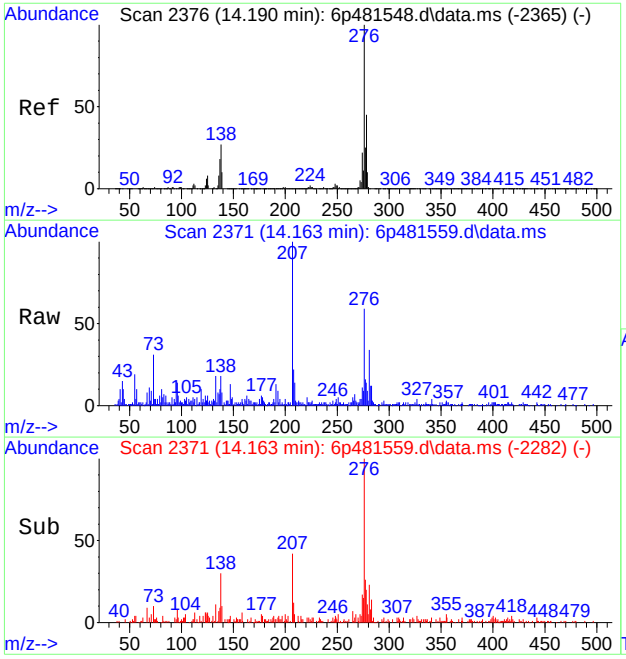




#95
Benzo[a]pyrene
Concen: 0.40 ppm
RT: 13.093 min Scan# 2171
Delta R.T. -0.027 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:252 Resp: 19153

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 252 | 100 | | |
| 253 | 18.7 | 0.0 | 51.4 |
| 125 | 15.7 | 0.0 | 41.7 |

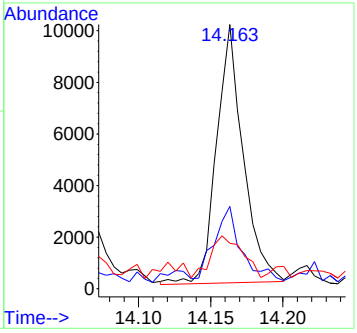


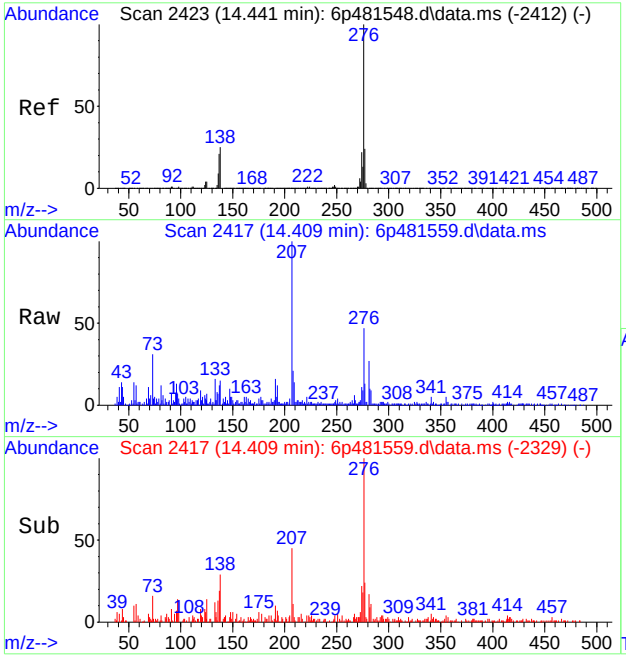



#96
Indeno[1,2,3-cd]pyrene
Concen: 0.20 ppm
RT: 14.163 min Scan# 2371
Delta R.T. -0.027 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:276 Resp: 12840

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 27.6 | 0.0 | 56.6 |
| 137 | 10.0 | 0.0 | 47.6 |

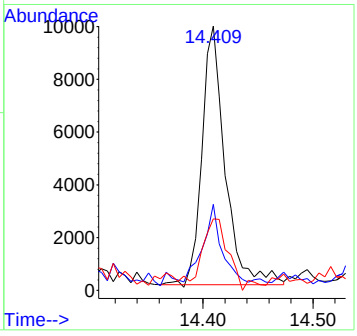



#100
Benzo[g,h,i]perylene
Concen: 0.29 ppm
RT: 14.409 min Scan# 2417
Delta R.T. -0.032 min
Lab File: 6p481559.d
Acq: 2 May 2019 1:36 pm

Tgt Ion:276 Resp: 14334

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 276 | 100 | | |
| 138 | 29.0 | 0.0 | 54.7 |
| 277 | 22.4 | 0.0 | 53.6 |



# Manual Integration Approval Summary



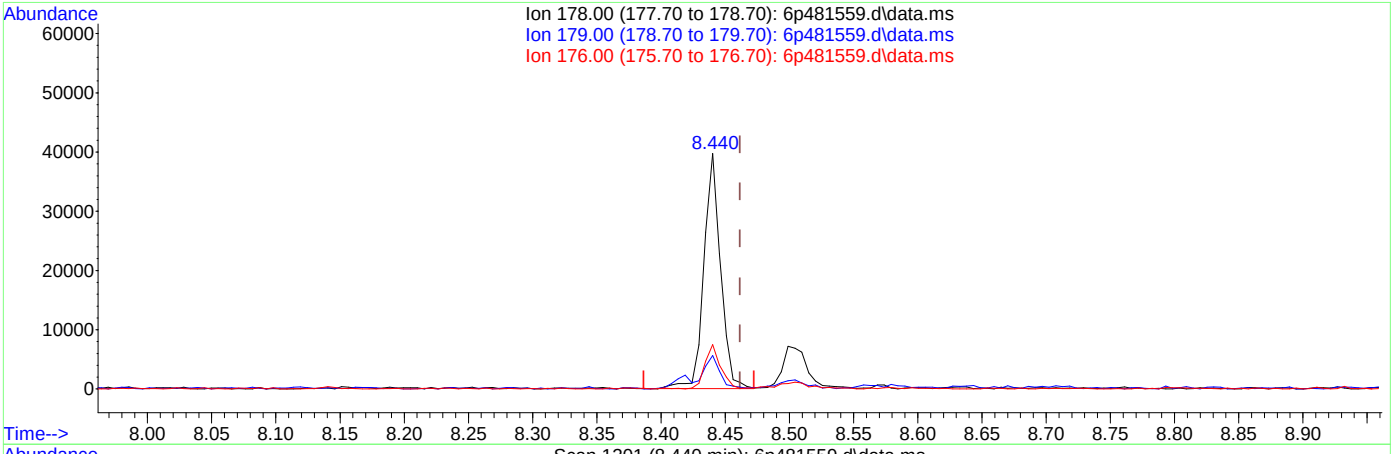
| | | | |
|---|---|---|---|
| **Sample Number:** | JC86986-13 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481559.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 13:36 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

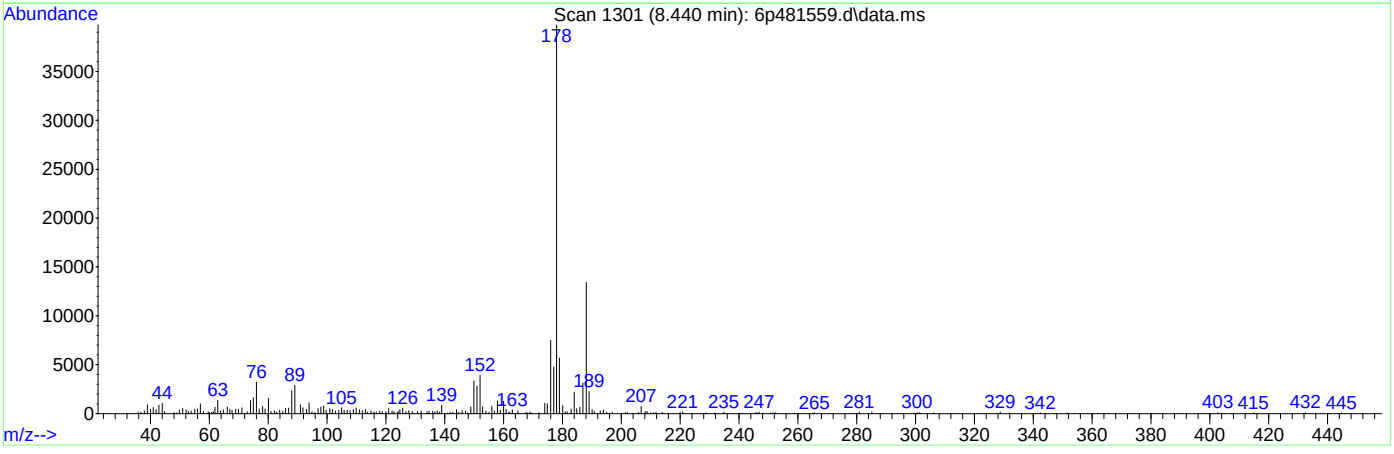
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Phenanthrene | 85-01-8 | | 8.44 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.76 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481559.d
Acq On : 2 May 2019 1:36 pm
Operator : angelar
Sample : jc86986-13 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:25:30 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481559.d\data.ms

(77) Phenanthrene (t)

8.440min (-0.021) 0.59ppm

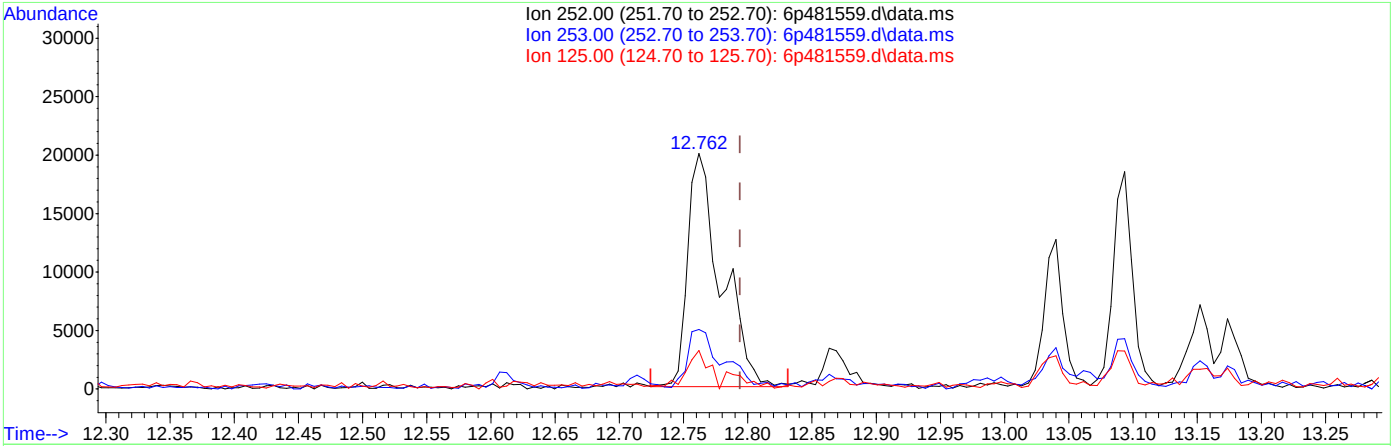
response 35861

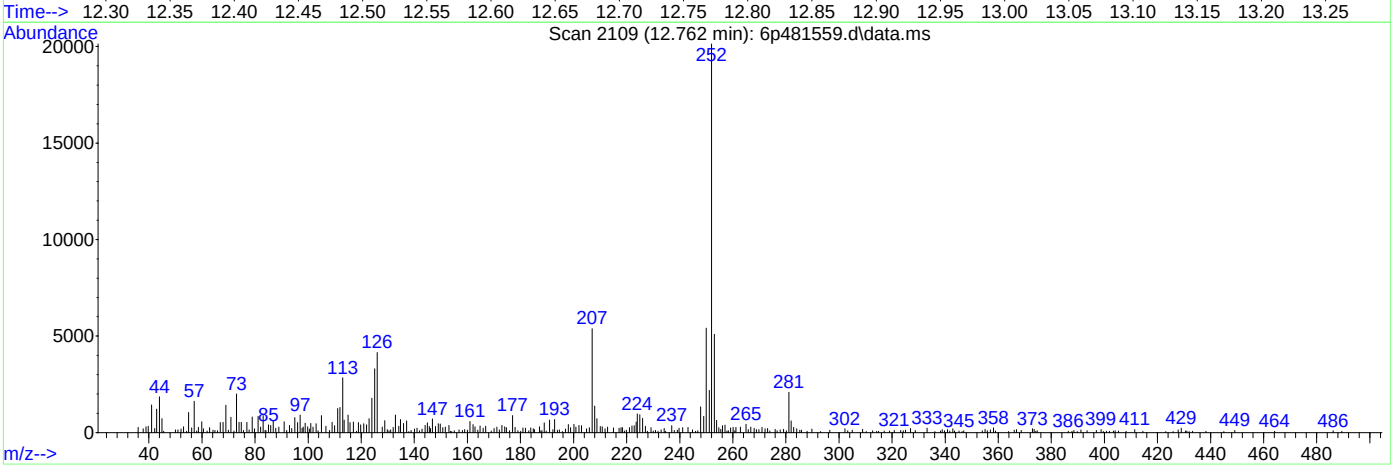
| Ion | Exp% | Act% |
|---|---|---|
| 178.00 | 100 | 100 |
| 179.00 | 15.90 | 13.58 |
| 176.00 | 19.10 | 18.50 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481559.d
Acq On : 2 May 2019 1:36 pm
Operator : angelar
Sample : jc86986-13 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:25:30 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481559.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.762min (-0.032) 0.62ppm

response 36338

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 23.23 |
| 125.00 | 9.90 | 14.83 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481552.d
Acq On : 2 May 2019 10:45 am
Operator : angelar
Sample : op20081-mb1 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:09:45 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 538809 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.113 | 136 | 1943864 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1257202 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.419 | 188 | 2269595 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.564 | 240 | 1895465 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.158 | 264 | 1862159 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 538809 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1257202 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.419 | 188 | 2269595 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.564 | 240 | 1895465 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.113 | 136 | 1943864 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.419 | 188 | 2269595 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.564 | 240 | 1895465 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 735743 | 46.68 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 93.36% | | | |
| 8) Phenol-d5 | 3.926 | 99 | 893884 | 46.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 92.90% | | | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 762622 | 47.14 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 94.28% | | | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1691516 | 38.08 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 76.16% | | | |
| 73) 2,4,6-Tribromophenol | 7.633 | 330 | 299023 | 40.94 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 81.88% | | | |
| 85) Terphenyl-d14 | 10.339 | 244 | 2079577 | 47.09 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 94.18% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 53) Biphenyl | 6.183 | 154 | 4683 | 0.10 | ppm | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

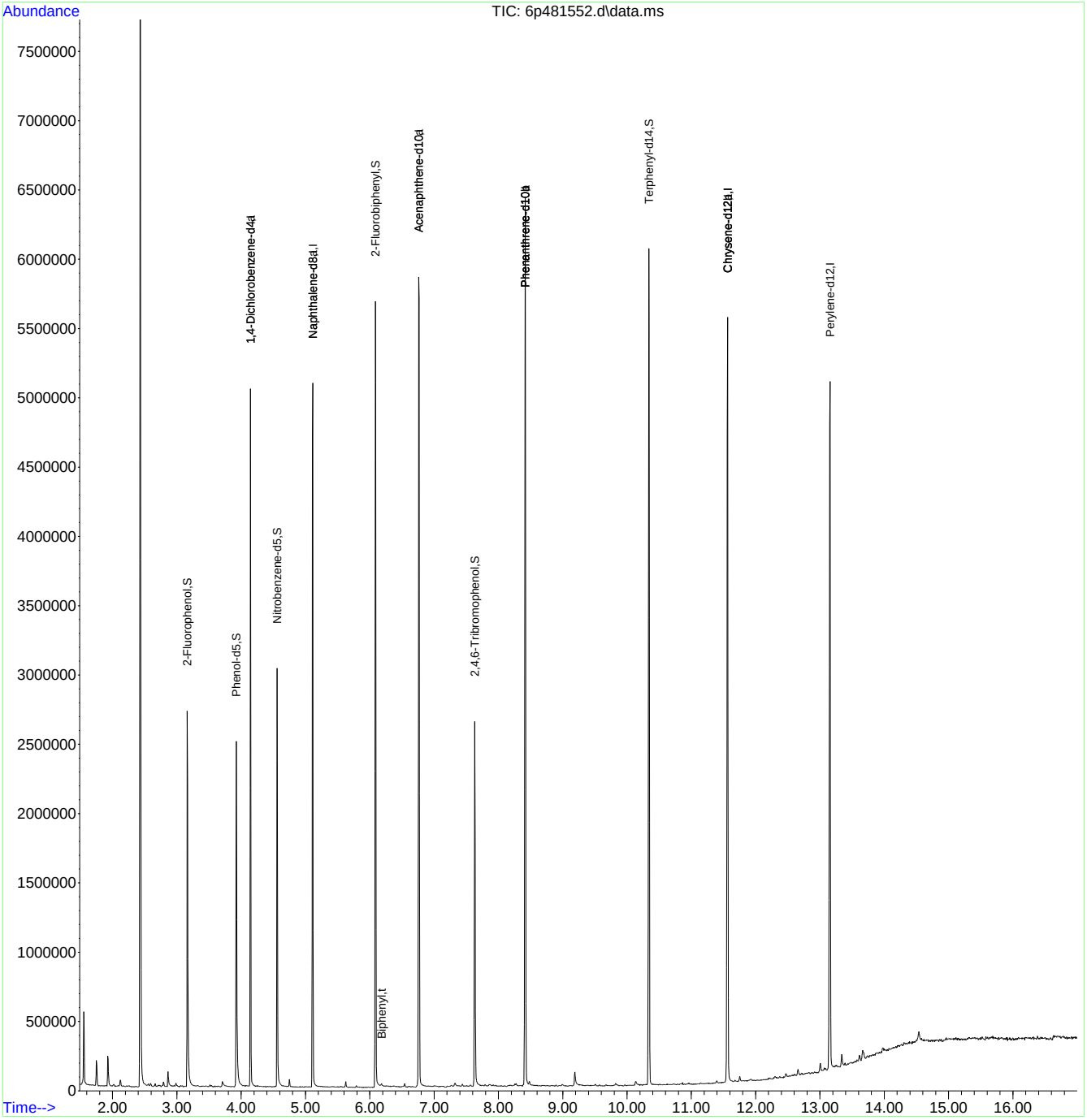
9.2.1

9

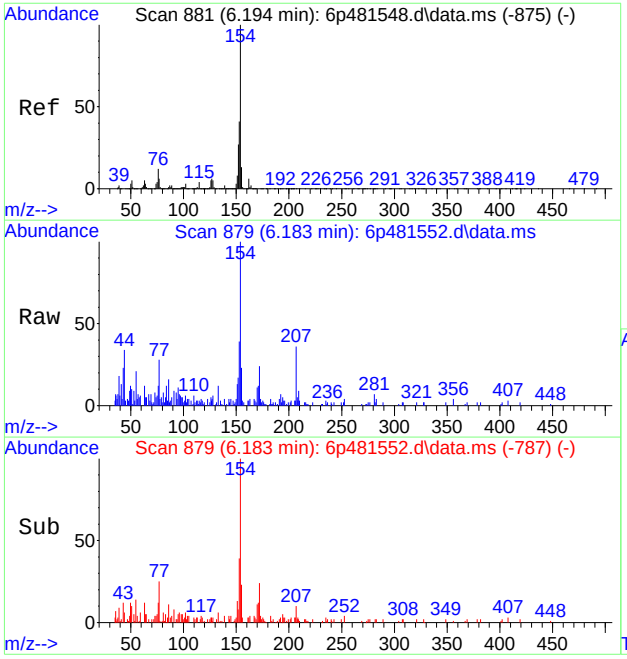
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481552.d
Acq On : 2 May 2019 10:45 am
Operator : angelar
Sample : op20081-mb1 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:09:45 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration



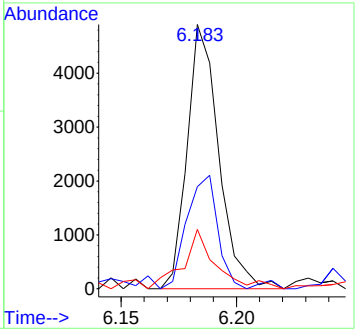

M6P2562.M Fri May 03 07:08:58 2019 Page: 2




#53
Biphenyl
Concen: 0.10 ppm
RT: 6.183 min Scan# 879
Delta R.T. -0.011 min
Lab File: 6p481552.d
Acq: 2 May 2019 10:45 am

Tgt Ion:154 Resp: 4683

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 39.4 | 10.5 | 70.5 |
| 155 | 20.9 | 0.0 | 43.2 |




9.2.1

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129369.D
Acq On : 7 May 2019 2:13 pm
Operator : christc2
Sample : op20110-mb
Misc : op20110,ep5856,30.0,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 07 15:00:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue May 07 15:00:17 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.763 | 152 | 192020 | 40.00 ppm | -0.07 |
| 24) Naphthalene-d8 | 4.693 | 136 | 659405 | 40.00 ppm | -0.09 |
| 47) Acenaphthene-d10 | 5.938 | 164 | 353720 | 40.00 ppm | -0.09 |
| 69) Phenanthrene-d10 | 7.327 | 188 | 618727 | 40.00 ppm | 0.00 |
| 83) Chrysene-d12 | 11.964 | 240 | 530688 | 40.00 ppm | 0.00 |
| 91) Perylene-d12 | 14.891 | 264 | 503785 | 40.00 ppm | -0.22 |
| 101) 1,4-Dichlorobenzene-d4b | 3.763 | 152 | 192020 | 40.00 ppm | -0.07 |
| 103) Phenanthrene-d10b | 7.327 | 188 | 618727 | 40.00 ppm | -0.12 |
| 105) Chrysene-d12b | 11.964 | 240 | 530688 | 40.00 ppm | -0.18 |
| 107) Naphthalene-d8b | 4.693 | 136 | 659405 | 40.00 ppm | -0.08 |
| 109) Acenaphthene-d10b | 5.938 | 164 | 353720 | 40.00 ppm | -0.08 |
| 111) Chrysene-d12d | 11.964 | 240 | 530688 | 40.00 ppm | -0.21 |
| System Monitoring Compounds | | | | | |
| 5) 2-Fluorophenol | 2.802 | 112 | 239608 | 38.84 ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = 77.68% | | |
| 8) Phenol-d5 | 3.619 | 99 | 308020 | 39.32 ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery = 78.64% | | |
| 25) Nitrobenzene-d5 | 4.185 | 82 | 294544 | 41.58 ppm | -0.08 |
| Spiked Amount 50.000 | | | Recovery = 83.16% | | |
| 51) 2-Fluorobiphenyl | 5.478 | 172 | 482521 | 43.05 ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery = 86.10% | | |
| 73) 2,4,6-Tribromophenol | 6.600 | 330 | 74044 | 35.96 ppm | -0.11 |
| Spiked Amount 50.000 | | | Recovery = 71.92% | | |
| 85) Terphenyl-d14 | 9.950 | 244 | 474922 | 39.50 ppm | -0.18 |
| Spiked Amount 50.000 | | | Recovery = 79.00% | | |

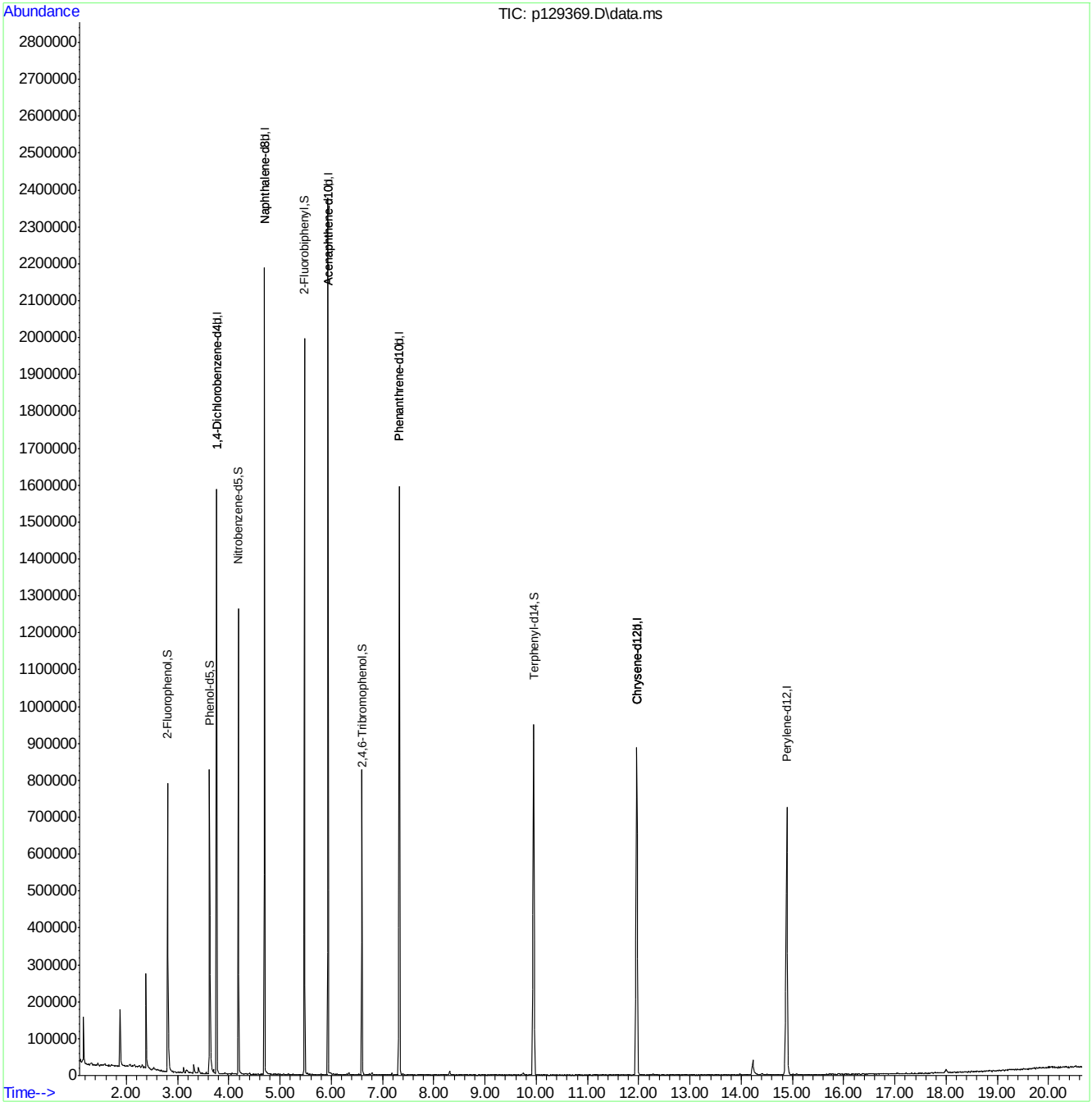
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129369.D
Acq On : 7 May 2019 2:13 pm
Operator : christc2
Sample : op20110-mb
Misc : op20110,ep5856,30.0,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 07 15:00:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue May 07 15:00:17 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481789.D
Acq On : 10 May 2019 11:37 am
Operator : angelar
Sample : op20110-mb
Misc : op20110,e6p2588,30.0,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 10 12:03:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.209 | 152 | 510409 | 40.00 | ppm | -0.04 |
| 24) Naphthalene-d8 | 5.177 | 136 | 1876568 | 40.00 | ppm | -0.05 |
| 47) Acenaphthene-d10 | 6.851 | 164 | 987686 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 8.515 | 188 | 1786422 | 40.00 | ppm | -0.06 |
| 83) Chrysene-d12 | 11.676 | 240 | 1561293 | 40.00 | ppm | -0.06 |
| 91) Perylene-d12 | 13.275 | 264 | 1489418 | 40.00 | ppm | -0.05 |
| 101) 1,4-Dichlorobenzene-d4a | 4.209 | 152 | 510409 | 40.00 | ppm | -0.04 |
| 103) Acenaphthene-d10a | 6.851 | 164 | 987686 | 40.00 | ppm | -0.06 |
| 105) Phenanthrene-d10a | 8.515 | 188 | 1786422 | 40.00 | ppm | -0.06 |
| 109) Chrysene-d12a | 11.676 | 240 | 1561293 | 40.00 | ppm | -0.06 |
| 111) Naphthalene-d8a | 5.177 | 136 | 1876568 | 40.00 | ppm | -0.05 |
| 113) Phenanthrene-d10b | 8.515 | 188 | 1786422 | 40.00 | ppm | -0.06 |
| 115) Chrysene-d12b | 11.676 | 240 | 1561293 | 40.00 | ppm | -0.06 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.236 | 112 | 607605 | 40.69 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 81.38% | | | |
| 8) Phenol-d5 | 3.990 | 99 | 755179 | 41.42 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 82.84% | | | |
| 25) Nitrobenzene-d5 | 4.626 | 82 | 697729 | 44.68 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 89.36% | | | |
| 51) 2-Fluorobiphenyl | 6.167 | 172 | 1395073 | 39.98 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = 79.96% | | | |
| 73) 2,4,6-Tribromophenol | 7.729 | 330 | 185506 | 32.27 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery = 64.54% | | | |
| 85) Terphenyl-d14 | 10.440 | 244 | 1444204 | 39.70 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery = 79.40% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |

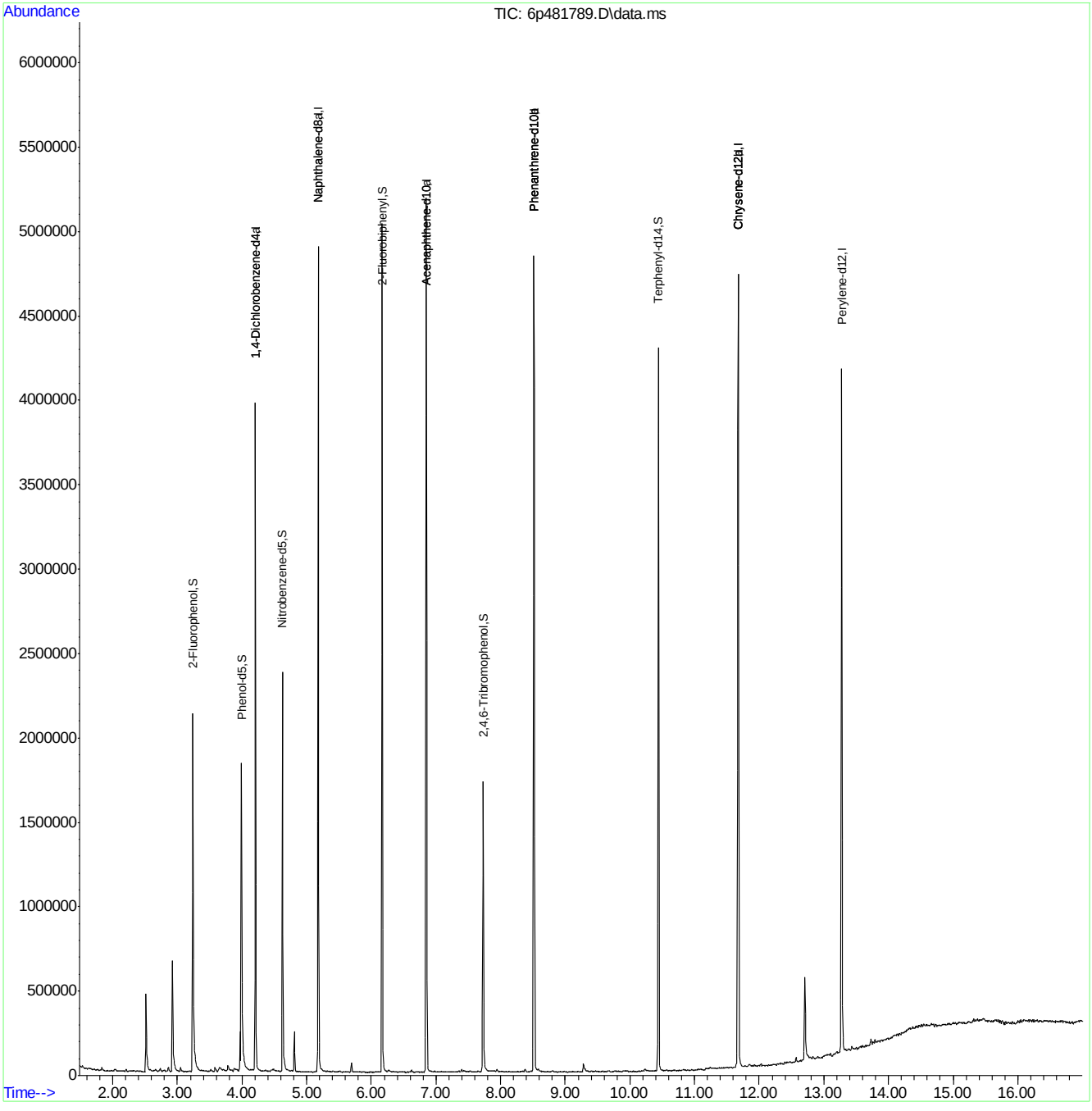
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481789.D
Acq On : 10 May 2019 11:37 am
Operator : angelar
Sample : op20110-mb
Misc : op20110,e6p2588,30.0,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 10 12:03:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration




M6P2562.M Fri May 10 12:03:28 2019 ACLIMS Page: 2

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:52

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481553.d
Acq On : 2 May 2019 11:09 am
Operator : angelar
Sample : op20081-bs1 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:12:37 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 561855 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.113 | 136 | 2041641 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.766 | 164 | 1297406 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.424 | 188 | 2328418 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.569 | 240 | 2115468 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.157 | 264 | 1922894 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 561855 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.766 | 164 | 1297406 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.424 | 188 | 2328418 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.569 | 240 | 2115468 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.113 | 136 | 2041641 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.424 | 188 | 2328418 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.569 | 240 | 2115468 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.166 | 112 | 709667 | 43.18 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 86.36% | | | |
| 8) Phenol-d5 | 3.926 | 99 | 871973 | 43.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 86.90% | | | |
| 25) Nitrobenzene-d5 | 4.562 | 82 | 767820 | 45.19 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 90.38% | | | |
| 51) 2-Fluorobiphenyl | 6.092 | 172 | 1697483 | 37.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 74.06% | | | |
| 73) 2,4,6-Tribromophenol | 7.638 | 330 | 289930 | 38.70 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 77.40% | | | |
| 85) Terphenyl-d14 | 10.339 | 244 | 1970595 | 39.98 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 79.96% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.567 | 88 | 199238 | 26.94 | ppm | 98 |
| 3) Pyridine | 1.861 | 79 | 552523 | 32.84 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 1.834 | 74 | 399227 | 40.71 | ppm | 100 |
| 6) Indene | 4.332 | 116 | 1298908 | 42.64 | ppm | 100 |
| 7) Cumene | 3.535 | 105 | 1590718 | 36.45 | ppm | 99 |
| 9) Phenol | 3.936 | 94 | 942360 | 38.47 | ppm | 93 |
| 10) Aniline | 3.910 | 93 | 948518 | 43.39 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 3.963 | 93 | 676328 | 39.85 | ppm | 100 |
| 12) 2-Chlorophenol | 4.001 | 128 | 782204 | 40.27 | ppm | 98 |
| 13) Decane | 4.043 | 43 | 487541 | 32.70 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.102 | 146 | 826491 | 37.32 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.161 | 146 | 852622 | 37.61 | ppm | 99 |
| 16) Benzyl alcohol | 4.273 | 108 | 502164 | 47.60 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.268 | 146 | 791168 | 38.00 | ppm | 99 |
| 18) Acetophenone | 4.450 | 105 | 1013973 | 38.83 | ppm | 99 |
| 19) 2-Methylphenol | 4.370 | 108 | 694105 | 42.10 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.364 | 121 | 271178 | 44.81 | ppm | 87 |
| 21) 3&4-Methylphenol | 4.487 | 108 | 751352 | 43.34 | ppm | 96 |
| 22) n-Nitroso-di-n-propyla... | 4.461 | 70 | 480544 | 41.14 | ppm | 99 |
| 23) Hexachloroethane | 4.514 | 201 | 277461 | 35.08 | ppm | 94 |
| 26) Nitrobenzene | 4.578 | 77 | 737078 | 42.63 | ppm | 91 |
| 27) Quinoline | 5.429 | 129 | 1580611 | 42.67 | ppm | 99 |
| 28) Isophorone | 4.760 | 82 | 1314957 | 44.51 | ppm | 97 |
| 29) 2-Nitrophenol | 4.819 | 139 | 447367 | 44.26 | ppm # | 55 |
| 30) 2,4-Dimethylphenol | 4.878 | 107 | 795118 | 51.53 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481553.d
Acq On : 2 May 2019 11:09 am
Operator : angelar
Sample : op20081-bs1 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:12:37 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 31) Benzoic acid | 5.022 | 105 | 705513 | 45.25 | ppm | | 99 |
| 32) bis(2-Chloroethoxy)met... | 4.937 | 93 | 805705 | 43.41 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.022 | 162 | 656827 | 43.06 | ppm | | 96 |
| 34) 2,6-Dichlorophenol | 5.199 | 162 | 660591 | 43.73 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.076 | 180 | 670688 | 38.41 | ppm | | 99 |
| 38) Naphthalene | 5.129 | 128 | 2280091 | 42.88 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.193 | 127 | 608198 | 28.40 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.006 | 161 | 714286 | 36.91 | ppm | | 98 |
| 41) Caprolactam | 5.520 | 55 | 257247 | 39.41 | ppm | | 98 |
| 42) Hexachlorobutadiene | 5.241 | 225 | 394442 | 39.70 | ppm | | 97 |
| 43) 4-Chloro-3-methylphenol | 5.648 | 107 | 704722 | 45.02 | ppm | # | 46 |
| 44) 2-Methylnaphthalene | 5.734 | 141 | 1362795 | 45.31 | ppm | | 97 |
| 45) 1-Methylnaphthalene | 5.824 | 141 | 1523820 | 45.35 | ppm | | 100 |
| 46) Dimethylnaphthalene | 6.343 | 156 | 1645272 | 46.02 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 5.889 | 237 | 497175 | 59.12 | ppm | | 100 |
| 49) 2,4,6-Trichlorophenol | 6.022 | 196 | 463832 | 38.33 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.071 | 196 | 485090 | 37.68 | ppm | | 100 |
| 52) 2-Chloronaphthalene | 6.199 | 162 | 1415394 | 36.99 | ppm | | 98 |
| 53) Biphenyl | 6.188 | 154 | 1942642 | 39.14 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.322 | 65 | 528227 | 53.11 | ppm | | 91 |
| 55) Dimethylphthalate | 6.514 | 163 | 1907532 | 42.92 | ppm | | 99 |
| 56) Acenaphthylene | 6.616 | 152 | 2709215 | 45.88 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.579 | 165 | 441507 | 43.94 | ppm | | 86 |
| 58) 3-Nitroaniline | 6.755 | 138 | 377531 | 34.55 | ppm | | 97 |
| 59) Acenaphthene | 6.798 | 153 | 1688978 | 43.09 | ppm | | 99 |
| 60) 2,4-Dinitrophenol | 6.889 | 184 | 401627 | 59.59 | ppm | | 78 |
| 61) 4-Nitrophenol | 7.001 | 109 | 219854 | 39.26 | ppm | | 88 |
| 62) Dibenzofuran | 6.985 | 168 | 2294890 | 42.04 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 7.017 | 165 | 555175 | 39.78 | ppm | | 94 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.146 | 232 | 367989 | 34.93 | ppm | | 97 |
| 65) Diethylphthalate | 7.285 | 149 | 1647863 | 37.61 | ppm | | 97 |
| 66) Fluorene | 7.360 | 166 | 1728740 | 39.01 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.376 | 204 | 785300 | 34.96 | ppm | | 93 |
| 68) 4-Nitroaniline | 7.429 | 138 | 427367 | 36.94 | ppm | | 90 |
| 70) 4,6-Dinitro-2-methylph... | 7.483 | 198 | 271287 | 30.17 | ppm | | 80 |
| 71) n-Nitrosodiphenylamine | 7.520 | 169 | 1209251 | 37.59 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.552 | 77 | 1485038 | 40.77 | ppm | | 99 |
| 74) 4-Bromophenyl-phenylether | 7.921 | 248 | 461975 | 36.92 | ppm | | 98 |
| 75) Hexachlorobenzene | 7.996 | 284 | 548307 | 37.31 | ppm | | 96 |
| 76) Pentachlorophenol | 8.242 | 266 | 333032 | 36.86 | ppm | | 97 |
| 77) Phenanthrene | 8.451 | 178 | 2599414 | 41.58 | ppm | | 99 |
| 78) Anthracene | 8.509 | 178 | 2690484 | 42.91 | ppm | | 98 |
| 79) Carbazole | 8.723 | 167 | 2596037 | 43.74 | ppm | | 99 |
| 80) Di-n-butylphthalate | 9.189 | 149 | 3144931 | 45.37 | ppm | | 99 |
| 81) Fluoranthene | 9.847 | 202 | 2643159 | 38.92 | ppm | | 98 |
| 82) Octadecane | 8.392 | 57 | 950429 | 45.37 | ppm | | 99 |
| 84) Pyrene | 10.109 | 202 | 2715771 | 38.54 | ppm | | 99 |
| 86) Butylbenzylphthalate | 10.965 | 149 | 1360999 | 44.81 | ppm | | 98 |
| 87) Benzo[a]anthracene | 11.553 | 228 | 2397890 | 35.59 | ppm | | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.564 | 252 | 1776300 | 70.17 | ppm | | 97 |
| 89) Chrysene | 11.601 | 228 | 2271251 | 34.37 | ppm | | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 11.687 | 149 | 1893637 | 45.10 | ppm | | 98 |
| 92) Di-n-octylphthalate | 12.425 | 149 | 2938029 | 51.29 | ppm | | 99 |
| 93) Benzo[b]fluoranthene | 12.772 | 252 | 2308334m | 39.30 | ppm | | |
| 94) Benzo[k]fluoranthene | 12.799 | 252 | 2184613 | 42.02 | ppm | | 97 |
| 95) Benzo[a]pyrene | 13.099 | 252 | 2008382 | 41.62 | ppm | | 95 |
| 96) Indeno[1,2,3-cd]pyrene | 14.168 | 276 | 2601297 | 40.37 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481553.d
Acq On : 2 May 2019 11:09 am
Operator : angelar
Sample : op20081-bs1 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:12:37 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 98) | Dibenz[a,h]anthracene | 14.179 | 278 | 2267675 | 39.72 | ppm | 95 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.762 | 256 | 1064101 | 39.06 | ppm | 97 |
| 100) | Benzo[g,h,i]perylene | 14.420 | 276 | 2070809 | 41.22 | ppm | 99 |
| 102) | Benzaldehyde | 3.819 | 105 | 455408 | 32.66 | ppm | 98 |
| 104) | 1,2,4,5-Tetrachloroben... | 5.899 | 216 | 633909 | 36.61 | ppm | 99 |
| 108) | Atrazine | 8.167 | 215 | 256403 | 37.74 | ppm | 99 |
| 110) | benzidine | 10.050 | 184 | 757315 | 17.40 | ppm | 99 |
| 114) | Pentachloronitrobenzene | 8.247 | 295 | 100361 | 35.22 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

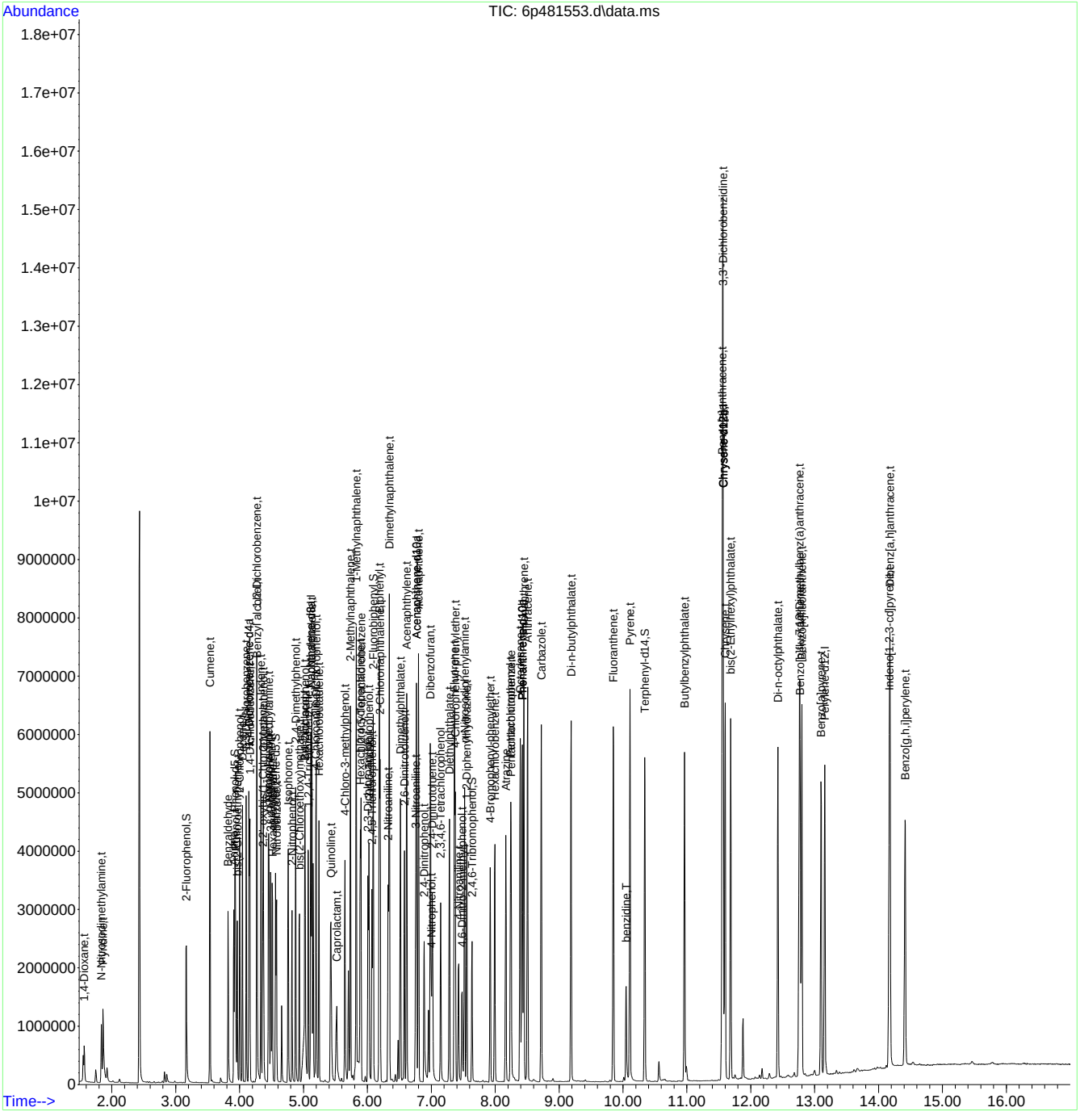
9.3.1

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481553.d
Acq On : 2 May 2019 11:09 am
Operator : angelar
Sample : op20081-bs1 Inst : MS6P
Misc : op20081,e6p2579,30.0,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:12:37 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



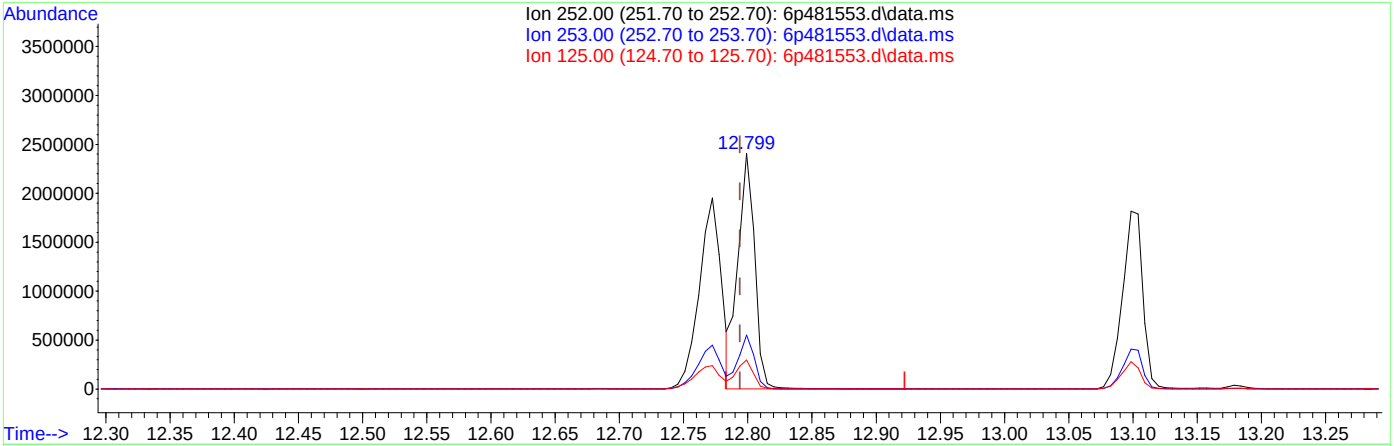
| | | | |
|---|---|---|---|
| **Sample Number:** | OP20081-BS1 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481553.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 11:09 | **Supervisor approved:** | 05/03/19 16:52 Nancy Ma |

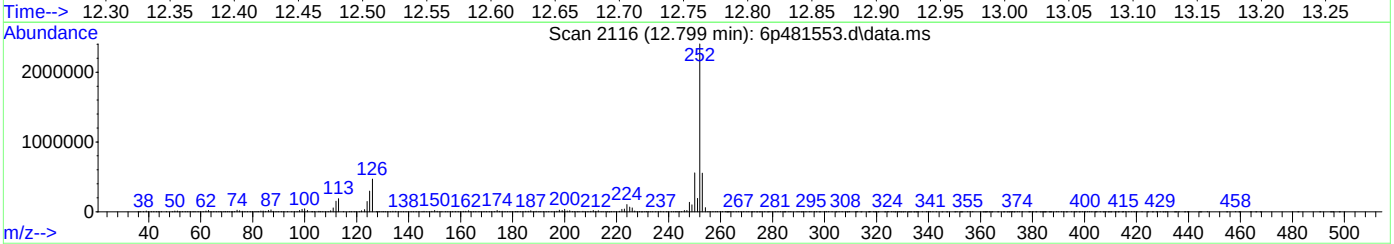
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzo(b)fluoranthene | 205-99-2 | | 12.77 | Poor instrument integration |

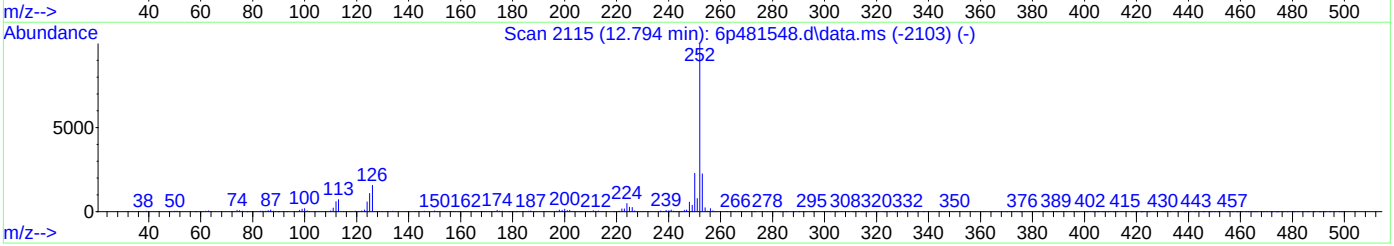
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481553.d
Acq On    :  2 May 2019  11:09 am
Operator  : angelar
Sample    : op20081-bs1                              Inst     : MS6P
Misc      : op20081,e6p2579,30.0,,,1,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:02:43 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481553.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.799min (+0.005) 37.20ppm

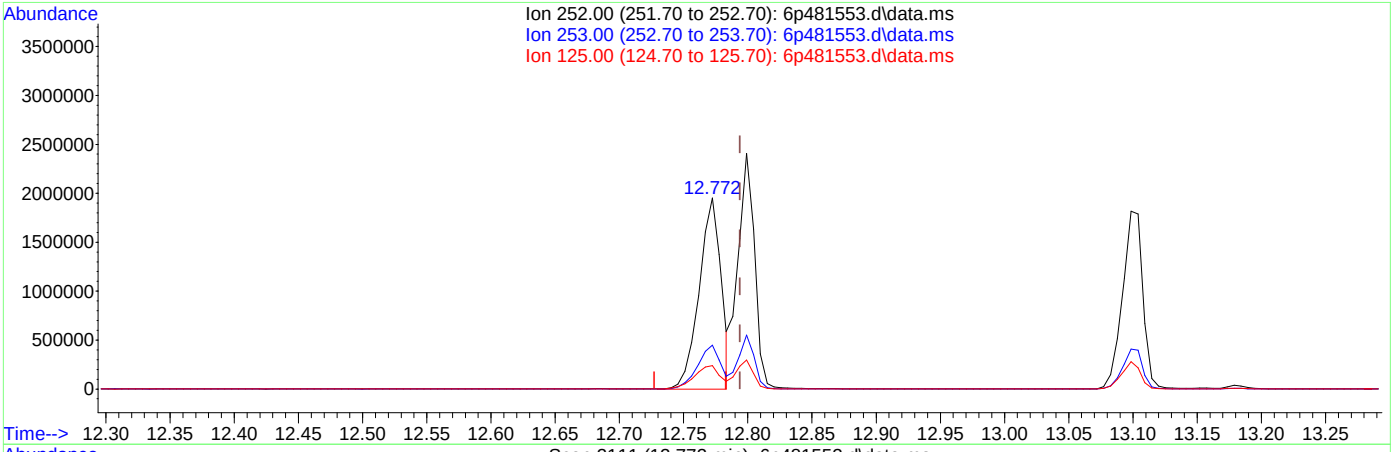
response 2184613

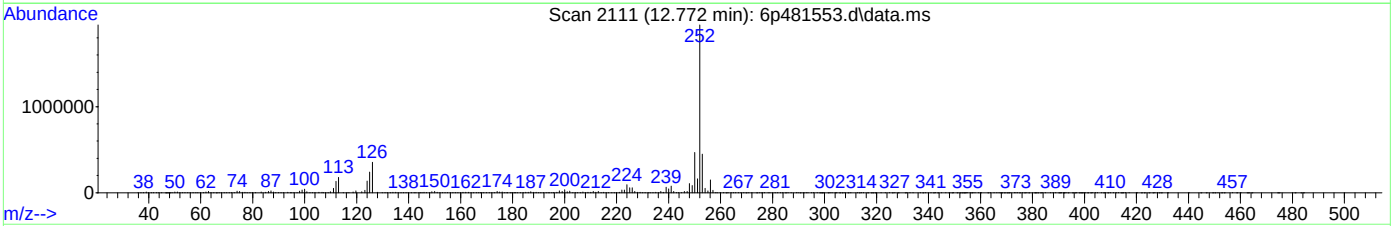
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 22.93 |
| 125.00 | 9.90 | 12.11 |
| 0.00 | 0.00 | 0.00 |

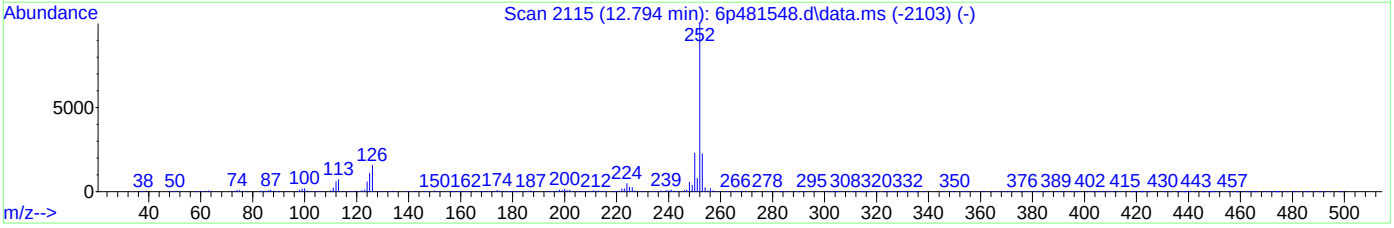
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481553.d
Acq On    :  2 May 2019  11:09 am
Operator  : angelar
Sample    : op20081-bs1                              Inst     : MS6P
Misc      : op20081,e6p2579,30.0,,,1,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:02:43 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481553.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.772min (-0.021) 39.30ppm m

response 2308334

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 22.99 |
| 125.00 | 9.90 | 12.30 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129370.D
Acq On : 7 May 2019 2:40 pm
Operator : christc2
Sample : op20110-bs
Misc : op20110,ep5856,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 07 15:07:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue May 07 15:06:19 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.763 | 152 | 164210 | 40.00 | ppm | -0.07 |
| 24) Naphthalene-d8 | 4.698 | 136 | 524726 | 40.00 | ppm | -0.08 |
| 47) Acenaphthene-d10 | 5.938 | 164 | 297525 | 40.00 | ppm | -0.09 |
| 69) Phenanthrene-d10 | 7.332 | 188 | 521331 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.969 | 240 | 492289 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 14.891 | 264 | 453527 | 40.00 | ppm | -0.22 |
| 101) 1,4-Dichlorobenzene-d4b | 3.763 | 152 | 164210 | 40.00 | ppm | -0.07 |
| 103) Phenanthrene-d10b | 7.332 | 188 | 521331 | 40.00 | ppm | -0.12 |
| 105) Chrysene-d12b | 11.969 | 240 | 492289 | 40.00 | ppm | -0.18 |
| 107) Naphthalene-d8b | 4.698 | 136 | 524726 | 40.00 | ppm | -0.07 |
| 109) Acenaphthene-d10b | 5.938 | 164 | 297525 | 40.00 | ppm | -0.08 |
| 111) Chrysene-d12d | 11.969 | 240 | 492289 | 40.00 | ppm | -0.20 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.802 | 112 | 238740 | 45.25 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery | = | 90.50% | |
| 8) Phenol-d5 | 3.619 | 99 | 297023 | 44.33 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery | = | 88.66% | |
| 25) Nitrobenzene-d5 | 4.191 | 82 | 245179 | 43.49 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery | = | 86.98% | |
| 51) 2-Fluorobiphenyl | 5.478 | 172 | 418317 | 44.37 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery | = | 88.74% | |
| 73) 2,4,6-Tribromophenol | 6.606 | 330 | 68557 | 39.52 | ppm | -0.10 |
| Spiked Amount 50.000 | | | Recovery | = | 79.04% | |
| 85) Terphenyl-d14 | 9.950 | 244 | 473317 | 42.44 | ppm | -0.18 |
| Spiked Amount 50.000 | | | Recovery | = | 84.88% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.183 | 88 | 90534 | 34.00 | ppm | 97 |
| 3) Pyridine | 1.391 | 79 | 236934 | 46.95 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 1.375 | 42 | 130330 | 48.55 | ppm | 96 |
| 6) Indene | 3.956 | 116 | 365555 | 42.51 | ppm | 96 |
| 7) Cumene | 3.128 | 105 | 547624 | 39.01 | ppm | 96 |
| 9) Phenol | 3.630 | 94 | 292400 | 40.05 | ppm | 80 |
| 10) Aniline | 3.534 | 93 | 226087 | 63.60 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 3.587 | 93 | 228705 | 39.53 | ppm | 95 |
| 12) 2-Chlorophenol | 3.641 | 128 | 217239 | 39.48 | ppm | 95 |
| 13) Decane | 3.678 | 43 | 151911 | 37.46 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 3.715 | 146 | 246654 | 38.11 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 3.774 | 146 | 248357 | 39.62 | ppm | 99 |
| 16) Benzyl alcohol | 3.918 | 108 | 128539 | 42.63 | ppm | 90 |
| 17) 1,2-Dichlorobenzene | 3.886 | 146 | 248356 | 39.65 | ppm | 98 |
| 18) Acetophenone | 4.079 | 105 | 305889 | 38.01 | ppm | 90 |
| 19) 2-Methylphenol | 4.052 | 108 | 208209 | 40.77 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 3.998 | 121 | 59824 | 44.46 | ppm # | 75 |
| 21) 3&4-Methylphenol | 4.175 | 108 | 212195 | 42.45 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 4.100 | 70 | 145402 | 38.04 | ppm | 99 |
| 23) Hexachloroethane | 4.132 | 201 | 97418 | 37.98 | ppm | 85 |
| 26) Nitrobenzene | 4.202 | 77 | 240883 | 42.23 | ppm | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129370.D
Acq On : 7 May 2019 2:40 pm
Operator : christc2
Sample : op20110-bs
Misc : op20110,ep5856,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 07 15:07:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue May 07 15:06:19 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 27) Quinoline | 4.960 | 129 | 393909 | 41.41 | ppm | 99 |
| 28) Isophorone | 4.388 | 82 | 449610 | 45.91 | ppm | 99 |
| 29) 2-Nitrophenol | 4.437 | 139 | 117945 | 45.66 | ppm | 81 |
| 30) 2,4-Dimethylphenol | 4.527 | 107 | 240409 | 52.45 | ppm | 100 |
| 31) Benzoic acid | 4.693 | 105 | 174919 | 44.46 | ppm | 94 |
| 32) bis(2-Chloroethoxy)met... | 4.559 | 93 | 258184 | 45.52 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 4.650 | 162 | 190755 | 44.20 | ppm | 95 |
| 34) 2,6-Dichlorophenol | 4.789 | 162 | 184529 | 43.78 | ppm | 97 |
| 36) 1,2,4-Trichlorobenzene | 4.666 | 180 | 207921 | 42.86 | ppm | 98 |
| 38) Naphthalene | 4.714 | 128 | 565408 | 45.13 | ppm | 100 |
| 39) 4-Chloroaniline | 4.784 | 127 | 112982 | 23.15 | ppm | 92 |
| 40) 2,3-Dichloroaniline | 5.425 | 161 | 186400 | 34.29 | ppm | 99 |
| 41) Caprolactam | 5.062 | 55 | 86559 | 45.71 | ppm | 97 |
| 42) Hexachlorobutadiene | 4.816 | 225 | 132926 | 44.32 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 5.190 | 107 | 197911 | 43.59 | ppm | 93 |
| 44) 2-Methylnaphthalene | 5.211 | 141 | 312378 | 43.49 | ppm | 98 |
| 45) 1-Methylnaphthalene | 5.275 | 142 | 368539 | 39.61 | ppm | 97 |
| 46) Dimethylnaphthalene | 5.655 | 156 | 333803 | 40.13 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 5.329 | 237 | 238108 | 104.71 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 5.441 | 196 | 137651 | 46.68 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 5.494 | 196 | 136888 | 46.87 | ppm | 98 |
| 52) 2-Chloronaphthalene | 5.553 | 162 | 364782 | 45.23 | ppm | 98 |
| 53) Biphenyl | 5.548 | 154 | 457160 | 45.59 | ppm | 98 |
| 54) 2-Nitroaniline | 5.649 | 65 | 112986 | 42.50 | ppm | 81 |
| 55) Dimethylphthalate | 5.777 | 163 | 432069 | 41.56 | ppm | 100 |
| 56) Acenaphthylene | 5.836 | 152 | 551208 | 43.30 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 5.820 | 165 | 93617 | 42.98 | ppm | 91 |
| 58) 3-Nitroaniline | 5.943 | 138 | 56698 | 24.86 | ppm | 86 |
| 59) Acenaphthene | 5.964 | 153 | 344479 | 44.02 | ppm | 98 |
| 60) 2,4-Dinitrophenol | 6.023 | 184 | 96615 | 68.75 | ppm | 88 |
| 61) 4-Nitrophenol | 6.167 | 109 | 75107 | 45.99 | ppm | 90 |
| 62) Dibenzofuran | 6.093 | 168 | 494799 | 41.70 | ppm | 93 |
| 63) 2,4-Dinitrotoluene | 6.114 | 165 | 121242 | 41.82 | ppm | 94 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.221 | 232 | 107489 | 41.98 | ppm | 89 |
| 65) Diethylphthalate | 6.312 | 149 | 452046 | 42.72 | ppm | 96 |
| 66) Fluorene | 6.370 | 166 | 422831 | 44.46 | ppm | 97 |
| 67) 4-Chlorophenyl-phenyle... | 6.386 | 204 | 197412 | 41.98 | ppm | 92 |
| 68) 4-Nitroaniline | 6.440 | 138 | 83034 | 38.10 | ppm | 89 |
| 70) 4,6-Dinitro-2-methylph... | 6.456 | 198 | 72218 | 36.97 | ppm | 88 |
| 71) n-Nitrosodiphenylamine | 6.504 | 169 | 280257 | 41.48 | ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 6.525 | 77 | 532743 | 50.44 | ppm | 88 |
| 74) 4-Bromophenyl-phenylether | 6.851 | 248 | 131673 | 41.55 | ppm | 95 |
| 75) Hexachlorobenzene | 6.905 | 284 | 144649 | 40.01 | ppm | 96 |
| 76) Pentachlorophenol | 7.161 | 266 | 88359 | 39.33 | ppm | 95 |
| 77) Phenanthrene | 7.364 | 178 | 571568 | 42.07 | ppm | 99 |
| 78) Anthracene | 7.423 | 178 | 600551 | 42.31 | ppm | 100 |
| 79) Carbazole | 7.679 | 167 | 547197 | 39.92 | ppm | 99 |
| 80) Di-n-butylphthalate | 8.283 | 149 | 807019 | 41.49 | ppm | 98 |
| 81) Fluoranthene | 9.132 | 202 | 686589 | 40.97 | ppm | 99 |
| 82) Octadecane | 7.316 | 57 | 244124 | 45.92 | ppm | 94 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129370.D
Acq On : 7 May 2019 2:40 pm
Operator : christc2
Sample : op20110-bs
Misc : op20110,ep5856,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 07 15:07:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue May 07 15:06:19 2019
Response via : Initial Calibration

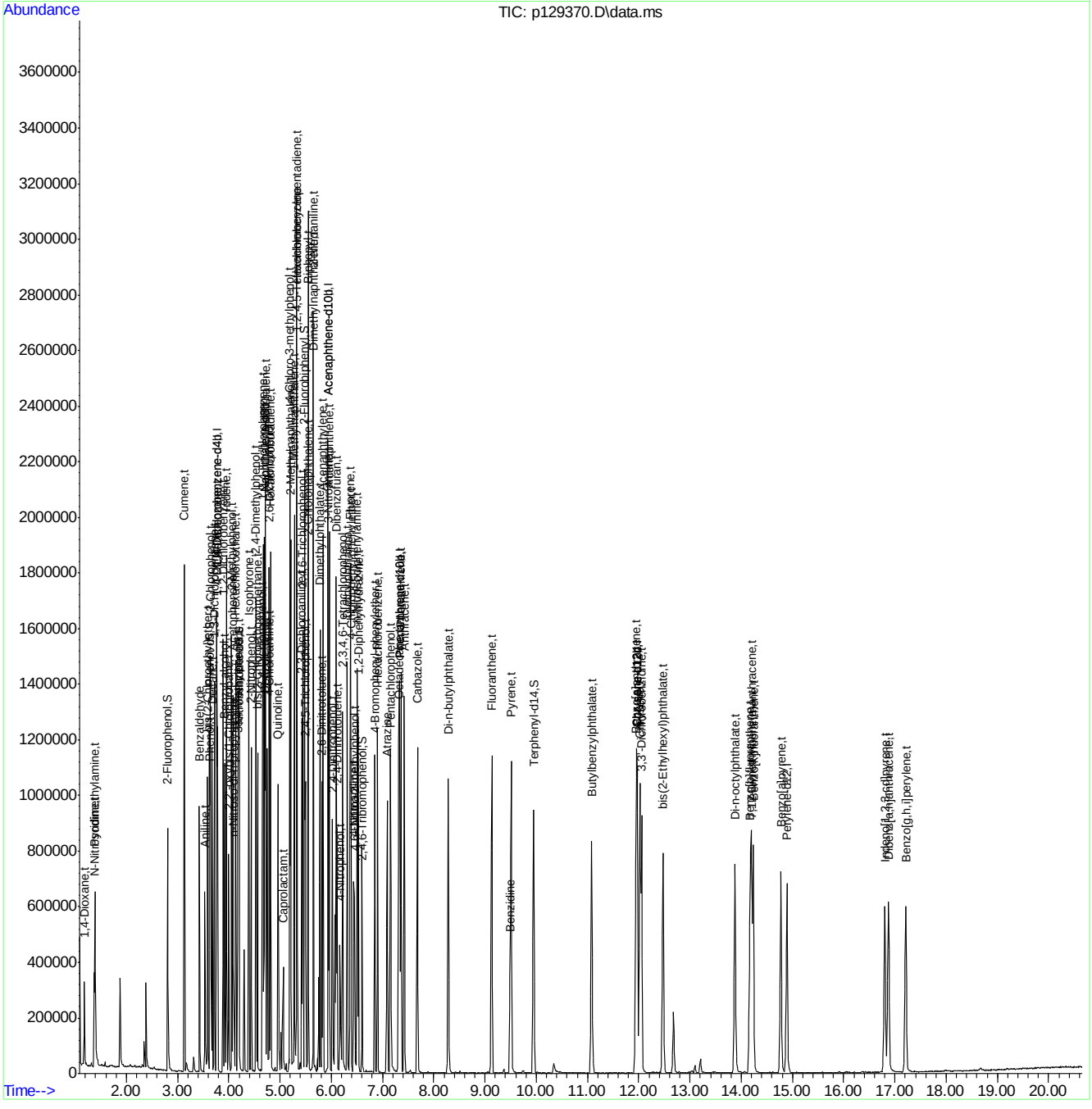
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 84) Pyrene | 9.512 | 202 | 686966 | 40.30 ppm | 98 |
| 86) Butylbenzylphthalate | 11.082 | 149 | 360258 | 41.09 ppm | 96 |
| 87) Benzo[a]anthracene | 11.953 | 228 | 605252 | 37.30 ppm | 100 |
| 88) 3,3'-Dichlorobenzidine | 12.055 | 252 | 333212 | 62.44 ppm | 98 |
| 89) Chrysene | 12.023 | 228 | 547572 | 38.31 ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 12.471 | 149 | 485225 | 41.38 ppm | 98 |
| 92) Di-n-octylphthalate | 13.876 | 149 | 821855 | 46.88 ppm | 99 |
| 93) Benzo[b]fluoranthene | 14.175 | 252 | 564395 | 40.83 ppm | 97 |
| 94) Benzo[k]fluoranthene | 14.240 | 252 | 511499 | 43.98 ppm | 99 |
| 95) Benzo[a]pyrene | 14.779 | 252 | 502211 | 42.96 ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 16.804 | 276 | 457918 | 42.85 ppm | 87 |
| 98) Dibenz[a,h]anthracene | 16.879 | 278 | 445601 | 40.90 ppm | 98 |
| 99) 7,12-Dimethylbenz(a)an... | 14.202 | 256 | 235150 | 37.73 ppm | 98 |
| 100) Benzo[g,h,i]perylene | 17.215 | 276 | 474099 | 44.01 ppm | 95 |
| 102) Benzaldehyde | 3.427 | 105 | 154078 | 35.94 ppm | 97 |
| 104) Atrazine | 7.092 | 200 | 124918 | 44.56 ppm | 98 |
| 106) Benzidine | 9.485 | 184 | 148268 | 14.49 ppm | 99 |
| 110) 1,2,4,5-Tetrachloroben... | 5.334 | 216 | 197578 | 45.15 ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129370.D
Acq On : 7 May 2019 2:40 pm
Operator : christc2
Sample : op20110-bs
Misc : op20110,ep5856,30.0,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 07 15:07:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Tue May 07 15:06:19 2019
Response via : Initial Calibration



Manual Integrations
APPROVED
(compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481567.d
Acq On : 2 May 2019 5:03 pm
Operator : angelar
Sample : op20081-ms Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 06:02:32 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 523677 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.113 | 136 | 1942384 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.760 | 164 | 1198106 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.419 | 188 | 2163142 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.564 | 240 | 1929485 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.157 | 264 | 1782081 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 523677 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.760 | 164 | 1198106 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.419 | 188 | 2163142 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.564 | 240 | 1929485 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.113 | 136 | 1942384 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.419 | 188 | 2163142 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.564 | 240 | 1929485 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 587825 | 38.37 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 76.74% | | | |
| 8) Phenol-d5 | 3.920 | 99 | 736367 | 39.37 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 78.74% | | | |
| 25) Nitrobenzene-d5 | 4.557 | 82 | 659890 | 40.82 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 81.64% | | | |
| 51) 2-Fluorobiphenyl | 6.087 | 172 | 1432861 | 33.85 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 67.70% | | | |
| 73) 2,4,6-Tribromophenol | 7.632 | 330 | 254629 | 36.58 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 73.16% | | | |
| 85) Terphenyl-d14 | 10.339 | 244 | 1673515 | 37.23 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 74.46% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.567 | 88 | 156911 | 22.76 | ppm | 99 |
| 3) Pyridine | 1.861 | 79 | 476776 | 30.40 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 1.834 | 74 | 194811 | 21.31 | ppm | 95 |
| 6) Indene | 4.332 | 116 | 1120268 | 39.45 | ppm | 99 |
| 7) Cumene | 3.535 | 105 | 1315048 | 32.33 | ppm | 99 |
| 9) Phenol | 3.931 | 94 | 617246 | 27.04 | ppm | 96 |
| 10) Aniline | 3.904 | 93 | 714830 | 35.09 | ppm | 93 |
| 11) bis(2-Chloroethyl)ether | 3.963 | 93 | 462773 | 29.26 | ppm | 96 |
| 12) 2-Chlorophenol | 4.001 | 128 | 538956 | 29.77 | ppm | 99 |
| 13) Decane | 4.043 | 43 | 419393 | 30.18 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.102 | 146 | 562638 | 27.26 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.156 | 146 | 593831 | 28.11 | ppm | 98 |
| 16) Benzyl alcohol | 4.268 | 108 | 428856 | 43.61 | ppm | 96 |
| 17) 1,2-Dichlorobenzene | 4.268 | 146 | 551112 | 28.40 | ppm | 98 |
| 18) Acetophenone | 4.450 | 105 | 856350 | 35.19 | ppm | 98 |
| 19) 2-Methylphenol | 4.370 | 108 | 487231 | 31.71 | ppm | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.359 | 121 | 186831 | 33.12 | ppm | 98 |
| 21) 3&4-Methylphenol | 4.482 | 108 | 645919 | 39.97 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.461 | 70 | 338187 | 31.06 | ppm | 96 |
| 23) Hexachloroethane | 4.509 | 201 | 178827 | 24.26 | ppm | 87 |
| 26) Nitrobenzene | 4.573 | 77 | 504449 | 30.67 | ppm | 98 |
| 27) Quinoline | 5.418 | 129 | 1452850 | 41.23 | ppm | 99 |
| 28) Isophorone | 4.755 | 82 | 915912 | 32.59 | ppm | 99 |
| 29) 2-Nitrophenol | 4.819 | 139 | 291505 | 30.31 | ppm # | 56 |
| 30) 2,4-Dimethylphenol | 4.872 | 107 | 570825 | 38.89 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481567.d
Acq On : 2 May 2019 5:03 pm
Operator : angelar
Sample : op20081-ms Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 06:02:32 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 31) Benzoic acid | 4.985 | 105 | 125350m | 8.45 | ppm | | |
| 32) bis(2-Chloroethoxy)met... | 4.931 | 93 | 558823 | 31.64 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.022 | 162 | 485624 | 33.47 | ppm | | 96 |
| 34) 2,6-Dichlorophenol | 5.199 | 162 | 451339 | 31.40 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.070 | 180 | 468450 | 28.20 | ppm | | 100 |
| 38) Naphthalene | 5.129 | 128 | 2016546 | 39.86 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.193 | 127 | 516233 | 25.34 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.006 | 161 | 643404 | 34.94 | ppm | | 98 |
| 41) Caprolactam | 5.504 | 55 | 226211 | 36.43 | ppm | | 97 |
| 42) Hexachlorobutadiene | 5.236 | 225 | 279910 | 29.61 | ppm | | 97 |
| 43) 4-Chloro-3-methylphenol | 5.643 | 107 | 493442 | 33.13 | ppm | # | 49 |
| 44) 2-Methylnaphthalene | 5.734 | 141 | 1213973 | 42.43 | ppm | | 98 |
| 45) 1-Methylnaphthalene | 5.824 | 141 | 1189479 | 37.21 | ppm | | 99 |
| 46) Dimethylnaphthalene | 6.338 | 156 | 1221380 | 35.91 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 5.883 | 237 | 224850 | 33.06 | ppm | | 98 |
| 49) 2,4,6-Trichlorophenol | 6.022 | 196 | 317591 | 28.42 | ppm | | 100 |
| 50) 2,4,5-Trichlorophenol | 6.071 | 196 | 321183 | 27.02 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.199 | 162 | 1039278 | 29.41 | ppm | | 99 |
| 53) Biphenyl | 6.183 | 154 | 1783876 | 38.92 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.322 | 65 | 382857 | 41.69 | ppm | | 96 |
| 55) Dimethylphthalate | 6.514 | 163 | 1158260 | 28.22 | ppm | | 99 |
| 56) Acenaphthylene | 6.611 | 152 | 1863295 | 34.17 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.573 | 165 | 280683 | 30.25 | ppm | | 90 |
| 58) 3-Nitroaniline | 6.750 | 138 | 311335 | 30.85 | ppm | | 87 |
| 59) Acenaphthene | 6.798 | 153 | 1217083 | 33.62 | ppm | | 97 |
| 60) 2,4-Dinitrophenol | 6.889 | 184 | 107465 | 20.46 | ppm | # | 65 |
| 61) 4-Nitrophenol | 7.001 | 109 | 188649 | 36.48 | ppm | | 93 |
| 62) Dibenzofuran | 6.985 | 168 | 2072575 | 41.12 | ppm | | 98 |
| 63) 2,4-Dinitrotoluene | 7.012 | 165 | 405519 | 31.46 | ppm | | 87 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.146 | 232 | 243642 | 25.04 | ppm | | 95 |
| 65) Diethylphthalate | 7.279 | 149 | 1372682 | 33.93 | ppm | | 99 |
| 66) Fluorene | 7.360 | 166 | 1431642 | 34.99 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.376 | 204 | 592689 | 28.57 | ppm | | 95 |
| 68) 4-Nitroaniline | 7.424 | 138 | 414023 | 38.75 | ppm | | 98 |
| 70) 4,6-Dinitro-2-methylph... | 7.477 | 198 | 58723 | 7.03 | ppm | | 84 |
| 71) n-Nitrosodiphenylamine | 7.515 | 169 | 979196 | 32.77 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.552 | 77 | 1377377 | 40.71 | ppm | | 99 |
| 74) 4-Bromophenyl-phenylether | 7.921 | 248 | 340700 | 29.31 | ppm | | 97 |
| 75) Hexachlorobenzene | 7.991 | 284 | 382648 | 28.02 | ppm | | 89 |
| 76) Pentachlorophenol | 8.237 | 266 | 191114 | 24.04 | ppm | | 96 |
| 77) Phenanthrene | 8.445 | 178 | 2088966 | 35.97 | ppm | | 99 |
| 78) Anthracene | 8.504 | 178 | 1972395 | 33.86 | ppm | | 99 |
| 79) Carbazole | 8.718 | 167 | 2261459 | 41.02 | ppm | | 99 |
| 80) Di-n-butylphthalate | 9.189 | 149 | 2245042 | 34.86 | ppm | | 99 |
| 81) Fluoranthene | 9.852 | 202 | 2246610 | 35.60 | ppm | | 99 |
| 82) Octadecane | 8.386 | 57 | 914681 | 47.00 | ppm | | 98 |
| 84) Pyrene | 10.109 | 202 | 2338967 | 36.39 | ppm | | 99 |
| 86) Butylbenzylphthalate | 10.965 | 149 | 978617 | 35.32 | ppm | | 99 |
| 87) Benzo[a]anthracene | 11.553 | 228 | 1900144 | 30.92 | ppm | | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.558 | 252 | 1299374 | 56.28 | ppm | | 99 |
| 89) Chrysene | 11.596 | 228 | 1726186 | 28.64 | ppm | | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.687 | 149 | 1352883 | 35.32 | ppm | | 96 |
| 92) Di-n-octylphthalate | 12.425 | 149 | 2288734 | 43.11 | ppm | | 99 |
| 93) Benzo[b]fluoranthene | 12.772 | 252 | 1924430m | 35.36 | ppm | | |
| 94) Benzo[k]fluoranthene | 12.794 | 252 | 1533523 | 31.83 | ppm | | 97 |
| 95) Benzo[a]pyrene | 13.099 | 252 | 1584396 | 35.43 | ppm | | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 14.168 | 276 | 1933376 | 32.38 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481567.d
Acq On : 2 May 2019 5:03 pm
Operator : angelar
Sample : op20081-ms Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 06:02:32 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 98) | Dibenz[a,h]anthracene | 14.179 | 278 | 1600631 | 30.25 | ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.756 | 256 | 809362 | 32.57 | ppm | 100 |
| 100) | Benzo[g,h,i]perylene | 14.414 | 276 | 1548124 | 33.25 | ppm | 99 |
| 102) | Benzaldehyde | 3.819 | 105 | 409798 | 31.53 | ppm | 97 |
| 104) | 1,2,4,5-Tetrachloroben... | 5.894 | 216 | 457221 | 28.59 | ppm | 98 |
| 108) | Atrazine | 8.167 | 215 | 219197 | 34.80 | ppm | 95 |
| 110) | benzidine | 10.045 | 184 | 841128 | 21.18 | ppm | 99 |
| 114) | Pentachloronitrobenzene | 8.247 | 295 | 87028 | 32.87 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

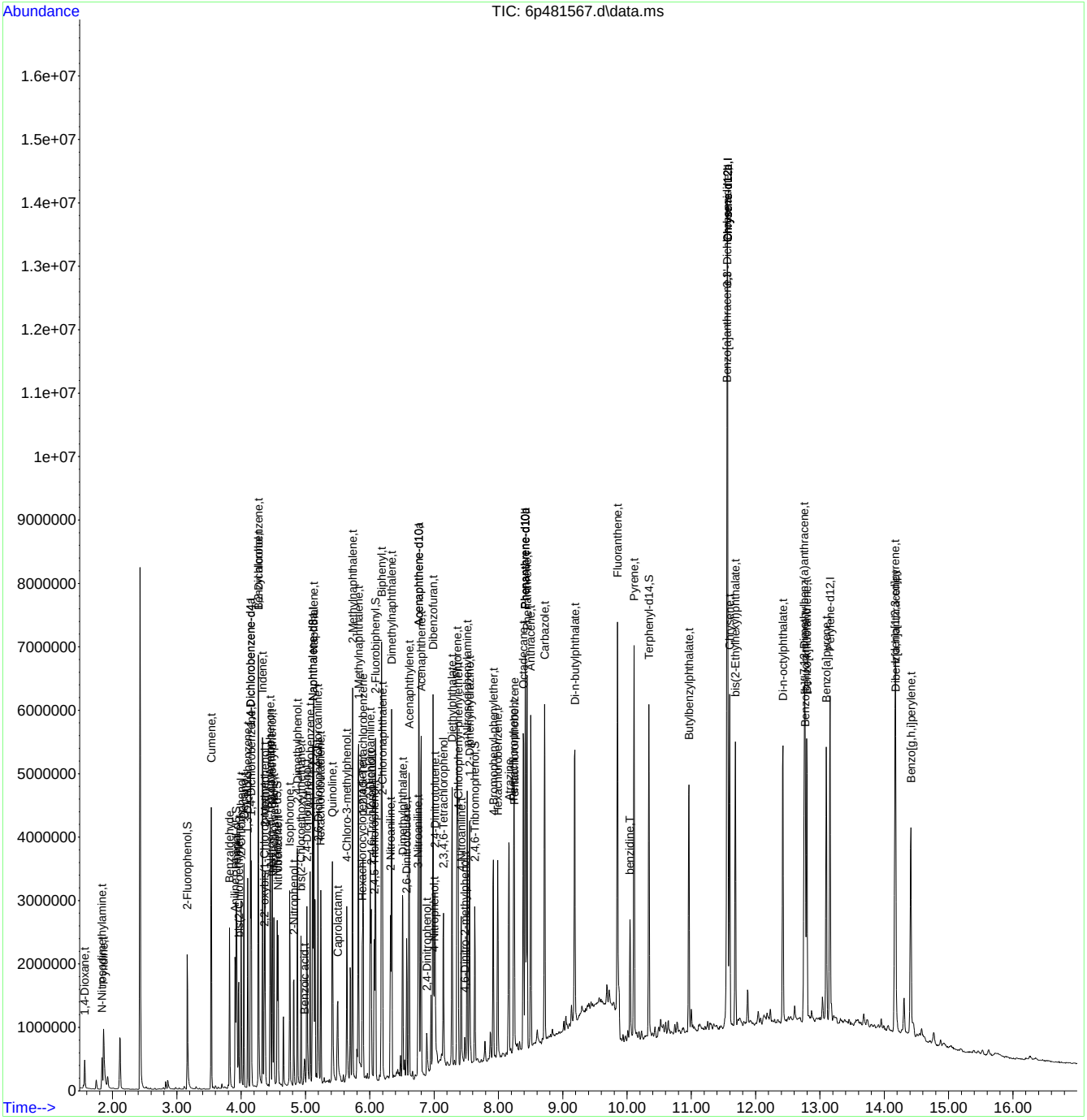
9.4.1

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481567.d
Acq On : 2 May 2019 5:03 pm
Operator : angelar
Sample : op20081-ms Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 06:02:32 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



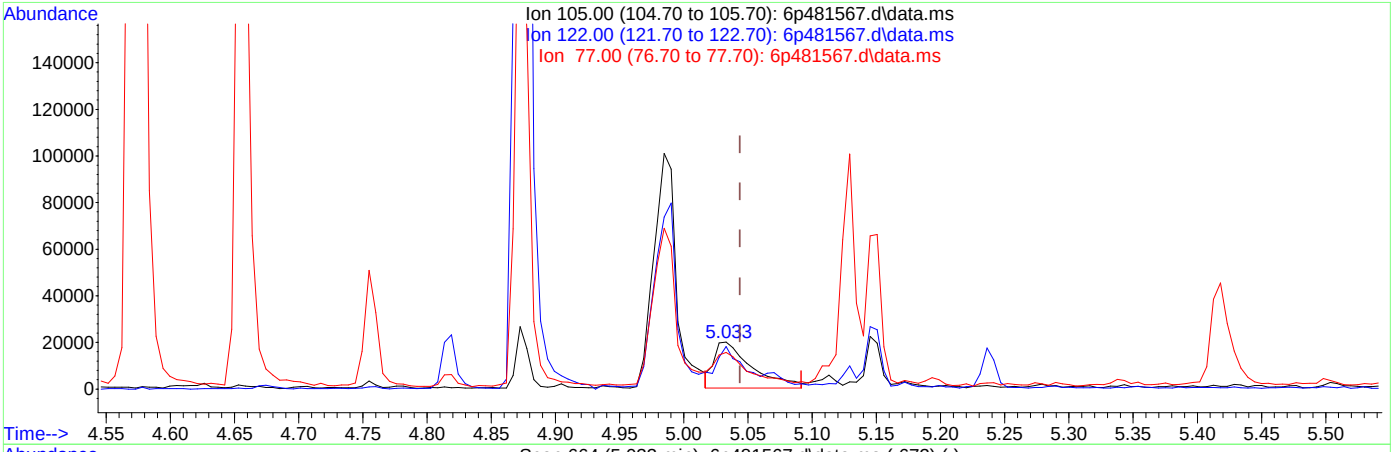
| | | | |
|---|---|---|---|
| **Sample Number:** | OP20081-MS | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481567.D | **Analyst approved:** | 05/03/19 07:17 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 17:03 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

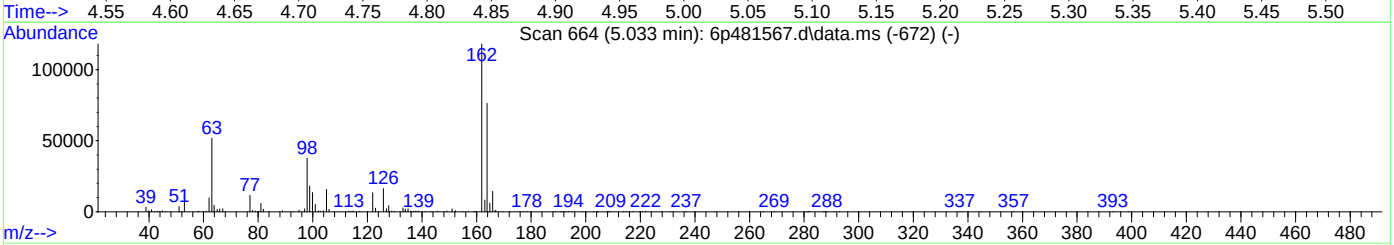
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzoic acid | 65-85-0 | | 4.98 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.77 | Poor instrument integration |

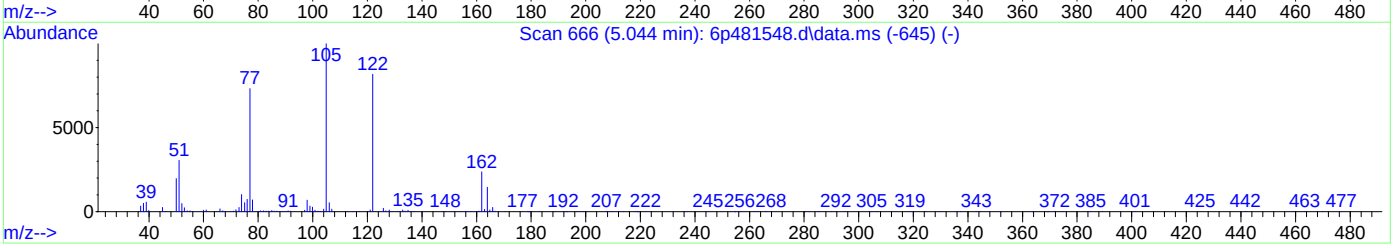
# Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481567.d
Acq On    :  2 May 2019   5:03 pm
Operator  : angelar
Sample    : op20081-ms                                Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 21   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:26 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481567.d\data.ms

(31) Benzoic acid (t)

5.033min (-0.011) 2.73ppm

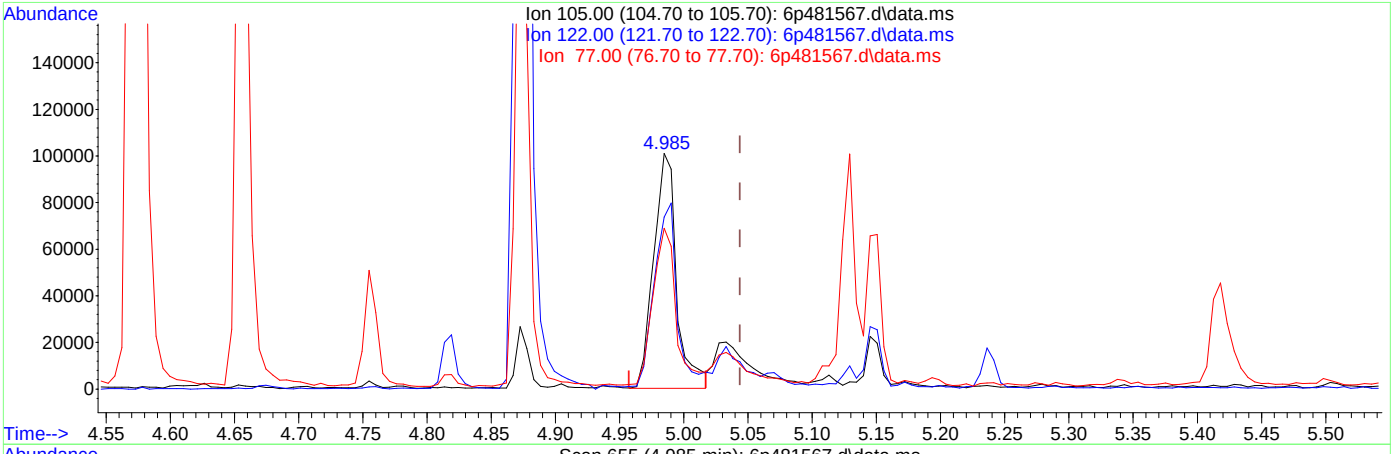
response 40446

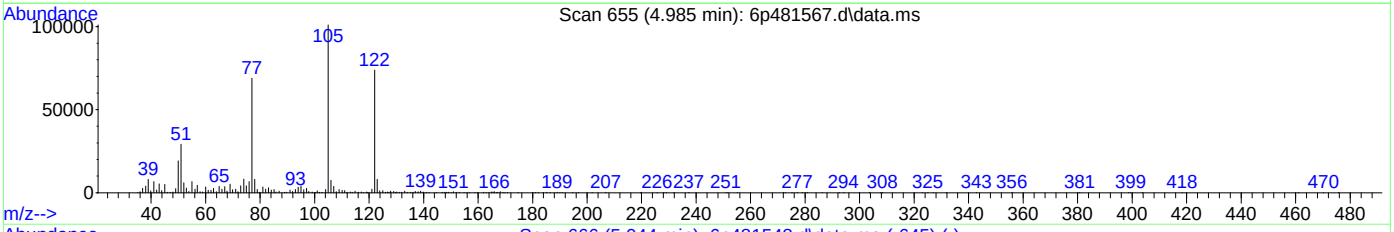
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 82.00 | 86.27 |
| 77.00 | 72.70 | 66.87 |
| 0.00 | 0.00 | 0.00 |

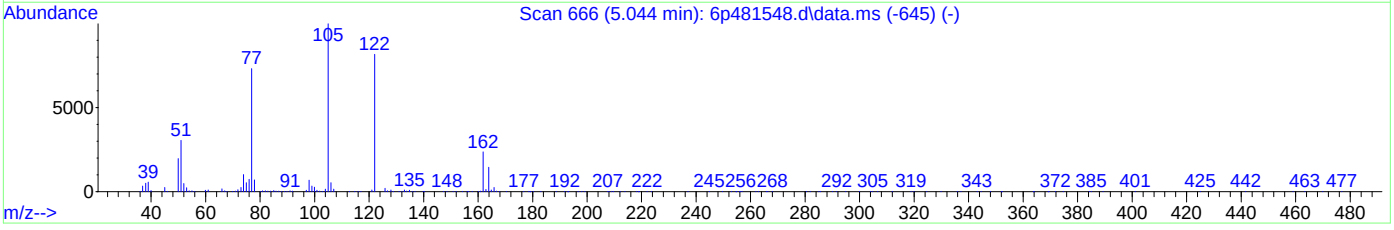
# Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481567.d
Acq On    :  2 May 2019   5:03 pm
Operator  : angelar
Sample    : op20081-ms                                  Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 21   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:26 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481567.d\data.ms

(31) Benzoic acid (t)

4.985min (-0.059) 8.45ppm m

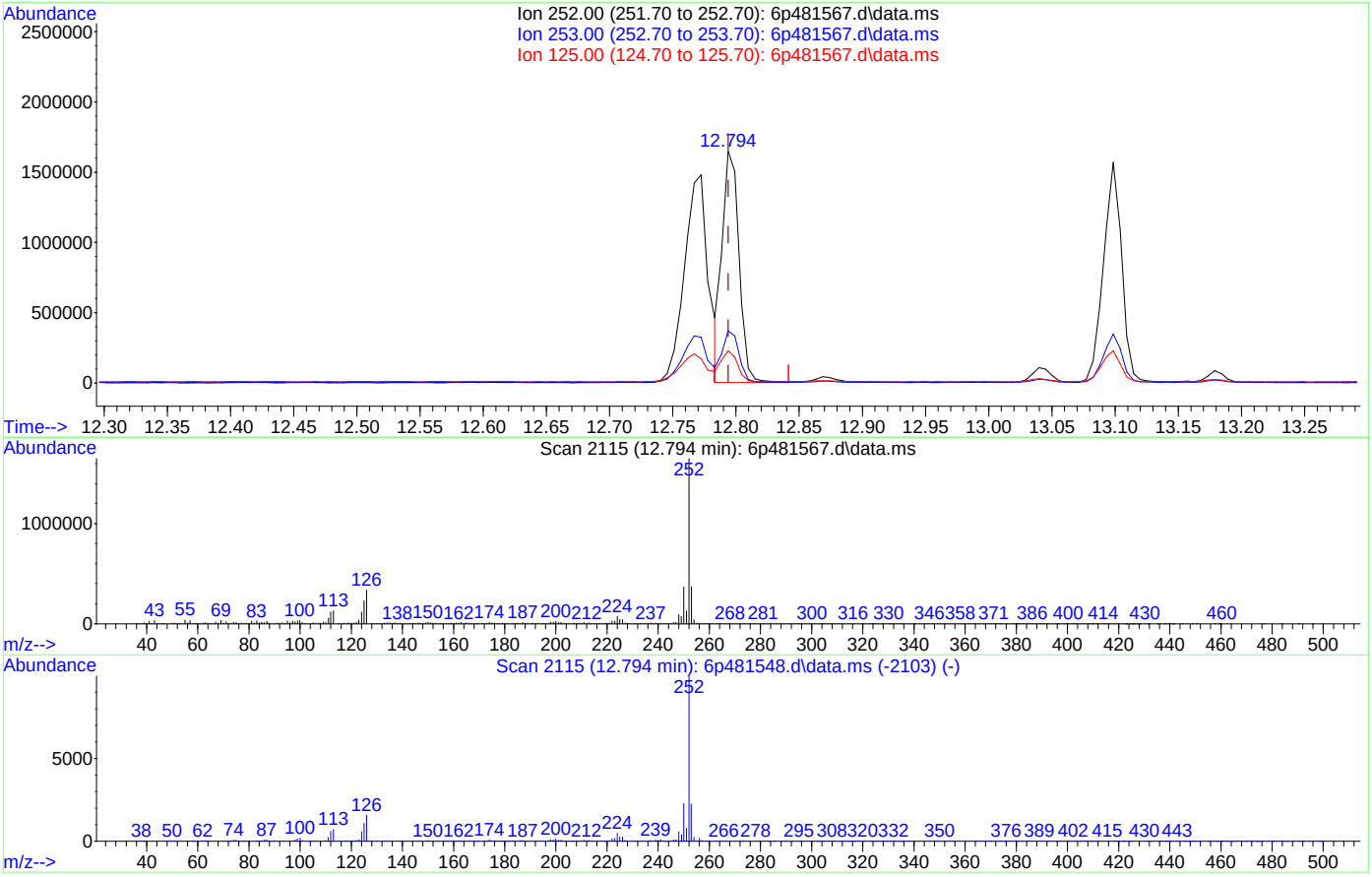
response 125350

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 82.00 | 72.97 |
| 77.00 | 72.70 | 68.21 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481567.d
Acq On    :  2 May 2019   5:03 pm
Operator  : angelar
Sample    : op20081-ms                                Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 21   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:26 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481567.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.794min (-0.000) 28.15ppm

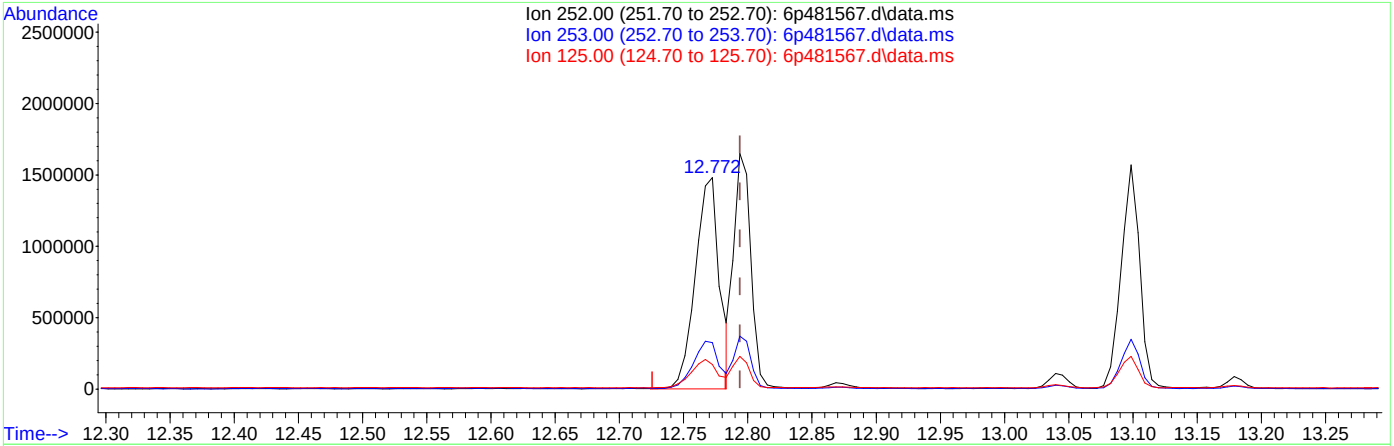
response 1532136

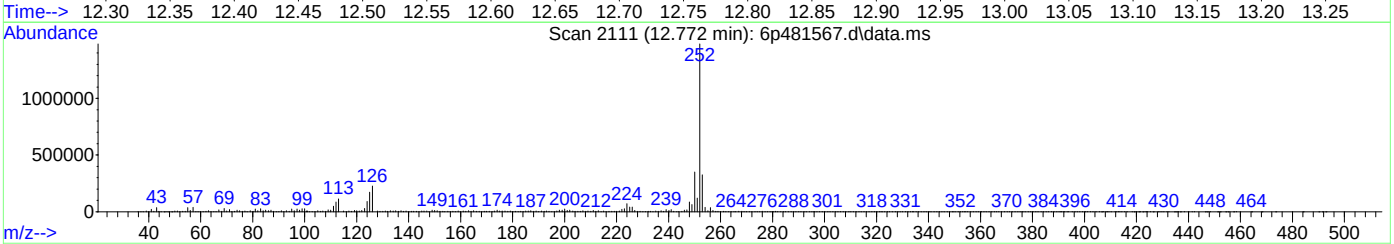
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 22.10 |
| 125.00 | 9.90 | 12.92 |
| 0.00 | 0.00 | 0.00 |

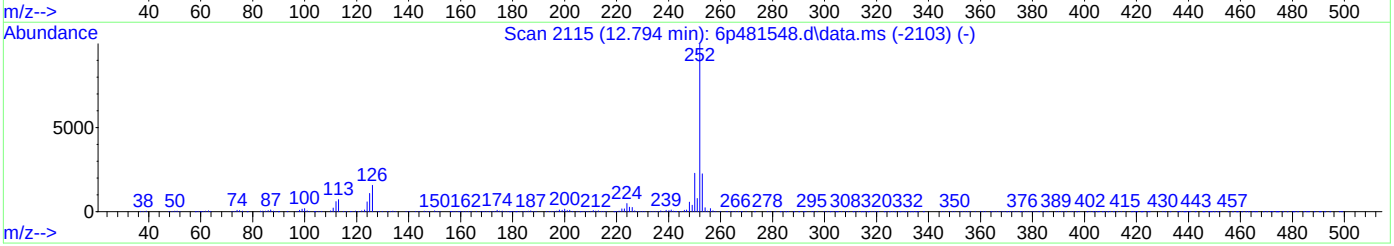
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481567.d
Acq On    :  2 May 2019   5:03 pm
Operator  : angelar
Sample    : op20081-ms                                Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 21   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:26 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481567.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.772min (-0.021) 35.36ppm m

response 1924430

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 22.00 |
| 125.00 | 9.90 | 11.58 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On : 2 May 2019 5:28 pm
Operator : angelar
Sample : op20081-msd Inst : MS6P
Misc : op20081,e6p2579,30.2,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 06:06:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 532384 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.113 | 136 | 1965476 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.761 | 164 | 1201866 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.419 | 188 | 2266032 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.569 | 240 | 2039317 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.158 | 264 | 1876067 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 532384 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.761 | 164 | 1201866 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.419 | 188 | 2266032 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.569 | 240 | 2039317 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.113 | 136 | 1965476 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.419 | 188 | 2266032 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.569 | 240 | 2039317 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 652105 | 41.87 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 83.74% | | | |
| 8) Phenol-d5 | 3.926 | 99 | 782174 | 41.13 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 82.26% | | | |
| 25) Nitrobenzene-d5 | 4.562 | 82 | 686414 | 41.96 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 83.92% | | | |
| 51) 2-Fluorobiphenyl | 6.092 | 172 | 1547144 | 36.44 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 72.88% | | | |
| 73) 2,4,6-Tribromophenol | 7.638 | 330 | 278668 | 38.22 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 76.44% | | | |
| 85) Terphenyl-d14 | 10.344 | 244 | 1848244 | 38.90 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 77.80% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0d | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.567 | 88 | 177646 | 25.35 | ppm | 98 |
| 3) Pyridine | 1.861 | 79 | 544139 | 34.13 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 1.834 | 74 | 210938 | 22.70 | ppm | 99 |
| 6) Indene | 4.332 | 116 | 1202622 | 41.66 | ppm | 100 |
| 7) Cumene | 3.535 | 105 | 1442325 | 34.88 | ppm | 99 |
| 9) Phenol | 3.931 | 94 | 651376 | 28.07 | ppm | 98 |
| 10) Aniline | 3.910 | 93 | 812095 | 39.21 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 3.963 | 93 | 470077 | 29.23 | ppm | 96 |
| 12) 2-Chlorophenol | 4.001 | 128 | 565020 | 30.70 | ppm | 98 |
| 13) Decane | 4.043 | 43 | 456406 | 32.30 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.102 | 146 | 567152 | 27.03 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.156 | 146 | 596642 | 27.78 | ppm | 99 |
| 16) Benzyl alcohol | 4.268 | 108 | 461660 | 46.18 | ppm | 95 |
| 17) 1,2-Dichlorobenzene | 4.268 | 146 | 550935 | 27.93 | ppm | 98 |
| 18) Acetophenone | 4.450 | 105 | 934343 | 37.76 | ppm | 97 |
| 19) 2-Methylphenol | 4.370 | 108 | 507311 | 32.47 | ppm | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.359 | 121 | 190997 | 33.31 | ppm | 98 |
| 21) 3&4-Methylphenol | 4.482 | 108 | 665744 | 40.53 | ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.461 | 70 | 338440 | 30.58 | ppm | 98 |
| 23) Hexachloroethane | 4.509 | 201 | 178443 | 23.81 | ppm | 88 |
| 26) Nitrobenzene | 4.573 | 77 | 506011 | 30.40 | ppm | 98 |
| 27) Quinoline | 5.418 | 129 | 1426196 | 39.99 | ppm | 100 |
| 28) Isophorone | 4.755 | 82 | 934834 | 32.87 | ppm | 99 |
| 29) 2-Nitrophenol | 4.819 | 139 | 311222 | 31.98 | ppm # | 55 |
| 30) 2,4-Dimethylphenol | 4.872 | 107 | 587664 | 39.56 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On : 2 May 2019 5:28 pm
Operator : angelar
Sample : op20081-msd Inst : MS6P
Misc : op20081,e6p2579,30.2,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 06:06:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 31) Benzoic acid | 4.995 | 105 | 184561m | 12.30 | ppm | |
| 32) bis(2-Chloroethoxy)met... | 4.931 | 93 | 568849 | 31.83 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.022 | 162 | 508234 | 34.61 | ppm | 96 |
| 34) 2,6-Dichlorophenol | 5.199 | 162 | 478888 | 32.93 | ppm | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.070 | 180 | 482529 | 28.71 | ppm | 98 |
| 38) Naphthalene | 5.129 | 128 | 2124164 | 41.50 | ppm | 99 |
| 39) 4-Chloroaniline | 5.193 | 127 | 621525 | 30.15 | ppm | 98 |
| 40) 2,3-Dichloroaniline | 6.006 | 161 | 751319 | 40.33 | ppm | 99 |
| 41) Caprolactam | 5.504 | 55 | 244193 | 38.86 | ppm | 96 |
| 42) Hexachlorobutadiene | 5.242 | 225 | 275771 | 28.83 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 5.643 | 107 | 513176m | 34.05 | ppm | |
| 44) 2-Methylnaphthalene | 5.734 | 141 | 1307636 | 45.16 | ppm | 98 |
| 45) 1-Methylnaphthalene | 5.825 | 141 | 1268643 | 39.22 | ppm | 99 |
| 46) Dimethylnaphthalene | 6.338 | 156 | 1311103 | 38.10 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 5.883 | 237 | 199574 | 30.15 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 6.022 | 196 | 354548 | 31.62 | ppm | 98 |
| 50) 2,4,5-Trichlorophenol | 6.071 | 196 | 341014 | 28.59 | ppm | 100 |
| 52) 2-Chloronaphthalene | 6.199 | 162 | 1004767 | 28.35 | ppm | 99 |
| 53) Biphenyl | 6.183 | 154 | 1783069 | 38.78 | ppm | 99 |
| 54) 2-Nitroaniline | 6.322 | 65 | 392737 | 42.63 | ppm | 95 |
| 55) Dimethylphthalate | 6.515 | 163 | 1175084 | 28.54 | ppm | 99 |
| 56) Acenaphthylene | 6.611 | 152 | 1777714 | 32.50 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.573 | 165 | 278354 | 29.90 | ppm | 89 |
| 58) 3-Nitroaniline | 6.750 | 138 | 365156 | 36.07 | ppm | 89 |
| 59) Acenaphthene | 6.798 | 153 | 1237568 | 34.08 | ppm | 96 |
| 60) 2,4-Dinitrophenol | 6.884 | 184 | 142160 | 25.58 | ppm | 80 |
| 61) 4-Nitrophenol | 7.001 | 109 | 185525 | 35.76 | ppm | 92 |
| 62) Dibenzofuran | 6.985 | 168 | 2204437 | 43.60 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 7.017 | 165 | 412061 | 31.87 | ppm | 86 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.146 | 232 | 272581 | 27.93 | ppm | 97 |
| 65) Diethylphthalate | 7.279 | 149 | 1376964 | 33.92 | ppm | 99 |
| 66) Fluorene | 7.360 | 166 | 1486292 | 36.21 | ppm | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.376 | 204 | 620208 | 29.81 | ppm | 93 |
| 68) 4-Nitroaniline | 7.424 | 138 | 438624 | 40.92 | ppm | 98 |
| 70) 4,6-Dinitro-2-methylph... | 7.477 | 198 | 87882 | 10.04 | ppm | 85 |
| 71) n-Nitrosodiphenylamine | 7.515 | 169 | 968395 | 30.93 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 7.552 | 77 | 1273768 | 35.94 | ppm | 99 |
| 74) 4-Bromophenyl-phenylether | 7.921 | 248 | 354273 | 29.09 | ppm | 96 |
| 75) Hexachlorobenzene | 7.991 | 284 | 401934 | 28.10 | ppm | 90 |
| 76) Pentachlorophenol | 8.242 | 266 | 233390 | 27.49 | ppm | 97 |
| 77) Phenanthrene | 8.445 | 178 | 2222095 | 36.52 | ppm | 100 |
| 78) Anthracene | 8.504 | 178 | 2108006 | 34.55 | ppm | 98 |
| 79) Carbazole | 8.723 | 167 | 2492767 | 43.16 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.189 | 149 | 2419954 | 35.87 | ppm | 100 |
| 81) Fluoranthene | 9.852 | 202 | 2446899 | 37.02 | ppm | 98 |
| 82) Octadecane | 8.392 | 57 | 1007795 | 49.43 | ppm | 98 |
| 84) Pyrene | 10.114 | 202 | 2506705 | 36.90 | ppm | 99 |
| 86) Butylbenzylphthalate | 10.965 | 149 | 1031161 | 35.21 | ppm | 98 |
| 87) Benzo[a]anthracene | 11.558 | 228 | 2069274 | 31.86 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.558 | 252 | 1438799 | 58.96 | ppm | 100 |
| 89) Chrysene | 11.596 | 228 | 1827217 | 28.69 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.687 | 149 | 1452178 | 35.87 | ppm | 97 |
| 92) Di-n-octylphthalate | 12.425 | 149 | 2415739 | 43.23 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 12.772 | 252 | 1987137m | 34.68 | ppm | |
| 94) Benzo[k]fluoranthene | 12.799 | 252 | 1734853 | 34.20 | ppm | 97 |
| 95) Benzo[a]pyrene | 13.104 | 252 | 1696754 | 36.04 | ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.168 | 276 | 2121839 | 33.75 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On : 2 May 2019 5:28 pm
Operator : angelar
Sample : op20081-msd Inst : MS6P
Misc : op20081,e6p2579,30.2,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 06:06:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 98) | Dibenz[a,h]anthracene | 14.179 | 278 | 1745759 | 31.34 | ppm | 95 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.762 | 256 | 897619 | 34.16 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.414 | 276 | 1721609 | 35.12 | ppm | 99 |
| 102) | Benzaldehyde | 3.819 | 105 | 454634 | 34.41 | ppm | 99 |
| 104) | 1,2,4,5-Tetrachloroben... | 5.899 | 216 | 434003 | 27.05 | ppm | 99 |
| 108) | Atrazine | 8.167 | 215 | 237941 | 36.03 | ppm | 97 |
| 110) | benzidine | 10.050 | 184 | 777896 | 18.54 | ppm | 99 |
| 114) | Pentachloronitrobenzene | 8.247 | 295 | 99759 | 35.97 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

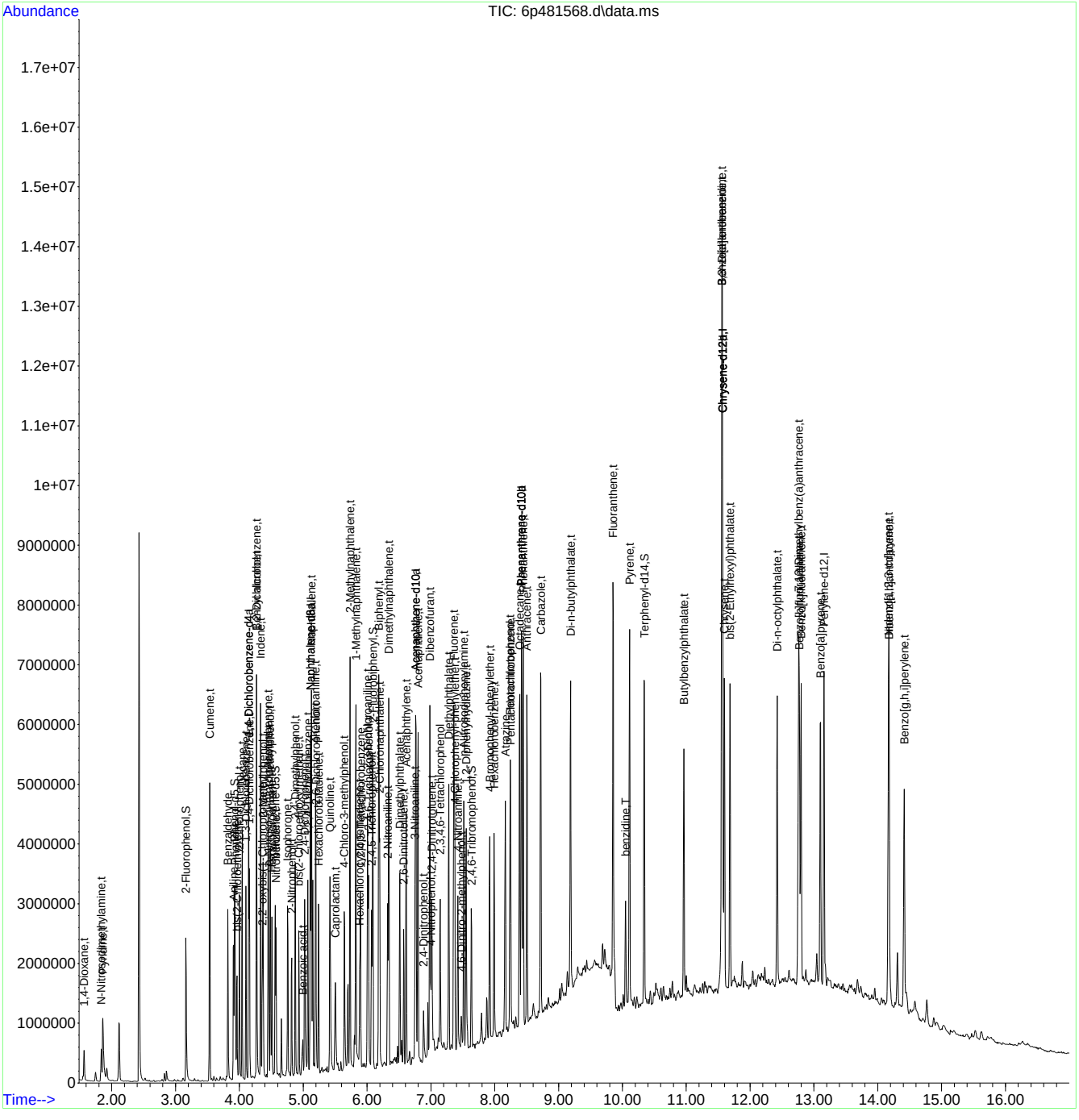
9.4.2

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On : 2 May 2019 5:28 pm
Operator : angelar
Sample : op20081-msd Inst : MS6P
Misc : op20081,e6p2579,30.2,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 06:06:34 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



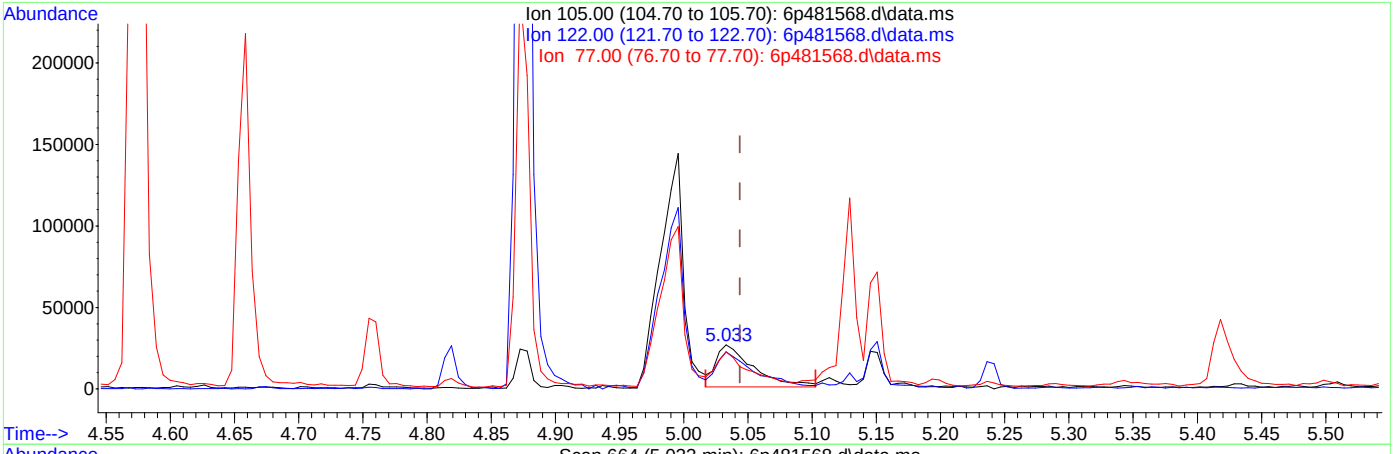
| | | | |
|---|---|---|---|
| **Sample Number:** | OP20081-MSD | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481568.D | **Analyst approved:** | 05/03/19 07:23 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 17:28 | **Supervisor approved:** | 05/03/19 16:53 Nancy Ma |

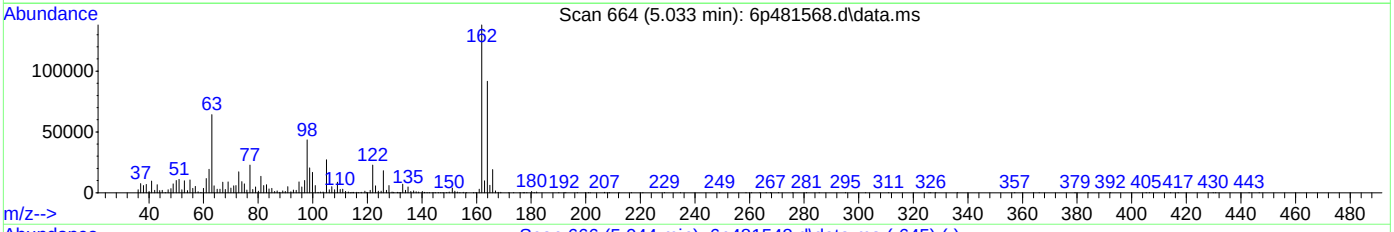
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzoic acid | 65-85-0 | | 5.00 | Poor instrument integration |
| 4-Chloro-3-methyl phenol | 59-50-7 | | 5.64 | Poor instrument integration |
| Benzo(b)fluoranthene | 205-99-2 | | 12.77 | Poor instrument integration |

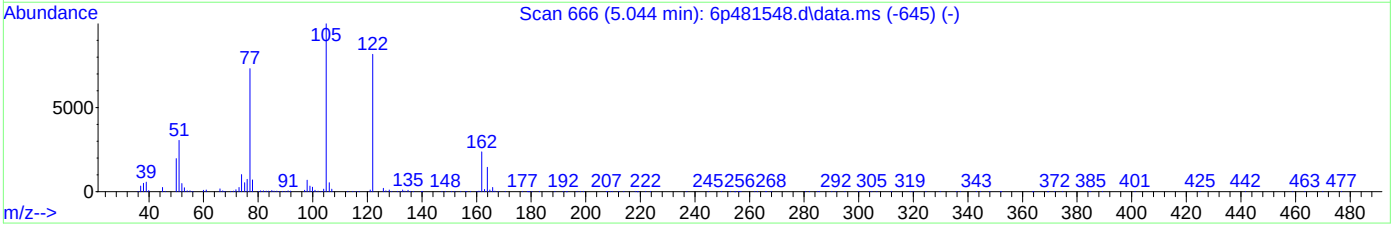
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On    :  2 May 2019   5:28 pm
Operator  : angelar
Sample    : op20081-msd                              Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 22   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:35 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481568.d\data.ms

(31) Benzoic acid (t)

5.033min (-0.011) 3.48ppm

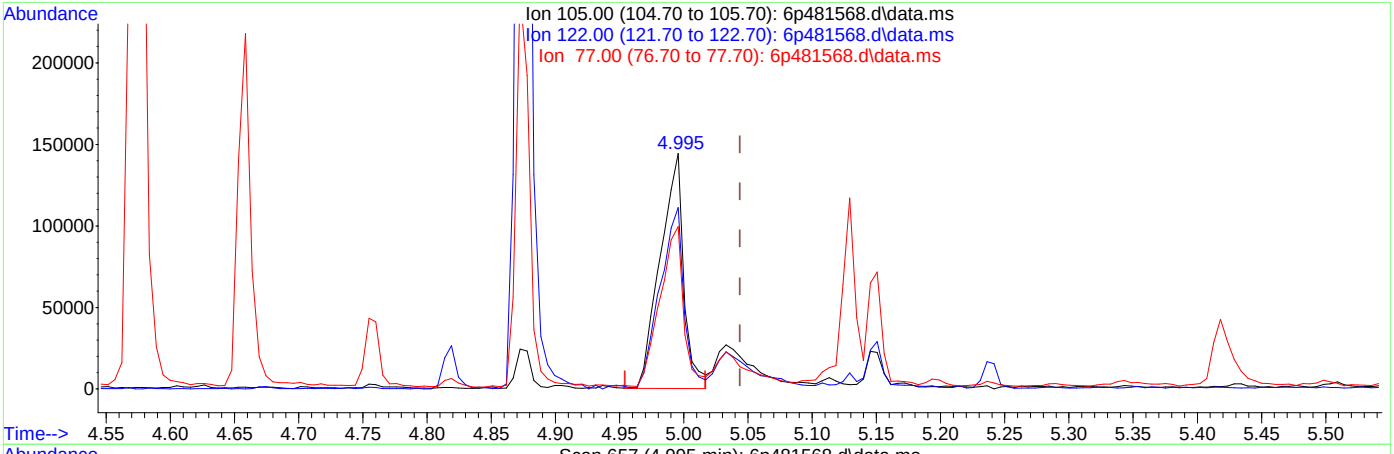
response 52223

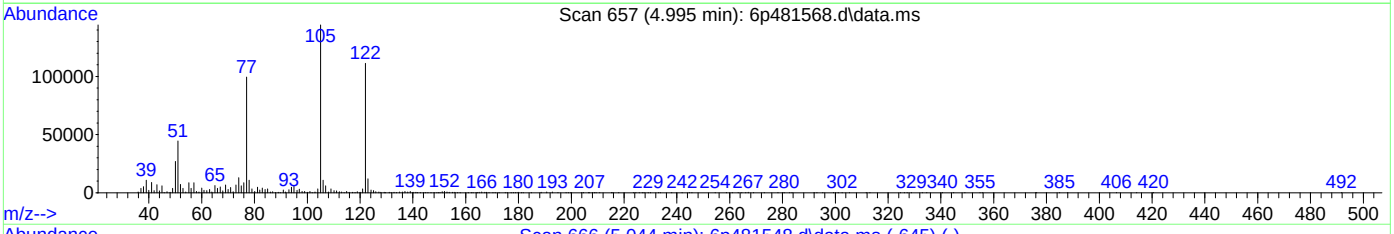
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 82.00 | 89.68 |
| 77.00 | 72.70 | 76.97 |
| 0.00 | 0.00 | 0.00 |

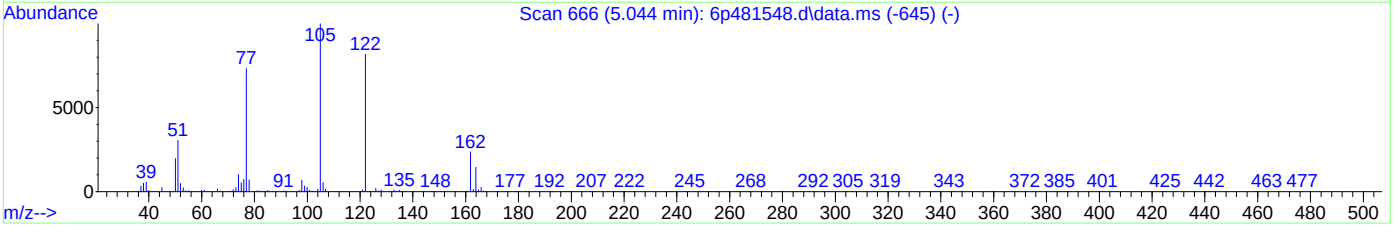
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On    :  2 May 2019   5:28 pm
Operator  : angelar
Sample    : op20081-msd                              Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 22   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:35 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481568.d\data.ms

(31) Benzoic acid (t)

4.995min (-0.048) 12.30ppm m

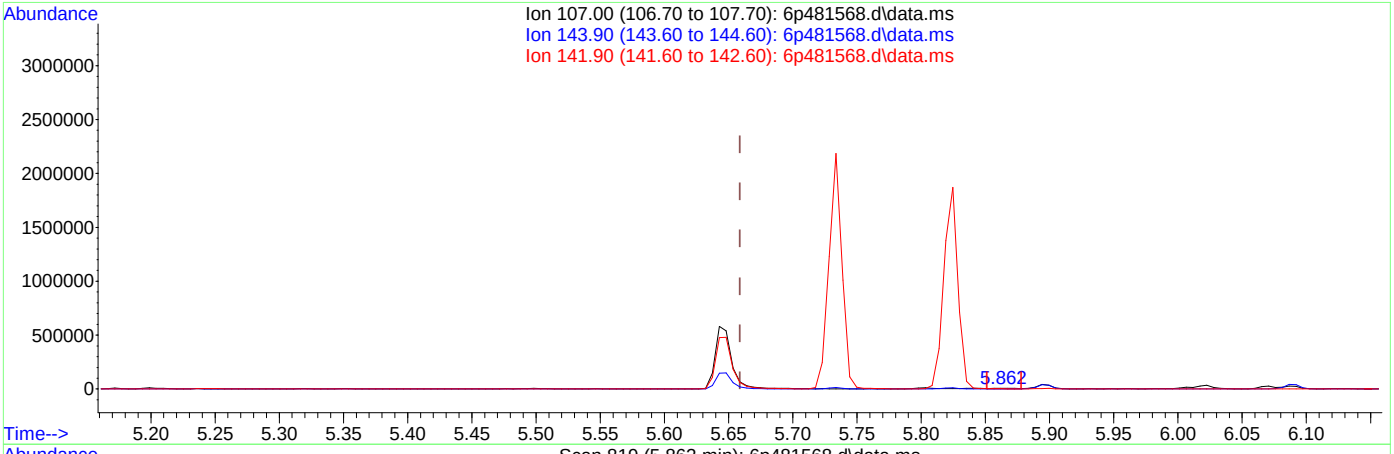
response 184561

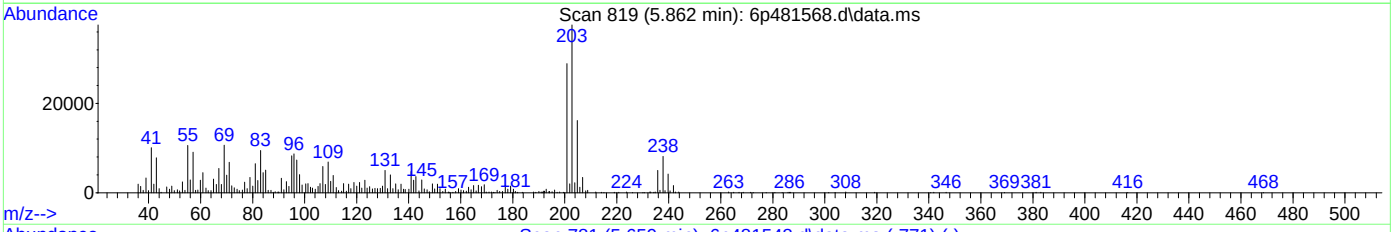
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 82.00 | 77.03 |
| 77.00 | 72.70 | 68.94 |
| 0.00 | 0.00 | 0.00 |

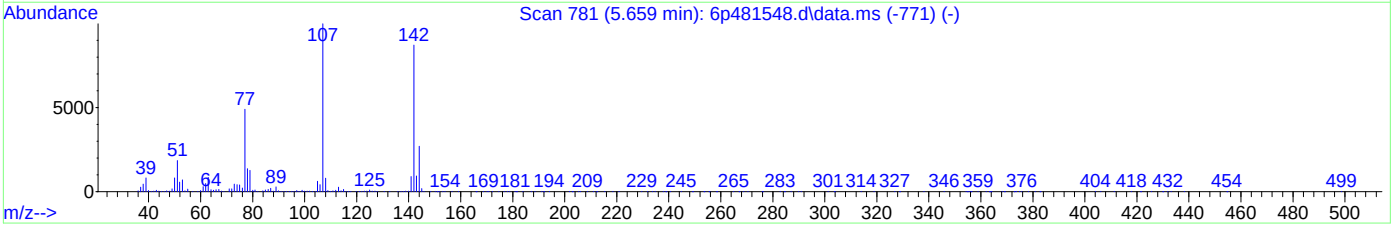
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On    :  2 May 2019   5:28 pm
Operator  : angelar
Sample    : op20081-msd                              Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 22   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:35 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481568.d\data.ms

(43) 4-Chloro-3-methylphenol (t)

5.862min (+0.203) 0.39ppm

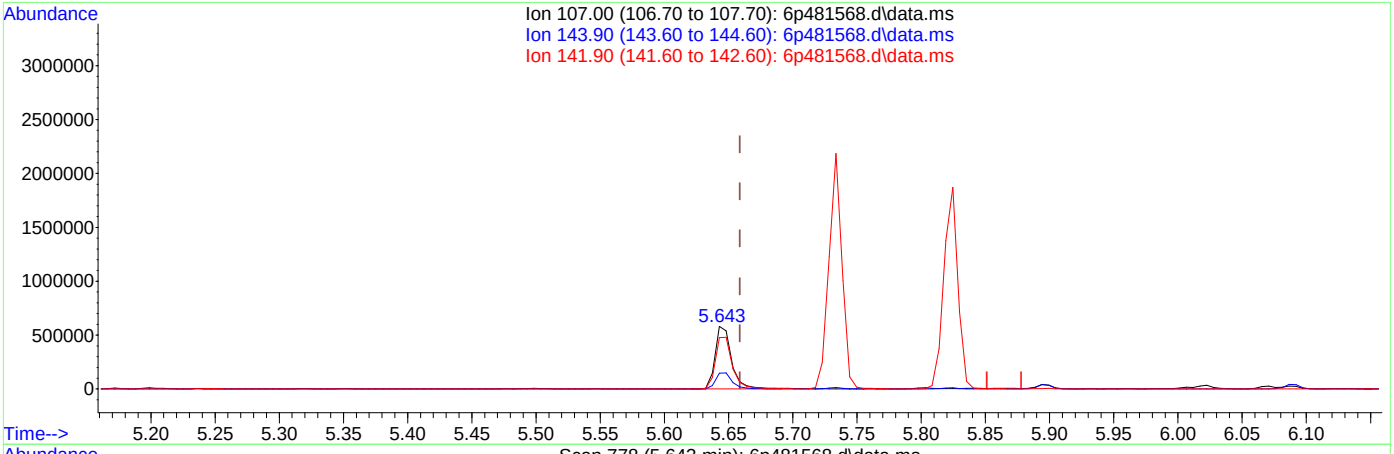
response 5856

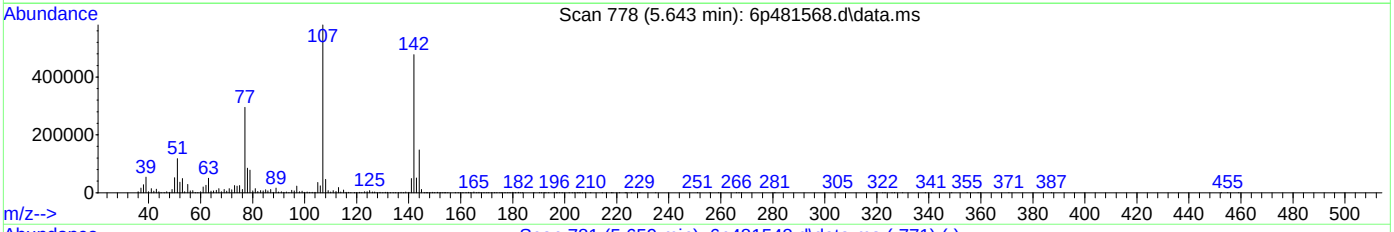
| Ion | Exp% | Act% |
|---|---|---|
| 107.00 | 100 | 100 |
| 143.90 | 26.60 | 0.00 |
| 141.90 | 30.50 | 2.50 |
| 0.00 | 0.00 | 0.00 |

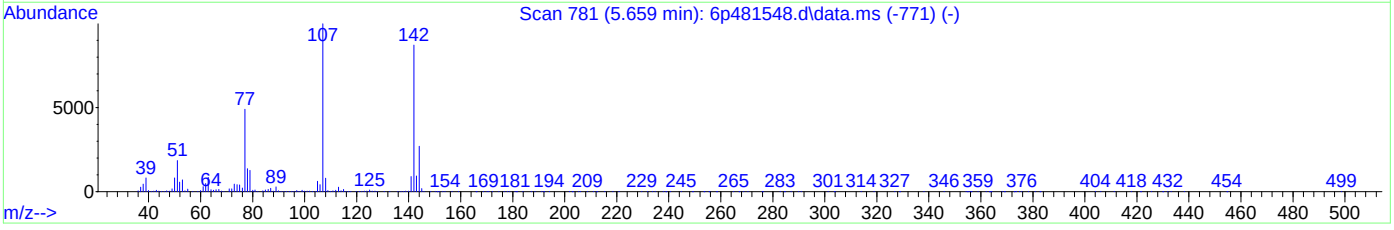
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On : 2 May 2019 5:28 pm
Operator : angelar
Sample : op20081-msd Inst : MS6P
Misc : op20081,e6p2579,30.1,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:35 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration




TIC: 6p481568.d\data.ms

(43) 4-Chloro-3-methylphenol (t)

5.643min (-0.016) 34.05ppm m

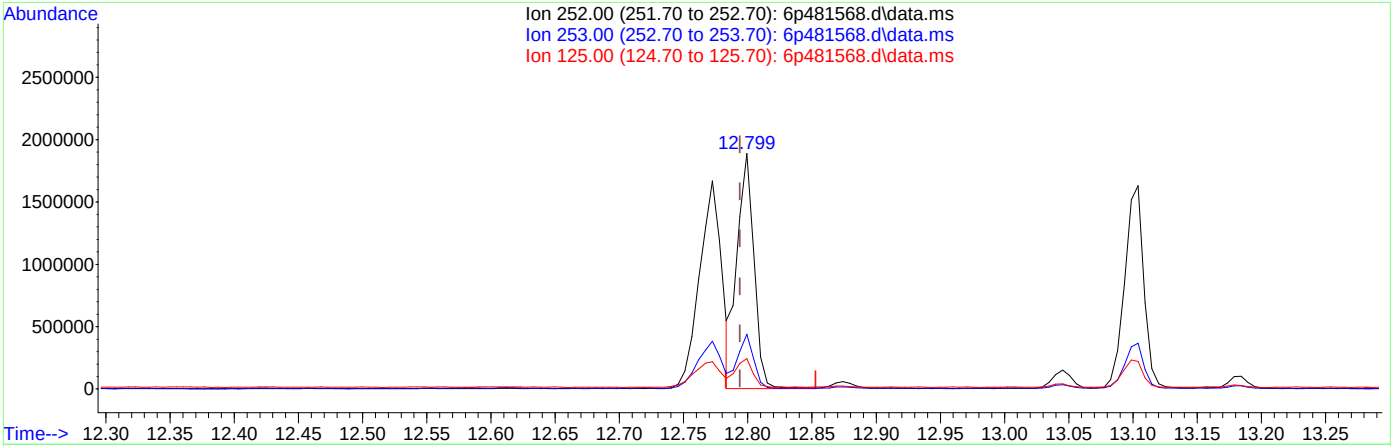
response 513176

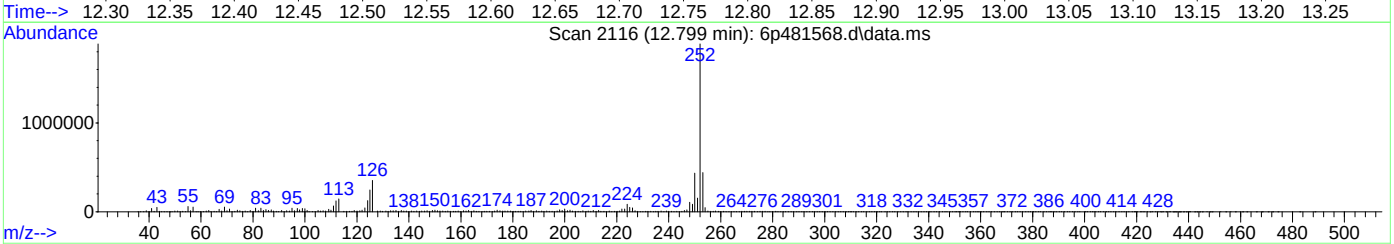
| Ion | Exp% | Act% |
|---|---|---|
| 107.00 | 100 | 100 |
| 143.90 | 26.60 | 25.40 |
| 141.90 | 30.50 | 82.20# |
| 0.00 | 0.00 | 0.00 |

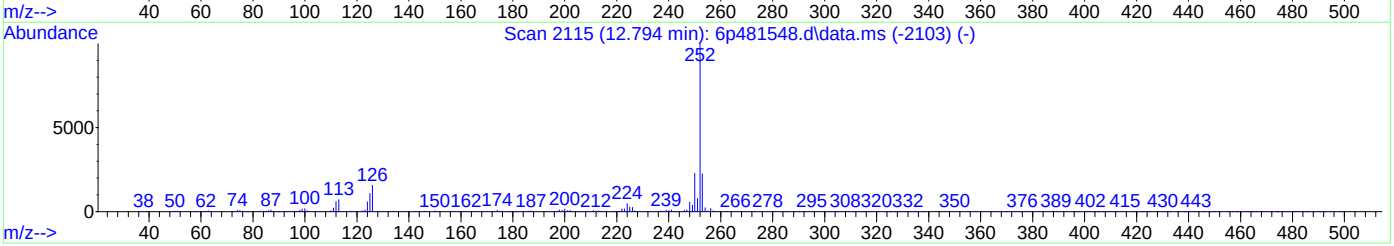
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On    :  2 May 2019   5:28 pm
Operator  : angelar
Sample    : op20081-msd                              Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 22   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:35 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481568.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.799min (+0.005) 30.28ppm

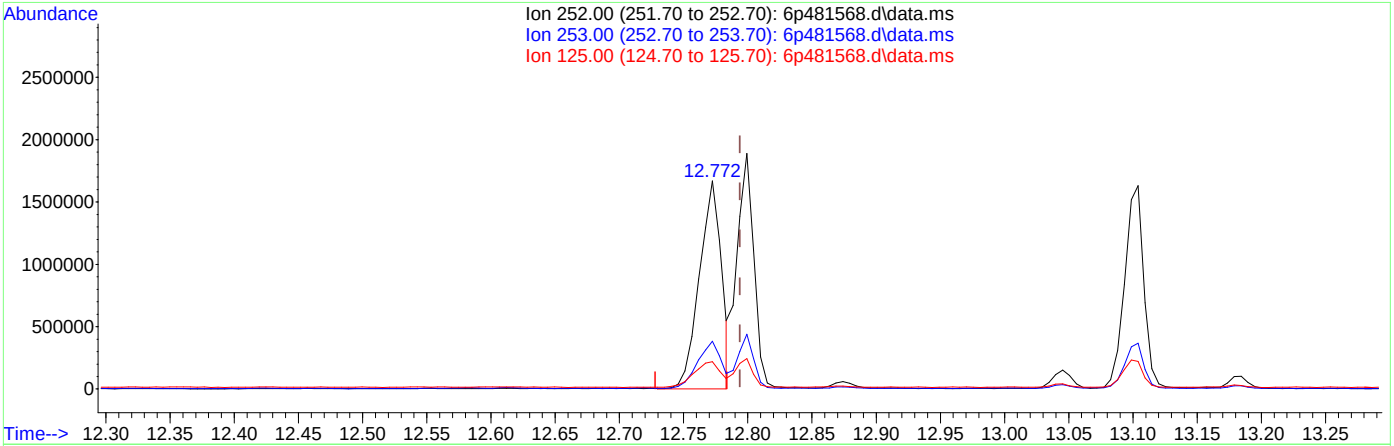
response 1735116

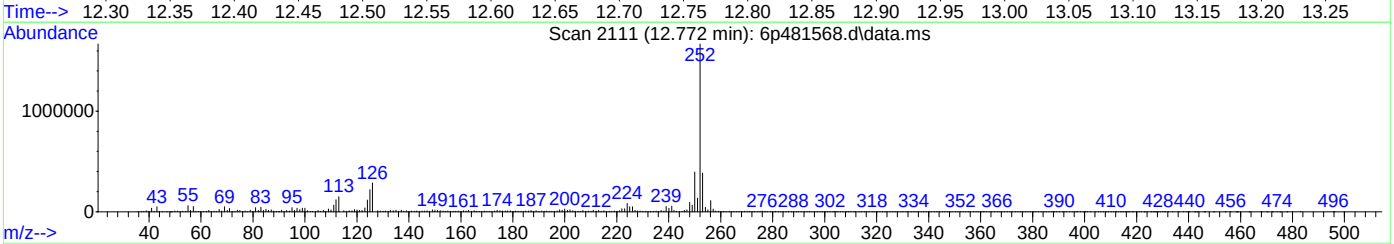
| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 23.27 |
| 125.00 | 9.90 | 12.05 |
| 0.00 | 0.00 | 0.00 |

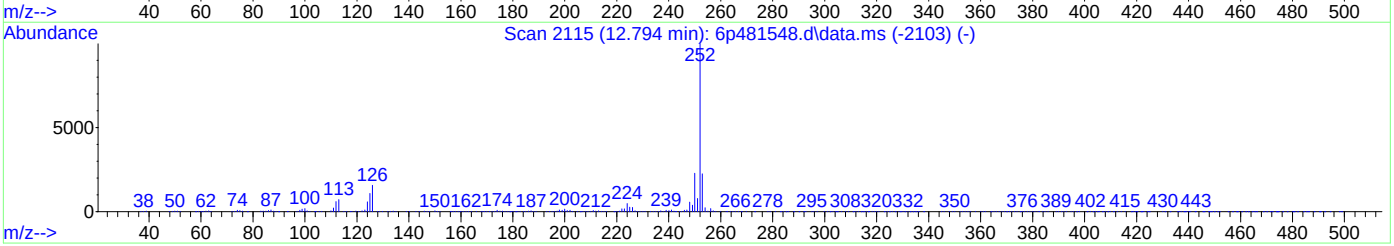
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481568.d
Acq On    :  2 May 2019   5:28 pm
Operator  : angelar
Sample    : op20081-msd                              Inst     : MS6P
Misc      : op20081,e6p2579,30.1,,,1,1
ALS Vial  : 22   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 05:04:35 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 05:01:50 2019
Response via : Initial Calibration
```




TIC: 6p481568.d\data.ms

(93) Benzo[b]fluoranthene (t)

12.772min (-0.021) 34.68ppm m

response 1987137

| Ion | Exp% | Act% |
|---|---|---|
| 252.00 | 100 | 100 |
| 253.00 | 22.60 | 22.89 |
| 125.00 | 9.90 | 13.10 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129374.d
Acq On : 7 May 2019 4:28 pm
Operator : christc2
Sample : op20110-ms Inst : MSVOAMSP
Misc : op20110,ep5856,30.4,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:04:59 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.764 | 152 | 153344 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.699 | 136 | 484634 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 5.938 | 164 | 266878 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.338 | 188 | 475598 | 40.00 | ppm | 0.01 |
| 83) Chrysene-d12 | 11.975 | 240 | 434661 | 40.00 | ppm | 0.02 |
| 91) Perylene-d12 | 14.902 | 264 | 431476 | 40.00 | ppm | 0.01 |
| 101) 1,4-Dichlorobenzene-d4b | 3.764 | 152 | 153344 | 40.00 | ppm | 0.00 |
| 103) Phenanthrene-d10b | 7.338 | 188 | 475598 | 40.00 | ppm | 0.01 |
| 105) Chrysene-d12b | 11.975 | 240 | 434661 | 40.00 | ppm | 0.02 |
| 107) Naphthalene-d8b | 4.699 | 136 | 484634 | 40.00 | ppm | 0.00 |
| 109) Acenaphthene-d10b | 5.938 | 164 | 266878 | 40.00 | ppm | 0.00 |
| 111) Chrysene-d12d | 11.975 | 240 | 434661 | 40.00 | ppm | 0.02 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.802 | 112 | 190157 | 38.60 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 77.20% | | | |
| 8) Phenol-d5 | 3.620 | 99 | 246564 | 39.41 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 78.82% | | | |
| 25) Nitrobenzene-d5 | 4.186 | 82 | 205699 | 39.51 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 79.02% | | | |
| 51) 2-Fluorobiphenyl | 5.479 | 172 | 371318 | 43.91 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 87.82% | | | |
| 73) 2,4,6-Tribromophenol | 6.606 | 330 | 63207 | 39.94 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 79.88% | | | |
| 85) Terphenyl-d14 | 9.955 | 244 | 420435 | 42.69 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 85.38% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.178 | 88 | 67525 | 27.16 | ppm | 96 |
| 3) Pyridine | 1.386 | 79 | 170672 | 36.22 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 1.370 | 42 | 92415 | 36.86 | ppm | 94 |
| 6) Indene | 3.956 | 116 | 298185 | 37.14 | ppm | 97 |
| 7) Cumene | 3.128 | 105 | 438714 | 33.47 | ppm | 99 |
| 9) Phenol | 3.630 | 94 | 199801 | 29.31 | ppm | 96 |
| 10) Aniline | 3.534 | 93 | 176204 | 55.14 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 3.587 | 93 | 184762 | 34.20 | ppm | 98 |
| 12) 2-Chlorophenol | 3.641 | 128 | 152735 | 29.72 | ppm | 93 |
| 13) Decane | 3.678 | 43 | 127303 | 33.61 | ppm | 97 |
| 14) 1,3-Dichlorobenzene | 3.716 | 146 | 193456 | 32.01 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 3.780 | 146 | 194856 | 33.28 | ppm | 100 |
| 16) Benzyl alcohol | 3.919 | 108 | 112319 | 40.04 | ppm | 96 |
| 17) 1,2-Dichlorobenzene | 3.887 | 146 | 193755 | 33.13 | ppm | 98 |
| 18) Acetophenone | 4.079 | 105 | 251641 | 33.48 | ppm | 98 |
| 19) 2-Methylphenol | 4.052 | 108 | 146170 | 30.65 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 3.999 | 121 | 47330 | 37.67 | ppm # | 98 |
| 21) 3&4-Methylphenol | 4.175 | 108 | 154672 | 33.13 | ppm | 95 |
| 22) n-Nitroso-di-n-propyla... | 4.095 | 70 | 117227 | 32.84 | ppm | 98 |
| 23) Hexachloroethane | 4.132 | 201 | 73493 | 30.68 | ppm | 95 |
| 26) Nitrobenzene | 4.202 | 77 | 197407 | 37.47 | ppm | 95 |
| 27) Quinoline | 4.960 | 129 | 334949 | 38.13 | ppm | 98 |
| 28) Isophorone | 4.383 | 82 | 377571 | 41.74 | ppm | 98 |
| 29) 2-Nitrophenol | 4.437 | 139 | 85244 | 35.73 | ppm # | 71 |
| 30) 2,4-Dimethylphenol | 4.528 | 107 | 180688 | 42.68 | ppm | 99 |
| 31) Benzoic acid | 4.677 | 105 | 75396 | 22.60 | ppm | 94 |
| 32) bis(2-Chloroethoxy)met... | 4.560 | 93 | 213491 | 40.75 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 4.656 | 162 | 146634 | 36.79 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129374.d
Acq On : 7 May 2019 4:28 pm
Operator : christc2
Sample : op20110-ms Inst : MSVOAMSP
Misc : op20110,ep5856,30.4,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:04:59 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 34) | 2,6-Dichlorophenol | 4.789 | 162 | 137633 | 35.36 | ppm | | 98 |
| 36) | 1,2,4-Trichlorobenzene | 4.667 | 180 | 167143 | 37.30 | ppm | | 97 |
| 38) | Naphthalene | 4.715 | 128 | 487778 | 42.15 | ppm | | 100 |
| 39) | 4-Chloroaniline | 4.784 | 127 | 115072 | 25.53 | ppm | | 96 |
| 40) | 2,3-Dichloroaniline | 5.425 | 161 | 178429 | 35.54 | ppm | | 99 |
| 41) | Caprolactam | 5.041 | 55 | 72725 | 41.58 | ppm | | 95 |
| 42) | Hexachlorobutadiene | 4.816 | 225 | 102815 | 37.11 | ppm | | 100 |
| 43) | 4-Chloro-3-methylphenol | 5.190 | 107 | 156154 | 37.24 | ppm | | 93 |
| 44) | 2-Methylnaphthalene | 5.212 | 141 | 265587 | 40.03 | ppm | | 99 |
| 45) | 1-Methylnaphthalene | 5.281 | 142 | 312497 | 36.36 | ppm | | 96 |
| 46) | Dimethylnaphthalene | 5.655 | 156 | 291220 | 37.91 | ppm | | 99 |
| 48) | Hexachlorocyclopentadiene | 5.329 | 237 | 145502 | 71.33 | ppm | | 98 |
| 49) | 2,4,6-Trichlorophenol | 5.441 | 196 | 108727 | 41.10 | ppm | | 98 |
| 50) | 2,4,5-Trichlorophenol | 5.495 | 196 | 104653 | 39.95 | ppm | | 96 |
| 52) | 2-Chloronaphthalene | 5.553 | 162 | 315511 | 43.62 | ppm | | 96 |
| 53) | Biphenyl | 5.543 | 154 | 398914 | 44.35 | ppm | | 98 |
| 54) | 2-Nitroaniline | 5.650 | 65 | 107023 | 44.88 | ppm | | 96 |
| 55) | Dimethylphthalate | 5.778 | 163 | 396991 | 42.57 | ppm | | 99 |
| 56) | Acenaphthylene | 5.837 | 152 | 498255 | 43.63 | ppm | | 99 |
| 57) | 2,6-Dinitrotoluene | 5.821 | 165 | 85822 | 43.93 | ppm | | 82 |
| 58) | 3-Nitroaniline | 5.943 | 138 | 67920 | 33.20 | ppm | | 99 |
| 59) | Acenaphthene | 5.965 | 153 | 303350 | 43.22 | ppm | | 99 |
| 60) | 2,4-Dinitrophenol | 6.018 | 184 | 50114 | 42.33 | ppm | # | 71 |
| 61) | 4-Nitrophenol | 6.173 | 109 | 51465 | 35.14 | ppm | | 94 |
| 62) | Dibenzofuran | 6.093 | 168 | 457435 | 42.98 | ppm | | 97 |
| 63) | 2,4-Dinitrotoluene | 6.114 | 165 | 111493 | 42.88 | ppm | | 77 |
| 64) | 2,3,4,6-Tetrachlorophenol | 6.221 | 232 | 84120 | 36.63 | ppm | | 96 |
| 65) | Diethylphthalate | 6.312 | 149 | 403450 | 42.50 | ppm | | 99 |
| 66) | Fluorene | 6.371 | 166 | 379798 | 44.52 | ppm | | 96 |
| 67) | 4-Chlorophenyl-phenyle... | 6.387 | 204 | 180456 | 42.78 | ppm | | 94 |
| 68) | 4-Nitroaniline | 6.440 | 138 | 77975 | 39.89 | ppm | | 95 |
| 70) | 4,6-Dinitro-2-methylph... | 6.456 | 198 | 46430 | 26.06 | ppm | | 77 |
| 71) | n-Nitrosodiphenylamine | 6.504 | 169 | 255591 | 41.46 | ppm | | 100 |
| 72) | 1,2-Diphenylhydrazine | 6.526 | 77 | 481300 | 49.95 | ppm | | 98 |
| 74) | 4-Bromophenyl-phenylether | 6.852 | 248 | 115666 | 40.01 | ppm | | 90 |
| 75) | Hexachlorobenzene | 6.905 | 284 | 124987 | 37.90 | ppm | | 92 |
| 76) | Pentachlorophenol | 7.161 | 266 | 65731 | 32.91 | ppm | | 99 |
| 77) | Phenanthrene | 7.364 | 178 | 526519 | 42.48 | ppm | | 100 |
| 78) | Anthracene | 7.429 | 178 | 539144 | 41.64 | ppm | | 99 |
| 79) | Carbazole | 7.685 | 167 | 500994 | 40.07 | ppm | | 98 |
| 80) | Di-n-butylphthalate | 8.289 | 149 | 713983 | 40.24 | ppm | | 100 |
| 81) | Fluoranthene | 9.138 | 202 | 579894 | 37.93 | ppm | | 97 |
| 82) | Octadecane | 7.322 | 57 | 219293 | 45.21 | ppm | | 97 |
| 84) | Pyrene | 9.517 | 202 | 628088 | 41.74 | ppm | | 97 |
| 86) | Butylbenzylphthalate | 11.083 | 149 | 314341 | 40.61 | ppm | | 98 |
| 87) | Benzo[a]anthracene | 11.953 | 228 | 524357 | 36.60 | ppm | | 99 |
| 88) | 3,3'-Dichlorobenzidine | 12.060 | 252 | 338269 | 71.79 | ppm | | 95 |
| 89) | Chrysene | 12.028 | 228 | 489116 | 38.76 | ppm | | 98 |
| 90) | bis(2-Ethylhexyl)phtha... | 12.477 | 149 | 423414 | 40.90 | ppm | | 97 |
| 92) | Di-n-octylphthalate | 13.882 | 149 | 719480 | 43.13 | ppm | | 99 |
| 93) | Benzo[b]fluoranthene | 14.181 | 252 | 512912 | 39.00 | ppm | | 99 |
| 94) | Benzo[k]fluoranthene | 14.245 | 252 | 461507 | 41.71 | ppm | | 99 |
| 95) | Benzo[a]pyrene | 14.785 | 252 | 468056 | 42.08 | ppm | | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 16.820 | 276 | 439978 | 43.28 | ppm | | 99 |
| 98) | Dibenz[a,h]anthracene | 16.890 | 278 | 422346 | 40.75 | ppm | | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 14.203 | 256 | 172054 | 29.45 | ppm | | 97 |
| 100) | Benzo[g,h,i]perylene | 17.232 | 276 | 456436 | 44.54 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129374.d
Acq On : 7 May 2019 4:28 pm
Operator : christc2
Sample : op20110-ms Inst : MSVOAMSP
Misc : op20110,ep5856,30.4,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:04:59 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 102) Benzaldehyde | 3.427 | 105 | 128561 | 32.11 ppm | 96 |
| 104) Atrazine | 7.092 | 200 | 105985 | 41.44 ppm | 96 |
| 110) 1,2,4,5-Tetrachloroben... | 5.334 | 216 | 167549 | 42.69 ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

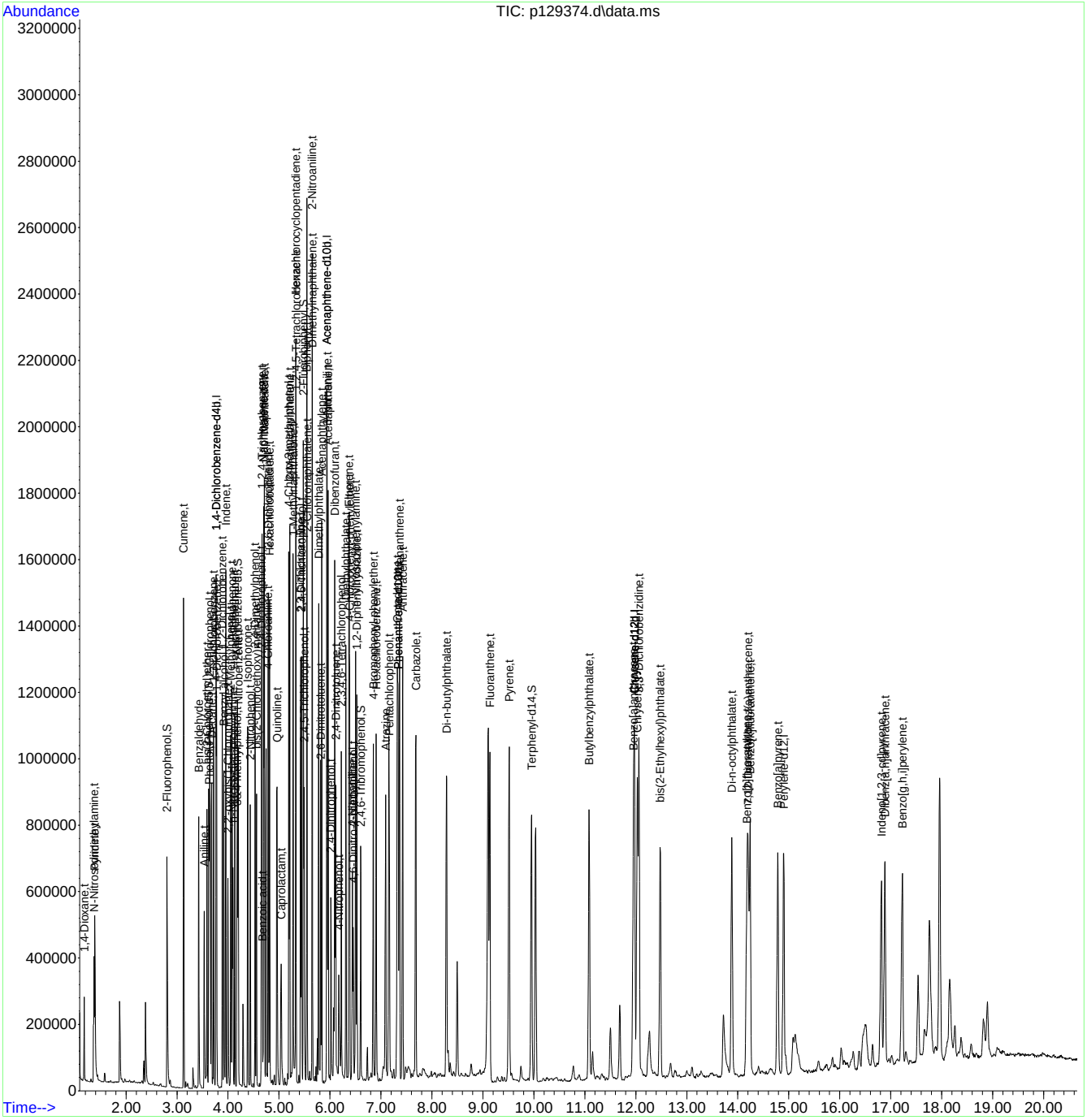
9.4.3

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129374.d
Acq On : 7 May 2019 4:28 pm
Operator : christc2
Sample : op20110-ms Inst : MSVOAMSP
Misc : op20110,ep5856,30.4,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:04:59 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129375.d
Acq On : 7 May 2019 4:56 pm
Operator : christc2
Sample : op20110-msd Inst : MSVOAMSP
Misc : op20110,ep5856,30.4,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:06:11 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.764 | 152 | 157674 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.699 | 136 | 501689 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 5.938 | 164 | 282104 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.338 | 188 | 487087 | 40.00 | ppm | 0.01 |
| 83) Chrysene-d12 | 11.975 | 240 | 445894 | 40.00 | ppm | 0.02 |
| 91) Perylene-d12 | 14.902 | 264 | 426745 | 40.00 | ppm | 0.01 |
| 101) 1,4-Dichlorobenzene-d4b | 3.764 | 152 | 157674 | 40.00 | ppm | 0.00 |
| 103) Phenanthrene-d10b | 7.338 | 188 | 487087 | 40.00 | ppm | 0.01 |
| 105) Chrysene-d12b | 11.975 | 240 | 445894 | 40.00 | ppm | 0.02 |
| 107) Naphthalene-d8b | 4.699 | 136 | 501689 | 40.00 | ppm | 0.00 |
| 109) Acenaphthene-d10b | 5.938 | 164 | 282104 | 40.00 | ppm | 0.00 |
| 111) Chrysene-d12d | 11.975 | 240 | 445894 | 40.00 | ppm | 0.02 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.802 | 112 | 203314 | 40.13 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 80.26% | | | |
| 8) Phenol-d5 | 3.619 | 99 | 256476 | 39.87 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 79.74% | | | |
| 25) Nitrobenzene-d5 | 4.191 | 82 | 219438 | 40.72 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 81.44% | | | |
| 51) 2-Fluorobiphenyl | 5.479 | 172 | 369653 | 41.35 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 82.70% | | | |
| 73) 2,4,6-Tribromophenol | 6.606 | 330 | 60648 | 37.42 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 74.84% | | | |
| 85) Terphenyl-d14 | 9.955 | 244 | 406774 | 40.26 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery = 80.52% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.178 | 88 | 75412 | 29.50 | ppm | 97 |
| 3) Pyridine | 1.392 | 79 | 188399 | 38.88 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 1.376 | 42 | 99676 | 38.67 | ppm | 99 |
| 6) Indene | 3.956 | 116 | 331413 | 40.14 | ppm | 98 |
| 7) Cumene | 3.128 | 105 | 473793 | 35.15 | ppm | 98 |
| 9) Phenol | 3.630 | 94 | 208076 | 29.68 | ppm | 97 |
| 10) Aniline | 3.534 | 93 | 180213 | 54.90 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 3.587 | 93 | 195167 | 35.14 | ppm | 96 |
| 12) 2-Chlorophenol | 3.646 | 128 | 163244 | 30.90 | ppm | 98 |
| 13) Decane | 3.678 | 43 | 136113 | 34.95 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 3.721 | 146 | 208493 | 33.55 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 3.780 | 146 | 208989 | 34.72 | ppm | 98 |
| 16) Benzyl alcohol | 3.919 | 108 | 116423 | 40.35 | ppm | 96 |
| 17) 1,2-Dichlorobenzene | 3.892 | 146 | 203835 | 33.89 | ppm | 99 |
| 18) Acetophenone | 4.079 | 105 | 268211 | 34.71 | ppm | 95 |
| 19) 2-Methylphenol | 4.052 | 108 | 154416 | 31.49 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 3.999 | 121 | 52296 | 40.47 | ppm # | 91 |
| 21) 3&4-Methylphenol | 4.180 | 108 | 159464 | 33.22 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 4.095 | 70 | 124219 | 33.84 | ppm | 100 |
| 23) Hexachloroethane | 4.132 | 201 | 79249 | 32.18 | ppm | 92 |
| 26) Nitrobenzene | 4.202 | 77 | 205373 | 37.65 | ppm | 96 |
| 27) Quinoline | 4.960 | 129 | 340511 | 37.44 | ppm | 99 |
| 28) Isophorone | 4.389 | 82 | 392704 | 41.94 | ppm | 96 |
| 29) 2-Nitrophenol | 4.437 | 139 | 90586 | 36.68 | ppm # | 70 |
| 30) 2,4-Dimethylphenol | 4.533 | 107 | 183362 | 41.84 | ppm | 99 |
| 31) Benzoic acid | 4.677 | 105 | 78575 | 22.73 | ppm | 96 |
| 32) bis(2-Chloroethoxy)met... | 4.560 | 93 | 221104 | 40.77 | ppm | 97 |
| 33) 2,4-Dichlorophenol | 4.656 | 162 | 145334 | 35.22 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129375.d
Acq On : 7 May 2019 4:56 pm
Operator : christc2
Sample : op20110-msd Inst : MSVOAMSP
Misc : op20110,ep5856,30.4,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:06:11 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 34) 2,6-Dichlorophenol | 4.789 | 162 | 143887 | 35.71 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 4.667 | 180 | 178838 | 38.56 | ppm | 99 |
| 38) Naphthalene | 4.715 | 128 | 516671 | 43.13 | ppm | 99 |
| 39) 4-Chloroaniline | 4.784 | 127 | 116464 | 24.96 | ppm | 96 |
| 40) 2,3-Dichloroaniline | 5.425 | 161 | 176867 | 34.03 | ppm | 98 |
| 41) Caprolactam | 5.041 | 55 | 70661 | 39.03 | ppm | 96 |
| 42) Hexachlorobutadiene | 4.816 | 225 | 111364 | 38.83 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 5.195 | 107 | 156913 | 36.15 | ppm | 84 |
| 44) 2-Methylnaphthalene | 5.211 | 141 | 273432 | 39.82 | ppm | 99 |
| 45) 1-Methylnaphthalene | 5.281 | 142 | 320905 | 36.07 | ppm | 97 |
| 46) Dimethylnaphthalene | 5.655 | 156 | 300460 | 37.78 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 5.329 | 237 | 139443 | 64.67 | ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 5.441 | 196 | 110376 | 39.47 | ppm | 98 |
| 50) 2,4,5-Trichlorophenol | 5.495 | 196 | 102074 | 36.86 | ppm | 97 |
| 52) 2-Chloronaphthalene | 5.553 | 162 | 316209 | 41.35 | ppm | 98 |
| 53) Biphenyl | 5.548 | 154 | 397444 | 41.80 | ppm | 100 |
| 54) 2-Nitroaniline | 5.650 | 65 | 106245 | 42.15 | ppm | 93 |
| 55) Dimethylphthalate | 5.778 | 163 | 386015 | 39.16 | ppm | 99 |
| 56) Acenaphthylene | 5.837 | 152 | 508586 | 42.13 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 5.820 | 165 | 86636 | 41.95 | ppm | 83 |
| 58) 3-Nitroaniline | 5.943 | 138 | 62075 | 28.70 | ppm | 99 |
| 59) Acenaphthene | 5.965 | 153 | 304607 | 41.06 | ppm | 98 |
| 60) 2,4-Dinitrophenol | 6.024 | 184 | 52686 | 42.14 | ppm | 90 |
| 61) 4-Nitrophenol | 6.173 | 109 | 53633 | 34.64 | ppm | 93 |
| 62) Dibenzofuran | 6.093 | 168 | 446701 | 39.70 | ppm | 97 |
| 63) 2,4-Dinitrotoluene | 6.114 | 165 | 108072 | 39.32 | ppm | 80 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.221 | 232 | 82908 | 34.15 | ppm | 94 |
| 65) Diethylphthalate | 6.312 | 149 | 401832 | 40.05 | ppm | 99 |
| 66) Fluorene | 6.376 | 166 | 375510 | 41.65 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 6.387 | 204 | 174389 | 39.11 | ppm | 93 |
| 68) 4-Nitroaniline | 6.440 | 138 | 74736 | 36.17 | ppm | 99 |
| 70) 4,6-Dinitro-2-methylph... | 6.456 | 198 | 46056 | 25.24 | ppm | 68 |
| 71) n-Nitrosodiphenylamine | 6.504 | 169 | 250810 | 39.73 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 6.526 | 77 | 469822 | 47.61 | ppm | 98 |
| 74) 4-Bromophenyl-phenylether | 6.852 | 248 | 115619 | 39.05 | ppm | 89 |
| 75) Hexachlorobenzene | 6.910 | 284 | 121733 | 36.04 | ppm | 98 |
| 76) Pentachlorophenol | 7.167 | 266 | 65875 | 32.30 | ppm | 97 |
| 77) Phenanthrene | 7.364 | 178 | 516475 | 40.69 | ppm | 100 |
| 78) Anthracene | 7.428 | 178 | 526524 | 39.71 | ppm | 99 |
| 79) Carbazole | 7.685 | 167 | 483461 | 37.75 | ppm | 98 |
| 80) Di-n-butylphthalate | 8.289 | 149 | 699241 | 38.48 | ppm | 100 |
| 81) Fluoranthene | 9.138 | 202 | 552340 | 35.28 | ppm | 96 |
| 82) Octadecane | 7.322 | 57 | 220400 | 44.37 | ppm | 98 |
| 84) Pyrene | 9.517 | 202 | 608305 | 39.40 | ppm | 97 |
| 86) Butylbenzylphthalate | 11.083 | 149 | 305869 | 38.52 | ppm | 98 |
| 87) Benzo[a]anthracene | 11.959 | 228 | 511543 | 34.80 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 12.060 | 252 | 328450 | 67.95 | ppm | 98 |
| 89) Chrysene | 12.028 | 228 | 471746 | 36.44 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 12.482 | 149 | 408279 | 38.45 | ppm | 99 |
| 92) Di-n-octylphthalate | 13.882 | 149 | 689880 | 41.82 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 14.186 | 252 | 488246 | 37.53 | ppm | 98 |
| 94) Benzo[k]fluoranthene | 14.245 | 252 | 440193 | 40.22 | ppm | 99 |
| 95) Benzo[a]pyrene | 14.785 | 252 | 444906 | 40.45 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 16.820 | 276 | 413692 | 41.15 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 16.890 | 278 | 398111 | 38.84 | ppm | 97 |
| 99) 7,12-Dimethylbenz(a)an... | 14.208 | 256 | 168016 | 29.10 | ppm | 96 |
| 100) Benzo[g,h,i]perylene | 17.226 | 276 | 435147 | 42.93 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129375.d
Acq On : 7 May 2019 4:56 pm
Operator : christc2
Sample : op20110-msd Inst : MSVOAMSP
Misc : op20110,ep5856,30.4,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:06:11 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 102) Benzaldehyde | 3.427 | 105 | 137725 | 33.46 ppm | 95 |
| 104) Atrazine | 7.092 | 200 | 102512 | 39.14 ppm | 90 |
| 110) 1,2,4,5-Tetrachloroben... | 5.334 | 216 | 171678 | 41.38 ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

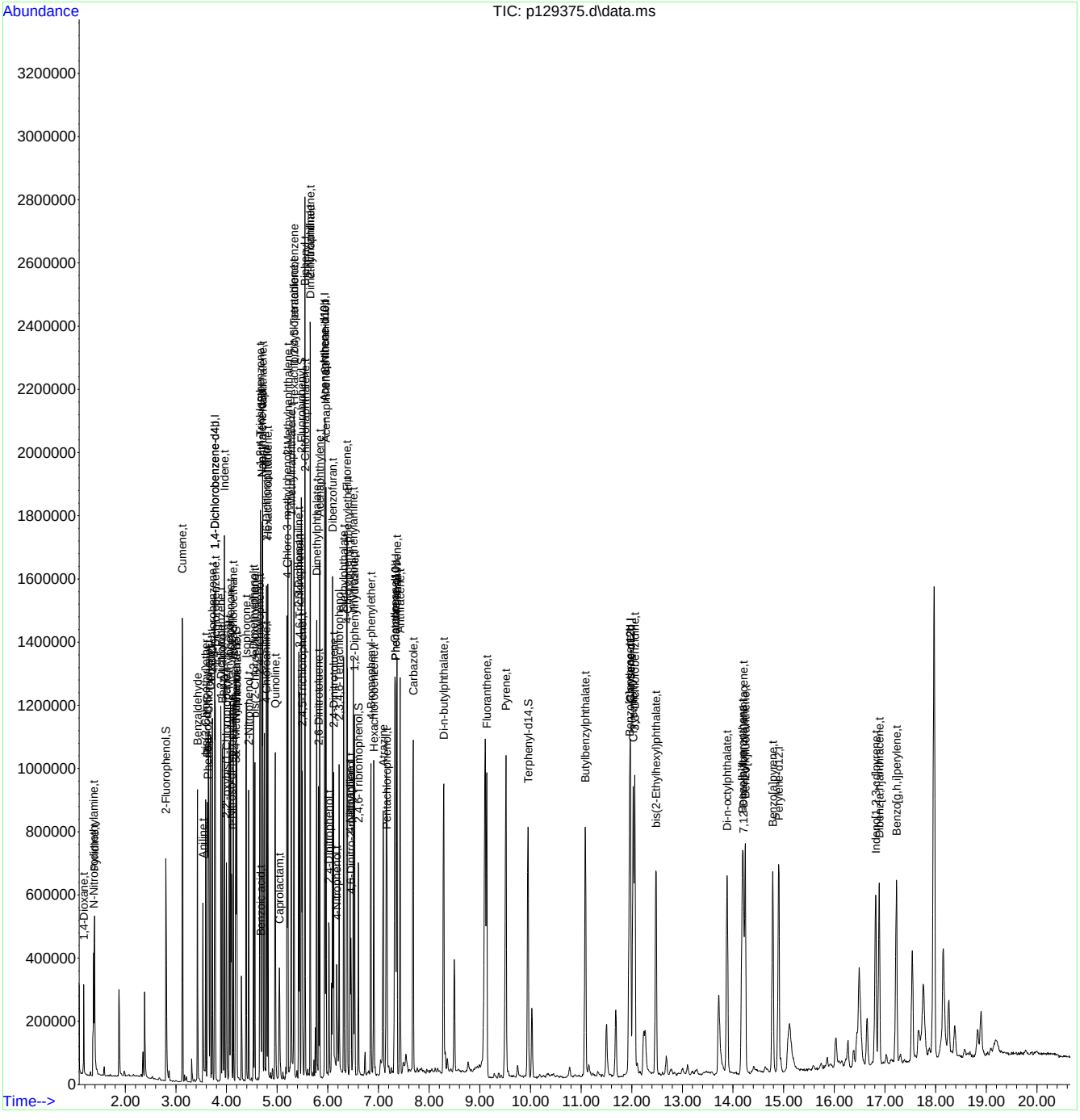
9.4.4

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\ep5856\
Data File : p129375.d
Acq On : 7 May 2019 4:56 pm
Operator : christc2
Sample : op20110-msd Inst : MSVOAMSP
Misc : op20110,ep5856,30.4,,,1,1
ALS Vial : 11 Sample Multiplier: 1

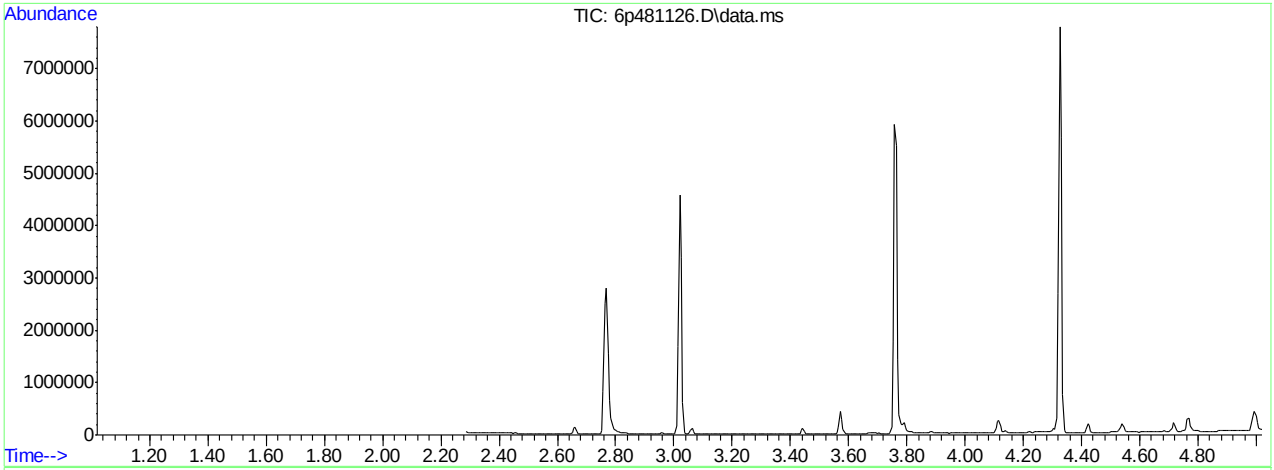
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Results File: MP5844.RES
Quant Time: May 08 04:06:11 2019
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed May 08 04:02:20 2019
Response via : Initial Calibration



DFTPP

Data File : C:\msdchem\1\DATA\E6P2562\6p481126.D  Vial: 1
Acq On : 16 Apr 2019 9:34 am  Operator: angelar
Sample : dftpp  Inst : MS6P
Misc : op17006,e6p2562,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 137, 138, 139; Background Corrected with Scan 132

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 36.3 | 133701 | PASS |
| 68 | 69 | 0.00 | 2 | 1.7 | 2251 | PASS |
| 69 | 198 | 0.00 | 100 | 36.9 | 136031 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 671 | PASS |
| 127 | 198 | 40 | 60 | 51.5 | 189621 | PASS |
| 197 | 198 | 0.00 | 1 | 0.1 | 428 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 368448 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 24693 | PASS |
| 275 | 198 | 10 | 30 | 28.0 | 103277 | PASS |
| 365 | 198 | 1 | 100 | 4.0 | 14732 | PASS |
| 441 | 443 | 0.10 | 100 | 81.7 | 39477 | PASS |
| 442 | 198 | 40 | 100 | 68.1 | 250821 | PASS |
| 443 | 442 | 17 | 23 | 19.3 | 48343 | PASS |

6p481126.D DFTPP6P.M Tue Apr 16 14:36:15 2019 ACLIMS

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.90 | 26 | 51.00 | 133701 | 63.00 | 5851 | 75.00 | 22738 |
| 36.90 | 826 | 52.00 | 7043 | 63.95 | 747 | 76.05 | 7738 |
| 38.00 | 1938 | 52.95 | 505 | 64.95 | 3339 | 76.95 | 164429 |
| 39.00 | 9763 | 55.00 | 393 | 66.00 | 145 | 78.00 | 11829 |
| 39.95 | 306 | 56.00 | 3608 | 67.00 | 107 | 79.00 | 10233 |
| 41.00 | 611 | 57.00 | 8621 | 67.95 | 2251 | 79.90 | 8233 |
| 41.80 | 127 | 57.95 | 570 | 69.00 | 136031 | 81.00 | 11711 |
| 42.05 | 324 | 58.95 | 326 | 69.95 | 671 | 81.90 | 2972 |
| 44.95 | 146 | 59.95 | 220 | 71.00 | 50 | 83.00 | 2708 |
| 49.05 | 1141 | 60.90 | 1974 | 72.95 | 877 | 83.90 | 198 |
| 50.00 | 34925 | 62.00 | 1902 | 74.00 | 14717 | 84.90 | 1694 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 85.95 | 3064 | 98.00 | 14492 | 109.00 | 1579 | 119.95 | 703 |
| 86.95 | 1633 | 99.00 | 11157 | 110.00 | 93232 | 120.80 | 132 |
| 87.95 | 668 | 100.00 | 1041 | 111.00 | 14016 | 121.95 | 3267 |
| 89.00 | 280 | 100.90 | 6472 | 111.95 | 1797 | 122.95 | 5323 |
| 90.90 | 2528 | 101.85 | 353 | 112.90 | 690 | 123.90 | 2295 |
| 92.00 | 3190 | 103.00 | 2352 | 113.90 | 132 | 124.95 | 2547 |
| 92.95 | 18235 | 103.90 | 4454 | 114.95 | 566 | 126.10 | 686 |
| 93.90 | 1197 | 104.95 | 4207 | 115.95 | 3284 | 127.00 | 189621 |
| 94.85 | 569 | 105.95 | 1271 | 116.95 | 39605 | 128.00 | 14058 |
| 96.00 | 810 | 107.00 | 50173 | 117.95 | 3113 | 128.95 | 70453 |
| 97.00 | 104 | 107.95 | 7869 | 118.95 | 365 | 129.95 | 5996 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 130.95 | 1251 | 141.95 | 2991 | 151.00 | 1070 | 161.00 | 4378 |
| 131.95 | 910 | 142.95 | 2109 | 151.90 | 754 | 161.95 | 1339 |
| 132.95 | 403 | 143.90 | 253 | 152.95 | 2848 | 162.95 | 337 |
| 133.95 | 1975 | 144.10 | 229 | 154.00 | 2222 | 163.95 | 422 |
| 134.95 | 5536 | 144.70 | 117 | 154.95 | 4830 | 164.90 | 3332 |
| 135.95 | 2099 | 145.00 | 443 | 156.00 | 8015 | 166.00 | 3174 |
| 136.95 | 2958 | 145.90 | 1720 | 156.95 | 1745 | 166.95 | 18386 |
| 137.95 | 680 | 146.95 | 4316 | 157.80 | 263 | 167.95 | 8738 |
| 138.95 | 468 | 147.90 | 10344 | 157.95 | 1445 | 168.95 | 1597 |
| 139.95 | 1026 | 148.90 | 2347 | 158.95 | 1344 | 169.80 | 256 |
| 140.95 | 9404 | 150.00 | 742 | 159.95 | 2666 | 170.05 | 441 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 170.75 | 428 | 180.95 | 4547 | 190.95 | 1905 | 201.20 | 643 |
| 171.00 | 343 | 182.00 | 841 | 191.90 | 4122 | 201.45 | 1963 |
| 171.85 | 1742 | 182.80 | 353 | 192.95 | 4815 | 202.95 | 2836 |
| 173.00 | 1984 | 183.00 | 167 | 193.95 | 1099 | 204.00 | 13498 |
| 174.00 | 3840 | 183.95 | 1242 | 194.80 | 416 | 205.00 | 22398 |
| 175.00 | 7304 | 185.00 | 6467 | 195.10 | 442 | 206.00 | 96040 |
| 176.00 | 2130 | 186.00 | 54237 | 196.00 | 10885 | 207.00 | 12162 |
| 176.95 | 3692 | 187.00 | 14540 | 196.70 | 428 | 207.95 | 3235 |
| 177.95 | 1291 | 187.95 | 1710 | 197.90 | 368448 | 208.85 | 1075 |
| 178.90 | 13551 | 188.95 | 3372 | 198.90 | 24693 | 209.95 | 1771 |
| 179.95 | 9555 | 189.85 | 534 | 199.95 | 2359 | 211.00 | 3471 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 211.60 | 171 | 224.00 | 51053 | 234.80 | 183 | 245.00 | 5361 |
| 212.95 | 365 | 225.00 | 12703 | 234.95 | 1320 | 246.00 | 8249 |
| 214.00 | 136 | 226.00 | 1680 | 235.90 | 1018 | 246.70 | 228 |
| 214.90 | 1296 | 226.90 | 21548 | 236.90 | 2140 | 246.95 | 1643 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 215.95 | 2386 | 227.95 | 3212 | 237.90 | 217 | 247.85 | 264 |
| 216.90 | 24713 | 228.95 | 4750 | 238.90 | 1070 | 249.00 | 1558 |
| 217.90 | 3022 | 229.95 | 584 | 239.95 | 807 | 250.00 | 308 |
| 218.95 | 372 | 230.90 | 1810 | 240.90 | 1278 | 251.00 | 536 |
| 221.00 | 18639 | 232.05 | 402 | 242.00 | 2986 | 251.95 | 396 |
| 221.60 | 2612 | 232.95 | 366 | 243.00 | 2940 | 252.95 | 762 |
| 222.95 | 4902 | 233.95 | 1524 | 244.00 | 40357 | 253.70 | 147 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 255.00 | 217101 | 269.85 | 318 | 282.95 | 1151 | 293.80 | 144 |
| 256.00 | 32189 | 270.95 | 441 | 283.80 | 187 | 294.00 | 254 |
| 257.00 | 2496 | 271.90 | 521 | 284.05 | 544 | 294.95 | 297 |
| 258.00 | 12771 | 273.00 | 6463 | 285.00 | 1293 | 296.00 | 30007 |
| 259.00 | 1967 | 274.00 | 17576 | 286.00 | 266 | 297.00 | 4006 |
| 259.80 | 233 | 275.00 | 103277 | 288.90 | 350 | 297.70 | 147 |
| 261.00 | 327 | 276.00 | 13924 | 289.85 | 329 | 297.90 | 179 |
| 263.80 | 336 | 277.00 | 8110 | 290.90 | 101 | 300.90 | 156 |
| 265.00 | 5214 | 277.95 | 1604 | 291.70 | 128 | 302.00 | 480 |
| 265.90 | 1124 | 278.90 | 267 | 292.00 | 157 | 303.00 | 3257 |
| 267.80 | 67 | 281.90 | 477 | 292.95 | 2146 | 304.05 | 836 |

Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 307.90 | 372 | 324.00 | 2165 | 340.95 | 1398 | 358.90 | 111 |
| 308.90 | 229 | 326.60 | 173 | 341.95 | 336 | 363.80 | 110 |
| 309.95 | 317 | 326.90 | 1678 | 345.95 | 2425 | 364.95 | 14732 |
| 312.90 | 162 | 328.00 | 962 | 346.95 | 361 | 365.95 | 2215 |
| 313.95 | 1880 | 328.80 | 100 | 350.90 | 116 | 369.95 | 240 |
| 314.95 | 3483 | 331.95 | 834 | 351.95 | 3314 | 371.00 | 908 |
| 316.00 | 1900 | 332.95 | 860 | 353.00 | 1935 | 372.00 | 6002 |
| 316.95 | 370 | 334.00 | 6215 | 353.80 | 281 | 373.05 | 1203 |
| 321.00 | 779 | 335.00 | 1820 | 354.00 | 2981 | 373.80 | 113 |
| 322.00 | 264 | 335.90 | 133 | 354.95 | 610 | 382.90 | 1158 |
| 323.00 | 9632 | 340.00 | 138 | 355.90 | 115 | 383.95 | 330 |

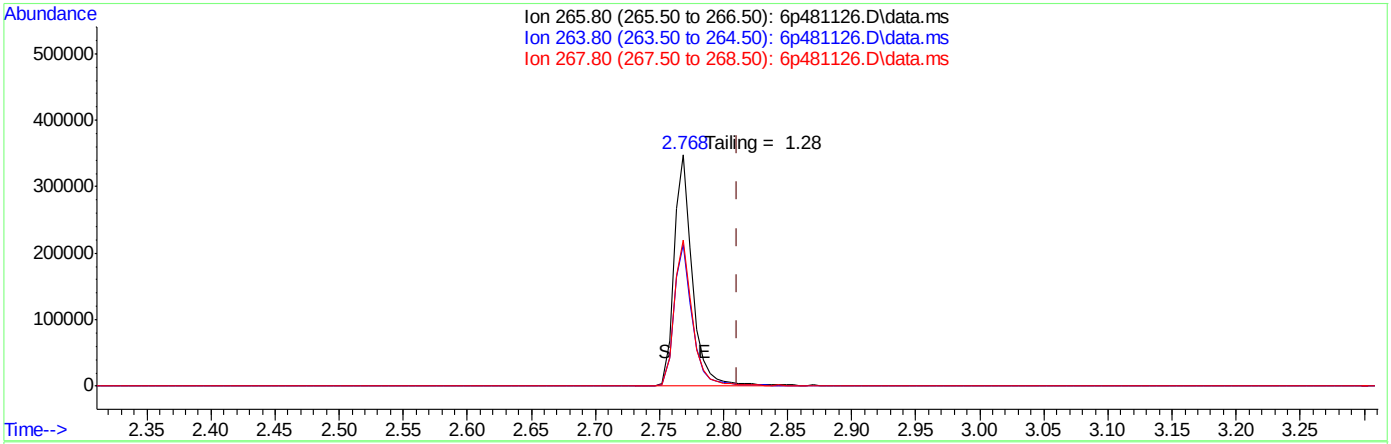
Average of 3.014 to 3.025 min.: 6p481126.D\data.ms
dftpp
Modified:subtracted

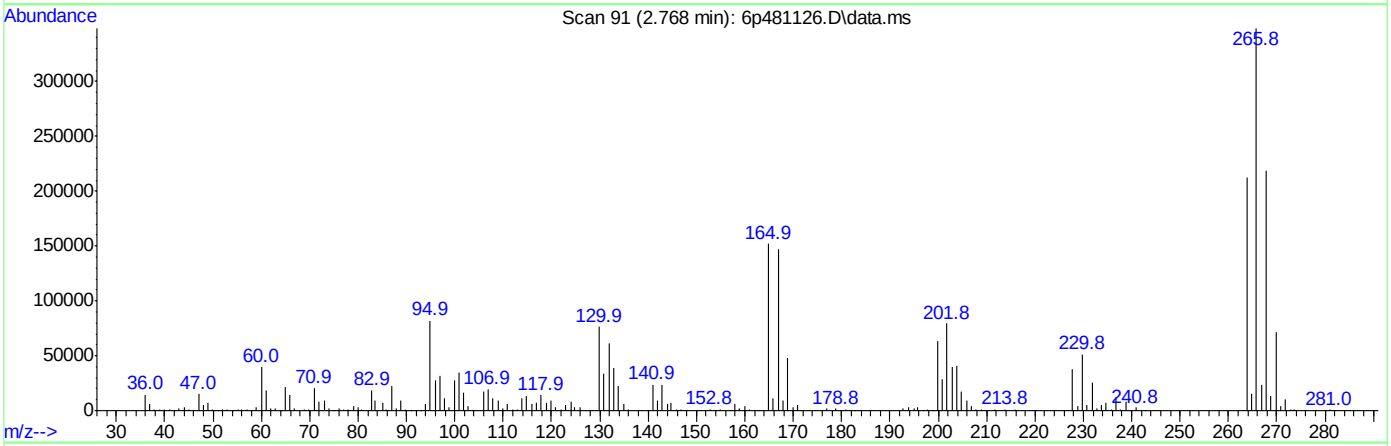
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 389.90 | 706 | 422.00 | 1455 | | | | |
| 390.60 | 138 | 423.05 | 16779 | | | | |
| 391.05 | 478 | 424.10 | 3728 | | | | |
| 391.90 | 347 | 424.80 | 143 | | | | |
| 401.00 | 310 | 425.10 | 374 | | | | |
| 401.95 | 2390 | 441.10 | 39477 | | | | |
| 402.95 | 2852 | 442.05 | 250821 | | | | |
| 404.00 | 986 | 443.00 | 48343 | | | | |
| 404.90 | 116 | 444.05 | 4468 | | | | |
| 414.80 | 116 | | | | | | |
| 421.00 | 2116 | | | | | | |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481126.D
Acq On    : 16 Apr 2019   9:34 am
Operator  : angelar
Sample    : dftpp
Misc      : op17006,e6p2562,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 16 09:40:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration
```




TIC: 6p481126.D\data.ms

(1) Pentachlorophenol (t)

2.768min (-0.043) 0.00ng

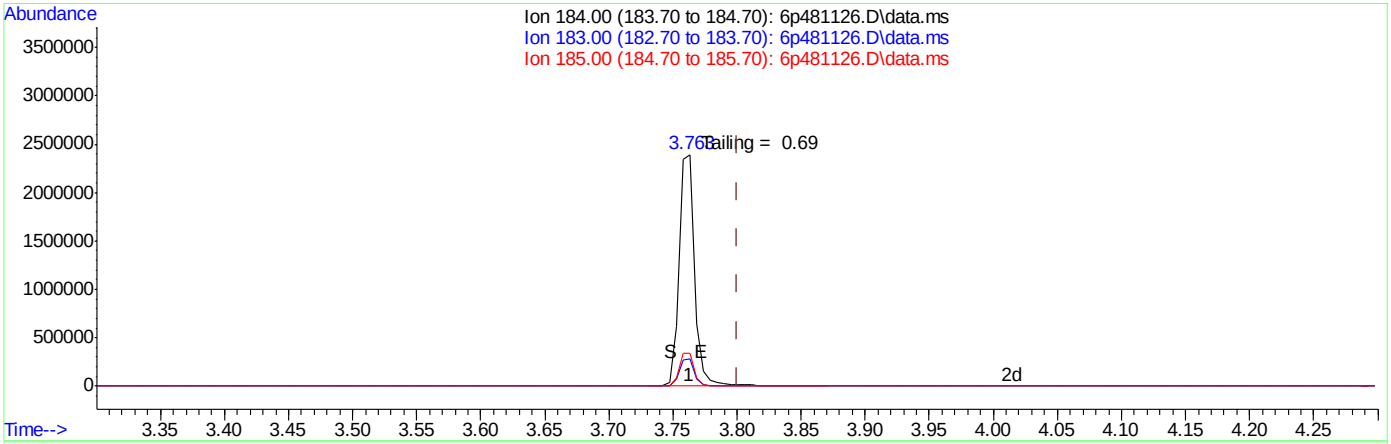
response 356010

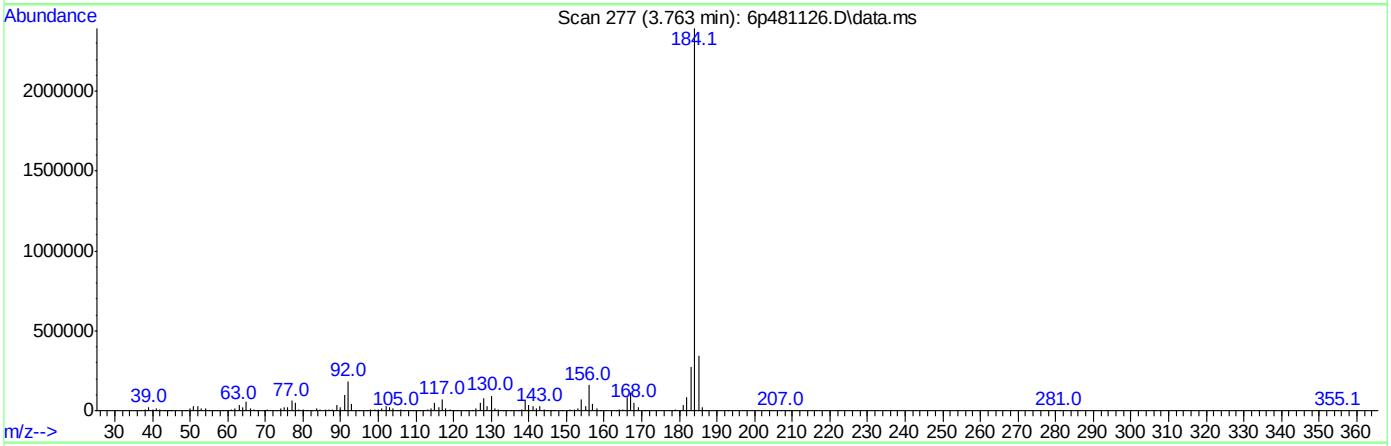
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 60.10 | 61.11 |
| 267.80 | 65.70 | 62.85 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481126.D
Acq On    : 16 Apr 2019   9:34 am
Operator  : angelar
Sample    : dftpp
Misc      : op17006,e6p2562,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 16 09:40:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration
```




(2) Benzidine (t)

3.763min (-0.037) 0.00ng

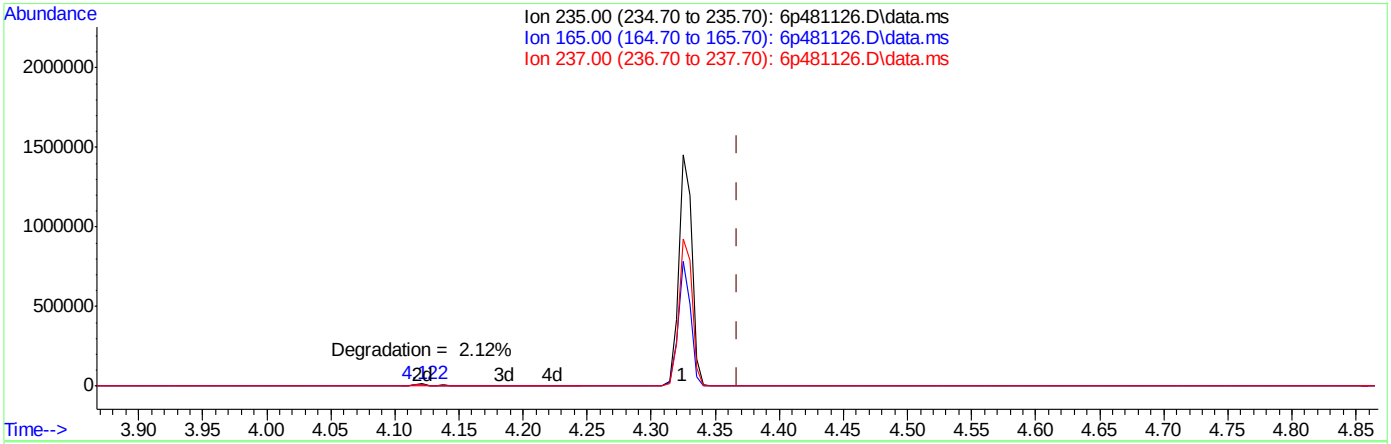
response 2079722

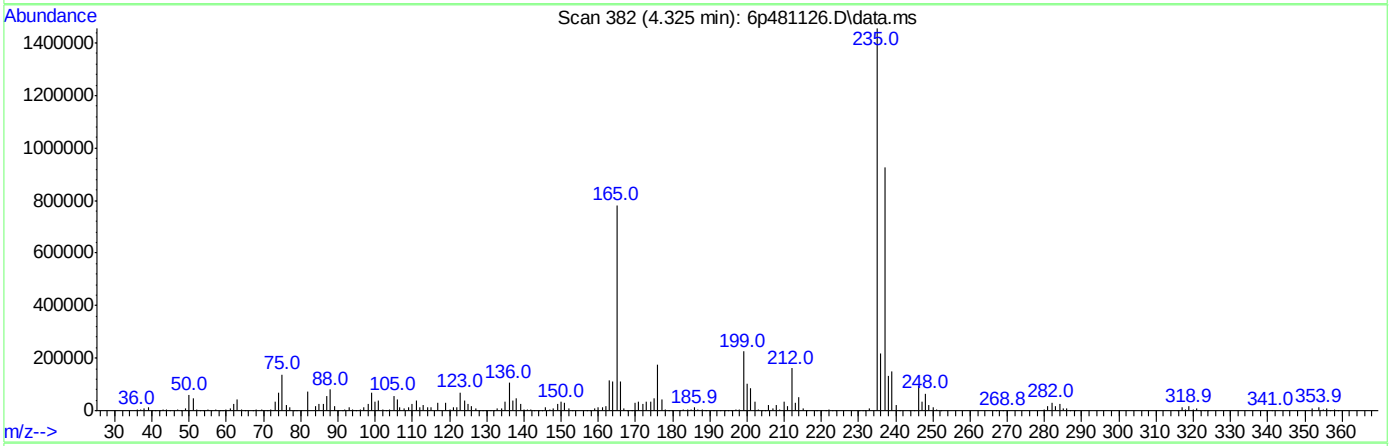
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 11.58 |
| 185.00 | 14.10 | 14.28 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481126.D
Acq On    : 16 Apr 2019   9:34 am
Operator  : angelar
Sample    : dftpp
Misc      : op17006,e6p2562,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 16 09:40:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration
```




TIC: 6p481126.D\data.ms

(3) PP-DDT (t)

4.325min (-0.043) 0.00ng

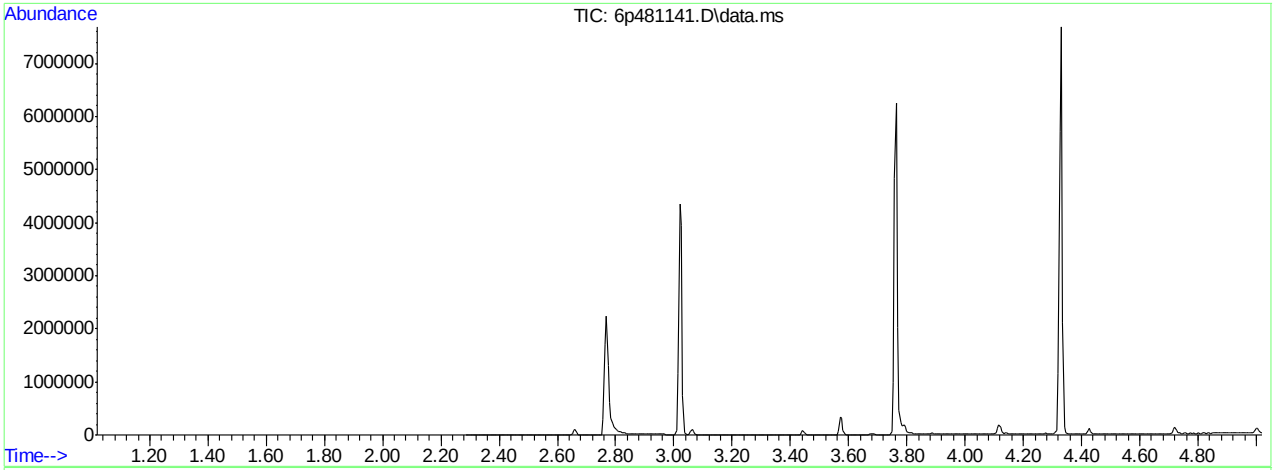
response 1056559

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 53.40 | 50.71 |
| 237.00 | 64.90 | 64.39 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E6P2562\6p481141.D  Vial: 1
Acq On : 16 Apr 2019 3:25 pm  Operator: angelar
Sample : dftpp  Inst : MS6P
Misc : op17006,e6p2563,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 137, 138, 139; Background Corrected with Scan 133

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 35.7 | 129768 | PASS |
| 68 | 69 | 0.00 | 2 | 1.9 | 2510 | PASS |
| 69 | 198 | 0.00 | 100 | 37.3 | 135637 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 674 | PASS |
| 127 | 198 | 40 | 60 | 50.8 | 184520 | PASS |
| 197 | 198 | 0.00 | 1 | 0.1 | 403 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 363402 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 24236 | PASS |
| 275 | 198 | 10 | 30 | 28.2 | 102661 | PASS |
| 365 | 198 | 1 | 100 | 4.0 | 14598 | PASS |
| 441 | 443 | 0.10 | 100 | 85.7 | 39268 | PASS |
| 442 | 198 | 40 | 100 | 65.0 | 236114 | PASS |
| 443 | 442 | 17 | 23 | 19.4 | 45838 | PASS |

6p481141.D DFTPP6P.M Tue Apr 16 16:43:19 2019 ACLIMS

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.95 | 8 | 52.00 | 6487 | 65.90 | 138 | 77.00 | 161464 |
| 36.90 | 590 | 53.00 | 222 | 67.05 | 252 | 78.00 | 11161 |
| 38.00 | 1660 | 54.95 | 750 | 68.05 | 2510 | 78.95 | 10482 |
| 39.00 | 9933 | 56.00 | 3732 | 69.00 | 135637 | 79.95 | 8176 |
| 39.95 | 840 | 56.95 | 8060 | 69.80 | 153 | 80.95 | 11135 |
| 41.00 | 279 | 57.95 | 418 | 69.95 | 674 | 81.90 | 2804 |
| 43.90 | 212 | 60.95 | 1880 | 71.00 | 122 | 82.90 | 2539 |
| 44.95 | 258 | 61.95 | 1924 | 72.90 | 1131 | 83.95 | 353 |
| 49.00 | 977 | 63.00 | 5480 | 74.00 | 14645 | 84.95 | 1999 |
| 50.00 | 32600 | 64.05 | 519 | 75.00 | 23497 | 85.95 | 2965 |
| 51.00 | 129768 | 65.00 | 2695 | 76.05 | 7725 | 87.00 | 1538 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 87.90 | 534 | 99.90 | 1024 | 111.00 | 13577 | 122.00 | 3512 |
| 89.05 | 446 | 100.95 | 5860 | 111.95 | 1883 | 122.95 | 5238 |
| 90.95 | 2751 | 101.95 | 287 | 112.60 | 114 | 123.95 | 2186 |
| 91.95 | 2657 | 102.95 | 2232 | 112.95 | 301 | 124.95 | 1848 |
| 93.00 | 17405 | 103.95 | 4332 | 114.70 | 213 | 126.10 | 192 |
| 93.95 | 1233 | 104.95 | 3570 | 115.95 | 2963 | 127.00 | 184520 |
| 94.90 | 202 | 106.00 | 1228 | 117.00 | 39674 | 128.00 | 13879 |
| 95.90 | 723 | 107.00 | 49045 | 117.95 | 2829 | 129.00 | 69261 |
| 97.05 | 393 | 107.95 | 7754 | 118.95 | 572 | 129.95 | 6354 |
| 97.95 | 13709 | 109.00 | 251 | 119.95 | 434 | 130.95 | 1289 |
| 98.95 | 10880 | 110.00 | 92602 | 121.05 | 279 | 131.90 | 669 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 132.95 | 534 | 141.00 | 9361 | 151.00 | 1470 | 159.95 | 2802 |
| 133.90 | 1989 | 141.95 | 3409 | 151.50 | 141 | 160.95 | 4164 |
| 134.95 | 5882 | 143.00 | 2032 | 151.75 | 516 | 161.90 | 1070 |
| 135.80 | 328 | 143.90 | 683 | 152.10 | 159 | 163.05 | 270 |
| 135.95 | 1822 | 144.85 | 472 | 152.95 | 3363 | 163.95 | 445 |
| 136.95 | 2923 | 145.70 | 207 | 154.00 | 2398 | 164.90 | 3865 |
| 137.65 | 328 | 145.95 | 1643 | 155.00 | 4963 | 166.00 | 3133 |
| 137.90 | 311 | 146.90 | 4957 | 156.00 | 7778 | 167.00 | 18239 |
| 138.10 | 166 | 147.90 | 10626 | 156.95 | 1521 | 168.00 | 8780 |
| 138.95 | 365 | 148.95 | 2283 | 158.00 | 1756 | 168.95 | 1714 |
| 139.90 | 937 | 149.90 | 472 | 158.90 | 1585 | 169.85 | 535 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 170.90 | 643 | 181.00 | 4713 | 190.95 | 1318 | 200.70 | 296 |
| 171.95 | 1650 | 182.00 | 603 | 191.95 | 3939 | 201.40 | 1159 |
| 172.80 | 235 | 182.60 | 206 | 193.00 | 5146 | 201.65 | 939 |
| 172.95 | 1703 | 183.00 | 411 | 193.80 | 134 | 202.90 | 2899 |
| 173.95 | 4109 | 183.90 | 918 | 194.00 | 875 | 204.00 | 14394 |
| 175.00 | 7278 | 185.00 | 6905 | 194.90 | 577 | 205.00 | 22591 |
| 176.05 | 2290 | 186.00 | 52912 | 196.00 | 11387 | 206.00 | 97074 |
| 176.95 | 3517 | 187.00 | 14931 | 197.00 | 403 | 207.00 | 12328 |
| 177.95 | 1341 | 188.00 | 1620 | 197.90 | 363402 | 208.00 | 3220 |
| 178.90 | 13007 | 188.90 | 3502 | 198.90 | 24236 | 208.90 | 938 |
| 180.00 | 9237 | 189.90 | 572 | 199.95 | 2119 | 210.10 | 1847 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 211.00 | 3818 | 223.00 | 5916 | 233.95 | 1546 | 244.00 | 40369 |
| 211.60 | 578 | 224.00 | 52001 | 234.60 | 122 | 245.00 | 5804 |
| 211.90 | 244 | 225.00 | 12550 | 235.00 | 1690 | 246.00 | 8316 |
| 213.00 | 100 | 226.00 | 1594 | 235.90 | 1227 | 247.00 | 1847 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 214.95 | 1012 | 227.00 | 21775 | 236.90 | 1885 | 248.00 | 356 |
| 215.95 | 2080 | 227.95 | 3450 | 237.70 | 105 | 248.95 | 1367 |
| 216.90 | 24923 | 228.90 | 4595 | 238.95 | 801 | 249.90 | 162 |
| 217.90 | 3091 | 229.95 | 771 | 240.00 | 745 | 250.90 | 391 |
| 218.95 | 349 | 230.95 | 1818 | 241.00 | 1111 | 252.00 | 302 |
| 221.00 | 19906 | 231.95 | 456 | 241.95 | 2682 | 253.00 | 895 |
| 221.60 | 2772 | 232.90 | 531 | 243.00 | 2734 | 255.00 | 214853 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 256.00 | 31453 | 265.80 | 402 | 276.95 | 8123 | 289.00 | 148 |
| 257.00 | 2588 | 266.90 | 234 | 277.90 | 1388 | 289.95 | 386 |
| 257.90 | 12373 | 267.60 | 205 | 278.70 | 146 | 291.95 | 346 |
| 258.70 | 308 | 269.80 | 364 | 278.90 | 116 | 292.90 | 1858 |
| 258.90 | 1759 | 270.70 | 186 | 281.95 | 229 | 293.95 | 431 |
| 259.80 | 313 | 271.00 | 176 | 282.90 | 965 | 295.00 | 252 |
| 260.90 | 219 | 271.95 | 609 | 283.85 | 798 | 296.00 | 29912 |
| 261.10 | 184 | 273.00 | 6905 | 284.95 | 1560 | 297.00 | 4232 |
| 263.80 | 354 | 274.00 | 17871 | 285.95 | 342 | 297.90 | 256 |
| 264.80 | 448 | 275.00 | 102661 | 287.90 | 105 | 300.95 | 369 |
| 265.00 | 4722 | 276.00 | 13814 | 288.80 | 206 | 301.85 | 523 |

Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 303.00 | 3309 | 317.00 | 181 | 329.00 | 103 | 346.80 | 223 |
| 303.95 | 964 | 320.10 | 121 | 331.50 | 122 | 350.90 | 144 |
| 304.80 | 115 | 320.95 | 1166 | 331.95 | 594 | 352.00 | 3174 |
| 308.00 | 435 | 322.00 | 636 | 332.95 | 894 | 352.95 | 2131 |
| 308.70 | 134 | 323.00 | 9696 | 334.00 | 6916 | 354.00 | 3280 |
| 309.00 | 183 | 323.80 | 102 | 335.00 | 1842 | 354.95 | 462 |
| 309.95 | 521 | 324.05 | 1880 | 335.80 | 114 | 358.90 | 137 |
| 312.80 | 135 | 324.95 | 266 | 341.00 | 1128 | 364.95 | 14598 |
| 314.00 | 1298 | 325.90 | 112 | 341.95 | 250 | 365.90 | 2066 |
| 314.95 | 3254 | 326.90 | 1726 | 345.90 | 2264 | 370.05 | 360 |
| 316.00 | 2075 | 327.90 | 905 | 346.60 | 163 | 370.95 | 918 |

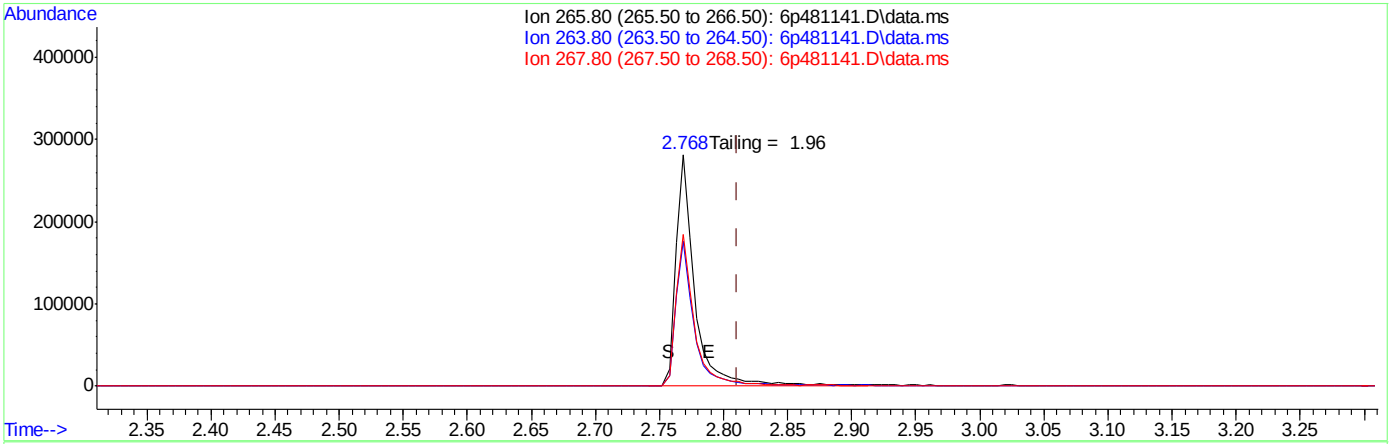
Average of 3.014 to 3.025 min.: 6p481141.D\data.ms
dftpp
Modified:subtracted

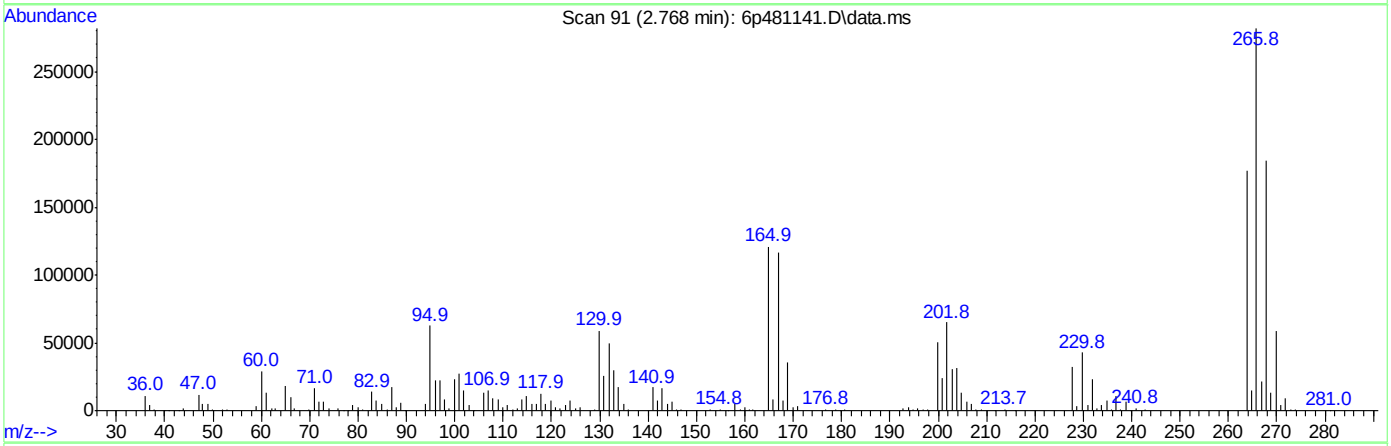
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 372.00 | 5216 | 402.00 | 1797 | 441.10 | 39268 | | |
| 372.70 | 247 | 403.00 | 2568 | 442.00 | 236114 | | |
| 373.05 | 1086 | 403.80 | 408 | 443.00 | 45838 | | |
| 383.00 | 1275 | 404.00 | 765 | 443.80 | 153 | | |
| 383.80 | 218 | 421.00 | 2245 | 444.00 | 3803 | | |
| 384.10 | 142 | 422.00 | 2426 | 444.90 | 250 | | |
| 384.90 | 106 | 423.00 | 16992 | | | | |
| 390.00 | 530 | 424.00 | 3735 | | | | |
| 390.95 | 334 | 424.85 | 318 | | | | |
| 392.00 | 328 | 437.70 | 100 | | | | |
| 401.00 | 281 | 439.30 | 256 | | | | |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481141.D
Acq On    : 16 Apr 2019   3:25 pm
Operator  : angelar
Sample    : dftpp
Misc      : op17006,e6p2563,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 16 15:31:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration
```




TIC: 6p481141.D\data.ms

(1) Pentachlorophenol (t)

2.768min (-0.043) 0.00ng

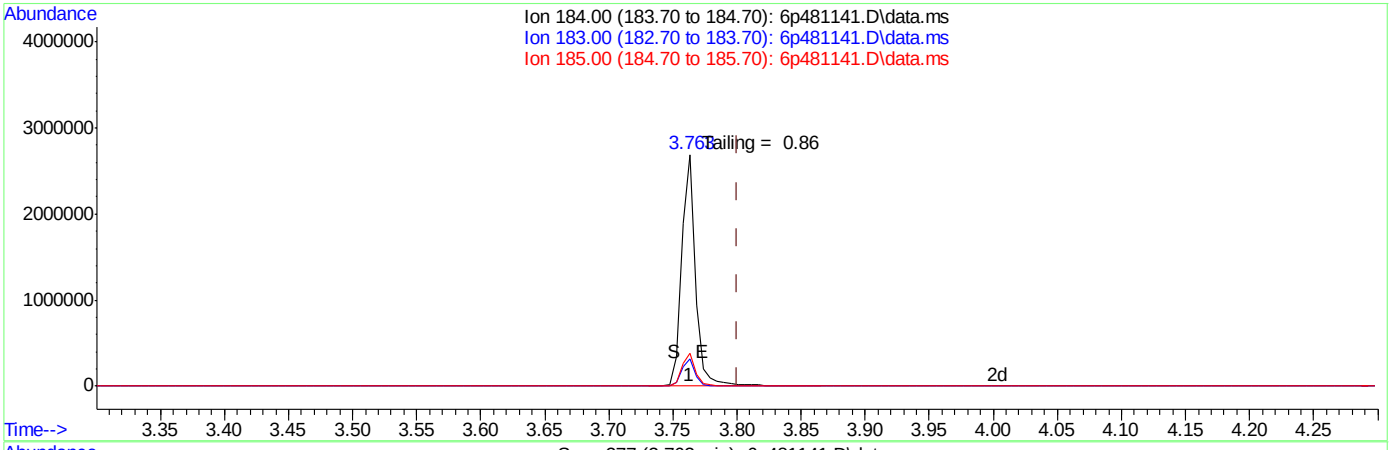
response 300355

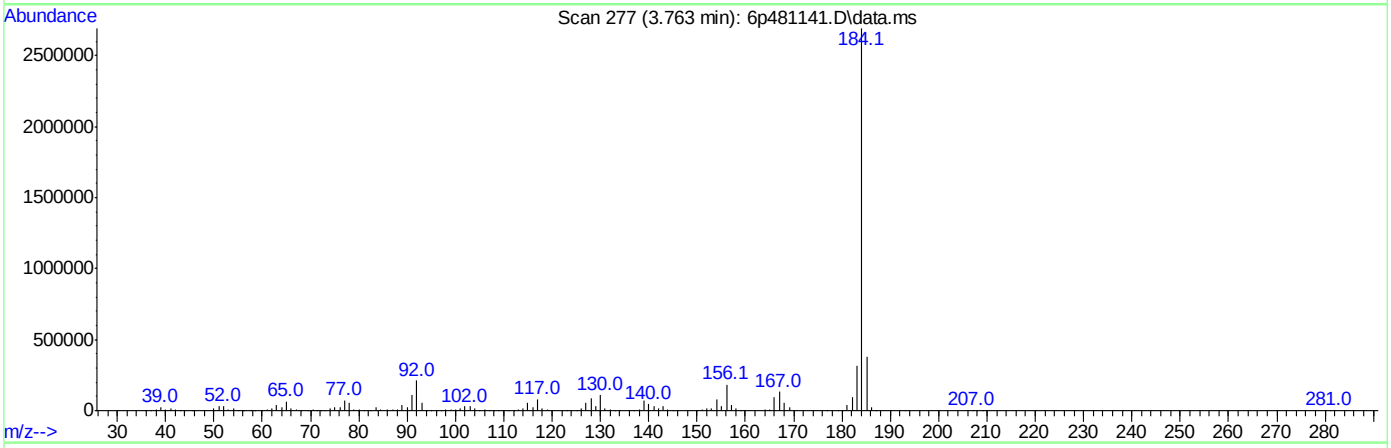
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 60.10 | 62.72 |
| 267.80 | 65.70 | 65.50 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481141.D
Acq On    : 16 Apr 2019   3:25 pm
Operator  : angelar
Sample    : dftpp
Misc      : op17006,e6p2563,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 16 15:31:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration
```




TIC: 6p481141.D\data.ms

(2) Benzidine (t)

3.763min (-0.037) 0.00ng

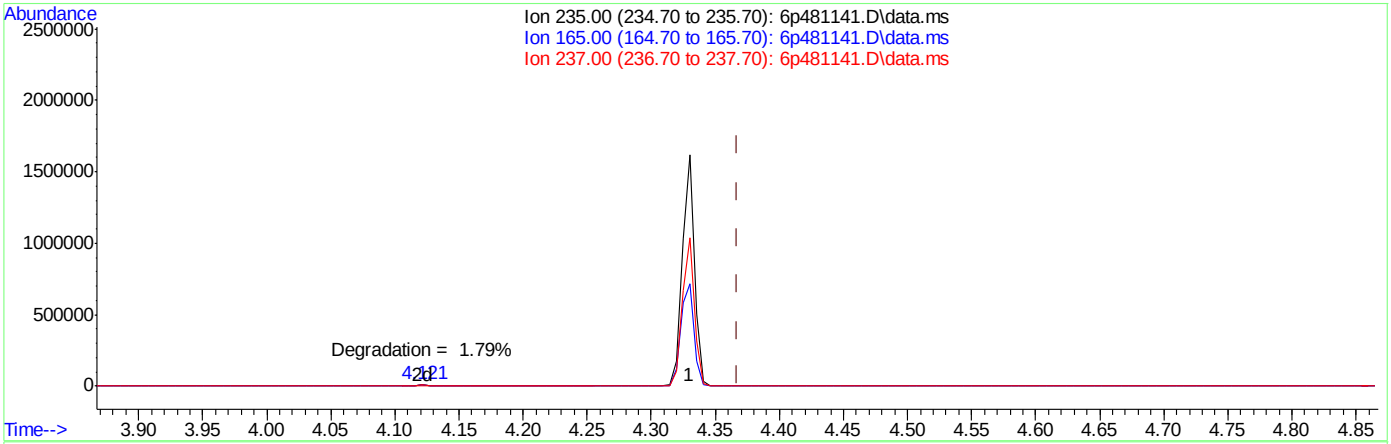
response 2078030

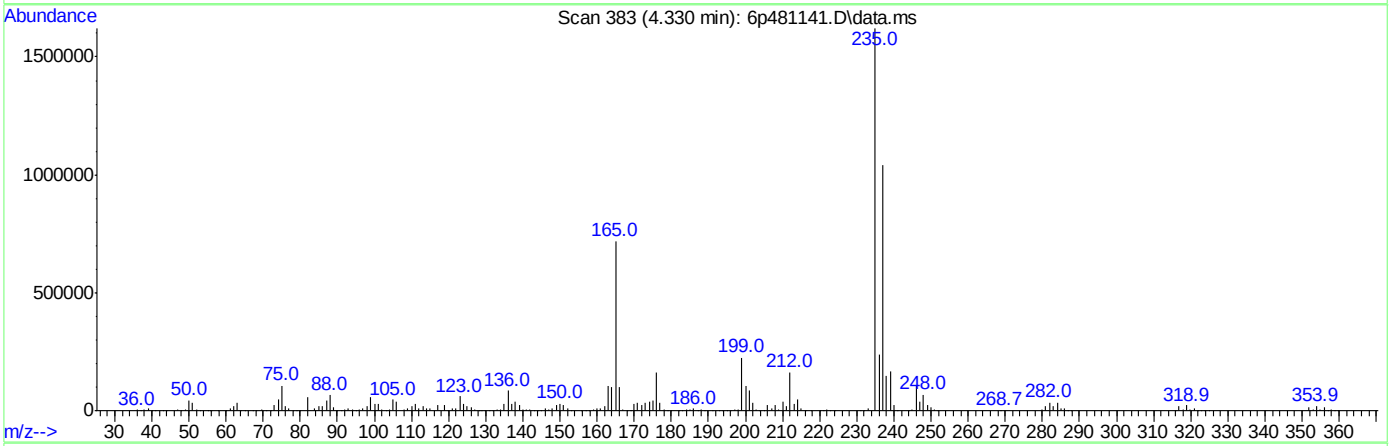
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 11.79 |
| 185.00 | 14.10 | 14.11 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481141.D
Acq On : 16 Apr 2019 3:25 pm
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 16 15:31:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration




TIC: 6p481141.D\data.ms

(3) PP-DDT (t)

4.330min (-0.037) 0.00ng

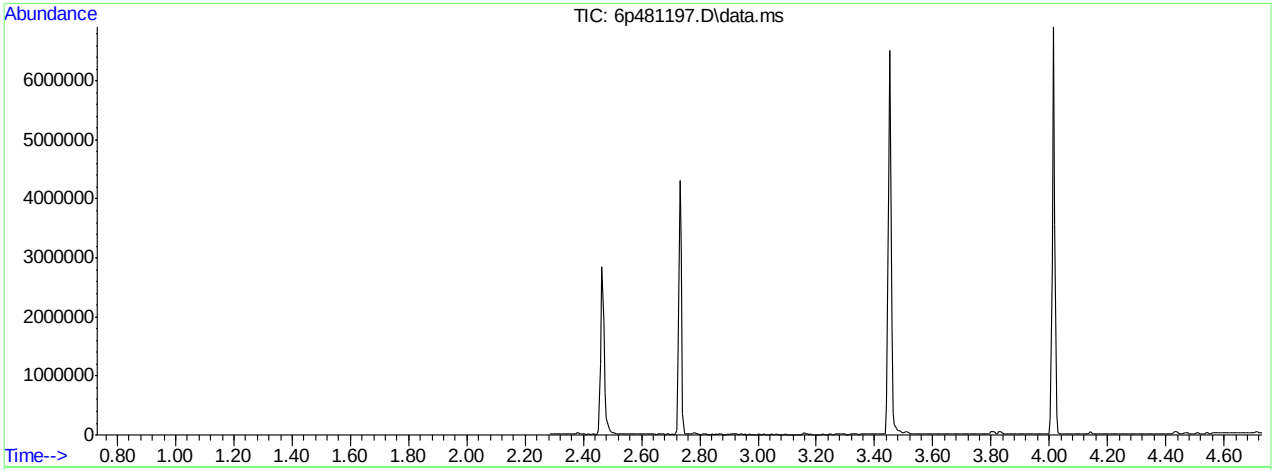
response 1083814

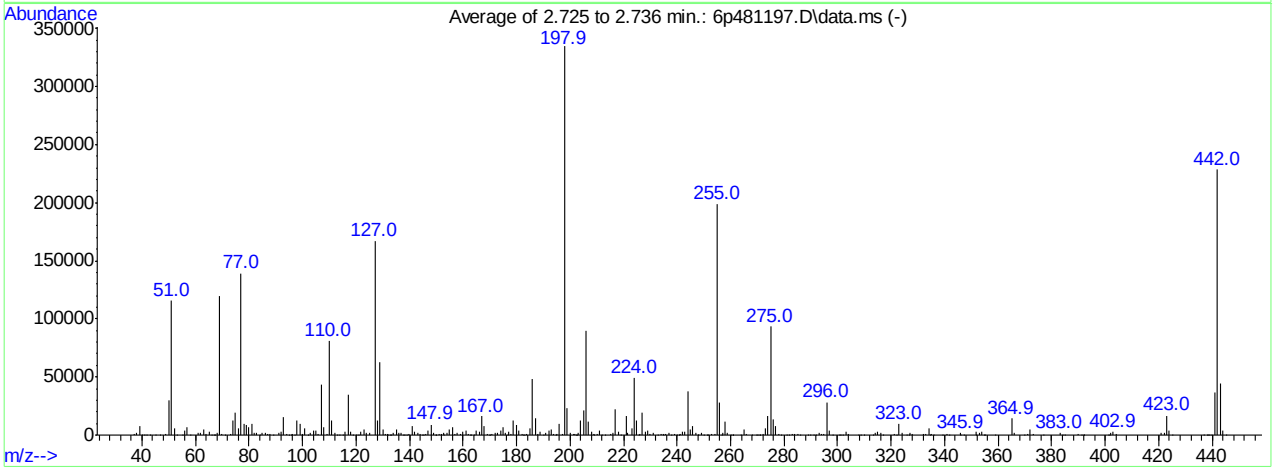
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 53.40 | 48.06 |
| 237.00 | 64.90 | 64.09 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E6P2566\6p481197.D  Vial: 1
Acq On : 18 Apr 2019 12:44 am  Operator: chriss2
Sample : dftpp  Inst : MS6P
Misc : op17006,e6p2566,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 83, 84, 85; Background Corrected with Scan 79

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 34.6 | 115586 | PASS |
| 68 | 69 | 0.00 | 2 | 1.9 | 2287 | PASS |
| 69 | 198 | 0.00 | 100 | 35.7 | 119281 | PASS |
| 70 | 69 | 0.00 | 2 | 0.6 | 744 | PASS |
| 127 | 198 | 40 | 60 | 50.0 | 167242 | PASS |
| 197 | 198 | 0.00 | 1 | 0.3 | 1015 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 334357 | PASS |
| 199 | 198 | 5 | 9 | 6.9 | 23137 | PASS |
| 275 | 198 | 10 | 30 | 27.9 | 93432 | PASS |
| 365 | 198 | 1 | 100 | 4.2 | 14022 | PASS |
| 441 | 443 | 0.10 | 100 | 83.5 | 36962 | PASS |
| 442 | 198 | 40 | 100 | 68.3 | 228512 | PASS |
| 443 | 442 | 17 | 23 | 19.4 | 44265 | PASS |

6p481197.D DFTPP6P.M Thu Apr 18 09:04:55 2019 ACLIMS

Average of 2.725 to 2.736 min.: 6p481197.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.95 | 582 | 51.00 | 115586 | 65.00 | 2502 | 76.00 | 6248 |
| 38.00 | 1592 | 52.00 | 5953 | 66.00 | 114 | 77.00 | 139261 |
| 39.00 | 7988 | 52.95 | 320 | 66.80 | 115 | 78.00 | 9392 |
| 39.90 | 222 | 54.95 | 296 | 67.10 | 139 | 79.00 | 8982 |
| 41.00 | 274 | 55.95 | 3709 | 67.95 | 2287 | 79.95 | 7191 |
| 41.90 | 113 | 57.00 | 7223 | 69.00 | 119281 | 80.95 | 9941 |
| 43.00 | 124 | 57.95 | 300 | 69.90 | 744 | 81.95 | 2438 |
| 44.90 | 243 | 60.95 | 1518 | 71.00 | 104 | 82.95 | 2074 |
| 46.90 | 114 | 62.00 | 1854 | 72.95 | 1062 | 83.95 | 249 |
| 48.95 | 610 | 63.00 | 4613 | 74.00 | 12229 | 85.00 | 1916 |
| 50.00 | 29845 | 64.00 | 658 | 75.00 | 19600 | 85.95 | 2242 |

Average of 2.725 to 2.736 min.: 6p481197.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 87.00 | 1353 | 97.95 | 12711 | 109.00 | 1437 | 119.90 | 286 |
| 87.95 | 591 | 99.00 | 10048 | 110.00 | 80658 | 120.80 | 220 |
| 88.90 | 120 | 99.95 | 992 | 111.00 | 12407 | 121.95 | 3314 |
| 91.00 | 2312 | 100.90 | 5500 | 112.00 | 1578 | 122.95 | 4880 |
| 92.00 | 2711 | 102.00 | 244 | 112.95 | 460 | 123.90 | 2042 |
| 93.00 | 15830 | 102.95 | 1901 | 113.90 | 108 | 125.00 | 1924 |
| 93.95 | 1047 | 103.95 | 3737 | 115.10 | 122 | 127.00 | 167242 |
| 94.90 | 461 | 104.95 | 3619 | 116.00 | 2624 | 128.00 | 12286 |
| 95.80 | 199 | 105.95 | 1008 | 117.00 | 35077 | 129.00 | 62976 |
| 96.00 | 574 | 107.00 | 43272 | 117.95 | 2607 | 129.95 | 5109 |
| 97.00 | 348 | 108.00 | 7117 | 118.95 | 351 | 130.90 | 1157 |

Average of 2.725 to 2.736 min.: 6p481197.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 131.80 | 184 | 139.90 | 810 | 149.80 | 270 | 158.95 | 1408 |
| 132.00 | 609 | 141.00 | 8106 | 150.00 | 129 | 159.95 | 2647 |
| 132.70 | 270 | 142.00 | 2537 | 151.05 | 1130 | 161.00 | 3754 |
| 132.95 | 243 | 142.95 | 1789 | 151.75 | 654 | 161.95 | 1002 |
| 133.95 | 2101 | 144.00 | 623 | 152.70 | 303 | 162.75 | 246 |
| 134.95 | 5025 | 144.80 | 433 | 152.90 | 2197 | 163.00 | 113 |
| 136.00 | 2064 | 145.00 | 145 | 153.95 | 1914 | 163.95 | 391 |
| 137.00 | 2292 | 145.95 | 1442 | 155.00 | 5077 | 164.95 | 3623 |
| 137.70 | 202 | 146.90 | 4331 | 156.00 | 6397 | 166.00 | 2624 |
| 138.00 | 120 | 147.95 | 8942 | 157.05 | 1473 | 167.00 | 16350 |
| 138.90 | 287 | 148.90 | 1823 | 157.95 | 1525 | 167.95 | 7526 |

Average of 2.725 to 2.736 min.: 6p481197.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 168.95 | 1308 | 177.90 | 928 | 188.05 | 1253 | 197.90 | 334357 |
| 169.75 | 448 | 178.90 | 12114 | 188.95 | 3160 | 198.90 | 23137 |
| 170.05 | 404 | 180.00 | 8814 | 189.90 | 457 | 199.90 | 1644 |
| 170.90 | 786 | 180.95 | 4095 | 190.95 | 1566 | 201.40 | 867 |
| 171.90 | 1792 | 181.95 | 742 | 191.95 | 3784 | 201.60 | 773 |
| 172.95 | 1978 | 182.60 | 107 | 193.00 | 4498 | 202.10 | 180 |
| 173.95 | 3410 | 182.95 | 317 | 193.90 | 1164 | 202.80 | 453 |
| 175.00 | 6828 | 183.95 | 1021 | 194.70 | 107 | 203.00 | 2318 |
| 175.95 | 1999 | 185.00 | 6039 | 195.10 | 610 | 203.95 | 12161 |
| 176.80 | 413 | 186.00 | 48082 | 196.00 | 9304 | 205.00 | 20876 |
| 176.95 | 2730 | 187.00 | 14309 | 197.00 | 1015 | 206.00 | 89928 |

Average of 2.725 to 2.736 min.: 6p481197.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 206.95 | 11216 | 217.90 | 3125 | 228.95 | 4280 | 240.00 | 421 |
| 207.95 | 3001 | 218.90 | 117 | 229.85 | 602 | 240.80 | 133 |
| 208.80 | 722 | 221.00 | 16798 | 230.95 | 1770 | 240.95 | 1087 |
| 209.00 | 339 | 221.65 | 2034 | 232.95 | 362 | 242.00 | 2763 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 210.00 | 1379 | 223.00 | 5652 | 233.90 | 1284 | 243.00 | 2473 |
| 210.95 | 3703 | 224.00 | 49074 | 234.80 | 111 | 244.00 | 37764 |
| 211.80 | 355 | 225.00 | 12339 | 235.00 | 1249 | 245.00 | 5178 |
| 213.05 | 207 | 225.80 | 207 | 235.90 | 1058 | 245.95 | 8049 |
| 215.00 | 1091 | 226.00 | 1235 | 236.95 | 1947 | 246.90 | 1571 |
| 215.95 | 2170 | 226.95 | 19417 | 238.00 | 146 | 247.70 | 102 |
| 216.90 | 22641 | 227.95 | 2800 | 238.95 | 886 | 248.00 | 188 |

Average of 2.725 to 2.736 min.: 6p481197.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 248.95 | 1522 | 258.95 | 2137 | 271.00 | 194 | 283.00 | 882 |
| 249.95 | 270 | 260.00 | 400 | 271.95 | 545 | 284.00 | 691 |
| 251.00 | 311 | 260.80 | 154 | 272.95 | 6188 | 284.95 | 1416 |
| 251.75 | 322 | 261.00 | 251 | 274.00 | 16815 | 285.90 | 137 |
| 253.00 | 985 | 263.90 | 72 | 275.00 | 93432 | 288.90 | 280 |
| 254.00 | 1014 | 264.95 | 4857 | 276.00 | 13389 | 289.70 | 234 |
| 255.00 | 199018 | 265.75 | 648 | 276.95 | 7816 | 291.00 | 137 |
| 256.00 | 28429 | 267.80 | 101 | 278.00 | 1304 | 292.00 | 460 |
| 256.80 | 254 | 269.60 | 121 | 279.00 | 118 | 292.95 | 1941 |
| 256.95 | 2064 | 269.90 | 161 | 280.95 | 266 | 293.95 | 653 |
| 257.90 | 11846 | 270.80 | 204 | 281.85 | 310 | 294.95 | 678 |

Average of 2.725 to 2.736 min.: 6p481197.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 296.00 | 28309 | 313.00 | 127 | 326.90 | 1824 | 345.80 | 134 |
| 296.95 | 3842 | 313.95 | 1685 | 327.95 | 785 | 345.95 | 1813 |
| 297.95 | 238 | 315.00 | 3396 | 332.00 | 620 | 346.95 | 330 |
| 300.70 | 178 | 316.00 | 1827 | 332.95 | 923 | 351.70 | 159 |
| 300.90 | 206 | 316.90 | 325 | 334.00 | 6270 | 351.95 | 2583 |
| 301.95 | 474 | 321.00 | 858 | 334.70 | 143 | 353.00 | 1899 |
| 302.95 | 3016 | 321.95 | 498 | 335.00 | 1339 | 354.00 | 3194 |
| 303.95 | 994 | 323.00 | 9599 | 336.00 | 137 | 354.80 | 262 |
| 307.85 | 385 | 323.95 | 2077 | 339.00 | 253 | 355.00 | 268 |
| 308.60 | 136 | 325.90 | 133 | 340.95 | 1162 | 358.80 | 214 |
| 309.95 | 253 | 326.60 | 127 | 341.90 | 159 | 364.95 | 14022 |

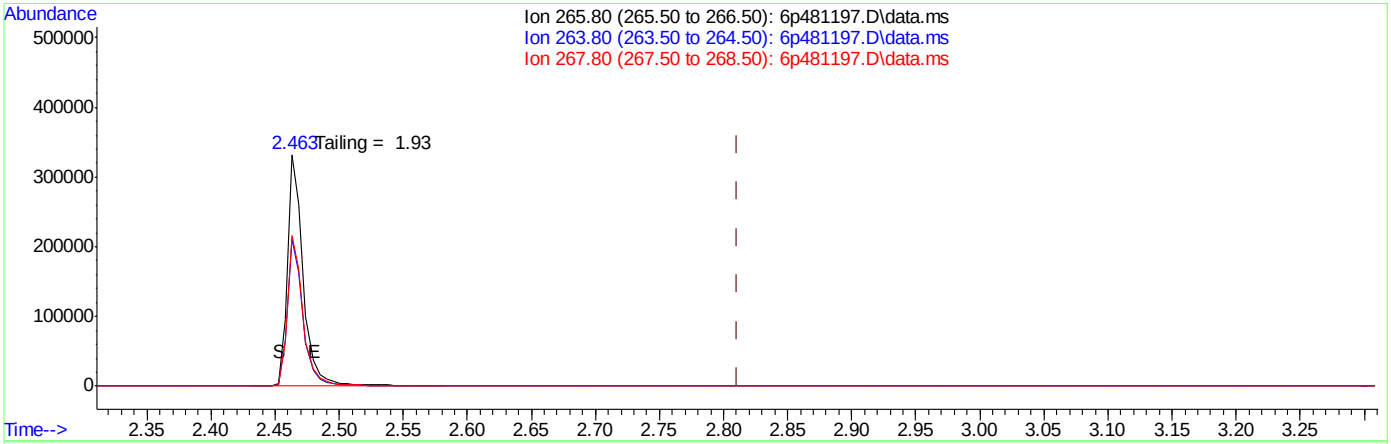
Average of 2.725 to 2.736 min.: 6p481197.D\data.ms
dftpp
Modified:subtracted

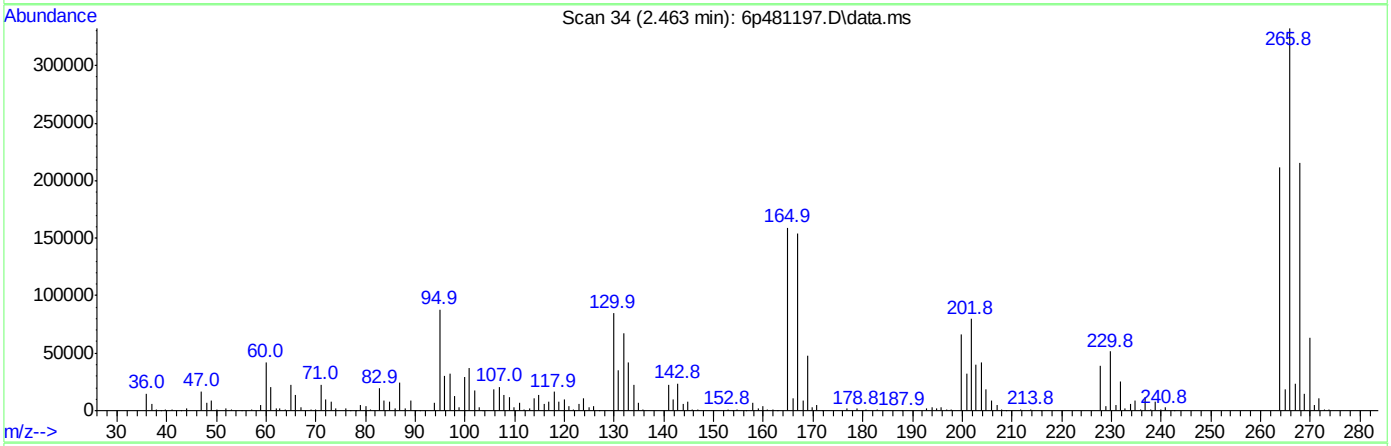
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 365.95 | 2178 | 391.80 | 208 | 425.00 | 399 | | |
| 369.95 | 365 | 392.10 | 120 | 437.00 | 108 | | |
| 371.00 | 759 | 401.00 | 320 | 437.90 | 161 | | |
| 372.00 | 5002 | 401.70 | 107 | 438.60 | 153 | | |
| 373.05 | 1047 | 401.95 | 1715 | 438.90 | 127 | | |
| 376.80 | 106 | 402.95 | 2618 | 439.75 | 335 | | |
| 383.00 | 1541 | 404.00 | 1125 | 441.05 | 36962 | | |
| 383.95 | 409 | 421.00 | 2069 | 442.00 | 228512 | | |
| 385.00 | 122 | 422.00 | 1983 | 443.00 | 44265 | | |
| 390.00 | 587 | 423.00 | 16766 | 444.00 | 4138 | | |
| 391.05 | 418 | 424.00 | 3573 | 445.00 | 232 | | |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481197.D
Acq On    : 18 Apr 2019  12:44 am
Operator  : chriss2
Sample    : dftpp
Misc      : op17006,e6p2566,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 18 00:50:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration
```




TIC: 6p481197.D\data.ms

(1) Pentachlorophenol (t)

2.463min (-0.348) 0.00ng m

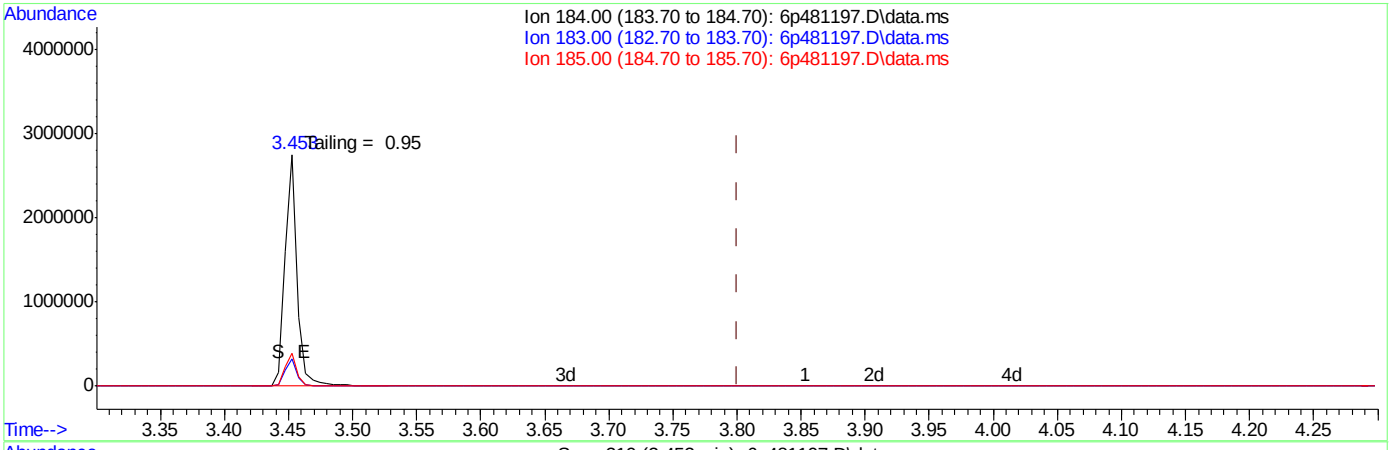
response 290947

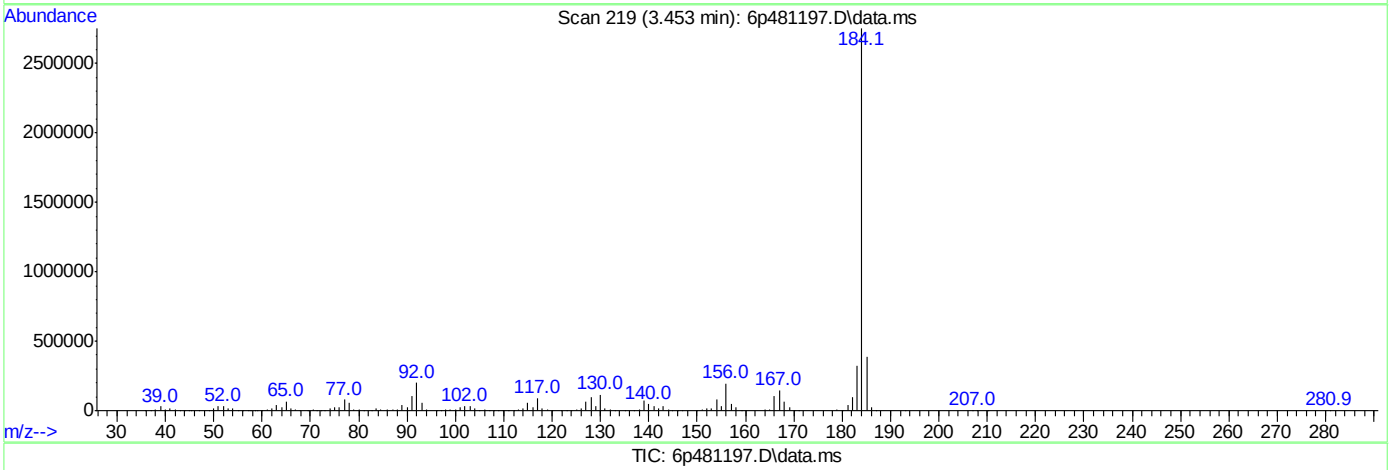
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 60.10 | 63.60 |
| 267.80 | 65.70 | 64.78 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481197.D
Acq On    : 18 Apr 2019  12:44 am
Operator  : chriss2
Sample    : dftpp
Misc      : op17006,e6p2566,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 18 00:50:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration
```




TIC: 6p481197.D\data.ms

(2) Benzidine (t)

3.453min (-0.348) 0.00ng m

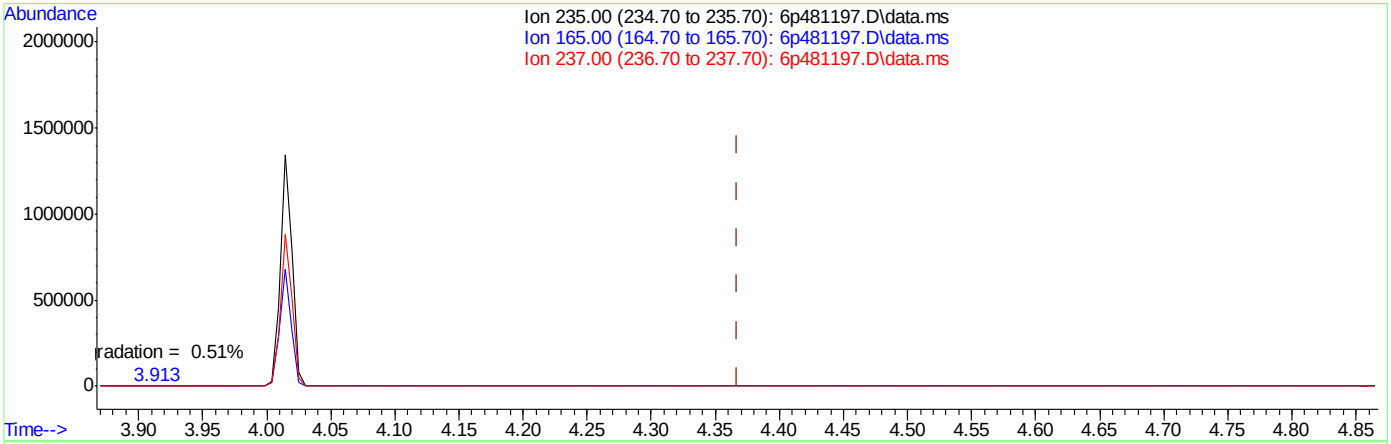
response 1871195

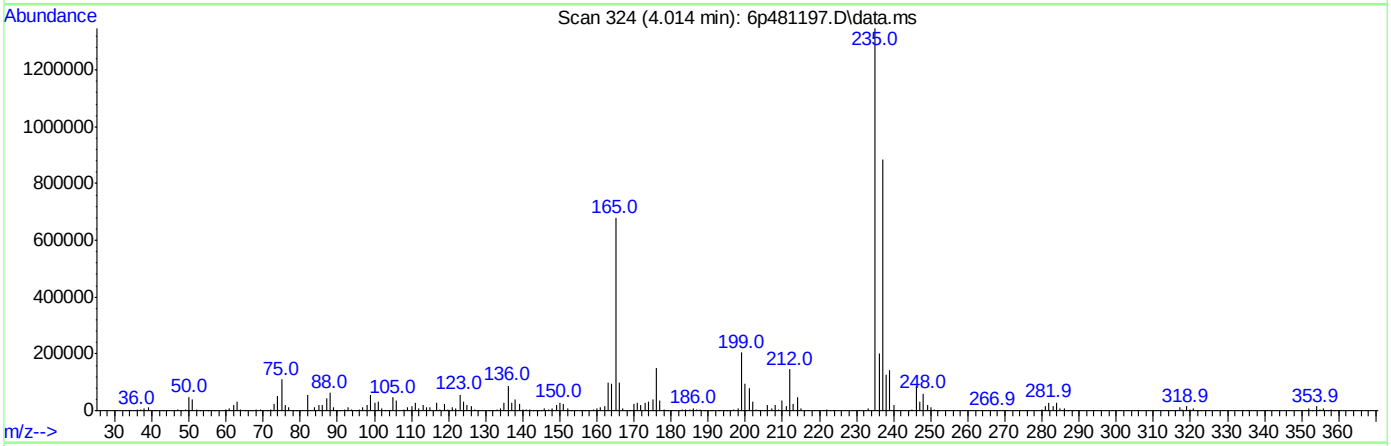
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 11.83 |
| 185.00 | 14.10 | 14.13 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481197.D
Acq On : 18 Apr 2019 12:44 am
Operator : chriss2
Sample : dftpp
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 00:50:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Sun Apr 14 13:25:38 2019
Response via : Initial Calibration




(3) PP-DDT (t)

4.014min (-0.353) 0.00ng m

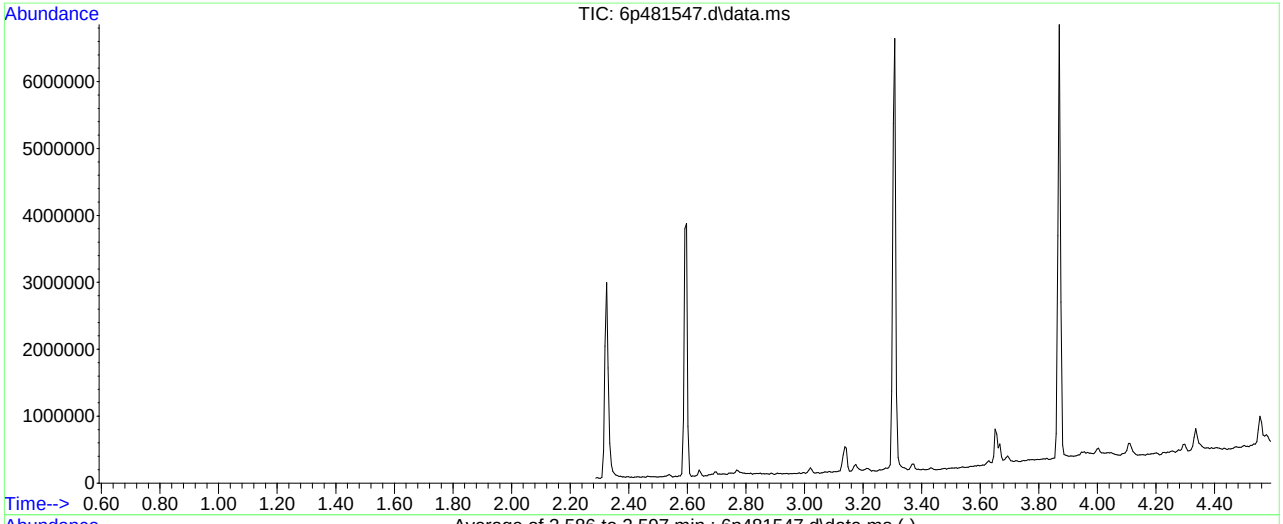
response 869590

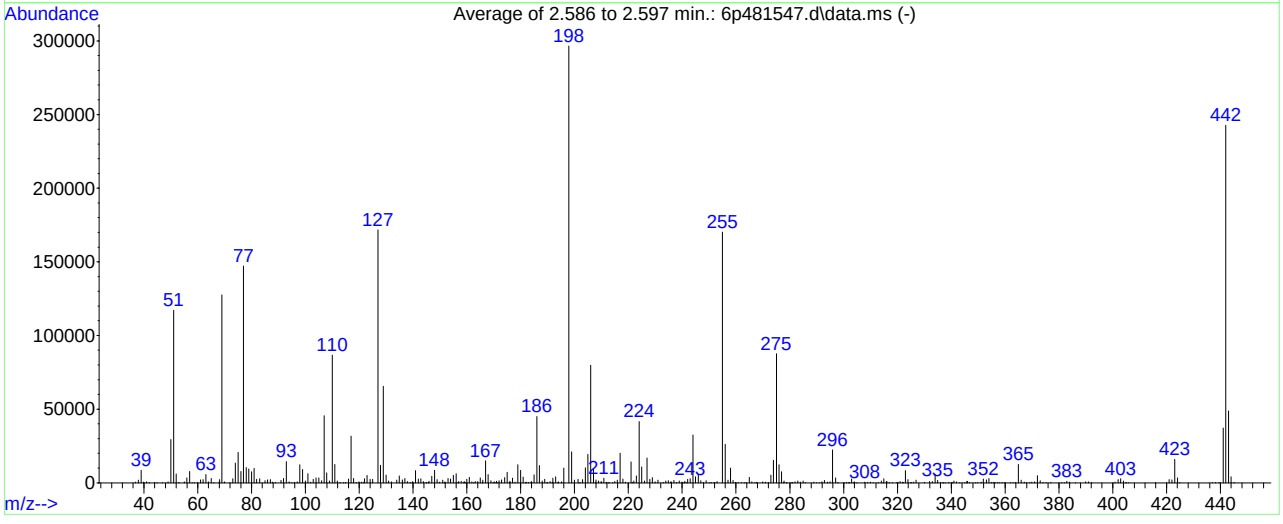
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 53.40 | 0.00# |
| 237.00 | 64.90 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\data\jeryllr\e6p2579\6p481547.d Vial: 1
Acq On : 2 May 2019 8:56 am Operator: angelar
Sample : dftpp Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 57, 58, 59; Background Corrected with Scan 53

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 39.5 | 117185 | PASS |
| 68 | 69 | 0.00 | 2 | 1.7 | 2209 | PASS |
| 69 | 198 | 0.00 | 100 | 43.0 | 127596 | PASS |
| 70 | 69 | 0.00 | 2 | 0.6 | 725 | PASS |
| 127 | 198 | 40 | 60 | 57.9 | 171707 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 296453 | PASS |
| 199 | 198 | 5 | 9 | 7.1 | 21069 | PASS |
| 275 | 198 | 10 | 30 | 29.6 | 87640 | PASS |
| 365 | 198 | 1 | 100 | 4.2 | 12543 | PASS |
| 441 | 443 | 0.10 | 100 | 76.5 | 37256 | PASS |
| 442 | 198 | 40 | 100 | 81.8 | 242643 | PASS |
| 443 | 442 | 17 | 23 | 20.1 | 48728 | PASS |

6p481547.d DFTPP6P.M Fri May 03 04:12:36 2019

Average of 2.586 to 2.597 min.: 6p481547.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.90 | 422 | 51.00 | 117185 | 63.00 | 5672 | 75.00 | 20578 |
| 37.95 | 1875 | 51.95 | 5974 | 63.95 | 729 | 76.00 | 7670 |
| 39.00 | 8433 | 53.00 | 276 | 65.00 | 2986 | 77.00 | 147166 |
| 39.95 | 562 | 55.00 | 613 | 65.90 | 104 | 78.00 | 10358 |
| 41.00 | 697 | 55.95 | 3350 | 67.90 | 575 | 79.00 | 9393 |
| 42.00 | 333 | 57.00 | 7690 | 68.10 | 2209 | 80.00 | 7562 |
| 43.95 | 249 | 57.90 | 183 | 69.00 | 127596 | 80.95 | 9881 |
| 44.95 | 161 | 58.80 | 159 | 69.95 | 725 | 81.90 | 2466 |
| 46.85 | 37 | 59.95 | 142 | 72.00 | 148 | 83.00 | 2749 |
| 49.00 | 746 | 61.00 | 1925 | 73.00 | 2859 | 85.00 | 1515 |
| 50.00 | 29372 | 61.95 | 2150 | 73.95 | 13332 | 85.90 | 2080 |

Average of 2.586 to 2.597 min.: 6p481547.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 86.95 | 2216 | 98.95 | 9092 | 109.95 | 86757 | 120.95 | 451 |
| 87.85 | 529 | 100.00 | 1240 | 110.95 | 12539 | 121.80 | 453 |
| 88.90 | 350 | 100.90 | 6139 | 111.90 | 1258 | 122.00 | 2805 |
| 90.95 | 1676 | 101.95 | 527 | 112.90 | 222 | 122.95 | 5044 |
| 91.90 | 2887 | 102.90 | 2425 | 114.20 | 125 | 124.00 | 2306 |
| 92.95 | 14399 | 103.95 | 3410 | 114.90 | 345 | 124.95 | 2399 |
| 93.95 | 701 | 104.95 | 3313 | 116.00 | 2647 | 127.00 | 171707 |
| 95.00 | 149 | 106.00 | 1519 | 116.95 | 31647 | 127.95 | 11868 |
| 95.90 | 301 | 107.00 | 45644 | 117.90 | 2920 | 128.90 | 65539 |
| 96.95 | 746 | 107.95 | 6765 | 118.85 | 217 | 129.95 | 5231 |
| 97.95 | 12375 | 109.00 | 1293 | 119.90 | 621 | 130.90 | 1232 |

Average of 2.586 to 2.597 min.: 6p481547.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 131.95 | 742 | 142.95 | 2857 | 151.70 | 400 | 159.50 | 152 |
| 133.95 | 1890 | 143.85 | 824 | 152.00 | 495 | 159.95 | 2378 |
| 134.90 | 4648 | 144.90 | 381 | 152.95 | 3046 | 160.95 | 3692 |
| 136.00 | 2032 | 145.10 | 235 | 153.90 | 2484 | 161.90 | 618 |
| 137.00 | 2979 | 145.70 | 191 | 154.95 | 5062 | 162.60 | 157 |
| 137.90 | 779 | 145.95 | 1064 | 156.00 | 6169 | 163.05 | 790 |
| 138.90 | 239 | 147.00 | 4470 | 156.80 | 273 | 164.00 | 780 |
| 139.70 | 190 | 147.95 | 8446 | 156.95 | 795 | 164.95 | 3378 |
| 139.90 | 779 | 148.95 | 2174 | 157.90 | 1051 | 165.80 | 456 |
| 140.95 | 8285 | 149.90 | 443 | 158.80 | 208 | 165.90 | 1736 |
| 141.95 | 2513 | 151.05 | 1822 | 159.00 | 768 | 166.95 | 15026 |

Average of 2.586 to 2.597 min.: 6p481547.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 167.90 | 5723 | 175.80 | 442 | 184.05 | 804 | 192.95 | 4074 |
| 168.90 | 1529 | 176.00 | 1076 | 185.00 | 5354 | 193.80 | 391 |
| 169.80 | 278 | 176.90 | 3183 | 186.00 | 45004 | 194.05 | 667 |
| 170.15 | 630 | 177.90 | 528 | 186.95 | 11795 | 195.15 | 738 |
| 170.80 | 116 | 178.90 | 12231 | 187.95 | 1247 | 196.00 | 9954 |
| 171.00 | 1079 | 180.00 | 8435 | 188.95 | 2327 | 197.90 | 296453 |
| 171.30 | 188 | 180.95 | 3901 | 189.75 | 328 | 198.90 | 21069 |
| 171.95 | 1488 | 181.80 | 373 | 190.00 | 203 | 199.95 | 1889 |
| 172.90 | 1955 | 182.10 | 534 | 190.95 | 937 | 201.35 | 2426 |
| 174.00 | 3614 | 182.85 | 352 | 191.70 | 403 | 202.00 | 342 |
| 175.00 | 7107 | 183.80 | 480 | 191.90 | 3143 | 202.95 | 2248 |

Average of 2.586 to 2.597 min.: 6p481547.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 204.00 | 10147 | 211.90 | 226 | 222.00 | 1165 | 233.95 | 1325 |
| 205.00 | 19261 | 212.70 | 114 | 222.95 | 4733 | 234.90 | 1530 |
| 206.00 | 79907 | 212.90 | 161 | 224.00 | 41488 | 235.80 | 647 |
| 207.00 | 9684 | 214.10 | 107 | 225.00 | 10768 | 236.00 | 475 |
| 207.80 | 333 | 215.00 | 878 | 226.00 | 1178 | 236.95 | 1597 |
| 207.95 | 1966 | 215.95 | 1768 | 226.90 | 16781 | 237.85 | 227 |
| 208.95 | 1157 | 216.90 | 19992 | 227.95 | 2417 | 238.90 | 1185 |
| 209.85 | 635 | 217.95 | 2574 | 228.95 | 3617 | 239.95 | 497 |
| 210.10 | 612 | 218.95 | 408 | 229.95 | 687 | 240.30 | 105 |
| 210.95 | 3165 | 221.00 | 14276 | 230.95 | 1764 | 240.80 | 114 |
| 211.70 | 396 | 221.60 | 351 | 232.95 | 387 | 240.95 | 1123 |

Average of 2.586 to 2.597 min.: 6p481547.d\data.ms

DFTPP6P.M Fri May 03 04:12:16 2019

dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 241.60 | 184 | 251.85 | 347 | 263.10 | 127 | 273.95 | 15263 |
| 242.00 | 2305 | 252.10 | 136 | 263.85 | 301 | 275.00 | 87640 |
| 243.00 | 2699 | 252.95 | 886 | 264.95 | 3659 | 276.00 | 12334 |
| 244.00 | 32542 | 254.95 | 170189 | 265.85 | 627 | 276.90 | 7479 |
| 245.00 | 4149 | 256.00 | 26207 | 267.00 | 101 | 277.70 | 154 |
| 245.95 | 5881 | 257.00 | 1848 | 267.70 | 288 | 277.90 | 1199 |
| 246.90 | 1465 | 258.00 | 10027 | 268.00 | 149 | 278.70 | 105 |
| 247.85 | 344 | 258.95 | 1669 | 269.95 | 596 | 278.95 | 296 |
| 248.95 | 1444 | 259.85 | 386 | 270.95 | 545 | 280.80 | 212 |
| 250.10 | 121 | 260.80 | 280 | 272.00 | 388 | 281.05 | 327 |
| 250.80 | 270 | 262.00 | 192 | 272.95 | 5201 | 281.95 | 661 |

Average of 2.586 to 2.597 min.: 6p481547.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 283.00 | 1299 | 295.90 | 22432 | 307.85 | 521 | 318.10 | 101 |
| 283.85 | 519 | 297.00 | 3355 | 308.90 | 209 | 319.80 | 256 |
| 284.95 | 1213 | 297.85 | 384 | 309.90 | 449 | 320.20 | 114 |
| 285.80 | 113 | 300.10 | 163 | 311.00 | 107 | 321.00 | 871 |
| 288.95 | 426 | 301.05 | 362 | 312.90 | 255 | 321.90 | 539 |
| 289.90 | 187 | 301.90 | 333 | 314.00 | 1255 | 322.10 | 250 |
| 291.00 | 177 | 302.10 | 338 | 314.70 | 188 | 323.00 | 8376 |
| 291.95 | 737 | 302.95 | 2602 | 314.90 | 2763 | 323.90 | 2152 |
| 292.90 | 1672 | 303.70 | 163 | 315.90 | 837 | 324.90 | 129 |
| 294.00 | 463 | 304.05 | 760 | 316.10 | 864 | 325.10 | 215 |
| 294.95 | 726 | 304.90 | 178 | 316.90 | 313 | 325.95 | 488 |

Average of 2.586 to 2.597 min.: 6p481547.d\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 326.90 | 1789 | 340.00 | 87 | 351.10 | 475 | 359.95 | 305 |
| 330.05 | 226 | 340.40 | 134 | 351.95 | 2526 | 362.00 | 117 |
| 331.95 | 882 | 341.00 | 1284 | 353.05 | 2066 | 362.90 | 120 |
| 332.95 | 847 | 341.90 | 650 | 354.00 | 2873 | 363.85 | 361 |
| 334.00 | 5761 | 343.20 | 135 | 354.95 | 244 | 364.90 | 12543 |
| 334.95 | 1719 | 345.00 | 103 | 355.60 | 121 | 365.95 | 1866 |
| 336.10 | 298 | 345.80 | 864 | 356.00 | 247 | 367.10 | 587 |
| 336.90 | 132 | 346.00 | 971 | 356.30 | 160 | 367.90 | 141 |
| 337.10 | 113 | 346.85 | 350 | 357.10 | 20 | 369.10 | 110 |
| 337.70 | 108 | 349.00 | 124 | 357.80 | 137 | 369.95 | 583 |
| 339.05 | 364 | 349.80 | 249 | 358.90 | 363 | 371.00 | 761 |

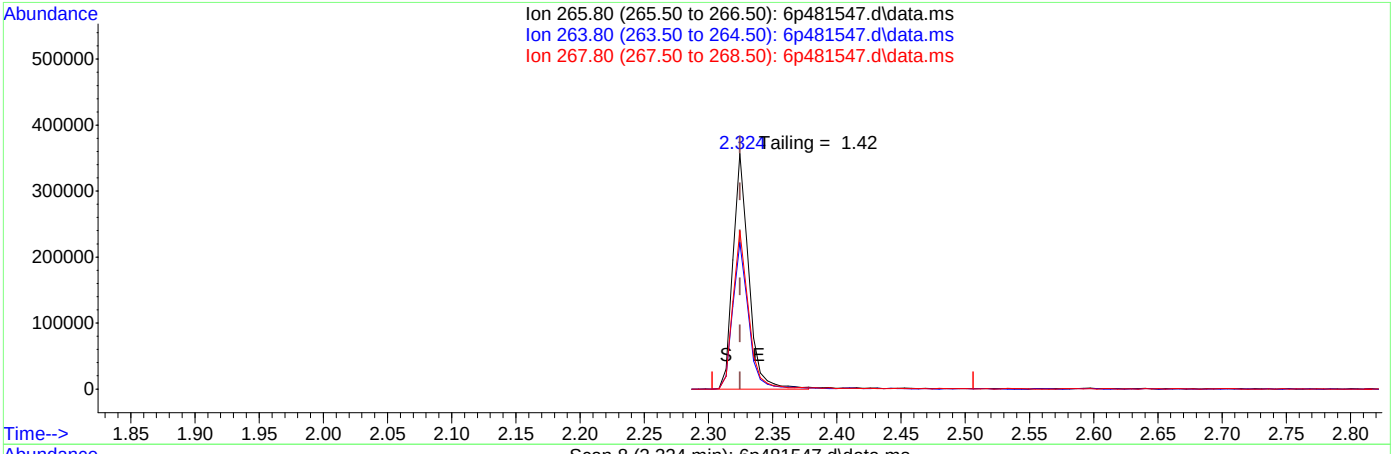
Average of 2.586 to 2.597 min.: 6p481547.d\data.ms
dftpp
Modified:subtracted

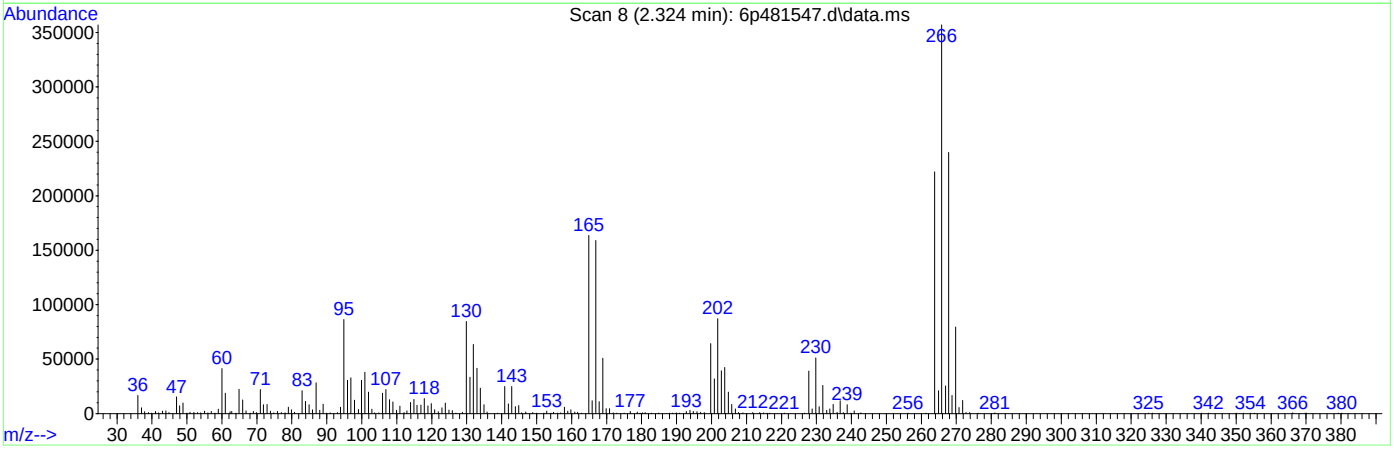
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 372.00 | 4780 | 391.00 | 614 | 421.95 | 2039 | 445.10 | 217 |
| 373.05 | 1377 | 392.10 | 42 | 423.00 | 15955 | | |
| 374.05 | 373 | 400.85 | 436 | 424.05 | 3342 | | |
| 375.20 | 137 | 402.00 | 2212 | 424.90 | 106 | | |
| 376.95 | 306 | 402.95 | 2673 | 437.10 | 125 | | |
| 381.10 | 131 | 404.00 | 1196 | 438.25 | 293 | | |
| 382.00 | 118 | 404.80 | 196 | 439.50 | 221 | | |
| 382.95 | 1092 | 405.10 | 103 | 441.00 | 37256 | | |
| 384.00 | 499 | 406.00 | 145 | 442.00 | 242643 | | |
| 386.20 | 104 | 415.90 | 116 | 443.00 | 48728 | | |
| 389.95 | 763 | 420.90 | 2155 | 444.00 | 4104 | | |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481547.d
Acq On    :  2 May 2019   8:56 am
Operator  : angelar
Sample    : dftpp                                    Inst     : MS6P
Misc      : op17006,e6p2579,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Results File: DFTPP6P.RES
Quant Time: May 03 04:13:29 2019
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri May 03 04:13:23 2019
Response via : Initial Calibration
```




TIC: 6p481547.d\data.ms

(1) Pentachlorophenol (t)

2.324min (0.000) 0.00ppb

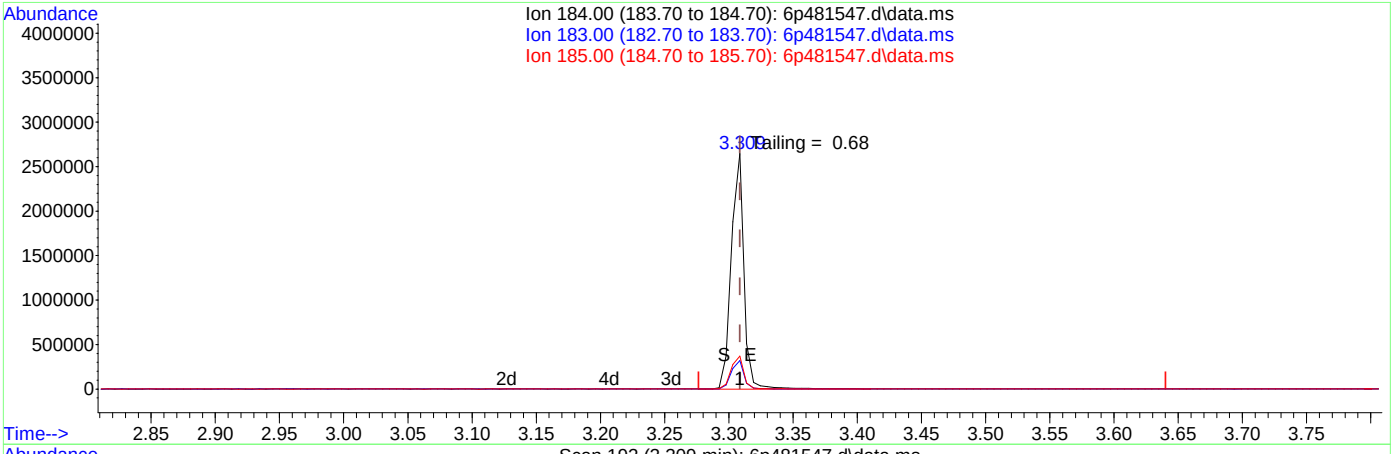
response 313436

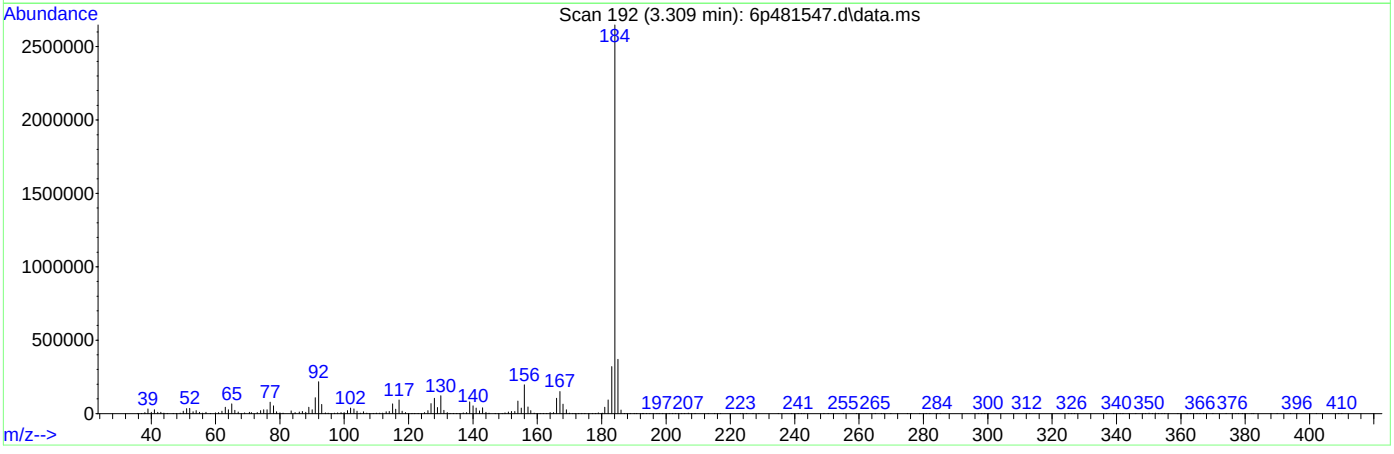
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 62.20 | 62.17 |
| 267.80 | 67.10 | 67.13 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481547.d
Acq On    :  2 May 2019   8:56 am
Operator  : angelar
Sample    : dftpp                                    Inst     : MS6P
Misc      : op17006,e6p2579,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Results File: DFTPP6P.RES
Quant Time: May 03 04:13:29 2019
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri May 03 04:13:23 2019
Response via : Initial Calibration
```




TIC: 6p481547.d\data.ms

(2) Benzidine (t)

3.309min (0.000) 0.00ppb

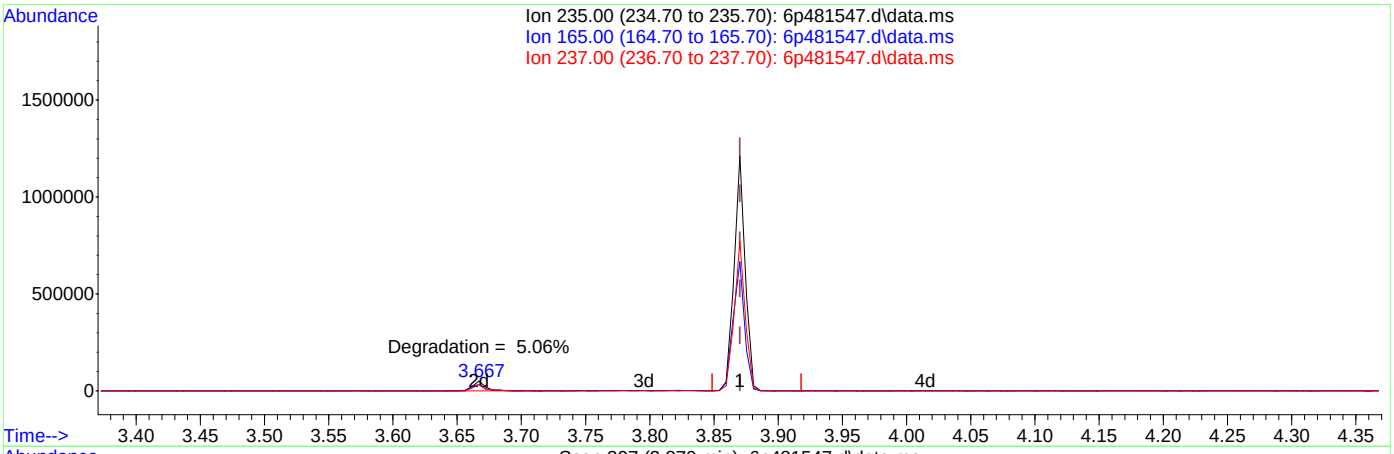
response 1831851

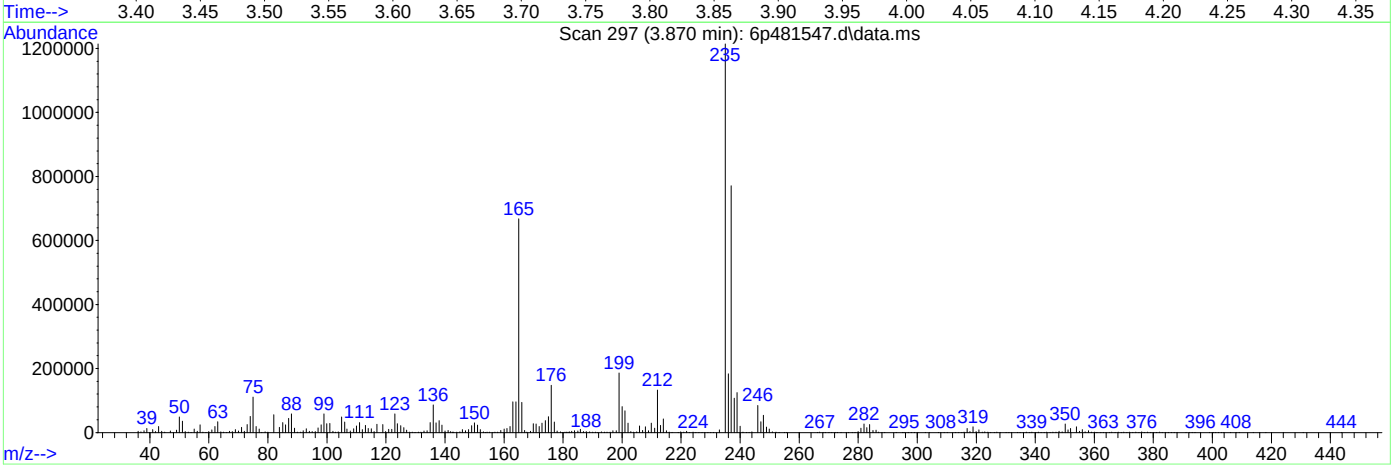
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 12.10 | 12.05 |
| 185.00 | 14.00 | 13.93 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481547.d
Acq On    :  2 May 2019   8:56 am
Operator  : angelar
Sample    : dftpp                                    Inst     : MS6P
Misc      : op17006,e6p2579,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Results File: DFTPP6P.RES
Quant Time: May 03 04:13:29 2019
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri May 03 04:13:23 2019
Response via : Initial Calibration
```




TIC: 6p481547.d\data.ms

(3) PP-DDT (t)

3.870min (0.000) 0.00ppb

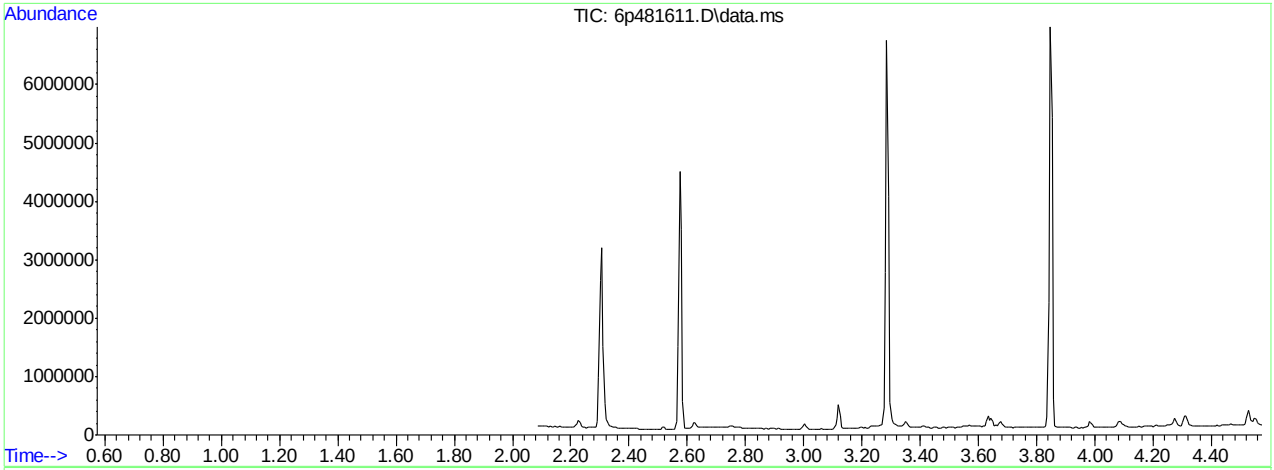
response 733526

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 54.90 | 56.46 |
| 237.00 | 63.50 | 63.45 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E6P2581\6p481611.D  Vial: 1
Acq On : 3 May 2019 1:27 pm  Operator: angelar
Sample : dftpp  Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 91, 92, 93; Background Corrected with Scan 86

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 38.4 | 126130 | PASS |
| 68 | 69 | 0.00 | 2 | 1.9 | 2689 | PASS |
| 69 | 198 | 0.00 | 100 | 42.0 | 138014 | PASS |
| 70 | 69 | 0.00 | 2 | 0.6 | 773 | PASS |
| 127 | 198 | 40 | 60 | 56.8 | 186471 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 328234 | PASS |
| 199 | 198 | 5 | 9 | 6.8 | 22438 | PASS |
| 275 | 198 | 10 | 30 | 27.3 | 89594 | PASS |
| 365 | 198 | 1 | 100 | 4.4 | 14527 | PASS |
| 441 | 443 | 0.10 | 100 | 80.5 | 43212 | PASS |
| 442 | 198 | 40 | 100 | 85.8 | 281778 | PASS |
| 443 | 442 | 17 | 23 | 19.1 | 53702 | PASS |

6p481611.D DFTPP6P.M Fri May 03 14:22:44 2019 ACLIMS

Average of 2.568 to 2.579 min.: 6p481611.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.85 | 199 | 53.90 | 324 | 67.00 | 17 | 78.00 | 11034 |
| 36.90 | 605 | 55.00 | 321 | 67.95 | 2689 | 78.90 | 9468 |
| 37.90 | 1137 | 56.00 | 3756 | 68.90 | 138014 | 79.95 | 7693 |
| 39.00 | 8857 | 57.00 | 8685 | 70.00 | 773 | 80.95 | 11593 |
| 39.90 | 697 | 57.95 | 190 | 71.00 | 796 | 81.90 | 2981 |
| 46.95 | 20 | 60.90 | 1658 | 71.90 | 100 | 83.00 | 2704 |
| 48.90 | 789 | 61.95 | 2053 | 73.00 | 1337 | 83.90 | 526 |
| 49.95 | 32030 | 63.00 | 4886 | 73.95 | 13684 | 85.00 | 1981 |
| 50.95 | 126130 | 63.95 | 787 | 74.95 | 22007 | 85.95 | 2602 |
| 51.95 | 6278 | 64.95 | 2302 | 76.00 | 8055 | 86.90 | 1343 |
| 53.00 | 156 | 66.05 | 579 | 76.95 | 161259 | 87.90 | 749 |

Average of 2.568 to 2.579 min.: 6p481611.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 89.00 | 563 | 99.90 | 1407 | 110.90 | 14554 | 122.90 | 5008 |
| 89.90 | 106 | 100.90 | 6566 | 112.00 | 1408 | 123.90 | 2395 |
| 90.95 | 2540 | 101.75 | 346 | 112.95 | 432 | 124.95 | 2970 |
| 91.95 | 3451 | 102.90 | 1918 | 114.90 | 171 | 126.05 | 318 |
| 92.95 | 18082 | 103.95 | 4485 | 115.95 | 3362 | 126.95 | 186471 |
| 93.85 | 845 | 104.90 | 3287 | 116.90 | 37039 | 127.95 | 13964 |
| 94.95 | 28 | 106.05 | 1378 | 117.95 | 2947 | 128.90 | 75892 |
| 95.90 | 845 | 106.95 | 50328 | 118.90 | 901 | 129.95 | 6329 |
| 97.00 | 472 | 108.00 | 7536 | 119.95 | 1041 | 130.95 | 1099 |
| 97.90 | 13772 | 109.00 | 1375 | 120.95 | 192 | 131.80 | 111 |
| 98.90 | 10744 | 109.90 | 93291 | 121.95 | 4119 | 131.95 | 812 |

Average of 2.568 to 2.579 min.: 6p481611.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 132.90 | 254 | 144.05 | 738 | 153.95 | 2544 | 164.90 | 3540 |
| 133.90 | 1492 | 144.90 | 432 | 154.90 | 5011 | 165.95 | 2875 |
| 134.95 | 5772 | 145.90 | 1906 | 156.00 | 7847 | 166.90 | 16987 |
| 135.90 | 2986 | 146.90 | 4637 | 156.95 | 1614 | 168.00 | 7338 |
| 136.95 | 2571 | 147.90 | 10085 | 158.00 | 1904 | 169.00 | 1457 |
| 137.90 | 956 | 148.95 | 2298 | 158.95 | 1418 | 170.05 | 929 |
| 138.90 | 424 | 149.85 | 435 | 159.90 | 2935 | 171.00 | 1153 |
| 139.95 | 1089 | 150.95 | 1508 | 160.95 | 4229 | 171.90 | 1497 |
| 140.90 | 8527 | 151.70 | 849 | 161.90 | 1520 | 172.90 | 1717 |
| 141.95 | 3273 | 152.00 | 192 | 163.85 | 344 | 173.90 | 3620 |
| 142.95 | 1555 | 152.95 | 2519 | 164.10 | 482 | 175.00 | 7504 |

Average of 2.568 to 2.579 min.: 6p481611.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 176.00 | 2210 | 185.00 | 7231 | 195.95 | 9789 | 206.00 | 89562 |
| 176.95 | 3281 | 186.00 | 49162 | 196.60 | 562 | 207.00 | 10738 |
| 177.70 | 244 | 187.00 | 14452 | 197.90 | 328234 | 207.90 | 3374 |
| 177.95 | 1207 | 187.95 | 1334 | 198.90 | 22438 | 208.90 | 1090 |
| 178.90 | 12813 | 188.90 | 3441 | 199.95 | 1992 | 209.95 | 1581 |
| 180.00 | 8965 | 189.90 | 581 | 200.60 | 148 | 210.90 | 3334 |
| 180.85 | 3995 | 190.95 | 1267 | 201.25 | 1114 | 211.70 | 157 |
| 182.00 | 459 | 191.95 | 4422 | 201.50 | 571 | 212.00 | 313 |
| 182.80 | 457 | 192.95 | 4643 | 202.95 | 2521 | 212.95 | 461 |
| 183.80 | 225 | 193.90 | 880 | 203.95 | 11521 | 214.80 | 162 |
| 183.95 | 1134 | 195.00 | 745 | 205.00 | 21113 | 214.95 | 877 |

Average of 2.568 to 2.579 min.: 6p481611.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 215.70 | 247 | 225.80 | 127 | 234.90 | 1449 | 245.90 | 7109 |
| 216.05 | 1568 | 226.00 | 596 | 235.90 | 1063 | 246.90 | 1295 |
| 216.90 | 22189 | 226.90 | 20261 | 236.95 | 1574 | 247.75 | 317 |
| 217.90 | 3037 | 227.90 | 3263 | 238.05 | 373 | 248.85 | 1131 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 219.00 | 456 | 228.95 | 4103 | 238.85 | 1210 | 249.90 | 260 |
| 220.00 | 449 | 229.85 | 740 | 239.90 | 441 | 250.90 | 522 |
| 221.00 | 16202 | 230.70 | 155 | 241.00 | 1097 | 251.95 | 570 |
| 221.90 | 2549 | 230.95 | 1892 | 241.90 | 2882 | 252.90 | 1168 |
| 222.90 | 5324 | 231.90 | 153 | 242.95 | 2861 | 254.95 | 190480 |
| 224.00 | 47061 | 232.85 | 354 | 244.00 | 37010 | 256.00 | 28642 |
| 225.00 | 11790 | 233.90 | 1238 | 244.95 | 4946 | 256.80 | 245 |

Average of 2.568 to 2.579 min.: 6p481611.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 257.00 | 1796 | 266.90 | 240 | 278.90 | 269 | 292.95 | 1933 |
| 257.95 | 11193 | 267.85 | 240 | 280.90 | 275 | 293.90 | 381 |
| 258.95 | 2011 | 269.85 | 240 | 282.05 | 354 | 295.00 | 386 |
| 259.95 | 344 | 270.90 | 457 | 283.00 | 849 | 295.90 | 26063 |
| 260.95 | 303 | 271.85 | 503 | 284.00 | 573 | 296.90 | 3735 |
| 263.00 | 242 | 272.90 | 6361 | 284.95 | 1299 | 297.90 | 168 |
| 263.40 | 143 | 274.00 | 16958 | 286.00 | 296 | 300.95 | 481 |
| 263.95 | 413 | 275.00 | 89594 | 288.75 | 383 | 302.05 | 516 |
| 264.90 | 5144 | 275.95 | 11987 | 289.80 | 268 | 303.00 | 3034 |
| 265.80 | 809 | 277.00 | 7795 | 291.00 | 105 | 304.00 | 1106 |
| 266.70 | 191 | 277.90 | 1025 | 291.85 | 393 | 307.00 | 105 |

Average of 2.568 to 2.579 min.: 6p481611.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 307.85 | 439 | 321.00 | 854 | 334.00 | 6325 | 352.95 | 1694 |
| 309.00 | 178 | 322.00 | 505 | 334.80 | 200 | 353.70 | 291 |
| 309.85 | 344 | 323.00 | 9529 | 334.95 | 1567 | 353.95 | 2994 |
| 312.90 | 253 | 324.00 | 1534 | 336.00 | 149 | 354.90 | 640 |
| 313.95 | 1462 | 324.90 | 173 | 339.00 | 138 | 358.95 | 422 |
| 314.70 | 276 | 325.95 | 263 | 339.70 | 105 | 364.90 | 14527 |
| 314.95 | 3030 | 326.90 | 1636 | 340.95 | 1264 | 365.90 | 2053 |
| 316.00 | 1742 | 327.95 | 991 | 341.85 | 370 | 366.80 | 115 |
| 316.90 | 184 | 329.00 | 153 | 345.90 | 2168 | 370.10 | 189 |
| 317.10 | 158 | 331.85 | 596 | 346.85 | 276 | 370.90 | 741 |
| 320.70 | 352 | 332.90 | 780 | 351.95 | 2924 | 372.00 | 6095 |

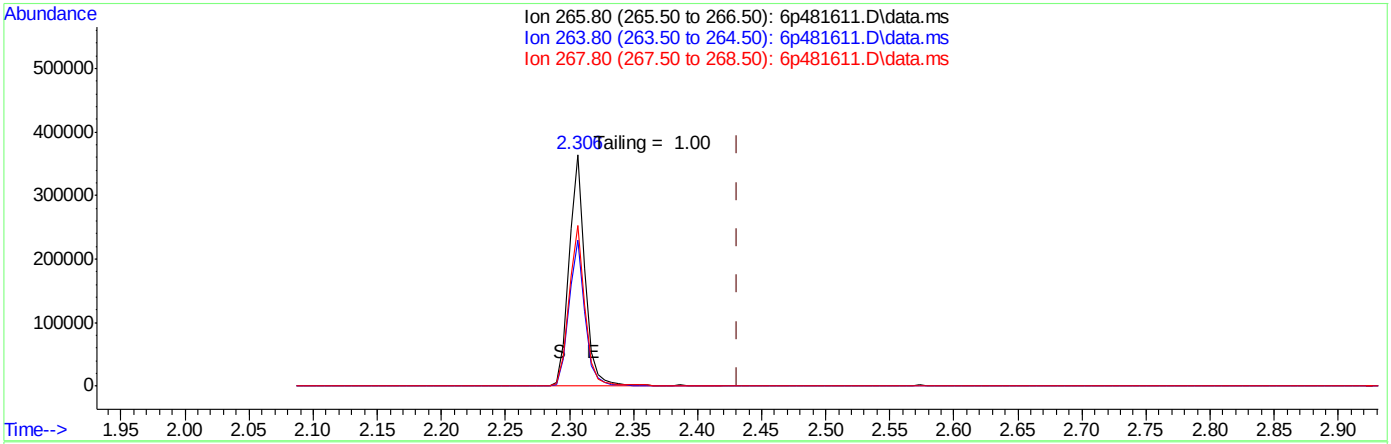
Average of 2.568 to 2.579 min.: 6p481611.D\data.ms
dftpp
Modified:subtracted

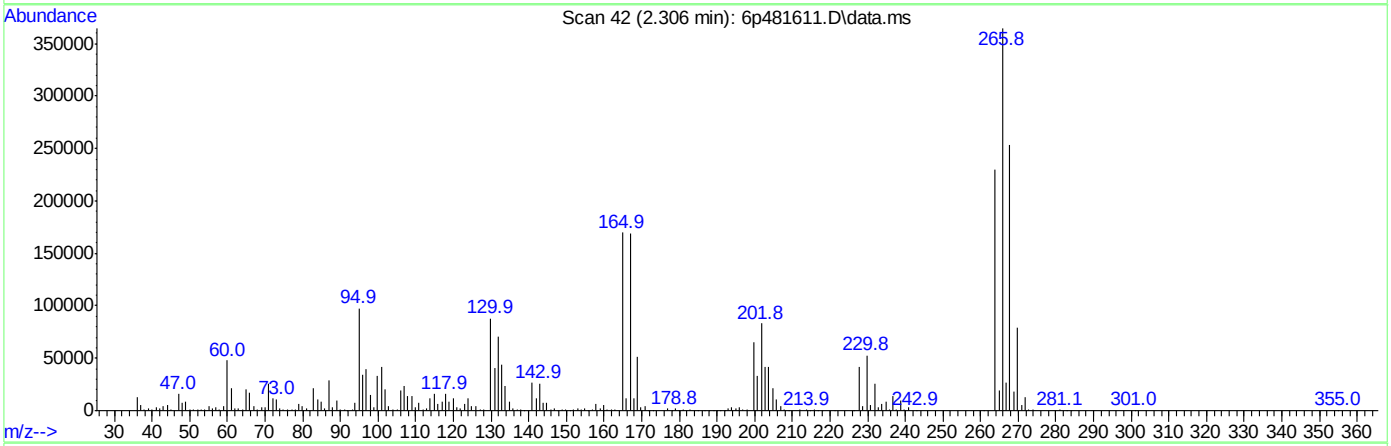
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 372.95 | 1588 | 401.00 | 342 | 436.10 | 122 | | |
| 382.95 | 1498 | 401.95 | 2287 | 438.00 | 135 | | |
| 383.50 | 236 | 402.95 | 3370 | 438.40 | 118 | | |
| 384.00 | 454 | 403.95 | 1005 | 439.10 | 136 | | |
| 384.80 | 126 | 420.80 | 100 | 439.60 | 175 | | |
| 389.50 | 180 | 421.00 | 2086 | 441.00 | 43212 | | |
| 390.00 | 860 | 421.70 | 564 | 442.00 | 281778 | | |
| 390.60 | 122 | 422.00 | 1625 | 443.00 | 53702 | | |
| 390.90 | 645 | 423.00 | 19411 | 444.00 | 4911 | | |
| 391.90 | 369 | 424.00 | 3364 | 444.95 | 360 | | |
| 400.70 | 129 | 424.95 | 394 | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481611.D
Acq On : 3 May 2019 1:27 pm
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 03 13:33:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration




TIC: 6p481611.D\data.ms

(1) Pentachlorophenol (t)

2.306min (-0.125) 0.00ng

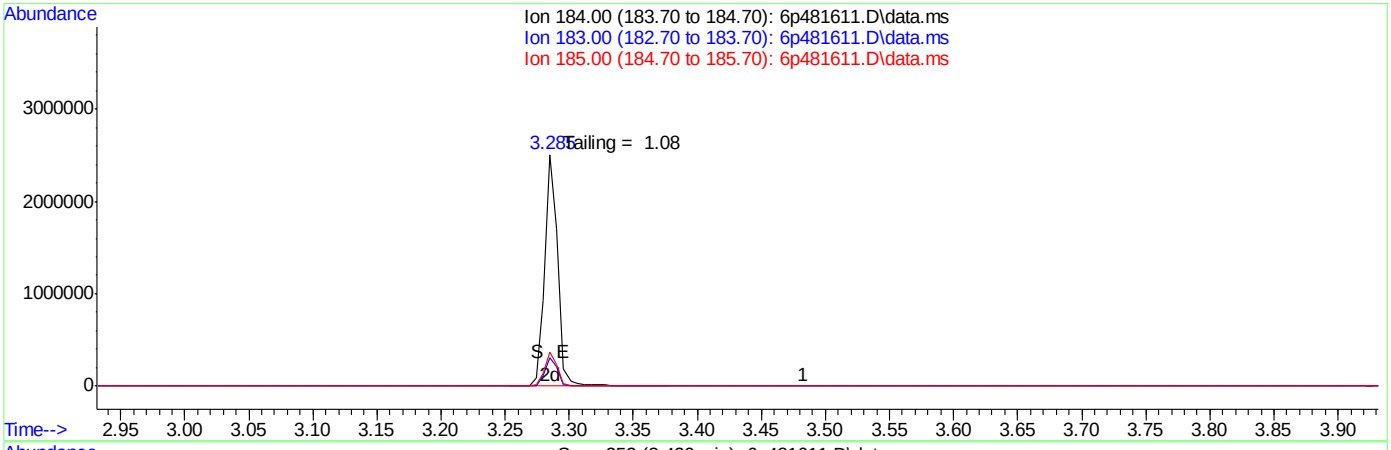
response 315579

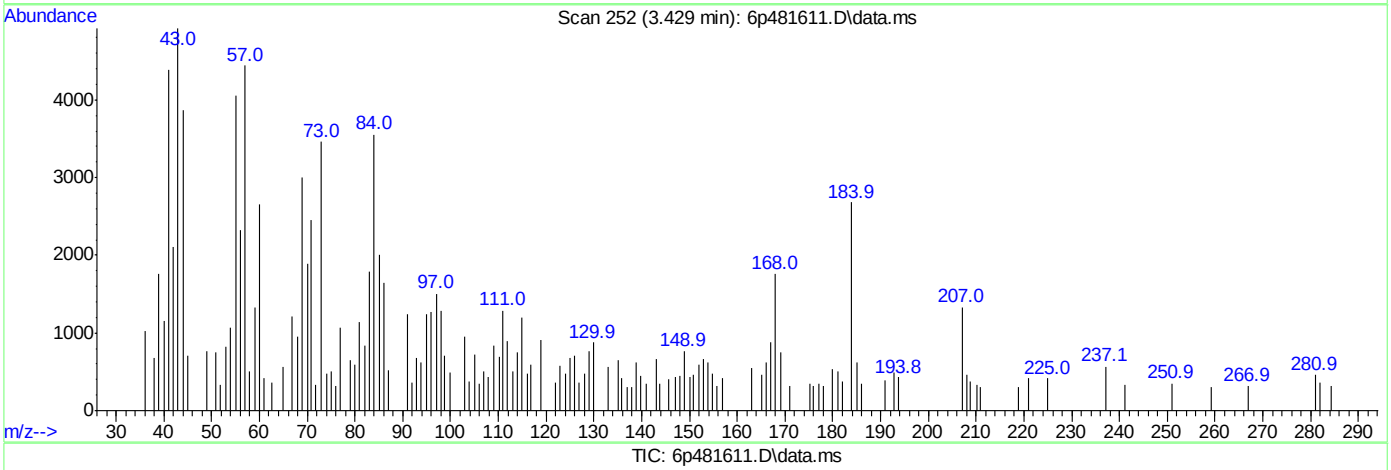
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 63.30 | 63.06 |
| 267.80 | 63.40 | 69.34 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481611.D
Acq On : 3 May 2019 1:27 pm
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 03 13:33:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration




TIC: 6p481611.D\data.ms

(2) Benzidine (t)

3.431min 0.00ng d

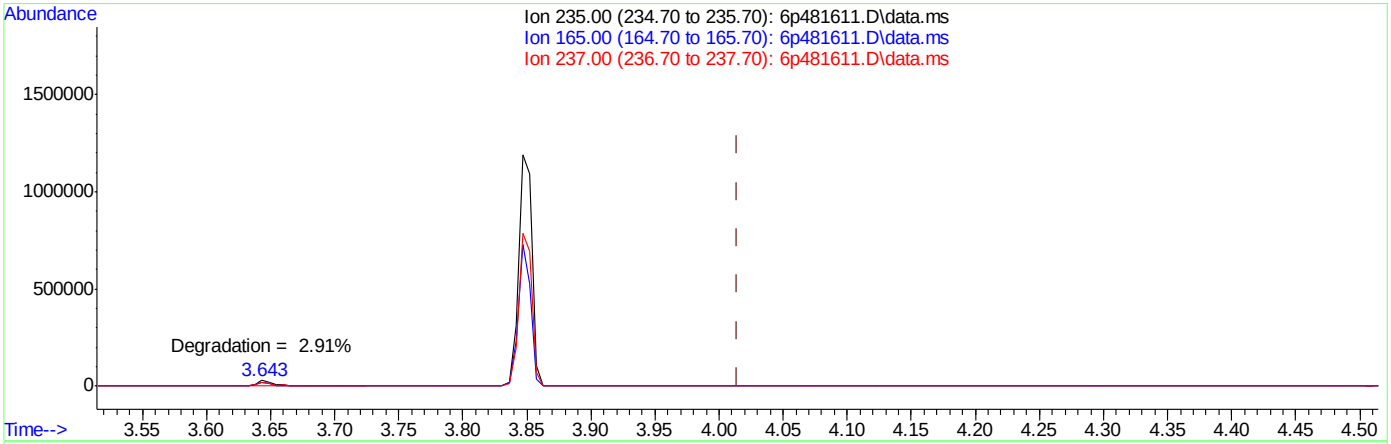
response 0

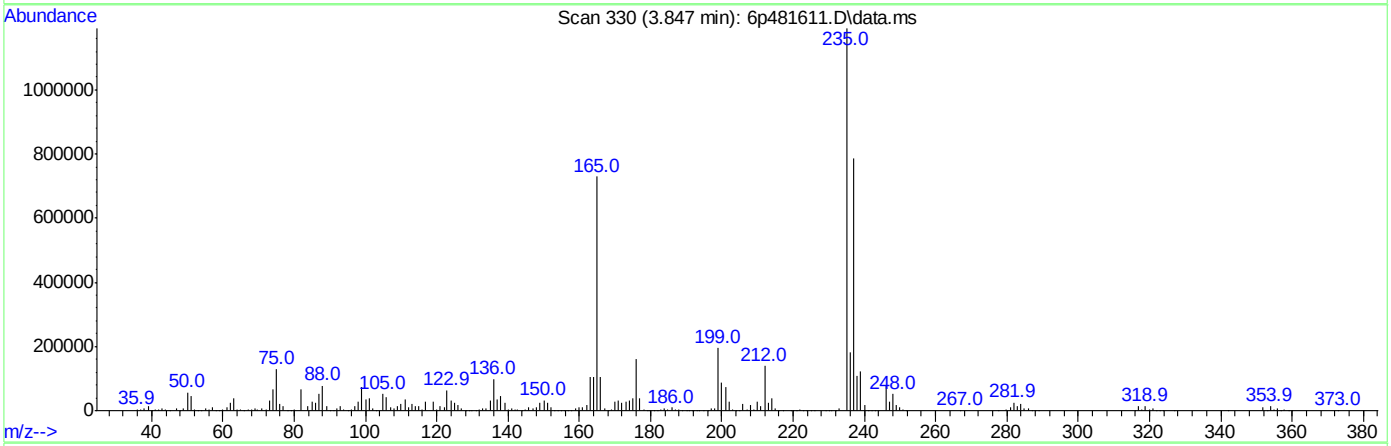
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 0.00 |
| 183.00 | 11.70 | 0.00 |
| 185.00 | 14.60 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481611.D
Acq On : 3 May 2019 1:27 pm
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 03 13:33:09 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration




TIC: 6p481611.D\data.ms

(3) PP-DDT (t)

3.847min (-0.168) 0.00ng

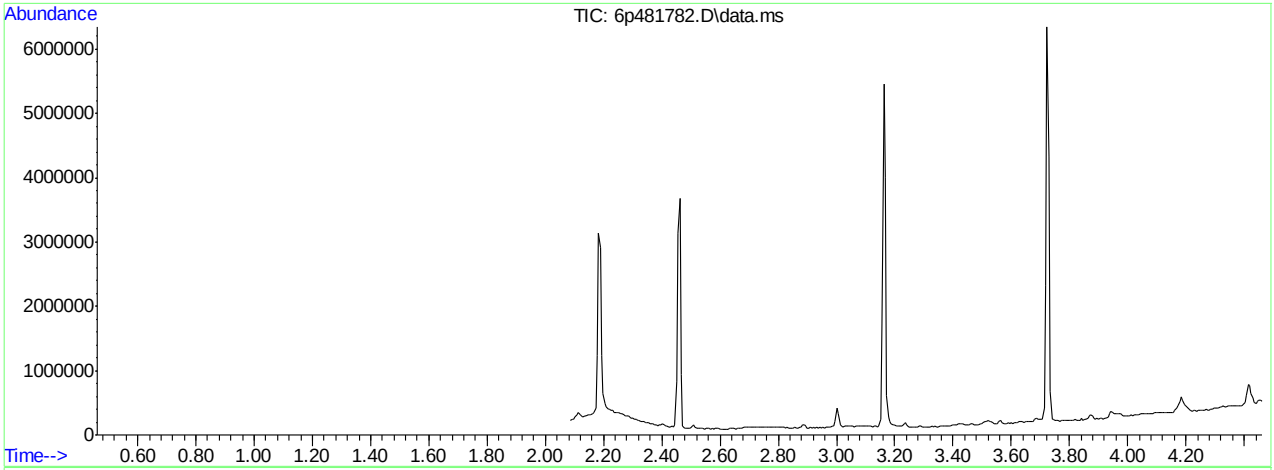
response 877214

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 48.50 | 56.66 |
| 237.00 | 63.10 | 64.86 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\E6P2588\6p481782.D  Vial: 1
Acq On : 10 May 2019 8:59 am  Operator: angelar
Sample : dftpp  Inst : MS6P
Misc : op17006,e6p2588,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um




AutoFind: Scans 70, 71, 72; Background Corrected with Scan 65

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 35.3 | 93631 | PASS |
| 68 | 69 | 0.00 | 2 | 1.2 | 1210 | PASS |
| 69 | 198 | 0.00 | 100 | 38.1 | 100922 | PASS |
| 70 | 69 | 0.00 | 2 | 0.4 | 379 | PASS |
| 127 | 198 | 40 | 60 | 55.0 | 145813 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 264920 | PASS |
| 199 | 198 | 5 | 9 | 6.8 | 18114 | PASS |
| 275 | 198 | 10 | 30 | 28.0 | 74194 | PASS |
| 365 | 198 | 1 | 100 | 4.6 | 12288 | PASS |
| 441 | 443 | 0.10 | 100 | 75.7 | 35856 | PASS |
| 442 | 198 | 40 | 100 | 94.4 | 250069 | PASS |
| 443 | 442 | 17 | 23 | 18.9 | 47370 | PASS |

6p481782.D DFTPP6P.M Fri May 10 10:32:16 2019 ACLIMS

Average of 2.456 to 2.466 min.: 6p481782.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.90 | 1368 | 53.00 | 199 | 67.00 | 393 | 78.95 | 7071 |
| 39.00 | 6473 | 56.00 | 2838 | 68.00 | 1210 | 79.95 | 6371 |
| 40.00 | 107 | 57.00 | 6151 | 68.95 | 100922 | 80.95 | 9038 |
| 41.90 | 331 | 58.00 | 484 | 70.00 | 379 | 82.00 | 1804 |
| 43.00 | 31 | 59.00 | 60 | 70.95 | 70 | 82.95 | 2206 |
| 43.90 | 171 | 60.95 | 1387 | 73.00 | 990 | 85.00 | 1192 |
| 44.90 | 240 | 61.95 | 1462 | 74.00 | 10903 | 85.85 | 2452 |
| 48.95 | 360 | 63.00 | 3933 | 75.00 | 17489 | 87.00 | 904 |
| 50.00 | 24353 | 63.95 | 458 | 76.00 | 6106 | 87.90 | 719 |
| 50.95 | 93631 | 65.00 | 2170 | 77.00 | 118927 | 88.90 | 2 |
| 52.00 | 4806 | 65.90 | 125 | 77.95 | 7195 | 90.95 | 916 |

Average of 2.456 to 2.466 min.: 6p481782.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 91.90 | 1868 | 102.00 | 207 | 112.95 | 625 | 123.95 | 1900 |
| 92.95 | 12558 | 102.90 | 1446 | 114.10 | 167 | 124.95 | 1394 |
| 94.00 | 983 | 103.90 | 3859 | 114.95 | 40 | 125.80 | 201 |
| 95.00 | 470 | 104.90 | 3071 | 115.95 | 2044 | 127.00 | 145813 |
| 96.00 | 452 | 105.95 | 964 | 116.90 | 27849 | 127.95 | 10774 |
| 97.05 | 47 | 106.95 | 39017 | 117.95 | 2263 | 128.90 | 54035 |
| 97.90 | 9765 | 108.00 | 6413 | 118.90 | 520 | 129.85 | 4905 |
| 98.90 | 8284 | 109.05 | 1626 | 119.90 | 557 | 131.00 | 893 |
| 99.90 | 987 | 109.90 | 69609 | 120.95 | 219 | 131.95 | 324 |
| 100.95 | 5180 | 110.95 | 10373 | 121.95 | 2934 | 132.95 | 160 |
| 101.80 | 301 | 111.95 | 1450 | 122.90 | 3704 | 133.90 | 1285 |

Average of 2.456 to 2.466 min.: 6p481782.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 134.95 | 4751 | 144.90 | 339 | 154.00 | 810 | 163.70 | 155 |
| 135.90 | 1569 | 146.00 | 1484 | 155.00 | 3824 | 164.00 | 226 |
| 137.00 | 2495 | 147.00 | 3598 | 156.00 | 6517 | 164.90 | 2577 |
| 138.00 | 194 | 148.00 | 6882 | 157.00 | 797 | 166.00 | 2358 |
| 138.75 | 286 | 148.95 | 1396 | 157.60 | 156 | 167.00 | 13862 |
| 139.80 | 437 | 149.90 | 349 | 158.00 | 1548 | 168.00 | 6304 |
| 140.00 | 569 | 150.90 | 615 | 159.00 | 1415 | 169.00 | 901 |
| 140.90 | 7284 | 151.20 | 130 | 159.85 | 1857 | 169.20 | 114 |
| 141.90 | 2346 | 152.00 | 408 | 160.95 | 3749 | 169.95 | 334 |
| 142.90 | 1823 | 152.90 | 2071 | 161.80 | 580 | 170.90 | 599 |
| 144.00 | 698 | 153.80 | 1024 | 162.90 | 440 | 171.85 | 1007 |

Average of 2.456 to 2.466 min.: 6p481782.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 172.95 | 1174 | 183.00 | 726 | 192.95 | 3956 | 205.00 | 16615 |
| 174.00 | 2344 | 183.90 | 981 | 194.00 | 922 | 206.00 | 69669 |
| 175.00 | 5652 | 184.95 | 4106 | 195.90 | 8129 | 206.95 | 8687 |
| 175.70 | 108 | 186.00 | 40148 | 197.90 | 264920 | 207.90 | 2231 |
| 175.95 | 1391 | 187.00 | 11007 | 198.85 | 18114 | 208.95 | 612 |
| 177.00 | 2385 | 187.95 | 1438 | 200.00 | 1820 | 209.90 | 953 |
| 177.90 | 921 | 188.95 | 2641 | 201.15 | 494 | 211.00 | 3099 |
| 178.90 | 10442 | 189.95 | 531 | 201.40 | 993 | 211.50 | 321 |
| 179.95 | 6675 | 190.80 | 776 | 202.00 | 599 | 213.15 | 541 |
| 180.95 | 3005 | 191.00 | 306 | 202.85 | 2071 | 214.80 | 1135 |
| 181.90 | 428 | 191.95 | 3171 | 204.00 | 9689 | 215.00 | 225 |

Average of 2.456 to 2.466 min.: 6p481782.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 216.00 | 1782 | 226.90 | 16581 | 236.20 | 105 | 246.90 | 1543 |
| 216.90 | 18309 | 227.90 | 2724 | 236.90 | 1294 | 247.95 | 513 |
| 217.95 | 2560 | 228.90 | 3407 | 238.95 | 475 | 248.80 | 1034 |
| 218.90 | 153 | 229.95 | 693 | 240.00 | 719 | 249.00 | 263 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 219.20 | 226 | 230.95 | 1188 | 240.70 | 337 | 249.80 | 178 |
| 220.95 | 13513 | 231.80 | 136 | 241.00 | 936 | 250.05 | 220 |
| 221.90 | 2839 | 232.10 | 195 | 241.90 | 2354 | 250.90 | 652 |
| 223.00 | 4792 | 232.90 | 337 | 243.05 | 2358 | 252.00 | 542 |
| 224.00 | 38994 | 233.90 | 1081 | 244.00 | 29284 | 253.00 | 1106 |
| 225.00 | 10020 | 234.90 | 1183 | 244.95 | 3864 | 255.00 | 164229 |
| 226.00 | 1475 | 235.90 | 780 | 245.95 | 6377 | 256.00 | 24022 |

Average of 2.456 to 2.466 min.: 6p481782.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 256.95 | 1585 | 267.50 | 137 | 277.85 | 1158 | 288.10 | 144 |
| 257.95 | 9874 | 268.00 | 103 | 280.95 | 66 | 288.75 | 500 |
| 258.90 | 1286 | 269.90 | 183 | 281.95 | 298 | 292.00 | 229 |
| 260.00 | 459 | 270.70 | 211 | 282.90 | 560 | 293.00 | 1917 |
| 260.80 | 177 | 271.05 | 480 | 283.70 | 322 | 293.95 | 620 |
| 261.00 | 135 | 271.90 | 835 | 283.85 | 766 | 294.85 | 160 |
| 263.00 | 130 | 272.95 | 5565 | 284.20 | 116 | 296.00 | 24758 |
| 263.90 | 616 | 274.00 | 12884 | 285.00 | 1591 | 297.00 | 2992 |
| 264.90 | 4191 | 275.00 | 74194 | 286.00 | 177 | 297.90 | 73 |
| 265.90 | 996 | 275.95 | 9636 | 286.20 | 138 | 300.10 | 154 |
| 267.10 | 118 | 276.95 | 6521 | 286.90 | 124 | 300.70 | 204 |

Average of 2.456 to 2.466 min.: 6p481782.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 302.00 | 937 | 315.95 | 1778 | 328.90 | 142 | 340.15 | 401 |
| 303.00 | 2702 | 320.20 | 131 | 329.05 | 392 | 341.00 | 1213 |
| 304.00 | 873 | 321.00 | 1063 | 331.10 | 127 | 342.05 | 519 |
| 305.00 | 112 | 321.85 | 542 | 331.30 | 120 | 343.90 | 107 |
| 308.70 | 110 | 323.00 | 7969 | 332.00 | 1046 | 345.85 | 1750 |
| 308.90 | 122 | 323.85 | 1166 | 332.60 | 132 | 346.95 | 386 |
| 309.90 | 153 | 324.10 | 596 | 332.95 | 819 | 350.80 | 194 |
| 311.05 | 252 | 325.30 | 175 | 334.00 | 5525 | 351.90 | 2831 |
| 313.05 | 509 | 326.80 | 613 | 335.00 | 1682 | 352.95 | 1974 |
| 314.00 | 1273 | 327.00 | 1478 | 336.00 | 315 | 353.95 | 2320 |
| 314.90 | 2951 | 328.00 | 1026 | 339.80 | 158 | 354.80 | 287 |

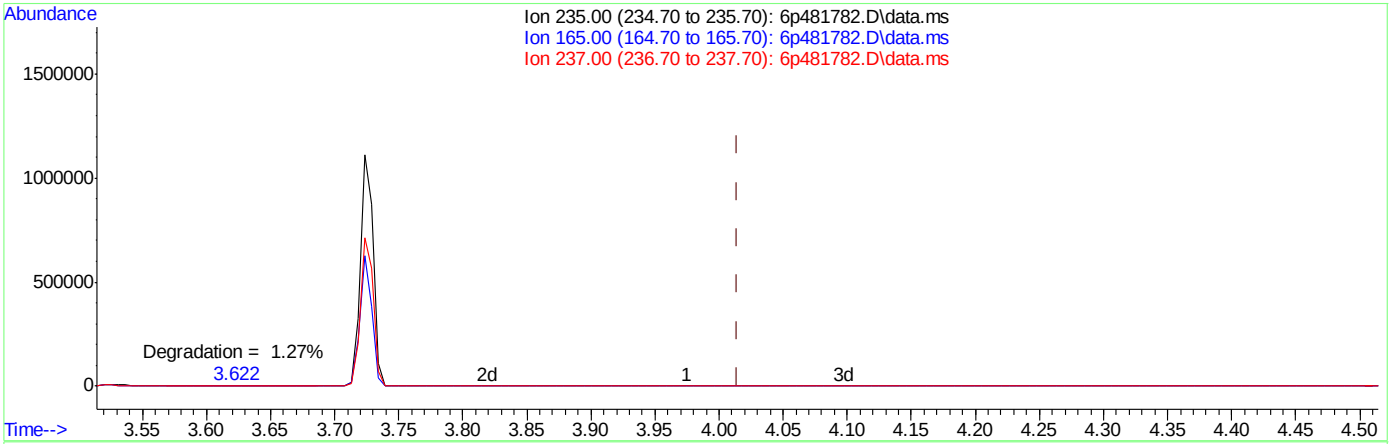
Average of 2.456 to 2.466 min.: 6p481782.D\data.ms
dftpp
Modified:subtracted

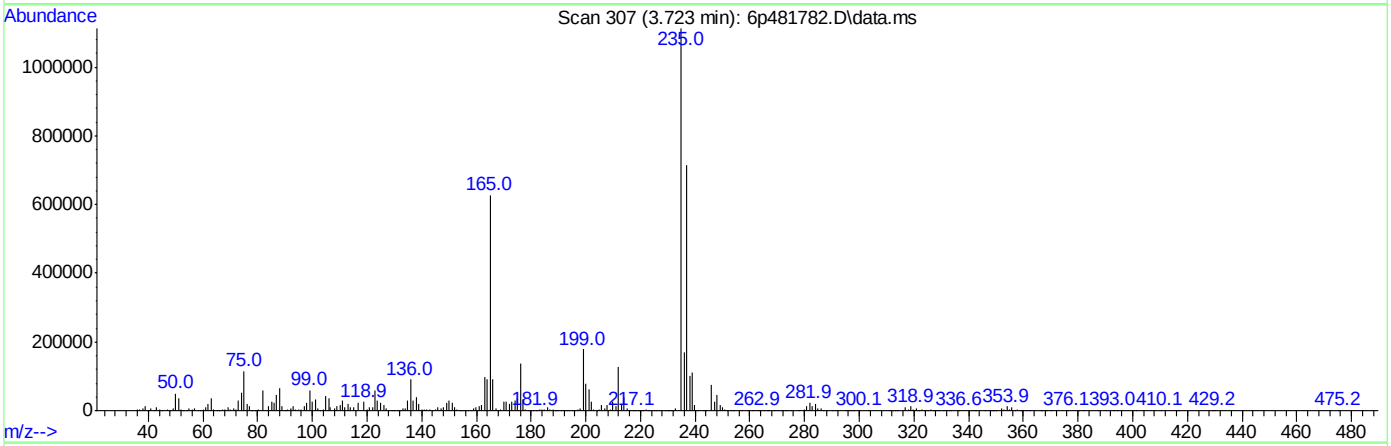
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 355.00 | 106 | 370.90 | 709 | 400.50 | 130 | 424.00 | 2869 |
| 358.90 | 173 | 372.00 | 5244 | 400.80 | 179 | 425.00 | 200 |
| 359.10 | 102 | 372.95 | 1259 | 401.10 | 154 | 427.30 | 150 |
| 361.00 | 159 | 373.90 | 286 | 401.95 | 1936 | 439.10 | 209 |
| 362.90 | 100 | 376.90 | 146 | 403.00 | 3335 | 439.50 | 130 |
| 363.70 | 261 | 381.30 | 101 | 403.95 | 811 | 441.00 | 35856 |
| 364.90 | 12288 | 383.00 | 1194 | 410.10 | 100 | 442.00 | 250069 |
| 365.80 | 493 | 383.95 | 565 | 414.80 | 122 | 443.00 | 47370 |
| 365.95 | 1114 | 390.05 | 675 | 421.00 | 2244 | 444.05 | 4170 |
| 367.05 | 244 | 390.90 | 344 | 422.00 | 2249 | 445.00 | 103 |
| 369.90 | 150 | 391.95 | 365 | 423.00 | 16203 | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481782.D
Acq On : 10 May 2019 8:59 am
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 09:04:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration




TIC: 6p481782.D\data.ms

(3) PP-DDT (t)

3.723min (-0.291) 0.00ng m

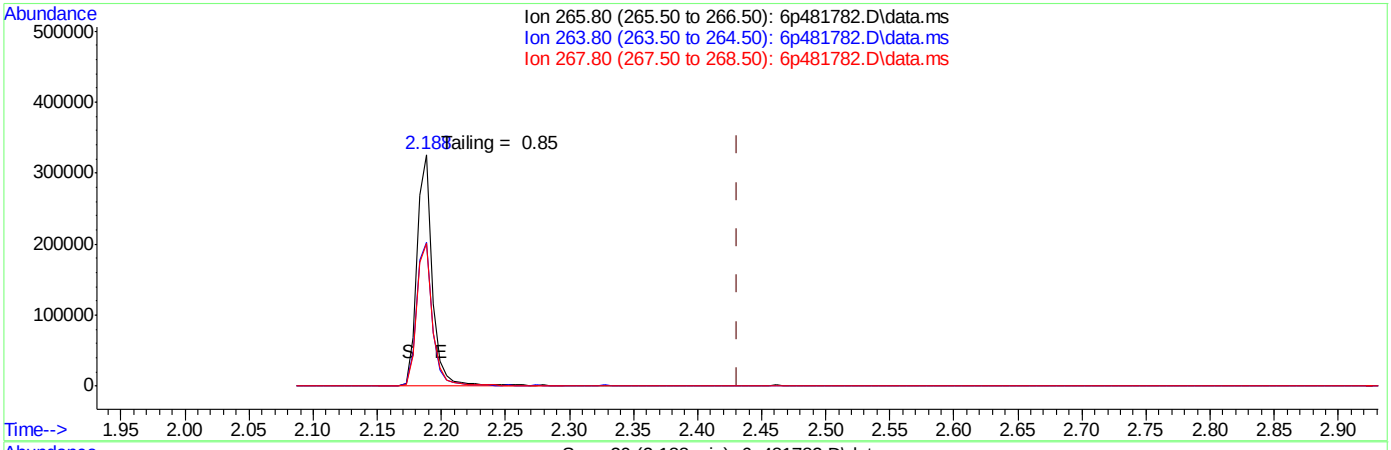
response 798788

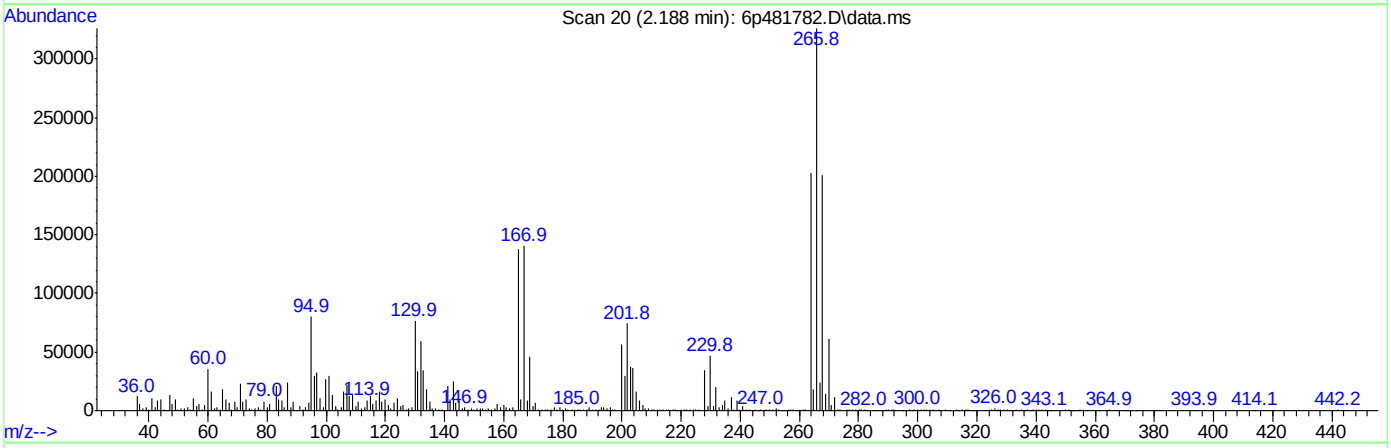
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 165.00 | 48.50 | 0.24# |
| 237.00 | 63.10 | 0.43# |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481782.D
Acq On : 10 May 2019 8:59 am
Operator : angelar
Sample : dftpp
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 10:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title : Semi Volatile GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration




TIC: 6p481782.D\data.ms

(1) Pentachlorophenol (t)

2.188min (-0.243) 0.00ng

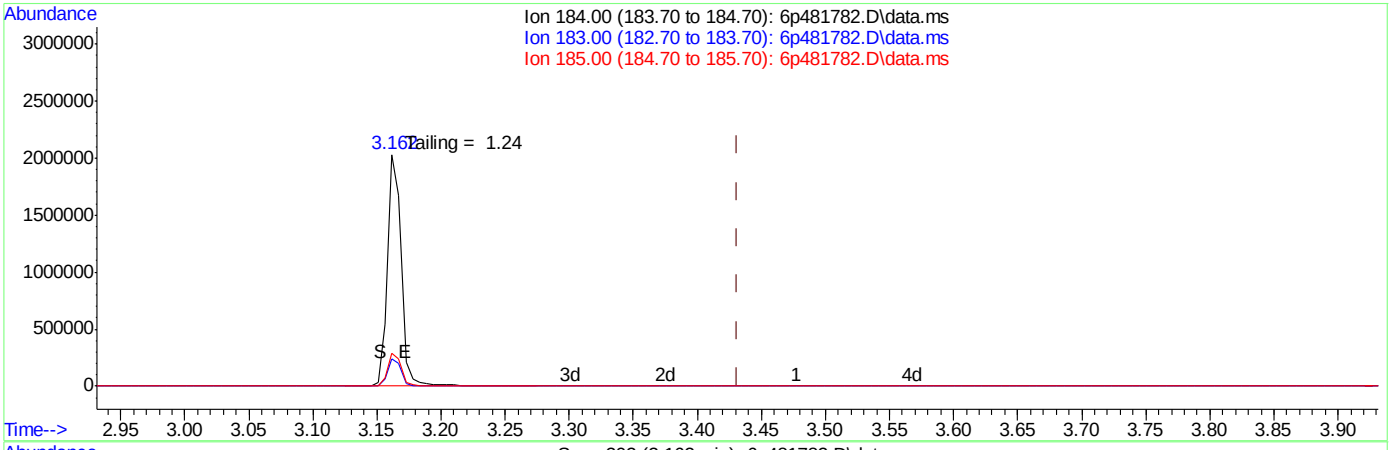
response 284548

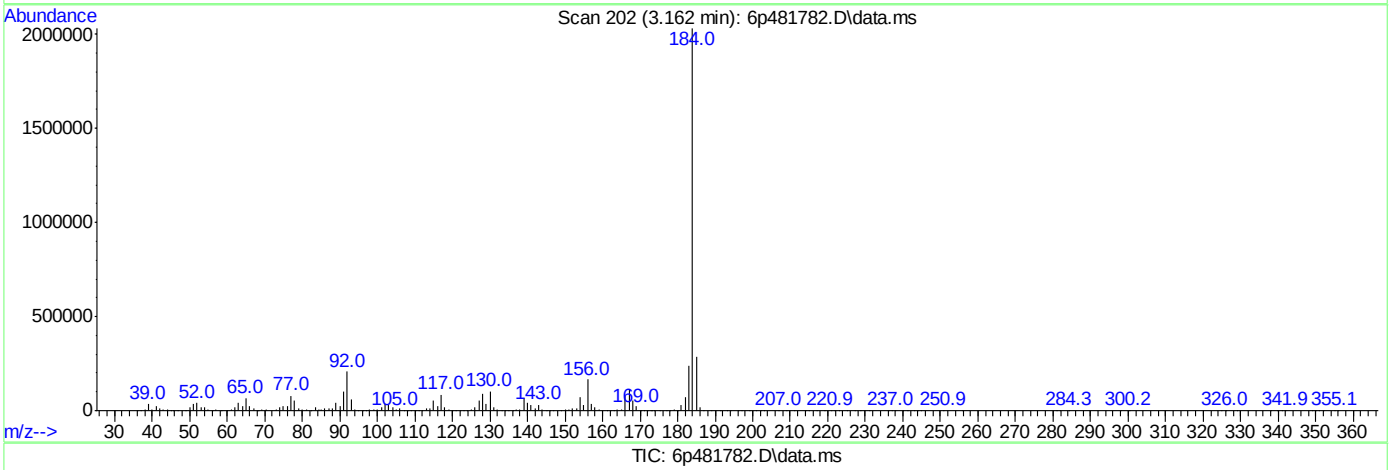
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 63.30 | 62.06 |
| 267.80 | 63.40 | 61.35 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481782.D
Acq On    : 10 May 2019   8:59 am
Operator  : angelar
Sample    : dftpp
Misc      : op17006,e6p2588,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: May 10 10:11:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP6P.M
Quant Title  : Semi Volatile  GC/MS, ZB-5 15m x .25mm x .25um
QLast Update : Fri Apr 19 14:55:22 2019
Response via : Initial Calibration
```




(2) Benzidine (t)

3.162min (-0.270) 0.00ng m

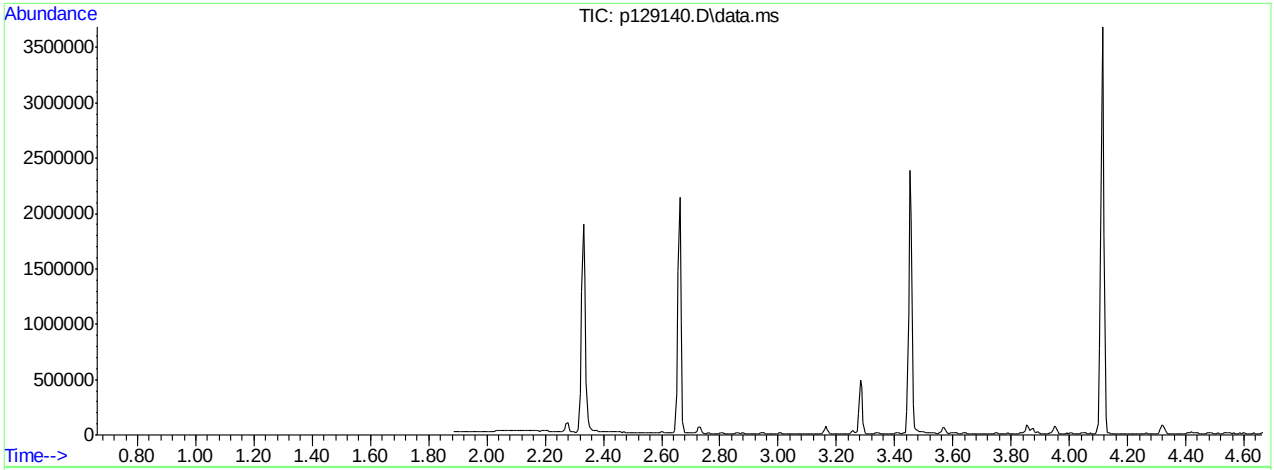
response 1527660

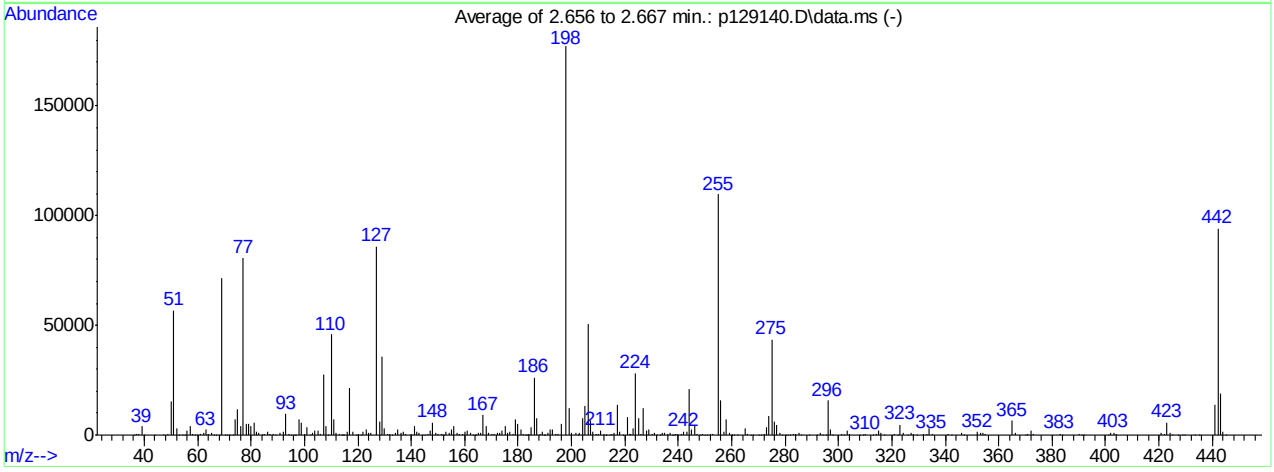
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 11.67 |
| 185.00 | 14.60 | 14.23 |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\EP5844\p129140.D  Vial: 1
Acq On : 23 Apr 2019 10:58 pm  Operator: chriss2
Sample : dftpp  Inst : MSVOAMSP
Misc : op13894,ep5844,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPPP.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um




AutoFind: Scans 145, 146, 147; Background Corrected with Scan 140

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 32.1 | 56915 | PASS |
| 68 | 69 | 0.00 | 2 | 0.3 | 179 | PASS |
| 69 | 198 | 0.00 | 100 | 40.4 | 71554 | PASS |
| 70 | 69 | 0.00 | 2 | 0.1 | 52 | PASS |
| 127 | 198 | 40 | 60 | 48.5 | 85866 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 177125 | PASS |
| 199 | 198 | 5 | 9 | 7.0 | 12424 | PASS |
| 275 | 198 | 10 | 30 | 24.5 | 43450 | PASS |
| 365 | 198 | 1 | 100 | 3.7 | 6536 | PASS |
| 441 | 443 | 0.10 | 100 | 72.9 | 13691 | PASS |
| 442 | 198 | 40 | 100 | 53.1 | 94040 | PASS |
| 443 | 442 | 17 | 23 | 20.0 | 18788 | PASS |

p129140.D DFTPPP.M Wed Apr 24 10:08:37 2019 ACLIMS

Average of 2.656 to 2.667 min.: p129140.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 36.05 | 118 | 53.00 | 49 | 64.05 | 451 | 75.05 | 11848 |
| 37.10 | 289 | 54.15 | 151 | 65.10 | 1232 | 76.10 | 4127 |
| 38.05 | 574 | 55.00 | 202 | 66.20 | 193 | 77.05 | 80600 |
| 39.05 | 3880 | 56.05 | 1900 | 67.00 | 36 | 78.10 | 5083 |
| 40.00 | 18 | 57.05 | 3941 | 68.10 | 179 | 79.00 | 4885 |
| 44.00 | 169 | 58.00 | 300 | 69.00 | 71554 | 80.00 | 4016 |
| 47.00 | 56 | 59.10 | 55 | 70.10 | 52 | 81.05 | 5436 |
| 49.00 | 292 | 59.90 | 58 | 70.90 | 90 | 82.00 | 1393 |
| 50.10 | 15375 | 61.10 | 757 | 71.90 | 66 | 83.05 | 1170 |
| 51.05 | 56915 | 62.10 | 941 | 73.05 | 40 | 83.95 | 52 |
| 52.10 | 3027 | 63.10 | 2330 | 74.10 | 7092 | 85.00 | 753 |

Average of 2.656 to 2.667 min.: p129140.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 86.05 | 1737 | 98.00 | 7374 | 109.00 | 94 | 119.20 | 237 |
| 87.00 | 678 | 99.00 | 5477 | 110.00 | 45973 | 120.00 | 338 |
| 88.10 | 426 | 100.00 | 456 | 111.00 | 7145 | 121.10 | 122 |
| 89.00 | 151 | 101.00 | 3578 | 111.95 | 910 | 122.00 | 1645 |
| 91.00 | 1073 | 102.05 | 3 | 113.00 | 370 | 123.00 | 2577 |
| 92.05 | 1381 | 103.00 | 995 | 114.00 | 62 | 124.00 | 1282 |
| 93.05 | 9650 | 104.00 | 2001 | 114.30 | 55 | 125.00 | 1285 |
| 94.00 | 710 | 105.05 | 1927 | 114.95 | 21 | 127.00 | 85866 |
| 95.00 | 24 | 106.05 | 422 | 116.10 | 1331 | 128.05 | 6351 |
| 96.10 | 76 | 107.00 | 27826 | 117.00 | 21490 | 129.00 | 35544 |
| 96.60 | 59 | 108.05 | 3894 | 118.00 | 1397 | 130.00 | 3030 |

Average of 2.656 to 2.667 min.: p129140.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 130.95 | 593 | 142.95 | 788 | 153.00 | 1340 | 163.80 | 87 |
| 132.05 | 330 | 144.00 | 98 | 154.10 | 1032 | 164.10 | 95 |
| 133.00 | 209 | 145.05 | 230 | 155.10 | 2509 | 165.00 | 1158 |
| 134.05 | 1111 | 146.05 | 733 | 156.00 | 3938 | 166.00 | 1158 |
| 135.00 | 2571 | 147.10 | 2280 | 157.05 | 944 | 167.00 | 8974 |
| 136.00 | 1234 | 148.00 | 5868 | 157.95 | 616 | 168.00 | 4233 |
| 137.05 | 1398 | 149.00 | 1272 | 159.05 | 731 | 169.10 | 869 |
| 137.95 | 347 | 150.05 | 335 | 160.00 | 1467 | 170.05 | 342 |
| 140.00 | 444 | 151.10 | 756 | 161.00 | 2225 | 171.00 | 562 |
| 141.00 | 4222 | 151.70 | 164 | 162.05 | 802 | 172.10 | 831 |
| 142.00 | 1530 | 152.05 | 215 | 163.05 | 215 | 173.00 | 1129 |

Average of 2.656 to 2.667 min.: p129140.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 174.05 | 2103 | 184.00 | 658 | 194.05 | 677 | 206.10 | 50800 |
| 175.10 | 4198 | 185.05 | 3632 | 194.95 | 473 | 207.00 | 6844 |
| 176.05 | 1288 | 186.10 | 26305 | 196.00 | 5335 | 208.00 | 1560 |
| 177.00 | 1642 | 187.05 | 7857 | 198.00 | 177125 | 209.05 | 712 |
| 178.00 | 668 | 188.10 | 767 | 199.00 | 12424 | 210.15 | 527 |
| 179.00 | 7078 | 189.00 | 1675 | 200.00 | 1286 | 211.00 | 2083 |
| 180.00 | 5267 | 189.80 | 72 | 201.50 | 898 | 212.00 | 314 |
| 181.00 | 2355 | 190.05 | 205 | 202.30 | 72 | 212.90 | 74 |
| 182.05 | 447 | 191.05 | 952 | 203.05 | 1239 | 213.15 | 154 |
| 182.95 | 241 | 192.00 | 2528 | 204.05 | 7565 | 214.20 | 57 |
| 183.20 | 77 | 193.00 | 2817 | 205.05 | 13435 | 215.00 | 502 |

Average of 2.656 to 2.667 min.: p129140.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 216.00 | 1204 | 227.00 | 12483 | 237.80 | 57 | 248.05 | 196 |
| 217.00 | 13937 | 228.05 | 2143 | 238.00 | 65 | 249.05 | 696 |
| 218.05 | 1759 | 229.00 | 2659 | 239.00 | 592 | 250.00 | 242 |
| 219.10 | 234 | 230.00 | 395 | 240.05 | 474 | 250.95 | 190 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 221.05 | 8264 | 231.05 | 1195 | 241.00 | 733 | 251.95 | 308 |
| 221.80 | 444 | 232.00 | 253 | 242.10 | 1634 | 253.05 | 781 |
| 222.10 | 338 | 233.10 | 213 | 243.10 | 1593 | 255.00 | 109840 |
| 223.05 | 3296 | 234.10 | 792 | 244.10 | 21221 | 256.00 | 16072 |
| 224.10 | 28322 | 235.00 | 1049 | 245.05 | 2755 | 257.05 | 1433 |
| 225.10 | 7489 | 236.00 | 541 | 246.00 | 4531 | 258.00 | 7127 |
| 226.10 | 752 | 237.00 | 848 | 246.95 | 712 | 259.00 | 1265 |

Average of 2.656 to 2.667 min.: p129140.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 259.90 | 82 | 273.05 | 3640 | 284.00 | 446 | 301.05 | 305 |
| 260.10 | 67 | 274.00 | 8840 | 285.00 | 931 | 302.10 | 241 |
| 260.95 | 184 | 275.00 | 43450 | 286.00 | 52 | 303.05 | 2010 |
| 262.00 | 53 | 276.05 | 6106 | 288.95 | 207 | 304.10 | 417 |
| 265.05 | 2878 | 277.00 | 4725 | 292.05 | 171 | 308.05 | 231 |
| 265.95 | 434 | 278.00 | 899 | 293.05 | 1177 | 309.10 | 69 |
| 267.00 | 61 | 278.90 | 106 | 293.90 | 204 | 310.10 | 373 |
| 267.90 | 93 | 280.20 | 51 | 295.10 | 189 | 313.00 | 70 |
| 270.05 | 115 | 281.10 | 103 | 296.00 | 15809 | 314.05 | 728 |
| 271.05 | 267 | 282.00 | 166 | 297.00 | 2325 | 315.00 | 1823 |
| 272.05 | 465 | 283.05 | 580 | 298.00 | 105 | 316.05 | 958 |

Average of 2.656 to 2.667 min.: p129140.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 316.95 | 178 | 334.05 | 3048 | 366.05 | 924 | 402.05 | 1110 |
| 320.95 | 444 | 335.05 | 726 | 370.10 | 153 | 403.00 | 1156 |
| 322.00 | 185 | 341.05 | 442 | 371.00 | 414 | 404.05 | 383 |
| 323.05 | 4672 | 342.10 | 75 | 372.05 | 2209 | 421.00 | 1030 |
| 324.05 | 847 | 345.95 | 940 | 373.05 | 692 | 422.05 | 720 |
| 326.00 | 70 | 346.95 | 132 | 383.00 | 703 | 423.00 | 5804 |
| 327.00 | 1006 | 352.05 | 1402 | 384.05 | 250 | 424.00 | 1224 |
| 328.00 | 537 | 353.05 | 1166 | 390.05 | 281 | 425.00 | 70 |
| 329.30 | 60 | 354.05 | 1222 | 390.95 | 184 | 427.10 | 55 |
| 331.95 | 344 | 354.95 | 285 | 391.90 | 121 | 428.95 | 109 |
| 333.00 | 451 | 365.00 | 6536 | 400.95 | 151 | 429.50 | 54 |

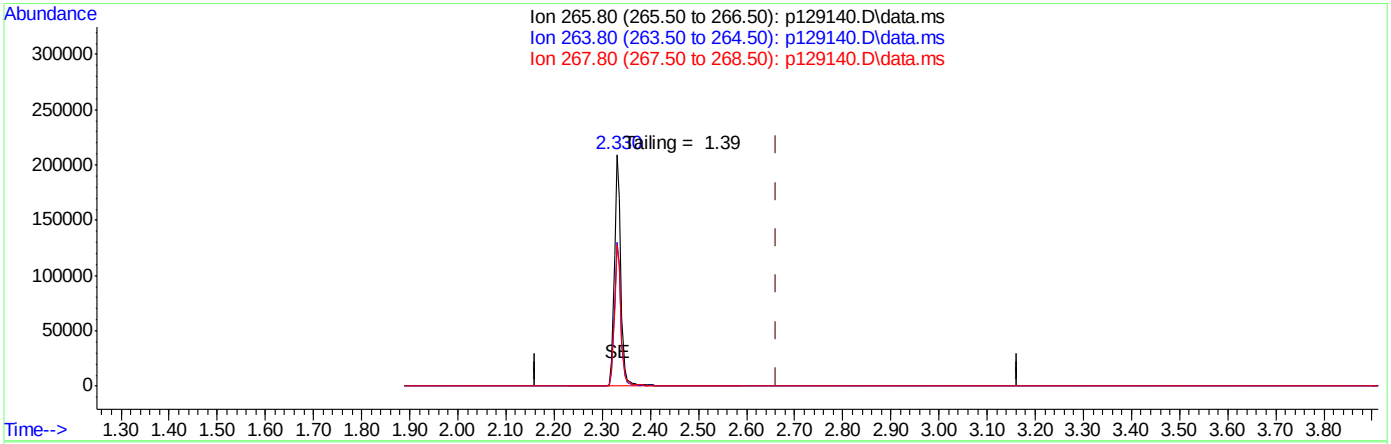
Average of 2.656 to 2.667 min.: p129140.D\data.ms
dftpp
Modified:subtracted

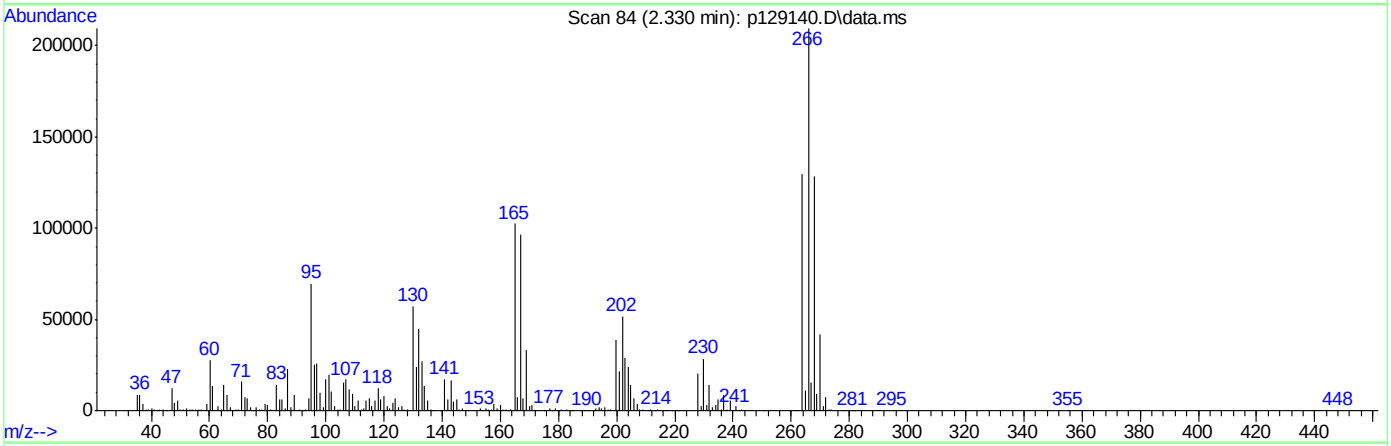
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 433.30 | 71 | | | | | | |
| 435.00 | 89 | | | | | | |
| 441.05 | 13691 | | | | | | |
| 442.10 | 94040 | | | | | | |
| 443.10 | 18788 | | | | | | |
| 444.05 | 1688 | | | | | | |
| 445.00 | 117 | | | | | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129140.D
Acq On : 23 Apr 2019 10:58 pm
Operator : chriss2
Sample : dftpp
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 23 23:04:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration




(1) Pentachlorophenol (t)

2.330min (-0.332) 159.05ppb m

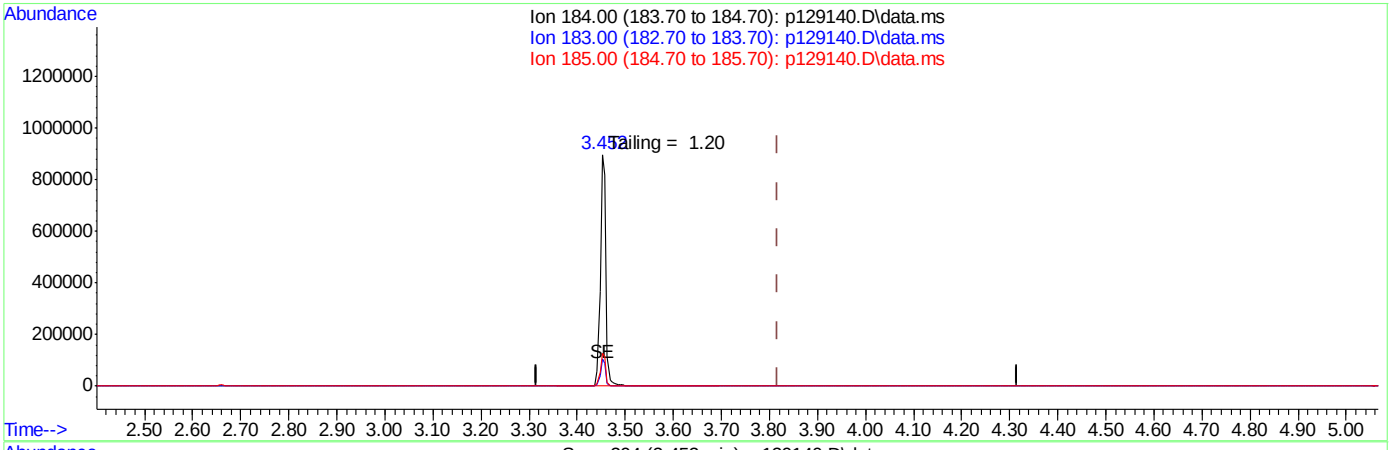
response 203495

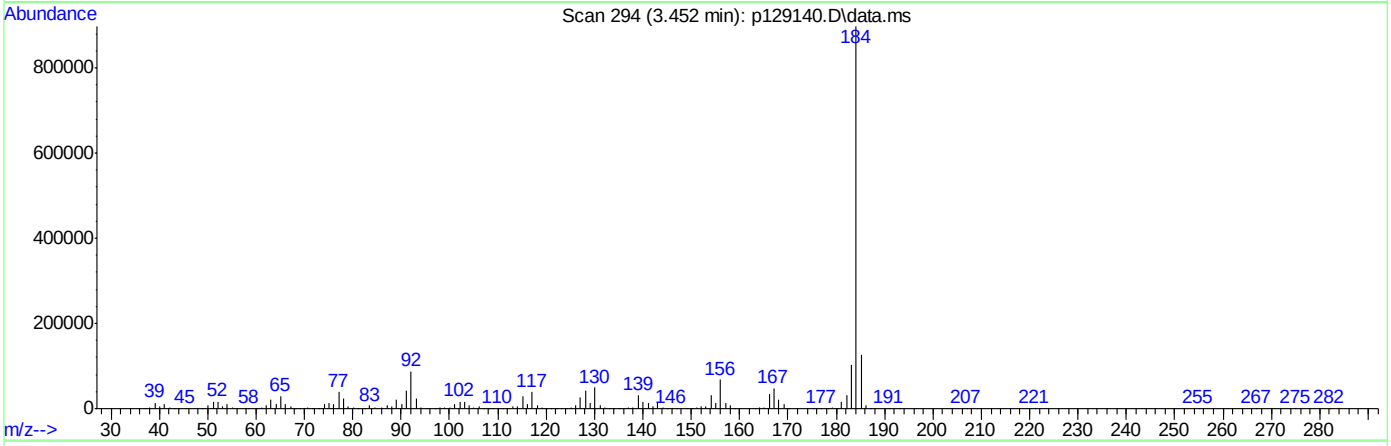
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 63.90 | 61.95 |
| 267.80 | 66.90 | 61.19 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129140.D
Acq On    : 23 Apr 2019  10:58 pm
Operator  : chriss2
Sample    : dftpp
Misc      : op13894,ep5844,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 23 23:04:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title  : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration
```




TIC: p129140.D\data.ms

(2) Benzidine (t)

3.452min (-0.364) 46.08ppb m

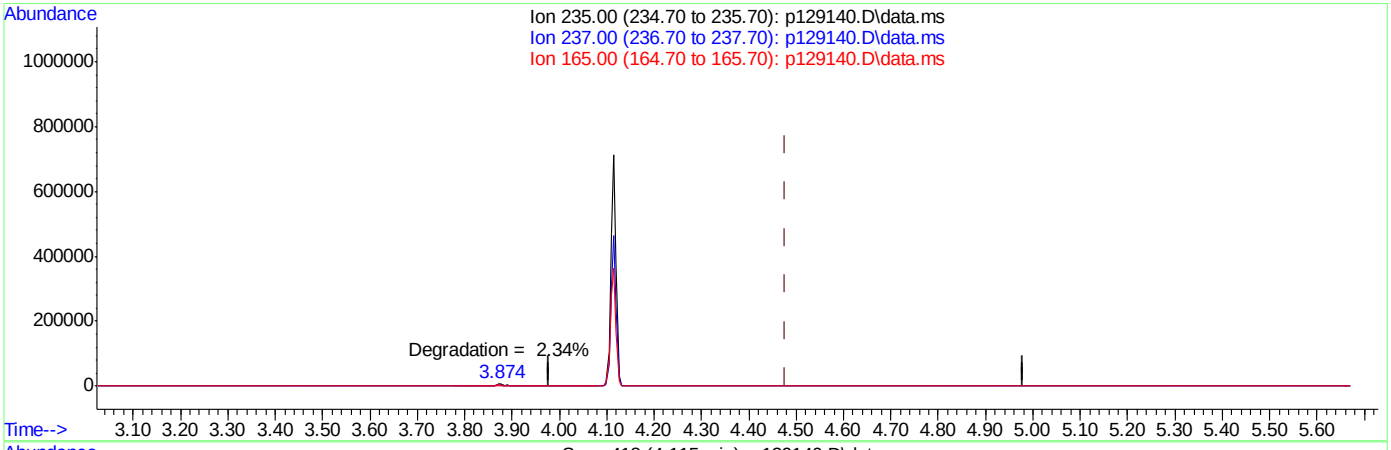
response 761757

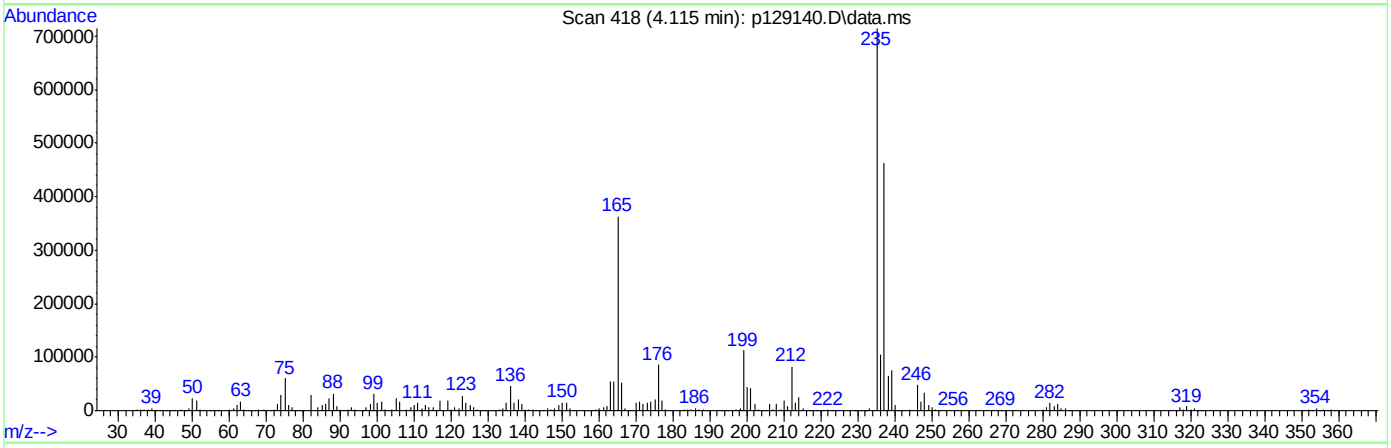
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 0.00 |
| 185.00 | 14.30 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129140.D
Acq On : 23 Apr 2019 10:58 pm
Operator : chriss2
Sample : dftpp
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 23 23:04:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration




TIC: p129140.D\data.ms

(3) ddt

4.115min (-0.364) 74.14ppb m

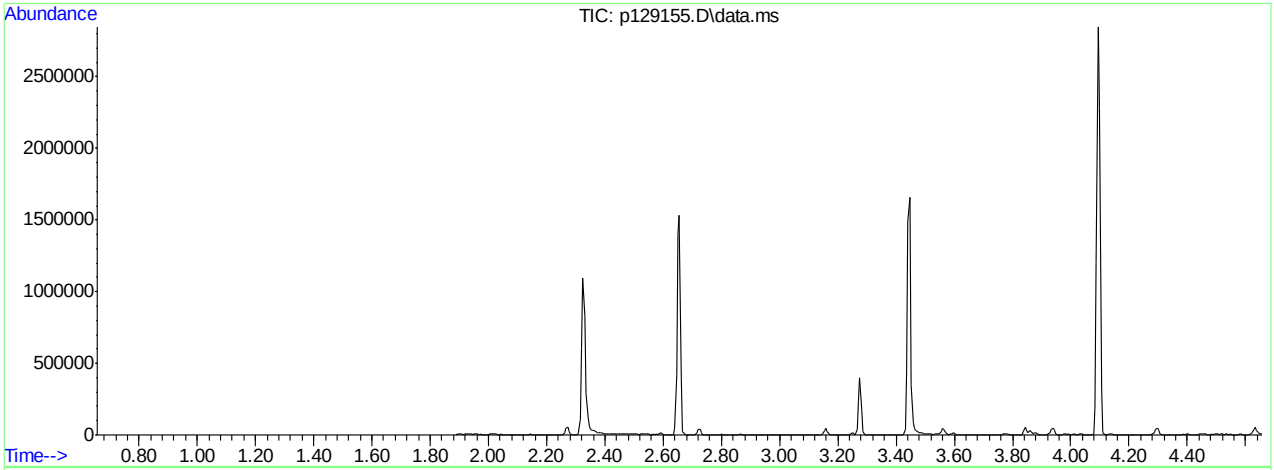
response 549755

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 237.00 | 64.10 | 0.00# |
| 165.00 | 38.80 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\EP5844\p129155.D  Vial: 1
Acq On : 24 Apr 2019 8:17 am  Operator: chriss2
Sample : dftpp  Inst : MSVOAMSP
Misc : op13894,ep5845,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPPP.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um




AutoFind: Scans 144, 145, 146; Background Corrected with Scan 139

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 36.9 | 44871 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 45.3 | 55085 | PASS |
| 70 | 69 | 0.00 | 2 | 0.4 | 231 | PASS |
| 127 | 198 | 40 | 60 | 51.4 | 62498 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 121520 | PASS |
| 199 | 198 | 5 | 9 | 6.2 | 7568 | PASS |
| 275 | 198 | 10 | 30 | 24.9 | 30287 | PASS |
| 365 | 198 | 1 | 100 | 4.3 | 5190 | PASS |
| 441 | 443 | 0.10 | 100 | 86.3 | 9479 | PASS |
| 442 | 198 | 40 | 100 | 50.2 | 61008 | PASS |
| 443 | 442 | 17 | 23 | 18.0 | 10978 | PASS |

p129155.D DFTPPP.M Wed Apr 24 13:03:40 2019 ACLIMS

Average of 2.651 to 2.662 min.: p129155.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.05 | 221 | 55.10 | 516 | 69.00 | 55085 | 82.05 | 1023 |
| 38.05 | 629 | 56.10 | 1454 | 70.00 | 231 | 83.05 | 1029 |
| 39.10 | 3221 | 57.05 | 3305 | 73.10 | 121 | 84.10 | 83 |
| 40.10 | 141 | 58.00 | 123 | 74.10 | 5633 | 85.10 | 856 |
| 41.15 | 118 | 61.05 | 564 | 75.10 | 8968 | 86.10 | 1336 |
| 42.90 | 74 | 62.05 | 549 | 76.15 | 2992 | 87.05 | 618 |
| 45.10 | 54 | 63.10 | 1934 | 77.10 | 62161 | 88.10 | 229 |
| 49.05 | 399 | 64.10 | 255 | 78.10 | 3969 | 89.05 | 145 |
| 50.10 | 12541 | 65.10 | 707 | 79.10 | 3833 | 91.05 | 1096 |
| 51.10 | 44871 | 66.00 | 94 | 80.10 | 2929 | 92.10 | 1281 |
| 52.10 | 2459 | 67.00 | 126 | 81.10 | 4868 | 93.10 | 7488 |

Average of 2.651 to 2.662 min.: p129155.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 94.05 | 497 | 105.10 | 1613 | 116.05 | 966 | 129.10 | 25695 |
| 95.00 | 92 | 105.95 | 319 | 117.05 | 17947 | 130.00 | 2109 |
| 96.05 | 403 | 106.20 | 343 | 118.05 | 1138 | 131.05 | 478 |
| 96.90 | 72 | 107.10 | 20410 | 119.05 | 153 | 132.00 | 264 |
| 97.10 | 78 | 108.10 | 3075 | 120.05 | 281 | 132.60 | 62 |
| 98.10 | 5724 | 109.00 | 595 | 122.10 | 1292 | 132.90 | 56 |
| 99.10 | 4269 | 110.05 | 32347 | 123.10 | 1849 | 134.05 | 768 |
| 100.05 | 457 | 111.05 | 5140 | 124.00 | 906 | 135.00 | 2103 |
| 101.05 | 2535 | 112.05 | 505 | 125.05 | 960 | 136.10 | 856 |
| 103.00 | 862 | 113.00 | 257 | 127.10 | 62498 | 137.05 | 839 |
| 104.05 | 1647 | 115.20 | 59 | 128.10 | 5078 | 138.00 | 258 |

Average of 2.651 to 2.662 min.: p129155.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 139.05 | 151 | 150.10 | 241 | 160.00 | 1003 | 170.05 | 279 |
| 140.10 | 324 | 151.10 | 502 | 161.10 | 1544 | 171.00 | 309 |
| 141.00 | 3212 | 152.00 | 115 | 162.05 | 464 | 172.00 | 527 |
| 142.05 | 834 | 153.10 | 1273 | 163.05 | 136 | 173.05 | 857 |
| 143.00 | 649 | 154.05 | 896 | 163.90 | 85 | 174.10 | 1262 |
| 143.95 | 258 | 155.05 | 2085 | 164.15 | 189 | 175.10 | 2799 |
| 144.95 | 128 | 156.10 | 2839 | 164.95 | 1028 | 176.05 | 872 |
| 146.00 | 591 | 157.00 | 327 | 166.10 | 1090 | 177.05 | 1189 |
| 147.00 | 2004 | 157.15 | 302 | 167.10 | 6906 | 178.05 | 551 |
| 148.05 | 4456 | 158.00 | 432 | 168.05 | 3322 | 179.00 | 5476 |
| 149.00 | 949 | 159.00 | 473 | 169.05 | 477 | 180.05 | 3929 |

Average of 2.651 to 2.662 min.: p129155.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 181.10 | 1912 | 192.10 | 1701 | 203.05 | 976 | 215.00 | 421 |
| 182.15 | 329 | 193.05 | 2195 | 204.10 | 5256 | 216.05 | 930 |
| 183.00 | 150 | 193.95 | 296 | 205.10 | 9527 | 217.00 | 9581 |
| 184.00 | 608 | 194.60 | 68 | 206.10 | 37218 | 218.00 | 1097 |
| 185.10 | 2552 | 195.00 | 284 | 207.10 | 4675 | 219.10 | 70 |
| 186.10 | 20278 | 196.10 | 3729 | 208.05 | 1339 | 219.90 | 67 |
| 187.10 | 5574 | 198.00 | 121520 | 209.00 | 536 | 221.00 | 5010 |
| 188.05 | 669 | 199.00 | 7568 | 210.05 | 488 | 222.00 | 1200 |
| 189.00 | 1179 | 200.05 | 801 | 211.00 | 1625 | 223.05 | 2053 |
| 190.05 | 138 | 201.55 | 837 | 212.15 | 256 | 224.10 | 20603 |
| 191.00 | 622 | 202.10 | 111 | 213.10 | 109 | 225.10 | 4671 |

Average of 2.651 to 2.662 min.: p129155.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 226.10 | 405 | 237.05 | 648 | 248.05 | 132 | 258.10 | 5329 |
| 227.05 | 9697 | 238.10 | 99 | 249.05 | 613 | 259.05 | 698 |
| 228.00 | 1355 | 239.00 | 318 | 249.90 | 111 | 260.10 | 88 |
| 229.00 | 1813 | 240.05 | 208 | 250.95 | 176 | 261.00 | 113 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 230.00 | 304 | 241.10 | 553 | 252.10 | 244 | 264.10 | 124 |
| 231.05 | 631 | 242.10 | 1120 | 253.00 | 418 | 265.10 | 2494 |
| 231.90 | 59 | 243.10 | 1178 | 253.70 | 217 | 266.05 | 652 |
| 233.10 | 124 | 244.10 | 13997 | 254.00 | 423 | 270.20 | 68 |
| 234.05 | 642 | 245.10 | 1602 | 255.10 | 78381 | 270.95 | 166 |
| 235.00 | 733 | 246.00 | 3207 | 256.10 | 10849 | 271.40 | 74 |
| 235.95 | 471 | 247.00 | 856 | 257.05 | 860 | 271.95 | 176 |

Average of 2.651 to 2.662 min.: p129155.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 273.10 | 2490 | 292.00 | 208 | 307.90 | 123 | 327.00 | 571 |
| 274.05 | 5415 | 293.05 | 794 | 310.05 | 162 | 327.80 | 106 |
| 275.10 | 30287 | 294.10 | 170 | 311.00 | 79 | 328.10 | 183 |
| 276.05 | 4167 | 294.90 | 89 | 314.05 | 533 | 332.05 | 273 |
| 277.05 | 3032 | 296.05 | 12248 | 315.00 | 1156 | 333.10 | 336 |
| 278.05 | 571 | 297.05 | 1795 | 315.95 | 652 | 334.10 | 2110 |
| 283.10 | 429 | 297.90 | 83 | 317.10 | 68 | 335.05 | 582 |
| 284.05 | 242 | 300.90 | 121 | 321.05 | 386 | 336.00 | 57 |
| 285.10 | 673 | 302.05 | 238 | 322.10 | 149 | 341.05 | 407 |
| 287.90 | 54 | 303.10 | 1350 | 323.10 | 3350 | 342.00 | 69 |
| 290.10 | 70 | 304.05 | 419 | 324.05 | 618 | 346.00 | 850 |

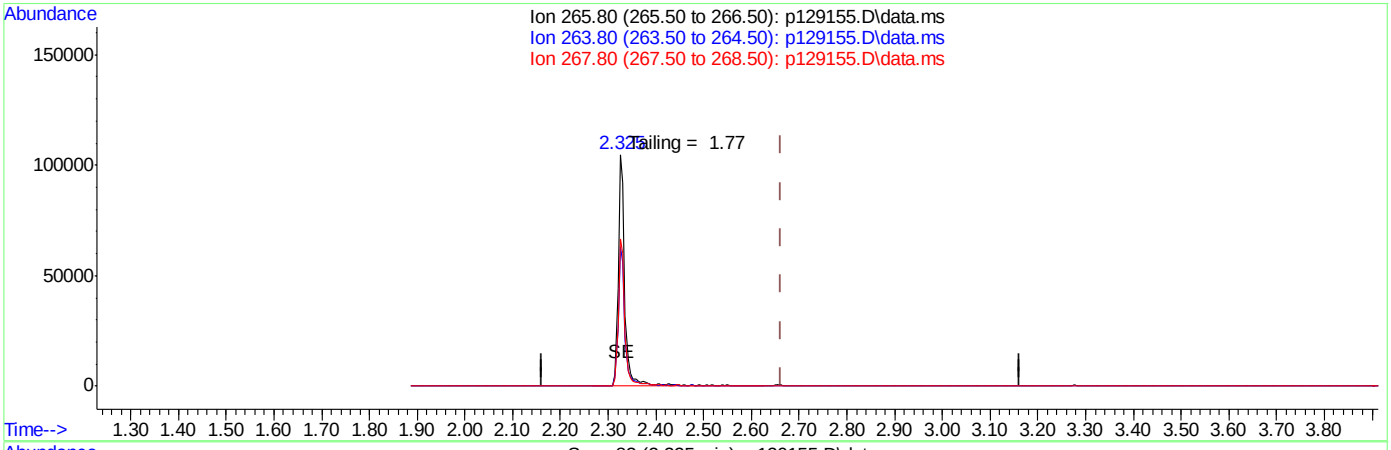
Average of 2.651 to 2.662 min.: p129155.D\data.ms
dftpp
Modified:subtracted

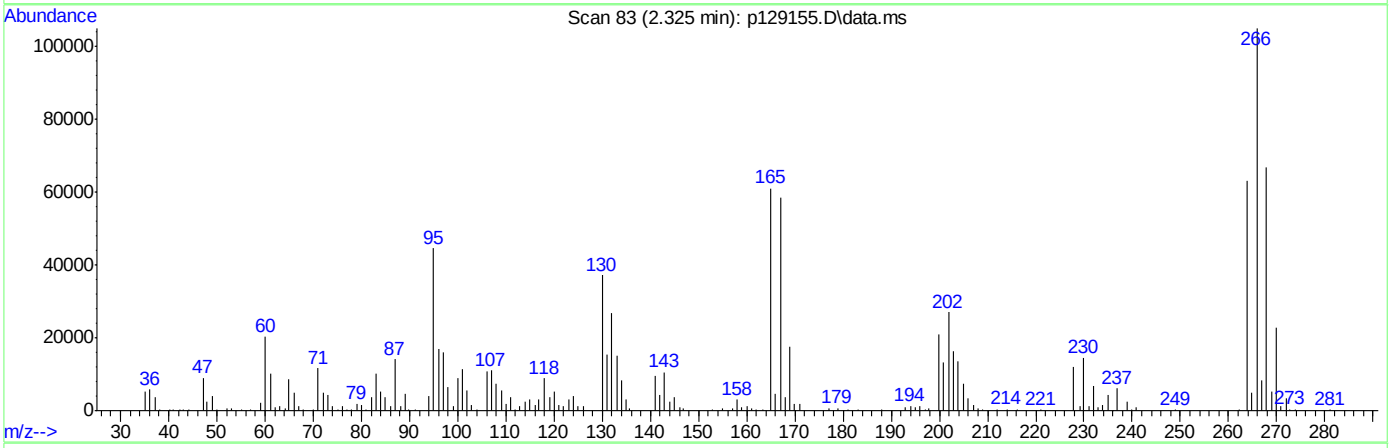
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 346.90 | 67 | 374.00 | 64 | 422.05 | 583 | 443.10 | 10978 |
| 352.05 | 804 | 383.00 | 454 | 423.05 | 3782 | 444.05 | 1221 |
| 353.05 | 707 | 384.00 | 67 | 424.10 | 699 | | |
| 354.05 | 990 | 385.10 | 55 | 427.10 | 58 | | |
| 355.10 | 85 | 389.95 | 173 | 429.00 | 88 | | |
| 359.10 | 62 | 391.10 | 118 | 430.80 | 50 | | |
| 365.05 | 5190 | 392.10 | 89 | 434.40 | 54 | | |
| 366.00 | 854 | 402.05 | 717 | 434.70 | 50 | | |
| 371.05 | 213 | 403.00 | 793 | 435.60 | 70 | | |
| 372.00 | 1407 | 404.05 | 358 | 441.10 | 9479 | | |
| 373.10 | 580 | 421.00 | 567 | 442.10 | 61008 | | |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129155.D
Acq On    : 24 Apr 2019   8:17 am
Operator  : chriss2
Sample    : dftpp
Misc      : op13894,ep5845,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 24 08:23:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title  : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration
```




(1) Pentachlorophenol (t)

2.325min (-0.338) 85.77ppb m

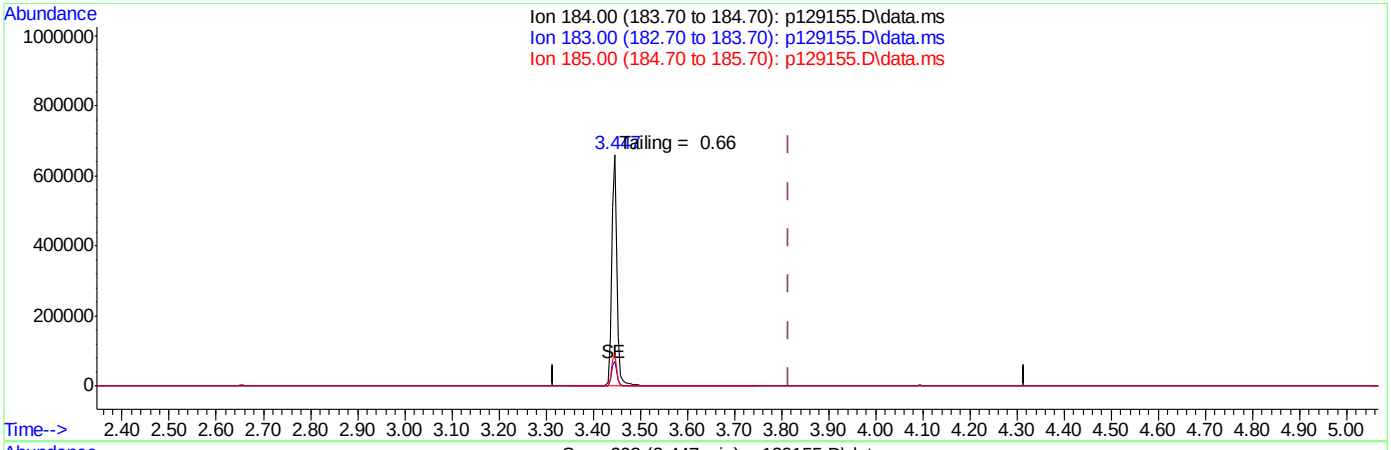
response 109739

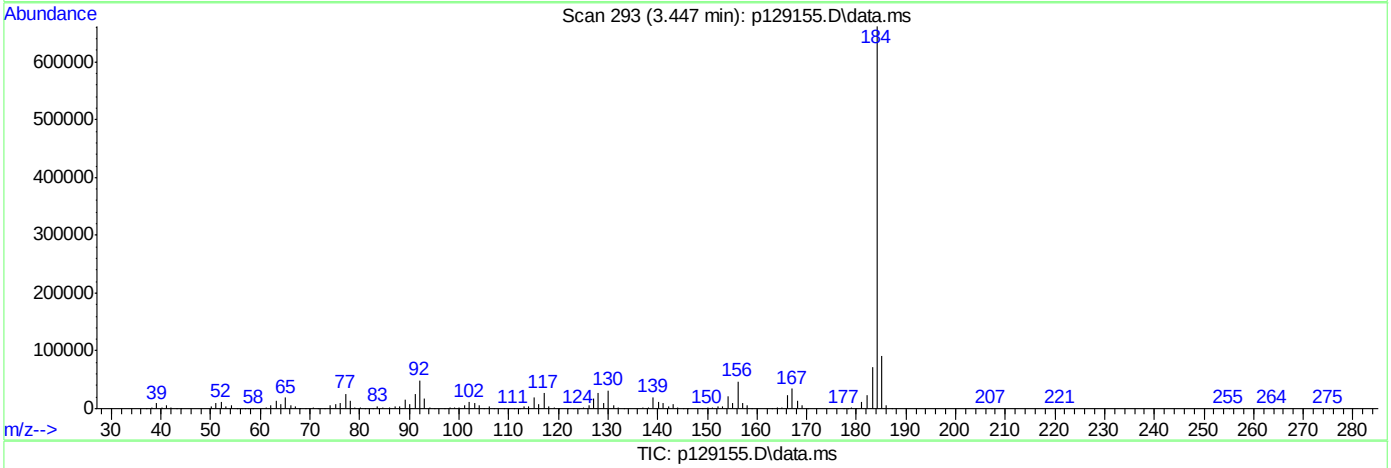
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 63.90 | 60.00 |
| 267.80 | 66.90 | 63.53 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129155.D
Acq On    : 24 Apr 2019   8:17 am
Operator  : chriss2
Sample    : dftpp
Misc      : op13894,ep5845,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 24 08:23:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title  : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration
```




TIC: p129155.D\data.ms

(2) Benzidine (t)

3.447min (-0.370) 30.57ppb m

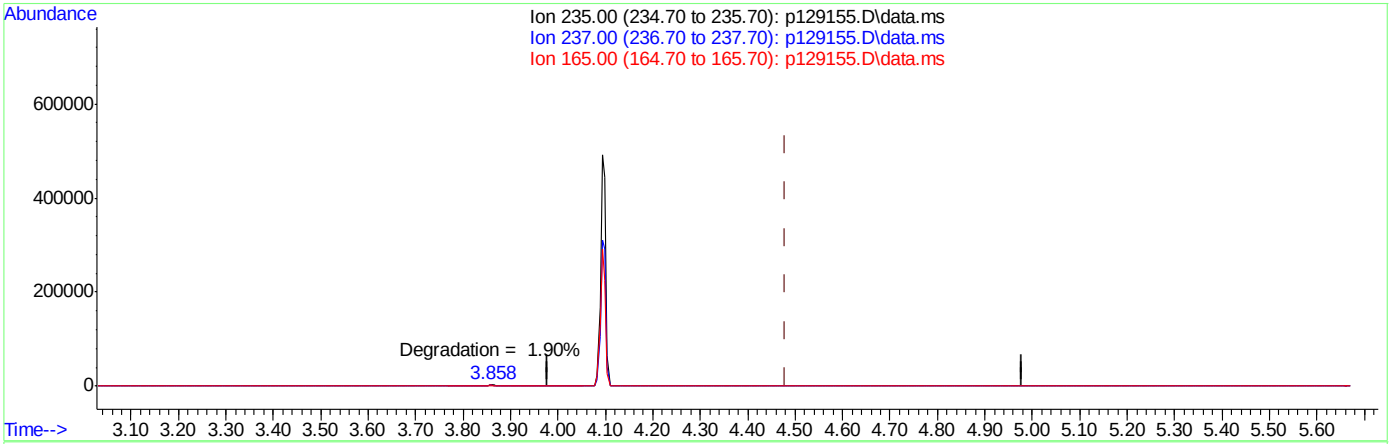
response 505348

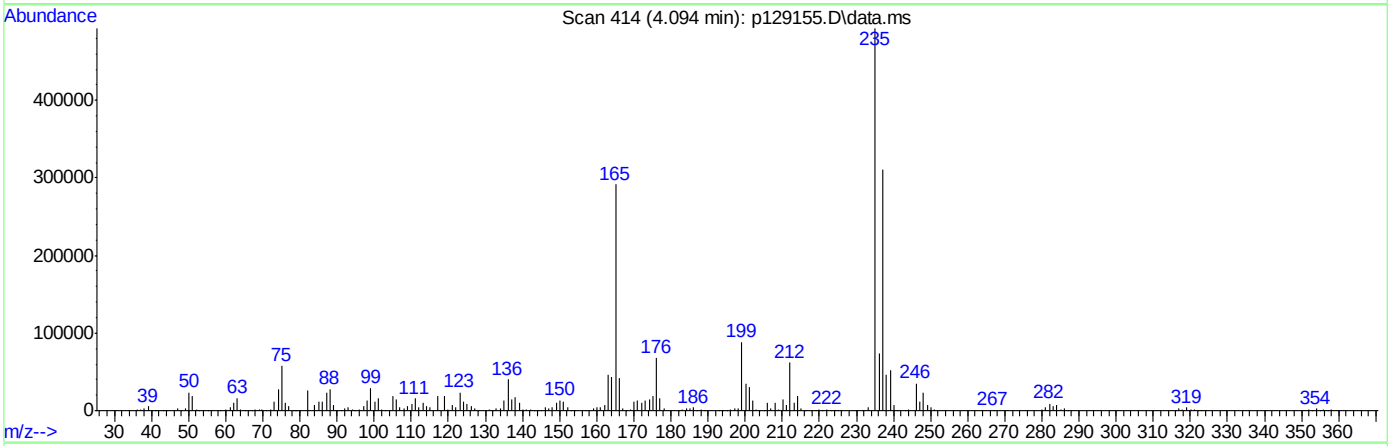
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 0.00 |
| 185.00 | 14.30 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129155.D
Acq On    : 24 Apr 2019   8:17 am
Operator  : chriss2
Sample    : dftpp
Misc      : op13894,ep5845,1000,,,1,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Apr 24 08:23:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title  : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration
```




TIC: p129155.D\data.ms

(3) ddt

4.094min (-0.386) 51.78ppb m

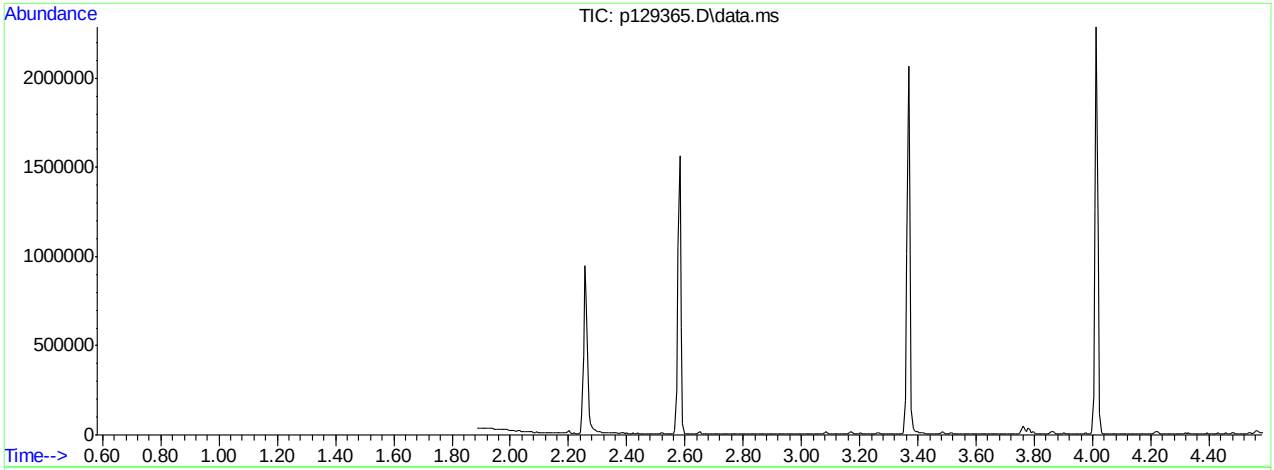
response 383904

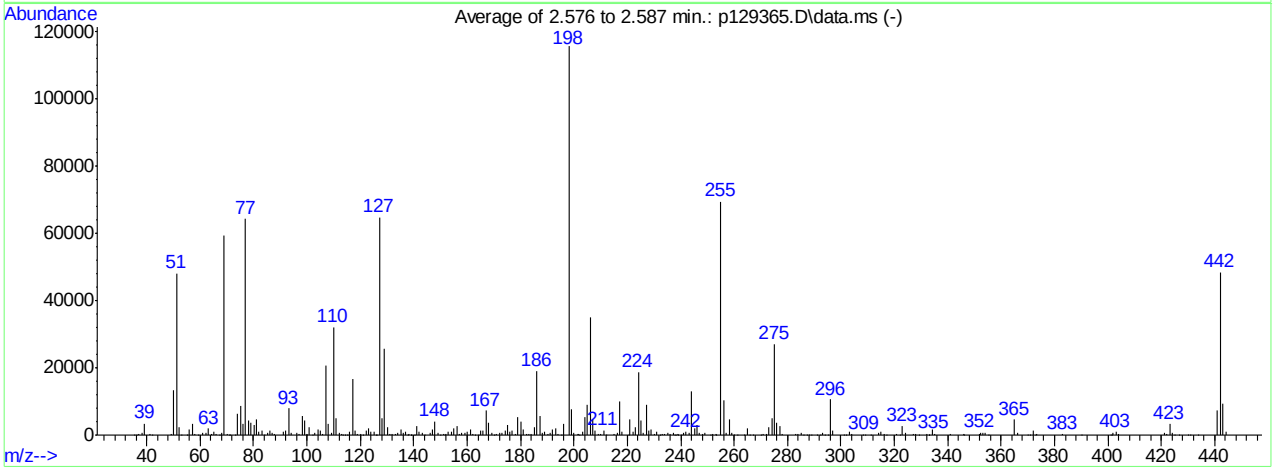
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 237.00 | 64.10 | 0.00# |
| 165.00 | 38.80 | 0.00# |
| 0.00 | 0.00 | 0.00 |

DFTPP

Data File : C:\msdchem\1\DATA\EP5856\p129365.D  Vial: 1
Acq On : 7 May 2019 12:32 pm  Operator: christc2
Sample : dftpp  Inst : MSVOAMSP
Misc : op13894,ep5856,1000,,,1,1  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\DFTPPP.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um




AutoFind: Scans 130, 131, 132; Background Corrected with Scan 125

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 41.6 | 48117 | PASS |
| 68 | 69 | 0.00 | 2 | 1.3 | 747 | PASS |
| 69 | 198 | 0.00 | 100 | 51.4 | 59428 | PASS |
| 70 | 69 | 0.00 | 2 | 0.7 | 406 | PASS |
| 127 | 198 | 40 | 60 | 56.1 | 64885 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 115658 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 7801 | PASS |
| 275 | 198 | 10 | 30 | 23.5 | 27192 | PASS |
| 365 | 198 | 1 | 100 | 3.9 | 4550 | PASS |
| 441 | 443 | 0.10 | 100 | 77.0 | 7276 | PASS |
| 442 | 198 | 40 | 100 | 41.9 | 48488 | PASS |
| 443 | 442 | 17 | 23 | 19.5 | 9454 | PASS |

p129365.D DFTPPP.M Tue May 07 14:45:12 2019 ACLIMS

Average of 2.576 to 2.587 min.: p129365.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 35.10 | 79 | 53.05 | 177 | 66.15 | 223 | 77.05 | 64386 |
| 36.00 | 148 | 55.00 | 116 | 67.10 | 173 | 78.10 | 4297 |
| 37.05 | 284 | 56.00 | 1642 | 68.00 | 747 | 79.10 | 3683 |
| 38.10 | 688 | 57.00 | 3197 | 69.00 | 59428 | 80.05 | 3150 |
| 39.10 | 3341 | 58.00 | 233 | 70.10 | 406 | 81.05 | 4707 |
| 41.10 | 190 | 59.10 | 83 | 70.90 | 108 | 82.05 | 1178 |
| 42.10 | 56 | 61.10 | 660 | 71.10 | 67 | 83.05 | 1185 |
| 49.10 | 453 | 62.05 | 747 | 73.05 | 144 | 83.95 | 166 |
| 50.10 | 13239 | 63.10 | 1925 | 74.10 | 6383 | 85.05 | 830 |
| 51.10 | 48117 | 64.15 | 239 | 75.10 | 8622 | 86.10 | 1436 |
| 52.10 | 2433 | 65.10 | 906 | 76.10 | 3295 | 87.00 | 640 |

Average of 2.576 to 2.587 min.: p129365.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 87.95 | 259 | 101.00 | 2463 | 112.00 | 607 | 122.05 | 1240 |
| 91.05 | 1075 | 102.00 | 175 | 113.00 | 256 | 123.00 | 1904 |
| 92.05 | 1281 | 103.05 | 628 | 113.20 | 53 | 124.00 | 923 |
| 93.10 | 7922 | 104.00 | 1573 | 114.30 | 55 | 125.05 | 981 |
| 94.10 | 595 | 105.05 | 1301 | 115.00 | 83 | 125.80 | 145 |
| 96.05 | 570 | 106.00 | 472 | 116.10 | 1139 | 126.10 | 158 |
| 97.05 | 269 | 107.05 | 20827 | 117.05 | 16733 | 127.10 | 64885 |
| 98.10 | 5633 | 108.10 | 3265 | 118.05 | 1199 | 128.10 | 5005 |
| 99.10 | 4230 | 109.10 | 653 | 119.05 | 191 | 129.05 | 25772 |
| 99.80 | 64 | 110.00 | 32043 | 120.05 | 327 | 130.05 | 2291 |
| 100.05 | 317 | 111.05 | 5068 | 121.10 | 57 | 131.00 | 481 |

Average of 2.576 to 2.587 min.: p129365.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 132.05 | 292 | 141.05 | 2802 | 152.05 | 209 | 163.10 | 121 |
| 133.05 | 250 | 142.05 | 1085 | 153.05 | 1046 | 164.05 | 148 |
| 134.05 | 690 | 143.00 | 731 | 154.10 | 902 | 165.05 | 1324 |
| 135.05 | 1706 | 144.05 | 156 | 155.10 | 1880 | 166.00 | 1265 |
| 136.05 | 734 | 146.00 | 656 | 156.10 | 2778 | 167.00 | 7228 |
| 137.00 | 1001 | 147.05 | 1601 | 157.10 | 499 | 168.05 | 3560 |
| 137.90 | 167 | 148.00 | 4122 | 157.95 | 545 | 169.10 | 697 |
| 138.10 | 216 | 149.10 | 808 | 159.00 | 549 | 170.00 | 146 |
| 138.80 | 78 | 150.00 | 168 | 160.05 | 1091 | 170.95 | 300 |
| 139.20 | 71 | 151.05 | 445 | 161.05 | 1530 | 172.00 | 588 |
| 140.15 | 144 | 151.40 | 143 | 161.95 | 453 | 173.05 | 720 |

Average of 2.576 to 2.587 min.: p129365.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 174.10 | 1376 | 185.05 | 2348 | 196.05 | 3366 | 207.10 | 4588 |
| 175.10 | 2891 | 186.10 | 19046 | 198.00 | 115658 | 208.00 | 1339 |
| 176.05 | 909 | 187.10 | 5574 | 199.00 | 7801 | 209.05 | 377 |
| 177.00 | 1264 | 188.10 | 599 | 200.00 | 769 | 210.05 | 478 |
| 178.15 | 282 | 189.05 | 1082 | 201.40 | 263 | 211.05 | 1500 |
| 179.00 | 5278 | 190.05 | 274 | 201.60 | 336 | 212.00 | 98 |
| 180.05 | 3870 | 191.10 | 668 | 202.00 | 66 | 215.10 | 454 |
| 181.05 | 1581 | 192.00 | 1578 | 203.05 | 1094 | 216.10 | 728 |
| 182.05 | 196 | 193.00 | 1876 | 204.10 | 5296 | 217.00 | 9952 |
| 183.05 | 209 | 194.05 | 382 | 205.10 | 9049 | 218.00 | 1080 |
| 183.95 | 509 | 195.20 | 172 | 206.10 | 34920 | 220.30 | 87 |

Average of 2.576 to 2.587 min.: p129365.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 221.05 | 4736 | 232.10 | 97 | 241.05 | 593 | 253.00 | 309 |
| 222.00 | 1151 | 233.05 | 223 | 242.00 | 896 | 253.40 | 82 |
| 223.00 | 2204 | 233.95 | 495 | 243.10 | 725 | 255.00 | 69506 |
| 224.10 | 18862 | 235.00 | 592 | 244.10 | 12966 | 256.05 | 10500 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 225.05 | 4425 | 236.00 | 451 | 245.10 | 1913 | 257.05 | 829 |
| 226.10 | 544 | 237.05 | 707 | 246.05 | 2913 | 258.05 | 4841 |
| 227.00 | 9098 | 237.80 | 65 | 246.95 | 651 | 259.00 | 716 |
| 228.00 | 1440 | 238.10 | 70 | 248.00 | 201 | 260.00 | 133 |
| 229.00 | 1653 | 238.90 | 127 | 249.00 | 643 | 261.10 | 69 |
| 230.05 | 362 | 239.10 | 286 | 250.95 | 138 | 263.90 | 83 |
| 231.05 | 884 | 240.05 | 171 | 251.95 | 241 | 265.05 | 2101 |

Average of 2.576 to 2.587 min.: p129365.D\data.ms
dftpp
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 265.90 | 51 | 283.05 | 353 | 295.00 | 143 | 315.05 | 963 |
| 266.90 | 50 | 284.05 | 209 | 296.05 | 10561 | 316.00 | 491 |
| 270.10 | 86 | 285.10 | 597 | 297.00 | 1496 | 317.00 | 69 |
| 271.05 | 221 | 286.10 | 87 | 301.00 | 64 | 320.95 | 212 |
| 272.10 | 276 | 287.20 | 54 | 301.95 | 164 | 322.00 | 68 |
| 273.05 | 2238 | 288.20 | 73 | 303.05 | 1160 | 323.10 | 2747 |
| 274.00 | 5178 | 289.00 | 91 | 304.00 | 270 | 324.05 | 546 |
| 275.10 | 27192 | 290.80 | 61 | 308.10 | 65 | 327.00 | 504 |
| 276.05 | 3683 | 292.10 | 53 | 309.00 | 71 | 328.00 | 225 |
| 277.05 | 2820 | 293.05 | 714 | 311.00 | 51 | 329.00 | 68 |
| 278.05 | 482 | 294.05 | 175 | 314.00 | 549 | 332.05 | 213 |

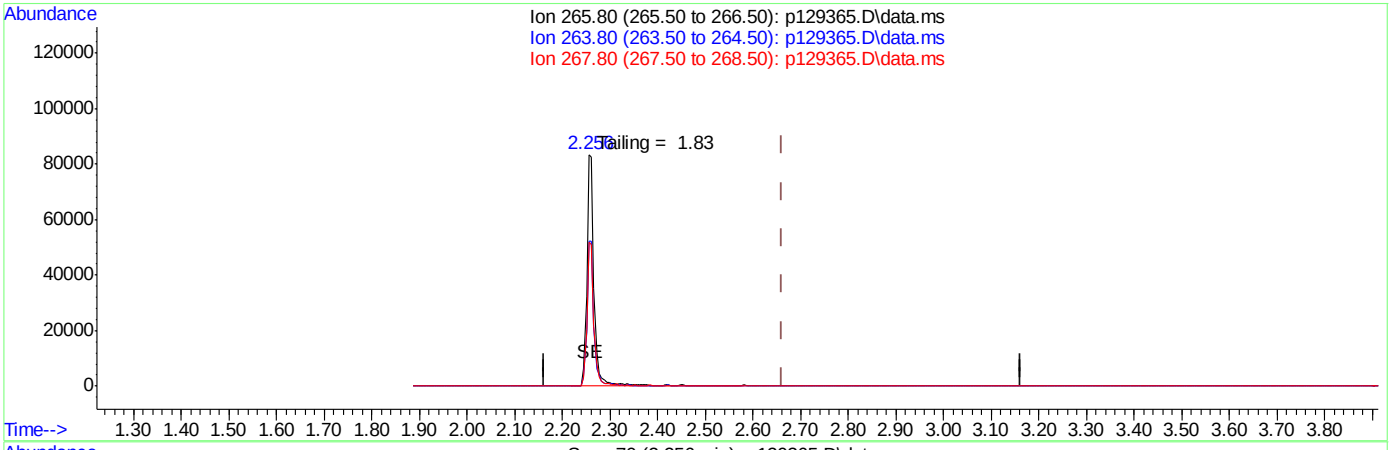
Average of 2.576 to 2.587 min.: p129365.D\data.ms
dftpp
Modified:subtracted

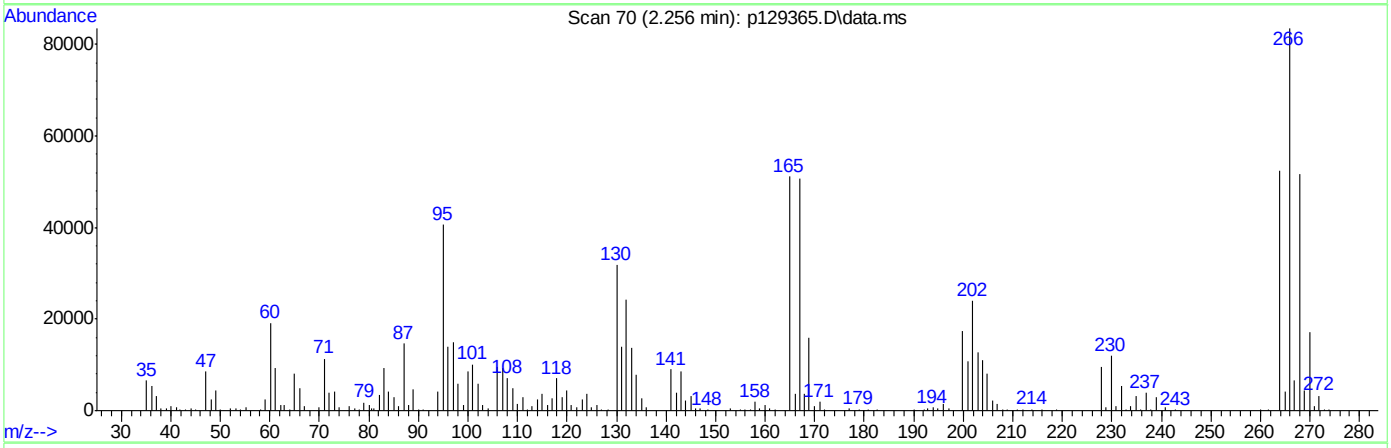
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 332.90 | 122 | 355.10 | 76 | 401.30 | 60 | 430.80 | 92 |
| 333.10 | 109 | 365.00 | 4550 | 402.00 | 520 | 433.90 | 71 |
| 334.05 | 1831 | 366.00 | 722 | 403.05 | 909 | 441.10 | 7276 |
| 335.00 | 510 | 370.00 | 62 | 404.00 | 235 | 442.10 | 48488 |
| 341.05 | 489 | 370.90 | 143 | 421.00 | 522 | 443.10 | 9454 |
| 345.90 | 423 | 372.05 | 1347 | 422.05 | 437 | 444.10 | 954 |
| 346.10 | 152 | 372.90 | 64 | 423.10 | 3311 | | |
| 351.90 | 196 | 373.10 | 320 | 424.05 | 645 | | |
| 352.15 | 679 | 383.05 | 301 | 425.10 | 70 | | |
| 353.05 | 543 | 390.05 | 156 | 426.50 | 60 | | |
| 354.05 | 757 | 401.00 | 54 | 430.00 | 66 | | |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129365.D
Acq On : 7 May 2019 12:32 pm
Operator : christc2
Sample : dftpp
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 07 12:38:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration




(1) Pentachlorophenol (t)

2.256min (-0.407) 70.02ppb m

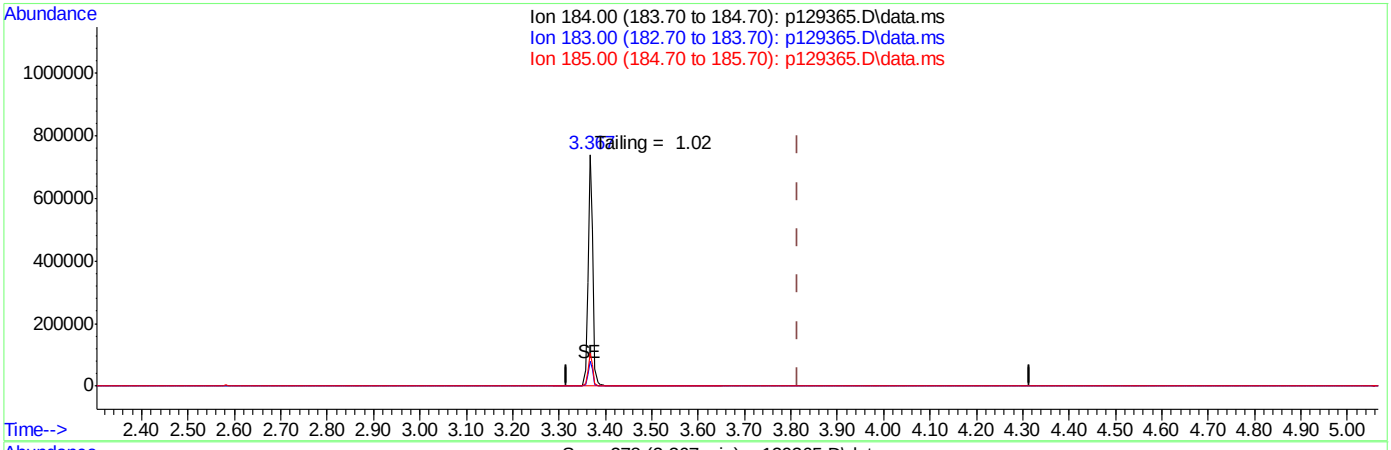
response 89594

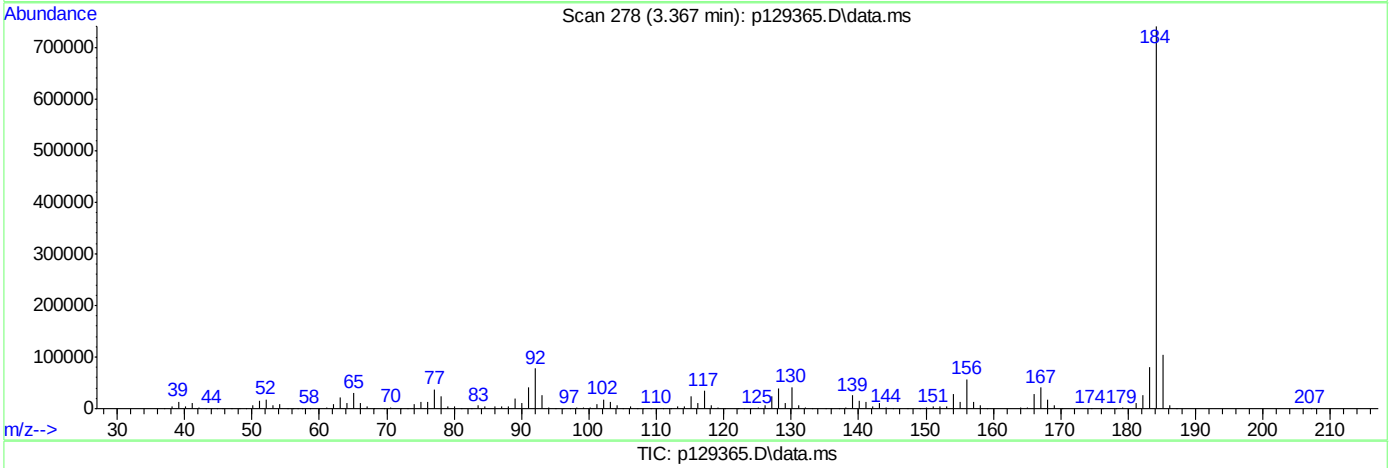
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 263.80 | 63.90 | 62.73 |
| 267.80 | 66.90 | 61.93 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129365.D
Acq On : 7 May 2019 12:32 pm
Operator : christc2
Sample : dftpp
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 07 12:38:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration




TIC: p129365.D\data.ms

(2) Benzidine (t)

3.367min (-0.450) 33.56ppb m

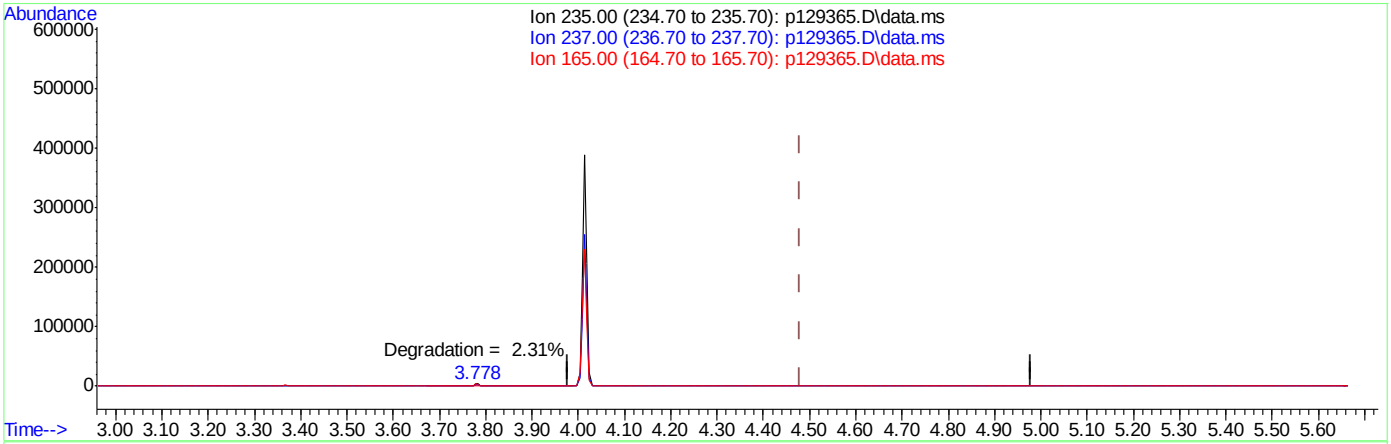
response 554808

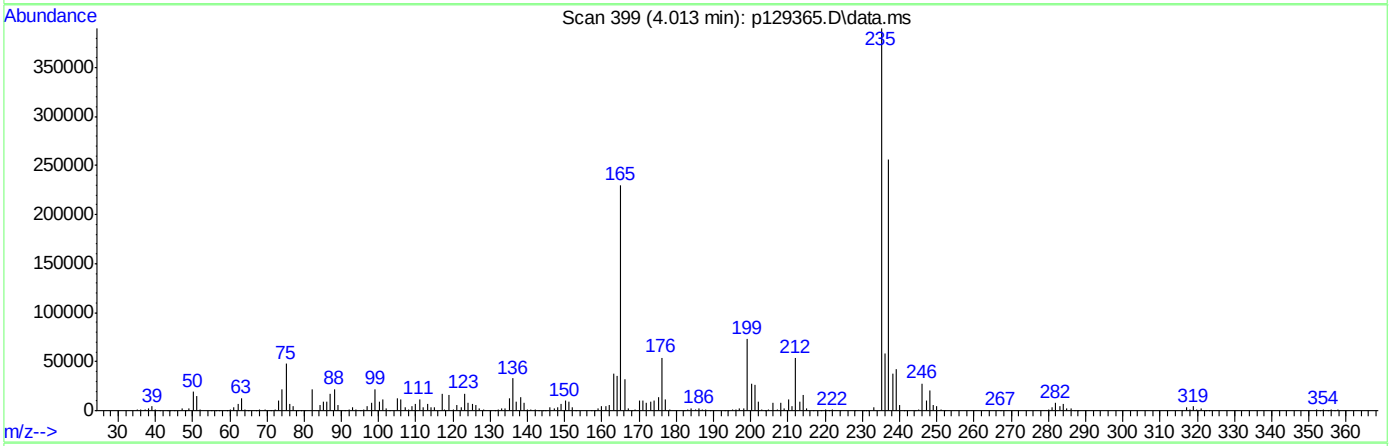
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 183.00 | 11.70 | 0.00 |
| 185.00 | 14.30 | 0.21 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129365.D
Acq On : 7 May 2019 12:32 pm
Operator : christc2
Sample : dftpp
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 07 12:38:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\DFTPPP.M
Quant Title : Semi Volatile GC/MS, ZB-5MSi 30m x .25mm x .25um
QLast Update : Tue Dec 11 00:35:57 2018
Response via : Initial Calibration




TIC: p129365.D\data.ms

(3) ddt

4.013min (-0.466) 35.71ppb m

response 264764

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 237.00 | 64.10 | 0.00# |
| 165.00 | 38.80 | 0.00# |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/17/19 13:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:55:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 613533 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.313 | 136 | 2607399 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1582803 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.672 | 188 | 2976109 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.833 | 240 | 2774341 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3216467 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 613533 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1582803 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.672 | 188 | 2976109 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.833 | 240 | 2774341 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.313 | 136 | 2607399 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.672 | 188 | 2976109 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.833 | 240 | 2774341 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.350 | 112 | 1943687 | 95.56 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 191.12% | |
| 8) Phenol-d5 | 4.099 | 99 | 2114417 | 92.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 185.86% | |
| 25) Nitrobenzene-d5 | 4.746 | 82 | 2039707 | 91.59 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 183.18% | |
| 51) 2-Fluorobiphenyl | 6.313 | 172 | 5142966 | 92.86 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 185.72% | |
| 73) 2,4,6-Tribromophenol | 7.886 | 330 | 1081368 | 107.65 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 215.30% | |
| 85) Terphenyl-d14 | 10.598 | 244 | 6569782 | 98.12 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 196.24% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.762 | 88 | 791273 | 94.65 | ppm | 99 |
| 3) Pyridine | 2.104 | 79 | 1900721 | 96.20 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.077 | 74 | 1109627 | 96.69 | ppm | 99 |
| 6) Indene | 4.511 | 116 | 3063422 | 91.23 | ppm | 99 |
| 7) Cumene | 3.719 | 105 | 4267241 | 89.90 | ppm | 98 |
| 9) Phenol | 4.110 | 94 | 2502528 | 90.85 | ppm | 99 |
| 10) Aniline | 4.088 | 93 | 2005208 | 87.67 | ppm | 97 |
| 11) bis(2-Chloroethyl)ether | 4.136 | 93 | 1801018 | 96.15 | ppm | 99 |
| 12) 2-Chlorophenol | 4.185 | 128 | 2075615 | 93.08 | ppm | 96 |
| 13) Decane | 4.217 | 43 | 1384001 | 87.77 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 2262217 | 92.87 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 2290148 | 92.06 | ppm | 99 |
| 16) Benzyl alcohol | 4.452 | 108 | 1155496 | 93.37 | ppm | 96 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 2096906 | 91.66 | ppm | 99 |
| 18) Acetophenone | 4.639 | 105 | 2753249 | 94.24 | ppm | 96 |
| 19) 2-Methylphenol | 4.548 | 108 | 1761942 | 93.81 | ppm | 96 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 654340 | 96.62 | ppm | 92 |
| 21) 3&4-Methylphenol | 4.661 | 108 | 1904974 | 94.10 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:55:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.645 | 70 | 1212844 | 93.82 | ppm | | 96 |
| 23) Hexachloroethane | 4.693 | 201 | 891774 | 99.02 | ppm | | 96 |
| 26) Nitrobenzene | 4.762 | 77 | 2028961 | 90.29 | ppm | | 97 |
| 27) Quinoline | 5.666 | 129 | 4746936 | 94.96 | ppm | | 99 |
| 28) Isophorone | 4.955 | 82 | 3412387 | 90.11 | ppm | | 92 |
| 29) 2-Nitrophenol | 5.008 | 139 | 1234941 | 88.03 | ppm | | 89 |
| 30) 2,4-Dimethylphenol | 5.062 | 107 | 2067797 | 95.95 | ppm | | 99 |
| 31) Benzoic acid | 5.254 | 105 | 2055995 | 96.84 | ppm | | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.121 | 93 | 2161958 | 89.78 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.217 | 162 | 1912789 | 92.11 | ppm | | 99 |
| 34) 2,6-Dichlorophenol | 5.399 | 162 | 1871485 | 92.80 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.014 | 180 | 2076474 | 89.80 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.270 | 180 | 2111251 | 93.24 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.458 | 180 | 2130900 | 94.55 | ppm | | 98 |
| 38) Naphthalene | 5.329 | 128 | 5808075 | 87.17 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.393 | 127 | 2436913 | 90.96 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.228 | 161 | 2375642 | 93.26 | ppm | | 97 |
| 41) Caprolactam | 5.757 | 55 | 902513m | 99.57 | ppm | | |
| 42) Hexachlorobutadiene | 5.441 | 225 | 1246298 | 95.71 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.859 | 107 | 2043053 | 95.57 | ppm | | 96 |
| 44) 2-Methylnaphthalene | 5.950 | 141 | 3486347 | 90.59 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.046 | 141 | 3826040 | 90.40 | ppm | | 99 |
| 46) Dimethylnaphthalene | 6.570 | 156 | 4246053 | 92.03 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.105 | 237 | 2359800 | 213.29 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.244 | 196 | 1582473 | 100.46 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 6.297 | 196 | 1696422 | 99.52 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.431 | 162 | 4331834 | 92.42 | ppm | | 99 |
| 53) Biphenyl | 6.415 | 154 | 5477034 | 91.22 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.554 | 65 | 1230070 | 92.91 | ppm | | 97 |
| 55) Dimethylphthalate | 6.747 | 163 | 5221627 | 94.90 | ppm | | 99 |
| 56) Acenaphthylene | 6.854 | 152 | 6676702 | 91.61 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.811 | 165 | 1320260 | 97.66 | ppm | | 95 |
| 58) 3-Nitroaniline | 6.993 | 138 | 1412808 | 95.67 | ppm | | 95 |
| 59) Acenaphthene | 7.041 | 153 | 4391123 | 91.43 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 7.116 | 184 | 1783438 | 204.65 | ppm | | 99 |
| 61) 4-Nitrophenol | 7.233 | 109 | 691793 | 94.95 | ppm | # | 36 |
| 62) Dibenzofuran | 7.228 | 168 | 6111348 | 92.77 | ppm | | 99 |
| 63) 2,4-Dinitrotoluene | 7.255 | 165 | 1822937 | 98.18 | ppm | | 98 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.383 | 232 | 1452847 | 102.53 | ppm | | 96 |
| 65) Diethylphthalate | 7.522 | 149 | 5117909 | 94.46 | ppm | | 99 |
| 66) Fluorene | 7.608 | 166 | 4983343 | 91.76 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.613 | 204 | 2681450 | 96.32 | ppm | | 96 |
| 68) 4-Nitroaniline | 7.688 | 138 | 1445768 | 98.14 | ppm | | 99 |
| 70) 4,6-Dinitro-2-methylph... | 7.720 | 198 | 1258836 | 100.13 | ppm | | 95 |
| 71) n-Nitrosodiphenylamine | 7.763 | 169 | 3954072 | 94.54 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.800 | 77 | 4185320 | 88.49 | ppm | | 88 |
| 74) 4-Bromophenyl-phenylether | 8.169 | 248 | 1666933 | 98.76 | ppm | | 97 |
| 75) Hexachlorobenzene | 8.244 | 284 | 1993101 | 101.82 | ppm | | 90 |
| 76) Pentachlorophenol | 8.490 | 266 | 2648354 | 211.16 | ppm | | 100 |
| 77) Phenanthrene | 8.704 | 178 | 7323566 | 92.72 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:55:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

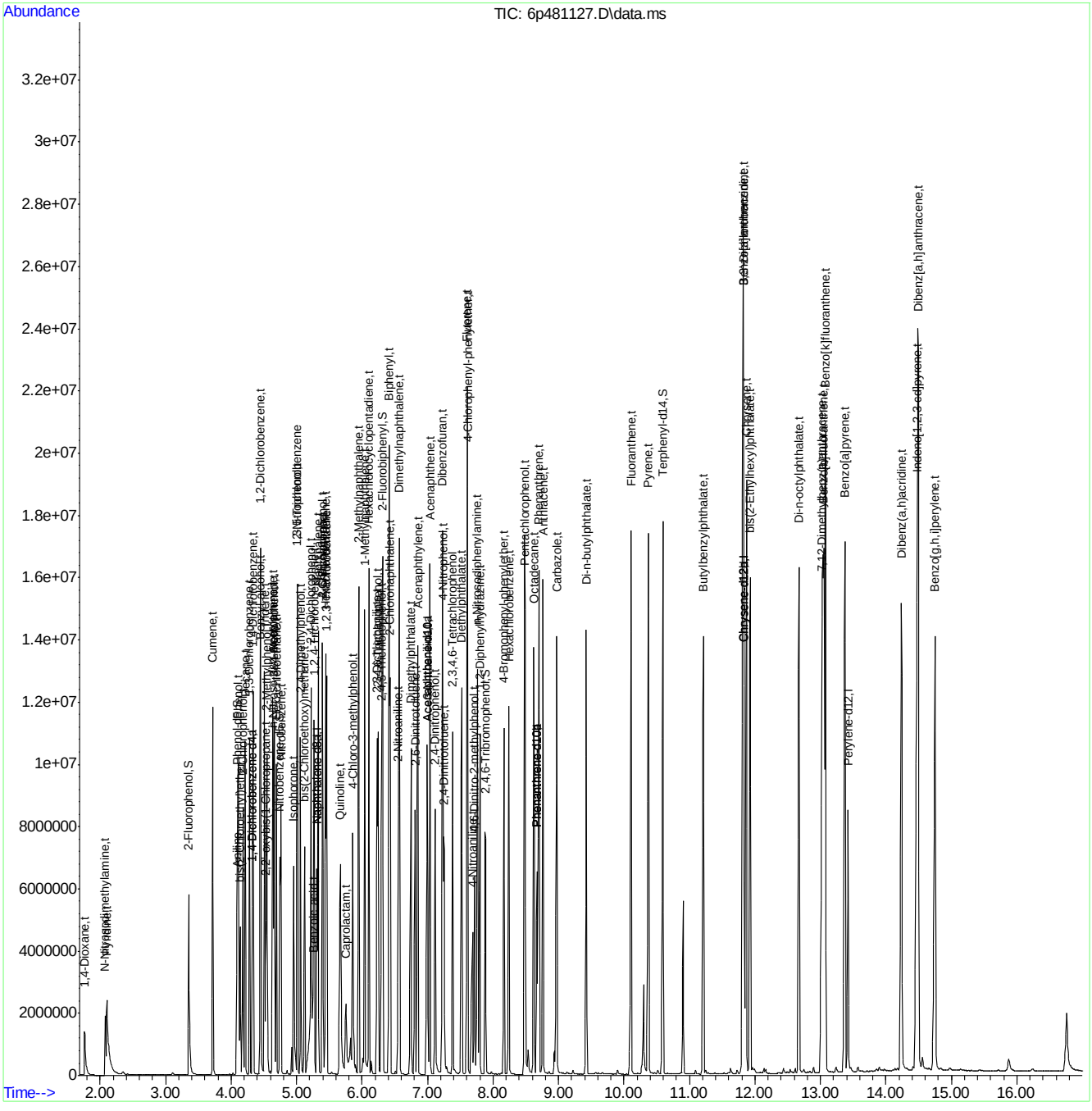
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.763 | 178 | 7514799 | 92.87 | ppm | 99 |
| 79) | Carbazole | 8.977 | 167 | 7070145 | 90.54 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.426 | 149 | 8425861 | 89.61 | ppm | 99 |
| 81) | Fluoranthene | 10.111 | 202 | 8344438 | 92.33 | ppm | 97 |
| 82) | Octadecane | 8.624 | 57 | 2321579 | 86.70 | ppm | 98 |
| 84) | Pyrene | 10.373 | 202 | 8774501 | 93.49 | ppm | 97 |
| 86) | Butylbenzylphthalate | 11.213 | 149 | 4086063 | 93.50 | ppm | 98 |
| 87) | Benzo[a]anthracene | 11.822 | 228 | 8530208 | 93.08 | ppm | 98 |
| 88) | 3,3'-Dichlorobenzidine | 11.822 | 252 | 3543359 | 94.44 | ppm | 99 |
| 89) | Chrysene | 11.871 | 228 | 8519442 | 95.61 | ppm | 98 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.929 | 149 | 5668359 | 93.31 | ppm | 96 |
| 92) | Di-n-octylphthalate | 12.673 | 149 | 9348421 | 88.98 | ppm | 99 |
| 93) | Benzo[b]fluoranthene | 13.053 | 252 | 11469513 | 108.86 | ppm | 97 |
| 94) | Benzo[k]fluoranthene | 13.079 | 252 | 7799944 | 81.70 | ppm | 94 |
| 95) | Benzo[a]pyrene | 13.374 | 252 | 8681115 | 98.21 | ppm | 98 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.481 | 276 | 11790407 | 97.79 | ppm | 97 |
| 97) | Dibenz(a,h)acridine | 14.240 | 279 | 8832591 | 98.98 | ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 14.497 | 278 | 10410151 | 96.41 | ppm | 96 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.026 | 256 | 4715958 | 100.54 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.753 | 276 | 9115784 | 99.01 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:55:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



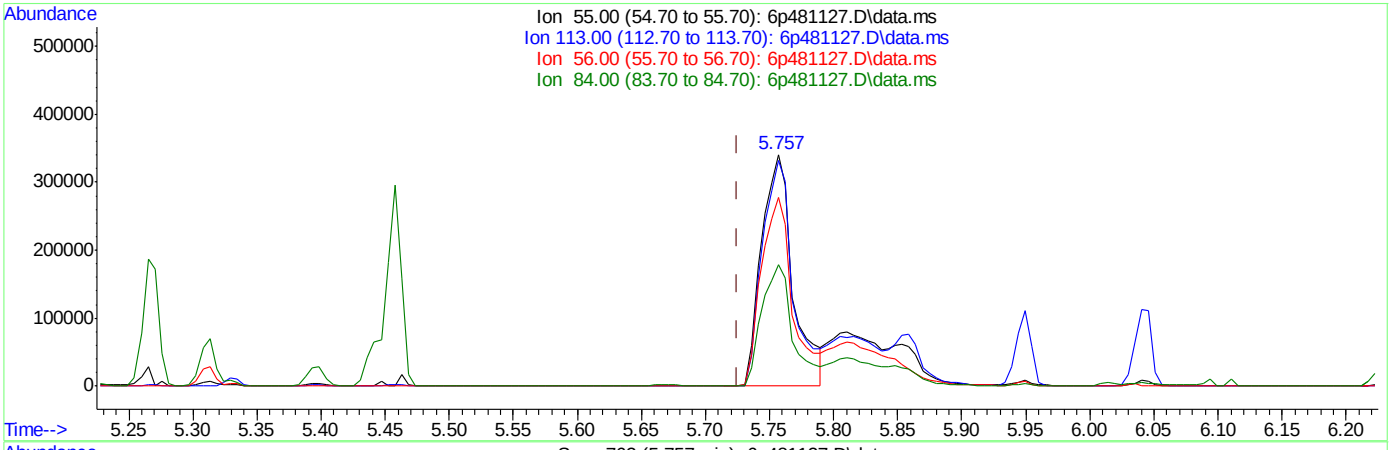
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2562-IC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481127.D | **Analyst approved:** | 04/16/19 16:37 Ying Li |
| **Injection Time:** | 04/16/19 09:55 | **Supervisor approved:** | 04/17/19 13:32 Kristi Schollenberger |

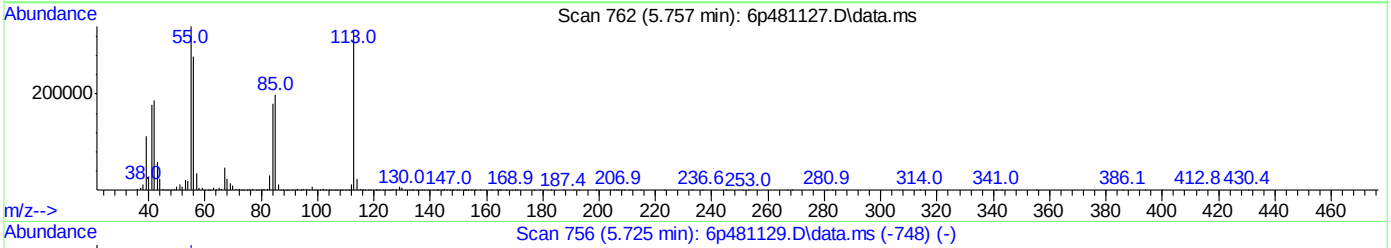
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.76 | Split peak |

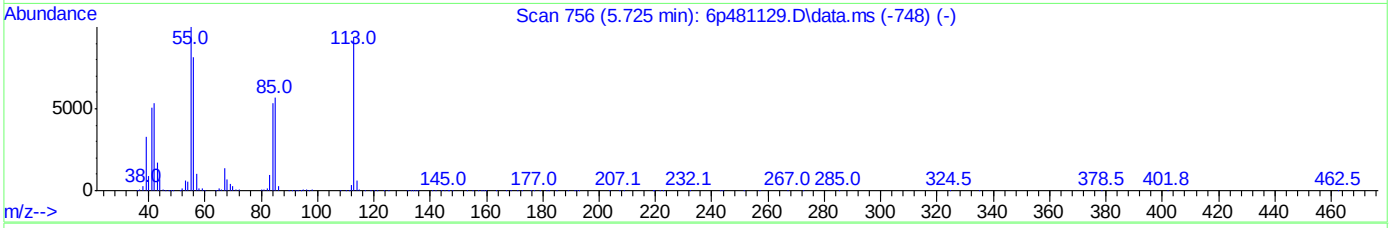
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On : 16 Apr 2019 9:55 am
Operator : angelar
Sample : ic2562-100
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 16 14:48:20 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration




TIC: 6p481127.D\data.ms

(41) Caprolactam (t)

5.757min (+0.032) 64.91ppm

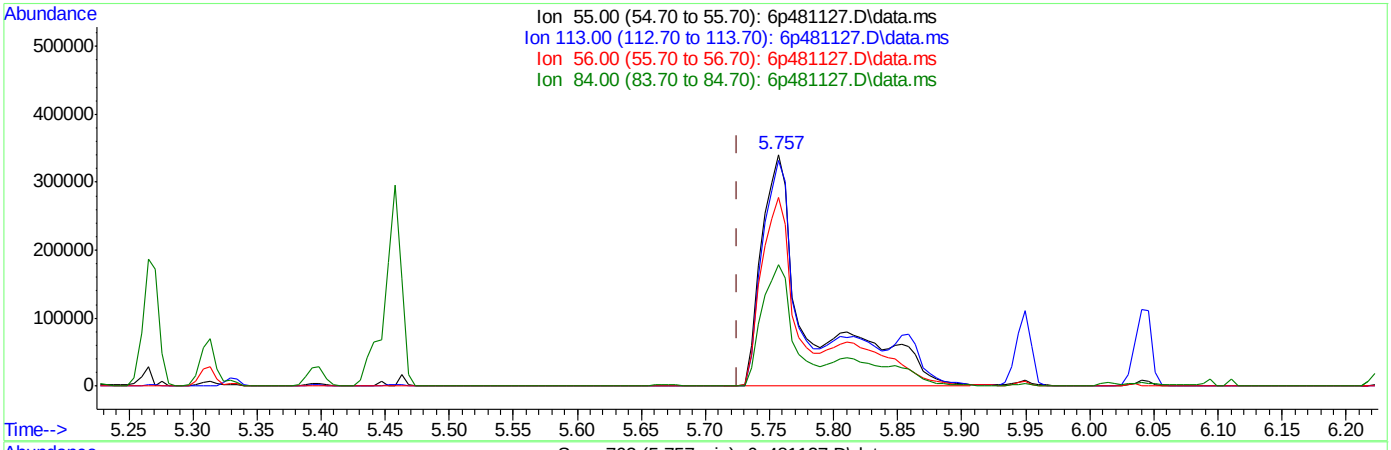
response 588350

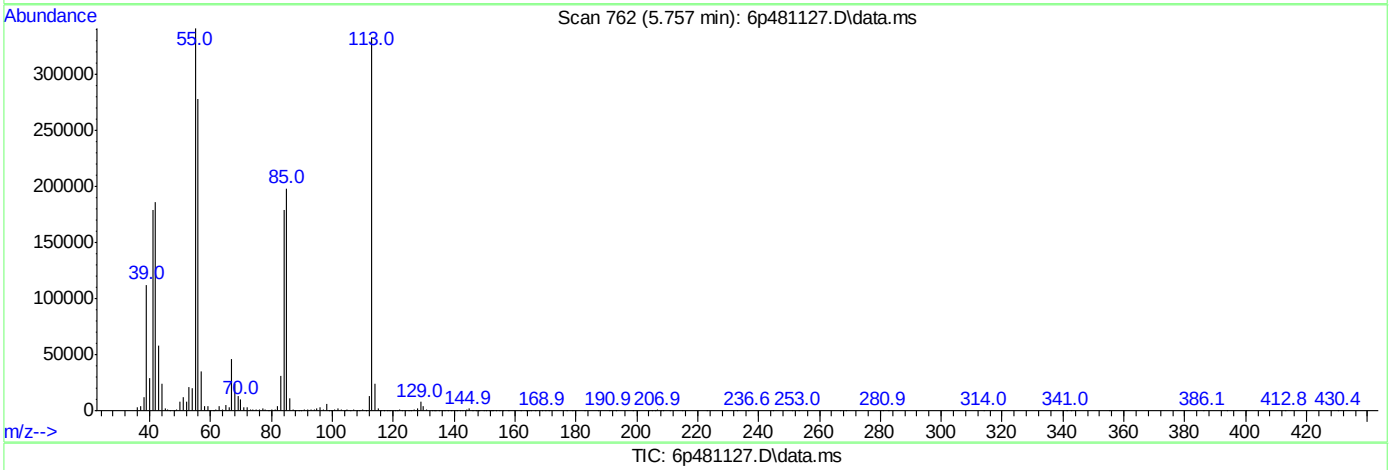
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 97.58 |
| 56.00 | 81.20 | 81.22 |
| 84.00 | 53.30 | 52.74 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481127.D
Acq On    : 16 Apr 2019   9:55 am
Operator  : angelar
Sample    : ic2562-100
Misc      : op17006,e6p2562,1000,,,1,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Apr 16 14:54:53 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration
```




TIC: 6p481127.D\data.ms

(41) Caprolactam (t)

5.757min (+0.032) 99.57ppm m

response 902513

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 97.54 |
| 56.00 | 81.20 | 81.63 |
| 84.00 | 53.30 | 52.53 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/17/19 13:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 649694 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.313 | 136 | 2664099 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1620626 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.672 | 188 | 2987029 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.833 | 240 | 2767078 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3177934 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 649694 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1620626 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.672 | 188 | 2987029 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.833 | 240 | 2767078 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.313 | 136 | 2664099 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.672 | 188 | 2987029 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.833 | 240 | 2767078 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.356 | 112 | 1681251 | 78.06 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 156.12% | |
| 8) Phenol-d5 | 4.099 | 99 | 1842301 | 76.47 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 152.94% | |
| 25) Nitrobenzene-d5 | 4.746 | 82 | 1727238 | 75.91 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 151.82% | |
| 51) 2-Fluorobiphenyl | 6.313 | 172 | 4315206 | 76.09 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 152.18% | |
| 73) 2,4,6-Tribromophenol | 7.881 | 330 | 832877 | 82.61 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 165.22% | |
| 85) Terphenyl-d14 | 10.592 | 244 | 5379179 | 80.55 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 161.10% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.767 | 88 | 695290 | 78.54 | ppm | 100 |
| 3) Pyridine | 2.104 | 79 | 1669180 | 79.78 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.083 | 74 | 963775 | 79.30 | ppm | 98 |
| 6) Indene | 4.511 | 116 | 2681986 | 75.43 | ppm | 99 |
| 7) Cumene | 3.719 | 105 | 3769942 | 75.00 | ppm | 98 |
| 9) Phenol | 4.110 | 94 | 2183887 | 74.87 | ppm | 98 |
| 10) Aniline | 4.088 | 93 | 1844726 | 76.17 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.142 | 93 | 1540158 | 77.65 | ppm | 98 |
| 12) 2-Chlorophenol | 4.185 | 128 | 1806011 | 76.49 | ppm | 97 |
| 13) Decane | 4.217 | 43 | 1237810 | 74.13 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 1992010 | 77.22 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 1996044 | 75.77 | ppm | 100 |
| 16) Benzyl alcohol | 4.447 | 108 | 985326 | 75.19 | ppm | 93 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 1817690 | 75.03 | ppm | 100 |
| 18) Acetophenone | 4.634 | 105 | 2346403 | 75.84 | ppm | 98 |
| 19) 2-Methylphenol | 4.543 | 108 | 1519907 | 76.42 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 564849 | 78.77 | ppm | 96 |
| 21) 3&4-Methylphenol | 4.661 | 108 | 1640319 | 76.52 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.645 | 70 | 1038272 | 75.84 | ppm | | 99 |
| 23) Hexachloroethane | 4.693 | 201 | 761132 | 79.81 | ppm | | 99 |
| 26) Nitrobenzene | 4.762 | 77 | 1729266 | 75.31 | ppm | | 97 |
| 27) Quinoline | 5.661 | 129 | 3965632 | 77.64 | ppm | | 99 |
| 28) Isophorone | 4.949 | 82 | 2905100 | 75.08 | ppm | | 98 |
| 29) 2-Nitrophenol | 5.008 | 139 | 1064291 | 74.25 | ppm | | 89 |
| 30) 2,4-Dimethylphenol | 5.062 | 107 | 1715415 | 77.90 | ppm | | 98 |
| 31) Benzoic acid | 5.228 | 105 | 1733862 | 79.93 | ppm | | 99 |
| 32) bis(2-Chloroethoxy)met... | 5.121 | 93 | 1849285 | 75.16 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 5.217 | 162 | 1624934 | 76.58 | ppm | | 98 |
| 34) 2,6-Dichlorophenol | 5.399 | 162 | 1564939 | 75.95 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.014 | 180 | 1800816 | 76.22 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.270 | 180 | 1783552 | 77.09 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.458 | 180 | 1788473 | 77.66 | ppm | | 99 |
| 38) Naphthalene | 5.329 | 128 | 5040459 | 74.04 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.393 | 127 | 2046596 | 74.77 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.228 | 161 | 2022327 | 77.70 | ppm | | 99 |
| 41) Caprolactam | 5.746 | 55 | 712268m | 76.91 | ppm | | |
| 42) Hexachlorobutadiene | 5.442 | 225 | 1051704 | 79.05 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.859 | 107 | 1680136 | 76.92 | ppm | | 99 |
| 44) 2-Methylnaphthalene | 5.950 | 141 | 2953886 | 75.12 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 6.041 | 141 | 3256629 | 75.31 | ppm | | 99 |
| 46) Dimethylnaphthalene | 6.570 | 156 | 3570219 | 75.74 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.105 | 237 | 1936914 | 170.99 | ppm | | 98 |
| 49) 2,4,6-Trichlorophenol | 6.244 | 196 | 1289246 | 79.93 | ppm | | 100 |
| 50) 2,4,5-Trichlorophenol | 6.292 | 196 | 1397960 | 80.10 | ppm | | 100 |
| 52) 2-Chloronaphthalene | 6.426 | 162 | 3672791 | 76.53 | ppm | | 98 |
| 53) Biphenyl | 6.410 | 154 | 4671438 | 75.99 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.554 | 65 | 1037214 | 76.51 | ppm | | 98 |
| 55) Dimethylphthalate | 6.741 | 163 | 4314009 | 76.58 | ppm | | 99 |
| 56) Acenaphthylene | 6.848 | 152 | 5643859 | 75.63 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.805 | 165 | 1097469 | 79.29 | ppm | | 99 |
| 58) 3-Nitroaniline | 6.993 | 138 | 1183555 | 78.27 | ppm | | 92 |
| 59) Acenaphthene | 7.035 | 153 | 3713723 | 75.52 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 7.116 | 184 | 1435732 | 160.91 | ppm | | 94 |
| 61) 4-Nitrophenol | 7.228 | 109 | 573591 | 76.89 | ppm | # | 76 |
| 62) Dibenzofuran | 7.228 | 168 | 5102675 | 75.65 | ppm | | 98 |
| 63) 2,4-Dinitrotoluene | 7.249 | 165 | 1492438 | 78.51 | ppm | | 92 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.383 | 232 | 1173841 | 80.90 | ppm | | 96 |
| 65) Diethylphthalate | 7.517 | 149 | 4283636 | 77.22 | ppm | | 100 |
| 66) Fluorene | 7.602 | 166 | 4223990 | 75.96 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.613 | 204 | 2241791 | 78.65 | ppm | | 96 |
| 68) 4-Nitroaniline | 7.683 | 138 | 1192377 | 79.05 | ppm | | 99 |
| 70) 4,6-Dinitro-2-methylph... | 7.715 | 198 | 1008464 | 79.92 | ppm | | 90 |
| 71) n-Nitrosodiphenylamine | 7.763 | 169 | 3257337 | 77.60 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.795 | 77 | 3527845 | 74.31 | ppm | | 94 |
| 74) 4-Bromophenyl-phenylether | 8.169 | 248 | 1347918 | 79.57 | ppm | | 96 |
| 75) Hexachlorobenzene | 8.239 | 284 | 1610437 | 81.97 | ppm | | 96 |
| 76) Pentachlorophenol | 8.485 | 266 | 2117518 | 168.22 | ppm | | 99 |
| 77) Phenanthrene | 8.704 | 178 | 6128160 | 77.30 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

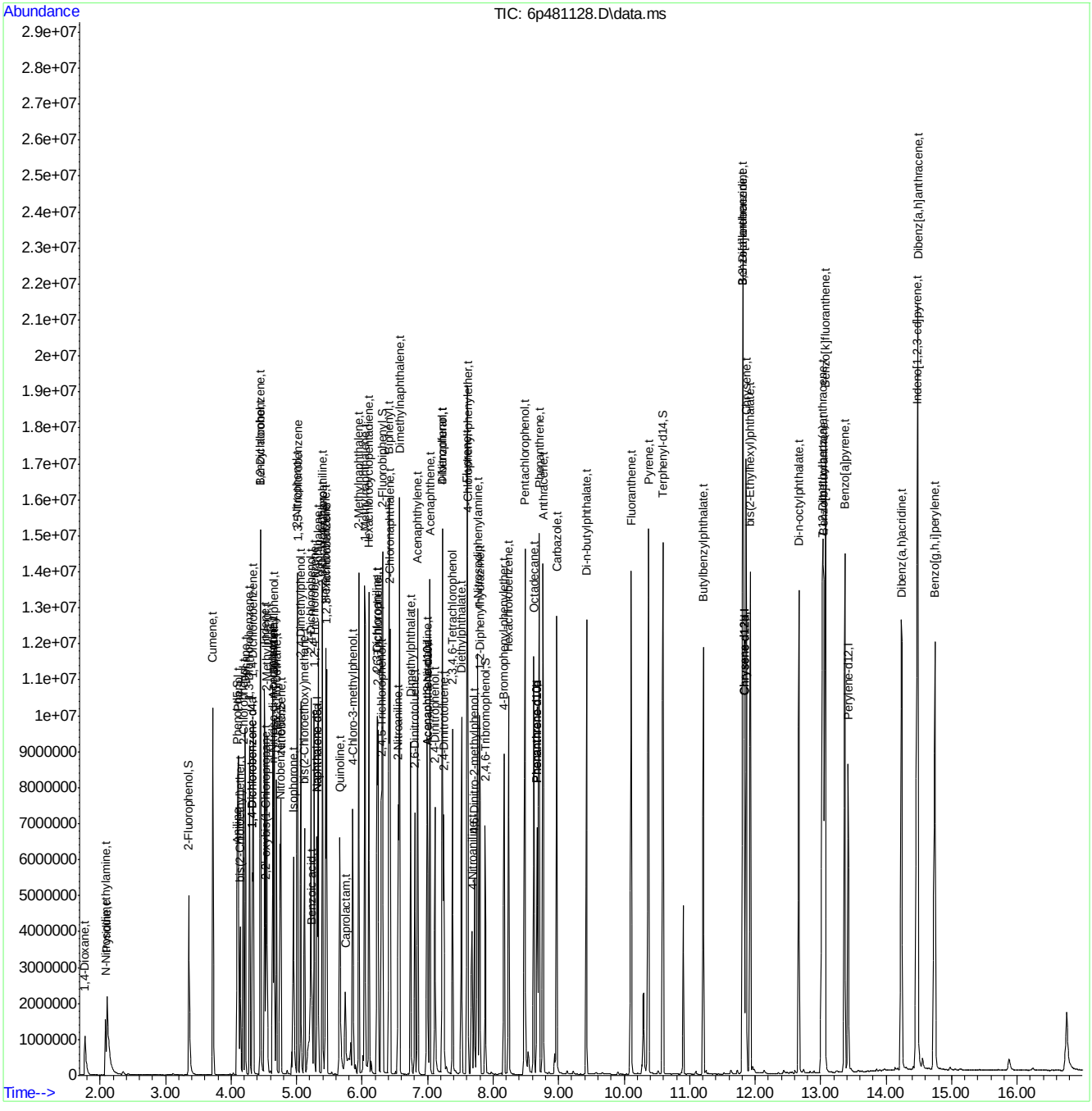
| | Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.763 | 178 | 6251958 | 76.98 ppm | 100 |
| 79) | Carbazole | 8.972 | 167 | 5965556 | 76.12 ppm | 99 |
| 80) | Di-n-butylphthalate | 9.426 | 149 | 7039425 | 74.59 ppm | 100 |
| 81) | Fluoranthene | 10.111 | 202 | 6844826 | 75.46 ppm | 99 |
| 82) | Octadecane | 8.624 | 57 | 1975430 | 73.51 ppm | 98 |
| 84) | Pyrene | 10.373 | 202 | 7220767 | 77.14 ppm | 99 |
| 86) | Butylbenzylphthalate | 11.213 | 149 | 3387283 | 77.71 ppm | 96 |
| 87) | Benzo[a]anthracene | 11.817 | 228 | 7061489 | 77.26 ppm | 98 |
| 88) | 3,3'-Dichlorobenzidine | 11.817 | 252 | 2954647 | 78.95 ppm | 98 |
| 89) | Chrysene | 11.865 | 228 | 6927394 | 77.95 ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.924 | 149 | 4653089 | 76.80 ppm | 98 |
| 92) | Di-n-octylphthalate | 12.668 | 149 | 7807035 | 75.21 ppm | 99 |
| 93) | Benzo[b]fluoranthene | 13.047 | 252 | 8964744 | 86.12 ppm | 98 |
| 94) | Benzo[k]fluoranthene | 13.074 | 252 | 6707171 | 71.10 ppm | 97 |
| 95) | Benzo[a]pyrene | 13.368 | 252 | 6907883 | 79.10 ppm | 98 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.475 | 276 | 9464237 | 79.45 ppm | 98 |
| 97) | Dibenz(a,h)acridine | 14.240 | 279 | 7056092 | 80.03 ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 14.486 | 278 | 8500526 | 79.68 ppm | 99 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.026 | 256 | 3737090 | 80.64 ppm | 100 |
| 100) | Benzo[g,h,i]perylene | 14.748 | 276 | 7251009 | 79.71 ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



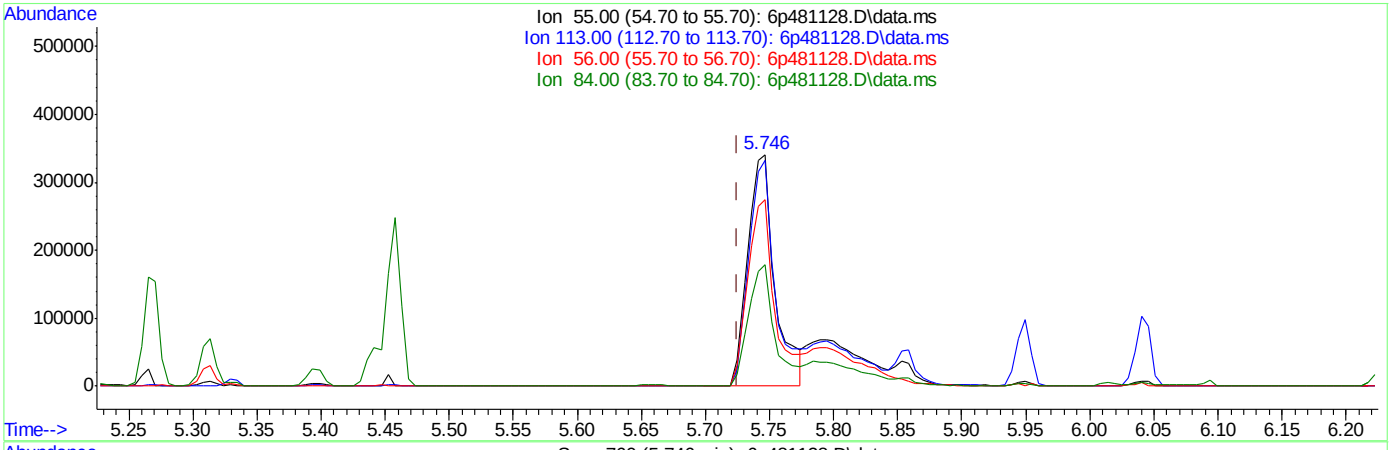
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2562-IC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481128.D | **Analyst approved:** | 04/16/19 16:37 Ying Li |
| **Injection Time:** | 04/16/19 10:18 | **Supervisor approved:** | 04/17/19 13:32 Kristi Schollenberger |

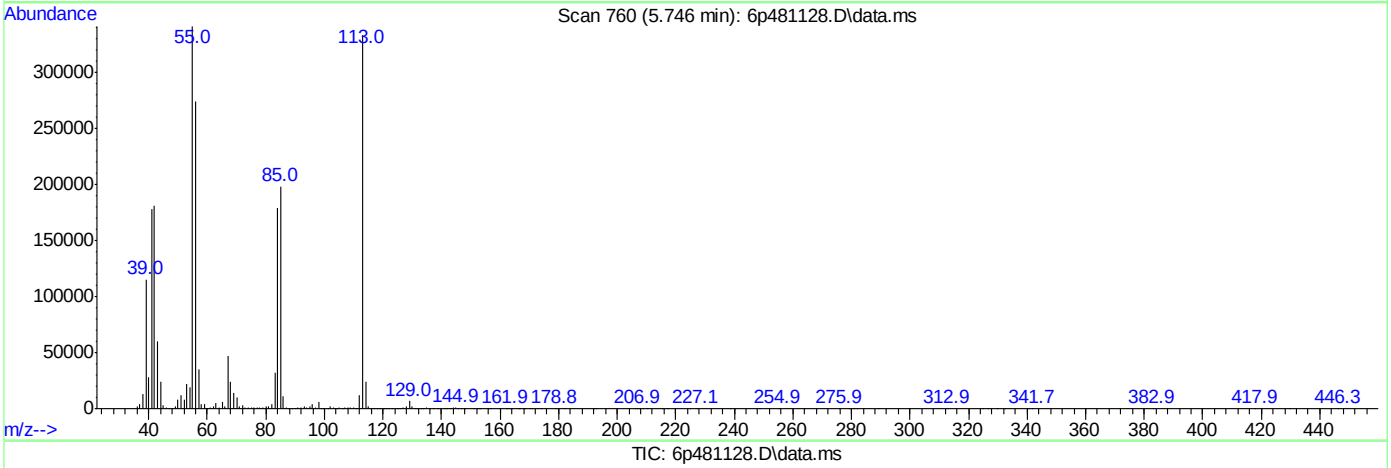
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.75 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:55:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration




TIC: 6p481128.D\data.ms

(41) Caprolactam (t)

5.746min (+0.021) 54.30ppm

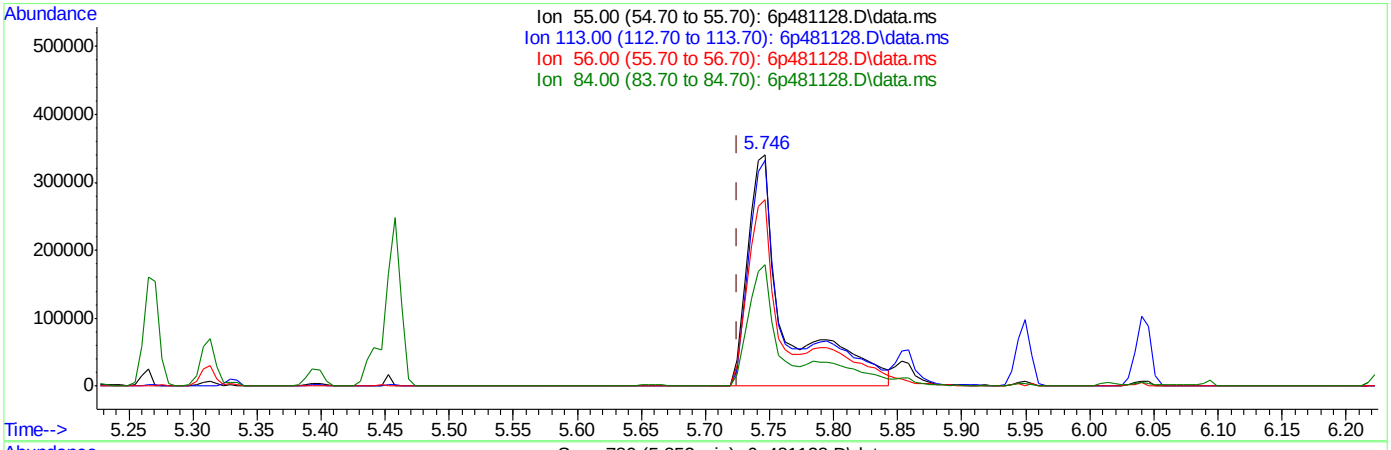
response 502856

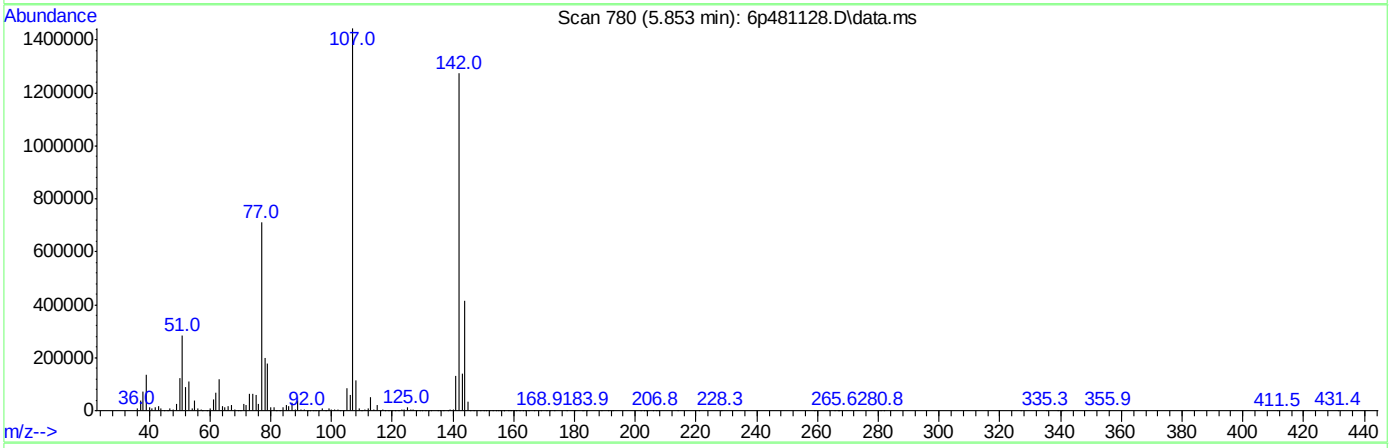
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 97.26 |
| 56.00 | 81.20 | 80.01 |
| 84.00 | 53.30 | 52.62 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481128.D
Acq On : 16 Apr 2019 10:18 am
Operator : angelar
Sample : ic2562-80
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 16 14:57:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration




TIC: 6p481128.D\data.ms

(41) Caprolactam (t)

5.746min (+0.021) 76.91ppm m

response 712268

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 97.52 |
| 56.00 | 81.20 | 80.44 |
| 84.00 | 53.30 | 52.56 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/17/19 13:32

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:47:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 659412 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.313 | 136 | 2666768 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1636147 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3019329 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.828 | 240 | 2863260 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3289772 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 659412 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1636147 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3019329 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.828 | 240 | 2863260 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.313 | 136 | 2666768 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3019329 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.828 | 240 | 2863260 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.356 | 112 | 1092991 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 8) Phenol-d5 | 4.099 | 99 | 1222662 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 25) Nitrobenzene-d5 | 4.741 | 82 | 1138873 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 51) 2-Fluorobiphenyl | 6.308 | 172 | 2862685 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 73) 2,4,6-Tribromophenol | 7.881 | 330 | 509553 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 85) Terphenyl-d14 | 10.592 | 244 | 3455137 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.772 | 88 | 449256 | 50.00 | ppm | 100 |
| 3) Pyridine | 2.109 | 79 | 1061727 | 50.00 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 2.083 | 74 | 616743 | 50.00 | ppm | 100 |
| 6) Indene | 4.511 | 116 | 1804411 | 50.00 | ppm | 100 |
| 7) Cumene | 3.719 | 105 | 2550731 | 50.00 | ppm | 100 |
| 9) Phenol | 4.104 | 94 | 1480283 | 50.00 | ppm | 100 |
| 10) Aniline | 4.088 | 93 | 1229102 | 50.00 | ppm | 100 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 1006559 | 50.00 | ppm | 100 |
| 12) 2-Chlorophenol | 4.179 | 128 | 1198277 | 50.00 | ppm | 100 |
| 13) Decane | 4.217 | 43 | 847384 | 50.00 | ppm | 100 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 1309046 | 50.00 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 1336820 | 50.00 | ppm | 100 |
| 16) Benzyl alcohol | 4.447 | 108 | 665010 | 50.00 | ppm | 100 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 1229428 | 50.00 | ppm | 100 |
| 18) Acetophenone | 4.629 | 105 | 1570008 | 50.00 | ppm | 100 |
| 19) 2-Methylphenol | 4.543 | 108 | 1009298 | 50.00 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 363921 | 50.00 | ppm | 100 |
| 21) 3&4-Methylphenol | 4.655 | 108 | 1087852 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:47:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.639 | 70 | 694729 | 50.00 | ppm | 100 |
| 23) Hexachloroethane | 4.693 | 201 | 483977 | 50.00 | ppm | 100 |
| 26) Nitrobenzene | 4.757 | 77 | 1143974 | 49.77 | ppm | 100 |
| 27) Quinoline | 5.650 | 129 | 2556324 | 50.00 | ppm | 100 |
| 28) Isophorone | 4.944 | 82 | 1936539 | 50.00 | ppm | 100 |
| 29) 2-Nitrophenol | 5.008 | 139 | 717415 | 50.00 | ppm | 100 |
| 30) 2,4-Dimethylphenol | 5.056 | 107 | 1102121 | 50.00 | ppm | 100 |
| 31) Benzoic acid | 5.217 | 105 | 1085662 | 50.00 | ppm | 100 |
| 32) bis(2-Chloroethoxy)met... | 5.121 | 93 | 1231490 | 50.00 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 5.212 | 162 | 1061947 | 50.00 | ppm | 100 |
| 34) 2,6-Dichlorophenol | 5.393 | 162 | 1031299 | 50.00 | ppm | 100 |
| 35) 1,3,5-Trichlorobenzene | 5.014 | 180 | 1182478 | 50.00 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 1157924 | 50.00 | ppm | 100 |
| 37) 1,2,3-Trichlorobenzene | 5.458 | 180 | 1152560 | 50.00 | ppm | 100 |
| 38) Naphthalene | 5.329 | 128 | 3407493 | 50.00 | ppm | 100 |
| 39) 4-Chloroaniline | 5.388 | 127 | 1370046 | 50.00 | ppm | 100 |
| 40) 2,3-Dichloroaniline | 6.228 | 161 | 1302668 | 50.00 | ppm | 100 |
| 41) Caprolactam | 5.725 | 55 | 464639m | 50.12 | ppm | |
| 42) Hexachlorobutadiene | 5.442 | 225 | 665888 | 50.00 | ppm | 100 |
| 43) 4-Chloro-3-methylphenol | 5.853 | 107 | 1093173 | 50.00 | ppm | 100 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 1968006 | 50.00 | ppm | 100 |
| 45) 1-Methylnaphthalene | 6.041 | 141 | 2164246 | 50.00 | ppm | 100 |
| 46) Dimethylnaphthalene | 6.565 | 156 | 2359373 | 50.00 | ppm | 100 |
| 48) Hexachlorocyclopentadiene | 6.105 | 237 | 1143643 | 100.00 | ppm | 100 |
| 49) 2,4,6-Trichlorophenol | 6.239 | 196 | 814165 | 50.00 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 6.287 | 196 | 881006 | 50.00 | ppm | 100 |
| 52) 2-Chloronaphthalene | 6.426 | 162 | 2422576 | 50.00 | ppm | 100 |
| 53) Biphenyl | 6.404 | 154 | 3103232 | 50.00 | ppm | 100 |
| 54) 2-Nitroaniline | 6.549 | 65 | 684306 | 50.00 | ppm | 100 |
| 55) Dimethylphthalate | 6.736 | 163 | 2843742 | 50.00 | ppm | 100 |
| 56) Acenaphthylene | 6.848 | 152 | 3767075 | 50.00 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 6.800 | 165 | 698712 | 50.00 | ppm | 100 |
| 58) 3-Nitroaniline | 6.982 | 138 | 763278 | 50.00 | ppm | 100 |
| 59) Acenaphthene | 7.035 | 153 | 2482179 | 50.00 | ppm | 100 |
| 60) 2,4-Dinitrophenol | 7.105 | 184 | 900820 | 100.00 | ppm | 100 |
| 61) 4-Nitrophenol | 7.223 | 109 | 376571 | 50.00 | ppm | 100 |
| 62) Dibenzofuran | 7.223 | 168 | 3404717 | 50.00 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 7.244 | 165 | 959614 | 50.00 | ppm | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.378 | 232 | 732399 | 50.00 | ppm | 100 |
| 65) Diethylphthalate | 7.511 | 149 | 2800198 | 50.00 | ppm | 100 |
| 66) Fluorene | 7.602 | 166 | 2806942 | 50.00 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 1438879 | 50.00 | ppm | 100 |
| 68) 4-Nitroaniline | 7.667 | 138 | 761390 | 50.00 | ppm | 100 |
| 70) 4,6-Dinitro-2-methylph... | 7.704 | 198 | 637735 | 50.00 | ppm | 100 |
| 71) n-Nitrosodiphenylamine | 7.758 | 169 | 2121489 | 50.00 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 7.790 | 77 | 2399262 | 50.00 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 8.164 | 248 | 856172 | 50.00 | ppm | 100 |
| 75) Hexachlorobenzene | 8.234 | 284 | 992993 | 50.00 | ppm | 100 |
| 76) Pentachlorophenol | 8.480 | 266 | 1272380 | 100.00 | ppm | 100 |
| 77) Phenanthrene | 8.699 | 178 | 4006509 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:47:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.758 | 178 | 4104749 | 50.00 | ppm | 100 |
| 79) | Carbazole | 8.966 | 167 | 3961027 | 50.00 | ppm | 100 |
| 80) | Di-n-butylphthalate | 9.421 | 149 | 4769895 | 50.00 | ppm | 100 |
| 81) | Fluoranthene | 10.106 | 202 | 4584283 | 50.00 | ppm | 100 |
| 82) | Octadecane | 8.619 | 57 | 1358263 | 50.00 | ppm | 100 |
| 84) | Pyrene | 10.368 | 202 | 4843268 | 50.00 | ppm | 100 |
| 86) | Butylbenzylphthalate | 11.207 | 149 | 2255116 | 50.00 | ppm | 100 |
| 87) | Benzo[a]anthracene | 11.812 | 228 | 4728991 | 50.00 | ppm | 100 |
| 88) | 3,3'-Dichlorobenzidine | 11.812 | 252 | 1936211 | 50.00 | ppm | 100 |
| 89) | Chrysene | 11.860 | 228 | 4598229 | 50.00 | ppm | 100 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.924 | 149 | 3134815 | 50.00 | ppm | 100 |
| 92) | Di-n-octylphthalate | 12.662 | 149 | 5372786 | 50.00 | ppm | 100 |
| 93) | Benzo[b]fluoranthene | 13.037 | 252 | 5388154 | 50.00 | ppm | 100 |
| 94) | Benzo[k]fluoranthene | 13.063 | 252 | 4882548 | 50.00 | ppm | 100 |
| 95) | Benzo[a]pyrene | 13.363 | 252 | 4520458 | 50.00 | ppm | 100 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.465 | 276 | 6166033 | 50.00 | ppm | 100 |
| 97) | Dibenz(a,h)acridine | 14.229 | 279 | 4563556 | 50.00 | ppm | 100 |
| 98) | Dibenz[a,h]anthracene | 14.475 | 278 | 5521959 | 50.00 | ppm | 100 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.021 | 256 | 2398681 | 50.00 | ppm | 100 |
| 100) | Benzo[g,h,i]perylene | 14.738 | 276 | 4708568 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

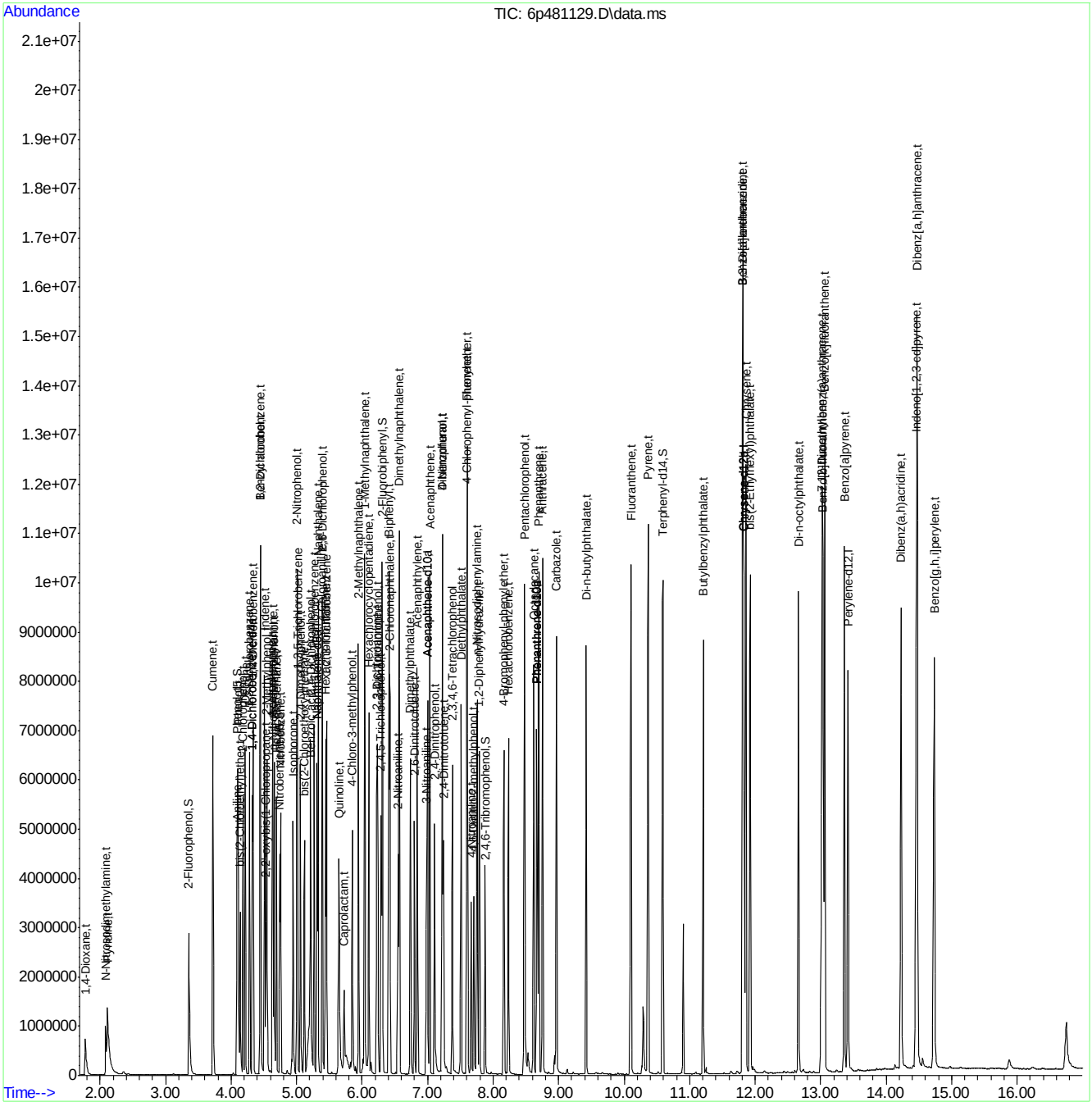
9.6.3

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 14:47:55 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



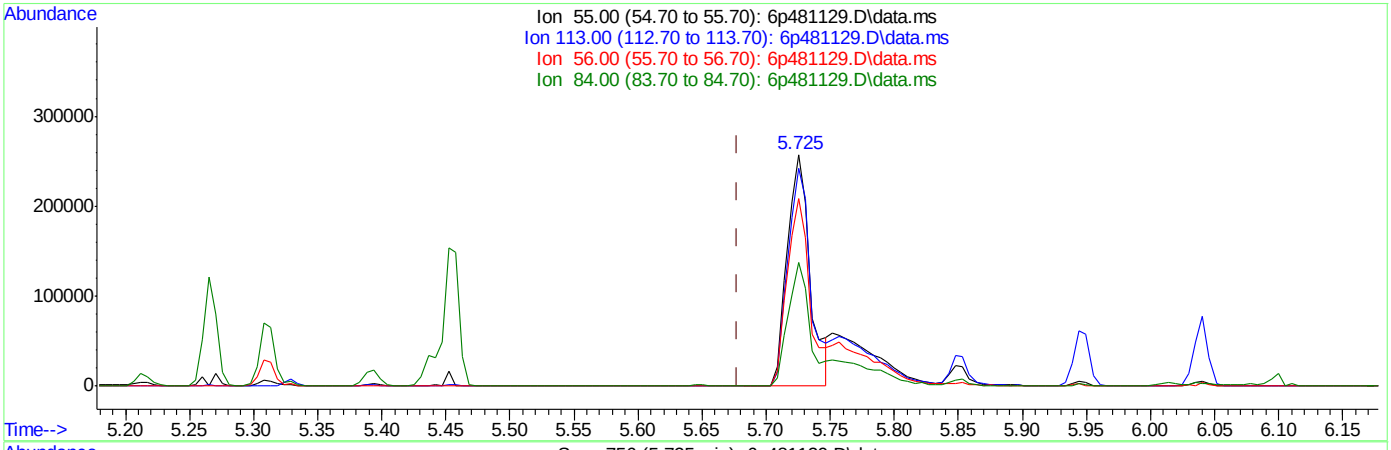
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2562-ICC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481129.D | **Analyst approved:** | 04/16/19 16:37 Ying Li |
| **Injection Time:** | 04/16/19 10:42 | **Supervisor approved:** | 04/17/19 13:32 Kristi Schollenberger |

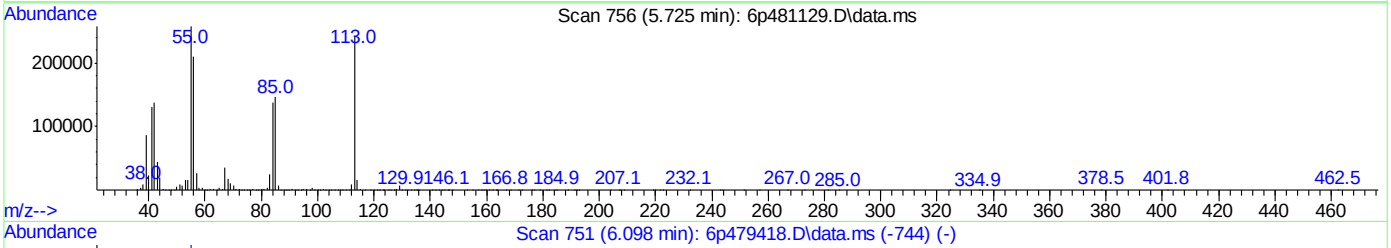
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.73 | Split peak |

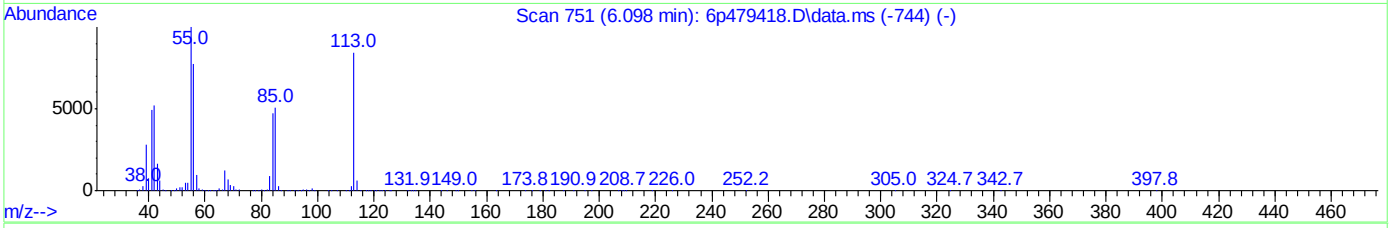
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On : 16 Apr 2019 10:42 am
Operator : angelar
Sample : icc2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 16 10:59:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 15 15:48:41 2019
QLast Update : Mon Apr 15 15:48:41 2019
Response via : Initial Calibration




TIC: 6p481129.D\data.ms

(41) Caprolactam (t)

5.725min (+0.047) 36.82ppm

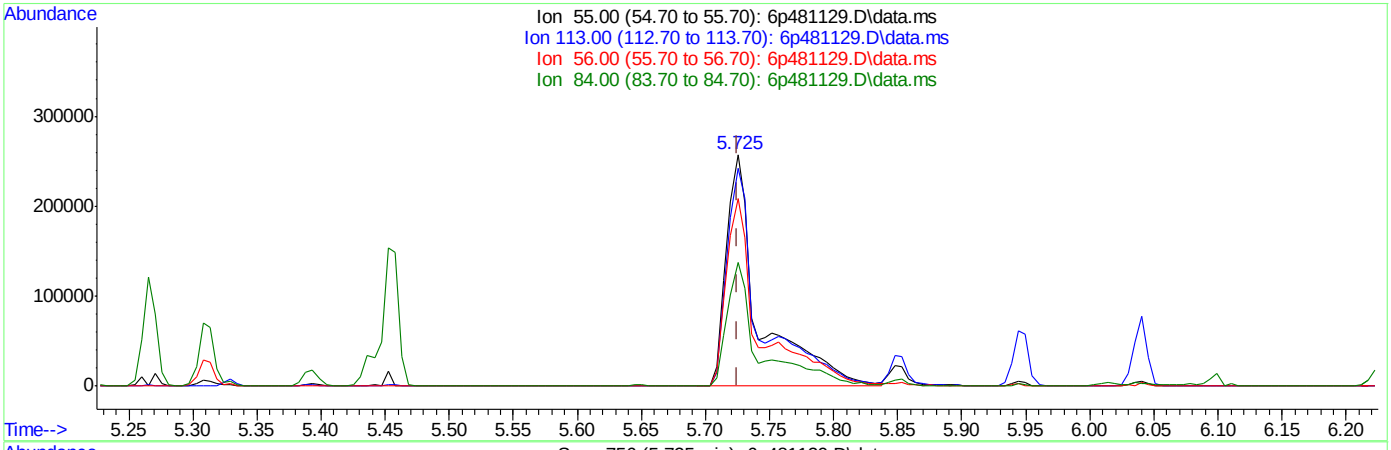
response 315558

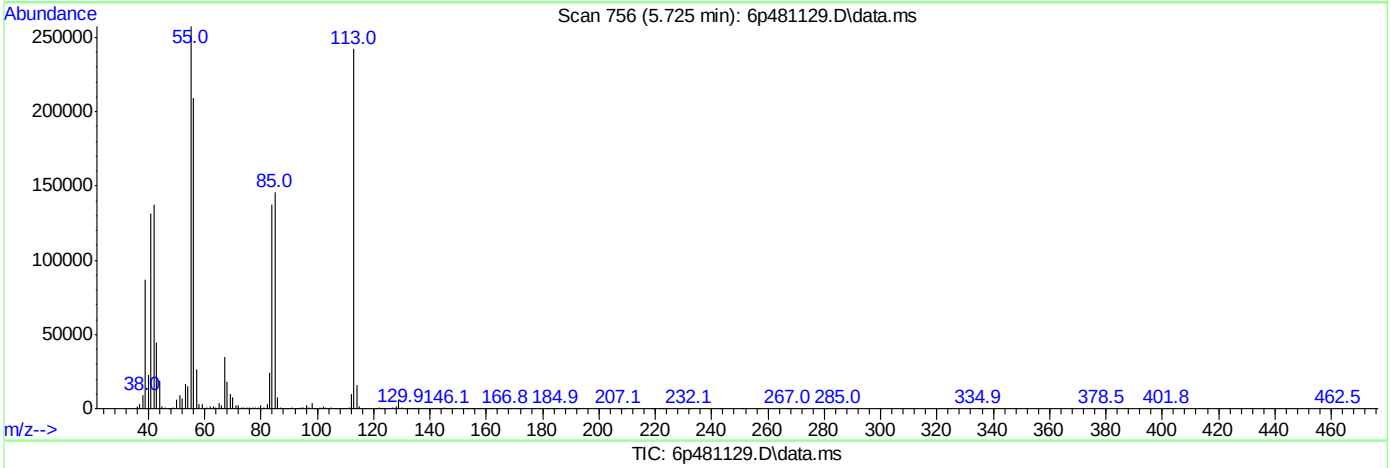
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 84.50 | 94.56 |
| 56.00 | 77.10 | 81.25 |
| 84.00 | 47.50 | 53.60 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481129.D
Acq On    : 16 Apr 2019  10:42 am
Operator  : angelar
Sample    : icc2562-50
Misc      : op17006,e6p2562,1000,,,1,1
ALS Vial  : 4   Sample Multiplier: 1

Quant Time: Apr 16 14:46:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:46:32 2019
QLast Update : Tue Apr 16 14:46:32 2019
Response via : Initial Calibration
```




TIC: 6p481129.D\data.ms

(41) Caprolactam (t)

5.725min (0.000) 50.12ppm m

response 464639

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 94.08 |
| 56.00 | 81.20 | 81.21 |
| 84.00 | 53.30 | 53.34 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481130.D
Acq On : 16 Apr 2019 11:06 am
Operator : angelar
Sample : ic2562-25
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 16 15:00:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 744927 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2963509 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1813941 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3317167 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 3059037 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3498921 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 744927 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1813941 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3317167 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 3059037 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2963509 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3317167 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 3059037 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.356 | 112 | 596105 | 24.14 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 48.28% | | | |
| 8) Phenol-d5 | 4.094 | 99 | 703096 | 25.45 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 50.90% | | | |
| 25) Nitrobenzene-d5 | 4.741 | 82 | 636641 | 25.15 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 50.30% | | | |
| 51) 2-Fluorobiphenyl | 6.308 | 172 | 1616889 | 25.47 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 50.94% | | | |
| 73) 2,4,6-Tribromophenol | 7.875 | 330 | 260162 | 23.24 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 46.48% | | | |
| 85) Terphenyl-d14 | 10.587 | 244 | 1809565 | 24.51 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 49.02% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.773 | 88 | 247076 | 24.34 | ppm | 98 |
| 3) Pyridine | 2.109 | 79 | 595707 | 24.83 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 2.088 | 74 | 356419 | 25.58 | ppm | 98 |
| 6) Indene | 4.511 | 116 | 1034229 | 25.37 | ppm | 99 |
| 7) Cumene | 3.719 | 105 | 1470858 | 25.52 | ppm | 100 |
| 9) Phenol | 4.105 | 94 | 848643 | 25.37 | ppm | 96 |
| 10) Aniline | 4.088 | 93 | 725263 | 26.12 | ppm | 98 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 577858 | 25.41 | ppm | 98 |
| 12) 2-Chlorophenol | 4.179 | 128 | 666130 | 24.60 | ppm | 99 |
| 13) Decane | 4.217 | 43 | 501490 | 26.19 | ppm | 100 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 742043 | 25.09 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.335 | 146 | 754813 | 24.99 | ppm | 99 |
| 16) Benzyl alcohol | 4.441 | 108 | 370749 | 24.68 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 710303 | 25.57 | ppm | 100 |
| 18) Acetophenone | 4.629 | 105 | 892734 | 25.17 | ppm | 97 |
| 19) 2-Methylphenol | 4.538 | 108 | 576629 | 25.29 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 203911 | 24.80 | ppm | 91 |
| 21) 3&4-Methylphenol | 4.655 | 108 | 623892 | 25.38 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481130.D
Acq On : 16 Apr 2019 11:06 am
Operator : angelar
Sample : ic2562-25
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 16 15:00:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 22) | n-Nitroso-di-n-propyla... | 4.634 | 70 | 402046 | 25.61 | ppm | | 98 |
| 23) | Hexachloroethane | 4.693 | 201 | 265651 | 24.29 | ppm | | 99 |
| 26) | Nitrobenzene | 4.757 | 77 | 656171 | 25.69 | ppm | | 97 |
| 27) | Quinoline | 5.634 | 129 | 1396723 | 24.58 | ppm | | 100 |
| 28) | Isophorone | 4.939 | 82 | 1110644 | 25.80 | ppm | | 98 |
| 29) | 2-Nitrophenol | 5.003 | 139 | 396778 | 24.88 | ppm | | 80 |
| 30) | 2,4-Dimethylphenol | 5.057 | 107 | 584803 | 23.87 | ppm | | 97 |
| 31) | Benzoic acid | 5.196 | 105 | 562783 | 23.32 | ppm | | 99 |
| 32) | bis(2-Chloroethoxy)met... | 5.115 | 93 | 689828 | 25.20 | ppm | | 98 |
| 33) | 2,4-Dichlorophenol | 5.212 | 162 | 585942 | 24.83 | ppm | | 99 |
| 34) | 2,6-Dichlorophenol | 5.394 | 162 | 569920 | 24.86 | ppm | | 99 |
| 35) | 1,3,5-Trichlorobenzene | 5.008 | 180 | 673315 | 25.62 | ppm | | 97 |
| 36) | 1,2,4-Trichlorobenzene | 5.265 | 180 | 638143 | 24.80 | ppm | | 99 |
| 37) | 1,2,3-Trichlorobenzene | 5.452 | 180 | 644773 | 25.17 | ppm | | 99 |
| 38) | Naphthalene | 5.329 | 128 | 1956362 | 25.83 | ppm | | 99 |
| 39) | 4-Chloroaniline | 5.388 | 127 | 789728 | 25.94 | ppm | | 98 |
| 40) | 2,3-Dichloroaniline | 6.223 | 161 | 725548 | 25.06 | ppm | | 98 |
| 41) | Caprolactam | 5.704 | 55 | 254994 | 24.75 | ppm | | 99 |
| 42) | Hexachlorobutadiene | 5.436 | 225 | 365295 | 24.68 | ppm | | 99 |
| 43) | 4-Chloro-3-methylphenol | 5.843 | 107 | 599841 | 24.69 | ppm | | 92 |
| 44) | 2-Methylnaphthalene | 5.944 | 141 | 1115940 | 25.51 | ppm | | 97 |
| 45) | 1-Methylnaphthalene | 6.041 | 141 | 1242943 | 25.84 | ppm | | 98 |
| 46) | Dimethylnaphthalene | 6.565 | 156 | 1331720 | 25.40 | ppm | | 99 |
| 48) | Hexachlorocyclopentadiene | 6.100 | 237 | 528789 | 41.71 | ppm | | 97 |
| 49) | 2,4,6-Trichlorophenol | 6.233 | 196 | 442233 | 24.50 | ppm | | 98 |
| 50) | 2,4,5-Trichlorophenol | 6.281 | 196 | 474704 | 24.30 | ppm | | 99 |
| 52) | 2-Chloronaphthalene | 6.420 | 162 | 1353741 | 25.20 | ppm | | 99 |
| 53) | Biphenyl | 6.404 | 154 | 1776189 | 25.81 | ppm | | 99 |
| 54) | 2-Nitroaniline | 6.543 | 65 | 380589 | 25.08 | ppm | | 100 |
| 55) | Dimethylphthalate | 6.736 | 163 | 1572573 | 24.94 | ppm | | 99 |
| 56) | Acenaphthylene | 6.843 | 152 | 2133000 | 25.54 | ppm | | 99 |
| 57) | 2,6-Dinitrotoluene | 6.795 | 165 | 372735 | 24.06 | ppm | | 99 |
| 58) | 3-Nitroaniline | 6.977 | 138 | 405482 | 23.96 | ppm | | 100 |
| 59) | Acenaphthene | 7.030 | 153 | 1399548 | 25.43 | ppm | | 95 |
| 60) | 2,4-Dinitrophenol | 7.100 | 184 | 446556 | 44.71 | ppm | | 95 |
| 61) | 4-Nitrophenol | 7.217 | 109 | 199879 | 23.94 | ppm | # | 78 |
| 62) | Dibenzofuran | 7.217 | 168 | 1937520 | 25.66 | ppm | | 97 |
| 63) | 2,4-Dinitrotoluene | 7.239 | 165 | 523357 | 24.60 | ppm | | 91 |
| 64) | 2,3,4,6-Tetrachlorophenol | 7.378 | 232 | 386627 | 23.81 | ppm | | 95 |
| 65) | Diethylphthalate | 7.506 | 149 | 1573379 | 25.34 | ppm | | 99 |
| 66) | Fluorene | 7.597 | 166 | 1579515 | 25.38 | ppm | | 100 |
| 67) | 4-Chlorophenyl-phenyle... | 7.608 | 204 | 787891 | 24.70 | ppm | | 99 |
| 68) | 4-Nitroaniline | 7.656 | 138 | 406219 | 24.06 | ppm | | 99 |
| 70) | 4,6-Dinitro-2-methylph... | 7.699 | 198 | 327501 | 23.37 | ppm | | 99 |
| 71) | n-Nitrosodiphenylamine | 7.752 | 169 | 1182388 | 25.36 | ppm | | 100 |
| 72) | 1,2-Diphenylhydrazine | 7.790 | 77 | 1365317 | 25.90 | ppm | | 96 |
| 74) | 4-Bromophenyl-phenylether | 8.159 | 248 | 462445 | 24.58 | ppm | | 94 |
| 75) | Hexachlorobenzene | 8.234 | 284 | 532293 | 24.40 | ppm | | 97 |
| 76) | Pentachlorophenol | 8.480 | 266 | 641334 | 45.88 | ppm | | 99 |
| 77) | Phenanthrene | 8.694 | 178 | 2220856 | 25.23 | ppm | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481130.D
Acq On : 16 Apr 2019 11:06 am
Operator : angelar
Sample : ic2562-25
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 16 15:00:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.752 | 178 | 2323190 | 25.76 | ppm | 99 |
| 79) | Carbazole | 8.961 | 167 | 2195685 | 25.23 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.421 | 149 | 2650667 | 25.29 | ppm | 98 |
| 81) | Fluoranthene | 10.100 | 202 | 2505664 | 24.88 | ppm | 99 |
| 82) | Octadecane | 8.619 | 57 | 790137 | 26.47 | ppm | 99 |
| 84) | Pyrene | 10.362 | 202 | 2636645 | 25.48 | ppm | 100 |
| 86) | Butylbenzylphthalate | 11.202 | 149 | 1213382 | 25.18 | ppm | 98 |
| 87) | Benzo[a]anthracene | 11.807 | 228 | 2492142 | 24.66 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.807 | 252 | 991548 | 23.97 | ppm | 99 |
| 89) | Chrysene | 11.855 | 228 | 2399150 | 24.42 | ppm | 98 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 1687844 | 25.20 | ppm | 98 |
| 92) | Di-n-octylphthalate | 12.657 | 149 | 2905886 | 25.43 | ppm | 99 |
| 93) | Benzo[b]fluoranthene | 13.026 | 252 | 2799509 | 24.43 | ppm | 99 |
| 94) | Benzo[k]fluoranthene | 13.053 | 252 | 2408099 | 23.19 | ppm | 97 |
| 95) | Benzo[a]pyrene | 13.358 | 252 | 2310903 | 24.03 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.459 | 276 | 3058270 | 23.32 | ppm | 97 |
| 97) | Dibenz(a,h)acridine | 14.224 | 279 | 2272446 | 23.41 | ppm | 98 |
| 98) | Dibenz[a,h]anthracene | 14.465 | 278 | 2676075 | 22.78 | ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.015 | 256 | 1123514 | 22.02 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.727 | 276 | 2355120 | 23.51 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

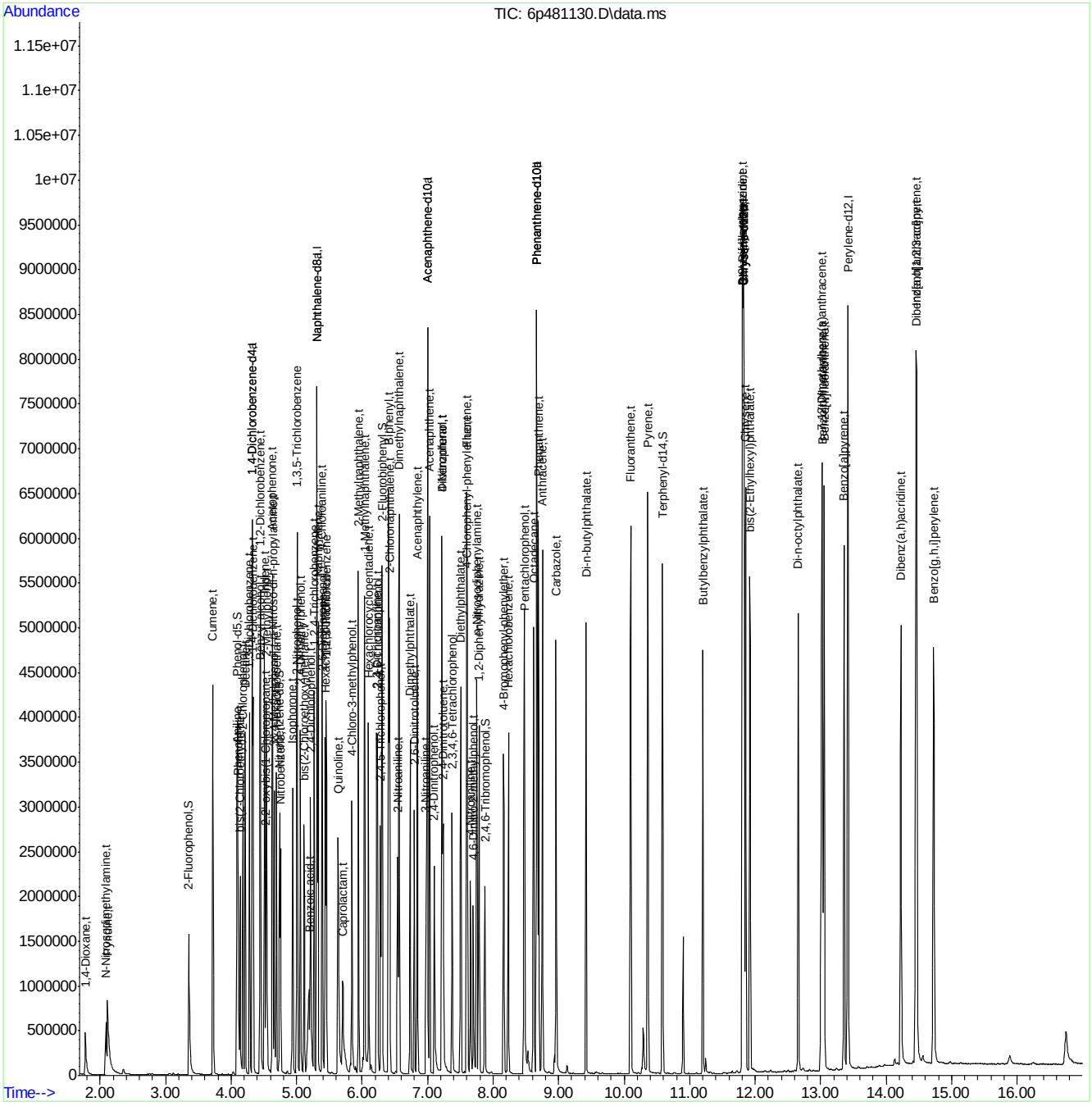
9.6.4

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481130.D
Acq On : 16 Apr 2019 11:06 am
Operator : angelar
Sample : ic2562-25
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 16 15:00:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 14:54:14 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481131.D
Acq On : 16 Apr 2019 11:30 am
Operator : angelar
Sample : ic2562-10
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 16 15:01:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 780578 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 3059709 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.998 | 164 | 1878971 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3459841 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 3265635 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3801424 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 780578 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.998 | 164 | 1878971 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3459841 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 3265635 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 3059709 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3459841 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 3265635 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.361 | 112 | 239181 | 9.24 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 18.48% | |
| 8) Phenol-d5 | 4.094 | 99 | 294995 | 10.19 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 20.38% | |
| 25) Nitrobenzene-d5 | 4.741 | 82 | 269566 | 10.31 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 20.62% | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 689296 | 10.48 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 20.96% | |
| 73) 2,4,6-Tribromophenol | 7.870 | 330 | 103031 | 8.82 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 17.64% | |
| 85) Terphenyl-d14 | 10.587 | 244 | 759312 | 9.63 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 19.26% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.778 | 88 | 105339 | 9.90 | ppm | 98 |
| 3) Pyridine | 2.120 | 79 | 248250 | 9.88 | ppm | 95 |
| 4) N-Nitrosodimethylamine | 2.093 | 74 | 146608 | 10.04 | ppm | 97 |
| 6) Indene | 4.511 | 116 | 440430 | 10.31 | ppm | 99 |
| 7) Cumene | 3.719 | 105 | 637669 | 10.56 | ppm | 99 |
| 9) Phenol | 4.104 | 94 | 358014 | 10.22 | ppm | 98 |
| 10) Aniline | 4.088 | 93 | 339977 | 11.68 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 242186 | 10.16 | ppm | 99 |
| 12) 2-Chlorophenol | 4.179 | 128 | 283123 | 9.98 | ppm | 99 |
| 13) Decane | 4.217 | 43 | 219845 | 10.96 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 318249 | 10.27 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 321952 | 10.17 | ppm | 99 |
| 16) Benzyl alcohol | 4.441 | 108 | 147134 | 9.35 | ppm | 92 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 305718 | 10.50 | ppm | 98 |
| 18) Acetophenone | 4.629 | 105 | 380095 | 10.23 | ppm | 95 |
| 19) 2-Methylphenol | 4.538 | 108 | 243622 | 10.20 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 85748 | 9.95 | ppm # | 85 |
| 21) 3&4-Methylphenol | 4.655 | 108 | 256759 | 9.97 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481131.D
Acq On : 16 Apr 2019 11:30 am
Operator : angelar
Sample : ic2562-10
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 16 15:01:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.629 | 70 | 172402 | 10.48 | ppm | | 92 |
| 23) Hexachloroethane | 4.693 | 201 | 111930 | 9.77 | ppm | | 98 |
| 26) Nitrobenzene | 4.752 | 77 | 277176 | 10.51 | ppm | | 95 |
| 27) Quinoline | 5.623 | 129 | 583782 | 9.95 | ppm | | 99 |
| 28) Isophorone | 4.939 | 82 | 475836 | 10.71 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.003 | 139 | 165085 | 10.03 | ppm | | 85 |
| 30) 2,4-Dimethylphenol | 5.056 | 107 | 214958 | 8.50 | ppm | | 97 |
| 31) Benzoic acid | 5.169 | 105 | 196482 | 7.89 | ppm | | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.115 | 93 | 296076 | 10.48 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.212 | 162 | 243725 | 10.00 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.388 | 162 | 237195 | 10.02 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 5.008 | 180 | 280983 | 10.36 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 266004 | 10.01 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.452 | 180 | 264454 | 10.00 | ppm | | 97 |
| 38) Naphthalene | 5.324 | 128 | 845810 | 10.82 | ppm | | 98 |
| 39) 4-Chloroaniline | 5.383 | 127 | 349564 | 11.12 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.223 | 161 | 297497 | 9.95 | ppm | | 98 |
| 41) Caprolactam | 5.688 | 55 | 104436 | 9.82 | ppm | | 98 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 151594 | 9.92 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.843 | 107 | 248457 | 9.90 | ppm | | 97 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 476948 | 10.56 | ppm | | 97 |
| 45) 1-Methylnaphthalene | 6.035 | 141 | 530439 | 10.68 | ppm | | 100 |
| 46) Dimethylnaphthalene | 6.559 | 156 | 553449 | 10.22 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.099 | 237 | 167913 | 12.78 | ppm | | 98 |
| 49) 2,4,6-Trichlorophenol | 6.233 | 196 | 183033 | 9.79 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.281 | 196 | 192356 | 9.51 | ppm | | 100 |
| 52) 2-Chloronaphthalene | 6.415 | 162 | 574180 | 10.32 | ppm | | 96 |
| 53) Biphenyl | 6.399 | 154 | 750315 | 10.53 | ppm | | 98 |
| 54) 2-Nitroaniline | 6.538 | 65 | 155821 | 9.91 | ppm | | 91 |
| 55) Dimethylphthalate | 6.731 | 163 | 663995 | 10.17 | ppm | | 100 |
| 56) Acenaphthylene | 6.843 | 152 | 901144 | 10.42 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 6.795 | 165 | 154194 | 9.61 | ppm | | 96 |
| 58) 3-Nitroaniline | 6.971 | 138 | 170509 | 9.73 | ppm | | 96 |
| 59) Acenaphthene | 7.030 | 153 | 592481 | 10.39 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 7.100 | 184 | 155181 | 15.00 | ppm | | 98 |
| 61) 4-Nitrophenol | 7.217 | 109 | 79457 | 9.19 | ppm | # | 23 |
| 62) Dibenzofuran | 7.217 | 168 | 826497 | 10.57 | ppm | | 92 |
| 63) 2,4-Dinitrotoluene | 7.233 | 165 | 218898 | 9.93 | ppm | | 80 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.372 | 232 | 154214 | 9.17 | ppm | | 96 |
| 65) Diethylphthalate | 7.501 | 149 | 665101 | 10.34 | ppm | | 98 |
| 66) Fluorene | 7.597 | 166 | 683062 | 10.59 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 334148 | 10.11 | ppm | | 97 |
| 68) 4-Nitroaniline | 7.651 | 138 | 165917 | 9.49 | ppm | | 98 |
| 70) 4,6-Dinitro-2-methylph... | 7.699 | 198 | 128303 | 8.78 | ppm | | 98 |
| 71) n-Nitrosodiphenylamine | 7.747 | 169 | 499130 | 10.27 | ppm | | 99 |
| 72) 1,2-Diphenylhydrazine | 7.784 | 77 | 584710 | 10.63 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 8.159 | 248 | 187571 | 9.56 | ppm | | 96 |
| 75) Hexachlorobenzene | 8.228 | 284 | 217631 | 9.56 | ppm | | 95 |
| 76) Pentachlorophenol | 8.474 | 266 | 241526 | 16.57 | ppm | | 99 |
| 77) Phenanthrene | 8.694 | 178 | 969860 | 10.56 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481131.D
Acq On : 16 Apr 2019 11:30 am
Operator : angelar
Sample : ic2562-10
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 16 15:01:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

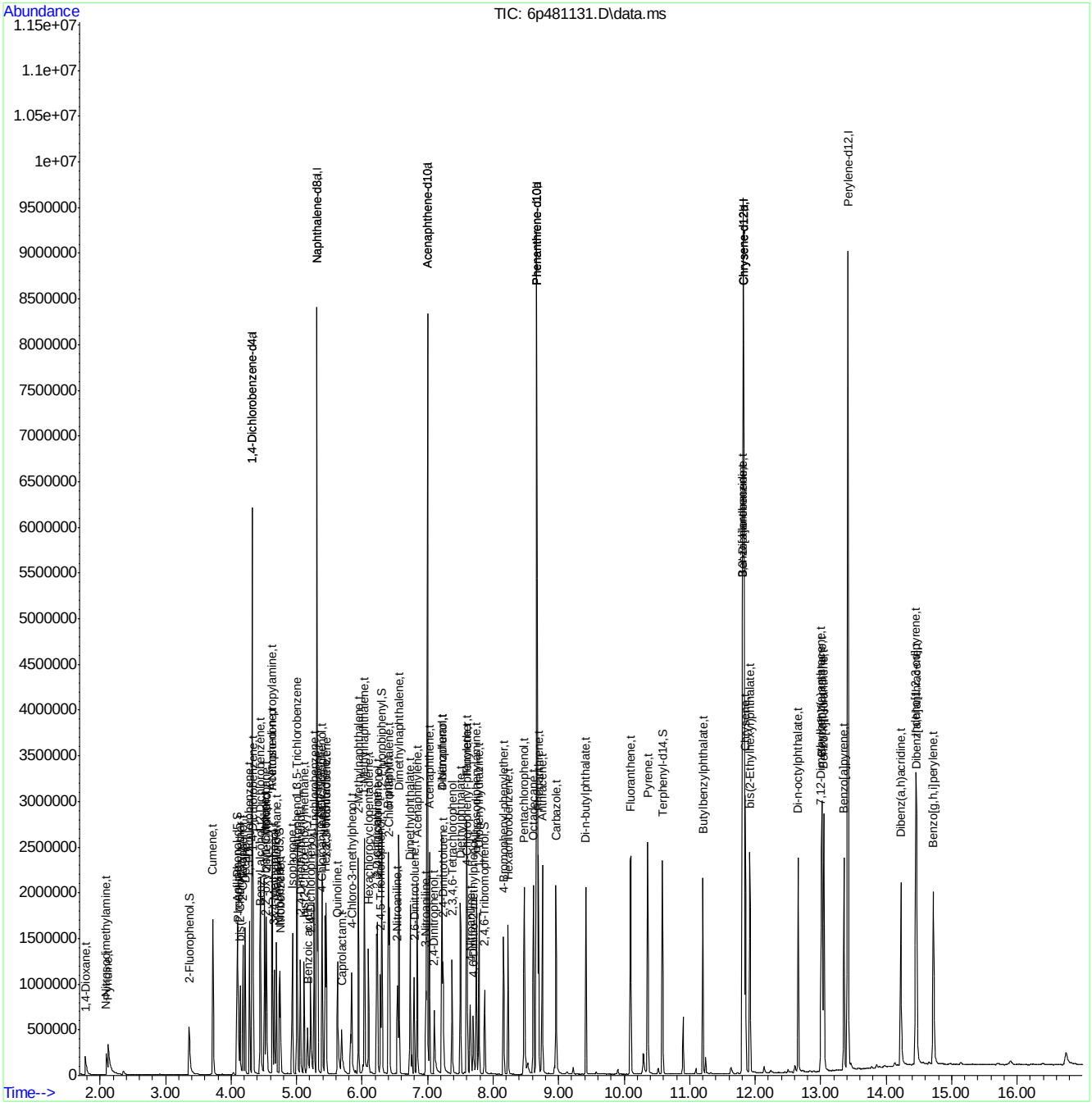
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.752 | 178 | 988020 | 10.50 | ppm | 98 |
| 79) | Carbazole | 8.961 | 167 | 939392 | 10.35 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.416 | 149 | 1134753 | 10.38 | ppm | 98 |
| 81) | Fluoranthene | 10.100 | 202 | 1072732 | 10.21 | ppm | 99 |
| 82) | Octadecane | 8.613 | 57 | 339764 | 10.91 | ppm | 98 |
| 84) | Pyrene | 10.362 | 202 | 1123066 | 10.17 | ppm | 99 |
| 86) | Butylbenzylphthalate | 11.202 | 149 | 503391 | 9.79 | ppm | 97 |
| 87) | Benzo[a]anthracene | 11.806 | 228 | 1059461 | 9.82 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.806 | 252 | 405106 | 9.17 | ppm | 98 |
| 89) | Chrysene | 11.849 | 228 | 1016466 | 9.69 | ppm | 100 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 704268 | 9.85 | ppm | 97 |
| 92) | Di-n-octylphthalate | 12.657 | 149 | 1207200 | 9.72 | ppm | 99 |
| 93) | Benzo[b]fluoranthene | 13.021 | 252 | 1145377 | 9.20 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 13.047 | 252 | 1057620 | 9.37 | ppm | 96 |
| 95) | Benzo[a]pyrene | 13.358 | 252 | 968866 | 9.27 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.454 | 276 | 1270627 | 8.92 | ppm | 97 |
| 97) | Dibenz(a,h)acridine | 14.224 | 279 | 947084 | 8.98 | ppm | 97 |
| 98) | Dibenz[a,h]anthracene | 14.465 | 278 | 1103314 | 8.65 | ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.010 | 256 | 395168 | 7.13 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.722 | 276 | 983172 | 9.04 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481131.D
Acq On : 16 Apr 2019 11:30 am
Operator : angelar
Sample : ic2562-10
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 16 15:01:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 14:54:14 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481132.D
Acq On : 16 Apr 2019 11:54 am
Operator : angelar
Sample : ic2562-5
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 16 16:27:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 745232 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2877119 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1779867 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3273697 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 3018550 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.417 | 264 | 3544251 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 745232 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1779867 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3273697 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 3018550 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2877119 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3273697 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 3018550 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.366 | 112 | 105888 | 4.29 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 8.58% | |
| 8) Phenol-d5 | 4.099 | 99 | 136733 | 4.95 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.90% | |
| 25) Nitrobenzene-d5 | 4.741 | 82 | 123698 | 5.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 10.06% | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 323414 | 5.19 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 10.38% | |
| 73) 2,4,6-Tribromophenol | 7.870 | 330 | 44161 | 4.00 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 8.00% | |
| 85) Terphenyl-d14 | 10.582 | 244 | 344681 | 4.73 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 9.46% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.783 | 88 | 48192 | 4.75 | ppm | 98 |
| 3) Pyridine | 2.136 | 79 | 99215 | 4.13 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 2.104 | 74 | 64329 | 4.61 | ppm | 96 |
| 6) Indene | 4.511 | 116 | 209894 | 5.15 | ppm | 98 |
| 7) Cumene | 3.719 | 105 | 297495 | 5.16 | ppm | 98 |
| 9) Phenol | 4.105 | 94 | 165582 | 4.95 | ppm | 92 |
| 10) Aniline | 4.088 | 93 | 164464 | 5.92 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 113472 | 4.99 | ppm | 99 |
| 12) 2-Chlorophenol | 4.185 | 128 | 131686 | 4.86 | ppm | 95 |
| 13) Decane | 4.217 | 43 | 103815 | 5.42 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 147901 | 5.00 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.335 | 146 | 150268 | 4.97 | ppm | 96 |
| 16) Benzyl alcohol | 4.447 | 108 | 66391 | 4.42 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 139476 | 5.02 | ppm | 100 |
| 18) Acetophenone | 4.629 | 105 | 177326 | 5.00 | ppm | 97 |
| 19) 2-Methylphenol | 4.538 | 108 | 110936 | 4.86 | ppm | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 40208 | 4.89 | ppm | 90 |
| 21) 3&4-Methylphenol | 4.655 | 108 | 113351 | 4.61 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481132.D
Acq On : 16 Apr 2019 11:54 am
Operator : angelar
Sample : ic2562-5
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 16 16:27:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.629 | 70 | 78812 | 5.02 | ppm | | 93 |
| 23) Hexachloroethane | 4.693 | 201 | 51503 | 4.71 | ppm | | 98 |
| 26) Nitrobenzene | 4.757 | 77 | 129378 | 5.22 | ppm | | 100 |
| 27) Quinoline | 5.624 | 129 | 266641 | 4.83 | ppm | | 98 |
| 28) Isophorone | 4.939 | 82 | 220274 | 5.27 | ppm | | 97 |
| 29) 2-Nitrophenol | 5.008 | 139 | 73791 | 4.77 | ppm | | 63 |
| 30) 2,4-Dimethylphenol | 5.057 | 107 | 88914 | 3.74 | ppm | | 96 |
| 32) bis(2-Chloroethoxy)met... | 5.115 | 93 | 139409 | 5.25 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.217 | 162 | 110781 | 4.83 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.394 | 162 | 108921 | 4.89 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 5.008 | 180 | 131718 | 5.16 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 124630 | 4.99 | ppm | | 97 |
| 37) 1,2,3-Trichlorobenzene | 5.452 | 180 | 124756 | 5.02 | ppm | | 97 |
| 38) Naphthalene | 5.324 | 128 | 399504 | 5.43 | ppm | | 97 |
| 39) 4-Chloroaniline | 5.388 | 127 | 162571 | 5.50 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 6.223 | 161 | 137083 | 4.88 | ppm | | 97 |
| 41) Caprolactam | 5.682 | 55 | 46280 | 4.63 | ppm | | 96 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 70114 | 4.88 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 5.843 | 107 | 109627 | 4.65 | ppm | # | 27 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 220912 | 5.20 | ppm | | 96 |
| 45) 1-Methylnaphthalene | 6.035 | 141 | 252508 | 5.41 | ppm | | 98 |
| 46) Dimethylnaphthalene | 6.560 | 156 | 261601 | 5.14 | ppm | | 99 |
| 48) Hexachlorocyclopentadiene | 6.100 | 237 | 56881 | 4.57 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.233 | 196 | 80763 | 4.56 | ppm | | 98 |
| 50) 2,4,5-Trichlorophenol | 6.281 | 196 | 83830 | 4.37 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.415 | 162 | 268801 | 5.10 | ppm | | 97 |
| 53) Biphenyl | 6.399 | 154 | 350483 | 5.19 | ppm | | 98 |
| 54) 2-Nitroaniline | 6.538 | 65 | 69354 | 4.66 | ppm | | 93 |
| 55) Dimethylphthalate | 6.731 | 163 | 310678 | 5.02 | ppm | | 98 |
| 56) Acenaphthylene | 6.843 | 152 | 416636 | 5.08 | ppm | | 98 |
| 57) 2,6-Dinitrotoluene | 6.790 | 165 | 67343 | 4.43 | ppm | | 95 |
| 58) 3-Nitroaniline | 6.977 | 138 | 75116 | 4.52 | ppm | | 100 |
| 59) Acenaphthene | 7.025 | 153 | 278293 | 5.15 | ppm | | 99 |
| 60) 2,4-Dinitrophenol | 7.105 | 184 | 52782 | 5.39 | ppm | | 96 |
| 61) 4-Nitrophenol | 7.233 | 109 | 34380 | 4.20 | ppm | # | 1 |
| 62) Dibenzofuran | 7.217 | 168 | 387930 | 5.24 | ppm | | 84 |
| 63) 2,4-Dinitrotoluene | 7.233 | 165 | 96526 | 4.62 | ppm | | 71 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.378 | 232 | 68407 | 4.29 | ppm | | 97 |
| 65) Diethylphthalate | 7.501 | 149 | 307454 | 5.05 | ppm | | 98 |
| 66) Fluorene | 7.592 | 166 | 311493 | 5.10 | ppm | | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.608 | 204 | 156260 | 4.99 | ppm | | 96 |
| 68) 4-Nitroaniline | 7.651 | 138 | 71921 | 4.34 | ppm | | 95 |
| 70) 4,6-Dinitro-2-methylph... | 7.699 | 198 | 46481 | 3.36 | ppm | | 93 |
| 71) n-Nitrosodiphenylamine | 7.747 | 169 | 228403 | 4.96 | ppm | | 100 |
| 72) 1,2-Diphenylhydrazine | 7.784 | 77 | 269999 | 5.19 | ppm | | 98 |
| 74) 4-Bromophenyl-phenylether | 8.159 | 248 | 85601 | 4.61 | ppm | | 96 |
| 75) Hexachlorobenzene | 8.228 | 284 | 99602 | 4.63 | ppm | | 99 |
| 76) Pentachlorophenol | 8.480 | 266 | 93981 | 6.81 | ppm | | 99 |
| 77) Phenanthrene | 8.688 | 178 | 445733 | 5.13 | ppm | | 99 |
| 78) Anthracene | 8.752 | 178 | 456742 | 5.13 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481132.D
Acq On : 16 Apr 2019 11:54 am
Operator : angelar
Sample : ic2562-5
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 16 16:27:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

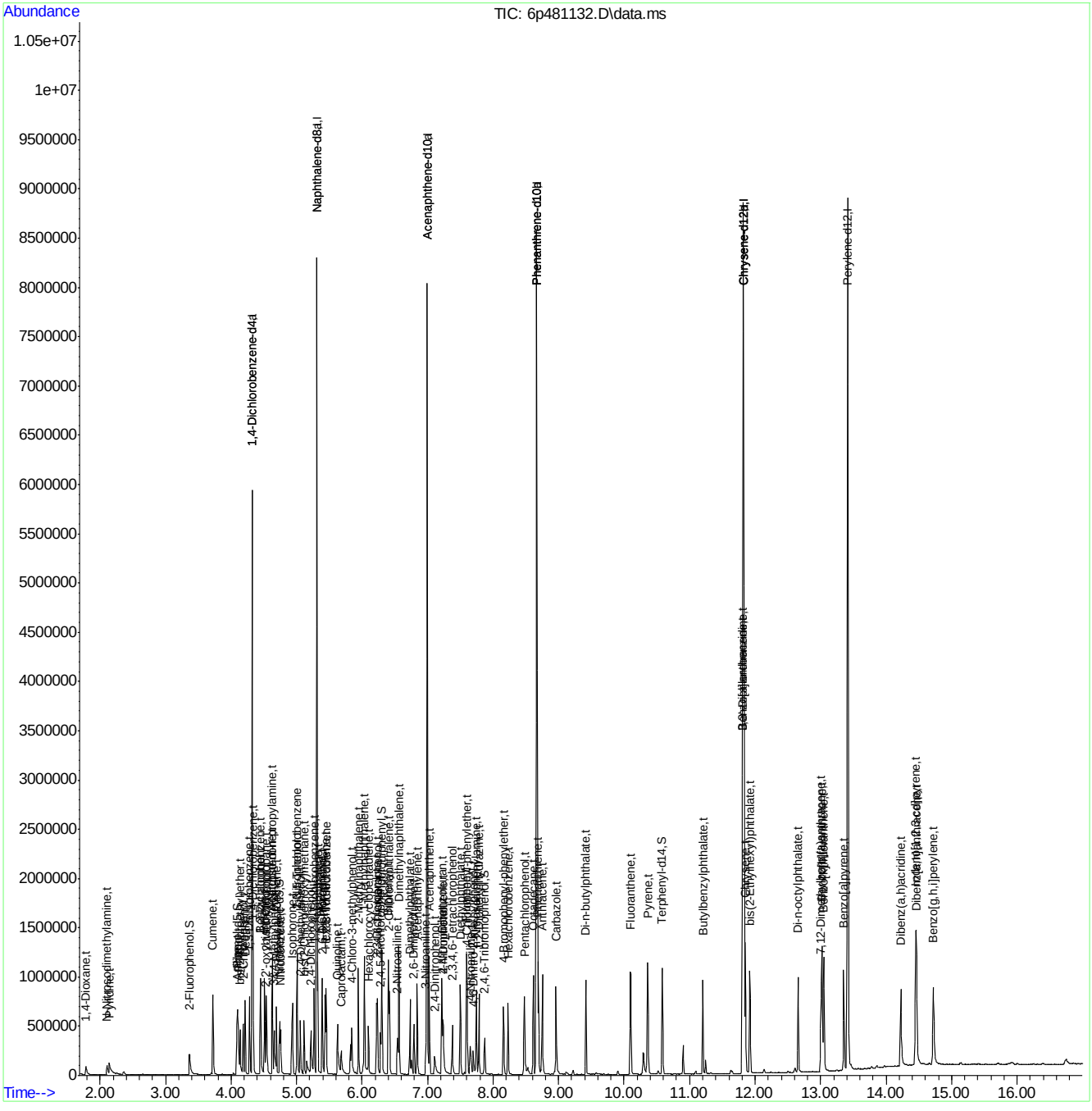
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 79) | Carbazole | 8.961 | 167 | 428668 | 4.99 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.416 | 149 | 500617 | 4.84 | ppm | 98 |
| 81) | Fluoranthene | 10.100 | 202 | 486038 | 4.89 | ppm | 99 |
| 82) | Octadecane | 8.613 | 57 | 157053 | 5.33 | ppm | 98 |
| 84) | Pyrene | 10.362 | 202 | 507717 | 4.97 | ppm | 98 |
| 86) | Butylbenzylphthalate | 11.202 | 149 | 218765 | 4.60 | ppm | 98 |
| 87) | Benzo[a]anthracene | 11.807 | 228 | 471496 | 4.73 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.807 | 252 | 170184 | 4.17 | ppm | 96 |
| 89) | Chrysene | 11.849 | 228 | 479348 | 4.94 | ppm | 97 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 304604 | 4.61 | ppm | 98 |
| 92) | Di-n-octylphthalate | 12.657 | 149 | 504385 | 4.36 | ppm | 98 |
| 93) | Benzo[b]fluoranthene | 13.021 | 252 | 486576 | 4.19 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 13.047 | 252 | 497243 | 4.73 | ppm | 96 |
| 95) | Benzo[a]pyrene | 13.358 | 252 | 426109 | 4.37 | ppm | 98 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.454 | 276 | 549789 | 4.14 | ppm | 94 |
| 97) | Dibenz(a,h)acridine | 14.224 | 279 | 405491 | 4.12 | ppm | 98 |
| 98) | Dibenz[a,h]anthracene | 14.465 | 278 | 488550 | 4.11 | ppm | 96 |
| 99) | 7,12-Dimethylbenz(a)an... | 13.005 | 256 | 141217 | 2.73 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.722 | 276 | 433449 | 4.27 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481132.D
Acq On : 16 Apr 2019 11:54 am
Operator : angelar
Sample : ic2562-5
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 16 16:27:11 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481133.D
Acq On : 16 Apr 2019 12:18 pm
Operator : angelar
Sample : ic2562-2
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 16 16:28:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 686002 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2689608 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1609873 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2957358 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2711262 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.416 | 264 | 3200801 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 686002 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1609873 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2957358 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2711262 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2689608 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2957358 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2711262 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.372 | 112 | 33457 | 1.47 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 2.94% | |
| 8) Phenol-d5 | 4.104 | 99 | 46694 | 1.84 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.68% | |
| 25) Nitrobenzene-d5 | 4.746 | 82 | 45324 | 1.97 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.94% | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 117865 | 2.09 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 4.18% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 10.587 | 244 | 120805 | 1.85 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.70% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.783 | 88 | 17389 | 1.86 | ppm | 87 |
| 3) Pyridine | 2.174 | 79 | 32780 | 1.48 | ppm | 88 |
| 4) N-Nitrosodimethylamine | 2.120 | 74 | 22800 | 1.78 | ppm | 94 |
| 6) Indene | 4.511 | 116 | 76360 | 2.03 | ppm | 99 |
| 7) Cumene | 3.725 | 105 | 111146 | 2.09 | ppm | 97 |
| 9) Phenol | 4.115 | 94 | 58771 | 1.91 | ppm | 95 |
| 10) Aniline | 4.094 | 93 | 55211 | 2.16 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 4.142 | 93 | 43154 | 2.06 | ppm | 97 |
| 12) 2-Chlorophenol | 4.185 | 128 | 44870 | 1.80 | ppm | 96 |
| 13) Decane | 4.211 | 43 | 39621 | 2.25 | ppm | 91 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 54335 | 1.99 | ppm | 94 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 55564 | 2.00 | ppm | 95 |
| 16) Benzyl alcohol | 4.452 | 108 | 23203 | 1.68 | ppm | 90 |
| 17) 1,2-Dichlorobenzene | 4.452 | 146 | 50954 | 1.99 | ppm | 98 |
| 18) Acetophenone | 4.629 | 105 | 63584 | 1.95 | ppm | 98 |
| 19) 2-Methylphenol | 4.543 | 108 | 39223 | 1.87 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 14288 | 1.89 | ppm | 87 |
| 21) 3&4-Methylphenol | 4.666 | 108 | 40009 | 1.77 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481133.D
Acq On : 16 Apr 2019 12:18 pm
Operator : angelar
Sample : ic2562-2
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 16 16:28:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 22) | n-Nitroso-di-n-propyla... | 4.629 | 70 | 28105 | 1.94 | ppm | | 87 |
| 23) | Hexachloroethane | 4.693 | 201 | 17788 | 1.77 | ppm | | 96 |
| 26) | Nitrobenzene | 4.757 | 77 | 46061 | 1.99 | ppm | | 92 |
| 27) | Quinoline | 5.629 | 129 | 90842 | 1.76 | ppm | | 98 |
| 28) | Isophorone | 4.939 | 82 | 78913 | 2.02 | ppm | | 97 |
| 29) | 2-Nitrophenol | 5.014 | 139 | 23819 | 1.65 | ppm | | 83 |
| 32) | bis(2-Chloroethoxy)met... | 5.115 | 93 | 50298 | 2.02 | ppm | | 98 |
| 33) | 2,4-Dichlorophenol | 5.228 | 162 | 36101 | 1.69 | ppm | | 94 |
| 34) | 2,6-Dichlorophenol | 5.394 | 162 | 38123 | 1.83 | ppm | | 95 |
| 35) | 1,3,5-Trichlorobenzene | 5.008 | 180 | 48303 | 2.03 | ppm | | 98 |
| 36) | 1,2,4-Trichlorobenzene | 5.265 | 180 | 46756 | 2.00 | ppm | | 95 |
| 37) | 1,2,3-Trichlorobenzene | 5.452 | 180 | 45077 | 1.94 | ppm | | 94 |
| 38) | Naphthalene | 5.324 | 128 | 146092 | 2.13 | ppm | | 99 |
| 39) | 4-Chloroaniline | 5.394 | 127 | 58298 | 2.11 | ppm | | 96 |
| 40) | 2,3-Dichloroaniline | 6.223 | 161 | 50005 | 1.90 | ppm | | 95 |
| 41) | Caprolactam | 5.682 | 55 | 14706 | 1.57 | ppm | | 86 |
| 42) | Hexachlorobutadiene | 5.436 | 225 | 24786 | 1.85 | ppm | | 96 |
| 43) | 4-Chloro-3-methylphenol | 5.848 | 107 | 37474 | 1.70 | ppm | # | 26 |
| 44) | 2-Methylnaphthalene | 5.944 | 141 | 79319 | 2.00 | ppm | | 98 |
| 45) | 1-Methylnaphthalene | 6.035 | 141 | 93707 | 2.15 | ppm | | 94 |
| 46) | Dimethylnaphthalene | 6.559 | 156 | 91169 | 1.92 | ppm | | 99 |
| 48) | Hexachlorocyclopentadiene | 6.100 | 237 | 9979 | 0.89 | ppm | | 94 |
| 49) | 2,4,6-Trichlorophenol | 6.239 | 196 | 27218 | 1.70 | ppm | | 98 |
| 50) | 2,4,5-Trichlorophenol | 6.292 | 196 | 28078 | 1.62 | ppm | | 98 |
| 52) | 2-Chloronaphthalene | 6.420 | 162 | 96470 | 2.02 | ppm | | 99 |
| 53) | Biphenyl | 6.404 | 154 | 127936 | 2.09 | ppm | | 97 |
| 54) | 2-Nitroaniline | 6.543 | 65 | 21945 | 1.63 | ppm | # | 84 |
| 55) | Dimethylphthalate | 6.731 | 163 | 109760 | 1.96 | ppm | | 99 |
| 56) | Acenaphthylene | 6.843 | 152 | 146912 | 1.98 | ppm | | 99 |
| 57) | 2,6-Dinitrotoluene | 6.795 | 165 | 21664 | 1.58 | ppm | | 98 |
| 58) | 3-Nitroaniline | 6.982 | 138 | 23906 | 1.59 | ppm | # | 86 |
| 59) | Acenaphthene | 7.025 | 153 | 99483 | 2.04 | ppm | | 99 |
| 60) | 2,4-Dinitrophenol | 7.126 | 184 | 10596 | 1.20 | ppm | # | 68 |
| 61) | 4-Nitrophenol | 7.255 | 109 | 8043 | 1.09 | ppm | # | 1 |
| 62) | Dibenzofuran | 7.217 | 168 | 139935 | 2.09 | ppm | | 84 |
| 63) | 2,4-Dinitrotoluene | 7.244 | 165 | 29813 | 1.58 | ppm | | 90 |
| 64) | 2,3,4,6-Tetrachlorophenol | 7.378 | 232 | 23236 | 1.61 | ppm | | 95 |
| 65) | Diethylphthalate | 7.501 | 149 | 106984 | 1.94 | ppm | | 95 |
| 66) | Fluorene | 7.597 | 166 | 111343 | 2.02 | ppm | | 96 |
| 67) | 4-Chlorophenyl-phenyle... | 7.608 | 204 | 55373 | 1.96 | ppm | | 96 |
| 70) | 4,6-Dinitro-2-methylph... | 7.709 | 198 | 11351 | 0.91 | ppm | | 92 |
| 71) | n-Nitrosodiphenylamine | 7.747 | 169 | 80758 | 1.94 | ppm | | 96 |
| 72) | 1,2-Diphenylhydrazine | 7.784 | 77 | 92206 | 1.96 | ppm | | 99 |
| 74) | 4-Bromophenyl-phenylether | 8.159 | 248 | 29512 | 1.76 | ppm | | 88 |
| 75) | Hexachlorobenzene | 8.228 | 284 | 34420 | 1.77 | ppm | | 88 |
| 76) | Pentachlorophenol | 8.480 | 266 | 27580 | 2.21 | ppm | | 98 |
| 77) | Phenanthrene | 8.688 | 178 | 164257 | 2.09 | ppm | | 98 |
| 78) | Anthracene | 8.752 | 178 | 155924 | 1.94 | ppm | | 99 |
| 79) | Carbazole | 8.966 | 167 | 149401 | 1.93 | ppm | | 98 |
| 80) | Di-n-butylphthalate | 9.416 | 149 | 165896 | 1.78 | ppm | | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481133.D
Acq On : 16 Apr 2019 12:18 pm
Operator : angelar
Sample : ic2562-2
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 16 16:28:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 81) Fluoranthene | 10.100 | 202 | 165236 | 1.84 ppm | 98 |
| 82) Octadecane | 8.613 | 57 | 54062 | 2.03 ppm | 97 |
| 84) Pyrene | 10.362 | 202 | 180114 | 1.96 ppm | 99 |
| 86) Butylbenzylphthalate | 11.202 | 149 | 68859 | 1.61 ppm | 96 |
| 87) Benzo[a]anthracene | 11.807 | 228 | 167454 | 1.87 ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.807 | 252 | 55110 | 1.50 ppm | 95 |
| 89) Chrysene | 11.849 | 228 | 169572 | 1.95 ppm | 97 |
| 90) bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 91972 | 1.55 ppm | 97 |
| 92) Di-n-octylphthalate | 12.657 | 149 | 144948 | 1.39 ppm | 98 |
| 93) Benzo[b]fluoranthene | 13.021 | 252 | 172303 | 1.64 ppm | 96 |
| 94) Benzo[k]fluoranthene | 13.047 | 252 | 164189 | 1.73 ppm | 94 |
| 95) Benzo[a]pyrene | 13.358 | 252 | 142092 | 1.62 ppm | 98 |
| 96) Indeno[1,2,3-cd]pyrene | 14.454 | 276 | 186793 | 1.56 ppm | 82 |
| 97) Dibenz(a,h)acridine | 14.224 | 279 | 133092 | 1.50 ppm | 98 |
| 98) Dibenz[a,h]anthracene | 14.465 | 278 | 166269 | 1.55 ppm | 95 |
| 100) Benzo[g,h,i]perylene | 14.727 | 276 | 152019 | 1.66 ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

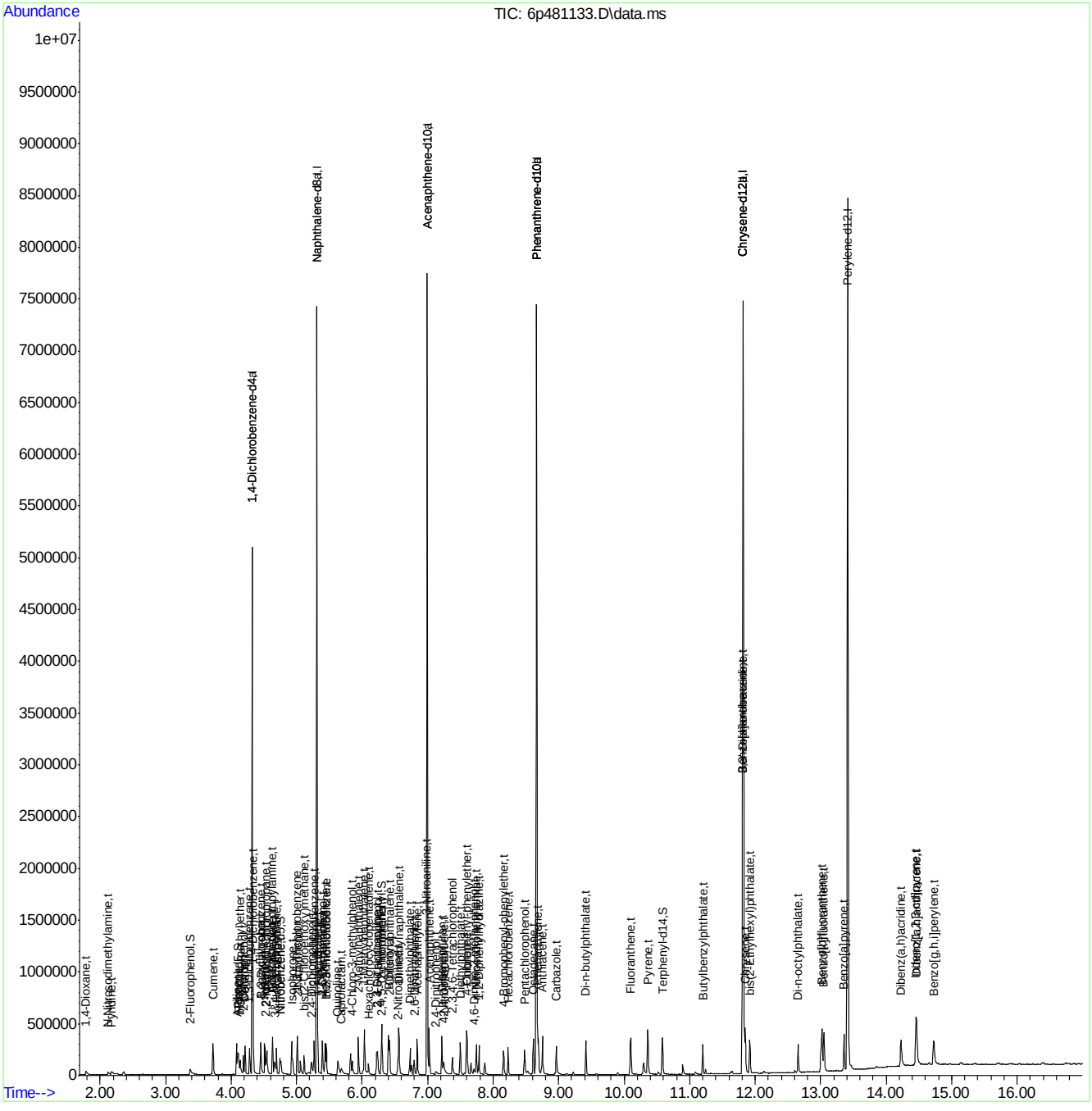
9.6.7

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481133.D
Acq On : 16 Apr 2019 12:18 pm
Operator : angelar
Sample : ic2562-2
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 16 16:28:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481134.D
Acq On : 16 Apr 2019 12:42 pm
Operator : angelar
Sample : ic2562-1
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 16 16:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 661210 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2591434 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1554441 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2861397 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2611176 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.416 | 264 | 3054739 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 661210 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1554441 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2861397 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2611176 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2591434 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2861397 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2611176 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.382 | 112 | 14147 | 0.65 | ppm | 0.03 |
| Spiked Amount 50.000 | | | Recovery | = | 1.30% | |
| 8) Phenol-d5 | 4.110 | 99 | 21475 | 0.88 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 1.76% | |
| 25) Nitrobenzene-d5 | 4.746 | 82 | 19907 | 0.90 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.80% | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 56848 | 1.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 2.10% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 10.587 | 244 | 58052 | 0.92 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.84% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.783 | 88 | 8628 | 0.96 | ppm | 97 |
| 3) Pyridine | 2.211 | 79 | 11070 | 0.52 | ppm | 84 |
| 4) N-Nitrosodimethylamine | 2.125 | 74 | 8256 | 0.67 | ppm | 88 |
| 6) Indene | 4.516 | 116 | 35425 | 0.98 | ppm | 99 |
| 7) Cumene | 3.725 | 105 | 53198 | 1.04 | ppm | 98 |
| 9) Phenol | 4.120 | 94 | 27996 | 0.94 | ppm | 92 |
| 11) bis(2-Chloroethyl)ether | 4.142 | 93 | 18627 | 0.92 | ppm | 98 |
| 12) 2-Chlorophenol | 4.195 | 128 | 20872 | 0.87 | ppm | 96 |
| 13) Decane | 4.217 | 43 | 18774 | 1.10 | ppm | 98 |
| 14) 1,3-Dichlorobenzene | 4.286 | 146 | 26779 | 1.02 | ppm | 91 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 29014 | 1.08 | ppm | 88 |
| 17) 1,2-Dichlorobenzene | 4.452 | 146 | 25223 | 1.02 | ppm | 96 |
| 18) Acetophenone | 4.634 | 105 | 28821 | 0.92 | ppm | 95 |
| 19) 2-Methylphenol | 4.548 | 108 | 16958 | 0.84 | ppm | 87 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 6913 | 0.95 | ppm | 90 |
| 21) 3&4-Methylphenol | 4.671 | 108 | 16706 | 0.77 | ppm | 82 |
| 22) n-Nitroso-di-n-propyla... | 4.634 | 70 | 13354 | 0.96 | ppm | 92 |
| 23) Hexachloroethane | 4.693 | 201 | 8848 | 0.91 | ppm | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481134.D
Acq On : 16 Apr 2019 12:42 pm
Operator : angelar
Sample : ic2562-1
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 16 16:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 26) | Nitrobenzene | 4.762 | 77 | 20210 | 0.90 | ppm | | 92 |
| 27) | Quinoline | 5.645 | 129 | 40957 | 0.82 | ppm | | 99 |
| 28) | Isophorone | 4.939 | 82 | 36266 | 0.96 | ppm | | 95 |
| 29) | 2-Nitrophenol | 5.019 | 139 | 10855 | 0.78 | ppm | | 93 |
| 32) | bis(2-Chloroethoxy)met... | 5.121 | 93 | 22031 | 0.92 | ppm | | 94 |
| 33) | 2,4-Dichlorophenol | 5.233 | 162 | 16988 | 0.82 | ppm | | 96 |
| 34) | 2,6-Dichlorophenol | 5.399 | 162 | 17714 | 0.88 | ppm | | 100 |
| 35) | 1,3,5-Trichlorobenzene | 5.014 | 180 | 23653 | 1.03 | ppm | | 94 |
| 36) | 1,2,4-Trichlorobenzene | 5.265 | 180 | 22308 | 0.99 | ppm | | 98 |
| 37) | 1,2,3-Trichlorobenzene | 5.458 | 180 | 22002 | 0.98 | ppm | | 93 |
| 38) | Naphthalene | 5.324 | 128 | 72273 | 1.09 | ppm | | 99 |
| 39) | 4-Chloroaniline | 5.399 | 127 | 27141 | 1.02 | ppm | | 97 |
| 40) | 2,3-Dichloroaniline | 6.228 | 161 | 23641 | 0.93 | ppm | | 98 |
| 41) | Caprolactam | 5.693 | 55 | 6433 | 0.71 | ppm | | 84 |
| 42) | Hexachlorobutadiene | 5.436 | 225 | 12598 | 0.97 | ppm | | 95 |
| 43) | 4-Chloro-3-methylphenol | 5.853 | 107 | 17162 | 0.81 | ppm | # | 26 |
| 44) | 2-Methylnaphthalene | 5.950 | 141 | 39141 | 1.02 | ppm | | 92 |
| 45) | 1-Methylnaphthalene | 6.041 | 141 | 42484 | 1.01 | ppm | | 97 |
| 46) | Dimethylnaphthalene | 6.565 | 156 | 47031 | 1.03 | ppm | | 95 |
| 49) | 2,4,6-Trichlorophenol | 6.238 | 196 | 11982 | 0.77 | ppm | | 93 |
| 50) | 2,4,5-Trichlorophenol | 6.297 | 196 | 12852 | 0.77 | ppm | | 95 |
| 52) | 2-Chloronaphthalene | 6.420 | 162 | 46708 | 1.01 | ppm | | 98 |
| 53) | Biphenyl | 6.404 | 154 | 60991 | 1.03 | ppm | | 97 |
| 54) | 2-Nitroaniline | 6.549 | 65 | 9160 | 0.70 | ppm | | 84 |
| 55) | Dimethylphthalate | 6.731 | 163 | 52845 | 0.98 | ppm | | 98 |
| 56) | Acenaphthylene | 6.843 | 152 | 69770 | 0.97 | ppm | | 99 |
| 57) | 2,6-Dinitrotoluene | 6.795 | 165 | 9160 | 0.69 | ppm | | 93 |
| 58) | 3-Nitroaniline | 6.993 | 138 | 9499 | 0.65 | ppm | # | 1 |
| 59) | Acenaphthene | 7.025 | 153 | 47265 | 1.00 | ppm | | 97 |
| 62) | Dibenzofuran | 7.217 | 168 | 67168 | 1.04 | ppm | | 86 |
| 63) | 2,4-Dinitrotoluene | 7.249 | 165 | 12438 | 0.68 | ppm | | 97 |
| 64) | 2,3,4,6-Tetrachlorophenol | 7.383 | 232 | 9544 | 0.69 | ppm | | 91 |
| 65) | Diethylphthalate | 7.501 | 149 | 50833 | 0.96 | ppm | | 100 |
| 66) | Fluorene | 7.597 | 166 | 52984 | 0.99 | ppm | | 97 |
| 67) | 4-Chlorophenyl-phenyle... | 7.608 | 204 | 26061 | 0.95 | ppm | | 95 |
| 71) | n-Nitrosodiphenylamine | 7.747 | 169 | 37950 | 0.94 | ppm | | 98 |
| 72) | 1,2-Diphenylhydrazine | 7.784 | 77 | 42838 | 0.94 | ppm | | 98 |
| 74) | 4-Bromophenyl-phenylether | 8.159 | 248 | 13902 | 0.86 | ppm | | 92 |
| 75) | Hexachlorobenzene | 8.233 | 284 | 16799 | 0.89 | ppm | | 96 |
| 77) | Phenanthrene | 8.688 | 178 | 80649 | 1.06 | ppm | | 98 |
| 78) | Anthracene | 8.752 | 178 | 74342 | 0.96 | ppm | | 99 |
| 79) | Carbazole | 8.966 | 167 | 68334 | 0.91 | ppm | | 99 |
| 80) | Di-n-butylphthalate | 9.416 | 149 | 72746 | 0.80 | ppm | | 98 |
| 81) | Fluoranthene | 10.100 | 202 | 78585 | 0.90 | ppm | | 97 |
| 82) | Octadecane | 8.613 | 57 | 25275 | 0.98 | ppm | | 97 |
| 84) | Pyrene | 10.362 | 202 | 85418 | 0.97 | ppm | | 99 |
| 86) | Butylbenzylphthalate | 11.202 | 149 | 27713 | 0.67 | ppm | | 83 |
| 87) | Benzo[a]anthracene | 11.806 | 228 | 83521 | 0.97 | ppm | | 94 |
| 88) | 3,3'-Dichlorobenzidine | 11.812 | 252 | 24221 | 0.69 | ppm | | 83 |
| 89) | Chrysene | 11.849 | 228 | 78945 | 0.94 | ppm | | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481134.D
Acq On : 16 Apr 2019 12:42 pm
Operator : angelar
Sample : ic2562-1
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 16 16:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 90) bis(2-Ethylhexyl)phtha... | 11.919 | 149 | 38307 | 0.67 ppm | 92 |
| 93) Benzo[b]fluoranthene | 13.021 | 252 | 73810 | 0.74 ppm | 98 |
| 94) Benzo[k]fluoranthene | 13.053 | 252 | 82287 | 0.91 ppm | 97 |
| 95) Benzo[a]pyrene | 13.357 | 252 | 64023 | 0.76 ppm | 94 |
| 96) Indeno[1,2,3-cd]pyrene | 14.459 | 276 | 85814 | 0.75 ppm | 98 |
| 97) Dibenz(a,h)acridine | 14.229 | 279 | 59092 | 0.70 ppm | 99 |
| 98) Dibenz[a,h]anthracene | 14.465 | 278 | 76409 | 0.75 ppm | 93 |
| 100) Benzo[g,h,i]perylene | 14.732 | 276 | 68890 | 0.79 ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

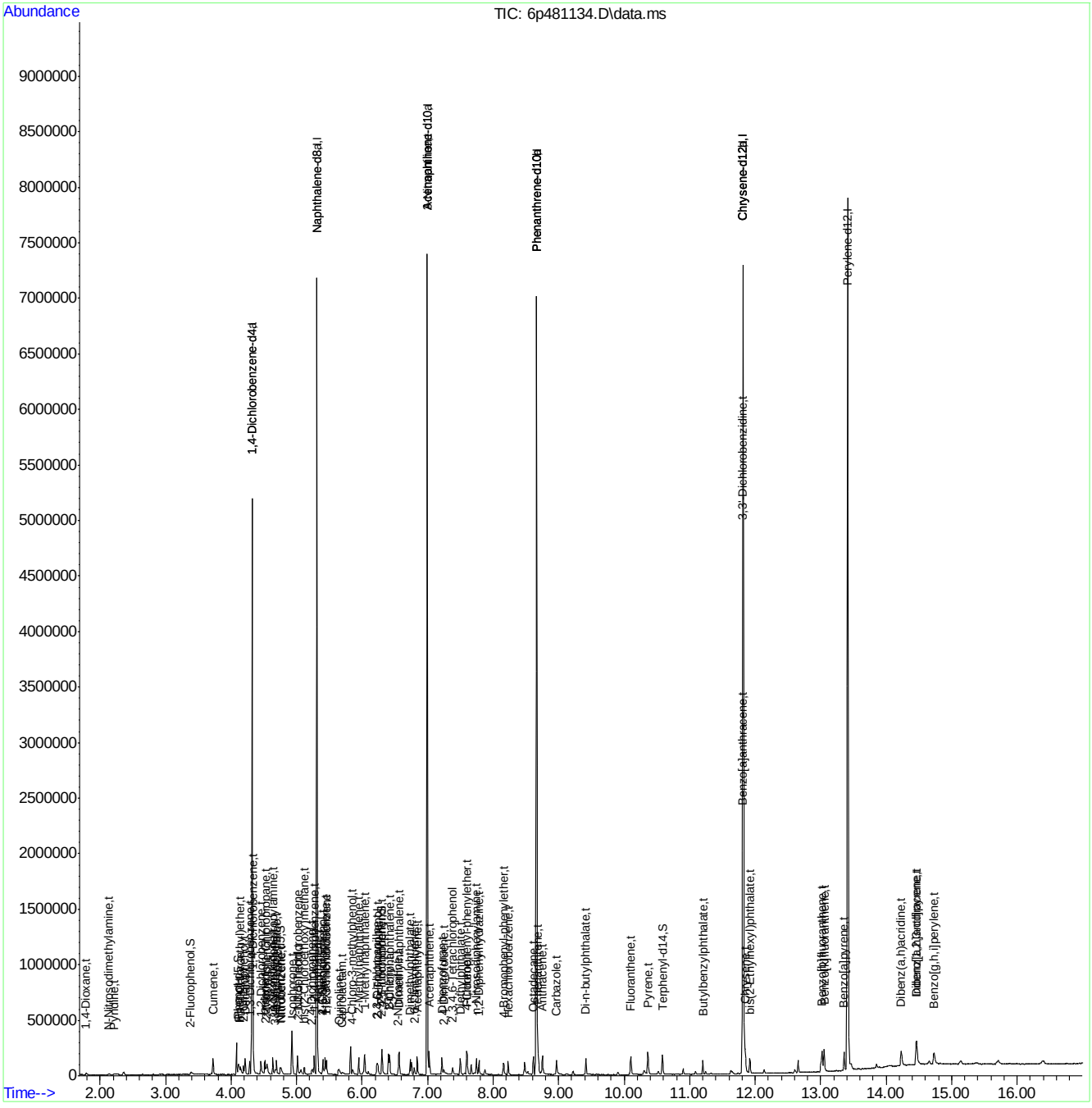
9.6.8

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481134.D
Acq On : 16 Apr 2019 12:42 pm
Operator : angelar
Sample : ic2562-1
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 16 16:29:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:01:13 2019
QLast Update : Tue Apr 16 15:01:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481135.D
Acq On : 16 Apr 2019 1:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 16 15:42:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 531418 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2113367 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1272076 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2255478 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 1942871 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.416 | 264 | 2204772 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 531418 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1272076 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2255478 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 1942871 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2113367 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2255478 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 1942871 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 4) N-Nitrosodimethylamine | 2.099 | 74 | 481129 | 51.87 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 4.137 | 93 | 796542 | 49.62 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.281 | 146 | 998503 | 47.67 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.334 | 146 | 1051327 | 49.04 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 4.447 | 146 | 975325 | 49.53 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.532 | 121 | 333063 | 58.19 | ppm | 94 |
| 22) n-Nitroso-di-n-propyla... | 4.629 | 70 | 562913 | 50.95 | ppm | 95 |
| 23) Hexachloroethane | 4.693 | 201 | 366729 | 49.02 | ppm | 99 |
| 26) Nitrobenzene | 4.752 | 77 | 858600 | 47.98 | ppm | 95 |
| 28) Isophorone | 4.934 | 82 | 1530298 | 50.04 | ppm | 98 |
| 32) bis(2-Chloroethoxy)met... | 5.115 | 93 | 944612 | 49.16 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 5.265 | 180 | 872412 | 48.27 | ppm | 99 |
| 38) Naphthalene | 5.329 | 128 | 2673743 | 48.58 | ppm | 99 |
| 42) Hexachlorobutadiene | 5.436 | 225 | 503478 | 48.95 | ppm | 98 |
| 52) 2-Chloronaphthalene | 6.420 | 162 | 1753056 | 46.73 | ppm | 98 |
| 55) Dimethylphthalate | 6.736 | 163 | 2015588 | 46.26 | ppm | 99 |
| 56) Acenaphthylene | 6.843 | 152 | 2787475 | 48.15 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 6.795 | 165 | 463934 | 47.09 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481135.D
Acq On : 16 Apr 2019 1:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 16 15:42:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration

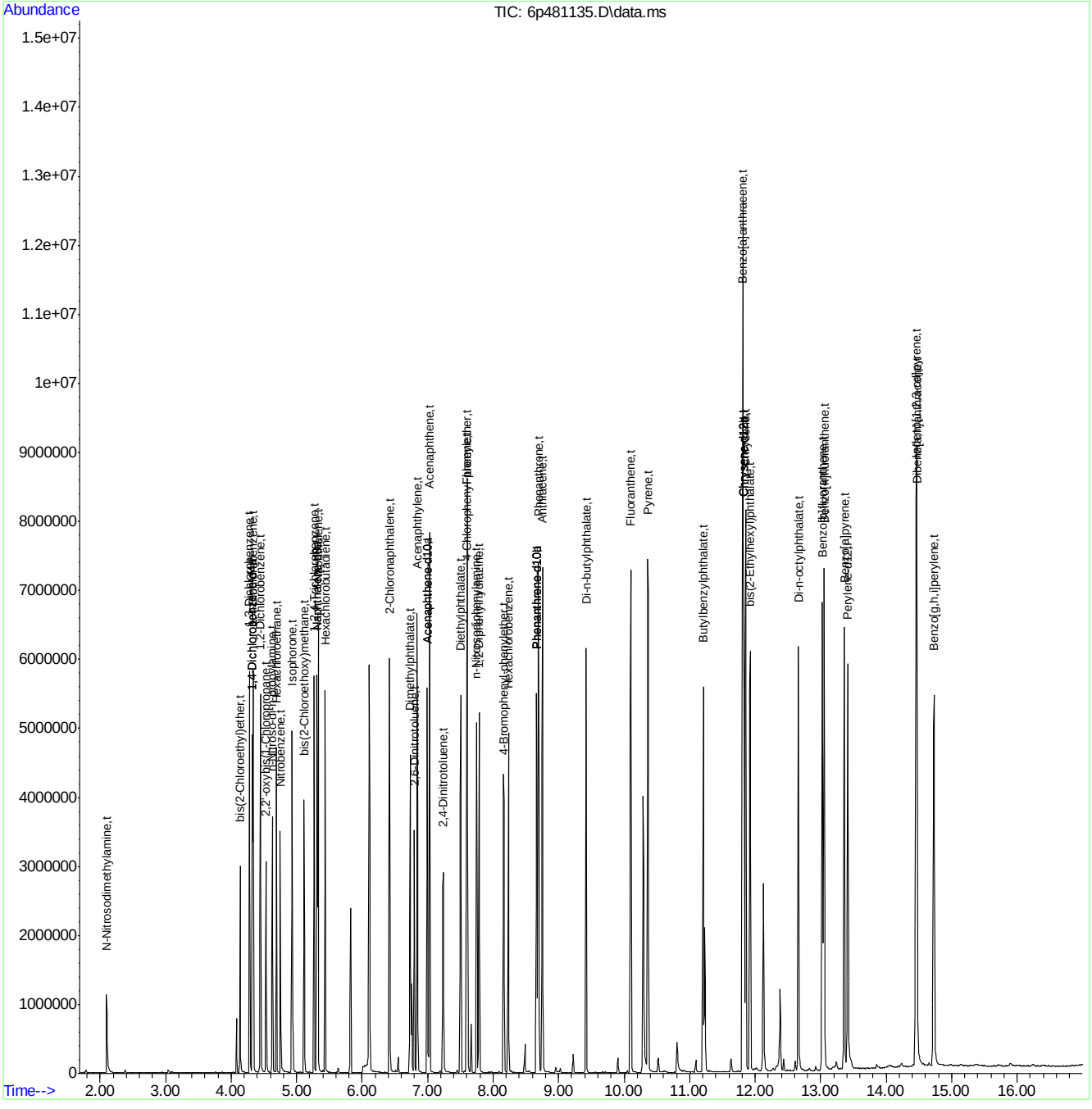
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 59) | Acenaphthene | 7.030 | 153 | 1766949 | 45.98 | ppm | 100 |
| 63) | 2,4-Dinitrotoluene | 7.239 | 165 | 626568 | 45.79 | ppm | 98 |
| 65) | Diethylphthalate | 7.506 | 149 | 1973162 | 45.93 | ppm | 99 |
| 66) | Fluorene | 7.597 | 166 | 2045365 | 47.08 | ppm | 99 |
| 67) | 4-Chlorophenyl-phenyle... | 7.608 | 204 | 1037651 | 47.12 | ppm | 99 |
| 71) | n-Nitrosodiphenylamine | 7.747 | 169 | 1415004 | 45.41 | ppm | 100 |
| 72) | 1,2-Diphenylhydrazine | 7.790 | 77 | 1745959 | 49.49 | ppm | 94 |
| 74) | 4-Bromophenyl-phenylether | 8.164 | 248 | 606033 | 50.00 | ppm | 98 |
| 75) | Hexachlorobenzene | 8.234 | 284 | 675564 | 47.45 | ppm | 98 |
| 77) | Phenanthrene | 8.694 | 178 | 2841831 | 46.93 | ppm | 99 |
| 78) | Anthracene | 8.752 | 178 | 2966883 | 48.85 | ppm | 99 |
| 80) | Di-n-butylphthalate | 9.421 | 149 | 3243429 | 48.30 | ppm | 99 |
| 81) | Fluoranthene | 10.100 | 202 | 3151566 | 47.90 | ppm | 98 |
| 84) | Pyrene | 10.362 | 202 | 3276986 | 50.63 | ppm | 100 |
| 86) | Butylbenzylphthalate | 11.207 | 149 | 1441645 | 51.68 | ppm | 99 |
| 87) | Benzo[a]anthracene | 11.812 | 228 | 2955986 | 47.77 | ppm | 99 |
| 89) | Chrysene | 11.855 | 228 | 2940569 | 48.46 | ppm | 98 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.924 | 149 | 2022050 | 52.43 | ppm | 99 |
| 92) | Di-n-octylphthalate | 12.662 | 149 | 3374163 | 51.38 | ppm | 98 |
| 93) | Benzo[b]fluoranthene | 13.026 | 252 | 2925494 | 43.44 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 13.053 | 252 | 3089671 | 51.83 | ppm | 98 |
| 95) | Benzo[a]pyrene | 13.363 | 252 | 2790875 | 50.44 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.459 | 276 | 3521423 | 47.67 | ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 14.470 | 278 | 3024026 | 46.19 | ppm | 98 |
| 100) | Benzo[g,h,i]perylene | 14.732 | 276 | 2857667 | 49.60 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481135.D
Acq On : 16 Apr 2019 1:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 16 15:42:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481136.D
Acq On : 16 Apr 2019 1:29 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 16 15:41:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration

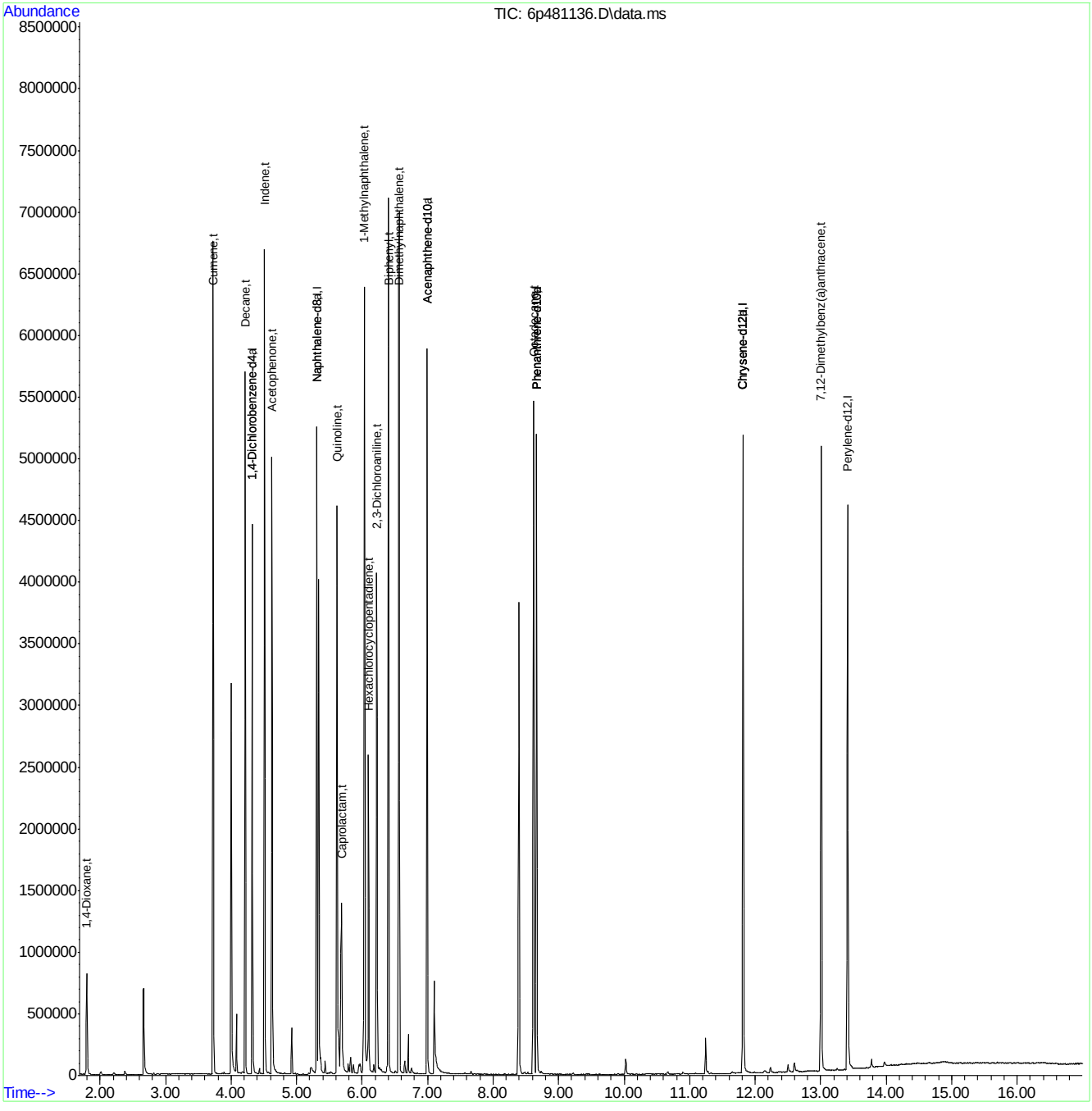
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 520182 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2005705 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.992 | 164 | 1185681 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.661 | 188 | 2067155 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1766202 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1848264 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 520182 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.992 | 164 | 1185681 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.661 | 188 | 2067155 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1766202 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2005705 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.661 | 188 | 2067155 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1766202 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.794 | 88 | 320512 | 46.80 | ppm | 99 |
| 6) Indene | 4.511 | 116 | 1450104 | 51.41 | ppm | 99 |
| 7) Cumene | 3.724 | 105 | 1876058 | 46.43 | ppm | 99 |
| 13) Decane | 4.217 | 43 | 619449 | 44.87 | ppm | 100 |
| 18) Acetophenone | 4.623 | 105 | 1129436 | 46.72 | ppm | 98 |
| 27) Quinoline | 5.618 | 129 | 1703770 | 46.82 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 6.222 | 161 | 816796 | 42.96 | ppm | 98 |
| 41) Caprolactam | 5.687 | 55 | 283754 | 44.25 | ppm | 97 |
| 45) 1-Methylnaphthalene | 6.035 | 141 | 1474123 | 44.66 | ppm | 99 |
| 46) Dimethylnaphthalene | 6.565 | 156 | 1637534 | 46.63 | ppm | 99 |
| 48) Hexachlorocyclopentadiene | 6.099 | 237 | 323971 | 44.53 | ppm | 99 |
| 53) Biphenyl | 6.404 | 154 | 2169137 | 47.83 | ppm | 100 |
| 82) Octadecane | 8.618 | 57 | 900000 | 48.39 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 13.010 | 256 | 1127698 | 42.79 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481136.D
Acq On : 16 Apr 2019 1:29 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 16 15:41:39 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481137.D
Acq On : 16 Apr 2019 1:53 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 16 15:44:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 510073 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1930613 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1099720 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.661 | 188 | 1950054 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1585691 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1692162 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 510073 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1099720 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.661 | 188 | 1950054 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1585691 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1930613 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.661 | 188 | 1950054 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1585691 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.356 | 112 | 743971 | 49.86 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 99.72% | |
| 8) Phenol-d5 | 4.094 | 99 | 893684 | 49.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 98.10% | |
| 25) Nitrobenzene-d5 | 4.735 | 82 | 705826 | 43.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 87.86% | |
| 51) 2-Fluorobiphenyl | 6.303 | 172 | 1865954 | 48.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 96.06% | |
| 73) 2,4,6-Tribromophenol | 7.870 | 330 | 281290 | 44.83 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 89.66% | |
| 85) Terphenyl-d14 | 10.587 | 244 | 2024695 | 54.81 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 109.62% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

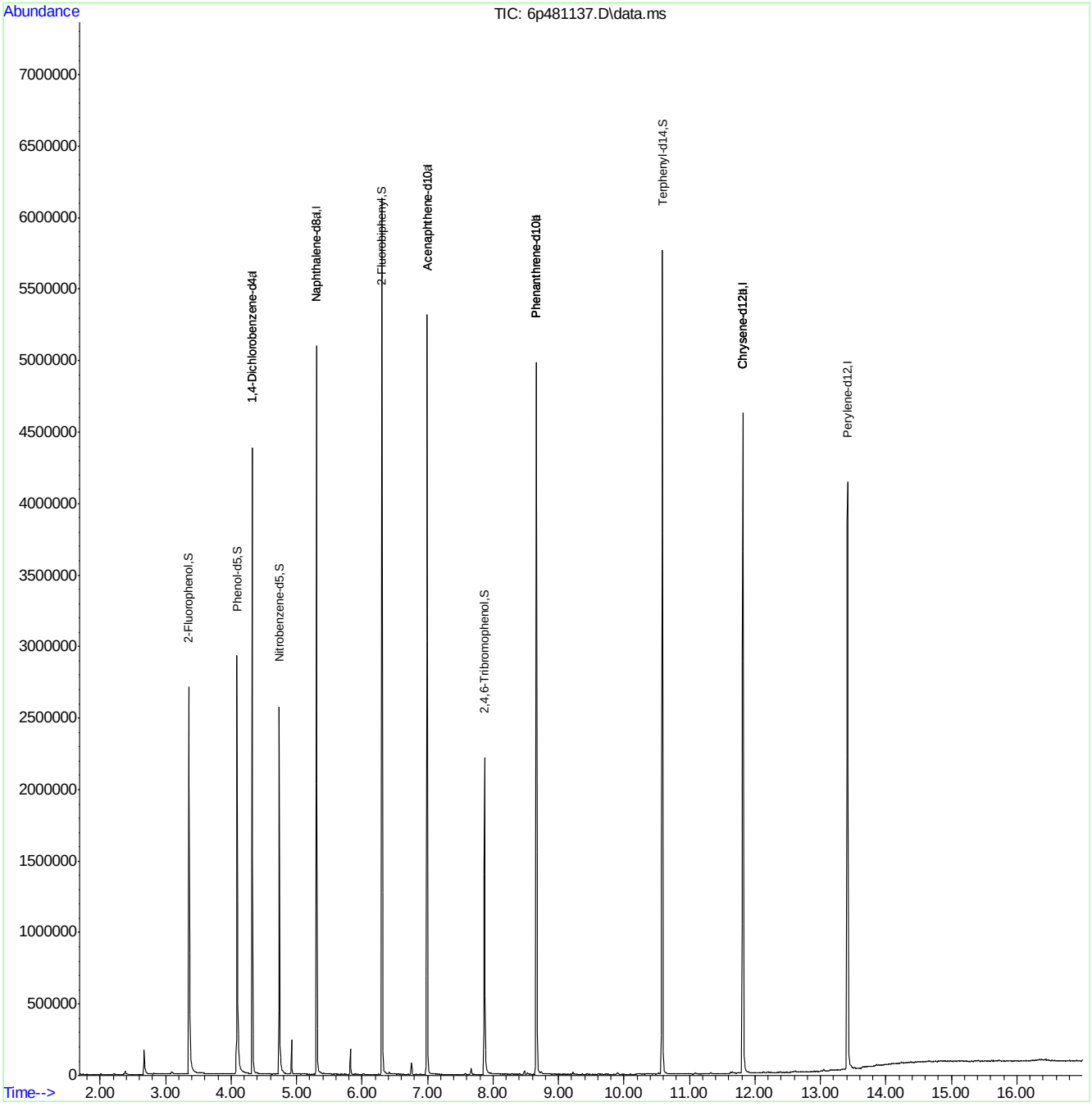
9.6.11

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481137.D
Acq On : 16 Apr 2019 1:53 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 16 15:44:31 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 15:28:32 2019
QLast Update : Tue Apr 16 15:28:32 2019
Response via : Initial Calibration




M6P2562.M Tue Apr 16 16:33:12 2019 ACLIMS

Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481138.D
Acq On : 16 Apr 2019 2:18 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 16 16:07:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:03:24 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

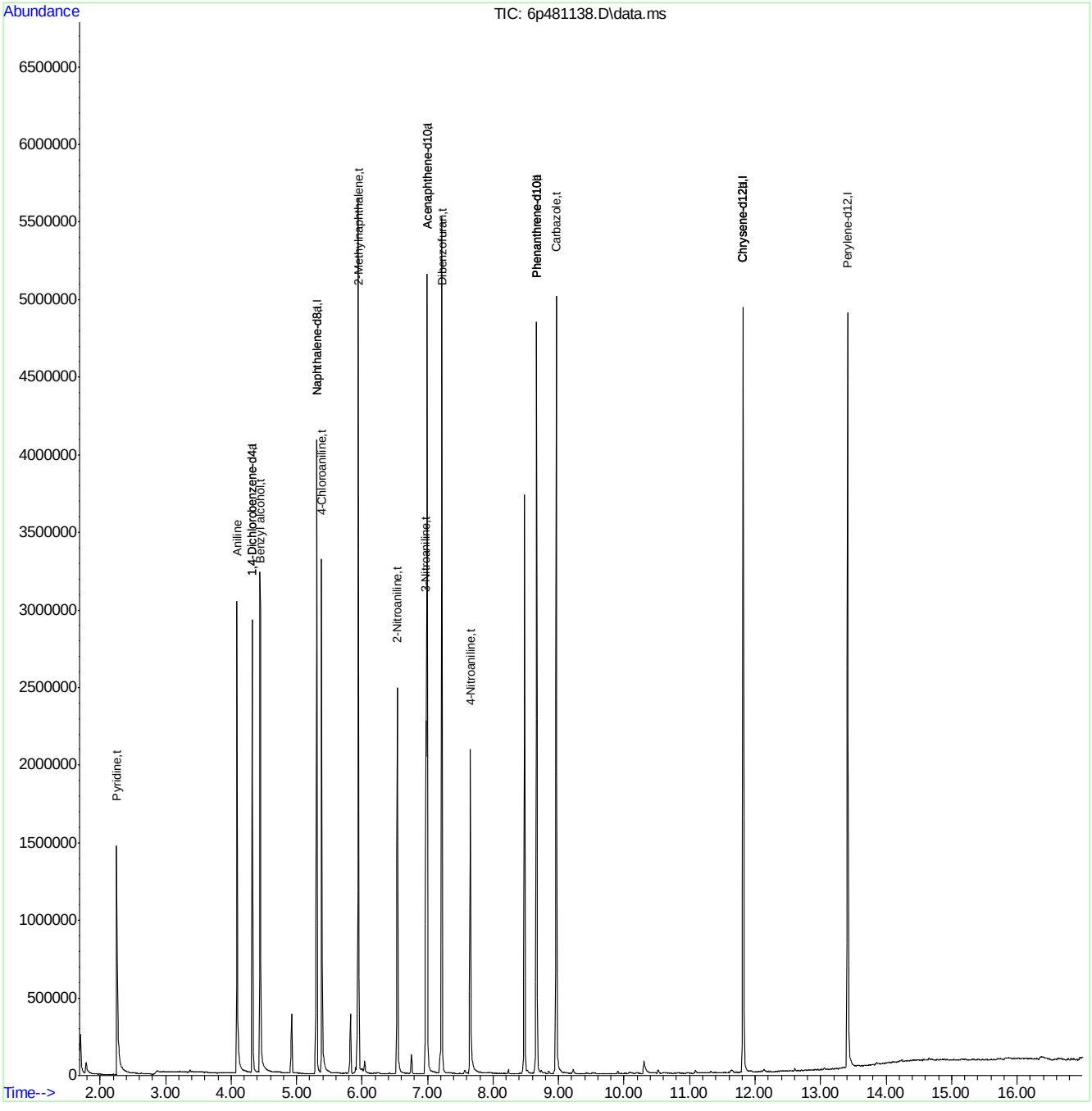
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 448130 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1829213 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1141242 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2027182 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1783494 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.417 | 264 | 1954586 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 448130 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1141242 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2027182 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1783494 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1829213 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2027182 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1783494 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 3) Pyridine | 2.254 | 79 | 664372 | 49.51 | ppm | 99 |
| 10) Aniline | 4.088 | 93 | 1079189 | 61.90 | ppm | 96 |
| 16) Benzyl alcohol | 4.447 | 108 | 492793 | 58.56 | ppm | 99 |
| 39) 4-Chloroaniline | 5.383 | 127 | 950239 | 49.52 | ppm | 99 |
| 44) 2-Methylnaphthalene | 5.944 | 141 | 1327785 | 49.28 | ppm | 97 |
| 54) 2-Nitroaniline | 6.538 | 65 | 375990 | 42.98 | ppm | 95 |
| 58) 3-Nitroaniline | 6.977 | 138 | 458455 | 47.70 | ppm | 98 |
| 62) Dibenzofuran | 7.217 | 168 | 2323757 | 48.40 | ppm | 86 |
| 68) 4-Nitroaniline | 7.651 | 138 | 450250 | 44.24 | ppm | 97 |
| 79) Carbazole | 8.966 | 167 | 2370531 | 45.88 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481138.D
Acq On : 16 Apr 2019 2:18 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 16 16:07:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:03:24 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration



# Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481139.D
Acq On : 16 Apr 2019 2:42 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 16 16:11:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 476048 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1859811 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1055252 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 1916616 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1609600 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.411 | 264 | 1634981 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 476048 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1055252 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 1916616 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1609600 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1859811 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 1916616 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1609600 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 4.104 | 94 | 972542 | 46.86 | ppm | 89 |
| 12) 2-Chlorophenol | 4.179 | 128 | 866798 | 52.67 | ppm | 99 |
| 19) 2-Methylphenol | 4.532 | 108 | 726813 | 52.03 | ppm | 98 |
| 21) 3&4-Methylphenol | 4.650 | 108 | 768771 | 52.34 | ppm | 99 |
| 29) 2-Nitrophenol | 5.003 | 139 | 501730 | 54.49 | ppm # | 70 |
| 30) 2,4-Dimethylphenol | 5.051 | 107 | 809889 | 57.62 | ppm | 98 |
| 31) Benzoic acid | 5.201 | 105 | 546548 | 38.48 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.206 | 162 | 738938 | 53.18 | ppm | 99 |
| 34) 2,6-Dichlorophenol | 5.388 | 162 | 750510 | 54.54 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 5.832 | 107 | 724761 | 50.82 | ppm | 96 |
| 49) 2,4,6-Trichlorophenol | 6.233 | 196 | 560725 | 56.96 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.271 | 196 | 590326 | 56.38 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 7.100 | 184 | 238987 | 44.88 | ppm | 93 |
| 61) 4-Nitrophenol | 7.207 | 109 | 214925 | 47.19 | ppm # | 1 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.373 | 232 | 451819 | 52.73 | ppm | 98 |
| 70) 4,6-Dinitro-2-methylph... | 7.693 | 198 | 361914 | 48.90 | ppm | 97 |
| 76) Pentachlorophenol | 8.474 | 266 | 401504 | 52.25 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481139.D
Acq On : 16 Apr 2019 2:42 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 16 16:11:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

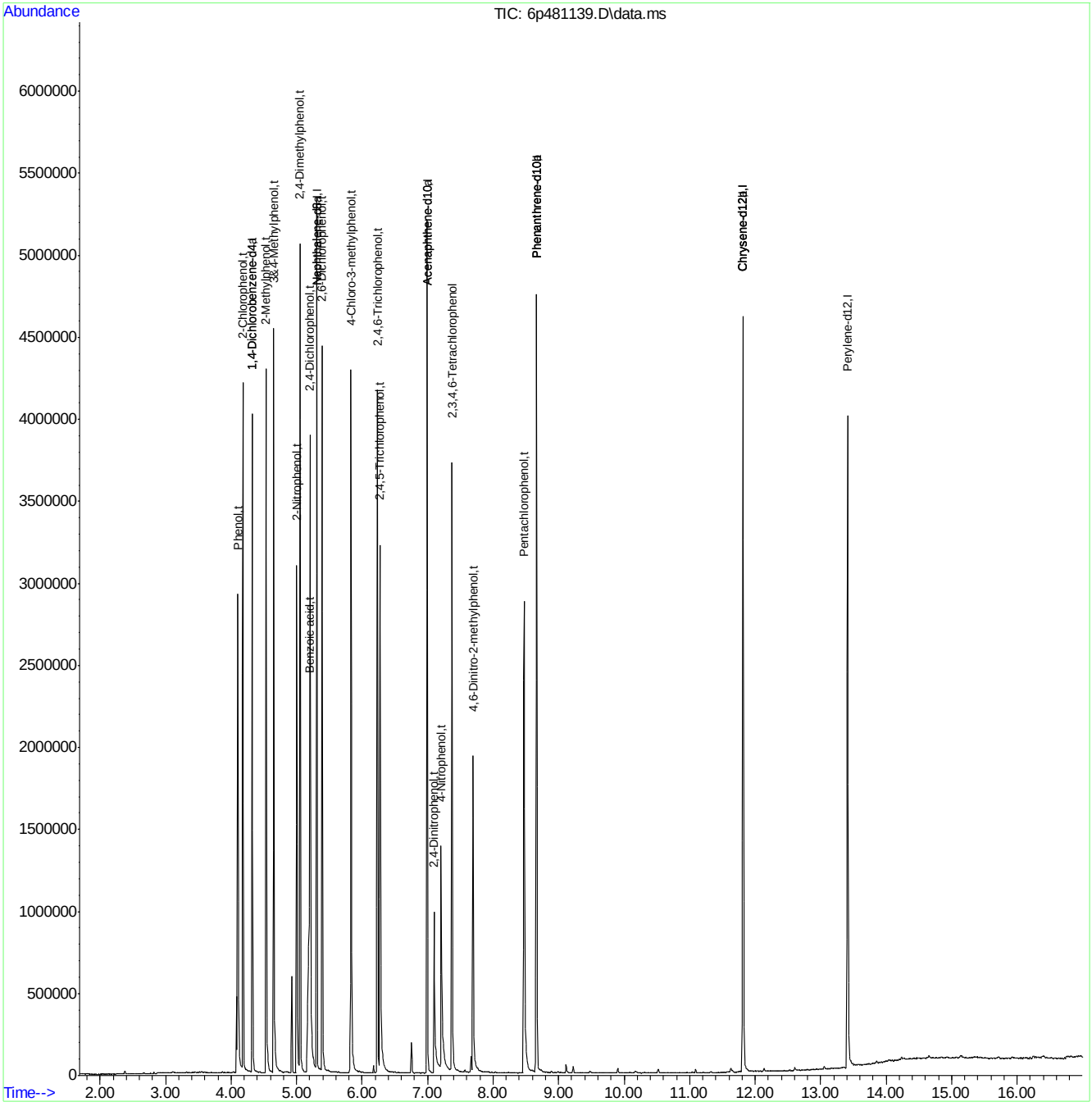
9.6.13

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481139.D
Acq On : 16 Apr 2019 2:42 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 16 16:11:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481140.D
Acq On : 16 Apr 2019 3:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 16 16:13:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 682838 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2709058 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1558710 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 3047126 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 3314872 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.422 | 264 | 3599888 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 682838 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1558710 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 3047126 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 3314872 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2709058 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 3047126 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 3314872 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 88) 3,3'-Dichlorobenzidine | 11.812 | 252 | 2018236 | 50.88 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

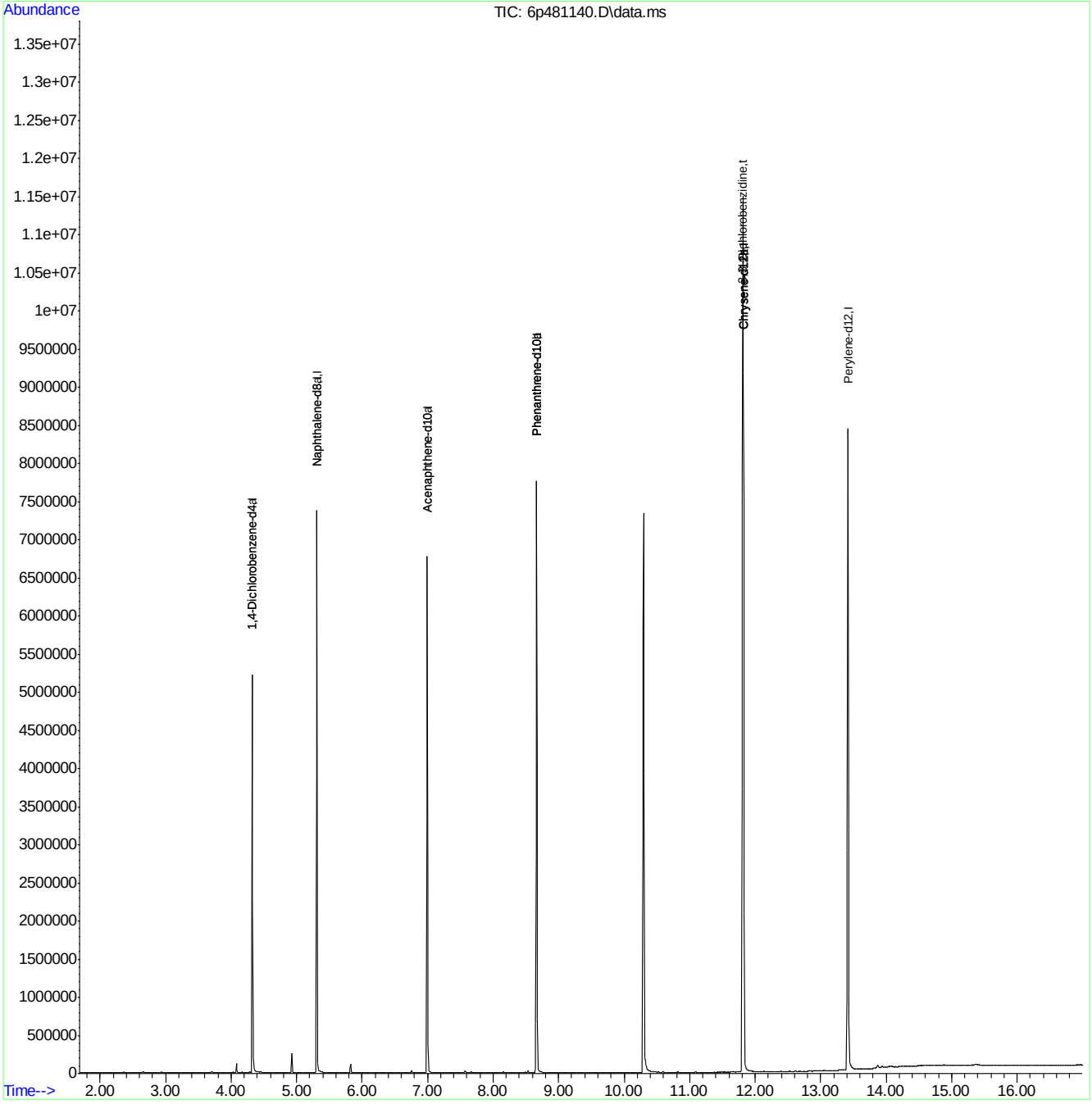
9.6.14

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481140.D
Acq On : 16 Apr 2019 3:06 pm
Operator : angelar
Sample : icv2562-50
Misc : op17006,e6p2562,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 16 16:13:08 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:05:20 2019
QLast Update : Tue Apr 16 16:05:20 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481142.D
Acq On : 16 Apr 2019 3:39 pm
Operator : angelar
Sample : ic2563-100
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 16 16:49:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:46:49 2019
QLast Update : Tue Apr 16 16:46:49 2019
Response via : Initial Calibration

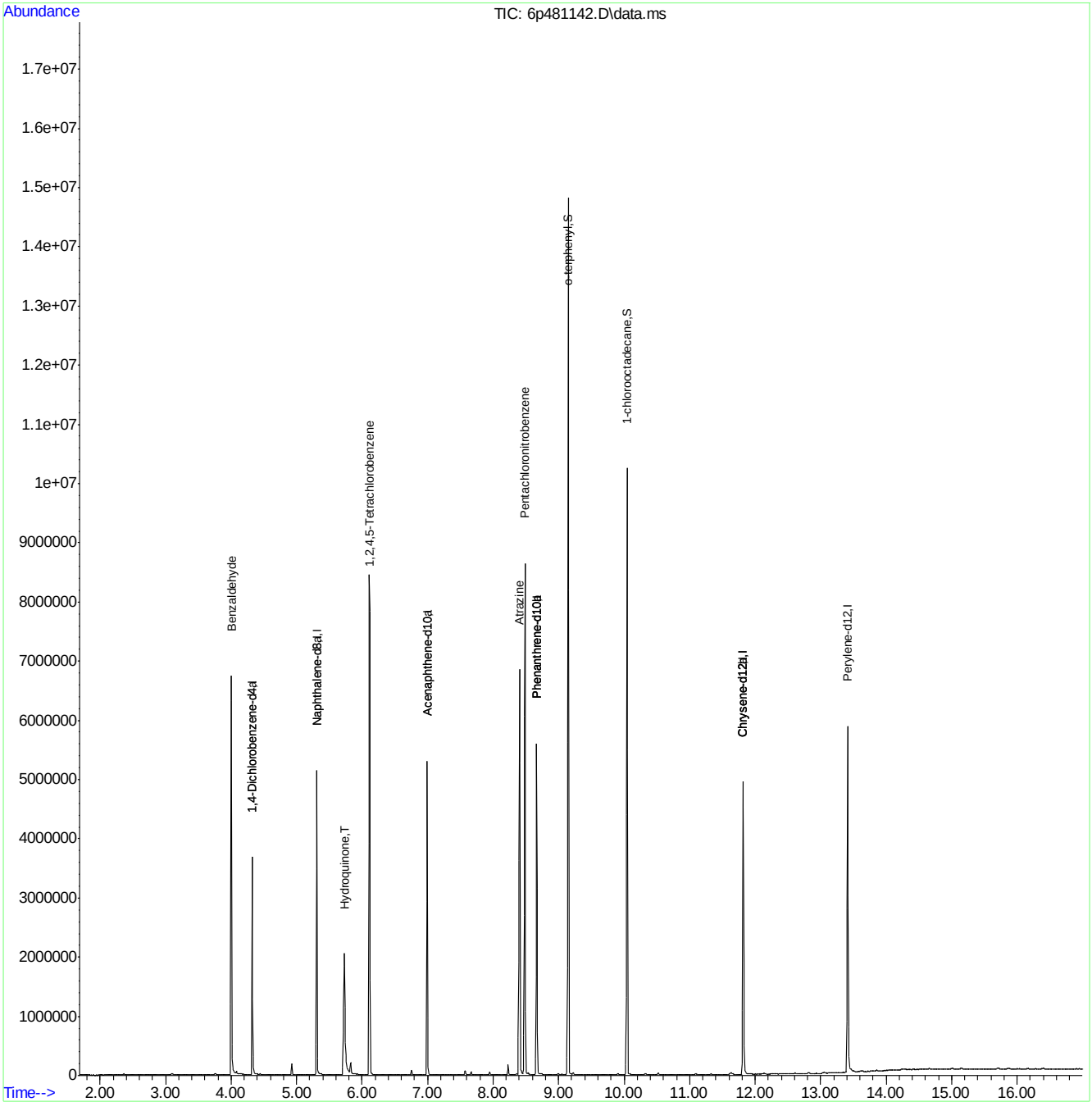
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 469055 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1909884 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1103992 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2094446 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1849692 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2245607 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 469055 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1103992 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2094446 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1849692 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1909884 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2094446 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1849692 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 10.047 | 57 | 1224154 | 88.21 | ppm | 0.00 |
| 107) o-terphenyl | 9.148 | 230 | 3108702 | 97.03 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 1192562 | 94.73 | ppm | 94 |
| 104) 1,2,4,5-Tetrachloroben... | 6.116 | 216 | 1502353 | 99.08 | ppm | 99 |
| 108) Atrazine | 8.405 | 215 | 613453 | 100.27 | ppm | 98 |
| 112) Hydroquinone | 5.730 | 110 | 1567553 | 97.83 | ppm | 98 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 281723 | 103.49 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481142.D
Acq On : 16 Apr 2019 3:39 pm
Operator : angelar
Sample : ic2563-100
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 16 16:49:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:46:49 2019
QLast Update : Tue Apr 16 16:46:49 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481143.D
Acq On : 16 Apr 2019 4:03 pm
Operator : angelar
Sample : ic2563-80
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 16 16:51:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:46:49 2019
QLast Update : Tue Apr 16 16:46:49 2019
Response via : Initial Calibration

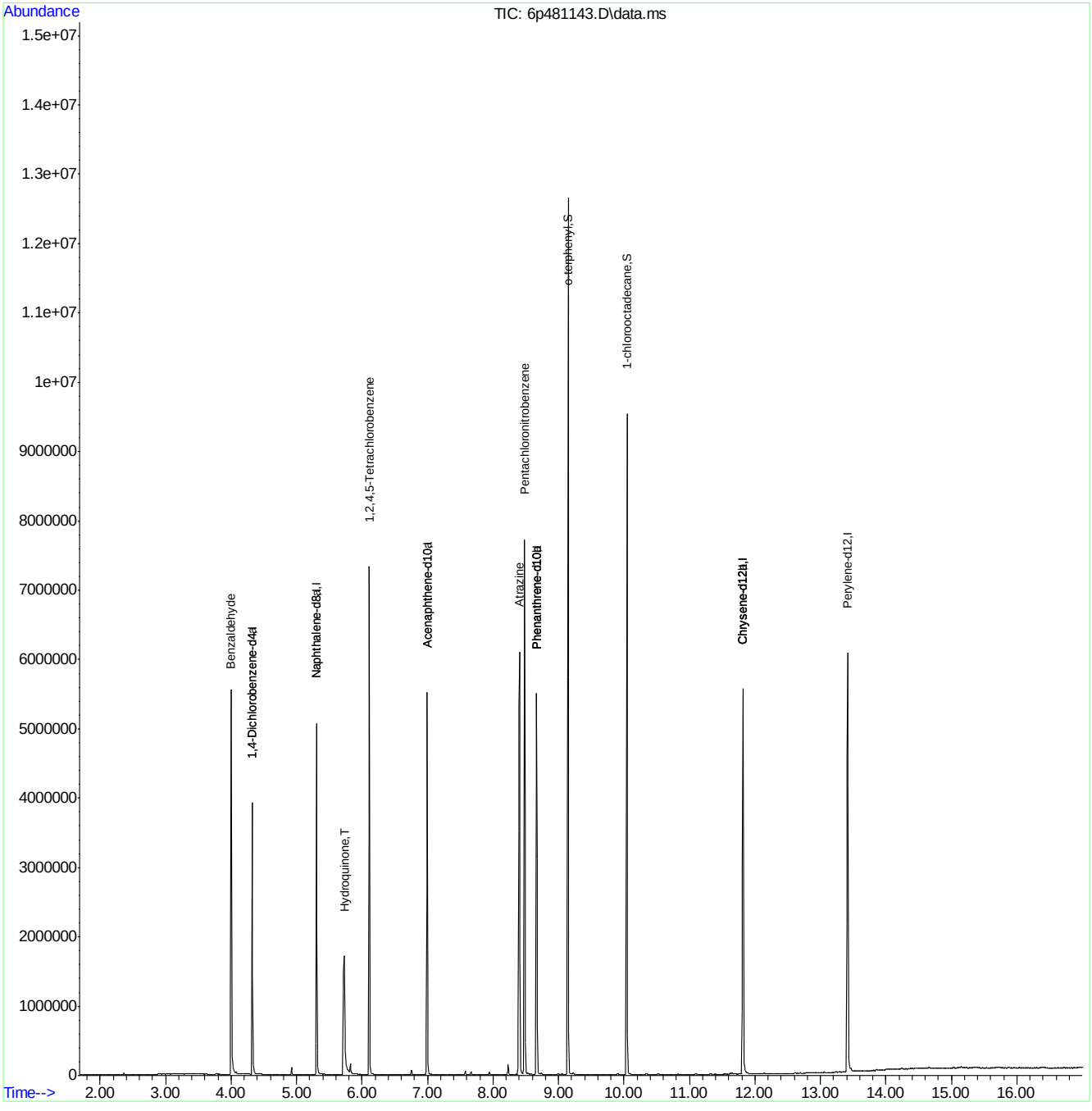
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 494986 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1933033 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1159503 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2079029 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1959697 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2274908 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 494986 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1159503 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2079029 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1959697 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1933033 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2079029 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1959697 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 10.047 | 57 | 1111049 | 80.66 | ppm | 0.00 |
| 107) o-terphenyl | 9.148 | 230 | 2649988 | 83.32 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 1009924 | 76.02 | ppm | 93 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 1251665 | 78.59 | ppm | 100 |
| 108) Atrazine | 8.405 | 215 | 494417 | 81.41 | ppm | 94 |
| 112) Hydroquinone | 5.730 | 110 | 1278687 | 78.85 | ppm | 96 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 229889 | 85.07 | ppm | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481143.D
Acq On : 16 Apr 2019 4:03 pm
Operator : angelar
Sample : ic2563-80
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 16 16:51:27 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 16:46:49 2019
QLast Update : Tue Apr 16 16:46:49 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481144.D
Acq On : 16 Apr 2019 4:27 pm
Operator : angelar
Sample : icc2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 16 17:35:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

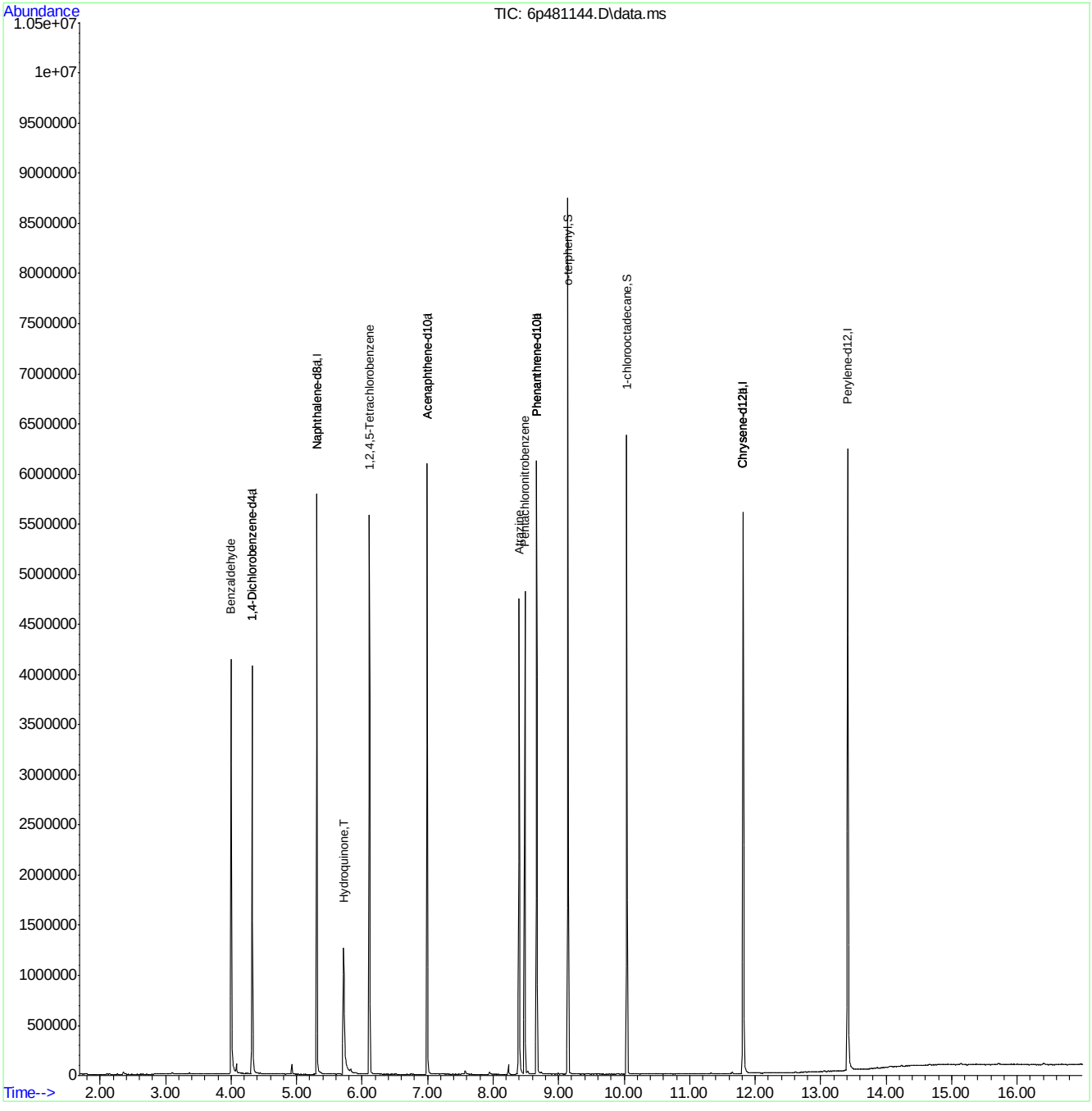
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 533044 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2085894 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1245669 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2303521 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2064916 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2392626 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 533044 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1245669 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2303521 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2064916 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2085894 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2303521 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2064916 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 763119 | 50.00 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 1761914 | 50.00 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.998 | 105 | 715355 | 50.00 | ppm | 100 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 855470 | 50.00 | ppm | 100 |
| 108) Atrazine | 8.399 | 215 | 336431 | 50.00 | ppm | 100 |
| 112) Hydroquinone | 5.714 | 110 | 874983 | 50.00 | ppm | 100 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 149701 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481144.D
Acq On : 16 Apr 2019 4:27 pm
Operator : angelar
Sample : icc2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 16 17:35:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481145.D
Acq On : 16 Apr 2019 4:51 pm
Operator : angelar
Sample : ic2563-25
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 16 17:36:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

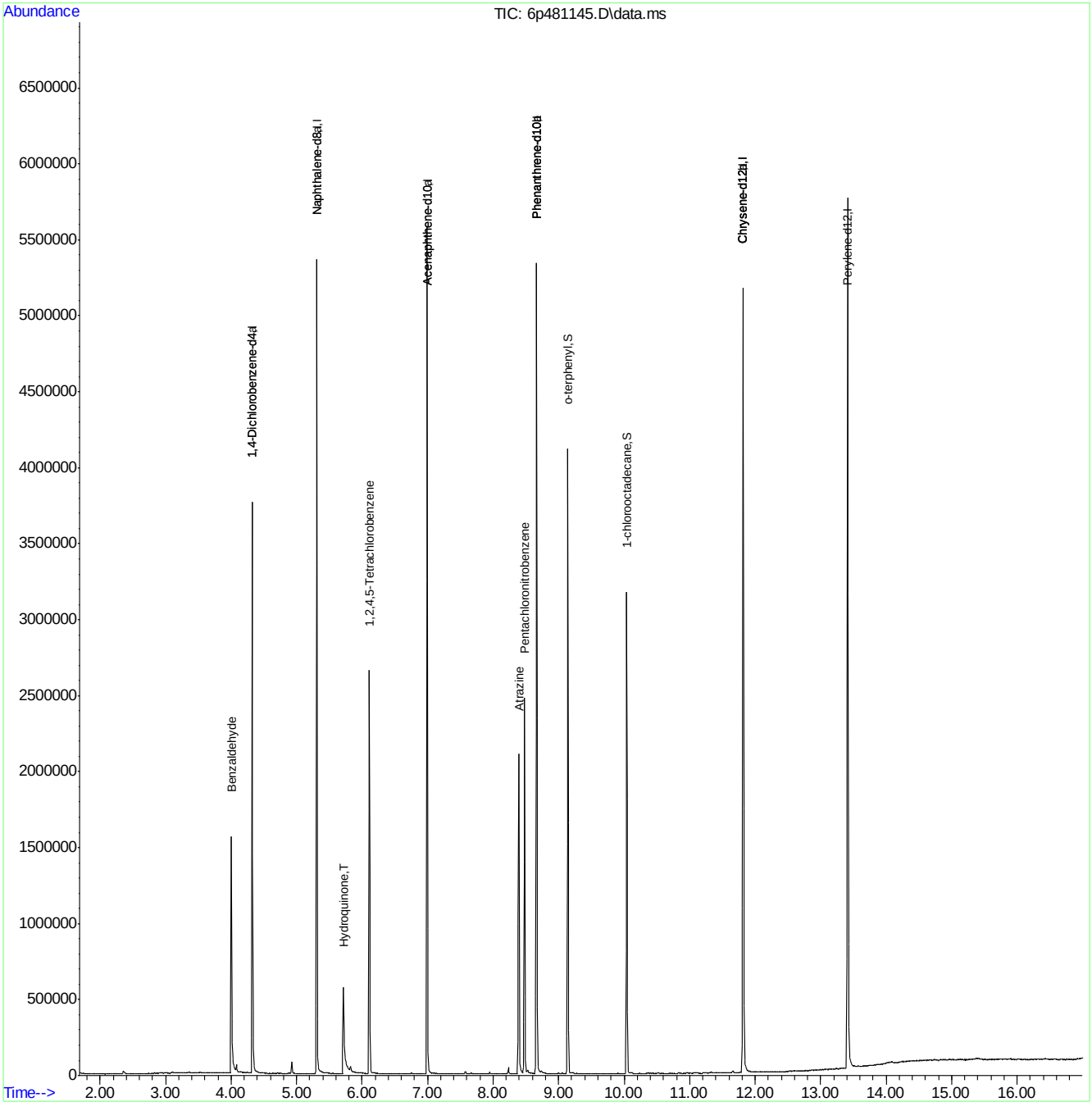
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 495898 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1968505 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1133606 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2062681 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1815575 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2128773 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 495898 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1133606 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2062681 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1815575 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1968505 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2062681 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1815575 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 365207 | 26.72 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 801894 | 25.41 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 345677 | 25.97 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 402776 | 25.87 | ppm | 99 |
| 108) Atrazine | 8.394 | 215 | 148311 | 24.62 | ppm | 98 |
| 112) Hydroquinone | 5.714 | 110 | 381902 | 23.12 | ppm | 98 |
| 114) Pentachloronitrobenzene | 8.480 | 295 | 66768 | 24.90 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481145.D
Acq On : 16 Apr 2019 4:51 pm
Operator : angelar
Sample : ic2563-25
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 16 17:36:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481146.D
Acq On : 16 Apr 2019 5:15 pm
Operator : angelar
Sample : ic2563-10
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 16 17:37:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

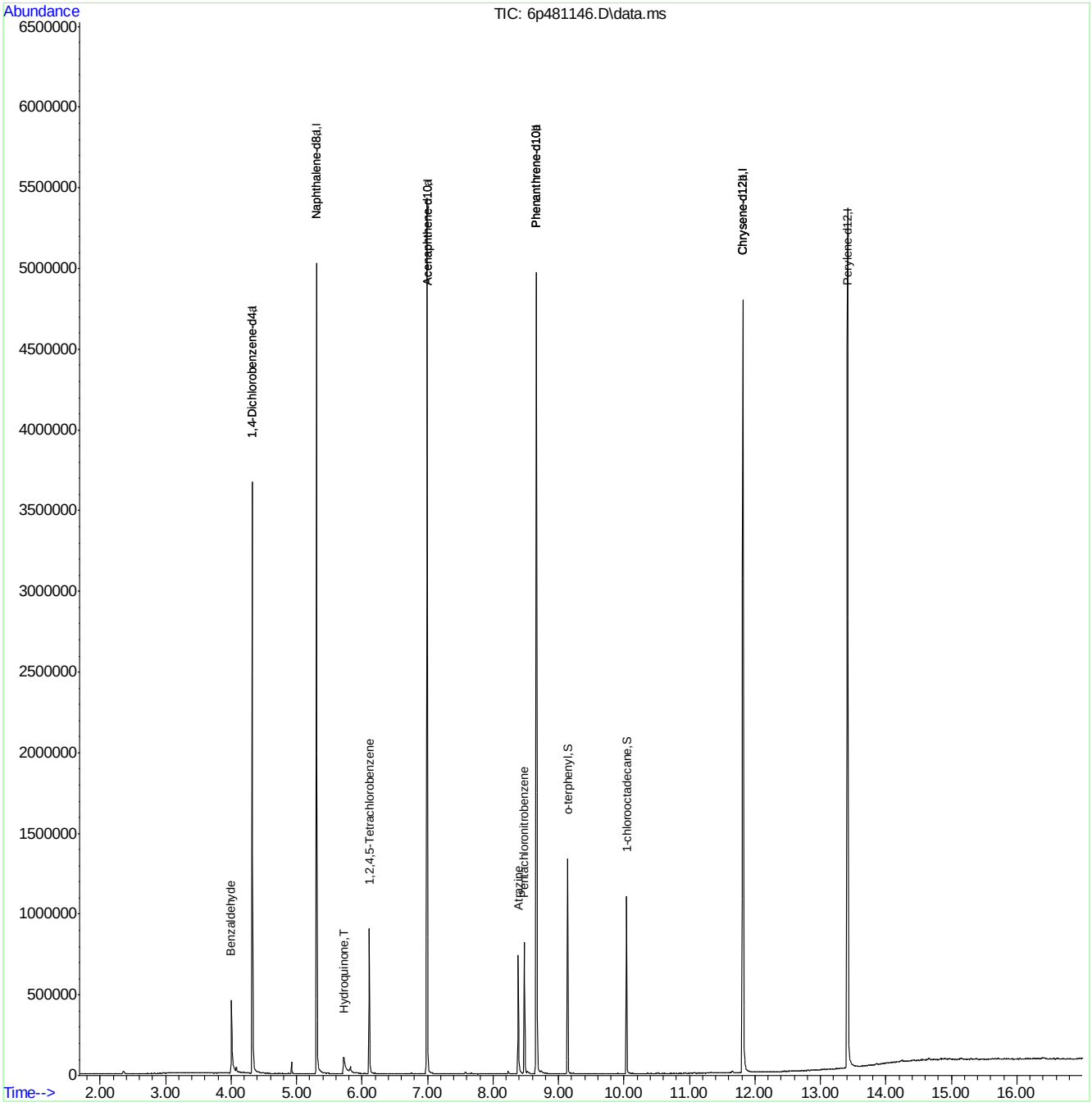
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 469498 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1866839 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1069558 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.661 | 188 | 1942833 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1687959 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1971401 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 469498 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1069558 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.661 | 188 | 1942833 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1687959 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1866839 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.661 | 188 | 1942833 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1687959 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 120464 | 9.36 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 271160 | 9.12 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 115379 | 9.16 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 141657 | 9.64 | ppm | 98 |
| 108) Atrazine | 8.389 | 215 | 47887 | 8.44 | ppm | 97 |
| 112) Hydroquinone | 5.720 | 110 | 107625 | 6.87 | ppm | 97 |
| 114) Pentachloronitrobenzene | 8.480 | 295 | 20276 | 8.03 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481146.D
Acq On : 16 Apr 2019 5:15 pm
Operator : angelar
Sample : ic2563-10
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 16 17:37:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481147.D
Acq On : 16 Apr 2019 5:39 pm
Operator : angelar
Sample : ic2563-5
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 17 08:43:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 490109 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1929031 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1098959 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 1990100 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1701947 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1984162 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 490109 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1098959 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 1990100 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1701947 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1929031 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 1990100 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1701947 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 57661 | 4.37 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 139225 | 4.57 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.008 | 105 | 55790 | 4.24 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 72248 | 4.79 | ppm | 99 |
| 108) Atrazine | 8.389 | 215 | 22720 | 3.91 | ppm | 93 |
| 112) Hydroquinone | 5.752 | 110 | 36357 | 2.25 | ppm | 97 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 9732 | 3.76 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

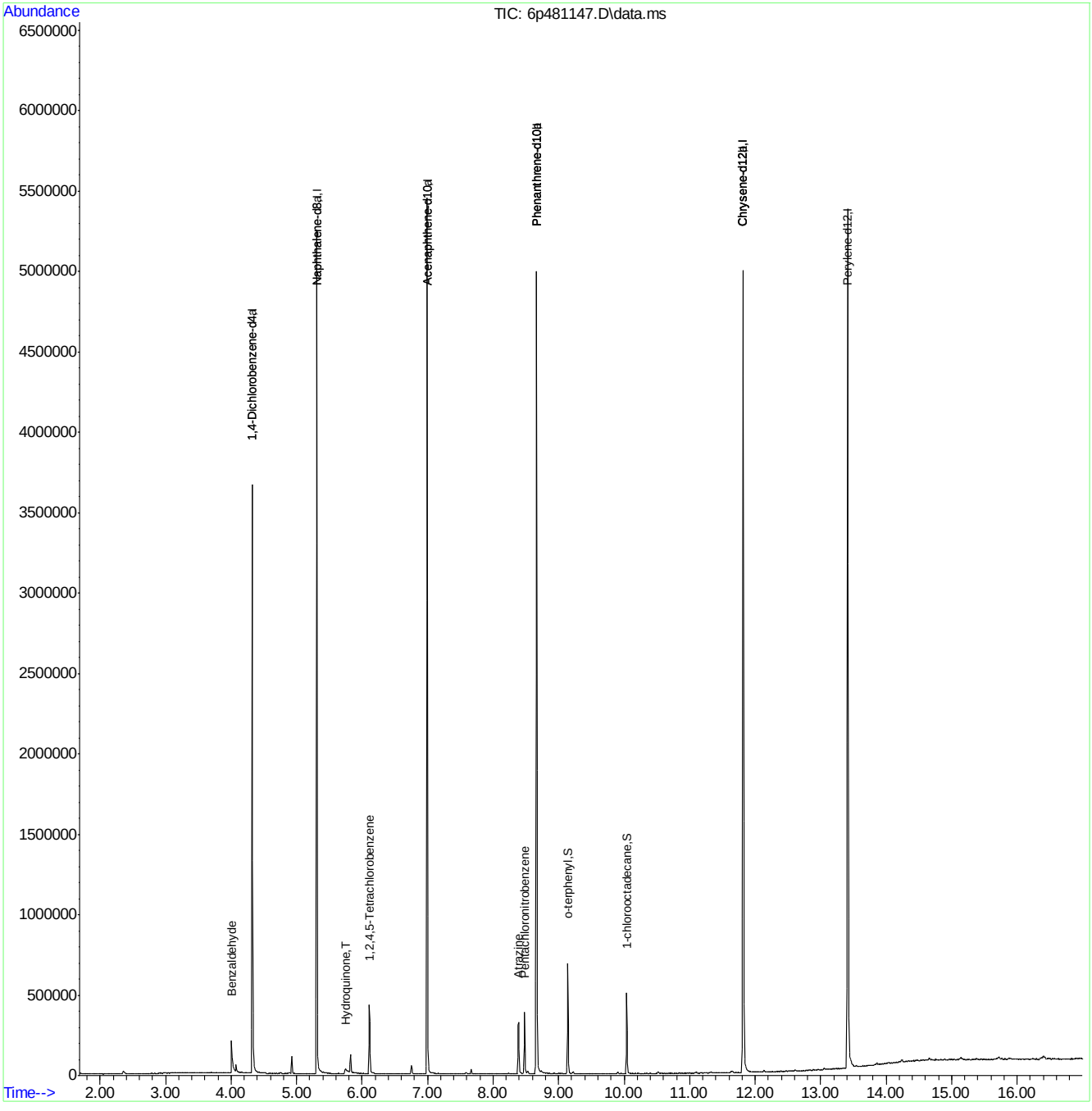
9.6.20

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481147.D
Acq On : 16 Apr 2019 5:39 pm
Operator : angelar
Sample : ic2563-5
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 17 08:43:58 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration






9.6.20

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481148.D
Acq On : 16 Apr 2019 6:03 pm
Operator : angelar
Sample : ic2563-2
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 17 08:45:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 492889 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 1937587 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1111339 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.662 | 188 | 1982759 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 1690897 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 1919779 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 492889 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1111339 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.662 | 188 | 1982759 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 1690897 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 1937587 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.662 | 188 | 1982759 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 1690897 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 10.041 | 57 | 19824 | 1.51 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 53453 | 1.76 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.019 | 105 | 23152 | 1.75 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 6.116 | 216 | 28348 | 1.86 | ppm | 96 |
| 108) Atrazine | 8.389 | 215 | 7134 | 1.23 | ppm | 90 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 3297 | 1.28 | ppm | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

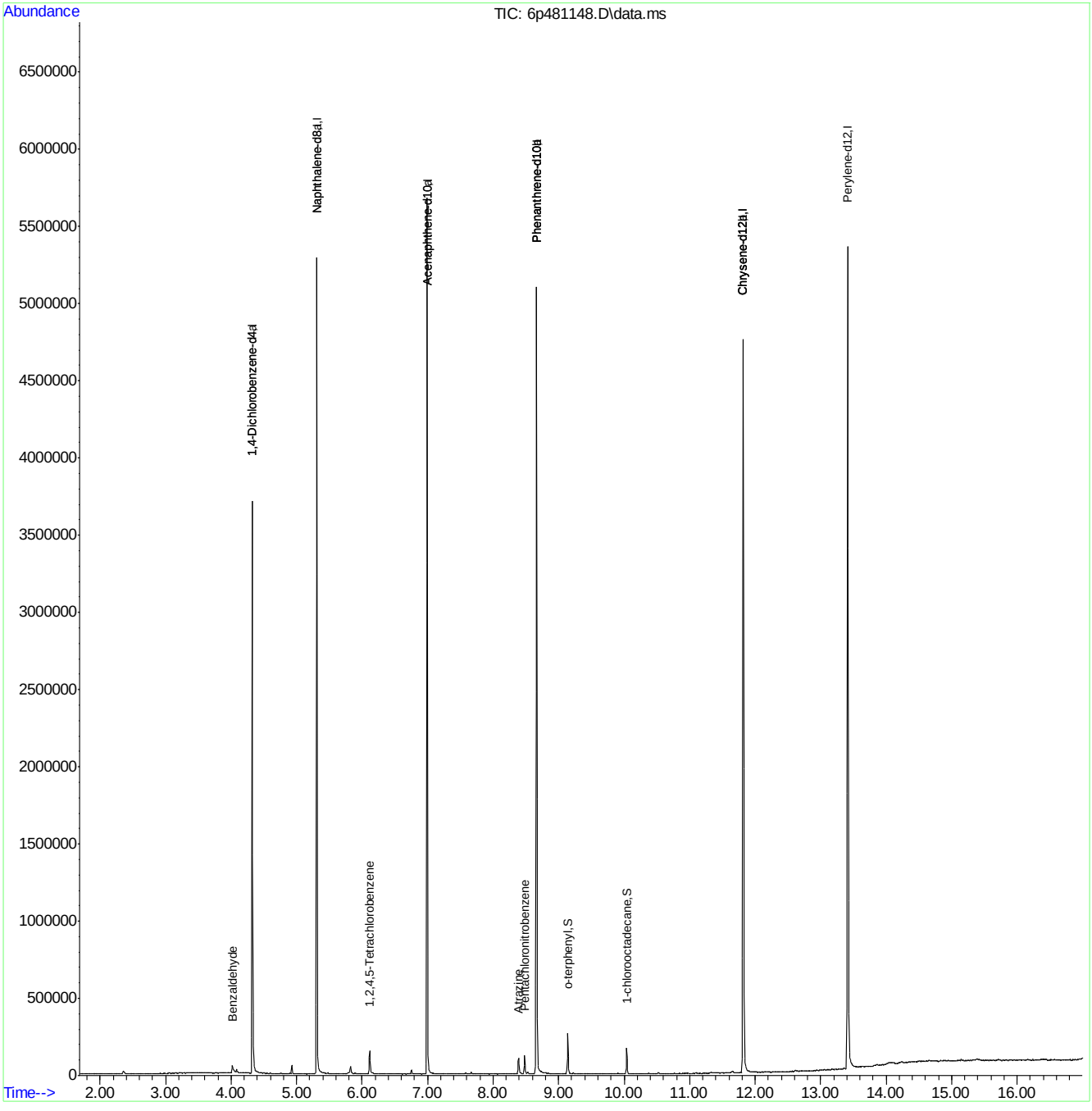
9.6.21

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481148.D
Acq On : 16 Apr 2019 6:03 pm
Operator : angelar
Sample : ic2563-2
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 17 08:45:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/17/19 13:47

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481149.D
Acq On : 16 Apr 2019 6:28 pm
Operator : angelar
Sample : ic2563-1
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 17 08:47:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 524942 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2083688 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1216670 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2218794 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.823 | 240 | 1988582 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.417 | 264 | 2280538 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 524942 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1216670 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2218794 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.823 | 240 | 1988582 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2083688 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2218794 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.823 | 240 | 1988582 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 10.042 | 57 | 10149 | 0.69 | ppm | 0.00 |
| 107) o-terphenyl | 9.143 | 230 | 30286 | 0.89 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.030 | 105 | 11587m | 0.82 | ppm | |
| 104) 1,2,4,5-Tetrachloroben... | 6.116 | 216 | 15312 | 0.92 | ppm | 96 |
| 108) Atrazine | 8.389 | 215 | 3970 | 0.61 | ppm # | 68 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 1659 | 0.58 | ppm # | 70 |

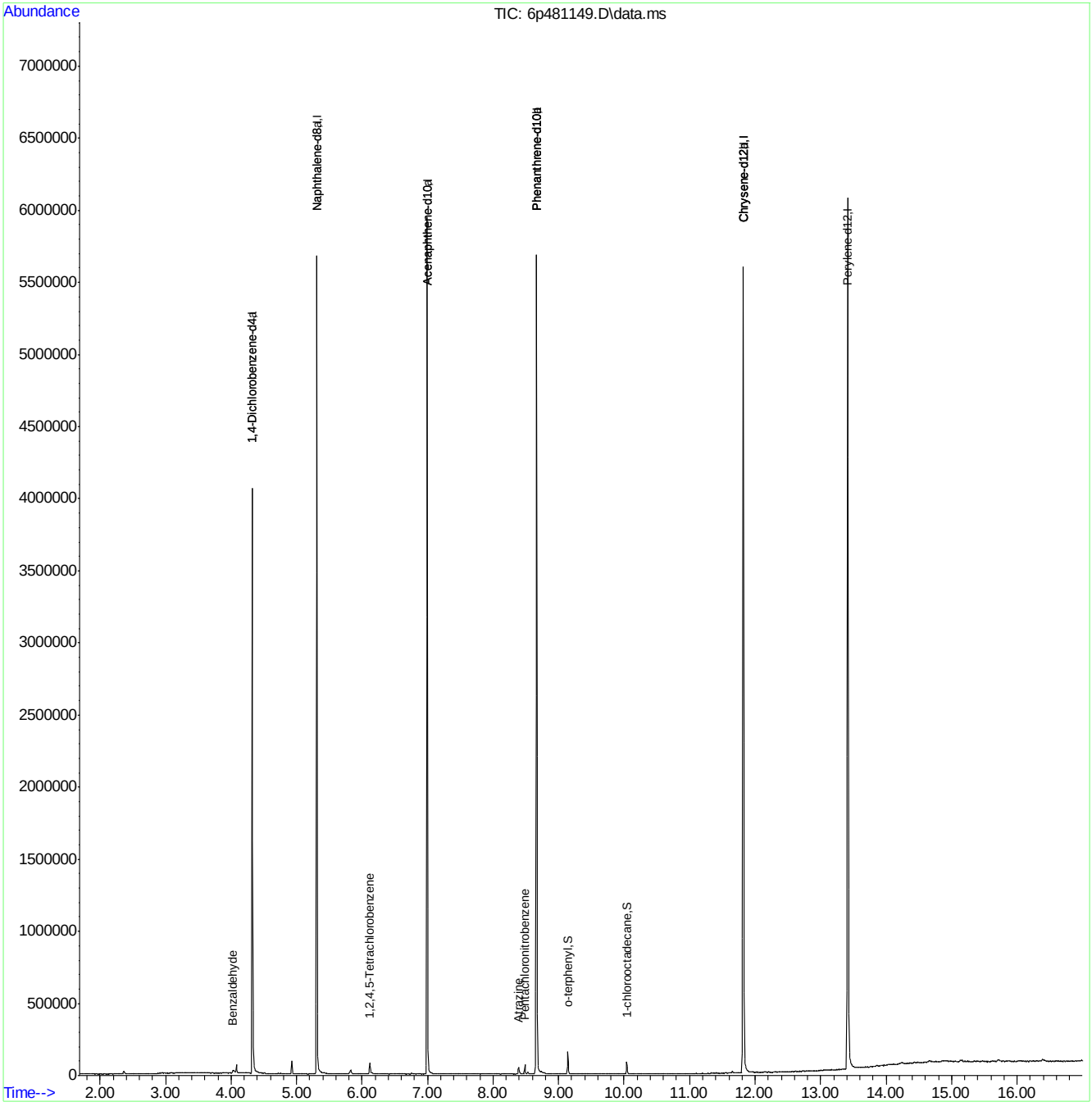
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.22
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481149.D
Acq On : 16 Apr 2019 6:28 pm
Operator : angelar
Sample : ic2563-1
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 17 08:47:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



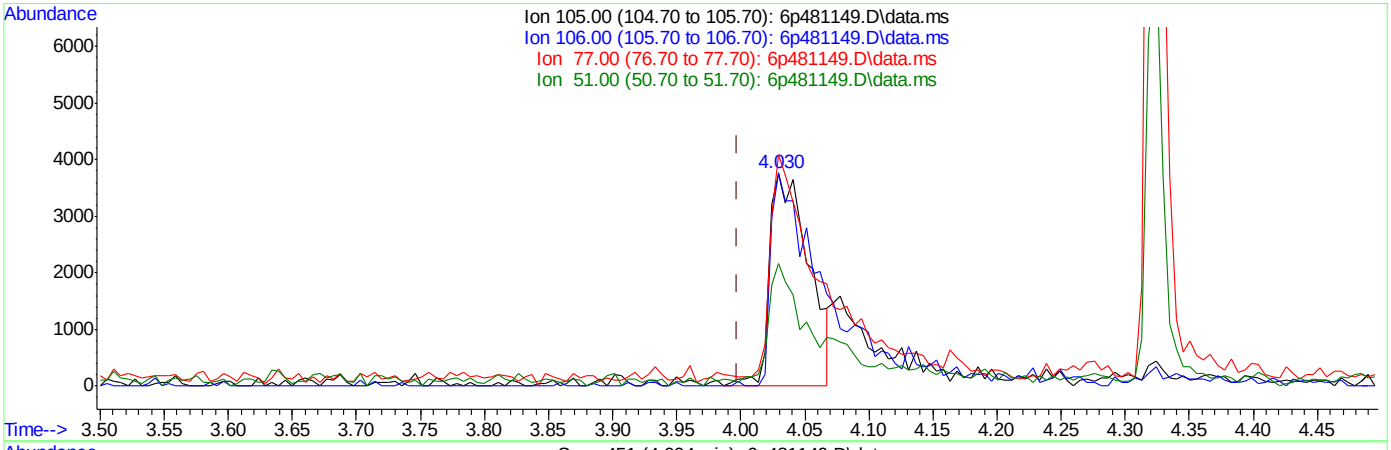
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2563-IC2563 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481149.D | **Analyst approved:** | 04/17/19 09:11 Ying Li |
| **Injection Time:** | 04/16/19 18:28 | **Supervisor approved:** | 04/17/19 13:47 Kristi Schollenberger |

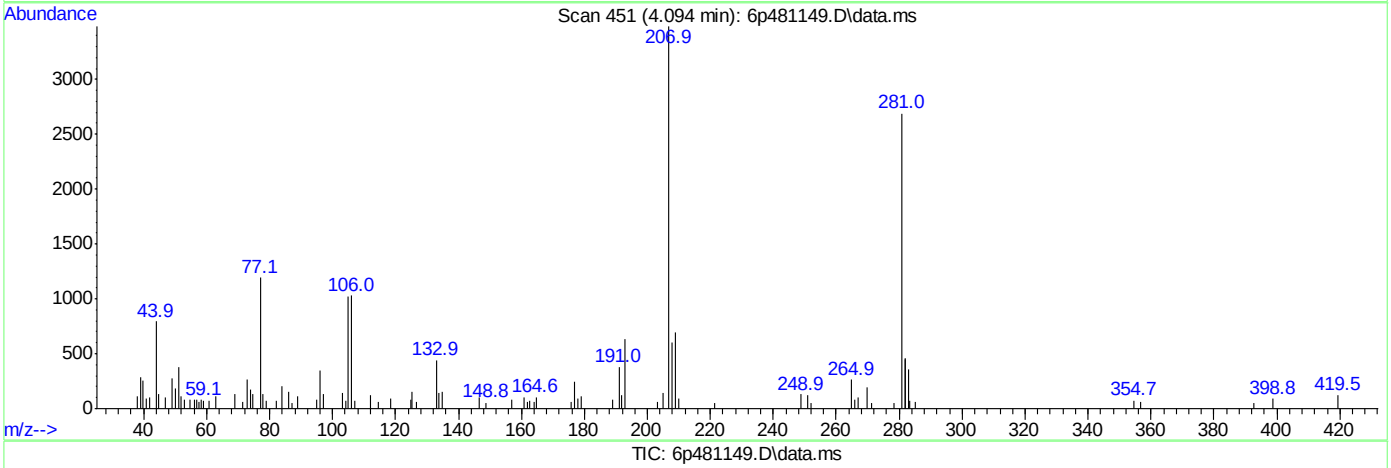
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzaldehyde | 100-52-7 | | 4.03 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481149.D
Acq On : 16 Apr 2019 6:28 pm
Operator : angelar
Sample : ic2563-1
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 16 18:45:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration




TIC: 6p481149.D\data.ms

(102) Benzaldehyde

4.030min (+0.032) 0.57ppm

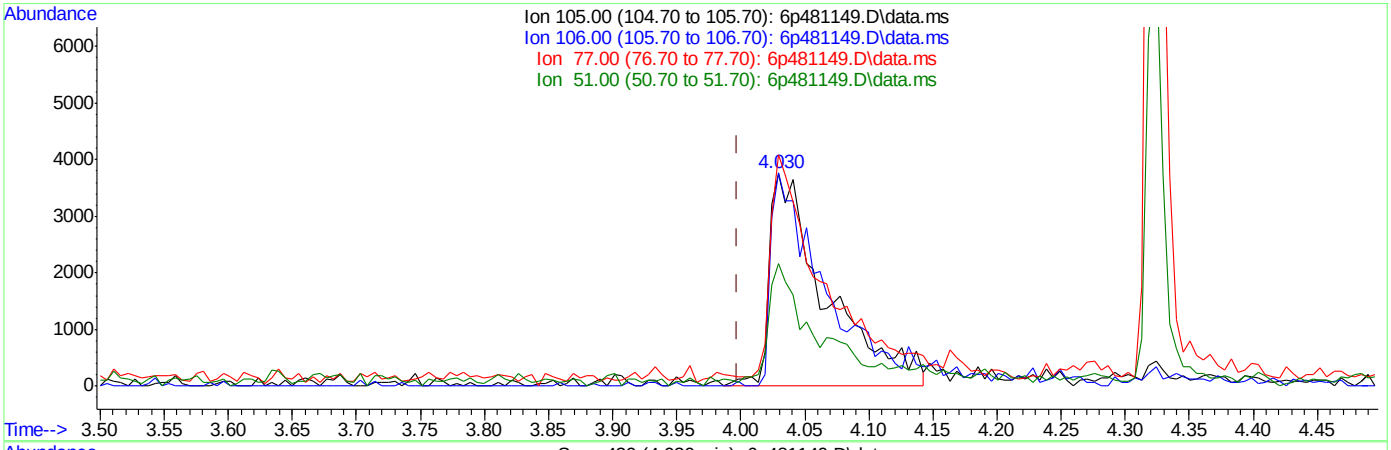
response 7980

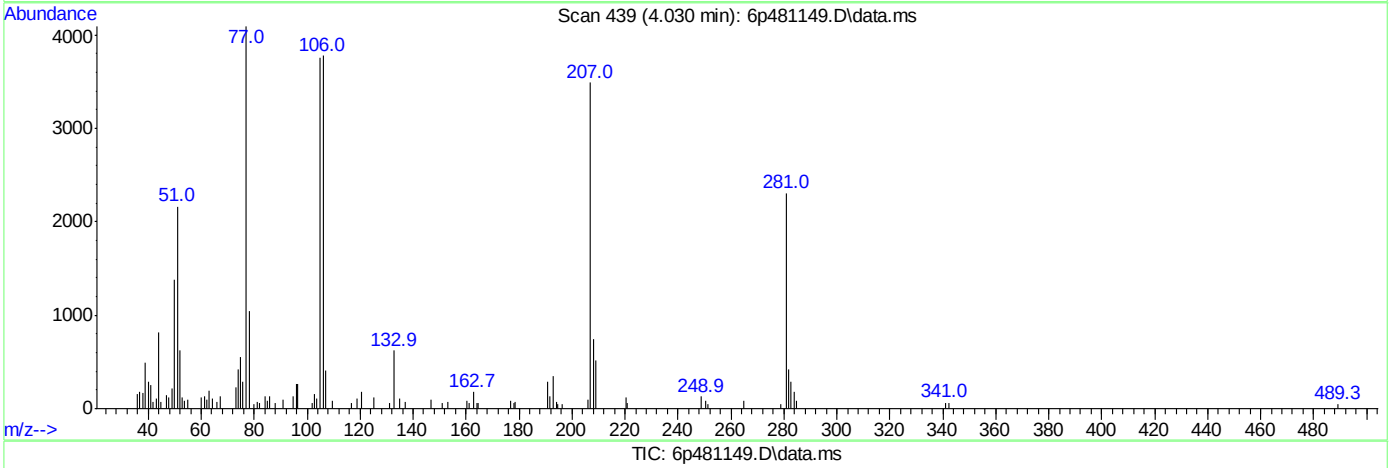
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 106.00 | 102.50 | 96.85 |
| 77.00 | 100.50 | 100.75 |
| 51.00 | 48.00 | 54.56 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481149.D
Acq On : 16 Apr 2019 6:28 pm
Operator : angelar
Sample : ic2563-1
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 16 18:45:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue Apr 16 17:34:12 2019
QLast Update : Tue Apr 16 17:34:12 2019
Response via : Initial Calibration




TIC: 6p481149.D\data.ms

(102) Benzaldehyde

4.030min (+0.032) 0.82ppm m

response 11587

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 106.00 | 102.50 | 100.72 |
| 77.00 | 100.50 | 109.06 |
| 51.00 | 48.00 | 57.73 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481150.D
Acq On : 16 Apr 2019 6:52 pm
Operator : angelar
Sample : icv2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 17 09:03:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 08:57:32 2019
QLast Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 547737 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2162604 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1317782 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.667 | 188 | 2463908 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2141196 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.417 | 264 | 2485766 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 547737 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1317782 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.667 | 188 | 2463908 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2141196 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2162604 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.667 | 188 | 2463908 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2141196 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 4.003 | 105 | 736053 | 54.14 | ppm | 96 |
| 104) 1,2,4,5-Tetrachloroben... | 6.110 | 216 | 863576 | 49.10 | ppm | 99 |
| 108) Atrazine | 8.400 | 215 | 360337 | 49.87 | ppm | 99 |
| 114) Pentachloronitrobenzene | 8.485 | 295 | 128354 | 42.56 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.23

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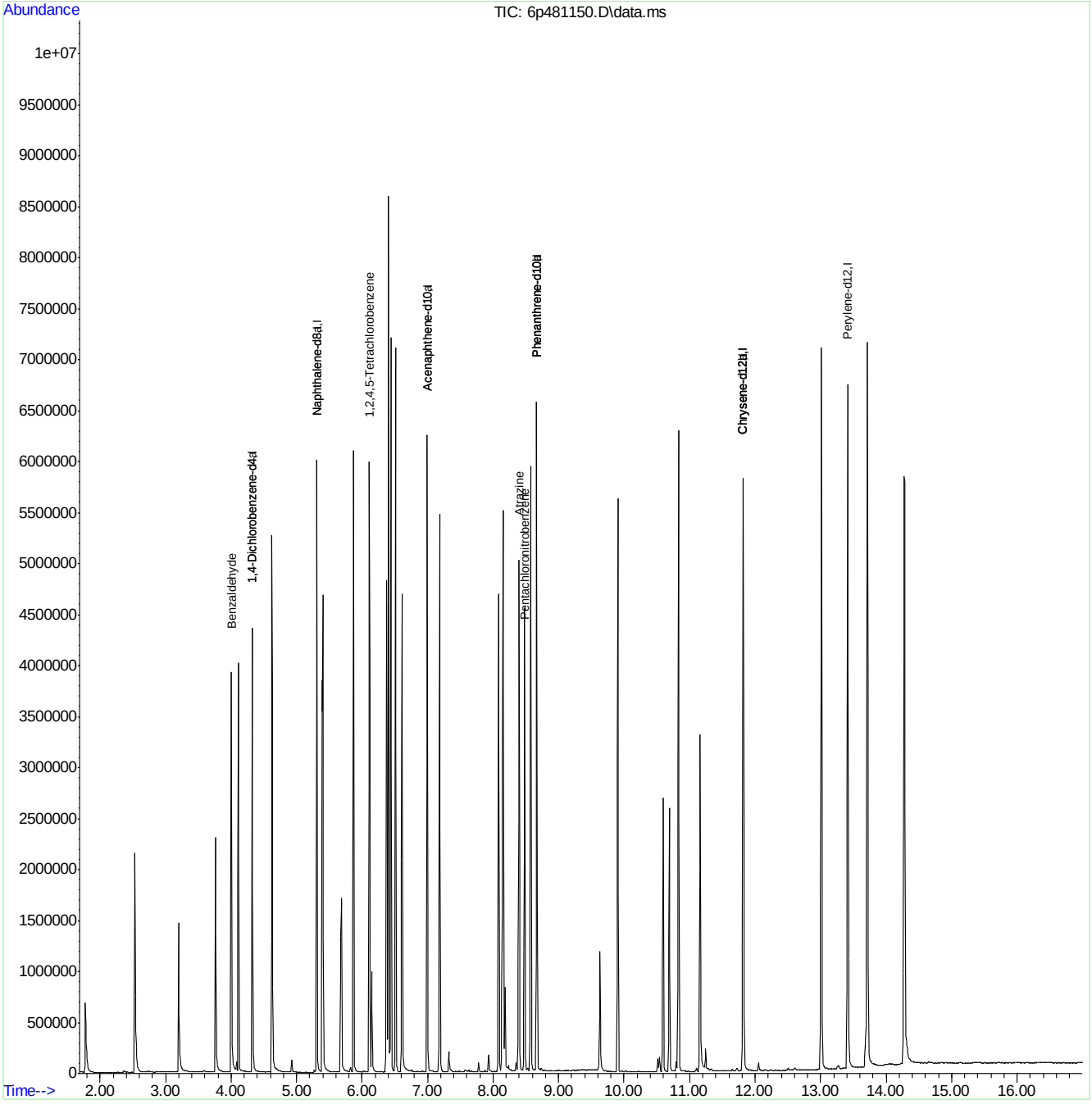
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481150.D
Acq On : 16 Apr 2019 6:52 pm
Operator : angelar
Sample : icv2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 17 09:03:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 08:57:32 2019
QLast Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration




M6P2562.M Wed Apr 17 09:03:21 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481151.D
Acq On : 16 Apr 2019 7:16 pm
Operator : angelar
Sample : icv2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 17 09:04:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.324 | 152 | 503646 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.308 | 136 | 2001178 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.993 | 164 | 1073633 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.662 | 188 | 2140755 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.817 | 240 | 2056041 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.416 | 264 | 2150790 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.324 | 152 | 503646 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.993 | 164 | 1073633 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.662 | 188 | 2140755 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.817 | 240 | 2056041 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.308 | 136 | 2001178 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.662 | 188 | 2140755 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.817 | 240 | 2056041 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 112) Hydroquinone | 5.714 | 110 | 806354 | 52.48 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

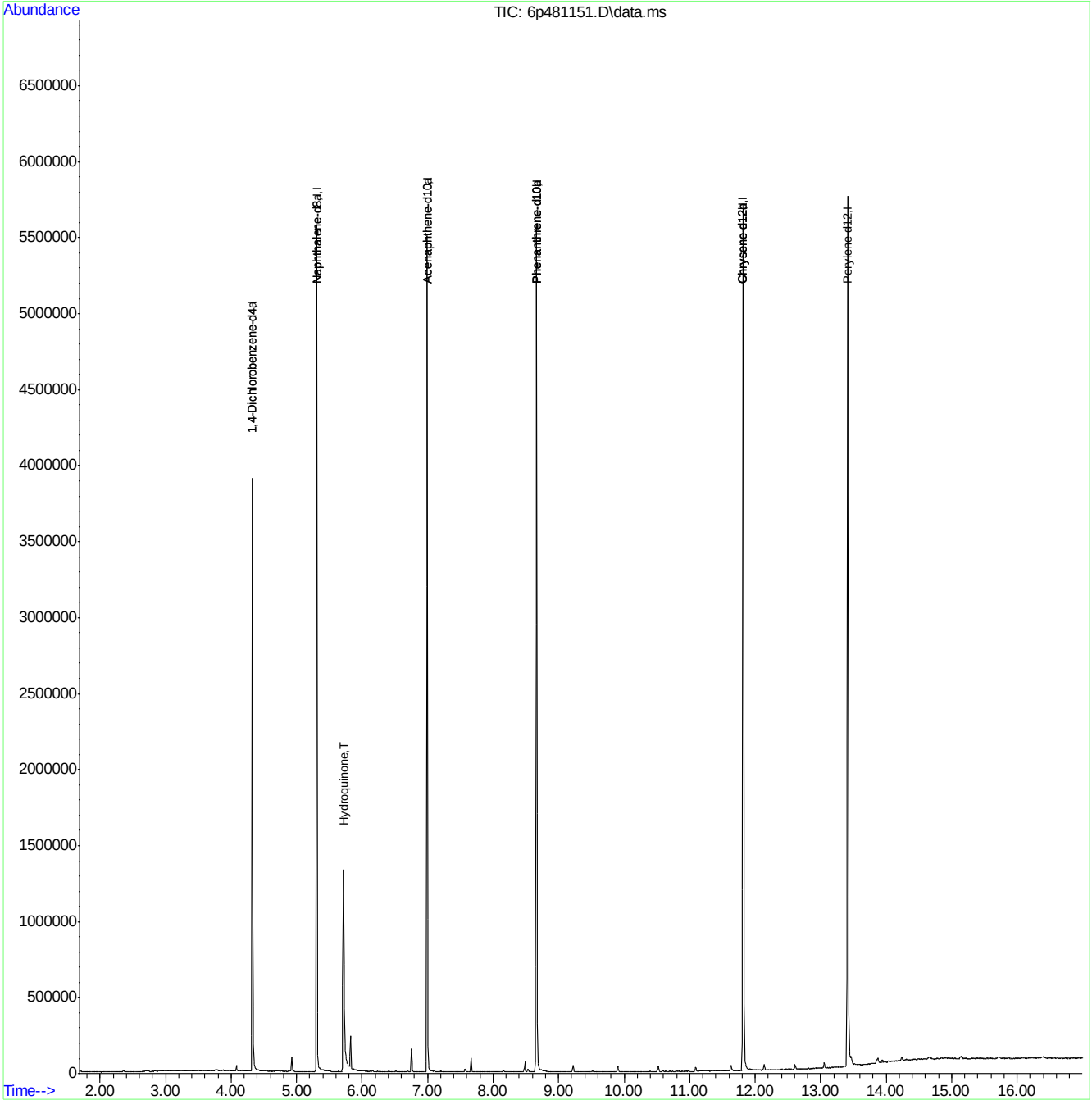
9.6.24

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2562\
Data File : 6p481151.D
Acq On : 16 Apr 2019 7:16 pm
Operator : angelar
Sample : icv2563-50
Misc : op17006,e6p2563,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 17 09:04:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Wed Apr 17 09:00:59 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481198.D
Acq On : 18 Apr 2019 1:13 am
Operator : chriss2
Sample : ic2566-100
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 09:08:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 562831 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 2287859 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.966 | 164 | 1376639 | 40.00 | ppm | -0.03 |
| 69) Phenanthrene-d10 | 8.629 | 188 | 2494472 | 40.00 | ppm | -0.04 |
| 83) Chrysene-d12 | 11.785 | 240 | 2321557 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 2702393 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 562831 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.966 | 164 | 1376639 | 40.00 | ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.629 | 188 | 2494472 | 40.00 | ppm | -0.04 |
| 109) Chrysene-d12a | 11.785 | 240 | 2321557 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 2287859 | 40.00 | ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.629 | 188 | 2494472 | 40.00 | ppm | -0.04 |
| 115) Chrysene-d12b | 11.785 | 240 | 2321557 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 110) benzidine | 10.266 | 184 | 5183488 | 103.22 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

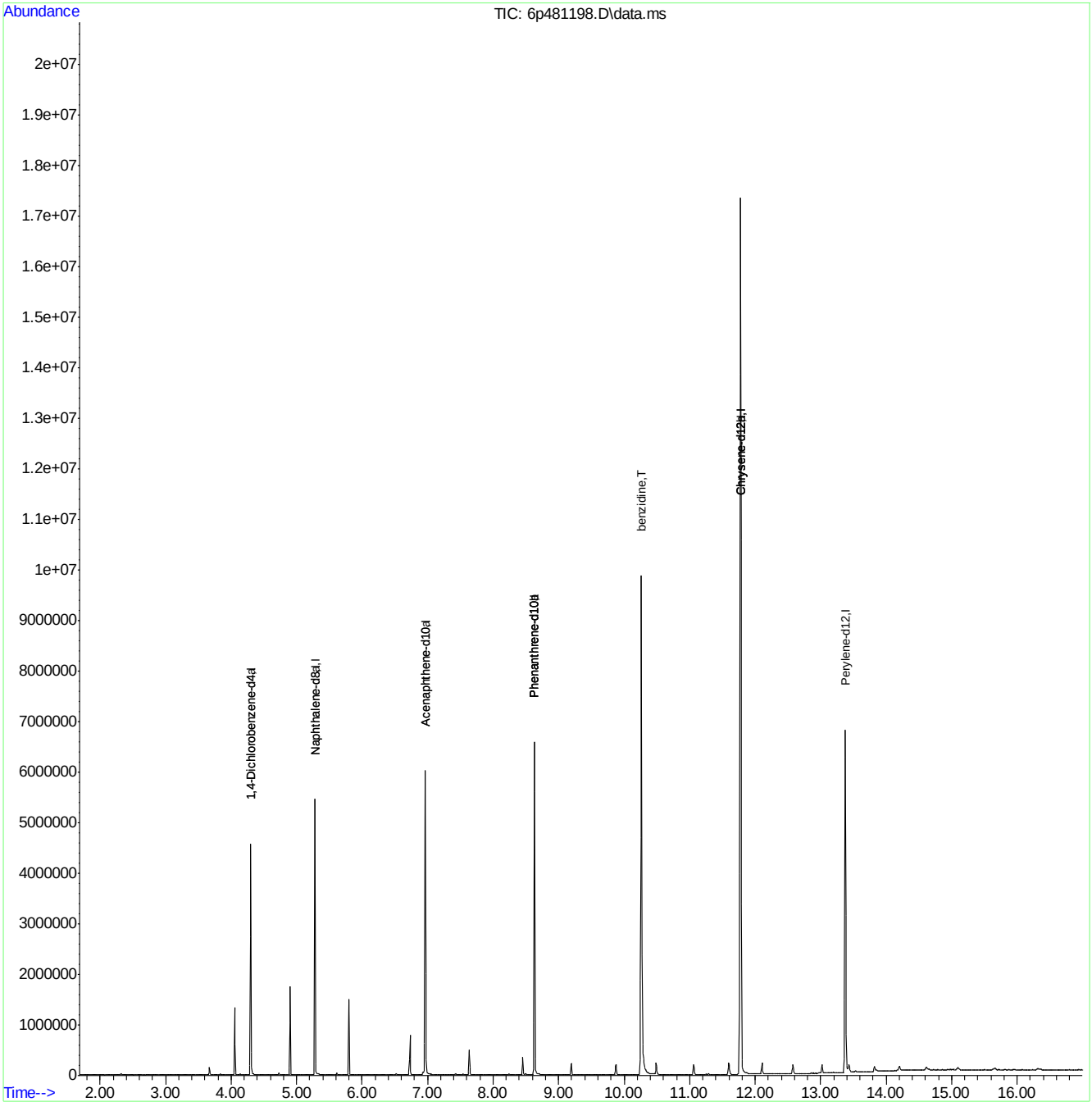
9.6.25

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481198.D
Acq On : 18 Apr 2019 1:13 am
Operator : chriss2
Sample : ic2566-100
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 09:08:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481199.D
Acq On : 18 Apr 2019 1:37 am
Operator : chriss2
Sample : ic2566-80
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 09:09:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 664375 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 2616835 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.966 | 164 | 1567547 | 40.00 | ppm | -0.03 |
| 69) Phenanthrene-d10 | 8.629 | 188 | 2846529 | 40.00 | ppm | -0.04 |
| 83) Chrysene-d12 | 11.785 | 240 | 2637916 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 3031327 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 664375 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.966 | 164 | 1567547 | 40.00 | ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.629 | 188 | 2846529 | 40.00 | ppm | -0.04 |
| 109) Chrysene-d12a | 11.785 | 240 | 2637916 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 2616835 | 40.00 | ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.629 | 188 | 2846529 | 40.00 | ppm | -0.04 |
| 115) Chrysene-d12b | 11.785 | 240 | 2637916 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 110) benzidine | 10.266 | 184 | 4878288 | 85.50 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

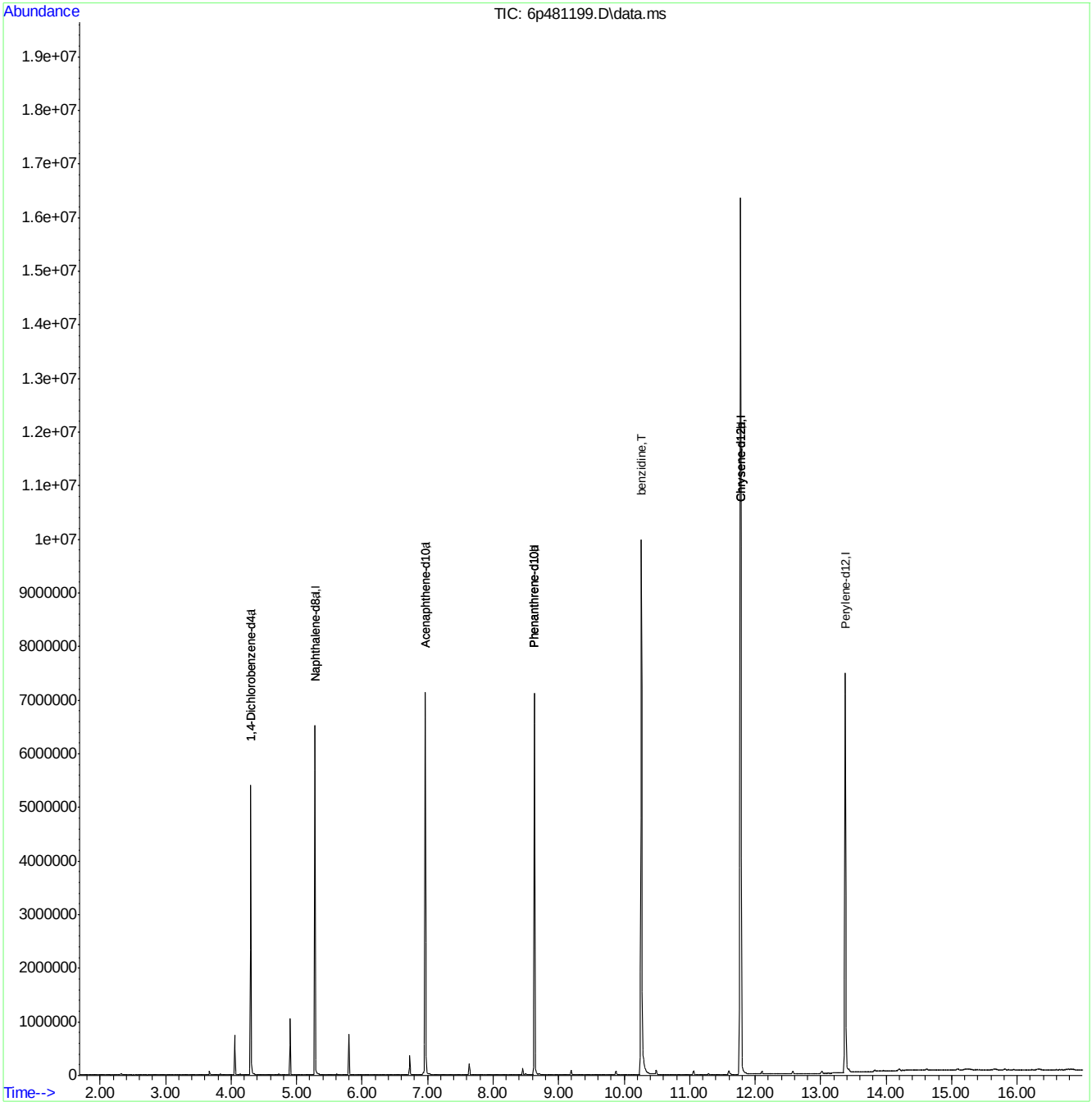
9.6.26

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481199.D
Acq On : 18 Apr 2019 1:37 am
Operator : chriss2
Sample : ic2566-80
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 09:09:43 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration




M6P2562.M Thu Apr 18 09:09:55 2019 ACLIMS

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481200.D
Acq On : 18 Apr 2019 2:01 am
Operator : chriss2
Sample : icc2566-50
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 09:07:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 640551 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 2571485 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.966 | 164 | 1536938 | 40.00 | ppm | -0.03 |
| 69) Phenanthrene-d10 | 8.629 | 188 | 2784137 | 40.00 | ppm | -0.04 |
| 83) Chrysene-d12 | 11.785 | 240 | 2555700 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 2906479 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 640551 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.966 | 164 | 1536938 | 40.00 | ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.629 | 188 | 2784137 | 40.00 | ppm | -0.04 |
| 109) Chrysene-d12a | 11.785 | 240 | 2555700 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 2571485 | 40.00 | ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.629 | 188 | 2784137 | 40.00 | ppm | -0.04 |
| 115) Chrysene-d12b | 11.785 | 240 | 2555700 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 110) benzidine | 10.261 | 184 | 2764020 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

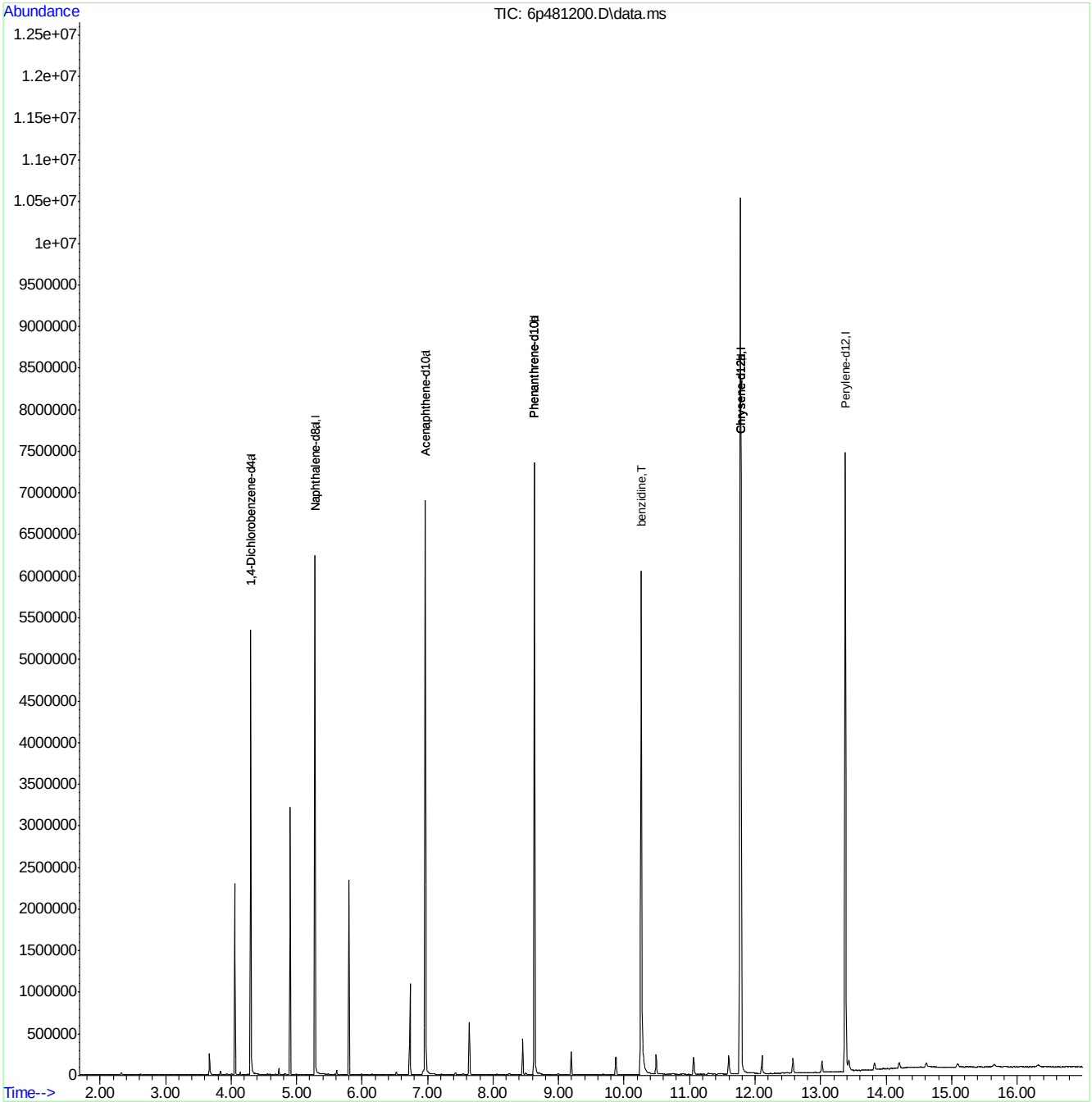
9.6.27

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481200.D
Acq On : 18 Apr 2019 2:01 am
Operator : chriss2
Sample : icc2566-50
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 09:07:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481201.D
Acq On : 18 Apr 2019 2:25 am
Operator : chriss2
Sample : ic2566-25
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 18 09:11:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 629224 | 40.00 ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 2483418 | 40.00 ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.966 | 164 | 1478001 | 40.00 ppm | -0.03 |
| 69) Phenanthrene-d10 | 8.629 | 188 | 2642033 | 40.00 ppm | -0.04 |
| 83) Chrysene-d12 | 11.785 | 240 | 2402344 | 40.00 ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 2784274 | 40.00 ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 629224 | 40.00 ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.966 | 164 | 1478001 | 40.00 ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.629 | 188 | 2642033 | 40.00 ppm | -0.04 |
| 109) Chrysene-d12a | 11.785 | 240 | 2402344 | 40.00 ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 2483418 | 40.00 ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.629 | 188 | 2642033 | 40.00 ppm | -0.04 |
| 115) Chrysene-d12b | 11.785 | 240 | 2402344 | 40.00 ppm | -0.04 |
| System Monitoring Compounds | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 ppm | |
| Target Compounds | | | | | Qvalue |
| 110) benzidine | 10.261 | 184 | 1204841 | 23.19 ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

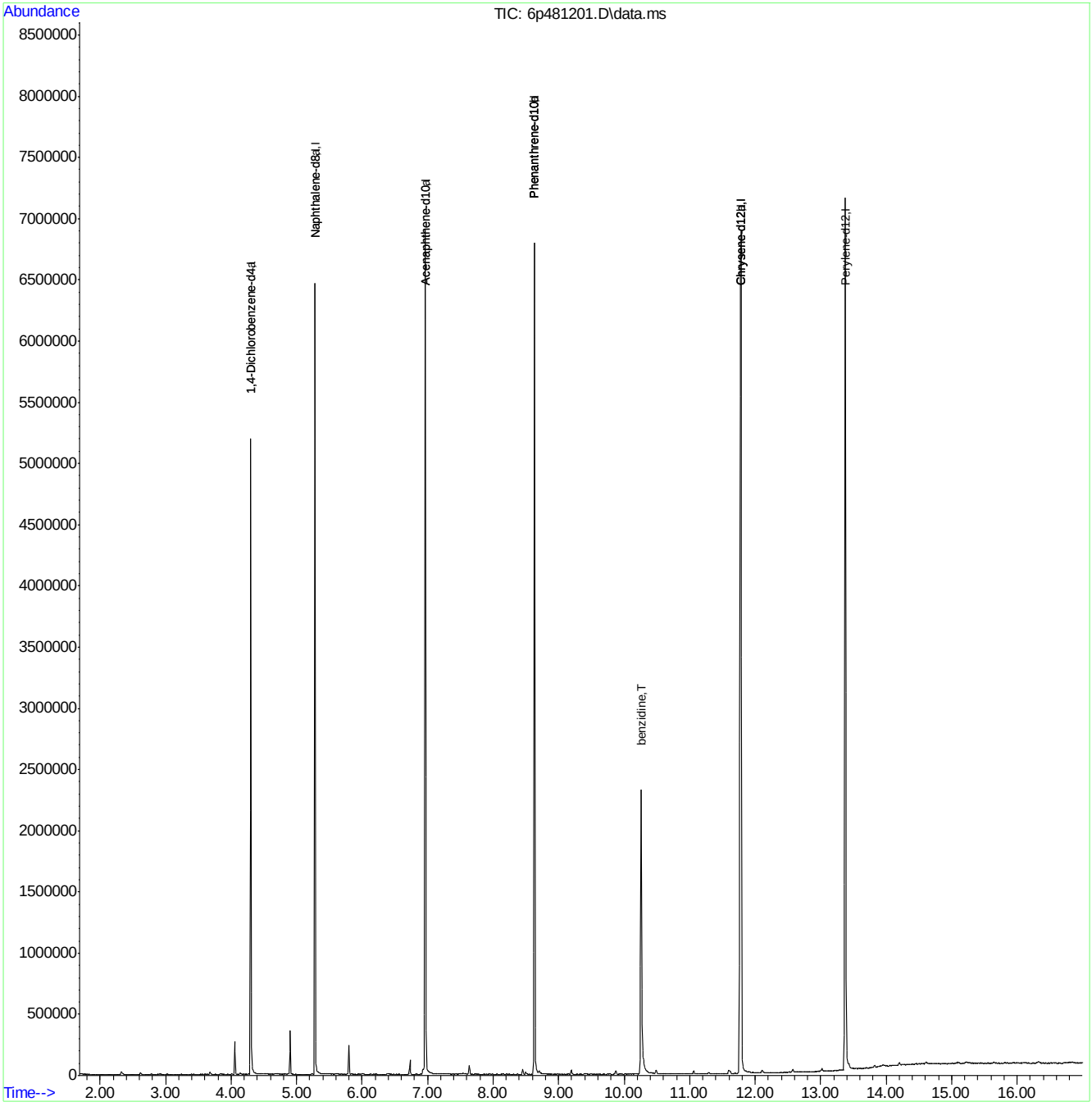
9.6.28

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481201.D
Acq On : 18 Apr 2019 2:25 am
Operator : chriss2
Sample : ic2566-25
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 18 09:11:07 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration




M6P2562.M Thu Apr 18 09:11:13 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481202.D
Acq On : 18 Apr 2019 2:49 am
Operator : chriss2
Sample : ic2566-10
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 18 09:12:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 667487 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 2646191 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.966 | 164 | 1603827 | 40.00 | ppm | -0.03 |
| 69) Phenanthrene-d10 | 8.629 | 188 | 2903751 | 40.00 | ppm | -0.04 |
| 83) Chrysene-d12 | 11.785 | 240 | 2548346 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 3000973 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 667487 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.966 | 164 | 1603827 | 40.00 | ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.629 | 188 | 2903751 | 40.00 | ppm | -0.04 |
| 109) Chrysene-d12a | 11.785 | 240 | 2548346 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 2646191 | 40.00 | ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.629 | 188 | 2903751 | 40.00 | ppm | -0.04 |
| 115) Chrysene-d12b | 11.785 | 240 | 2548346 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 110) benzidine | 10.261 | 184 | 401653 | 7.29 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

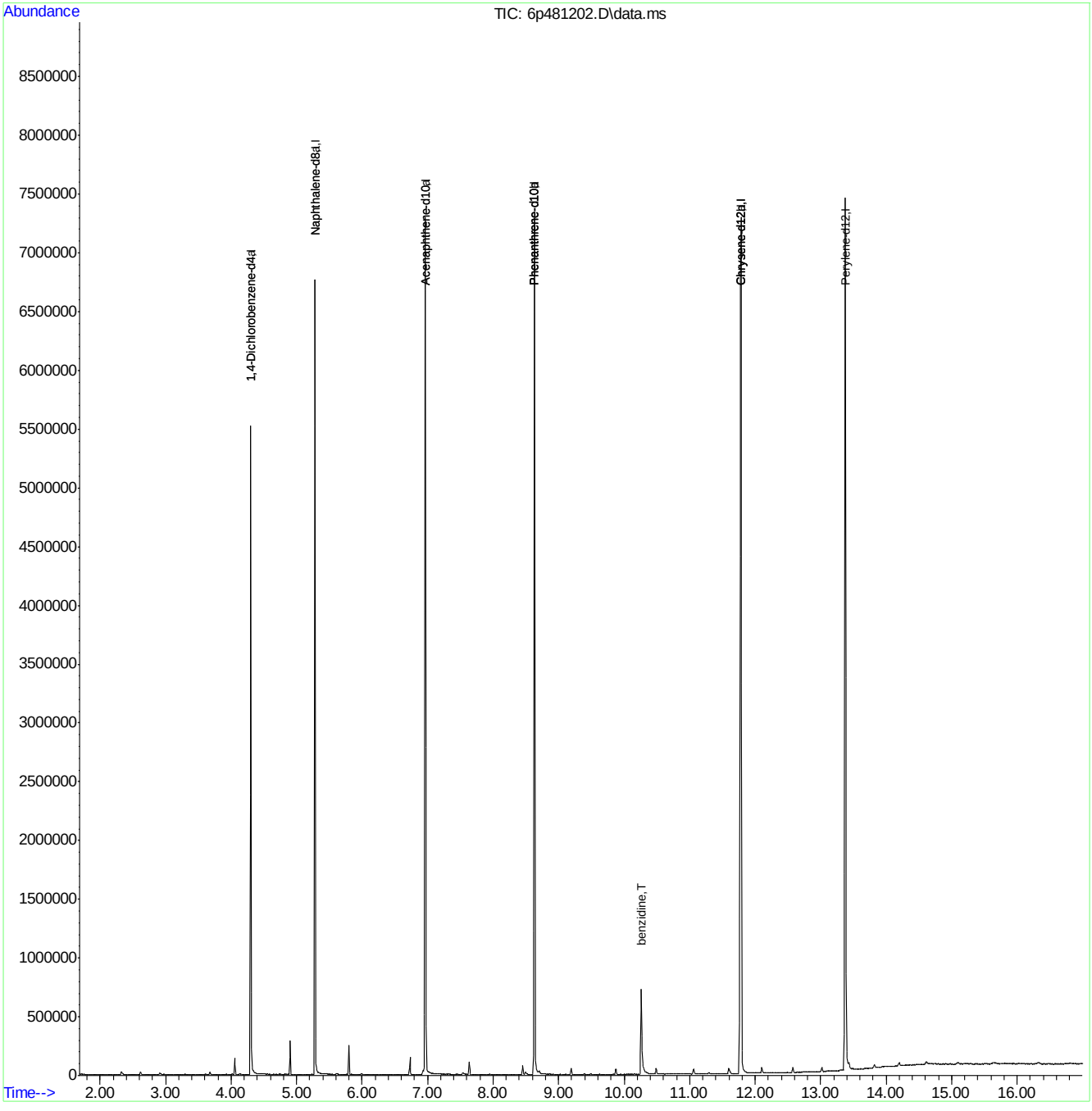
9.6.29

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481202.D
Acq On : 18 Apr 2019 2:49 am
Operator : chriss2
Sample : ic2566-10
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 18 09:12:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481203.D
Acq On : 18 Apr 2019 3:13 am
Operator : chriss2
Sample : ic2566-5
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 18 09:13:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 610737 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 2443525 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.966 | 164 | 1437891 | 40.00 | ppm | -0.03 |
| 69) Phenanthrene-d10 | 8.629 | 188 | 2628043 | 40.00 | ppm | -0.04 |
| 83) Chrysene-d12 | 11.785 | 240 | 2326884 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 2720765 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 610737 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.966 | 164 | 1437891 | 40.00 | ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.629 | 188 | 2628043 | 40.00 | ppm | -0.04 |
| 109) Chrysene-d12a | 11.785 | 240 | 2326884 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 2443525 | 40.00 | ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.629 | 188 | 2628043 | 40.00 | ppm | -0.04 |
| 115) Chrysene-d12b | 11.785 | 240 | 2326884 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 110) benzidine | 10.266 | 184 | 148909 | 2.96 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.30

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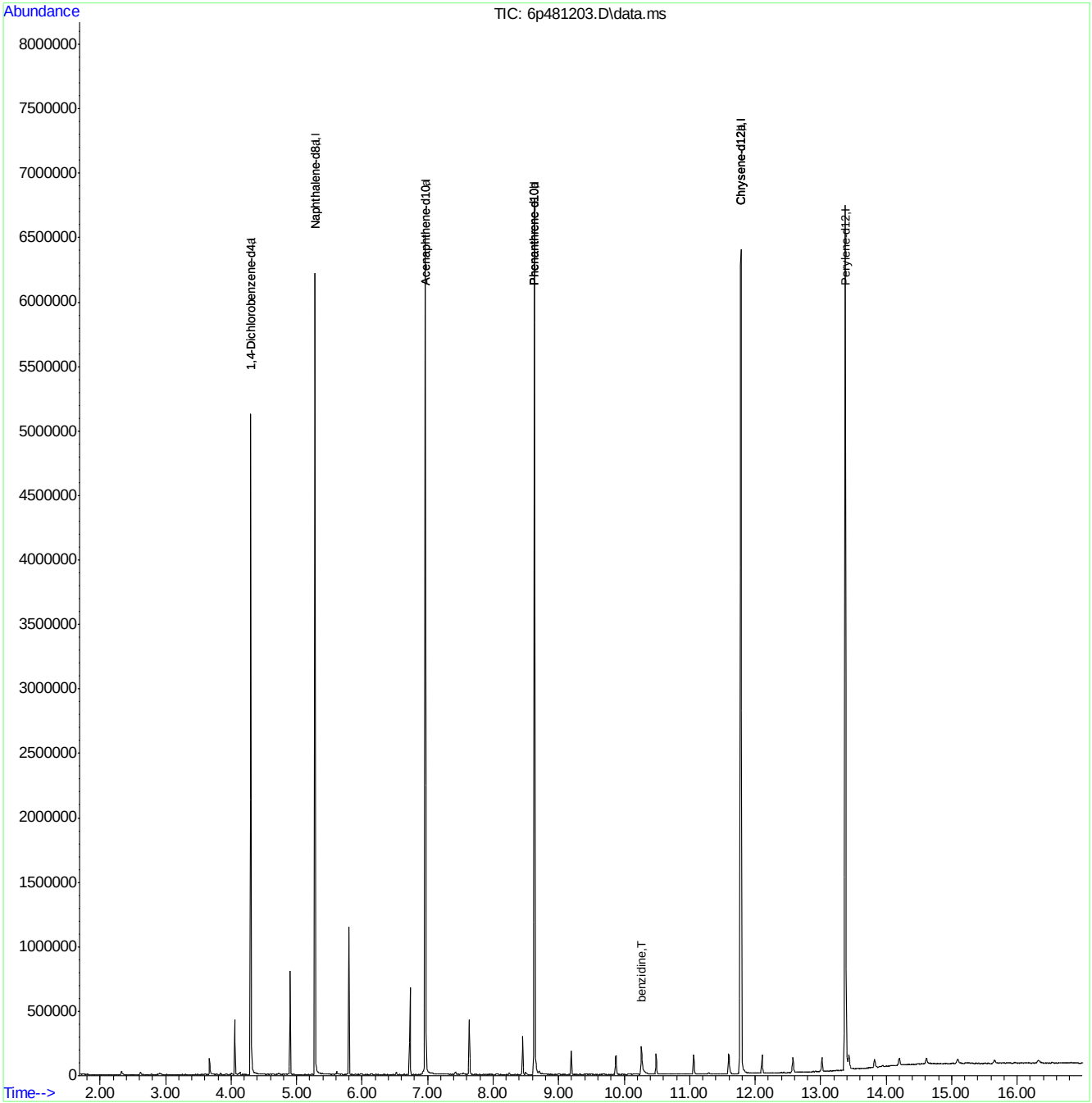
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481203.D
Acq On : 18 Apr 2019 3:13 am
Operator : chriss2
Sample : ic2566-5
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 18 09:13:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration




M6P2562.M Thu Apr 18 09:13:23 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481204.D
Acq On : 18 Apr 2019 3:38 am
Operator : chriss2
Sample : ic2566-2
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 18 09:15:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 635980 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 2496391 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.966 | 164 | 1497303 | 40.00 | ppm | -0.03 |
| 69) Phenanthrene-d10 | 8.629 | 188 | 2729839 | 40.00 | ppm | -0.04 |
| 83) Chrysene-d12 | 11.785 | 240 | 2405340 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 2804117 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 635980 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.966 | 164 | 1497303 | 40.00 | ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.629 | 188 | 2729839 | 40.00 | ppm | -0.04 |
| 109) Chrysene-d12a | 11.785 | 240 | 2405340 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 2496391 | 40.00 | ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.629 | 188 | 2729839 | 40.00 | ppm | -0.04 |
| 115) Chrysene-d12b | 11.785 | 240 | 2405340 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 110) benzidine | 10.272 | 184 | 38216 | 0.73 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

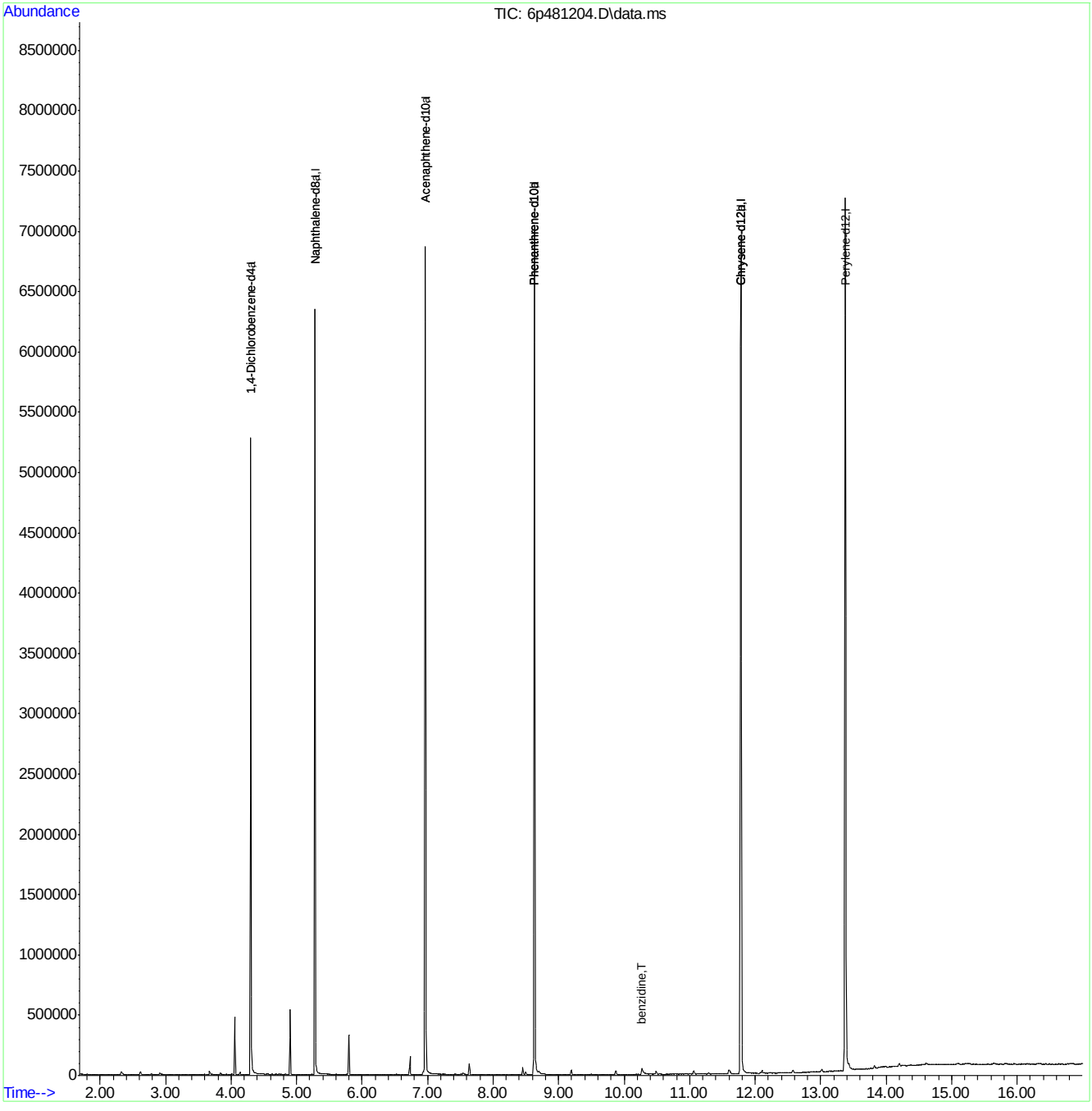
9.6.31

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481204.D
Acq On : 18 Apr 2019 3:38 am
Operator : chriss2
Sample : ic2566-2
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 18 09:15:54 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481205.D
Acq On : 18 Apr 2019 4:02 am
Operator : chriss2
Sample : ic2566-1
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 18 09:16:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 579206 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 2318679 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.961 | 164 | 1379865 | 40.00 | ppm | -0.04 |
| 69) Phenanthrene-d10 | 8.629 | 188 | 2496687 | 40.00 | ppm | -0.04 |
| 83) Chrysene-d12 | 11.785 | 240 | 2236993 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 2569282 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 579206 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.961 | 164 | 1379865 | 40.00 | ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.629 | 188 | 2496687 | 40.00 | ppm | -0.04 |
| 109) Chrysene-d12a | 11.785 | 240 | 2236993 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 2318679 | 40.00 | ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.629 | 188 | 2496687 | 40.00 | ppm | -0.04 |
| 115) Chrysene-d12b | 11.785 | 240 | 2236993 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 110) benzidine | 10.282 | 184 | 11960 | 0.25 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

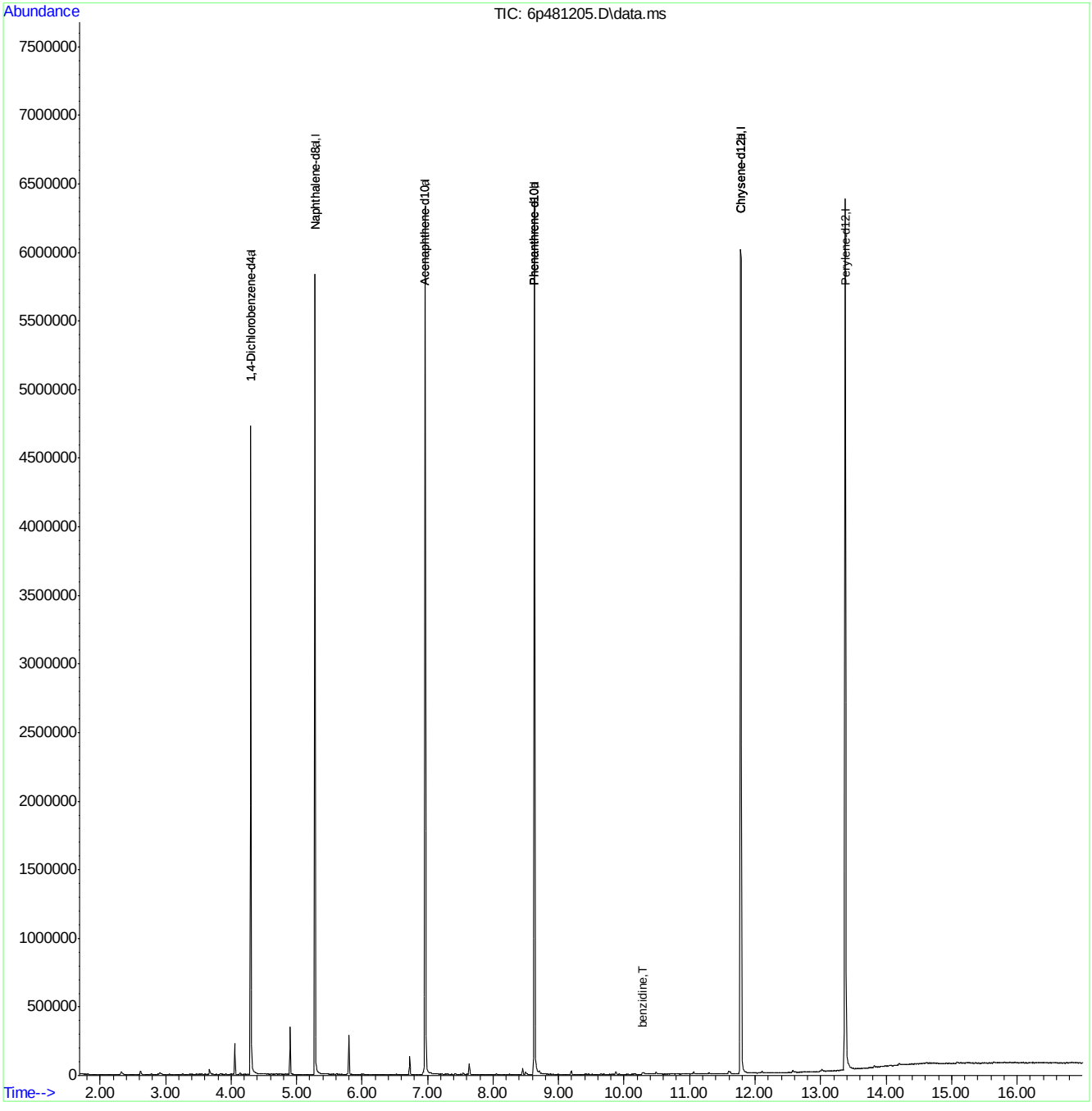
9.6.32

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481205.D
Acq On : 18 Apr 2019 4:02 am
Operator : chriss2
Sample : ic2566-1
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 18 09:16:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:06:16 2019
QLast Update : Thu Apr 18 09:06:16 2019
Response via : Initial Calibration




M6P2562.M Thu Apr 18 09:17:11 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481206.D
Acq On : 18 Apr 2019 4:26 am
Operator : chriss2
Sample : icv2566-50
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 18 09:28:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:27:18 2019
QLast Update : Thu Apr 18 09:27:18 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.297 | 152 | 771120 | 40.00 | ppm | -0.03 |
| 24) Naphthalene-d8 | 5.281 | 136 | 3054014 | 40.00 | ppm | -0.03 |
| 47) Acenaphthene-d10 | 6.966 | 164 | 1793612 | 40.00 | ppm | -0.03 |
| 69) Phenanthrene-d10 | 8.635 | 188 | 3465548 | 40.00 | ppm | -0.03 |
| 83) Chrysene-d12 | 11.785 | 240 | 3514544 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.379 | 264 | 3759153 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.297 | 152 | 771120 | 40.00 | ppm | -0.03 |
| 103) Acenaphthene-d10a | 6.966 | 164 | 1793612 | 40.00 | ppm | -0.03 |
| 105) Phenanthrene-d10a | 8.635 | 188 | 3465548 | 40.00 | ppm | -0.03 |
| 109) Chrysene-d12a | 11.785 | 240 | 3514544 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.281 | 136 | 3054014 | 40.00 | ppm | -0.03 |
| 113) Phenanthrene-d10b | 8.635 | 188 | 3465548 | 40.00 | ppm | -0.03 |
| 115) Chrysene-d12b | 11.785 | 240 | 3514544 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 110) benzidine | 10.261 | 184 | 3210027 | 44.38 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

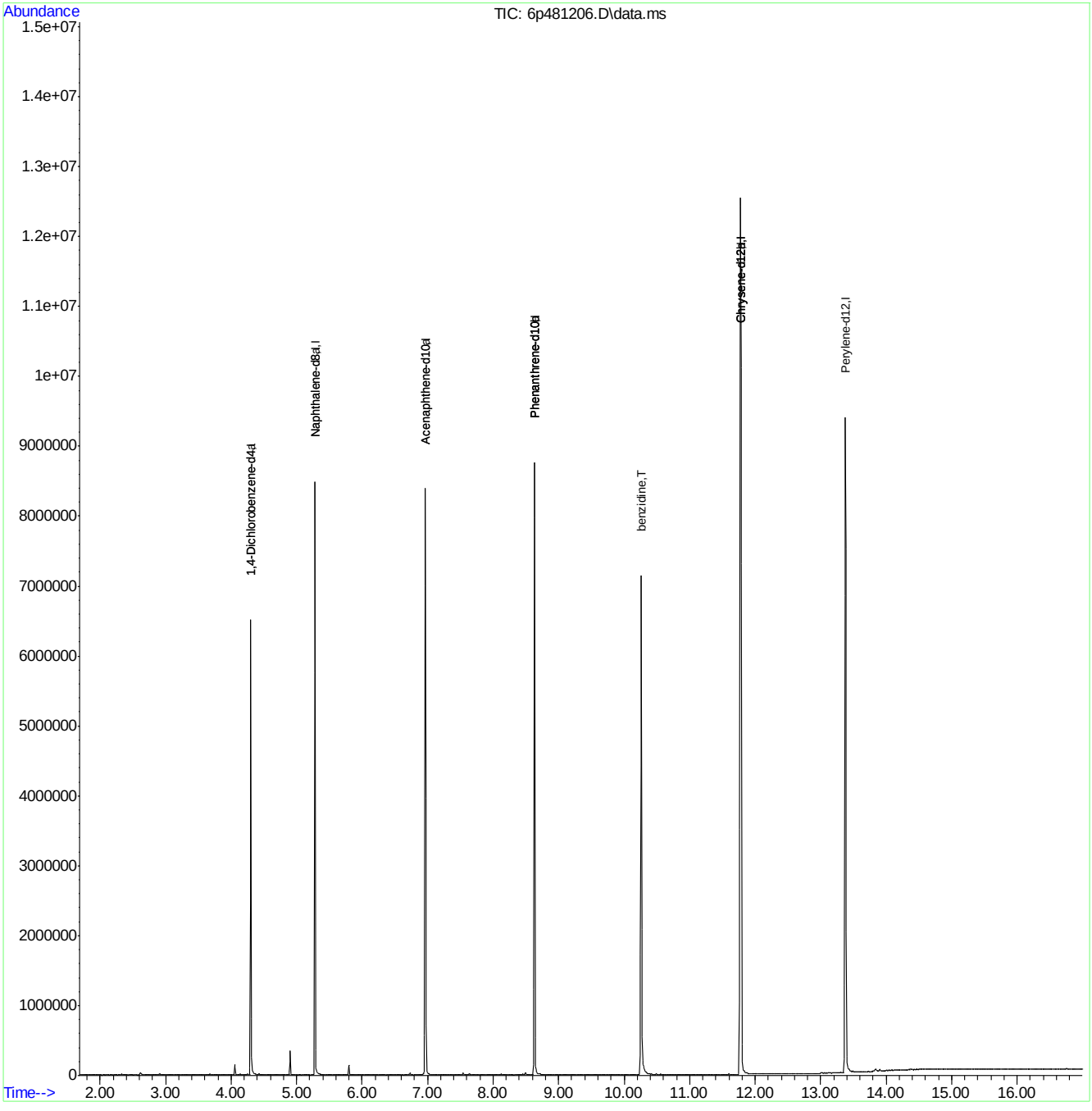
9.6.33

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2566\
Data File : 6p481206.D
Acq On : 18 Apr 2019 4:26 am
Operator : chriss2
Sample : icv2566-50
Misc : op17006,e6p2566,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 18 09:28:28 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 18 09:27:18 2019
QLast Update : Thu Apr 18 09:27:18 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Nancy Ma
05/03/19 16:57

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481548.d
Acq On : 2 May 2019 9:08 am
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:23:39 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Fri May 03 04:21:35 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 619465 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.119 | 136 | 2635361 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.771 | 164 | 1541320 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.429 | 188 | 2723777 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.585 | 240 | 2403459 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.174 | 264 | 2647628 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 619465 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.771 | 164 | 1541320 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.429 | 188 | 2723777 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.585 | 240 | 2403459 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.119 | 136 | 2635361 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.429 | 188 | 2723777 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.585 | 240 | 2403459 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.161 | 112 | 1079778 | 59.59 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 119.18% | | | |
| 8) Phenol-d5 | 3.931 | 99 | 1189127 | 53.74 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 107.48% | | | |
| 25) Nitrobenzene-d5 | 4.562 | 82 | 1286434 | 58.66 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 117.32% | | | |
| 51) 2-Fluorobiphenyl | 6.097 | 172 | 2718140 | 49.92 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 99.84% | | | |
| 73) 2,4,6-Tribromophenol | 7.648 | 330 | 471478 | 53.79 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 107.58% | | | |
| 85) Terphenyl-d14 | 10.355 | 244 | 2898024 | 51.76 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 103.52% | | | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.540 | 88 | 396417 | 48.61 | ppm | 98 |
| 3) Pyridine | 1.840 | 79 | 934516 | 50.38 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 1.818 | 74 | 529220 | 48.95 | ppm | 100 |
| 6) Indene | 4.338 | 116 | 1752915 | 52.19 | ppm | 99 |
| 7) Cumene | 3.530 | 105 | 2457129 | 51.06 | ppm | 99 |
| 9) Phenol | 3.936 | 94 | 1308322 | 48.45 | ppm | 93 |
| 10) Aniline | 3.910 | 93 | 1431003 | 59.38 | ppm | 93 |
| 11) bis(2-Chloroethyl)ether | 3.963 | 93 | 900914 | 48.15 | ppm | 99 |
| 12) 2-Chlorophenol | 4.006 | 128 | 1175453 | 54.89 | ppm | 98 |
| 13) Decane | 4.043 | 43 | 847126 | 51.53 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.102 | 146 | 1247358 | 51.09 | ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.161 | 146 | 1262099 | 50.50 | ppm | 99 |
| 16) Benzyl alcohol | 4.273 | 108 | 671667 | 57.74 | ppm | 96 |
| 17) 1,2-Dichlorobenzene | 4.273 | 146 | 1163678 | 50.69 | ppm | 99 |
| 18) Acetophenone | 4.455 | 105 | 1526406 | 53.02 | ppm | 99 |
| 19) 2-Methylphenol | 4.375 | 108 | 984505 | 54.16 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.364 | 121 | 339588 | 50.90 | ppm | 98 |
| 21) 3&4-Methylphenol | 4.487 | 108 | 1048100 | 54.83 | ppm | 97 |
| 22) n-Nitroso-di-n-propyla... | 4.466 | 70 | 710513 | 55.17 | ppm | 95 |
| 23) Hexachloroethane | 4.514 | 201 | 389076 | 44.61 | ppm | 99 |
| 26) Nitrobenzene | 4.578 | 77 | 1271589 | 56.98 | ppm | 93 |
| 27) Quinoline | 5.445 | 129 | 2368340 | 49.53 | ppm | 98 |
| 28) Isophorone | 4.765 | 82 | 2182405 | 57.23 | ppm | 99 |
| 29) 2-Nitrophenol | 4.824 | 139 | 718614 | 55.08 | ppm | 88 |
| 30) 2,4-Dimethylphenol | 4.883 | 107 | 1233212 | 61.92 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481548.d
Acq On : 2 May 2019 9:08 am
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:23:39 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Fri May 03 04:21:35 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 31) Benzoic acid | 5.044 | 105 | 1128427 | 56.07 | ppm | | 98 |
| 32) bis(2-Chloroethoxy)met... | 4.937 | 93 | 1280735 | 53.45 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.028 | 162 | 1042820 | 52.97 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.204 | 162 | 999227 | 51.24 | ppm | | 99 |
| 35) 1,3,5-Trichlorobenzene | 4.824 | 180 | 1125349 | 48.24 | ppm | | 93 |
| 36) 1,2,4-Trichlorobenzene | 5.076 | 180 | 1057294 | 46.91 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.258 | 180 | 1041985 | 46.45 | ppm | | 95 |
| 38) Naphthalene | 5.135 | 128 | 3510599 | 51.15 | ppm | | 100 |
| 39) 4-Chloroaniline | 5.199 | 127 | 1446220 | 52.31 | ppm | | 99 |
| 40) 2,3-Dichloroaniline | 6.017 | 161 | 1244568 | 49.82 | ppm | | 98 |
| 41) Caprolactam | 5.530 | 55 | 418794m | 49.71 | ppm | | |
| 42) Hexachlorobutadiene | 5.247 | 225 | 567812 | 44.27 | ppm | | 99 |
| 43) 4-Chloro-3-methylphenol | 5.659 | 107 | 1158115 | 57.31 | ppm | # | 49 |
| 44) 2-Methylnaphthalene | 5.739 | 141 | 2014491 | 51.89 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 5.830 | 141 | 2113790 | 48.74 | ppm | | 99 |
| 46) Dimethylnaphthalene | 6.349 | 156 | 2240511 | 48.55 | ppm | | 97 |
| 48) Hexachlorocyclopentadiene | 5.894 | 237 | 820012 | 78.64 | ppm | | 99 |
| 49) 2,4,6-Trichlorophenol | 6.033 | 196 | 738949 | 51.40 | ppm | | 97 |
| 50) 2,4,5-Trichlorophenol | 6.081 | 196 | 777921 | 50.86 | ppm | | 100 |
| 52) 2-Chloronaphthalene | 6.204 | 162 | 2234284 | 49.15 | ppm | | 95 |
| 53) Biphenyl | 6.194 | 154 | 3015092 | 51.14 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.333 | 65 | 700722 | 59.31 | ppm | | 91 |
| 55) Dimethylphthalate | 6.525 | 163 | 2646386 | 50.12 | ppm | | 99 |
| 56) Acenaphthylene | 6.621 | 152 | 3531694 | 50.35 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 6.589 | 165 | 636203 | 53.29 | ppm | | 97 |
| 58) 3-Nitroaniline | 6.766 | 138 | 720109 | 55.47 | ppm | | 99 |
| 59) Acenaphthene | 6.809 | 153 | 2444491 | 52.49 | ppm | | 97 |
| 60) 2,4-Dinitrophenol | 6.900 | 184 | 558816 | 68.93 | ppm | | 82 |
| 61) 4-Nitrophenol | 7.012 | 109 | 420145 | 63.15 | ppm | # | 1 |
| 62) Dibenzofuran | 6.996 | 168 | 3523374 | 54.34 | ppm | | 87 |
| 63) 2,4-Dinitrotoluene | 7.028 | 165 | 947100 | 57.12 | ppm | | 77 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.156 | 232 | 632520 | 50.54 | ppm | | 95 |
| 65) Diethylphthalate | 7.290 | 149 | 2900101 | 55.71 | ppm | | 97 |
| 66) Fluorene | 7.370 | 166 | 2919352 | 55.46 | ppm | | 100 |
| 67) 4-Chlorophenyl-phenyle... | 7.381 | 204 | 1305488 | 48.92 | ppm | | 87 |
| 68) 4-Nitroaniline | 7.440 | 138 | 713207 | 51.89 | ppm | | 87 |
| 70) 4,6-Dinitro-2-methylph... | 7.493 | 198 | 442314 | 42.05 | ppm | | 75 |
| 71) n-Nitrosodiphenylamine | 7.531 | 169 | 2077591 | 55.21 | ppm | | 97 |
| 72) 1,2-Diphenylhydrazine | 7.563 | 77 | 2704595 | 63.48 | ppm | | 96 |
| 74) 4-Bromophenyl-phenylether | 7.932 | 248 | 736613 | 50.33 | ppm | | 89 |
| 75) Hexachlorobenzene | 8.007 | 284 | 889335 | 51.73 | ppm | | 97 |
| 76) Pentachlorophenol | 8.253 | 266 | 1080020 | 94.45 | ppm | | 97 |
| 77) Phenanthrene | 8.461 | 178 | 3931738 | 53.76 | ppm | | 100 |
| 78) Anthracene | 8.520 | 178 | 4108210 | 56.01 | ppm | | 99 |
| 79) Carbazole | 8.734 | 167 | 3728515 | 53.70 | ppm | | 100 |
| 80) Di-n-butylphthalate | 9.194 | 149 | 4766418 | 58.78 | ppm | | 99 |
| 81) Fluoranthene | 9.863 | 202 | 3897319 | 49.05 | ppm | | 99 |
| 82) Octadecane | 8.397 | 57 | 1498803 | 61.16 | ppm | | 99 |
| 84) Pyrene | 10.119 | 202 | 3979480 | 49.70 | ppm | | 100 |
| 86) Butylbenzylphthalate | 10.975 | 149 | 2246058 | 65.08 | ppm | | 93 |
| 87) Benzo[a]anthracene | 11.569 | 228 | 3983576 | 52.04 | ppm | | 98 |
| 88) 3,3'-Dichlorobenzidine | 11.569 | 252 | 1548294 | 53.83 | ppm | | 98 |
| 89) Chrysene | 11.612 | 228 | 3790672 | 50.49 | ppm | | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.697 | 149 | 3142221 | 65.86 | ppm | | 98 |
| 92) Di-n-octylphthalate | 12.435 | 149 | 5100261 | 64.67 | ppm | | 99 |
| 93) Benzo[b]fluoranthene | 12.794 | 252 | 4524397 | 55.95 | ppm | | 99 |
| 94) Benzo[k]fluoranthene | 12.821 | 252 | 3731269 | 52.12 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481548.d
Acq On : 2 May 2019 9:08 am
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:23:39 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Fri May 03 04:21:35 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 95) | Benzo[a]pyrene | 13.120 | 252 | 3735375 | 56.22 | ppm | 98 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.190 | 276 | 5110401 | 57.61 | ppm | 95 |
| 97) | Dibenz(a,h)acridine | 13.976 | 279 | 3714526 | 57.01 | ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 14.206 | 278 | 4611552 | 58.66 | ppm | 99 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.778 | 256 | 2006195 | 52.50 | ppm | 98 |
| 100) | Benzo[g,h,i]perylene | 14.441 | 276 | 3782773 | 54.68 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

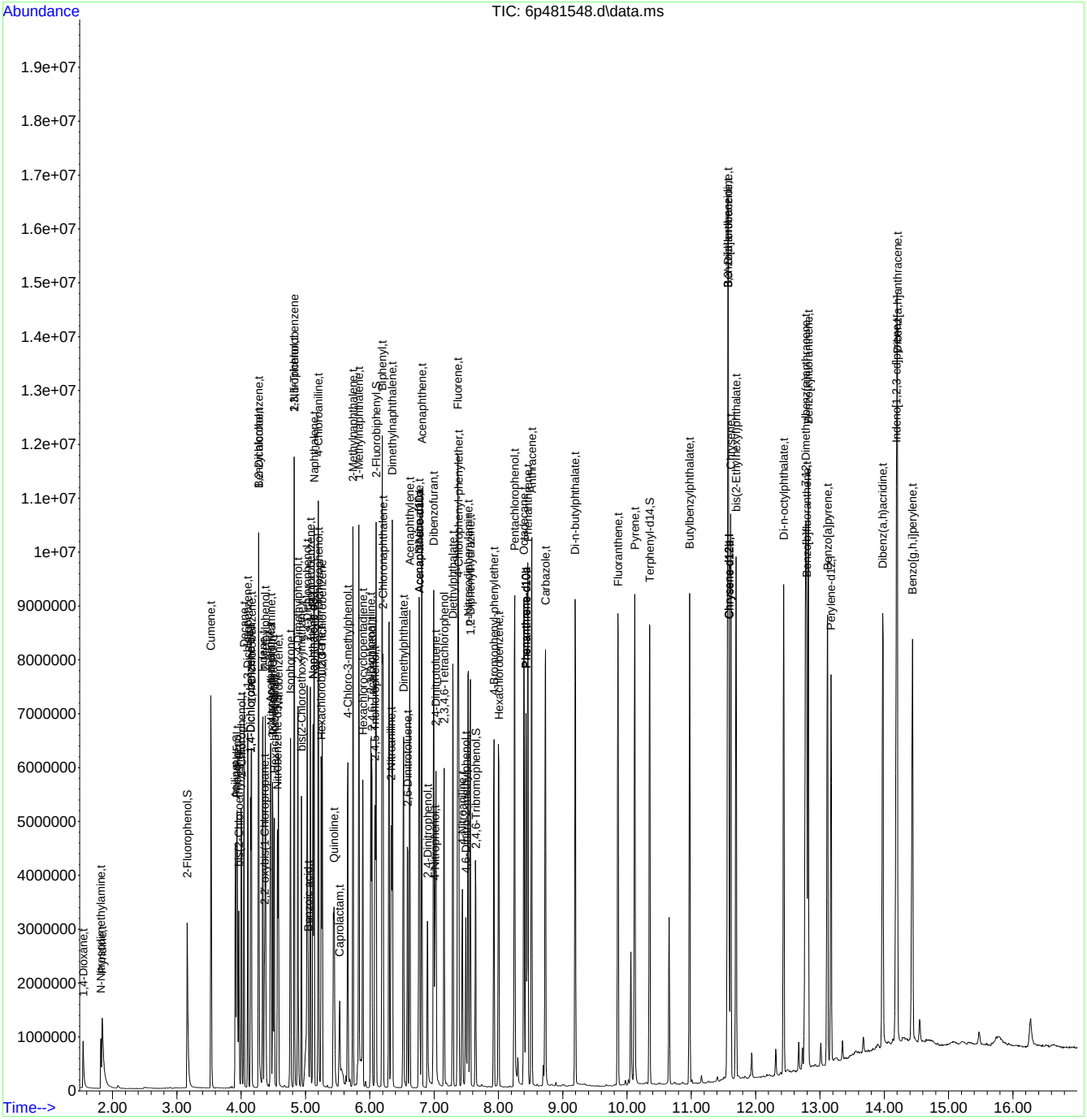
9.6.34

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481548.d
Acq On : 2 May 2019 9:08 am
Operator : angelar
Sample : cc2562-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:23:39 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Fri May 03 04:21:35 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



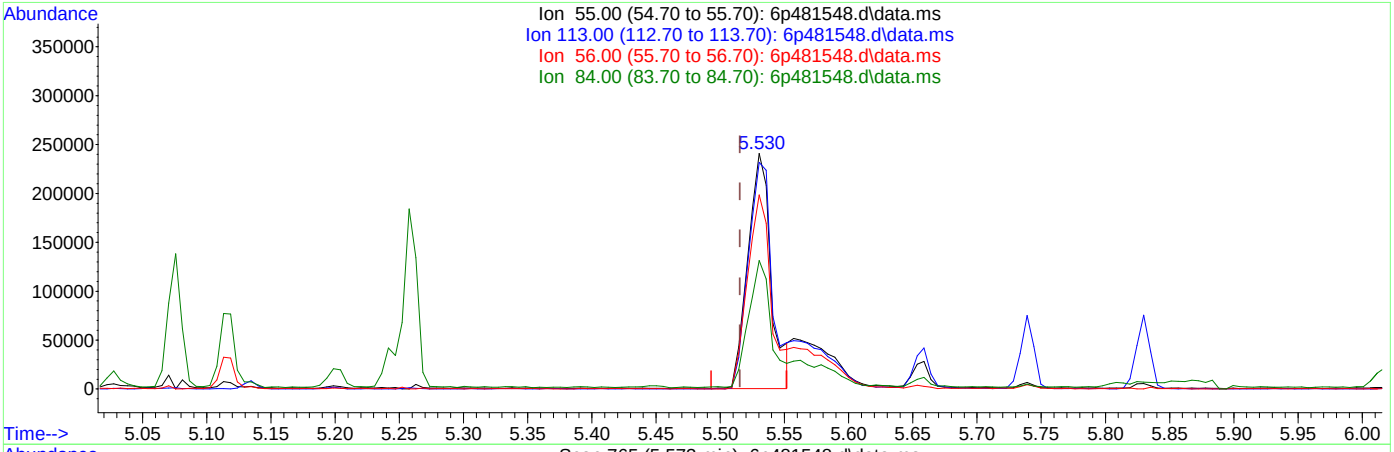
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2579-CC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481548.D | **Analyst approved:** | 05/03/19 04:56 Jeryll Fabriene Reyes |
| **Injection Time:** | 05/02/19 09:08 | **Supervisor approved:** | 05/03/19 16:57 Nancy Ma |

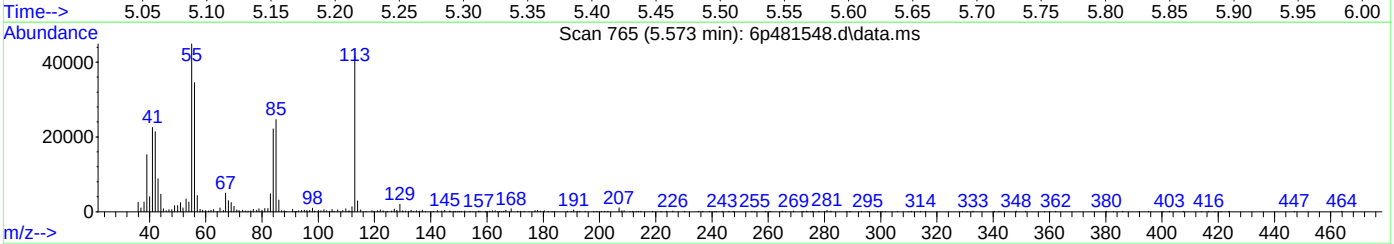
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.53 | Split peak |

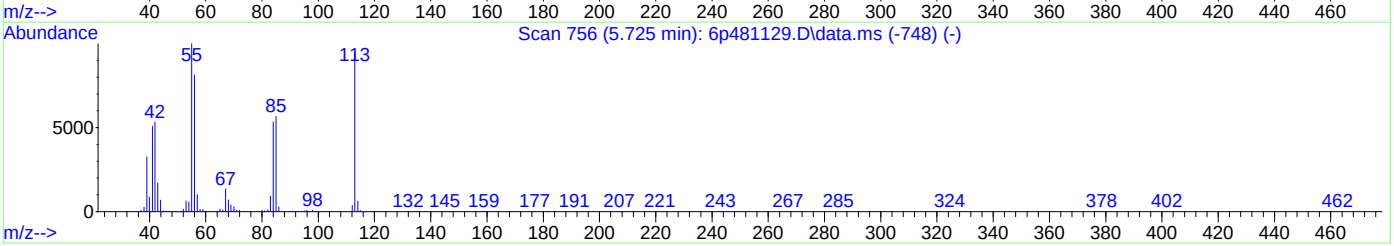
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481548.d
Acq On    :  2 May 2019   9:08 am
Operator  : angelar
Sample    : cc2562-50                                  Inst     : MS6P
Misc      : op17006,e6p2579,1000,,,1,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:21:44 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Fri May 03 04:21:35 2019
Response via : Initial Calibration
```




TIC: 6p481548.d\data.ms

(41) Caprolactam (t)

5.530min (+0.015) 35.93ppm

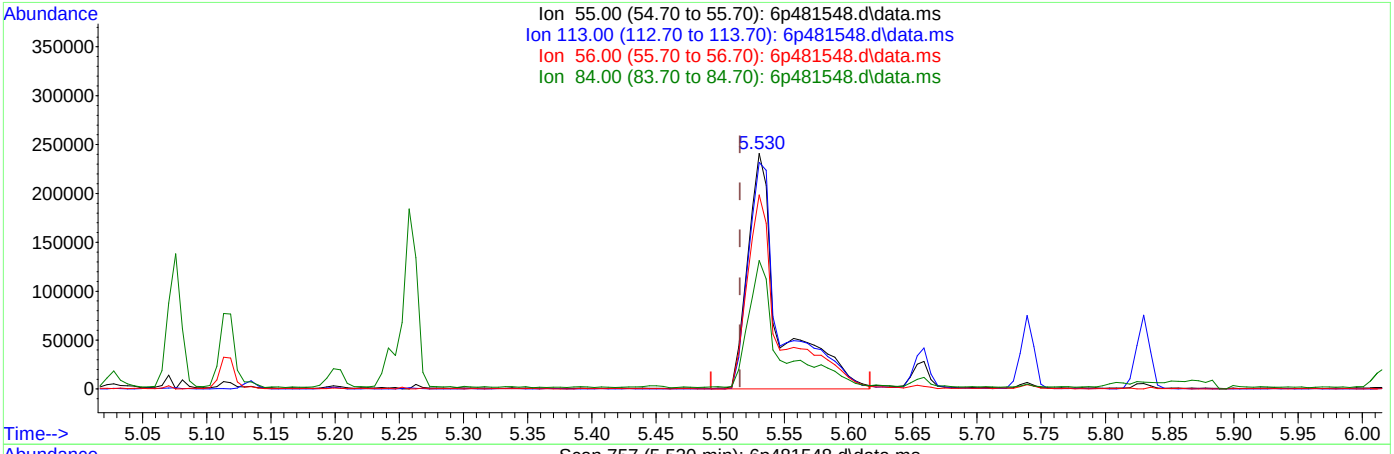
response 302743

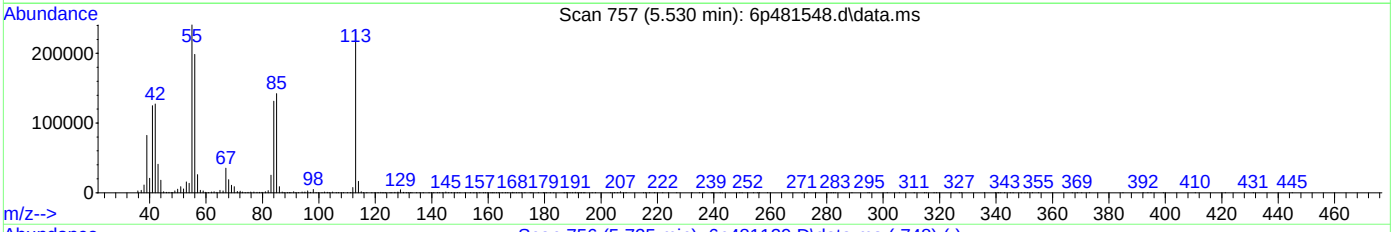
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 95.75 |
| 56.00 | 81.20 | 81.94 |
| 84.00 | 53.30 | 53.95 |

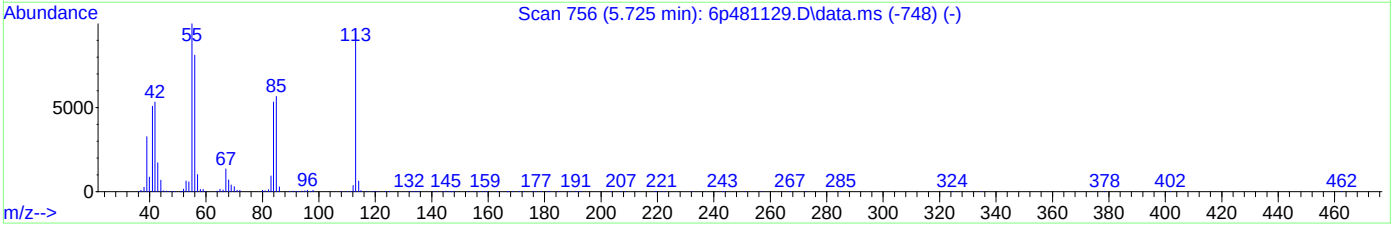
Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481548.d
Acq On    :  2 May 2019   9:08 am
Operator  : angelar
Sample    : cc2562-50                                  Inst     : MS6P
Misc      : op17006,e6p2579,1000,,,1,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:21:44 2019
Quant Title  : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Fri May 03 04:21:35 2019
Response via : Initial Calibration
```




TIC: 6p481548.d\data.ms

(41) Caprolactam (t)

5.530min (+0.015) 49.71ppm m

response 418794

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 96.23 |
| 56.00 | 81.20 | 82.34 |
| 84.00 | 53.30 | 54.50 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481549.d
Acq On : 2 May 2019 9:32 am
Operator : angelar
Sample : cc2563-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:48:20 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Fri May 03 04:45:32 2019
Response via : Initial Calibration

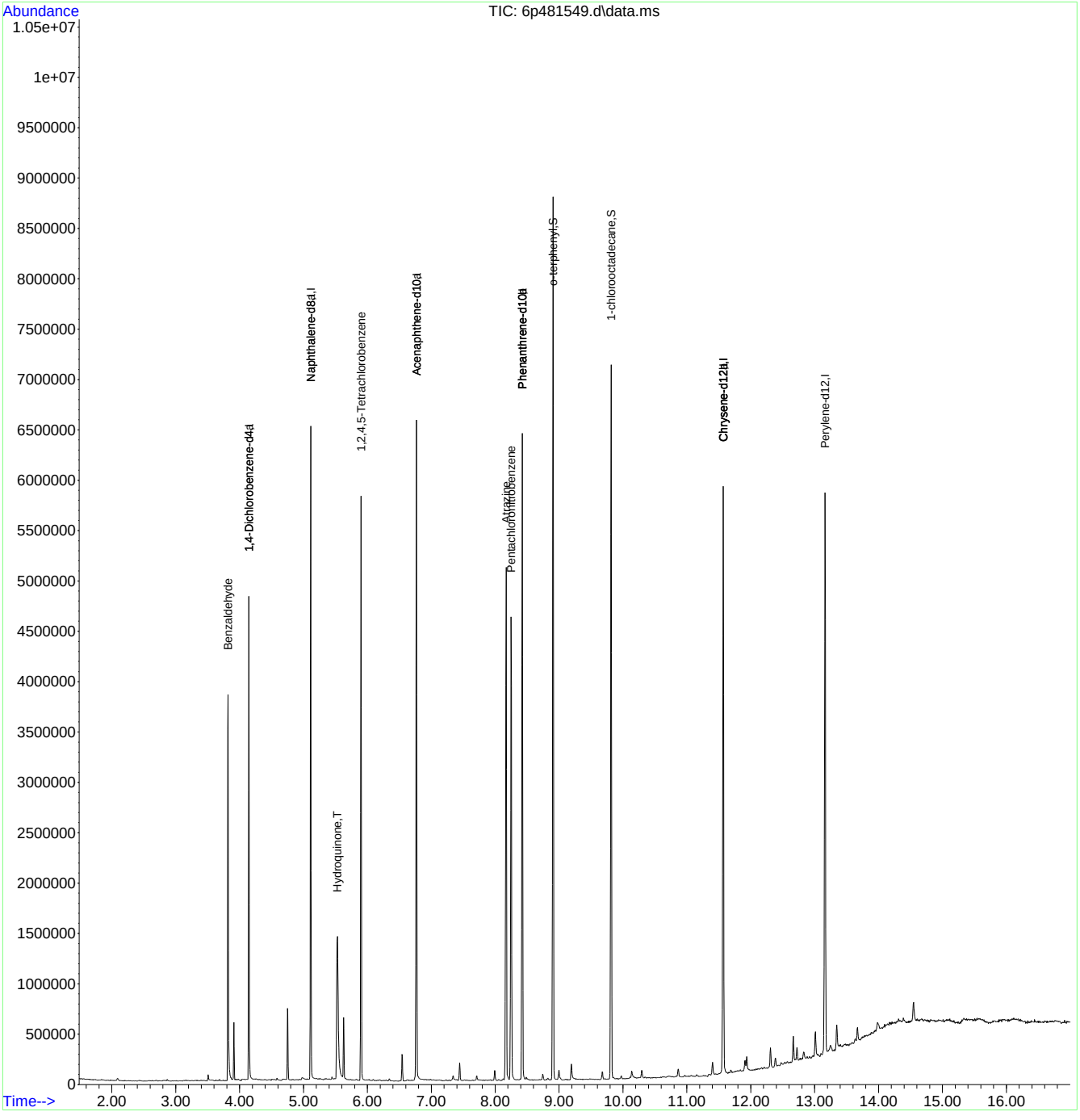
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 561562 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.113 | 136 | 2167554 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.766 | 164 | 1258772 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.424 | 188 | 2204785 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.569 | 240 | 1842924 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.163 | 264 | 2099998 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 561562 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.766 | 164 | 1258772 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.424 | 188 | 2204785 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.569 | 240 | 1842924 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.113 | 136 | 2167554 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.424 | 188 | 2204785 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.569 | 240 | 1842924 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 106) 1-chlorooctadecane | 9.815 | 57 | 831750 | 63.14 | ppm | 0.05 |
| 107) o-terphenyl | 8.906 | 230 | 1631393 | 50.72 | ppm | 0.02 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.819 | 105 | 696017 | 49.94 | ppm | 94 |
| 104) 1,2,4,5-Tetrachloroben... | 5.900 | 216 | 781022 | 46.48 | ppm | 98 |
| 108) Atrazine | 8.173 | 215 | 327377 | 50.62 | ppm | 87 |
| 112) Hydroquinone | 5.531 | 110 | 988103 | 59.37 | ppm | 99 |
| 114) Pentachloronitrobenzene | 8.248 | 295 | 133592 | 49.51 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481549.d
Acq On : 2 May 2019 9:32 am
Operator : angelar
Sample : cc2563-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:48:20 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Fri May 03 04:45:32 2019
Response via : Initial Calibration




M6P2562.M Fri May 03 04:49:19 2019 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481550.d
Acq On : 2 May 2019 9:57 am
Operator : angelar
Sample : cc2566-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:54:33 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 04:53:16 2019
Response via : Initial Calibration

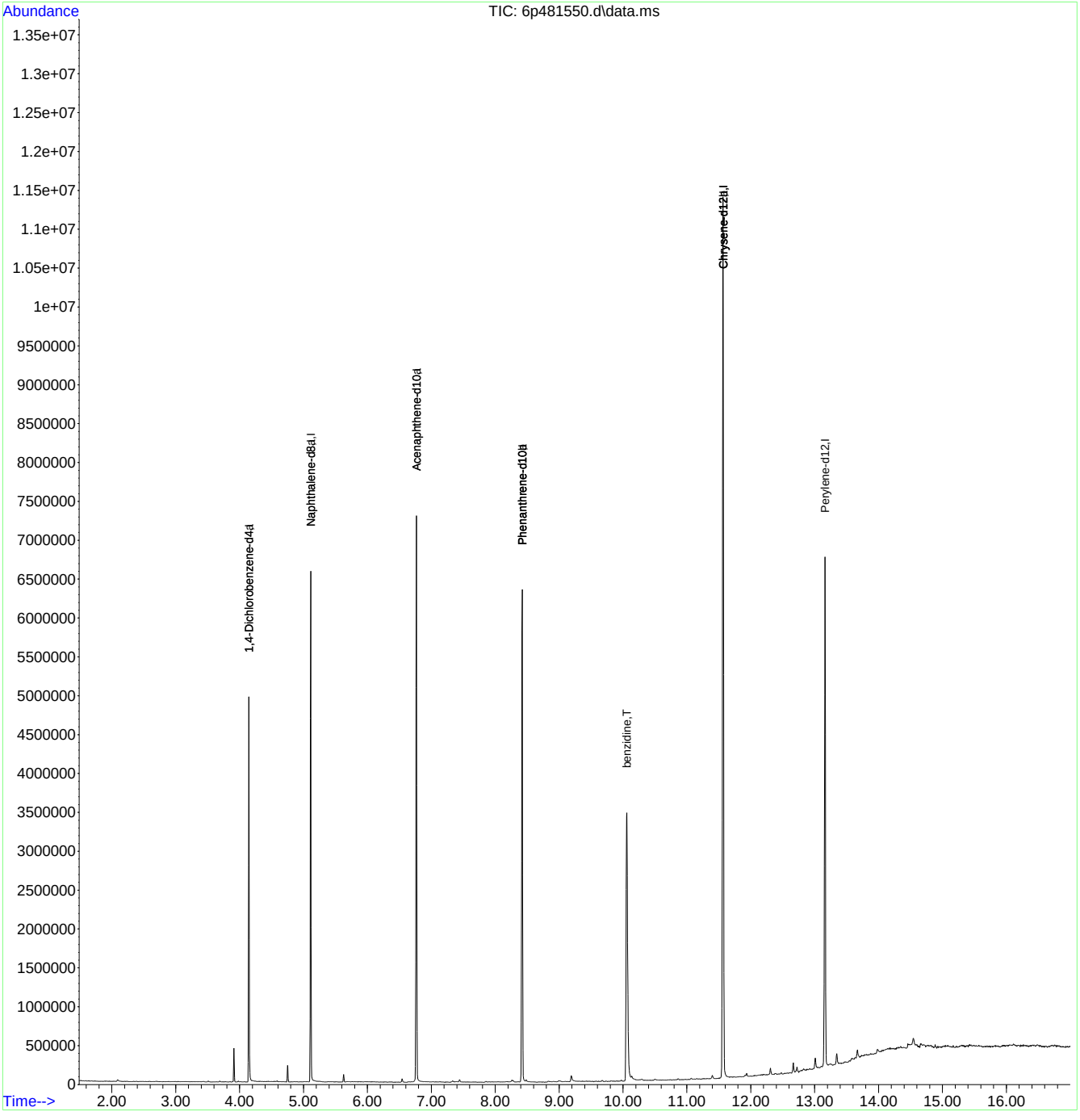
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.145 | 152 | 586587 | 40.00 ppm | 0.00 |
| 24) Naphthalene-d8 | 5.113 | 136 | 2359450 | 40.00 ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.766 | 164 | 1426930 | 40.00 ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.424 | 188 | 2365054 | 40.00 ppm | 0.00 |
| 83) Chrysene-d12 | 11.569 | 240 | 2190073 | 40.00 ppm | 0.00 |
| 91) Perylene-d12 | 13.163 | 264 | 2342017 | 40.00 ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.145 | 152 | 586587 | 40.00 ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.766 | 164 | 1426930 | 40.00 ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.424 | 188 | 2365054 | 40.00 ppm | 0.00 |
| 109) Chrysene-d12a | 11.569 | 240 | 2190073 | 40.00 ppm | 0.00 |
| 111) Naphthalene-d8a | 5.113 | 136 | 2359450 | 40.00 ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.424 | 188 | 2365054 | 40.00 ppm | 0.00 |
| 115) Chrysene-d12b | 11.569 | 240 | 2190073 | 40.00 ppm | 0.00 |
| System Monitoring Compounds | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 ppm | |
| Spiked Amount 50.000 | | | Recovery | = 0.00% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 ppm | |
| Target Compounds | | | | | Qvalue |
| 110) benzidine | 10.061 | 184 | 2296125 | 50.95 ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\jeryllr\e6p2579\
Data File : 6p481550.d
Acq On : 2 May 2019 9:57 am
Operator : angelar
Sample : cc2566-50 Inst : MS6P
Misc : op17006,e6p2579,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 03 04:54:33 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon Apr 22 11:56:54 2019
QLast Update : Fri May 03 04:53:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481612.D
Acq On : 3 May 2019 1:40 pm
Operator : angelar
Sample : cc2562-25
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 03 14:27:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 14:25:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 547238 | 40.00 ppm | -0.01 |
| 24) Naphthalene-d8 | 5.092 | 136 | 2175756 | 40.00 ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.745 | 164 | 1466634 | 40.00 ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.403 | 188 | 2382172 | 40.00 ppm | 0.00 |
| 83) Chrysene-d12 | 11.548 | 240 | 1824069 | 40.00 ppm | 0.00 |
| 91) Perylene-d12 | 13.136 | 264 | 2114035 | 40.00 ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 547238 | 40.00 ppm | -0.01 |
| 103) Acenaphthene-d10a | 6.745 | 164 | 1466634 | 40.00 ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.403 | 188 | 2382172 | 40.00 ppm | 0.00 |
| 109) Chrysene-d12a | 11.548 | 240 | 1824069 | 40.00 ppm | 0.00 |
| 111) Naphthalene-d8a | 5.092 | 136 | 2175756 | 40.00 ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.403 | 188 | 2382172 | 40.00 ppm | 0.00 |
| 115) Chrysene-d12b | 11.548 | 240 | 1824069 | 40.00 ppm | 0.00 |
| System Monitoring Compounds | | | | | |
| 5) 2-Fluorophenol | 3.140 | 112 | 456008 | 28.49 ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery | = 56.98% | |
| 8) Phenol-d5 | 3.905 | 99 | 557857 | 28.54 ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery | = 57.08% | |
| 25) Nitrobenzene-d5 | 4.541 | 82 | 548985 | 30.32 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 60.64% | |
| 51) 2-Fluorobiphenyl | 6.071 | 172 | 1244852 | 24.03 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 48.06% | |
| 73) 2,4,6-Tribromophenol | 7.616 | 330 | 181959 | 23.74 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 47.48% | |
| 85) Terphenyl-d14 | 10.318 | 244 | 1165201 | 27.42 ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 54.84% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 ppm | |
| Target Compounds | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.530 | 88 | 194908 | 27.05 ppm | 98 |
| 3) Pyridine | 1.824 | 79 | 463800 | 28.30 ppm | 98 |
| 4) N-Nitrosodimethylamine | 1.802 | 74 | 260590 | 27.28 ppm | 96 |
| 6) Indene | 4.316 | 116 | 812096 | 27.37 ppm | 99 |
| 7) Cumene | 3.509 | 105 | 1188685 | 27.96 ppm | 97 |
| 9) Phenol | 3.915 | 94 | 603584 | 25.30 ppm | 88 |
| 10) Aniline | 3.888 | 93 | 670650 | 31.50 ppm | 94 |
| 11) bis(2-Chloroethyl)ether | 3.942 | 93 | 435117 | 26.32 ppm | 98 |
| 12) 2-Chlorophenol | 3.979 | 128 | 501557 | 26.51 ppm | 99 |
| 13) Decane | 4.022 | 43 | 392244 | 27.01 ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.081 | 146 | 554479 | 25.71 ppm | 98 |
| 15) 1,4-Dichlorobenzene | 4.140 | 146 | 569084 | 25.78 ppm | 99 |
| 16) Benzyl alcohol | 4.252 | 108 | 299525 | 29.15 ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.252 | 146 | 533657 | 26.32 ppm | 98 |
| 18) Acetophenone | 4.434 | 105 | 700272 | 27.53 ppm | 100 |
| 19) 2-Methylphenol | 4.354 | 108 | 446243 | 27.79 ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.343 | 121 | 149399 | 25.35 ppm | 96 |
| 21) 3&4-Methylphenol | 4.466 | 108 | 479748 | 28.41 ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481612.D
Acq On : 3 May 2019 1:40 pm
Operator : angelar
Sample : cc2562-25
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 03 14:27:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 14:25:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.439 | 70 | 311852 | 27.41 | ppm | | 91 |
| 23) Hexachloroethane | 4.493 | 201 | 178899 | 23.22 | ppm | | 100 |
| 26) Nitrobenzene | 4.557 | 77 | 510893 | 27.73 | ppm | | 99 |
| 27) Quinoline | 5.413 | 129 | 1120606 | 28.39 | ppm | | 97 |
| 28) Isophorone | 4.739 | 82 | 895812 | 28.45 | ppm | | 98 |
| 29) 2-Nitrophenol | 4.798 | 139 | 300511 | 27.90 | ppm | | 92 |
| 30) 2,4-Dimethylphenol | 4.857 | 107 | 494796 | 30.09 | ppm | | 100 |
| 31) Benzoic acid | 5.001 | 105 | 464687 | 27.97 | ppm | | 99 |
| 32) bis(2-Chloroethoxy)met... | 4.915 | 93 | 527983 | 26.69 | ppm | | 99 |
| 33) 2,4-Dichlorophenol | 5.001 | 162 | 433592 | 26.67 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 5.177 | 162 | 419276 | 26.04 | ppm | | 100 |
| 35) 1,3,5-Trichlorobenzene | 4.803 | 180 | 473271 | 24.57 | ppm | | 96 |
| 36) 1,2,4-Trichlorobenzene | 5.049 | 180 | 447712 | 24.06 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.231 | 180 | 441184 | 23.82 | ppm | | 95 |
| 38) Naphthalene | 5.108 | 128 | 1517085 | 26.77 | ppm | | 99 |
| 39) 4-Chloroaniline | 5.172 | 127 | 594965 | 26.07 | ppm | | 100 |
| 40) 2,3-Dichloroaniline | 5.990 | 161 | 579007 | 28.07 | ppm | | 95 |
| 41) Caprolactam | 5.493 | 55 | 225590 | 32.43 | ppm | | 96 |
| 42) Hexachlorobutadiene | 5.220 | 225 | 236717 | 22.35 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 5.627 | 107 | 544094 | 32.61 | ppm | | 87 |
| 44) 2-Methylnaphthalene | 5.712 | 141 | 908405 | 28.34 | ppm | | 97 |
| 45) 1-Methylnaphthalene | 5.803 | 141 | 1002575 | 28.00 | ppm | | 99 |
| 46) Dimethylnaphthalene | 6.322 | 156 | 1057771 | 27.77 | ppm | | 96 |
| 48) Hexachlorocyclopentadiene | 5.867 | 237 | 293066 | 34.70 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 6.001 | 196 | 314526 | 22.99 | ppm | | 96 |
| 50) 2,4,5-Trichlorophenol | 6.055 | 196 | 329858 | 22.67 | ppm | | 99 |
| 52) 2-Chloronaphthalene | 6.178 | 162 | 1072693 | 24.80 | ppm | | 94 |
| 53) Biphenyl | 6.167 | 154 | 1478149 | 26.35 | ppm | | 99 |
| 54) 2-Nitroaniline | 6.301 | 65 | 373780 | 33.25 | ppm | # | 74 |
| 55) Dimethylphthalate | 6.499 | 163 | 1257952 | 25.04 | ppm | | 98 |
| 56) Acenaphthylene | 6.595 | 152 | 1795325 | 26.90 | ppm | | 98 |
| 57) 2,6-Dinitrotoluene | 6.557 | 165 | 297221 | 26.17 | ppm | | 80 |
| 58) 3-Nitroaniline | 6.734 | 138 | 321090 | 25.99 | ppm | | 86 |
| 59) Acenaphthene | 6.777 | 153 | 1169131 | 26.39 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 6.868 | 184 | 265738 | 36.82 | ppm | | 69 |
| 61) 4-Nitrophenol | 6.985 | 109 | 204890 | 32.37 | ppm | | 92 |
| 62) Dibenzofuran | 6.964 | 168 | 1550603 | 25.13 | ppm | | 93 |
| 63) 2,4-Dinitrotoluene | 7.001 | 165 | 417503 | 26.46 | ppm | | 74 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.124 | 232 | 264615 | 22.22 | ppm | | 83 |
| 65) Diethylphthalate | 7.263 | 149 | 1343799 | 27.13 | ppm | | 96 |
| 66) Fluorene | 7.338 | 166 | 1275314 | 25.46 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.354 | 204 | 549788 | 21.65 | ppm | | 86 |
| 68) 4-Nitroaniline | 7.408 | 138 | 286100 | 21.87 | ppm | | 82 |
| 70) 4,6-Dinitro-2-methylph... | 7.461 | 198 | 204223 | 22.20 | ppm | | 81 |
| 71) n-Nitrosodiphenylamine | 7.499 | 169 | 887366 | 26.96 | ppm | | 95 |
| 72) 1,2-Diphenylhydrazine | 7.531 | 77 | 1336856 | 35.88 | ppm | | 87 |
| 74) 4-Bromophenyl-phenylether | 7.900 | 248 | 310405 | 24.25 | ppm | # | 80 |
| 75) Hexachlorobenzene | 7.969 | 284 | 356742 | 23.72 | ppm | | 84 |
| 76) Pentachlorophenol | 8.221 | 266 | 427369 | 45.31 | ppm | | 99 |
| 77) Phenanthrene | 8.424 | 178 | 1714567 | 26.81 | ppm | | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481612.D
Acq On : 3 May 2019 1:40 pm
Operator : angelar
Sample : cc2562-25
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 03 14:27:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 14:25:38 2019
Response via : Initial Calibration

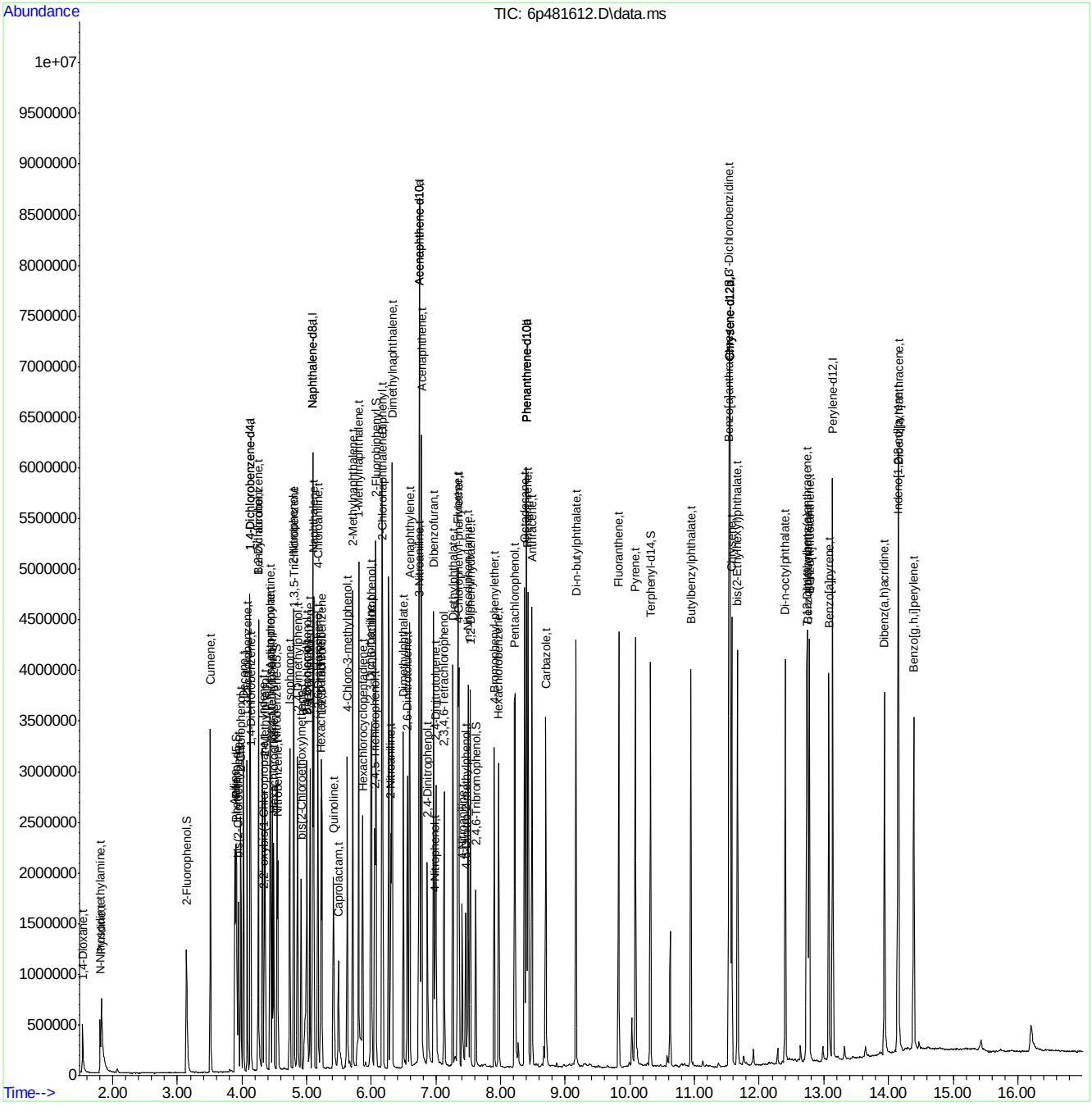
| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.483 | 178 | 1801552 | 28.09 | ppm | 100 |
| 79) | Carbazole | 8.702 | 167 | 1530803 | 25.21 | ppm | 100 |
| 80) | Di-n-butylphthalate | 9.168 | 149 | 2134926 | 30.10 | ppm | 98 |
| 81) | Fluoranthene | 9.825 | 202 | 1690026 | 24.32 | ppm | 96 |
| 82) | Octadecane | 8.371 | 57 | 766749 | 35.77 | ppm | 98 |
| 84) | Pyrene | 10.088 | 202 | 1747646 | 28.76 | ppm | 98 |
| 86) | Butylbenzylphthalate | 10.943 | 149 | 969308 | 37.01 | ppm | 89 |
| 87) | Benzo[a]anthracene | 11.532 | 228 | 1522035 | 26.20 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 11.537 | 252 | 555807 | 25.46 | ppm | 99 |
| 89) | Chrysene | 11.574 | 228 | 1456616 | 25.57 | ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.665 | 149 | 1230520 | 33.99 | ppm | 97 |
| 92) | Di-n-octylphthalate | 12.403 | 149 | 2106254 | 33.45 | ppm | 97 |
| 93) | Benzo[b]fluoranthene | 12.751 | 252 | 1634972 | 25.32 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 12.778 | 252 | 1501252 | 26.26 | ppm | 99 |
| 95) | Benzo[a]pyrene | 13.077 | 252 | 1433462 | 27.02 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.147 | 276 | 1892587 | 26.72 | ppm | 98 |
| 97) | Dibenz(a,h)acridine | 13.939 | 279 | 1420213 | 27.30 | ppm | 96 |
| 98) | Dibenz[a,h]anthracene | 14.158 | 278 | 1666835 | 26.55 | ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.735 | 256 | 753975 | 26.21 | ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.393 | 276 | 1467771 | 26.57 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481612.D
Acq On : 3 May 2019 1:40 pm
Operator : angelar
Sample : cc2562-25
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 03 14:27:13 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 10:56:42 2019
QLast Update : Fri May 03 14:25:38 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481613.D
Acq On : 3 May 2019 2:04 pm
Operator : angelar
Sample : cc2563-25
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 03 14:29:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 14:25:38 2019
QLast Update : Fri May 03 14:25:38 2019
Response via : Initial Calibration

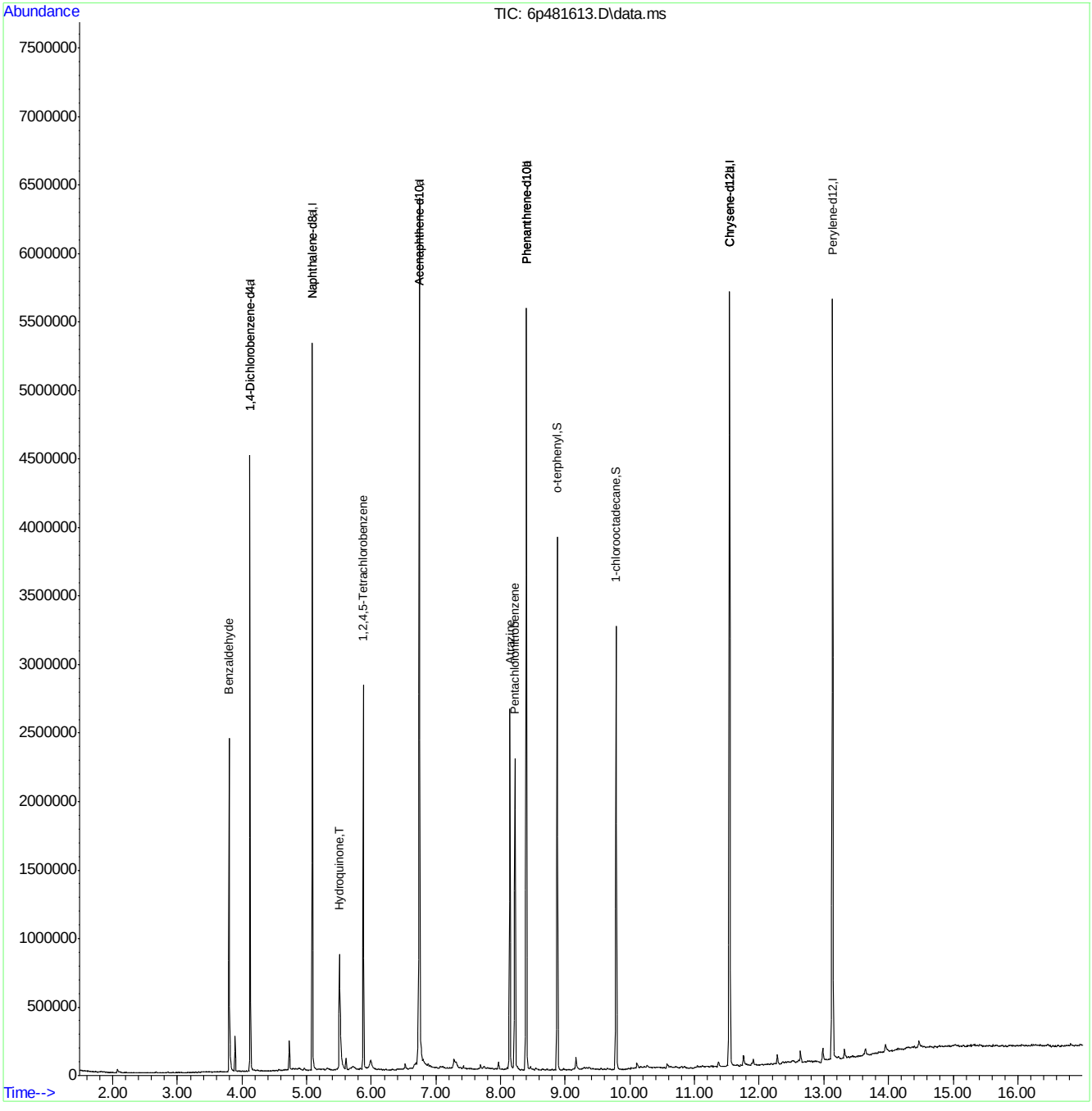
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 526657 | 40.00 | ppm | -0.01 |
| 24) Naphthalene-d8 | 5.086 | 136 | 2044258 | 40.00 | ppm | -0.01 |
| 47) Acenaphthene-d10 | 6.744 | 164 | 1270902 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.397 | 188 | 1964594 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 11.542 | 240 | 1807819 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 13.136 | 264 | 1941639 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 526657 | 40.00 | ppm | -0.01 |
| 103) Acenaphthene-d10a | 6.744 | 164 | 1270902 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.397 | 188 | 1964594 | 40.00 | ppm | -0.01 |
| 109) Chrysene-d12a | 11.542 | 240 | 1807819 | 40.00 | ppm | -0.01 |
| 111) Naphthalene-d8a | 5.086 | 136 | 2044258 | 40.00 | ppm | -0.01 |
| 113) Phenanthrene-d10b | 8.397 | 188 | 1964594 | 40.00 | ppm | -0.01 |
| 115) Chrysene-d12b | 11.542 | 240 | 1807819 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 9.788 | 57 | 394856 | 33.64 | ppm | 0.05 |
| 107) o-terphenyl | 8.879 | 230 | 743347 | 25.94 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.797 | 105 | 390885 | 29.90 | ppm | 97 |
| 104) 1,2,4,5-Tetrachloroben... | 5.878 | 216 | 407597 | 24.03 | ppm | 99 |
| 108) Atrazine | 8.146 | 215 | 159581 | 28.07 | ppm | 90 |
| 112) Hydroquinone | 5.504 | 110 | 498431 | 31.75 | ppm | 99 |
| 114) Pentachloronitrobenzene | 8.221 | 295 | 62786 | 26.11 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2581\
Data File : 6p481613.D
Acq On : 3 May 2019 2:04 pm
Operator : angelar
Sample : cc2563-25
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 03 14:29:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 03 14:25:38 2019
QLast Update : Fri May 03 14:25:38 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481623.d
Acq On : 3 May 2019 6:08 pm
Operator : angelar
Sample : ecc2562-25 Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 03:00:19 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 600551 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.092 | 136 | 2378778 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.745 | 164 | 1384264 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.397 | 188 | 2177932 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.548 | 240 | 1866145 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.136 | 264 | 1950006 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 600551 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.745 | 164 | 1384264 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.397 | 188 | 2177932 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.548 | 240 | 1866145 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.092 | 136 | 2378778 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.397 | 188 | 2177932 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.548 | 240 | 1866145 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.134 | 112 | 471975 | 26.87 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 53.74% | |
| 8) Phenol-d5 | 3.899 | 99 | 609425 | 28.41 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 56.82% | |
| 25) Nitrobenzene-d5 | 4.541 | 82 | 589761 | 29.79 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 59.58% | |
| 51) 2-Fluorobiphenyl | 6.071 | 172 | 1181465 | 24.16 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 48.32% | |
| 73) 2,4,6-Tribromophenol | 7.616 | 330 | 171531 | 24.48 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 48.96% | |
| 85) Terphenyl-d14 | 10.317 | 244 | 1083828 | 24.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 49.86% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0 | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.530 | 88 | 200386 | 25.35 | ppm | 94 |
| 3) Pyridine | 1.818 | 79 | 495381 | 27.55 | ppm | 94 |
| 4) N-Nitrosodimethylamine | 1.802 | 74 | 270533 | 25.81 | ppm | 93 |
| 6) Indene | 4.311 | 116 | 912598 | 28.03 | ppm | 98 |
| 7) Cumene | 3.509 | 105 | 1347447 | 28.88 | ppm | 99 |
| 9) Phenol | 3.910 | 94 | 717654 | 27.41 | ppm | 84 |
| 10) Aniline | 3.888 | 93 | 763568 | 32.68 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 3.942 | 93 | 476193 | 26.25 | ppm | 97 |
| 12) 2-Chlorophenol | 3.979 | 128 | 539571 | 25.99 | ppm | 99 |
| 13) Decane | 4.022 | 43 | 447850 | 28.10 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.081 | 146 | 584777 | 24.71 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 4.134 | 146 | 608728 | 25.12 | ppm | 98 |
| 16) Benzyl alcohol | 4.252 | 108 | 316095 | 28.03 | ppm | 97 |
| 17) 1,2-Dichlorobenzene | 4.247 | 146 | 553403 | 24.87 | ppm | 98 |
| 18) Acetophenone | 4.434 | 105 | 798429 | 28.61 | ppm | 99 |
| 19) 2-Methylphenol | 4.348 | 108 | 506365 | 28.73 | ppm | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.343 | 121 | 168761 | 26.09 | ppm # | 72 |
| 21) 3&4-Methylphenol | 4.466 | 108 | 516035 | 27.85 | ppm | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.439 | 70 | 369657 | 29.61 | ppm | 95 |
| 23) Hexachloroethane | 4.493 | 201 | 181537 | 21.47 | ppm | 97 |
| 26) Nitrobenzene | 4.557 | 77 | 598597 | 29.72 | ppm | 96 |
| 27) Quinoline | 5.402 | 129 | 1099137 | 25.47 | ppm | 99 |
| 28) Isophorone | 4.739 | 82 | 956627 | 27.79 | ppm | 98 |
| 29) 2-Nitrophenol | 4.798 | 139 | 310413 | 26.36 | ppm | 93 |
| 30) 2,4-Dimethylphenol | 4.856 | 107 | 512197 | 28.49 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481623.d
Acq On : 3 May 2019 6:08 pm
Operator : angelar
Sample : ecc2562-25 Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 03:00:19 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 31) Benzoic acid | 4.996 | 105 | 470104 | 25.88 | ppm | 94 |
| 32) bis(2-Chloroethoxy)met... | 4.915 | 93 | 609268 | 28.17 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 5.001 | 162 | 443427 | 24.95 | ppm | 94 |
| 34) 2,6-Dichlorophenol | 5.177 | 162 | 447976 | 25.45 | ppm | 99 |
| 35) 1,3,5-Trichlorobenzene | 4.803 | 180 | 481678 | 22.87 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.049 | 180 | 464354 | 22.82 | ppm | 96 |
| 37) 1,2,3-Trichlorobenzene | 5.231 | 180 | 463660 | 22.90 | ppm | 97 |
| 38) Naphthalene | 5.108 | 128 | 1646241 | 26.57 | ppm | 100 |
| 39) 4-Chloroaniline | 5.172 | 127 | 678532 | 27.19 | ppm | 98 |
| 40) 2,3-Dichloroaniline | 5.985 | 161 | 554568 | 24.59 | ppm | 97 |
| 41) Caprolactam | 5.488 | 55 | 208079 | 27.36 | ppm | 98 |
| 42) Hexachlorobutadiene | 5.220 | 225 | 253720 | 21.91 | ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 5.627 | 107 | 525053 | 28.79 | ppm | 98 |
| 44) 2-Methylnaphthalene | 5.712 | 141 | 910887 | 25.99 | ppm | 99 |
| 45) 1-Methylnaphthalene | 5.803 | 141 | 1039652 | 26.56 | ppm | 98 |
| 46) Dimethylnaphthalene | 6.322 | 156 | 1013731 | 24.34 | ppm | 98 |
| 48) Hexachlorocyclopentadiene | 5.862 | 237 | 143390 | 21.71 | ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 6.001 | 196 | 296686 | 22.98 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.049 | 196 | 310709 | 22.62 | ppm | 98 |
| 52) 2-Chloronaphthalene | 6.178 | 162 | 969509 | 23.75 | ppm | 99 |
| 53) Biphenyl | 6.162 | 154 | 1326225 | 25.05 | ppm | 99 |
| 54) 2-Nitroaniline | 6.301 | 65 | 352337 | 33.20 | ppm | 98 |
| 55) Dimethylphthalate | 6.493 | 163 | 1145287 | 24.15 | ppm | 99 |
| 56) Acenaphthylene | 6.589 | 152 | 1622894 | 25.76 | ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.557 | 165 | 267417 | 24.94 | ppm | 93 |
| 58) 3-Nitroaniline | 6.734 | 138 | 328797 | 28.20 | ppm | 97 |
| 59) Acenaphthene | 6.777 | 153 | 1121553 | 26.82 | ppm | 99 |
| 60) 2,4-Dinitrophenol | 6.868 | 184 | 243718 | 35.91 | ppm | 89 |
| 61) 4-Nitrophenol | 6.985 | 109 | 179776 | 30.09 | ppm | 97 |
| 62) Dibenzofuran | 6.964 | 168 | 1475139 | 25.33 | ppm | 99 |
| 63) 2,4-Dinitrotoluene | 7.001 | 165 | 392432 | 26.35 | ppm | 97 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.124 | 232 | 244748 | 21.77 | ppm | 98 |
| 65) Diethylphthalate | 7.263 | 149 | 1251424 | 26.77 | ppm | 99 |
| 66) Fluorene | 7.338 | 166 | 1214629 | 25.69 | ppm | 98 |
| 67) 4-Chlorophenyl-phenyle... | 7.354 | 204 | 531122 | 22.16 | ppm | 99 |
| 68) 4-Nitroaniline | 7.408 | 138 | 307298 | 24.89 | ppm | 97 |
| 70) 4,6-Dinitro-2-methylph... | 7.461 | 198 | 184558 | 21.94 | ppm | 92 |
| 71) n-Nitrosodiphenylamine | 7.499 | 169 | 847138 | 28.15 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 7.531 | 77 | 1184599 | 34.77 | ppm | 96 |
| 74) 4-Bromophenyl-phenylether | 7.900 | 248 | 288423 | 24.64 | ppm | 98 |
| 75) Hexachlorobenzene | 7.975 | 284 | 334200 | 24.31 | ppm | 89 |
| 76) Pentachlorophenol | 8.221 | 266 | 376316 | 43.78 | ppm | 99 |
| 77) Phenanthrene | 8.424 | 178 | 1567560 | 26.81 | ppm | 99 |
| 78) Anthracene | 8.483 | 178 | 1665928 | 28.41 | ppm | 99 |
| 79) Carbazole | 8.697 | 167 | 1603772 | 28.89 | ppm | 99 |
| 80) Di-n-butylphthalate | 9.167 | 149 | 2099332 | 32.38 | ppm | 99 |
| 81) Fluoranthene | 9.825 | 202 | 1633749 | 25.72 | ppm | 99 |
| 82) Octadecane | 8.371 | 57 | 649283 | 33.13 | ppm | 99 |
| 84) Pyrene | 10.087 | 202 | 1714872 | 27.58 | ppm | 99 |
| 86) Butylbenzylphthalate | 10.943 | 149 | 932041 | 34.78 | ppm | 98 |
| 87) Benzo[a]anthracene | 11.532 | 228 | 1555031 | 26.16 | ppm | 99 |
| 88) 3,3'-Dichlorobenzidine | 11.537 | 252 | 597706 | 26.77 | ppm | 97 |
| 89) Chrysene | 11.574 | 228 | 1431011 | 24.55 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 11.665 | 149 | 1238818 | 33.44 | ppm | 98 |
| 92) Di-n-octylphthalate | 12.403 | 149 | 2095157 | 36.07 | ppm | 99 |
| 93) Benzo[b]fluoranthene | 12.751 | 252 | 1547478 | 25.98 | ppm | 99 |
| 94) Benzo[k]fluoranthene | 12.778 | 252 | 1384165 | 26.25 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481623.d
Acq On : 3 May 2019 6:08 pm
Operator : angelar
Sample : ecc2562-25 Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 03:00:19 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 95) Benzo[a]pyrene | 13.077 | 252 | 1316621 | 26.91 | ppm | 99 |
| 96) Indeno[1,2,3-cd]pyrene | 14.147 | 276 | 1652223 | 25.29 | ppm | 98 |
| 97) Dibenz(a,h)acridine | 13.938 | 279 | 1194565 | 24.89 | ppm | 98 |
| 98) Dibenz[a,h]anthracene | 14.158 | 278 | 1469622 | 25.38 | ppm | 100 |
| 99) 7,12-Dimethylbenz(a)an... | 12.735 | 256 | 702044 | 26.43 | ppm | 97 |
| 100) Benzo[g,h,i]perylene | 14.388 | 276 | 1139747 | 22.37 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

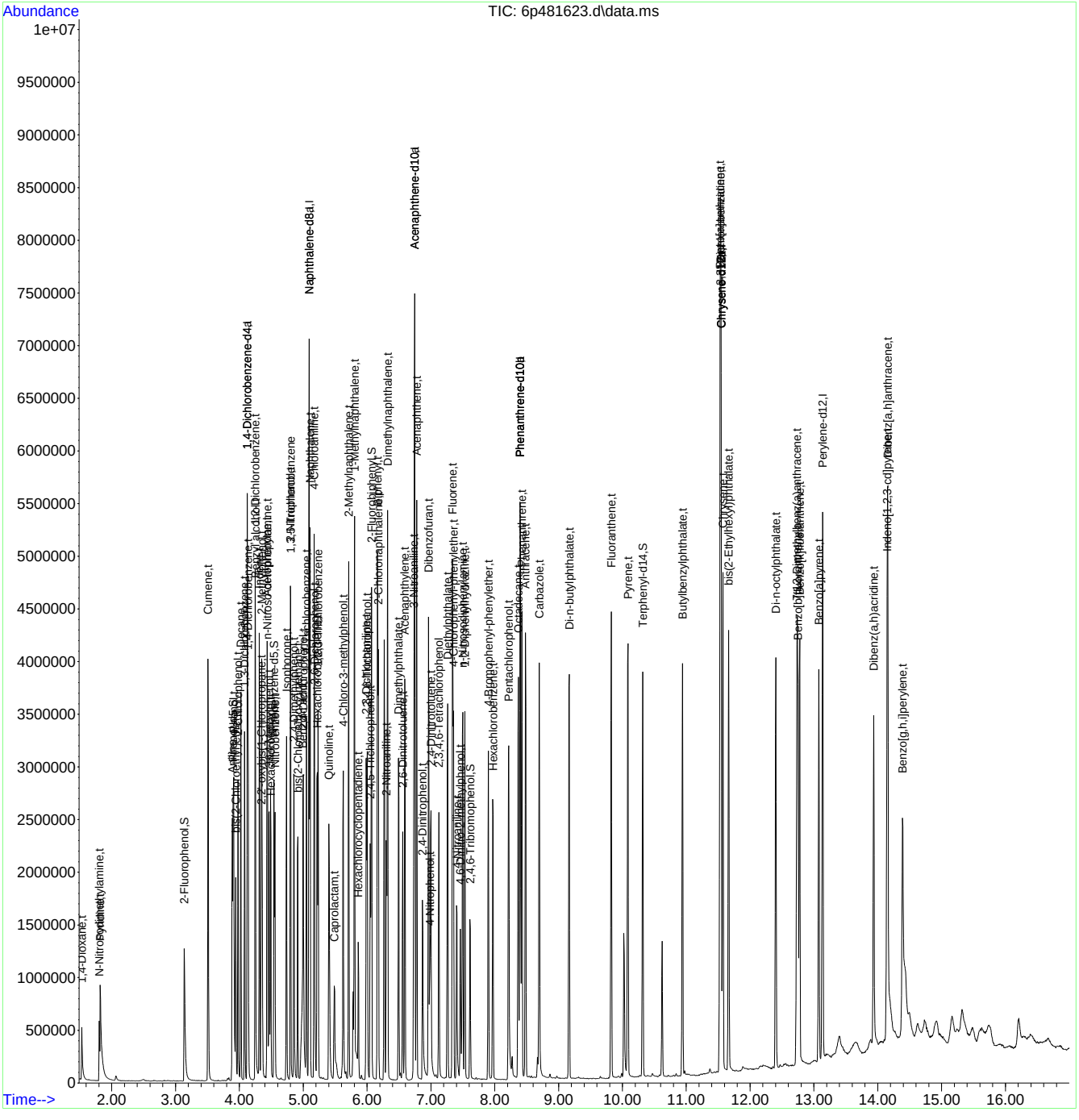
9.6.39

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481623.d
Acq On : 3 May 2019 6:08 pm
Operator : angelar
Sample : ecc2562-25 Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 03:00:19 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481624.d
Acq On : 3 May 2019 6:32 pm
Operator : angelar
Sample : ecc2563-25 Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 03:02:07 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration

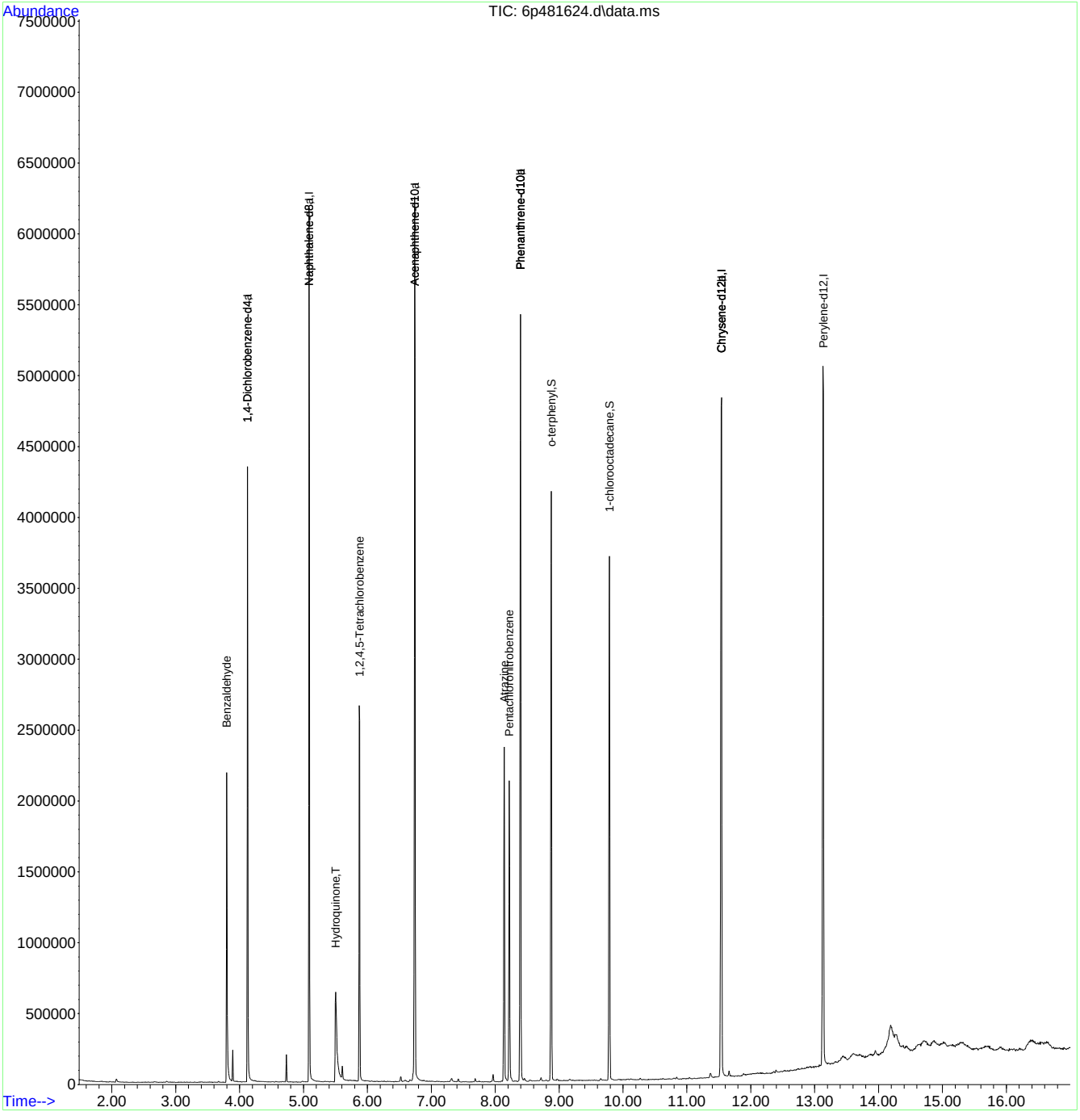
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.124 | 152 | 518274 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 5.086 | 136 | 2155787 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.739 | 164 | 1228533 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 8.397 | 188 | 1953132 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 11.542 | 240 | 1655186 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 13.136 | 264 | 1833626 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4a | 4.124 | 152 | 518274 | 40.00 | ppm | 0.00 |
| 103) Acenaphthene-d10a | 6.739 | 164 | 1228533 | 40.00 | ppm | 0.00 |
| 105) Phenanthrene-d10a | 8.397 | 188 | 1953132 | 40.00 | ppm | 0.00 |
| 109) Chrysene-d12a | 11.542 | 240 | 1655186 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8a | 5.086 | 136 | 2155787 | 40.00 | ppm | 0.00 |
| 113) Phenanthrene-d10b | 8.397 | 188 | 1953132 | 40.00 | ppm | 0.00 |
| 115) Chrysene-d12b | 11.542 | 240 | 1655186 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 9.788 | 57 | 466997 | 40.02 | ppm | 0.00 |
| 107) o-terphenyl | 8.879 | 230 | 726048 | 25.48 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.797 | 105 | 377793 | 29.37 | ppm | 99 |
| 104) 1,2,4,5-Tetrachloroben... | 5.878 | 216 | 378753 | 23.10 | ppm | 98 |
| 108) Atrazine | 8.140 | 215 | 140318 | 24.94 | ppm | 89 |
| 112) Hydroquinone | 5.504 | 110 | 480632 | 29.04 | ppm | 98 |
| 114) Pentachloronitrobenzene | 8.221 | 295 | 55910 | 23.39 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\michellc\e6p2581\
Data File : 6p481624.d
Acq On : 3 May 2019 6:32 pm
Operator : angelar
Sample : ecc2563-25 Inst : MS6P
Misc : op17006,e6p2581,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Results File: M6P2562.RES
Quant Time: May 06 03:02:07 2019
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed Apr 17 09:00:59 2019
QLast Update : Mon May 06 02:06:50 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/10/19 12:55

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481783.D
Acq On : 10 May 2019 9:11 am
Operator : angelar
Sample : cc2562-50
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 10:34:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.209 | 152 | 553833 | 40.00 | ppm | -0.04 |
| 24) Naphthalene-d8 | 5.188 | 136 | 2315101 | 40.00 | ppm | -0.04 |
| 47) Acenaphthene-d10 | 6.857 | 164 | 1363428 | 40.00 | ppm | -0.05 |
| 69) Phenanthrene-d10 | 8.526 | 188 | 2439898 | 40.00 | ppm | -0.05 |
| 83) Chrysene-d12 | 11.692 | 240 | 2093121 | 40.00 | ppm | -0.04 |
| 91) Perylene-d12 | 13.291 | 264 | 2208009 | 40.00 | ppm | -0.04 |
| 101) 1,4-Dichlorobenzene-d4a | 4.209 | 152 | 553833 | 40.00 | ppm | -0.04 |
| 103) Acenaphthene-d10a | 6.857 | 164 | 1363428 | 40.00 | ppm | -0.05 |
| 105) Phenanthrene-d10a | 8.526 | 188 | 2439898 | 40.00 | ppm | -0.05 |
| 109) Chrysene-d12a | 11.692 | 240 | 2093121 | 40.00 | ppm | -0.04 |
| 111) Naphthalene-d8a | 5.188 | 136 | 2315101 | 40.00 | ppm | -0.04 |
| 113) Phenanthrene-d10b | 8.526 | 188 | 2439898 | 40.00 | ppm | -0.05 |
| 115) Chrysene-d12b | 11.692 | 240 | 2093121 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 3.236 | 112 | 928562 | 57.31 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 114.62% | |
| 8) Phenol-d5 | 3.990 | 99 | 1162002 | 58.74 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery | = | 117.48% | |
| 25) Nitrobenzene-d5 | 4.632 | 82 | 1109354 | 57.58 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery | = | 115.16% | |
| 51) 2-Fluorobiphenyl | 6.172 | 172 | 2446127 | 50.78 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery | = | 101.56% | |
| 73) 2,4,6-Tribromophenol | 7.739 | 330 | 355479 | 45.28 | ppm | -0.04 |
| Spiked Amount 50.000 | | | Recovery | = | 90.56% | |
| 85) Terphenyl-d14 | 10.451 | 244 | 2509500 | 51.46 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery | = | 102.92% | |
| 106) 1-chlorooctadecane | 0.000 | 57 | 0d | 0.00 | ppm | |
| 107) o-terphenyl | 0.000 | 230 | 0 | 0.00 | ppm | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.621 | 88 | 425003 | 58.29 | ppm | 96 |
| 3) Pyridine | 1.936 | 79 | 1011544 | 61.00 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 1.915 | 74 | 570753 | 59.05 | ppm | 97 |
| 6) Indene | 4.397 | 116 | 1675267 | 55.79 | ppm | 100 |
| 7) Cumene | 3.600 | 105 | 2454969 | 57.06 | ppm | 99 |
| 9) Phenol | 4.001 | 94 | 1278195 | 52.94 | ppm | 92 |
| 10) Aniline | 3.974 | 93 | 1252154 | 58.11 | ppm | 92 |
| 11) bis(2-Chloroethyl)ether | 4.027 | 93 | 914381 | 54.66 | ppm | 98 |
| 12) 2-Chlorophenol | 4.070 | 128 | 1023818 | 53.47 | ppm | 97 |
| 13) Decane | 4.102 | 43 | 836856 | 56.94 | ppm | 99 |
| 14) 1,3-Dichlorobenzene | 4.167 | 146 | 1121951 | 51.40 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 4.220 | 146 | 1144468 | 51.22 | ppm | 99 |
| 16) Benzyl alcohol | 4.338 | 108 | 644240 | 61.95 | ppm | 96 |
| 17) 1,2-Dichlorobenzene | 4.332 | 146 | 1087381 | 52.98 | ppm | 100 |
| 18) Acetophenone | 4.520 | 105 | 1490772 | 57.92 | ppm | 97 |
| 19) 2-Methylphenol | 4.439 | 108 | 940657 | 57.88 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.423 | 121 | 324178 | 54.35 | ppm | 86 |
| 21) 3&4-Methylphenol | 4.552 | 108 | 993445 | 58.13 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481783.D
Acq On : 10 May 2019 9:11 am
Operator : angelar
Sample : cc2562-50
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 10:34:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 22) n-Nitroso-di-n-propyla... | 4.530 | 70 | 675458 | 58.66 ppm | 95 |
| 23) Hexachloroethane | 4.573 | 201 | 375609 | 48.17 ppm | 85 |
| 26) Nitrobenzene | 4.643 | 77 | 1108178 | 56.53 ppm | 90 |
| 27) Quinoline | 5.514 | 129 | 2182770 | 51.97 ppm | 97 |
| 28) Isophorone | 4.830 | 82 | 1879414 | 56.10 ppm | 97 |
| 29) 2-Nitrophenol | 4.889 | 139 | 630209 | 54.98 ppm | 91 |
| 30) 2,4-Dimethylphenol | 4.947 | 107 | 1125035 | 64.30 ppm | 95 |
| 31) Benzoic acid | 5.119 | 105 | 913242 | 51.66 ppm | 92 |
| 32) bis(2-Chloroethoxy)met... | 5.001 | 93 | 1218194 | 57.88 ppm | 98 |
| 33) 2,4-Dichlorophenol | 5.097 | 162 | 866479 | 50.10 ppm | 96 |
| 34) 2,6-Dichlorophenol | 5.274 | 162 | 869348 | 50.75 ppm | 98 |
| 35) 1,3,5-Trichlorobenzene | 4.894 | 180 | 965067 | 47.09 ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 5.145 | 180 | 897579 | 45.33 ppm | 98 |
| 37) 1,2,3-Trichlorobenzene | 5.333 | 180 | 908447 | 46.10 ppm | 97 |
| 38) Naphthalene | 5.204 | 128 | 3115939 | 51.68 ppm | 99 |
| 39) 4-Chloroaniline | 5.268 | 127 | 1264644 | 52.07 ppm | 98 |
| 40) 2,3-Dichloroaniline | 6.097 | 161 | 1077003 | 49.08 ppm | 97 |
| 41) Caprolactam | 5.616 | 55 | 430742m | 58.20 ppm | |
| 42) Hexachlorobutadiene | 5.311 | 225 | 512208 | 45.46 ppm | 99 |
| 43) 4-Chloro-3-methylphenol | 5.734 | 107 | 1010934 | 56.95 ppm | 88 |
| 44) 2-Methylnaphthalene | 5.814 | 141 | 1753105 | 51.41 ppm | 97 |
| 45) 1-Methylnaphthalene | 5.905 | 141 | 1990749 | 52.25 ppm | 98 |
| 46) Dimethylnaphthalene | 6.434 | 156 | 2025735 | 49.97 ppm | 98 |
| 48) Hexachlorocyclopentadiene | 5.969 | 237 | 685462 | 74.82 ppm | 98 |
| 49) 2,4,6-Trichlorophenol | 6.113 | 196 | 619683 | 48.72 ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 6.167 | 196 | 671440 | 49.63 ppm | 99 |
| 52) 2-Chloronaphthalene | 6.290 | 162 | 1986545 | 49.40 ppm | 95 |
| 53) Biphenyl | 6.274 | 154 | 2741314 | 52.56 ppm | 99 |
| 54) 2-Nitroaniline | 6.418 | 65 | 647398 | 61.94 ppm | 85 |
| 55) Dimethylphthalate | 6.606 | 163 | 2372966 | 50.81 ppm | 99 |
| 56) Acenaphthylene | 6.707 | 152 | 3360424 | 54.16 ppm | 99 |
| 57) 2,6-Dinitrotoluene | 6.675 | 165 | 577750 | 54.71 ppm | 87 |
| 58) 3-Nitroaniline | 6.857 | 138 | 640654 | 55.79 ppm | 91 |
| 59) Acenaphthene | 6.894 | 153 | 2174573 | 52.79 ppm | 99 |
| 60) 2,4-Dinitrophenol | 6.991 | 184 | 651346 | 89.12 ppm | 93 |
| 61) 4-Nitrophenol | 7.114 | 109 | 333149 | 56.61 ppm | 90 |
| 62) Dibenzofuran | 7.082 | 168 | 2902160 | 50.60 ppm | 90 |
| 63) 2,4-Dinitrotoluene | 7.124 | 165 | 780528 | 53.22 ppm | 83 |
| 64) 2,3,4,6-Tetrachlorophenol | 7.247 | 232 | 516887 | 46.69 ppm | 93 |
| 65) Diethylphthalate | 7.381 | 149 | 2419416 | 52.54 ppm | 98 |
| 66) Fluorene | 7.461 | 166 | 2414678 | 51.86 ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 7.472 | 204 | 1132281 | 47.97 ppm | 94 |
| 68) 4-Nitroaniline | 7.542 | 138 | 589817 | 48.51 ppm | 90 |
| 70) 4,6-Dinitro-2-methylph... | 7.590 | 198 | 458102 | 48.62 ppm | 85 |
| 71) n-Nitrosodiphenylamine | 7.616 | 169 | 1729274 | 51.30 ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 7.654 | 77 | 2320536 | 60.80 ppm | 98 |
| 74) 4-Bromophenyl-phenylether | 8.023 | 248 | 623589 | 47.56 ppm | 88 |
| 75) Hexachlorobenzene | 8.098 | 284 | 728217 | 47.28 ppm | 95 |
| 76) Pentachlorophenol | 8.349 | 266 | 879544 | 86.44 ppm | 98 |
| 77) Phenanthrene | 8.558 | 178 | 3466481 | 52.92 ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481783.D
Acq On : 10 May 2019 9:11 am
Operator : angelar
Sample : cc2562-50
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 10:34:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

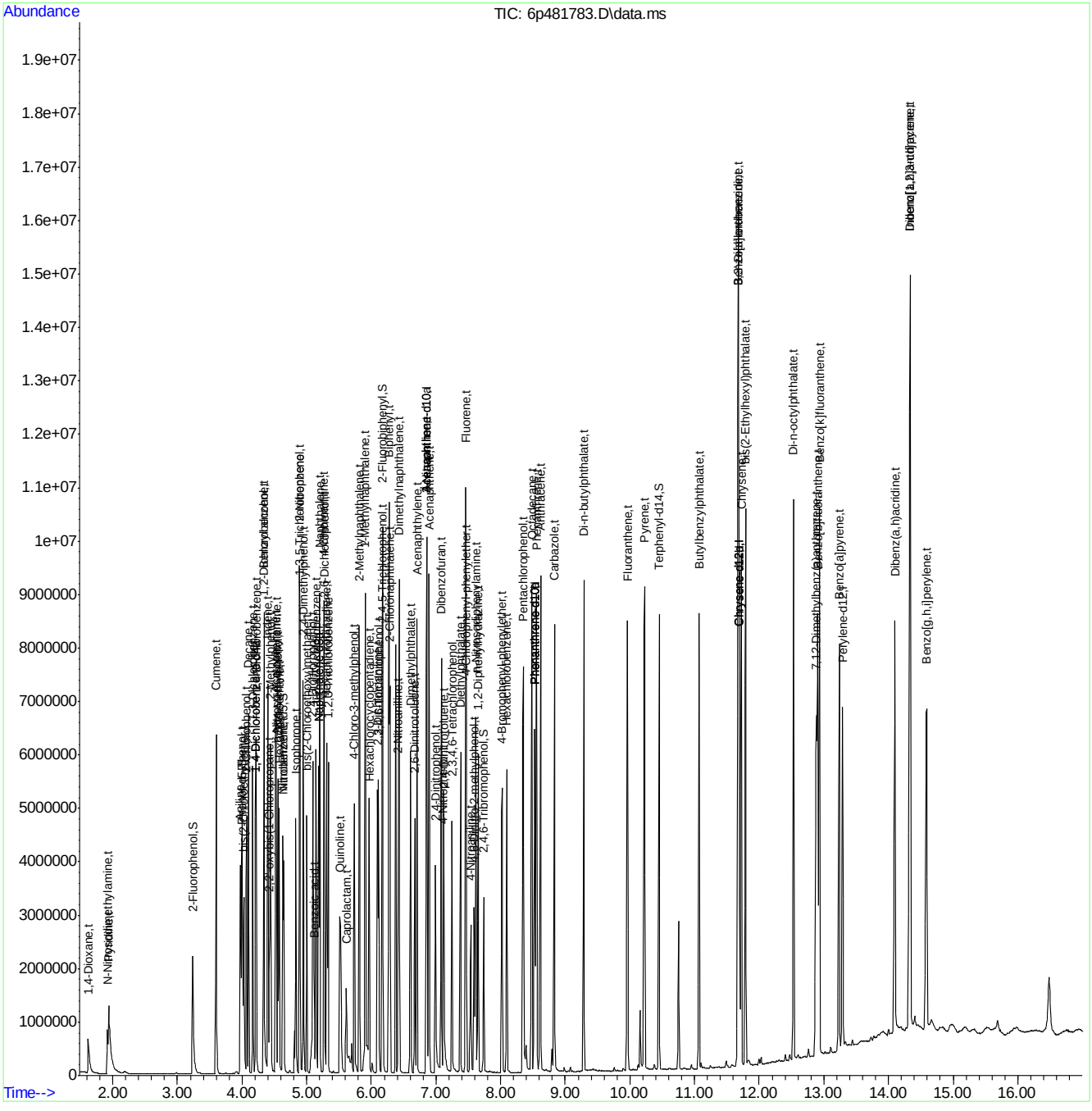
| | Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 78) | Anthracene | 8.617 | 178 | 3566167 | 54.28 ppm | 100 |
| 79) | Carbazole | 8.831 | 167 | 3295691 | 52.99 ppm | 99 |
| 80) | Di-n-butylphthalate | 9.285 | 149 | 4558228 | 62.75 ppm | 98 |
| 81) | Fluoranthene | 9.964 | 202 | 3638049 | 51.12 ppm | 98 |
| 82) | Octadecane | 8.483 | 57 | 1540773 | 70.18 ppm | 98 |
| 84) | Pyrene | 10.227 | 202 | 3833374 | 54.97 ppm | 99 |
| 86) | Butylbenzylphthalate | 11.072 | 149 | 2035322 | 67.72 ppm | 94 |
| 87) | Benzo[a]anthracene | 11.676 | 228 | 3655482 | 54.83 ppm | 100 |
| 88) | 3,3'-Dichlorobenzidine | 11.676 | 252 | 1483339 | 59.22 ppm | 99 |
| 89) | Chrysene | 11.724 | 228 | 3304807 | 50.55 ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 11.788 | 149 | 2926089 | 70.43 ppm | 99 |
| 92) | Di-n-octylphthalate | 12.532 | 149 | 5017691 | 76.29 ppm | 99 |
| 93) | Benzo[b]fluoranthene | 12.906 | 252 | 3733608 | 55.36 ppm | 98 |
| 94) | Benzo[k]fluoranthene | 12.933 | 252 | 3406335 | 57.06 ppm | 98 |
| 95) | Benzo[a]pyrene | 13.238 | 252 | 3085844 | 55.69 ppm | 97 |
| 96) | Indeno[1,2,3-cd]pyrene | 14.334 | 276 | 4365109 | 59.00 ppm | 98 |
| 97) | Dibenz(a,h)acridine | 14.099 | 279 | 3141223 | 57.81 ppm | 99 |
| 98) | Dibenz[a,h]anthracene | 14.334 | 278 | 4065859 | 62.02 ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 12.885 | 256 | 1618498 | 50.87 ppm | 99 |
| 100) | Benzo[g,h,i]perylene | 14.591 | 276 | 3132819 | 54.30 ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481783.D
Acq On : 10 May 2019 9:11 am
Operator : angelar
Sample : cc2562-50
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 10:34:23 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



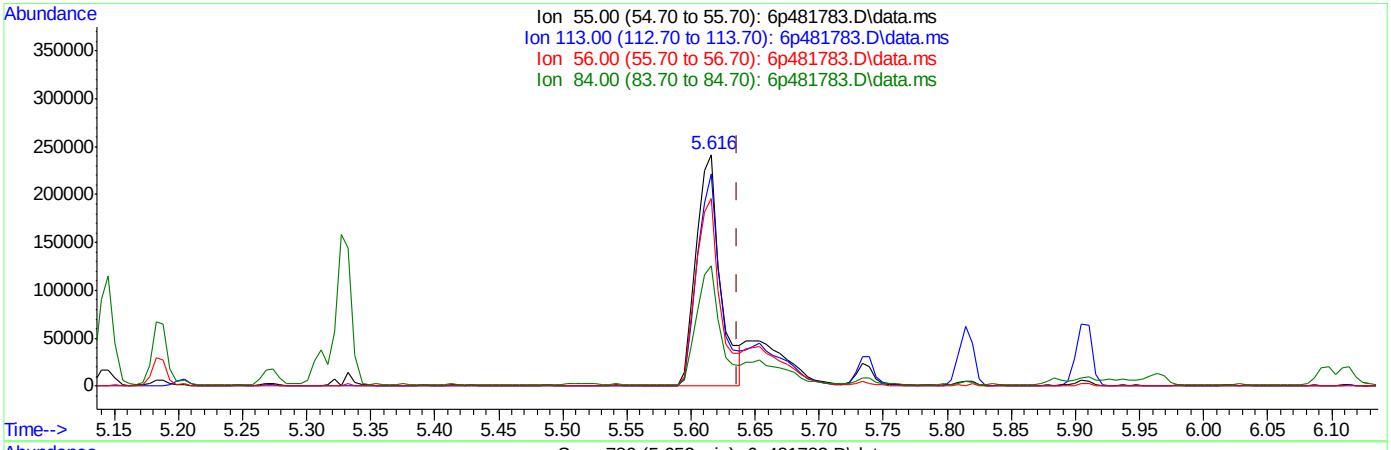
| | | | |
|---|---|---|---|
| **Sample Number:** | E6P2588-CC2562 | **Method:** | SW846 8270D |
| **Lab FileID:** | 6P481783.D | **Analyst approved:** | 05/10/19 10:38 Ying Li |
| **Injection Time:** | 05/10/19 09:11 | **Supervisor approved:** | 05/10/19 12:55 Kristi Schollenberger |

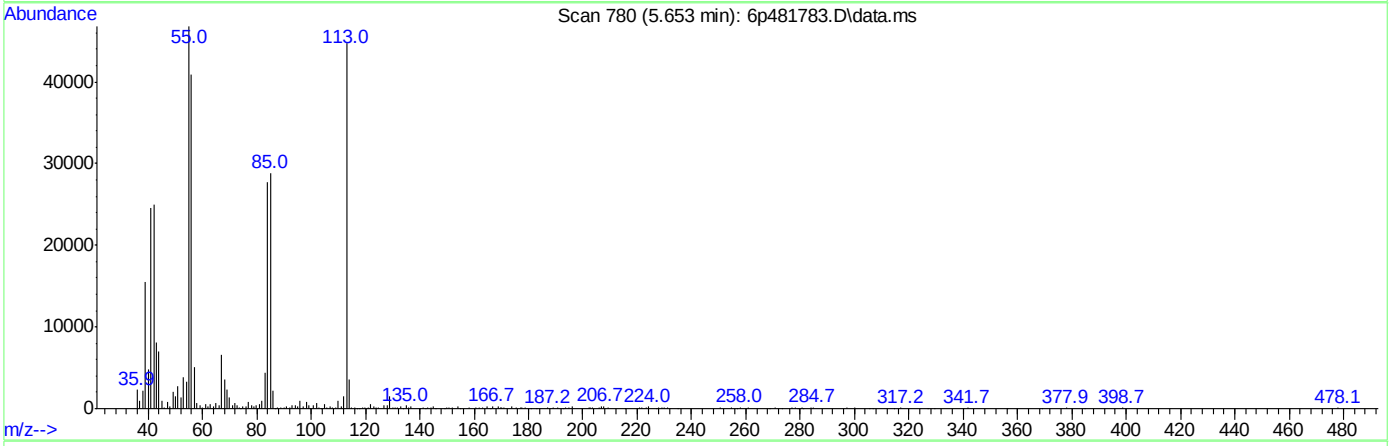
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Caprolactam | 105-60-2 | | 5.62 | Missed peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481783.D
Acq On : 10 May 2019 9:11 am
Operator : angelar
Sample : cc2562-50
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 09:28:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration




TIC: 6p481783.D\data.ms

(41) Caprolactam (t)

5.616min (-0.020) 42.90ppm

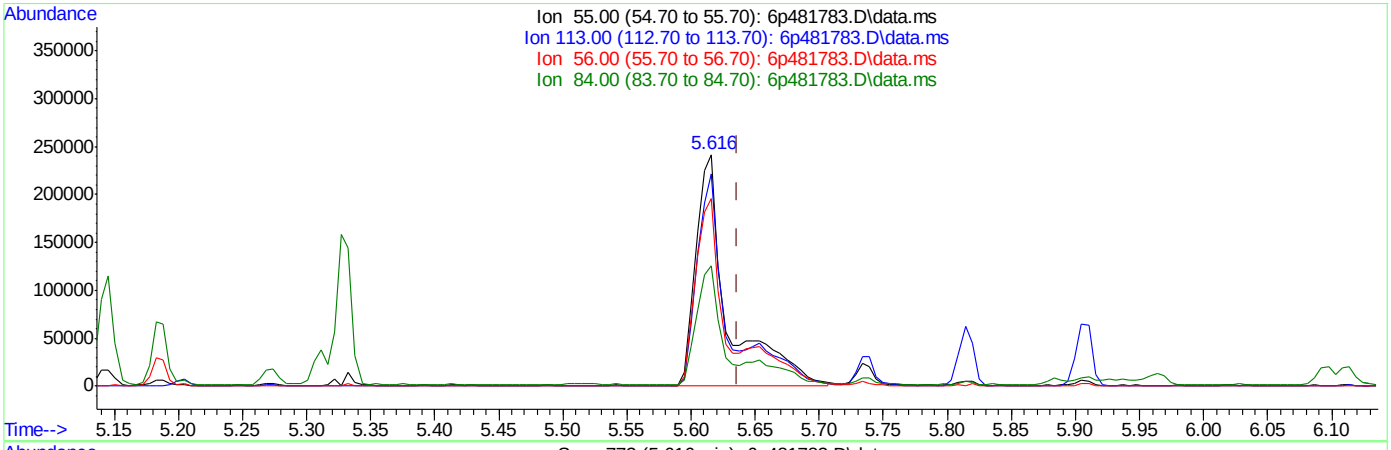
response 317504

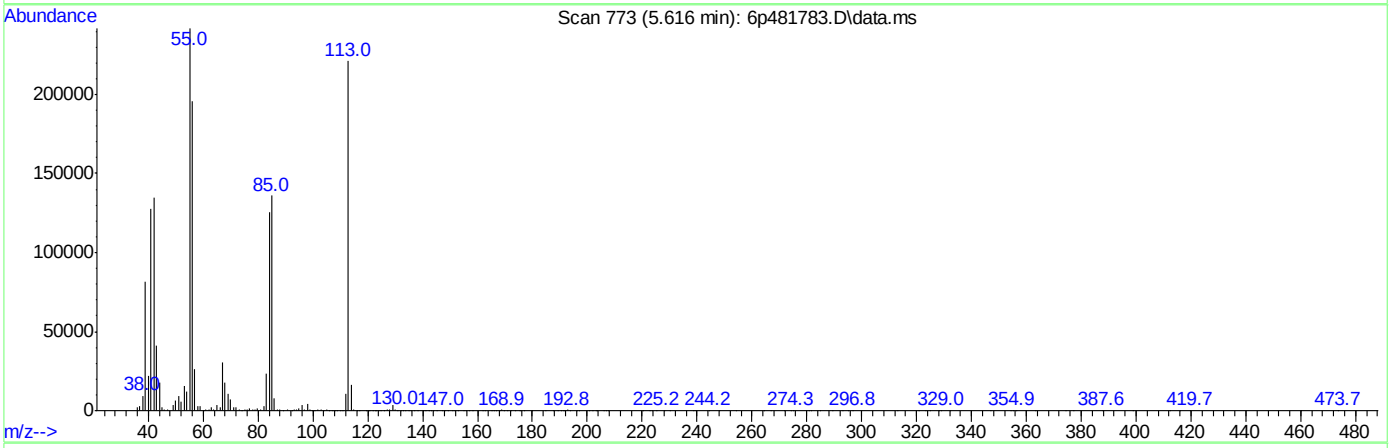
| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 92.01 |
| 56.00 | 81.20 | 80.98 |
| 84.00 | 53.30 | 51.65 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481783.D
Acq On : 10 May 2019 9:11 am
Operator : angelar
Sample : cc2562-50
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 10 09:28:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration




TIC: 6p481783.D\data.ms

(41) Caprolactam (t)

5.616min (-0.020) 58.20ppm m

response 430742

| Ion | Exp% | Act% |
|---|---|---|
| 55.00 | 100 | 100 |
| 113.00 | 94.10 | 91.40 |
| 56.00 | 81.20 | 80.84 |
| 84.00 | 53.30 | 51.93 |

9.6.41.3

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481784.D
Acq On : 10 May 2019 9:35 am
Operator : angelar
Sample : cc2563-50
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 10:35:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration

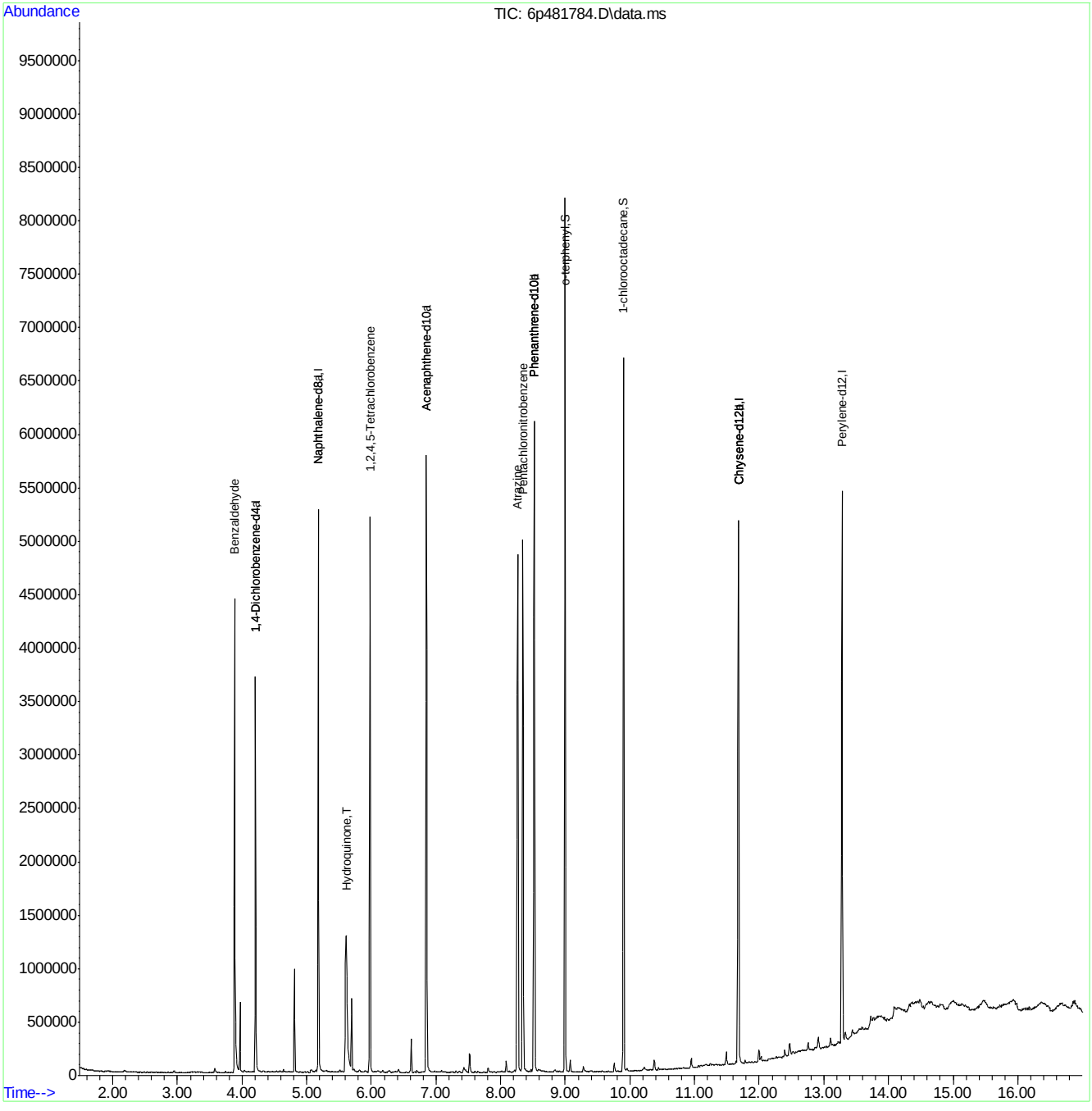
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 4.209 | 152 | 506757 | 40.00 | ppm | -0.04 |
| 24) Naphthalene-d8 | 5.183 | 136 | 2014017 | 40.00 | ppm | -0.05 |
| 47) Acenaphthene-d10 | 6.852 | 164 | 1154270 | 40.00 | ppm | -0.06 |
| 69) Phenanthrene-d10 | 8.520 | 188 | 2139358 | 40.00 | ppm | -0.06 |
| 83) Chrysene-d12 | 11.681 | 240 | 1687711 | 40.00 | ppm | -0.05 |
| 91) Perylene-d12 | 13.281 | 264 | 1879577 | 40.00 | ppm | -0.05 |
| 101) 1,4-Dichlorobenzene-d4a | 4.209 | 152 | 506757 | 40.00 | ppm | -0.04 |
| 103) Acenaphthene-d10a | 6.852 | 164 | 1154270 | 40.00 | ppm | -0.06 |
| 105) Phenanthrene-d10a | 8.520 | 188 | 2139358 | 40.00 | ppm | -0.06 |
| 109) Chrysene-d12a | 11.681 | 240 | 1687711 | 40.00 | ppm | -0.05 |
| 111) Naphthalene-d8a | 5.183 | 136 | 2014017 | 40.00 | ppm | -0.05 |
| 113) Phenanthrene-d10b | 8.520 | 188 | 2139358 | 40.00 | ppm | -0.06 |
| 115) Chrysene-d12b | 11.681 | 240 | 1687711 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 106) 1-chlorooctadecane | 9.900 | 57 | 843370 | 65.98 | ppm | -0.04 |
| 107) o-terphenyl | 9.002 | 230 | 1614926 | 51.75 | ppm | -0.05 |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.883 | 105 | 768562 | 61.11 | ppm | 98 |
| 104) 1,2,4,5-Tetrachloroben... | 5.980 | 216 | 730642 | 47.42 | ppm | 99 |
| 108) Atrazine | 8.264 | 215 | 311984 | 49.73 | ppm | 81 |
| 112) Hydroquinone | 5.611 | 110 | 1001002 | 64.73 | ppm | 97 |
| 114) Pentachloronitrobenzene | 8.344 | 295 | 124365 | 47.50 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E6P2588\
Data File : 6p481784.D
Acq On : 10 May 2019 9:35 am
Operator : angelar
Sample : cc2563-50
Misc : op17006,e6p2588,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 10 10:35:35 2019
Quant Method : C:\MSDCHEM\1\METHODS\M6P2562.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuMon May 06 09:58:38 2019
QLast Update : Mon May 06 09:58:38 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/30/19 18:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129141a.D
Acq On : 24 Apr 2019 2:03 am
Operator : chriss2
Sample : ic5844-100
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 26 11:22:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.844 | 152 | 191052 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.779 | 136 | 704654 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.023 | 164 | 494907 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.471 | 188 | 831444 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.199 | 240 | 860081 | 40.00 | ppm | 0.03 |
| 91) Perylene-d12 | 15.132 | 264 | 968307 | 40.00 | ppm | 0.02 |
| 101) 1,4-Dichlorobenzene-d4A | 3.844 | 152 | 191052 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.779 | 136 | 704654 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.023 | 164 | 494907 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.471 | 188 | 831444 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.199 | 240 | 860081 | 40.00 | ppm | 0.03 |
| 153) Perylene-d12A | 15.132 | 264 | 968307 | 40.00 | ppm | 0.02 |
| 157) 1,4-Dichlorobenzene-d4b | 3.844 | 152 | 191052 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.471 | 188 | 831444 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.199 | 240 | 860081 | 40.00 | ppm | 0.03 |
| 163) Naphthalene-d8b | 4.779 | 136 | 704654 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.023 | 164 | 494907 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.779 | 136 | 704654 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.844 | 152 | 191052 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.199 | 240 | 860081 | 40.00 | ppm | 0.03 |
| 176) Chrysene-d12d | 12.199 | 240 | 860081 | 40.00 | ppm | 0.03 |
| 178) Naphthalene-d8d | 4.779 | 136 | 704654 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.199 | 240 | 860081 | 40.00 | ppm | 0.00 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.845 | 112 | 738478 | 102.29 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 204.58% | |
| 8) Phenol-d5 | 3.657 | 99 | 806372 | 91.05 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 182.10% | |
| 25) Nitrobenzene-d5 | 4.276 | 82 | 716479 | 91.95 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 183.90% | |
| 51) 2-Fluorobiphenyl | 5.559 | 172 | 1303863 | 81.49 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 162.98% | |
| 73) 2,4,6-Tribromophenol | 6.718 | 330 | 329089 | 110.16 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 220.32% | |
| 85) Terphenyl-d14 | 10.142 | 244 | 2080648 | 99.30 | ppm | 0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 198.60% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.205 | 88 | 323431 | 101.12 | ppm | 97 |
| 3) Pyridine | 1.461 | 79 | 668102 | 122.49 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 1.424 | 42 | 349141 | 104.42 | ppm | 97 |
| 6) Indene | 4.036 | 116 | 951380 | 89.47 | ppm | 98 |
| 7) Cumene | 3.208 | 105 | 1532779 | 88.17 | ppm | 97 |
| 9) Phenol | 3.673 | 94 | 834990 | 89.36 | ppm | 83 |
| 10) Aniline | 3.614 | 93 | 487326 | 146.02 | ppm | 97 |
| 11) bis(2-Chloroethyl)ether | 3.662 | 93 | 645165 | 84.24 | ppm | 93 |
| 12) 2-Chlorophenol | 3.710 | 128 | 659212 | 96.05 | ppm | 96 |
| 13) Decane | 3.753 | 43 | 385520 | 84.77 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129141a.D
Acq On : 24 Apr 2019 2:03 am
Operator : chriss2
Sample : ic5844-100
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 26 11:22:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 14) 1,3-Dichlorobenzene | 3.801 | 146 | 704623 | 91.41 | ppm | | 97 |
| 15) 1,4-Dichlorobenzene | 3.854 | 146 | 690861 | 90.32 | ppm | | 98 |
| 16) Benzyl alcohol | 3.999 | 108 | 378129 | 104.76 | ppm | | 93 |
| 17) 1,2-Dichlorobenzene | 3.967 | 146 | 710732 | 93.60 | ppm | | 100 |
| 18) Acetophenone | 4.164 | 105 | 929649 | 95.94 | ppm | | 98 |
| 19) 2-Methylphenol | 4.111 | 108 | 606344 | 97.62 | ppm | | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.079 | 121 | 157775 | 96.73 | ppm | # | 86 |
| 21) 3&4-Methylphenol | 4.228 | 108 | 602763 | 97.16 | ppm | | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.196 | 70 | 417770 | 93.04 | ppm | | 94 |
| 23) Hexachloroethane | 4.212 | 201 | 285811 | 92.41 | ppm | | 98 |
| 26) Nitrobenzene | 4.287 | 77 | 688279 | 91.76 | ppm | | 98 |
| 27) Quinoline | 5.088 | 129 | 1397927 | 101.75 | ppm | | 98 |
| 28) Isophorone | 4.479 | 82 | 1240381 | 91.62 | ppm | | 97 |
| 29) 2-Nitrophenol | 4.522 | 139 | 337539 | 85.89 | ppm | | 89 |
| 30) 2,4-Dimethylphenol | 4.597 | 107 | 673750 | 95.13 | ppm | | 93 |
| 31) Benzoic acid | 4.816 | 105 | 530432m | 98.57 | ppm | | |
| 32) bis(2-Chloroethoxy)met... | 4.640 | 93 | 729395 | 90.78 | ppm | | 98 |
| 33) 2,4-Dichlorophenol | 4.720 | 162 | 646381 | 100.20 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 4.864 | 162 | 574813 | 93.00 | ppm | | 97 |
| 35) 1,3,5-Trichlorobenzene | 4.522 | 180 | 633849 | 86.75 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 4.747 | 180 | 641020 | 92.79 | ppm | | 99 |
| 37) 1,2,3-Trichlorobenzene | 4.907 | 180 | 568028 | 87.26 | ppm | | 99 |
| 38) Naphthalene | 4.800 | 128 | 1617241 | 89.03 | ppm | | 99 |
| 39) 4-Chloroaniline | 4.864 | 127 | 589201 | 91.26 | ppm | | 98 |
| 40) 2,3-Dichloroaniline | 5.500 | 161 | 762640 | 97.00 | ppm | | 98 |
| 41) Caprolactam | 5.190 | 55 | 214924 | 75.60 | ppm | | 97 |
| 42) Hexachlorobutadiene | 4.896 | 225 | 368094 | 85.40 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 5.259 | 107 | 628357 | 92.83 | ppm | | 96 |
| 44) 2-Methylnaphthalene | 5.291 | 141 | 897762 | 87.43 | ppm | | 98 |
| 45) 1-Methylnaphthalene | 5.361 | 142 | 1212177 | 92.42 | ppm | | 98 |
| 46) Dimethylnaphthalene | 5.740 | 156 | 1097275 | 90.80 | ppm | | 97 |
| 48) Hexachlorocyclopentadiene | 5.409 | 237 | 776571 | 178.10 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 5.521 | 196 | 485225 | 94.62 | ppm | | 99 |
| 50) 2,4,5-Trichlorophenol | 5.564 | 196 | 463339 | 86.94 | ppm | | 95 |
| 52) 2-Chloronaphthalene | 5.639 | 162 | 1105914 | 79.95 | ppm | | 97 |
| 53) Biphenyl | 5.628 | 154 | 1373104 | 79.00 | ppm | | 100 |
| 54) 2-Nitroaniline | 5.735 | 65 | 334609 | 76.16 | ppm | | 98 |
| 55) Dimethylphthalate | 5.863 | 163 | 1640498 | 91.74 | ppm | | 99 |
| 56) Acenaphthylene | 5.922 | 152 | 1941271 | 90.33 | ppm | | 100 |
| 57) 2,6-Dinitrotoluene | 5.906 | 165 | 361252 | 92.13 | ppm | | 97 |
| 58) 3-Nitroaniline | 6.034 | 138 | 378617 | 94.55 | ppm | | 98 |
| 59) Acenaphthene | 6.055 | 153 | 1153648 | 84.84 | ppm | | 97 |
| 60) 2,4-Dinitrophenol | 6.120 | 184 | 518293 | 215.00 | ppm | | 88 |
| 61) 4-Nitrophenol | 6.221 | 109 | 283878 | 96.98 | ppm | | 95 |
| 62) Dibenzofuran | 6.189 | 168 | 1896993 | 92.39 | ppm | | 97 |
| 63) 2,4-Dinitrotoluene | 6.210 | 165 | 497082 | 97.89 | ppm | | 95 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.317 | 232 | 489792 | 100.43 | ppm | | 96 |
| 65) Diethylphthalate | 6.419 | 149 | 1635679 | 90.78 | ppm | | 99 |
| 66) Fluorene | 6.483 | 166 | 1391201 | 83.71 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 6.488 | 204 | 713663 | 86.73 | ppm | | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129141a.D
Acq On : 24 Apr 2019 2:03 am
Operator : chriss2
Sample : ic5844-100
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 26 11:22:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 68) | 4-Nitroaniline | 6.568 | 138 | 383029 | 97.72 | ppm | 95 |
| 70) | 4,6-Dinitro-2-methylph... | 6.584 | 198 | 351509 | 104.85 | ppm | 91 |
| 71) | n-Nitrosodiphenylamine | 6.616 | 169 | 1112237 | 97.10 | ppm | 97 |
| 72) | 1,2-Diphenylhydrazine | 6.643 | 77 | 1519598 | 92.32 | ppm | 98 |
| 74) | 4-Bromophenyl-phenylether | 6.974 | 248 | 561083 | 99.92 | ppm | 96 |
| 75) | Hexachlorobenzene | 7.038 | 284 | 622782 | 99.80 | ppm | 89 |
| 76) | Pentachlorophenol | 7.289 | 266 | 825530 | 209.58 | ppm | 99 |
| 77) | Phenanthrene | 7.508 | 178 | 2220378 | 95.88 | ppm | 98 |
| 78) | Anthracene | 7.578 | 178 | 2314869 | 97.38 | ppm | 100 |
| 79) | Carbazole | 7.829 | 167 | 2296459 | 99.42 | ppm | 99 |
| 80) | Di-n-butylphthalate | 8.443 | 149 | 3145285 | 93.69 | ppm | 99 |
| 81) | Fluoranthene | 9.325 | 202 | 2876338 | 98.59 | ppm | 98 |
| 82) | Octadecane | 7.450 | 57 | 725090 | 84.60 | ppm | 99 |
| 84) | Pyrene | 9.715 | 202 | 2908955 | 92.19 | ppm | 99 |
| 86) | Butylbenzylphthalate | 11.280 | 149 | 1488905 | 91.63 | ppm | 93 |
| 87) | Benzo[a]anthracene | 12.172 | 228 | 2898140 | 98.80 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 12.263 | 252 | 1064716 | 100.66 | ppm | 97 |
| 89) | Chrysene | 12.252 | 228 | 2574365 | 96.63 | ppm | 98 |
| 90) | bis(2-Ethylhexyl)phtha... | 12.674 | 149 | 2035563 | 91.45 | ppm | 96 |
| 92) | Di-n-octylphthalate | 14.101 | 149 | 3691873 | 86.03 | ppm | 99 |
| 93) | Benzo[b]fluoranthene | 14.459 | 252 | 3549654 | 107.40 | ppm | 97 |
| 94) | Benzo[k]fluoranthene | 14.512 | 252 | 2199190m | 84.70 | ppm | |
| 95) | Benzo[a]pyrene | 15.036 | 252 | 2687614 | 98.36 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 17.076 | 276 | 2660586 | 105.37 | ppm | 99 |
| 97) | Dibenz(a,h)acridine | 16.724 | 279 | 2552314 | 103.02 | ppm | 100 |
| 98) | Dibenz[a,h]anthracene | 17.146 | 278 | 2758710 | 108.79 | ppm | 100 |
| 99) | 7,12-Dimethylbenz(a)an... | 14.469 | 256 | 1335464 | 98.93 | ppm | 97 |
| 100) | Benzo[g,h,i]perylene | 17.493 | 276 | 2601007 | 104.64 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

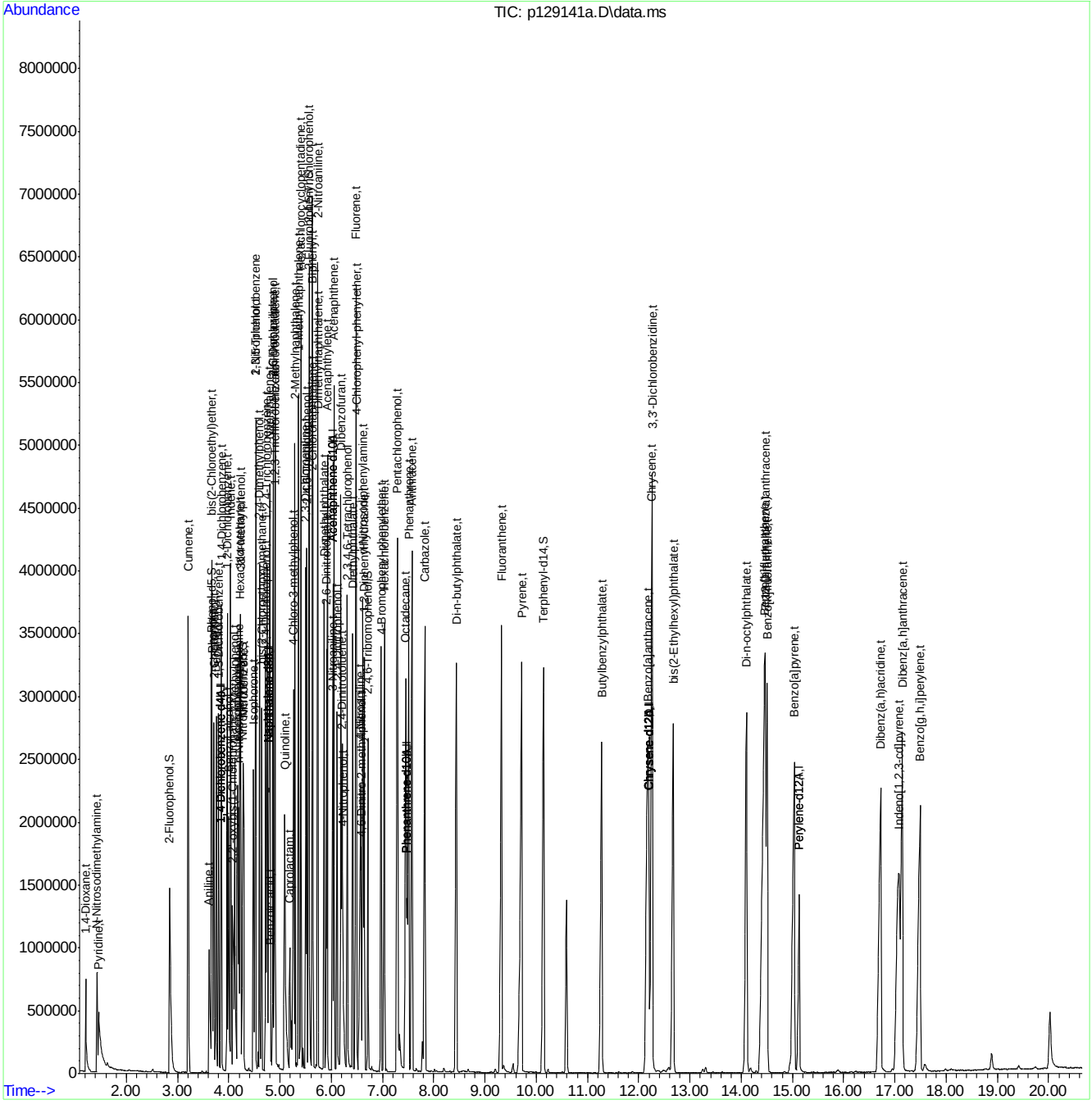
9.6.43

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129141a.D
Acq On : 24 Apr 2019 2:03 am
Operator : chriss2
Sample : ic5844-100
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 26 11:22:01 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



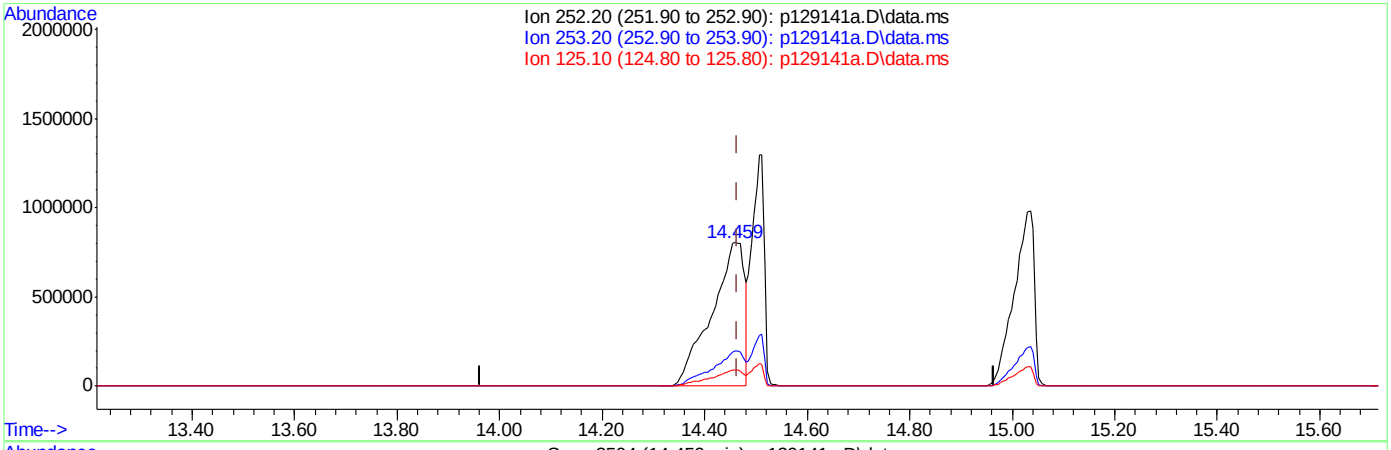
| | | | |
|---|---|---|---|
| **Sample Number:** | EP5844-IC5844 | **Method:** | SW846 8270D |
| **Lab FileID:** | P129141A.D | **Analyst approved:** | 04/26/19 12:39 Ying Li |
| **Injection Time:** | 04/24/19 02:03 | **Supervisor approved:** | 04/30/19 18:25 Kristi Schollenberger |

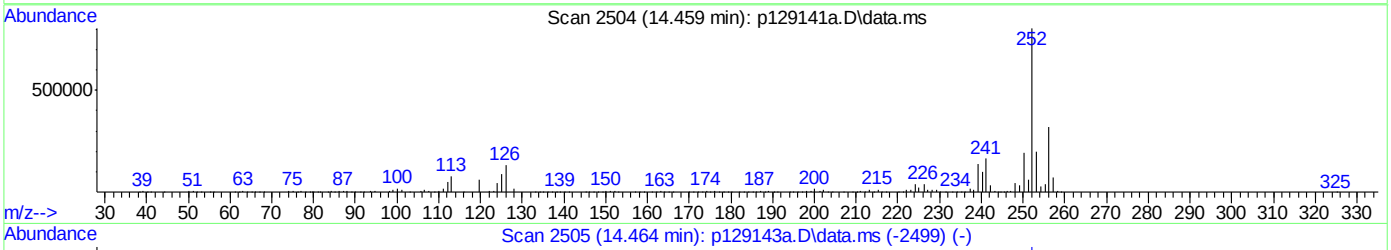
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzoic acid | 65-85-0 | | 4.82 | Split peak |
| Benzo(k)fluoranthene | 207-08-9 | | 14.51 | Overlapping peak |

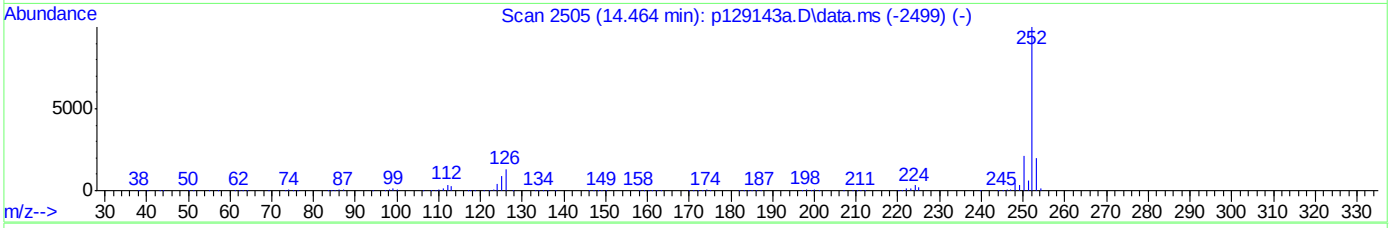
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129141a.D
Acq On : 24 Apr 2019 2:03 am
Operator : chriss2
Sample : ic5844-100
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 24 10:33:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 10:30:27 2019
Response via : Initial Calibration




TIC: p129141a.D\data.ms

(94) Benzo[k]fluoranthene (t)

14.459min (-0.005) 136.71ppm

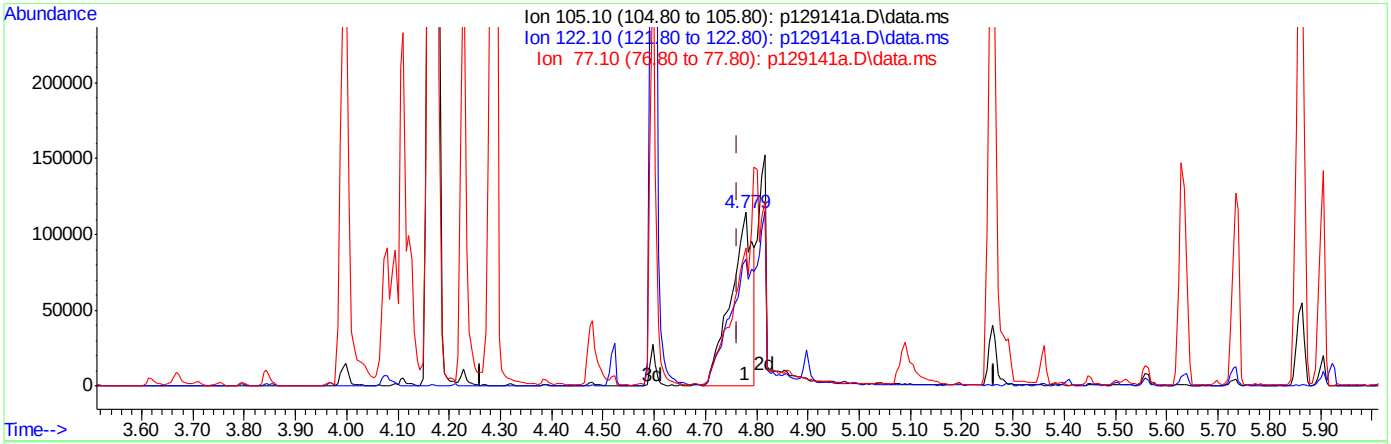
response 3549654

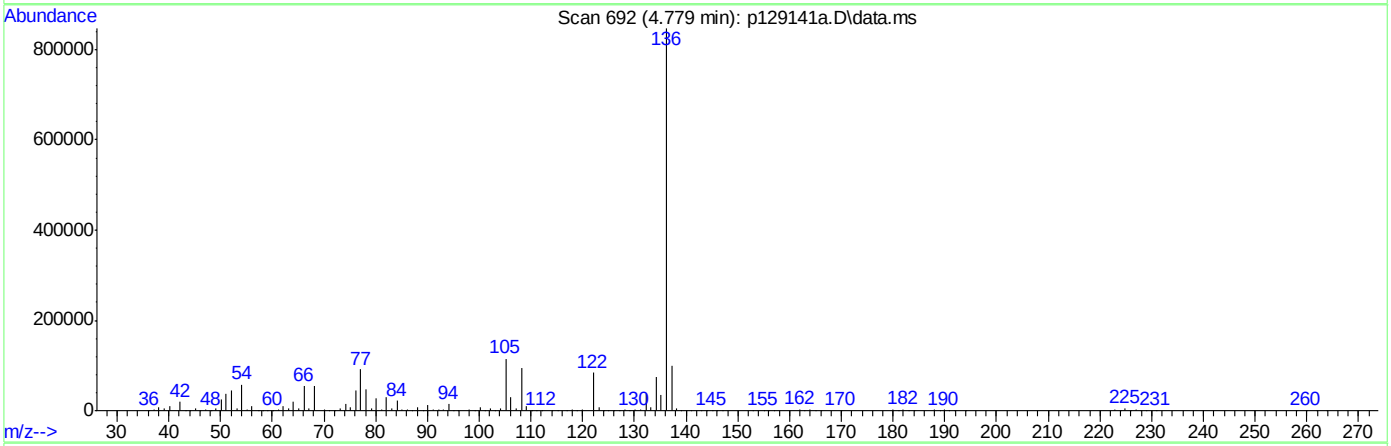
| Ion | Exp% | Act% |
|---|---|---|
| 252.20 | 100 | 100 |
| 253.20 | 20.80 | 25.16 |
| 125.10 | 9.70 | 11.52 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129141a.D
Acq On : 24 Apr 2019 2:03 am
Operator : chriss2
Sample : ic5844-100
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 24 10:40:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 10:37:10 2019
Response via : Initial Calibration




TIC: p129141a.D\data.ms

(31) Benzoic acid (t)

4.779min (+0.016) 62.92ppm

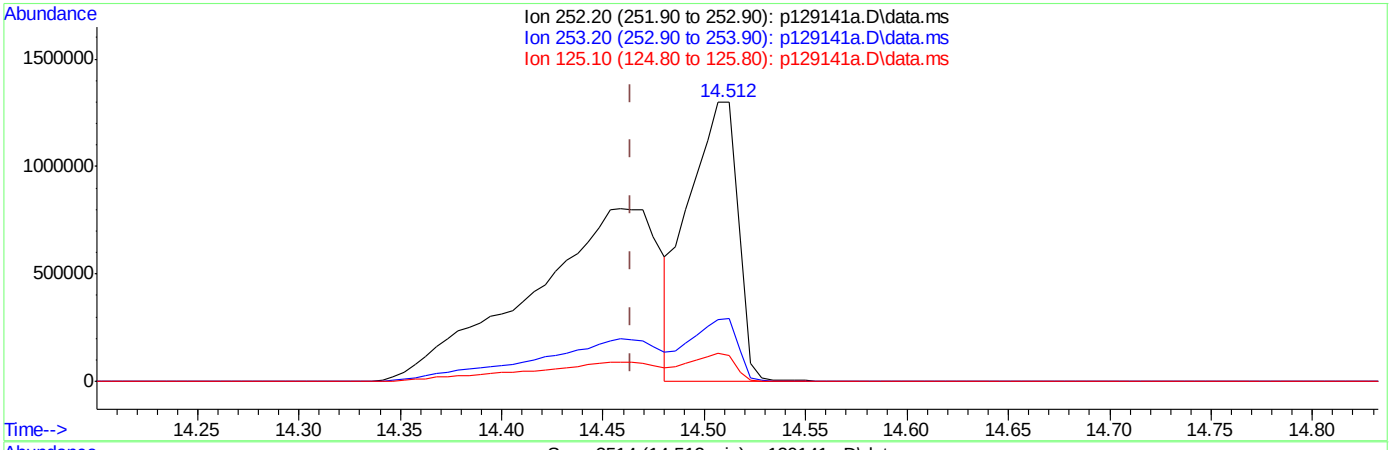
response 338588

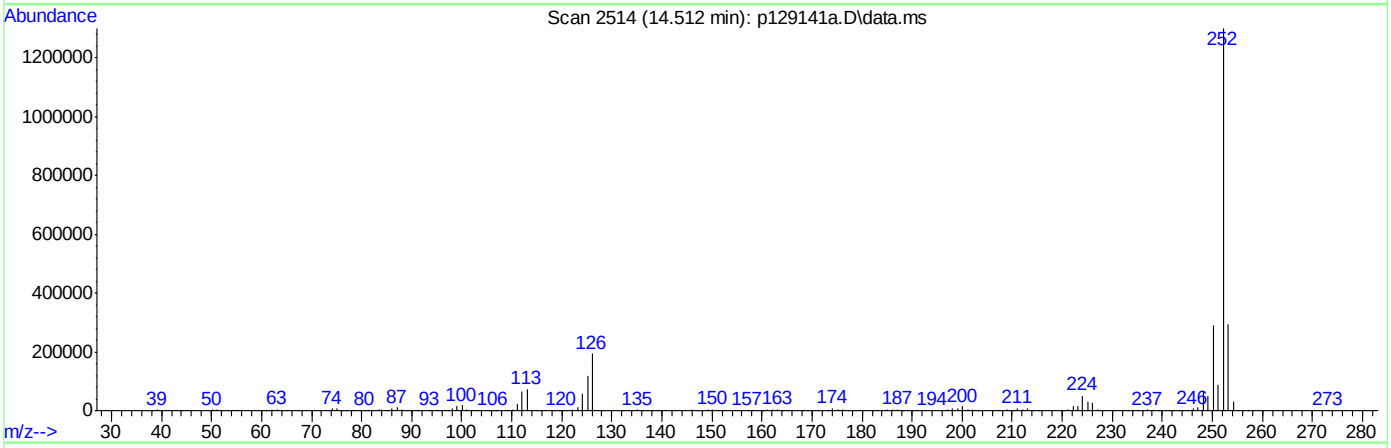
| Ion | Exp% | Act% |
|---|---|---|
| 105.10 | 100 | 100 |
| 122.10 | 67.60 | 65.69 |
| 77.10 | 76.90 | 26.59# |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129141a.D
Acq On    : 24 Apr 2019   2:03 am
Operator  : chriss2
Sample    : ic5844-100
Misc      : op13894,ep5844,1000,,,1,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Apr 26 11:17:50 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title  : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration
```




(94) Benzo[k]fluoranthene (t)

14.512min (+0.048) 84.70ppm m

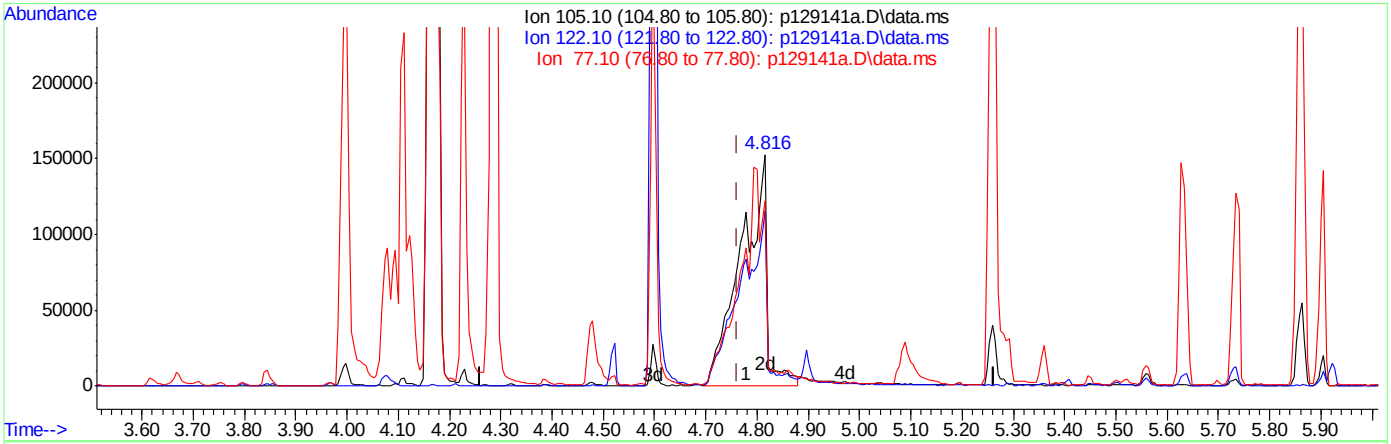
response 2199190

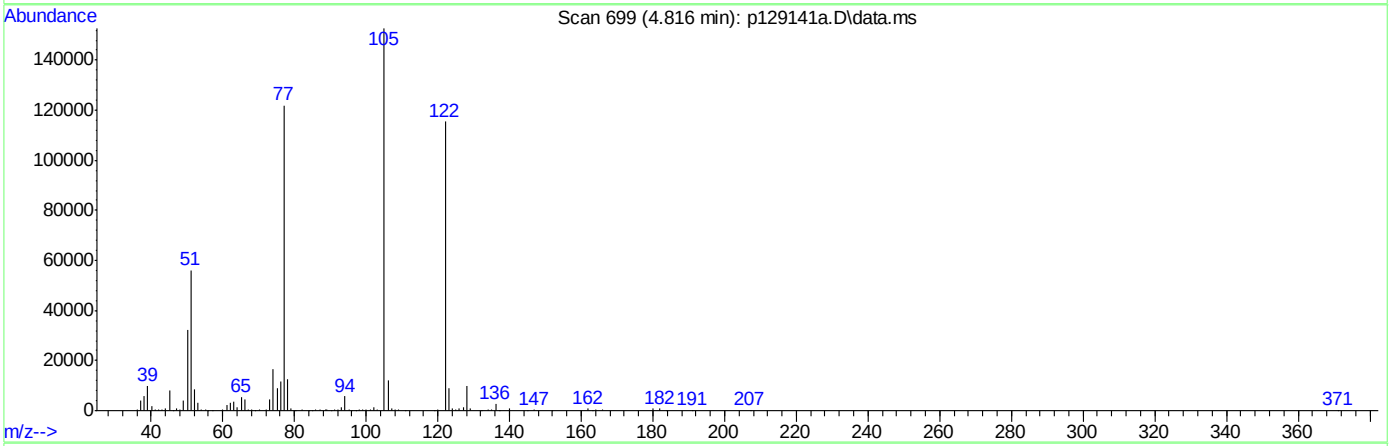
| Ion | Exp% | Act% |
|---|---|---|
| 252.20 | 100 | 100 |
| 253.20 | 20.80 | 22.63 |
| 125.10 | 9.70 | 9.16 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129141a.D
Acq On    : 24 Apr 2019   2:03 am
Operator  : chriss2
Sample    : ic5844-100
Misc      : op13894,ep5844,1000,,,1,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Apr 26 11:20:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title  : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration
```




TIC: p129141a.D\data.ms

(31) Benzoic acid (t)

4.816min (+0.054) 98.57ppm m

response 530432

| Ion | Exp% | Act% |
|---|---|---|
| 105.10 | 100 | 100 |
| 122.10 | 67.60 | 75.54 |
| 77.10 | 76.90 | 79.82 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/30/19 18:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129142a.D
Acq On : 24 Apr 2019 2:30 am
Operator : chriss2
Sample : ic5844-80
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 26 11:24:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.844 | 152 | 200840 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.779 | 136 | 715801 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.023 | 164 | 477015 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.471 | 188 | 798369 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.188 | 240 | 766927 | 40.00 | ppm | 0.02 |
| 91) Perylene-d12 | 15.121 | 264 | 789531 | 40.00 | ppm | 0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.844 | 152 | 200840 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.779 | 136 | 715801 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.023 | 164 | 477015 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.471 | 188 | 798369 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.188 | 240 | 766927 | 40.00 | ppm | 0.02 |
| 153) Perylene-d12A | 15.121 | 264 | 789531 | 40.00 | ppm | 0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.844 | 152 | 200840 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.471 | 188 | 798369 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.188 | 240 | 766927 | 40.00 | ppm | 0.02 |
| 163) Naphthalene-d8b | 4.779 | 136 | 715801 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.023 | 164 | 477015 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.779 | 136 | 715801 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.844 | 152 | 200840 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.188 | 240 | 766927 | 40.00 | ppm | 0.02 |
| 176) Chrysene-d12d | 12.188 | 240 | 766927 | 40.00 | ppm | 0.02 |
| 178) Naphthalene-d8d | 4.779 | 136 | 715801 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.188 | 240 | 766927 | 40.00 | ppm | -0.01 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.850 | 112 | 611606 | 80.59 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 161.18% | |
| 8) Phenol-d5 | 3.657 | 99 | 676229 | 72.63 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 145.26% | |
| 25) Nitrobenzene-d5 | 4.271 | 82 | 594084 | 75.06 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 150.12% | |
| 51) 2-Fluorobiphenyl | 5.559 | 172 | 1093470 | 70.91 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 141.82% | |
| 73) 2,4,6-Tribromophenol | 6.713 | 330 | 250545 | 87.34 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 174.68% | |
| 85) Terphenyl-d14 | 10.137 | 244 | 1570255 | 84.04 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 168.08% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.210 | 88 | 278772 | 82.91 | ppm | 99 |
| 3) Pyridine | 1.461 | 79 | 486544 | 84.85 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 1.429 | 42 | 279889 | 79.63 | ppm | 97 |
| 6) Indene | 4.036 | 116 | 822624 | 73.59 | ppm | 99 |
| 7) Cumene | 3.208 | 105 | 1361450 | 74.50 | ppm | 97 |
| 9) Phenol | 3.667 | 94 | 719098 | 73.21 | ppm | 89 |
| 10) Aniline | 3.614 | 93 | 395011 | 112.59 | ppm | 97 |
| 11) bis(2-Chloroethyl)ether | 3.662 | 93 | 554204 | 68.84 | ppm | 96 |
| 12) 2-Chlorophenol | 3.710 | 128 | 544885 | 75.52 | ppm | 95 |
| 13) Decane | 3.753 | 43 | 349553 | 73.12 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129142a.D
Acq On : 24 Apr 2019 2:30 am
Operator : chriss2
Sample : ic5844-80
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 26 11:24:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 14) 1,3-Dichlorobenzene | 3.796 | 146 | 616250 | 76.05 | ppm | 99 |
| 15) 1,4-Dichlorobenzene | 3.854 | 146 | 603302 | 75.03 | ppm | 98 |
| 16) Benzyl alcohol | 3.993 | 108 | 306753 | 80.84 | ppm | 95 |
| 17) 1,2-Dichlorobenzene | 3.967 | 146 | 618945 | 77.54 | ppm | 99 |
| 18) Acetophenone | 4.164 | 105 | 763535 | 74.95 | ppm | 100 |
| 19) 2-Methylphenol | 4.106 | 108 | 498918 | 76.41 | ppm | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.074 | 121 | 132809 | 77.46 | ppm | 97 |
| 21) 3&4-Methylphenol | 4.223 | 108 | 493541 | 75.68 | ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.191 | 70 | 346107 | 73.32 | ppm | 96 |
| 23) Hexachloroethane | 4.212 | 201 | 249754 | 76.82 | ppm | 98 |
| 26) Nitrobenzene | 4.287 | 77 | 564115 | 74.04 | ppm | 99 |
| 27) Quinoline | 5.083 | 129 | 1114260 | 79.84 | ppm | 98 |
| 28) Isophorone | 4.474 | 82 | 1031712 | 75.02 | ppm | 97 |
| 29) 2-Nitrophenol | 4.517 | 139 | 278683 | 69.81 | ppm | 96 |
| 30) 2,4-Dimethylphenol | 4.597 | 107 | 560463 | 77.90 | ppm | 92 |
| 31) Benzoic acid | 4.795 | 105 | 431248m | 78.89 | ppm | |
| 32) bis(2-Chloroethoxy)met... | 4.634 | 93 | 627413 | 76.87 | ppm | 99 |
| 33) 2,4-Dichlorophenol | 4.715 | 162 | 524955 | 80.11 | ppm | 99 |
| 34) 2,6-Dichlorophenol | 4.864 | 162 | 468060 | 74.55 | ppm | 97 |
| 35) 1,3,5-Trichlorobenzene | 4.522 | 180 | 554075 | 74.65 | ppm | 98 |
| 36) 1,2,4-Trichlorobenzene | 4.747 | 180 | 531351 | 75.72 | ppm | 98 |
| 37) 1,2,3-Trichlorobenzene | 4.907 | 180 | 494941 | 74.85 | ppm | 97 |
| 38) Naphthalene | 4.795 | 128 | 1351734 | 73.25 | ppm | 99 |
| 39) 4-Chloroaniline | 4.864 | 127 | 508832 | 77.58 | ppm | 98 |
| 40) 2,3-Dichloroaniline | 5.500 | 161 | 611337 | 76.55 | ppm | 96 |
| 41) Caprolactam | 5.179 | 55 | 204900 | 70.95 | ppm | 94 |
| 42) Hexachlorobutadiene | 4.896 | 225 | 313764 | 71.66 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 5.259 | 107 | 519159 | 75.50 | ppm | 96 |
| 44) 2-Methylnaphthalene | 5.292 | 141 | 765431 | 73.38 | ppm | 97 |
| 45) 1-Methylnaphthalene | 5.361 | 142 | 1013016 | 76.04 | ppm | 98 |
| 46) Dimethylnaphthalene | 5.735 | 156 | 888496 | 72.38 | ppm | 97 |
| 48) Hexachlorocyclopentadiene | 5.409 | 237 | 659921 | 157.03 | ppm | 97 |
| 49) 2,4,6-Trichlorophenol | 5.516 | 196 | 391514 | 79.21 | ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 5.559 | 196 | 383070 | 74.58 | ppm | 98 |
| 52) 2-Chloronaphthalene | 5.633 | 162 | 964723 | 72.36 | ppm | 98 |
| 53) Biphenyl | 5.628 | 154 | 1151718 | 68.75 | ppm | 100 |
| 54) 2-Nitroaniline | 5.730 | 65 | 277208 | 65.46 | ppm | 99 |
| 55) Dimethylphthalate | 5.858 | 163 | 1333434 | 77.37 | ppm | 99 |
| 56) Acenaphthylene | 5.922 | 152 | 1519868 | 73.38 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 5.901 | 165 | 288304 | 76.28 | ppm | 100 |
| 58) 3-Nitroaniline | 6.029 | 138 | 295605 | 76.59 | ppm | 97 |
| 59) Acenaphthene | 6.050 | 153 | 995135 | 75.93 | ppm | 95 |
| 60) 2,4-Dinitrophenol | 6.114 | 184 | 400907 | 172.55 | ppm | 79 |
| 61) 4-Nitrophenol | 6.216 | 109 | 222729 | 78.95 | ppm | 96 |
| 62) Dibenzofuran | 6.189 | 168 | 1518247 | 76.72 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 6.205 | 165 | 383218 | 78.30 | ppm | 94 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.312 | 232 | 376242 | 80.04 | ppm | 98 |
| 65) Diethylphthalate | 6.419 | 149 | 1314293 | 75.68 | ppm | 99 |
| 66) Fluorene | 6.478 | 166 | 1164643 | 72.70 | ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 6.488 | 204 | 592774 | 74.74 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129142a.D
Acq On : 24 Apr 2019 2:30 am
Operator : chriss2
Sample : ic5844-80
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 26 11:24:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 68) | 4-Nitroaniline | 6.558 | 138 | 293797 | 77.76 | ppm | 98 |
| 70) | 4,6-Dinitro-2-methylph... | 6.574 | 198 | 265807 | 82.57 | ppm | 96 |
| 71) | n-Nitrosodiphenylamine | 6.611 | 169 | 876371 | 79.68 | ppm | 99 |
| 72) | 1,2-Diphenylhydrazine | 6.638 | 77 | 1247025 | 78.90 | ppm | 99 |
| 74) | 4-Bromophenyl-phenylether | 6.969 | 248 | 449893 | 83.44 | ppm | 98 |
| 75) | Hexachlorobenzene | 7.033 | 284 | 487393 | 81.34 | ppm | 91 |
| 76) | Pentachlorophenol | 7.284 | 266 | 632404 | 167.20 | ppm | 99 |
| 77) | Phenanthrene | 7.503 | 178 | 1751109 | 78.75 | ppm | 99 |
| 78) | Anthracene | 7.573 | 178 | 1813832 | 79.46 | ppm | 99 |
| 79) | Carbazole | 7.824 | 167 | 1747469 | 78.79 | ppm | 99 |
| 80) | Di-n-butylphthalate | 8.433 | 149 | 2493183 | 77.34 | ppm | 99 |
| 81) | Fluoranthene | 9.320 | 202 | 2213484 | 79.01 | ppm | 96 |
| 82) | Octadecane | 7.450 | 57 | 609345 | 74.04 | ppm | 98 |
| 84) | Pyrene | 9.704 | 202 | 2210000 | 78.55 | ppm | 99 |
| 86) | Butylbenzylphthalate | 11.270 | 149 | 1142220 | 78.83 | ppm | 96 |
| 87) | Benzo[a]anthracene | 12.162 | 228 | 2083351 | 79.65 | ppm | 98 |
| 88) | 3,3'-Dichlorobenzidine | 12.252 | 252 | 761116 | 80.70 | ppm | 99 |
| 89) | Chrysene | 12.247 | 228 | 1893611 | 79.71 | ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 12.669 | 149 | 1571888 | 79.19 | ppm | 99 |
| 92) | Di-n-octylphthalate | 14.085 | 149 | 2773506 | 79.27 | ppm | 100 |
| 93) | Benzo[b]fluoranthene | 14.437 | 252 | 2316387 | 85.95 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 14.486 | 252 | 1564816 | 73.91 | ppm | 98 |
| 95) | Benzo[a]pyrene | 15.014 | 252 | 1781071 | 79.94 | ppm | 97 |
| 96) | Indeno[1,2,3-cd]pyrene | 17.050 | 276 | 1634854 | 79.41 | ppm | 99 |
| 97) | Dibenz(a,h)acridine | 16.703 | 279 | 1623485 | 80.37 | ppm | 100 |
| 98) | Dibenz[a,h]anthracene | 17.119 | 278 | 1679661 | 81.24 | ppm | 100 |
| 99) | 7,12-Dimethylbenz(a)an... | 14.448 | 256 | 916553 | 83.27 | ppm | 96 |
| 100) | Benzo[g,h,i]perylene | 17.467 | 276 | 1573169 | 77.62 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

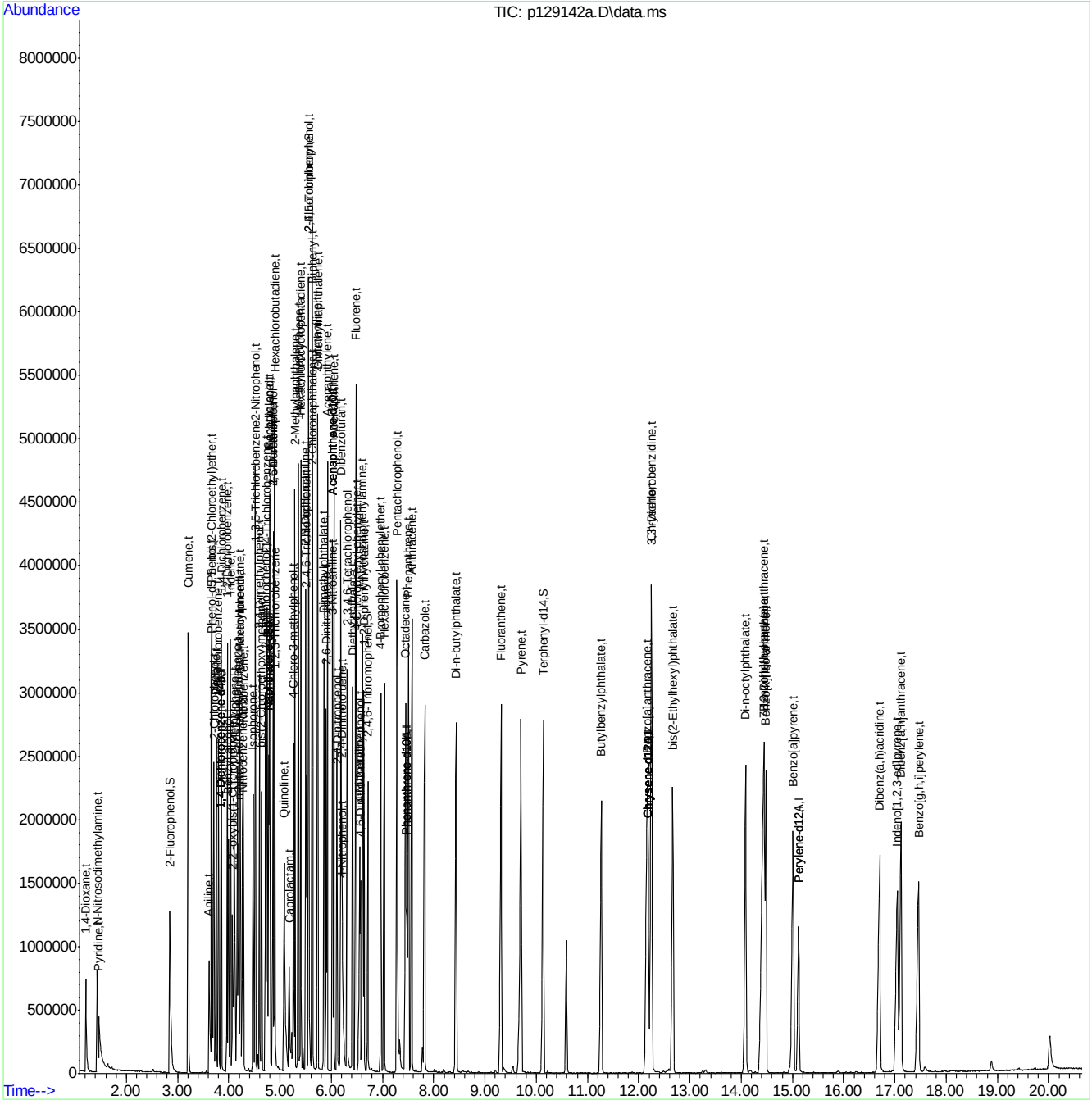
9.6.44

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129142a.D
Acq On : 24 Apr 2019 2:30 am
Operator : chriss2
Sample : ic5844-80
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 26 11:24:18 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



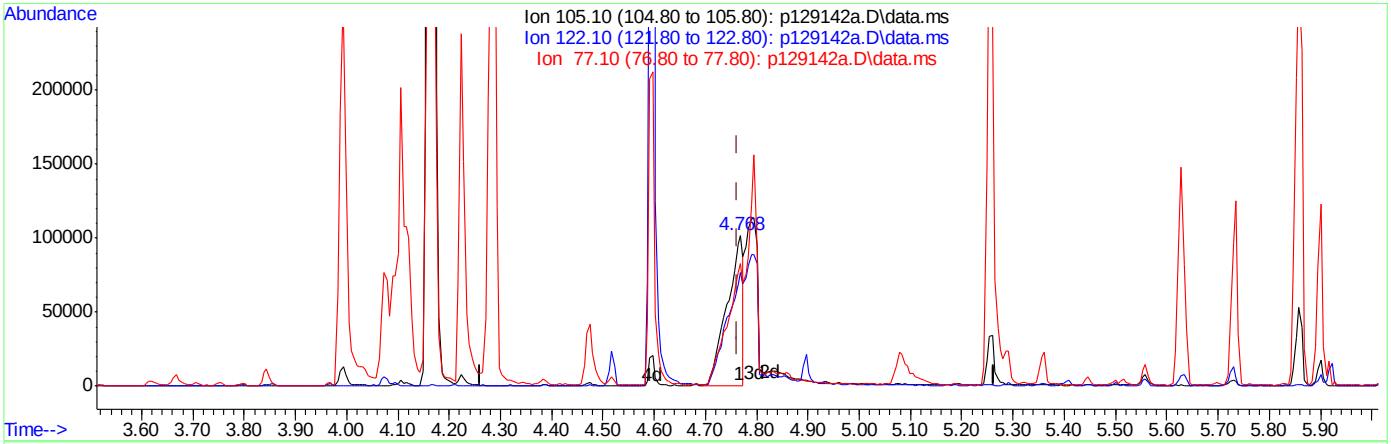
| | | | |
|---|---|---|---|
| **Sample Number:** | EP5844-IC5844 | **Method:** | SW846 8270D |
| **Lab FileID:** | P129142A.D | **Analyst approved:** | 04/26/19 12:39 Ying Li |
| **Injection Time:** | 04/24/19 02:30 | **Supervisor approved:** | 04/30/19 18:25 Kristi Schollenberger |

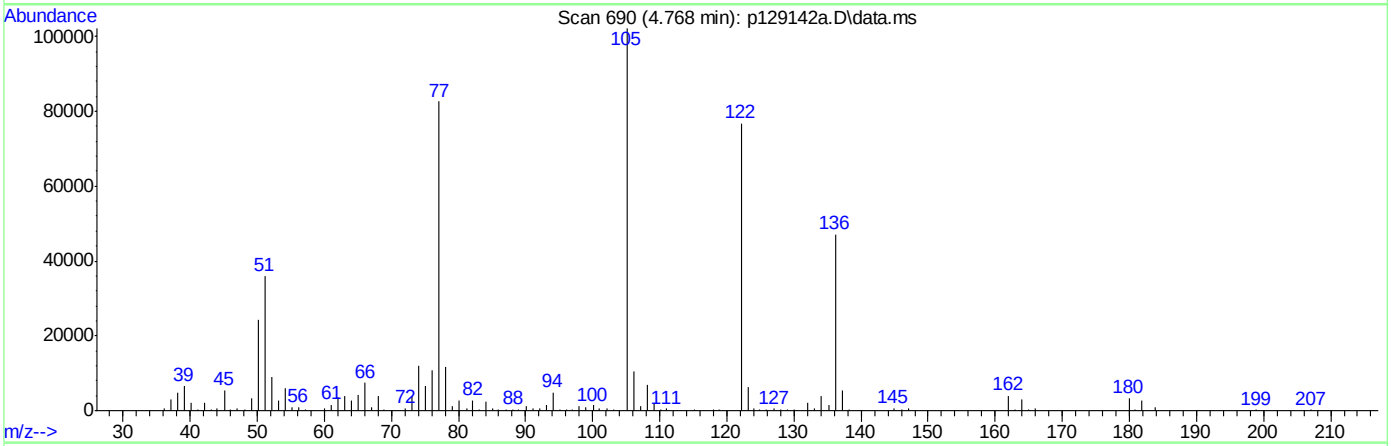
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzoic acid | 65-85-0 | | 4.79 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129142a.D
Acq On : 24 Apr 2019 2:30 am
Operator : chriss2
Sample : ic5844-80
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 24 10:40:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 10:37:10 2019
Response via : Initial Calibration




TIC: p129142a.D\data.ms

(31) Benzoic acid (t)

4.768min (+0.005) 40.62ppm

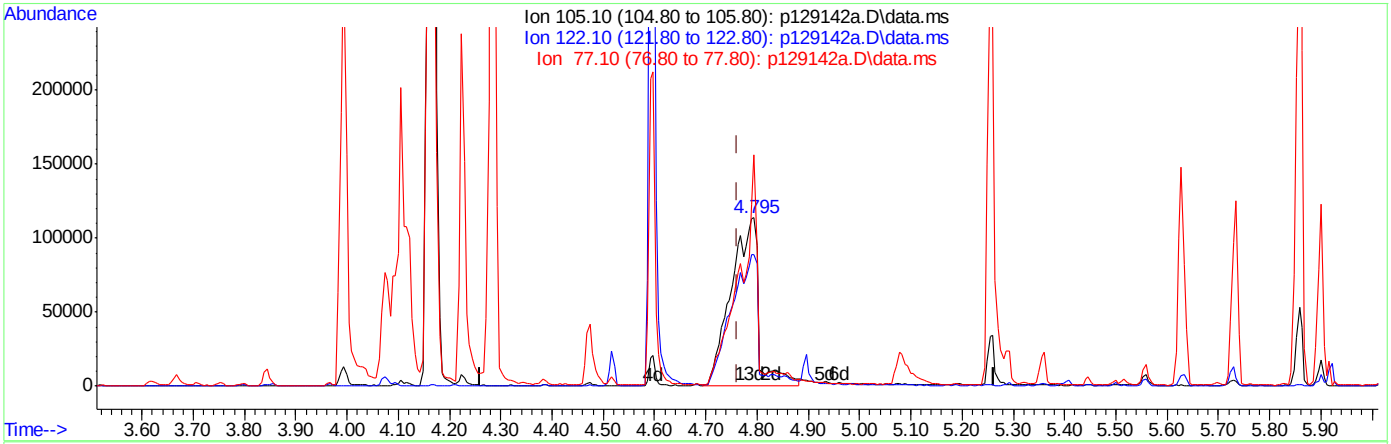
response 222046

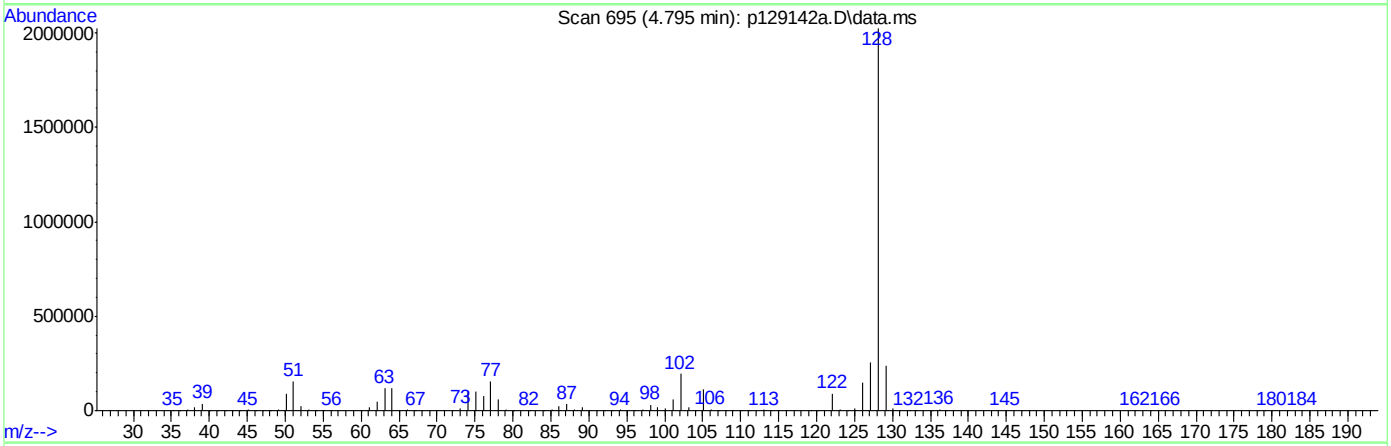
| Ion | Exp% | Act% |
|---|---|---|
| 105.10 | 100 | 100 |
| 122.10 | 67.60 | 71.39 |
| 77.10 | 76.90 | 80.57 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129142a.D
Acq On : 24 Apr 2019 2:30 am
Operator : chriss2
Sample : ic5844-80
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 26 11:22:47 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration




TIC: p129142a.D\data.ms

(31) Benzoic acid (t)

4.795min (+0.033) 78.89ppm m

response 431248

| Ion | Exp% | Act% |
|---|---|---|
| 105.10 | 100 | 100 |
| 122.10 | 67.60 | 78.45 |
| 77.10 | 76.90 | 137.61# |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129143a.D
Acq On : 24 Apr 2019 2:57 am
Operator : chriss2
Sample : icc5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 26 11:17:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 172694 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.779 | 136 | 626042 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.023 | 164 | 418345 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.466 | 188 | 714817 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.172 | 240 | 703644 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 15.111 | 264 | 732175 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 172694 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.779 | 136 | 626042 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.023 | 164 | 418345 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.466 | 188 | 714817 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.172 | 240 | 703644 | 40.00 | ppm | 0.00 |
| 153) Perylene-d12A | 15.111 | 264 | 732175 | 40.00 | ppm | 0.00 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 172694 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.466 | 188 | 714817 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.172 | 240 | 703644 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.779 | 136 | 626042 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.023 | 164 | 418345 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.779 | 136 | 626042 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 172694 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.172 | 240 | 703644 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.172 | 240 | 703644 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.779 | 136 | 626042 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.172 | 240 | 703644 | 40.00 | ppm | -0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.850 | 112 | 326284 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 8) Phenol-d5 | 3.651 | 99 | 400276 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 25) Nitrobenzene-d5 | 4.266 | 82 | 346137 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 51) 2-Fluorobiphenyl | 5.553 | 172 | 676221 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 73) 2,4,6-Tribromophenol | 6.707 | 330 | 128421 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| 85) Terphenyl-d14 | 10.126 | 244 | 857119 | 50.00 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 100.00% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.210 | 88 | 144554 | 50.00 | ppm | 100 |
| 3) Pyridine | 1.482 | 79 | 246518 | 50.00 | ppm | 100 |
| 4) N-Nitrosodimethylamine | 1.424 | 42 | 151118 | 50.00 | ppm | 100 |
| 6) Indene | 4.031 | 116 | 480602 | 50.00 | ppm | 100 |
| 7) Cumene | 3.208 | 105 | 785725 | 50.00 | ppm | 100 |
| 9) Phenol | 3.662 | 94 | 426332 | 50.48 | ppm | 100 |
| 10) Aniline | 3.619 | 93 | 150839 | 50.00 | ppm | 100 |
| 11) bis(2-Chloroethyl)ether | 3.662 | 93 | 350410 | 50.62 | ppm | 100 |
| 12) 2-Chlorophenol | 3.705 | 128 | 310198 | 50.00 | ppm | 100 |
| 13) Decane | 3.753 | 43 | 205542 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129143a.D
Acq On : 24 Apr 2019 2:57 am
Operator : chriss2
Sample : icc5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 26 11:17:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 14) 1,3-Dichlorobenzene | 3.796 | 146 | 348379 | 50.00 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 3.854 | 146 | 345696 | 50.00 | ppm | 100 |
| 16) Benzyl alcohol | 3.988 | 108 | 163138 | 50.00 | ppm | 100 |
| 17) 1,2-Dichlorobenzene | 3.967 | 146 | 343166 | 50.00 | ppm | 100 |
| 18) Acetophenone | 4.159 | 105 | 437954 | 50.00 | ppm | 100 |
| 19) 2-Methylphenol | 4.105 | 108 | 280734 | 50.00 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.073 | 121 | 73715 | 50.00 | ppm | 100 |
| 21) 3&4-Methylphenol | 4.218 | 108 | 280374 | 50.00 | ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.180 | 70 | 202943 | 50.00 | ppm | 100 |
| 23) Hexachloroethane | 4.212 | 201 | 139777 | 50.00 | ppm | 100 |
| 26) Nitrobenzene | 4.282 | 77 | 333889 | 50.10 | ppm | 100 |
| 27) Quinoline | 5.062 | 129 | 610329 | 50.00 | ppm | 100 |
| 28) Isophorone | 4.463 | 82 | 601377 | 50.00 | ppm | 100 |
| 29) 2-Nitrophenol | 4.511 | 139 | 174582 | 50.00 | ppm | 100 |
| 30) 2,4-Dimethylphenol | 4.586 | 107 | 314804 | 50.03 | ppm | 100 |
| 31) Benzoic acid | 4.763 | 105 | 239052 | 50.00 | ppm | 100 |
| 32) bis(2-Chloroethoxy)met... | 4.634 | 93 | 356859 | 49.99 | ppm | 100 |
| 33) 2,4-Dichlorophenol | 4.715 | 162 | 286557 | 50.00 | ppm | 100 |
| 34) 2,6-Dichlorophenol | 4.859 | 162 | 274563 | 50.00 | ppm | 100 |
| 35) 1,3,5-Trichlorobenzene | 4.517 | 180 | 324582 | 50.00 | ppm | 100 |
| 36) 1,2,4-Trichlorobenzene | 4.741 | 180 | 306876 | 50.00 | ppm | 100 |
| 37) 1,2,3-Trichlorobenzene | 4.901 | 180 | 289178 | 50.00 | ppm | 100 |
| 38) Naphthalene | 4.795 | 128 | 806937 | 50.00 | ppm | 100 |
| 39) 4-Chloroaniline | 4.859 | 127 | 286811 | 50.00 | ppm | 100 |
| 40) 2,3-Dichloroaniline | 5.494 | 161 | 349246 | 50.00 | ppm | 100 |
| 41) Caprolactam | 5.147 | 55 | 126291 | 50.00 | ppm | 100 |
| 42) Hexachlorobutadiene | 4.896 | 225 | 191466 | 50.00 | ppm | 100 |
| 43) 4-Chloro-3-methylphenol | 5.249 | 107 | 300703 | 50.00 | ppm | 100 |
| 44) 2-Methylnaphthalene | 5.286 | 141 | 456130 | 50.00 | ppm | 100 |
| 45) 1-Methylnaphthalene | 5.356 | 142 | 587149 | 50.39 | ppm | 100 |
| 46) Dimethylnaphthalene | 5.730 | 156 | 536838 | 50.00 | ppm | 100 |
| 48) Hexachlorocyclopentadiene | 5.404 | 237 | 368567 | 100.00 | ppm | 100 |
| 49) 2,4,6-Trichlorophenol | 5.511 | 196 | 216751 | 50.00 | ppm | 100 |
| 50) 2,4,5-Trichlorophenol | 5.553 | 196 | 228079 | 50.63 | ppm | 100 |
| 52) 2-Chloronaphthalene | 5.628 | 162 | 584641 | 50.00 | ppm | 100 |
| 53) Biphenyl | 5.623 | 154 | 734585 | 50.00 | ppm | 100 |
| 54) 2-Nitroaniline | 5.724 | 65 | 185695 | 50.00 | ppm | 100 |
| 55) Dimethylphthalate | 5.852 | 163 | 755769 | 50.00 | ppm | 100 |
| 56) Acenaphthylene | 5.917 | 152 | 908286 | 50.00 | ppm | 100 |
| 57) 2,6-Dinitrotoluene | 5.895 | 165 | 165726 | 50.00 | ppm | 100 |
| 58) 3-Nitroaniline | 6.018 | 138 | 169454 | 50.06 | ppm | 100 |
| 59) Acenaphthene | 6.045 | 153 | 574701 | 50.00 | ppm | 100 |
| 60) 2,4-Dinitrophenol | 6.103 | 184 | 203769 | 100.00 | ppm | 100 |
| 61) 4-Nitrophenol | 6.210 | 109 | 125136 | 50.58 | ppm | 100 |
| 62) Dibenzofuran | 6.184 | 168 | 867769 | 50.00 | ppm | 100 |
| 63) 2,4-Dinitrotoluene | 6.200 | 165 | 214613 | 50.00 | ppm | 100 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.306 | 232 | 206125 | 50.00 | ppm | 100 |
| 65) Diethylphthalate | 6.408 | 149 | 761530 | 50.00 | ppm | 100 |
| 66) Fluorene | 6.472 | 166 | 702441 | 50.00 | ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 6.483 | 204 | 347769 | 50.00 | ppm | 100 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129143a.D
Acq On : 24 Apr 2019 2:57 am
Operator : chriss2
Sample : icc5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 26 11:17:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 68) 4-Nitroaniline | 6.536 | 138 | 165669 | 50.00 | ppm | 100 |
| 70) 4,6-Dinitro-2-methylph... | 6.558 | 198 | 144111 | 50.00 | ppm | 100 |
| 71) n-Nitrosodiphenylamine | 6.600 | 169 | 492407 | 50.00 | ppm | 100 |
| 72) 1,2-Diphenylhydrazine | 6.632 | 77 | 708995 | 50.10 | ppm | 100 |
| 74) 4-Bromophenyl-phenylether | 6.964 | 248 | 241387 | 50.00 | ppm | 100 |
| 75) Hexachlorobenzene | 7.022 | 284 | 268245 | 50.00 | ppm | 100 |
| 76) Pentachlorophenol | 7.279 | 266 | 338651 | 100.00 | ppm | 100 |
| 77) Phenanthrene | 7.498 | 178 | 995471 | 50.00 | ppm | 100 |
| 78) Anthracene | 7.562 | 178 | 1021855 | 50.00 | ppm | 100 |
| 79) Carbazole | 7.813 | 167 | 992906 | 50.00 | ppm | 100 |
| 80) Di-n-butylphthalate | 8.427 | 149 | 1443071 | 50.00 | ppm | 100 |
| 81) Fluoranthene | 9.303 | 202 | 1254145 | 50.00 | ppm | 100 |
| 82) Octadecane | 7.444 | 57 | 368446 | 50.00 | ppm | 100 |
| 84) Pyrene | 9.693 | 202 | 1290684 | 50.00 | ppm | 100 |
| 86) Butylbenzylphthalate | 11.259 | 149 | 664678 | 50.00 | ppm | 100 |
| 87) Benzo[a]anthracene | 12.151 | 228 | 1199857 | 50.00 | ppm | 100 |
| 88) 3,3'-Dichlorobenzidine | 12.242 | 252 | 432683 | 50.00 | ppm | 100 |
| 89) Chrysene | 12.231 | 228 | 1089839 | 50.00 | ppm | 100 |
| 90) bis(2-Ethylhexyl)phtha... | 12.658 | 149 | 910528 | 50.00 | ppm | 100 |
| 92) Di-n-octylphthalate | 14.069 | 149 | 1622375 | 50.00 | ppm | 100 |
| 93) Benzo[b]fluoranthene | 14.395 | 252 | 1249586 | 50.00 | ppm | 100 |
| 94) Benzo[k]fluoranthene | 14.464 | 252 | 981629 | 50.00 | ppm | 100 |
| 95) Benzo[a]pyrene | 14.998 | 252 | 1033049 | 50.00 | ppm | 100 |
| 96) Indeno[1,2,3-cd]pyrene | 17.034 | 276 | 954579 | 50.00 | ppm | 100 |
| 97) Dibenz(a,h)acridine | 16.686 | 279 | 936675 | 50.00 | ppm | 100 |
| 98) Dibenz[a,h]anthracene | 17.098 | 278 | 963311 | 50.24 | ppm | 100 |
| 99) 7,12-Dimethylbenz(a)an... | 14.421 | 256 | 510356 | 50.00 | ppm | 100 |
| 100) Benzo[g,h,i]perylene | 17.445 | 276 | 935242 | 49.76 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

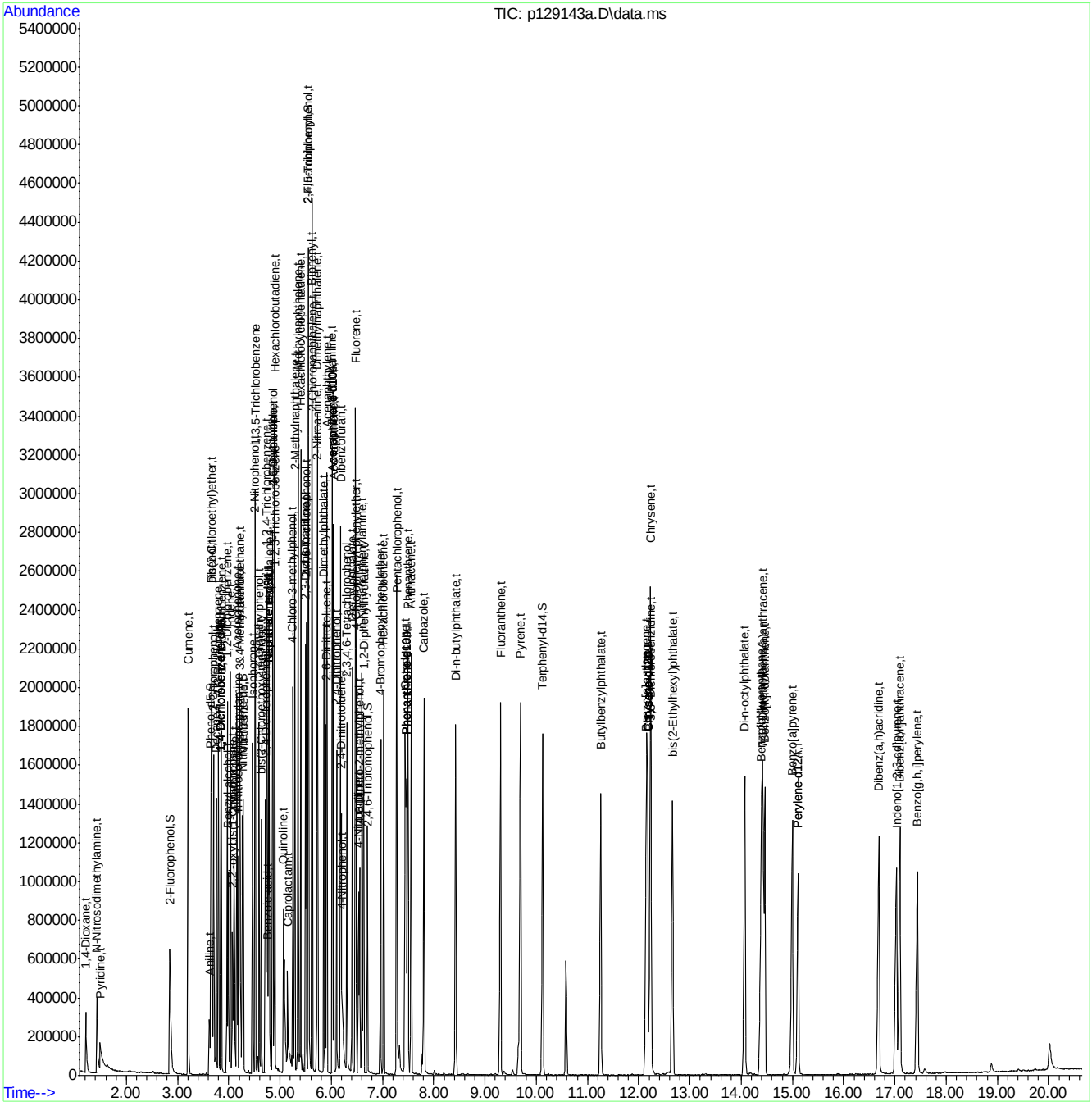
9.6.45

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129143a.D
Acq On : 24 Apr 2019 2:57 am
Operator : chriss2
Sample : icc5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 26 11:17:06 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/30/19 18:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129144a.D
Acq On : 24 Apr 2019 3:24 am
Operator : chriss2
Sample : ic5844-25
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 26 11:26:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 244244 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.779 | 136 | 876767 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.023 | 164 | 548162 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.460 | 188 | 962861 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.172 | 240 | 903620 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 15.110 | 264 | 932161 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 244244 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.779 | 136 | 876767 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.023 | 164 | 548162 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.460 | 188 | 962861 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.172 | 240 | 903620 | 40.00 | ppm | 0.00 |
| 153) Perylene-d12A | 15.110 | 264 | 932161 | 40.00 | ppm | 0.00 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 244244 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.460 | 188 | 962861 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.172 | 240 | 903620 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.779 | 136 | 876767 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.023 | 164 | 548162 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.779 | 136 | 876767 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 244244 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.172 | 240 | 903620 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.172 | 240 | 903620 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.779 | 136 | 876767 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.172 | 240 | 903620 | 40.00 | ppm | -0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.845 | 112 | 214544 | 23.25 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 46.50% | | | |
| 8) Phenol-d5 | 3.651 | 99 | 266748 | 23.56 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 47.12% | | | |
| 25) Nitrobenzene-d5 | 4.266 | 82 | 234363 | 24.17 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 48.34% | | | |
| 51) 2-Fluorobiphenyl | 5.553 | 172 | 467440 | 26.38 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 52.76% | | | |
| 73) 2,4,6-Tribromophenol | 6.702 | 330 | 82624 | 23.88 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 47.76% | | | |
| 85) Terphenyl-d14 | 10.121 | 244 | 536551 | 24.37 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 48.74% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.215 | 88 | 100781 | 24.65 | ppm | 98 |
| 3) Pyridine | 1.472 | 79 | 180051 | 25.82 | ppm | 97 |
| 4) N-Nitrosodimethylamine | 1.429 | 42 | 110988 | 25.96 | ppm | 100 |
| 6) Indene | 4.031 | 116 | 325693 | 23.96 | ppm | 97 |
| 7) Cumene | 3.208 | 105 | 549129 | 24.71 | ppm | 99 |
| 9) Phenol | 3.657 | 94 | 287197 | 24.04 | ppm | 95 |
| 10) Aniline | 3.614 | 93 | 128527 | 30.12 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 3.662 | 93 | 239035 | 24.41 | ppm | 95 |
| 12) 2-Chlorophenol | 3.705 | 128 | 208479 | 23.76 | ppm | 99 |
| 13) Decane | 3.748 | 43 | 154359 | 26.55 | ppm | 92 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129144a.D
Acq On : 24 Apr 2019 3:24 am
Operator : chriss2
Sample : ic5844-25
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 26 11:26:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 14) 1,3-Dichlorobenzene | 3.796 | 146 | 246456 | 25.01 ppm | 99 |
| 15) 1,4-Dichlorobenzene | 3.854 | 146 | 233481 | 23.88 ppm | 97 |
| 16) Benzyl alcohol | 3.983 | 108 | 105308 | 22.82 ppm | 97 |
| 17) 1,2-Dichlorobenzene | 3.967 | 146 | 239853 | 24.71 ppm | 98 |
| 18) Acetophenone | 4.159 | 105 | 296523 | 23.94 ppm | 97 |
| 19) 2-Methylphenol | 4.100 | 108 | 194993 | 24.56 ppm | 97 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.073 | 121 | 50513 | 24.23 ppm | 96 |
| 21) 3&4-Methylphenol | 4.218 | 108 | 187290 | 23.62 ppm | 100 |
| 22) n-Nitroso-di-n-propyla... | 4.175 | 70 | 137038 | 23.87 ppm | 99 |
| 23) Hexachloroethane | 4.212 | 201 | 96274 | 24.35 ppm | 96 |
| 26) Nitrobenzene | 4.276 | 77 | 234783 | 25.16 ppm | 94 |
| 27) Quinoline | 5.051 | 129 | 398233m | 23.29 ppm | |
| 28) Isophorone | 4.458 | 82 | 420054 | 24.94 ppm | 97 |
| 29) 2-Nitrophenol | 4.511 | 139 | 119448 | 24.43 ppm | 93 |
| 30) 2,4-Dimethylphenol | 4.586 | 107 | 203524 | 23.10 ppm | 97 |
| 31) Benzoic acid | 4.741 | 105 | 153085 | 22.86 ppm | 91 |
| 32) bis(2-Chloroethoxy)met... | 4.629 | 93 | 239628 | 23.97 ppm | 100 |
| 33) 2,4-Dichlorophenol | 4.714 | 162 | 189431 | 23.60 ppm | 98 |
| 34) 2,6-Dichlorophenol | 4.859 | 162 | 184735 | 24.02 ppm | 99 |
| 35) 1,3,5-Trichlorobenzene | 4.517 | 180 | 223305 | 24.56 ppm | 99 |
| 36) 1,2,4-Trichlorobenzene | 4.741 | 180 | 211641 | 24.62 ppm | 98 |
| 37) 1,2,3-Trichlorobenzene | 4.896 | 180 | 199413 | 24.62 ppm | 97 |
| 38) Naphthalene | 4.789 | 128 | 527115 | 23.32 ppm | 100 |
| 39) 4-Chloroaniline | 4.853 | 127 | 196489 | 24.46 ppm | 93 |
| 40) 2,3-Dichloroaniline | 5.494 | 161 | 227790 | 23.29 ppm | 98 |
| 41) Caprolactam | 5.131 | 55 | 84169 | 23.79 ppm | 97 |
| 42) Hexachlorobutadiene | 4.891 | 225 | 131496 | 24.52 ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 5.243 | 107 | 197676 | 23.47 ppm | 98 |
| 44) 2-Methylnaphthalene | 5.286 | 141 | 312688 | 24.47 ppm | 100 |
| 45) 1-Methylnaphthalene | 5.356 | 142 | 403046 | 24.70 ppm | 99 |
| 46) Dimethylnaphthalene | 5.730 | 156 | 356734 | 23.72 ppm | 98 |
| 48) Hexachlorocyclopentadiene | 5.404 | 237 | 236943 | 49.06 ppm | 97 |
| 49) 2,4,6-Trichlorophenol | 5.510 | 196 | 144727 | 25.48 ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 5.553 | 196 | 153091 | 25.94 ppm | 98 |
| 52) 2-Chloronaphthalene | 5.628 | 162 | 391444 | 25.55 ppm | 98 |
| 53) Biphenyl | 5.623 | 154 | 503514 | 26.16 ppm | 98 |
| 54) 2-Nitroaniline | 5.719 | 65 | 128477 | 26.40 ppm | 85 |
| 55) Dimethylphthalate | 5.852 | 163 | 492719 | 24.88 ppm | 98 |
| 56) Acenaphthylene | 5.916 | 152 | 604132 | 25.38 ppm | 98 |
| 57) 2,6-Dinitrotoluene | 5.890 | 165 | 103592 | 23.85 ppm | 86 |
| 58) 3-Nitroaniline | 6.013 | 138 | 112121 | 25.28 ppm | 90 |
| 59) Acenaphthene | 6.045 | 153 | 370899 | 24.63 ppm | 98 |
| 60) 2,4-Dinitrophenol | 6.098 | 184 | 120792 | 45.24 ppm | 93 |
| 61) 4-Nitrophenol | 6.210 | 109 | 78453 | 24.20 ppm | 83 |
| 62) Dibenzofuran | 6.178 | 168 | 572434 | 25.17 ppm | 97 |
| 63) 2,4-Dinitrotoluene | 6.194 | 165 | 139036 | 24.72 ppm | 92 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.301 | 232 | 126428 | 23.40 ppm | 92 |
| 65) Diethylphthalate | 6.403 | 149 | 501132 | 25.11 ppm | 98 |
| 66) Fluorene | 6.467 | 166 | 464305 | 25.22 ppm | 100 |
| 67) 4-Chlorophenyl-phenyle... | 6.477 | 204 | 229745 | 25.21 ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129144a.D
Acq On : 24 Apr 2019 3:24 am
Operator : chriss2
Sample : ic5844-25
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 26 11:26:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 68) 4-Nitroaniline | 6.526 | 138 | 101892 | 23.47 | ppm | 95 |
| 70) 4,6-Dinitro-2-methylph... | 6.552 | 198 | 90380 | 23.28 | ppm | 98 |
| 71) n-Nitrosodiphenylamine | 6.600 | 169 | 321495 | 24.24 | ppm | 99 |
| 72) 1,2-Diphenylhydrazine | 6.627 | 77 | 476957 | 25.02 | ppm | 96 |
| 74) 4-Bromophenyl-phenylether | 6.958 | 248 | 151870 | 23.35 | ppm | 95 |
| 75) Hexachlorobenzene | 7.017 | 284 | 170393 | 23.58 | ppm | 93 |
| 76) Pentachlorophenol | 7.273 | 266 | 206844 | 45.34 | ppm | 98 |
| 77) Phenanthrene | 7.492 | 178 | 634119 | 23.65 | ppm | 99 |
| 78) Anthracene | 7.557 | 178 | 666530 | 24.21 | ppm | 99 |
| 79) Carbazole | 7.808 | 167 | 642078 | 24.00 | ppm | 100 |
| 80) Di-n-butylphthalate | 8.422 | 149 | 942924 | 24.25 | ppm | 98 |
| 81) Fluoranthene | 9.298 | 202 | 802257 | 23.74 | ppm | 99 |
| 82) Octadecane | 7.439 | 57 | 252541 | 25.44 | ppm | 98 |
| 84) Pyrene | 9.688 | 202 | 817288 | 24.65 | ppm | 98 |
| 86) Butylbenzylphthalate | 11.253 | 149 | 425754 | 24.94 | ppm | 98 |
| 87) Benzo[a]anthracene | 12.146 | 228 | 744181 | 24.15 | ppm | 98 |
| 88) 3,3'-Dichlorobenzidine | 12.231 | 252 | 263197 | 23.68 | ppm | 99 |
| 89) Chrysene | 12.220 | 228 | 679462 | 24.27 | ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 12.653 | 149 | 579828 | 24.79 | ppm | 100 |
| 92) Di-n-octylphthalate | 14.058 | 149 | 1019397 | 24.68 | ppm | 97 |
| 93) Benzo[b]fluoranthene | 14.379 | 252 | 722534 | 22.71 | ppm | 97 |
| 94) Benzo[k]fluoranthene | 14.443 | 252 | 653444 | 26.14 | ppm | 98 |
| 95) Benzo[a]pyrene | 14.988 | 252 | 624465 | 23.74 | ppm | 97 |
| 96) Indeno[1,2,3-cd]pyrene | 17.018 | 276 | 575966 | 23.70 | ppm | 95 |
| 97) Dibenz(a,h)acridine | 16.676 | 279 | 563919 | 23.64 | ppm | 97 |
| 98) Dibenz[a,h]anthracene | 17.087 | 278 | 580465 | 23.78 | ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 14.400 | 256 | 286526 | 22.05 | ppm | 98 |
| 100) Benzo[g,h,i]perylene | 17.429 | 276 | 572820 | 23.94 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

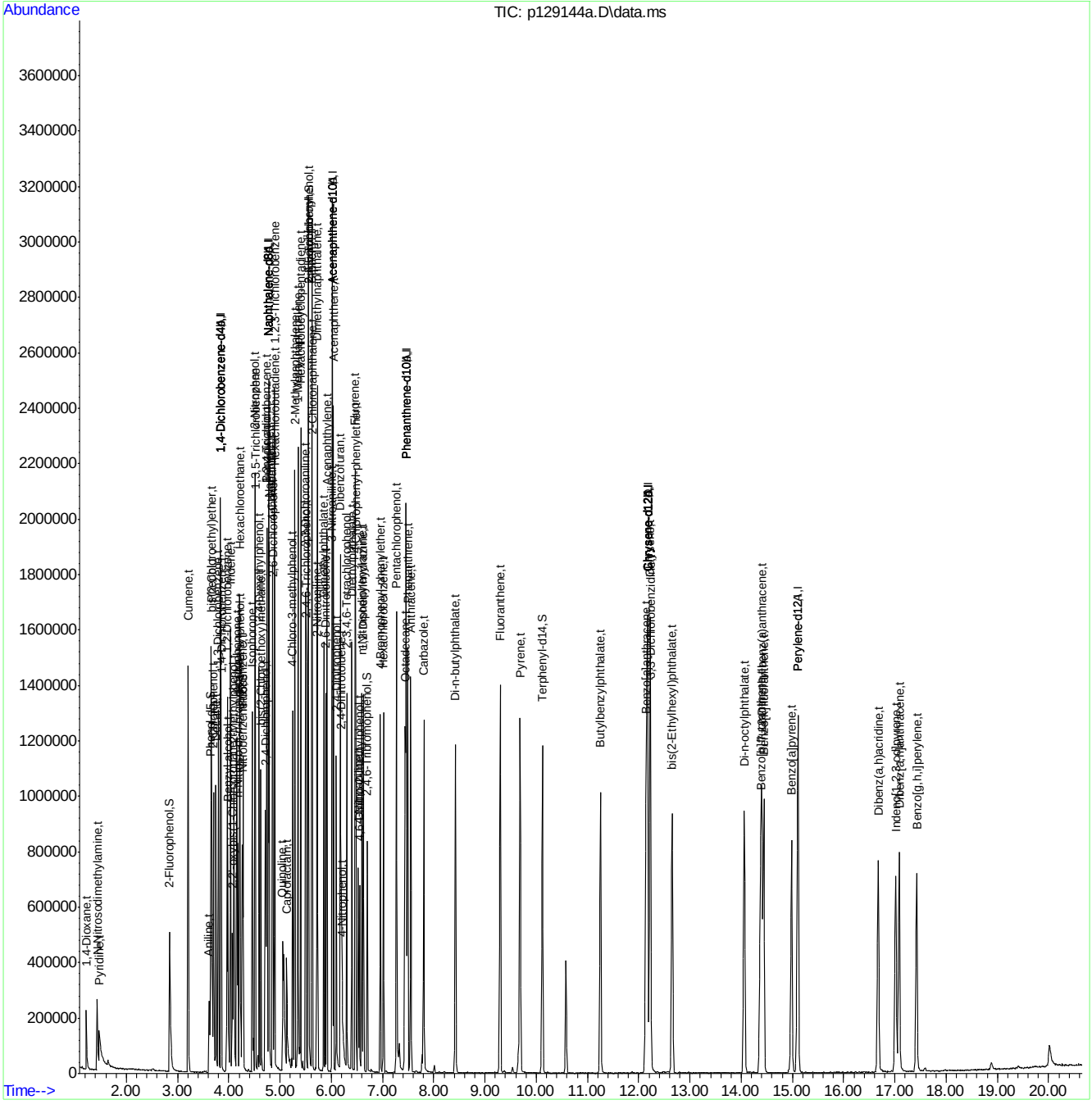
9.6.46

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129144a.D
Acq On : 24 Apr 2019 3:24 am
Operator : chriss2
Sample : ic5844-25
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 26 11:26:57 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



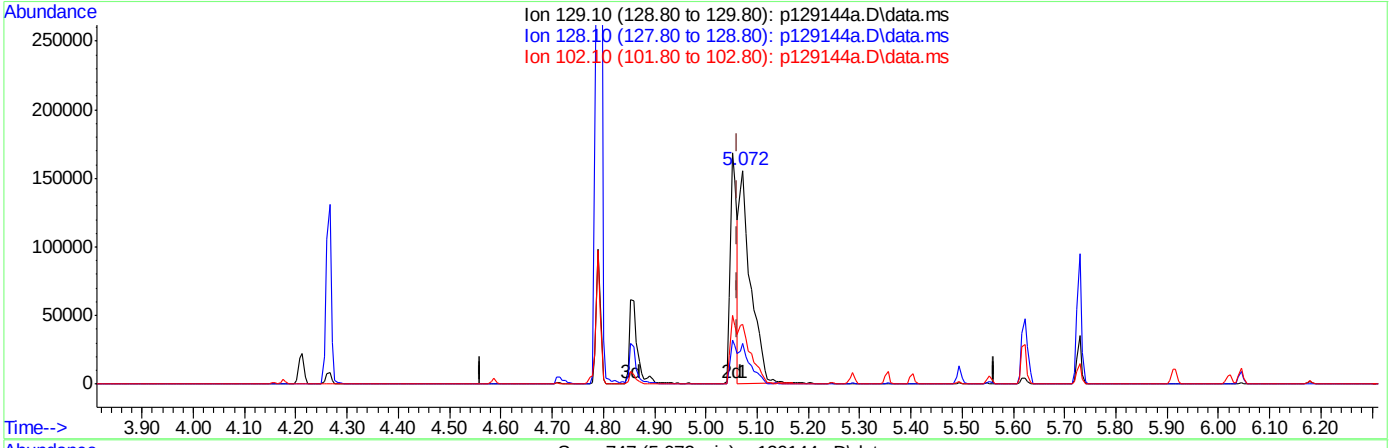
| | | | |
|---|---|---|---|
| **Sample Number:** | EP5844-IC5844 | **Method:** | SW846 8270D |
| **Lab FileID:** | P129144A.D | **Analyst approved:** | 04/26/19 12:39 Ying Li |
| **Injection Time:** | 04/24/19 03:24 | **Supervisor approved:** | 04/30/19 18:25 Kristi Schollenberger |

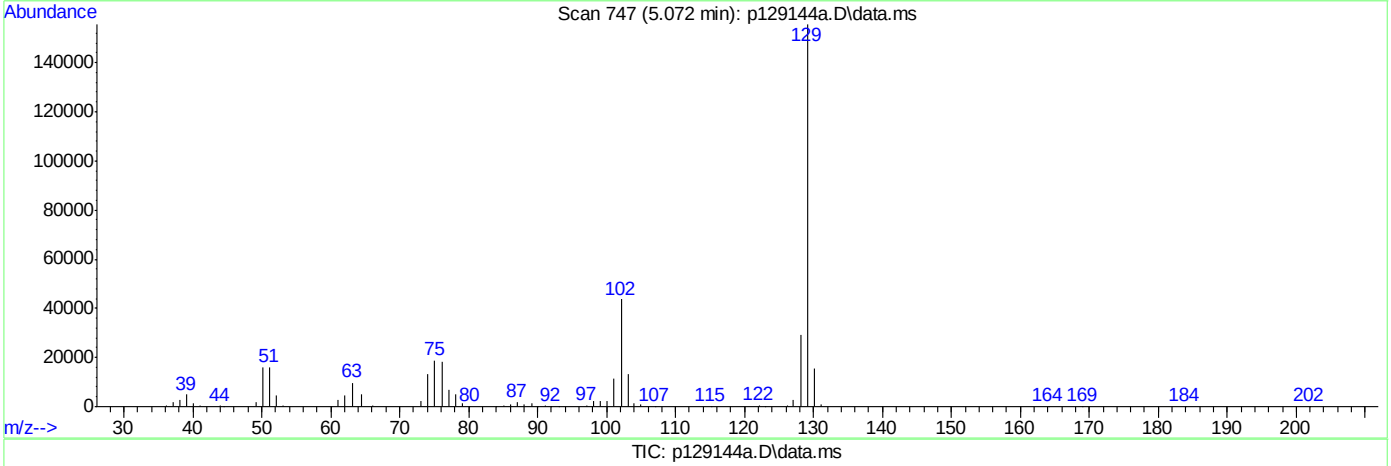
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Quinoline | 91-22-5 | | 5.05 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129144a.D
Acq On : 24 Apr 2019 3:24 am
Operator : chriss2
Sample : ic5844-25
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 24 10:43:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 10:37:10 2019
Response via : Initial Calibration




TIC: p129144a.D\data.ms

(27) Quinoline (t)

5.072min (+0.011) 13.78ppm

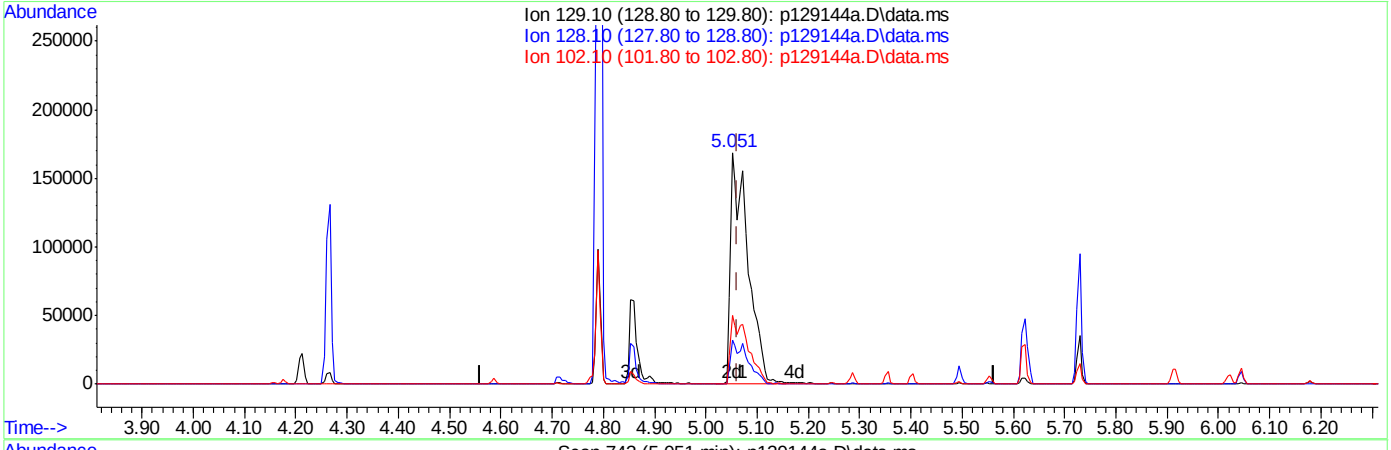
response 235617

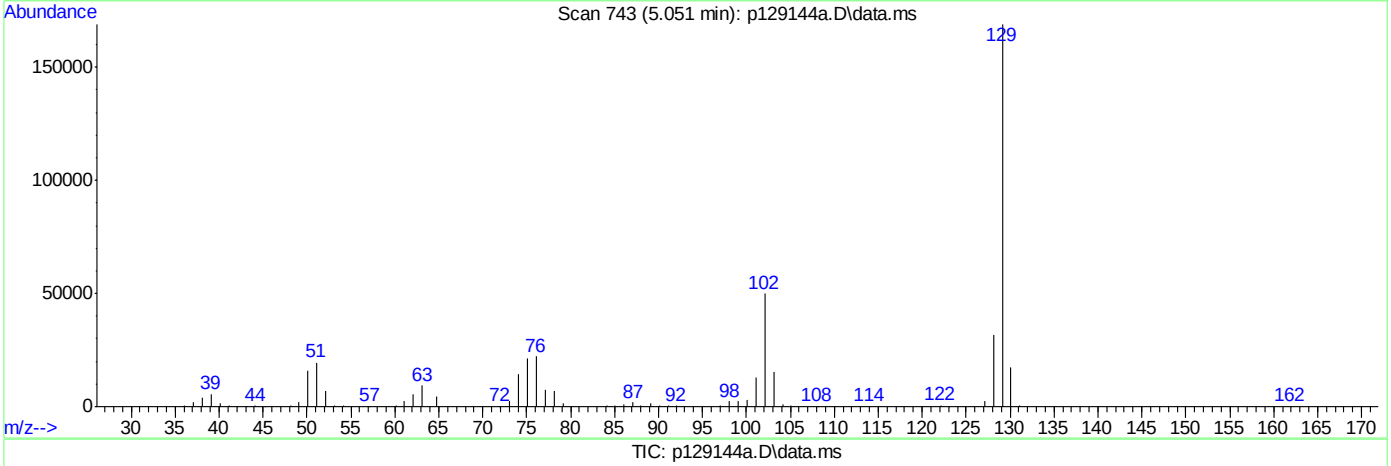
| Ion | Exp% | Act% |
|---|---|---|
| 129.10 | 100 | 100 |
| 128.10 | 17.80 | 19.10 |
| 102.10 | 29.70 | 26.80 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129144a.D
Acq On : 24 Apr 2019 3:24 am
Operator : chriss2
Sample : ic5844-25
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 26 11:24:51 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration




TIC: p129144a.D\data.ms

(27) Quinoline (t)

5.051min (-0.011) 23.29ppm m

response 398233

| Ion | Exp% | Act% |
|---|---|---|
| 129.10 | 100 | 100 |
| 128.10 | 17.80 | 18.88 |
| 102.10 | 29.70 | 29.50 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129145a.D
Acq On : 24 Apr 2019 3:51 am
Operator : chriss2
Sample : ic5844-10
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 26 11:30:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 246850 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 914688 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 569912 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.460 | 188 | 1047583 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.167 | 240 | 1052978 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 15.111 | 264 | 1138537 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 246850 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 914688 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 569912 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.460 | 188 | 1047583 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.167 | 240 | 1052978 | 40.00 | ppm | 0.00 |
| 153) Perylene-d12A | 15.111 | 264 | 1138537 | 40.00 | ppm | 0.00 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 246850 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.460 | 188 | 1047583 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.167 | 240 | 1052978 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 914688 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 569912 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 914688 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 246850 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.167 | 240 | 1052978 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.167 | 240 | 1052978 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 914688 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.167 | 240 | 1052978 | 40.00 | ppm | -0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.839 | 112 | 77746 | 8.33 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 16.66% | | | |
| 8) Phenol-d5 | 3.646 | 99 | 105705 | 9.24 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 18.48% | | | |
| 25) Nitrobenzene-d5 | 4.260 | 82 | 103296 | 10.21 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 20.42% | | | |
| 51) 2-Fluorobiphenyl | 5.553 | 172 | 195015 | 10.58 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 21.16% | | | |
| 73) 2,4,6-Tribromophenol | 6.697 | 330 | 32886 | 8.74 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 17.48% | | | |
| 85) Terphenyl-d14 | 10.116 | 244 | 230688 | 8.99 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery = 17.98% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.210 | 88 | 39603 | 9.58 | ppm | 91 |
| 3) Pyridine | 1.445 | 79 | 87135 | 12.36 | ppm | 95 |
| 4) N-Nitrosodimethylamine | 1.429 | 42 | 42503 | 9.84 | ppm | 94 |
| 6) Indene | 4.031 | 116 | 131264 | 9.55 | ppm | 96 |
| 7) Cumene | 3.208 | 105 | 217416 | 9.68 | ppm | 97 |
| 9) Phenol | 3.657 | 94 | 113537 | 9.40 | ppm | 94 |
| 10) Aniline | 3.603 | 93 | 109312 | 25.35 | ppm | 94 |
| 11) bis(2-Chloroethyl)ether | 3.662 | 93 | 90185 | 9.11 | ppm | 86 |
| 12) 2-Chlorophenol | 3.700 | 128 | 83636 | 9.43 | ppm | 96 |
| 13) Decane | 3.748 | 43 | 63120 | 10.74 | ppm | 95 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129145a.D
Acq On : 24 Apr 2019 3:51 am
Operator : chriss2
Sample : ic5844-10
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 26 11:30:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 14) 1,3-Dichlorobenzene | 3.790 | 146 | 99885 | 10.03 | ppm | | 98 |
| 15) 1,4-Dichlorobenzene | 3.849 | 146 | 94564 | 9.57 | ppm | | 98 |
| 16) Benzyl alcohol | 3.977 | 108 | 44697 | 9.58 | ppm | | 93 |
| 17) 1,2-Dichlorobenzene | 3.967 | 146 | 94111 | 9.59 | ppm | | 96 |
| 18) Acetophenone | 4.154 | 105 | 123229 | 9.84 | ppm | | 94 |
| 19) 2-Methylphenol | 4.095 | 108 | 79067 | 9.85 | ppm | | 99 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.068 | 121 | 21290 | 10.10 | ppm | | 94 |
| 21) 3&4-Methylphenol | 4.212 | 108 | 81282 | 10.14 | ppm | | 96 |
| 22) n-Nitroso-di-n-propyla... | 4.170 | 70 | 59334 | 10.23 | ppm | | 100 |
| 23) Hexachloroethane | 4.212 | 201 | 39192 | 9.81 | ppm | | 97 |
| 26) Nitrobenzene | 4.271 | 77 | 103366 | 10.62 | ppm | | 90 |
| 27) Quinoline | 5.035 | 129 | 162720 | 9.12 | ppm | | 99 |
| 28) Isophorone | 4.453 | 82 | 177084 | 10.08 | ppm | | 95 |
| 29) 2-Nitrophenol | 4.512 | 139 | 47402 | 9.29 | ppm | | 76 |
| 30) 2,4-Dimethylphenol | 4.581 | 107 | 68728 | 7.48 | ppm | | 99 |
| 31) Benzoic acid | 4.704 | 105 | 38600 | 5.53 | ppm | | 94 |
| 32) bis(2-Chloroethoxy)met... | 4.629 | 93 | 103010 | 9.88 | ppm | | 100 |
| 33) 2,4-Dichlorophenol | 4.709 | 162 | 76757 | 9.17 | ppm | | 97 |
| 34) 2,6-Dichlorophenol | 4.853 | 162 | 73454 | 9.16 | ppm | | 97 |
| 35) 1,3,5-Trichlorobenzene | 4.512 | 180 | 89964 | 9.49 | ppm | | 98 |
| 36) 1,2,4-Trichlorobenzene | 4.741 | 180 | 86695 | 9.67 | ppm | | 99 |
| 37) 1,2,3-Trichlorobenzene | 4.896 | 180 | 81965 | 9.70 | ppm | | 97 |
| 38) Naphthalene | 4.789 | 128 | 220487 | 9.35 | ppm | | 100 |
| 39) 4-Chloroaniline | 4.853 | 127 | 92808 | 11.07 | ppm | | 97 |
| 40) 2,3-Dichloroaniline | 5.495 | 161 | 95278 | 9.34 | ppm | | 98 |
| 41) Caprolactam | 5.105 | 55 | 36584 | 9.91 | ppm | | 97 |
| 42) Hexachlorobutadiene | 4.891 | 225 | 53493 | 9.56 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 5.238 | 107 | 80606 | 9.17 | ppm | | 98 |
| 44) 2-Methylnaphthalene | 5.286 | 141 | 127014 | 9.53 | ppm | | 95 |
| 45) 1-Methylnaphthalene | 5.350 | 142 | 163314 | 9.59 | ppm | | 94 |
| 46) Dimethylnaphthalene | 5.724 | 156 | 148966 | 9.50 | ppm | | 93 |
| 48) Hexachlorocyclopentadiene | 5.404 | 237 | 77564 | 15.45 | ppm | | 97 |
| 49) 2,4,6-Trichlorophenol | 5.505 | 196 | 57626 | 9.76 | ppm | | 97 |
| 50) 2,4,5-Trichlorophenol | 5.548 | 196 | 60227 | 9.81 | ppm | | 94 |
| 52) 2-Chloronaphthalene | 5.623 | 162 | 164152 | 10.31 | ppm | | 95 |
| 53) Biphenyl | 5.617 | 154 | 203886 | 10.19 | ppm | | 97 |
| 54) 2-Nitroaniline | 5.714 | 65 | 58142 | 11.49 | ppm | # | 74 |
| 55) Dimethylphthalate | 5.847 | 163 | 205848 | 10.00 | ppm | | 99 |
| 56) Acenaphthylene | 5.911 | 152 | 257676 | 10.41 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 5.885 | 165 | 43043 | 9.53 | ppm | | 76 |
| 58) 3-Nitroaniline | 6.013 | 138 | 48283 | 10.47 | ppm | | 96 |
| 59) Acenaphthene | 6.039 | 153 | 155382 | 9.92 | ppm | | 97 |
| 60) 2,4-Dinitrophenol | 6.093 | 184 | 39410 | 14.20 | ppm | | 76 |
| 61) 4-Nitrophenol | 6.210 | 109 | 32049 | 9.51 | ppm | | 96 |
| 62) Dibenzofuran | 6.178 | 168 | 236758 | 10.01 | ppm | | 95 |
| 63) 2,4-Dinitrotoluene | 6.189 | 165 | 60408 | 10.33 | ppm | | 80 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.301 | 232 | 51260 | 9.13 | ppm | | 92 |
| 65) Diethylphthalate | 6.397 | 149 | 215361 | 10.38 | ppm | | 97 |
| 66) Fluorene | 6.467 | 166 | 194772 | 10.18 | ppm | | 96 |
| 67) 4-Chlorophenyl-phenyle... | 6.478 | 204 | 93535 | 9.87 | ppm | | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129145a.D
Acq On : 24 Apr 2019 3:51 am
Operator : chriss2
Sample : ic5844-10
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 26 11:30:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 68) | 4-Nitroaniline | 6.515 | 138 | 45200 | 10.01 | ppm | 91 |
| 70) | 4,6-Dinitro-2-methylph... | 6.542 | 198 | 34535 | 8.18 | ppm | 76 |
| 71) | n-Nitrosodiphenylamine | 6.590 | 169 | 132598 | 9.19 | ppm | 97 |
| 72) | 1,2-Diphenylhydrazine | 6.622 | 77 | 220519 | 10.63 | ppm | 89 |
| 74) | 4-Bromophenyl-phenylether | 6.958 | 248 | 61627 | 8.71 | ppm | 94 |
| 75) | Hexachlorobenzene | 7.017 | 284 | 70748 | 9.00 | ppm | 98 |
| 76) | Pentachlorophenol | 7.268 | 266 | 71665 | 14.44 | ppm | 98 |
| 77) | Phenanthrene | 7.487 | 178 | 268795 | 9.21 | ppm | 99 |
| 78) | Anthracene | 7.546 | 178 | 279918 | 9.35 | ppm | 99 |
| 79) | Carbazole | 7.802 | 167 | 275950 | 9.48 | ppm | 100 |
| 80) | Di-n-butylphthalate | 8.422 | 149 | 396345 | 9.37 | ppm | 99 |
| 81) | Fluoranthene | 9.293 | 202 | 342659 | 9.32 | ppm | 97 |
| 82) | Octadecane | 7.434 | 57 | 111315 | 10.31 | ppm | 95 |
| 84) | Pyrene | 9.678 | 202 | 358665 | 9.28 | ppm | 99 |
| 86) | Butylbenzylphthalate | 11.248 | 149 | 191063 | 9.60 | ppm | 99 |
| 87) | Benzo[a]anthracene | 12.135 | 228 | 335336 | 9.34 | ppm | 98 |
| 88) | 3,3'-Dichlorobenzidine | 12.226 | 252 | 114223 | 8.82 | ppm | 97 |
| 89) | Chrysene | 12.210 | 228 | 297788 | 9.13 | ppm | 98 |
| 90) | bis(2-Ethylhexyl)phtha... | 12.648 | 149 | 253691 | 9.31 | ppm | 100 |
| 92) | Di-n-octylphthalate | 14.053 | 149 | 452507 | 8.97 | ppm | 98 |
| 93) | Benzo[b]fluoranthene | 14.368 | 252 | 334514 | 8.61 | ppm | 98 |
| 94) | Benzo[k]fluoranthene | 14.427 | 252 | 299498 | 9.81 | ppm | 98 |
| 95) | Benzo[a]pyrene | 14.977 | 252 | 288405 | 8.98 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 17.007 | 276 | 272702 | 9.19 | ppm | 95 |
| 97) | Dibenz(a,h)acridine | 16.665 | 279 | 261469 | 8.98 | ppm | 97 |
| 98) | Dibenz[a,h]anthracene | 17.077 | 278 | 268436 | 9.00 | ppm | 99 |
| 99) | 7,12-Dimethylbenz(a)an... | 14.389 | 256 | 106728 | 6.72 | ppm | 97 |
| 100) | Benzo[g,h,i]perylene | 17.413 | 276 | 273714 | 9.37 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

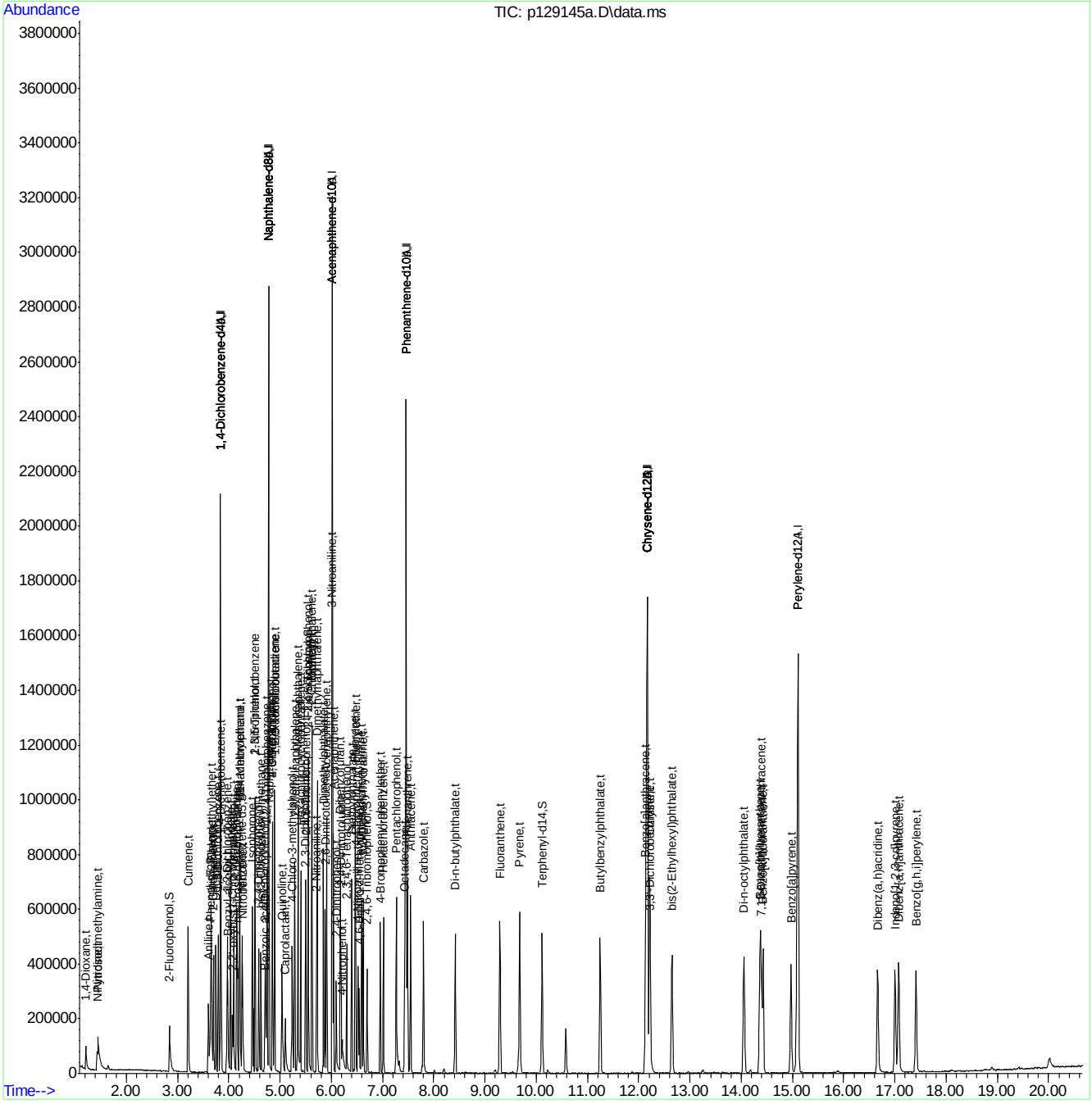
9.6.47

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129145a.D
Acq On : 24 Apr 2019 3:51 am
Operator : chriss2
Sample : ic5844-10
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 26 11:30:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:15:43 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/30/19 18:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129146a.D
Acq On : 24 Apr 2019 4:18 am
Operator : chriss2
Sample : ic5844-5
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 26 11:35:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.839 | 152 | 233437 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.774 | 136 | 863051 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 540608 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.461 | 188 | 1004865 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.167 | 240 | 993848 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 15.111 | 264 | 1118417 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4A | 3.839 | 152 | 233437 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.774 | 136 | 863051 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 540608 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.461 | 188 | 1004865 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.167 | 240 | 993848 | 40.00 | ppm | 0.00 |
| 153) Perylene-d12A | 15.111 | 264 | 1118417 | 40.00 | ppm | 0.00 |
| 157) 1,4-Dichlorobenzene-d4b | 3.839 | 152 | 233437 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.461 | 188 | 1004865 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.167 | 240 | 993848 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.774 | 136 | 863051 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 540608 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.774 | 136 | 863051 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.839 | 152 | 233437 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.167 | 240 | 993848 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.167 | 240 | 993848 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.774 | 136 | 863051 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.167 | 240 | 993848 | 40.00 | ppm | -0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.845 | 112 | 32624 | 3.70 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 7.40% | |
| 8) Phenol-d5 | 3.646 | 99 | 46471 | 4.29 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 8.58% | |
| 25) Nitrobenzene-d5 | 4.261 | 82 | 47032 | 4.93 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 9.86% | |
| 51) 2-Fluorobiphenyl | 5.548 | 172 | 89418 | 5.12 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 10.24% | |
| 73) 2,4,6-Tribromophenol | 6.697 | 330 | 13825 | 3.83 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 7.66% | |
| 85) Terphenyl-d14 | 10.116 | 244 | 102133 | 4.22 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 8.44% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.210 | 88 | 16715 | 4.28 | ppm | 94 |
| 3) Pyridine | 1.445 | 79 | 41868 | 6.28 | ppm | 99 |
| 4) N-Nitrosodimethylamine | 1.429 | 42 | 16811 | 4.11 | ppm | 97 |
| 6) Indene | 4.031 | 116 | 60850 | 4.68 | ppm | 97 |
| 7) Cumene | 3.203 | 105 | 98222 | 4.62 | ppm | 98 |
| 9) Phenol | 3.657 | 94 | 50230 | 4.40 | ppm | 93 |
| 10) Aniline | 3.604 | 93 | 55655 | 13.65 | ppm | 92 |
| 11) bis(2-Chloroethyl)ether | 3.662 | 93 | 37349 | 3.99 | ppm | 95 |
| 12) 2-Chlorophenol | 3.700 | 128 | 37875 | 4.52 | ppm | 90 |
| 13) Decane | 3.748 | 43 | 30296 | 5.45 | ppm | 92 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129146a.D
Acq On : 24 Apr 2019 4:18 am
Operator : chriss2
Sample : ic5844-5
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 26 11:35:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 14) 1,3-Dichlorobenzene | 3.791 | 146 | 47766 | 5.07 | ppm | | 99 |
| 15) 1,4-Dichlorobenzene | 3.849 | 146 | 44143 | 4.72 | ppm | | 95 |
| 16) Benzyl alcohol | 3.978 | 108 | 18501 | 4.19 | ppm | | 85 |
| 17) 1,2-Dichlorobenzene | 3.967 | 146 | 42763 | 4.61 | ppm | | 99 |
| 18) Acetophenone | 4.154 | 105 | 57821 | 4.88 | ppm | | 89 |
| 19) 2-Methylphenol | 4.095 | 108 | 33445 | 4.41 | ppm | | 94 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.068 | 121 | 9294 | 4.66 | ppm | # | 82 |
| 21) 3&4-Methylphenol | 4.213 | 108 | 34213 | 4.51 | ppm | | 98 |
| 22) n-Nitroso-di-n-propyla... | 4.165 | 70 | 28007 | 5.10 | ppm | | 92 |
| 23) Hexachloroethane | 4.207 | 201 | 17989 | 4.76 | ppm | | 83 |
| 26) Nitrobenzene | 4.271 | 77 | 49909 | 5.43 | ppm | | 87 |
| 27) Quinoline | 5.035 | 129 | 74002 | 4.40 | ppm | | 97 |
| 28) Isophorone | 4.453 | 82 | 80284 | 4.84 | ppm | | 98 |
| 29) 2-Nitrophenol | 4.512 | 139 | 22271 | 4.63 | ppm | # | 74 |
| 30) 2,4-Dimethylphenol | 4.581 | 107 | 26795 | 3.09 | ppm | | 99 |
| 31) Benzoic acid | 4.693 | 105 | 11273m | 1.71 | ppm | | |
| 32) bis(2-Chloroethoxy)met... | 4.624 | 93 | 47320 | 4.81 | ppm | | 97 |
| 33) 2,4-Dichlorophenol | 4.715 | 162 | 34261 | 4.34 | ppm | | 96 |
| 34) 2,6-Dichlorophenol | 4.854 | 162 | 33883 | 4.48 | ppm | | 96 |
| 35) 1,3,5-Trichlorobenzene | 4.512 | 180 | 40662 | 4.54 | ppm | | 97 |
| 36) 1,2,4-Trichlorobenzene | 4.742 | 180 | 38975 | 4.61 | ppm | | 100 |
| 37) 1,2,3-Trichlorobenzene | 4.896 | 180 | 38832 | 4.87 | ppm | | 98 |
| 38) Naphthalene | 4.790 | 128 | 99792 | 4.49 | ppm | | 99 |
| 39) 4-Chloroaniline | 4.848 | 127 | 44281 | 5.60 | ppm | | 89 |
| 40) 2,3-Dichloroaniline | 5.495 | 161 | 44290 | 4.60 | ppm | | 95 |
| 41) Caprolactam | 5.094 | 55 | 16989 | 4.88 | ppm | | 97 |
| 42) Hexachlorobutadiene | 4.891 | 225 | 24233 | 4.59 | ppm | | 98 |
| 43) 4-Chloro-3-methylphenol | 5.238 | 107 | 36319 | 4.38 | ppm | | 93 |
| 44) 2-Methylnaphthalene | 5.286 | 141 | 59988 | 4.77 | ppm | | 95 |
| 45) 1-Methylnaphthalene | 5.351 | 142 | 76231 | 4.75 | ppm | | 96 |
| 46) Dimethylnaphthalene | 5.724 | 156 | 68161 | 4.61 | ppm | | 94 |
| 48) Hexachlorocyclopentadiene | 5.404 | 237 | 27599 | 5.79 | ppm | | 98 |
| 49) 2,4,6-Trichlorophenol | 5.505 | 196 | 26352 | 4.70 | ppm | | 97 |
| 50) 2,4,5-Trichlorophenol | 5.554 | 196 | 25018 | 4.30 | ppm | | 97 |
| 52) 2-Chloronaphthalene | 5.623 | 162 | 77413 | 5.12 | ppm | | 96 |
| 53) Biphenyl | 5.618 | 154 | 92102 | 4.85 | ppm | | 98 |
| 54) 2-Nitroaniline | 5.714 | 65 | 26644 | 5.55 | ppm | | 81 |
| 55) Dimethylphthalate | 5.847 | 163 | 93871 | 4.81 | ppm | | 98 |
| 56) Acenaphthylene | 5.911 | 152 | 118824 | 5.06 | ppm | | 99 |
| 57) 2,6-Dinitrotoluene | 5.885 | 165 | 19441 | 4.54 | ppm | | 84 |
| 58) 3-Nitroaniline | 6.008 | 138 | 20181 | 4.61 | ppm | # | 66 |
| 59) Acenaphthene | 6.040 | 153 | 71451 | 4.81 | ppm | | 96 |
| 60) 2,4-Dinitrophenol | 6.098 | 184 | 13775 | 5.23 | ppm | # | 61 |
| 61) 4-Nitrophenol | 6.227 | 109 | 12456 | 3.90 | ppm | | 96 |
| 62) Dibenzofuran | 6.179 | 168 | 106205 | 4.74 | ppm | | 92 |
| 63) 2,4-Dinitrotoluene | 6.189 | 165 | 27544 | 4.97 | ppm | | 85 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.301 | 232 | 21327 | 4.00 | ppm | | 93 |
| 65) Diethylphthalate | 6.392 | 149 | 98820 | 5.02 | ppm | | 97 |
| 66) Fluorene | 6.462 | 166 | 88011 | 4.85 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 6.478 | 204 | 43508 | 4.84 | ppm | | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129146a.D
Acq On : 24 Apr 2019 4:18 am
Operator : chriss2
Sample : ic5844-5
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 26 11:35:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 68) | 4-Nitroaniline | 6.510 | 138 | 19989 | 4.67 | ppm | 80 |
| 70) | 4,6-Dinitro-2-methylph... | 6.542 | 198 | 15112 | 3.73 | ppm | 88 |
| 71) | n-Nitrosodiphenylamine | 6.590 | 169 | 61491 | 4.44 | ppm | 96 |
| 72) | 1,2-Diphenylhydrazine | 6.622 | 77 | 102725 | 5.16 | ppm | 91 |
| 74) | 4-Bromophenyl-phenylether | 6.953 | 248 | 27024 | 3.98 | ppm | 80 |
| 75) | Hexachlorobenzene | 7.017 | 284 | 31416 | 4.17 | ppm | 95 |
| 76) | Pentachlorophenol | 7.268 | 266 | 28877 | 6.07 | ppm | 95 |
| 77) | Phenanthrene | 7.482 | 178 | 123229 | 4.40 | ppm | 99 |
| 78) | Anthracene | 7.546 | 178 | 132112 | 4.60 | ppm | 99 |
| 79) | Carbazole | 7.797 | 167 | 128199 | 4.59 | ppm | 98 |
| 80) | Di-n-butylphthalate | 8.417 | 149 | 181070 | 4.46 | ppm | 99 |
| 81) | Fluoranthene | 9.288 | 202 | 152264 | 4.32 | ppm | 98 |
| 82) | Octadecane | 7.434 | 57 | 50787 | 4.90 | ppm | 93 |
| 84) | Pyrene | 9.678 | 202 | 164102 | 4.50 | ppm | 97 |
| 86) | Butylbenzylphthalate | 11.248 | 149 | 84120 | 4.48 | ppm | 89 |
| 87) | Benzo[a]anthracene | 12.135 | 228 | 157299 | 4.64 | ppm | 100 |
| 88) | 3,3'-Dichlorobenzidine | 12.226 | 252 | 50462 | 4.13 | ppm | 95 |
| 89) | Chrysene | 12.205 | 228 | 137715 | 4.47 | ppm | 97 |
| 90) | bis(2-Ethylhexyl)phtha... | 12.643 | 149 | 114374 | 4.45 | ppm | 98 |
| 92) | Di-n-octylphthalate | 14.048 | 149 | 202862 | 4.09 | ppm | 96 |
| 93) | Benzo[b]fluoranthene | 14.363 | 252 | 148561 | 3.89 | ppm | 95 |
| 94) | Benzo[k]fluoranthene | 14.416 | 252 | 146190 | 4.87 | ppm | 98 |
| 95) | Benzo[a]pyrene | 14.972 | 252 | 135091 | 4.28 | ppm | 95 |
| 96) | Indeno[1,2,3-cd]pyrene | 16.997 | 276 | 125836 | 4.31 | ppm | 90 |
| 97) | Dibenz(a,h)acridine | 16.660 | 279 | 115360 | 4.03 | ppm | 98 |
| 98) | Dibenz[a,h]anthracene | 17.066 | 278 | 127839 | 4.36 | ppm | 96 |
| 99) | 7,12-Dimethylbenz(a)an... | 14.379 | 256 | 39989 | 2.56 | ppm | 96 |
| 100) | Benzo[g,h,i]perylene | 17.408 | 276 | 129013 | 4.49 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

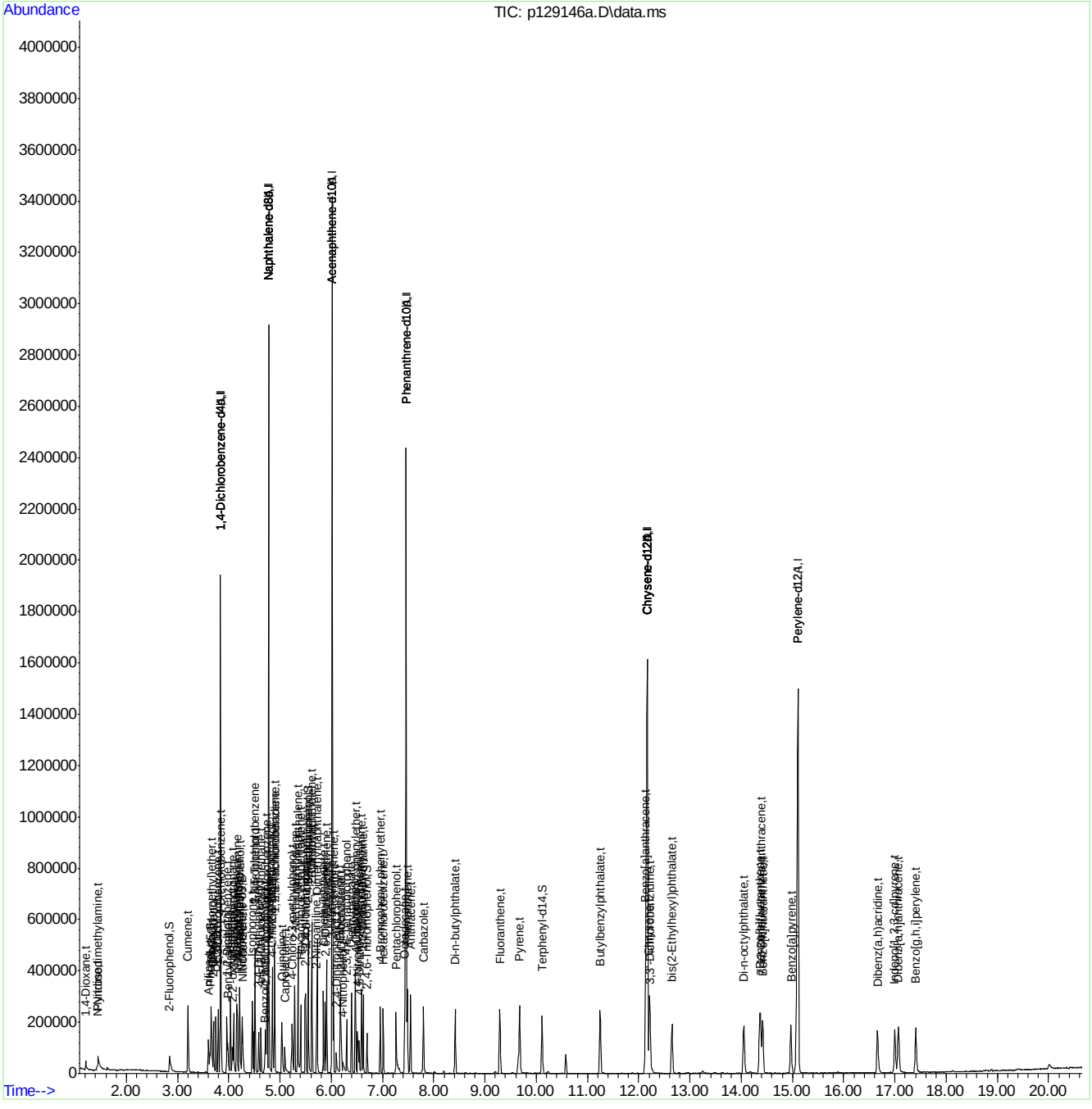
9.6.48

6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129146a.D
Acq On : 24 Apr 2019 4:18 am
Operator : chriss2
Sample : ic5844-5
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 26 11:35:16 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



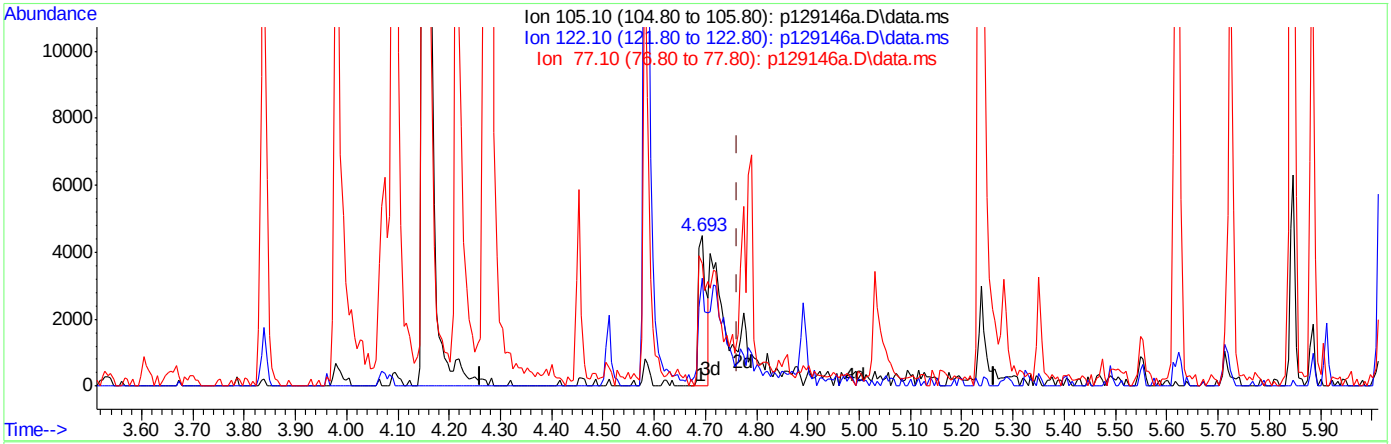
| | | | |
|---|---|---|---|
| **Sample Number:** | EP5844-IC5844 | **Method:** | SW846 8270D |
| **Lab FileID:** | P129146A.D | **Analyst approved:** | 04/26/19 12:39 Ying Li |
| **Injection Time:** | 04/24/19 04:18 | **Supervisor approved:** | 04/30/19 18:25 Kristi Schollenberger |

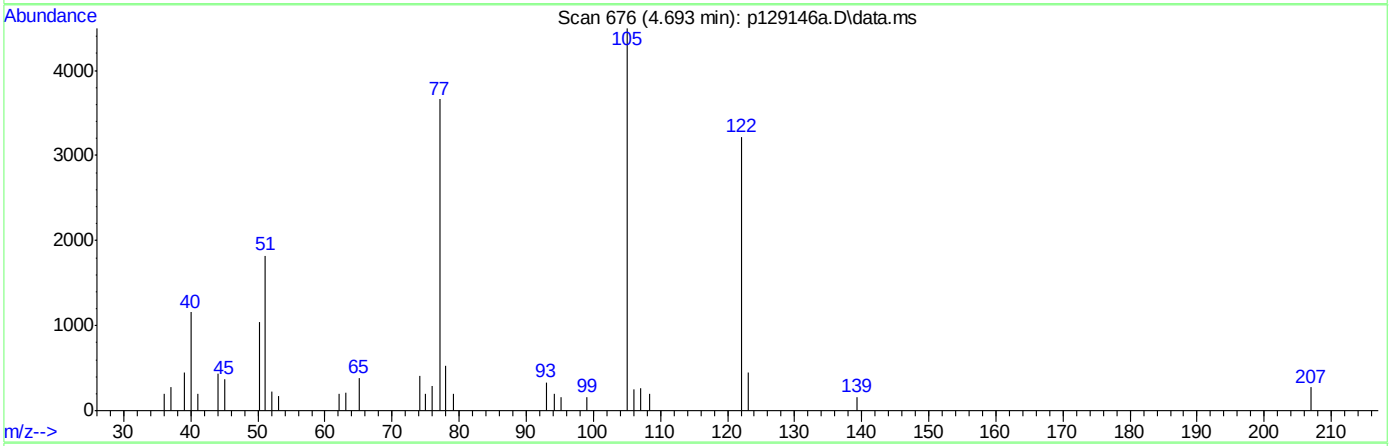
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Benzoic acid | 65-85-0 | | 4.69 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129146a.D
Acq On : 24 Apr 2019 4:18 am
Operator : chriss2
Sample : ic5844-5
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 24 11:21:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 11:19:50 2019
Response via : Initial Calibration




TIC: p129146a.D\data.ms

(31) Benzoic acid (t)

4.693min (-0.069) 0.70ppm

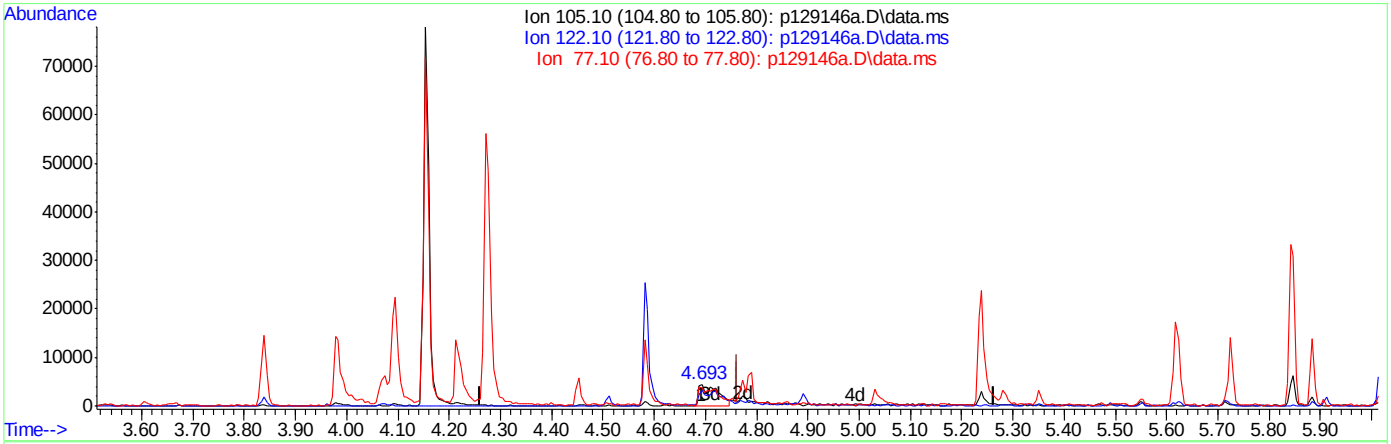
response 4620

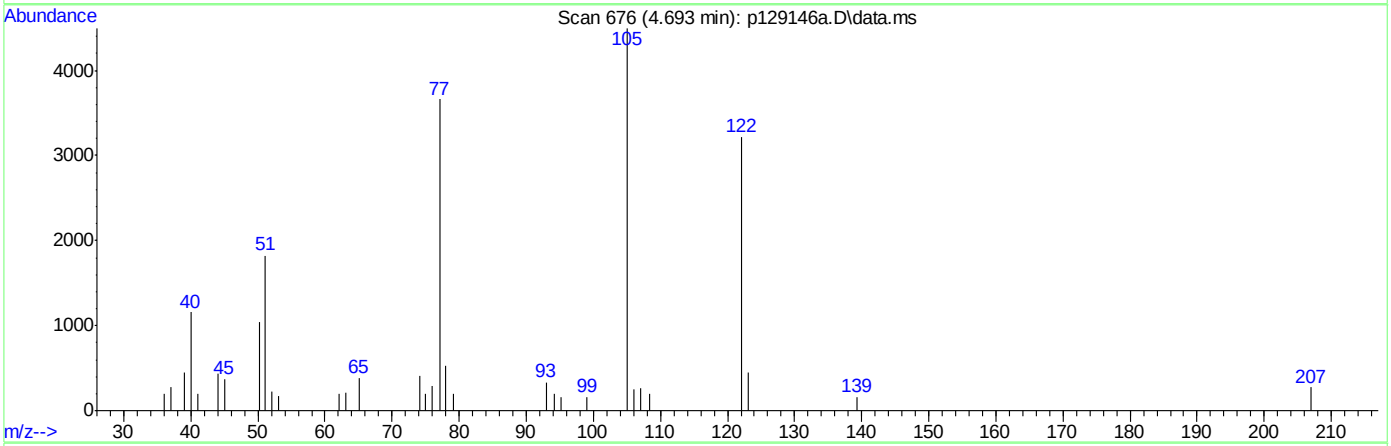
| Ion | Exp% | Act% |
|---|---|---|
| 105.10 | 100 | 100 |
| 122.10 | 67.60 | 64.36 |
| 77.10 | 76.90 | 62.38 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129146a.D
Acq On : 24 Apr 2019 4:18 am
Operator : chriss2
Sample : ic5844-5
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 24 11:21:22 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 11:19:50 2019
Response via : Initial Calibration




TIC: p129146a.D\data.ms

(31) Benzoic acid (t)

4.693min (-0.069) 1.71ppm m

response 11273

| Ion | Exp% | Act% |
|---|---|---|
| 105.10 | 100 | 100 |
| 122.10 | 67.60 | 71.62 |
| 77.10 | 76.90 | 81.47 |
| 0.00 | 0.00 | 0.00 |

P129147.D

Manual Integrations APPROVED (compounds with "m" flag)

Kristi Schollenberger 04/30/19 18:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129147.D
Acq On : 24 Apr 2019 4:45 am
Operator : chriss2
Sample : ic5844-2
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 26 11:45:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 215705 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 819276 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 500270 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.460 | 188 | 930794 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.162 | 240 | 898814 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.110 | 264 | 1003108 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 215705 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 819276 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 500270 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.460 | 188 | 930794 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.162 | 240 | 898814 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.110 | 264 | 1003108 | 40.00 | ppm | 0.00 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 215705 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.460 | 188 | 930794 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.162 | 240 | 898814 | 40.00 | ppm | -0.01 |
| 163) Naphthalene-d8b | 4.773 | 136 | 819276 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 500270 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 819276 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 215705 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.162 | 240 | 898814 | 40.00 | ppm | -0.01 |
| 176) Chrysene-d12d | 12.162 | 240 | 898814 | 40.00 | ppm | -0.01 |
| 178) Naphthalene-d8d | 4.773 | 136 | 819276 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.162 | 240 | 898814 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.855 | 112 | 10975 | 1.35 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 2.70% | |
| 8) Phenol-d5 | 3.651 | 99 | 15488 | 1.55 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.10% | |
| 25) Nitrobenzene-d5 | 4.260 | 82 | 17764 | 1.96 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 3.92% | |
| 51) 2-Fluorobiphenyl | 5.553 | 172 | 32757 | 2.03 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 4.06% | |
| 73) 2,4,6-Tribromophenol | 6.696 | 330 | 4645 | 1.39 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 2.78% | |
| 85) Terphenyl-d14 | 10.110 | 244 | 35974 | 1.64 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery | = | 3.28% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.215 | 88 | 6569 | 1.82 | ppm | 88 |
| 3) Pyridine | 1.461 | 79 | 12254 | 1.99 | ppm | 96 |
| 4) N-Nitrosodimethylamine | 1.440 | 42 | 5615 | 1.49 | ppm | 81 |
| 6) Indene | 4.031 | 116 | 22248 | 1.85 | ppm | 90 |
| 7) Cumene | 3.208 | 105 | 35218 | 1.79 | ppm | 98 |
| 9) Phenol | 3.662 | 94 | 17986 | 1.70 | ppm | 88 |
| 10) Aniline | 3.609 | 93 | 19458 | 5.16 | ppm | 96 |
| 11) bis(2-Chloroethyl)ether | 3.667 | 93 | 14251 | 1.65 | ppm | 97 |
| 12) 2-Chlorophenol | 3.705 | 128 | 14177 | 1.83 | ppm | 92 |
| 13) Decane | 3.747 | 43 | 11903 | 2.32 | ppm | 89 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129147.D
Acq On : 24 Apr 2019 4:45 am
Operator : chriss2
Sample : ic5844-2
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 26 11:45:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 14) 1,3-Dichlorobenzene | 3.796 | 146 | 16937 | 1.95 | ppm | | 91 |
| 15) 1,4-Dichlorobenzene | 3.849 | 146 | 16173 | 1.87 | ppm | | 93 |
| 16) Benzyl alcohol | 3.988 | 108 | 5744 | 1.41 | ppm | | 90 |
| 17) 1,2-Dichlorobenzene | 3.966 | 146 | 16571 | 1.93 | ppm | | 93 |
| 18) Acetophenone | 4.159 | 105 | 21588 | 1.97 | ppm | | 96 |
| 19) 2-Methylphenol | 4.095 | 108 | 12304 | 1.75 | ppm | | 87 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.073 | 121 | 3250 | 1.76 | ppm | # | 80 |
| 21) 3&4-Methylphenol | 4.223 | 108 | 13301 | 1.90 | ppm | | 97 |
| 22) n-Nitroso-di-n-propyla... | 4.170 | 70 | 10458 | 2.06 | ppm | # | 87 |
| 23) Hexachloroethane | 4.212 | 201 | 6877 | 1.97 | ppm | | 94 |
| 26) Nitrobenzene | 4.276 | 77 | 18982 | 2.18 | ppm | | 90 |
| 27) Quinoline | 5.035 | 129 | 26631 | 1.67 | ppm | | 99 |
| 28) Isophorone | 4.453 | 82 | 30370 | 1.93 | ppm | | 93 |
| 29) 2-Nitrophenol | 4.511 | 139 | 6853 | 1.50 | ppm | # | 47 |
| 32) bis(2-Chloroethoxy)met... | 4.629 | 93 | 16683 | 1.79 | ppm | | 98 |
| 33) 2,4-Dichlorophenol | 4.720 | 162 | 10397 | 1.39 | ppm | | 93 |
| 34) 2,6-Dichlorophenol | 4.853 | 162 | 12366 | 1.72 | ppm | | 98 |
| 35) 1,3,5-Trichlorobenzene | 4.511 | 180 | 14793 | 1.74 | ppm | | 94 |
| 36) 1,2,4-Trichlorobenzene | 4.741 | 180 | 14604 | 1.82 | ppm | | 98 |
| 37) 1,2,3-Trichlorobenzene | 4.896 | 180 | 14012 | 1.85 | ppm | | 89 |
| 38) Naphthalene | 4.789 | 128 | 39755 | 1.88 | ppm | | 98 |
| 39) 4-Chloroaniline | 4.853 | 127 | 15136 | 2.02 | ppm | | 87 |
| 40) 2,3-Dichloroaniline | 5.494 | 161 | 15849 | 1.73 | ppm | | 96 |
| 41) Caprolactam | 5.094 | 55 | 5986 | 1.81 | ppm | | 88 |
| 42) Hexachlorobutadiene | 4.891 | 225 | 9330 | 1.86 | ppm | | 92 |
| 43) 4-Chloro-3-methylphenol | 5.238 | 107 | 13370 | 1.70 | ppm | | 80 |
| 44) 2-Methylnaphthalene | 5.286 | 141 | 22328 | 1.87 | ppm | | 99 |
| 45) 1-Methylnaphthalene | 5.350 | 142 | 28216 | 1.85 | ppm | | 92 |
| 46) Dimethylnaphthalene | 5.724 | 156 | 24933 | 1.77 | ppm | | 91 |
| 49) 2,4,6-Trichlorophenol | 5.505 | 196 | 9321 | 1.80 | ppm | | 94 |
| 50) 2,4,5-Trichlorophenol | 5.558 | 196 | 9535 | 1.77 | ppm | | 96 |
| 52) 2-Chloronaphthalene | 5.623 | 162 | 28204 | 2.02 | ppm | | 89 |
| 53) Biphenyl | 5.617 | 154 | 34314 | 1.95 | ppm | | 97 |
| 54) 2-Nitroaniline | 5.719 | 65 | 10279 | 2.31 | ppm | # | 77 |
| 55) Dimethylphthalate | 5.847 | 163 | 34470 | 1.91 | ppm | | 98 |
| 56) Acenaphthylene | 5.911 | 152 | 43232 | 1.99 | ppm | | 98 |
| 57) 2,6-Dinitrotoluene | 5.884 | 165 | 6947 | 1.75 | ppm | | 67 |
| 58) 3-Nitroaniline | 6.013 | 138 | 7726 | 1.91 | ppm | # | 26 |
| 59) Acenaphthene | 6.039 | 153 | 26410 | 1.92 | ppm | | 98 |
| 60) 2,4-Dinitrophenol | 6.109 | 184 | 1813 | 0.74 | ppm | # | 62 |
| 61) 4-Nitrophenol | 6.242 | 109 | 4911m | 1.66 | ppm | | |
| 62) Dibenzofuran | 6.178 | 168 | 38630 | 1.86 | ppm | | 90 |
| 63) 2,4-Dinitrotoluene | 6.189 | 165 | 9031 | 1.76 | ppm | | 70 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.301 | 232 | 7588 | 1.54 | ppm | | 96 |
| 65) Diethylphthalate | 6.392 | 149 | 34891 | 1.92 | ppm | | 94 |
| 66) Fluorene | 6.461 | 166 | 31895 | 1.90 | ppm | | 99 |
| 67) 4-Chlorophenyl-phenyle... | 6.477 | 204 | 15699 | 1.89 | ppm | | 89 |
| 68) 4-Nitroaniline | 6.520 | 138 | 6162 | 1.56 | ppm | | 91 |
| 71) n-Nitrosodiphenylamine | 6.590 | 169 | 22328 | 1.74 | ppm | | 96 |
| 72) 1,2-Diphenylhydrazine | 6.622 | 77 | 39201 | 2.13 | ppm | | 93 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129147.D
Acq On : 24 Apr 2019 4:45 am
Operator : chriss2
Sample : ic5844-2
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 26 11:45:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 74) | 4-Bromophenyl-phenylether | 6.953 | 248 | 9507 | 1.51 ppm | 85 |
| 75) | Hexachlorobenzene | 7.012 | 284 | 11869 | 1.70 ppm | 83 |
| 76) | Pentachlorophenol | 7.268 | 266 | 6976 | 1.58 ppm | 91 |
| 77) | Phenanthrene | 7.482 | 178 | 46301 | 1.79 ppm | 97 |
| 78) | Anthracene | 7.546 | 178 | 48383 | 1.82 ppm | 97 |
| 79) | Carbazole | 7.802 | 167 | 45530 | 1.76 ppm | 98 |
| 80) | Di-n-butylphthalate | 8.417 | 149 | 63740 | 1.70 ppm | 99 |
| 81) | Fluoranthene | 9.287 | 202 | 54128 | 1.66 ppm | 99 |
| 82) | Octadecane | 7.434 | 57 | 19366 | 2.02 ppm | 93 |
| 84) | Pyrene | 9.677 | 202 | 59922 | 1.82 ppm | 97 |
| 86) | Butylbenzylphthalate | 11.243 | 149 | 29175 | 1.72 ppm | 91 |
| 87) | Benzo[a]anthracene | 12.140 | 228 | 56355 | 1.84 ppm | 95 |
| 88) | 3,3'-Dichlorobenzidine | 12.226 | 252 | 16449 | 1.49 ppm | 97 |
| 89) | Chrysene | 12.204 | 228 | 48245 | 1.73 ppm | 98 |
| 90) | bis(2-Ethylhexyl)phtha... | 12.648 | 149 | 38063 | 1.64 ppm | 94 |
| 92) | Di-n-octylphthalate | 14.053 | 149 | 64640 | 1.45 ppm | 93 |
| 93) | Benzo[b]fluoranthene | 14.363 | 252 | 51674 | 1.51 ppm | 97 |
| 94) | Benzo[k]fluoranthene | 14.416 | 252 | 50092 | 1.86 ppm | 96 |
| 95) | Benzo[a]pyrene | 14.972 | 252 | 47243 | 1.67 ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 16.996 | 276 | 40559 | 1.55 ppm | 91 |
| 97) | Dibenz(a,h)acridine | 16.660 | 279 | 38961 | 1.52 ppm | 94 |
| 98) | Dibenz[a,h]anthracene | 17.071 | 278 | 42944 | 1.63 ppm | 97 |
| 99) | 7,12-Dimethylbenz(a)an... | 14.379 | 256 | 13204 | 0.94 ppm | 94 |
| 100) | Benzo[g,h,i]perylene | 17.413 | 276 | 43770 | 1.70 ppm | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

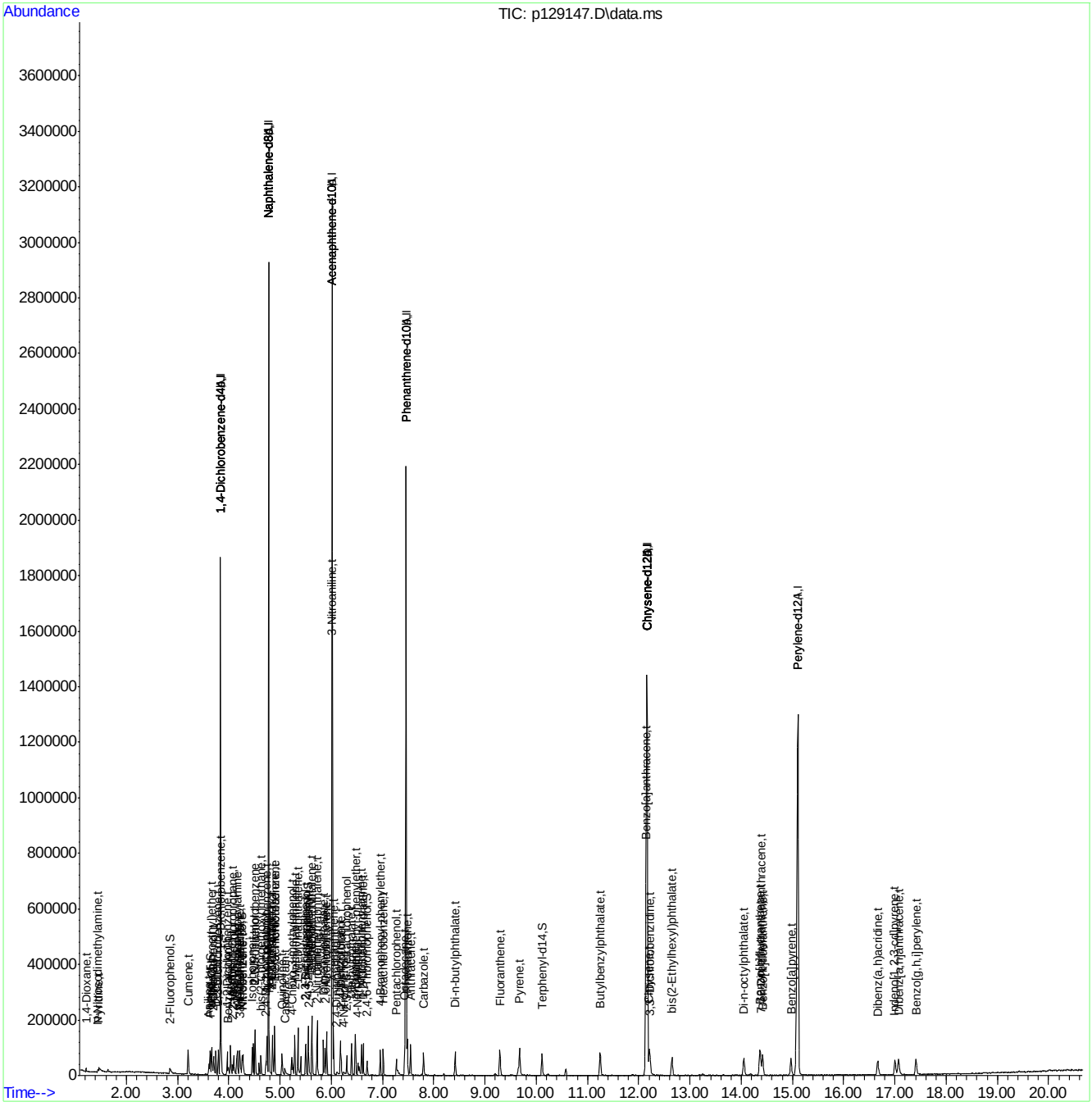
9.6.49

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129147.D
Acq On : 24 Apr 2019 4:45 am
Operator : chriss2
Sample : ic5844-2
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 26 11:45:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



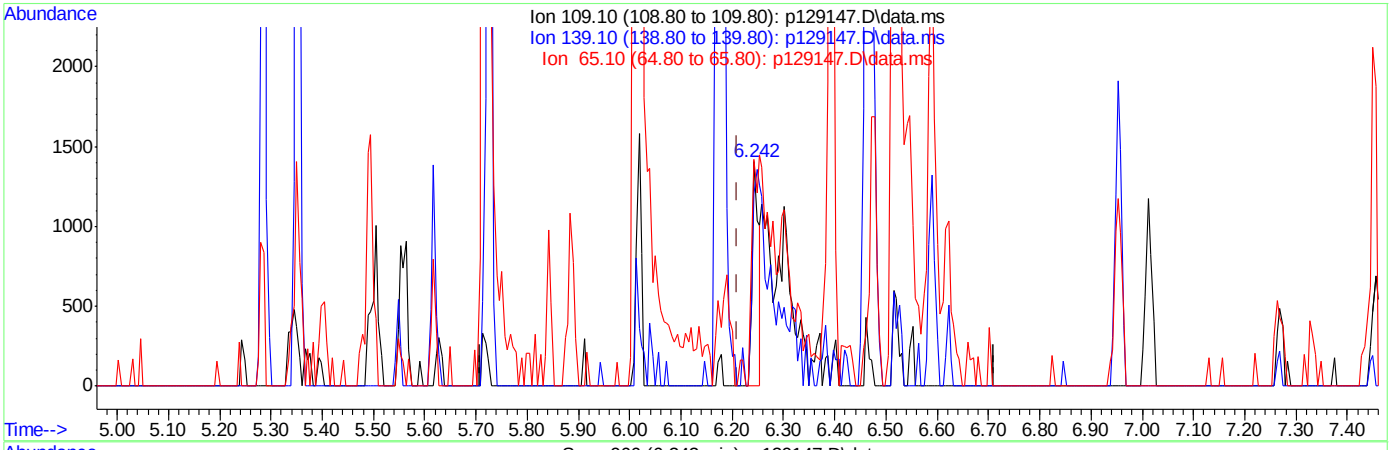
| | | | |
|---|---|---|---|
| **Sample Number:** | EP5844-IC5844 | **Method:** | SW846 8270D |
| **Lab FileID:** | P129147.D | **Analyst approved:** | 04/26/19 12:39 Ying Li |
| **Injection Time:** | 04/24/19 04:45 | **Supervisor approved:** | 04/30/19 18:25 Kristi Schollenberger |

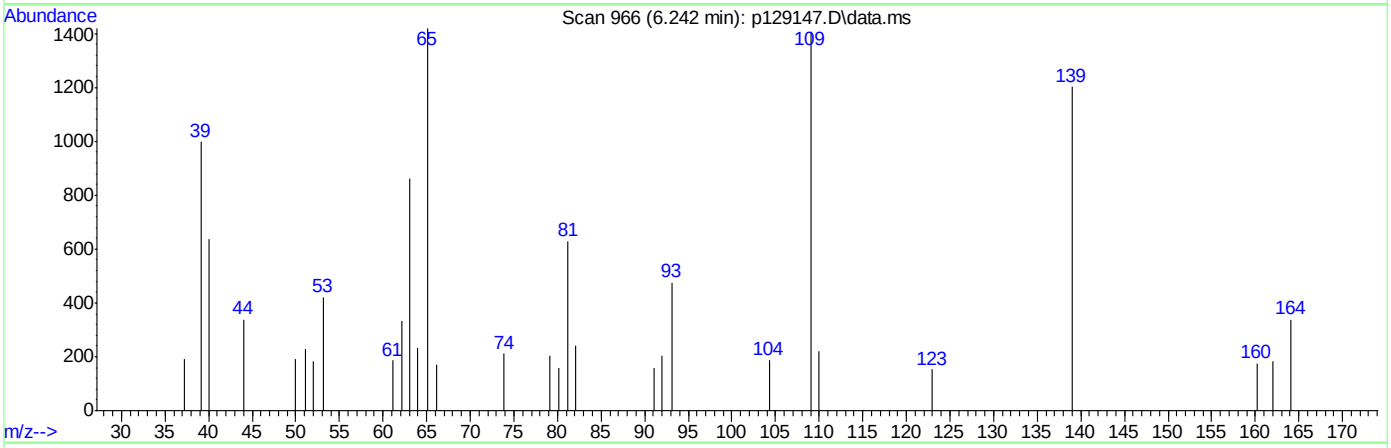
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| 4-Nitrophenol | 100-02-7 | | 6.24 | Split peak |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129147.D
Acq On : 24 Apr 2019 4:45 am
Operator : chriss2
Sample : ic5844-2
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 24 11:25:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 11:23:42 2019
Response via : Initial Calibration




TIC: p129147.D\data.ms

(61) 4-Nitrophenol (t)

6.242min (+0.032) 0.43ppm

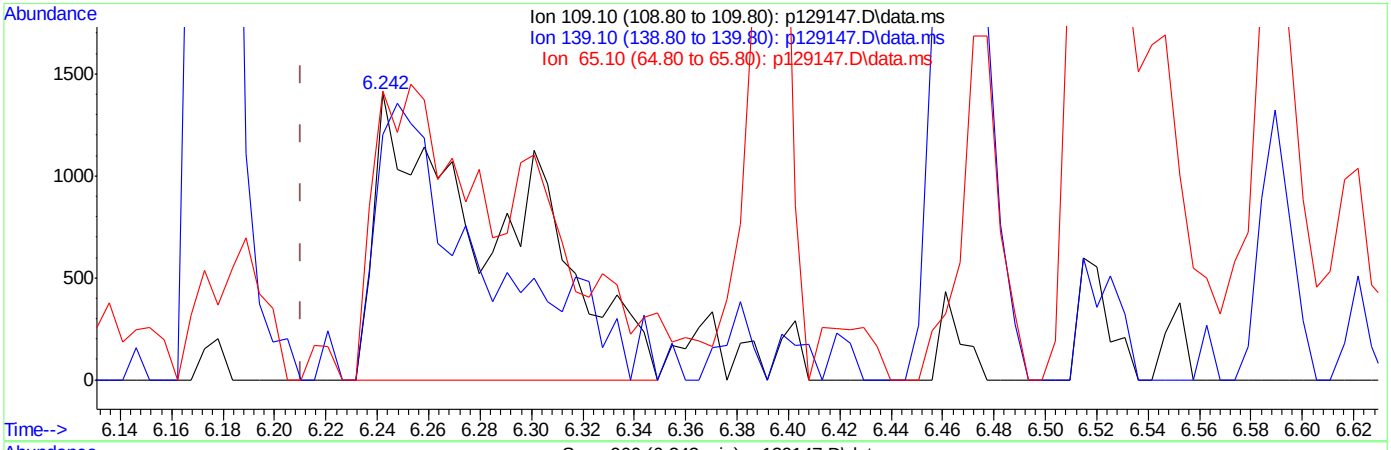
response 1270

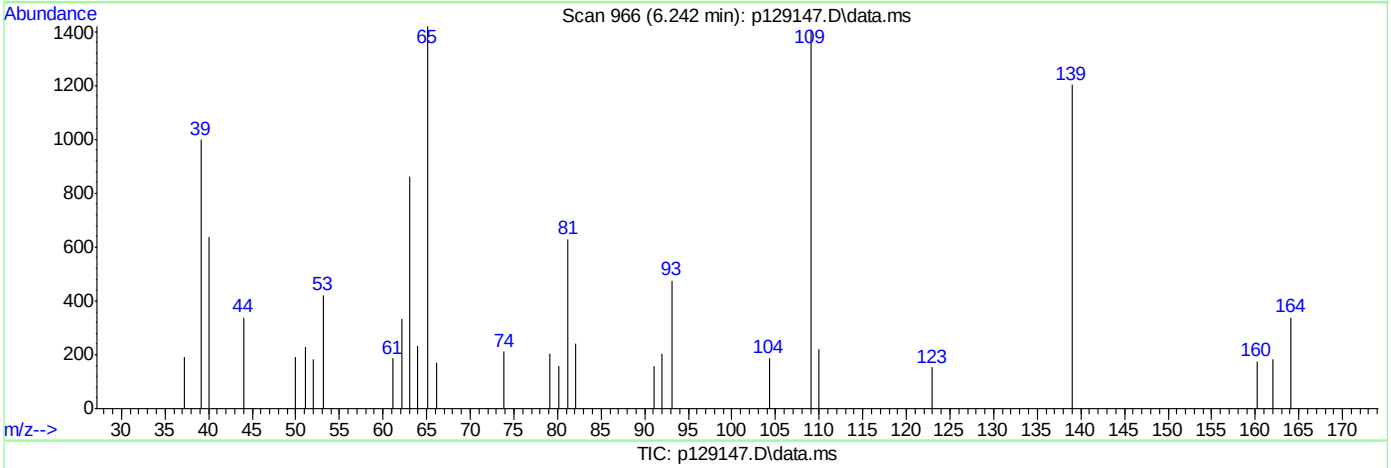
| Ion | Exp% | Act% |
|---|---|---|
| 109.10 | 100 | 100 |
| 139.10 | 99.10 | 63.38# |
| 65.10 | 97.00 | 76.90 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129147.D
Acq On : 24 Apr 2019 4:45 am
Operator : chriss2
Sample : ic5844-2
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 24 11:25:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 11:23:42 2019
Response via : Initial Calibration




TIC: p129147.D\data.ms

(61) 4-Nitrophenol (t)

6.242min (+0.032) 1.66ppm m

response 4911

| Ion | Exp% | Act% |
|---|---|---|
| 109.10 | 100 | 100 |
| 139.10 | 99.10 | 85.55 |
| 65.10 | 97.00 | 101.00 |
| 0.00 | 0.00 | 0.00 |

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/30/19 18:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129148.D
Acq On : 24 Apr 2019 5:12 am
Operator : chriss2
Sample : ic5844-1
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 26 11:52:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.839 | 152 | 241163 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.774 | 136 | 884401 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 528405 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.461 | 188 | 939189 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.162 | 240 | 840981 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.105 | 264 | 894276 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4A | 3.839 | 152 | 241163 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.774 | 136 | 884401 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 528405 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.461 | 188 | 939189 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.162 | 240 | 840981 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.105 | 264 | 894276 | 40.00 | ppm | 0.00 |
| 157) 1,4-Dichlorobenzene-d4b | 3.839 | 152 | 241163 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.461 | 188 | 939189 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.162 | 240 | 840981 | 40.00 | ppm | -0.01 |
| 163) Naphthalene-d8b | 4.774 | 136 | 884401 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 528405 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.774 | 136 | 884401 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.839 | 152 | 241163 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.162 | 240 | 840981 | 40.00 | ppm | -0.01 |
| 176) Chrysene-d12d | 12.162 | 240 | 840981 | 40.00 | ppm | -0.01 |
| 178) Naphthalene-d8d | 4.774 | 136 | 884401 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.162 | 240 | 840981 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.861 | 112 | 5426 | 0.60 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 1.20% | |
| 8) Phenol-d5 | 3.662 | 99 | 8085 | 0.72 | ppm | 0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 1.44% | |
| 25) Nitrobenzene-d5 | 4.266 | 82 | 9390 | 0.96 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.92% | |
| 51) 2-Fluorobiphenyl | 5.553 | 172 | 16917 | 0.99 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 1.98% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 10.116 | 244 | 17565 | 0.86 | ppm | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 1.72% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.221 | 88 | 4003 | 0.99 | ppm | 99 |
| 3) Pyridine | 1.477 | 79 | 5544m | 0.81 | ppm | |
| 4) N-Nitrosodimethylamine | 1.456 | 42 | 3564 | 0.84 | ppm # | 60 |
| 6) Indene | 4.031 | 116 | 12547 | 0.93 | ppm | 88 |
| 7) Cumene | 3.208 | 105 | 20290 | 0.92 | ppm | 92 |
| 9) Phenol | 3.668 | 94 | 9662 | 0.82 | ppm | 89 |
| 10) Aniline | 3.609 | 93 | 11120 | 2.64 | ppm | 97 |
| 11) bis(2-Chloroethyl)ether | 3.668 | 93 | 7783 | 0.81 | ppm | 89 |
| 12) 2-Chlorophenol | 3.710 | 128 | 7332 | 0.85 | ppm | 84 |
| 13) Decane | 3.748 | 43 | 6617 | 1.15 | ppm | 96 |

9.6.50

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129148.D
Acq On : 24 Apr 2019 5:12 am
Operator : chriss2
Sample : ic5844-1
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 26 11:52:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 14) 1,3-Dichlorobenzene | 3.796 | 146 | 9332 | 0.96 | ppm | | 96 |
| 15) 1,4-Dichlorobenzene | 3.849 | 146 | 9603 | 0.99 | ppm | | 97 |
| 16) Benzyl alcohol | 3.999 | 108 | 2023 | 0.44 | ppm | | 79 |
| 17) 1,2-Dichlorobenzene | 3.967 | 146 | 8979 | 0.94 | ppm | | 98 |
| 18) Acetophenone | 4.159 | 105 | 11359 | 0.93 | ppm | | 99 |
| 19) 2-Methylphenol | 4.100 | 108 | 7797 | 0.99 | ppm | | 92 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.074 | 121 | 1954 | 0.95 | ppm | # | 84 |
| 21) 3&4-Methylphenol | 4.223 | 108 | 6043 | 0.77 | ppm | | 95 |
| 22) n-Nitroso-di-n-propyla... | 4.170 | 70 | 5933 | 1.05 | ppm | | 92 |
| 23) Hexachloroethane | 4.213 | 201 | 3683 | 0.94 | ppm | | 98 |
| 26) Nitrobenzene | 4.277 | 77 | 10193 | 1.08 | ppm | | 88 |
| 27) Quinoline | 5.041 | 129 | 14907 | 0.86 | ppm | | 96 |
| 28) Isophorone | 4.453 | 82 | 16635 | 0.98 | ppm | | 95 |
| 29) 2-Nitrophenol | 4.517 | 139 | 3689 | 0.75 | ppm | # | 68 |
| 32) bis(2-Chloroethoxy)met... | 4.629 | 93 | 9226 | 0.91 | ppm | | 95 |
| 33) 2,4-Dichlorophenol | 4.731 | 162 | 6177 | 0.76 | ppm | | 82 |
| 34) 2,6-Dichlorophenol | 4.859 | 162 | 6455 | 0.83 | ppm | | 97 |
| 35) 1,3,5-Trichlorobenzene | 4.517 | 180 | 8771 | 0.96 | ppm | | 99 |
| 36) 1,2,4-Trichlorobenzene | 4.741 | 180 | 7698 | 0.89 | ppm | | 94 |
| 37) 1,2,3-Trichlorobenzene | 4.896 | 180 | 7350 | 0.90 | ppm | | 94 |
| 38) Naphthalene | 4.790 | 128 | 20475 | 0.90 | ppm | | 97 |
| 39) 4-Chloroaniline | 4.859 | 127 | 8294 | 1.02 | ppm | | 83 |
| 40) 2,3-Dichloroaniline | 5.495 | 161 | 8386 | 0.85 | ppm | | 99 |
| 41) Caprolactam | 5.099 | 55 | 2459 | 0.69 | ppm | | 72 |
| 42) Hexachlorobutadiene | 4.891 | 225 | 5089 | 0.94 | ppm | | 93 |
| 43) 4-Chloro-3-methylphenol | 5.244 | 107 | 6391 | 0.75 | ppm | | 83 |
| 44) 2-Methylnaphthalene | 5.286 | 141 | 11630 | 0.90 | ppm | | 90 |
| 45) 1-Methylnaphthalene | 5.350 | 142 | 15105 | 0.92 | ppm | | 92 |
| 46) Dimethylnaphthalene | 5.724 | 156 | 13274 | 0.88 | ppm | | 94 |
| 49) 2,4,6-Trichlorophenol | 5.505 | 196 | 4826 | 0.88 | ppm | | 89 |
| 50) 2,4,5-Trichlorophenol | 5.564 | 196 | 4072 | 0.72 | ppm | | 94 |
| 52) 2-Chloronaphthalene | 5.623 | 162 | 14306 | 0.97 | ppm | | 90 |
| 53) Biphenyl | 5.618 | 154 | 18873 | 1.02 | ppm | | 97 |
| 54) 2-Nitroaniline | 5.719 | 65 | 4691 | 1.00 | ppm | # | 78 |
| 55) Dimethylphthalate | 5.847 | 163 | 18007 | 0.94 | ppm | | 98 |
| 56) Acenaphthylene | 5.911 | 152 | 22910 | 1.00 | ppm | | 96 |
| 57) 2,6-Dinitrotoluene | 5.885 | 165 | 3455 | 0.83 | ppm | # | 65 |
| 58) 3-Nitroaniline | 6.018 | 138 | 3164 | 0.74 | ppm | # | 1 |
| 59) Acenaphthene | 6.040 | 153 | 13938 | 0.96 | ppm | | 94 |
| 62) Dibenzofuran | 6.178 | 168 | 20205 | 0.92 | ppm | | 93 |
| 63) 2,4-Dinitrotoluene | 6.195 | 165 | 4037 | 0.74 | ppm | | 79 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.301 | 232 | 2925 | 0.56 | ppm | # | 70 |
| 65) Diethylphthalate | 6.392 | 149 | 18421 | 0.96 | ppm | | 94 |
| 66) Fluorene | 6.462 | 166 | 16379 | 0.92 | ppm | | 90 |
| 67) 4-Chlorophenyl-phenyle... | 6.478 | 204 | 7881 | 0.90 | ppm | | 89 |
| 68) 4-Nitroaniline | 6.526 | 138 | 3338 | 0.80 | ppm | | 89 |
| 71) n-Nitrosodiphenylamine | 6.590 | 169 | 11802 | 0.91 | ppm | | 98 |
| 72) 1,2-Diphenylhydrazine | 6.622 | 77 | 20719 | 1.11 | ppm | | 88 |
| 74) 4-Bromophenyl-phenylether | 6.958 | 248 | 5081 | 0.80 | ppm | | 91 |
| 75) Hexachlorobenzene | 7.012 | 284 | 5997 | 0.85 | ppm | | 91 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129148.D
Acq On : 24 Apr 2019 5:12 am
Operator : chriss2
Sample : ic5844-1
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 26 11:52:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 77) Phenanthrene | 7.482 | 178 | 23582 | 0.90 ppm | 98 |
| 78) Anthracene | 7.546 | 178 | 24669 | 0.92 ppm | 97 |
| 79) Carbazole | 7.803 | 167 | 23077 | 0.88 ppm | 95 |
| 80) Di-n-butylphthalate | 8.417 | 149 | 31887 | 0.84 ppm | 99 |
| 81) Fluoranthene | 9.288 | 202 | 25731 | 0.78 ppm | 99 |
| 82) Octadecane | 7.434 | 57 | 10692 | 1.10 ppm | 92 |
| 84) Pyrene | 9.678 | 202 | 28471 | 0.92 ppm | 96 |
| 86) Butylbenzylphthalate | 11.248 | 149 | 14720 | 0.93 ppm | 95 |
| 87) Benzo[a]anthracene | 12.140 | 228 | 28736 | 1.00 ppm | 93 |
| 88) 3,3'-Dichlorobenzidine | 12.226 | 252 | 6591 | 0.64 ppm | 90 |
| 89) Chrysene | 12.199 | 228 | 23198 | 0.89 ppm | 99 |
| 90) bis(2-Ethylhexyl)phtha... | 12.648 | 149 | 18012 | 0.83 ppm | 92 |
| 92) Di-n-octylphthalate | 14.048 | 149 | 27657 | 0.70 ppm | 95 |
| 93) Benzo[b]fluoranthene | 14.363 | 252 | 21174 | 0.69 ppm | 95 |
| 94) Benzo[k]fluoranthene | 14.422 | 252 | 22709 | 0.95 ppm | 94 |
| 95) Benzo[a]pyrene | 14.977 | 252 | 19860 | 0.79 ppm | 92 |
| 96) Indeno[1,2,3-cd]pyrene | 17.007 | 276 | 15795 | 0.68 ppm | 89 |
| 97) Dibenz(a,h)acridine | 16.665 | 279 | 15042 | 0.66 ppm | 94 |
| 98) Dibenz[a,h]anthracene | 17.077 | 278 | 16106 | 0.69 ppm | 91 |
| 99) 7,12-Dimethylbenz(a)an... | 14.384 | 256 | 5567 | 0.45 ppm | 81 |
| 100) Benzo[g,h,i]perylene | 17.413 | 276 | 17155 | 0.75 ppm | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

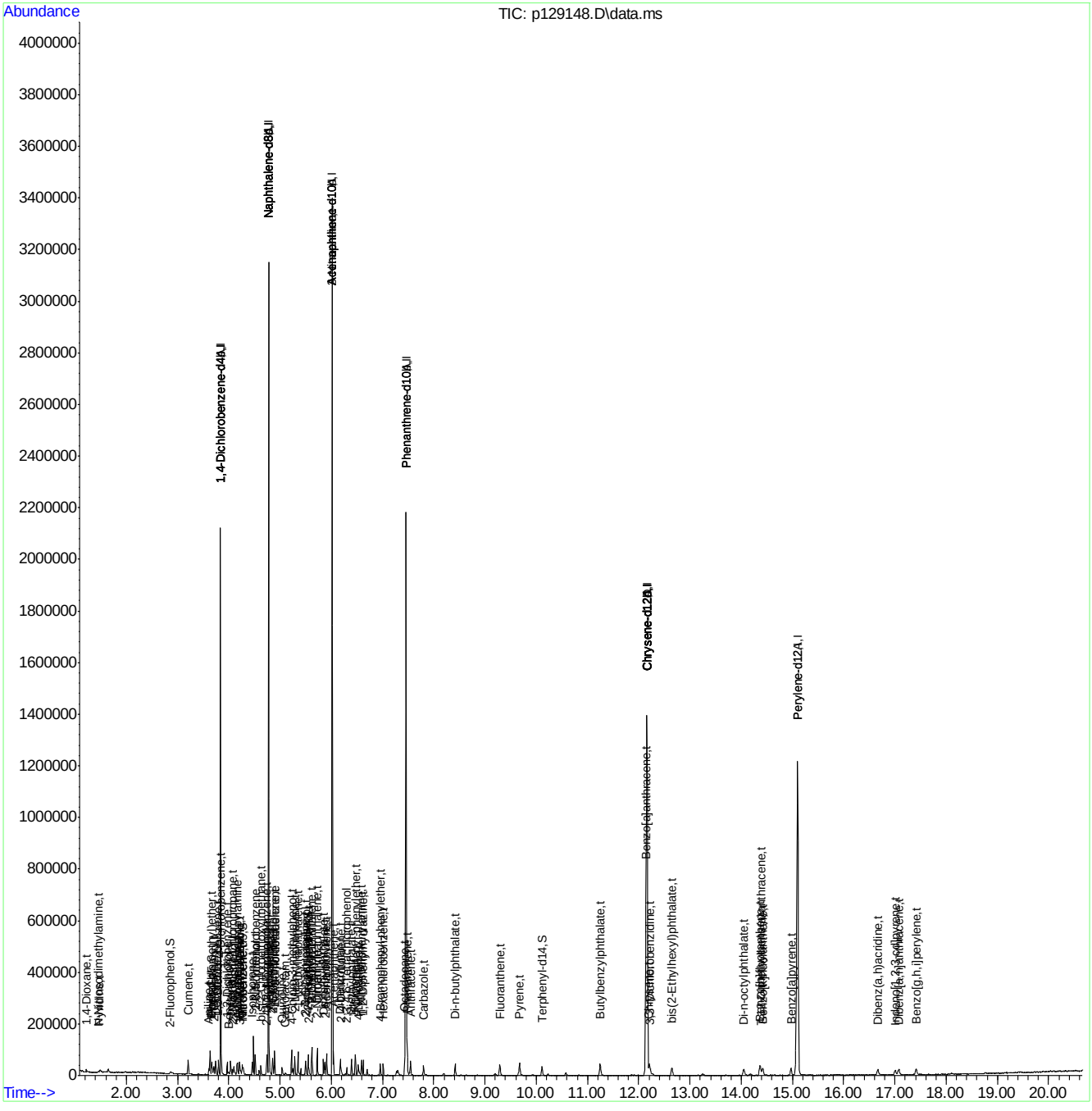
9.6.50

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129148.D
Acq On : 24 Apr 2019 5:12 am
Operator : chriss2
Sample : ic5844-1
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 26 11:52:45 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:33:45 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



| | | | |
|---|---|---|---|
| **Sample Number:** | EP5844-IC5844 | **Method:** | SW846 8270D |
| **Lab FileID:** | P129148.D | **Analyst approved:** | 04/26/19 12:39 Ying Li |
| **Injection Time:** | 04/24/19 05:12 | **Supervisor approved:** | 04/30/19 18:25 Kristi Schollenberger |

| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Pyridine | 110-86-1 | | 1.48 | Poor instrument integration |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129149.D
Acq On : 24 Apr 2019 5:39 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 26 12:04:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.844 | 152 | 197414 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 677399 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 409543 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 735116 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 12.167 | 240 | 598043 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 15.100 | 264 | 609662 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.844 | 152 | 197306 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 677399 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 409543 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 735116 | 40.00 | ppm | -0.01 |
| 146) Chrysene-d12A | 12.167 | 240 | 598043 | 40.00 | ppm | 0.00 |
| 153) Perylene-d12A | 15.100 | 264 | 609662 | 40.00 | ppm | -0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.844 | 152 | 197414 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 735116 | 40.00 | ppm | -0.01 |
| 161) Chrysene-d12b | 12.167 | 240 | 598043 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 677399 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 409543 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 677399 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.844 | 152 | 197414 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.167 | 240 | 598043 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.167 | 240 | 598043 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 677399 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.167 | 240 | 598043 | 40.00 | ppm | -0.03 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 4) N-Nitrosodimethylamine | 1.466 | 42 | 161109 | 49.92 | ppm | 99 |
| 11) bis(2-Chloroethyl)ether | 3.662 | 93 | 335510 | 48.24 | ppm | 91 |
| 14) 1,3-Dichlorobenzene | 3.796 | 146 | 395076 | 50.78 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 3.854 | 146 | 376835 | 50.00 | ppm | 99 |
| 17) 1,2-Dichlorobenzene | 3.966 | 146 | 359873 | 47.79 | ppm | 100 |
| 20) 2,2'-oxybis(1-Chloropr... | 4.073 | 121 | 91205 | 56.38 | ppm | 96 |
| 22) n-Nitroso-di-n-propyla... | 4.170 | 70 | 224287 | 48.81 | ppm | 98 |
| 23) Hexachloroethane | 4.212 | 201 | 144800 | 46.96 | ppm | 98 |
| 26) Nitrobenzene | 4.276 | 77 | 348901 | 47.38 | ppm | 99 |
| 28) Isophorone | 4.453 | 82 | 638237 | 50.48 | ppm | 98 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129149.D
Acq On : 24 Apr 2019 5:39 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 26 12:04:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 32) | bis(2-Chloroethoxy)met... | 4.629 | 93 | 387929 | 52.98 | ppm | 99 |
| 36) | 1,2,4-Trichlorobenzene | 4.741 | 180 | 325674 | 52.00 | ppm | 99 |
| 38) | Naphthalene | 4.789 | 128 | 825463 | 51.03 | ppm | 99 |
| 42) | Hexachlorobutadiene | 4.891 | 225 | 205265 | 53.01 | ppm | 98 |
| 48) | Hexachlorocyclopentadiene | 5.404 | 237 | 178344 | 56.98 | ppm | 99 |
| 52) | 2-Chloronaphthalene | 5.628 | 162 | 616445 | 55.53 | ppm | 97 |
| 55) | Dimethylphthalate | 5.852 | 163 | 697717 | 48.75 | ppm | 99 |
| 56) | Acenaphthylene | 5.916 | 152 | 868839 | 49.58 | ppm | 100 |
| 57) | 2,6-Dinitrotoluene | 5.890 | 165 | 142938 | 47.68 | ppm | 89 |
| 59) | Acenaphthene | 6.045 | 153 | 526535 | 48.88 | ppm | 97 |
| 63) | 2,4-Dinitrotoluene | 6.194 | 165 | 192417 | 48.22 | ppm | 93 |
| 65) | Diethylphthalate | 6.403 | 149 | 707669 | 48.58 | ppm | 98 |
| 66) | Fluorene | 6.467 | 166 | 651025 | 49.73 | ppm | 98 |
| 67) | 4-Chlorophenyl-phenyle... | 6.477 | 204 | 309950 | 47.88 | ppm | 94 |
| 71) | n-Nitrosodiphenylamine | 6.595 | 169 | 430567 | 45.19 | ppm | 99 |
| 72) | 1,2-Diphenylhydrazine | 6.627 | 77 | 667694 | 44.84 | ppm | 96 |
| 74) | 4-Bromophenyl-phenylether | 6.958 | 248 | 210302 | 47.06 | ppm | 96 |
| 75) | Hexachlorobenzene | 7.022 | 284 | 225647 | 44.27 | ppm | 97 |
| 77) | Phenanthrene | 7.487 | 178 | 895306 | 46.73 | ppm | 100 |
| 78) | Anthracene | 7.556 | 178 | 909814 | 45.46 | ppm | 99 |
| 80) | Di-n-butylphthalate | 8.422 | 149 | 1206426 | 43.99 | ppm | 99 |
| 81) | Fluoranthene | 9.298 | 202 | 1067015 | 45.16 | ppm | 100 |
| 84) | Pyrene | 9.688 | 202 | 1032449 | 49.86 | ppm | 99 |
| 86) | Butylbenzylphthalate | 11.259 | 149 | 537876 | 50.50 | ppm | 99 |
| 87) | Benzo[a]anthracene | 12.145 | 228 | 937297 | 47.54 | ppm | 98 |
| 89) | Chrysene | 12.220 | 228 | 857725 | 49.40 | ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 12.653 | 149 | 716584 | 50.31 | ppm | 100 |
| 92) | Di-n-octylphthalate | 14.058 | 149 | 1239245 | 52.58 | ppm | 99 |
| 93) | Benzo[b]fluoranthene | 14.379 | 252 | 843973 | 45.42 | ppm | 99 |
| 94) | Benzo[k]fluoranthene | 14.443 | 252 | 800892 | 51.23 | ppm | 97 |
| 95) | Benzo[a]pyrene | 14.988 | 252 | 801519 | 51.00 | ppm | 99 |
| 96) | Indeno[1,2,3-cd]pyrene | 17.018 | 276 | 736143 | 51.25 | ppm | 94 |
| 98) | Dibenz[a,h]anthracene | 17.087 | 278 | 698638 | 47.71 | ppm | 98 |
| 100) | Benzo[g,h,i]perylene | 17.434 | 276 | 734122 | 50.70 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

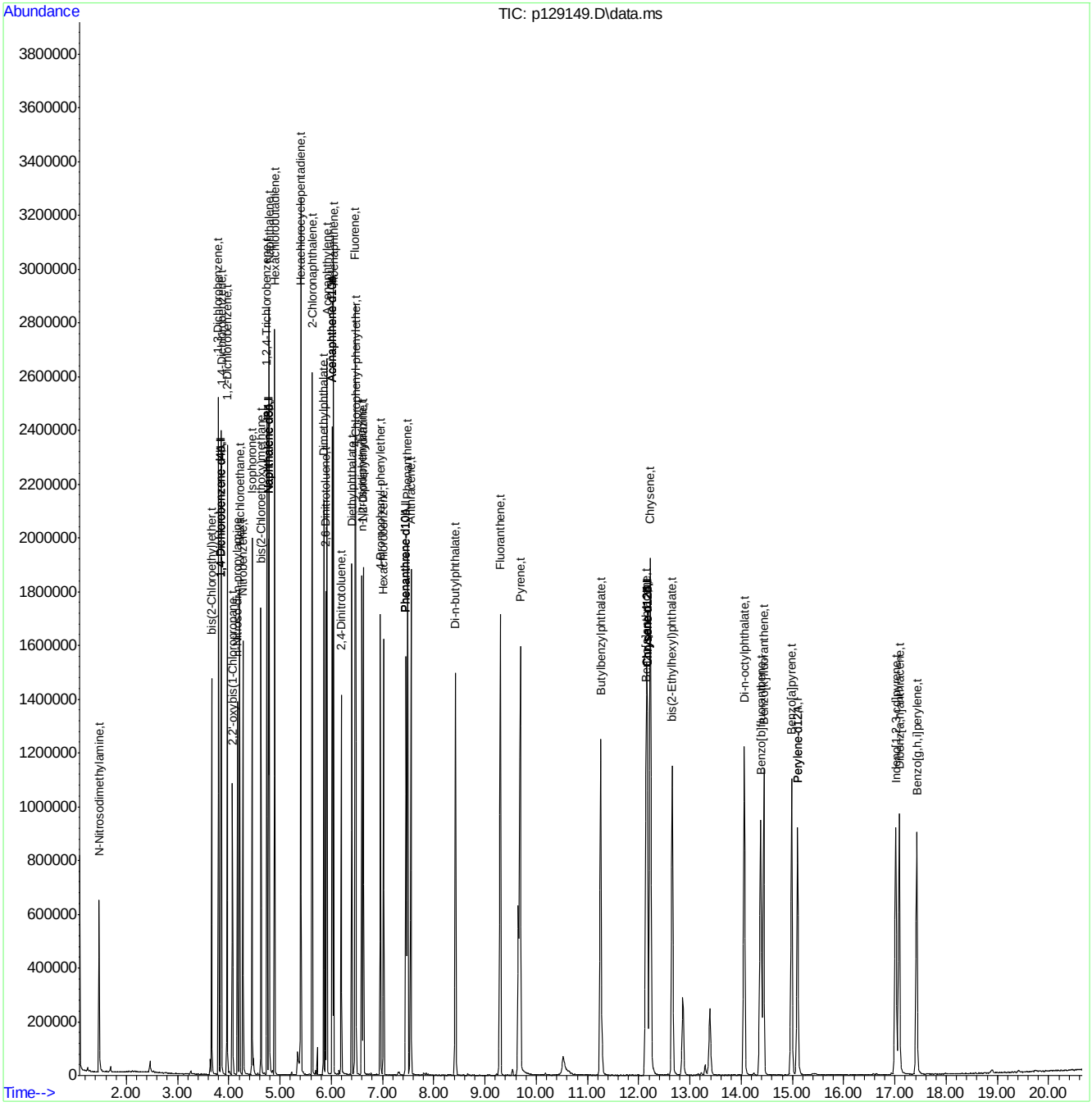
9.6.51

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129149.D
Acq On : 24 Apr 2019 5:39 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 26 12:04:12 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129150.D
Acq On : 24 Apr 2019 6:06 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 26 12:26:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 199016 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 748336 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 422054 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 712748 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 12.151 | 240 | 664621 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 15.094 | 264 | 657654 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 199016 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 748336 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 422054 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 712748 | 40.00 | ppm | -0.01 |
| 146) Chrysene-d12A | 12.151 | 240 | 664621 | 40.00 | ppm | -0.02 |
| 153) Perylene-d12A | 15.094 | 264 | 657654 | 40.00 | ppm | -0.02 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 199016 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 712748 | 40.00 | ppm | -0.01 |
| 161) Chrysene-d12b | 12.151 | 240 | 664621 | 40.00 | ppm | -0.02 |
| 163) Naphthalene-d8b | 4.773 | 136 | 748336 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 422054 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 748336 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 199016 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 664621 | 40.00 | ppm | -0.02 |
| 176) Chrysene-d12d | 12.151 | 240 | 664621 | 40.00 | ppm | -0.02 |
| 178) Naphthalene-d8d | 4.773 | 136 | 748336 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 664621 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.253 | 88 | 148167 | 45.92 | ppm | 99 |
| 6) Indene | 4.031 | 116 | 563511 | 54.07 | ppm | 98 |
| 7) Cumene | 3.213 | 105 | 812723 | 47.77 | ppm | 99 |
| 13) Decane | 3.753 | 43 | 235244 | 47.86 | ppm | 98 |
| 18) Acetophenone | 4.154 | 105 | 455621 | 46.71 | ppm | 97 |
| 27) Quinoline | 5.030 | 129 | 590732 | 43.55 | ppm | 99 |
| 40) 2,3-Dichloroaniline | 5.494 | 161 | 295910 | 38.17 | ppm | 97 |
| 41) Caprolactam | 5.110 | 55 | 112540 | 41.67 | ppm | 98 |
| 45) 1-Methylnaphthalene | 5.356 | 142 | 580960 | 43.78 | ppm | 99 |
| 46) Dimethylnaphthalene | 5.729 | 156 | 532476 | 44.89 | ppm | 97 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129150.D
Acq On : 24 Apr 2019 6:06 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 26 12:26:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 53) Biphenyl | 5.617 | 154 | 717475 | 50.44 ppm | 98 |
| 82) Octadecane | 7.439 | 57 | 350428 | 48.21 ppm | 99 |
| 99) 7,12-Dimethylbenz(a)an... | 14.389 | 256 | 347878 | 38.46 ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

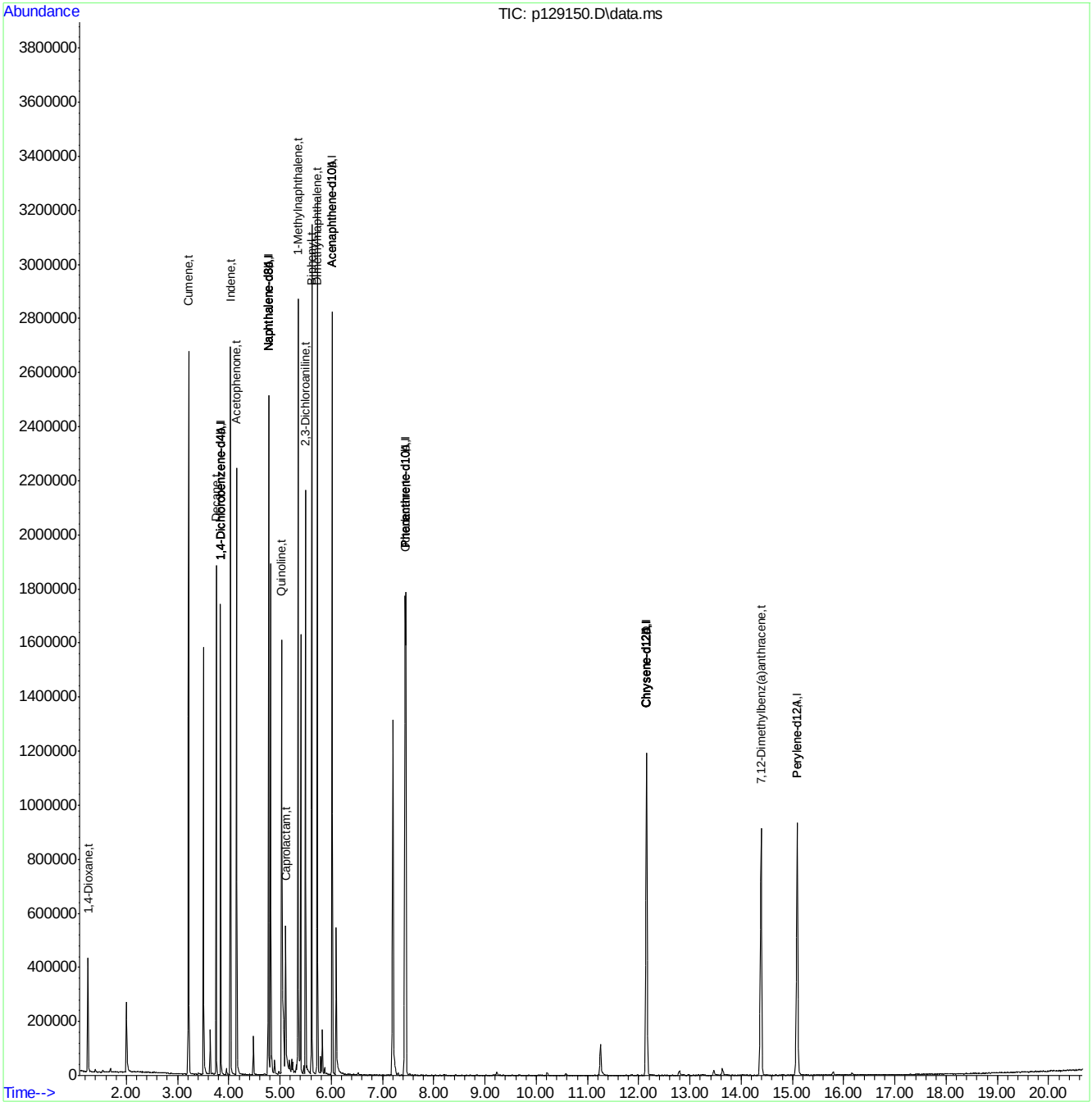
9.6.52

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129150.D
Acq On : 24 Apr 2019 6:06 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 26 12:26:46 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 04/30/19 18:33

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129151.D
Acq On : 24 Apr 2019 6:33 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 26 12:30:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.844 | 152 | 136563 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 568014 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 357371 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 669301 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 12.151 | 240 | 645461 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 15.095 | 264 | 705503 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4A | 3.844 | 152 | 136563 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 568014 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 357371 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 669301 | 40.00 | ppm | -0.01 |
| 146) Chrysene-d12A | 12.151 | 240 | 645461 | 40.00 | ppm | -0.02 |
| 153) Perylene-d12A | 15.095 | 264 | 705503 | 40.00 | ppm | -0.02 |
| 157) 1,4-Dichlorobenzene-d4b | 3.844 | 152 | 136563 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 669301 | 40.00 | ppm | -0.01 |
| 161) Chrysene-d12b | 12.151 | 240 | 645461 | 40.00 | ppm | -0.02 |
| 163) Naphthalene-d8b | 4.773 | 136 | 568014 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 357371 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 568014 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.844 | 152 | 136563 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 645461 | 40.00 | ppm | -0.02 |
| 176) Chrysene-d12d | 12.151 | 240 | 645461 | 40.00 | ppm | -0.02 |
| 178) Naphthalene-d8d | 4.773 | 136 | 568014 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 645461 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Pyridine | 1.621 | 79 | 205130m | 48.88 | ppm | |
| 10) Aniline | 3.625 | 93 | 234846 | 75.17 | ppm | 91 |
| 16) Benzyl alcohol | 3.988 | 108 | 161795 | 62.80 | ppm | 92 |
| 39) 4-Chloroaniline | 4.853 | 127 | 248144 | 46.98 | ppm | 95 |
| 44) 2-Methylnaphthalene | 5.286 | 141 | 389336 | 50.07 | ppm | 98 |
| 54) 2-Nitroaniline | 5.719 | 65 | 169511 | 53.08 | ppm | 89 |
| 58) 3-Nitroaniline | 6.013 | 138 | 143401 | 52.34 | ppm | 94 |
| 62) Dibenzofuran | 6.178 | 168 | 705226 | 49.48 | ppm | 96 |
| 68) 4-Nitroaniline | 6.520 | 138 | 147086 | 56.19 | ppm | 92 |
| 79) Carbazole | 7.808 | 167 | 855677 | 48.63 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129151.D
Acq On : 24 Apr 2019 6:33 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 26 12:30:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

(#) = qualifier out of range (m) = manual integration (+) = signals summed

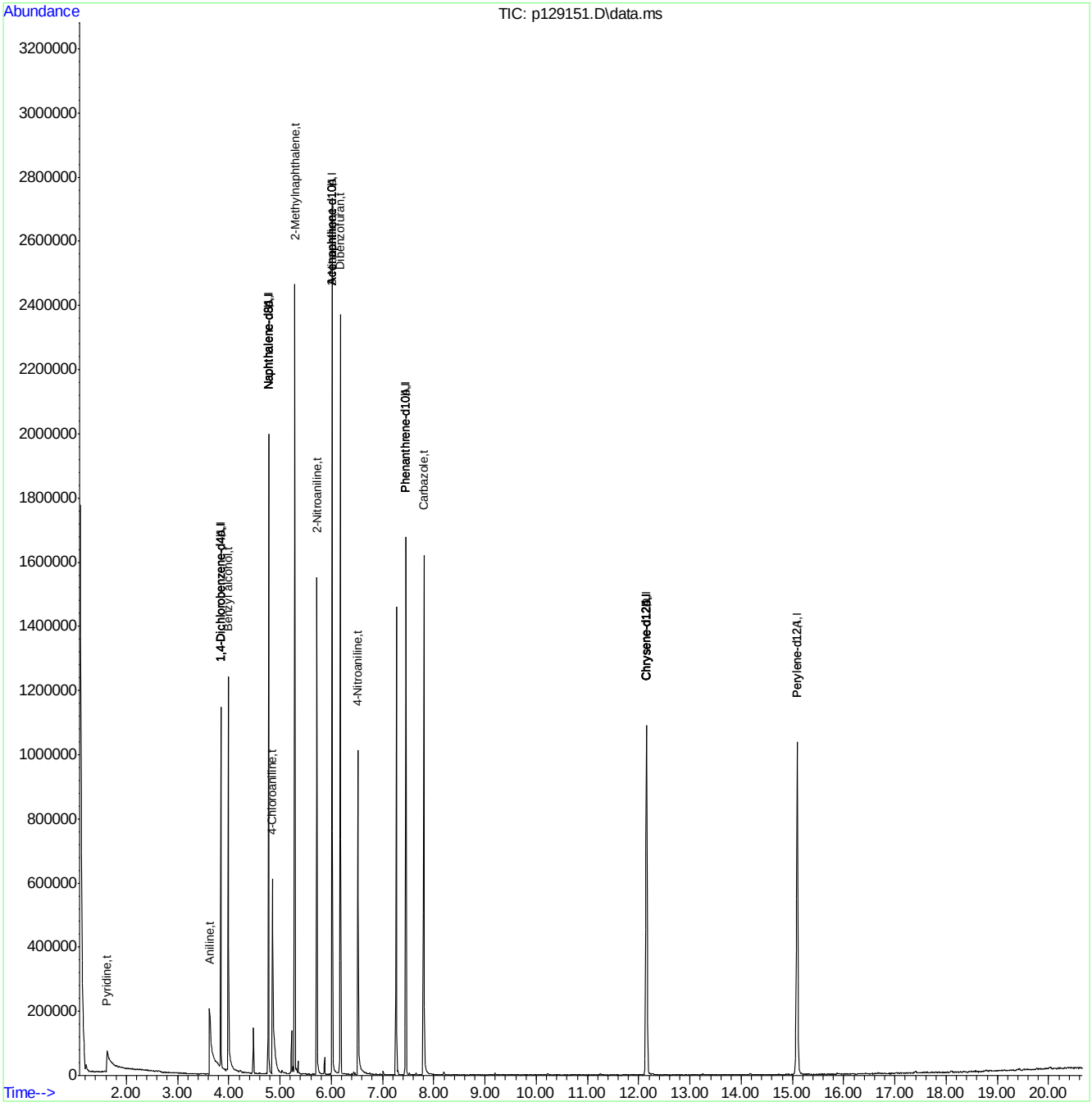
9.6.53

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129151.D
Acq On : 24 Apr 2019 6:33 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 26 12:30:38 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration



# Manual Integration Approval Summary



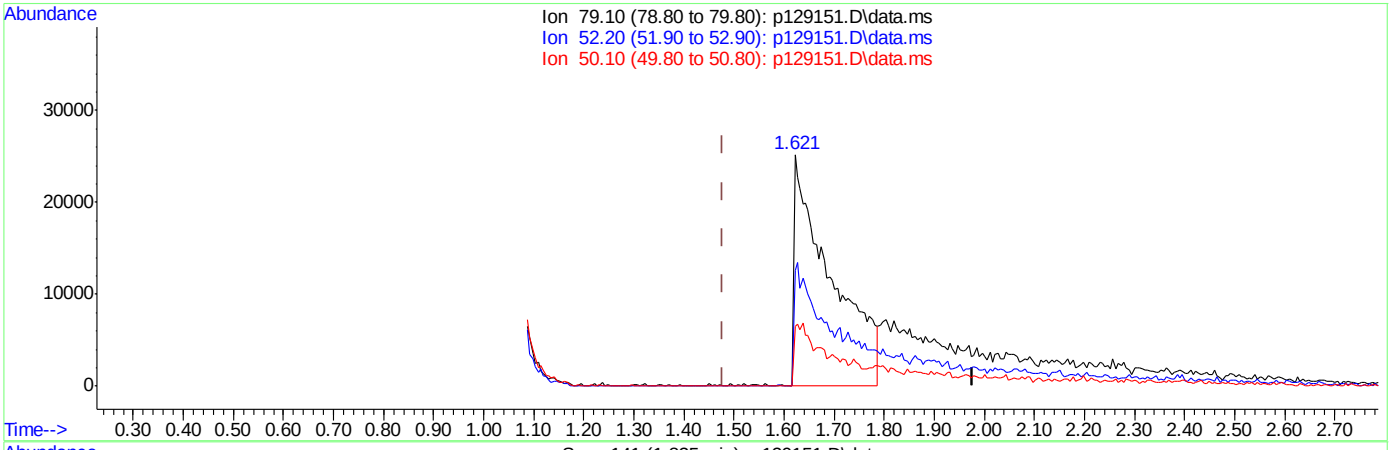
| | | | |
|---|---|---|---|
| **Sample Number:** | EP5844-ICV5844 | **Method:** | SW846 8270D |
| **Lab FileID:** | P129151.D | **Analyst approved:** | 04/26/19 12:39 Ying Li |
| **Injection Time:** | 04/24/19 06:33 | **Supervisor approved:** | 04/30/19 18:33 Kristi Schollenberger |

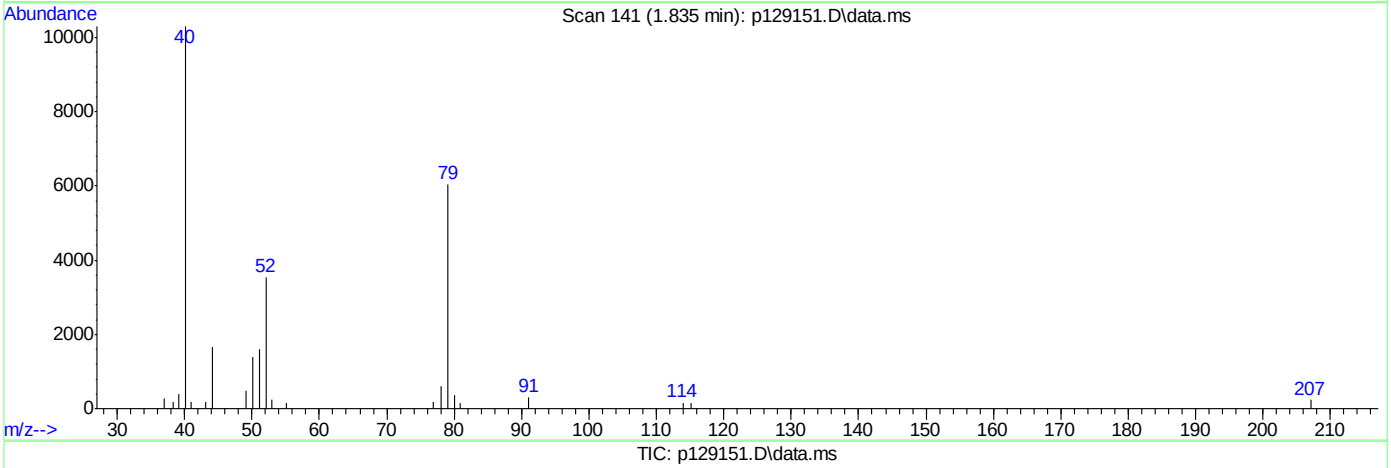
| Parameter | CAS | Sig# | R.T. (min.) | Reason |
|---|---|---|---|---|
| Pyridine | 110-86-1 | | 1.62 | Poor instrument integration |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129151.D
Acq On : 24 Apr 2019 6:33 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 24 12:04:44 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 11:46:30 2019
Response via : Initial Calibration




TIC: p129151.D\data.ms

(3) Pyridine (t)

1.621min (+0.144) 30.54ppm

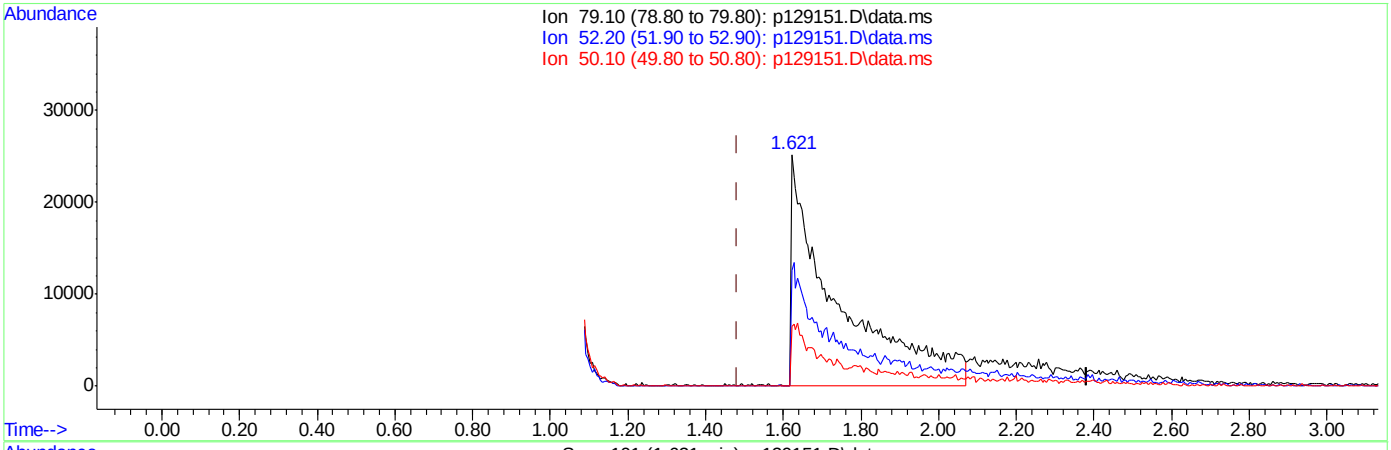
response 128164

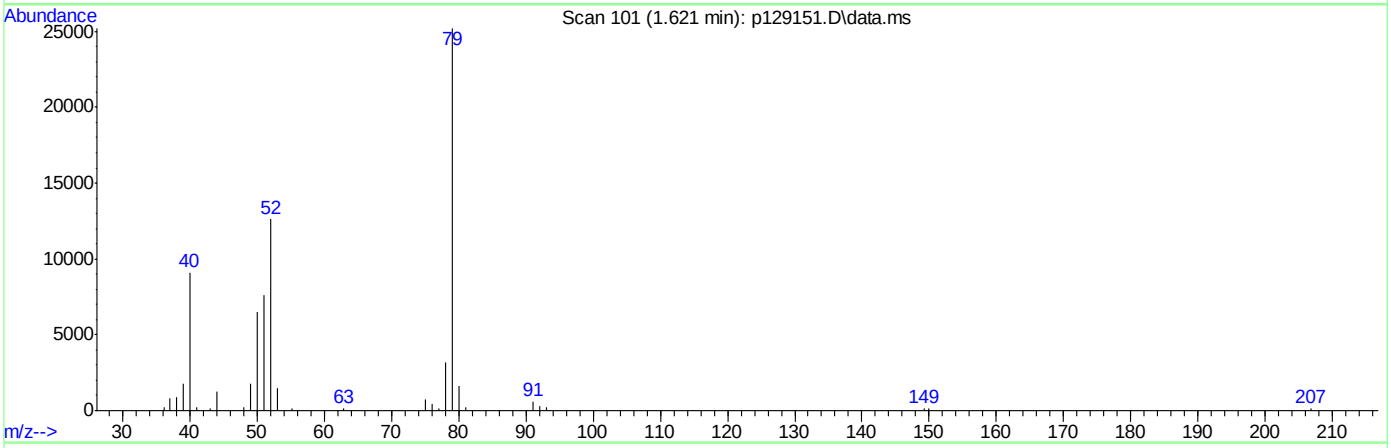
| Ion | Exp% | Act% |
|---|---|---|
| 79.10 | 100 | 100 |
| 52.20 | 52.70 | 48.94 |
| 50.10 | 28.10 | 24.53 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129151.D
Acq On : 24 Apr 2019 6:33 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 26 12:08:04 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration




TIC: p129151.D\data.ms

(3) Pyridine (t)

1.621min (+0.139) 48.88ppm m

response 205130

| Ion | Exp% | Act% |
|---|---|---|
| 79.10 | 100 | 100 |
| 52.20 | 52.70 | 50.11 |
| 50.10 | 28.10 | 25.76 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129152.D
Acq On : 24 Apr 2019 7:00 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 26 12:15:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.839 | 152 | 195738 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.774 | 136 | 640309 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 414776 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 706105 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 12.151 | 240 | 612362 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 15.095 | 264 | 610953 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4A | 3.839 | 152 | 195738 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.774 | 136 | 640309 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 414776 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 706105 | 40.00 | ppm | -0.01 |
| 146) Chrysene-d12A | 12.151 | 240 | 612362 | 40.00 | ppm | -0.02 |
| 153) Perylene-d12A | 15.095 | 264 | 610953 | 40.00 | ppm | -0.02 |
| 157) 1,4-Dichlorobenzene-d4b | 3.839 | 152 | 195738 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 706105 | 40.00 | ppm | -0.01 |
| 161) Chrysene-d12b | 12.151 | 240 | 612362 | 40.00 | ppm | -0.02 |
| 163) Naphthalene-d8b | 4.774 | 136 | 640309 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 414776 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.774 | 136 | 640309 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.839 | 152 | 195738 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 612362 | 40.00 | ppm | -0.02 |
| 176) Chrysene-d12d | 12.151 | 240 | 612362 | 40.00 | ppm | -0.02 |
| 178) Naphthalene-d8d | 4.774 | 136 | 640309 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 612362 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 9) Phenol | 3.657 | 94 | 456539 | 52.46 | ppm | 83 |
| 12) 2-Chlorophenol | 3.700 | 128 | 344446 | 52.51 | ppm | 99 |
| 19) 2-Methylphenol | 4.090 | 108 | 327560 | 53.82 | ppm | 99 |
| 21) 3&4-Methylphenol | 4.213 | 108 | 330651 | 55.49 | ppm | 96 |
| 29) 2-Nitrophenol | 4.512 | 139 | 190058 | 60.30 | ppm | 77 |
| 30) 2,4-Dimethylphenol | 4.581 | 107 | 335637 | 60.00 | ppm | 96 |
| 31) Benzoic acid | 4.752 | 105 | 227810 | 47.29 | ppm | 96 |
| 33) 2,4-Dichlorophenol | 4.704 | 162 | 293364 | 55.71 | ppm | 98 |
| 34) 2,6-Dichlorophenol | 4.854 | 162 | 287021 | 55.81 | ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 5.228 | 107 | 305223 | 55.09 | ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129152.D
Acq On : 24 Apr 2019 7:00 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 26 12:15:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 49) 2,4,6-Trichlorophenol | 5.505 | 196 | 245936 | 59.82 ppm | 98 |
| 50) 2,4,5-Trichlorophenol | 5.537 | 196 | 229948 | 56.47 ppm | 99 |
| 60) 2,4-Dinitrophenol | 6.093 | 184 | 89410 | 47.75 ppm | 84 |
| 61) 4-Nitrophenol | 6.200 | 109 | 122523 | 53.82 ppm | 96 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.296 | 232 | 190599 | 53.40 ppm | 90 |
| 70) 4,6-Dinitro-2-methylph... | 6.542 | 198 | 138364 | 52.30 ppm | 94 |
| 76) Pentachlorophenol | 7.268 | 266 | 174036 | 55.00 ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

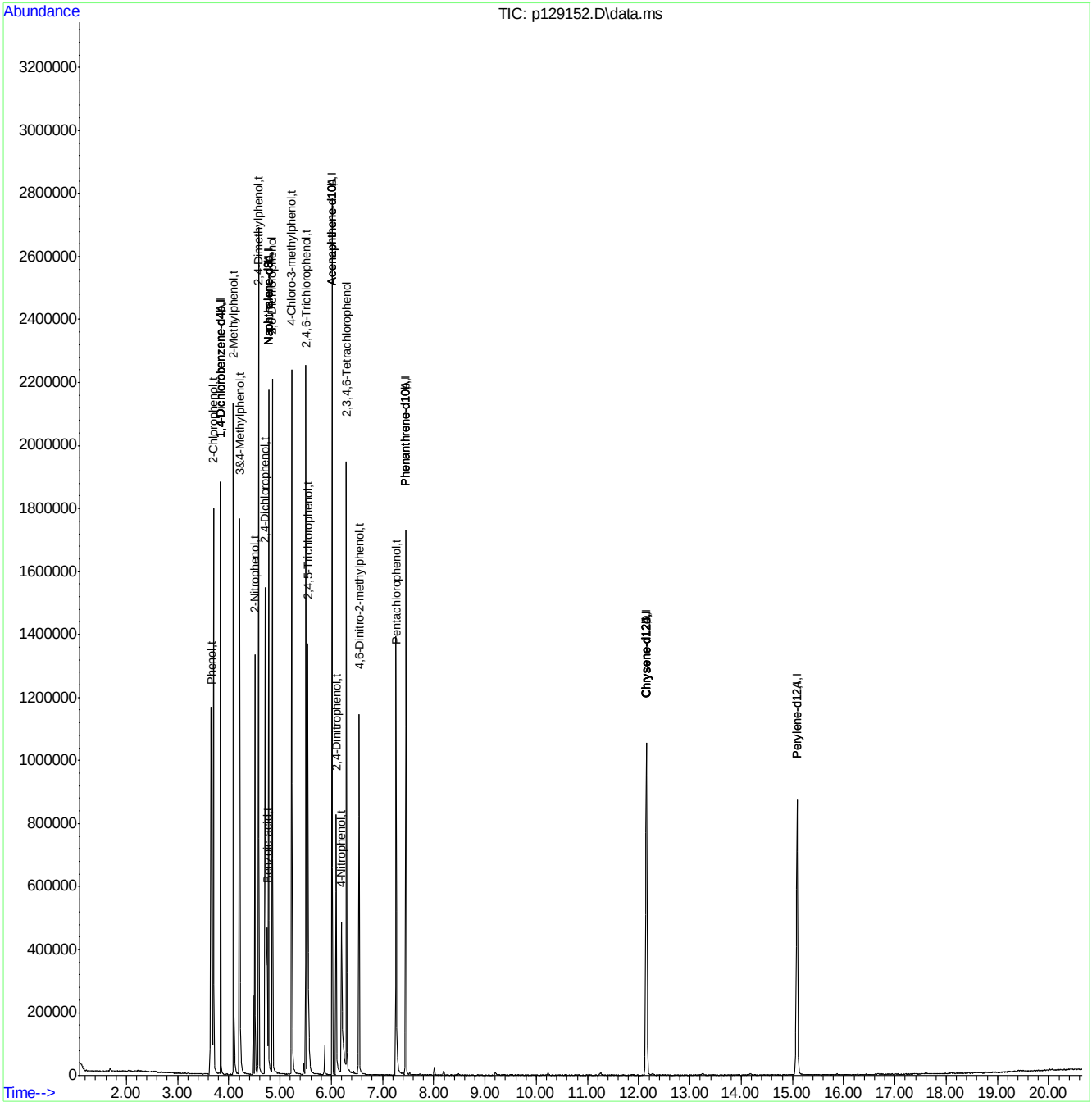
9.6.54

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129152.D
Acq On : 24 Apr 2019 7:00 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 26 12:15:05 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 11:57:54 2019
Response via : Initial Calibration




MP5844.M Fri Apr 26 12:15:12 2019 ACLIMS Page: 3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129153.D
Acq On : 24 Apr 2019 7:27 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 24 12:22:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 12:16:58 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 203642 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 749585 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 428649 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 730561 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 595442 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.094 | 264 | 622547 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 203642 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 749585 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 428649 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 730561 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 595442 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.094 | 264 | 622547 | 40.00 | ppm | -0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 203642 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 730561 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.151 | 240 | 595442 | 40.00 | ppm | -0.01 |
| 163) Naphthalene-d8b | 4.773 | 136 | 749585 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 428649 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 749585 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 203642 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 595442 | 40.00 | ppm | -0.01 |
| 176) Chrysene-d12d | 12.151 | 240 | 595442 | 40.00 | ppm | -0.01 |
| 178) Naphthalene-d8d | 4.773 | 136 | 749585 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 595442 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.845 | 112 | 327387 | 50.04 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 100.08% | | | |
| 8) Phenol-d5 | 3.646 | 99 | 406658 | 48.94 | ppm | -0.02 |
| Spiked Amount 50.000 | | | Recovery = 97.88% | | | |
| 25) Nitrobenzene-d5 | 4.260 | 82 | 392186 | 48.72 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 97.44% | | | |
| 51) 2-Fluorobiphenyl | 5.553 | 172 | 712111 | 52.43 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 104.86% | | | |
| 73) 2,4,6-Tribromophenol | 6.696 | 330 | 114314 | 47.02 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 94.04% | | | |
| 85) Terphenyl-d14 | 10.121 | 244 | 756816 | 56.10 | ppm | 0.00 |
| Spiked Amount 50.000 | | | Recovery = 112.20% | | | |

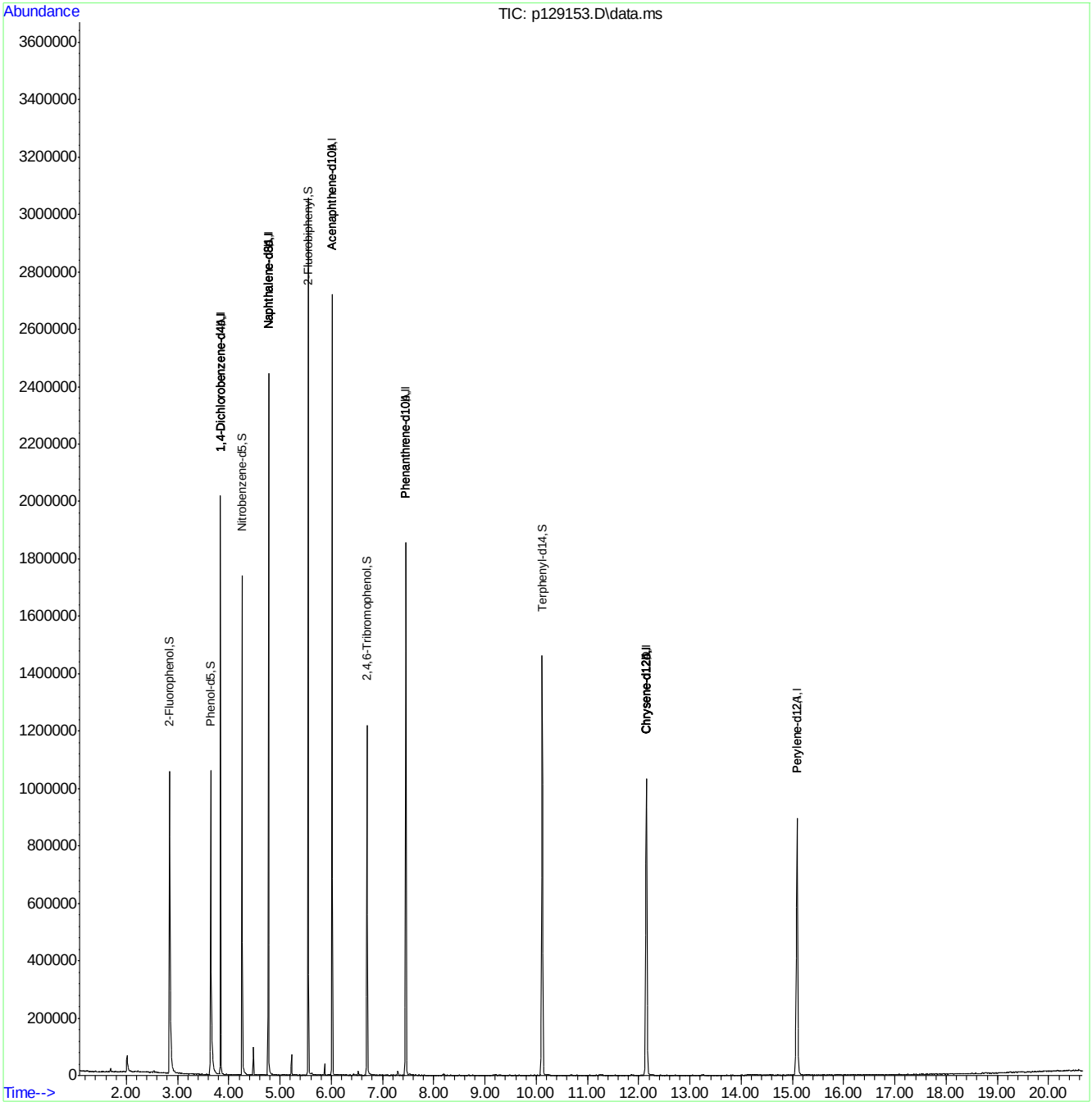
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129153.D
Acq On : 24 Apr 2019 7:27 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 24 12:22:40 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 12:16:58 2019
Response via : Initial Calibration




MP5844.M Wed Apr 24 12:22:46 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129154.D
Acq On : 24 Apr 2019 7:54 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 24 12:24:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 12:16:58 2019
Response via : Initial Calibration

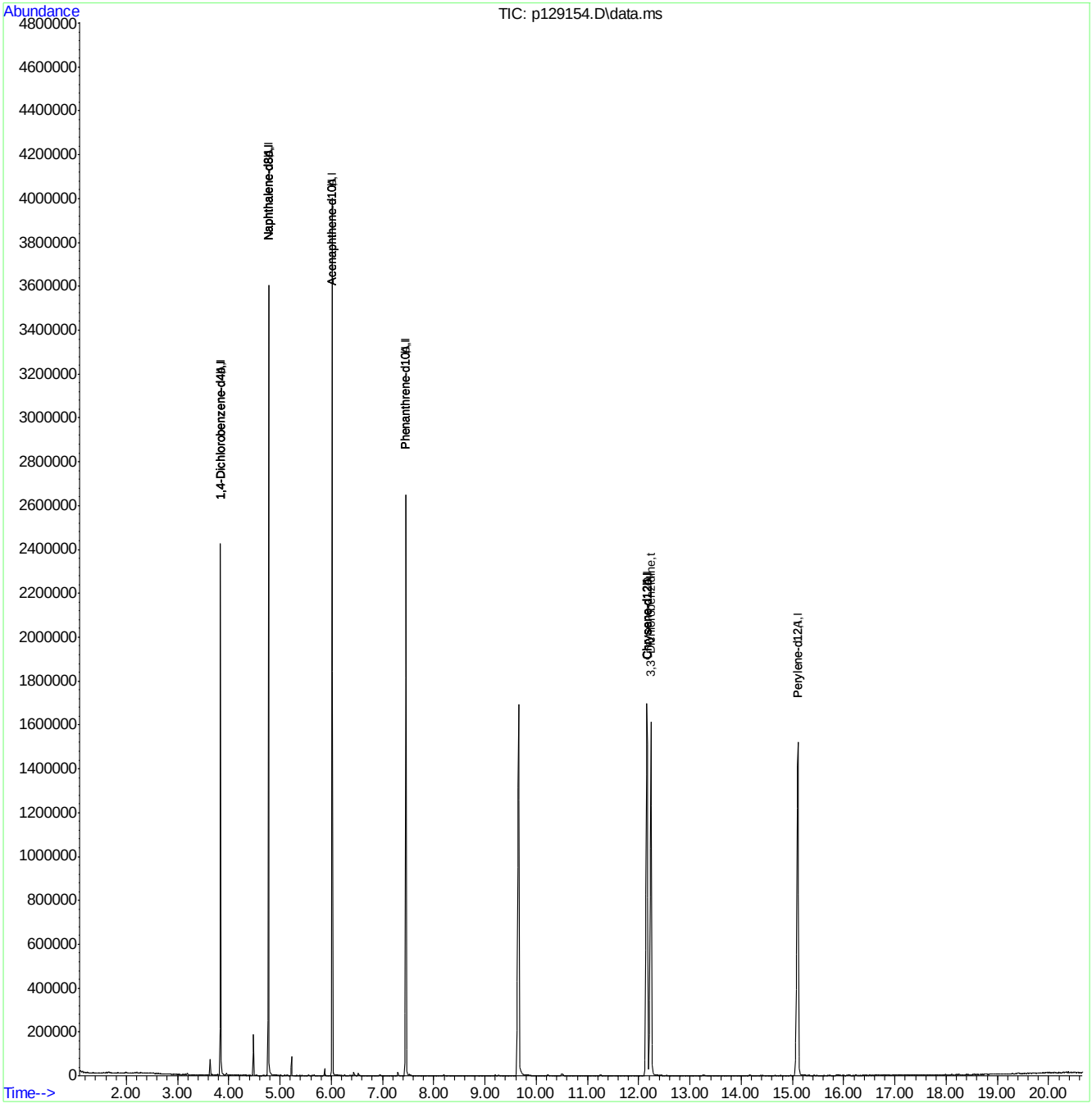
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 285496 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 1073380 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 630304 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 1183192 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.162 | 240 | 1153020 | 40.00 | ppm | 0.00 |
| 91) Perylene-d12 | 15.105 | 264 | 1153296 | 40.00 | ppm | 0.00 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 285496 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 1073380 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 630304 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 1183192 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.162 | 240 | 1153020 | 40.00 | ppm | 0.00 |
| 153) Perylene-d12A | 15.105 | 264 | 1153296 | 40.00 | ppm | 0.00 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 285496 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 1183192 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.162 | 240 | 1153020 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 1073380 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 630304 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 1073380 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 285496 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.162 | 240 | 1153020 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.162 | 240 | 1153020 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 1073380 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.162 | 240 | 1153020 | 40.00 | ppm | -0.04 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 88) 3,3'-Dichlorobenzidine | 12.242 | 252 | 662094 | 52.97 | ppm | 99 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129154.D
Acq On : 24 Apr 2019 7:54 am
Operator : chriss2
Sample : icv5844-50
Misc : op13894,ep5844,1000,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 24 12:24:24 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 12:16:58 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129156.D
Acq On : 24 Apr 2019 8:30 am
Operator : chriss2
Sample : ic5845-100
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 24 13:10:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration

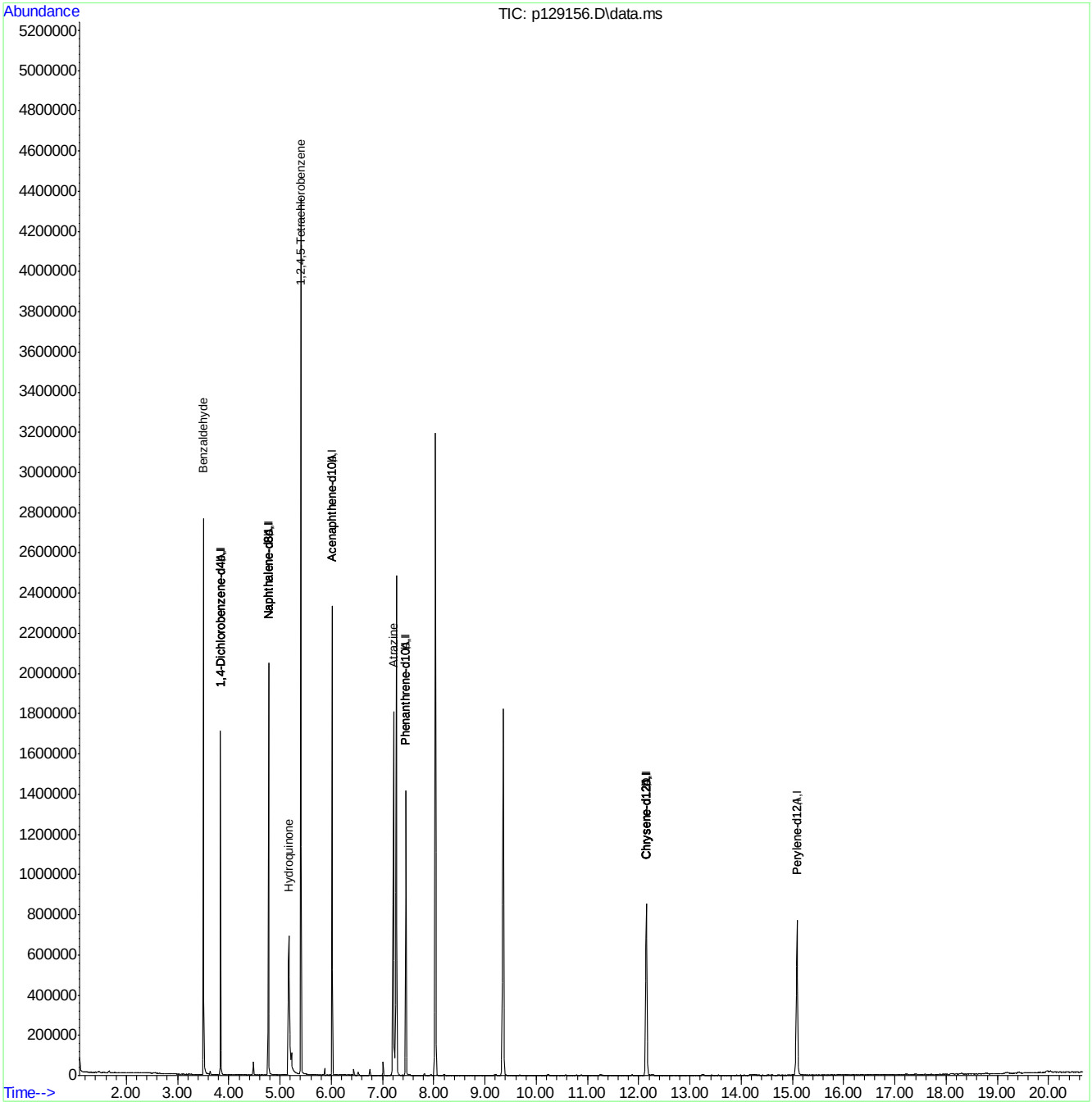
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 171215 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 642717 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 354974 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 562977 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 481919 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.089 | 264 | 505956 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 171215 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 642717 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 354974 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 562977 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 481919 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.089 | 264 | 505956 | 40.00 | ppm | -0.02 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 171215 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 562977 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.151 | 240 | 481919 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 642717 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 354974 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 642717 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 171215 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 481919 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.151 | 240 | 481919 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 642717 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 481919 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.502 | 105 | 464882 | 97.19 | ppm | 95 |
| 160) Atrazine | 7.215 | 200 | 323993 | 102.78 | ppm | 93 |
| 164) Hydroquinone | 5.168 | 110 | 452342 | 104.09 | ppm | 99 |
| 166) 1,2,4,5-Tetrachloroben... | 5.409 | 216 | 555369 | 98.51 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129156.D
Acq On : 24 Apr 2019 8:30 am
Operator : chriss2
Sample : ic5845-100
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 24 13:10:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129157.D
Acq On : 24 Apr 2019 8:57 am
Operator : chriss2
Sample : ic5845-80
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 24 13:16:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 177371 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 684705 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 395958 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 654368 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 605474 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.094 | 264 | 642486 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 177371 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 684705 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 395958 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 654368 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 605474 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.094 | 264 | 642486 | 40.00 | ppm | -0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 177371 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 654368 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.151 | 240 | 605474 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 684705 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 395958 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 684705 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 177371 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 605474 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.151 | 240 | 605474 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 684705 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 605474 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.502 | 105 | 396692 | 80.06 | ppm | 99 |
| 160) Atrazine | 7.209 | 200 | 310587 | 84.76 | ppm | 99 |
| 164) Hydroquinone | 5.168 | 110 | 423582 | 91.50 | ppm | 98 |
| 166) 1,2,4,5-Tetrachloroben... | 5.409 | 216 | 486565 | 77.37 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

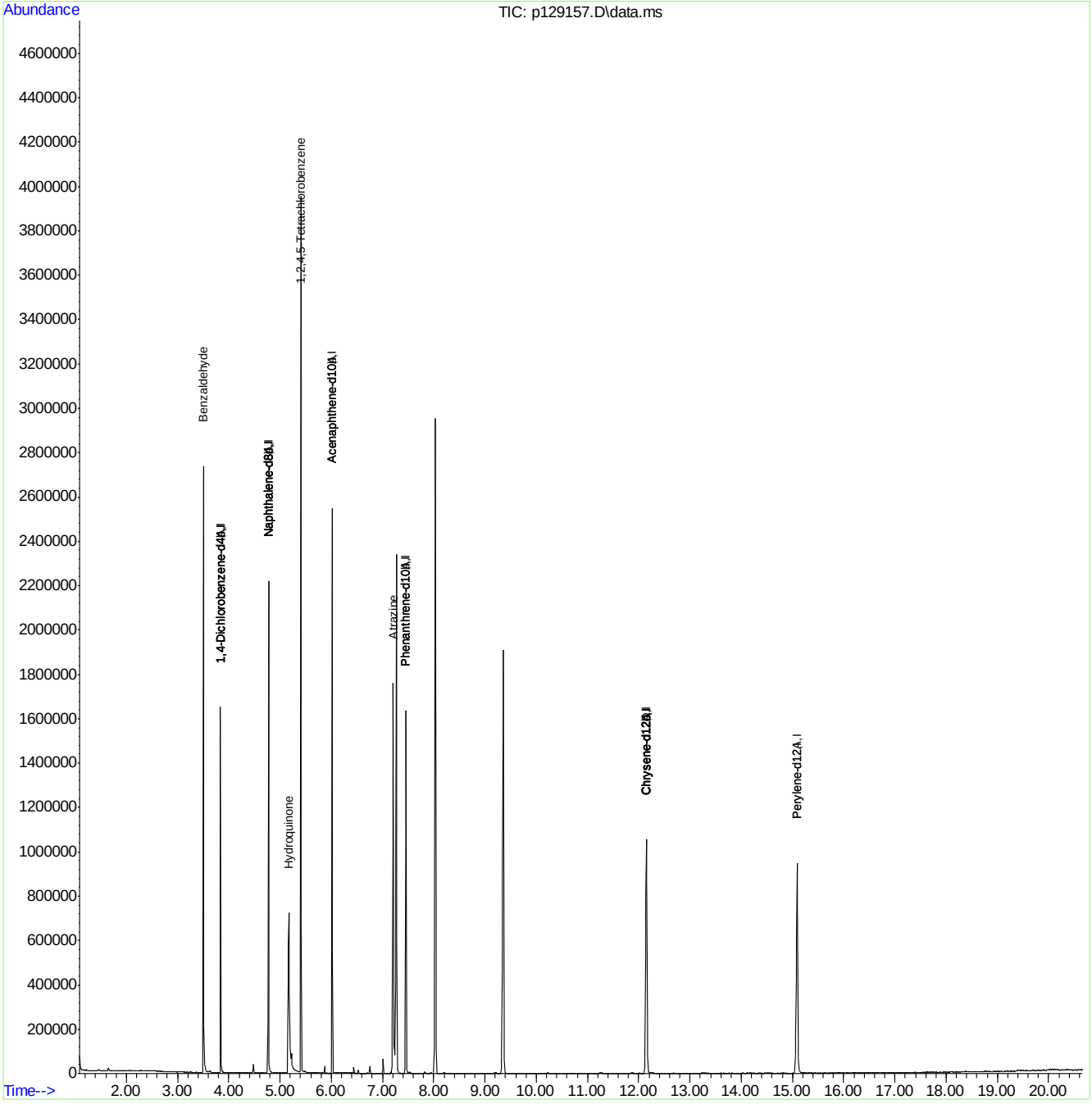
9.6.58

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129157.D
Acq On : 24 Apr 2019 8:57 am
Operator : chriss2
Sample : ic5845-80
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 24 13:16:15 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration




MP5844.M Wed Apr 24 13:16:20 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129158.D
Acq On : 24 Apr 2019 9:24 am
Operator : chriss2
Sample : icc5845-50
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 24 13:08:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 177030 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 674318 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 385184 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 622561 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.145 | 240 | 538051 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 15.094 | 264 | 559568 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 177030 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 674318 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 385184 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 622561 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.145 | 240 | 538051 | 40.00 | ppm | -0.02 |
| 153) Perylene-d12A | 15.094 | 264 | 559568 | 40.00 | ppm | -0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 177030 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 622561 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.145 | 240 | 538051 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 674318 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 385184 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 674318 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 177030 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.145 | 240 | 538051 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.145 | 240 | 538051 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 674318 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.145 | 240 | 538051 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.502 | 105 | 247278 | 50.00 | ppm | 100 |
| 160) Atrazine | 7.204 | 200 | 174303 | 50.00 | ppm | 100 |
| 164) Hydroquinone | 5.163 | 110 | 227962 | 50.00 | ppm | 100 |
| 166) 1,2,4,5-Tetrachloroben... | 5.409 | 216 | 305883 | 50.00 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

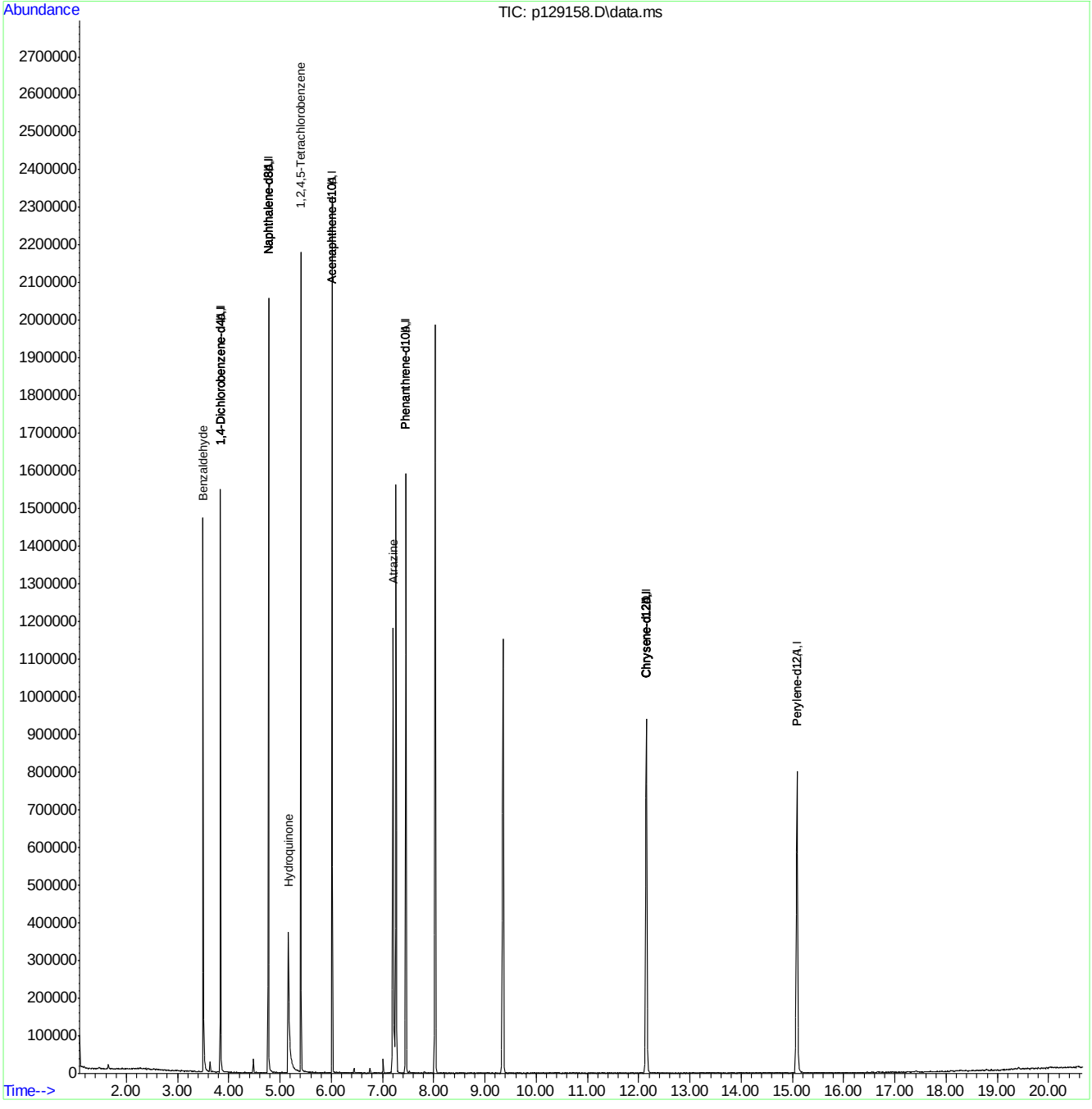
9.6.59

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129158.D
Acq On : 24 Apr 2019 9:24 am
Operator : chriss2
Sample : icc5845-50
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 24 13:08:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration




MP5844.M Wed Apr 24 13:08:55 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129159.D
Acq On : 24 Apr 2019 9:51 am
Operator : chriss2
Sample : ic5845-25
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 24 13:17:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration

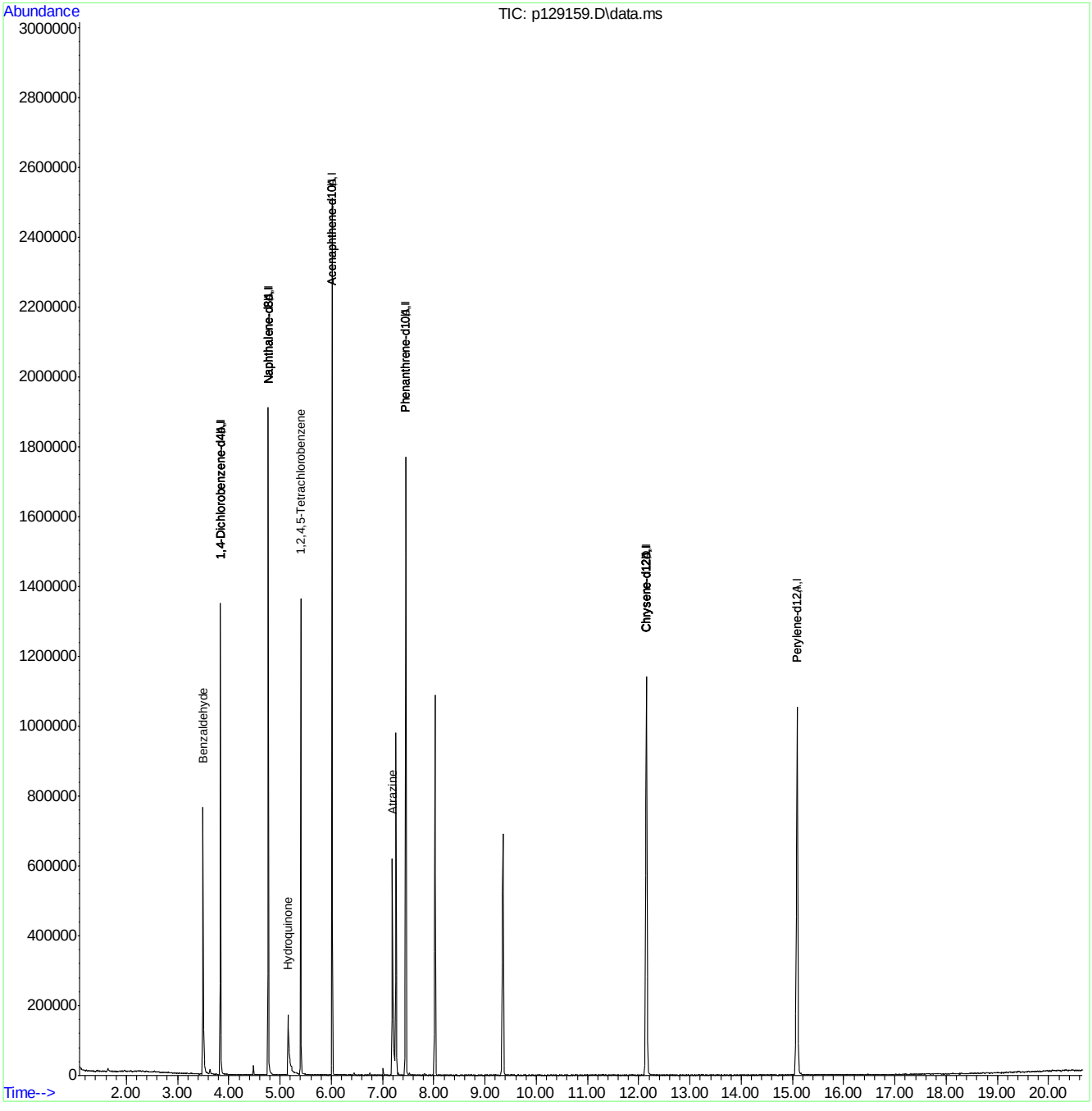
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 177933 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 670390 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 415737 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 711622 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 655781 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.095 | 264 | 737857 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 177933 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 670390 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 415737 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 711622 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 655781 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.095 | 264 | 737857 | 40.00 | ppm | -0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 177933 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 711622 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.151 | 240 | 655781 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 670390 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 415737 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 670390 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 177933 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 655781 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.151 | 240 | 655781 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 670390 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 655781 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.497 | 105 | 132271 | 26.61 | ppm | 92 |
| 160) Atrazine | 7.193 | 200 | 104008 | 26.10 | ppm | 93 |
| 164) Hydroquinone | 5.158 | 110 | 111008 | 24.49 | ppm | 96 |
| 166) 1,2,4,5-Tetrachloroben... | 5.404 | 216 | 159653 | 24.18 | ppm | 96 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129159.D
Acq On : 24 Apr 2019 9:51 am
Operator : chriss2
Sample : ic5845-25
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 24 13:17:48 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration




MP5844.M Wed Apr 24 13:17:54 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129160.D
Acq On : 24 Apr 2019 10:18 am
Operator : chriss2
Sample : ic5845-10
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 24 13:19:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration

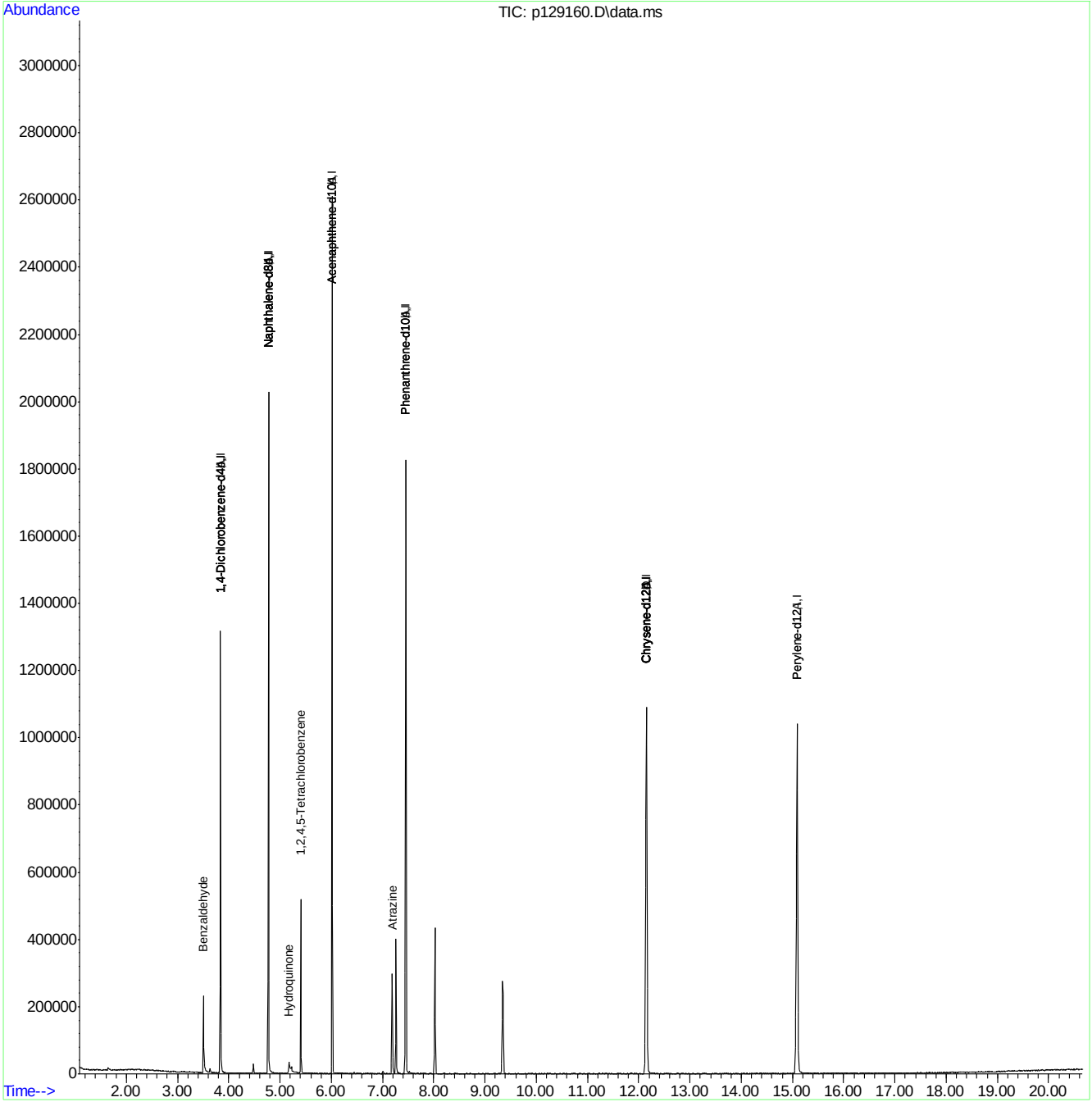
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 175127 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 689176 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 415652 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 714239 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 637339 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.094 | 264 | 702480 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 175127 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 689176 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 415652 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 714239 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 637339 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.094 | 264 | 702480 | 40.00 | ppm | -0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 175127 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 714239 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.151 | 240 | 637339 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 689176 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 415652 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 689176 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 175127 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 637339 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.151 | 240 | 637339 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 689176 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 637339 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.502 | 105 | 46103 | 9.42 | ppm | 96 |
| 160) Atrazine | 7.188 | 200 | 37204 | 9.30 | ppm | 98 |
| 164) Hydroquinone | 5.168 | 110 | 35833 | 7.69 | ppm | 96 |
| 166) 1,2,4,5-Tetrachloroben... | 5.404 | 216 | 59211 | 8.97 | ppm | 98 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129160.D
Acq On : 24 Apr 2019 10:18 am
Operator : chriss2
Sample : ic5845-10
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 24 13:19:36 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration




MP5844.M Wed Apr 24 13:19:45 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129161.D
Acq On : 24 Apr 2019 10:45 am
Operator : chriss2
Sample : ic5845-5
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 24 13:21:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration

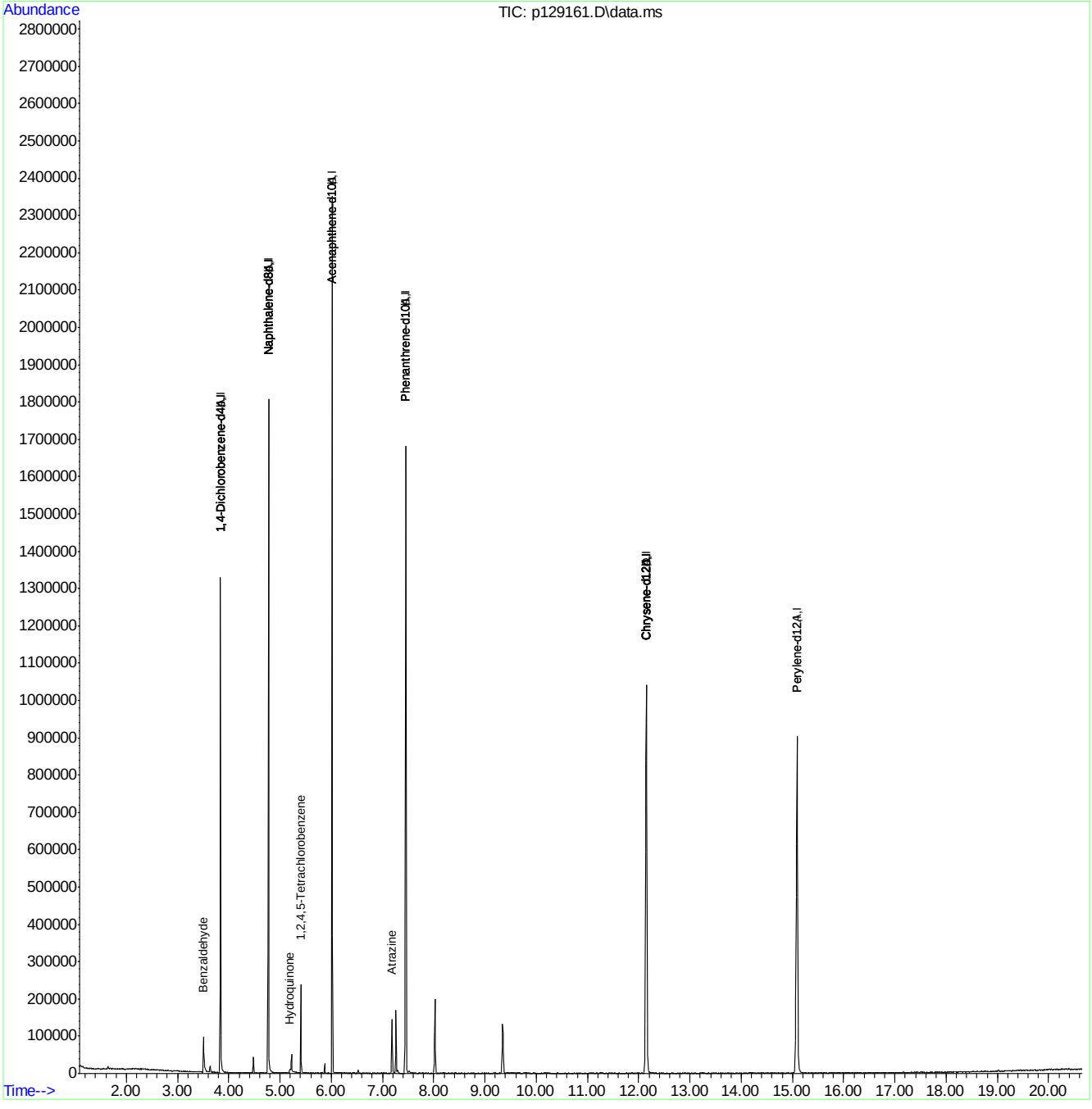
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 172727 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 645801 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 392062 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 661073 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 581322 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.089 | 264 | 629717 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 172727 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 645801 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 392062 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 661073 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 581322 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.089 | 264 | 629717 | 40.00 | ppm | -0.02 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 172727 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 661073 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.151 | 240 | 581322 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 645801 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 392062 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 645801 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 172727 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 581322 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.151 | 240 | 581322 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 645801 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 581322 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.507 | 105 | 22878 | 4.74 | ppm | 90 |
| 160) Atrazine | 7.183 | 200 | 16932 | 4.57 | ppm | 93 |
| 164) Hydroquinone | 5.190 | 110 | 12691 | 2.91 | ppm | 87 |
| 166) 1,2,4,5-Tetrachloroben... | 5.404 | 216 | 28113 | 4.51 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129161.D
Acq On : 24 Apr 2019 10:45 am
Operator : chriss2
Sample : ic5845-5
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 24 13:21:10 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration




MP5844.M Wed Apr 24 13:21:21 2019 ACLIMS Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129162.D
Acq On : 24 Apr 2019 11:12 am
Operator : chriss2
Sample : ic5845-2
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 24 13:22:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 177629 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 645534 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 384470 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 663057 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 569249 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.089 | 264 | 612119 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 177629 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 645534 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 384470 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 663057 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 569249 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.089 | 264 | 612119 | 40.00 | ppm | -0.02 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 177629 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 663057 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.151 | 240 | 569249 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 645534 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 384470 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 645534 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 177629 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 569249 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.151 | 240 | 569249 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 645534 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 569249 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.512 | 105 | 8241 | 1.66 | ppm | 88 |
| 160) Atrazine | 7.183 | 200 | 6428 | 1.73 | ppm | 83 |
| 166) 1,2,4,5-Tetrachloroben... | 5.409 | 216 | 10652 | 1.74 | ppm | 92 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

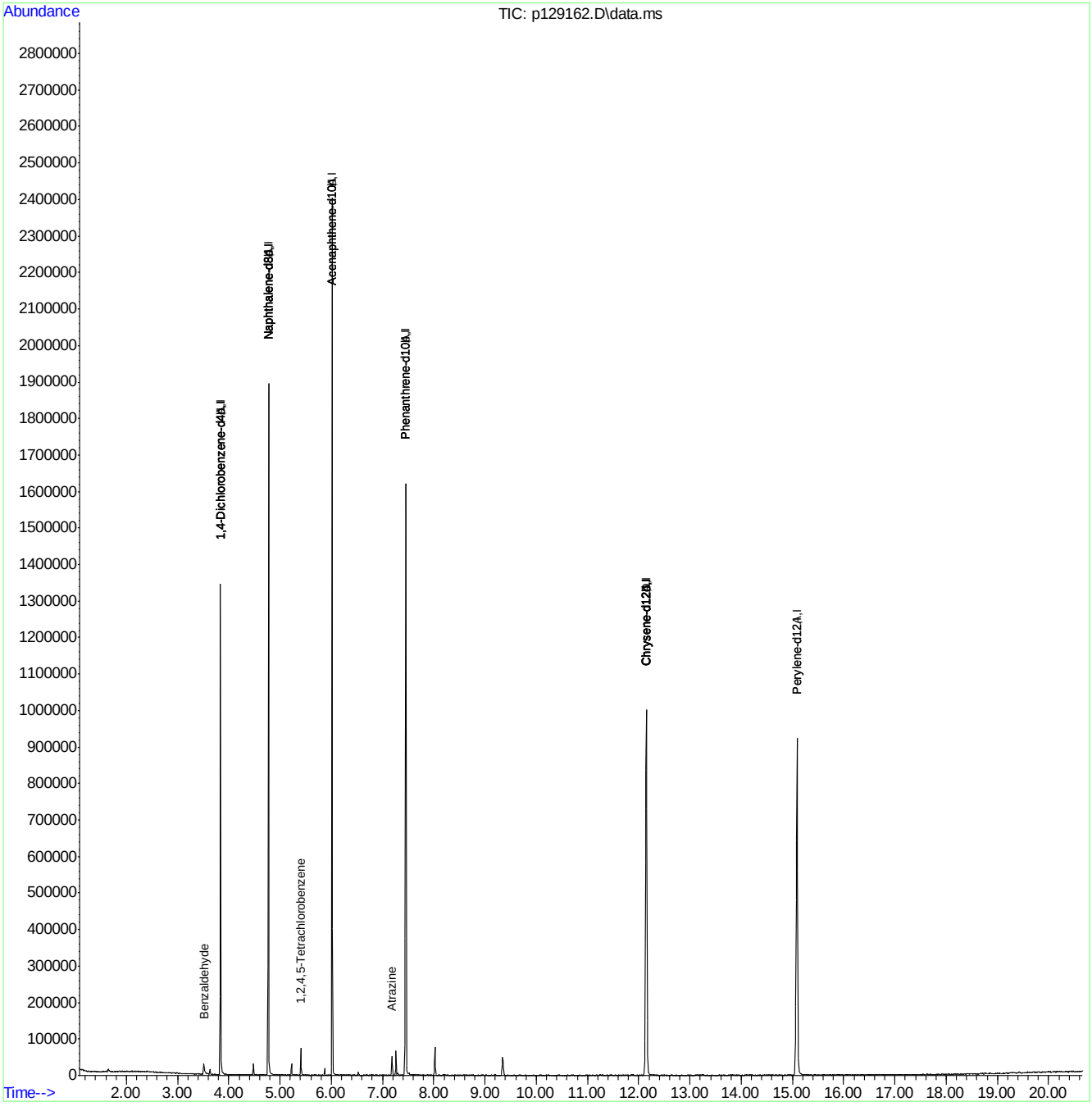
9.6.63

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129162.D
Acq On : 24 Apr 2019 11:12 am
Operator : chriss2
Sample : ic5845-2
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 24 13:22:26 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129163.D
Acq On : 24 Apr 2019 11:39 am
Operator : chriss2
Sample : ic5845-1
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 24 13:24:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 174523 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 641673 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 385568 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.450 | 188 | 655614 | 40.00 | ppm | -0.01 |
| 83) Chrysene-d12 | 12.146 | 240 | 549928 | 40.00 | ppm | -0.02 |
| 91) Perylene-d12 | 15.089 | 264 | 588132 | 40.00 | ppm | -0.02 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 174523 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 641673 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 385568 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.450 | 188 | 655614 | 40.00 | ppm | -0.01 |
| 146) Chrysene-d12A | 12.146 | 240 | 549928 | 40.00 | ppm | -0.02 |
| 153) Perylene-d12A | 15.089 | 264 | 588132 | 40.00 | ppm | -0.02 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 174523 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.450 | 188 | 655614 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.146 | 240 | 549928 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 641673 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 385568 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 641673 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 174523 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.146 | 240 | 549928 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.146 | 240 | 549928 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 641673 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.146 | 240 | 549928 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.518 | 105 | 3502 | 0.72 | ppm | 81 |
| 160) Atrazine | 7.183 | 200 | 3085 | 0.84 | ppm | 84 |
| 166) 1,2,4,5-Tetrachloroben... | 5.409 | 216 | 5002 | 0.82 | ppm | 91 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

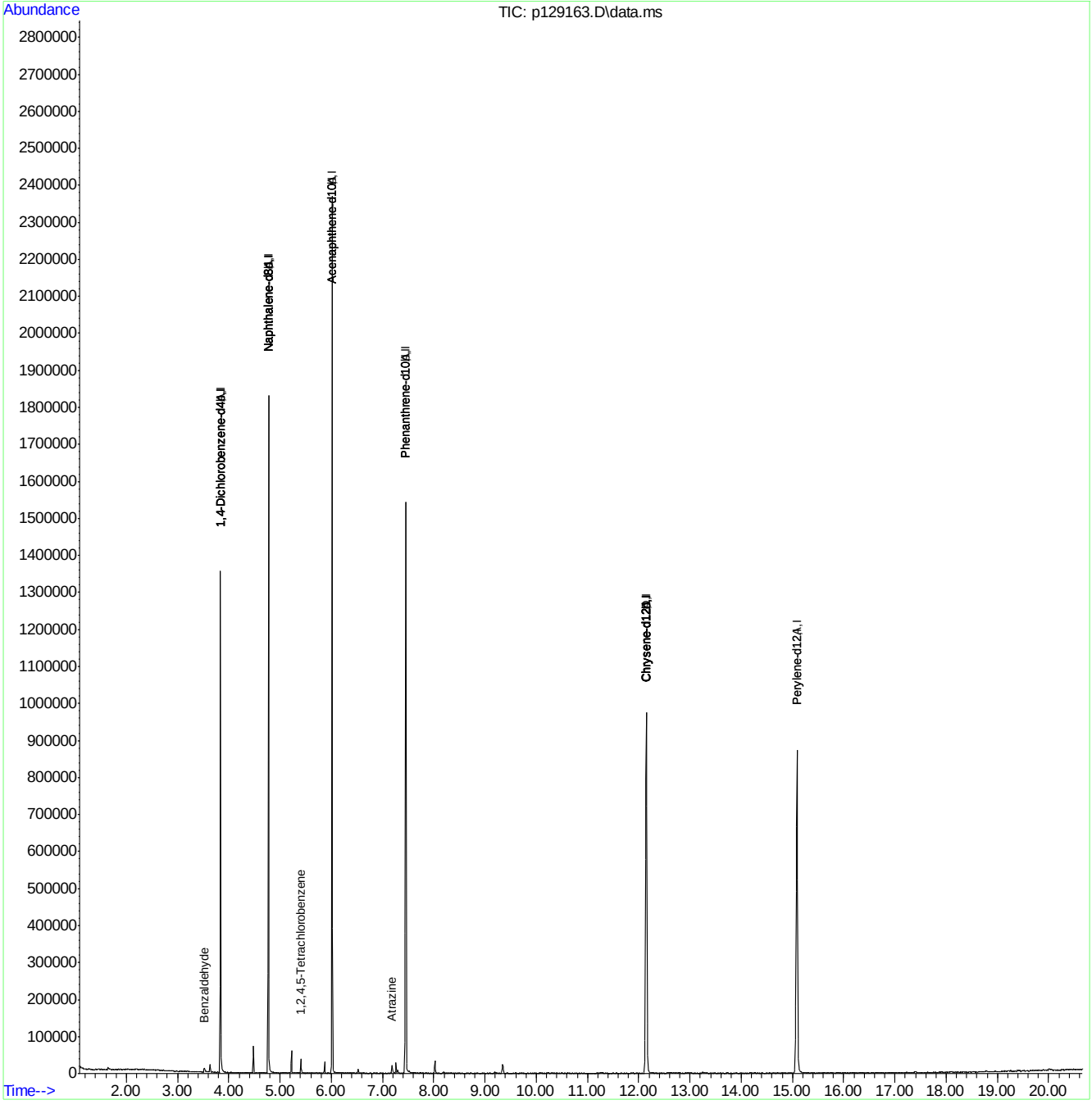
9.6.64

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129163.D
Acq On : 24 Apr 2019 11:39 am
Operator : chriss2
Sample : ic5845-1
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 24 13:24:34 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:07:00 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129164.D
Acq On : 24 Apr 2019 12:07 pm
Operator : chriss2
Sample : icv5845-50
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 24 13:40:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:36:52 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 148014 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 587196 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 347389 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.460 | 188 | 579149 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 571152 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.094 | 264 | 626300 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 148014 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 587196 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 347389 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.460 | 188 | 579149 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 571152 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.094 | 264 | 626300 | 40.00 | ppm | -0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 148014 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.460 | 188 | 579149 | 40.00 | ppm | 0.01 |
| 161) Chrysene-d12b | 12.151 | 240 | 571152 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 587196 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 347389 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 587196 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 148014 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 571152 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.151 | 240 | 571152 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 587196 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 571152 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 158) Benzaldehyde | 3.496 | 105 | 219733 | 56.86 | ppm | 95 |
| 160) Atrazine | 7.199 | 200 | 172212 | 55.30 | ppm | 96 |
| 166) 1,2,4,5-Tetrachloroben... | 5.409 | 216 | 266906 | 52.24 | ppm | 99 |

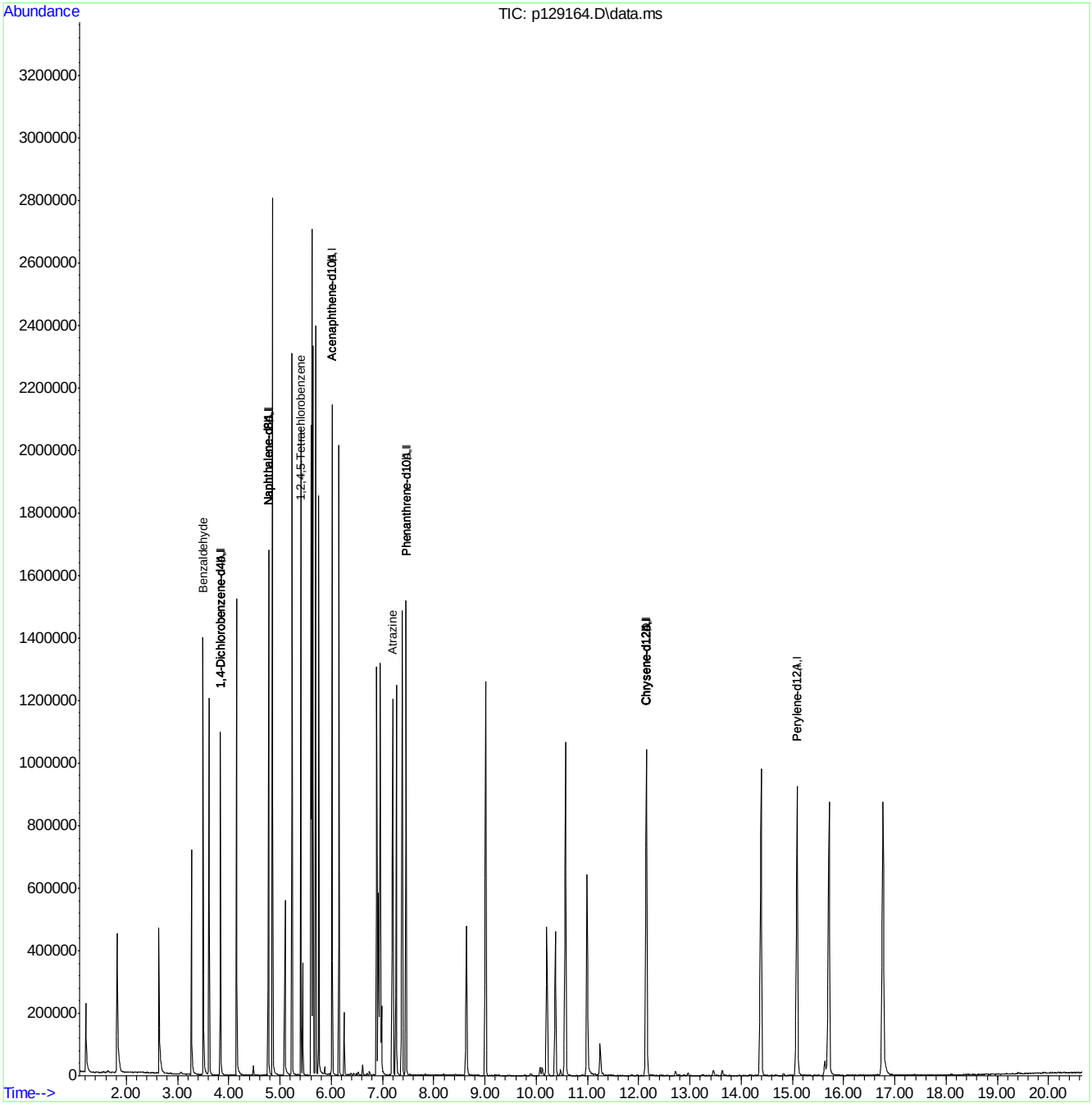
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.65

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129164.D
Acq On : 24 Apr 2019 12:07 pm
Operator : chriss2
Sample : icv5845-50
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 24 13:40:56 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:36:52 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129165.D
Acq On : 24 Apr 2019 12:34 pm
Operator : chriss2
Sample : icv5845-50
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 24 13:38:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:36:52 2019
Response via : Initial Calibration

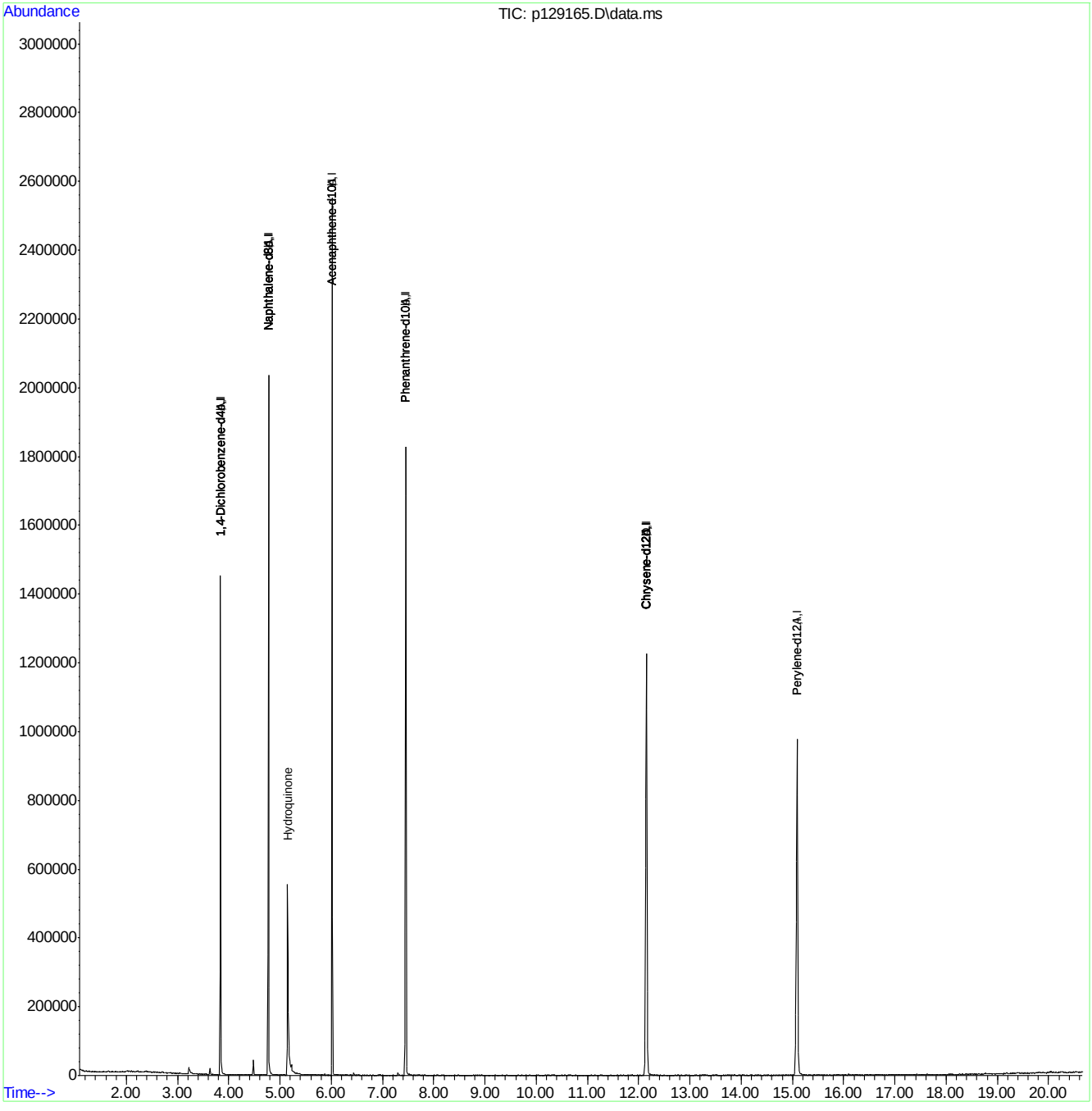
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.838 | 152 | 190781 | 40.00 | ppm | 0.00 |
| 24) Naphthalene-d8 | 4.773 | 136 | 716565 | 40.00 | ppm | 0.00 |
| 47) Acenaphthene-d10 | 6.018 | 164 | 393484 | 40.00 | ppm | 0.00 |
| 69) Phenanthrene-d10 | 7.455 | 188 | 750925 | 40.00 | ppm | 0.00 |
| 83) Chrysene-d12 | 12.151 | 240 | 709061 | 40.00 | ppm | -0.01 |
| 91) Perylene-d12 | 15.095 | 264 | 686144 | 40.00 | ppm | -0.01 |
| 101) 1,4-Dichlorobenzene-d4A | 3.838 | 152 | 190781 | 40.00 | ppm | 0.00 |
| 111) Naphthalene-d8A | 4.773 | 136 | 716565 | 40.00 | ppm | 0.00 |
| 120) Acenaphthene-d10A | 6.018 | 164 | 393484 | 40.00 | ppm | 0.00 |
| 131) Phenanthrene-d10A | 7.455 | 188 | 750925 | 40.00 | ppm | 0.00 |
| 146) Chrysene-d12A | 12.151 | 240 | 709061 | 40.00 | ppm | -0.01 |
| 153) Perylene-d12A | 15.095 | 264 | 686144 | 40.00 | ppm | -0.01 |
| 157) 1,4-Dichlorobenzene-d4b | 3.838 | 152 | 190781 | 40.00 | ppm | 0.00 |
| 159) Phenanthrene-d10b | 7.455 | 188 | 750925 | 40.00 | ppm | 0.00 |
| 161) Chrysene-d12b | 12.151 | 240 | 709061 | 40.00 | ppm | 0.00 |
| 163) Naphthalene-d8b | 4.773 | 136 | 716565 | 40.00 | ppm | 0.00 |
| 165) Acenaphthene-d10b | 6.018 | 164 | 393484 | 40.00 | ppm | 0.00 |
| 167) Naphthalene-d8c | 4.773 | 136 | 716565 | 40.00 | ppm | 0.00 |
| 172) 1,4-Dichlorobenzene-d4c | 3.838 | 152 | 190781 | 40.00 | ppm | 0.00 |
| 174) Chrysene-d12c | 12.151 | 240 | 709061 | 40.00 | ppm | 0.00 |
| 176) Chrysene-d12d | 12.151 | 240 | 709061 | 40.00 | ppm | 0.00 |
| 178) Naphthalene-d8d | 4.773 | 136 | 716565 | 40.00 | ppm | 0.00 |
| 180) Chrysene-d12D | 12.151 | 240 | 709061 | 40.00 | ppm | -0.05 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| Target Compounds | | | | | | Qvalue |
| 164) Hydroquinone | 5.147 | 110 | 287569 | 60.16 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5844\
Data File : p129165.D
Acq On : 24 Apr 2019 12:34 pm
Operator : chriss2
Sample : icv5845-50
Misc : op13894,ep5845,1000,,,1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 24 13:38:41 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Wed Apr 24 13:36:52 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129366.D
Acq On : 7 May 2019 12:44 pm
Operator : christc2
Sample : cc5844-25
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 07 14:47:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 12:50:52 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.758 | 152 | 177681 | 40.00 | ppm | -0.08 |
| 24) Naphthalene-d8 | 4.698 | 136 | 616625 | 40.00 | ppm | -0.08 |
| 47) Acenaphthene-d10 | 5.938 | 164 | 374206 | 40.00 | ppm | -0.09 |
| 69) Phenanthrene-d10 | 7.332 | 188 | 627554 | 40.00 | ppm | -0.13 |
| 83) Chrysene-d12 | 11.969 | 240 | 558176 | 40.00 | ppm | -0.20 |
| 91) Perylene-d12 | 14.897 | 264 | 580998 | 40.00 | ppm | -0.21 |
| 101) 1,4-Dichlorobenzene-d4b | 3.758 | 152 | 177681 | 40.00 | ppm | -0.08 |
| 103) Phenanthrene-d10b | 7.332 | 188 | 627554 | 40.00 | ppm | -0.12 |
| 105) Chrysene-d12b | 11.969 | 240 | 558176 | 40.00 | ppm | -0.18 |
| 107) Naphthalene-d8b | 4.698 | 136 | 616625 | 40.00 | ppm | -0.07 |
| 109) Acenaphthene-d10b | 5.938 | 164 | 374206 | 40.00 | ppm | -0.08 |
| 111) Chrysene-d12d | 11.969 | 240 | 558176 | 40.00 | ppm | -0.20 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 2.802 | 112 | 174622 | 30.59 | ppm | -0.05 |
| Spiked Amount 50.000 | | | Recovery | = | 61.18% | |
| 8) Phenol-d5 | 3.625 | 99 | 226480 | 31.24 | ppm | -0.03 |
| Spiked Amount 50.000 | | | Recovery | = | 62.48% | |
| 25) Nitrobenzene-d5 | 4.186 | 82 | 181529 | 27.40 | ppm | -0.08 |
| Spiked Amount 50.000 | | | Recovery | = | 54.80% | |
| 51) 2-Fluorobiphenyl | 5.478 | 172 | 319247 | 26.92 | ppm | -0.07 |
| Spiked Amount 50.000 | | | Recovery | = | 53.84% | |
| 73) 2,4,6-Tribromophenol | 6.600 | 330 | 51383 | 24.61 | ppm | -0.11 |
| Spiked Amount 50.000 | | | Recovery | = | 49.22% | |
| 85) Terphenyl-d14 | 9.944 | 244 | 327046 | 25.86 | ppm | -0.18 |
| Spiked Amount 50.000 | | | Recovery | = | 51.72% | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 1.146 | 88 | 93078 | 32.31 | ppm | 99 |
| 3) Pyridine | 1.365 | 79 | 219127 | 40.13 | ppm | 98 |
| 4) N-Nitrosodimethylamine | 1.349 | 42 | 93771 | 32.28 | ppm | 99 |
| 6) Indene | 3.950 | 116 | 247821 | 26.64 | ppm | 98 |
| 7) Cumene | 3.122 | 105 | 438323 | 28.86 | ppm | 98 |
| 9) Phenol | 3.635 | 94 | 218013 | 27.60 | ppm | 82 |
| 10) Aniline | 3.534 | 93 | 205448 | 55.41 | ppm | 95 |
| 11) bis(2-Chloroethyl)ether | 3.587 | 93 | 169553 | 27.09 | ppm | 94 |
| 12) 2-Chlorophenol | 3.646 | 128 | 161441 | 27.11 | ppm | 95 |
| 13) Decane | 3.673 | 43 | 126243 | 28.77 | ppm | 96 |
| 14) 1,3-Dichlorobenzene | 3.715 | 146 | 178551 | 25.50 | ppm | 100 |
| 15) 1,4-Dichlorobenzene | 3.774 | 146 | 174408 | 25.71 | ppm | 97 |
| 16) Benzyl alcohol | 3.913 | 108 | 93524 | 29.27 | ppm | 91 |
| 17) 1,2-Dichlorobenzene | 3.886 | 146 | 180700 | 26.66 | ppm | 99 |
| 18) Acetophenone | 4.079 | 105 | 222665 | 25.57 | ppm | 89 |
| 19) 2-Methylphenol | 4.052 | 108 | 146714 | 26.55 | ppm | 98 |
| 20) 2,2'-oxybis(1-Chloropr... | 3.999 | 121 | 37098 | 25.48 | ppm # | 67 |
| 21) 3&4-Methylphenol | 4.175 | 108 | 152359 | 28.17 | ppm | 99 |
| 22) n-Nitroso-di-n-propyla... | 4.095 | 70 | 105555 | 25.52 | ppm | 96 |
| 23) Hexachloroethane | 4.132 | 201 | 69414 | 25.01 | ppm | 88 |
| 26) Nitrobenzene | 4.202 | 77 | 191402 | 28.55 | ppm | 96 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129366.D
Acq On : 7 May 2019 12:44 pm
Operator : christc2
Sample : cc5844-25
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 07 14:47:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 12:50:52 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 27) Quinoline | 4.960 | 129 | 283241 | 25.34 ppm | 98 |
| 28) Isophorone | 4.383 | 82 | 320607 | 27.86 ppm | 95 |
| 29) 2-Nitrophenol | 4.437 | 139 | 87313 | 28.77 ppm | 89 |
| 30) 2,4-Dimethylphenol | 4.533 | 107 | 157799 | 29.29 ppm | 99 |
| 31) Benzoic acid | 4.682 | 105 | 126634 | 28.63 ppm | 92 |
| 32) bis(2-Chloroethoxy)met... | 4.554 | 93 | 184330 | 27.65 ppm | 99 |
| 33) 2,4-Dichlorophenol | 4.656 | 162 | 139911 | 27.59 ppm | 93 |
| 34) 2,6-Dichlorophenol | 4.789 | 162 | 134362 | 27.13 ppm | 97 |
| 35) 1,3,5-Trichlorobenzene | 4.437 | 180 | 161678 | 27.09 ppm | 99 |
| 36) 1,2,4-Trichlorobenzene | 4.666 | 180 | 151189 | 26.52 ppm | 98 |
| 37) 1,2,3-Trichlorobenzene | 4.821 | 180 | 143126 | 26.58 ppm | 97 |
| 38) Naphthalene | 4.714 | 128 | 401530 | 27.27 ppm | 99 |
| 39) 4-Chloroaniline | 4.784 | 127 | 167212 | 29.16 ppm | 95 |
| 40) 2,3-Dichloroaniline | 5.425 | 161 | 163409 | 25.58 ppm | 98 |
| 41) Caprolactam | 5.046 | 55 | 67330 | 30.25 ppm | 96 |
| 42) Hexachlorobutadiene | 4.816 | 225 | 90852 | 25.77 ppm | 98 |
| 43) 4-Chloro-3-methylphenol | 5.190 | 107 | 148902 | 27.91 ppm | 86 |
| 44) 2-Methylnaphthalene | 5.206 | 141 | 233677 | 27.68 ppm | 96 |
| 45) 1-Methylnaphthalene | 5.275 | 142 | 281940 | 25.79 ppm | 97 |
| 46) Dimethylnaphthalene | 5.649 | 156 | 239464 | 24.50 ppm | 99 |
| 48) Hexachlorocyclopentadiene | 5.329 | 237 | 164482 | 57.51 ppm | 99 |
| 49) 2,4,6-Trichlorophenol | 5.441 | 196 | 99088 | 26.71 ppm | 99 |
| 50) 2,4,5-Trichlorophenol | 5.494 | 196 | 100489 | 27.35 ppm | 99 |
| 52) 2-Chloronaphthalene | 5.548 | 162 | 278365 | 27.44 ppm | 97 |
| 53) Biphenyl | 5.542 | 154 | 345560 | 27.40 ppm | 98 |
| 54) 2-Nitroaniline | 5.649 | 65 | 94058 | 28.13 ppm | 86 |
| 55) Dimethylphthalate | 5.777 | 163 | 327489 | 25.04 ppm | 99 |
| 56) Acenaphthylene | 5.836 | 152 | 431534 | 26.95 ppm | 99 |
| 57) 2,6-Dinitrotoluene | 5.815 | 165 | 71282 | 26.02 ppm | 79 |
| 58) 3-Nitroaniline | 5.943 | 138 | 72717 | 25.35 ppm | 88 |
| 59) Acenaphthene | 5.959 | 153 | 260081 | 26.43 ppm | 98 |
| 60) 2,4-Dinitrophenol | 6.018 | 184 | 70186 | 42.29 ppm | 83 |
| 61) 4-Nitrophenol | 6.173 | 109 | 55990 | 27.26 ppm | 88 |
| 62) Dibenzofuran | 6.093 | 168 | 391994 | 26.27 ppm | 95 |
| 63) 2,4-Dinitrotoluene | 6.109 | 165 | 92482 | 25.37 ppm | 65 |
| 64) 2,3,4,6-Tetrachlorophenol | 6.221 | 232 | 84981 | 26.39 ppm | 91 |
| 65) Diethylphthalate | 6.312 | 149 | 340786 | 25.60 ppm | 97 |
| 66) Fluorene | 6.370 | 166 | 312691 | 26.14 ppm | 99 |
| 67) 4-Chlorophenyl-phenyle... | 6.381 | 204 | 149334 | 25.25 ppm | 87 |
| 68) 4-Nitroaniline | 6.440 | 138 | 70641 | 25.77 ppm | 91 |
| 70) 4,6-Dinitro-2-methylph... | 6.456 | 198 | 55566 | 23.63 ppm | 83 |
| 71) n-Nitrosodiphenylamine | 6.499 | 169 | 209437 | 25.75 ppm | 98 |
| 72) 1,2-Diphenylhydrazine | 6.525 | 77 | 399744 | 31.44 ppm | 89 |
| 74) 4-Bromophenyl-phenylether | 6.846 | 248 | 94927 | 24.88 ppm | 87 |
| 75) Hexachlorobenzene | 6.905 | 284 | 108288 | 24.89 ppm | 97 |
| 76) Pentachlorophenol | 7.161 | 266 | 130314 | 47.12 ppm | 98 |
| 77) Phenanthrene | 7.359 | 178 | 424858 | 25.98 ppm | 99 |
| 78) Anthracene | 7.423 | 178 | 447368 | 26.19 ppm | 99 |
| 79) Carbazole | 7.679 | 167 | 424062 | 25.70 ppm | 99 |
| 80) Di-n-butylphthalate | 8.278 | 149 | 624352 | 26.67 ppm | 99 |

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129366.D
Acq On : 7 May 2019 12:44 pm
Operator : christc2
Sample : cc5844-25
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 07 14:47:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 12:50:52 2019
Response via : Initial Calibration

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 81) | Fluoranthene | 9.127 | 202 | 517865 | 25.67 | ppm | 95 |
| 82) | Octadecane | 7.316 | 57 | 186834 | 29.19 | ppm | 95 |
| 84) | Pyrene | 9.506 | 202 | 538398 | 27.86 | ppm | 95 |
| 86) | Butylbenzylphthalate | 11.077 | 149 | 281264 | 28.29 | ppm | 95 |
| 87) | Benzo[a]anthracene | 11.948 | 228 | 478575 | 26.01 | ppm | 99 |
| 88) | 3,3'-Dichlorobenzidine | 12.049 | 252 | 155650 | 25.72 | ppm | 96 |
| 89) | Chrysene | 12.017 | 228 | 421988 | 26.04 | ppm | 99 |
| 90) | bis(2-Ethylhexyl)phtha... | 12.471 | 149 | 377833 | 28.42 | ppm | 98 |
| 92) | Di-n-octylphthalate | 13.876 | 149 | 664445 | 29.58 | ppm | 97 |
| 93) | Benzo[b]fluoranthene | 14.176 | 252 | 459185 | 25.93 | ppm | 99 |
| 94) | Benzo[k]fluoranthene | 14.234 | 252 | 409024 | 27.45 | ppm | 98 |
| 95) | Benzo[a]pyrene | 14.774 | 252 | 405768 | 27.09 | ppm | 97 |
| 96) | Indeno[1,2,3-cd]pyrene | 16.804 | 276 | 384543 | 28.09 | ppm | 91 |
| 97) | Dibenz(a,h)acridine | 16.467 | 279 | 363525 | 27.55 | ppm | 98 |
| 98) | Dibenz[a,h]anthracene | 16.873 | 278 | 383471 | 27.48 | ppm | 95 |
| 99) | 7,12-Dimethylbenz(a)an... | 14.197 | 256 | 193055 | 24.87 | ppm | 96 |
| 100) | Benzo[g,h,i]perylene | 17.210 | 276 | 387606 | 28.09 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

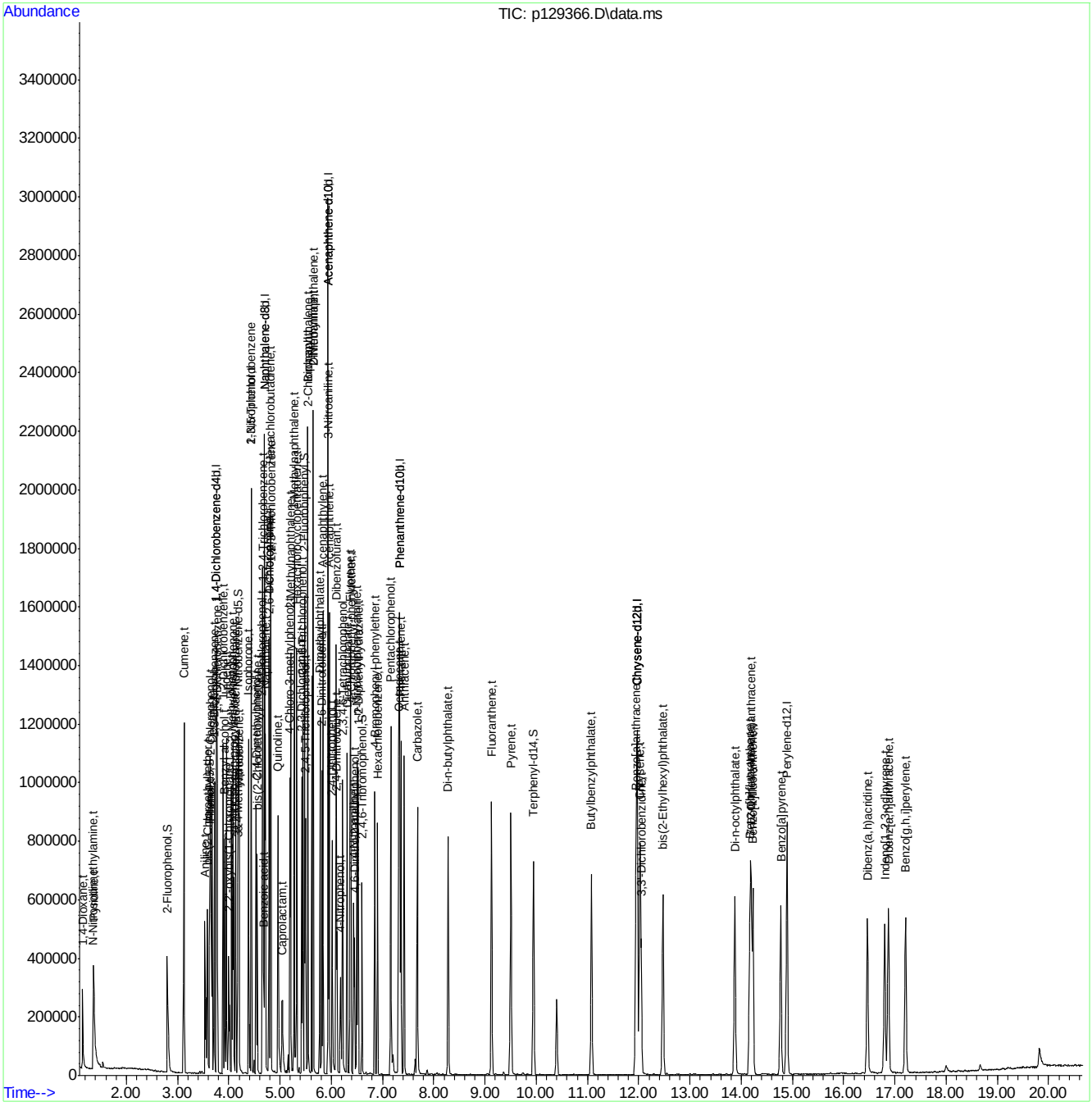
9.6.67

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129366.D
Acq On : 7 May 2019 12:44 pm
Operator : christc2
Sample : cc5844-25
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 07 14:47:03 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 12:50:52 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129367.D
Acq On : 7 May 2019 1:11 pm
Operator : christc2
Sample : cc5845-25
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 07 14:48:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 12:50:52 2019
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 3.758 | 152 | 181695 | 40.00 | ppm | -0.08 |
| 24) Naphthalene-d8 | 4.693 | 136 | 661962 | 40.00 | ppm | -0.09 |
| 47) Acenaphthene-d10 | 5.938 | 164 | 370170 | 40.00 | ppm | -0.09 |
| 69) Phenanthrene-d10 | 7.327 | 188 | 597593 | 40.00 | ppm | -0.14 |
| 83) Chrysene-d12 | 11.958 | 240 | 519229 | 40.00 | ppm | -0.21 |
| 91) Perylene-d12 | 14.891 | 264 | 557733 | 40.00 | ppm | -0.22 |
| 101) 1,4-Dichlorobenzene-d4b | 3.758 | 152 | 181695 | 40.00 | ppm | -0.08 |
| 103) Phenanthrene-d10b | 7.327 | 188 | 597593 | 40.00 | ppm | -0.12 |
| 105) Chrysene-d12b | 11.958 | 240 | 519229 | 40.00 | ppm | -0.19 |
| 107) Naphthalene-d8b | 4.693 | 136 | 661962 | 40.00 | ppm | -0.08 |
| 109) Acenaphthene-d10b | 5.938 | 164 | 370170 | 40.00 | ppm | -0.08 |
| 111) Chrysene-d12d | 11.958 | 240 | 519229 | 40.00 | ppm | -0.21 |
| System Monitoring Compounds | | | | | | |
| 5) 2-Fluorophenol | 0.000 | 112 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 8) Phenol-d5 | 0.000 | 99 | 0d | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 25) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 51) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 73) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| 85) Terphenyl-d14 | 0.000 | 244 | 0 | 0.00 | ppm | |
| Spiked Amount 50.000 | | | Recovery | = | 0.00% | |
| Target Compounds | | | | | | Qvalue |
| 102) Benzaldehyde | 3.422 | 105 | 135979 | 28.67 | ppm | 92 |
| 104) Atrazine | 7.086 | 200 | 90705 | 28.23 | ppm | 97 |
| 108) Hydroquinone | 5.120 | 110 | 148413 | 33.61 | ppm | 97 |
| 110) 1,2,4,5-Tetrachloroben... | 5.329 | 216 | 148733 | 27.32 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

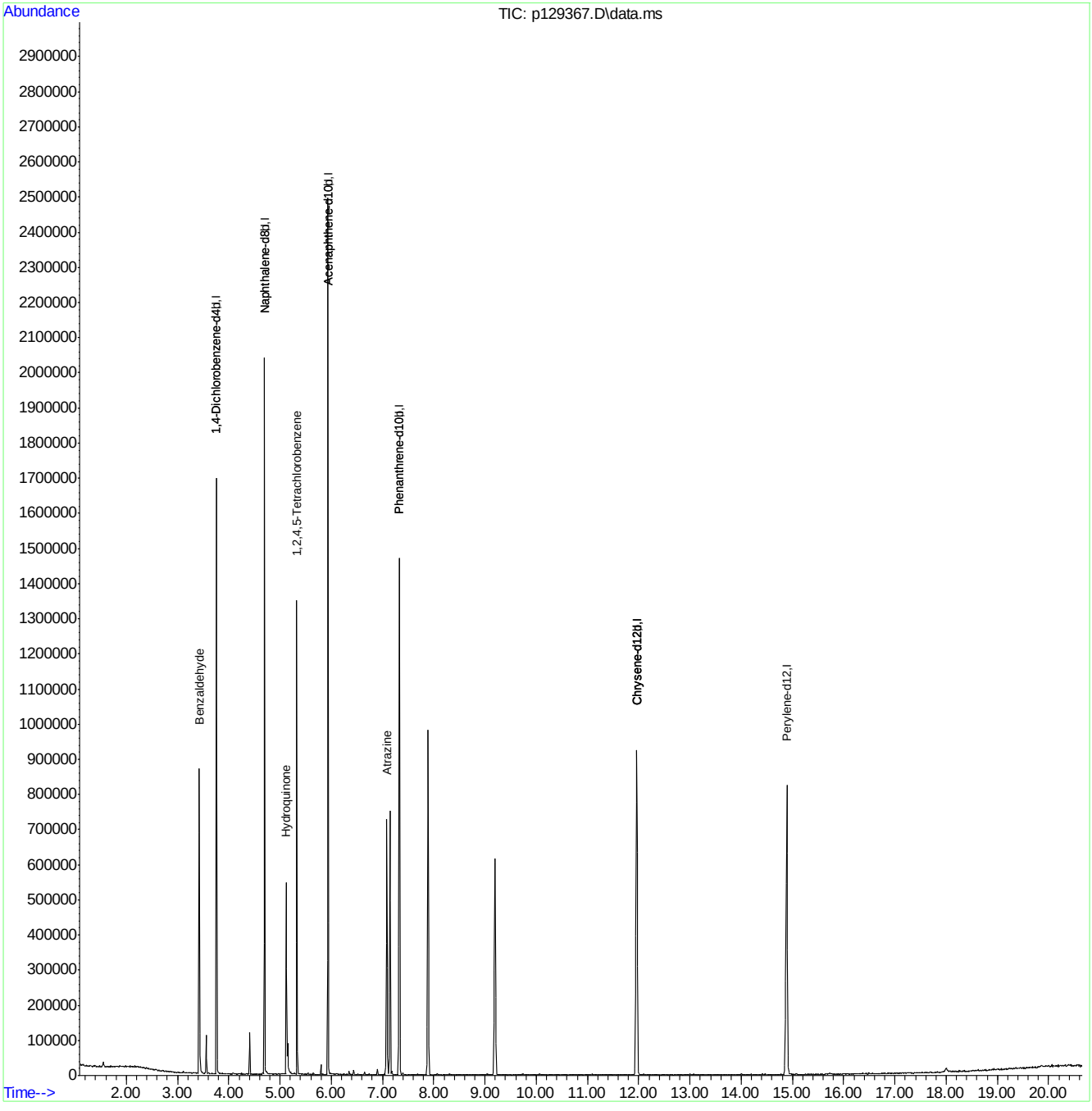
9.6.68

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5856\
Data File : p129367.D
Acq On : 7 May 2019 1:11 pm
Operator : christc2
Sample : cc5845-25
Misc : op13894,ep5856,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 07 14:48:21 2019
Quant Method : C:\MSDCHEM\1\METHODS\MP5844.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Fri Apr 26 12:50:52 2019
Response via : Initial Calibration



# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | istd | A0144955 | 4000 ppm |
| | | | dcm/fisher | 190729 | --- |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2562 | Analysis Date | 4/16/2019 | Data Processed By: | ying li | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 8/2019 10:27:05 | | | | |

- [x] SW846 8270 D
- [x] EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481124 | DFTPP | | | | 1 | | | | | not using | pcp tailing high, reinstall |
| 6P | 481125 | DFTPP | | | | 1 | | | | | not using | pcp tailing high, cut column and replace inlet seal and washer |
| 6P | 481126 | DFTPP | | | | 1 | | | | | ok | 9:34am |
| 6P | 481127 | IC2562-100 | | BNA | | 2 | | | | | ok | sv182535-96A |
| 6P | 481128 | IC2562-80 | | | | 3 | | | | | ok | sv182535-96B |
| 6P | 481129 | ICC2562-50 | | | | 4 | | | | | ok | sv182535-96C |
| 6P | 481130 | IC2562-25 | | | | 5 | | | | | ok | sv182535-96D |
| 6P | 481131 | IC2562-10 | | | | 6 | | | | | ok | sv182535-96E |
| 6P | 481132 | IC2562-5 | | | | 7 | | | | | ok | sv182535-96G |
| 6P | 481133 | IC2562-2 | | | | 8 | | | | | ok | sv182535-96H |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481134 | IC2562-1 | | | | 9 | | | | | ok | sv182535-96I |
| 6P | 481135 | ICV2562-50 | | BN1 | | 10 | | | | | ok | op192336-51 |
| 6P | 481136 | ICV2562-50 | | BN2 | | 11 | | | | | ok | op192336-72 |
| 6P | 481137 | ICV2562-50 | | ABN SURR | | 12 | | | | | ok | op192336-76 |
| 6P | 481138 | ICV2562-50 | | ANILINE | | 13 | | | | | ok | op192336-85 |
| 6P | 481139 | ICV2562-50 | | ACID | | 14 | | | | | ok | op192336-47 |
| 6P | 481140 | ICV2562-50 | | BZD 3rd | | 15 | | | | | ok | sv182490-113 3:06pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | istd | A0144955 | 4000 ppm |
| | | | dcm/fisher | 190729 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2563 | Analysis Date | 4/16/2019 | Data Processed By: | ying li | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 8/2019 10:27:22 | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481141 | DFTPP | | | | 1 | | | | | ok | 3:25pm |
| 6P | 481142 | IC2563-100 | | TCL42 | | 16 | | | | | ok | sv192573-9A |
| 6P | 481143 | IC2563-80 | | | | 17 | | | | | ok | sv192573-9B |
| 6P | 481144 | ICC2563-50 | | | | 18 | | | | | ok | sv192573-9C |
| 6P | 481145 | IC2563-25 | | | | 19 | | | | | ok | sv192573-9D |
| 6P | 481146 | IC2563-10 | | | | 20 | | | | | ok | sv192573-9E |
| 6P | 481147 | IC2563-5 | | | | 21 | | | | | ok | sv192573-9G |
| 6P | 481148 | IC2563-2 | | | | 22 | | | | | ok | sv192573-9H |
| 6P | 481149 | IC2563-1 | | | | 23 | | | | | ok | sv192573-9I |
| 6P | 481150 | ICV2563-50 | | AP9 MIX #2 | | 24 | | | | | ok | sv192573-8 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481151 | ICV2563-50 | | HQ 2nd | | 25 | | | | | ok | sv182490-103B 7:16pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | istd | A0144955 | 4000 ppm |
| | | | dcm/fisher | 190729 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | chriss2 | Quant Method/s | M6P2562 |
| Batch ID | E6P2566 | Analysis Date | 4/17/2019 | Data Processed By: | ying li | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 3/2019 5:44:54 P | | | | |

- ☑ SW846 8270 D
- ☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481194 | DFTPP | | | | 1 | | | | | not using | pcp tailing high, up flow |
| 6P | 481195 | DFTPP | | | | 1 | | | | | not using | 68 high, reinject |
| 6P | 481196 | DFTPP | | | | 1 | | | | | not using | pcp tailing high, reinject |
| 6P | 481197 | DFTPP | | | | 1 | | | | | ok | 12:44am |
| 6P | 481198 | IC2566-100 | | Bzd | | 2 | | | | | ok | sv182535-70a |
| 6P | 481199 | IC2566-80 | | | | 3 | | | | | ok | sv182535-70b |
| 6P | 481200 | ICC2566-50 | | | | 4 | | | | | ok | sv182535-70c |
| 6P | 481201 | IC2566-25 | | | | 5 | | | | | ok | sv182535-70d |
| 6P | 481202 | IC2566-10 | | | | 6 | | | | | ok | sv182535-101 |
| 6P | 481203 | IC2566-5 | | | | 7 | | | | | ok | sv182535-70g |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481204 | IC2566-2 | | | | 8 | | | | | ok | sv182535-70h |
| 6P | 481205 | IC2566-1 | | | | 9 | | | | | ok | sv182535-70i |
| 6P | 481206 | ICV2566-50 | | Bzd 3rd | | 10 | | | | | ok | sv182490-113 4:26am |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | istd | CL13166 | 4000 ppm |
| bna | sv182535-121d | 50ppm | dcm/fisher | 191532 | -- |
| tcl42 | sv182535-120c | 50ppm | | | |
| bna ver | sv182535-10u | 2ppm | | | |
| bzd | sv182535-71c | 50ppm | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2579 | Analysis Date | 5/2/2019 | Data Processed By: | jeryllr | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 9/2019 5:06:21 P | | | | |

- [x] SW846 8270 D
- [ ] EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481547 | DFTPP | | | | 1 | | | | | OK | 8:56am |
| 6P | 481548 | CC2562-50 | | bna | | 2 | | | | | OK | LOW:48,60 HIGH:30,61,72,82,86,90,92 |
| 6P | 481549 | CC2563-50 | | tcl42 | | 3 | | | | | OK | HIGH:106 |
| 6P | 481550 | CC2566-50 | | bzd | | 4 | | | | | OK | |
| 6P | 481551 | BNA 2PPM VER | | | | 5 | | | | | OK | |
| | 481552 | OP20081-MB1 | OP20081 | AB8270STD,AB8270TCL | SO | 6 | | | Y | Y | OK | |
| | 481553 | OP20081-BS1 | OP20081 | AB8270STD,AB8270TCL | SO | 7 | | | Y | Y | OK | |
| 6P | 481554 | JC86986-5 | OP20081 | AB8270TCL | SO | 8 | | | Y | Y | OK | |
| 6P | 481555 | JC86986-6 | OP20081 | AB8270TCL | SO | 9 | | | Y | Y | OK | |
| 6P | 481556 | JC86994-2 | OP20081 | AB8270STD | SO | 10 | | | Y | Y | OK | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481557 | JC86994-4 | OP20081 | AB8270STD | SO | 11 | | | Y | Y | OK | |
| 6P | 481558 | JC86994-6 | OP20081 | AB8270STD | SO | 12 | | | Y | Y | OK | |
| 6P | 481559 | JC86986-13 | OP20081 | AB8270TCL | SO | 13 | | | Y | Y | OK | |
| 6P | 481560 | JC86994-5 | OP20081 | AB8270STD | SO | 14 | | | Y | Y | OK | |
| 6P | 481561 | JC86986-8 | OP20081 | AB8270TCL | SO | 15 | | | Y | Y | OK | |
| 6P | 481562 | JC86986-4 | OP20081 | AB8270TCL | SO | 16 | | | Y | Y | OK | |
| 6P | 481563A | JC86986-10 | OP20081 | AB8270TCL | SO | 17 | | | Y | Y | OK | software shutdown, rr as "A" file |
| 6P | 481564 | JC86986-12 | OP20081 | AB8270TCL | SO | 18 | | | Y | Y | OK | |
| 6P | 481565 | JC86986-7 | OP20081 | AB8270TCL | SO | 19 | | | Y | Y | OK | |
| 6P | 481566 | JC86986-2 | OP20081 | AB8270TCL | SO | 20 | | | Y | Y | OK | |
| | 481567 | OP20081-MS | OP20081 | AB8270STD,AB8270TCL | SO | 21 | | | Y | Y | OK | |
| | 481568 | OP20081-MSD | OP20081 | AB8270STD,AB8270TCL | SO | 22 | | | Y | Y | OK | |
| 6P | 481569 | JC86994-3 | OP20081 | AB8270STD | SO | 23 | | | Y | Y | OK | |
| 6P | 481570 | JC86994-1 | OP20081 | AB8270STD | SO | 24 | | | Y | Y | OK | |
| 6P | 481571 | JC86769-2 | OP20081 | B8270PAH | SO | 25 | | | Y | Y | OK | |
| 6P | 481572 | JC86769-1 | OP20081 | B8270PAH | SO | 26 | | | Y | Y | OK | |
| 6P | 481573 | JC86952-3 | OP20044 | B8270PAH | SO | 27 | 5 | | Y | Y | OK | diluted due to viscosity; CORR NEEDS DILUTION |
| 6P | 481574 | JC86986-11 | OP20081 | AB8270TCL | SO | 28 | 2 | | Y | Y | OK | diluted due to viscosity; CORR NEEDS DILUTION |
| 6P | 481575 | JC86986-3 | OP20081 | AB8270TCL | SO | 29 | 2 | | Y | Y | OK | diluted due to viscosity; CORR NEEDS DILUTION |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481576 | JC86986-9 | OP20081 | AB8270TCL | SO | 30 | 5 | | Y | Y | OK | diluted due to viscosity; CORR NEEDS DILUTION; 08:48PM |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | istd | CL13166 | 4000 ppm |
| bna | sv182535-121h | 25ppm | dcm/fisher | 191532 | -- |
| tcl42 | sv182535-120h | 25ppm | | | |
| bna ver | sv182535-10u | 2ppm | | | |
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|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2581 | Analysis Date | 5/3/2019 | Data Processed By: | michellc | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 0/2019 11:25:55 | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481611 | DFTPP | | | | 1 | | | | | ok | 1:27pm |
| 6P | 481612 | CC2562-25 | | bna | | 2 | | | | | ok | 48,60 low 86,90,92 high |
| 6P | 481613 | CC2563-25 | | tcl42 | | 3 | | | | | ok | |
| 6P | 481614 | BNA 2PPM VER | | | | 4 | | | | | ok | |
| | 481615 | JC86720-17 | OP19926 | AB8270SL3,BMS+MNAP | AQ | 5 | | X | y | y | ok | |
| 6P | 481616 | JC86986-11 | OP20081 | AB8270TCL | SO | 6 | 200 | | | | ok | |
| 6P | 481617 | JC86986-3 | OP20081 | AB8270TCL | SO | 7 | 200 | | | | ok | |
| 6P | 481618 | JC86986-9 | OP20081 | AB8270TCL | SO | 8 | 500 | | Y | Y | OK | |
| 6P | 481619 | JC86952-3 | OP20044 | B8270PAH | SO | 9 | 25 | | Y | Y | OK | |
| 6P | 481620 | JC86986-11 | OP20081 | AB8270TCL | SO | 10 | 20 | | Y | Y | OK | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481621 | JC86986-3 | OP20081 | AB8270TCL | SO | 11 | 20 | | Y | Y | OK | |
| 6P | 481622 | JC86986-9 | OP20081 | AB8270TCL | SO | 12 | 50 | | Y | Y | OK | |
| 6P | 481623 | ECC2562-25 | | | | 2 | | | Y | Y | OK | |
| 6P | 481624 | ECC2563-25 | | | | 3 | | | | | OK | 632 pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMS6P

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| dftpp | sv182535-77 | 50ppm | istd | CL13166 | 4000 ppm |
| bna | sv182535-121c | 50ppm | dcm/fisher | 191108 | -- |
| tcl42 | sv182535-120c | 50ppm | | | |
| | | | | | |
| bna ver | sv182535-46e | 10ppm | | | |

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|---|---|---|---|---|---|---|---|
| Column | i5silms30mx.25mmx.25u | Initial Calib Date | 4/16/19 | Sequence Loaded By: | angelar | Quant Method/s | M6P2562 |
| Batch ID | E6P2588 | Analysis Date | 5/10/2019 | Data Processed By: | | Injection Volume | 1.0ul |
| Approved By: | | Approved Date | | | | | |

☐ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481782 | DFTPP | | | | 1 | | | | | ok | 8:59am |
| 6P | 481783 | CC2562-50 | | bna | | 2 | | | | | ok | |
| 6P | 481784 | CC2563-50 | | tcl42 | | 3 | | | | | ok | |
| 6P | 481785 | BNA 10PPM VER | | | | 4 | | | | | ok | |
| 6P | 481786 | OP20233-MB | OP20233 | AB8270TCLP | SO | 5 | | | y | y | ok | |
| 6P | 481787 | OP20233-LB21 | OP20233 | AB8270TCLP | SO | 6 | | | y | y | ok | |
| 6P | 481788 | OP20233-BS | OP20233 | AB8270TCLP | SO | 7 | | | y | y | ok | |
| 6P | 481789 | OP20110-MB | OP20110 | AB8270TCL20 | SO | 8 | | | y | y | ok | |
| 6P | 481790 | JC87093-1 | OP20110 | AB8270TCL20 | SO | 9 | 500 | | y | X | OK/RR | RR 50X |
| 6P | 481791 | JC87093-6 | OP20110 | AB8270TCL20 | SO | 10 | 100 | | y | x | ok | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6P | 481792 | JC87093-1 | OP20110 | AB8270TCL20 | SO | 11 | 50 | | y | y | ok | |
| 6P | 481793 | JC87498-2 | OP20241 | AB8270SCO | SO | 12 | | | x | x | ok | |
| 6P | 481794 | JC87093-6 | OP20110 | AB8270TCL20 | SO | 13 | 10 | | | | | |
| 6P | 481795 | JC87488-3 | OP20241 | B8270PAH | SO | 14 | 5 | | | | | |
| 6P | 481796 | JC87488-1 | OP20241 | B8270PAH | SO | 15 | 10 | | | | | |
| 6P | 481797 | JC87437-3R | OP20170A | B8270EPHNAP+2MNAP | SO | 16 | 10 | X | | | | |
| 6P | 481798 | OP20233-LS13 | OP20233 | AB8270TCLP | SO | 17 | | | | | | |
| 6P | 481799 | OP20233-MSD | OP20233 | AB8270TCLP | SO | 18 | | | | | | |
| 6P | 481800 | JC87154-1 | OP20135 | AB8270TCLP | SO | 19 | | | | | | |
| 6P | 481801 | JC87154-3 | OP20135 | AB8270TCLP | SO | 20 | | | | | | |
| 6P | 481802 | JC87422-5A | OP20233 | AB8270TCLP | SO | 21 | | X | | | | |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMSP

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | int std | A0144955 | 4000ppm |
| | | | dcm-fisher | 191108 | --- |
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|---|---|---|---|---|---|---|---|
| Column | 5silms30mx0.25mmx0.25 | Initial Calib Date | 4-23-19 | Sequence Loaded By: | chriss2 | Quant Method/s | MP5844 |
| Batch ID | EP5844 | Analysis Date | 4/23/2019 | Data Processed By: | ying li | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 1/2019 10:45:46 A | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 129140 | DFTPP | | | | 1 | | | | | ok | 10:58pm |
| P | 129141a | IC5844-100 | | BNA | | 2 | | | | | ok | sv182535-96a, solvent delay too long, adjust/rerun as "A" file |
| P | 129142a | IC5844-80 | | | | 3 | | | | | ok | sv182535-96b, solvent delay too long, adjust/rerun as "A" file |
| P | 129143a | ICC5844-50 | | | | 4 | | | | | ok | sv182535-96c, solvent delay too long, adjust/rerun as "A" file |
| P | 129144a | IC5844-25 | | | | 5 | | | | | ok | sv182535-96d, solvent delay too long, adjust/rerun as "A" file |
| P | 129145a | IC5844-10 | | | | 6 | | | | | ok | sv182535-96e, solvent delay too long, adjust/rerun as "A" file |
| P | 129146a | IC5844-5 | | | | 7 | | | | | ok | sv182535-96g, solvent delay too long, adjust/rerun as "A" file |
| P | 129147 | IC5844-2 | | | | 8 | | | | | ok | sv182535-96h |
| P | 129148 | IC5844-1 | | | | 9 | | | | | ok | sv182535-96i |
| P | 129149 | ICV5844-50 | | BN1 | | 10 | | | | | ok | op192336-51 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | A L S | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 129150 | ICV5844-50 | | BN2 | | 11 | | | | | ok | op192336-72 |
| P | 129151 | ICV5844-50 | | Aniline | | 12 | | | | | ok | op192336-85 |
| P | 129152 | ICV5844-50 | | Acid | | 13 | | | | | ok | op192336-47 |
| P | 129153 | ICV5844-50 | | ABN Surrogate | | 14 | | | | | ok | op192336-76 |
| P | 129154 | ICV5844-50 | | Bzd 3rd | | 15 | | | | | ok | sv182490-113 7:54am |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMSP

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | int std | A0144955 | 4000ppm |
| | | | dcm-fisher | 191108 | --- |
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|---|---|---|---|---|---|---|---|
| Column | 5silms30mx0.25mmx0.25 | Initial Calib Date | 4-23-19 | Sequence Loaded By: | chriss2 | Quant Method/s | MP5844 |
| Batch ID | EP5845 | Analysis Date | 4/24/2019 | Data Processed By: | ying li | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 1/2019 10:46:02 A | | | | |

☑ SW846 8270 D
☑ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 129155 | DFTPP | | | | 1 | | | | | ok | 8:17am |
| P | 129156 | IC5845-100 | | TCL42 | | 16 | | | | | ok | sv192573-9a |
| P | 129157 | IC5845-80 | | | | 17 | | | | | ok | sv192573-9b |
| P | 129158 | ICC5845-50 | | | | 18 | | | | | ok | sv192573-9c |
| P | 129159 | IC5845-25 | | | | 19 | | | | | ok | sv192573-9d |
| P | 129160 | IC5845-10 | | | | 20 | | | | | ok | sv192573-9e |
| P | 129161 | IC5845-5 | | | | 21 | | | | | ok | sv192573-9g |
| P | 129162 | IC5845-2 | | | | 22 | | | | | ok | sv192573-9h |
| P | 129163 | IC5845-1 | | | | 23 | | | | | ok | sv192573-9i |
| P | 129164 | ICV5845-50 | | AP9 Mix #2 | | 24 | | | | | ok | sv182490-78 |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 129165 | ICV5845-50 | | HQ 2nd | | 25 | | | | | ok | sv182490-103a 12:34pm |

# GCMS Semi Volatile Run Log

**Instrument ID:** GCMSP

| Standard / Reagent | Lot # | Concentration | Standard / Reagent | Lot # | Concentration |
|---|---|---|---|---|---|
| DFTPP | sv182535-77 | 50ppm | int std | CL13166 | 4000ppm |
| bna | sv182535-121g | 25ppm | dcm-fisher | 191532 | --- |
| tcl42 | sv182535-120g | 25ppm | | | |
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|---|---|---|---|---|---|---|---|
| Column | 5silms30mx0.25mmx0.25 | Initial Calib Date | 4-23-19 | Sequence Loaded By: | christc2 | Quant Method/s | MP5844 |
| Batch ID | EP5856 | Analysis Date | 5/7/2019 | Data Processed By: | MICHELLC | Injection Volume | 1.0ul |
| Approved By: | KRISTIS | Approved Date | 0/2019 11:26:30 A | | | | |

☑ SW846 8270 D
☐ EPA 625

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 129365 | DFTPP | | | | 1 | | | | | OK | 12:32pm |
| P | 129366 | CC5844-25 | | bna | | 2 | | | | | OK | |
| P | 129367 | CC5845-25 | | tcl42 | | 3 | | | | | OK | |
| | 129368 | OP20145-MB1 | OP20145 | AB8270TCL20+,AB8270TCL20-PAH+ | SO | 4 | | X | | | OK | |
| P | 129369 | OP20110-MB | OP20110 | AB8270TCL20 | SO | 5 | | | | | OK | |
| P | 129370 | OP20110-BS | OP20110 | AB8270TCL20 | SO | 6 | | | | | OK | |
| P | 129371 | JC87467-2 | OP20145 | B8270PAH | SO | 7 | 5 | | | | OK | |
| P | 129372 | JC87467-6 | OP20145 | B8270PAH | SO | 8 | 5 | | | | OK | |
| | 129373 | JC87324-2 | OP20145 | AB8270TCL20-PAH+ | SO | 9 | 5 | X | | | OK | |
| P | 129374 | OP20110-MS | OP20110 | AB8270TCL20 | SO | 10 | | | Y | Y | OK | |

# GCMS Semi Volatile Run Log

| Data File | | Sample ID | OP Batch ID | Test | MTX | ALS | Dil | L+ | Surr OK? | IS OK? | Data OK? | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | 129375 | OP20110-MSD | OP20110 | AB8270TCL20 | SO | 11 | | | Y | Y | OK | |
| P | 129376 | JC87093-7 | OP20110 | AB8270TCL20 | SO | 12 | | | Y | Y | OK | |
| P | 129377 | JC86986-6 | OP20110 | AB8270TCL | SO | 13 | | | Y | Y | OK | |
| P | 129378 | JC87093-9 | OP20110 | AB8270TCL20 | SO | 14 | | | Y | Y | OK | |
| P | 129379 | JC87093-10 | OP20110 | AB8270TCL20 | SO | 15 | | | Y | Y | OK | RERUN OVERCAL |
| P | 129380 | JC87093-8 | OP20110 | AB8270TCL20 | SO | 16 | | | NO | Y | OK | RERUN OVERCAL |
| P | 129381 | JC87093-2 | OP20110 | AB8270TCL20 | SO | 17 | | | Y | Y | OK | |
| P | 129382 | JC87093-11 | OP20110 | AB8270TCL20 | SO | 18 | | | Y | Y | OK | |
| P | 129383 | JC87093-12 | OP20110 | AB8270TCL20 | SO | 19 | | | Y | Y | OK | |
| P | 129384 | JC87073-1 | OP20110 | AB8270TCL20 | SO | 20 | | | Y | Y | OK | |
| P | 129385 | JC87073-7 | OP20110 | AB8270TCL20 | SO | 21 | | | Y | Y | OK | |
| P | 129386 | JC87073-9 | OP20110 | AB8270TCL20 | SO | 22 | | | Y | Y | OK | |
| P | 129387 | JC87073-11 | OP20110 | AB8270TCL20 | SO | 23 | | | Y | Y | OK | RERUN OVERCAL |
| P | 129388 | JC87073-13 | OP20110 | AB8270TCL20 | SO | 24 | | | Y | Y | OK | RERUN OVERCAL |
| P | 129389 | JC87073-5 | OP20110 | AB8270TCL20 | SO | 25 | | | Y | Y | OK | |
| P | 129390 | JC87073-3 | OP20110 | AB8270TCL20 | SO | 26 | 2 | | Y | Y | OK | diluted for visc.1143 PM |

9-2338

LOGBOOK ID:

# ABN Extraction Log - Solids

Extract Method (CHECK OFF "√" /DO NOT CIRCLE):
Microwave SW3546 √ Sonication SW3550C ____
Waste Dil. SW3580A ____ Soxblet SW3540C ____

Date started: 5/1/19 Time started: 1000
Date finished: 5/1/19 Time finished: 1600

| BATCH # MS 20081 | RACK# B246 |
|---|---|
| Weighed by: | CC |
| Extracted by: | CC NT |
| Concentrated by: | NT |
| Final Vol. Top-up: | CC |
| Vialed by: | CC |
| Supervisor Review: | aj 5/1/19 |

**Special Client Spike Instructions**

| QC ID# for Special Spike | Amt to Spike | Spike ID | Lot # | Conc. | Amt. Spiked |
|---|---|---|---|---|---|
| | | | | | |

WITNESS SIGN: SPIKE SIGN:
Manager/Supervisor/Team Lead Approval:

| Sample # | Analysis Type | Sample Bottle # | Sample Description | Sample Wet Wt. (g) Oil (g) Liq (mL) | Decant Y | Decant N | Sonicator ID | Microwave ID | Final Extract Color | Final Extract Vol(mL) | GPC Cleanup | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB1 | abn | | sand | 30.0 | | | | 12 | clear | 1.0 | | |
| BS1 | | | sand | 30.0 | | | | | yellow | 1.0 | | |
| JC86986-2 MS | | 2 | soil | 301 | | | ✓ | | brown | 1.0 | | |
| MSD | | 2 | soil | 302 | | | ✓ | | brown | 1.0 | | |
| BS | | | | | | | | | | | | |
| MS | | | | | | | | | | | | |
| MSD | | | | | | | | | | | | |
| BS | | | | | | | | | | | | |
| MS | | | | | | | | | | | | |
| MSD | | | | | | | | | | | | |
| 1 JC86986-2 | abn | 2 | soil | 300 | | | ✓ | 12 | yellow | 1.0 | | |
| 2 -3 | | 2 | soil | 301 | | | ✓ | | brown | 1.0 | | |
| 3 -4 | | 2 | soil | 304 | | | ✓ | | yellow | 1.0 | | |
| 4 -5 | | 2 | soil | 303 | | | ✓ | | clear | 1.0 | | |
| 5 -6 | | 2 | soil | 300 | | | ✓ | | clear | 1.0 | | |
| 6 -7 | | 2 | soil | 301 | | | ✓ | | brown | 1.0 | | |
| 7 -8 | | 2 | soil | 304 | | | ✓ | | yellow | 1.0 | | |
| 8 -9 | | 2 | soil | 30.0 | | | ✓ | | brown | 1.0 | ★ | |
| 9 -10 | | 2 | soil | 311 | | | ✓ | | yellow | 1.0 | | |
| 10 -11 | | 2 | soil | 300 | | | ✓ | | brown | 1.0 | | |
| 11 -13 | | 2 | soil | 300 | | | ✓ | | yellow | 1.0 | | |
| 12 -12 | | 2 | soil | 300 | | | ✓ | | yellow | 1.0 | | |
| 13 JC86994-1 | | 2 | soil | 300 | | | ✓ | | brown | 1.0 | | |
| 14 -2 | | 2 | soil | 301 | | | ✓ | | clear | 1.0 | | |
| 15 -3 | | 2 | soil | 302 | | | ✓ | | yellow | 1.0 | | |
| 16 -4 | | 2 | soil | 303 | | | ✓ | | clear | 1.0 | | |
| 17 -5 | | 2 | soil | 306 | | | ✓ | | yellow | 1.0 | | |
| 18 -6 | | 2 | soil | 303 | | | ✓ | | yellow | 1.0 | | |
| 19 JC86969/JC86769-1 | | 1 | soil | 306 | | | ✓ | | brown | 1.0 | | |
| 20 -2 | | 1 | soil | 302 | | | ✓ | | brown | 1.0 | | |

| Equipment/ Range | ID | Observed Temp (°C) | Correction Factor (°C) | Corrected Temp (°C) | Pressure/ Flowrate |
|---|---|---|---|---|---|
| Buchi (65-71°C) | | | | | |
| Buchi Chiller | | | | | |
| Waterbath (70-80°C) | 8 | 74.7 | — | 74.7 | — |
| Waterbath Chiller (GPM) | M1 | 5 | — | 5 | 1.5 |
| NEVAP (32-38°C, LPM) | 2 | 35.1 | +0.1 | 35.2 | 10 |
| Balance | B48 | N/A | N/A | N/A | N/A |

| SURROGATE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| ABN | 19.2336.107 | 50 | 1.0 |
| ABN DOD SIM | | | |

WITNESS SIGN: NT SPIKE SIGN: CC

| MATRIX SPIKE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| Acid | 19.2336.104 | 50 | Acid: 1.0 |
| Acid (for SIM) | | | A(SIM): |
| Base #1 | 19.2336.87 | 50 | 1.0 |
| Base #2 | 19.2336.106 | 50 | 1.0 |
| Aniline | 19.2336.103 | 50 | 1.0 |
| BSIM | | | |

WITNESS SIGN: NT SPIKE SIGN: CC

| SOLVENT | LOT # | BRAND | AMT (mL) |
|---|---|---|---|
| 1:1 METH CHLOR/ ACETONE | 189495 / 186143 | Fisher | 30.0 |
| METH CHLOR | | | |

| REAGENT | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| HYDROMATRIX | 1435092 | 2/22/19 | Agilent |
| SODIUM SULFATE | 184584 | 12/20/18 | Fisher |
| FILTER PAPER | 1636462 | | Fisher |

| MATRIX | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| SAND | 8GE180510007A | 11/5/19 | Fisher |

**SPECIAL PROCESSING INSTRUCTIONS**

**Rx Reason:**

**Spiking:**

**Weights/Volumes:**

**Required MS/MSD:** JC86986-2

**Final Volume:** due 5/6

**Other:** HT 513

Comments: QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by:

line 1: JC86769-1
★ sample reduced due to low density

SGS
Form: OP019A-10
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9-2338

LOGBOOK ID:

# ABN Extraction Log - Solids

Date started: 5/6/19 Time started: 17:35
Date finished: 5/6/19 Time finished: 23:55

Extract Method (CHECK OFF "√" /DO NOT CIRCLE):
Microwave SW3546 √ Sonication SW3550C ____
Waste Dil. SW3580A ____ Soxhlet SW3540C ____

BATCH # MS 20110 RACK# R-46

| | |
|---|---|
| Weighed by: | SH |
| Extracted by: | SH |
| Concentrated by: | SH |
| Final Vol. Top-up: | SH |
| Vialed by: | SH |
| Supervisor Review: | aj 5/7/19 |

**Special Client Spike Instructions**

| QC ID# for Spike | Amt to Spike | Spike ID | Lot # | Conc. | Amt. Spiked |
|---|---|---|---|---|---|
| | | | | | |

WITNESS SIGN: SPIKE SIGN:
Manager/Supervisor/Team Lead Approval:

**SPECIAL PROCESSING INSTRUCTIONS**

Rx Reason:

Spiking:

Weights/Volumes:

Required MS/MSD:

Final Volume:

Other:

DD 5/10

| | Sample # | Analysis Type | Sample Bottle # | Sample Description | Sample Wet Wt. (g) Oil (g) Liq (mL) | Decant Y | Decant N | Sonicator ID | Microwave ID | Final Extract Color | Final Extract Vol(mL) | GPC Cleanup | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MB1 | abn | | sand | 30.0 | | | 12 | | clear | 1.0 | | |
| | BS1 | | | sand | 30.0 | | | 12 | | yellow | 1.0 | | |
| | JC87093-7 MS | | 1 | soil | 30.4 | | — | 12 | | gold | 1.0 | | |
| | MSD | | 1 | soil | 31.2 | | — | 12 | | gold | 1.0 | | |
| | BS | | | | | | | | | | | | |
| | MS | | | | | | | | | | | | |
| | MSD | | | | | | | | | | | | |
| | BS | | | | | | | | | | | | |
| | MS | | | | | | | | | | | | |
| | MSD | | | | | | | | | | | | |
| 1 | JC86986-6 | abn | 1 | soil | 30.0 | | — | 12 | | l.yellow | 1.0 | | |
| 2 | JC87073-1 | | 2 | soil | 30.0 | | — | 12 | | brown | 1.0 | | |
| 3 | -5 | | 2 | soil | 31.8 | | — | 12 | | brown | 1.0 | | |
| 4 | -3 | | 2 | soil | 30.5 | | 2 | 12 | | brown | 1.0 | | |
| 5 | -7 | | 1 | soil | 30.6 | | — | 12 | | brown | 1.0 | | |
| 6 | -9 | | 1 | soil | 31.2 | | — | 12 | | brown | 1.0 | | |
| 7 | -11 | | 2 | soil | 31.2 | | — | 12 | | brown | 1.0 | | |
| 8 | -13 | | 1 | soil | 30.6 | | — | 12 | | brown | 1.0 | | |
| 9 | JC87093-1 | | 1 | clay | 30.4 | | — | 12 | | brown | 1.0 | | |
| 10 | -2 | | 1 | clay | 30.9 | | — | 12 | | brown | 1.0 | | |
| 11 | -3 | | 1 | mulch | 31.7 | | — | 12 | | brown | 1.0 | | |
| 12 | -4 | | 1 | clay | 30.1 | | — | 12 | | brown | 1.0 | | |
| 13 | -5 | | 1 | clay | 30.4 | | — | 12 | | brown | 1.0 | | |
| 14 | -6 | | 1 | mulch | 30.3 | | — | 12 | | brown | 1.0 | | |
| 15 | -7 | | 1 | soil | 30.3 | | — | 12 | | green | 1.0 | | |
| 16 | -8 | | 1 | rock+ | 31.6 | | — | 12 | | brown | 1.0 | | |
| 17 | -9 | | 1 | clay | 30.0 | | — | 12 | | yellow | 1.0 | | |
| 18 | -10 | | 1 | sand | 30.7 | — | | 12 | | brown | 1.0 | | |
| 19 | -11 | | 1 | clay | 30.7 | | — | 12 | | brown | 1.0 | | |
| 20 | -12 | | 1 | wet sand | 30.7 | | — | 12 | | brown | 1.0 | | |

Comments: QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by:

| Equipment/ Range | ID | Observed Temp (°C) | Correction Factor (°C) | Corrected Temp (°C) | Pressure/ Flowrate |
|---|---|---|---|---|---|
| Buchi (65-71°C) | | | | | |
| Buchi Chiller | | | | | |
| Waterbath (70-80°C) | 10,11 | 75.9 | -1.0 | 74.9 | OK |
| Waterbath Chiller (GPM) | V3,V4 | 5.5,6.0 | — | — | 0.8 |
| NEVAP (32-39°C, LPM) | 2 | 34.9 | +0.1 | 35.0 | 10 |
| Balance | B4 | N/A | N/A | N/A | N/A |

| SURROGATE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| ABN | OP192386107 | 50 | 1.0 |
| ABN DOD SIM | | | |

WITNESS SIGN: NT SPIKE SIGN: SH

| MATRIX SPIKE | LOT # | CONC (ppm) | AMT (mL) |
|---|---|---|---|
| Acid | OP192336104 | 50 | Acid: 1.0 |
| Acid (for SIM) | | | A(SIM): |
| Base #1 | OP192386107 | 50 | 1.0 |
| Base #2 | OP192336106 | 50 | 1.0 |
| Aniline | OP192336109 | 50 | 1.0 |
| BSIM | | | |

WITNESS SIGN: NT SPIKE SIGN: SH

| SOLVENT | LOT # | BRAND | AMT (mL) |
|---|---|---|---|
| 1:1 METH CHLOR/ ACETONE | 191109 / 174411 | FISHER | 30.0 |
| METH CHLOR | | | |

| REAGENT | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| HYDROMATRIX | 6435092 | 4-29-19A | AGILENT |
| SODIUM SULFATE | 190294 | 4-26-19A | FISHER |
| FILTER PAPER | 169360462 | | FISHER |
| | | | |

| MATRIX | LOT # | BAKE BATCH # | BRAND |
|---|---|---|---|
| SAND | 8GA190103C1A | 3-5-19 | FISHER |
| | | | |

SGS
Form: OP019A-10
Rev Date: 8/2/17

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# Metals Analysis

## QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
Analyst: EAL  Run ID: MA46605
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 08:40 | MA46605-STD1 | 1 | | B=1.5576e-004, C=2.5131e-002, Rho=0.9996726 |
| 08:41 | MA46605-STD2 | 1 | | STDB |
| 08:42 | MA46605-STD3 | 1 | | STDC |
| 08:44 | MA46605-STD4 | 1 | | STDD |
| 08:45 | MA46605-STD5 | 1 | | STDE |
| 08:47 | MA46605-STD6 | 1 | | STDF |
| 08:53 | MA46605-STD7 | 1 | | STDE |
| 08:56 | MA46605-ICV1 | 1 | | |
| 08:57 | MA46605-ICB1 | 1 | | |
| 08:59 | MA46605-CCV1 | 1 | | |
| 09:00 | MA46605-CCB1 | 1 | | |
| 09:02 | MA46605-CRI1 | 1 | | |
| 09:11 | MP14626-MB1 | 1 | | |
| 09:13 | MP14626-B1 | 1 | | |
| 09:14 | MP14626-S1 | 1 | | |
| 09:16 | MP14626-S2 | 1 | | |
| 09:17 | JC86972-2 | 1 | | (sample used for QC only; not part of login JC86986) |
| 09:19 | MP14626-S3 | 1 | | |
| 09:20 | MP14626-S4 | 1 | | |
| 09:22 | JC86972-9 | 1 | | (sample used for QC only; not part of login JC86986) |
| 09:24 | MA46605-CCV2 | 1 | | |
| 09:25 | MA46605-CCB2 | 1 | | |
| 09:27 | ZZZZZZ | 1 | | |
| 09:28 | ZZZZZZ | 1 | | |
| 09:30 | ZZZZZZ | 1 | | |
| 09:31 | ZZZZZZ | 1 | | |
| 09:33 | ZZZZZZ | 1 | | |
| 09:34 | ZZZZZZ | 1 | | |
| 09:36 | ZZZZZZ | 1 | | |
| 09:37 | ZZZZZZ | 1 | | |
| 09:39 | ZZZZZZ | 1 | | |
| 09:40 | MA46605-CCV3 | 1 | | |
| 09:41 | MA46605-CCB3 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
Analyst: EAL  Run ID: MA46605
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:43 | ZZZZZZ | 1 | | |
| 09:44 | ZZZZZZ | 1 | | |
| 09:46 | MP14631-MB1 | 1 | | |
| 09:47 | MP14631-B1 | 1 | | |
| 09:49 | MP14631-S1 | 1 | | overrange |
| 09:50 | MP14631-S2 | 1 | | overrange |
| 09:52 | JC86986-2 | 1 | | overrange |
| 09:55 | JC86986-3 | 1 | | overrange |
| 09:57 | JC86986-4 | 1 | | |
| 09:59 | MA46605-CCV4 | 1 | | |
| 10:00 | MA46605-CCB4 | 1 | | |
| 10:02 | JC86986-5 | 1 | | |
| 10:04 | JC86986-6 | 1 | | |
| 10:05 | JC86986-7 | 1 | | |
| 10:06 | JC86986-8 | 1 | | |
| 10:08 | JC86986-9 | 1 | | |
| 10:09 | JC86986-10 | 1 | | |
| 10:11 | JC86986-11 | 1 | | |
| 10:12 | JC86986-12 | 1 | | |
| 10:14 | JC86986-13 | 1 | | |
| 10:16 | MA46605-CCV5 | 1 | | |
| 10:17 | MA46605-CCB5 | 1 | | |
| 10:19 | MP14632-MB1 | 1 | | |
| 10:20 | MP14632-B1 | 1 | | |
| 10:21 | MP14632-S1 | 1 | | |
| 10:23 | MP14632-S2 | 1 | | |
| 10:25 | JC86994-1 | 1 | | (sample used for QC only; not part of login JC86986) |
| 10:27 | ZZZZZZ | 1 | | |
| 10:29 | ZZZZZZ | 1 | | |
| 10:30 | ZZZZZZ | 1 | | |
| 10:31 | ZZZZZZ | 1 | | |
| 10:33 | MA46605-CCV6 | 1 | | |
| 10:34 | MA46605-CCB6 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
Analyst: EAL  Run ID: MA46605
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:36 | ZZZZZZ | 1 | | |
| 10:37 | ZZZZZZ | 1 | | |
| 10:38 | ZZZZZZ | 1 | | |
| 10:40 | ZZZZZZ | 1 | | |
| 10:41 | ZZZZZZ | 1 | | |
| 10:43 | ZZZZZZ | 1 | | |
| 10:45 | ZZZZZZ | 1 | | |
| 10:46 | ZZZZZZ | 1 | | |
| 10:47 | ZZZZZZ | 1 | | |
| 10:49 | MA46605-CCV7 | 1 | | |
| 10:50 | MA46605-CCB7 | 1 | | |
| 10:52 | ZZZZZZ | 1 | | |
| 10:53 | ZZZZZZ | 1 | | |
| 10:54 | ZZZZZZ | 1 | | |
| 10:56 | ZZZZZZ | 1 | | |
| 10:57 | ZZZZZZ | 1 | | |
| 10:58 | ZZZZZZ | 1 | | |
| 11:00 | MP14631-S1 | 2 | | |
| 11:01 | MP14631-S2 | 2 | | |
| 11:03 | JC86986-2 | 2 | | |
| 11:05 | MA46605-CCV8 | 1 | | |
| 11:07 | MA46605-CCB8 | 1 | | |
| 11:09 | JC86986-3 | 2 | | |
| ----------> | Last reportable sample/prep for job JC86986 | | | |
| 11:10 | ZZZZZZ | 2 | | |
| 11:18 | ZZZZZZ | 1 | | |
| 11:21 | MA46605-CRI2 | 1 | | |
| 11:22 | MA46605-CCV9 | 1 | | |
| 11:24 | MA46605-CCB9 | 1 | | |
| ----------> | Last reportable CCB for job JC86986 | | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
Analyst: EAL  Run ID: MA46605
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg |
|---|---|---|---|
| 08:56 | MA46605-ICV1 | 1 | X |
| 08:57 | MA46605-ICB1 | 1 | X |
| 08:59 | MA46605-CCV1 | 1 | X |
| 09:00 | MA46605-CCB1 | 1 | X |
| 09:02 | MA46605-CRI1 | 1 | X |
| 09:11 | MP14626-MB1 | 1 | X |
| 09:13 | MP14626-B1 | 1 | X |
| 09:14 | MP14626-S1 | 1 | X |
| 09:16 | MP14626-S2 | 1 | X |
| 09:17 | JC86972-2 | 1 | X (a) |
| 09:19 | MP14626-S3 | 1 | X |
| 09:20 | MP14626-S4 | 1 | X |
| 09:22 | JC86972-9 | 1 | X (a) |
| 09:24 | MA46605-CCV2 | 1 | X |
| 09:25 | MA46605-CCB2 | 1 | X |
| 09:27 | ZZZZZZ | 1 | |
| 09:28 | ZZZZZZ | 1 | |
| 09:30 | ZZZZZZ | 1 | |
| 09:31 | ZZZZZZ | 1 | |
| 09:33 | ZZZZZZ | 1 | |
| 09:34 | ZZZZZZ | 1 | |
| 09:36 | ZZZZZZ | 1 | |
| 09:37 | ZZZZZZ | 1 | |
| 09:39 | ZZZZZZ | 1 | |
| 09:40 | MA46605-CCV3 | 1 | X |
| 09:41 | MA46605-CCB3 | 1 | X |
| 09:43 | ZZZZZZ | 1 | |
| 09:44 | ZZZZZZ | 1 | |
| 09:46 | MP14631-MB1 | 1 | X |
| 09:47 | MP14631-B1 | 1 | X |
| 09:49 | MP14631-S1 | 1 | overrange |
| 09:50 | MP14631-S2 | 1 | overrange |
| 09:52 | JC86986-2 | 1 | overrange |
| | | Element: | Hg |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
Analyst: EAL  Run ID: MA46605
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg |
|---|---|---|---|
| 09:55 | JC86986-3 | 1 | overrange |
| 09:57 | JC86986-4 | 1 | X |
| 09:59 | MA46605-CCV4 | 1 | X |
| 10:00 | MA46605-CCB4 | 1 | X |
| 10:02 | JC86986-5 | 1 | X |
| 10:04 | JC86986-6 | 1 | X |
| 10:05 | JC86986-7 | 1 | X |
| 10:06 | JC86986-8 | 1 | X |
| 10:08 | JC86986-9 | 1 | X |
| 10:09 | JC86986-10 | 1 | X |
| 10:11 | JC86986-11 | 1 | X |
| 10:12 | JC86986-12 | 1 | X |
| 10:14 | JC86986-13 | 1 | X |
| 10:16 | MA46605-CCV5 | 1 | X |
| 10:17 | MA46605-CCB5 | 1 | X |
| 10:19 | MP14632-MB1 | 1 | X |
| 10:20 | MP14632-B1 | 1 | X |
| 10:21 | MP14632-S1 | 1 | X |
| 10:23 | MP14632-S2 | 1 | X |
| 10:25 | JC86994-1 | 1 | X (a) |
| 10:27 | ZZZZZZ | 1 | |
| 10:29 | ZZZZZZ | 1 | |
| 10:30 | ZZZZZZ | 1 | |
| 10:31 | ZZZZZZ | 1 | |
| 10:33 | MA46605-CCV6 | 1 | X |
| 10:34 | MA46605-CCB6 | 1 | X |
| 10:36 | ZZZZZZ | 1 | |
| 10:37 | ZZZZZZ | 1 | |
| 10:38 | ZZZZZZ | 1 | |
| 10:40 | ZZZZZZ | 1 | |
| 10:41 | ZZZZZZ | 1 | |
| 10:43 | ZZZZZZ | 1 | |
| 10:45 | ZZZZZZ | 1 | |
| | | Element: | Hg |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
Analyst: EAL  Run ID: MA46605
Parameters: Hg

| Time | Sample Description | Element: Dilution | Hg |
|---|---|---|---|
| 10:46 | ZZZZZZ | 1 | |
| 10:47 | ZZZZZZ | 1 | |
| 10:49 | MA46605-CCV7 | 1 | X |
| 10:50 | MA46605-CCB7 | 1 | X |
| 10:52 | ZZZZZZ | 1 | |
| 10:53 | ZZZZZZ | 1 | |
| 10:54 | ZZZZZZ | 1 | |
| 10:56 | ZZZZZZ | 1 | |
| 10:57 | ZZZZZZ | 1 | |
| 10:58 | ZZZZZZ | 1 | |
| 11:00 | MP14631-S1 | 2 | X |
| 11:01 | MP14631-S2 | 2 | X |
| 11:03 | JC86986-2 | 2 | X |
| 11:05 | MA46605-CCV8 | 1 | X |
| 11:07 | MA46605-CCB8 | 1 | X |
| 11:09 | JC86986-3 | 2 | X |
| 11:10 | ZZZZZZ | 2 | |
| 11:18 | ZZZZZZ | 1 | |
| 11:21 | MA46605-CRI2 | 1 | X |
| 11:22 | MA46605-CCV9 | 1 | X |
| 11:24 | MA46605-CCB9 | 1 | X |

(a) Sample used for QC only; not part of login JC86986.

Element: Hg

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
QC Limits: result < RL  Run ID: MA46605  Units: ug/l

| Time: | | | 08:57 | | 09:00 | | 09:25 | | 09:41 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .02 | 0.0306 | <0.20 | 0.0312 | <0.20 | 0.0214 | <0.20 | 0.0138 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
QC Limits: result < RL  Run ID: MA46605  Units: ug/l

| Time: | | | 10:00 | | 10:17 | | 10:34 | | 10:50 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Mercury | 0.20 | .02 | 0.0237 | <0.20 | 0.0222 | <0.20 | 0.0295 | <0.20 | 0.0275 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
QC Limits: result < RL  Run ID: MA46605  Units: ug/l

| Time: | | | 11:07 | | 11:24 | |
|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | |
| Metal | RL | IDL | raw | final | raw | final |
| Mercury | 0.20 | .02 | 0.0212 | <0.20 | 0.0276 | <0.20 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46605  Units: ug/l

| Time: | | 08:56 | | | 08:59 | | | 09:24 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 3 | 3.17 | 105.7 | 2.5 | 2.57 | 102.8 | 2.5 | 2.45 | 98.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46605  Units: ug/l

| Time: | | 09:40 | | | 09:59 | | | 10:16 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.43 | 97.2 | 2.5 | 2.45 | 98.0 | 2.5 | 2.50 | 100.0 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46605  Units: ug/l

| Time: | | 10:33 | | | 10:49 | | | 11:05 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Mercury | 2.5 | 2.51 | 100.4 | 2.5 | 2.48 | 99.2 | 2.5 | 2.48 | 99.2 |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
QC Limits: 90 to 110 % Recovery  Run ID: MA46605  Units: ug/l

| Time: | | 11:22 | |
|---|---|---|---|
| Sample ID: | CCV | CCV9 | |
| Metal | True | Results | % Rec |
| Mercury | 2.5 | 2.58 | 103.2 |

(*) Outside of QC limits
(anr) Analyte not requested

10.1.3 10

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H8043019S1.CSV  Date Analyzed: 04/30/19  Methods: SW846 7471B
QC Limits: 70 to 130 % Recovery  Run ID: MA46605  Units: ug/l

| Time: | | | 09:02 | | 11:21 | |
|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRI1 | | CRI2 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Mercury | 0.20 | | 0.230 | 115.0 | 0.248 | 124.0 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:16 | MA46623-STD1 | 1 | | STDA |
| 15:21 | MA46623-STD2 | 1 | | STDB |
| 15:27 | ZZZZZZ | 1 | | |
| 15:32 | ZZZZZZ | 1 | | |
| 15:37 | MA46623-ICV1 | 1 | | |
| 15:42 | MA46623-ICB1 | 1 | | |
| 15:47 | MA46623-CCV1 | 1 | | |
| 15:52 | MA46623-CCB1 | 1 | | |
| 15:57 | MA46623-CRI1 | 1 | | |
| 16:02 | MA46623-CRID1 | 1 | | |
| 16:07 | MA46623-ICSA1 | 1 | | |
| 16:13 | MA46623-ICSAB1 | 1 | | |
| 16:18 | MA46623-HSTD1 | 1 | | |
| 16:24 | MA46623-HSTD2 | 1 | | |
| 16:29 | ZZZZZZ | 1 | | |
| 16:35 | ZZZZZZ | 1 | | |
| 16:40 | ZZZZZZ | 1 | | |
| 16:45 | MA46623-CCV2 | 1 | | |
| 16:50 | MA46623-CCB2 | 1 | | |
| 16:55 | MA46623-CRID2 | 1 | | |
| 17:00 | ZZZZZZ | 1 | | |
| 17:05 | ZZZZZZ | 1 | | |
| 17:11 | ZZZZZZ | 3 | | |
| 17:16 | MP14554-MB1 | 1 | | |
| 17:21 | MP14554-B1 | 1 | | |
| 17:26 | MP14554-S1 | 1 | | |
| 17:31 | MP14554-S2 | 1 | | |
| 17:36 | JC86843-4 | 1 | | (sample used for QC only; not part of login JC86986) |
| 17:42 | MA46623-CCV3 | 1 | | |
| 17:47 | MA46623-CCB3 | 1 | | |
| 17:52 | MP14554-SD1 | 5 | | |
| 17:57 | MP14554-S1 | 2 | | |
| 18:02 | MP14554-S2 | 2 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:07 | JC86843-4 | 2 | | (sample used for QC only; not part of login JC86986) |
| 18:12 | MP14554-SD1 | 10 | | |
| 18:17 | ZZZZZZ | 1 | | |
| 18:22 | MP14606-SD1 | 5 | | |
| 18:27 | ZZZZZZ | 1 | | |
| 18:33 | ZZZZZZ | 1 | | |
| 18:38 | MA46623-CCV4 | 1 | | |
| 18:43 | MA46623-CCB4 | 1 | | |
| 18:48 | ZZZZZZ | 2 | | |
| 18:53 | ZZZZZZ | 1 | | |
| 18:58 | ZZZZZZ | 1 | | |
| 19:04 | ZZZZZZ | 1 | | |
| 19:09 | ZZZZZZ | 1 | | |
| 19:14 | MP14559-S1 | 10 | | |
| 19:19 | MP14559-S2 | 10 | | |
| 19:23 | TD37124R-1 | 10 | | (sample used for QC only; not part of login JC86986) |
| 19:28 | MP14559-SD1 | 50 | | |
| 19:34 | MA46623-CCV5 | 1 | | |
| 19:39 | MA46623-CCB5 | 1 | | |
| 19:44 | ZZZZZZ | 3 | | |
| 19:49 | ZZZZZZ | 3 | | |
| 19:54 | ZZZZZZ | 10 | | |
| 19:59 | ZZZZZZ | 1 | | |
| 20:04 | ZZZZZZ | 1 | | |
| 20:09 | ZZZZZZ | 1 | | |
| 20:14 | ZZZZZZ | 3 | | |
| 20:19 | ZZZZZZ | 2 | | |
| 20:24 | ZZZZZZ | 3 | | |
| 20:30 | MA46623-CCV6 | 1 | | |
| 20:35 | MA46623-CCB6 | 1 | | |
| 20:40 | ZZZZZZ | 2 | | |
| 20:45 | ZZZZZZ | 1 | | |
| 20:50 | ZZZZZZ | 10 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:55 | ZZZZZZ | 5 | | |
| 21:00 | ZZZZZZ | 5 | | |
| 21:05 | ZZZZZZ | 5 | | |
| 21:11 | ZZZZZZ | 1 | | |
| 21:16 | ZZZZZZ | 10 | | |
| 21:21 | MP14617-MB1 | 1 | | |
| 21:26 | MA46623-CCV7 | 1 | | |
| 21:31 | MA46623-CCB7 | 1 | | |
| 21:36 | ZZZZZZ | 1 | | |
| 21:42 | ZZZZZZ | 1 | | |
| 21:47 | ZZZZZZ | 1 | | |
| 21:52 | ZZZZZZ | 1 | | |
| 21:57 | ZZZZZZ | 1 | | |
| 22:02 | ZZZZZZ | 1 | | |
| 22:08 | ZZZZZZ | 1 | | |
| 22:13 | ZZZZZZ | 1 | | |
| 22:18 | ZZZZZZ | 1 | | |
| 22:23 | ZZZZZZ | 1 | | |
| 22:28 | ZZZZZZ | 1 | | |
| 22:33 | ZZZZZZ | 1 | | |
| 22:39 | MA46623-CCV8 | 1 | | |
| 22:44 | MA46623-CCB8 | 1 | | |
| 22:49 | MP14617-B1 | 1 | | high rsd-s |
| 22:54 | MP14617-S1 | 1 | | needs post spike for Sb |
| 22:59 | MP14617-S2 | 1 | | %sol Rerun with -s1 |
| 23:04 | JC86986-2 | 1 | | %sol |
| 23:09 | MP14617-SD1 | 5 | | %sol |
| 23:14 | JC86986-3 | 1 | | %sol |
| 23:19 | JC86986-4 | 1 | | %sol high rsd |
| 23:24 | JC86986-5 | 1 | | %sol bad reading |
| 23:29 | JC86986-6 | 1 | | %sol |

----------> Last reportable sample/prep for job JC86986

| | | | | |
|---|---|---|---|---|
| 23:34 | MA46623-CCV9 | 1 | | |
| 23:39 | MA46623-CCB9 | 1 | | |

----------> Last reportable CCB for job JC86986

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 23:45 | ZZZZZZ | 1 | | |
| 23:50 | ZZZZZZ | 1 | | |
| 23:55 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:05 | ZZZZZZ | 1 | | |
| 00:10 | ZZZZZZ | 1 | | |
| 00:16 | ZZZZZZ | 1 | | |
| 00:21 | ZZZZZZ | 1 | | |
| 00:26 | ZZZZZZ | 1 | | |
| 00:31 | ZZZZZZ | 1 | | |
| 00:37 | ZZZZZZ | 1 | | |
| 00:42 | ZZZZZZ | 1 | | |
| 00:47 | ZZZZZZ | 1 | | |
| 00:52 | ZZZZZZ | 1 | | |
| 00:57 | ZZZZZZ | 1 | | |
| 01:03 | ZZZZZZ | 1 | | |
| 01:08 | ZZZZZZ | 1 | | |
| 01:13 | ZZZZZZ | 1 | | |
| 01:18 | ZZZZZZ | 1 | | |
| 01:23 | ZZZZZZ | 1 | | |
| 01:29 | ZZZZZZ | 1 | | |
| 01:34 | ZZZZZZ | 5 | | |
| 01:39 | ZZZZZZ | 1 | | |
| 01:44 | ZZZZZZ | 1 | | |
| 01:49 | ZZZZZZ | 1 | | |
| 01:55 | ZZZZZZ | 1 | | |
| 02:00 | ZZZZZZ | 1 | | |
| 02:05 | ZZZZZZ | 1 | | |
| 02:10 | ZZZZZZ | 1 | | |
| 02:15 | ZZZZZZ | 1 | | |
| 02:21 | ZZZZZZ | 1 | | |
| 02:26 | ZZZZZZ | 1 | | |
| 02:31 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 02:36 | ZZZZZZ | 1 | | |
| 02:41 | ZZZZZZ | 1 | | |
| 02:47 | ZZZZZZ | 1 | | |
| 02:52 | ZZZZZZ | 1 | | |
| 02:57 | ZZZZZZ | 1 | | |
| 03:02 | ZZZZZZ | 1 | | |
| 03:08 | ZZZZZZ | 1 | | |
| 03:13 | ZZZZZZ | 1 | | |
| 03:18 | ZZZZZZ | 1 | | |
| 03:23 | ZZZZZZ | 1 | | |
| 03:28 | ZZZZZZ | 1 | | |
| 03:34 | ZZZZZZ | 1 | | |
| 03:39 | ZZZZZZ | 1 | | |
| 03:44 | ZZZZZZ | 1 | | |
| 03:49 | ZZZZZZ | 1 | | |
| 03:54 | ZZZZZZ | 5 | | |
| 04:00 | ZZZZZZ | 1 | | |
| 04:05 | ZZZZZZ | 1 | | |
| 04:10 | ZZZZZZ | 1 | | |
| 04:15 | ZZZZZZ | 1 | | |
| 04:20 | ZZZZZZ | 1 | | |
| 04:26 | ZZZZZZ | 1 | | |
| 04:31 | ZZZZZZ | 1 | | |
| 04:36 | ZZZZZZ | 1 | | |
| 04:41 | ZZZZZZ | 1 | | |
| 04:47 | ZZZZZZ | 1 | | |
| 04:52 | ZZZZZZ | 1 | | |
| 04:57 | ZZZZZZ | 1 | | |
| 05:02 | ZZZZZZ | 1 | | |
| 05:07 | ZZZZZZ | 1 | | |
| 05:13 | ZZZZZZ | 1 | | |
| 05:18 | ZZZZZZ | 1 | | |
| 05:23 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 05:28 | ZZZZZZ | 1 | | |
| 05:33 | ZZZZZZ | 1 | | |
| 05:39 | ZZZZZZ | 1 | | |
| 05:44 | ZZZZZZ | 1 | | |
| 05:49 | ZZZZZZ | 1 | | |
| 05:54 | ZZZZZZ | 1 | | |
| 05:59 | ZZZZZZ | 1 | | |
| 06:05 | ZZZZZZ | 1 | | |
| 06:10 | ZZZZZZ | 1 | | |
| 06:15 | ZZZZZZ | 1 | | |
| 06:20 | ZZZZZZ | 1 | | |
| 06:26 | ZZZZZZ | 1 | | |
| 06:31 | ZZZZZZ | 1 | | |
| 06:36 | ZZZZZZ | 1 | | |
| 06:41 | ZZZZZZ | 1 | | |
| 07:49 | MA46623-CCV10 | 1 | | |
| 07:54 | MA46623-CCB10 | 1 | | |
| 07:59 | MP14490A-S1 | 2 | | |
| 08:04 | MP14490A-S2 | 2 | | |
| 08:09 | JC86639-4A | 2 | | (sample used for QC only; not part of login JC86986) |
| 08:15 | MP14490A-SD1 | 10 | | |
| 08:20 | MP14490A-S1 | 20 | | |
| 08:25 | MP14490A-S2 | 20 | | |
| 08:30 | JC86639-4A | 20 | | (sample used for QC only; not part of login JC86986) |
| 08:35 | MP14490A-SD1 | 100 | | |
| 08:40 | MA46623-CCV11 | 1 | | |
| 08:46 | MA46623-CCB11 | 1 | | |
| 08:51 | ZZZZZZ | 1 | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 15:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 15:37 | MA46623-ICV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 15:42 | MA46623-ICB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 15:47 | MA46623-CCV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 15:52 | MA46623-CCB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 15:57 | MA46623-CRI1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:02 | MA46623-CRID1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:07 | MA46623-ICSA1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:13 | MA46623-ICSAB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:18 | MA46623-HSTD1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:24 | MA46623-HSTD2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 16:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 16:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 16:45 | MA46623-CCV2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:50 | MA46623-CCB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 16:55 | MA46623-CRID2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 17:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 17:11 | ZZZZZZ | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 17:16 | MP14554-MB1 | 1 | | | | | | | | | | | X | | | | | | | | | | | | |
| 17:21 | MP14554-B1 | 1 | | | | | | | | | | | X | | | | | | | | | | | | |
| 17:26 | MP14554-S1 | 1 | | | | | | | | | | | X | | | | | | | | | | | | |
| 17:31 | MP14554-S2 | 1 | | | | | | | | | | | X | | | | | | | | | | | | |
| 17:36 | JC86843-4 | 1 | | | | | | | | | | | X | | | | | | | | | | | | (a) |
| 17:42 | MA46623-CCV3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:47 | MA46623-CCB3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 17:52 | MP14554-SD1 | 5 | | | | | | | | | | | X | | | | | | | | | | | X | |
| 17:57 | MP14554-S1 | 2 | | X | | | | | X | | | | | | | | | | | | | | | | |
| 18:02 | MP14554-S2 | 2 | | X | | | | | X | | | | | | | | | | | | | | | | |
| 18:07 | JC86843-4 | 2 | | X | | | | | X | | | | | | | | | | | | | | | | (a) |
| 18:12 | MP14554-SD1 | 10 | | X | | | | | X | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:17 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:22 | MP14606-SD1 | 5 | | | X | X | | X | | X | | X | | X | | | X | | X | X | | | | X | |
| 18:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:38 | MA46623-CCV4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:43 | MA46623-CCB4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 18:48 | ZZZZZZ | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:53 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 18:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:14 | MP14559-S1 | 10 | | | X | | | X | | | | X | X | X | | X | | | X | X | | X | | X | |
| 19:19 | MP14559-S2 | 10 | | | X | | | X | | | | X | X | X | | X | | | X | X | | X | | X | |
| 19:23 | TD37124R-1 | 10 | | | | | | | | | | | | | | | | | | | | | | | (a) |
| 19:28 | MP14559-SD1 | 50 | | | X | | | X | | | | X | X | X | | X | | | X | X | | X | | X | |
| 19:34 | MA46623-CCV5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 19:39 | MA46623-CCB5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 19:44 | ZZZZZZ | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:49 | ZZZZZZ | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:54 | ZZZZZZ | 10 | | | | | | | | | | | | | | | | | | | | | | | |
| 19:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:14 | ZZZZZZ | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:19 | ZZZZZZ | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:24 | ZZZZZZ | 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:30 | MA46623-CCV6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 20:35 | MA46623-CCB6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 20:40 | ZZZZZZ | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:50 | ZZZZZZ | 10 | | | | | | | | | | | | | | | | | | | | | | | |
| 20:55 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:00 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21:05 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 21:11 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:16 | ZZZZZZ | 10 | | | | | | | | | | | | | | | | | | | | | | |
| 21:21 | MP14617-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 21:26 | MA46623-CCV7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 21:31 | MA46623-CCB7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 21:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 22:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 22:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 22:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 22:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 22:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 22:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 22:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 22:39 | MA46623-CCV8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 22:44 | MA46623-CCB8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 22:49 | MP14617-B1 | 1 | X | X | X | X | X | X | X | | X | | X | X | X | | X | X | X | | X | X | | X |
| 22:54 | MP14617-S1 | 1 | X | X | X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X |
| 22:59 | MP14617-S2 | 1 | X | X | X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X |
| 23:04 | JC86986-2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 23:09 | MP14617-SD1 | 5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 23:14 | JC86986-3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 23:19 | JC86986-4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:24 | JC86986-5 | 1 | | X | X | | | X | | X | X | X | | X | | X | X | | X | | | X | X | X |
| 23:29 | JC86986-6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 23:34 | MA46623-CCV9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 23:39 | MA46623-CCB9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 23:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 23:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:21 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:34 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 01:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:49 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:21 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:41 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 02:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:49 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:54 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 04:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:41 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:49 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:54 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:41 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:49 | MA46623-CCV10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 07:54 | MA46623-CCB10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 07:59 | MP14490A-S1 | 2 | | | | | | | X | | | | | X | | X | | | X | | | | | | |
| 08:04 | MP14490A-S2 | 2 | | | | | | | X | | | | | X | | X | | | X | | | | | | |
| 08:09 | JC86639-4A | 2 | | | | | | | X | | | | | X | | X | | | X | | | | | | (a) |
| 08:15 | MP14490A-SD1 | 10 | | | | | | | X | | | | | X | | X | | | X | | | | | | |
| 08:20 | MP14490A-S1 | 20 | | | | | | | | | | | | | | | | | | | X | | | | |
| 08:25 | MP14490A-S2 | 20 | | | | | | | | | | | | | | | | | | | X | | | | |
| 08:30 | JC86639-4A | 20 | | | | | | | | | | | | | | | | | | | X | | | | (a) |
| 08:35 | MP14490A-SD1 | 100 | | | | | | | | | | | | | | | | | | | X | | | | |
| 08:40 | MA46623-CCV11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 08:46 | MA46623-CCB11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 08:51 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |

(a) Sample used for QC only; not part of login JC86986.

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 15:16 | MA46623-STD1 | 7097 R | 172540 R | 28603 R | 10289 R |
| 15:21 | MA46623-STD2 | 6641 | 159900 | 28227 | 9140 |
| 15:27 | ZZZZZZ | 6812 | 164730 | 28494 | 9347 |
| 15:32 | ZZZZZZ | 7164 | 174580 | 28749 | 10342 |
| 15:37 | MA46623-ICV1 | 6803 | 163140 | 28390 | 9336 |
| 15:42 | MA46623-ICB1 | 7088 | 172410 | 28462 | 10247 |
| 15:47 | MA46623-CCV1 | 6831 | 164180 | 28185 | 9388 |
| 15:52 | MA46623-CCB1 | 7098 | 173300 | 28590 | 10278 |
| 15:57 | MA46623-CRI1 | 6855 | 166880 | 28134 | 9751 |
| 16:02 | MA46623-CRID1 | 7055 | 171030 | 28259 | 10171 |
| 16:07 | MA46623-ICSA1 | 6267 | 148180 | 27072 | 8483 |
| 16:13 | MA46623-ICSAB1 | 6248 | 147850 | 26908 | 8491 |
| 16:18 | MA46623-HSTD1 | 6836 | 168620 | 28645 | 9934 |
| 16:24 | MA46623-HSTD2 | 6320 | 150900 | 27275 | 8473 |
| 16:29 | ZZZZZZ | 7007 | 170340 | 28504 | 10195 |
| 16:35 | ZZZZZZ | 6877 | 172450 | 28235 | 10145 |
| 16:40 | ZZZZZZ | 7118 | 173120 | 28321 | 10226 |
| 16:45 | MA46623-CCV2 | 6818 | 163180 | 27853 | 9309 |
| 16:50 | MA46623-CCB2 | 7084 | 171980 | 28276 | 10205 |
| 16:55 | MA46623-CRID2 | 7089 | 172190 | 28134 | 10181 |
| 17:00 | ZZZZZZ | 7209 | 175380 | 29154 | 10381 |
| 17:05 | ZZZZZZ | 7319 | 172140 | 30308 | 9748 |
| 17:11 | ZZZZZZ | 6956 | 170430 | 28758 | 9870 |
| 17:16 | MP14554-MB1 | 7169 | 179190 | 29069 | 10316 |
| 17:21 | MP14554-B1 | 6892 | 166290 | 28680 | 9563 |
| 17:26 | MP14554-S1 | 6427 | 155850 | 28197 | 8697 |
| 17:31 | MP14554-S2 | 6428 | 156540 | 28353 | 8703 |
| 17:36 | JC86843-4 | 6521 | 157200 | 28010 | 8782 |
| 17:42 | MA46623-CCV3 | 6757 | 162170 | 28099 | 9307 |
| 17:47 | MA46623-CCB3 | 7065 | 172190 | 28455 | 10240 |
| 17:52 | MP14554-SD1 | 6852 | 166830 | 28481 | 9552 |
| 17:57 | MP14554-S1 | 6646 | 161510 | 28401 | 9078 |
| 18:02 | MP14554-S2 | 6656 | 161020 | 28521 | 9083 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 18:07 | JC86843-4 | 6708 | 162670 | 28481 | 9177 |
| 18:12 | MP14554-SD1 | 6954 | 168970 | 28598 | 9824 |
| 18:17 | ZZZZZZ | 7166 | 176710 | 29167 | 10344 |
| 18:22 | MP14606-SD1 | 7163 | 173400 | 28782 | 10071 |
| 18:27 | ZZZZZZ | 7005 | 168170 | 29459 | 9421 |
| 18:33 | ZZZZZZ | 7531 | 178720 | 31140 | 9712 |
| 18:38 | MA46623-CCV4 | 6789 | 162710 | 28050 | 9366 |
| 18:43 | MA46623-CCB4 | 7097 | 173220 | 28633 | 10322 |
| 18:48 | ZZZZZZ | 7139 | 171240 | 29065 | 9847 |
| 18:53 | ZZZZZZ | 7051 | 169350 | 29420 | 9499 |
| 18:58 | ZZZZZZ | 7556 | 178800 | 31330 | 9752 |
| 19:04 | ZZZZZZ | 7227 | 175850 | 29285 | 10506 |
| 19:09 | ZZZZZZ | 6899 | 166740 | 28586 | 9606 |
| 19:14 | MP14559-S1 | 7001 | 170880 | 28715 | 10145 |
| 19:19 | MP14559-S2 | 7073 | 172520 | 28861 | 10217 |
| 19:23 | TD37124R-1 | 7059 | 171680 | 28733 | 10276 |
| 19:28 | MP14559-SD1 | 7070 | 172980 | 28672 | 10263 |
| 19:34 | MA46623-CCV5 | 6645 | 163450 | 28098 | 9246 |
| 19:39 | MA46623-CCB5 | 7092 | 174720 | 28648 | 10364 |
| 19:44 | ZZZZZZ | 6978 | 169340 | 28924 | 9701 |
| 19:49 | ZZZZZZ | 7022 | 168960 | 28713 | 9761 |
| 19:54 | ZZZZZZ | 6940 | 168690 | 28916 | 10418 |
| 19:59 | ZZZZZZ | 7384 | 176480 | 30311 | 9945 |
| 20:04 | ZZZZZZ | 7555 | 180830 | 31246 | 9910 |
| 20:09 | ZZZZZZ | 7212 | 176380 | 29352 | 10497 |
| 20:14 | ZZZZZZ | 7017 | 167740 | 29146 | 9745 |
| 20:19 | ZZZZZZ | 7170 | 173740 | 29654 | 9978 |
| 20:24 | ZZZZZZ | 7081 | 171700 | 29039 | 9963 |
| 20:30 | MA46623-CCV6 | 6821 | 164740 | 28530 | 9486 |
| 20:35 | MA46623-CCB6 | 7191 | 177140 | 29026 | 10507 |
| 20:40 | ZZZZZZ | 7135 | 173290 | 29421 | 9934 |
| 20:45 | ZZZZZZ | 7172 | 177180 | 29340 | 10486 |
| 20:50 | ZZZZZZ | 6959 | 168990 | 29165 | 9607 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 20:55 | ZZZZZZ | 6939 | 168760 | 28631 | 9809 |
| 21:00 | ZZZZZZ | 6699 | 160090 | 28261 | 9238 |
| 21:05 | ZZZZZZ | 6621 | 160240 | 28278 | 9092 |
| 21:11 | ZZZZZZ | 7172 | 177160 | 29286 | 10504 |
| 21:16 | ZZZZZZ | 6875 | 167750 | 28815 | 9563 |
| 21:21 | MP14617-MB1 | 7183 | 177070 | 29298 | 10534 |
| 21:26 | MA46623-CCV7 | 6792 | 164740 | 28302 | 9500 |
| 21:31 | MA46623-CCB7 | 7081 | 173200 | 28714 | 10440 |
| 21:36 | ZZZZZZ | 7071 | 174020 | 28668 | 10400 |
| 21:42 | ZZZZZZ | 7058 | 173670 | 28793 | 10360 |
| 21:47 | ZZZZZZ | 7043 | 173390 | 28756 | 10396 |
| 21:52 | ZZZZZZ | 7107 | 174580 | 28809 | 10414 |
| 21:57 | ZZZZZZ | 7126 | 174000 | 28632 | 10446 |
| 22:02 | ZZZZZZ | 7083 | 173610 | 28708 | 10419 |
| 22:08 | ZZZZZZ | 6988 | 172840 | 28636 | 10315 |
| 22:13 | ZZZZZZ | 7055 | 174080 | 28816 | 10494 |
| 22:18 | ZZZZZZ | 6988 | 158800 | 28976 | 9473 |
| 22:23 | ZZZZZZ | 6491 | 158040 | 27673 | 9044 |
| 22:28 | ZZZZZZ | 7069 | 174350 | 28623 | 10430 |
| 22:33 | ZZZZZZ | 7027 | 170600 | 28587 | 10368 |
| 22:39 | MA46623-CCV8 | 6721 | 163270 | 28077 | 9434 |
| 22:44 | MA46623-CCB8 | 7035 | 173590 | 28626 | 10386 |
| 22:49 | MP14617-B1 | 6797 | 161900 | 28592 | 9625 |
| 22:54 | MP14617-S1 | 7166 | 172270 | 30655 | 9634 |
| 22:59 | MP14617-S2 | 7126 | 171670 | 30293 | 9642 |
| 23:04 | JC86986-2 | 7430 | 177650 | 30861 | 10051 |
| 23:09 | MP14617-SD1 | 7161 | 174910 | 29830 | 10217 |
| 23:14 | JC86986-3 | 7229 | 176790 | 29806 | 10250 |
| 23:19 | JC86986-4 | 7523 | 178090 | 30744 | 10009 |
| 23:24 | JC86986-5 | 7166 | 171600 | 999999 !a | 9987 |
| 23:29 | JC86986-6 | 7104 | 173980 | 28934 | 10305 |
| 23:34 | MA46623-CCV9 | 6722 | 163880 | 28325 | 9451 |
| 23:39 | MA46623-CCB9 | 6992 | 172830 | 28693 | 10355 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 23:45 | ZZZZZZ | 14751 ! | 343450 ! | 46914 ! | 20966 ! |
| 23:50 | ZZZZZZ | 15011 ! | 363860 ! | 47362 ! | 21304 ! |
| 23:55 | ZZZZZZ | 14996 ! | 351280 ! | 47117 ! | 21255 ! |
| 00:00 | ZZZZZZ | 15032 ! | 347190 ! | 48057 ! | 21297 ! |
| 00:05 | ZZZZZZ | 15257 ! | 363590 ! | 48064 ! | 21582 ! |
| 00:10 | ZZZZZZ | 15201 ! | 343370 ! | 47840 ! | 21517 ! |
| 00:16 | ZZZZZZ | 15118 ! | 360610 ! | 46734 ! | 21465 ! |
| 00:21 | ZZZZZZ | 15197 ! | 343620 ! | 46470 ! | 21513 ! |
| 00:26 | ZZZZZZ | 15045 ! | 349110 ! | 47398 ! | 21334 ! |
| 00:31 | ZZZZZZ | 15153 ! | 356560 ! | 47817 ! | 21440 ! |
| 00:37 | ZZZZZZ | 15070 ! | 342600 ! | 47459 ! | 21349 ! |
| 00:42 | ZZZZZZ | 15094 ! | 348000 ! | 47000 ! | 21397 ! |
| 00:47 | ZZZZZZ | 14856 ! | 340980 ! | 47293 ! | 21076 ! |
| 00:52 | ZZZZZZ | 14927 ! | 346950 ! | 47166 ! | 21195 ! |
| 00:57 | ZZZZZZ | 14882 ! | 347600 ! | 47040 ! | 21136 ! |
| 01:03 | ZZZZZZ | 14768 ! | 346040 ! | 46790 ! | 20976 ! |
| 01:08 | ZZZZZZ | 14976 ! | 355010 ! | 47030 ! | 21213 ! |
| 01:13 | ZZZZZZ | 14933 ! | 356590 ! | 47092 ! | 21151 ! |
| 01:18 | ZZZZZZ | 14886 ! | 337560 ! | 46461 ! | 21096 ! |
| 01:23 | ZZZZZZ | 14834 ! | 343840 ! | 46939 ! | 21029 ! |
| 01:29 | ZZZZZZ | 14787 ! | 344450 ! | 46505 ! | 20957 ! |
| 01:34 | ZZZZZZ | 14606 ! | 314340 ! | 45877 ! | 20735 ! |
| 01:39 | ZZZZZZ | 14607 ! | 349000 ! | 46282 ! | 20724 ! |
| 01:44 | ZZZZZZ | 14699 ! | 337610 ! | 45797 ! | 20846 ! |
| 01:49 | ZZZZZZ | 14777 ! | 338650 ! | 45577 ! | 20956 ! |
| 01:55 | ZZZZZZ | 14628 ! | 340860 ! | 46364 ! | 20765 ! |
| 02:00 | ZZZZZZ | 14591 ! | 339520 ! | 45828 ! | 20712 ! |
| 02:05 | ZZZZZZ | 14713 ! | 338650 ! | 46201 ! | 20836 ! |
| 02:10 | ZZZZZZ | 14668 ! | 350100 ! | 45535 ! | 20777 ! |
| 02:15 | ZZZZZZ | 14688 ! | 337550 ! | 45670 ! | 20795 ! |
| 02:21 | ZZZZZZ | 14756 ! | 339560 ! | 45953 ! | 20886 ! |
| 02:26 | ZZZZZZ | 14788 ! | 345320 ! | 45943 ! | 20926 ! |
| 02:31 | ZZZZZZ | 14618 ! | 337450 ! | 45954 ! | 20710 ! |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP Date Analyzed: 04/30/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 02:36 | ZZZZZZ | 14725 ! | 342630 ! | 45768 ! | 20834 ! |
| 02:41 | ZZZZZZ | 14700 ! | 340010 ! | 46158 ! | 20762 ! |
| 02:47 | ZZZZZZ | 14650 ! | 341770 ! | 45706 ! | 20736 ! |
| 02:52 | ZZZZZZ | 14660 ! | 339490 ! | 45542 ! | 20742 ! |
| 02:57 | ZZZZZZ | 14690 ! | 338920 ! | 45874 ! | 20800 ! |
| 03:02 | ZZZZZZ | 14893 ! | 344580 ! | 45979 ! | 21042 ! |
| 03:08 | ZZZZZZ | 14736 ! | 350040 ! | 46552 ! | 20875 ! |
| 03:13 | ZZZZZZ | 14998 ! | 350750 ! | 47042 ! | 21187 ! |
| 03:18 | ZZZZZZ | 14955 ! | 349580 ! | 46617 ! | 21136 ! |
| 03:23 | ZZZZZZ | 14862 ! | 344180 ! | 46718 ! | 21029 ! |
| 03:28 | ZZZZZZ | 14651 ! | 341560 ! | 45911 ! | 20771 ! |
| 03:34 | ZZZZZZ | 14636 ! | 341800 ! | 45971 ! | 20732 ! |
| 03:39 | ZZZZZZ | 14608 ! | 340580 ! | 45879 ! | 20674 ! |
| 03:44 | ZZZZZZ | 14671 ! | 342550 ! | 45638 ! | 20767 ! |
| 03:49 | ZZZZZZ | 14682 ! | 345410 ! | 45845 ! | 20771 ! |
| 03:54 | ZZZZZZ | 14743 ! | 339460 ! | 45682 ! | 20855 ! |
| 04:00 | ZZZZZZ | 14684 ! | 342480 ! | 45170 ! | 20776 ! |
| 04:05 | ZZZZZZ | 14601 ! | 340010 ! | 45549 ! | 20675 ! |
| 04:10 | ZZZZZZ | 14626 ! | 343490 ! | 45710 ! | 20717 ! |
| 04:15 | ZZZZZZ | 14697 ! | 347510 ! | 45943 ! | 20816 ! |
| 04:20 | ZZZZZZ | 14676 ! | 344100 ! | 46091 ! | 20799 ! |
| 04:26 | ZZZZZZ | 14755 ! | 343760 ! | 45535 ! | 20920 ! |
| 04:31 | ZZZZZZ | 14707 ! | 342200 ! | 45876 ! | 20875 ! |
| 04:36 | ZZZZZZ | 14599 ! | 336900 ! | 45480 ! | 20732 ! |
| 04:41 | ZZZZZZ | 14586 ! | 345000 ! | 45742 ! | 20738 ! |
| 04:47 | ZZZZZZ | 14685 ! | 338010 ! | 45783 ! | 20875 ! |
| 04:52 | ZZZZZZ | 14783 ! | 338510 ! | 45921 ! | 20996 ! |
| 04:57 | ZZZZZZ | 14894 ! | 349010 ! | 46564 ! | 21106 ! |
| 05:02 | ZZZZZZ | 14890 ! | 349340 ! | 46956 ! | 21105 ! |
| 05:07 | ZZZZZZ | 14712 ! | 340860 ! | 46055 ! | 20869 ! |
| 05:13 | ZZZZZZ | 14724 ! | 343590 ! | 45822 ! | 20895 ! |
| 05:18 | ZZZZZZ | 14680 ! | 337730 ! | 46092 ! | 20829 ! |
| 05:23 | ZZZZZZ | 14646 ! | 338480 ! | 45652 ! | 20810 ! |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46623
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 05:28 | ZZZZZZ | 14688 ! | 343540 ! | 45911 ! | 20878 ! |
| 05:33 | ZZZZZZ | 14633 ! | 340440 ! | 45881 ! | 20825 ! |
| 05:39 | ZZZZZZ | 14600 ! | 343140 ! | 45919 ! | 20773 ! |
| 05:44 | ZZZZZZ | 14627 ! | 338730 ! | 45726 ! | 20812 ! |
| 05:49 | ZZZZZZ | 14654 ! | 343210 ! | 45493 ! | 20837 ! |
| 05:54 | ZZZZZZ | 14554 ! | 336890 ! | 45426 ! | 20702 ! |
| 05:59 | ZZZZZZ | 14599 ! | 339430 ! | 45664 ! | 20762 ! |
| 06:05 | ZZZZZZ | 14800 ! | 350250 ! | 45059 ! | 21004 ! |
| 06:10 | ZZZZZZ | 14820 ! | 348070 ! | 46272 ! | 21047 ! |
| 06:15 | ZZZZZZ | 14819 ! | 345520 ! | 46835 ! | 21028 ! |
| 06:20 | ZZZZZZ | 14866 ! | 349920 ! | 46467 ! | 21100 ! |
| 06:26 | ZZZZZZ | 14871 ! | 348450 ! | 46355 ! | 21121 ! |
| 06:31 | ZZZZZZ | 14829 ! | 346970 ! | 46587 ! | 21075 ! |
| 06:36 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 06:41 | ZZZZZZ | 14588 ! | 335340 ! | 45681 ! | 20789 ! |
| 07:49 | MA46623-CCV10 | 6599 | 159640 | 27396 | 9366 |
| 07:54 | MA46623-CCB10 | 6955 | 171890 | 28027 | 10360 |
| 07:59 | MP14490A-S1 | 6173 | 148450 | 27316 | 8327 |
| 08:04 | MP14490A-S2 | 6134 | 147920 | 27558 | 8283 |
| 08:09 | JC86639-4A | 6153 | 147440 | 27395 | 8319 |
| 08:15 | MP14490A-SD1 | 6607 | 159300 | 27667 | 9193 |
| 08:20 | MP14490A-S1 | 6664 | 161270 | 27811 | 9371 |
| 08:25 | MP14490A-S2 | 6684 | 162150 | 27825 | 9392 |
| 08:30 | JC86639-4A | 6670 | 161690 | 27641 | 9400 |
| 08:35 | MP14490A-SD1 | 6863 | 168020 | 27897 | 9979 |
| 08:40 | MA46623-CCV11 | 6576 | 161320 | 27568 | 9307 |
| 08:46 | MA46623-CCB11 | 6946 | 172190 | 28120 | 10338 |
| 08:51 | ZZZZZZ | 6998 | 173320 | 28457 | 10375 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |
| Istd#4 | Indium | 70-130 % |

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46623  Units: ug/l

| Time: | | | 15:42 | | 15:52 | | 16:50 | | 17:47 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | -12.6 | <200 | -2.00 | <200 | -0.100 | <200 | -3.40 | <200 |
| Antimony | 6.0 | 1.4 | -1.20 | <6.0 | -1.40 | <6.0 | -0.200 | <6.0 | 0.300 | <6.0 |
| Arsenic | 3.0 | 1.5 | 0.400 | <3.0 | 1.10 | <3.0 | 1.90 | <3.0 | 1.00 | <3.0 |
| Barium | 200 | .5 | 0.200 | <200 | 0.300 | <200 | 0.900 | <200 | 0.800 | <200 |
| Beryllium | 1.0 | .1 | 0.00 | <1.0 | 0.100 | <1.0 | 0.300 | <1.0 | 0.200 | <1.0 |
| Bismuth | 20 | 1.8 | | | | | | | | |
| Boron | 100 | .8 | | | | | | | | |
| Cadmium | 3.0 | .3 | 0.200 | <3.0 | 0.100 | <3.0 | 0.700 | <3.0 | 0.500 | <3.0 |
| Calcium | 5000 | 3.9 | -6.60 | <5000 | -5.70 | <5000 | 3.90 | <5000 | -1.10 | <5000 |
| Chromium | 10 | .3 | -0.100 | <10 | -0.200 | <10 | 0.200 | <10 | -0.100 | <10 |
| Cobalt | 50 | .3 | -0.100 | <50 | 0.300 | <50 | 0.500 | <50 | 0.200 | <50 |
| Copper | 10 | .6 | 0.100 | <10 | 0.200 | <10 | 0.400 | <10 | 0.300 | <10 |
| Iron | 100 | 2.6 | -1.40 | <100 | 0.200 | <100 | 6.80 | <100 | 1.70 | <100 |
| Lead | 3.0 | 1.6 | -0.200 | <3.0 | -0.600 | <3.0 | 0.800 | <3.0 | 0.300 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | | | |
| Magnesium | 5000 | 16 | 1.10 | <5000 | 1.30 | <5000 | 8.40 | <5000 | 11.0 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.100 | <15 | 0.400 | <15 | 0.200 | <15 |
| Molybdenum | 20 | .4 | | | | | | | | |
| Nickel | 10 | .5 | -0.100 | <10 | 0.100 | <10 | 0.500 | <10 | 0.200 | <10 |
| Phosphorus | 50 | 1.9 | | | | | | | | |
| Potassium | 10000 | 79 | 66.2 | <10000 | 15.9 | <10000 | 29.5 | <10000 | 72.6 | <10000 |
| Selenium | 10 | 3 | -0.200 | <10 | 0.400 | <10 | 0.700 | <10 | -0.900 | <10 |
| Silicon | 200 | 1.2 | | | | | | | | |
| Silver | 10 | .5 | -0.100 | <10 | 0.600 | <10 | 0.100 | <10 | 0.100 | <10 |
| Sodium | 10000 | 9.9 | 43.0 | <10000 | 22.0 | <10000 | 32.8 | <10000 | 77.2 | <10000 |
| Strontium | 10 | .3 | | | | | | | | |
| Sulfur | 50 | 3.5 | anr | | | | | | | |
| Thallium | 10 | 1.3 | -1.10 | <10 | 0.100 | <10 | 0.900 | <10 | 0.100 | <10 |
| Tin | 10 | .7 | | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | | | |
| Vanadium | 50 | .5 | -0.300 | <50 | -0.300 | <50 | 0.00 | <50 | 0.100 | <50 |
| Zinc | 20 | .2 | -0.500 | <20 | -0.400 | <20 | 0.500 | <20 | 0.100 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46623  Units: ug/l

| Time: | | | 15:42 | | 15:52 | | 16:50 | | 17:47 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46623  Units: ug/l

| Time: | | | 18:43 | | 19:39 | | 20:35 | | 21:31 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | -7.80 | <200 | -2.30 | <200 | -4.60 | <200 | -9.70 | <200 |
| Antimony | 6.0 | 1.4 | -0.200 | <6.0 | -0.200 | <6.0 | -0.500 | <6.0 | -0.500 | <6.0 |
| Arsenic | 3.0 | 1.5 | 1.20 | <3.0 | 0.200 | <3.0 | 0.700 | <3.0 | 0.300 | <3.0 |
| Barium | 200 | .5 | 0.300 | <200 | 0.100 | <200 | 0.00 | <200 | 0.200 | <200 |
| Beryllium | 1.0 | .1 | 0.100 | <1.0 | 0.00 | <1.0 | 0.00 | <1.0 | 0.100 | <1.0 |
| Bismuth | 20 | 1.8 | | | | | | | | |
| Boron | 100 | .8 | | | | | | | | |
| Cadmium | 3.0 | .3 | 0.100 | <3.0 | 0.400 | <3.0 | 0.300 | <3.0 | 0.400 | <3.0 |
| Calcium | 5000 | 3.9 | -6.60 | <5000 | -4.50 | <5000 | -4.00 | <5000 | -2.40 | <5000 |
| Chromium | 10 | .3 | 0.200 | <10 | -0.100 | <10 | -0.100 | <10 | 0.00 | <10 |
| Cobalt | 50 | .3 | 0.200 | <50 | 0.00 | <50 | 0.200 | <50 | 0.300 | <50 |
| Copper | 10 | .6 | 0.700 | <10 | 0.200 | <10 | 0.600 | <10 | 0.700 | <10 |
| Iron | 100 | 2.6 | -1.30 | <100 | -1.50 | <100 | 1.90 | <100 | 1.20 | <100 |
| Lead | 3.0 | 1.6 | -0.600 | <3.0 | 0.500 | <3.0 | 0.300 | <3.0 | -0.300 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | | | |
| Magnesium | 5000 | 16 | 3.60 | <5000 | 11.1 | <5000 | -2.60 | <5000 | 3.60 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.00 | <15 | 0.300 | <15 | 0.200 | <15 |
| Molybdenum | 20 | .4 | | | | | | | | |
| Nickel | 10 | .5 | -0.100 | <10 | -0.200 | <10 | 0.00 | <10 | 0.400 | <10 |
| Phosphorus | 50 | 1.9 | | | | | | | | |
| Potassium | 10000 | 79 | 13.2 | <10000 | 102 | <10000 | 127 | <10000 | 114 | <10000 |
| Selenium | 10 | 3 | -0.400 | <10 | 1.00 | <10 | 0.200 | <10 | 0.00 | <10 |
| Silicon | 200 | 1.2 | | | | | | | | |
| Silver | 10 | .5 | 0.300 | <10 | 0.500 | <10 | 0.600 | <10 | 0.700 | <10 |
| Sodium | 10000 | 9.9 | 30.2 | <10000 | 12.5 | <10000 | 32.5 | <10000 | 68.1 | <10000 |
| Strontium | 10 | .3 | | | | | | | | |
| Sulfur | 50 | 3.5 | anr | | | | | | | |
| Thallium | 10 | 1.3 | -0.400 | <10 | 0.100 | <10 | 0.200 | <10 | 0.200 | <10 |
| Tin | 10 | .7 | | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | | | |
| Vanadium | 50 | .5 | -0.400 | <50 | -0.300 | <50 | -0.200 | <50 | -0.400 | <50 |
| Zinc | 20 | .2 | -0.600 | <20 | -0.500 | <20 | -0.400 | <20 | -0.300 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46623  Units: ug/l

| Time: | | | 18:43 | | 19:39 | | 20:35 | | 21:31 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46623  Units: ug/l

| Time: | | | 22:44 | | 23:39 | |
|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | |
| Metal | RL | IDL | raw | final | raw | final |
| Aluminum | 200 | 14 | -1.80 | <200 | -7.80 | <200 |
| Antimony | 6.0 | 1.4 | -0.900 | <6.0 | 0.300 | <6.0 |
| Arsenic | 3.0 | 1.5 | 1.20 | <3.0 | 0.300 | <3.0 |
| Barium | 200 | .5 | 0.200 | <200 | 0.200 | <200 |
| Beryllium | 1.0 | .1 | 0.100 | <1.0 | 0.200 | <1.0 |
| Bismuth | 20 | 1.8 | | | | |
| Boron | 100 | .8 | | | | |
| Cadmium | 3.0 | .3 | 0.400 | <3.0 | 0.400 | <3.0 |
| Calcium | 5000 | 3.9 | -3.20 | <5000 | -3.20 | <5000 |
| Chromium | 10 | .3 | 0.00 | <10 | 0.00 | <10 |
| Cobalt | 50 | .3 | 0.00 | <50 | 0.100 | <50 |
| Copper | 10 | .6 | 0.700 | <10 | 0.700 | <10 |
| Iron | 100 | 2.6 | 3.30 | <100 | 0.300 | <100 |
| Lead | 3.0 | 1.6 | -0.800 | <3.0 | 0.900 | <3.0 |
| Lithium | 50 | 2.1 | | | | |
| Magnesium | 5000 | 16 | -5.30 | <5000 | 5.80 | <5000 |
| Manganese | 15 | .1 | 0.100 | <15 | 0.200 | <15 |
| Molybdenum | 20 | .4 | | | | |
| Nickel | 10 | .5 | 0.300 | <10 | 0.00 | <10 |
| Phosphorus | 50 | 1.9 | | | | |
| Potassium | 10000 | 79 | 10.1 | <10000 | 43.6 | <10000 |
| Selenium | 10 | 3 | 0.400 | <10 | -0.900 | <10 |
| Silicon | 200 | 1.2 | | | | |
| Silver | 10 | .5 | 0.600 | <10 | 0.400 | <10 |
| Sodium | 10000 | 9.9 | 24.3 | <10000 | 35.7 | <10000 |
| Strontium | 10 | .3 | | | | |
| Sulfur | 50 | 3.5 | anr | | | |
| Thallium | 10 | 1.3 | -0.400 | <10 | 0.400 | <10 |
| Tin | 10 | .7 | | | | |
| Titanium | 10 | .5 | | | | |
| Tungsten | 50 | 1.7 | | | | |
| Vanadium | 50 | .5 | -0.200 | <50 | -0.200 | <50 |
| Zinc | 20 | .2 | -0.400 | <20 | -0.500 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46623  Units: ug/l

| Time: | | | 22:44 | | 23:39 | |
|---|---|---|---|---|---|---|
| Sample ID: | | | CCB8 | | CCB9 | |
| Metal | RL | IDL | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

10.2.3 10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 15:37 | | | 15:47 | | | 16:45 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 39100 | 97.8 | 40000 | 39400 | 98.5 | 40000 | 39500 | 98.8 |
| Antimony | 2000 | 1940 | 97.0 | 2000 | 1940 | 97.0 | 2000 | 1940 | 97.0 |
| Arsenic | 2000 | 1960 | 98.0 | 2000 | 1920 | 96.0 | 2000 | 1950 | 97.5 |
| Barium | 2000 | 2020 | 101.0 | 2000 | 1990 | 99.5 | 2000 | 2020 | 101.0 |
| Beryllium | 2000 | 2050 | 102.5 | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 2010 | 100.5 | 2000 | 1980 | 99.0 | 2000 | 1980 | 99.0 |
| Calcium | 40000 | 38900 | 97.3 | 40000 | 39700 | 99.3 | 40000 | 39400 | 98.5 |
| Chromium | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |
| Cobalt | 2000 | 2070 | 103.5 | 2000 | 2000 | 100.0 | 2000 | 2010 | 100.5 |
| Copper | 2000 | 2000 | 100.0 | 2000 | 1980 | 99.0 | 2000 | 1990 | 99.5 |
| Iron | 40000 | 39300 | 98.3 | 40000 | 39600 | 99.0 | 40000 | 39800 | 99.5 |
| Lead | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 | 2000 | 2020 | 101.0 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 39300 | 98.3 | 40000 | 39700 | 99.3 | 40000 | 39700 | 99.3 |
| Manganese | 2000 | 2020 | 101.0 | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 |
| Molybdenum | | | | | | | | | |
| Nickel | 2000 | 2030 | 101.5 | 2000 | 2000 | 100.0 | 2000 | 2030 | 101.5 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 39400 | 98.5 | 40000 | 39500 | 98.8 | 40000 | 39900 | 99.8 |
| Selenium | 2000 | 1990 | 99.5 | 2000 | 1970 | 98.5 | 2000 | 1990 | 99.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 240 | 96.0 | 250 | 246 | 98.4 | 250 | 248 | 99.2 |
| Sodium | 40000 | 39500 | 98.8 | 40000 | 39600 | 99.0 | 40000 | 40400 | 101.0 |
| Strontium | | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2080 | 104.0 | 2000 | 2060 | 103.0 | 2000 | 2070 | 103.5 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 2000 | 100.0 | 2000 | 1970 | 98.5 | 2000 | 1980 | 99.0 |
| Zinc | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 15:37 | | | 15:47 | | | 16:45 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 17:42 | | | 18:38 | | | 19:34 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 39600 | 99.0 | 40000 | 39700 | 99.3 | 40000 | 39300 | 98.3 |
| Antimony | 2000 | 1970 | 98.5 | 2000 | 1940 | 97.0 | 2000 | 2000 | 100.0 |
| Arsenic | 2000 | 1960 | 98.0 | 2000 | 1940 | 97.0 | 2000 | 1980 | 99.0 |
| Barium | 2000 | 2010 | 100.5 | 2000 | 2010 | 100.5 | 2000 | 1990 | 99.5 |
| Beryllium | 2000 | 2060 | 103.0 | 2000 | 2050 | 102.5 | 2000 | 2030 | 101.5 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 | 2000 | 2050 | 102.5 |
| Calcium | 40000 | 40000 | 100.0 | 40000 | 39800 | 99.5 | 40000 | 39600 | 99.0 |
| Chromium | 2000 | 2020 | 101.0 | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 |
| Cobalt | 2000 | 2030 | 101.5 | 2000 | 2020 | 101.0 | 2000 | 2060 | 103.0 |
| Copper | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 | 2000 | 1970 | 98.5 |
| Iron | 40000 | 39700 | 99.3 | 40000 | 39500 | 98.8 | 40000 | 39000 | 97.5 |
| Lead | 2000 | 2030 | 101.5 | 2000 | 2010 | 100.5 | 2000 | 2040 | 102.0 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 39800 | 99.5 | 40000 | 39700 | 99.3 | 40000 | 39600 | 99.0 |
| Manganese | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Molybdenum | | | | | | | | | |
| Nickel | 2000 | 2030 | 101.5 | 2000 | 2010 | 100.5 | 2000 | 2050 | 102.5 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 40200 | 100.5 | 40000 | 40200 | 100.5 | 40000 | 39700 | 99.3 |
| Selenium | 2000 | 2000 | 100.0 | 2000 | 1980 | 99.0 | 2000 | 2020 | 101.0 |
| Silicon | | | | | | | | | |
| Silver | 250 | 250 | 100.0 | 250 | 248 | 99.2 | 250 | 246 | 98.4 |
| Sodium | 40000 | 40100 | 100.3 | 40000 | 40200 | 100.5 | 40000 | 39800 | 99.5 |
| Strontium | | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2080 | 104.0 | 2000 | 2060 | 103.0 | 2000 | 2090 | 104.5 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 2010 | 100.5 | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 |
| Zinc | 2000 | 2030 | 101.5 | 2000 | 2010 | 100.5 | 2000 | 2070 | 103.5 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 17:42 | | | 18:38 | | | 19:34 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 20:30 | | | 21:26 | | | 22:39 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 38700 | 96.8 | 40000 | 38500 | 96.3 | 40000 | 38800 | 97.0 |
| Antimony | 2000 | 1950 | 97.5 | 2000 | 1950 | 97.5 | 2000 | 1970 | 98.5 |
| Arsenic | 2000 | 1940 | 97.0 | 2000 | 1940 | 97.0 | 2000 | 1940 | 97.0 |
| Barium | 2000 | 1990 | 99.5 | 2000 | 1980 | 99.0 | 2000 | 2000 | 100.0 |
| Beryllium | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 | 2000 | 2010 | 100.5 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 | 2000 | 2030 | 101.5 |
| Calcium | 40000 | 39300 | 98.3 | 40000 | 39200 | 98.0 | 40000 | 39600 | 99.0 |
| Chromium | 2000 | 1980 | 99.0 | 2000 | 1970 | 98.5 | 2000 | 1990 | 99.5 |
| Cobalt | 2000 | 2020 | 101.0 | 2000 | 2010 | 100.5 | 2000 | 2030 | 101.5 |
| Copper | 2000 | 1950 | 97.5 | 2000 | 1940 | 97.0 | 2000 | 1950 | 97.5 |
| Iron | 40000 | 38600 | 96.5 | 40000 | 38200 | 95.5 | 40000 | 38400 | 96.0 |
| Lead | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 | 2000 | 2000 | 100.0 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 39300 | 98.3 | 40000 | 39400 | 98.5 | 40000 | 39700 | 99.3 |
| Manganese | 2000 | 2030 | 101.5 | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 |
| Molybdenum | | | | | | | | | |
| Nickel | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 | 2000 | 2000 | 100.0 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 39200 | 98.0 | 40000 | 39100 | 97.8 | 40000 | 39400 | 98.5 |
| Selenium | 2000 | 1960 | 98.0 | 2000 | 1960 | 98.0 | 2000 | 1960 | 98.0 |
| Silicon | | | | | | | | | |
| Silver | 250 | 245 | 98.0 | 250 | 244 | 97.6 | 250 | 247 | 98.8 |
| Sodium | 40000 | 39600 | 99.0 | 40000 | 39400 | 98.5 | 40000 | 39900 | 99.8 |
| Strontium | | | | | | | | | |
| Sulfur | anr | | | | | | | | |
| Thallium | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 | 2000 | 2030 | 101.5 |
| Zinc | 2000 | 2020 | 101.0 | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 20:30 | | | 21:26 | | | 22:39 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 23:34 | |
|---|---|---|---|
| Sample ID: | CCV | CCV9 | |
| Metal | True | Results | % Rec |
| Aluminum | 40000 | 38400 | 96.0 |
| Antimony | 2000 | 1960 | 98.0 |
| Arsenic | 2000 | 1940 | 97.0 |
| Barium | 2000 | 1990 | 99.5 |
| Beryllium | 2000 | 1990 | 99.5 |
| Bismuth | | | |
| Boron | | | |
| Cadmium | 2000 | 2020 | 101.0 |
| Calcium | 40000 | 39200 | 98.0 |
| Chromium | 2000 | 1980 | 99.0 |
| Cobalt | 2000 | 2030 | 101.5 |
| Copper | 2000 | 1950 | 97.5 |
| Iron | 40000 | 38000 | 95.0 |
| Lead | 2000 | 2000 | 100.0 |
| Lithium | | | |
| Magnesium | 40000 | 39400 | 98.5 |
| Manganese | 2000 | 2030 | 101.5 |
| Molybdenum | | | |
| Nickel | 2000 | 2000 | 100.0 |
| Phosphorus | | | |
| Potassium | 40000 | 39000 | 97.5 |
| Selenium | 2000 | 1960 | 98.0 |
| Silicon | | | |
| Silver | 250 | 245 | 98.0 |
| Sodium | 40000 | 39500 | 98.8 |
| Strontium | | | |
| Sulfur | anr | | |
| Thallium | 2000 | 2040 | 102.0 |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | 2000 | 2020 | 101.0 |
| Zinc | 2000 | 2040 | 102.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 23:34 | |
|---|---|---|---|
| Sample ID: | CCV | CCV9 | |
| Metal | True | Results | % Rec |
| Zirconium | | | |

(*) Outside of QC limits
(anr) Analyte not requested

10.2.4
10

HIGH STANDARD CHECK SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 16:18 | | | 16:24 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | 300000 | 310000 | 103.3 |
| Antimony | 8000 | 8160 | 102.0 | | | |
| Arsenic | 8000 | 8010 | 100.1 | | | |
| Barium | 8000 | 8140 | 101.8 | | | |
| Beryllium | 8000 | 8090 | 101.1 | | | |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 8000 | 8020 | 100.3 | | | |
| Calcium | | | | 200000 | 199000 | 99.5 |
| Chromium | 8000 | 8190 | 102.4 | | | |
| Cobalt | 8000 | 8020 | 100.3 | | | |
| Copper | 8000 | 7930 | 99.1 | | | |
| Iron | | | | 200000 | 196000 | 98.0 |
| Lead | 8000 | 8190 | 102.4 | | | |
| Lithium | | | | | | |
| Magnesium | | | | 300000 | 302000 | 100.7 |
| Manganese | 8000 | 7960 | 99.5 | | | |
| Molybdenum | | | | | | |
| Nickel | 8000 | 8050 | 100.6 | | | |
| Phosphorus | | | | | | |
| Potassium | | | | 200000 | 201000 | 100.5 |
| Selenium | 8000 | 8070 | 100.9 | | | |
| Silicon | | | | | | |
| Silver | 625 | 624 | 99.8 | | | |
| Sodium | | | | 200000 | 200000 | 100.0 |
| Strontium | | | | | | |
| Sulfur | anr | | | | | |
| Thallium | 8000 | 8250 | 103.1 | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 8000 | 7880 | 98.5 | | | |
| Zinc | 8000 | 8240 | 103.0 | | | |

HIGH STANDARD CHECK SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | 16:18 | | | 16:24 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

10.2.5

10

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46623  Units: ug/l

| Time: | | | | 15:57 | | 16:02 | | 16:55 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRI1 | | CRID1 | | CRID2 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 500 | 100 | 200 | 100.0 | 94.4 | 94.4 | 94.1 | 94.1 |
| Antimony | 6.0 | 20 | 3.0 | 6.70 | 111.7 | | | | |
| Arsenic | 8.0 | 20 | 3.0 | 7.80 | 97.5 | 3.20 | 106.7 | 3.40 | 113.3 |
| Barium | 200 | | 4.0 | 206 | 103.0 | 4.50 | 112.5 | 4.60 | 115.0 |
| Beryllium | 2.0 | | 1.0 | 2.10 | 105.0 | 1.00 | 100.0 | 1.00 | 100.0 |
| Bismuth | 20 | | | | | | | | |
| Boron | 100 | | 10 | | | | | | |
| Cadmium | 3.0 | | 1.0 | 3.30 | 110.0 | 1.10 | 110.0 | | |
| Calcium | 5000 | 2000 | 1000 | 5210 | 104.2 | 1010 | 101.0 | 1000 | 100.0 |
| Chromium | 10 | | 2.0 | 10.6 | 106.0 | 2.00 | 100.0 | 2.00 | 100.0 |
| Cobalt | 50 | | 3.0 | 52.1 | 104.2 | 3.00 | 100.0 | 3.10 | 103.3 |
| Copper | 10 | | 2.0 | 10.1 | 101.0 | | | | |
| Iron | 100 | 500 | | 104 | 104.0 | | | | |
| Lead | 3.0 | 20 | 2.5 | 2.80 | 93.3 | | | | |
| Lithium | 50 | | | | | | | | |
| Magnesium | 5000 | 2000 | 100 | 5340 | 106.8 | 107 | 107.0 | 107 | 107.0 |
| Manganese | 15 | | 3.0 | 16.2 | 108.0 | 3.10 | 103.3 | 3.20 | 106.7 |
| Molybdenum | 20 | | | | | | | | |
| Nickel | 10 | | 4.0 | 10.1 | 101.0 | 4.00 | 100.0 | 3.90 | 97.5 |
| Phosphorus | 50 | | | | | | | | |
| Potassium | 5000 | | 2000 | 5230 | 104.6 | 1980 | 99.0 | 2010 | 100.5 |
| Selenium | 10 | 20 | 5.0 | 11.4 | 114.0 | 4.90 | 98.0 | 4.10 | 82.0 |
| Silicon | 200 | | | | | | | | |
| Silver | 5.0 | | 2.0 | 4.90 | 98.0 | | | | |
| Sodium | 5000 | | 1000 | 5310 | 106.2 | 1050 | 105.0 | 1050 | 105.0 |
| Strontium | 10 | | | | | | | | |
| Sulfur | 50 | | | anr | | | | | |
| Thallium | 10 | | 2.0 | 9.90 | 99.0 | | | | |
| Tin | 10 | | | | | | | | |
| Titanium | 10 | | | | | | | | |
| Tungsten | 50 | | | | | | | | |
| Vanadium | 50 | | 2.0 | 52.0 | 104.0 | 1.80 | 90.0 | 1.70 | 85.0 |
| Zinc | 20 | | 10 | 20.7 | 103.5 | 9.70 | 97.0 | 9.70 | 97.0 |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46623  Units: ug/l

| Time: | | | | 15:57 | | 16:02 | | 16:55 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRI1 | | CRID1 | | CRID2 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec | Results | % Rec |
| Zirconium | 10 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | | 16:07 | | 16:13 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 505000 | 101.0 | 495000 | 99.0 |
| Antimony | | 1000 | 1.10 | | 1050 | 105.0 |
| Arsenic | | 1000 | 1.30 | | 1040 | 104.0 |
| Barium | | 500 | 1.10 | | 513 | 102.6 |
| Beryllium | | 500 | 0.100 | | 508 | 101.6 |
| Bismuth | | 500 | -0.200 | | 498 | 99.6 |
| Boron | | 500 | -0.200 | | 484 | 96.8 |
| Cadmium | | 1000 | 0.200 | | 1010 | 101.0 |
| Calcium | 400000 | 400000 | 371000 | 92.8 | 374000 | 93.5 |
| Chromium | | 500 | -0.900 | | 490 | 98.0 |
| Cobalt | | 500 | 1.60 | | 489 | 97.8 |
| Copper | | 500 | -6.60 | | 497 | 99.4 |
| Iron | 200000 | 200000 | 186000 | 93.0 | 190000 | 95.0 |
| Lead | | 1000 | 2.80 | | 953 | 95.3 |
| Lithium | | 500 | 0.700 | | 543 | 108.6 |
| Magnesium | 500000 | 500000 | 485000 | 97.0 | 492000 | 98.4 |
| Manganese | | 500 | 2.30 | | 508 | 101.6 |
| Molybdenum | | 500 | 0.200 | | 471 | 94.2 |
| Nickel | | 1000 | 0.00 | | 970 | 97.0 |
| Phosphorus | | 500 | 20.8 | | 500 | 100.0 |
| Potassium | | | 286 | | 235 | |
| Selenium | | 1000 | 3.10 | | 1040 | 104.0 |
| Silicon | | 500 | 0.600 | | 489 | 97.8 |
| Silver | | 1000 | 2.50 | | 1050 | 105.0 |
| Sodium | | | 130 | | 119 | |
| Strontium | | 500 | -0.200 | | 518 | 103.6 |
| Sulfur | | 500 | -2.80 | | 494 | 98.8 |
| Thallium | | 1000 | -1.50 | | 977 | 97.7 |
| Tin | | 500 | -3.20 | | 463 | 92.6 |
| Titanium | | 500 | -1.10 | | 489 | 97.8 |
| Tungsten | | 500 | 0.200 | | 462 | 92.4 |
| Vanadium | | 500 | -2.70 | | 494 | 98.8 |
| Zinc | | 1000 | -2.00 | | 957 | 95.7 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC043019M1.ICP  Date Analyzed: 04/30/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46623  Units: ug/l

| Time: | | | 16:07 | | 16:13 | |
|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | |
| Metal | True | True | Results | % Rec | Results | % Rec |
| Zirconium | | 500 | 0.300 | | 479 | 95.8 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:20 | MA46628-STD1 | 1 | | STDA |
| 12:25 | MA46628-STD2 | 1 | | STDB |
| 12:30 | ZZZZZZ | 1 | | |
| 12:35 | ZZZZZZ | 1 | | |
| 12:41 | MA46628-ICV1 | 1 | | |
| 12:46 | MA46628-ICB1 | 1 | | |
| 12:54 | MA46628-ICCV1 | 1 | | |
| 13:03 | MA46628-CCB1 | 1 | | |
| 13:08 | MA46628-CRI1 | 1 | | |
| 13:13 | MA46628-CRID1 | 1 | | |
| 13:18 | MA46628-ICSA1 | 1 | | |
| 13:23 | MA46628-ICSAB1 | 1 | | |
| 13:28 | MA46628-HSTD1 | 1 | | |
| 13:34 | MA46628-HSTD2 | 1 | | |
| 13:40 | ZZZZZZ | 1 | | |
| 13:45 | ZZZZZZ | 1 | | |
| 13:50 | ZZZZZZ | 1 | | |
| 13:56 | MA46628-CCV1 | 1 | | |
| 14:01 | MA46628-CCB2 | 1 | | |
| 14:06 | ZZZZZZ | 1 | | |
| 14:11 | MP14600-B1 | 1 | | |
| 14:16 | MP14600-S1 | 1 | | Needs post straight for Ca |
| 14:21 | MP14600-S2 | 1 | | |
| 14:26 | JC86989-3 | 1 | | (sample used for QC only; not part of login JC86986) |
| 14:31 | MP14600-SD1 | 5 | | |
| 14:37 | ZZZZZZ | 1 | | |
| 14:42 | ZZZZZZ | 1 | | |
| 14:47 | ZZZZZZ | 1 | | |
| 14:52 | MA46628-CCV2 | 1 | | |
| 14:57 | MA46628-CCB3 | 1 | | |
| 15:02 | ZZZZZZ | 1 | | |
| 15:07 | MP14600-S1 | 10 | | Needs post spike for Sb on dilution |
| 15:12 | MP14600-S2 | 10 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:17 | JC86989-3 | 10 | | (sample used for QC only; not part of login JC86986) |
| 15:22 | MP14600-SD1 | 50 | | |
| 15:27 | ZZZZZZ | 10 | | |
| 15:32 | ZZZZZZ | 10 | | |
| 15:37 | ZZZZZZ | 10 | | |
| 15:42 | ZZZZZZ | 10 | | |
| 15:47 | MA46628-CCV3 | 1 | | |
| 15:52 | MA46628-CCB4 | 1 | | |
| 15:57 | ZZZZZZ | 5 | | |
| 16:02 | ZZZZZZ | 5 | | |
| 16:07 | MP14617-B1 | 1 | | |
| 16:12 | ZZZZZZ | 1 | | |
| 16:17 | MP14617-S1 | 2 | | |
| 16:22 | MP14617-S2 | 2 | | |
| 16:27 | JC86986-4 | 1 | | |
| 16:32 | JC86986-5 | 1 | | |
| 16:37 | JC86986-7 | 1 | | |
| 16:42 | MA46628-CCV4 | 1 | | |
| 16:47 | MA46628-CCB5 | 1 | | |
| 16:53 | MA46628-ICSA2 | 1 | | |
| 16:58 | MA46628-ICSAB2 | 1 | | |
| 17:03 | JC86986-8 | 1 | | bad reading |
| 17:08 | JC86986-9 | 1 | | FE high |
| 17:14 | JC86986-10 | 1 | | |
| 17:19 | JC86986-11 | 1 | | |
| 17:24 | JC86986-12 | 1 | | high rsd. Ti high |
| 17:29 | JC86986-13 | 1 | | FE, Ti high |
| ----------> | Last reportable sample/prep for job JC86986 | | | |
| 17:35 | ZZZZZZ | 1 | | |
| 17:40 | MA46628-CCV5 | 1 | | |
| 17:45 | MA46628-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job JC86986 | | | |
| 17:50 | ZZZZZZ | 1 | | |
| 17:55 | ZZZZZZ | 1 | | |
| 18:01 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:06 | ZZZZZZ | 1 | | |
| 18:11 | ZZZZZZ | 1 | | |
| 18:16 | ZZZZZZ | 1 | | |
| 18:21 | MP14579-B1 | 1 | | |
| 18:26 | MP14579-MB1 | 1 | | |
| 18:31 | MP14579-S1 | 1 | | needs post spike for Sb, ca |
| 18:36 | MA46628-CCV6 | 1 | | |
| 18:41 | MA46628-CCB7 | 1 | | |
| 18:47 | ZZZZZZ | 1 | | |
| 18:52 | ZZZZZZ | 1 | | |
| 18:57 | ZZZZZZ | 1 | | |
| 19:02 | ZZZZZZ | 1 | | |
| 19:07 | ZZZZZZ | 1 | | |
| 19:13 | ZZZZZZ | 1 | | |
| 19:18 | ZZZZZZ | 1 | | |
| 19:23 | ZZZZZZ | 1 | | |
| 19:28 | ZZZZZZ | 1 | | |
| 19:33 | ZZZZZZ | 1 | | |
| 19:39 | ZZZZZZ | 1 | | |
| 19:44 | ZZZZZZ | 1 | | |
| 19:49 | MA46628-CCV7 | 1 | | |
| 19:54 | MA46628-CCB8 | 1 | | |
| 19:59 | MP14579-S2 | 1 | | |
| 20:04 | ZZZZZZ | 1 | | |
| 20:09 | MP14579-SD1 | 5 | | |
| 20:14 | ZZZZZZ | 1 | | |
| 20:20 | ZZZZZZ | 1 | | |
| 20:25 | ZZZZZZ | 1 | | |
| 20:30 | ZZZZZZ | 1 | | |
| 20:35 | ZZZZZZ | 1 | | |
| 20:40 | ZZZZZZ | 1 | | |
| 20:45 | MA46628-CCV8 | 1 | | |
| 20:50 | MA46628-CCB9 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:55 | ZZZZZZ | 1 | | |
| 21:00 | ZZZZZZ | 1 | | |
| 21:05 | ZZZZZZ | 1 | | |
| 21:10 | ZZZZZZ | 1 | | |
| 21:15 | ZZZZZZ | 1 | | |
| 21:20 | ZZZZZZ | 1 | | |
| 21:26 | ZZZZZZ | 1 | | |
| 21:31 | ZZZZZZ | 1 | | |
| 21:36 | ZZZZZZ | 1 | | |
| 21:42 | MA46628-CCV9 | 1 | | |
| 21:47 | MA46628-CCB10 | 1 | | |
| 21:52 | MP14636-B1 | 1 | | |
| 21:57 | MP14636-MB1 | 1 | | |
| 22:02 | MP14636-S1 | 1 | | needs post spike for Sb, Mg |
| 22:07 | MP14636-S2 | 1 | | |
| 22:12 | JC86916-6 | 1 | | (sample used for QC only; not part of login JC86986) |
| 22:18 | MP14636-SD1 | 5 | | |
| 22:23 | ZZZZZZ | 1 | | |
| 22:28 | ZZZZZZ | 1 | | |
| 22:33 | ZZZZZZ | 1 | | |
| 22:38 | MA46628-CCV10 | 1 | | |
| 22:43 | MA46628-CCB11 | 1 | | |
| 22:48 | ZZZZZZ | 1 | | |
| 22:53 | ZZZZZZ | 1 | | |
| 22:59 | ZZZZZZ | 1 | | |
| 23:04 | ZZZZZZ | 1 | | |
| 23:09 | ZZZZZZ | 1 | | |
| 23:14 | ZZZZZZ | 1 | | |
| 23:20 | ZZZZZZ | 1 | | |
| 23:25 | ZZZZZZ | 1 | | |
| 23:30 | ZZZZZZ | 1 | | |
| 23:35 | ZZZZZZ | 1 | | |
| 23:40 | MA46628-CCV11 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 23:45 | MA46628-CCB12 | 1 | | |
| 23:50 | MP14600-MB1 | 1 | | |
| 23:55 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:05 | ZZZZZZ | 1 | | |
| 00:10 | ZZZZZZ | 1 | | |
| 00:16 | ZZZZZZ | 1 | | |
| 00:21 | ZZZZZZ | 1 | | |
| 00:26 | ZZZZZZ | 1 | | |
| 00:31 | ZZZZZZ | 1 | | |
| 00:36 | ZZZZZZ | 1 | | |
| 00:41 | MA46628-CCV12 | 1 | | |
| 00:46 | MA46628-CCB13 | 1 | | |
| 00:52 | ZZZZZZ | 1 | | |
| 00:57 | ZZZZZZ | 1 | | |
| 01:02 | ZZZZZZ | 1 | | |
| 01:07 | ZZZZZZ | 1 | | |
| 01:12 | ZZZZZZ | 1 | | |
| 01:18 | ZZZZZZ | 1 | | |
| 01:23 | ZZZZZZ | 1 | | |
| 01:28 | ZZZZZZ | 1 | | |
| 01:33 | MA46628-CCV13 | 1 | | |
| 01:38 | MA46628-CCB14 | 1 | | |
| 01:43 | ZZZZZZ | 1 | | |
| 01:48 | ZZZZZZ | 1 | | |
| 01:53 | ZZZZZZ | 1 | | |
| 01:58 | ZZZZZZ | 1 | | |
| 02:03 | ZZZZZZ | 1 | | |
| 02:09 | MP14678-B1 | 1 | | |
| 02:14 | MP14678-MB1 | 1 | | CR high |
| 02:19 | MP14678-S1 | 1 | | |
| 02:24 | MP14678-S2 | 1 | | |
| 02:29 | JC87038-2 | 1 | | (sample used for QC only; not part of login JC86986) |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 02:34 | MA46628-CCV14 | 1 | | |
| 02:39 | MA46628-CCB15 | 1 | | |
| 02:44 | MP14678-SD1 | 5 | | |
| 02:49 | ZZZZZZ | 1 | | |
| 02:54 | ZZZZZZ | 1 | | |
| 02:59 | ZZZZZZ | 1 | | |
| 03:04 | ZZZZZZ | 1 | | |
| 03:09 | ZZZZZZ | 1 | | |
| 03:14 | ZZZZZZ | 1 | | |
| 03:19 | ZZZZZZ | 1 | | |
| 03:24 | ZZZZZZ | 1 | | |
| 03:29 | ZZZZZZ | 1 | | |
| 03:34 | MA46628-CCV15 | 1 | | |
| 03:39 | MA46628-CCB16 | 1 | | |
| 03:45 | ZZZZZZ | 1 | | |
| 03:50 | ZZZZZZ | 1 | | |
| 03:55 | ZZZZZZ | 1 | | |
| 04:00 | ZZZZZZ | 1 | | |
| 04:05 | ZZZZZZ | 1 | | |
| 04:10 | ZZZZZZ | 1 | | |
| 04:15 | ZZZZZZ | 1 | | |
| 04:20 | ZZZZZZ | 1 | | |
| 04:25 | ZZZZZZ | 1 | | |
| 04:30 | ZZZZZZ | 1 | | |
| 04:35 | MA46628-CCV16 | 1 | | |
| 04:40 | MA46628-CCB17 | 1 | | |
| 04:45 | ZZZZZZ | 1 | | |
| 04:50 | ZZZZZZ | 1 | | |
| 04:56 | ZZZZZZ | 1 | | |
| 05:01 | ZZZZZZ | 1 | | |
| 05:06 | ZZZZZZ | 1 | | |
| 05:11 | ZZZZZZ | 1 | | |
| 05:17 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 05:22 | ZZZZZZ | 1 | | |
| 05:27 | ZZZZZZ | 1 | | |
| 05:32 | ZZZZZZ | 1 | | |
| 05:38 | MA46628-CCV17 | 1 | | |
| 05:43 | MA46628-CCB18 | 1 | | |
| 05:48 | ZZZZZZ | 1 | | |
| 05:53 | ZZZZZZ | 1 | | |
| 05:58 | ZZZZZZ | 1 | | |
| 06:03 | ZZZZZZ | 1 | | |
| 06:09 | ZZZZZZ | 1 | | |
| 06:14 | ZZZZZZ | 1 | | |
| 06:19 | MA46628-CCV18 | 1 | | |
| 06:24 | MA46628-CCB19 | 1 | | |
| 07:53 | ZZZZZZ | 5 | | |
| 07:58 | ZZZZZZ | 5 | | |
| 08:06 | ZZZZZZ | 5 | | |
| 08:11 | MA46628-CCV19 | 1 | | |
| 08:15 | MA46628-CCB20 | 1 | | |
| 08:25 | JC86916-5 | 1 | | (sample used for QC only; not part of login JC86986) |
| 08:31 | MA46628-CCV20 | 1 | | |
| 08:37 | MA46628-CCB21 | 1 | | |
| 09:12 | JC87038-2 | 1 | | (sample used for QC only; not part of login JC86986) |
| 09:17 | MA46628-CCV21 | 1 | | |
| 09:26 | MA46628-CCB22 | 1 | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:30 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 12:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 12:41 | MA46628-ICV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:46 | MA46628-ICB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 12:54 | MA46628-ICCV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:03 | MA46628-CCB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:08 | MA46628-CRI1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:13 | MA46628-CRID1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:18 | MA46628-ICSA1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:23 | MA46628-ICSAB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:28 | MA46628-HSTD1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:34 | MA46628-HSTD2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 13:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 13:56 | MA46628-CCV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 14:01 | MA46628-CCB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 14:06 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 14:11 | MP14600-B1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 14:16 | MP14600-S1 | 1 | X | | | X | X | | X | | X | | | | X | | X | X | | | X | | | | |
| 14:21 | MP14600-S2 | 1 | X | | | X | X | | X | | X | | | | X | | X | X | | | X | | | | |
| 14:26 | JC86989-3 | 1 | | | | X | | | | | | | | | | | | | | | | | | | (a) |
| 14:31 | MP14600-SD1 | 5 | X | | | X | X | | X | | X | | | | X | | X | X | | | X | | | | |
| 14:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 14:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 14:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 14:52 | MA46628-CCV2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 14:57 | MA46628-CCB3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 15:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 15:07 | MP14600-S1 | 10 | | X | X | | | X | | X | | X | X | X | | X | | | X | X | | X | X | X | |
| 15:12 | MP14600-S2 | 10 | | X | X | | | X | | X | | X | X | X | | X | | | X | X | | X | X | X | |
| 15:17 | JC86989-3 | 10 | | | X | | | X | | X | | | | X | | | | | X | X | | | | | (a) |
| 15:22 | MP14600-SD1 | 50 | | X | X | | | X | | X | | X | X | X | | X | | | X | X | | X | X | X | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15:27 | ZZZZZZ | 10 | | | | | | | | | | | | | | | | | | | | | | |
| 15:32 | ZZZZZZ | 10 | | | | | | | | | | | | | | | | | | | | | | |
| 15:37 | ZZZZZZ | 10 | | | | | | | | | | | | | | | | | | | | | | |
| 15:42 | ZZZZZZ | 10 | | | | | | | | | | | | | | | | | | | | | | |
| 15:47 | MA46628-CCV3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:52 | MA46628-CCB4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:57 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 16:02 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | |
| 16:07 | MP14617-B1 | 1 | | | | | | | | X | | X | | | | X | | | | X | | | X | |
| 16:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 16:17 | MP14617-S1 | 2 | | | | | | | | | | | X | | | | | | | | | | | |
| 16:22 | MP14617-S2 | 2 | | | | | | | | | | | X | | | | | | | | | | | |
| 16:27 | JC86986-4 | 1 | | | | | | | | | | | | | | | | | | | | | | X |
| 16:32 | JC86986-5 | 1 | X | | | X | X | | | X | | | X | | X | | | X | | X | X | | | |
| 16:37 | JC86986-7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:42 | MA46628-CCV4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:47 | MA46628-CCB5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:53 | MA46628-ICSA2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:58 | MA46628-ICSAB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:03 | JC86986-8 | 1 | X | X | X | X | X | X | X | | X | | X | X | X | | X | X | X | | X | X | | X |
| 17:08 | JC86986-9 | 1 | X | | | X | X | X | X | X | X | | | | X | | X | X | | | X | | X | X |
| 17:14 | JC86986-10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:19 | JC86986-11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:24 | JC86986-12 | 1 | X | X | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | X | |
| 17:29 | JC86986-13 | 1 | X | | | X | | X | X | X | | | | | X | | X | X | | | X | | X | X |
| 17:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 17:40 | MA46628-CCV5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:45 | MA46628-CCB6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 17:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 18:01 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 18:06 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 18:11 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 18:21 | MP14579-B1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 18:26 | MP14579-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 18:31 | MP14579-S1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 18:36 | MA46628-CCV6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 18:41 | MA46628-CCB7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 18:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 18:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 18:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 19:49 | MA46628-CCV7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:54 | MA46628-CCB8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:59 | MP14579-S2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 20:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:09 | MP14579-SD1 | 5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 20:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:25 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:30 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:40 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 20:45 | MA46628-CCV8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 20:50 | MA46628-CCB9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 20:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 21:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 21:42 | MA46628-CCV9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 21:47 | MA46628-CCB10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 21:52 | MP14636-B1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 21:57 | MP14636-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:02 | MP14636-S1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:07 | MP14636-S2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:12 | JC86916-6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | (a) |
| 22:18 | MP14636-SD1 | 5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:38 | MA46628-CCV10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:43 | MA46628-CCB11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:48 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:53 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 22:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:25 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:30 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 23:40 | MA46628-CCV11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:45 | MA46628-CCB12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:50 | MP14600-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:21 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:41 | MA46628-CCV12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 00:46 | MA46628-CCB13 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 00:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 00:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:33 | MA46628-CCV13 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 01:38 | MA46628-CCB14 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 01:43 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:48 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:53 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 01:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:09 | MP14678-B1 | 1 | | | X | X | | X | | X | | | X | X | | | | | X | X | | | | |
| 02:14 | MP14678-MB1 | 1 | | | X | X | | X | | X | | | X | X | | | | | X | X | | | | |
| 02:19 | MP14678-S1 | 1 | | | X | X | | X | | X | | | X | X | | | | | X | X | | | | |
| 02:24 | MP14678-S2 | 1 | | | X | X | | X | | X | | | X | X | | | | | X | X | | | | |
| 02:29 | JC87038-2 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:34 | MA46628-CCV14 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 02:39 | MA46628-CCB15 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 02:44 | MP14678-SD1 | 5 | | | X | X | | X | | X | | | X | X | | | | | X | X | | | | |
| 02:49 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:54 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 02:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:19 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:24 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:34 | MA46628-CCV15 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 03:39 | MA46628-CCB16 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 03:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 03:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:25 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:30 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:35 | MA46628-CCV16 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 04:40 | MA46628-CCB17 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 04:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 04:56 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:01 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:06 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:11 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:17 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:22 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 05:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:38 | MA46628-CCV17 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 05:43 | MA46628-CCB18 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 05:48 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:53 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 05:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:03 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 06:19 | MA46628-CCV18 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 06:24 | MA46628-CCB19 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 07:53 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 07:58 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:06 | ZZZZZZ | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 08:11 | MA46628-CCV19 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 08:15 | MA46628-CCB20 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 08:25 | JC86916-5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | (a) |
| 08:31 | MA46628-CCV20 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 08:37 | MA46628-CCB21 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 09:12 | JC87038-2 | 1 | | | | | | | | | | | | X | X | | | | | | | | | | (a) |
| 09:17 | MA46628-CCV21 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 09:26 | MA46628-CCB22 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |

(a) Sample used for QC only; not part of login JC86986.

| Element: | Al | Sb | As | Ba | Be | Cd | Ca | Cr | Co | Cu | Fe | Pb | Mg | Mn | Ni | K | Se | Ag | Na | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 12:20 | MA46628-STD1 | 5967 R | 147250 R | 23863 R | 9951 R |
| 12:25 | MA46628-STD2 | 5640 | 136600 | 24025 | 8965 |
| 12:30 | ZZZZZZ | 5682 | 138340 | 23796 | 9027 |
| 12:35 | ZZZZZZ | 6056 | 149740 | 24710 | 10055 |
| 12:41 | MA46628-ICV1 | 5745 | 138610 | 23879 | 9108 |
| 12:46 | MA46628-ICB1 | 6029 | 149200 | 24620 | 10023 |
| 12:54 | MA46628-ICCV1 | 5686 | 137850 | 23741 | 9038 |
| 13:03 | MA46628-CCB1 | 5910 | 145940 | 23974 | 9858 |
| 13:08 | MA46628-CRI1 | 5874 | 145250 | 24337 | 9605 |
| 13:13 | MA46628-CRID1 | 5926 | 145370 | 23900 | 9837 |
| 13:18 | MA46628-ICSA1 | 5251 | 126400 | 22994 | 8263 |
| 13:23 | MA46628-ICSAB1 | 5254 | 126540 | 23038 | 8295 |
| 13:28 | MA46628-HSTD1 | 5754 | 142990 | 24347 | 9708 |
| 13:34 | MA46628-HSTD2 | 5276 | 127350 | 22971 | 8218 |
| 13:40 | ZZZZZZ | 5803 | 144610 | 24119 | 9824 |
| 13:45 | ZZZZZZ | 5783 | 147420 | 24070 | 9924 |
| 13:50 | ZZZZZZ | 5959 | 146980 | 24310 | 9930 |
| 13:56 | MA46628-CCV1 | 5614 | 136220 | 23525 | 8950 |
| 14:01 | MA46628-CCB2 | 5863 | 145440 | 23815 | 9797 |
| 14:06 | ZZZZZZ | 6012 | 149420 | 24668 | 9967 |
| 14:11 | MP14600-B1 | 5770 | 142340 | 24070 | 9242 |
| 14:16 | MP14600-S1 | 5722 | 141060 | 25073 | 10003 |
| 14:21 | MP14600-S2 | 5699 | 139340 | 24866 | 9892 |
| 14:26 | JC86989-3 | 5817 | 140970 | 25034 | 10121 |
| 14:31 | MP14600-SD1 | 5859 | 142070 | 23899 | 9645 |
| 14:37 | ZZZZZZ | 5916 | 143380 | 25126 | 9834 |
| 14:42 | ZZZZZZ | 5844 | 141230 | 24493 | 10044 |
| 14:47 | ZZZZZZ | 5858 | 142280 | 25094 | 10109 |
| 14:52 | MA46628-CCV2 | 5630 | 137240 | 23325 | 8942 |
| 14:57 | MA46628-CCB3 | 5897 | 145730 | 23459 | 9796 |
| 15:02 | ZZZZZZ | 5922 | 142790 | 24835 | 9852 |
| 15:07 | MP14600-S1 | 5843 | 142390 | 23675 | 9501 |
| 15:12 | MP14600-S2 | 5885 | 142650 | 23516 | 9528 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 15:17 | JC86989-3 | 5874 | 144160 | 23584 | 9586 |
| 15:22 | MP14600-SD1 | 5903 | 146620 | 23751 | 9689 |
| 15:27 | ZZZZZZ | 5893 | 144090 | 23651 | 9570 |
| 15:32 | ZZZZZZ | 5877 | 143420 | 23490 | 9592 |
| 15:37 | ZZZZZZ | 5848 | 143080 | 23568 | 9549 |
| 15:42 | ZZZZZZ | 5896 | 144520 | 23565 | 9613 |
| 15:47 | MA46628-CCV3 | 5606 | 135700 | 22956 | 8874 |
| 15:52 | MA46628-CCB4 | 5881 | 144960 | 23395 | 9744 |
| 15:57 | ZZZZZZ | 5873 | 142840 | 23707 | 9505 |
| 16:02 | ZZZZZZ | 5892 | 143480 | 23554 | 9553 |
| 16:07 | MP14617-B1 | 5711 | 139300 | 23364 | 9092 |
| 16:12 | ZZZZZZ | 5958 | 147360 | 23544 | 9829 |
| 16:17 | MP14617-S1 | 5940 | 144680 | 24647 | 9160 |
| 16:22 | MP14617-S2 | 5951 | 144560 | 24179 | 9209 |
| 16:27 | JC86986-4 | 6252 | 150610 | 25773 | 9238 |
| 16:32 | JC86986-5 | 6030 | 145840 | 24482 | 9366 |
| 16:37 | JC86986-7 | 6050 | 148550 | 24787 | 9579 |
| 16:42 | MA46628-CCV4 | 5692 | 138110 | 23105 | 8944 |
| 16:47 | MA46628-CCB5 | 5975 | 146680 | 23089 | 9858 |
| 16:53 | MA46628-ICSA2 | 5219 | 124530 | 22412 | 8148 |
| 16:58 | MA46628-ICSAB2 | 5166 | 124140 | 22222 | 8116 |
| 17:03 | JC86986-8 | 6235 | 999999 !a | 25680 | 9157 |
| 17:08 | JC86986-9 | 5807 | 141190 | 23959 | 9550 |
| 17:14 | JC86986-10 | 6206 | 149580 | 25535 | 9265 |
| 17:19 | JC86986-11 | 6289 | 150710 | 26040 | 8988 |
| 17:24 | JC86986-12 | 5992 | 143900 | 24606 | 9184 |
| 17:29 | JC86986-13 | 5857 | 141920 | 24358 | 9065 |
| 17:35 | ZZZZZZ | 6330 | 151980 | 26215 | 9308 |
| 17:40 | MA46628-CCV5 | 5609 | 136340 | 22917 | 8834 |
| 17:45 | MA46628-CCB6 | 5910 | 146110 | 23410 | 9755 |
| 17:50 | ZZZZZZ | 6072 | 145650 | 24846 | 9187 |
| 17:55 | ZZZZZZ | 6135 | 147310 | 25031 | 9255 |
| 18:01 | ZZZZZZ | 6210 | 149320 | 25259 | 9214 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 18:06 | ZZZZZZ | 6207 | 148680 | 25329 | 9244 |
| 18:11 | ZZZZZZ | 6298 | 151280 | 25684 | 9186 |
| 18:16 | ZZZZZZ | 6235 | 152830 | 25905 | 9147 |
| 18:21 | MP14579-B1 | 5691 | 139380 | 23294 | 9022 |
| 18:26 | MP14579-MB1 | 5968 | 148030 | 23834 | 9805 |
| 18:31 | MP14579-S1 | 5829 | 142260 | 24137 | 9002 |
| 18:36 | MA46628-CCV6 | 5634 | 136610 | 23202 | 8852 |
| 18:41 | MA46628-CCB7 | 5886 | 145460 | 23504 | 9692 |
| 18:47 | ZZZZZZ | 5913 | 145530 | 23365 | 9693 |
| 18:52 | ZZZZZZ | 5900 | 144950 | 23323 | 9665 |
| 18:57 | ZZZZZZ | 5878 | 145440 | 23461 | 9675 |
| 19:02 | ZZZZZZ | 5894 | 145170 | 23318 | 9673 |
| 19:07 | ZZZZZZ | 5885 | 145020 | 23435 | 9636 |
| 19:13 | ZZZZZZ | 5929 | 145900 | 23522 | 9683 |
| 19:18 | ZZZZZZ | 5858 | 144380 | 23213 | 9621 |
| 19:23 | ZZZZZZ | 5889 | 145020 | 23573 | 9757 |
| 19:28 | ZZZZZZ | 5739 | 129340 | 23507 | 8724 |
| 19:33 | ZZZZZZ | 5404 | 132240 | 22656 | 8419 |
| 19:39 | ZZZZZZ | 5936 | 146210 | 23394 | 9729 |
| 19:44 | ZZZZZZ | 5894 | 142880 | 23572 | 9677 |
| 19:49 | MA46628-CCV7 | 5615 | 136580 | 22848 | 8803 |
| 19:54 | MA46628-CCB8 | 5874 | 145220 | 23367 | 9649 |
| 19:59 | MP14579-S2 | 5798 | 140580 | 23918 | 8951 |
| 20:04 | ZZZZZZ | 12987 ! | 303370 ! | 40145 ! | 20451 ! |
| 20:09 | MP14579-SD1 | 5946 | 145600 | 23501 | 9539 |
| 20:14 | ZZZZZZ | 5818 | 142020 | 24061 | 9053 |
| 20:20 | ZZZZZZ | 6215 | 148620 | 25467 | 9102 |
| 20:25 | ZZZZZZ | 5954 | 145860 | 23932 | 9461 |
| 20:30 | ZZZZZZ | 5946 | 144580 | 23866 | 9361 |
| 20:35 | ZZZZZZ | 5950 | 144460 | 23931 | 9353 |
| 20:40 | ZZZZZZ | 6052 | 147720 | 24724 | 9194 |
| 20:45 | MA46628-CCV8 | 5629 | 136570 | 22993 | 8823 |
| 20:50 | MA46628-CCB9 | 5895 | 146640 | 23532 | 9672 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 20:55 | ZZZZZZ | 6068 | 147640 | 24524 | 9311 |
| 21:00 | ZZZZZZ | 6086 | 146400 | 24398 | 9349 |
| 21:05 | ZZZZZZ | 6009 | 999999 !a | 24323 | 9368 |
| 21:10 | ZZZZZZ | 5870 | 142560 | 23908 | 9161 |
| 21:15 | ZZZZZZ | 6122 | 149490 | 24841 | 9278 |
| 21:20 | ZZZZZZ | 6027 | 145690 | 999999 !a | 9322 |
| 21:26 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 21:31 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 21:36 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 21:42 | MA46628-CCV9 | 5587 | 135410 | 22863 | 8726 |
| 21:47 | MA46628-CCB10 | 5861 | 144270 | 23348 | 9590 |
| 21:52 | MP14636-B1 | 5690 | 139400 | 23264 | 8959 |
| 21:57 | MP14636-MB1 | 5948 | 147310 | 23908 | 9711 |
| 22:02 | MP14636-S1 | 5816 | 141580 | 24247 | 8917 |
| 22:07 | MP14636-S2 | 5854 | 142770 | 24146 | 8982 |
| 22:12 | JC86916-6 | 6003 | 146330 | 24642 | 9200 |
| 22:18 | MP14636-SD1 | 5893 | 144180 | 23470 | 9369 |
| 22:23 | ZZZZZZ | 6069 | 147650 | 24696 | 9046 |
| 22:28 | ZZZZZZ | 5933 | 143550 | 24318 | 9295 |
| 22:33 | ZZZZZZ | 6035 | 145920 | 25215 | 8856 |
| 22:38 | MA46628-CCV10 | 5585 | 134690 | 22679 | 8712 |
| 22:43 | MA46628-CCB11 | 5865 | 145240 | 23072 | 9579 |
| 22:48 | ZZZZZZ | 5960 | 146390 | 24234 | 9153 |
| 22:53 | ZZZZZZ | 6137 | 149590 | 25253 | 9158 |
| 22:59 | ZZZZZZ | 6144 | 999999 !a | 25319 | 9153 |
| 23:04 | ZZZZZZ | 6280 | 149990 | 25578 | 9144 |
| 23:09 | ZZZZZZ | 5900 | 144080 | 24590 | 8953 |
| 23:14 | ZZZZZZ | 5980 | 144540 | 24421 | 8958 |
| 23:20 | ZZZZZZ | 6148 | 149410 | 24765 | 9238 |
| 23:25 | ZZZZZZ | 6027 | 144760 | 24274 | 9184 |
| 23:30 | ZZZZZZ | 5888 | 143920 | 23988 | 9368 |
| 23:35 | ZZZZZZ | 6031 | 146830 | 24577 | 9347 |
| 23:40 | MA46628-CCV11 | 5622 | 136760 | 22987 | 8741 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 23:45 | MA46628-CCB12 | 5905 | 146020 | 23343 | 9607 |
| 23:50 | MP14600-MB1 | 5979 | 148030 | 23758 | 9675 |
| 23:55 | ZZZZZZ | 6177 | 151070 | 999999 !a | 9533 |
| 00:00 | ZZZZZZ | 6131 | 149920 | 24300 | 9505 |
| 00:05 | ZZZZZZ | 6153 | 145080 | 24876 | 8954 |
| 00:10 | ZZZZZZ | 6007 | 144150 | 24316 | 9188 |
| 00:16 | ZZZZZZ | 6025 | 142400 | 24421 | 9106 |
| 00:21 | ZZZZZZ | 6138 | 147670 | 24660 | 9067 |
| 00:26 | ZZZZZZ | 6163 | 147230 | 25321 | 9060 |
| 00:31 | ZZZZZZ | 6225 | 150880 | 25510 | 9169 |
| 00:36 | ZZZZZZ | 6427 | 156270 | 26353 | 8941 |
| 00:41 | MA46628-CCV12 | 5640 | 137100 | 22846 | 8729 |
| 00:46 | MA46628-CCB13 | 5859 | 143720 | 22945 | 9504 |
| 00:52 | ZZZZZZ | 6245 | 149510 | 999999 !a | 9149 |
| 00:57 | ZZZZZZ | 6053 | 146070 | 24906 | 8940 |
| 01:02 | ZZZZZZ | 6273 | 151380 | 25714 | 9110 |
| 01:07 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 01:12 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 01:18 | ZZZZZZ | No results reported for the elements associated with this internal standard. | | | |
| 01:23 | ZZZZZZ | 5884 | 146340 | 23665 | 9539 |
| 01:28 | ZZZZZZ | 5681 | 138430 | 22932 | 8866 |
| 01:33 | MA46628-CCV13 | 5544 | 134290 | 22677 | 8593 |
| 01:38 | MA46628-CCB14 | 5856 | 145800 | 23216 | 9494 |
| 01:43 | ZZZZZZ | 5858 | 143020 | 23579 | 9282 |
| 01:48 | ZZZZZZ | 5902 | 999999 !a | 23657 | 9363 |
| 01:53 | ZZZZZZ | 6003 | 145980 | 24202 | 9178 |
| 01:58 | ZZZZZZ | 6016 | 146820 | 24245 | 9061 |
| 02:03 | ZZZZZZ | 5820 | 142180 | 23751 | 8964 |
| 02:09 | MP14678-B1 | 5748 | 142850 | 23225 | 8936 |
| 02:14 | MP14678-MB1 | 5985 | 148540 | 23957 | 9636 |
| 02:19 | MP14678-S1 | 5716 | 138980 | 23253 | 8784 |
| 02:24 | MP14678-S2 | 5785 | 139440 | 23228 | 8886 |
| 02:29 | JC87038-2 | No results reported for the elements associated with this internal standard. | | | |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP Date Analyzed: 05/01/19 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 02:34 | MA46628-CCV14 | 5587 | 135980 | 22663 | 8629 |
| 02:39 | MA46628-CCB15 | 5867 | 144860 | 22978 | 9484 |
| 02:44 | MP14678-SD1 | 5890 | 144160 | 23157 | 9349 |
| 02:49 | ZZZZZZ | 5918 | 999999 !a | 23691 | 9240 |
| 02:54 | ZZZZZZ | 6062 | 146830 | 24221 | 9160 |
| 02:59 | ZZZZZZ | 6055 | 147790 | 24086 | 9179 |
| 03:04 | ZZZZZZ | 6104 | 146270 | 23994 | 9314 |
| 03:09 | ZZZZZZ | 6065 | 145700 | 24098 | 9130 |
| 03:14 | ZZZZZZ | 6024 | 146270 | 24249 | 9186 |
| 03:19 | ZZZZZZ | 6029 | 147570 | 24134 | 9147 |
| 03:24 | ZZZZZZ | 6082 | 147340 | 24318 | 9175 |
| 03:29 | ZZZZZZ | 6049 | 147700 | 24465 | 9124 |
| 03:34 | MA46628-CCV15 | 5603 | 135950 | 22610 | 8639 |
| 03:39 | MA46628-CCB16 | 5851 | 144560 | 22935 | 9459 |
| 03:45 | ZZZZZZ | 6104 | 147750 | 24254 | 9126 |
| 03:50 | ZZZZZZ | 5951 | 144750 | 23710 | 9234 |
| 03:55 | ZZZZZZ | 5926 | 144310 | 23714 | 9227 |
| 04:00 | ZZZZZZ | 6050 | 145600 | 24007 | 9110 |
| 04:05 | ZZZZZZ | 6025 | 145640 | 24128 | 9213 |
| 04:10 | ZZZZZZ | 5944 | 142910 | 23835 | 9041 |
| 04:15 | ZZZZZZ | 6046 | 139820 | 23998 | 8991 |
| 04:20 | ZZZZZZ | 6124 | 147260 | 24560 | 9051 |
| 04:25 | ZZZZZZ | 5861 | 145980 | 23362 | 9438 |
| 04:30 | ZZZZZZ | 5670 | 138460 | 22927 | 8798 |
| 04:35 | MA46628-CCV16 | 5615 | 135760 | 22591 | 8637 |
| 04:40 | MA46628-CCB17 | 5868 | 144100 | 22905 | 9472 |
| 04:45 | ZZZZZZ | 5910 | 146190 | 23254 | 9495 |
| 04:50 | ZZZZZZ | 5434 | 132930 | 22377 | 8274 |
| 04:56 | ZZZZZZ | 5462 | 133220 | 22550 | 8314 |
| 05:01 | ZZZZZZ | 5483 | 133320 | 22673 | 8342 |
| 05:06 | ZZZZZZ | 5390 | 131710 | 22419 | 8190 |
| 05:11 | ZZZZZZ | 5111 | 124260 | 22014 | 7624 |
| 05:17 | ZZZZZZ | 5371 | 131470 | 22603 | 8150 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
Analyst: ND  Run ID: MA46628
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 05:22 | ZZZZZZ | 5260 | 128650 | 22257 | 7935 |
| 05:27 | ZZZZZZ | 5787 | 141120 | 23259 | 9014 |
| 05:32 | ZZZZZZ | 5796 | 141100 | 23212 | 8898 |
| 05:38 | MA46628-CCV17 | 5611 | 136150 | 22422 | 8647 |
| 05:43 | MA46628-CCB18 | 5866 | 144920 | 23092 | 9473 |
| 05:48 | ZZZZZZ | 5612 | 138280 | 23210 | 8623 |
| 05:53 | ZZZZZZ | 5457 | 134520 | 22867 | 8355 |
| 05:58 | ZZZZZZ | 5881 | 146160 | 23192 | 9459 |
| 06:03 | ZZZZZZ | 4920 | 117990 | 21273 | 7313 |
| 06:09 | ZZZZZZ | 5079 | 123580 | 22199 | 7585 |
| 06:14 | ZZZZZZ | 5934 | 146830 | 23309 | 9534 |
| 06:19 | MA46628-CCV18 | 5581 | 135890 | 22690 | 8611 |
| 06:24 | MA46628-CCB19 | 5843 | 144900 | 22774 | 9437 |
| 07:53 | ZZZZZZ | 5723 | 139110 | 22075 | 8909 |
| 07:58 | ZZZZZZ | 5727 | 140050 | 22038 | 8939 |
| 08:06 | ZZZZZZ | 5880 | 146210 | 22842 | 9467 |
| 08:11 | MA46628-CCV19 | 5525 | 134460 | 21831 | 8558 |
| 08:15 | MA46628-CCB20 | 5760 | 141850 | 22064 | 9355 |
| 08:25 | JC86916-5 | 5915 | 143180 | 23024 | 9194 |
| 08:31 | MA46628-CCV20 | 5572 | 136490 | 22072 | 8607 |
| 08:37 | MA46628-CCB21 | 5863 | 144390 | 22469 | 9476 |
| 09:12 | JC87038-2 | 5904 | 142210 | 22499 | 9173 |
| 09:17 | MA46628-CCV21 | 5576 | 134220 | 21678 | 8620 |
| 09:26 | MA46628-CCB22 | 5813 | 143570 | 22224 | 9432 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |
| Istd#4 | Indium | 70-130 % |

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46628  Units: ug/l

| Time: | | | 12:46 | | 13:03 | | 14:01 | | 14:57 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | -3.10 | <200 | -5.70 | <200 | -2.10 | <200 | 5.20 | <200 |
| Antimony | 6.0 | 1.4 | 0.500 | <6.0 | -0.300 | <6.0 | 1.10 | <6.0 | -0.200 | <6.0 |
| Arsenic | 3.0 | 1.5 | -0.400 | <3.0 | -0.200 | <3.0 | 1.00 | <3.0 | -0.700 | <3.0 |
| Barium | 200 | .5 | -0.400 | <200 | -0.200 | <200 | 0.00 | <200 | 0.00 | <200 |
| Beryllium | 1.0 | .1 | 0.00 | <1.0 | 0.00 | <1.0 | 0.00 | <1.0 | -0.100 | <1.0 |
| Bismuth | 20 | 1.8 | | | | | | | | |
| Boron | 100 | .8 | | | | | | | | |
| Cadmium | 3.0 | .3 | 0.00 | <3.0 | 0.100 | <3.0 | 0.100 | <3.0 | -0.100 | <3.0 |
| Calcium | 5000 | 3.9 | -3.30 | <5000 | -0.500 | <5000 | -1.90 | <5000 | -6.30 | <5000 |
| Chromium | 10 | .3 | -0.300 | <10 | -0.300 | <10 | -0.100 | <10 | -0.200 | <10 |
| Cobalt | 50 | .3 | 0.100 | <50 | 0.100 | <50 | 0.100 | <50 | 0.00 | <50 |
| Copper | 10 | .6 | 0.400 | <10 | 0.500 | <10 | 0.500 | <10 | 0.400 | <10 |
| Iron | 100 | 2.6 | 1.40 | <100 | 2.70 | <100 | 1.30 | <100 | 0.500 | <100 |
| Lead | 3.0 | 1.6 | 0.100 | <3.0 | -0.400 | <3.0 | -0.100 | <3.0 | 0.00 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | | | |
| Magnesium | 5000 | 16 | 8.30 | <5000 | 11.0 | <5000 | 6.40 | <5000 | 8.20 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.100 | <15 | 0.00 | <15 | 0.00 | <15 |
| Molybdenum | 20 | .4 | | | | | | | | |
| Nickel | 10 | .5 | 0.00 | <10 | 0.400 | <10 | -0.100 | <10 | 0.300 | <10 |
| Phosphorus | 50 | 1.9 | | | | | | | | |
| Potassium | 10000 | 79 | 168 | <10000 | 42.3 | <10000 | 196 | <10000 | 303 | <10000 |
| Selenium | 10 | 3 | -0.900 | <10 | 0.100 | <10 | -1.60 | <10 | -1.60 | <10 |
| Silicon | 200 | 1.2 | | | | | | | | |
| Silver | 10 | .5 | 0.00 | <10 | 0.00 | <10 | 0.200 | <10 | -0.200 | <10 |
| Sodium | 10000 | 9.9 | 40.9 | <10000 | -2.70 | <10000 | 38.1 | <10000 | 23.7 | <10000 |
| Strontium | 10 | .3 | | | | | | | | |
| Sulfur | 50 | 3.5 | | | | | | | | |
| Thallium | 10 | 1.3 | 0.600 | <10 | 0.00 | <10 | -0.200 | <10 | -0.800 | <10 |
| Tin | 10 | .7 | | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | | | |
| Vanadium | 50 | .5 | 0.200 | <50 | -0.300 | <50 | 0.300 | <50 | -0.100 | <50 |
| Zinc | 20 | .2 | -0.600 | <20 | -0.600 | <20 | -0.500 | <20 | -0.600 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46628  Units: ug/l

| Time: | | | 12:46 | | 13:03 | | 14:01 | | 14:57 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46628  Units: ug/l

| Time: | | | 15:52 | | 16:47 | | 17:45 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | 1.30 | <200 | -17.7 | <200 | -6.10 | <200 |
| Antimony | 6.0 | 1.4 | 0.600 | <6.0 | -0.800 | <6.0 | -0.400 | <6.0 |
| Arsenic | 3.0 | 1.5 | -0.500 | <3.0 | 0.200 | <3.0 | -0.200 | <3.0 |
| Barium | 200 | .5 | 0.100 | <200 | 0.100 | <200 | 0.00 | <200 |
| Beryllium | 1.0 | .1 | -0.100 | <1.0 | -0.100 | <1.0 | -0.200 | <1.0 |
| Bismuth | 20 | 1.8 | | | | | | |
| Boron | 100 | .8 | | | | | | |
| Cadmium | 3.0 | .3 | -0.100 | <3.0 | 0.00 | <3.0 | 0.00 | <3.0 |
| Calcium | 5000 | 3.9 | -4.10 | <5000 | -7.10 | <5000 | -6.00 | <5000 |
| Chromium | 10 | .3 | -0.300 | <10 | -0.200 | <10 | 0.00 | <10 |
| Cobalt | 50 | .3 | 0.00 | <50 | 0.00 | <50 | -0.200 | <50 |
| Copper | 10 | .6 | 0.400 | <10 | -0.100 | <10 | 0.300 | <10 |
| Iron | 100 | 2.6 | -0.100 | <100 | 1.10 | <100 | 1.20 | <100 |
| Lead | 3.0 | 1.6 | 0.100 | <3.0 | -0.700 | <3.0 | 0.200 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | |
| Magnesium | 5000 | 16 | 20.6 | <5000 | 13.8 | <5000 | 12.5 | <5000 |
| Manganese | 15 | .1 | 0.00 | <15 | 0.00 | <15 | 0.00 | <15 |
| Molybdenum | 20 | .4 | | | | | | |
| Nickel | 10 | .5 | 0.00 | <10 | -0.100 | <10 | 0.100 | <10 |
| Phosphorus | 50 | 1.9 | | | | | | |
| Potassium | 10000 | 79 | 125 | <10000 | 297 | <10000 | 192 | <10000 |
| Selenium | 10 | 3 | 0.300 | <10 | 0.400 | <10 | 0.300 | <10 |
| Silicon | 200 | 1.2 | | | | | | |
| Silver | 10 | .5 | 0.200 | <10 | -0.400 | <10 | 0.00 | <10 |
| Sodium | 10000 | 9.9 | -20.7 | <10000 | 9.40 | <10000 | 2.70 | <10000 |
| Strontium | 10 | .3 | | | | | | |
| Sulfur | 50 | 3.5 | | | | | | |
| Thallium | 10 | 1.3 | -0.700 | <10 | 0.200 | <10 | 0.500 | <10 |
| Tin | 10 | .7 | | | | | | |
| Titanium | 10 | .5 | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | |
| Vanadium | 50 | .5 | 0.100 | <50 | -0.100 | <50 | -0.200 | <50 |
| Zinc | 20 | .2 | -0.600 | <20 | -0.500 | <20 | -0.600 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46628  Units: ug/l

| Time: | | | 15:52 | | 16:47 | | 17:45 | |
|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | 12:54 | |
|---|---|---|---|
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Aluminum | 40000 | 40400 | 101.0 |
| Antimony | 2000 | 1990 | 99.5 |
| Arsenic | 2000 | 1980 | 99.0 |
| Barium | 2000 | 2030 | 101.5 |
| Beryllium | 2000 | 2080 | 104.0 |
| Bismuth | | | |
| Boron | | | |
| Cadmium | 2000 | 2020 | 101.0 |
| Calcium | 40000 | 40800 | 102.0 |
| Chromium | 2000 | 2030 | 101.5 |
| Cobalt | 2000 | 2040 | 102.0 |
| Copper | 2000 | 2010 | 100.5 |
| Iron | 40000 | 40700 | 101.8 |
| Lead | 2000 | 2040 | 102.0 |
| Lithium | | | |
| Magnesium | 40000 | 40800 | 102.0 |
| Manganese | 2000 | 2030 | 101.5 |
| Molybdenum | | | |
| Nickel | 2000 | 2040 | 102.0 |
| Phosphorus | | | |
| Potassium | 40000 | 40300 | 100.8 |
| Selenium | 2000 | 2010 | 100.5 |
| Silicon | | | |
| Silver | 250 | 253 | 101.2 |
| Sodium | 40000 | 40700 | 101.8 |
| Strontium | | | |
| Sulfur | | | |
| Thallium | 2000 | 2090 | 104.5 |
| Tin | | | |
| Titanium | | | |
| Tungsten | | | |
| Vanadium | 2000 | 2020 | 101.0 |
| Zinc | 2000 | 2040 | 102.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | 12:54 | |
|---|---|---|---|
| Sample ID: | ICCV | ICCV1 | |
| Metal | True | Results | % Rec |
| Zirconium | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | 12:41 | | | 13:56 | | | 14:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 40100 | 100.3 | 40000 | 41000 | 102.5 | 40000 | 41000 | 102.5 |
| Antimony | 2000 | 1970 | 98.5 | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 |
| Arsenic | 2000 | 1960 | 98.0 | 2000 | 2010 | 100.5 | 2000 | 2030 | 101.5 |
| Barium | 2000 | 2000 | 100.0 | 2000 | 2040 | 102.0 | 2000 | 2070 | 103.5 |
| Beryllium | 2000 | 2070 | 103.5 | 2000 | 2100 | 105.0 | 2000 | 2100 | 105.0 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 2000 | 100.0 | 2000 | 2040 | 102.0 | 2000 | 2060 | 103.0 |
| Calcium | 40000 | 40400 | 101.0 | 40000 | 41100 | 102.8 | 40000 | 41200 | 103.0 |
| Chromium | 2000 | 2020 | 101.0 | 2000 | 2050 | 102.5 | 2000 | 2070 | 103.5 |
| Cobalt | 2000 | 2020 | 101.0 | 2000 | 2060 | 103.0 | 2000 | 2090 | 104.5 |
| Copper | 2000 | 2000 | 100.0 | 2000 | 2030 | 101.5 | 2000 | 2060 | 103.0 |
| Iron | 40000 | 40500 | 101.3 | 40000 | 41000 | 102.5 | 40000 | 41400 | 103.5 |
| Lead | 2000 | 2020 | 101.0 | 2000 | 2060 | 103.0 | 2000 | 2080 | 104.0 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 40400 | 101.0 | 40000 | 41000 | 102.5 | 40000 | 41100 | 102.8 |
| Manganese | 2000 | 2040 | 102.0 | 2000 | 2070 | 103.5 | 2000 | 2080 | 104.0 |
| Molybdenum | | | | | | | | | |
| Nickel | 2000 | 2020 | 101.0 | 2000 | 2060 | 103.0 | 2000 | 2090 | 104.5 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 40200 | 100.5 | 40000 | 41100 | 102.8 | 40000 | 41400 | 103.5 |
| Selenium | 2000 | 1990 | 99.5 | 2000 | 2040 | 102.0 | 2000 | 2060 | 103.0 |
| Silicon | | | | | | | | | |
| Silver | 250 | 251 | 100.4 | 250 | 255 | 102.0 | 250 | 257 | 102.8 |
| Sodium | 40000 | 40300 | 100.8 | 40000 | 41100 | 102.8 | 40000 | 41300 | 103.3 |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | 2000 | 2050 | 102.5 | 2000 | 2120 | 106.0 | 2000 | 2130 | 106.5 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 2000 | 100.0 | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 |
| Zinc | 2000 | 2020 | 101.0 | 2000 | 2070 | 103.5 | 2000 | 2080 | 104.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | 12:41 | | | 13:56 | | | 14:52 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | 15:47 | | | 16:42 | | | 17:40 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | 40000 | 41100 | 102.8 | 40000 | 40300 | 100.8 | 40000 | 40600 | 101.5 |
| Antimony | 2000 | 2040 | 102.0 | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 |
| Arsenic | 2000 | 2040 | 102.0 | 2000 | 2020 | 101.0 | 2000 | 2030 | 101.5 |
| Barium | 2000 | 2070 | 103.5 | 2000 | 2050 | 102.5 | 2000 | 2050 | 102.5 |
| Beryllium | 2000 | 2110 | 105.5 | 2000 | 2080 | 104.0 | 2000 | 2100 | 105.0 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | 2000 | 2070 | 103.5 | 2000 | 2030 | 101.5 | 2000 | 2060 | 103.0 |
| Calcium | 40000 | 41400 | 103.5 | 40000 | 40800 | 102.0 | 40000 | 41000 | 102.5 |
| Chromium | 2000 | 2080 | 104.0 | 2000 | 2060 | 103.0 | 2000 | 2070 | 103.5 |
| Cobalt | 2000 | 2090 | 104.5 | 2000 | 2070 | 103.5 | 2000 | 2090 | 104.5 |
| Copper | 2000 | 2070 | 103.5 | 2000 | 2050 | 102.5 | 2000 | 2070 | 103.5 |
| Iron | 40000 | 41700 | 104.3 | 40000 | 41200 | 103.0 | 40000 | 41600 | 104.0 |
| Lead | 2000 | 2090 | 104.5 | 2000 | 2080 | 104.0 | 2000 | 2090 | 104.5 |
| Lithium | | | | | | | | | |
| Magnesium | 40000 | 41200 | 103.0 | 40000 | 40700 | 101.8 | 40000 | 40900 | 102.3 |
| Manganese | 2000 | 2090 | 104.5 | 2000 | 2050 | 102.5 | 2000 | 2060 | 103.0 |
| Molybdenum | | | | | | | | | |
| Nickel | 2000 | 2100 | 105.0 | 2000 | 2090 | 104.5 | 2000 | 2110 | 105.5 |
| Phosphorus | | | | | | | | | |
| Potassium | 40000 | 41600 | 104.0 | 40000 | 40800 | 102.0 | 40000 | 40900 | 102.3 |
| Selenium | 2000 | 2070 | 103.5 | 2000 | 2050 | 102.5 | 2000 | 2070 | 103.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 259 | 103.6 | 250 | 257 | 102.8 | 250 | 258 | 103.2 |
| Sodium | 40000 | 41500 | 103.8 | 40000 | 41000 | 102.5 | 40000 | 41200 | 103.0 |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | 2000 | 2130 | 106.5 | 2000 | 2090 | 104.5 | 2000 | 2100 | 105.0 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 2060 | 103.0 | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 |
| Zinc | 2000 | 2090 | 104.5 | 2000 | 2050 | 102.5 | 2000 | 2070 | 103.5 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | 15:47 | | | 16:42 | | | 17:40 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | 13:28 | | | 13:34 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | 300000 | 322000 | 107.3 |
| Antimony | 8000 | 8310 | 103.9 | | | |
| Arsenic | 8000 | 8150 | 101.9 | | | |
| Barium | 8000 | 8100 | 101.3 | | | |
| Beryllium | 8000 | 8100 | 101.3 | | | |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 8000 | 8060 | 100.8 | | | |
| Calcium | | | | 200000 | 204000 | 102.0 |
| Chromium | 8000 | 8290 | 103.6 | | | |
| Cobalt | 8000 | 8100 | 101.3 | | | |
| Copper | 8000 | 8070 | 100.9 | | | |
| Iron | | | | 200000 | 203000 | 101.5 |
| Lead | 8000 | 8250 | 103.1 | | | |
| Lithium | | | | | | |
| Magnesium | | | | 300000 | 311000 | 103.7 |
| Manganese | 8000 | 8060 | 100.8 | | | |
| Molybdenum | | | | | | |
| Nickel | 8000 | 8100 | 101.3 | | | |
| Phosphorus | | | | | | |
| Potassium | | | | 200000 | 207000 | 103.5 |
| Selenium | 8000 | 8140 | 101.8 | | | |
| Silicon | | | | | | |
| Silver | 625 | 634 | 101.4 | | | |
| Sodium | | | | 200000 | 199000 | 99.5 |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | 8000 | 8260 | 103.3 | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 8000 | 8080 | 101.0 | | | |
| Zinc | 8000 | 8350 | 104.4 | | | |

HIGH STANDARD CHECK SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | 13:28 | | | 13:34 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46628  Units: ug/l

| Time: | | | | 13:08 | | 13:13 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRI1 | | CRID1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 500 | 100 | 210 | 105.0 | 96.2 | 96.2 |
| Antimony | 6.0 | 20 | 3.0 | 6.80 | 113.3 | | |
| Arsenic | 8.0 | 20 | 3.0 | 7.50 | 93.8 | 2.50 | 83.3 |
| Barium | 200 | | 4.0 | 206 | 103.0 | 3.80 | 95.0 |
| Beryllium | 2.0 | | 1.0 | 2.00 | 100.0 | 0.900 | 90.0 |
| Bismuth | 20 | | | | | | |
| Boron | 100 | | 10 | | | | |
| Cadmium | 3.0 | | 1.0 | 3.10 | 103.3 | 1.00 | 100.0 |
| Calcium | 5000 | 2000 | 1000 | 5250 | 105.0 | 1060 | 106.0 |
| Chromium | 10 | | 2.0 | 10.6 | 106.0 | 2.00 | 100.0 |
| Cobalt | 50 | | 3.0 | 52.7 | 105.4 | 3.10 | 103.3 |
| Copper | 10 | | 2.0 | 10.1 | 101.0 | | |
| Iron | 100 | 500 | | 107 | 107.0 | | |
| Lead | 3.0 | 20 | 2.5 | 3.20 | 106.7 | | |
| Lithium | 50 | | | | | | |
| Magnesium | 5000 | 2000 | 100 | 5400 | 108.0 | | |
| Manganese | 15 | | 3.0 | 16.2 | 108.0 | 3.20 | 106.7 |
| Molybdenum | 20 | | | | | | |
| Nickel | 10 | | 4.0 | 10.6 | 106.0 | 4.30 | 107.5 |
| Phosphorus | 50 | | | | | | |
| Potassium | 5000 | | 2000 | 5280 | 105.6 | 2060 | 103.0 |
| Selenium | 10 | 20 | 5.0 | 11.2 | 112.0 | | |
| Silicon | 200 | | | | | | |
| Silver | 5.0 | | 2.0 | 4.70 | 94.0 | | |
| Sodium | 5000 | | 1000 | 5360 | 107.2 | 1060 | 106.0 |
| Strontium | 10 | | | | | | |
| Sulfur | 50 | | | | | | |
| Thallium | 10 | | 2.0 | 10.4 | 104.0 | | |
| Tin | 10 | | | | | | |
| Titanium | 10 | | | | | | |
| Tungsten | 50 | | | | | | |
| Vanadium | 50 | | 2.0 | 52.2 | 104.4 | 2.10 | 105.0 |
| Zinc | 20 | | 10 | 20.8 | 104.0 | 10.1 | 101.0 |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46628  Units: ug/l

| Time: | | | | 13:08 | | 13:13 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRI1 | | CRID1 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Zirconium | 10 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | | 13:18 | | 13:23 | | 16:53 | | 16:58 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 512000 | 102.4 | 508000 | 101.6 | 511000 | 102.2 | 519000 | 103.8 |
| Antimony | | 1000 | 0.700 | | 1090 | 109.0 | -1.00 | | 1110 | 111.0 |
| Arsenic | | 1000 | -0.200 | | 1080 | 108.0 | 0.700 | | 1100 | 110.0 |
| Barium | | 500 | 0.600 | | 525 | 105.0 | 0.400 | | 531 | 106.2 |
| Beryllium | | 500 | 0.00 | | 519 | 103.8 | 0.00 | | 524 | 104.8 |
| Bismuth | | 500 | 0.300 | | 515 | 103.0 | -1.10 | | 529 | 105.8 |
| Boron | | 500 | -2.20 | | 495 | 99.0 | -2.30 | | 505 | 101.0 |
| Cadmium | | 1000 | 0.300 | | 1040 | 104.0 | 0.100 | | 1060 | 106.0 |
| Calcium | 400000 | 400000 | 390000 | 97.5 | 385000 | 96.3 | 386000 | 96.5 | 390000 | 97.5 |
| Chromium | | 500 | -1.00 | | 501 | 100.2 | -1.20 | | 511 | 102.2 |
| Cobalt | | 500 | 0.900 | | 502 | 100.4 | 0.800 | | 510 | 102.0 |
| Copper | | 500 | -8.20 | | 510 | 102.0 | -7.10 | | 523 | 104.6 |
| Iron | 200000 | 200000 | 190000 | 95.0 | 198000 | 99.0 | 196000 | 98.0 | 204000 | 102.0 |
| Lead | | 1000 | -0.200 | | 972 | 97.2 | -0.700 | | 989 | 98.9 |
| Lithium | | 500 | -7.00 | | 547 | 109.4 | -13.3 | | 538 | 107.6 |
| Magnesium | 500000 | 500000 | 501000 | 100.2 | 509000 | 101.8 | 501000 | 100.2 | 512000 | 102.4 |
| Manganese | | 500 | 3.40 | | 524 | 104.8 | 3.40 | | 528 | 105.6 |
| Molybdenum | | 500 | 0.300 | | 490 | 98.0 | 0.200 | | 495 | 99.0 |
| Nickel | | 1000 | -0.100 | | 994 | 99.4 | -0.200 | | 1010 | 101.0 |
| Phosphorus | | 500 | 17.0 | | 570 | 114.0 | 29.4 | | 473 | 94.6 |
| Potassium | | | 373 | | 310 | | 488 | | 433 | |
| Selenium | | 1000 | -1.90 | | 1080 | 108.0 | -2.00 | | 1090 | 109.0 |
| Silicon | | 500 | 6.10 | | 510 | 102.0 | 1.00 | | 520 | 104.0 |
| Silver | | 1000 | 3.40 | | 1090 | 109.0 | 1.90 | | 1110 | 111.0 |
| Sodium | | | 133 | | 131 | | 66.0 | | 67.1 | |
| Strontium | | 500 | -0.400 | | 533 | 106.6 | -0.100 | | 547 | 109.4 |
| Sulfur | | 500 | -8.50 | | 513 | 102.6 | -4.70 | | 508 | 101.6 |
| Thallium | | 1000 | -1.30 | | 994 | 99.4 | -1.70 | | 985 | 98.5 |
| Tin | | 500 | -2.10 | | 482 | 96.4 | -3.30 | | 483 | 96.6 |
| Titanium | | 500 | -1.60 | | 507 | 101.4 | -1.90 | | 514 | 102.8 |
| Tungsten | | 500 | 2.50 | | 479 | 95.8 | 0.600 | | 490 | 98.0 |
| Vanadium | | 500 | -3.50 | | 507 | 101.4 | -3.20 | | 512 | 102.4 |
| Zinc | | 1000 | -1.70 | | 986 | 98.6 | -1.40 | | 998 | 99.8 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050119M1.ICP  Date Analyzed: 05/01/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46628  Units: ug/l

| Time: | | | 13:18 | | 13:23 | | 16:53 | | 16:58 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Zirconium | | 500 | 0.900 | | 494 | 98.8 | 1.00 | | 501 | 100.2 |

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:57 | MA46638-STD1 | 1 | | STDA |
| 12:02 | MA46638-STD2 | 1 | | STDB |
| 12:08 | ZZZZZZ | 1 | | |
| 12:13 | ZZZZZZ | 1 | | |
| 12:18 | MA46638-ICV1 | 1 | | |
| 12:23 | MA46638-ICB1 | 1 | | |
| 12:28 | MA46638-CCV1 | 1 | | |
| 12:33 | MA46638-CCB1 | 1 | | |
| 12:38 | ZZZZZZ | 1 | | |
| 12:44 | ZZZZZZ | 1 | | |
| 12:49 | MA46638-CRI1 | 1 | | |
| 12:55 | MA46638-CRID1 | 1 | | See rerun |
| 13:00 | MA46638-ICSA1 | 1 | | |
| 13:05 | MA46638-ICSAB1 | 1 | | |
| 13:10 | MA46638-HSTD1 | 1 | | |
| 13:16 | MA46638-HSTD2 | 1 | | |
| 13:22 | ZZZZZZ | 1 | | |
| 13:27 | ZZZZZZ | 1 | | |
| 13:32 | MA46638-CCV2 | 1 | | |
| 13:37 | MA46638-CCB2 | 1 | | |
| 13:43 | MA46638-CRID2 | 1 | | |
| 13:48 | ZZZZZZ | 1 | | |
| 13:53 | ZZZZZZ | 1 | | |
| 13:58 | MP14579-PS1 | 1 | | |
| 14:03 | ZZZZZZ | 3 | | |
| 14:08 | ZZZZZZ | 2 | | |
| 14:13 | ZZZZZZ | 2 | | |
| 14:19 | ZZZZZZ | 2 | | |
| 14:24 | ZZZZZZ | 5 | | |
| 14:29 | MA46638-CCV3 | 1 | | |
| 14:34 | MA46638-CCB3 | 1 | | |
| 14:39 | ZZZZZZ | 1 | | |
| 14:44 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:49 | ZZZZZZ | 2 | | |
| 14:54 | ZZZZZZ | 3 | | |
| 15:00 | ZZZZZZ | 1 | | |
| 15:05 | ZZZZZZ | 1 | | |
| 15:10 | ZZZZZZ | 1 | | |
| 15:16 | ZZZZZZ | 1 | | |
| 15:21 | ZZZZZZ | 2 | | |
| 15:26 | MA46638-CCV4 | 1 | | |
| 15:31 | MA46638-CCB4 | 1 | | |
| 15:37 | ZZZZZZ | 2 | | |
| 15:42 | MP14600-PS1 | 1 | | |
| 15:47 | MP14600-PS1 | 10 | | |
| 15:52 | ZZZZZZ | 1 | | |
| 15:57 | ZZZZZZ | 2 | | |
| 16:02 | ZZZZZZ | 1 | | |
| 16:07 | ZZZZZZ | 1 | | |
| 16:12 | ZZZZZZ | 2 | | |
| 16:17 | ZZZZZZ | 2 | | |
| 16:23 | MA46638-CCV5 | 1 | | |
| 16:28 | MA46638-CCB5 | 1 | | |
| 16:33 | ZZZZZZ | 3 | | |
| 16:38 | ZZZZZZ | 5 | | |
| 16:43 | ZZZZZZ | 1 | | |
| 16:48 | MA46638-ICSA2 | 1 | | |
| 16:53 | MA46638-ICSAB2 | 1 | | |
| 16:59 | MP14617-PS1 | 1 | | |
| 17:04 | ZZZZZZ | 1 | | |
| 17:09 | MP14667-MB2 | 1 | | |
| 17:14 | MP14667-B2 | 1 | | |
| 17:19 | MA46638-CCV6 | 1 | | |
| 17:24 | MA46638-CCB6 | 1 | | |
| 17:29 | ZZZZZZ | 1 | | |
| 17:34 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:39 | ZZZZZZ | 1 | | |
| 17:45 | ZZZZZZ | 1 | | |
| 17:50 | ZZZZZZ | 1 | | |
| 17:55 | ZZZZZZ | 1 | | |
| 18:00 | JC86986-8 | 1 | | |
| 18:06 | ZZZZZZ | 2 | | |
| 18:11 | ZZZZZZ | 2 | | |
| 18:17 | MA46638-CCV7 | 1 | | |
| 18:22 | MA46638-CCB7 | 1 | | |
| 18:27 | JC86986-9 | 2 | | |
| 18:32 | JC86986-12 | 1 | | |
| 18:37 | JC86986-12 | 2 | | |
| 18:42 | JC86986-13 | 2 | | |
| ----------> | Last reportable sample/prep for job JC86986 | | | |
| 18:47 | ZZZZZZ | 1 | | |
| 18:52 | ZZZZZZ | 1 | | |
| 18:58 | ZZZZZZ | 1 | | |
| 19:03 | MP14636-PS1 | 1 | | |
| 19:08 | ZZZZZZ | 2 | | |
| 19:13 | MA46638-CCV8 | 1 | | |
| 19:18 | MA46638-CCB8 | 1 | | |
| ----------> | Last reportable CCB for job JC86986 | | | |
| 19:23 | ZZZZZZ | 1 | | |
| 19:28 | ZZZZZZ | 1 | | |
| 19:34 | ZZZZZZ | 1 | | |
| 19:39 | ZZZZZZ | 1 | | |
| 19:44 | ZZZZZZ | 1 | | |
| 19:49 | ZZZZZZ | 1 | | |
| 19:54 | ZZZZZZ | 1 | | |
| 20:00 | ZZZZZZ | 1 | | |
| 20:05 | ZZZZZZ | 1 | | |
| 20:10 | ZZZZZZ | 1 | | |
| 20:15 | ZZZZZZ | 1 | | |
| 20:20 | ZZZZZZ | 1 | | |
| 20:26 | MA46638-CCV9 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 20:31 | MA46638-CCB9 | 1 | | |
| 20:36 | ZZZZZZ | 1 | | |
| 20:41 | ZZZZZZ | 2 | | |
| 20:46 | ZZZZZZ | 1 | | |
| 20:51 | ZZZZZZ | 1 | | |
| 20:56 | ZZZZZZ | 1 | | |
| 21:01 | ZZZZZZ | 1 | | |
| 21:06 | MA46638-CCV10 | 1 | | |
| 21:11 | MA46638-CCB10 | 1 | | |
| 21:16 | ZZZZZZ | 100 | | |
| 21:22 | ZZZZZZ | 50 | | |
| 21:27 | ZZZZZZ | 1 | | |
| 21:32 | ZZZZZZ | 1 | | |
| 21:37 | ZZZZZZ | 1 | | |
| 21:42 | ZZZZZZ | 1 | | |
| 21:47 | ZZZZZZ | 1 | | |
| 21:52 | ZZZZZZ | 1 | | |
| 21:58 | ZZZZZZ | 1 | | |
| 22:03 | ZZZZZZ | 3 | | |
| 22:08 | MA46638-CCV11 | 1 | | |
| 22:13 | MA46638-CCB11 | 1 | | |
| 22:18 | MP14766-MB1 | 1 | | |
| 22:23 | MP14766-B1 | 1 | | |
| 22:28 | MP14766-S1 | 1 | | |
| 22:33 | MP14766-S2 | 1 | | |
| 22:38 | JC85779-11R | 1 | | (sample used for QC only; not part of login JC86986) |
| 22:43 | MP14766-SD1 | 5 | | |
| 22:49 | MA46638-CCV12 | 1 | | |
| 22:54 | MA46638-CCB12 | 1 | | |
| 22:59 | MP14721-MB1 | 1 | | |
| 23:04 | MP14721-B1 | 1 | | |
| 23:09 | MP14721-S1 | 1 | | Need PS for Sb |
| 23:14 | MP14721-S2 | 1 | | Need PS for Sb |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 23:19 | JC87093-7 | 1 | | (sample used for QC only; not part of login JC86986) |
| 23:24 | MP14721-SD1 | 5 | | |
| 23:29 | ZZZZZZ | 1 | | |
| 23:34 | ZZZZZZ | 1 | | |
| 23:39 | ZZZZZZ | 1 | | |
| 23:44 | ZZZZZZ | 1 | | |
| 23:50 | MA46638-CCV13 | 1 | | |
| 23:55 | MA46638-CCB13 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:05 | ZZZZZZ | 1 | | |
| 00:10 | ZZZZZZ | 1 | | |
| 00:15 | ZZZZZZ | 1 | | |
| 00:21 | ZZZZZZ | 1 | | |
| 00:26 | ZZZZZZ | 1 | | |
| 00:31 | ZZZZZZ | 1 | | |
| 00:36 | ZZZZZZ | 1 | | |
| 00:41 | ZZZZZZ | 1 | | |
| 00:46 | MA46638-CCV14 | 1 | | |
| 00:51 | MA46638-CCB14 | 1 | | |
| 00:56 | ZZZZZZ | 1 | | |
| 01:01 | ZZZZZZ | 1 | | |
| 01:07 | ZZZZZZ | 1 | | |
| 01:12 | ZZZZZZ | 1 | | |
| 01:17 | ZZZZZZ | 1 | | |
| 01:22 | ZZZZZZ | 1 | | |
| 01:27 | MP14726-MB1 | 5 | | |
| 01:32 | MP14726-B1 | 5 | | |
| 01:37 | MP14726-S1 | 5 | | |
| 01:42 | MP14726-S2 | 5 | | |
| 01:47 | MA46638-CCV15 | 1 | | |
| 01:52 | MA46638-CCB15 | 1 | | |
| 01:57 | JC87171-1 | 5 | | (sample used for QC only; not part of login JC86986) |
| 02:02 | MP14726-SD1 | 25 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 02:07 | MP14724-MB1 | 1 | | |
| 02:12 | MP14724-B1 | 1 | | |
| 02:17 | MP14724-S1 | 1 | | |
| 02:22 | MP14724-S2 | 1 | | |
| 02:28 | JC87131-2 | 1 | | (sample used for QC only; not part of login JC86986) |
| 02:33 | MP14724-SD1 | 5 | | |
| 02:38 | MP14724-S3 | 1 | | |
| 02:43 | MP14724-S4 | 1 | | |
| 02:49 | MA46638-CCV16 | 1 | | |
| 02:54 | MA46638-CCB16 | 1 | | |
| 02:59 | JC87131-2F | 1 | | (sample used for QC only; not part of login JC86986) |
| 03:04 | MP14724-SD2 | 5 | | |
| 03:09 | ZZZZZZ | 1 | | |
| 03:15 | ZZZZZZ | 1 | | |
| 03:20 | ZZZZZZ | 1 | | |
| 03:25 | ZZZZZZ | 1 | | |
| 03:31 | ZZZZZZ | 1 | | |
| 03:36 | ZZZZZZ | 1 | | |
| 03:41 | ZZZZZZ | 1 | | |
| 03:46 | MA46638-CCV17 | 1 | | |
| 03:51 | MA46638-CCB17 | 1 | | |
| 03:56 | ZZZZZZ | 1 | | |
| 04:01 | ZZZZZZ | 1 | | |
| 04:06 | ZZZZZZ | 1 | | |
| 04:11 | ZZZZZZ | 1 | | |
| 04:16 | ZZZZZZ | 1 | | |
| 04:21 | ZZZZZZ | 1 | | |
| 04:27 | ZZZZZZ | 1 | | |
| 04:32 | ZZZZZZ | 1 | | |
| 04:37 | ZZZZZZ | 1 | | |
| 04:42 | ZZZZZZ | 1 | | |
| 04:47 | MA46638-CCV18 | 1 | | |
| 04:52 | MA46638-CCB18 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 04:57 | ZZZZZZ | 1 | | |
| 05:02 | ZZZZZZ | 1 | | |
| 05:07 | ZZZZZZ | 1 | | |
| 05:13 | ZZZZZZ | 1 | | |
| 05:18 | ZZZZZZ | 1 | | |
| 05:23 | ZZZZZZ | 1 | | |
| 05:28 | ZZZZZZ | 1 | | |
| 05:33 | ZZZZZZ | 1 | | |
| 05:38 | ZZZZZZ | 1 | | |
| 05:43 | ZZZZZZ | 1 | | |
| 05:49 | MA46638-CCV19 | 1 | | |
| 05:54 | MA46638-CCB19 | 1 | | |
| 05:59 | ZZZZZZ | 1 | | |
| 06:04 | ZZZZZZ | 1 | | |
| 06:09 | ZZZZZZ | 1 | | |
| 06:14 | ZZZZZZ | 1 | | |
| 06:20 | ZZZZZZ | 1 | | |
| 06:25 | ZZZZZZ | 1 | | |
| 06:30 | ZZZZZZ | 1 | | |
| 06:35 | ZZZZZZ | 1 | | |
| 06:40 | MA46638-CCV20 | 1 | | |
| 06:45 | MA46638-CCB20 | 1 | | |
| 07:57 | ZZZZZZ | 3 | | |
| 08:02 | ZZZZZZ | 1 | | |
| 08:06 | ZZZZZZ | 3 | | |
| 08:13 | ZZZZZZ | 3 | | |
| 08:17 | MA46638-CCV21 | 1 | | |
| 08:24 | MA46638-CCB21 | 1 | | |

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:08 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 12:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 12:18 | MA46638-ICV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 12:23 | MA46638-ICB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 12:28 | MA46638-CCV1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 12:33 | MA46638-CCB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 12:38 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 12:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 12:49 | MA46638-CRI1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 12:55 | MA46638-CRID1 | 1 | See | | rerun | | | | | | | | | | | |
| 13:00 | MA46638-ICSA1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 13:05 | MA46638-ICSAB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 13:10 | MA46638-HSTD1 | 1 | X | X | X | X | X | X | | X | X | X | X | X | X | X |
| 13:16 | MA46638-HSTD2 | 1 | | | | | | | X | | | | | | | |
| 13:22 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 13:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 13:32 | MA46638-CCV2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 13:37 | MA46638-CCB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 13:43 | MA46638-CRID2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 13:48 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 13:53 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 13:58 | MP14579-PS1 | 1 | X | | | | | | | | | | | | | |
| 14:03 | ZZZZZZ | 3 | | | | | | | | | | | | | | |
| 14:08 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 14:13 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 14:19 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 14:24 | ZZZZZZ | 5 | | | | | | | | | | | | | | |
| 14:29 | MA46638-CCV3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 14:34 | MA46638-CCB3 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 14:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 14:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 14:49 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 14:54 | ZZZZZZ | 3 | | | | | | | | | | | | | | |
| | | Element: | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 15:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 15:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 15:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 15:21 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 15:26 | MA46638-CCV4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:31 | MA46638-CCB4 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 15:37 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 15:42 | MP14600-PS1 | 1 | | | | | | | | | | | | | | |
| 15:47 | MP14600-PS1 | 10 | X | | | | | | | | | | | | | |
| 15:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 15:57 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 16:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 16:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 16:12 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 16:17 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 16:23 | MA46638-CCV5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:28 | MA46638-CCB5 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:33 | ZZZZZZ | 3 | | | | | | | | | | | | | | |
| 16:38 | ZZZZZZ | 5 | | | | | | | | | | | | | | |
| 16:43 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 16:48 | MA46638-ICSA2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:53 | MA46638-ICSAB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 16:59 | MP14617-PS1 | 1 | X | | | | | | | | | | | | | |
| 17:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 17:09 | MP14667-MB2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:14 | MP14667-B2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:19 | MA46638-CCV6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:24 | MA46638-CCB6 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 17:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 17:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 17:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 17:45 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| | | Element: | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17:50 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 17:55 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 18:00 | JC86986-8 | 1 | | | | X | | X | | | X | | X | | X | |
| 18:06 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 18:11 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 18:17 | MA46638-CCV7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 18:22 | MA46638-CCB7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 18:27 | JC86986-9 | 2 | X | X | | | | X | X | X | X | X | X | X | | |
| 18:32 | JC86986-12 | 1 | | | | | | | | | | | | | | X |
| 18:37 | JC86986-12 | 2 | | | X | | | | | | | | | X | | |
| 18:42 | JC86986-13 | 2 | X | X | X | | X | X | X | X | X | X | X | X | | |
| 18:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 18:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 18:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 19:03 | MP14636-PS1 | 1 | X | | | | | | | | | | | | | |
| 19:08 | ZZZZZZ | 2 | | | | | | | | | | | | | | |
| 19:13 | MA46638-CCV8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:18 | MA46638-CCB8 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 19:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 19:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 19:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 19:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 19:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 19:49 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 19:54 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 20:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 20:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 20:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 20:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 20:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 20:26 | MA46638-CCV9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 20:31 | MA46638-CCB9 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 20:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| | | Element: | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:41 | ZZZZZZ | 2 | | | | | | | | | | | | | | | |
| 20:46 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 20:51 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 20:56 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 21:01 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 21:06 | MA46638-CCV10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 21:11 | MA46638-CCB10 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 21:16 | ZZZZZZ | 100 | | | | | | | | | | | | | | | |
| 21:22 | ZZZZZZ | 50 | | | | | | | | | | | | | | | |
| 21:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 21:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 21:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 21:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 21:47 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 21:52 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 21:58 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 22:03 | ZZZZZZ | 3 | | | | | | | | | | | | | | | |
| 22:08 | MA46638-CCV11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:13 | MA46638-CCB11 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:18 | MP14766-MB1 | 1 | | | | | | | | X | | | | | | | |
| 22:23 | MP14766-B1 | 1 | | | | | | | | X | | | | | | | |
| 22:28 | MP14766-S1 | 1 | | | | | | | | X | | | | | | | |
| 22:33 | MP14766-S2 | 1 | | | | | | | | X | | | | | | | |
| 22:38 | JC85779-11R | 1 | | | | | | | | X | | | | | | | (a) |
| 22:43 | MP14766-SD1 | 5 | | | | | | | | X | | | | | | | |
| 22:49 | MA46638-CCV12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:54 | MA46638-CCB12 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 22:59 | MP14721-MB1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:04 | MP14721-B1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:09 | MP14721-S1 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:14 | MP14721-S2 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:19 | JC87093-7 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | (a) |
| 23:24 | MP14721-SD1 | 5 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| | | Element: | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23:29 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 23:34 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 23:39 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 23:44 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 23:50 | MA46638-CCV13 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 23:55 | MA46638-CCB13 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 00:00 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:05 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:10 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:21 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:26 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:41 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 00:46 | MA46638-CCV14 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 00:51 | MA46638-CCB14 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 00:56 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 01:01 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 01:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 01:12 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 01:17 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 01:22 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 01:27 | MP14726-MB1 | 5 | | X | | X | | | | X | | X | X | | | | |
| 01:32 | MP14726-B1 | 5 | | X | | X | | | | X | | X | X | | | | |
| 01:37 | MP14726-S1 | 5 | | X | | X | | | | X | | X | X | | | | |
| 01:42 | MP14726-S2 | 5 | | X | | X | | | | X | | X | X | | | | |
| 01:47 | MA46638-CCV15 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:52 | MA46638-CCB15 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 01:57 | JC87171-1 | 5 | | X | | X | | | | X | | X | X | | | | (a) |
| 02:02 | MP14726-SD1 | 25 | | X | | X | | | | X | | X | X | | | | |
| 02:07 | MP14724-MB1 | 1 | X | | | X | | | X | | X | | | X | X | | |
| 02:12 | MP14724-B1 | 1 | X | | | X | | | X | | X | | | X | X | | |
| | | Element: | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 02:17 | MP14724-S1 | 1 | X | | | X | | | X | | X | | | X | X | | |
| 02:22 | MP14724-S2 | 1 | X | | | X | | | X | | X | | | X | X | | |
| 02:28 | JC87131-2 | 1 | | | | | | | X | | X | | | | | | (a) |
| 02:33 | MP14724-SD1 | 5 | X | | | X | | | X | | X | | | X | X | | |
| 02:38 | MP14724-S3 | 1 | X | | | X | | | X | | X | | | X | X | | |
| 02:43 | MP14724-S4 | 1 | X | | | X | | | X | | X | | | X | X | | |
| 02:49 | MA46638-CCV16 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 02:54 | MA46638-CCB16 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 02:59 | JC87131-2F | 1 | | | | | | | X | | X | | | | | | (a) |
| 03:04 | MP14724-SD2 | 5 | X | | | X | | | X | | X | | | X | X | | |
| 03:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 03:15 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 03:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 03:25 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 03:31 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 03:36 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 03:41 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 03:46 | MA46638-CCV17 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:51 | MA46638-CCB17 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 03:56 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:01 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:06 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:11 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:16 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:21 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:27 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:32 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:37 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:42 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 04:47 | MA46638-CCV18 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 04:52 | MA46638-CCB18 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 04:57 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| 05:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | | |
| | | Element: | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn | |

REPORTED ELEMENTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Element: Dilution | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05:07 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 05:13 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 05:18 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 05:23 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 05:28 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 05:33 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 05:38 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 05:43 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 05:49 | MA46638-CCV19 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 05:54 | MA46638-CCB19 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 05:59 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 06:04 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 06:09 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 06:14 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 06:20 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 06:25 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 06:30 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 06:35 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 06:40 | MA46638-CCV20 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 06:45 | MA46638-CCB20 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 07:57 | ZZZZZZ | 3 | | | | | | | | | | | | | | |
| 08:02 | ZZZZZZ | 1 | | | | | | | | | | | | | | |
| 08:06 | ZZZZZZ | 3 | | | | | | | | | | | | | | |
| 08:13 | ZZZZZZ | 3 | | | | | | | | | | | | | | |
| 08:17 | MA46638-CCV21 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 08:24 | MA46638-CCB21 | 1 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |

(a) Sample used for QC only; not part of login JC86986.

| Element: | Sb | As | Be | Cr | Co | Cu | Fe | Pb | Mn | Se | Ag | Tl | V | Zn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 11:57 | MA46638-STD1 | 6526 R | 161940 R | 24771 R | 10236 R |
| 12:02 | MA46638-STD2 | 6073 | 147730 | 24290 | 9091 |
| 12:08 | ZZZZZZ | 6224 | 151810 | 24682 | 9302 |
| 12:13 | ZZZZZZ | 6465 | 160470 | 24565 | 10167 |
| 12:18 | MA46638-ICV1 | 6162 | 150310 | 24212 | 9241 |
| 12:23 | MA46638-ICB1 | 6487 | 159280 | 24581 | 10176 |
| 12:28 | MA46638-CCV1 | 6161 | 150230 | 24172 | 9219 |
| 12:33 | MA46638-CCB1 | 6485 | 159800 | 24519 | 10174 |
| 12:38 | ZZZZZZ | 13230 ! | 298890 ! | 37823 ! | 19851 ! |
| 12:44 | ZZZZZZ | 14320 ! | 333350 ! | 41863 ! | 21418 ! |
| 12:49 | MA46638-CRI1 | 6316 | 155290 | 24022 | 9686 |
| 12:55 | MA46638-CRID1 | No results reported for the elements associated with this internal standard. | | | |
| 13:00 | MA46638-ICSA1 | 5753 | 137280 | 23317 | 8419 |
| 13:05 | MA46638-ICSAB1 | 5740 | 137570 | 22952 | 8422 |
| 13:10 | MA46638-HSTD1 | 6333 | 155790 | 24723 | 9893 |
| 13:16 | MA46638-HSTD2 | 5822 | 139090 | 23635 | 8386 |
| 13:22 | ZZZZZZ | 6412 | 156260 | 24578 | 10031 |
| 13:27 | ZZZZZZ | 6297 | 158560 | 24310 | 10017 |
| 13:32 | MA46638-CCV2 | 6209 | 149590 | 23966 | 9156 |
| 13:37 | MA46638-CCB2 | 6483 | 159390 | 24376 | 10033 |
| 13:43 | MA46638-CRID2 | 6464 | 158160 | 24409 | 9962 |
| 13:48 | ZZZZZZ | 6570 | 162430 | 25040 | 10121 |
| 13:53 | ZZZZZZ | 6548 | 160020 | 24680 | 10112 |
| 13:58 | MP14579-PS1 | 6387 | 155130 | 25041 | 9423 |
| 14:03 | ZZZZZZ | 6536 | 156770 | 25139 | 9712 |
| 14:08 | ZZZZZZ | 6468 | 157210 | 25297 | 9380 |
| 14:13 | ZZZZZZ | 6567 | 157970 | 25288 | 9577 |
| 14:19 | ZZZZZZ | 6385 | 156010 | 25075 | 9497 |
| 14:24 | ZZZZZZ | 6550 | 160000 | 24842 | 9953 |
| 14:29 | MA46638-CCV3 | 6174 | 149100 | 24042 | 9140 |
| 14:34 | MA46638-CCB3 | 6444 | 158090 | 24278 | 10011 |
| 14:39 | ZZZZZZ | 6570 | 159780 | 25136 | 9710 |
| 14:44 | ZZZZZZ | 6720 | 160200 | 25710 | 9835 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 14:49 | ZZZZZZ | 6199 | 153770 | 24795 | 9191 |
| 14:54 | ZZZZZZ | 6071 | 145130 | 24179 | 8775 |
| 15:00 | ZZZZZZ | 6641 | 162810 | 25059 | 10187 |
| 15:05 | ZZZZZZ | 6424 | 156210 | 25448 | 9409 |
| 15:10 | ZZZZZZ | 6585 | 156690 | 25662 | 9302 |
| 15:16 | ZZZZZZ | 6590 | 159410 | 25791 | 9391 |
| 15:21 | ZZZZZZ | 6506 | 157100 | 25012 | 9399 |
| 15:26 | MA46638-CCV4 | 6187 | 149320 | 23844 | 9097 |
| 15:31 | MA46638-CCB4 | 6453 | 158470 | 24346 | 9950 |
| 15:37 | ZZZZZZ | 6504 | 156910 | 25228 | 9486 |
| 15:42 | MP14600-PS1 | 6207 | 150270 | 25022 | 10044 |
| 15:47 | MP14600-PS1 | 6440 | 156730 | 24461 | 9764 |
| 15:52 | ZZZZZZ | 6777 | 165840 | 25743 | 9956 |
| 15:57 | ZZZZZZ | 6564 | 157510 | 24721 | 9694 |
| 16:02 | ZZZZZZ | 6721 | 161480 | 25846 | 9425 |
| 16:07 | ZZZZZZ | 6680 | 160120 | 25825 | 9409 |
| 16:12 | ZZZZZZ | 6653 | 158050 | 25213 | 9609 |
| 16:17 | ZZZZZZ | 6867 | 162150 | 25881 | 9610 |
| 16:23 | MA46638-CCV5 | 6179 | 149890 | 23859 | 9114 |
| 16:28 | MA46638-CCB5 | 6514 | 160310 | 24357 | 10072 |
| 16:33 | ZZZZZZ | 6797 | 162910 | 25589 | 9731 |
| 16:38 | ZZZZZZ | 6449 | 156530 | 24466 | 9646 |
| 16:43 | ZZZZZZ | 6570 | 162660 | 25068 | 10154 |
| 16:48 | MA46638-ICSA2 | 5733 | 137390 | 23209 | 8340 |
| 16:53 | MA46638-ICSAB2 | 5707 | 137490 | 23262 | 8358 |
| 16:59 | MP14617-PS1 | 6563 | 159190 | 25936 | 9321 |
| 17:04 | ZZZZZZ | 6477 | 159190 | 24469 | 10036 |
| 17:09 | MP14667-MB2 | 6461 | 159800 | 24456 | 10037 |
| 17:14 | MP14667-B2 | 6218 | 151430 | 23875 | 9295 |
| 17:19 | MA46638-CCV6 | 6104 | 148220 | 23707 | 9042 |
| 17:24 | MA46638-CCB6 | 6296 | 157170 | 23868 | 9783 |
| 17:29 | ZZZZZZ | 6401 | 154280 | 24810 | 9027 |
| 17:34 | ZZZZZZ | 6280 | 152620 | 24745 | 9131 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 17:39 | ZZZZZZ | 6152 | 151590 | 24704 | 8743 |
| 17:45 | ZZZZZZ | 6203 | 150120 | 24358 | 8963 |
| 17:50 | ZZZZZZ | 6179 | 150620 | 24558 | 8884 |
| 17:55 | ZZZZZZ | 6282 | 151220 | 24637 | 8964 |
| 18:00 | JC86986-8 | 6856 | 165340 | 26394 | 9443 |
| 18:06 | ZZZZZZ | 6271 | 152550 | 24223 | 9135 |
| 18:11 | ZZZZZZ | 6323 | 158210 | 24675 | 9228 |
| 18:17 | MA46638-CCV7 | 6201 | 148810 | 23560 | 9146 |
| 18:22 | MA46638-CCB7 | 6449 | 158010 | 24173 | 9966 |
| 18:27 | JC86986-9 | 6384 | 154550 | 24234 | 9783 |
| 18:32 | JC86986-12 | 6466 | 155520 | 24958 | 9327 |
| 18:37 | JC86986-12 | 6410 | 155780 | 24533 | 9458 |
| 18:42 | JC86986-13 | 6316 | 154030 | 24202 | 9351 |
| 18:47 | ZZZZZZ | 6503 | 159670 | 24503 | 10092 |
| 18:52 | ZZZZZZ | 6483 | 159930 | 24894 | 9869 |
| 18:58 | ZZZZZZ | 6540 | 160320 | 24857 | 10159 |
| 19:03 | MP14636-PS1 | 6379 | 153860 | 25179 | 9306 |
| 19:08 | ZZZZZZ | 6499 | 157620 | 24699 | 9788 |
| 19:13 | MA46638-CCV8 | 6160 | 150430 | 23915 | 9159 |
| 19:18 | MA46638-CCB8 | 6403 | 156130 | 23958 | 9974 |
| 19:23 | ZZZZZZ | 6367 | 156520 | 23983 | 9903 |
| 19:28 | ZZZZZZ | 6393 | 157660 | 24215 | 9942 |
| 19:34 | ZZZZZZ | 6357 | 156490 | 24119 | 9939 |
| 19:39 | ZZZZZZ | 6530 | 160210 | 24500 | 10133 |
| 19:44 | ZZZZZZ | 6428 | 158280 | 24198 | 9976 |
| 19:49 | ZZZZZZ | 6533 | 159790 | 24217 | 10096 |
| 19:54 | ZZZZZZ | 6399 | 157380 | 24326 | 9966 |
| 20:00 | ZZZZZZ | 6410 | 157390 | 24102 | 10086 |
| 20:05 | ZZZZZZ | 6364 | 144230 | 24562 | 9178 |
| 20:10 | ZZZZZZ | 5875 | 143180 | 23350 | 8709 |
| 20:15 | ZZZZZZ | 6485 | 159950 | 24440 | 10137 |
| 20:20 | ZZZZZZ | 6389 | 156500 | 24310 | 10007 |
| 20:26 | MA46638-CCV9 | 6117 | 148890 | 23635 | 9140 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 20:31 | MA46638-CCB9 | 6458 | 158390 | 24187 | 10102 |
| 20:36 | ZZZZZZ | 6670 | 161830 | 26577 | 9603 |
| 20:41 | ZZZZZZ | 6393 | 155600 | 24807 | 9527 |
| 20:46 | ZZZZZZ | 6548 | 999999 ! | 25281 | 9605 |
| 20:51 | ZZZZZZ | 6536 | 160080 | 25242 | 9745 |
| 20:56 | ZZZZZZ | 6457 | 159730 | 24624 | 10121 |
| 21:01 | ZZZZZZ | 6428 | 159520 | 24757 | 10089 |
| 21:06 | MA46638-CCV10 | 6076 | 149380 | 23877 | 9129 |
| 21:11 | MA46638-CCB10 | 6385 | 157570 | 24143 | 10028 |
| 21:16 | ZZZZZZ | 6433 | 158460 | 24258 | 10055 |
| 21:22 | ZZZZZZ | 6394 | 157530 | 24260 | 9978 |
| 21:27 | ZZZZZZ | 6462 | 161140 | 24747 | 10120 |
| 21:32 | ZZZZZZ | 6491 | 161110 | 24217 | 10180 |
| 21:37 | ZZZZZZ | 6425 | 158870 | 24502 | 10085 |
| 21:42 | ZZZZZZ | 6337 | 158310 | 24867 | 9604 |
| 21:47 | ZZZZZZ | 6088 | 148530 | 24064 | 9023 |
| 21:52 | ZZZZZZ | 5849 | 143540 | 24147 | 8488 |
| 21:58 | ZZZZZZ | 6236 | 152620 | 24403 | 9308 |
| 22:03 | ZZZZZZ | 6272 | 154540 | 24213 | 9587 |
| 22:08 | MA46638-CCV11 | 6099 | 148190 | 23712 | 9169 |
| 22:13 | MA46638-CCB11 | 6348 | 157330 | 24088 | 9993 |
| 22:18 | MP14766-MB1 | 6467 | 160060 | 24728 | 10202 |
| 22:23 | MP14766-B1 | 6273 | 153000 | 24520 | 9470 |
| 22:28 | MP14766-S1 | 6156 | 149310 | 24523 | 9133 |
| 22:33 | MP14766-S2 | 6134 | 149560 | 24264 | 9094 |
| 22:38 | JC85779-11R | 6264 | 152740 | 24455 | 9348 |
| 22:43 | MP14766-SD1 | 6357 | 156180 | 24367 | 9773 |
| 22:49 | MA46638-CCV12 | 6116 | 148920 | 23651 | 9175 |
| 22:54 | MA46638-CCB12 | 6379 | 157700 | 24193 | 10037 |
| 22:59 | MP14721-MB1 | 6392 | 159640 | 24587 | 10071 |
| 23:04 | MP14721-B1 | 6199 | 152350 | 24103 | 9387 |
| 23:09 | MP14721-S1 | 6446 | 156430 | 25249 | 9327 |
| 23:14 | MP14721-S2 | 6435 | 156890 | 25413 | 9277 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 23:19 | JC87093-7 | 6604 | 160720 | 25786 | 9660 |
| 23:24 | MP14721-SD1 | 6489 | 158120 | 24616 | 9885 |
| 23:29 | ZZZZZZ | 6545 | 159920 | 25860 | 9747 |
| 23:34 | ZZZZZZ | 6665 | 163160 | 26339 | 9638 |
| 23:39 | ZZZZZZ | 6461 | 999999 !a | 25138 | 9783 |
| 23:44 | ZZZZZZ | 6720 | 162830 | 26523 | 9574 |
| 23:50 | MA46638-CCV13 | 6185 | 151070 | 23968 | 9277 |
| 23:55 | MA46638-CCB13 | 6433 | 162260 | 24139 | 10110 |
| 00:00 | ZZZZZZ | 6667 | 161800 | 26076 | 9615 |
| 00:05 | ZZZZZZ | 6157 | 156650 | 24931 | 9445 |
| 00:10 | ZZZZZZ | 6344 | 155440 | 24924 | 9875 |
| 00:15 | ZZZZZZ | 6770 | 162250 | 26335 | 9472 |
| 00:21 | ZZZZZZ | 7008 | 170870 | 27674 | 9494 |
| 00:26 | ZZZZZZ | 6468 | 162990 | 25357 | 9625 |
| 00:31 | ZZZZZZ | 6544 | 162190 | 26081 | 9498 |
| 00:36 | ZZZZZZ | 6394 | 154560 | 25027 | 9685 |
| 00:41 | ZZZZZZ | 6405 | 156010 | 25265 | 9488 |
| 00:46 | MA46638-CCV14 | 6026 | 149030 | 23444 | 9070 |
| 00:51 | MA46638-CCB14 | 6378 | 158550 | 24156 | 10031 |
| 00:56 | ZZZZZZ | 6463 | 156780 | 25223 | 9580 |
| 01:01 | ZZZZZZ | 6427 | 999999 !a | 25008 | 9570 |
| 01:07 | ZZZZZZ | 6433 | 156620 | 24758 | 9518 |
| 01:12 | ZZZZZZ | 6478 | 156000 | 25095 | 9601 |
| 01:17 | ZZZZZZ | 6418 | 155670 | 24916 | 9512 |
| 01:22 | ZZZZZZ | 6551 | 161850 | 25636 | 9482 |
| 01:27 | MP14726-MB1 | 6466 | 159870 | 24182 | 10119 |
| 01:32 | MP14726-B1 | 6365 | 156130 | 24021 | 9763 |
| 01:37 | MP14726-S1 | 6222 | 153390 | 24254 | 9306 |
| 01:42 | MP14726-S2 | 6257 | 150710 | 23805 | 9358 |
| 01:47 | MA46638-CCV15 | 6090 | 149250 | 23578 | 9135 |
| 01:52 | MA46638-CCB15 | 6361 | 157090 | 23812 | 9985 |
| 01:57 | JC87171-1 | 6209 | 152220 | 24046 | 9375 |
| 02:02 | MP14726-SD1 | 6317 | 156190 | 23871 | 9756 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP Date Analyzed: 05/02/19 Methods: EPA 200.7, SW846 6010D
Analyst: MET Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 02:07 | MP14724-MB1 | 6425 | 159450 | 24271 | 10068 |
| 02:12 | MP14724-B1 | 6258 | 153630 | 24002 | 9422 |
| 02:17 | MP14724-S1 | 5894 | 142770 | 23541 | 8579 |
| 02:22 | MP14724-S2 | 5868 | 143190 | 23519 | 8541 |
| 02:28 | JC87131-2 | 5874 | 142850 | 23542 | 8576 |
| 02:33 | MP14724-SD1 | 6244 | 152290 | 23842 | 9363 |
| 02:38 | MP14724-S3 | 5893 | 143200 | 23457 | 8567 |
| 02:43 | MP14724-S4 | 5888 | 143080 | 23465 | 8562 |
| 02:49 | MA46638-CCV16 | 6107 | 148170 | 23168 | 9128 |
| 02:54 | MA46638-CCB16 | 6365 | 157020 | 23689 | 9986 |
| 02:59 | JC87131-2F | 5948 | 143520 | 23559 | 8663 |
| 03:04 | MP14724-SD2 | 6192 | 153810 | 23833 | 9300 |
| 03:09 | ZZZZZZ | 6037 | 145730 | 23554 | 8908 |
| 03:15 | ZZZZZZ | 6078 | 147670 | 23591 | 8993 |
| 03:20 | ZZZZZZ | 5979 | 147230 | 23746 | 8803 |
| 03:25 | ZZZZZZ | 5991 | 145650 | 23342 | 8826 |
| 03:31 | ZZZZZZ | 6029 | 148090 | 23650 | 8950 |
| 03:36 | ZZZZZZ | 6229 | 153360 | 23891 | 9356 |
| 03:41 | ZZZZZZ | 6170 | 152170 | 23909 | 9288 |
| 03:46 | MA46638-CCV17 | 6081 | 148500 | 23350 | 9102 |
| 03:51 | MA46638-CCB17 | 6415 | 159840 | 24004 | 10036 |
| 03:56 | ZZZZZZ | 6203 | 153020 | 23910 | 9334 |
| 04:01 | ZZZZZZ | 6283 | 154870 | 23840 | 9491 |
| 04:06 | ZZZZZZ | 6230 | 153980 | 23915 | 9375 |
| 04:11 | ZZZZZZ | 6262 | 153510 | 23850 | 9447 |
| 04:16 | ZZZZZZ | 6268 | 154130 | 23914 | 9489 |
| 04:21 | ZZZZZZ | 6265 | 153810 | 23746 | 9480 |
| 04:27 | ZZZZZZ | 6286 | 153600 | 23911 | 9512 |
| 04:32 | ZZZZZZ | 6238 | 153350 | 23640 | 9395 |
| 04:37 | ZZZZZZ | 6502 | 161500 | 24373 | 10136 |
| 04:42 | ZZZZZZ | 5938 | 144050 | 23568 | 8479 |
| 04:47 | MA46638-CCV18 | 6073 | 149590 | 23268 | 9074 |
| 04:52 | MA46638-CCB18 | 6367 | 157310 | 23583 | 9965 |

INTERNAL STANDARD SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
Analyst: MET  Run ID: MA46638
Parameters: Sb,As,Be,Cr,Co,Cu,Fe,Pb,Mn,Se,Ag,Tl,V,Zn

| Time | Sample Description | Istd#1 | Istd#2 | Istd#3 | Istd#4 |
|---|---|---|---|---|---|
| 04:57 | ZZZZZZ | 6541 | 159790 | 23794 | 10199 |
| 05:02 | ZZZZZZ | 6203 | 152620 | 23450 | 9325 |
| 05:07 | ZZZZZZ | 6479 | 157980 | 24651 | 9479 |
| 05:13 | ZZZZZZ | 6433 | 158350 | 24516 | 9478 |
| 05:18 | ZZZZZZ | 6266 | 156080 | 24191 | 9324 |
| 05:23 | ZZZZZZ | 6423 | 157170 | 24149 | 9528 |
| 05:28 | ZZZZZZ | 6555 | 157890 | 24503 | 9559 |
| 05:33 | ZZZZZZ | 6552 | 159700 | 24752 | 9546 |
| 05:38 | ZZZZZZ | 6524 | 159970 | 24568 | 9559 |
| 05:43 | ZZZZZZ | 6521 | 157430 | 24126 | 9631 |
| 05:49 | MA46638-CCV19 | 6065 | 147830 | 22907 | 9039 |
| 05:54 | MA46638-CCB19 | 6373 | 157150 | 23422 | 9941 |
| 05:59 | ZZZZZZ | 6759 | 165070 | 23952 | 9841 |
| 06:04 | ZZZZZZ | 6826 | 168370 | 26771 | 9860 |
| 06:09 | ZZZZZZ | 6719 | 165160 | 26316 | 9863 |
| 06:14 | ZZZZZZ | 6856 | 999999 !a | 26781 | 9920 |
| 06:20 | ZZZZZZ | 6753 | 167710 | 26607 | 9950 |
| 06:25 | ZZZZZZ | 6872 | 168720 | 26929 | 9936 |
| 06:30 | ZZZZZZ | 6779 | 167470 | 26523 | 9953 |
| 06:35 | ZZZZZZ | 6861 | 167750 | 26879 | 9983 |
| 06:40 | MA46638-CCV20 | 6288 | 157300 | 25258 | 9292 |
| 06:45 | MA46638-CCB20 | 6618 | 165530 | 25325 | 10259 |
| 07:57 | ZZZZZZ | 6141 | 151110 | 24198 | 9013 |
| 08:02 | ZZZZZZ | 6292 | 154400 | 24771 | 9795 |
| 08:06 | ZZZZZZ | 6477 | 159580 | 24803 | 9877 |
| 08:13 | ZZZZZZ | 6775 | 165800 | 25936 | 9748 |
| 08:17 | MA46638-CCV21 | 6292 | 154380 | 24541 | 9313 |
| 08:24 | MA46638-CCB21 | 6589 | 164090 | 24814 | 10232 |

R = Reference for ISTD limits.  ! = Outside limits.

LEGEND:

| Istd# | Parameter | Limits |
|---|---|---|
| Istd#1 | Yttrium (2243) | 70-130 % |
| Istd#2 | Yttrium (3600) | 70-130 % |
| Istd#3 | Yttrium (3710) | 70-130 % |
| Istd#4 | Indium | 70-130 % |

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46638  Units: ug/l

| Time: | | | 12:23 | | 12:33 | | 13:37 | | 14:34 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | anr | | | | | | | |
| Antimony | 6.0 | 1.4 | -1.30 | <6.0 | -1.40 | <6.0 | -0.700 | <6.0 | -0.100 | <6.0 |
| Arsenic | 3.0 | 1.5 | 0.300 | <3.0 | 1.20 | <3.0 | 1.10 | <3.0 | -0.400 | <3.0 |
| Barium | 200 | .5 | anr | | | | | | | |
| Beryllium | 1.0 | .1 | 0.100 | <1.0 | 0.600 | <1.0 | 0.300 | <1.0 | 0.100 | <1.0 |
| Bismuth | 20 | 1.8 | | | | | | | | |
| Boron | 100 | .8 | | | | | | | | |
| Cadmium | 3.0 | .3 | anr | | | | | | | |
| Calcium | 5000 | 3.9 | anr | | | | | | | |
| Chromium | 10 | .3 | 0.100 | <10 | 0.600 | <10 | 0.100 | <10 | 0.200 | <10 |
| Cobalt | 50 | .3 | 0.200 | <50 | 0.500 | <50 | 0.200 | <50 | 0.200 | <50 |
| Copper | 10 | .6 | 0.600 | <10 | 0.800 | <10 | 0.200 | <10 | 0.00 | <10 |
| Iron | 100 | 2.6 | 2.50 | <100 | 10.9 | <100 | 4.70 | <100 | 0.400 | <100 |
| Lead | 3.0 | 1.6 | 0.200 | <3.0 | 0.200 | <3.0 | 0.700 | <3.0 | 0.600 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | | | |
| Magnesium | 5000 | 16 | anr | | | | | | | |
| Manganese | 15 | .1 | 0.100 | <15 | 0.700 | <15 | 0.300 | <15 | 0.100 | <15 |
| Molybdenum | 20 | .4 | | | | | | | | |
| Nickel | 10 | .5 | anr | | | | | | | |
| Phosphorus | 50 | 1.9 | | | | | | | | |
| Potassium | 10000 | 79 | anr | | | | | | | |
| Selenium | 10 | 3 | -1.50 | <10 | -1.20 | <10 | -2.00 | <10 | -1.30 | <10 |
| Silicon | 200 | 1.2 | | | | | | | | |
| Silver | 10 | .5 | 0.300 | <10 | 0.00 | <10 | -0.100 | <10 | -0.300 | <10 |
| Sodium | 10000 | 9.9 | anr | | | | | | | |
| Strontium | 10 | .3 | | | | | | | | |
| Sulfur | 50 | 3.5 | | | | | | | | |
| Thallium | 10 | 1.3 | 0.900 | <10 | 1.00 | <10 | 1.10 | <10 | 0.700 | <10 |
| Tin | 10 | .7 | | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | | | |
| Vanadium | 50 | .5 | 0.100 | <50 | 0.400 | <50 | 0.200 | <50 | 0.200 | <50 |
| Zinc | 20 | .2 | 1.00 | <20 | 1.20 | <20 | 0.100 | <20 | -0.200 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46638  Units: ug/l

| Time: | | | 12:23 | | 12:33 | | 13:37 | | 14:34 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | ICB1 | | CCB1 | | CCB2 | | CCB3 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46638  Units: ug/l

| Time: | | | 15:31 | | 16:28 | | 17:24 | | 18:22 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Aluminum | 200 | 14 | anr | | | | | | | |
| Antimony | 6.0 | 1.4 | -1.80 | <6.0 | 0.700 | <6.0 | -0.600 | <6.0 | -0.600 | <6.0 |
| Arsenic | 3.0 | 1.5 | 0.600 | <3.0 | 1.20 | <3.0 | 1.20 | <3.0 | 0.300 | <3.0 |
| Barium | 200 | .5 | anr | | | | | | | |
| Beryllium | 1.0 | .1 | 0.100 | <1.0 | 0.200 | <1.0 | 0.400 | <1.0 | 0.00 | <1.0 |
| Bismuth | 20 | 1.8 | | | | | | | | |
| Boron | 100 | .8 | | | | | | | | |
| Cadmium | 3.0 | .3 | anr | | | | | | | |
| Calcium | 5000 | 3.9 | anr | | | | | | | |
| Chromium | 10 | .3 | 0.100 | <10 | 0.500 | <10 | 0.400 | <10 | -0.100 | <10 |
| Cobalt | 50 | .3 | 0.300 | <50 | 0.700 | <50 | 0.600 | <50 | 0.300 | <50 |
| Copper | 10 | .6 | 0.200 | <10 | 0.500 | <10 | 0.300 | <10 | 0.00 | <10 |
| Iron | 100 | 2.6 | 1.20 | <100 | 4.90 | <100 | 6.90 | <100 | -1.50 | <100 |
| Lead | 3.0 | 1.6 | 0.700 | <3.0 | 0.700 | <3.0 | 0.600 | <3.0 | 0.900 | <3.0 |
| Lithium | 50 | 2.1 | | | | | | | | |
| Magnesium | 5000 | 16 | anr | | | | | | | |
| Manganese | 15 | .1 | 0.100 | <15 | 0.300 | <15 | 0.500 | <15 | 0.00 | <15 |
| Molybdenum | 20 | .4 | | | | | | | | |
| Nickel | 10 | .5 | anr | | | | | | | |
| Phosphorus | 50 | 1.9 | | | | | | | | |
| Potassium | 10000 | 79 | anr | | | | | | | |
| Selenium | 10 | 3 | -1.70 | <10 | -0.500 | <10 | -0.900 | <10 | -1.20 | <10 |
| Silicon | 200 | 1.2 | | | | | | | | |
| Silver | 10 | .5 | -0.200 | <10 | -0.100 | <10 | -0.300 | <10 | 0.00 | <10 |
| Sodium | 10000 | 9.9 | anr | | | | | | | |
| Strontium | 10 | .3 | | | | | | | | |
| Sulfur | 50 | 3.5 | | | | | | | | |
| Thallium | 10 | 1.3 | 0.900 | <10 | 1.00 | <10 | -0.100 | <10 | 0.700 | <10 |
| Tin | 10 | .7 | | | | | | | | |
| Titanium | 10 | .5 | | | | | | | | |
| Tungsten | 50 | 1.7 | | | | | | | | |
| Vanadium | 50 | .5 | 0.300 | <50 | 0.500 | <50 | 1.00 | <50 | 0.00 | <50 |
| Zinc | 20 | .2 | 0.100 | <20 | 0.300 | <20 | 0.600 | <20 | -0.200 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46638  Units: ug/l

| Time: | | | 15:31 | | 16:28 | | 17:24 | | 18:22 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | | | CCB4 | | CCB5 | | CCB6 | | CCB7 | |
| Metal | RL | IDL | raw | final | raw | final | raw | final | raw | final |
| Zirconium | 10 | .3 | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46638  Units: ug/l

| Time: | | | 19:18 | |
|---|---|---|---|---|
| Sample ID: | | | CCB8 | |
| Metal | RL | IDL | raw | final |
| Aluminum | 200 | 14 | anr | |
| Antimony | 6.0 | 1.4 | 0.200 | <6.0 |
| Arsenic | 3.0 | 1.5 | -0.100 | <3.0 |
| Barium | 200 | .5 | anr | |
| Beryllium | 1.0 | .1 | 0.100 | <1.0 |
| Bismuth | 20 | 1.8 | | |
| Boron | 100 | .8 | | |
| Cadmium | 3.0 | .3 | anr | |
| Calcium | 5000 | 3.9 | anr | |
| Chromium | 10 | .3 | 0.100 | <10 |
| Cobalt | 50 | .3 | 0.400 | <50 |
| Copper | 10 | .6 | 0.100 | <10 |
| Iron | 100 | 2.6 | 0.500 | <100 |
| Lead | 3.0 | 1.6 | -0.500 | <3.0 |
| Lithium | 50 | 2.1 | | |
| Magnesium | 5000 | 16 | anr | |
| Manganese | 15 | .1 | 0.200 | <15 |
| Molybdenum | 20 | .4 | | |
| Nickel | 10 | .5 | anr | |
| Phosphorus | 50 | 1.9 | | |
| Potassium | 10000 | 79 | anr | |
| Selenium | 10 | 3 | -0.300 | <10 |
| Silicon | 200 | 1.2 | | |
| Silver | 10 | .5 | -0.300 | <10 |
| Sodium | 10000 | 9.9 | anr | |
| Strontium | 10 | .3 | | |
| Sulfur | 50 | 3.5 | | |
| Thallium | 10 | 1.3 | 0.200 | <10 |
| Tin | 10 | .7 | | |
| Titanium | 10 | .5 | | |
| Tungsten | 50 | 1.7 | | |
| Vanadium | 50 | .5 | 0.600 | <50 |
| Zinc | 20 | .2 | -0.200 | <20 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL  Run ID: MA46638  Units: ug/l

| Time: | | | 19:18 | |
|---|---|---|---|---|
| Sample ID: | | | CCB8 | |
| Metal | RL | IDL | raw | final |
| Zirconium | 10 | .3 | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | 12:18 | | | 12:28 | | | 13:32 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1930 | 96.5 | 2000 | 1960 | 98.0 | 2000 | 1960 | 98.0 |
| Arsenic | 2000 | 1940 | 97.0 | 2000 | 1950 | 97.5 | 2000 | 1970 | 98.5 |
| Barium | anr | | | | | | | | |
| Beryllium | 2000 | 2060 | 103.0 | 2000 | 2060 | 103.0 | 2000 | 2090 | 104.5 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | 2000 | 1980 | 99.0 | 2000 | 2010 | 100.5 | 2000 | 2020 | 101.0 |
| Cobalt | 2000 | 2050 | 102.5 | 2000 | 2020 | 101.0 | 2000 | 2020 | 101.0 |
| Copper | 2000 | 1970 | 98.5 | 2000 | 1990 | 99.5 | 2000 | 2020 | 101.0 |
| Iron | 40000 | 39100 | 97.8 | 40000 | 39500 | 98.8 | 40000 | 40400 | 101.0 |
| Lead | 2000 | 2000 | 100.0 | 2000 | 2020 | 101.0 | 2000 | 2030 | 101.5 |
| Lithium | | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2010 | 100.5 | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 1970 | 98.5 | 2000 | 1990 | 99.5 | 2000 | 2010 | 100.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 238 | 95.2 | 250 | 242 | 96.8 | 250 | 244 | 97.6 |
| Sodium | anr | | | | | | | | |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | 2000 | 2060 | 103.0 | 2000 | 2090 | 104.5 | 2000 | 2100 | 105.0 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 1980 | 99.0 | 2000 | 2000 | 100.0 | 2000 | 1980 | 99.0 |
| Zinc | 2000 | 1990 | 99.5 | 2000 | 2020 | 101.0 | 2000 | 2010 | 100.5 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | 12:18 | | | 12:28 | | | 13:32 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICV | ICV1 | | CCV | CCV1 | | CCV | CCV2 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | 14:29 | | | 15:26 | | | 16:23 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 1970 | 98.5 | 2000 | 1990 | 99.5 | 2000 | 1990 | 99.5 |
| Arsenic | 2000 | 1980 | 99.0 | 2000 | 2000 | 100.0 | 2000 | 2010 | 100.5 |
| Barium | anr | | | | | | | | |
| Beryllium | 2000 | 2090 | 104.5 | 2000 | 2100 | 105.0 | 2000 | 2090 | 104.5 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Cobalt | 2000 | 2030 | 101.5 | 2000 | 2030 | 101.5 | 2000 | 2030 | 101.5 |
| Copper | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Iron | 40000 | 40700 | 101.8 | 40000 | 41000 | 102.5 | 40000 | 40800 | 102.0 |
| Lead | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 | 2000 | 2050 | 102.5 |
| Lithium | | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 | 2000 | 2050 | 102.5 |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 2010 | 100.5 | 2000 | 2030 | 101.5 | 2000 | 2030 | 101.5 |
| Silicon | | | | | | | | | |
| Silver | 250 | 244 | 97.6 | 250 | 248 | 99.2 | 250 | 248 | 99.2 |
| Sodium | anr | | | | | | | | |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | 2000 | 2100 | 105.0 | 2000 | 2120 | 106.0 | 2000 | 2110 | 105.5 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 1990 | 99.5 | 2000 | 1990 | 99.5 | 2000 | 1990 | 99.5 |
| Zinc | 2000 | 2020 | 101.0 | 2000 | 2020 | 101.0 | 2000 | 2020 | 101.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | 14:29 | | | 15:26 | | | 16:23 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV3 | | CCV | CCV4 | | CCV | CCV5 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | 17:19 | | | 18:17 | | | 19:13 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Aluminum | anr | | | | | | | | |
| Antimony | 2000 | 2020 | 101.0 | 2000 | 2020 | 101.0 | 2000 | 2020 | 101.0 |
| Arsenic | 2000 | 2020 | 101.0 | 2000 | 2040 | 102.0 | 2000 | 2020 | 101.0 |
| Barium | anr | | | | | | | | |
| Beryllium | 2000 | 2100 | 105.0 | 2000 | 2090 | 104.5 | 2000 | 2090 | 104.5 |
| Bismuth | | | | | | | | | |
| Boron | | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | 2000 | 2040 | 102.0 | 2000 | 2040 | 102.0 | 2000 | 2020 | 101.0 |
| Cobalt | 2000 | 2040 | 102.0 | 2000 | 2040 | 102.0 | 2000 | 2030 | 101.5 |
| Copper | 2000 | 2040 | 102.0 | 2000 | 2040 | 102.0 | 2000 | 2000 | 100.0 |
| Iron | 40000 | 40900 | 102.3 | 40000 | 41200 | 103.0 | 40000 | 40700 | 101.8 |
| Lead | 2000 | 2060 | 103.0 | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 |
| Lithium | | | | | | | | | |
| Magnesium | anr | | | | | | | | |
| Manganese | 2000 | 2040 | 102.0 | 2000 | 2060 | 103.0 | 2000 | 2030 | 101.5 |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Phosphorus | | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | 2000 | 2040 | 102.0 | 2000 | 2040 | 102.0 | 2000 | 2020 | 101.0 |
| Silicon | | | | | | | | | |
| Silver | 250 | 249 | 99.6 | 250 | 252 | 100.8 | 250 | 247 | 98.8 |
| Sodium | anr | | | | | | | | |
| Strontium | | | | | | | | | |
| Sulfur | | | | | | | | | |
| Thallium | 2000 | 2110 | 105.5 | 2000 | 2120 | 106.0 | 2000 | 2100 | 105.0 |
| Tin | | | | | | | | | |
| Titanium | | | | | | | | | |
| Tungsten | | | | | | | | | |
| Vanadium | 2000 | 2000 | 100.0 | 2000 | 2010 | 100.5 | 2000 | 1980 | 99.0 |
| Zinc | 2000 | 2030 | 101.5 | 2000 | 2020 | 101.0 | 2000 | 2020 | 101.0 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | 17:19 | | | 18:17 | | | 19:13 | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | CCV | CCV6 | | CCV | CCV7 | | CCV | CCV8 | |
| Metal | True | Results | % Rec | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | 13:10 | | | 13:16 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Aluminum | | | | | | |
| Antimony | 8000 | 8050 | 100.6 | | | |
| Arsenic | 8000 | 7970 | 99.6 | | | |
| Barium | anr | | | | | |
| Beryllium | 8000 | 8140 | 101.8 | | | |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | anr | | | | | |
| Calcium | | | | | | |
| Chromium | 8000 | 8150 | 101.9 | | | |
| Cobalt | 8000 | 7940 | 99.3 | | | |
| Copper | 8000 | 7950 | 99.4 | | | |
| Iron | | | | 200000 | 198000 | 99.0 |
| Lead | 8000 | 8130 | 101.6 | | | |
| Lithium | | | | | | |
| Magnesium | | | | | | |
| Manganese | 8000 | 8010 | 100.1 | | | |
| Molybdenum | | | | | | |
| Nickel | anr | | | | | |
| Phosphorus | | | | | | |
| Potassium | | | | | | |
| Selenium | 8000 | 8070 | 100.9 | | | |
| Silicon | | | | | | |
| Silver | 625 | 621 | 99.4 | | | |
| Sodium | | | | | | |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | 8000 | 8350 | 104.4 | | | |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 8000 | 7860 | 98.3 | | | |
| Zinc | 8000 | 8130 | 101.6 | | | |

HIGH STANDARD CHECK SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 90 to 110 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | 13:10 | | | 13:16 | |
|---|---|---|---|---|---|---|
| Sample ID: | HSTD | HSTD1 | | HSTD | HSTD2 | |
| Metal | True | Results | % Rec | True | Results | % Rec |
| Zirconium | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

10.4.5 10

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46638  Units: ug/l

| Time: | | | | 12:49 | | 13:43 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRI1 | | CRID2 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Aluminum | 200 | 500 | 100 | anr | | | |
| Antimony | 6.0 | 20 | 3.0 | 5.00 | 83.3 | -1.30U | 0.0* (a) |
| Arsenic | 8.0 | 20 | 3.0 | 7.30 | 91.3 | 3.30 | 110.0 |
| Barium | 200 | | 4.0 | anr | | | |
| Beryllium | 2.0 | | 1.0 | 2.10 | 105.0 | 1.00 | 100.0 |
| Bismuth | 20 | | | | | | |
| Boron | 100 | | 10 | | | | |
| Cadmium | 3.0 | | 1.0 | anr | | | |
| Calcium | 5000 | 2000 | 1000 | anr | | | |
| Chromium | 10 | | 2.0 | 10.5 | 105.0 | 2.20 | 110.0 |
| Cobalt | 50 | | 3.0 | 51.4 | 102.8 | 3.20 | 106.7 |
| Copper | 10 | | 2.0 | 9.80 | 98.0 | 0.300U | 0.0* (a) |
| Iron | 100 | 500 | | 106 | 106.0 | | |
| Lead | 3.0 | 20 | 2.5 | 3.40 | 113.3 | 0.00U | 0.0* (a) |
| Lithium | 50 | | | | | | |
| Magnesium | 5000 | 2000 | 100 | anr | | | |
| Manganese | 15 | | 3.0 | 16.1 | 107.3 | 3.20 | 106.7 |
| Molybdenum | 20 | | | | | | |
| Nickel | 10 | | 4.0 | anr | | | |
| Phosphorus | 50 | | | | | | |
| Potassium | 5000 | | 2000 | anr | | | |
| Selenium | 10 | 20 | 5.0 | 9.40 | 94.0 | 2.10U | 0.0* (a) |
| Silicon | 200 | | | | | | |
| Silver | 5.0 | | 2.0 | 4.90 | 98.0 | -0.300U | 0.0* (a) |
| Sodium | 5000 | | 1000 | anr | | | |
| Strontium | 10 | | | | | | |
| Sulfur | 50 | | | | | | |
| Thallium | 10 | | 2.0 | 9.60 | 96.0 | 2.60 | 130.0*(a |
| Tin | 10 | | | | | | |
| Titanium | 10 | | | | | | |
| Tungsten | 50 | | | | | | |
| Vanadium | 50 | | 2.0 | 50.9 | 101.8 | 2.00 | 100.0 |
| Zinc | 20 | | 10 | 20.6 | 103.0 | 10.1 | 101.0 |

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120%  CRIA 80-120%  Run ID: MA46638  Units: ug/l

| Time: | | | | 12:49 | | 13:43 | |
|---|---|---|---|---|---|---|---|
| Sample ID: | CRI | CRIA | CRID | CRI1 | | CRID2 | |
| Metal | True | True | True | Results | % Rec | Results | % Rec |
| Zirconium | 10 | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element at this RL in the area bracketed by this QC.

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | | 13:00 | | 13:05 | | 16:48 | | 16:53 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Aluminum | 500000 | 500000 | 496000 | 99.2 | 504000 | 100.8 | 505000 | 101.0 | 504000 | 100.8 |
| Antimony | | 1000 | -3.00 | | 1060 | 106.0 | -3.50 | | 1060 | 106.0 |
| Arsenic | | 1000 | 0.900 | | 1070 | 107.0 | 0.900 | | 1070 | 107.0 |
| Barium | | 500 | 0.500 | | 525 | 105.0 | 0.600 | | 523 | 104.6 |
| Beryllium | | 500 | 0.100 | | 525 | 105.0 | 0.00 | | 518 | 103.6 |
| Bismuth | | 500 | -3.90 | | 505 | 101.0 | -3.50 | | 508 | 101.6 |
| Boron | | 500 | -0.200 | | 490 | 98.0 | -0.100 | | 496 | 99.2 |
| Cadmium | | 1000 | -0.200 | | 1020 | 102.0 | 0.00 | | 1020 | 102.0 |
| Calcium | 400000 | 400000 | 377000 | 94.3 | 384000 | 96.0 | 378000 | 94.5 | 377000 | 94.3 |
| Chromium | | 500 | -0.600 | | 496 | 99.2 | -0.600 | | 497 | 99.4 |
| Cobalt | | 500 | 1.50 | | 495 | 99.0 | 1.60 | | 495 | 99.0 |
| Copper | | 500 | -4.10 | | 512 | 102.4 | -3.90 | | 514 | 102.8 |
| Iron | 200000 | 200000 | 192000 | 96.0 | 201000 | 100.5 | 192000 | 96.0 | 199000 | 99.5 |
| Lead | | 1000 | 2.40 | | 968 | 96.8 | 2.70 | | 975 | 97.5 |
| Lithium | | 500 | 9.40 | | 555 | 111.0 | 6.60 | | 542 | 108.4 |
| Magnesium | 500000 | 500000 | 492000 | 98.4 | 509000 | 101.8 | 492000 | 98.4 | 501000 | 100.2 |
| Manganese | | 500 | 1.70 | | 519 | 103.8 | 1.60 | | 518 | 103.6 |
| Molybdenum | | 500 | -0.200 | | 473 | 94.6 | 0.400 | | 470 | 94.0 |
| Nickel | | 1000 | -0.500 | | 988 | 98.8 | -0.500 | | 993 | 99.3 |
| Phosphorus | | 500 | 24.9 | | 581 | 116.2 | 31.2 | | 539 | 107.8 |
| Potassium | | | 106 | | 57.3 | | 102 | | 158 | |
| Selenium | | 1000 | 0.200 | | 1070 | 107.0 | 2.00 | | 1070 | 107.0 |
| Silicon | | 500 | 3.30 | | 498 | 99.6 | 1.90 | | 501 | 100.2 |
| Silver | | 1000 | 1.60 | | 1070 | 107.0 | 1.30 | | 1080 | 108.0 |
| Sodium | | | 56.9 | | 67.5 | | 15.5 | | 55.2 | |
| Strontium | | 500 | 0.100 | | 545 | 109.0 | 0.100 | | 540 | 108.0 |
| Sulfur | | 500 | -0.400 | | 515 | 103.0 | 1.70 | | 507 | 101.4 |
| Thallium | | 1000 | -1.70 | | 1000 | 100.0 | -1.20 | | 991 | 99.1 |
| Tin | | 500 | -3.70 | | 464 | 92.8 | -4.40 | | 462 | 92.4 |
| Titanium | | 500 | -1.10 | | 499 | 99.8 | -1.00 | | 500 | 100.0 |
| Tungsten | | 500 | 1.50 | | 471 | 94.2 | 1.70 | | 477 | 95.4 |
| Vanadium | | 500 | -1.70 | | 497 | 99.4 | -1.40 | | 497 | 99.4 |
| Zinc | | 1000 | -1.60 | | 964 | 96.4 | -1.60 | | 965 | 96.5 |

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SC050219M1.ICP  Date Analyzed: 05/02/19  Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery  Run ID: MA46638  Units: ug/l

| Time: | | | 13:00 | | 13:05 | | 16:48 | | 16:53 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | ICSA | ICSAB | ICSA1 | | ICSAB1 | | ICSA2 | | ICSAB2 | |
| Metal | True | True | Results | % Rec | Results | % Rec | Results | % Rec | Results | % Rec |
| Zirconium | | 500 | 0.400 | | 486 | 97.2 | 0.400 | | 488 | 97.6 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 04/29/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Aluminum | 52 | 1.5 | 8.3 | 0.41 | <52 |
| Antimony | 2.1 | .14 | .42 | -0.12 | <2.1 |
| Arsenic | 2.1 | .15 | .29 | 0.062 | <2.1 |
| Barium | 21 | .052 | 2 | -0.010 | <21 |
| Beryllium | 0.21 | .01 | .082 | 0.010 | <0.21 |
| Bismuth | 2.1 | .19 | .54 | | |
| Boron | 10 | .082 | 1.5 | | |
| Cadmium | 0.52 | .031 | .072 | 0.010 | <0.52 |
| Calcium | 520 | .4 | 46 | 6.5 | <520 |
| Chromium | 1.0 | .031 | .38 | 0.021 | <1.0 |
| Cobalt | 5.2 | .031 | .29 | 0.0 | <5.2 |
| Copper | 2.6 | .062 | .87 | 0.38 | <2.6 |
| Iron | 52 | .27 | 20 | 2.3 | <52 |
| Lead | 2.1 | .16 | .42 | -0.093 | <2.1 |
| Lithium | 5.2 | .22 | .95 | | |
| Magnesium | 520 | 1.7 | 14 | 2.1 | <520 |
| Manganese | 1.5 | .01 | .42 | 0.052 | <1.5 |
| Molybdenum | 2.1 | .041 | .33 | | |
| Nickel | 4.1 | .052 | .36 | 0.021 | <4.1 |
| Phosphorus | 21 | .2 | 3.4 | | |
| Potassium | 1000 | 8.1 | 33 | 17.0 | <1000 |
| Selenium | 2.1 | .31 | .67 | -0.13 | <2.1 |
| Silicon | 21 | .12 | 11 | | |
| Silver | 0.52 | .052 | .18 | 0.010 | <0.52 |
| Sodium | 1000 | 1 | 80 | 17.6 | <1000 |
| Strontium | 5.2 | .031 | .19 | | |
| Sulfur | 10 | .36 | 9.7 | | |
| Thallium | 1.0 | .13 | .6 | -0.093 | <1.0 |
| Tin | 21 | .072 | 3.9 | | |
| Titanium | 1.0 | .052 | .35 | | |
| Tungsten | 5.2 | .18 | 1.8 | | |
| Vanadium | 5.2 | .052 | .2 | -0.041 | <5.2 |
| Zinc | 5.2 | .021 | 2.4 | 0.63 | <5.2 |

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 04/29/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Zirconium | 2.1 | .031 | .24 | | |

Associated samples MP14617: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 04/29/19

| Metal | JC86986-2 Original | MS | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Aluminum | 20500 | 30700 | 4530 | 225.2(a) | 75-125 |
| Antimony | 1.6 | 166 | 362 | 45.4N(b) | 75-125 |
| Arsenic | 48.7 | 373 | 362 | 89.5 | 75-125 |
| Barium | 203 | 553 | 362 | 96.6 | 75-125 |
| Beryllium | 1.5 | 341 | 362 | 93.7 | 75-125 |
| Bismuth | | | | | |
| Boron | | | | | |
| Cadmium | 2.6 | 346 | 362 | 94.8 | 75-125 |
| Calcium | 4500 | 8730 | 4530 | 93.4 | 75-125 |
| Chromium | 176 | 510 | 362 | 92.2 | 75-125 |
| Cobalt | 21.5 | 373 | 362 | 97.0 | 75-125 |
| Copper | 148 | 484 | 362 | 92.7 | 75-125 |
| Iron | 33300 | 41000 | 4530 | 170.0(a) | 75-125 |
| Lead | 279 | 618 | 362 | 93.6 | 75-125 |
| Lithium | | | | | |
| Magnesium | 5090 | 9490 | 4530 | 97.2 | 75-125 |
| Manganese | 967 | 1270 | 362 | 83.6 | 75-125 |
| Molybdenum | | | | | |
| Nickel | 38.4 | 385 | 362 | 95.7 | 75-125 |
| Phosphorus | | | | | |
| Potassium | 2280 | 7570 | 4530 | 116.8 | 75-125 |
| Selenium | 1.6 | 327 | 362 | 89.8 | 75-125 |
| Silicon | | | | | |
| Silver | 2.1 | 44.2 | 45.3 | 93.0 | 75-125 |
| Sodium | 189 | 4410 | 4530 | 93.2 | 75-125 |
| Strontium | | | | | |
| Sulfur | | | | | |
| Thallium | 0.0 | 348 | 362 | 96.1 | 75-125 |
| Tin | | | | | |
| Titanium | | | | | |
| Tungsten | | | | | |
| Vanadium | 41.3 | 387 | 362 | 95.4 | 75-125 |
| Zinc | 751 | 1070 | 362 | 88.1 | 75-125 |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/29/19

| Metal | JC86986-2 Original MS | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Zirconium | | | | |

Associated samples MP14617: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 04/29/19

| Metal | JC86986-2 Original | MSD | Spikelot MPSPK2 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Aluminum | 20500 | 28300 | 4910 | 158.9(a) | 8.1 | 20 |
| Antimony | 1.6 | 196 | 393 | 49.5N(b) | 16.6 | 20 |
| Arsenic | 48.7 | 397 | 393 | 88.7 | 6.2 | 20 |
| Barium | 203 | 559 | 393 | 90.6 | 1.1 | 20 |
| Beryllium | 1.5 | 374 | 393 | 94.8 | 9.2 | 20 |
| Bismuth | | | | | | |
| Boron | | | | | | |
| Cadmium | 2.6 | 379 | 393 | 95.8 | 9.1 | 20 |
| Calcium | 4500 | 8820 | 4910 | 88.0 | 1.0 | 20 |
| Chromium | 176 | 511 | 393 | 85.3 | 0.2 | 20 |
| Cobalt | 21.5 | 403 | 393 | 97.1 | 7.7 | 20 |
| Copper | 148 | 491 | 393 | 87.3 | 1.4 | 20 |
| Iron | 33300 | 38400 | 4910 | 103.9 | 6.5 | 20 |
| Lead | 279 | 641 | 393 | 92.2 | 3.7 | 20 |
| Lithium | | | | | | |
| Magnesium | 5090 | 9540 | 4910 | 90.6 | 0.5 | 20 |
| Manganese | 967 | 1230 | 393 | 67.0N(b) | 3.2 | 20 |
| Molybdenum | | | | | | |
| Nickel | 38.4 | 413 | 393 | 95.4 | 7.0 | 20 |
| Phosphorus | | | | | | |
| Potassium | 2280 | 7720 | 4910 | 110.8 | 2.0 | 20 |
| Selenium | 1.6 | 358 | 393 | 90.7 | 9.1 | 20 |
| Silicon | | | | | | |
| Silver | 2.1 | 48.0 | 49.1 | 93.5 | 8.2 | 20 |
| Sodium | 189 | 4760 | 4910 | 93.1 | 7.6 | 20 |
| Strontium | | | | | | |
| Sulfur | | | | | | |
| Thallium | 0.0 | 385 | 393 | 98.0 | 10.1 | 20 |
| Tin | | | | | | |
| Titanium | | | | | | |
| Tungsten | | | | | | |
| Vanadium | 41.3 | 413 | 393 | 94.6 | 6.5 | 20 |
| Zinc | 751 | 994 | 393 | 61.9N(b) | 7.4 | 20 |

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617 Methods: SW846 6010D
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/29/19

| Metal | JC86986-2 Original MSD | Spikelot MPSPK2 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|
| Zirconium | | | | | |

Associated samples MP14617: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 04/29/19

| Metal | BSP Result | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | 2490 | 2600 | 95.6 | 80-120 |
| Antimony | 205 | 208 | 98.4 | 80-120 |
| Arsenic | 203 | 208 | 97.4 | 80-120 |
| Barium | 209 | 208 | 100.3 | 80-120 |
| Beryllium | 212 | 208 | 101.8 | 80-120 |
| Bismuth | | | | |
| Boron | | | | |
| Cadmium | 213 | 208 | 102.2 | 80-120 |
| Calcium | 2550 | 2600 | 97.9 | 80-120 |
| Chromium | 217 | 208 | 104.2 | 80-120 |
| Cobalt | 214 | 208 | 102.7 | 80-120 |
| Copper | 217 | 208 | 104.2 | 80-120 |
| Iron | 2470 | 2600 | 94.8 | 80-120 |
| Lead | 212 | 208 | 101.8 | 80-120 |
| Lithium | | | | |
| Magnesium | 2560 | 2600 | 98.3 | 80-120 |
| Manganese | 216 | 208 | 103.7 | 80-120 |
| Molybdenum | | | | |
| Nickel | 211 | 208 | 101.3 | 80-120 |
| Phosphorus | | | | |
| Potassium | 2520 | 2600 | 96.8 | 80-120 |
| Selenium | 206 | 208 | 98.9 | 80-120 |
| Silicon | | | | |
| Silver | 27.0 | 26 | 103.7 | 80-120 |
| Sodium | 2570 | 2600 | 98.7 | 80-120 |
| Strontium | | | | |
| Sulfur | | | | |
| Thallium | 218 | 208 | 104.6 | 80-120 |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | 213 | 208 | 102.2 | 80-120 |
| Zinc | 216 | 208 | 103.7 | 80-120 |

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 04/29/19

| Metal | BSP Result | Spikelot MPSPK2 | % Rec | QC Limits |
|---|---|---|---|---|
| Zirconium | | | | |

Associated samples MP14617: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/29/19

| Metal | JC86986-2 Original | SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|---|
| Aluminum | 106000 | 105000 | 1.0 | 0-10 |
| Antimony | 8.30 | 0.00 | 100.0(a) | 0-10 |
| Arsenic | 251 | 256 | 2.2 | 0-10 |
| Barium | 1040 | 1030 | 1.2 | 0-10 |
| Beryllium | 7.90 | 7.80 | 1.3 | 0-10 |
| Bismuth | | | | |
| Boron | | | | |
| Cadmium | 13.3 | 14.3 | 7.5 | 0-10 |
| Calcium | 23200 | 23200 | 0.0 | 0-10 |
| Chromium | 906 | 919 | 1.4 | 0-10 |
| Cobalt | 111 | 111 | 0.0 | 0-10 |
| Copper | 763 | 742 | 2.8 | 0-10 |
| Iron | 171000 | 176000 | 2.6 | 0-10 |
| Lead | 1440 | 1450 | 1.0 | 0-10 |
| Lithium | | | | |
| Magnesium | 26200 | 26600 | 1.6 | 0-10 |
| Manganese | 4980 | 5250 | 5.4 | 0-10 |
| Molybdenum | | | | |
| Nickel | 198 | 196 | 0.8 | 0-10 |
| Phosphorus | | | | |
| Potassium | 11800 | 11500 | 1.8 | 0-10 |
| Selenium | 8.00 | 0.00 | 100.0(a) | 0-10 |
| Silicon | | | | |
| Silver | 10.8 | 14.9 | 38.0 (a) | 0-10 |
| Sodium | 974 | 1160 | 19.2*(b) | 0-10 |
| Strontium | | | | |
| Sulfur | | | | |
| Thallium | 0.00 | 0.00 | NC | 0-10 |
| Tin | | | | |
| Titanium | | | | |
| Tungsten | | | | |
| Vanadium | 213 | 216 | 1.8 | 0-10 |
| Zinc | 3860 | 4050 | 4.7 | 0-10 |

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/29/19

| Metal | JC86986-2 Original SDL 1:5 | %DIF | QC Limits |
|---|---|---|---|
| Zirconium | | | |

Associated samples MP14617: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

POST DIGESTATE SPIKE SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/29/19

| Metal | Sample ml | Final ml | JC86986-2 Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | | |
| Antimony | 19.25 | 20 | 8.3 | 7.98875 | 1955 | 0.2 | 200 | 2000 | 97.4 | 80-120 |
| Arsenic | | | | | | | | | | |
| Barium | | | | | | | | | | |
| Beryllium | | | | | | | | | | |
| Bismuth | | | | | | | | | | |
| Boron | | | | | | | | | | |
| Cadmium | | | | | | | | | | |
| Calcium | | | | | | | | | | |
| Chromium | | | | | | | | | | |
| Cobalt | | | | | | | | | | |
| Copper | | | | | | | | | | |
| Iron | | | | | | | | | | |
| Lead | | | | | | | | | | |
| Lithium | | | | | | | | | | |
| Magnesium | | | | | | | | | | |
| Manganese | | | | | | | | | | |
| Molybdenum | | | | | | | | | | |
| Nickel | | | | | | | | | | |
| Phosphorus | | | | | | | | | | |
| Potassium | | | | | | | | | | |
| Selenium | | | | | | | | | | |
| Silicon | | | | | | | | | | |
| Silver | | | | | | | | | | |
| Sodium | | | | | | | | | | |
| Strontium | | | | | | | | | | |
| Sulfur | | | | | | | | | | |
| Thallium | | | | | | | | | | |
| Tin | | | | | | | | | | |
| Titanium | | | | | | | | | | |
| Tungsten | | | | | | | | | | |
| Vanadium | | | | | | | | | | |
| Zinc | | | | | | | | | | |

POST DIGESTATE SPIKE SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14617
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 04/29/19

| Metal | Sample ml | Final ml | JC86986-2 Raw | Corr.** | PS ug/l | Spike ml | Spike ug/ml | Spike ug/l | % Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|---|---|
| Zirconium | | | | | | | | | | |

Associated samples MP14617: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14631
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 04/30/19

| Metal | RL | IDL | MDL | MB raw | final |
|---|---|---|---|---|---|
| Mercury | 0.033 | .0033 | .015 | 0.0045 | <0.033 |

Associated samples MP14631: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14631
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 04/30/19

| Metal | JC86986-2 Original | MS | Spikelot HGPWS1 | % Rec | QC Limits |
|---|---|---|---|---|---|
| Mercury | 1.9 | 2.2 | 0.58 | 51.7N(a) | 80-120 |

Associated samples MP14631: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14631 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/30/19

| Metal | JC86986-2 Original | MSD | Spikelot HGPWS1 | % Rec | MSD RPD | QC Limit |
|---|---|---|---|---|---|---|
| Mercury | 1.9 | 2.3 | 0.567 | 70.6N(a) | 4.4 | 20 |

Associated samples MP14631: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14631
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 04/30/19

| Metal | BSP Result | Spikelot HGPWS1 | % Rec | QC Limits |
|---|---|---|---|---|
| Mercury | 0.32 | 0.333 | 96.0 | 80-120 |

Associated samples MP14631: JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

# Instrument Detection Limits



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** LEEMANHG8 **Effective Date:** 01/31/19

| Analyte | IDL ug/l |
|---|---|
| Mercury | .0201 |

The above applies to the following instrument runs:
MA46605

# Instrument Detection Limits



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** SSTRACE3 **Effective Date:** 02/18/19

| Analyte | IDL ug/l |
|---|---|
| Aluminum | 14.3 |
| Antimony | 1.4 |
| Arsenic | 1.5 |
| Barium | .5 |
| Beryllium | .1 |
| Bismuth | 1.8 |
| Boron | .8 |
| Cadmium | .3 |
| Calcium | 3.9 |
| Chromium | .3 |
| Cobalt | .3 |
| Copper | .6 |
| Iron | 2.6 |
| Lead | 1.6 |
| Lithium | 2.1 |
| Magnesium | 16.3 |
| Manganese | .1 |
| Molybdenum | .4 |
| Nickel | .5 |
| Phosphorus | 1.9 |
| Potassium | 79 |
| Selenium | 3 |
| Silicon | 1.2 |
| Silver | .5 |
| Sodium | 9.9 |
| Sulfur | 3.5 |
| Strontium | .3 |
| Thallium | 1.3 |
| Tin | .7 |
| Titanium | .5 |
| Tungsten | 1.7 |
| Vanadium | .5 |
| Yttrium | 5 |
| Zinc | .2 |
| Zirconium | .3 |

The above applies to the following instrument runs:
MA46623,MA46628,MA46638

# Instrument Linear Ranges



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** LEEMANHG8 **Effective Date:** 03/10/17

| Analyte | Linear Range ug/l |
|---|---|
| Mercury | 5 |

The above applies to the following instrument runs:
MA46605

# Instrument Linear Ranges



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Instrument ID:** SSTRACE3 **Effective Date:** 07/16/18

| Analyte | Linear Range ug/l |
|---|---|
| Aluminum | 300000 |
| Antimony | 8000 |
| Arsenic | 8000 |
| Barium | 8000 |
| Beryllium | 8000 |
| Bismuth | 8000 |
| Boron | 8000 |
| Cadmium | 8000 |
| Calcium | 200000 |
| Chromium | 8000 |
| Cobalt | 8000 |
| Copper | 8000 |
| Iron | 200000 |
| Lead | 8000 |
| Lithium | 8000 |
| Magnesium | 300000 |
| Manganese | 8000 |
| Molybdenum | 8000 |
| Nickel | 8000 |
| Palladium | 8000 |
| Phosphorus | 8000 |
| Potassium | 200000 |
| Selenium | 8000 |
| Silicon | 25000 |
| Silver | 625 |
| Sodium | 200000 |
| Sulfur | 100000 |
| Strontium | 8000 |
| Thallium | 8000 |
| Tin | 8000 |
| Titanium | 8000 |
| Tungsten | 8000 |
| Vanadium | 8000 |
| Zinc | 8000 |
| Zirconium | 8000 |

The above applies to the following instrument runs:
MA46623,MA46628,MA46638

# Metals Analysis

## Raw Data

# MA46605

Method: ACCUTEST Operator: Admin Date of Analysis: 30 Apr 2019 08:12:30

| Sample ID | Date | Type | Units | Conc. | µ Abs. | Wt. | Vol. |
|---|---|---|---|---|---|---|---|
| STDA - 1 | 30 Apr 2019 08:40:20 | Std | ug/l | - | 226 | 1.000 | 1.000 |
| STDB - 1 | 30 Apr 2019 08:41:38 | Std | ug/l | - | 1229 | 1.000 | 1.000 |
| STDC - 1 | 30 Apr 2019 08:42:58 | Std | ug/l | - | 2964 | 1.000 | 1.000 |
| STDD - 1 | 30 Apr 2019 08:44:25 | Std | ug/l | - | 5697 | 1.000 | 1.000 |
| STDE - 1 | 30 Apr 2019 08:45:56 | Std | ug/l | - | 13516 | 1.000 | 1.000 |
| STDF - 1 | 30 Apr 2019 08:47:34 | Std | ug/l | - | 31989 | 1.000 | 1.000 |
| STDE - 1 | 30 Apr 2019 08:53:37 | Std | ug/l | - | 15993 | 1.000 | 1.000 |
| ICV - 1 | 30 Apr 2019 08:56:04 | CK STND | ug/l | 105.6% 3.1671 | 20172 | 1.000 | 1.000 |
| ICB - 1 | 30 Apr 2019 08:57:19 | CK STND | ug/l | 0.0306 | 35 | 1.000 | 1.000 |
| CCV - 1 | 30 Apr 2019 08:59:08 | CK STND | ug/l | 102.8% 2.5701 | 16339 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 09:00:28 | CK STND | ug/l | 0.0312 | 39 | 1.000 | 1.000 |
| CRI - 1 | 30 Apr 2019 09:02:15 | CK STND | ug/l | 115.1% 0.2303 | 1317 | 1.000 | 1.000 |
| MP14626-MB1 - 1 | 30 Apr 2019 09:11:45 | SMPL | ug/l | 0.0823 | 367 | 1.000 | 1.000 |
| MP14626-B1 - 1 | 30 Apr 2019 09:13:01 | SMPL | ug/l | 1.8003 | 11397 | 1.000 | 1.000 |
| MP14626-S1 - 1 | 30 Apr 2019 09:14:19 | SMPL | ug/l | 1.9107 | 12106 | 1.000 | 1.000 |
| MP14626-S2 - 1 | 30 Apr 2019 09:16:03 | SMPL | ug/l | 1.9621 | 12436 | 1.000 | 1.000 |
| JC86972-2 - 1 | 30 Apr 2019 09:17:47 | SMPL | ug/l | 0.1952 | 1092 | 1.000 | 1.000 |
| MP14626-S3 - 1 | 30 Apr 2019 09:19:31 | SMPL | ug/l | 1.8311 | 11595 | 1.000 | 1.000 |
| MP14626-S4 - 1 | 30 Apr 2019 09:20:57 | SMPL | ug/l | 1.7520 | 11087 | 1.000 | 1.000 |
| JC86972-9 - 1 | 30 Apr 2019 09:22:41 | SMPL | ug/l | 0.0854 | 387 | 1.000 | 1.000 |
| CCV - 1 | 30 Apr 2019 09:24:26 | CK STND | ug/l | 98.1% 2.4518 | 15580 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 09:25:48 | CK STND | ug/l | 0.0214 | -24 | 1.000 | 1.000 |
| JC86972-3 - 1 | 30 Apr 2019 09:27:34 | SMPL | ug/l | 0.1719 | 942 | 1.000 | 1.000 |
| JC86972-4 - 1 | 30 Apr 2019 09:28:54 | SMPL | ug/l | 0.2597 | 1506 | 1.000 | 1.000 |
| JC86972-5 - 1 | 30 Apr 2019 09:30:17 | SMPL | ug/l | 0.0982 | 469 | 1.000 | 1.000 |
| JC86972-6 - 1 | 30 Apr 2019 09:31:46 | SMPL | ug/l | 0.2736 | 1595 | 1.000 | 1.000 |
| JC86972-7 - 1 | 30 Apr 2019 09:33:07 | SMPL | ug/l | 0.2882 | 1689 | 1.000 | 1.000 |
| JC86972-8 - 1 | 30 Apr 2019 09:34:34 | SMPL | ug/l | 0.1857 | 1031 | 1.000 | 1.000 |
| JC86972-10 - 1 | 30 Apr 2019 09:36:03 | SMPL | ug/l | 0.4443 | 2691 | 1.000 | 1.000 |
| JC86972-11 - 1 | 30 Apr 2019 09:37:28 | SMPL | ug/l | 0.1019 | 493 | 1.000 | 1.000 |
| JC86972-12 - 1 | 30 Apr 2019 09:39:00 | SMPL | ug/l | 0.2444 | 1408 | 1.000 | 1.000 |
| CCV - 1 | 30 Apr 2019 09:40:20 | CK STND | ug/l | 97.1% 2.4285 | 15430 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 09:41:48 | CK STND | ug/l | 0.0138 | -73 | 1.000 | 1.000 |
| JC86972-13 - 1 | 30 Apr 2019 09:43:32 | SMPL | ug/l | 0.2555 | 1479 | 1.000 | 1.000 |
| JC86972-15 - 1 | 30 Apr 2019 09:44:52 | SMPL | ug/l | 0.2053 | 1157 | 1.000 | 1.000 |
| MP14631-MB1 - 1 | 30 Apr 2019 09:46:19 | SMPL | ug/l | 0.0272 | 13 | 1.000 | 1.000 |
| MP14631-B1 - 1 | 30 Apr 2019 09:47:44 | SMPL | ug/l | 1.8995 | 12034 | 1.000 | 1.000 |
| MP14631-S1 - 1 | 30 Apr 2019 09:49:05 | SMPL | ug/l | 7.4560 | 47708 | 1.000 | 1.000 |
| MP14631-S2 - 1 | 30 Apr 2019 09:50:49 | SMPL | ug/l | 8.1591 | 52222 | 1.000 | 1.000 |
| JC86986-2 - 1 | 30 Apr 2019 09:52:58 | SMPL | ug/l | 6.4470 | 41230 | 1.000 | 1.000 |
| JC86986-3 - 1 | 30 Apr 2019 09:55:10 | SMPL | ug/l | 8.3191 | 53249 | 1.000 | 1.000 |
| JC86986-4 - 1 | 30 Apr 2019 09:57:19 | SMPL | ug/l | 0.2200 | 1251 | 1.000 | 1.000 |
| CCV - 1 | 30 Apr 2019 09:59:24 | CK STND | ug/l | 98.2% 2.4545 | 15597 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 10:00:55 | CK STND | ug/l | 0.0237 | -9 | 1.000 | 1.000 |
| JC86986-5 - 1 | 30 Apr 2019 10:02:41 | SMPL | ug/l | 0.0669 | 268 | 1.000 | 1.000 |
| JC86986-6 - 1 | 30 Apr 2019 10:04:01 | SMPL | ug/l | 0.0639 | 249 | 1.000 | 1.000 |
| JC86986-7 - 1 | 30 Apr 2019 10:05:20 | SMPL | ug/l | 0.3681 | 2202 | 1.000 | 1.000 |
| JC86986-8 - 1 | 30 Apr 2019 10:06:39 | SMPL | ug/l | 0.1890 | 1052 | 1.000 | 1.000 |
| JC86986-9 - 1 | 30 Apr 2019 10:08:10 | SMPL | ug/l | 1.2695 | 7989 | 1.000 | 1.000 |
| JC86986-10 - 1 | 30 Apr 2019 10:09:35 | SMPL | ug/l | 0.1613 | 874 | 1.000 | 1.000 |
| JC86986-11 - 1 | 30 Apr 2019 10:11:17 | SMPL | ug/l | 0.7711 | 4789 | 1.000 | 1.000 |
| JC86986-12 - 1 | 30 Apr 2019 10:12:41 | SMPL | ug/l | 1.7274 | 10929 | 1.000 | 1.000 |
| JC86986-13 - 1 | 30 Apr 2019 10:14:17 | SMPL | ug/l | 0.2893 | 1696 | 1.000 | 1.000 |
| CCV - 1 | 30 Apr 2019 10:16:01 | CK STND | ug/l | 100.0% 2.5009 | 15895 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 10:17:30 | CK STND | ug/l | 0.0222 | -19 | 1.000 | 1.000 |
| MP14632-MB1 - 1 | 30 Apr 2019 10:19:15 | SMPL | ug/l | 0.0603 | 226 | 1.000 | 1.000 |
| MP14632-B1 - 1 | 30 Apr 2019 10:20:36 | SMPL | ug/l | 1.8321 | 11601 | 1.000 | 1.000 |
| MP14632-S1 - 1 | 30 Apr 2019 10:21:55 | SMPL | ug/l | 3.8537 | 24580 | 1.000 | 1.000 |
| MP14632-S2 - 1 | 30 Apr 2019 10:23:40 | SMPL | ug/l | 3.6203 | 23082 | 1.000 | 1.000 |
| JC86994-1 - 1 | 30 Apr 2019 10:25:30 | SMPL | ug/l | 1.3351 | 8410 | 1.000 | 1.000 |
| JC86994-2 - 1 | 30 Apr 2019 10:27:32 | SMPL | ug/l | 0.0220 | -20 | 1.000 | 1.000 |
| JC86994-3 - 1 | 30 Apr 2019 10:29:14 | SMPL | ug/l | 0.0692 | 283 | 1.000 | 1.000 |
| JC86994-4 - 1 | 30 Apr 2019 10:30:34 | SMPL | ug/l | 0.0413 | 104 | 1.000 | 1.000 |
| JC86994-5 - 1 | 30 Apr 2019 10:31:53 | SMPL | ug/l | 0.0518 | 171 | 1.000 | 1.000 |
| CCV - 1 | 30 Apr 2019 10:33:12 | CK STND | ug/l | 100.6% 2.5146 | 15983 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 10:34:32 | CK STND | ug/l | 0.0295 | 28 | 1.000 | 1.000 |
| JC86994-6 - 1 | 30 Apr 2019 10:36:19 | SMPL | ug/l | 0.0494 | 156 | 1.000 | 1.000 |
| JC86994-7 - 1 | 30 Apr 2019 10:37:39 | SMPL | ug/l | 0.0482 | 148 | 1.000 | 1.000 |
| JC86994-8 - 1 | 30 Apr 2019 10:38:59 | SMPL | ug/l | 0.0490 | 153 | 1.000 | 1.000 |

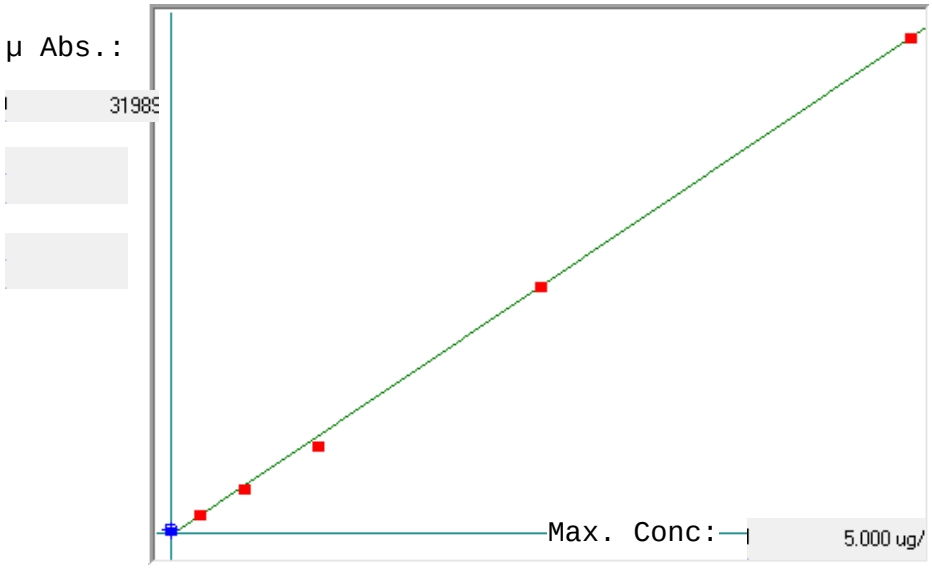
# MA46605

Method: ACCUTEST Operator: Admin Date of Analysis: 30 Apr 2019 08:12:30

| Sample ID | Date | Type | Units | Conc. | µ Abs. | Wt. | Vol. |
|---|---|---|---|---|---|---|---|
| JC86994-9 - 1 | 30 Apr 2019 10:40:19 | SMPL | ug/l | 7.6249 | 48792 | 1.000 | 1.000 |
| JC86994-10 - 1 | 30 Apr 2019 10:41:40 | SMPL | ug/l | -0.0091 | -220 | 1.000 | 1.000 |
| JC86994-11 - 1 | 30 Apr 2019 10:43:42 | SMPL | ug/l | 0.0765 | 330 | 1.000 | 1.000 |
| JC86994-12 - 1 | 30 Apr 2019 10:45:02 | SMPL | ug/l | 0.0379 | 82 | 1.000 | 1.000 |
| JC86994-13 - 1 | 30 Apr 2019 10:46:21 | SMPL | ug/l | 0.0571 | 205 | 1.000 | 1.000 |
| JC86994-14 - 1 | 30 Apr 2019 10:47:41 | SMPL | ug/l | 0.0530 | 179 | 1.000 | 1.000 |
| CCV - 1 | 30 Apr 2019 10:49:00 | CK STND | ug/l | 99.2% 2.4789 | 15754 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 10:50:20 | CK STND | ug/l | 0.0275 | 15 | 1.000 | 1.000 |
| JC86994-15 - 1 | 30 Apr 2019 10:52:06 | SMPL | ug/l | 0.1167 | 588 | 1.000 | 1.000 |
| JC86994-16 - 1 | 30 Apr 2019 10:53:25 | SMPL | ug/l | 0.0645 | 253 | 1.000 | 1.000 |
| JC86994-17 - 1 | 30 Apr 2019 10:54:46 | SMPL | ug/l | 0.1933 | 1080 | 1.000 | 1.000 |
| JC86994-18 - 1 | 30 Apr 2019 10:56:06 | SMPL | ug/l | 0.0493 | 155 | 1.000 | 1.000 |
| JC86994-19 - 1 | 30 Apr 2019 10:57:31 | SMPL | ug/l | 0.1382 | 726 | 1.000 | 1.000 |
| JC86994-20 - 1 | 30 Apr 2019 10:58:51 | SMPL | ug/l | 0.0377 | 81 | 1.000 | 1.000 |
| MP14631-S1 - 1 | 30 Apr 2019 11:00:14 | SMPL | ug/l | 7.5868 | 24193 | 1.000 | 2.000 |
| MP14631-S2 - 1 | 30 Apr 2019 11:01:35 | SMPL | ug/l | 8.1310 | 25940 | 1.000 | 2.000 |
| JC86986-2 - 1 | 30 Apr 2019 11:03:29 | SMPL | ug/l | 6.4289 | 20476 | 1.000 | 2.000 |
| CCV - 1 | 30 Apr 2019 11:05:25 | CK STND | ug/l | 99.4% 2.4841 | 15787 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 11:07:16 | CK STND | ug/l | 0.0212 | -25 | 1.000 | 1.000 |
| JC86986-3 - 1 | 30 Apr 2019 11:09:01 | SMPL | ug/l | 8.4606 | 26998 | 1.000 | 2.000 |
| JC86994-9 - 1 | 30 Apr 2019 11:10:21 | SMPL | ug/l | 7.5727 | 24148 | 1.000 | 2.000 |
| SAMPLECONF - 1 | 30 Apr 2019 11:18:15 | CK STND | ug/l | (H)130.9% 0.2617 | 1519 | 1.000 | 1.000 |
| CRI - 1 | 30 Apr 2019 11:21:38 | CK STND | ug/l | 123.8% 0.2476 | 1428 | 1.000 | 1.000 |
| CCV - 1 | 30 Apr 2019 11:22:53 | CK STND | ug/l | 103.2% 2.5788 | 16395 | 1.000 | 1.000 |
| CCB - 1 | 30 Apr 2019 11:24:20 | CK STND | ug/l | 0.0276 | 16 | 1.000 | 1.000 |

ACCUTEST

Linear




A= 0.0000e+000

B= 1.5576e-004

C= 2.5131e-002

Rho= 0.9996726

Accept=Accepted

Accepted Date=

04/30/19 08:55

11.1.1

11

| Std ID | Conc. | Calc. | Dev. | Mean | SD or %RSD | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| STDA | 0.000 | 0.060 | 0.060 | 226 | 0.000 | 226 | | | | |
| STDB | 0.200 | 0.217 | 0.017 | 1229 | 0.0 % | 1229 | | | | |
| STDC | 0.500 | 0.487 | -0.013 | 2964 | 0.0 % | 2964 | | | | |
| STDD | 1.000 | 0.912 | -0.088 | 5697 | 0.0 % | 5697 | | | | |
| STDE | 2.500 | 2.516 | 0.016 | 15993 | 0.0 % | 15993 | | | | |
| STDF | 5.000 | 5.008 | 0.008 | 31989 | 0.0 % | 31989 | | | | |

Zoom In ▶
Zoom Out

Sample Name: STDA Acquired: 4/30/2019 15:16:29 Type: Cal
Method: SGS 3 NO Valve(v324) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0129** | **-.0008** | **.0002** | **-.0001** | **-.0000** | **.0025** | **.0001** | **-.0000** | **-.0003** |
| Stddev | .0002 | .0002 | .0001 | .0001 | .0000 | .0001 | .0000 | .0002 | .0000 |
| %RSD | 1.844 | 19.76 | 59.64 | 214.5 | 42.10 | 2.916 | 46.58 | 761.6 | 10.19 |
| #1 | .0127 | -.0006 | .0002 | .0001 | -.0000 | .0026 | .0000 | -.0002 | -.0002 |
| #2 | .0132 | -.0009 | .0001 | -.0002 | -.0000 | .0025 | .0001 | .0002 | -.0003 |
| #3 | .0129 | -.0008 | .0004 | -.0001 | -.0000 | .0024 | .0001 | -.0000 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0003** | **.0005** | **.0001** | **-.0002** | **.0005** | **-.0000** | **.0007** | **.0006** | **.0055** |
| Stddev | .0001 | .0002 | .0001 | .0000 | .0003 | .0001 | .0001 | .0001 | .0002 |
| %RSD | 17.90 | 39.46 | 74.45 | 26.03 | 51.92 | 942.2 | 18.63 | 24.55 | 3.016 |
| #1 | .0003 | .0005 | .0000 | -.0001 | .0002 | -.0001 | .0009 | .0004 | .0057 |
| #2 | .0002 | .0006 | .0002 | -.0002 | .0007 | .0001 | .0007 | .0007 | .0054 |
| #3 | .0003 | .0003 | .0001 | -.0002 | .0007 | -.0001 | .0006 | .0006 | .0054 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0001** | **.0000** | **-.0059** | **-.0123** | **.0004** | **-.0009** | **.0026** | **.0001** | **-.0016** |
| Stddev | .0001 | .0001 | .0004 | .0003 | .0001 | .0001 | .0002 | .0000 | .0003 |
| %RSD | 51.66 | 351.6 | 6.131 | 2.370 | 22.83 | 12.58 | 6.573 | 28.44 | 19.31 |
| #1 | .0002 | .0001 | -.0061 | -.0119 | .0004 | -.0010 | .0024 | .0002 | -.0014 |
| #2 | .0002 | -.0001 | -.0061 | -.0124 | .0003 | -.0009 | .0026 | .0001 | -.0015 |
| #3 | .0001 | .0001 | -.0055 | -.0125 | .0004 | -.0007 | .0027 | .0001 | -.0020 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0000** | **.0008** | **-.0005** | **-.0004** | **.0001** | **.0043** | **-.0020** |
| Stddev | .0000 | .0005 | .0000 | .0000 | .0002 | .0001 | .0000 |
| %RSD | 22.33 | 56.90 | 4.884 | 12.22 | 187.7 | 3.350 | 1.682 |
| #1 | .0000 | .0013 | -.0004 | -.0004 | .0001 | .0043 | -.0020 |
| #2 | .0001 | .0009 | -.0005 | -.0004 | -.0001 | .0045 | -.0020 |
| #3 | .0000 | .0003 | -.0005 | -.0003 | .0002 | .0042 | -.0020 |



◀ Zoom In ▶
Zoom Out

Sample Name: STDA Acquired: 4/30/2019 15:16:29 Type: Cal
Method: SGS 3 NO Valve(v324) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172540.** | **28603.** | **7097.2** | **10289.** |
| Stddev | 665. | 57. | 9.5 | 14. |
| %RSD | .38567 | .20038 | .13396 | .13262 |
| #1 | 173070. | 28659. | 7090.9 | 10283. |
| #2 | 171790. | 28603. | 7092.5 | 10280. |
| #3 | 172740. | 28545. | 7108.1 | 10305. |



◀ Zoom In ▶
Zoom Out

Sample Name: STDb Acquired: 4/30/2019 15:21:32 Type: Cal
Method: SGS 3 NO Valve(v324) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **6.771** | **10.82** | **4.251** | **2.888** | **.5725** | **.9282** | **3.198** | **2.337** | **.0706** |
| Stddev | .017 | .17 | .002 | .002 | .0003 | .0018 | .023 | .002 | .0001 |
| %RSD | .2509 | 1.607 | .0414 | .0558 | .0580 | .1890 | .7078 | .0850 | .1175 |
| #1 | 6.762 | 11.01 | 4.251 | 2.887 | .5721 | .9274 | 3.196 | 2.335 | .0705 |
| #2 | 6.760 | 10.78 | 4.249 | 2.890 | .5724 | .9301 | 3.177 | 2.339 | .0707 |
| #3 | 6.790 | 10.66 | 4.252 | 2.887 | .5728 | .9269 | 3.222 | 2.336 | .0705 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.8137** | **6.271** | **.4567** | **.2986** | **1.036** | **.3453** | **.5992** | **3.243** | **7.764** |
| Stddev | .0008 | .014 | .0002 | .0004 | .000 | .0001 | .0007 | .009 | .025 |
| %RSD | .0992 | .2246 | .0432 | .1373 | .0201 | .0330 | .1147 | .2860 | .3152 |
| #1 | .8128 | 6.268 | .4565 | .2985 | 1.036 | .3453 | .5989 | 3.233 | 7.742 |
| #2 | .8141 | 6.259 | .4569 | .2991 | 1.036 | .3454 | .6000 | 3.243 | 7.760 |
| #3 | .8143 | 6.287 | .4568 | .2983 | 1.036 | .3452 | .5987 | 3.252 | 7.790 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.528** | **.8628** | **1.588** | **6.075** | **.9260** | **2.889** | **2.068** | **.8758** | **11.95** |
| Stddev | .014 | .0026 | .003 | .011 | .0006 | .001 | .001 | .0017 | .10 |
| %RSD | .3180 | .2983 | .1934 | .1835 | .0637 | .0287 | .0311 | .1898 | .7946 |
| #1 | 4.516 | .8605 | 1.586 | 6.069 | .9259 | 2.888 | 2.067 | .8760 | 11.85 |
| #2 | 4.524 | .8624 | 1.586 | 6.067 | .9255 | 2.890 | 2.069 | .8740 | 11.97 |
| #3 | 4.544 | .8656 | 1.592 | 6.087 | .9267 | 2.890 | 2.068 | .8773 | 12.04 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.6536** | **1.459** | **1.876** | **.1910** | **.6268** | **1.813** | **.1381** |
| Stddev | .0007 | .000 | .014 | .0003 | .0011 | .004 | .0013 |
| %RSD | .1127 | .0231 | .7180 | .1625 | .1731 | .2188 | .9327 |
| #1 | .6529 | 1.459 | 1.880 | .1912 | .6266 | 1.810 | .1372 |
| #2 | .6535 | 1.459 | 1.887 | .1912 | .6279 | 1.811 | .1395 |
| #3 | .6543 | 1.459 | 1.861 | .1907 | .6258 | 1.818 | .1374 |



◀ Zoom In ▶
Zoom Out

Sample Name: STDb Acquired: 4/30/2019 15:21:32 Type: Cal
Method: SGS 3 NO Valve(v324) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159900.** | **28227.** | **6641.0** | **9140.1** |
| Stddev | 396. | 65. | 31.4 | 30.5 |
| %RSD | .24775 | .22927 | .47293 | .33348 |
| #1 | 160220. | 28155. | 6634.0 | 9129.7 |
| #2 | 160020. | 28280. | 6675.4 | 9174.4 |
| #3 | 159460. | 28247. | 6613.7 | 9116.1 |

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 4/30/2019 15:27:05 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.004** | **2.031** | **1.991** | **2.025** | **1.992** | **1.974** | **2.016** | **2.027** | **.2470** |
| Stddev | .002 | .002 | .028 | .023 | .003 | .002 | .011 | .023 | .0007 |
| %RSD | .0971 | .0880 | 1.391 | 1.155 | .1615 | .0791 | .5458 | 1.133 | .2743 |
| #1 | 2.005 | 2.031 | 1.962 | 2.001 | 1.989 | 1.972 | 2.004 | 2.004 | .2465 |
| #2 | 2.001 | 2.030 | 2.018 | 2.047 | 1.993 | 1.975 | 2.019 | 2.050 | .2477 |
| #3 | 2.004 | 2.033 | 1.994 | 2.027 | 1.995 | 1.975 | 2.025 | 2.027 | .2467 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.985** | **2.015** | **1.948** | **2.072** | **2.019** | **1.993** | **1.949** | **39.12** | **39.55** |
| Stddev | .002 | .024 | .026 | .031 | .021 | .033 | .029 | .08 | .06 |
| %RSD | .0972 | 1.199 | 1.354 | 1.511 | 1.053 | 1.634 | 1.487 | .1921 | .1562 |
| #1 | 1.983 | 1.991 | 1.920 | 2.042 | 1.998 | 1.959 | 1.919 | 39.15 | 39.56 |
| #2 | 1.986 | 2.039 | 1.973 | 2.104 | 2.041 | 2.024 | 1.977 | 39.03 | 39.49 |
| #3 | 1.986 | 2.016 | 1.951 | 2.070 | 2.019 | 1.997 | 1.950 | 39.17 | 39.61 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.66** | **39.70** | **39.42** | **39.83** | **2.021** | **1.965** | **4.914** | **1.994** | **2.026** |
| Stddev | .09 | .07 | .02 | .03 | .027 | .026 | .069 | .028 | .004 |
| %RSD | .2298 | .1675 | .0610 | .0691 | 1.318 | 1.348 | 1.403 | 1.386 | .1790 |
| #1 | 39.72 | 39.71 | 39.42 | 39.82 | 1.993 | 1.937 | 4.844 | 1.967 | 2.030 |
| #2 | 39.55 | 39.63 | 39.44 | 39.80 | 2.046 | 1.990 | 4.982 | 2.022 | 2.023 |
| #3 | 39.69 | 39.77 | 39.39 | 39.86 | 2.023 | 1.967 | 4.917 | 1.993 | 2.025 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 4/30/2019 15:27:05 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.961** | **1.921** | **1.960** | **1.979** | **1.996** | **1.979** | **2.032** |
| Stddev | .003 | .022 | .003 | .037 | .025 | .007 | .022 |
| %RSD | .1250 | 1.149 | .1312 | 1.851 | 1.251 | .3724 | 1.110 |
| #1 | 1.959 | 1.901 | 1.957 | 1.941 | 1.969 | 1.985 | 2.006 |
| #2 | 1.963 | 1.944 | 1.962 | 2.015 | 2.018 | 1.971 | 2.043 |
| #3 | 1.963 | 1.918 | 1.962 | 1.980 | 2.002 | 1.982 | 2.047 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **164730.** | **28494.** | **6812.0** | **9347.2** |
| Stddev | 223. | 121. | 55.3 | 65.4 |
| %RSD | .13514 | .42567 | .81187 | .69923 |
| #1 | 164970. | 28515. | 6865.8 | 9409.0 |
| #2 | 164520. | 28604. | 6755.3 | 9278.8 |
| #3 | 164690. | 28364. | 6814.9 | 9353.8 |



Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 4/30/2019 15:32:07 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0000** | **.0001** | **.0000** | **-.0001** | **.0003** | **.0000** | **-.0001** | **.0002** |
| Stddev | .0003 | .0000 | .0003 | .0001 | .0001 | .0003 | .0001 | .0004 | .0005 |
| %RSD | 1231. | 104.3 | 255.9 | 261.1 | 213.1 | 86.87 | 1914. | 604.2 | 205.9 |
| #1 | -.0003 | -.0000 | .0004 | -.0001 | -.0000 | .0000 | -.0000 | -.0003 | .0005 |
| #2 | .0001 | .0000 | .0002 | .0000 | .0000 | .0004 | .0001 | .0004 | .0006 |
| #3 | .0002 | -.0001 | -.0002 | .0001 | -.0002 | .0006 | -.0001 | -.0003 | -.0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **-.0005** | **.0005** | **.0001** | **-.0008** | **.0003** | **.0000** | **-.0031** | **-.0085** |
| Stddev | .0003 | .0000 | .0010 | .0006 | .0013 | .0009 | .0005 | .0043 | .0016 |
| %RSD | 50.52 | 4.079 | 190.7 | 968.5 | 157.6 | 324.1 | 1892. | 137.7 | 18.84 |
| #1 | -.0003 | -.0005 | -.0002 | .0007 | -.0020 | .0011 | -.0006 | -.0023 | -.0104 |
| #2 | -.0006 | -.0005 | .0017 | -.0001 | .0006 | .0003 | .0004 | -.0078 | -.0077 |
| #3 | -.0009 | -.0005 | .0001 | -.0004 | -.0012 | -.0006 | .0003 | .0007 | -.0075 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0132** | **.0582** | **.0362** | **.0041** | **.0003** | **.0001** | **.0001** | **.0000** |
| Stddev | .0013 | .0031 | .0568 | .0074 | .0003 | .0000 | .0009 | .0004 | .0002 |
| %RSD | 5681. | 23.42 | 97.55 | 20.59 | 7.107 | 8.743 | 799.5 | 330.0 | 415.8 |
| #1 | -.0012 | -.0154 | .0556 | .0422 | .0042 | .0004 | .0011 | -.0004 | .0002 |
| #2 | -.0002 | -.0144 | .1163 | .0278 | .0038 | .0003 | -.0003 | .0004 | -.0001 |
| #3 | .0014 | -.0097 | .0028 | .0385 | .0043 | .0003 | -.0005 | .0004 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 4/30/2019 15:32:07 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **-.0006** | **.0001** | **.0021** | **-.0005** | **-.0028** | **-.0001** |
| Stddev | .0003 | .0004 | .0002 | .0014 | .0017 | .0017 | .0003 |
| %RSD | 61.39 | 67.92 | 303.4 | 66.82 | 348.0 | 58.73 | 368.1 |
| #1 | .0006 | -.0009 | -.0002 | .0032 | -.0003 | -.0047 | -.0003 |
| #2 | .0007 | -.0007 | .0002 | .0005 | -.0022 | -.0018 | -.0002 |
| #3 | .0001 | -.0001 | .0002 | .0028 | .0011 | -.0019 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **174580.** | **28749.** | **7163.5** | **10342.** |
| Stddev | 1444. | 181. | 4.2 | 1. |
| %RSD | .82697 | .63058 | .05914 | .01443 |
| #1 | 173440. | 28946. | 7167.9 | 10343. |
| #2 | 174100. | 28712. | 7159.4 | 10341. |
| #3 | 176210. | 28590. | 7163.1 | 10341. |

Zoom In Zoom Out

Sample Name: icv 7 Acquired: 4/30/2019 15:37:16 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.016** | **2.049** | **2.014** | **2.071** | **2.005** | **2.003** | **2.020** | **2.032** | **.2402** |
| Stddev | .011 | .013 | .003 | .001 | .005 | .005 | .025 | .001 | .0003 |
| %RSD | .5538 | .6515 | .1324 | .0321 | .2613 | .2450 | 1.244 | .0391 | .1341 |
| #1 | 2.022 | 2.057 | 2.012 | 2.071 | 2.003 | 2.006 | 2.034 | 2.031 | .2402 |
| #2 | 2.022 | 2.056 | 2.017 | 2.072 | 2.000 | 1.997 | 1.991 | 2.032 | .2399 |
| #3 | 2.003 | 2.033 | 2.012 | 2.071 | 2.011 | 2.006 | 2.035 | 2.033 | .2405 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.001** | **2.007** | **1.956** | **2.084** | **2.014** | **1.987** | **1.943** | **39.06** | **38.90** |
| Stddev | .002 | .002 | .002 | .007 | .004 | .003 | .004 | .28 | .26 |
| %RSD | .1133 | .1062 | .0750 | .3242 | .2074 | .1493 | .2216 | .7045 | .6716 |
| #1 | 1.999 | 2.005 | 1.958 | 2.080 | 2.009 | 1.983 | 1.944 | 39.22 | 39.07 |
| #2 | 2.001 | 2.009 | 1.955 | 2.080 | 2.015 | 1.988 | 1.947 | 39.23 | 39.03 |
| #3 | 2.003 | 2.007 | 1.956 | 2.091 | 2.017 | 1.989 | 1.938 | 38.75 | 38.59 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.26** | **39.32** | **39.40** | **39.48** | **2.036** | **1.969** | **5.156** | **1.986** | **2.035** |
| Stddev | .27 | .32 | .22 | .25 | .004 | .002 | .006 | .002 | .012 |
| %RSD | .6974 | .8160 | .5657 | .6321 | .1901 | .1048 | .1260 | .1084 | .5771 |
| #1 | 39.43 | 39.53 | 39.55 | 39.66 | 2.035 | 1.968 | 5.151 | 1.984 | 2.042 |
| #2 | 39.41 | 39.47 | 39.50 | 39.59 | 2.041 | 1.971 | 5.163 | 1.988 | 2.042 |
| #3 | 38.94 | 38.95 | 39.14 | 39.20 | 2.033 | 1.967 | 5.154 | 1.986 | 2.021 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icv 7 Acquired: 4/30/2019 15:37:16 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.974** | **1.908** | **1.960** | **2.013** | **1.973** | **2.033** | **2.050** |
| Stddev | .001 | .003 | .002 | .007 | .004 | .015 | .009 |
| %RSD | .0711 | .1792 | .0937 | .3312 | .1836 | .7130 | .4189 |
| #1 | 1.973 | 1.905 | 1.958 | 2.009 | 1.975 | 2.042 | 2.041 |
| #2 | 1.976 | 1.912 | 1.961 | 2.009 | 1.976 | 2.040 | 2.051 |
| #3 | 1.975 | 1.907 | 1.962 | 2.021 | 1.969 | 2.016 | 2.058 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **163140.** | **28390.** | **6803.1** | **9335.8** |
| Stddev | 471. | 398. | 20.2 | 21.9 |
| %RSD | .28874 | 1.4005 | .29760 | .23511 |
| #1 | 163560. | 28111. | 6819.6 | 9357.7 |
| #2 | 163230. | 28215. | 6780.5 | 9313.8 |
| #3 | 162630. | 28846. | 6809.2 | 9335.8 |



Zoom In Zoom Out

Sample Name: icb Acquired: 4/30/2019 15:42:16 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0000** | **.0002** | **-.0001** | **-.0001** | **.0001** | **.0000** | **-.0001** | **-.0001** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0003 | .0001 | .0002 | .0002 |
| %RSD | 127.0 | 869.9 | 51.16 | 153.4 | 197.6 | 258.1 | 109.0 | 330.4 | 372.4 |
| #1 | -.0000 | -.0001 | .0002 | -.0003 | -.0001 | .0003 | .0001 | -.0003 | .0001 |
| #2 | .0004 | .0001 | .0003 | -.0002 | -.0003 | .0002 | .0000 | .0001 | -.0003 |
| #3 | .0002 | -.0001 | .0001 | .0001 | .0001 | -.0002 | .0000 | -.0000 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0005** | **.0004** | **-.0011** | **-.0002** | **-.0002** | **-.0012** | **-.0126** | **-.0066** |
| Stddev | .0005 | .0001 | .0010 | .0005 | .0006 | .0010 | .0007 | .0038 | .0010 |
| %RSD | 133.1 | 11.79 | 262.6 | 45.31 | 336.6 | 420.6 | 58.73 | 30.62 | 15.57 |
| #1 | -.0003 | -.0005 | -.0006 | -.0010 | .0003 | -.0008 | -.0008 | -.0082 | -.0075 |
| #2 | -.0008 | -.0005 | .0003 | -.0017 | -.0009 | .0009 | -.0008 | -.0156 | -.0055 |
| #3 | .0001 | -.0004 | .0014 | -.0007 | .0001 | -.0008 | -.0021 | -.0138 | -.0067 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0014** | **.0011** | **.0662** | **.0430** | **.0034** | **.0002** | **.0002** | **-.0001** | **-.0000** |
| Stddev | .0016 | .0086 | .0080 | .0027 | .0004 | .0001 | .0005 | .0003 | .0000 |
| %RSD | 112.6 | 799.3 | 12.05 | 6.381 | 12.71 | 50.44 | 214.7 | 312.2 | 252.1 |
| #1 | -.0032 | .0002 | .0733 | .0457 | .0039 | .0002 | -.0003 | -.0001 | -.0001 |
| #2 | -.0001 | .0100 | .0677 | .0429 | .0031 | .0003 | .0007 | .0002 | .0000 |
| #3 | -.0009 | -.0070 | .0575 | .0402 | .0033 | .0001 | .0003 | -.0003 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icb Acquired: 4/30/2019 15:42:16 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0016** | **.0003** | **.0015** | **.0005** | **.0012** | **.0003** |
| Stddev | .0004 | .0007 | .0001 | .0025 | .0017 | .0023 | .0005 |
| %RSD | 114.1 | 47.73 | 30.07 | 161.7 | 310.5 | 187.8 | 152.7 |
| #1 | .0007 | .0022 | .0003 | .0030 | .0020 | .0000 | .0007 |
| #2 | .0006 | .0007 | .0002 | -.0013 | .0010 | .0039 | .0006 |
| #3 | -.0001 | .0017 | .0003 | .0030 | -.0013 | -.0002 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172410.** | **28462.** | **7087.8** | **10247.** |
| Stddev | 747. | 90. | 25.0 | 21. |
| %RSD | .43328 | .31626 | .35218 | .20759 |
| #1 | 171620. | 28519. | 7068.0 | 10233. |
| #2 | 172500. | 28358. | 7079.6 | 10236. |
| #3 | 173100. | 28509. | 7115.9 | 10272. |

Zoom In Zoom Out

Sample Name: ccv Acquired: 4/30/2019 15:47:24 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.987** | **2.045** | **1.982** | **2.004** | **2.000** | **1.979** | **2.007** | **2.004** | **.2460** |
| Stddev | .005 | .005 | .003 | .003 | .004 | .004 | .014 | .003 | .0003 |
| %RSD | .2638 | .2487 | .1448 | .1654 | .1938 | .2197 | .7078 | .1519 | .1263 |
| #1 | 1.988 | 2.051 | 1.985 | 2.007 | 2.004 | 1.984 | 2.022 | 2.007 | .2461 |
| #2 | 1.992 | 2.043 | 1.981 | 2.000 | 1.997 | 1.975 | 2.007 | 2.001 | .2462 |
| #3 | 1.982 | 2.042 | 1.980 | 2.005 | 2.000 | 1.977 | 1.993 | 2.003 | .2456 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.974** | **2.000** | **1.924** | **2.059** | **1.998** | **1.974** | **1.935** | **39.43** | **39.72** |
| Stddev | .002 | .004 | .003 | .004 | .002 | .002 | .006 | .10 | .13 |
| %RSD | .0754 | .2123 | .1520 | .1906 | .1156 | .1037 | .2985 | .2573 | .3251 |
| #1 | 1.976 | 2.002 | 1.927 | 2.062 | 2.001 | 1.976 | 1.942 | 39.54 | 39.87 |
| #2 | 1.973 | 2.002 | 1.922 | 2.054 | 1.996 | 1.973 | 1.933 | 39.37 | 39.68 |
| #3 | 1.975 | 1.995 | 1.923 | 2.059 | 1.998 | 1.973 | 1.931 | 39.37 | 39.62 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.63** | **39.65** | **39.52** | **39.57** | **1.991** | **1.958** | **4.864** | **1.976** | **2.015** |
| Stddev | .11 | .11 | .13 | .11 | .003 | .004 | .004 | .003 | .005 |
| %RSD | .2758 | .2886 | .3393 | .2687 | .1493 | .2196 | .0872 | .1379 | .2296 |
| #1 | 39.75 | 39.78 | 39.65 | 39.67 | 1.993 | 1.963 | 4.869 | 1.979 | 2.018 |
| #2 | 39.60 | 39.62 | 39.52 | 39.59 | 1.993 | 1.958 | 4.862 | 1.976 | 2.017 |
| #3 | 39.53 | 39.57 | 39.38 | 39.46 | 1.988 | 1.954 | 4.861 | 1.974 | 2.009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 4/30/2019 15:47:24 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.938** | **1.905** | **1.949** | **1.951** | **1.971** | **2.008** | **1.950** |
| Stddev | .003 | .002 | .001 | .007 | .006 | .009 | .003 |
| %RSD | .1381 | .1091 | .0647 | .3571 | .3031 | .4655 | .1586 |
| #1 | 1.941 | 1.907 | 1.950 | 1.958 | 1.977 | 2.019 | 1.953 |
| #2 | 1.936 | 1.905 | 1.948 | 1.952 | 1.965 | 2.006 | 1.947 |
| #3 | 1.937 | 1.903 | 1.950 | 1.944 | 1.970 | 2.001 | 1.950 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **164180.** | **28185.** | **6830.8** | **9387.5** |
| Stddev | 628. | 274. | 19.4 | 10.2 |
| %RSD | .38280 | .97199 | .28430 | .10903 |
| #1 | 163500. | 27925. | 6830.1 | 9383.0 |
| #2 | 164310. | 28471. | 6811.8 | 9380.3 |
| #3 | 164730. | 28159. | 6850.6 | 9399.2 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 4/30/2019 15:52:26 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0001** | **.0001** | **.0003** | **-.0002** | **.0002** | **.0001** | **.0001** | **.0006** |
| Stddev | .0001 | .0001 | .0001 | .0001 | .0000 | .0002 | .0000 | .0002 | .0003 |
| %RSD | 18.66 | 77.51 | 94.36 | 50.38 | 5.823 | 108.3 | 18.09 | 193.8 | 41.11 |
| #1 | .0003 | .0001 | .0000 | .0002 | -.0002 | -.0001 | .0001 | -.0001 | .0006 |
| #2 | .0004 | .0000 | .0003 | .0004 | -.0002 | .0004 | .0001 | .0002 | .0009 |
| #3 | .0003 | .0001 | .0001 | .0002 | -.0002 | .0004 | .0001 | .0003 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0004** | **.0011** | **.0001** | **-.0006** | **.0004** | **-.0014** | **-.0020** | **-.0057** |
| Stddev | .0003 | .0001 | .0015 | .0011 | .0006 | .0013 | .0013 | .0032 | .0004 |
| %RSD | 111.4 | 23.70 | 136.7 | 790.0 | 98.54 | 325.4 | 97.73 | 157.0 | 7.883 |
| #1 | -.0005 | -.0003 | .0028 | -.0005 | .0000 | .0005 | -.0021 | -.0050 | -.0062 |
| #2 | -.0004 | -.0004 | .0004 | .0014 | -.0007 | -.0009 | .0002 | -.0024 | -.0055 |
| #3 | .0001 | -.0004 | .0001 | -.0005 | -.0011 | .0017 | -.0022 | .0013 | -.0054 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0013** | **.0159** | **.0220** | **.0035** | **.0001** | **-.0001** | **.0003** | **.0000** |
| Stddev | .0009 | .0121 | .0119 | .0079 | .0001 | .0002 | .0011 | .0001 | .0001 |
| %RSD | 367.6 | 959.7 | 74.59 | 36.03 | 3.591 | 222.3 | 1039. | 45.20 | 188.4 |
| #1 | .0008 | .0039 | .0229 | .0169 | .0034 | .0002 | -.0009 | .0002 | .0001 |
| #2 | -.0008 | .0118 | .0226 | .0181 | .0036 | .0001 | .0012 | .0003 | -.0000 |
| #3 | .0007 | -.0120 | .0022 | .0312 | .0036 | -.0001 | -.0006 | .0004 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 4/30/2019 15:52:26 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0002** | **.0002** | **.0016** | **-.0002** | **.0013** | **-.0010** |
| Stddev | .0001 | .0002 | .0001 | .0015 | .0009 | .0012 | .0027 |
| %RSD | 15.07 | 86.42 | 48.08 | 90.75 | 383.6 | 93.49 | 276.9 |
| #1 | .0004 | -.0005 | .0004 | .0033 | -.0012 | .0026 | -.0011 |
| #2 | .0003 | -.0001 | .0002 | .0006 | .0005 | .0005 | .0018 |
| #3 | .0004 | -.0001 | .0002 | .0009 | -.0001 | .0006 | -.0036 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173300.** | **28590.** | **7098.3** | **10278.** |
| Stddev | 907. | 44. | 6.4 | 11. |
| %RSD | .52349 | .15321 | .08979 | .10487 |
| #1 | 172480. | 28548. | 7092.7 | 10272. |
| #2 | 173140. | 28636. | 7096.8 | 10290. |
| #3 | 174270. | 28585. | 7105.2 | 10271. |

Zoom In Zoom Out

Sample Name: CRI Acquired: 4/30/2019 15:57:34 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .2058 | .0021 | .0033 | .0521 | .0106 | .0101 | .0162 | .0101 | .0049 |
| Stddev | .0013 | .0001 | .0001 | .0001 | .0003 | .0004 | .0002 | .0002 | .0002 |
| %RSD | .6128 | 5.016 | 3.934 | .1238 | 2.591 | 3.776 | 1.240 | 2.315 | 3.937 |
| #1 | .2050 | .0023 | .0033 | .0522 | .0103 | .0097 | .0162 | .0103 | .0048 |
| #2 | .2051 | .0021 | .0033 | .0521 | .0107 | .0105 | .0161 | .0099 | .0048 |
| #3 | .2073 | .0021 | .0031 | .0521 | .0108 | .0101 | .0164 | .0101 | .0051 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0520 | .0207 | .0078 | .0099 | .0028 | .0114 | .0067 | .2003 | 5.208 |
| Stddev | .0007 | .0000 | .0014 | .0008 | .0007 | .0004 | .0018 | .0094 | .037 |
| %RSD | 1.425 | .0301 | 18.42 | 8.525 | 26.85 | 3.532 | 26.67 | 4.707 | .7139 |
| #1 | .0515 | .0207 | .0072 | .0107 | .0033 | .0109 | .0072 | .1922 | 5.194 |
| #2 | .0517 | .0207 | .0095 | .0090 | .0031 | .0116 | .0083 | .1980 | 5.180 |
| #3 | .0529 | .0207 | .0068 | .0099 | .0019 | .0116 | .0048 | .2107 | 5.250 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .1035 | 5.335 | 5.234 | 5.312 | .1057 | .0209 | .2131 | .0115 | .0104 |
| Stddev | .0006 | .058 | .107 | .039 | .0008 | .0002 | .0005 | .0002 | .0001 |
| %RSD | .5717 | 1.085 | 2.045 | .7316 | .7795 | .9402 | .2371 | 1.449 | .9263 |
| #1 | .1037 | 5.308 | 5.230 | 5.290 | .1066 | .0207 | .2136 | .0116 | .0103 |
| #2 | .1028 | 5.295 | 5.129 | 5.290 | .1049 | .0210 | .2130 | .0113 | .0104 |
| #3 | .1040 | 5.401 | 5.343 | 5.357 | .1057 | .0211 | .2126 | .0117 | .0105 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CRI Acquired: 4/30/2019 15:57:34 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0106 | .0522 | .0108 | .0526 | .0217 | F .0615 | .0483 |
| Stddev | .0002 | .0013 | .0002 | .0017 | .0008 | .0013 | .0027 |
| %RSD | 1.492 | 2.524 | 1.926 | 3.201 | 3.474 | 2.066 | 5.576 |
| #1 | .0107 | .0529 | .0106 | .0545 | .0225 | .0614 | .0514 |
| #2 | .0104 | .0507 | .0107 | .0516 | .0217 | .0628 | .0466 |
| #3 | .0106 | .0530 | .0110 | .0516 | .0210 | .0603 | .0469 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | | | | | .0500 | |
| Range | | | | | | 20.00% | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 166880. | 28134. | 6855.4 | 9750.7 |
| Stddev | 1382. | 169. | 14.7 | 18.5 |
| %RSD | .82795 | .59909 | .21374 | .18968 |
| #1 | 168180. | 28183. | 6870.6 | 9768.7 |
| #2 | 167020. | 28273. | 6854.2 | 9751.6 |
| #3 | 165430. | 27947. | 6841.3 | 9731.8 |



Zoom In Zoom Out

Sample Name: CRID Acquired: 4/30/2019 16:02:37 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0045 | .0010 | .0011 | .0030 | .0020 | F -.0001 | .0031 | .0040 |
| Stddev | .0001 | .0001 | .0002 | .0003 | .0002 | .0001 | .0000 | .0000 |
| %RSD | 1.524 | 5.622 | 15.59 | 8.679 | 11.26 | 206.3 | 1.001 | 1.233 |
| #1 | .0045 | .0011 | .0010 | .0027 | .0018 | -.0001 | .0031 | .0039 |
| #2 | .0046 | .0010 | .0013 | .0033 | .0019 | -.0002 | .0031 | .0040 |
| #3 | .0044 | .0010 | .0011 | .0030 | .0022 | .0001 | .0031 | .0040 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | .0020 | | |
| Range | | | | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F .0002 | .0018 | .0097 | .0032 | F .0028 | F -.0000 | .0049 | F -.0015 |
| Stddev | .0004 | .0005 | .0001 | .0007 | .0010 | .0006 | .0013 | .0011 |
| %RSD | 165.3 | 27.85 | .7438 | 21.60 | 34.69 | 1994. | 26.58 | 72.16 |
| #1 | .0001 | .0020 | .0096 | .0040 | .0039 | -.0006 | .0063 | -.0015 |
| #2 | -.0001 | .0021 | .0098 | .0027 | .0021 | .0000 | .0048 | -.0026 |
| #3 | .0007 | .0012 | .0097 | .0030 | .0024 | .0005 | .0037 | -.0004 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | | .0030 |
| Range | -20.00% | | | | 20.00% | -20.00% | | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0944 | 1.012 | .0025 | .1070 | 1.980 | 1.048 | .0023 | .0001 |
| Stddev | .0019 | .006 | .0017 | .0059 | .021 | .007 | .0004 | .0002 |
| %RSD | 2.064 | .5646 | 66.99 | 5.485 | 1.078 | .6412 | 17.83 | 153.5 |
| #1 | .0953 | 1.016 | .0012 | .1108 | 1.957 | 1.043 | .0028 | .0000 |
| #2 | .0921 | 1.006 | .0044 | .1100 | 1.999 | 1.055 | .0019 | .0000 |
| #3 | .0957 | 1.015 | .0019 | .1002 | 1.985 | 1.045 | .0022 | .0004 |
| Check ? | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |



Zoom In Zoom Out

Sample Name: CRID Acquired: 4/30/2019 16:02:37 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.0011 | -.0003 | -.0000 | .0003 | -.0010 | .0001 | .0028 | -.0015 |
| Stddev | .0012 | .0001 | .0001 | .0003 | .0003 | .0001 | .0015 | .0015 |
| %RSD | 109.1 | 23.88 | 246.5 | 96.50 | 26.08 | 122.4 | 52.24 | 96.70 |
| #1 | -.0004 | -.0003 | .0001 | .0006 | -.0013 | .0001 | .0038 | -.0032 |
| #2 | -.0004 | -.0004 | -.0001 | .0002 | -.0010 | -.0000 | .0035 | -.0008 |
| #3 | -.0024 | -.0002 | -.0001 | .0001 | -.0008 | .0002 | .0011 | -.0005 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | .0016 | -.0003 |
| Stddev | .0010 | .0014 |
| %RSD | 61.46 | 456.9 |
| #1 | .0026 | .0013 |
| #2 | .0009 | -.0009 |
| #3 | .0011 | -.0013 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 171030. | 28259. | 7055.0 | 10171. |
| Stddev | 392. | 216. | 29.8 | 33. |
| %RSD | .22913 | .76432 | .42203 | .32555 |
| #1 | 171220. | 28097. | 7022.2 | 10134. |
| #2 | 170580. | 28504. | 7080.4 | 10199. |
| #3 | 171280. | 28177. | 7062.2 | 10180. |

Zoom In Zoom Out

Sample Name: ICSA Acquired: 4/30/2019 16:07:43 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0001** | **.0002** | **.0016** | **-.0009** | **-.0066** | **.0023** | **-.0000** | **.0025** |
| Stddev | .0005 | .0000 | .0003 | .0002 | .0000 | .0015 | .0005 | .0003 | .0011 |
| %RSD | 40.78 | 64.19 | 126.4 | 12.10 | 3.999 | 22.68 | 22.69 | 1077. | 45.09 |
| #1 | .0008 | .0001 | .0004 | .0015 | -.0009 | -.0076 | .0020 | .0002 | .0024 |
| #2 | .0009 | .0001 | .0003 | .0015 | -.0009 | -.0072 | .0019 | .0001 | .0014 |
| #3 | .0016 | .0000 | -.0001 | .0018 | -.0009 | -.0049 | .0028 | -.0004 | .0037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0027** | **-.0020** | **.0013** | **-.0015** | **.0028** | **.0031** | **.0011** | **505.2** | **370.5** |
| Stddev | .0003 | .0001 | .0039 | .0008 | .0016 | .0015 | .0008 | 6.2 | 1.4 |
| %RSD | 10.13 | 4.059 | 307.0 | 51.37 | 54.92 | 48.12 | 74.00 | 1.224 | .3873 |
| #1 | -.0030 | -.0020 | .0051 | -.0017 | .0010 | .0017 | .0015 | 508.1 | 370.2 |
| #2 | -.0025 | -.0019 | -.0027 | -.0022 | .0037 | .0047 | .0018 | 498.2 | 369.2 |
| #3 | -.0026 | -.0021 | .0015 | -.0007 | .0037 | .0029 | .0002 | 509.5 | 372.0 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **185.8** | **484.6** | **.2858** | **.1300** | **-.0002** | **.0002** | **.0006** | **-.0032** | **-.0002** |
| Stddev | 4.5 | 3.9 | .0582 | .0094 | .0010 | .0002 | .0026 | .0008 | .0001 |
| %RSD | 2.444 | .8017 | 20.35 | 7.245 | 638.5 | 80.87 | 416.2 | 25.23 | 23.81 |
| #1 | 183.4 | 480.3 | .3156 | .1397 | .0009 | .0004 | -.0003 | -.0037 | -.0003 |
| #2 | 183.0 | 485.8 | .3230 | .1209 | -.0010 | .0002 | -.0014 | -.0036 | -.0002 |
| #3 | 191.1 | 487.8 | .2188 | .1296 | -.0004 | .0000 | .0035 | -.0023 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 4/30/2019 16:07:43 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0002** | **.0003** | **-.0028** | **-.0002** | **.0007** | **.0208** |
| Stddev | .0004 | .0008 | .0004 | .0054 | .0016 | .0008 | .0019 |
| %RSD | 35.60 | 534.3 | 107.0 | 193.9 | 1050. | 112.3 | 8.994 |
| #1 | -.0009 | -.0003 | .0001 | .0014 | .0016 | -.0001 | .0229 |
| #2 | -.0016 | -.0003 | .0001 | -.0008 | -.0015 | .0008 | .0196 |
| #3 | -.0009 | .0011 | .0008 | -.0088 | -.0006 | .0015 | .0198 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148180.** | **27072.** | **6266.6** | **8482.8** |
| Stddev | 516. | 115. | 14.4 | 13.9 |
| %RSD | .34830 | .42468 | .23054 | .16430 |
| #1 | 148270. | 27203. | 6255.7 | 8471.1 |
| #2 | 147630. | 27024. | 6283.0 | 8498.2 |
| #3 | 148650. | 26989. | 6261.0 | 8479.1 |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/30/2019 16:13:03 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5126** | **.5075** | **1.012** | **.4889** | **.4902** | **.4969** | **.5081** | **.9699** | **1.050** |
| Stddev | .0005 | .0006 | .001 | .0006 | .0007 | .0015 | .0002 | .0016 | .001 |
| %RSD | .1066 | .1172 | .0850 | .1150 | .1423 | .2934 | .0372 | .1663 | .0558 |
| #1 | .5132 | .5081 | 1.013 | .4890 | .4895 | .4977 | .5079 | .9716 | 1.050 |
| #2 | .5123 | .5073 | 1.012 | .4894 | .4905 | .4978 | .5082 | .9699 | 1.051 |
| #3 | .5123 | .5070 | 1.012 | .4883 | .4908 | .4952 | .5083 | .9683 | 1.050 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4939** | **.9569** | **1.043** | **.9770** | **.9532** | **1.043** | **1.049** | **495.0** | **373.9** |
| Stddev | .0008 | .0003 | .002 | .0030 | .0050 | .001 | .003 | 3.5 | 7.1 |
| %RSD | .1624 | .0289 | .2156 | .3087 | .5247 | .1175 | .2658 | .7160 | 1.900 |
| #1 | .4949 | .9572 | 1.045 | .9804 | .9580 | 1.044 | 1.051 | 497.9 | 375.5 |
| #2 | .4934 | .9566 | 1.043 | .9761 | .9537 | 1.044 | 1.051 | 491.1 | 380.1 |
| #3 | .4936 | .9568 | 1.041 | .9746 | .9480 | 1.041 | 1.046 | 496.1 | 366.2 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **190.3** | **492.3** | **.2354** | **.1187** | **.4839** | **.4711** | **.4893** | **.4628** | **.5180** |
| Stddev | 2.9 | 1.3 | .0347 | .0094 | .0005 | .0001 | .0019 | .0008 | .0006 |
| %RSD | 1.524 | .2595 | 14.75 | 7.915 | .0946 | .0176 | .3907 | .1632 | .1107 |
| #1 | 189.1 | 493.7 | .1963 | .1255 | .4844 | .4711 | .4906 | .4635 | .5186 |
| #2 | 193.7 | 491.7 | .2626 | .1227 | .4835 | .4710 | .4902 | .4620 | .5175 |
| #3 | 188.3 | 491.4 | .2472 | .1080 | .4838 | .4711 | .4871 | .4630 | .5178 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 4/30/2019 16:13:03 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4892** | **.4615** | **.4790** | **.4938** | **.4977** | **.5425** | **.4995** |
| Stddev | .0006 | .0022 | .0001 | .0020 | .0020 | .0034 | .0043 |
| %RSD | .1285 | .4732 | .0196 | .4135 | .4114 | .6319 | .8694 |
| #1 | .4887 | .4595 | .4791 | .4916 | .4981 | .5464 | .4998 |
| #2 | .4889 | .4638 | .4790 | .4940 | .4954 | .5411 | .4950 |
| #3 | .4899 | .4613 | .4789 | .4957 | .4994 | .5400 | .5037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147850.** | **26908.** | **6248.3** | **8491.1** |
| Stddev | 429. | 203. | 12.3 | 13.6 |
| %RSD | .29004 | .75464 | .19740 | .16066 |
| #1 | 147960. | 26720. | 6251.0 | 8493.2 |
| #2 | 148210. | 26882. | 6259.1 | 8503.5 |
| #3 | 147370. | 27123. | 6234.9 | 8476.5 |

Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/30/2019 16:18:22 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.136** | **8.094** | **8.018** | **8.016** | **8.189** | **7.933** | **7.956** | **8.052** | **.6238** |
| Stddev | .013 | .197 | .050 | .046 | .016 | .111 | .039 | .043 | .0016 |
| %RSD | .1644 | 2.430 | .6223 | .5720 | .2000 | 1.395 | .4913 | .5286 | .2547 |
| #1 | 8.127 | 8.195 | 7.969 | 7.968 | 8.200 | 8.061 | 7.995 | 8.008 | .6244 |
| #2 | 8.128 | 8.220 | 8.017 | 8.020 | 8.170 | 7.862 | 7.917 | 8.053 | .6220 |
| #3 | 8.151 | 7.867 | 8.069 | 8.059 | 8.197 | 7.878 | 7.956 | 8.093 | .6250 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.877** | **8.242** | **8.009** | **8.251** | **8.193** | **8.068** | **8.157** | **.0585** | **-.0278** |
| Stddev | .009 | .045 | .051 | .007 | .045 | .034 | .057 | .0491 | .0430 |
| %RSD | .1185 | .5477 | .6367 | .0826 | .5461 | .4192 | .6944 | 83.82 | 154.6 |
| #1 | 7.885 | 8.199 | 7.955 | 8.244 | 8.150 | 8.031 | 8.101 | .0436 | -.0516 |
| #2 | 7.880 | 8.236 | 8.016 | 8.253 | 8.190 | 8.075 | 8.156 | .0187 | -.0535 |
| #3 | 7.867 | 8.289 | 8.057 | 8.257 | 8.239 | 8.098 | 8.214 | .1133 | .0218 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0182** | **-.0163** | **.4909** | **.1067** | **8.196** | **8.183** | **25.61** | **8.360** | **8.042** |
| Stddev | .0182 | .0500 | .0316 | .0035 | .058 | .051 | .18 | .043 | .204 |
| %RSD | 100.3 | 306.7 | 6.428 | 3.294 | .7054 | .6213 | .7015 | .5147 | 2.541 |
| #1 | -.0303 | -.0484 | .5272 | .1029 | 8.138 | 8.133 | 25.42 | 8.319 | 8.244 |
| #2 | -.0270 | -.0418 | .4697 | .1075 | 8.197 | 8.183 | 25.62 | 8.358 | 8.045 |
| #3 | .0028 | .0413 | .4758 | .1098 | 8.254 | 8.234 | 25.78 | 8.405 | 7.835 |
| Check ? | None | None | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/30/2019 16:18:22 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.071** | **8.366** | **7.896** | **94.03** | **8.328** | **8.149** | **7.560** |
| Stddev | .063 | .050 | .101 | .32 | .035 | .030 | .061 |
| %RSD | .7768 | .5976 | 1.283 | .3359 | .4187 | .3712 | .8121 |
| #1 | 8.122 | 8.315 | 7.932 | 93.66 | 8.294 | 8.175 | 7.543 |
| #2 | 8.091 | 8.367 | 7.975 | 94.20 | 8.325 | 8.157 | 7.628 |
| #3 | 8.001 | 8.415 | 7.782 | 94.22 | 8.364 | 8.116 | 7.509 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **168620.** | **28645.** | **6835.6** | **9934.3** |
| Stddev | 570. | 332. | 37.5 | 43.5 |
| %RSD | .33794 | 1.1584 | .54872 | .43785 |
| #1 | 167970. | 28276. | 6856.2 | 9958.1 |
| #2 | 168890. | 28740. | 6858.3 | 9960.7 |
| #3 | 169010. | 28918. | 6792.3 | 9884.1 |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/30/2019 16:24:23 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: ` Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0006** | **.0002** | **.0014** | **-.0010** | **-.0055** | **.0025** | **-.0004** | **.0011** |
| Stddev | .0003 | .0001 | .0001 | .0003 | .0001 | .0002 | .0002 | .0002 | .0004 |
| %RSD | 34.36 | 16.86 | 50.65 | 19.39 | 6.759 | 3.077 | 9.317 | 55.25 | 33.97 |
| #1 | .0013 | .0005 | .0001 | .0012 | -.0010 | -.0053 | .0027 | -.0002 | .0015 |
| #2 | .0010 | .0006 | .0003 | .0013 | -.0010 | -.0057 | .0025 | -.0004 | .0011 |
| #3 | .0006 | .0006 | .0002 | .0017 | -.0009 | -.0056 | .0022 | -.0006 | .0007 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0027** | **-.0009** | **.0040** | **-.0026** | **-.0002** | **.0009** | **.0015** | **309.8** | **199.2** |
| Stddev | .0002 | .0000 | .0007 | .0015 | .0014 | .0027 | .0012 | 5.0 | 2.3 |
| %RSD | 8.211 | 5.494 | 16.24 | 57.76 | 635.2 | 283.1 | 81.83 | 1.630 | 1.170 |
| #1 | -.0029 | -.0009 | .0033 | -.0040 | -.0017 | -.0021 | .0002 | 305.0 | 198.8 |
| #2 | -.0025 | -.0008 | .0046 | -.0028 | .0008 | .0025 | .0026 | 315.1 | 201.7 |
| #3 | -.0028 | -.0009 | .0041 | -.0010 | .0003 | .0024 | .0016 | 309.4 | 197.0 |
| Check ? | None | None | None | None | None | None | None | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **196.1** | **301.8** | **201.4** | **200.0** | **.0054** | **.0007** | **.0096** | **-.0006** | **-.0001** |
| Stddev | 1.6 | .8 | .7 | 3.0 | .0015 | .0002 | .0023 | .0007 | .0002 |
| %RSD | .8354 | .2604 | .3610 | 1.503 | 27.69 | 27.72 | 24.21 | 117.5 | 245.6 |
| #1 | 197.8 | 302.4 | 201.8 | 202.1 | .0064 | .0005 | .0080 | -.0001 | .0000 |
| #2 | 196.1 | 302.2 | 201.9 | 201.4 | .0062 | .0008 | .0086 | -.0003 | -.0003 |
| #3 | 194.5 | 300.9 | 200.6 | 196.6 | .0037 | .0009 | .0123 | -.0014 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 4/30/2019 16:24:23 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: ` Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0027** | **.0012** | **.0056** | **-.0011** | **.0061** | **.0146** |
| Stddev | .0002 | .0005 | .0001 | .0011 | .0021 | .0010 | .0028 |
| %RSD | 1648. | 19.15 | 7.179 | 19.56 | 188.4 | 15.81 | 18.89 |
| #1 | -.0001 | .0026 | .0013 | .0065 | -.0010 | .0050 | .0174 |
| #2 | -.0001 | .0022 | .0012 | .0059 | .0009 | .0068 | .0146 |
| #3 | .0002 | .0032 | .0012 | .0044 | -.0034 | .0063 | .0119 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150900.** | **27275.** | **6319.9** | **8473.3** |
| Stddev | 835. | 33. | 24.6 | 27.8 |
| %RSD | .55360 | .12119 | .38847 | .32816 |
| #1 | 150000. | 27294. | 6293.9 | 8444.1 |
| #2 | 151030. | 27237. | 6342.7 | 8499.5 |
| #3 | 151660. | 27294. | 6323.1 | 8476.2 |

Zoom In Zoom Out

Sample Name: FECONF Acquired: 4/30/2019 16:29:57 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0001** | **.0001** | **.0009** | **-.0014** | **-.0063** | **.0024** | **-.0001** | **-.0007** |
| Stddev | .0002 | .0001 | .0002 | .0001 | .0002 | .0004 | .0002 | .0001 | .0010 |
| %RSD | 54.75 | 121.3 | 163.1 | 16.89 | 14.15 | 6.564 | 9.801 | 158.6 | 149.7 |
| #1 | .0004 | -.0001 | .0002 | .0008 | -.0012 | -.0058 | .0027 | -.0002 | .0004 |
| #2 | .0002 | -.0001 | .0003 | .0007 | -.0015 | -.0065 | .0023 | .0000 | -.0010 |
| #3 | .0006 | .0000 | -.0001 | .0010 | -.0014 | -.0065 | .0023 | -.0000 | -.0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0024** | **-.0014** | **.0036** | **-.0012** | **-.0001** | **.0006** | **.0027** | **-.0105** | **-.0067** |
| Stddev | .0003 | .0001 | .0004 | .0010 | .0005 | .0009 | .0017 | .0025 | .0025 |
| %RSD | 12.78 | 4.119 | 9.990 | 89.50 | 510.6 | 148.8 | 64.51 | 24.26 | 37.32 |
| #1 | -.0021 | -.0014 | .0039 | -.0022 | -.0006 | .0010 | .0019 | -.0123 | -.0077 |
| #2 | -.0024 | -.0014 | .0037 | -.0011 | .0004 | .0012 | .0015 | -.0115 | -.0039 |
| #3 | -.0027 | -.0013 | .0032 | -.0002 | -.0001 | -.0004 | .0046 | -.0076 | -.0086 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **187.4** | **-.0244** | **.2607** | **.1305** | **.0029** | **.0005** | **.0040** | **.0007** | **.0000** |
| Stddev | 2.3 | .0046 | .0388 | .0044 | .0002 | .0001 | .0010 | .0005 | .0000 |
| %RSD | 1.253 | 18.99 | 14.88 | 3.389 | 7.310 | 12.57 | 25.51 | 78.64 | 182.0 |
| #1 | 189.9 | -.0227 | .2738 | .1312 | .0026 | .0005 | .0028 | .0001 | .0000 |
| #2 | 185.2 | -.0209 | .2171 | .1345 | .0030 | .0004 | .0046 | .0011 | -.0000 |
| #3 | 187.0 | -.0297 | .2913 | .1258 | .0030 | .0005 | .0046 | .0007 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0001** | **.0002** | **.0069** | **.0026** | **-.0146** | **.0044** |
| Stddev | .0001 | .0014 | .0002 | .0023 | .0017 | .0015 | .0008 |
| %RSD | 1008. | 2172. | 119.9 | 32.68 | 65.72 | 10.39 | 17.21 |
| #1 | -.0001 | -.0016 | .0003 | .0062 | .0023 | -.0161 | .0049 |
| #2 | .0001 | .0002 | -.0001 | .0052 | .0044 | -.0147 | .0048 |
| #3 | .0001 | .0011 | .0002 | .0095 | .0011 | -.0131 | .0035 |



Zoom In Zoom Out

Sample Name: FECONF Acquired: 4/30/2019 16:29:57 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **170340.** | **28504.** | **7006.9** | **10195.** |
| Stddev | 546. | 333. | 5.8 | 4. |
| %RSD | .32046 | 1.1667 | .08285 | .04362 |
| #1 | 170940. | 28136. | 7001.2 | 10192. |
| #2 | 170210. | 28782. | 7012.8 | 10200. |
| #3 | 169870. | 28595. | 7006.7 | 10193. |



Zoom In Zoom Out

Sample Name: CRCONF Acquired: 4/30/2019 16:35:12 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **-.0000** | **.0002** | **-.0007** | F **10.01** | **.0000** | **-.0014** | **.0001** | **-.0003** |
| Stddev | .0002 | .0001 | .0002 | .0001 | .07 | .0001 | .0000 | .0002 | .0002 |
| %RSD | 26.39 | 675.5 | 101.7 | 16.85 | .6711 | 395.5 | .2091 | 207.3 | 66.53 |
| #1 | .0009 | -.0000 | .0004 | -.0007 | 9.929 | .0001 | -.0014 | .0003 | -.0003 |
| #2 | .0006 | -.0001 | .0002 | -.0008 | 10.03 | .0002 | -.0014 | -.0001 | -.0004 |
| #3 | .0005 | .0001 | -.0000 | -.0005 | 10.05 | -.0001 | -.0014 | .0001 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0038** | **.0013** | **.0027** | **-.0004** | **-.0007** | **.0001** | **.0021** | **-.0021** | **-.0034** |
| Stddev | .0006 | .0001 | .0010 | .0011 | .0007 | .0012 | .0023 | .0091 | .0018 |
| %RSD | 16.80 | 9.712 | 36.46 | 309.7 | 101.4 | 1170. | 110.0 | 432.7 | 53.02 |
| #1 | .0032 | .0012 | .0016 | .0009 | -.0006 | -.0001 | .0048 | -.0073 | -.0020 |
| #2 | .0038 | .0012 | .0030 | -.0009 | -.0014 | .0014 | .0013 | -.0075 | -.0054 |
| #3 | .0045 | .0014 | .0036 | -.0011 | -.0000 | -.0010 | .0003 | .0084 | -.0027 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0058** | **.0640** | **.0588** | **.0040** | **.0008** | **.0079** | **-.0001** | **.0001** |
| Stddev | .0005 | .0112 | .0041 | .0069 | .0005 | .0001 | .0009 | .0008 | .0001 |
| %RSD | 105.3 | 192.9 | 6.391 | 11.66 | 11.59 | 15.11 | 11.00 | 827.2 | 72.15 |
| #1 | .0007 | .0187 | .0666 | .0509 | .0044 | .0008 | .0069 | -.0010 | .0000 |
| #2 | -.0001 | .0012 | .0593 | .0620 | .0035 | .0009 | .0085 | .0004 | .0001 |
| #3 | .0008 | -.0024 | .0662 | .0635 | .0039 | .0007 | .0083 | .0004 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0021** | **.0045** | **.0031** | **.0066** | **-.0017** | **.0032** | **.0026** |
| Stddev | .0001 | .0004 | .0000 | .0017 | .0004 | .0017 | .0014 |
| %RSD | 6.131 | 8.050 | .4102 | 25.73 | 22.61 | 54.68 | 52.67 |
| #1 | -.0020 | .0049 | .0031 | .0076 | -.0012 | .0049 | .0036 |
| #2 | -.0021 | .0042 | .0031 | .0075 | -.0019 | .0014 | .0010 |
| #3 | -.0023 | .0043 | .0031 | .0046 | -.0018 | .0032 | .0033 |



Zoom In Zoom Out

Sample Name: CRCONF Acquired: 4/30/2019 16:35:12 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172450.** | **28235.** | **6877.2** | **10145.** |
| Stddev | 553. | 91. | 5.1 | 6. |
| %RSD | .32089 | .32314 | .07396 | .06009 |
| #1 | 172490. | 28295. | 6876.4 | 10150. |
| #2 | 171880. | 28280. | 6872.6 | 10138. |
| #3 | 172980. | 28130. | 6882.6 | 10148. |

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 4/30/2019 16:40:28 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0000** | **.0010** | **.0001** | **.0000** | **-.0000** | **.0000** | **.0002** | **-.0004** |
| Stddev | .0003 | .0001 | .0003 | .0001 | .0003 | .0003 | .0000 | .0002 | .0004 |
| %RSD | 48.67 | 158.3 | 31.56 | 200.5 | 6000. | 542.5 | 274.5 | 120.7 | 85.83 |
| #1 | .0004 | -.0001 | .0007 | -.0000 | -.0002 | .0001 | .0000 | .0003 | -.0006 |
| #2 | .0004 | -.0000 | .0010 | .0000 | -.0000 | .0001 | .0000 | .0002 | -.0006 |
| #3 | .0009 | .0000 | .0013 | .0002 | .0003 | -.0003 | -.0000 | -.0001 | -.0000 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0007** | **5.354** | **-.0005** | **-.0002** | **.0000** | **.0002** | **-.0031** | **-.0626** |
| Stddev | .0004 | .0000 | .002 | .0009 | .0008 | .0010 | .0009 | .0083 | .0028 |
| %RSD | 98.20 | 5.020 | .0375 | 178.5 | 316.3 | 2763. | 533.8 | 269.8 | 4.480 |
| #1 | .0000 | -.0008 | 5.355 | -.0009 | -.0011 | -.0011 | .0003 | -.0077 | -.0657 |
| #2 | -.0008 | -.0007 | 5.351 | .0005 | .0003 | .0007 | -.0008 | .0065 | -.0603 |
| #3 | -.0006 | -.0007 | 5.355 | -.0011 | .0001 | .0005 | .0009 | -.0080 | -.0618 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0037** | **-.0094** | **.0338** | **.0034** | **.0001** | **.0031** | **.0005** | **.0000** |
| Stddev | .0002 | .0107 | .0421 | .0043 | .0001 | .0001 | .0017 | .0004 | .0000 |
| %RSD | 40.86 | 290.1 | 450.5 | 12.60 | 3.754 | 121.2 | 53.96 | 69.54 | 290.0 |
| #1 | .0004 | .0016 | .0259 | .0341 | .0033 | -.0000 | .0051 | .0003 | -.0000 |
| #2 | .0009 | .0033 | -.0560 | .0379 | .0034 | .0003 | .0023 | .0009 | .0000 |
| #3 | .0005 | -.0160 | .0020 | .0294 | .0035 | .0001 | .0021 | .0003 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0013** | **.0001** | **.0050** | **-.0024** | **.0010** | **.0043** |
| Stddev | .0001 | .0011 | .0002 | .0024 | .0008 | .0016 | .0006 |
| %RSD | 46.35 | 83.32 | 192.8 | 47.16 | 33.95 | 162.4 | 13.31 |
| #1 | .0001 | -.0001 | -.0001 | .0023 | -.0015 | -.0005 | .0039 |
| #2 | .0001 | -.0018 | .0003 | .0061 | -.0028 | .0008 | .0050 |
| #3 | .0002 | -.0021 | .0001 | .0066 | -.0030 | .0028 | .0040 |



Zoom In Zoom Out

Sample Name: ASCONF Acquired: 4/30/2019 16:40:28 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173120.** | **28321.** | **7118.3** | **10226.** |
| Stddev | 154. | 79. | 10.5 | 11. |
| %RSD | .08878 | .28015 | .14750 | .10816 |
| #1 | 172950. | 28232. | 7128.8 | 10231. |
| #2 | 173150. | 28382. | 7107.8 | 10213. |
| #3 | 173260. | 28350. | 7118.3 | 10233. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 16:45:32 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.023** | **2.037** | **1.983** | **2.014** | **1.998** | **1.985** | **1.997** | **2.028** | **.2476** |
| Stddev | .006 | .003 | .001 | .001 | .005 | .004 | .024 | .001 | .0002 |
| %RSD | .2967 | .1670 | .0378 | .0243 | .2351 | .2002 | 1.184 | .0430 | .0622 |
| #1 | 2.016 | 2.033 | 1.982 | 2.014 | 2.002 | 1.987 | 2.020 | 2.027 | .2475 |
| #2 | 2.028 | 2.039 | 1.984 | 2.014 | 1.999 | 1.987 | 1.972 | 2.029 | .2477 |
| #3 | 2.024 | 2.039 | 1.982 | 2.015 | 1.992 | 1.980 | 2.000 | 2.027 | .2475 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.977** | **2.003** | **1.947** | **2.072** | **2.018** | **1.993** | **1.942** | **39.50** | **39.44** |
| Stddev | .004 | .004 | .001 | .005 | .001 | .003 | .002 | .09 | .07 |
| %RSD | .1828 | .1736 | .0714 | .2529 | .0586 | .1612 | .0989 | .2319 | .1748 |
| #1 | 1.979 | 2.001 | 1.947 | 2.066 | 2.018 | 1.991 | 1.941 | 39.43 | 39.39 |
| #2 | 1.979 | 2.007 | 1.948 | 2.076 | 2.019 | 1.996 | 1.943 | 39.60 | 39.52 |
| #3 | 1.973 | 2.000 | 1.946 | 2.074 | 2.017 | 1.991 | 1.944 | 39.48 | 39.40 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.81** | **39.67** | **39.87** | **40.37** | **2.016** | **1.943** | **4.887** | **1.972** | **2.044** |
| Stddev | .08 | .09 | .11 | .10 | .000 | .002 | .009 | .003 | .004 |
| %RSD | .1939 | .2379 | .2773 | .2563 | .0199 | .0909 | .1932 | .1506 | .1780 |
| #1 | 39.73 | 39.67 | 39.78 | 40.31 | 2.015 | 1.941 | 4.879 | 1.972 | 2.041 |
| #2 | 39.88 | 39.76 | 39.99 | 40.49 | 2.016 | 1.945 | 4.897 | 1.975 | 2.048 |
| #3 | 39.82 | 39.57 | 39.83 | 40.31 | 2.016 | 1.942 | 4.885 | 1.969 | 2.043 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 16:45:32 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.967** | **1.922** | **1.957** | **1.956** | **1.998** | **1.998** | **1.953** |
| Stddev | .002 | .003 | .003 | .003 | .003 | .005 | .001 |
| %RSD | .1154 | .1304 | .1646 | .1513 | .1390 | .2338 | .0544 |
| #1 | 1.970 | 1.921 | 1.959 | 1.952 | 1.996 | 1.993 | 1.953 |
| #2 | 1.967 | 1.925 | 1.959 | 1.958 | 2.001 | 2.002 | 1.952 |
| #3 | 1.965 | 1.921 | 1.954 | 1.957 | 1.997 | 1.999 | 1.954 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **163180.** | **27853.** | **6818.3** | **9308.9** |
| Stddev | 490. | 229. | 15.6 | 15.8 |
| %RSD | .30038 | .82284 | .22847 | .16938 |
| #1 | 162680. | 27696. | 6829.9 | 9320.7 |
| #2 | 163660. | 27747. | 6800.6 | 9291.0 |
| #3 | 163190. | 28116. | 6824.5 | 9315.1 |

Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 16:50:34 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0003** | **.0007** | **.0005** | **.0002** | **.0004** | **.0004** | **.0005** | **.0001** |
| Stddev | .0004 | .0000 | .0002 | .0003 | .0004 | .0002 | .0000 | .0001 | .0005 |
| %RSD | 46.04 | 14.83 | 29.14 | 52.20 | 179.4 | 63.93 | 5.379 | 27.10 | 958.2 |
| #1 | .0012 | .0003 | .0005 | .0004 | -.0001 | .0007 | .0004 | .0005 | -.0003 |
| #2 | .0011 | .0002 | .0008 | .0003 | .0002 | .0003 | .0004 | .0003 | -.0002 |
| #3 | .0004 | .0003 | .0007 | .0008 | .0007 | .0002 | .0004 | .0006 | .0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0005** | **.0019** | **.0009** | **.0008** | **.0007** | **-.0002** | **-.0001** | **.0039** |
| Stddev | .0001 | .0001 | .0011 | .0003 | .0006 | .0012 | .0005 | .0085 | .0015 |
| %RSD | 121.3 | 25.92 | 56.75 | 39.28 | 70.98 | 180.4 | 267.7 | 8161. | 39.41 |
| #1 | -.0000 | .0003 | .0016 | .0011 | .0014 | .0008 | -.0007 | .0029 | .0025 |
| #2 | -.0000 | .0005 | .0032 | .0005 | .0002 | -.0006 | -.0003 | -.0097 | .0036 |
| #3 | -.0001 | .0005 | .0010 | .0011 | .0009 | .0018 | .0004 | .0065 | .0056 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0068** | **.0084** | **.0295** | **.0328** | **.0038** | **.0006** | **.0012** | **.0008** | **.0003** |
| Stddev | .0015 | .0044 | .0533 | .0041 | .0007 | .0002 | .0012 | .0006 | .0001 |
| %RSD | 21.28 | 52.23 | 180.6 | 12.64 | 19.63 | 26.86 | 105.3 | 75.70 | 40.36 |
| #1 | .0076 | .0081 | .0319 | .0288 | .0029 | .0004 | .0000 | .0015 | .0004 |
| #2 | .0077 | .0130 | -.0249 | .0326 | .0042 | .0005 | .0010 | .0008 | .0002 |
| #3 | .0052 | .0042 | .0817 | .0371 | .0042 | .0007 | .0025 | .0002 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 16:50:34 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0007** | **.0005** | **.0054** | **-.0011** | **.0025** | **.0045** |
| Stddev | .0004 | .0012 | .0002 | .0026 | .0004 | .0009 | .0020 |
| %RSD | 49.91 | 168.6 | 33.35 | 48.74 | 39.70 | 37.08 | 44.05 |
| #1 | .0012 | -.0006 | .0004 | .0024 | -.0014 | .0032 | .0057 |
| #2 | .0006 | .0018 | .0007 | .0068 | -.0006 | .0029 | .0057 |
| #3 | .0004 | .0009 | .0004 | .0071 | -.0013 | .0015 | .0022 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **171980.** | **28276.** | **7083.9** | **10205.** |
| Stddev | 713. | 142. | 12.2 | 23. |
| %RSD | .41471 | .50322 | .17214 | .22156 |
| #1 | 171750. | 28298. | 7090.4 | 10224. |
| #2 | 171410. | 28123. | 7069.8 | 10180. |
| #3 | 172780. | 28405. | 7091.5 | 10211. |



Zoom In Zoom Out

Sample Name: CRID Acquired: 4/30/2019 16:55:43 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0046** | **.0010** | F **.0013** | **.0031** | **.0020** | F **.0004** | **.0032** | **.0039** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0001 | .0002 | .0000 | .0002 |
| %RSD | 3.426 | 9.389 | 11.31 | 6.179 | 6.750 | 56.08 | .6898 | 3.938 |
| #1 | .0047 | .0010 | .0012 | .0033 | .0022 | .0005 | .0032 | .0040 |
| #2 | .0046 | .0009 | .0014 | .0030 | .0020 | .0005 | .0032 | .0040 |
| #3 | .0044 | .0011 | .0012 | .0029 | .0019 | .0001 | .0032 | .0037 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | .0010 | | | .0020 | | |
| Range | | | 20.00% | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0000** | **.0017** | **.0097** | **.0034** | F **.0025** | F **.0001** | **.0041** | F **-.0004** |
| Stddev | .0003 | .0003 | .0001 | .0011 | .0012 | .0006 | .0012 | .0015 |
| %RSD | 76590. | 19.45 | .6004 | 34.04 | 47.82 | 736.0 | 29.25 | 359.4 |
| #1 | -.0002 | .0016 | .0098 | .0046 | .0039 | -.0005 | .0040 | -.0014 |
| #2 | .0003 | .0015 | .0097 | .0023 | .0022 | .0002 | .0030 | -.0011 |
| #3 | -.0000 | .0021 | .0097 | .0032 | .0015 | .0006 | .0054 | .0013 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | | .0030 |
| Range | -20.00% | | | | 20.00% | -20.00% | | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0941** | **1.003** | **.0011** | **.1066** | **2.014** | **1.051** | **.0034** | **.0000** |
| Stddev | .0035 | .003 | .0009 | .0103 | .052 | .003 | .0002 | .0002 |
| %RSD | 3.760 | .2530 | 79.06 | 9.657 | 2.603 | .2586 | 5.892 | 559.4 |
| #1 | .0978 | 1.005 | .0001 | .0966 | 2.026 | 1.048 | .0034 | .0002 |
| #2 | .0938 | 1.004 | .0017 | .1172 | 1.956 | 1.054 | .0036 | -.0001 |
| #3 | .0908 | 1.000 | .0016 | .1061 | 2.059 | 1.052 | .0032 | -.0001 |
| Check ? | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |



Zoom In Zoom Out

Sample Name: CRID Acquired: 4/30/2019 16:55:43 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0004** | **.0001** | **.0004** | **-.0000** | **.0002** | **.0045** | **-.0010** |
| Stddev | .0004 | .0001 | .0001 | .0004 | .0010 | .0000 | .0016 | .0019 |
| %RSD | 746.3 | 24.33 | 104.6 | 100.4 | 3268. | 20.95 | 35.42 | 197.5 |
| #1 | .0002 | .0003 | .0002 | .0008 | .0009 | .0002 | .0043 | .0002 |
| #2 | -.0005 | .0005 | -.0000 | .0005 | .0001 | .0003 | .0030 | .0001 |
| #3 | .0001 | .0004 | .0002 | -.0000 | -.0011 | .0002 | .0061 | -.0032 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0006** | **.0044** |
| Stddev | .0005 | .0018 |
| %RSD | 82.11 | 40.07 |
| #1 | -.0011 | .0057 |
| #2 | -.0001 | .0052 |
| #3 | -.0006 | .0024 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172190.** | **28134.** | **7088.6** | **10181.** |
| Stddev | 237. | 143. | 13.5 | 16. |
| %RSD | .13753 | .50995 | .18997 | .15883 |
| #1 | 171950. | 28233. | 7096.0 | 10192. |
| #2 | 172200. | 27969. | 7073.1 | 10162. |
| #3 | 172420. | 28199. | 7096.8 | 10189. |

Zoom In Zoom Out

Sample Name: mp14349-mb1conf Acquired: 4/30/2019 17:00:49 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **-.0000** | **.0002** | **.0000** | **.0008** | **.0008** | **.0003** | **.0004** | **.0000** |
| Stddev | .0002 | .0000 | .0002 | .0002 | .0000 | .0002 | .0000 | .0003 | .0002 |
| %RSD | 46.70 | 180.6 | 85.44 | 553.9 | 3.512 | 27.45 | 4.227 | 73.22 | 1026. |
| #1 | .0003 | -.0000 | .0004 | .0002 | .0008 | .0007 | .0003 | .0004 | -.0001 |
| #2 | .0007 | .0000 | .0000 | -.0002 | .0008 | .0011 | .0003 | .0006 | -.0002 |
| #3 | .0004 | -.0000 | .0002 | .0001 | .0008 | .0007 | .0003 | .0001 | .0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0109** | **.0000** | **-.0003** | **-.0003** | **.0003** | **-.0008** | **-.0016** | **.0420** |
| Stddev | .0002 | .0001 | .0008 | .0002 | .0012 | .0011 | .0013 | .0027 | .0019 |
| %RSD | 838.0 | 1.262 | 3187. | 77.60 | 389.6 | 323.9 | 167.0 | 163.9 | 4.422 |
| #1 | .0001 | .0109 | -.0002 | -.0004 | -.0002 | -.0005 | -.0006 | .0014 | .0420 |
| #2 | .0001 | .0111 | .0009 | -.0003 | -.0015 | -.0000 | .0004 | -.0028 | .0402 |
| #3 | -.0003 | .0108 | -.0007 | -.0001 | .0008 | .0016 | -.0022 | -.0034 | .0439 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0241** | **.0093** | **.0243** | **.0827** | **.0031** | **.0005** | **.0100** | **.0246** | **.0004** |
| Stddev | .0002 | .0082 | .0261 | .0085 | .0002 | .0001 | .0031 | .0001 | .0000 |
| %RSD | .8397 | 87.41 | 107.5 | 10.25 | 5.313 | 22.94 | 31.49 | .4214 | 9.150 |
| #1 | .0243 | .0021 | .0471 | .0733 | .0032 | .0004 | .0135 | .0246 | .0004 |
| #2 | .0239 | .0182 | -.0041 | .0897 | .0032 | .0006 | .0074 | .0244 | .0004 |
| #3 | .0242 | .0077 | .0299 | .0850 | .0029 | .0004 | .0090 | .0246 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **-.0006** | **.0003** | **.0123** | **-.0011** | **.0006** | **.0250** |
| Stddev | .0001 | .0003 | .0001 | .0032 | .0009 | .0012 | .0003 |
| %RSD | 6.428 | 52.48 | 35.07 | 26.24 | 75.03 | 211.3 | 1.328 |
| #1 | .0009 | -.0004 | .0003 | .0160 | -.0003 | .0013 | .0250 |
| #2 | .0009 | -.0004 | .0004 | .0100 | -.0012 | .0012 | .0247 |
| #3 | .0008 | -.0009 | .0002 | .0110 | -.0020 | -.0008 | .0254 |



Zoom In Zoom Out

Sample Name: mp14349-mb1conf Acquired: 4/30/2019 17:00:49 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **175380.** | **29154.** | **7208.5** | **10381.** |
| Stddev | 511. | 138. | 20.8 | 20. |
| %RSD | .29140 | .47318 | .28790 | .19669 |
| #1 | 175970. | 29233. | 7232.1 | 10404. |
| #2 | 175050. | 28994. | 7192.9 | 10363. |
| #3 | 175120. | 29234. | 7200.6 | 10377. |



Zoom In Zoom Out

Sample Name: jc86553-22 Acquired: 4/30/2019 17:05:54 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4160** | **.0063** | **.0004** | **.0654** | **.2741** | **.0944** | **1.744** | **.1238** |
| Stddev | .0004 | .0001 | .0001 | .0003 | .0010 | .0003 | .007 | .0005 |
| %RSD | .1000 | 1.020 | 30.41 | .4684 | .3523 | .3284 | .4140 | .4375 |
| #1 | .4156 | .0063 | .0002 | .0651 | .2746 | .0947 | 1.739 | .1243 |
| #2 | .4160 | .0062 | .0004 | .0657 | .2748 | .0941 | 1.752 | .1239 |
| #3 | .4165 | .0062 | .0005 | .0653 | .2730 | .0945 | 1.741 | .1232 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.3876** | **.4856** | **.0462** | F **-.0021** | **.1770** | **.0003** | **.0028** |
| Stddev | .0004 | .0018 | .0004 | .0011 | .0011 | .0008 | .0026 | .0017 |
| %RSD | 48.19 | .4649 | .0786 | 2.464 | 51.76 | .4790 | 980.9 | 59.29 |
| #1 | .0005 | .3889 | .4859 | .0472 | -.0017 | .1763 | -.0020 | .0034 |
| #2 | .0009 | .3882 | .4856 | .0450 | -.0013 | .1779 | -.0003 | .0009 |
| #3 | .0014 | .3855 | .4852 | .0465 | -.0034 | .1767 | .0032 | .0041 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **171.4** | **5.712** | **190.3** | **19.15** | **9.859** | **.6179** | **.0381** | **.0058** |
| Stddev | 2.3 | .016 | .4 | .04 | .041 | .0159 | .0007 | .0002 |
| %RSD | 1.318 | .2871 | .2157 | .2058 | .4119 | 2.570 | 1.951 | 2.764 |
| #1 | 169.8 | 5.705 | 190.2 | 19.10 | 9.856 | .6088 | .0389 | .0059 |
| #2 | 170.4 | 5.731 | 190.0 | 19.17 | 9.901 | .6086 | .0375 | .0056 |
| #3 | 174.0 | 5.701 | 190.8 | 19.17 | 9.820 | .6362 | .0379 | .0059 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.961** | **.0271** | **.0668** | **4.571** | **-.0007** | **.0955** | **3.310** | **.1471** |
| Stddev | .005 | .0002 | .0002 | .021 | .0004 | .0004 | .006 | .0021 |
| %RSD | .2412 | .5840 | .2814 | .4652 | 54.81 | .4145 | .1760 | 1.399 |
| #1 | 1.960 | .0270 | .0668 | 4.580 | -.0004 | .0959 | 3.303 | .1485 |
| #2 | 1.957 | .0269 | .0670 | 4.586 | -.0005 | .0955 | 3.312 | .1481 |
| #3 | 1.966 | .0272 | .0666 | 4.546 | -.0011 | .0951 | 3.314 | .1447 |



Zoom In Zoom Out

Sample Name: jc86553-22 Acquired: 4/30/2019 17:05:54 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1149** | **1.999** |
| Stddev | .0008 | .011 |
| %RSD | .6578 | .5679 |
| #1 | .1149 | 1.987 |
| #2 | .1141 | 1.999 |
| #3 | .1156 | 2.010 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172140.** | **30308.** | **7318.6** | **9747.8** |
| Stddev | 548. | 102. | 8.4 | 7.3 |
| %RSD | .31836 | .33601 | .11410 | .07447 |
| #1 | 171760. | 30327. | 7313.2 | 9741.0 |
| #2 | 171880. | 30197. | 7328.2 | 9746.8 |
| #3 | 172760. | 30398. | 7314.4 | 9755.4 |

Zoom In Zoom Out

Sample Name: JC86553-24 Acquired: 4/30/2019 17:11:14 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.410** | **.0040** | **.0040** | **.0469** | **1.565** | **1.650** | **2.273** | **.2461** | **.0050** |
| Stddev | .007 | .0002 | .0006 | .0010 | .002 | .005 | .003 | .0046 | .0022 |
| %RSD | .4761 | 4.229 | 15.81 | 2.159 | .1520 | .2806 | .1280 | 1.884 | 43.20 |
| #1 | 1.404 | .0040 | .0040 | .0472 | 1.563 | 1.647 | 2.271 | .2431 | .0058 |
| #2 | 1.408 | .0042 | .0046 | .0477 | 1.564 | 1.647 | 2.277 | .2514 | .0026 |
| #3 | 1.417 | .0039 | .0033 | .0457 | 1.567 | 1.655 | 2.272 | .2437 | .0067 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3234** | **3.130** | **.1989** | **-.0031** | **2.087** | **.0157** | **.0326** | **42.37** | **48.27** |
| Stddev | .0008 | .060 | .0057 | .0017 | .034 | .0070 | .0027 | .23 | .26 |
| %RSD | .2592 | 1.916 | 2.870 | 56.11 | 1.618 | 44.80 | 8.296 | .5532 | .5463 |
| #1 | .3244 | 3.096 | .1981 | -.0011 | 2.067 | .0218 | .0350 | 42.23 | 48.18 |
| #2 | .3232 | 3.200 | .2050 | -.0044 | 2.126 | .0172 | .0331 | 42.23 | 48.07 |
| #3 | .3227 | 3.095 | .1937 | -.0038 | 2.068 | .0080 | .0297 | 42.64 | 48.57 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **397.9** | **18.86** | **9.545** | **1.861** | **.0675** | **.0547** | **7.996** | **.2233** | **.6020** |
| Stddev | 2.4 | .14 | .072 | .038 | .0028 | .0014 | .156 | .0027 | .0024 |
| %RSD | .5915 | .7328 | .7540 | 2.033 | 4.113 | 2.647 | 1.952 | 1.222 | .4051 |
| #1 | 397.2 | 18.79 | 9.463 | 1.829 | .0677 | .0537 | 7.916 | .2202 | .5998 |
| #2 | 395.9 | 18.77 | 9.591 | 1.903 | .0701 | .0563 | 8.176 | .2253 | .6016 |
| #3 | 400.5 | 19.02 | 9.583 | 1.851 | .0646 | .0540 | 7.896 | .2245 | .6047 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.684** | **.0023** | **.0828** | **34.35** | **.0941** | **.0197** | **2.891** |
| Stddev | .007 | .0016 | .0003 | .76 | .0089 | .0108 | .068 |
| %RSD | .2560 | 69.08 | .3127 | 2.208 | 9.494 | 54.90 | 2.340 |
| #1 | 2.679 | .0015 | .0826 | 33.97 | .0848 | .0198 | 2.845 |
| #2 | 2.692 | .0012 | .0827 | 35.23 | .0946 | .0088 | 2.969 |
| #3 | 2.682 | .0040 | .0831 | 33.86 | .1027 | .0305 | 2.859 |



Zoom In Zoom Out

Sample Name: JC86553-24 Acquired: 4/30/2019 17:11:14 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **170430.** | **28758.** | **6956.1** | **9870.1** |
| Stddev | 429. | 148. | 117.8 | 142.1 |
| %RSD | .25142 | .51555 | 1.6929 | 1.4399 |
| #1 | 170630. | 28720. | 7029.5 | 9949.7 |
| #2 | 169940. | 28922. | 6820.3 | 9706.0 |
| #3 | 170720. | 28633. | 7018.6 | 9954.5 |



Zoom In Zoom Out

Sample Name: mp14554-mb1 7 Acquired: 4/30/2019 17:16:15 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0000** | **.0001** | **.0000** | **-.0001** | **.0006** | **.0000** | **.0002** | **-.0001** |
| Stddev | .0004 | .0001 | .0002 | .0000 | .0003 | .0003 | .0000 | .0000 | .0002 |
| %RSD | 245.4 | 517.0 | 169.5 | 124.2 | 214.0 | 57.28 | 121.5 | 20.97 | 195.6 |
| #1 | -.0003 | -.0001 | -.0001 | .0001 | .0001 | .0007 | .0000 | .0001 | .0001 |
| #2 | .0004 | -.0000 | .0003 | .0000 | -.0004 | .0008 | .0000 | .0002 | -.0003 |
| #3 | .0003 | .0001 | .0002 | -.0000 | -.0000 | .0002 | .0001 | .0001 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **.0003** | **.0004** | **-.0003** | **.0006** | **-.0007** | **-.0004** | **-.0044** | **.0007** |
| Stddev | .0001 | .0001 | .0007 | .0009 | .0003 | .0008 | .0005 | .0028 | .0007 |
| %RSD | 12.00 | 15.29 | 197.9 | 366.6 | 42.57 | 109.7 | 121.2 | 64.44 | 103.5 |
| #1 | -.0006 | .0003 | .0006 | .0008 | .0008 | .0002 | -.0003 | -.0061 | -.0000 |
| #2 | -.0006 | .0004 | -.0005 | -.0010 | .0003 | -.0014 | .0001 | -.0011 | .0013 |
| #3 | -.0005 | .0003 | .0010 | -.0005 | .0008 | -.0010 | -.0009 | -.0058 | .0007 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0016** | **.0041** | **-.0204** | **.0093** | **.0018** | **.0002** | **.0091** | **.0001** | **.0001** |
| Stddev | .0011 | .0156 | .0398 | .0091 | .0007 | .0002 | .0016 | .0001 | .0001 |
| %RSD | 73.40 | 380.5 | 194.8 | 98.23 | 41.78 | 112.2 | 17.50 | 129.8 | 85.72 |
| #1 | .0002 | .0083 | -.0647 | .0119 | .0024 | .0000 | .0110 | .0001 | .0002 |
| #2 | .0022 | -.0132 | -.0087 | -.0009 | .0010 | .0003 | .0083 | .0002 | .0001 |
| #3 | .0022 | .0172 | .0122 | .0168 | .0020 | .0001 | .0082 | -.0000 | .0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0002** | **.0003** | **.0097** | **-.0002** | **-.0009** | **.0006** |
| Stddev | .0002 | .0003 | .0001 | .0005 | .0002 | .0016 | .0028 |
| %RSD | 63.94 | 157.6 | 33.03 | 4.936 | 86.60 | 179.8 | 450.3 |
| #1 | .0004 | .0001 | .0002 | .0092 | -.0000 | -.0002 | -.0023 |
| #2 | .0006 | -.0002 | .0004 | .0101 | -.0004 | -.0027 | .0009 |
| #3 | .0001 | -.0004 | .0004 | .0098 | -.0003 | .0003 | .0032 |



Zoom In Zoom Out

Sample Name: mp14554-mb1 7 Acquired: 4/30/2019 17:16:15 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **179190.** | **29069.** | **7168.5** | **10316.** |
| Stddev | 3232. | 209. | 16.6 | 13. |
| %RSD | 1.8036 | .71725 | .23106 | .12423 |
| #1 | 176150. | 29300. | 7181.3 | 10328. |
| #2 | 182590. | 28895. | 7174.3 | 10317. |
| #3 | 178830. | 29013. | 7149.8 | 10302. |

Zoom In Zoom Out

Sample Name: mp14554-b1 Acquired: 4/30/2019 17:21:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.009** | **2.046** | **1.994** | **2.015** | **1.998** | **1.991** | **2.023** | **2.015** | **.2486** |
| Stddev | .000 | .002 | .002 | .003 | .004 | .003 | .019 | .003 | .0007 |
| %RSD | .0164 | .0814 | .0850 | .1397 | .1844 | .1388 | .9211 | .1507 | .2964 |
| #1 | 2.009 | 2.047 | 1.994 | 2.018 | 2.002 | 1.994 | 2.030 | 2.018 | .2488 |
| #2 | 2.009 | 2.047 | 1.992 | 2.012 | 1.995 | 1.989 | 2.001 | 2.013 | .2478 |
| #3 | 2.009 | 2.044 | 1.995 | 2.014 | 1.997 | 1.990 | 2.037 | 2.013 | .2493 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.992** | **2.006** | **1.958** | **2.059** | **2.015** | **1.959** | **1.986** | **24.85** | **25.26** |
| Stddev | .001 | .001 | .001 | .008 | .000 | .007 | .002 | .03 | .01 |
| %RSD | .0699 | .0378 | .0632 | .4015 | .0167 | .3583 | .1158 | .1242 | .0370 |
| #1 | 1.993 | 2.007 | 1.959 | 2.066 | 2.015 | 1.966 | 1.986 | 24.82 | 25.25 |
| #2 | 1.991 | 2.006 | 1.957 | 2.050 | 2.015 | 1.952 | 1.984 | 24.86 | 25.27 |
| #3 | 1.993 | 2.006 | 1.959 | 2.061 | 2.015 | 1.960 | 1.988 | 24.88 | 25.26 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.21** | **25.52** | **25.13** | **25.93** | **2.000** | **2.007** | **.0121** | **2.029** | **2.034** |
| Stddev | .03 | .03 | .03 | .02 | .004 | .003 | .0001 | .002 | .002 |
| %RSD | .1116 | .1037 | .1043 | .0681 | .1886 | .1471 | .6502 | .1059 | .1197 |
| #1 | 25.18 | 25.52 | 25.13 | 25.92 | 2.004 | 2.008 | .0120 | 2.032 | 2.031 |
| #2 | 25.24 | 25.50 | 25.10 | 25.94 | 1.997 | 2.004 | .0121 | 2.027 | 2.036 |
| #3 | 25.20 | 25.55 | 25.15 | 25.91 | 1.998 | 2.010 | .0122 | 2.029 | 2.035 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.996** | **1.935** | **1.997** | **.0214** | **.0995** | **-.0106** | **1.851** |
| Stddev | .002 | .002 | .001 | .0011 | .0006 | .0014 | .024 |
| %RSD | .0939 | .0796 | .0460 | 4.953 | .5976 | 13.15 | 1.320 |
| #1 | 1.998 | 1.936 | 1.997 | .0218 | .1000 | -.0120 | 1.878 |
| #2 | 1.995 | 1.935 | 1.996 | .0223 | .0989 | -.0106 | 1.841 |
| #3 | 1.996 | 1.933 | 1.997 | .0202 | .0997 | -.0092 | 1.832 |



Zoom In Zoom Out

Sample Name: mp14554-b1 Acquired: 4/30/2019 17:21:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **166290.** | **28680.** | **6891.9** | **9562.6** |
| Stddev | 971. | 133. | 16.8 | 15.3 |
| %RSD | .58418 | .46338 | .24306 | .16040 |
| #1 | 165400. | 28795. | 6910.0 | 9578.1 |
| #2 | 167330. | 28709. | 6876.9 | 9547.5 |
| #3 | 166140. | 28534. | 6888.9 | 9562.3 |



Zoom In Zoom Out

Sample Name: mp14554-s1 Acquired: 4/30/2019 17:26:17 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.055** | **2.031** | **2.062** | **2.038** | **2.003** | **2.007** | **2.131** | **2.047** | **.2562** |
| Stddev | .006 | .005 | .002 | .002 | .002 | .001 | .021 | .003 | .0005 |
| %RSD | .2769 | .2414 | .0920 | .1134 | .1027 | .0322 | 1.004 | .1224 | .2015 |
| #1 | 2.057 | 2.030 | 2.063 | 2.039 | 2.002 | 2.007 | 2.109 | 2.048 | .2567 |
| #2 | 2.059 | 2.037 | 2.063 | 2.040 | 2.002 | 2.008 | 2.152 | 2.050 | .2562 |
| #3 | 2.049 | 2.028 | 2.060 | 2.036 | 2.005 | 2.007 | 2.133 | 2.045 | .2557 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.035** | **2.011** | **2.049** | **2.002** | **1.999** | **2.080** | **2.045** | **24.93** | F **354.2** |
| Stddev | .001 | .001 | .004 | .006 | .006 | .004 | .004 | .06 | 2.0 |
| %RSD | .0320 | .0461 | .1995 | .2796 | .3191 | .2076 | .1822 | .2576 | .5787 |
| #1 | 2.035 | 2.010 | 2.048 | 1.999 | 2.002 | 2.079 | 2.045 | 24.93 | 351.9 |
| #2 | 2.035 | 2.011 | 2.053 | 2.009 | 2.002 | 2.085 | 2.049 | 25.00 | 355.6 |
| #3 | 2.036 | 2.011 | 2.045 | 1.999 | 1.991 | 2.076 | 2.041 | 24.87 | 355.1 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.82** | **91.69** | **43.97** | **150.3** | **2.110** | **2.027** | **7.092** | **1.983** | **3.077** |
| Stddev | .06 | .14 | .11 | 1.0 | .002 | .003 | .004 | .001 | .008 |
| %RSD | .2243 | .1499 | .2413 | .6441 | .0727 | .1301 | .0635 | .0626 | .2661 |
| #1 | 24.82 | 91.71 | 43.96 | 149.3 | 2.110 | 2.028 | 7.095 | 1.984 | 3.078 |
| #2 | 24.87 | 91.82 | 44.08 | 151.2 | 2.111 | 2.029 | 7.094 | 1.982 | 3.084 |
| #3 | 24.76 | 91.55 | 43.87 | 150.5 | 2.108 | 2.024 | 7.087 | 1.982 | 3.068 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.997** | **1.977** | **2.002** | F **362.4** | **.1042** | **.0100** | **2.000** |
| Stddev | .002 | .002 | .001 | 1.2 | .0008 | .0016 | .023 |
| %RSD | .0783 | .1144 | .0469 | .3301 | .7615 | 16.05 | 1.148 |
| #1 | 1.998 | 1.975 | 2.003 | 362.0 | .1034 | .0119 | 1.975 |
| #2 | 1.998 | 1.975 | 2.002 | 363.8 | .1050 | .0092 | 2.020 |
| #3 | 1.995 | 1.979 | 2.002 | 361.5 | .1041 | .0089 | 2.005 |



Zoom In Zoom Out

Sample Name: mp14554-s1 Acquired: 4/30/2019 17:26:17 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155850.** | **28197.** | **6427.2** | **8697.2** |
| Stddev | 465. | 24. | 20.7 | 19.6 |
| %RSD | .29841 | .08471 | .32167 | .22489 |
| #1 | 155980. | 28205. | 6439.3 | 8712.4 |
| #2 | 156220. | 28216. | 6439.0 | 8704.1 |
| #3 | 155330. | 28171. | 6403.3 | 8675.1 |

Zoom In Zoom Out

Sample Name: mp14554-s2 Acquired: 4/30/2019 17:31:32 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.074** | **2.050** | **2.079** | **2.057** | **2.023** | **2.028** | **2.155** | **2.067** | **.2576** |
| Stddev | .001 | .005 | .003 | .002 | .001 | .003 | .015 | .002 | .0004 |
| %RSD | .0532 | .2366 | .1396 | .0979 | .0606 | .1419 | .6902 | .1137 | .1467 |
| #1 | 2.075 | 2.052 | 2.083 | 2.059 | 2.025 | 2.027 | 2.162 | 2.069 | .2572 |
| #2 | 2.074 | 2.045 | 2.078 | 2.057 | 2.022 | 2.026 | 2.164 | 2.066 | .2579 |
| #3 | 2.072 | 2.054 | 2.077 | 2.055 | 2.024 | 2.031 | 2.138 | 2.065 | .2577 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.047** | **2.032** | **2.049** | **2.015** | **2.015** | **2.104** | **2.044** | **25.15** | F **356.1** |
| Stddev | .001 | .004 | .005 | .014 | .003 | .004 | .003 | .06 | 5.3 |
| %RSD | .0595 | .1742 | .2482 | .7063 | .1577 | .1965 | .1420 | .2568 | 1.482 |
| #1 | 2.047 | 2.035 | 2.047 | 2.021 | 2.018 | 2.108 | 2.045 | 25.17 | 360.2 |
| #2 | 2.046 | 2.028 | 2.055 | 2.025 | 2.012 | 2.102 | 2.046 | 25.07 | 358.0 |
| #3 | 2.048 | 2.031 | 2.046 | 1.999 | 2.015 | 2.100 | 2.041 | 25.20 | 350.1 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.98** | **92.24** | **44.39** | **151.1** | **2.129** | **2.028** | **7.186** | **1.986** | **3.106** |
| Stddev | .04 | .18 | .14 | 1.6 | .001 | .003 | .007 | .005 | .000 |
| %RSD | .1455 | .1981 | .3073 | 1.041 | .0527 | .1468 | .0924 | .2496 | .0136 |
| #1 | 25.01 | 92.38 | 44.30 | 152.6 | 2.130 | 2.032 | 7.193 | 1.988 | 3.107 |
| #2 | 24.94 | 92.03 | 44.32 | 149.4 | 2.128 | 2.028 | 7.185 | 1.989 | 3.106 |
| #3 | 25.00 | 92.30 | 44.54 | 151.2 | 2.130 | 2.026 | 7.180 | 1.980 | 3.106 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.998** | **1.977** | **2.000** | F **365.7** | **.1035** | **.0177** | **2.026** |
| Stddev | .001 | .003 | .003 | 2.3 | .0005 | .0015 | .014 |
| %RSD | .0334 | .1431 | .1318 | .6362 | .4418 | 8.760 | .6867 |
| #1 | 1.998 | 1.981 | 1.998 | 367.1 | .1032 | .0181 | 2.042 |
| #2 | 1.998 | 1.976 | 1.998 | 366.9 | .1033 | .0160 | 2.022 |
| #3 | 1.997 | 1.976 | 2.003 | 363.0 | .1040 | .0190 | 2.015 |



Zoom In Zoom Out

Sample Name: mp14554-s2 Acquired: 4/30/2019 17:31:32 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156540.** | **28353.** | **6428.1** | **8703.0** |
| Stddev | 249. | 97. | 12.6 | 14.0 |
| %RSD | .15888 | .34203 | .19613 | .16079 |
| #1 | 156270. | 28278. | 6415.3 | 8686.9 |
| #2 | 156600. | 28462. | 6440.5 | 8712.1 |
| #3 | 156750. | 28319. | 6428.7 | 8709.9 |



Zoom In Zoom Out

Sample Name: jc86843-4 Acquired: 4/30/2019 17:36:46 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0212** | **.0000** | **.0006** | **-.0001** | **.0011** | **.0025** | **.1249** | **.0135** |
| Stddev | .0003 | .0001 | .0001 | .0002 | .0004 | .0003 | .0002 | .0004 |
| %RSD | 1.252 | 208.5 | 10.27 | 383.8 | 35.25 | 11.73 | .1357 | 3.023 |
| #1 | .0211 | .0001 | .0007 | -.0001 | .0010 | .0028 | .1250 | .0131 |
| #2 | .0215 | -.0000 | .0006 | .0002 | .0015 | .0023 | .1249 | .0134 |
| #3 | .0211 | .0000 | .0006 | -.0003 | .0007 | .0024 | .1247 | .0139 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0008** | **.0134** | F **-.0031** | F **-.0041** | F **-.0045** | **.0144** | **.0010** |
| Stddev | .0005 | .0002 | .0001 | .0012 | .0010 | .0004 | .0018 | .0005 |
| %RSD | 256.0 | 19.96 | .6203 | 38.53 | 23.64 | 8.921 | 12.86 | 56.89 |
| #1 | .0004 | .0006 | .0134 | -.0028 | -.0052 | -.0044 | .0163 | .0014 |
| #2 | -.0004 | .0010 | .0133 | -.0044 | -.0034 | -.0050 | .0142 | .0012 |
| #3 | .0005 | .0008 | .0135 | -.0020 | -.0037 | -.0042 | .0126 | .0003 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0885** | F **343.0** | **.0556** | **68.23** | **18.94** | **125.6** | **.0789** | **-.0001** |
| Stddev | .0160 | 5.5 | .0031 | .06 | .07 | 2.5 | .0005 | .0002 |
| %RSD | 18.13 | 1.613 | 5.505 | .0945 | .3702 | 2.013 | .6065 | 215.0 |
| #1 | .0740 | 337.4 | .0589 | 68.27 | 19.00 | 127.7 | .0794 | -.0002 |
| #2 | .1058 | 343.2 | .0552 | 68.16 | 18.86 | 126.3 | .0786 | .0001 |
| #3 | .0857 | 348.5 | .0528 | 68.26 | 18.96 | 122.8 | .0787 | -.0002 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.045** | **-.0018** | **1.042** | **.0005** | **.0015** | **.0007** | F **365.2** | **.0013** |
| Stddev | .002 | .0001 | .002 | .0004 | .0005 | .0002 | 1.3 | .0014 |
| %RSD | .0236 | 5.036 | .1973 | 95.73 | 32.80 | 33.05 | .3636 | 108.7 |
| #1 | 7.046 | -.0017 | 1.044 | .0009 | .0019 | .0009 | 365.5 | .0025 |
| #2 | 7.043 | -.0019 | 1.040 | .0000 | .0017 | .0005 | 363.7 | .0015 |
| #3 | 7.046 | -.0017 | 1.042 | .0004 | .0010 | .0007 | 366.3 | -.0002 |



Zoom In Zoom Out

Sample Name: jc86843-4 Acquired: 4/30/2019 17:36:46 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0164** | **.1087** |
| Stddev | .0023 | .0024 |
| %RSD | 13.87 | 2.168 |
| #1 | .0155 | .1109 |
| #2 | .0190 | .1062 |
| #3 | .0148 | .1091 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157200.** | **28010.** | **6520.8** | **8782.1** |
| Stddev | 384. | 128. | 8.9 | 4.0 |
| %RSD | .24407 | .45699 | .13688 | .04558 |
| #1 | 156790. | 28156. | 6510.7 | 8779.1 |
| #2 | 157260. | 27960. | 6527.6 | 8780.5 |
| #3 | 157550. | 27915. | 6524.1 | 8786.7 |

Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 17:42:07 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.006** | **2.055** | **2.013** | **2.028** | **2.024** | **1.999** | **2.032** | **2.029** | **.2495** |
| Stddev | .002 | .005 | .003 | .002 | .005 | .003 | .012 | .002 | .0007 |
| %RSD | .0932 | .2324 | .1297 | .0927 | .2395 | .1526 | .6073 | .0877 | .2875 |
| #1 | 2.007 | 2.060 | 2.015 | 2.027 | 2.028 | 2.001 | 2.019 | 2.029 | .2502 |
| #2 | 2.004 | 2.050 | 2.014 | 2.026 | 2.019 | 1.995 | 2.044 | 2.028 | .2488 |
| #3 | 2.007 | 2.055 | 2.010 | 2.030 | 2.025 | 1.999 | 2.033 | 2.031 | .2497 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.009** | **2.026** | **1.958** | **2.077** | **2.028** | **2.000** | **1.966** | **39.62** | **39.95** |
| Stddev | .003 | .003 | .004 | .011 | .003 | .006 | .003 | .06 | .09 |
| %RSD | .1329 | .1458 | .2114 | .5196 | .1585 | .2817 | .1469 | .1449 | .2177 |
| #1 | 2.010 | 2.029 | 1.956 | 2.065 | 2.030 | 1.996 | 1.966 | 39.68 | 40.03 |
| #2 | 2.006 | 2.026 | 1.963 | 2.085 | 2.030 | 2.006 | 1.969 | 39.56 | 39.86 |
| #3 | 2.011 | 2.023 | 1.955 | 2.082 | 2.024 | 1.998 | 1.963 | 39.62 | 39.98 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.68** | **39.82** | **40.19** | **40.11** | **2.032** | **1.983** | **4.932** | **2.003** | **2.036** |
| Stddev | .04 | .12 | .07 | .03 | .002 | .001 | .006 | .004 | .002 |
| %RSD | .1094 | .3106 | .1803 | .0781 | .1021 | .0674 | .1218 | .2059 | .0897 |
| #1 | 39.72 | 39.96 | 40.27 | 40.13 | 2.034 | 1.983 | 4.936 | 2.001 | 2.037 |
| #2 | 39.63 | 39.79 | 40.14 | 40.07 | 2.033 | 1.985 | 4.936 | 2.008 | 2.034 |
| #3 | 39.68 | 39.72 | 40.15 | 40.13 | 2.030 | 1.982 | 4.925 | 2.001 | 2.037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 17:42:07 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.964** | **1.927** | **1.981** | **2.002** | **1.998** | **2.032** | F **1.768** |
| Stddev | .003 | .002 | .002 | .011 | .003 | .010 | .018 |
| %RSD | .1387 | .0824 | .0833 | .5577 | .1504 | .4948 | 1.048 |
| #1 | 1.965 | 1.927 | 1.981 | 2.011 | 1.996 | 2.038 | 1.753 |
| #2 | 1.961 | 1.929 | 1.979 | 2.005 | 1.996 | 2.021 | 1.764 |
| #3 | 1.967 | 1.926 | 1.982 | 1.989 | 2.001 | 2.038 | 1.789 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | -10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **162170.** | **28099.** | **6757.1** | **9306.6** |
| Stddev | 356. | 119. | 23.2 | 18.1 |
| %RSD | .21976 | .42291 | .34392 | .19416 |
| #1 | 162080. | 27988. | 6734.7 | 9288.0 |
| #2 | 162570. | 28224. | 6755.6 | 9307.7 |
| #3 | 161870. | 28084. | 6781.1 | 9324.1 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 17:47:10 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0002** | **.0005** | **.0002** | **-.0001** | **.0003** | **.0002** | **.0002** | **.0001** |
| Stddev | .0003 | .0001 | .0002 | .0003 | .0002 | .0002 | .0001 | .0002 | .0002 |
| %RSD | 41.63 | 52.96 | 41.93 | 160.7 | 407.8 | 55.91 | 32.63 | 86.97 | 197.6 |
| #1 | .0010 | .0002 | .0002 | -.0001 | .0000 | .0001 | .0003 | .0000 | .0001 |
| #2 | .0009 | .0002 | .0006 | .0006 | .0001 | .0005 | .0002 | .0003 | -.0001 |
| #3 | .0004 | .0001 | .0005 | .0001 | -.0003 | .0004 | .0002 | .0004 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0001** | **.0010** | **.0001** | **.0003** | **-.0009** | **.0003** | **-.0034** | **-.0011** |
| Stddev | .0000 | .0001 | .0003 | .0009 | .0002 | .0023 | .0008 | .0026 | .0012 |
| %RSD | 33.06 | 76.35 | 29.39 | 728.5 | 67.62 | 251.3 | 274.3 | 77.68 | 108.1 |
| #1 | .0001 | .0000 | .0007 | -.0007 | .0002 | .0010 | .0005 | -.0005 | -.0015 |
| #2 | .0001 | .0001 | .0013 | .0001 | .0002 | -.0002 | .0009 | -.0055 | -.0021 |
| #3 | .0001 | .0001 | .0010 | .0010 | .0006 | -.0036 | -.0006 | -.0041 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.0110** | **.0726** | **.0772** | **.0047** | **.0003** | **.0009** | **.0007** | **.0002** |
| Stddev | .0016 | .0097 | .0137 | .0076 | .0008 | .0003 | .0008 | .0005 | .0000 |
| %RSD | 91.64 | 88.05 | 18.90 | 9.782 | 17.18 | 85.30 | 84.38 | 63.19 | 23.30 |
| #1 | .0023 | .0211 | .0617 | .0859 | .0056 | .0002 | .0001 | .0005 | .0001 |
| #2 | .0030 | .0017 | .0682 | .0736 | .0040 | .0001 | .0016 | .0012 | .0002 |
| #3 | -.0001 | .0103 | .0880 | .0721 | .0046 | .0007 | .0010 | .0004 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 17:47:10 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0006** | **.0005** | **.0191** | **-.0001** | **.0019** | **.0037** |
| Stddev | .0002 | .0011 | .0001 | .0020 | .0014 | .0018 | .0021 |
| %RSD | 77.39 | 181.3 | 16.86 | 10.29 | 1031. | 97.03 | 56.92 |
| #1 | .0000 | .0018 | .0006 | .0212 | -.0011 | .0039 | .0038 |
| #2 | .0004 | .0003 | .0004 | .0174 | -.0008 | .0002 | .0015 |
| #3 | .0004 | -.0003 | .0005 | .0186 | .0014 | .0016 | .0057 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172190.** | **28455.** | **7065.2** | **10240.** |
| Stddev | 150. | 23. | 14.4 | 5. |
| %RSD | .08709 | .08257 | .20385 | .04717 |
| #1 | 172230. | 28443. | 7080.7 | 10242. |
| #2 | 172020. | 28440. | 7062.7 | 10235. |
| #3 | 172320. | 28482. | 7052.2 | 10244. |

Zoom In Zoom Out

Sample Name: mp14554-sd1 Acquired: 4/30/2019 17:52:17 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0226** | **-.0001** | **.0007** | **.0007** | **.0008** | **.0045** | **.1276** | **.0139** | **-.0001** |
| Stddev | .0014 | .0002 | .0013 | .0003 | .0005 | .0013 | .0002 | .0008 | .0016 |
| %RSD | 5.976 | 172.2 | 185.4 | 37.79 | 58.96 | 28.62 | .1766 | 5.622 | 2183. |
| #1 | .0235 | -.0000 | -.0001 | .0011 | .0014 | .0059 | .1278 | .0138 | .0003 |
| #2 | .0234 | -.0000 | .0021 | .0005 | .0005 | .0041 | .1274 | .0147 | .0013 |
| #3 | .0211 | -.0004 | -.0000 | .0006 | .0006 | .0035 | .1277 | .0132 | -.0018 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0141** | **-.0026** | **-.0032** | **-.0063** | **.0167** | **.0017** | **.0614** | **348.8** |
| Stddev | .0013 | .0001 | .0048 | .0081 | .0060 | .0036 | .0023 | .0279 | .2 |
| %RSD | 439.3 | .9818 | 185.3 | 254.0 | 94.78 | 21.63 | 131.4 | 45.50 | .0644 |
| #1 | -.0017 | .0142 | -.0055 | -.0108 | -.0029 | .0132 | -.0003 | .0654 | 348.7 |
| #2 | .0000 | .0141 | .0029 | -.0041 | -.0132 | .0165 | .0014 | .0872 | 349.1 |
| #3 | .0008 | .0140 | -.0052 | .0053 | -.0028 | .0204 | .0041 | .0317 | 348.6 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0570** | **70.36** | **18.40** | **130.3** | **.0938** | **.0001** | **7.000** | **-.0024** | **1.036** |
| Stddev | .0026 | .18 | .07 | .2 | .0005 | .0006 | .020 | .0011 | .001 |
| %RSD | 4.529 | .2601 | .4070 | .1813 | .4980 | 710.1 | .2801 | 44.81 | .0689 |
| #1 | .0599 | 70.55 | 18.45 | 130.5 | .0937 | -.0006 | 7.015 | -.0024 | 1.036 |
| #2 | .0559 | 70.35 | 18.43 | 130.4 | .0944 | .0003 | 6.978 | -.0036 | 1.037 |
| #3 | .0551 | 70.19 | 18.31 | 130.1 | .0935 | .0005 | 7.008 | -.0014 | 1.037 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0015** | **-.0001** | **.0007** | **382.0** | **.0005** | **.0216** | **.1166** |
| Stddev | .0004 | .0032 | .0003 | 1.3 | .0058 | .0066 | .0058 |
| %RSD | 29.57 | 2538. | 46.44 | .3432 | 1069. | 30.39 | 4.951 |
| #1 | .0010 | -.0038 | .0009 | 380.7 | -.0061 | .0149 | .1148 |
| #2 | .0018 | .0017 | .0003 | 383.4 | .0046 | .0280 | .1119 |
| #3 | .0017 | .0017 | .0009 | 381.9 | .0031 | .0219 | .1230 |



Zoom In Zoom Out

Sample Name: mp14554-sd1 Acquired: 4/30/2019 17:52:17 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **166830.** | **28481.** | **6852.2** | **9551.6** |
| Stddev | 89. | 236. | 11.1 | 15.0 |
| %RSD | .05324 | .82877 | .16266 | .15741 |
| #1 | 166810. | 28384. | 6839.4 | 9534.3 |
| #2 | 166760. | 28310. | 6860.0 | 9561.9 |
| #3 | 166930. | 28750. | 6857.2 | 9558.6 |



Zoom In Zoom Out

Sample Name: mp14554-s1 Acquired: 4/30/2019 17:57:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.068** | **2.047** | **2.037** | **2.045** | **2.000** | **1.973** | **2.185** | **2.056** | **.2510** |
| Stddev | .011 | .008 | .003 | .003 | .006 | .004 | .005 | .006 | .0010 |
| %RSD | .5070 | .3891 | .1657 | .1327 | .3183 | .2036 | .2202 | .2789 | .4046 |
| #1 | 2.080 | 2.056 | 2.040 | 2.048 | 2.007 | 1.976 | 2.189 | 2.062 | .2516 |
| #2 | 2.064 | 2.044 | 2.037 | 2.043 | 1.999 | 1.974 | 2.186 | 2.052 | .2516 |
| #3 | 2.060 | 2.041 | 2.034 | 2.043 | 1.995 | 1.968 | 2.180 | 2.053 | .2498 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.025** | **2.031** | **2.011** | **2.052** | **2.015** | **2.047** | **2.016** | **24.98** | **365.7** |
| Stddev | .005 | .002 | .003 | .006 | .002 | .007 | .007 | .11 | 4.6 |
| %RSD | .2539 | .0843 | .1347 | .2929 | .0981 | .3283 | .3289 | .4568 | 1.262 |
| #1 | 2.030 | 2.031 | 2.013 | 2.058 | 2.017 | 2.054 | 2.018 | 25.10 | 371.0 |
| #2 | 2.026 | 2.033 | 2.008 | 2.054 | 2.015 | 2.045 | 2.008 | 24.97 | 363.4 |
| #3 | 2.020 | 2.029 | 2.011 | 2.046 | 2.014 | 2.041 | 2.021 | 24.87 | 362.7 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.13** | **93.69** | **44.01** | **153.2** | **2.119** | **2.028** | **7.051** | **2.022** | **3.098** |
| Stddev | .09 | .29 | .16 | .6 | .005 | .002 | .014 | .000 | .013 |
| %RSD | .3695 | .3128 | .3560 | .4208 | .2494 | .0934 | .2011 | .0198 | .4222 |
| #1 | 25.23 | 94.00 | 44.17 | 153.9 | 2.125 | 2.029 | 7.066 | 2.022 | 3.113 |
| #2 | 25.12 | 93.66 | 43.99 | 153.1 | 2.115 | 2.029 | 7.039 | 2.023 | 3.092 |
| #3 | 25.05 | 93.42 | 43.86 | 152.7 | 2.118 | 2.026 | 7.046 | 2.022 | 3.089 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.997** | **1.973** | **1.988** | F **375.4** | **.0996** | **.0134** | **2.122** |
| Stddev | .004 | .003 | .005 | 1.1 | .0015 | .0049 | .016 |
| %RSD | .2240 | .1678 | .2311 | .3007 | 1.503 | 36.86 | .7343 |
| #1 | 2.001 | 1.976 | 1.992 | 376.7 | .1014 | .0079 | 2.127 |
| #2 | 1.997 | 1.972 | 1.989 | 375.0 | .0989 | .0150 | 2.105 |
| #3 | 1.992 | 1.970 | 1.983 | 374.5 | .0986 | .0174 | 2.135 |



Zoom In Zoom Out

Sample Name: mp14554-s1 Acquired: 4/30/2019 17:57:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **161510.** | **28401.** | **6645.7** | **9078.1** |
| Stddev | 42. | 202. | 15.0 | 15.9 |
| %RSD | .02585 | .71145 | .22584 | .17515 |
| #1 | 161560. | 28583. | 6658.5 | 9088.5 |
| #2 | 161500. | 28184. | 6629.2 | 9059.8 |
| #3 | 161470. | 28437. | 6649.5 | 9086.1 |

Zoom In Zoom Out

Sample Name: mp14554-s2 Acquired: 4/30/2019 18:02:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.064** | **2.040** | **2.058** | **2.065** | **2.015** | **1.989** | **2.200** | **2.079** | **.2525** |
| Stddev | .002 | .002 | .002 | .003 | .006 | .005 | .001 | .001 | .0007 |
| %RSD | .0758 | .0872 | .0886 | .1188 | .2882 | .2695 | .0244 | .0669 | .2698 |
| #1 | 2.066 | 2.038 | 2.059 | 2.065 | 2.013 | 1.987 | 2.200 | 2.080 | .2517 |
| #2 | 2.063 | 2.042 | 2.056 | 2.063 | 2.010 | 1.985 | 2.200 | 2.078 | .2531 |
| #3 | 2.064 | 2.040 | 2.059 | 2.068 | 2.021 | 1.995 | 2.201 | 2.079 | .2526 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.037** | **2.051** | **2.016** | **2.073** | **2.033** | **2.059** | **2.021** | **24.88** | **365.9** |
| Stddev | .001 | .002 | .004 | .009 | .002 | .011 | .004 | .05 | 1.5 |
| %RSD | .0297 | .1103 | .1772 | .4234 | .0770 | .5137 | .1728 | .1959 | .4182 |
| #1 | 2.038 | 2.054 | 2.016 | 2.082 | 2.035 | 2.070 | 2.024 | 24.83 | 365.2 |
| #2 | 2.036 | 2.049 | 2.013 | 2.064 | 2.032 | 2.049 | 2.018 | 24.90 | 364.9 |
| #3 | 2.037 | 2.051 | 2.020 | 2.074 | 2.033 | 2.058 | 2.020 | 24.93 | 367.7 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.96** | **93.40** | **43.86** | **153.1** | **2.137** | **2.033** | **7.131** | **2.025** | **3.091** |
| Stddev | .01 | .14 | .09 | .1 | .005 | .004 | .014 | .001 | .003 |
| %RSD | .0499 | .1548 | .2046 | .0605 | .2194 | .2036 | .1954 | .0569 | .0804 |
| #1 | 24.96 | 93.24 | 43.81 | 153.1 | 2.140 | 2.036 | 7.126 | 2.024 | 3.089 |
| #2 | 24.98 | 93.45 | 43.81 | 153.0 | 2.131 | 2.028 | 7.120 | 2.025 | 3.092 |
| #3 | 24.96 | 93.51 | 43.96 | 153.2 | 2.139 | 2.034 | 7.146 | 2.026 | 3.093 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.994** | **1.973** | **1.986** | F **380.6** | **.1004** | **.0149** | **2.182** |
| Stddev | .002 | .003 | .002 | 1.2 | .0036 | .0038 | .005 |
| %RSD | .0983 | .1409 | .1115 | .3205 | 3.556 | 25.21 | .2159 |
| #1 | 1.996 | 1.973 | 1.988 | 381.8 | .0967 | .0191 | 2.179 |
| #2 | 1.993 | 1.970 | 1.984 | 379.3 | .1008 | .0118 | 2.180 |
| #3 | 1.993 | 1.975 | 1.986 | 380.7 | .1038 | .0137 | 2.188 |



Zoom In Zoom Out

Sample Name: mp14554-s2 Acquired: 4/30/2019 18:02:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **161020.** | **28521.** | **6656.2** | **9082.9** |
| Stddev | 533. | 118. | 7.8 | 9.2 |
| %RSD | .33110 | .41319 | .11742 | .10147 |
| #1 | 161630. | 28613. | 6661.4 | 9085.2 |
| #2 | 160810. | 28563. | 6647.2 | 9072.8 |
| #3 | 160630. | 28388. | 6660.0 | 9090.8 |



Zoom In Zoom Out

Sample Name: jc86843-4 Acquired: 4/30/2019 18:07:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0220** | **.0001** | **.0009** | **-.0000** | **.0013** | **.0033** | **.1262** | **.0139** |
| Stddev | .0006 | .0001 | .0003 | .0005 | .0002 | .0004 | .0005 | .0005 |
| %RSD | 2.692 | 83.21 | 34.44 | 1219. | 14.26 | 11.85 | .3685 | 3.955 |
| #1 | .0219 | .0003 | .0011 | -.0003 | .0011 | .0033 | .1268 | .0143 |
| #2 | .0214 | .0000 | .0006 | .0006 | .0012 | .0029 | .1261 | .0133 |
| #3 | .0226 | .0001 | .0009 | -.0004 | .0015 | .0037 | .1259 | .0140 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0001** | **.0141** | **-.0018** | F **-.0044** | **-.0058** | **.0117** | **.0014** |
| Stddev | .0006 | .0006 | .0002 | .0009 | .0014 | .0015 | .0026 | .0035 |
| %RSD | 1249. | 930.8 | 1.300 | 49.56 | 32.63 | 25.94 | 22.07 | 251.5 |
| #1 | -.0004 | .0007 | .0142 | -.0009 | -.0033 | -.0043 | .0088 | -.0008 |
| #2 | .0008 | -.0003 | .0139 | -.0019 | -.0038 | -.0073 | .0126 | .0054 |
| #3 | -.0002 | -.0002 | .0143 | -.0026 | -.0060 | -.0058 | .0137 | -.0005 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1391** | **350.7** | **.0579** | **69.88** | **19.09** | **130.6** | **.0810** | **.0003** |
| Stddev | .0187 | 5.5 | .0013 | .22 | .10 | .5 | .0007 | .0002 |
| %RSD | 13.43 | 1.575 | 2.201 | .3207 | .5122 | .3780 | .8633 | 75.72 |
| #1 | .1354 | 344.4 | .0593 | 70.09 | 19.19 | 131.1 | .0802 | .0003 |
| #2 | .1226 | 352.7 | .0577 | 69.89 | 19.08 | 130.6 | .0815 | .0001 |
| #3 | .1594 | 354.9 | .0567 | 69.65 | 19.00 | 130.1 | .0812 | .0006 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.060** | **-.0018** | **1.054** | **.0023** | **-.0014** | **.0007** | F **377.8** | **-.0009** |
| Stddev | .027 | .0005 | .004 | .0008 | .0011 | .0001 | 2.8 | .0032 |
| %RSD | .3852 | 27.62 | .4076 | 33.51 | 80.66 | 14.82 | .7342 | 370.6 |
| #1 | 7.089 | -.0013 | 1.059 | .0025 | -.0025 | .0007 | 381.0 | .0004 |
| #2 | 7.034 | -.0023 | 1.053 | .0030 | -.0012 | .0007 | 376.7 | -.0044 |
| #3 | 7.058 | -.0020 | 1.050 | .0015 | -.0003 | .0009 | 375.8 | .0015 |



Zoom In Zoom Out

Sample Name: jc86843-4 Acquired: 4/30/2019 18:07:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0117** | **.1091** |
| Stddev | .0028 | .0030 |
| %RSD | 24.33 | 2.784 |
| #1 | .0085 | .1084 |
| #2 | .0138 | .1125 |
| #3 | .0129 | .1065 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **162670.** | **28481.** | **6708.1** | **9177.4** |
| Stddev | 414. | 190. | 4.4 | 7.4 |
| %RSD | .25478 | .66664 | .06490 | .08065 |
| #1 | 162340. | 28700. | 6713.1 | 9169.9 |
| #2 | 162530. | 28371. | 6705.7 | 9177.7 |
| #3 | 163130. | 28371. | 6705.5 | 9184.7 |

Zoom In Zoom Out

Sample Name: mp14554-sd1 Acquired: 4/30/2019 18:12:32 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0212** | **-.0001** | **.0017** | **.0015** | **-.0009** | **.0058** | **.1262** | **.0118** | **.0022** |
| Stddev | .0022 | .0001 | .0010 | .0005 | .0021 | .0042 | .0002 | .0023 | .0048 |
| %RSD | 10.31 | 122.2 | 60.15 | 35.57 | 226.3 | 72.48 | .1968 | 19.35 | 216.3 |
| #1 | .0196 | -.0002 | .0013 | .0010 | -.0030 | .0105 | .1262 | .0143 | -.0026 |
| #2 | .0237 | .0000 | .0009 | .0020 | .0013 | .0048 | .1265 | .0098 | .0070 |
| #3 | .0202 | -.0002 | .0028 | .0015 | -.0011 | .0022 | .1260 | .0114 | .0023 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0055** | **.0241** | **.0091** | **.0066** | **-.0072** | **-.0011** | **.0062** | **.2464** | **343.4** |
| Stddev | .0012 | .0003 | .0108 | .0015 | .0064 | .0165 | .0100 | .0665 | .3 |
| %RSD | 21.08 | 1.407 | 119.3 | 21.93 | 89.24 | 1456. | 160.9 | 26.99 | .0798 |
| #1 | -.0066 | .0241 | -.0019 | .0067 | -.0145 | .0099 | .0091 | .1718 | 343.3 |
| #2 | -.0056 | .0244 | .0197 | .0081 | -.0025 | -.0200 | -.0049 | .2680 | 343.7 |
| #3 | -.0043 | .0237 | .0093 | .0052 | -.0046 | .0068 | .0144 | .2994 | 343.1 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0685** | **69.64** | **18.79** | **129.1** | **.0975** | **.0017** | **7.054** | **-.0025** | **1.020** |
| Stddev | .0235 | .23 | .15 | .1 | .0082 | .0009 | .019 | .0013 | .000 |
| %RSD | 34.22 | .3330 | .7859 | .1040 | 8.389 | 49.22 | .2682 | 52.42 | .0384 |
| #1 | .0818 | 69.71 | 18.80 | 129.0 | .1016 | .0027 | 7.075 | -.0038 | 1.020 |
| #2 | .0415 | 69.83 | 18.64 | 129.2 | .1028 | .0013 | 7.040 | -.0025 | 1.020 |
| #3 | .0823 | 69.38 | 18.94 | 129.1 | .0881 | .0012 | 7.047 | -.0012 | 1.020 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **.0017** | **.0027** | **374.6** | **-.0066** | **.0111** | **.0971** |
| Stddev | .0049 | .0108 | .0010 | .6 | .0142 | .0163 | .0122 |
| %RSD | 280.4 | 619.9 | 37.63 | .1528 | 214.6 | 146.4 | 12.54 |
| #1 | .0063 | .0086 | .0024 | 374.1 | -.0229 | .0261 | .0835 |
| #2 | .0025 | -.0107 | .0039 | 374.5 | .0035 | -.0062 | .1069 |
| #3 | -.0035 | .0074 | .0019 | 375.2 | -.0005 | .0136 | .1009 |



Zoom In Zoom Out

Sample Name: mp14554-sd1 Acquired: 4/30/2019 18:12:32 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **168970.** | **28598.** | **6953.9** | **9823.6** |
| Stddev | 45. | 134. | 13.8 | 10.3 |
| %RSD | .02669 | .46998 | .19814 | .10447 |
| #1 | 168950. | 28657. | 6953.4 | 9819.6 |
| #2 | 169020. | 28445. | 6940.4 | 9815.9 |
| #3 | 168930. | 28694. | 6967.9 | 9835.2 |



Zoom In Zoom Out

Sample Name: mp14606-mb1conf Acquired: 4/30/2019 18:17:36 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0000** | **.0004** | **.0001** | **.0007** | **.0010** | **.0002** | **.0004** | **.0002** |
| Stddev | .0001 | .0000 | .0001 | .0002 | .0001 | .0001 | .0000 | .0001 | .0002 |
| %RSD | 306.3 | 454.7 | 37.73 | 151.4 | 15.59 | 7.033 | 18.35 | 27.40 | 107.0 |
| #1 | -.0000 | .0000 | .0005 | .0003 | .0008 | .0010 | .0003 | .0004 | .0002 |
| #2 | -.0000 | -.0000 | .0004 | -.0001 | .0008 | .0011 | .0002 | .0005 | -.0000 |
| #3 | .0001 | .0000 | .0002 | .0003 | .0006 | .0010 | .0002 | .0003 | .0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **.0031** | **.0002** | **-.0006** | **.0004** | **.0022** | **-.0003** | **-.0004** | **.0361** |
| Stddev | .0003 | .0000 | .0007 | .0005 | .0008 | .0006 | .0004 | .0052 | .0002 |
| %RSD | 61.65 | 1.226 | 337.5 | 80.49 | 211.7 | 25.67 | 150.8 | 1191. | .4444 |
| #1 | -.0008 | .0031 | .0010 | -.0008 | .0011 | .0019 | -.0006 | .0030 | .0361 |
| #2 | -.0005 | .0031 | -.0001 | -.0001 | -.0005 | .0029 | .0002 | -.0064 | .0363 |
| #3 | -.0002 | .0031 | -.0003 | -.0010 | .0006 | .0019 | -.0004 | .0021 | .0359 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0218** | **.0058** | **.0560** | **.1169** | **.0029** | **.0005** | **.0070** | **.0186** | **.0002** |
| Stddev | .0002 | .0070 | .0395 | .0061 | .0002 | .0001 | .0015 | .0002 | .0001 |
| %RSD | .8587 | 120.4 | 70.62 | 5.240 | 8.117 | 16.85 | 21.59 | 1.265 | 31.67 |
| #1 | .0217 | .0132 | .0268 | .1099 | .0027 | .0006 | .0062 | .0189 | .0001 |
| #2 | .0216 | .0049 | .0402 | .1213 | .0030 | .0004 | .0088 | .0184 | .0002 |
| #3 | .0220 | -.0007 | .1010 | .1196 | .0031 | .0005 | .0061 | .0185 | .0003 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0002** | **.0003** | **.0246** | **-.0007** | **-.0040** | **.0188** |
| Stddev | .0003 | .0003 | .0002 | .0019 | .0014 | .0027 | .0009 |
| %RSD | 40.81 | 143.7 | 65.65 | 7.886 | 189.8 | 66.61 | 4.768 |
| #1 | .0009 | .0005 | .0002 | .0237 | -.0022 | -.0013 | .0198 |
| #2 | .0004 | -.0001 | .0004 | .0234 | .0006 | -.0042 | .0183 |
| #3 | .0010 | .0003 | .0001 | .0269 | -.0005 | -.0066 | .0183 |



Zoom In Zoom Out

Sample Name: mp14606-mb1conf Acquired: 4/30/2019 18:17:36 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **176710.** | **29167.** | **7166.4** | **10344.** |
| Stddev | 1004. | 65. | 16.6 | 19. |
| %RSD | .56829 | .22223 | .23095 | .18061 |
| #1 | 177870. | 29160. | 7163.5 | 10346. |
| #2 | 176100. | 29236. | 7151.5 | 10324. |
| #3 | 176170. | 29107. | 7184.2 | 10361. |

Zoom In Zoom Out

Sample Name: mp14606-sd1 Acquired: 4/30/2019 18:22:43 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5814** | **.0035** | **.0022** | **.0554** | **.1260** | **.1742** | **2.500** | **.1095** | **.0023** |
| Stddev | .0037 | .0004 | .0009 | .0005 | .0013 | .0026 | .005 | .0004 | .0013 |
| %RSD | .6372 | 12.40 | 40.52 | .9676 | 1.047 | 1.491 | .2014 | .3228 | 57.23 |
| #1 | .5856 | .0039 | .0033 | .0548 | .1271 | .1772 | 2.500 | .1098 | .0017 |
| #2 | .5787 | .0036 | .0018 | .0558 | .1265 | .1728 | 2.504 | .1096 | .0014 |
| #3 | .5799 | .0031 | .0017 | .0557 | .1245 | .1727 | 2.494 | .1091 | .0038 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2100** | **.6544** | **.0339** | **-.0050** | **.5475** | **.0006** | **.0002** | **82.13** | **14.70** |
| Stddev | .0010 | .0004 | .0074 | .0078 | .0022 | .0065 | .0018 | .11 | .03 |
| %RSD | .4831 | .0661 | 21.75 | 155.3 | .4038 | 1072. | 871.3 | .1286 | .1835 |
| #1 | .2089 | .6544 | .0255 | .0005 | .5472 | .0066 | .0020 | 82.16 | 14.71 |
| #2 | .2109 | .6540 | .0372 | -.0139 | .5498 | -.0064 | .0003 | 82.21 | 14.71 |
| #3 | .2103 | .6549 | .0392 | -.0016 | .5454 | .0016 | -.0017 | 82.01 | 14.67 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **139.9** | **28.82** | **12.94** | **1.335** | **.0702** | **.0045** | **2.223** | **.1050** | **.0649** |
| Stddev | .2 | .07 | .08 | .038 | .0017 | .0006 | .012 | .0024 | .0006 |
| %RSD | .1434 | .2443 | .6294 | 2.828 | 2.390 | 12.78 | .5228 | 2.285 | .9324 |
| #1 | 140.1 | 28.89 | 12.87 | 1.377 | .0705 | .0051 | 2.212 | .1025 | .0651 |
| #2 | 140.0 | 28.75 | 12.92 | 1.304 | .0717 | .0040 | 2.235 | .1073 | .0654 |
| #3 | 139.7 | 28.81 | 13.03 | 1.325 | .0684 | .0043 | 2.222 | .1051 | .0642 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.949** | **-.0022** | **.0219** | **.7060** | **.1462** | **.1067** | **4.175** |
| Stddev | .009 | .0019 | .0005 | .0110 | .0083 | .0039 | .016 |
| %RSD | .1784 | 83.22 | 2.455 | 1.564 | 5.667 | 3.693 | .3847 |
| #1 | 4.952 | -.0028 | .0225 | .7135 | .1491 | .1112 | 4.190 |
| #2 | 4.956 | -.0038 | .0215 | .7112 | .1369 | .1042 | 4.176 |
| #3 | 4.939 | -.0002 | .0219 | .6934 | .1527 | .1047 | 4.158 |



Zoom In Zoom Out

Sample Name: mp14606-sd1 Acquired: 4/30/2019 18:22:43 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173400.** | **28782.** | **7163.3** | **10071.** |
| Stddev | 1159. | 270. | 1.9 | 6. |
| %RSD | .66860 | .93739 | .02628 | .05830 |
| #1 | 172550. | 28493. | 7162.6 | 10064. |
| #2 | 172930. | 29027. | 7161.9 | 10074. |
| #3 | 174720. | 28828. | 7165.5 | 10075. |



Zoom In Zoom Out

Sample Name: jc87024-5 Acquired: 4/30/2019 18:27:45 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.919** | **.0016** | **.0008** | **.0970** | **.2961** | **.1776** | **2.451** | **.1909** | **.0003** |
| Stddev | .002 | .0001 | .0001 | .0003 | .0013 | .0004 | .017 | .0003 | .0009 |
| %RSD | .0930 | 4.864 | 15.89 | .3421 | .4288 | .2260 | .6770 | .1323 | 283.2 |
| #1 | 1.920 | .0017 | .0008 | .0968 | .2972 | .1773 | 2.438 | .1907 | -.0006 |
| #2 | 1.917 | .0016 | .0006 | .0974 | .2965 | .1775 | 2.446 | .1909 | .0004 |
| #3 | 1.919 | .0016 | .0008 | .0969 | .2947 | .1780 | 2.470 | .1912 | .0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4618** | **.9343** | **.0226** | **-.0010** | **.1707** | **.0008** | **.0057** | **119.9** | **70.26** |
| Stddev | .0005 | .0012 | .0016 | .0010 | .0003 | .0024 | .0014 | .1 | .09 |
| %RSD | .1023 | .1247 | 7.047 | 97.20 | .1482 | 296.0 | 23.86 | .0993 | .1273 |
| #1 | .4616 | .9329 | .0236 | -.0001 | .1706 | -.0003 | .0065 | 119.8 | 70.16 |
| #2 | .4623 | .9349 | .0235 | -.0008 | .1705 | .0035 | .0066 | 120.0 | 70.34 |
| #3 | .4614 | .9350 | .0208 | -.0020 | .1710 | -.0008 | .0042 | 120.0 | 70.29 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **197.2** | **79.82** | **60.70** | **2.570** | **.0167** | **.0053** | **1.921** | **.0206** | **.2222** |
| Stddev | 4.0 | .12 | .08 | .010 | .0005 | .0002 | .021 | .0005 | .0003 |
| %RSD | 2.015 | .1441 | .1373 | .3858 | 3.113 | 3.438 | 1.099 | 2.353 | .1248 |
| #1 | 192.6 | 79.72 | 60.60 | 2.559 | .0166 | .0053 | 1.943 | .0205 | .2223 |
| #2 | 199.3 | 79.81 | 60.76 | 2.578 | .0172 | .0051 | 1.901 | .0202 | .2219 |
| #3 | 199.7 | 79.95 | 60.73 | 2.574 | .0162 | .0055 | 1.921 | .0211 | .2224 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **15.22** | **-.0024** | **.0277** | **5.024** | **.3637** | **.0946** | **7.371** |
| Stddev | .09 | .0006 | .0003 | .020 | .0089 | .0010 | .015 |
| %RSD | .5952 | 23.89 | .9154 | .3883 | 2.459 | 1.061 | .1962 |
| #1 | 15.32 | -.0029 | .0274 | 5.006 | .3735 | .0956 | 7.356 |
| #2 | 15.14 | -.0026 | .0279 | 5.045 | .3560 | .0947 | 7.385 |
| #3 | 15.21 | -.0018 | .0277 | 5.022 | .3616 | .0936 | 7.371 |



Zoom In Zoom Out

Sample Name: jc87024-5 Acquired: 4/30/2019 18:27:45 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **168170.** | **29459.** | **7004.6** | **9421.1** |
| Stddev | 285. | 194. | 23.6 | 20.7 |
| %RSD | .16925 | .65904 | .33659 | .21928 |
| #1 | 167870. | 29677. | 7025.0 | 9434.2 |
| #2 | 168200. | 29304. | 7009.9 | 9431.8 |
| #3 | 168440. | 29397. | 6978.8 | 9397.3 |

Zoom In Zoom Out

Sample Name: jc87024-7 Acquired: 4/30/2019 18:33:06 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8419** | **.0067** | **.0004** | **.0741** | **.2409** | **.0975** | **3.432** | **.1300** |
| Stddev | .0012 | .0001 | .0003 | .0003 | .0005 | .0006 | .006 | .0003 |
| %RSD | .1427 | .8105 | 67.77 | .3711 | .2259 | .5994 | .1728 | .2032 |
| #1 | .8412 | .0067 | .0004 | .0738 | .2414 | .0981 | 3.439 | .1302 |
| #2 | .8412 | .0066 | .0001 | .0743 | .2404 | .0977 | 3.428 | .1301 |
| #3 | .8433 | .0066 | .0006 | .0741 | .2409 | .0969 | 3.429 | .1297 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0015** | **.3250** | **.4118** | **.0556** | F **-.0027** | **.1587** | **.0003** | **.0007** |
| Stddev | .0009 | .0002 | .0002 | .0026 | .0010 | .0008 | .0013 | .0019 |
| %RSD | 60.06 | .0600 | .0470 | 4.747 | 36.77 | .4728 | 454.0 | 262.5 |
| #1 | .0025 | .3249 | .4117 | .0563 | -.0027 | .1590 | .0018 | .0004 |
| #2 | .0013 | .3252 | .4120 | .0526 | -.0017 | .1593 | -.0003 | -.0010 |
| #3 | .0007 | .3249 | .4117 | .0577 | -.0036 | .1579 | -.0006 | .0028 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **155.6** | **17.09** | **177.7** | **22.18** | **12.36** | **3.887** | **.0362** | **.0070** |
| Stddev | .1 | .00 | 3.1 | .01 | .02 | .011 | .0003 | .0002 |
| %RSD | .0886 | .0274 | 1.738 | .0528 | .1758 | .2849 | .8589 | 3.121 |
| #1 | 155.6 | 17.09 | 181.2 | 22.19 | 12.34 | 3.897 | .0360 | .0072 |
| #2 | 155.8 | 17.09 | 175.2 | 22.17 | 12.38 | 3.875 | .0365 | .0069 |
| #3 | 155.5 | 17.08 | 176.8 | 22.17 | 12.36 | 3.890 | .0361 | .0068 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.813** | **.0216** | **.0959** | **3.744** | **.0004** | **.0673** | **1.301** | **.1129** |
| Stddev | .007 | .0006 | .0002 | .003 | .0004 | .0000 | .011 | .0017 |
| %RSD | .3797 | 2.883 | .2516 | .0818 | 85.85 | .0182 | .8173 | 1.527 |
| #1 | 1.821 | .0223 | .0961 | 3.743 | .0000 | .0672 | 1.312 | .1109 |
| #2 | 1.809 | .0215 | .0960 | 3.748 | .0007 | .0673 | 1.301 | .1142 |
| #3 | 1.810 | .0210 | .0957 | 3.742 | .0005 | .0673 | 1.290 | .1134 |



Zoom In Zoom Out

Sample Name: jc87024-7 Acquired: 4/30/2019 18:33:06 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1084** | **5.020** |
| Stddev | .0012 | .028 |
| %RSD | 1.081 | .5663 |
| #1 | .1094 | 5.020 |
| #2 | .1088 | 5.048 |
| #3 | .1071 | 4.992 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **178720.** | **31140.** | **7531.3** | **9711.7** |
| Stddev | 139. | 213. | 10.5 | 16.1 |
| %RSD | .07779 | .68482 | .13948 | .16588 |
| #1 | 178810. | 30936. | 7519.3 | 9696.2 |
| #2 | 178560. | 31361. | 7536.1 | 9710.6 |
| #3 | 178800. | 31122. | 7538.5 | 9728.4 |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 18:38:19 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.007** | **2.049** | **1.997** | **2.017** | **2.013** | **1.988** | **2.042** | **2.012** | **.2476** |
| Stddev | .001 | .005 | .016 | .016 | .005 | .003 | .006 | .015 | .0002 |
| %RSD | .0572 | .2634 | .7895 | .7665 | .2306 | .1400 | .3159 | .7415 | .0672 |
| #1 | 2.007 | 2.056 | 2.008 | 2.025 | 2.016 | 1.987 | 2.046 | 2.022 | .2475 |
| #2 | 2.008 | 2.048 | 2.005 | 2.026 | 2.016 | 1.991 | 2.045 | 2.020 | .2478 |
| #3 | 2.006 | 2.045 | 1.979 | 1.999 | 2.008 | 1.986 | 2.034 | 1.995 | .2477 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.002** | **2.014** | **1.939** | **2.062** | **2.010** | **1.981** | **1.944** | **39.65** | **39.81** |
| Stddev | .001 | .016 | .014 | .021 | .013 | .018 | .016 | .10 | .11 |
| %RSD | .0455 | .7771 | .7272 | 1.036 | .6460 | .9230 | .8093 | .2586 | .2728 |
| #1 | 2.003 | 2.024 | 1.947 | 2.072 | 2.016 | 1.994 | 1.954 | 39.77 | 39.94 |
| #2 | 2.003 | 2.023 | 1.947 | 2.077 | 2.019 | 1.989 | 1.953 | 39.61 | 39.77 |
| #3 | 2.001 | 1.996 | 1.922 | 2.038 | 1.995 | 1.960 | 1.926 | 39.58 | 39.73 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.45** | **39.70** | **40.17** | **40.19** | **2.006** | **1.976** | **4.890** | **1.998** | **2.028** |
| Stddev | .12 | .10 | .10 | .05 | .017 | .016 | .040 | .018 | .004 |
| %RSD | .2953 | .2461 | .2442 | .1227 | .8355 | .7825 | .8147 | .8923 | .1998 |
| #1 | 39.58 | 39.80 | 40.28 | 40.21 | 2.017 | 1.985 | 4.912 | 2.008 | 2.033 |
| #2 | 39.40 | 39.67 | 40.11 | 40.22 | 2.015 | 1.985 | 4.915 | 2.009 | 2.027 |
| #3 | 39.36 | 39.62 | 40.12 | 40.13 | 1.987 | 1.958 | 4.844 | 1.978 | 2.025 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 18:38:19 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.959** | **1.912** | **1.972** | **1.959** | **1.978** | **2.050** | **1.889** |
| Stddev | .003 | .013 | .001 | .021 | .013 | .004 | .015 |
| %RSD | .1489 | .7004 | .0689 | 1.092 | .6371 | .1871 | .7659 |
| #1 | 1.956 | 1.921 | 1.971 | 1.971 | 1.986 | 2.052 | 1.889 |
| #2 | 1.959 | 1.917 | 1.973 | 1.971 | 1.986 | 2.053 | 1.903 |
| #3 | 1.962 | 1.896 | 1.973 | 1.934 | 1.964 | 2.046 | 1.874 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **162710.** | **28050.** | **6789.3** | **9366.0** |
| Stddev | 573. | 127. | 34.5 | 45.6 |
| %RSD | .35199 | .45213 | .50860 | .48655 |
| #1 | 162640. | 27904. | 6767.8 | 9338.2 |
| #2 | 162180. | 28111. | 6770.9 | 9341.1 |
| #3 | 163320. | 28135. | 6829.1 | 9418.5 |

Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 18:43:20 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0001** | **.0001** | **.0002** | **.0002** | **.0007** | **.0000** | **-.0001** | **.0003** |
| Stddev | .0000 | .0001 | .0000 | .0001 | .0002 | .0003 | .0000 | .0001 | .0003 |
| %RSD | 7.185 | 96.80 | 27.62 | 63.28 | 109.3 | 35.96 | 265.2 | 113.5 | 109.9 |
| #1 | .0003 | .0000 | .0002 | .0002 | .0001 | .0004 | .0001 | -.0001 | -.0001 |
| #2 | .0003 | .0001 | .0001 | .0001 | .0003 | .0009 | -.0000 | -.0000 | .0005 |
| #3 | .0003 | .0000 | .0002 | .0003 | .0001 | .0008 | -.0000 | -.0002 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0006** | **.0012** | **-.0004** | **-.0006** | **-.0004** | **-.0002** | **-.0078** | **-.0066** |
| Stddev | .0003 | .0002 | .0011 | .0011 | .0006 | .0009 | .0018 | .0042 | .0036 |
| %RSD | 84.52 | 29.05 | 92.70 | 284.4 | 102.0 | 208.3 | 1027. | 54.23 | 54.27 |
| #1 | -.0004 | -.0004 | .0025 | -.0014 | -.0001 | -.0005 | -.0022 | -.0126 | -.0079 |
| #2 | -.0007 | -.0006 | .0009 | .0008 | -.0003 | -.0013 | .0006 | -.0046 | -.0093 |
| #3 | -.0001 | -.0007 | .0003 | -.0007 | -.0012 | .0005 | .0011 | -.0062 | -.0025 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0013** | **.0036** | **.0132** | **.0302** | **.0031** | **.0000** | **.0006** | **.0010** | **.0001** |
| Stddev | .0016 | .0129 | .0373 | .0071 | .0004 | .0001 | .0005 | .0004 | .0001 |
| %RSD | 128.8 | 358.9 | 283.3 | 23.57 | 11.34 | 256.7 | 75.34 | 38.15 | 112.2 |
| #1 | .0006 | .0184 | .0470 | .0377 | .0032 | .0001 | .0010 | .0014 | .0002 |
| #2 | -.0025 | -.0025 | .0194 | .0235 | .0027 | -.0001 | .0001 | .0009 | .0000 |
| #3 | -.0018 | -.0051 | -.0269 | .0296 | .0034 | .0001 | .0008 | .0007 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 18:43:20 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0003** | **.0002** | **.0042** | **.0001** | **.0014** | **-.0004** |
| Stddev | .0004 | .0010 | .0001 | .0021 | .0018 | .0025 | .0029 |
| %RSD | 139.0 | 275.2 | 60.77 | 50.81 | 3274. | 187.9 | 730.4 |
| #1 | -.0001 | .0012 | .0002 | .0024 | -.0007 | -.0015 | .0015 |
| #2 | .0003 | -.0007 | .0001 | .0065 | .0021 | .0023 | .0010 |
| #3 | .0006 | .0005 | .0002 | .0037 | -.0013 | .0033 | -.0037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173220.** | **28633.** | **7096.5** | **10322.** |
| Stddev | 1198. | 129. | 22.8 | 17. |
| %RSD | .69184 | .45022 | .32076 | .15990 |
| #1 | 171920. | 28762. | 7086.5 | 10314. |
| #2 | 174290. | 28504. | 7080.4 | 10311. |
| #3 | 173450. | 28634. | 7122.6 | 10341. |



Zoom In Zoom Out

Sample Name: jc87024-9 Acquired: 4/30/2019 18:48:27 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5982** | **.0056** | **.0006** | **.0756** | **.2845** | **.1023** | **3.339** | **.1350** |
| Stddev | .0066 | .0001 | .0003 | .0004 | .0016 | .0006 | .063 | .0004 |
| %RSD | 1.102 | 2.533 | 52.42 | .4726 | .5631 | .5501 | 1.882 | .2621 |
| #1 | .5922 | .0055 | .0004 | .0760 | .2830 | .1017 | 3.271 | .1353 |
| #2 | .5972 | .0058 | .0005 | .0754 | .2843 | .1026 | 3.351 | .1352 |
| #3 | .6052 | .0056 | .0010 | .0753 | .2862 | .1026 | 3.395 | .1346 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0017** | **.3891** | **.3628** | **.0680** | F **-.0064** | **.1057** | **-.0017** | **.0056** |
| Stddev | .0009 | .0037 | .0009 | .0018 | .0008 | .0022 | .0018 | .0032 |
| %RSD | 50.67 | .9481 | .2498 | 2.662 | 13.06 | 2.086 | 105.3 | 56.76 |
| #1 | .0011 | .3851 | .3617 | .0674 | -.0073 | .1050 | -.0035 | .0084 |
| #2 | .0013 | .3899 | .3633 | .0701 | -.0057 | .1040 | -.0016 | .0021 |
| #3 | .0027 | .3923 | .3633 | .0666 | -.0063 | .1082 | .0000 | .0064 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **163.3** | **8.172** | **235.8** | **26.48** | **14.53** | **5.217** | **.0751** | **.0074** |
| Stddev | 1.5 | .082 | 2.2 | .31 | .17 | .073 | .0019 | .0005 |
| %RSD | .9121 | .9994 | .9340 | 1.186 | 1.154 | 1.402 | 2.468 | 6.780 |
| #1 | 161.9 | 8.093 | 233.7 | 26.19 | 14.37 | 5.157 | .0748 | .0068 |
| #2 | 163.1 | 8.166 | 235.6 | 26.45 | 14.51 | 5.195 | .0733 | .0076 |
| #3 | 164.8 | 8.256 | 238.1 | 26.81 | 14.71 | 5.298 | .0770 | .0078 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.058** | **.0230** | **.0744** | **5.542** | **.0008** | **.1167** | **.4595** | **.1552** |
| Stddev | .006 | .0008 | .0009 | .038 | .0003 | .0011 | .0028 | .0005 |
| %RSD | .2935 | 3.372 | 1.218 | .6777 | 39.43 | .9567 | .6004 | .3255 |
| #1 | 2.061 | .0224 | .0737 | 5.502 | .0009 | .1157 | .4592 | .1553 |
| #2 | 2.062 | .0239 | .0740 | 5.548 | .0005 | .1166 | .4625 | .1556 |
| #3 | 2.051 | .0229 | .0754 | 5.576 | .0011 | .1179 | .4570 | .1546 |



Zoom In Zoom Out

Sample Name: jc87024-9 Acquired: 4/30/2019 18:48:27 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1095** | **3.462** |
| Stddev | .0030 | .045 |
| %RSD | 2.765 | 1.295 |
| #1 | .1069 | 3.426 |
| #2 | .1128 | 3.512 |
| #3 | .1087 | 3.448 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **171240.** | **29065.** | **7138.6** | **9846.8** |
| Stddev | 1128. | 98. | 6.7 | 8.0 |
| %RSD | .65886 | .33885 | .09348 | .08135 |
| #1 | 170830. | 29051. | 7132.2 | 9838.1 |
| #2 | 170380. | 29169. | 7145.5 | 9853.9 |
| #3 | 172520. | 28974. | 7138.1 | 9848.5 |

Zoom In Zoom Out

Sample Name: jc87024-5conf Acquired: 4/30/2019 18:53:30 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.919** | **.0015** | **.0009** | **.0970** | **.2942** | **.1777** | **2.425** | **.1896** |
| Stddev | .002 | .0001 | .0002 | .0011 | .0002 | .0008 | .011 | .0021 |
| %RSD | .1174 | 5.539 | 21.08 | 1.136 | .0813 | .4338 | .4698 | 1.102 |
| #1 | 1.922 | .0015 | .0011 | .0979 | .2944 | .1784 | 2.438 | .1904 |
| #2 | 1.918 | .0016 | .0010 | .0958 | .2943 | .1768 | 2.420 | .1873 |
| #3 | 1.919 | .0015 | .0007 | .0974 | .2940 | .1778 | 2.417 | .1912 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0014** | **.4623** | **.9318** | **.0239** | F **-.0030** | **.1691** | **-.0001** | **.0061** |
| Stddev | .0008 | .0014 | .0105 | .0007 | .0004 | .0015 | .0017 | .0009 |
| %RSD | 52.68 | .3095 | 1.126 | 2.801 | 14.51 | .8874 | 1157. | 14.61 |
| #1 | .0022 | .4620 | .9371 | .0238 | -.0026 | .1689 | .0018 | .0060 |
| #2 | .0006 | .4639 | .9198 | .0246 | -.0030 | .1677 | -.0008 | .0053 |
| #3 | .0015 | .4611 | .9387 | .0233 | -.0034 | .1707 | -.0014 | .0071 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **119.4** | **70.64** | **199.7** | **80.22** | **60.84** | **2.525** | **.0164** | **.0054** |
| Stddev | .1 | .07 | 3.4 | .13 | .08 | .013 | .0005 | .0003 |
| %RSD | .1126 | .0998 | 1.701 | .1566 | .1338 | .5114 | 2.795 | 5.814 |
| #1 | 119.6 | 70.70 | 202.4 | 80.35 | 60.93 | 2.523 | .0169 | .0057 |
| #2 | 119.3 | 70.56 | 195.9 | 80.10 | 60.78 | 2.538 | .0163 | .0054 |
| #3 | 119.4 | 70.67 | 200.7 | 80.20 | 60.81 | 2.512 | .0160 | .0051 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.771** | **.0220** | **.2223** | F **15.21** | **-.0016** | **.0283** | **5.036** | **.3443** |
| Stddev | .026 | .0013 | .0001 | .15 | .0013 | .0001 | .079 | .0179 |
| %RSD | 1.455 | 5.743 | .0607 | .9864 | 80.13 | .5082 | 1.570 | 5.184 |
| #1 | 1.785 | .0211 | .2223 | 15.05 | -.0012 | .0283 | 5.077 | .3238 |
| #2 | 1.741 | .0214 | .2224 | 15.21 | -.0031 | .0282 | 4.945 | .3561 |
| #3 | 1.787 | .0234 | .2221 | 15.35 | -.0006 | .0285 | 5.086 | .3531 |



Zoom In Zoom Out

Sample Name: jc87024-5conf Acquired: 4/30/2019 18:53:30 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0923** | **7.800** |
| Stddev | .0017 | .115 |
| %RSD | 1.795 | 1.472 |
| #1 | .0943 | 7.843 |
| #2 | .0914 | 7.670 |
| #3 | .0913 | 7.887 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **169350.** | **29420.** | **7051.0** | **9499.0** |
| Stddev | 533. | 102. | 74.4 | 86.1 |
| %RSD | .31462 | .34601 | 1.0553 | .90676 |
| #1 | 169920. | 29361. | 7009.5 | 9448.4 |
| #2 | 169270. | 29538. | 7136.9 | 9598.5 |
| #3 | 168860. | 29362. | 7006.7 | 9450.3 |



Zoom In Zoom Out

Sample Name: jc87024-7conf Acquired: 4/30/2019 18:58:52 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8470** | **.0067** | **.0004** | **.0745** | **.2423** | **.0968** | **3.479** | **.1296** | **.0006** |
| Stddev | .0004 | .0001 | .0002 | .0004 | .0007 | .0007 | .011 | .0003 | .0012 |
| %RSD | .0473 | 1.408 | 44.74 | .5269 | .3012 | .7071 | .3096 | .2174 | 194.2 |
| #1 | .8466 | .0067 | .0006 | .0749 | .2431 | .0969 | 3.490 | .1299 | .0006 |
| #2 | .8473 | .0067 | .0003 | .0742 | .2417 | .0974 | 3.476 | .1294 | .0018 |
| #3 | .8472 | .0068 | .0003 | .0744 | .2421 | .0961 | 3.469 | .1294 | -.0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3288** | **.4081** | **.0549** | **-.0019** | **.1592** | **-.0005** | **.0012** | **155.5** | **17.10** |
| Stddev | .0002 | .0003 | .0015 | .0009 | .0015 | .0008 | .0011 | .2 | .03 |
| %RSD | .0591 | .0711 | 2.749 | 47.65 | .9131 | 153.8 | 88.28 | .1344 | .1732 |
| #1 | .3287 | .4082 | .0544 | -.0020 | .1579 | .0004 | .0001 | 155.7 | 17.11 |
| #2 | .3287 | .4083 | .0538 | -.0028 | .1589 | -.0009 | .0014 | 155.2 | 17.07 |
| #3 | .3290 | .4077 | .0566 | -.0010 | .1607 | -.0011 | .0022 | 155.5 | 17.12 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **175.5** | **22.22** | **12.32** | **3.884** | **.0369** | **.0071** | **1.748** | **.0224** | **.0964** |
| Stddev | 4.1 | .04 | .04 | .011 | .0010 | .0002 | .004 | .0006 | .0002 |
| %RSD | 2.357 | .1934 | .2847 | .2692 | 2.583 | 3.395 | .2181 | 2.880 | .1948 |
| #1 | 176.9 | 22.24 | 12.36 | 3.876 | .0378 | .0069 | 1.750 | .0217 | .0966 |
| #2 | 178.7 | 22.18 | 12.29 | 3.881 | .0369 | .0074 | 1.750 | .0230 | .0962 |
| #3 | 170.8 | 22.26 | 12.32 | 3.896 | .0359 | .0070 | 1.743 | .0225 | .0964 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.774** | **-.0009** | **.0663** | **1.305** | **.1107** | **.1080** | **5.384** |
| Stddev | .004 | .0015 | .0001 | .003 | .0017 | .0008 | .020 |
| %RSD | .1091 | 162.4 | .2024 | .2308 | 1.564 | .7799 | .3740 |
| #1 | 3.779 | -.0012 | .0664 | 1.309 | .1127 | .1084 | 5.402 |
| #2 | 3.771 | -.0023 | .0663 | 1.304 | .1094 | .1070 | 5.362 |
| #3 | 3.773 | .0007 | .0661 | 1.303 | .1101 | .1086 | 5.386 |



Zoom In Zoom Out

Sample Name: jc87024-7conf Acquired: 4/30/2019 18:58:52 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **178800.** | **31330.** | **7556.1** | **9751.5** |
| Stddev | 1168. | 141. | 8.6 | 3.8 |
| %RSD | .65329 | .45016 | .11335 | .03893 |
| #1 | 177490. | 31465. | 7564.9 | 9755.0 |
| #2 | 179170. | 31183. | 7547.7 | 9747.5 |
| #3 | 179730. | 31341. | 7555.6 | 9752.1 |

Zoom In Zoom Out

Sample Name: mp14559-mb1 Acquired: 4/30/2019 19:04:04 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **-.0000** | **.0002** | **.0001** | **.0010** | **.0012** | **.0013** | **.0005** | **.0003** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0004 | .0001 | .0001 | .0002 | .0002 |
| %RSD | 50.88 | 502.9 | 56.08 | 154.7 | 43.91 | 6.108 | 5.161 | 34.77 | 63.24 |
| #1 | .0003 | -.0000 | .0002 | .0001 | .0014 | .0012 | .0012 | .0005 | .0005 |
| #2 | .0010 | -.0000 | .0004 | -.0001 | .0008 | .0011 | .0014 | .0004 | .0003 |
| #3 | .0009 | .0000 | .0002 | .0002 | .0007 | .0012 | .0013 | .0007 | .0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0112** | **.0007** | **.0008** | **.0006** | **-.0003** | **-.0005** | **.0150** | **.0646** |
| Stddev | .0003 | .0001 | .0007 | .0001 | .0002 | .0006 | .0029 | .0057 | .0010 |
| %RSD | 77.73 | 1.187 | 106.6 | 12.40 | 44.28 | 182.4 | 596.1 | 38.16 | 1.541 |
| #1 | -.0001 | .0112 | .0014 | .0007 | .0008 | -.0002 | -.0039 | .0101 | .0655 |
| #2 | -.0007 | .0114 | .0005 | .0009 | .0004 | .0002 | .0016 | .0213 | .0646 |
| #3 | -.0005 | .0111 | .0000 | .0007 | .0004 | -.0009 | .0007 | .0137 | .0635 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1112** | **.0274** | **.0449** | **.0939** | **.0021** | **.0004** | **.0098** | **.0318** | **.0004** |
| Stddev | .0037 | .0107 | .0080 | .0081 | .0006 | .0002 | .0010 | .0009 | .0001 |
| %RSD | 3.335 | 39.14 | 17.70 | 8.598 | 26.51 | 60.72 | 10.30 | 2.951 | 34.41 |
| #1 | .1075 | .0154 | .0531 | .0896 | .0028 | .0004 | .0110 | .0312 | .0003 |
| #2 | .1112 | .0307 | .0445 | .1032 | .0020 | .0006 | .0090 | .0329 | .0005 |
| #3 | .1150 | .0361 | .0372 | .0889 | .0017 | .0001 | .0095 | .0313 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **-.0007** | **.0006** | **.0348** | **.0002** | **.0002** | **.0280** |
| Stddev | .0003 | .0007 | .0001 | .0028 | .0013 | .0006 | .0014 |
| %RSD | 15.22 | 99.40 | 12.65 | 8.054 | 548.6 | 368.1 | 4.925 |
| #1 | .0019 | -.0014 | .0005 | .0366 | -.0010 | -.0005 | .0266 |
| #2 | .0015 | -.0001 | .0006 | .0363 | .0001 | .0003 | .0281 |
| #3 | .0020 | -.0006 | .0006 | .0316 | .0016 | .0007 | .0293 |



Zoom In Zoom Out

Sample Name: mp14559-mb1 Acquired: 4/30/2019 19:04:04 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **175850.** | **29285.** | **7226.8** | **10506.** |
| Stddev | 552. | 154. | 78.1 | 95. |
| %RSD | .31384 | .52620 | 1.0802 | .90659 |
| #1 | 175570. | 29409. | 7189.1 | 10450. |
| #2 | 175490. | 29334. | 7174.8 | 10452. |
| #3 | 176480. | 29113. | 7316.6 | 10616. |



Zoom In Zoom Out

Sample Name: mp14559-b1 Acquired: 4/30/2019 19:09:10 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.007** | **2.032** | **1.999** | **2.012** | **1.994** | **1.985** | **2.019** | **2.006** | **.2407** |
| Stddev | .001 | .006 | .004 | .001 | .002 | .003 | .012 | .001 | .0004 |
| %RSD | .0275 | .2781 | .2083 | .0418 | .0959 | .1479 | .6027 | .0488 | .1777 |
| #1 | 2.007 | 2.039 | 2.004 | 2.013 | 1.996 | 1.983 | 2.010 | 2.007 | .2403 |
| #2 | 2.007 | 2.031 | 1.997 | 2.012 | 1.992 | 1.983 | 2.033 | 2.005 | .2412 |
| #3 | 2.006 | 2.028 | 1.996 | 2.012 | 1.995 | 1.988 | 2.016 | 2.006 | .2407 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.975** | **2.021** | **1.877** | **2.092** | **2.016** | **1.955** | **1.898** | **24.20** | **24.47** |
| Stddev | .001 | .004 | .004 | .005 | .002 | .006 | .004 | .08 | .08 |
| %RSD | .0499 | .1961 | .1856 | .2554 | .0892 | .3166 | .2201 | .3142 | .3135 |
| #1 | 1.976 | 2.025 | 1.881 | 2.098 | 2.018 | 1.961 | 1.902 | 24.28 | 24.55 |
| #2 | 1.974 | 2.021 | 1.877 | 2.087 | 2.015 | 1.949 | 1.894 | 24.17 | 24.48 |
| #3 | 1.974 | 2.017 | 1.874 | 2.090 | 2.015 | 1.956 | 1.897 | 24.14 | 24.39 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **24.34** | **24.58** | **24.53** | **25.10** | **1.943** | **1.906** | **-.0289** | **1.981** | **2.016** |
| Stddev | .05 | .07 | .11 | .03 | .004 | .004 | .0014 | .005 | .003 |
| %RSD | .2054 | .2907 | .4677 | .1187 | .1824 | .1918 | 4.839 | .2778 | .1668 |
| #1 | 24.39 | 24.63 | 24.67 | 25.11 | 1.946 | 1.910 | -.0283 | 1.987 | 2.020 |
| #2 | 24.32 | 24.62 | 24.48 | 25.12 | 1.939 | 1.904 | -.0304 | 1.978 | 2.013 |
| #3 | 24.30 | 24.50 | 24.46 | 25.06 | 1.944 | 1.904 | -.0278 | 1.977 | 2.016 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.896** | **1.418** | **1.903** | **2.066** | **.0820** | **-.0002** | **1.960** |
| Stddev | .001 | .002 | .001 | .008 | .0006 | .0013 | .005 |
| %RSD | .0719 | .1649 | .0584 | .4011 | .7375 | 626.0 | .2533 |
| #1 | 1.898 | 1.416 | 1.904 | 2.075 | .0817 | .0002 | 1.955 |
| #2 | 1.896 | 1.418 | 1.902 | 2.060 | .0815 | -.0017 | 1.965 |
| #3 | 1.895 | 1.421 | 1.903 | 2.063 | .0827 | .0008 | 1.960 |



Zoom In Zoom Out

Sample Name: mp14559-b1 Acquired: 4/30/2019 19:09:10 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **166740.** | **28586.** | **6898.5** | **9606.1** |
| Stddev | 676. | 336. | 26.1 | 28.1 |
| %RSD | .40549 | 1.1743 | .37876 | .29204 |
| #1 | 166270. | 28262. | 6876.4 | 9586.4 |
| #2 | 166430. | 28562. | 6891.8 | 9593.7 |
| #3 | 167510. | 28932. | 6927.3 | 9638.2 |

Zoom In Zoom Out

Sample Name: mp14559-s1 Acquired: 4/30/2019 19:14:08 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.302** | **1.978** | **1.988** | **1.955** | **2.172** | **2.058** | **9.288** | **2.089** | **.2437** |
| Stddev | .001 | .004 | .002 | .004 | .005 | .001 | .002 | .006 | .0031 |
| %RSD | .0479 | .1819 | .0774 | .1949 | .2169 | .0529 | .0173 | .2894 | 1.271 |
| #1 | 2.302 | 1.975 | 1.987 | 1.951 | 2.174 | 2.058 | 9.289 | 2.087 | .2433 |
| #2 | 2.304 | 1.978 | 1.986 | 1.958 | 2.167 | 2.059 | 9.286 | 2.084 | .2409 |
| #3 | 2.302 | 1.982 | 1.989 | 1.956 | 2.175 | 2.057 | 9.289 | 2.095 | .2470 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.031** | **11.60** | **1.904** | **2.010** | **1.968** | **1.899** | **2.045** | **29.99** | **38.61** |
| Stddev | .002 | .01 | .007 | .016 | .005 | .022 | .009 | .11 | .06 |
| %RSD | .1084 | .0779 | .3652 | .7782 | .2800 | 1.138 | .4245 | .3538 | .1657 |
| #1 | 2.031 | 11.60 | 1.898 | 2.025 | 1.962 | 1.885 | 2.035 | 29.91 | 38.54 |
| #2 | 2.033 | 11.59 | 1.902 | 1.994 | 1.973 | 1.887 | 2.052 | 30.11 | 38.65 |
| #3 | 2.029 | 11.61 | 1.911 | 2.011 | 1.969 | 1.924 | 2.048 | 29.97 | 38.64 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1143.** | **27.24** | **26.69** | **27.98** | **1.905** | **1.967** | **11.31** | **2.007** | **2.109** |
| Stddev | 1. | .01 | .47 | .06 | .007 | .002 | .02 | .001 | .001 |
| %RSD | .0862 | .0396 | 1.758 | .2010 | .3825 | .1066 | .1520 | .0400 | .0294 |
| #1 | 1142. | 27.25 | 26.97 | 27.99 | 1.902 | 1.966 | 11.32 | 2.006 | 2.109 |
| #2 | 1143. | 27.23 | 26.15 | 28.03 | 1.913 | 1.970 | 11.29 | 2.008 | 2.108 |
| #3 | 1144. | 27.24 | 26.96 | 27.92 | 1.900 | 1.967 | 11.32 | 2.007 | 2.109 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.922** | **1.900** | **1.883** | **351.3** | **.1175** | **-.0853** | **2.260** |
| Stddev | .007 | .004 | .000 | .9 | .0117 | .0112 | .010 |
| %RSD | .3468 | .2258 | .0201 | .2686 | 9.920 | 13.14 | .4252 |
| #1 | 1.915 | 1.903 | 1.883 | 351.3 | .1193 | -.0747 | 2.253 |
| #2 | 1.924 | 1.903 | 1.884 | 352.2 | .1050 | -.0841 | 2.271 |
| #3 | 1.928 | 1.895 | 1.883 | 350.3 | .1282 | -.0970 | 2.255 |



Zoom In Zoom Out

Sample Name: mp14559-s1 Acquired: 4/30/2019 19:14:08 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **170880.** | **28715.** | **7000.5** | **10145.** |
| Stddev | 198. | 148. | 12.7 | 13. |
| %RSD | .11611 | .51437 | .18147 | .13295 |
| #1 | 171100. | 28551. | 6985.8 | 10130. |
| #2 | 170820. | 28838. | 7007.8 | 10151. |
| #3 | 170720. | 28754. | 7007.9 | 10155. |



Zoom In Zoom Out

Sample Name: mp14559-s2 Acquired: 4/30/2019 19:19:01 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.403** | **2.119** | **1.939** | **1.920** | **2.185** | **2.074** | **7.935** | **1.999** | **.2658** |
| Stddev | .034 | .032 | .018 | .014 | .052 | .034 | .155 | .014 | .0053 |
| %RSD | 1.425 | 1.488 | .9238 | .7420 | 2.396 | 1.648 | 1.952 | .6855 | 2.009 |
| #1 | 2.439 | 2.153 | 1.959 | 1.935 | 2.235 | 2.106 | 8.082 | 2.015 | .2714 |
| #2 | 2.401 | 2.113 | 1.933 | 1.918 | 2.190 | 2.078 | 7.949 | 1.994 | .2651 |
| #3 | 2.371 | 2.090 | 1.925 | 1.906 | 2.131 | 2.038 | 7.773 | 1.990 | .2608 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.060** | **12.39** | **1.866** | **1.986** | **1.921** | **1.896** | **2.021** | **32.16** | **38.87** |
| Stddev | .044 | .09 | .028 | .011 | .020 | .013 | .041 | .48 | .55 |
| %RSD | 2.157 | .7292 | 1.500 | .5698 | 1.014 | .6858 | 2.023 | 1.504 | 1.410 |
| #1 | 2.102 | 12.49 | 1.896 | 1.999 | 1.938 | 1.908 | 2.064 | 32.68 | 39.44 |
| #2 | 2.064 | 12.36 | 1.860 | 1.982 | 1.925 | 1.882 | 1.983 | 32.07 | 38.84 |
| #3 | 2.013 | 12.31 | 1.841 | 1.978 | 1.900 | 1.899 | 2.016 | 31.72 | 38.34 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1024.** | **29.05** | **28.73** | **29.94** | **1.879** | **1.913** | **11.38** | **1.961** | **2.252** |
| Stddev | 14. | .32 | .90 | .40 | .017 | .016 | .08 | .015 | .034 |
| %RSD | 1.368 | 1.101 | 3.127 | 1.331 | .9037 | .8143 | .7329 | .7823 | 1.499 |
| #1 | 1039. | 29.34 | 28.58 | 30.37 | 1.898 | 1.931 | 11.47 | 1.979 | 2.288 |
| #2 | 1023. | 29.10 | 29.70 | 29.86 | 1.866 | 1.906 | 11.35 | 1.951 | 2.247 |
| #3 | 1011. | 28.71 | 27.92 | 29.59 | 1.872 | 1.902 | 11.31 | 1.954 | 2.221 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.979** | **1.786** | **1.934** | **288.4** | **.0897** | **-.1199** | **2.140** |
| Stddev | .035 | .007 | .035 | 2.3 | .0115 | .0065 | .027 |
| %RSD | 1.783 | .3795 | 1.837 | .7841 | 12.80 | 5.426 | 1.272 |
| #1 | 2.012 | 1.793 | 1.967 | 291.0 | .0947 | -.1252 | 2.169 |
| #2 | 1.982 | 1.779 | 1.938 | 287.5 | .0978 | -.1126 | 2.136 |
| #3 | 1.942 | 1.786 | 1.896 | 286.7 | .0766 | -.1218 | 2.116 |



Zoom In Zoom Out

Sample Name: mp14559-s2 Acquired: 4/30/2019 19:19:01 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172520.** | **28861.** | **7073.3** | **10217.** |
| Stddev | 406. | 117. | 12.1 | 24. |
| %RSD | .23505 | .40398 | .17062 | .23101 |
| #1 | 172790. | 28779. | 7086.8 | 10244. |
| #2 | 172050. | 28809. | 7069.5 | 10207. |
| #3 | 172720. | 28994. | 7063.6 | 10200. |

Zoom In Zoom Out

Sample Name: td37124r-1 Acquired: 4/30/2019 19:23:55 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3815** | **.0005** | **.0026** | **.0183** | **.1634** | **.2002** | **6.453** | **.1439** | **.0202** |
| Stddev | .0019 | .0002 | .0023 | .0014 | .0010 | .0047 | .030 | .0053 | .0026 |
| %RSD | .5075 | 39.20 | 88.31 | 7.874 | .6334 | 2.353 | .4667 | 3.670 | 13.10 |
| #1 | .3795 | .0003 | -.0000 | .0199 | .1632 | .1958 | 6.479 | .1483 | .0179 |
| #2 | .3816 | .0006 | .0042 | .0181 | .1625 | .1996 | 6.461 | .1380 | .0230 |
| #3 | .3834 | .0005 | .0035 | .0170 | .1645 | .2051 | 6.420 | .1452 | .0195 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0661** | **17.02** | **.0773** | **-.0085** | **-.0006** | **.0255** | **.3002** | **5.620** | **14.53** |
| Stddev | .0008 | .31 | .0018 | .0123 | .0086 | .0208 | .0148 | .017 | .02 |
| %RSD | 1.273 | 1.794 | 2.330 | 144.3 | 1340. | 81.70 | 4.928 | .3063 | .1376 |
| #1 | .0670 | 17.36 | .0794 | -.0131 | .0047 | .0064 | .3172 | 5.628 | 14.53 |
| #2 | .0657 | 16.94 | .0767 | .0054 | -.0105 | .0477 | .2898 | 5.632 | 14.55 |
| #3 | .0655 | 16.77 | .0759 | -.0179 | .0039 | .0224 | .2938 | 5.600 | 14.51 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1039.** | **2.484** | **2.066** | **2.632** | **.0312** | **.0497** | **10.99** | **.0532** | **.1212** |
| Stddev | 4. | .068 | .297 | .053 | .0030 | .0020 | .20 | .0061 | .0004 |
| %RSD | .3412 | 2.755 | 14.37 | 2.015 | 9.699 | 4.107 | 1.830 | 11.52 | .3290 |
| #1 | 1041. | 2.459 | 2.255 | 2.694 | .0292 | .0484 | 11.22 | .0526 | .1215 |
| #2 | 1041. | 2.561 | 1.724 | 2.604 | .0347 | .0487 | 10.94 | .0597 | .1208 |
| #3 | 1035. | 2.431 | 2.219 | 2.600 | .0297 | .0521 | 10.82 | .0474 | .1214 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0676** | **-.0190** | **.0139** | **307.4** | **.0171** | **-.0923** | **.4750** |
| Stddev | .0019 | .0098 | .0006 | 5.6 | .0073 | .0315 | .0376 |
| %RSD | 2.776 | 51.39 | 4.622 | 1.812 | 42.67 | 34.11 | 7.908 |
| #1 | .0655 | -.0253 | .0133 | 313.7 | .0138 | -.1102 | .5170 |
| #2 | .0692 | -.0239 | .0146 | 305.0 | .0254 | -.0559 | .4633 |
| #3 | .0682 | -.0077 | .0139 | 303.4 | .0120 | -.1107 | .4446 |



Zoom In Zoom Out

Sample Name: td37124r-1 Acquired: 4/30/2019 19:23:55 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **171680.** | **28733.** | **7058.9** | **10276.** |
| Stddev | 528. | 126. | 14.7 | 21. |
| %RSD | .30737 | .44022 | .20854 | .20631 |
| #1 | 171670. | 28869. | 7042.5 | 10252. |
| #2 | 171160. | 28618. | 7071.0 | 10292. |
| #3 | 172210. | 28711. | 7063.1 | 10283. |



Zoom In Zoom Out

Sample Name: mp14559-sd1 Acquired: 4/30/2019 19:28:57 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3736** | **-.0006** | **.0110** | **.0141** | **.1525** | **.2149** | **6.380** | **.1456** | **.0375** |
| Stddev | .0069 | .0033 | .0017 | .0070 | .0169 | .0230 | .035 | .0037 | .0169 |
| %RSD | 1.858 | 549.8 | 15.32 | 49.50 | 11.10 | 10.70 | .5551 | 2.574 | 45.15 |
| #1 | .3747 | .0032 | .0121 | .0222 | .1652 | .2371 | 6.340 | .1493 | .0222 |
| #2 | .3662 | -.0019 | .0118 | .0099 | .1333 | .2163 | 6.407 | .1418 | .0557 |
| #3 | .3800 | -.0031 | .0091 | .0104 | .1589 | .1912 | 6.394 | .1458 | .0346 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0573** | **17.67** | **.0688** | **-.0079** | **.0075** | **-.0291** | **.3264** | **5.785** | **15.56** |
| Stddev | .0058 | .01 | .0728 | .0028 | .0528 | .0550 | .0494 | .022 | .02 |
| %RSD | 10.06 | .0614 | 105.7 | 35.72 | 704.8 | 188.8 | 15.13 | .3737 | .1242 |
| #1 | .0630 | 17.66 | .1070 | -.0100 | -.0303 | -.0735 | .3069 | 5.796 | 15.54 |
| #2 | .0575 | 17.68 | .1146 | -.0089 | .0679 | -.0463 | .2898 | 5.760 | 15.55 |
| #3 | .0515 | 17.67 | -.0151 | -.0047 | -.0150 | .0324 | .3825 | 5.799 | 15.58 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1023.** | **2.085** | **1.864** | **3.365** | **.0893** | **.0515** | **11.82** | **.0738** | **.1156** |
| Stddev | 2. | .526 | 1.774 | .491 | .0114 | .0092 | .10 | .0164 | .0033 |
| %RSD | .2375 | 25.24 | 95.18 | 14.58 | 12.76 | 17.92 | .8060 | 22.20 | 2.818 |
| #1 | 1020. | 2.419 | 3.323 | 3.213 | .0796 | .0529 | 11.91 | .0927 | .1121 |
| #2 | 1024. | 2.358 | 2.380 | 3.914 | .1019 | .0416 | 11.83 | .0636 | .1186 |
| #3 | 1024. | 1.479 | -.1111 | 2.968 | .0865 | .0599 | 11.72 | .0651 | .1162 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0826** | **.0118** | **.0137** | **320.0** | **.0356** | **-.0385** | **.4272** |
| Stddev | .0180 | .0395 | .0017 | .9 | .0865 | .0810 | .0577 |
| %RSD | 21.84 | 336.0 | 12.32 | .2758 | 243.0 | 210.6 | 13.52 |
| #1 | .1034 | .0066 | .0131 | 320.2 | .0645 | -.0946 | .4263 |
| #2 | .0722 | .0536 | .0123 | 319.1 | -.0616 | .0544 | .4854 |
| #3 | .0721 | -.0249 | .0156 | 320.8 | .1039 | -.0752 | .3699 |



Zoom In Zoom Out

Sample Name: mp14559-sd1 Acquired: 4/30/2019 19:28:57 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172980.** | **28672.** | **7070.4** | **10263.** |
| Stddev | 778. | 73. | 23.1 | 29. |
| %RSD | .44989 | .25508 | .32678 | .27833 |
| #1 | 173800. | 28685. | 7094.4 | 10291. |
| #2 | 172260. | 28594. | 7068.3 | 10265. |
| #3 | 172870. | 28738. | 7048.4 | 10234. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 19:34:01 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.992** | **2.031** | **2.052** | **2.058** | **1.995** | **1.967** | **2.028** | **2.045** | **.2464** |
| Stddev | .009 | .004 | .050 | .045 | .008 | .007 | .027 | .046 | .0012 |
| %RSD | .4337 | .2162 | 2.447 | 2.199 | .3999 | .3436 | 1.348 | 2.269 | .4950 |
| #1 | 1.990 | 2.031 | 1.998 | 2.010 | 1.985 | 1.959 | 1.999 | 1.996 | .2450 |
| #2 | 2.001 | 2.036 | 2.060 | 2.064 | 2.000 | 1.972 | 2.033 | 2.051 | .2471 |
| #3 | 1.984 | 2.027 | 2.097 | 2.100 | 1.998 | 1.970 | 2.052 | 2.088 | .2472 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.995** | **2.069** | **1.982** | **2.094** | **2.044** | **2.020** | **1.997** | **39.26** | **39.64** |
| Stddev | .007 | .051 | .051 | .040 | .045 | .052 | .049 | .10 | .07 |
| %RSD | .3362 | 2.455 | 2.565 | 1.904 | 2.219 | 2.601 | 2.469 | .2636 | .1719 |
| #1 | 1.987 | 2.015 | 1.929 | 2.052 | 1.996 | 1.964 | 1.944 | 39.27 | 39.62 |
| #2 | 1.998 | 2.074 | 1.984 | 2.101 | 2.050 | 2.026 | 2.005 | 39.36 | 39.72 |
| #3 | 1.999 | 2.116 | 2.031 | 2.131 | 2.086 | 2.069 | 2.042 | 39.16 | 39.59 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.02** | **39.59** | **39.71** | **39.80** | **2.055** | **2.036** | **5.018** | **2.057** | **2.007** |
| Stddev | .09 | .10 | .06 | .13 | .052 | .049 | .125 | .049 | .007 |
| %RSD | .2336 | .2593 | .1466 | .3212 | 2.552 | 2.412 | 2.489 | 2.378 | .3301 |
| #1 | 39.01 | 39.53 | 39.69 | 39.80 | 1.999 | 1.985 | 4.888 | 2.004 | 2.007 |
| #2 | 39.12 | 39.70 | 39.78 | 39.93 | 2.062 | 2.041 | 5.028 | 2.064 | 2.014 |
| #3 | 38.94 | 39.53 | 39.67 | 39.68 | 2.103 | 2.082 | 5.137 | 2.101 | 2.001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 19:34:01 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.942** | **1.954** | **1.962** | **2.003** | **2.014** | **2.031** | **1.947** |
| Stddev | .005 | .049 | .004 | .047 | .048 | .003 | .053 |
| %RSD | .2804 | 2.497 | .1765 | 2.343 | 2.389 | .1449 | 2.707 |
| #1 | 1.935 | 1.903 | 1.958 | 1.955 | 1.964 | 2.032 | 1.898 |
| #2 | 1.945 | 1.959 | 1.964 | 2.006 | 2.020 | 2.033 | 1.942 |
| #3 | 1.944 | 2.000 | 1.964 | 2.049 | 2.059 | 2.028 | 2.003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **163450.** | **28098.** | **6644.9** | **9246.4** |
| Stddev | 1239. | 52. | 138.5 | 170.0 |
| %RSD | .75816 | .18680 | 2.0844 | 1.8382 |
| #1 | 164850. | 28154. | 6795.1 | 9431.6 |
| #2 | 163010. | 28089. | 6617.4 | 9210.0 |
| #3 | 162490. | 28050. | 6522.2 | 9097.5 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 19:39:02 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0000** | **.0004** | **.0000** | **-.0001** | **.0002** | **.0000** | **-.0002** | **.0005** |
| Stddev | .0001 | .0000 | .0001 | .0003 | .0003 | .0004 | .0000 | .0003 | .0003 |
| %RSD | 150.3 | 75.93 | 19.16 | 3485. | 316.1 | 179.0 | 123.2 | 127.3 | 64.41 |
| #1 | .0002 | .0000 | .0003 | -.0003 | .0001 | -.0001 | .0001 | -.0003 | .0003 |
| #2 | .0002 | .0000 | .0003 | -.0001 | .0001 | .0006 | -.0000 | -.0004 | .0008 |
| #3 | -.0001 | .0000 | .0004 | .0004 | -.0005 | .0001 | .0000 | .0001 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0005** | **.0002** | **.0001** | **.0005** | **.0010** | **-.0002** | **-.0023** | **-.0045** |
| Stddev | .0001 | .0002 | .0005 | .0015 | .0002 | .0017 | .0003 | .0037 | .0013 |
| %RSD | 35.54 | 37.29 | 189.6 | 1050. | 37.56 | 171.8 | 202.5 | 159.7 | 29.27 |
| #1 | -.0005 | -.0007 | .0001 | .0005 | .0004 | .0005 | -.0005 | -.0032 | -.0030 |
| #2 | -.0003 | -.0006 | -.0001 | -.0015 | .0008 | .0028 | .0002 | -.0056 | -.0053 |
| #3 | -.0002 | -.0003 | .0008 | .0015 | .0005 | -.0004 | -.0002 | .0018 | -.0053 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0015** | **.0111** | **.1015** | **.0125** | **.0037** | **.0003** | **.0003** | **.0008** | **-.0000** |
| Stddev | .0002 | .0122 | .0434 | .0035 | .0006 | .0002 | .0005 | .0005 | .0000 |
| %RSD | 16.81 | 109.8 | 42.75 | 27.69 | 16.53 | 60.39 | 196.0 | 58.09 | 65.30 |
| #1 | -.0014 | .0251 | .1290 | .0123 | .0035 | .0001 | .0001 | .0006 | -.0000 |
| #2 | -.0012 | .0040 | .1242 | .0161 | .0033 | .0005 | -.0002 | .0005 | -.0000 |
| #3 | -.0017 | .0041 | .0515 | .0092 | .0044 | .0003 | .0009 | .0014 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 19:39:02 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0009** | **.0002** | **.0015** | **.0001** | **-.0020** | **-.0038** |
| Stddev | .0001 | .0006 | .0000 | .0027 | .0018 | .0024 | .0016 |
| %RSD | 17.68 | 70.56 | 16.23 | 179.5 | 3148. | 120.1 | 40.92 |
| #1 | .0004 | .0012 | .0002 | .0016 | .0013 | -.0045 | -.0055 |
| #2 | .0004 | .0014 | .0002 | -.0012 | -.0021 | -.0016 | -.0035 |
| #3 | .0005 | .0002 | .0002 | .0041 | .0009 | .0002 | -.0024 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **174720.** | **28648.** | **7092.2** | **10364.** |
| Stddev | 1311. | 176. | 9.2 | 16. |
| %RSD | .75050 | .61472 | .12977 | .15360 |
| #1 | 175380. | 28693. | 7098.1 | 10372. |
| #2 | 175560. | 28454. | 7081.6 | 10345. |
| #3 | 173200. | 28797. | 7097.0 | 10373. |

Zoom In Zoom Out

Sample Name: jc86897-1a Acquired: 4/30/2019 19:44:10 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.646** | **.0018** | **.0012** | **.1243** | **.3816** | **.2630** | **2.359** | **.3659** | **.0055** |
| Stddev | .003 | .0001 | .0002 | .0011 | .0023 | .0012 | .010 | .0004 | .0004 |
| %RSD | .1883 | 3.421 | 20.95 | .8528 | .6057 | .4541 | .4245 | .1199 | 6.541 |
| #1 | 1.649 | .0019 | .0012 | .1243 | .3842 | .2634 | 2.370 | .3658 | .0056 |
| #2 | 1.645 | .0018 | .0009 | .1253 | .3807 | .2616 | 2.352 | .3663 | .0051 |
| #3 | 1.643 | .0018 | .0014 | .1232 | .3798 | .2639 | 2.354 | .3655 | .0058 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3865** | **.9003** | **.0205** | **.0020** | **.1784** | **.0003** | **.0062** | **134.3** | **51.82** |
| Stddev | .0020 | .0005 | .0024 | .0029 | .0039 | .0050 | .0064 | .4 | .15 |
| %RSD | .5107 | .0567 | 11.92 | 145.7 | 2.191 | 1701. | 103.7 | .3278 | .2881 |
| #1 | .3887 | .8997 | .0214 | -.0009 | .1829 | -.0028 | -.0011 | 134.8 | 52.00 |
| #2 | .3849 | .9004 | .0223 | .0020 | .1768 | .0060 | .0110 | 134.0 | 51.74 |
| #3 | .3860 | .9007 | .0177 | .0050 | .1756 | -.0023 | .0086 | 134.0 | 51.73 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **222.9** | **78.29** | **85.87** | **2.910** | **.0367** | **.0100** | **2.131** | **.0275** | **.1837** |
| Stddev | .6 | .12 | .30 | .014 | .0012 | .0002 | .005 | .0004 | .0010 |
| %RSD | .2614 | .1475 | .3535 | .4648 | 3.307 | 2.037 | .2555 | 1.411 | .5260 |
| #1 | 223.6 | 78.38 | 86.22 | 2.906 | .0357 | .0101 | 2.136 | .0271 | .1848 |
| #2 | 222.6 | 78.34 | 85.65 | 2.899 | .0380 | .0102 | 2.131 | .0278 | .1830 |
| #3 | 222.5 | 78.16 | 85.73 | 2.925 | .0364 | .0098 | 2.125 | .0277 | .1834 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **16.79** | **.0104** | **.0241** | **10.58** | **.4619** | **.3027** | **4.191** |
| Stddev | .07 | .0015 | .0001 | .03 | .0054 | .0081 | .015 |
| %RSD | .4025 | 14.63 | .2349 | .2796 | 1.164 | 2.666 | .3678 |
| #1 | 16.87 | .0092 | .0241 | 10.57 | .4659 | .3116 | 4.207 |
| #2 | 16.75 | .0121 | .0242 | 10.55 | .4639 | .3005 | 4.189 |
| #3 | 16.75 | .0098 | .0241 | 10.61 | .4558 | .2960 | 4.177 |



Zoom In Zoom Out

Sample Name: jc86897-1a Acquired: 4/30/2019 19:44:10 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **169340.** | **28924.** | **6977.9** | **9701.2** |
| Stddev | 503. | 51. | 20.7 | 21.8 |
| %RSD | .29695 | .17485 | .29703 | .22515 |
| #1 | 169030. | 28890. | 6990.6 | 9719.8 |
| #2 | 169920. | 28982. | 6989.1 | 9706.5 |
| #3 | 169070. | 28899. | 6954.0 | 9677.1 |



Zoom In Zoom Out

Sample Name: jc86897-2a Acquired: 4/30/2019 19:49:09 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.659** | **.0016** | **.0012** | **.1222** | **.4232** | **.3199** | **2.345** | **.3597** | **.0065** |
| Stddev | .027 | .0001 | .0002 | .0006 | .0040 | .0020 | .014 | .0015 | .0003 |
| %RSD | 1.621 | 6.008 | 15.05 | .4576 | .9522 | .6238 | .5967 | .4108 | 4.060 |
| #1 | 1.685 | .0015 | .0013 | .1221 | .4268 | .3216 | 2.357 | .3614 | .0068 |
| #2 | 1.662 | .0017 | .0010 | .1227 | .4238 | .3204 | 2.348 | .3591 | .0065 |
| #3 | 1.631 | .0017 | .0012 | .1216 | .4189 | .3177 | 2.330 | .3587 | .0063 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3930** | **.7458** | **.0184** | **.0019** | **.1745** | **-.0009** | **.0073** | **141.8** | **48.22** |
| Stddev | .0029 | .0036 | .0023 | .0032 | .0016 | .0009 | .0029 | 2.5 | .92 |
| %RSD | .7311 | .4785 | 12.63 | 166.6 | .9430 | 94.08 | 40.32 | 1.796 | 1.908 |
| #1 | .3956 | .7497 | .0161 | .0044 | .1744 | .0001 | .0064 | 144.1 | 49.08 |
| #2 | .3936 | .7448 | .0208 | .0032 | .1762 | -.0012 | .0105 | 142.3 | 48.34 |
| #3 | .3899 | .7428 | .0183 | -.0017 | .1729 | -.0016 | .0049 | 139.1 | 47.25 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **240.7** | **84.97** | **92.87** | **2.826** | **.0237** | **.0081** | **2.306** | **.0267** | **.1832** |
| Stddev | 4.2 | 1.54 | 1.56 | .087 | .0006 | .0009 | .021 | .0025 | .0035 |
| %RSD | 1.736 | 1.812 | 1.678 | 3.072 | 2.531 | 10.76 | .9152 | 9.397 | 1.923 |
| #1 | 244.6 | 86.36 | 94.32 | 2.916 | .0231 | .0079 | 2.329 | .0274 | .1866 |
| #2 | 241.2 | 85.24 | 93.07 | 2.819 | .0237 | .0091 | 2.302 | .0288 | .1835 |
| #3 | 236.3 | 83.32 | 91.22 | 2.742 | .0243 | .0074 | 2.288 | .0239 | .1795 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **16.66** | **.0012** | **.0212** | **11.10** | **.4703** | **.2988** | **3.975** |
| Stddev | .09 | .0036 | .0004 | .04 | .0053 | .0031 | .031 |
| %RSD | .5426 | 301.8 | 1.671 | .3390 | 1.119 | 1.024 | .7709 |
| #1 | 16.74 | -.0013 | .0215 | 11.14 | .4718 | .2995 | 3.972 |
| #2 | 16.68 | .0053 | .0214 | 11.07 | .4746 | .3015 | 3.945 |
| #3 | 16.56 | -.0004 | .0208 | 11.08 | .4644 | .2955 | 4.007 |



Zoom In Zoom Out

Sample Name: jc86897-2a Acquired: 4/30/2019 19:49:09 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **168960.** | **28713.** | **7021.6** | **9760.7** |
| Stddev | 436. | 40. | 18.2 | 26.1 |
| %RSD | .25810 | .13787 | .25979 | .26762 |
| #1 | 169380. | 28686. | 7001.7 | 9732.3 |
| #2 | 168510. | 28759. | 7025.6 | 9766.1 |
| #3 | 169010. | 28695. | 7037.6 | 9783.7 |

Zoom In Zoom Out

Sample Name: td37308-1r Acquired: 4/30/2019 19:54:07 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8969** | **.0006** | **-.0041** | **.5356** | **2.772** | **.9802** | **27.45** | **3.333** |
| Stddev | .0092 | .0003 | .0003 | .0031 | .017 | .0050 | .38 | .032 |
| %RSD | 1.022 | 44.73 | 8.139 | .5760 | .6225 | .5107 | 1.369 | .9732 |
| #1 | .9055 | .0007 | -.0039 | .5390 | 2.784 | .9762 | 27.88 | 3.352 |
| #2 | .8979 | .0007 | -.0038 | .5348 | 2.780 | .9858 | 27.26 | 3.352 |
| #3 | .8872 | .0003 | -.0045 | .5329 | 2.752 | .9786 | 27.21 | 3.296 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-1.008** | **.1427** | **.6821** | **.4142** | F **-.1384** | **.1889** | F **-.3498** | **.1470** |
| Stddev | .009 | .0034 | .0063 | .0068 | .0091 | .0191 | .0272 | .0169 |
| %RSD | .9057 | 2.353 | .9219 | 1.639 | 6.610 | 10.12 | 7.783 | 11.48 |
| #1 | -1.015 | .1430 | .6862 | .4220 | -.1391 | .2043 | -.3263 | .1360 |
| #2 | -1.011 | .1392 | .6852 | .4109 | -.1471 | .1675 | -.3797 | .1386 |
| #3 | -.9978 | .1459 | .6748 | .4096 | -.1289 | .1949 | -.3435 | .1665 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.765** | **83.43** | F **4158.** | **12.72** | **3.851** | **41.85** | **.0957** | **1.193** |
| Stddev | .070 | .72 | 114. | .16 | .346 | .40 | .0047 | .015 |
| %RSD | 1.470 | .8639 | 2.741 | 1.272 | 8.995 | .9659 | 4.862 | 1.233 |
| #1 | 4.800 | 84.17 | 4283. | 12.91 | 3.894 | 42.29 | .0924 | 1.200 |
| #2 | 4.810 | 83.38 | 4060. | 12.65 | 4.175 | 41.79 | .0937 | 1.202 |
| #3 | 4.684 | 82.73 | 4130. | 12.61 | 3.486 | 41.48 | .1010 | 1.176 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.66** | **.3247** | **1.373** | **.3061** | **.0294** | ***** | **568.0** | **.8963** |
| Stddev | .25 | .0016 | .011 | .0020 | .0076 | ----- | 6.7 | .0223 |
| %RSD | .9841 | .4873 | .8190 | .6517 | 25.90 | ----- | 1.178 | 2.493 |
| #1 | 25.86 | .3246 | 1.384 | .3084 | .0264 | ----- | 574.3 | .8974 |
| #2 | 25.73 | .3263 | 1.374 | .3047 | .0380 | ----- | 568.7 | .8734 |
| #3 | 25.38 | .3232 | 1.361 | .3053 | .0237 | ----- | 560.9 | .9181 |



Zoom In Zoom Out

Sample Name: td37308-1r Acquired: 4/30/2019 19:54:07 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0077** | **3.306** |
| Stddev | .0278 | .032 |
| %RSD | 359.1 | .9805 |
| #1 | -.0304 | 3.344 |
| #2 | -.0161 | 3.291 |
| #3 | .0233 | 3.285 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **168690.** | **28916.** | **6939.8** | **10418.** |
| Stddev | 466. | 130. | 49.0 | 65. |
| %RSD | .27610 | .44981 | .70596 | .62634 |
| #1 | 168630. | 28958. | 6932.9 | 10422. |
| #2 | 169190. | 29019. | 6894.7 | 10351. |
| #3 | 168260. | 28770. | 6991.9 | 10482. |



Zoom In Zoom Out

Sample Name: jc86864-8 Acquired: 4/30/2019 19:59:22 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4767** | **.0039** | **.0005** | **.0502** | **.1482** | **.0774** | **2.900** | **.1119** | **.0025** |
| Stddev | .0006 | .0000 | .0000 | .0002 | .0003 | .0006 | .006 | .0003 | .0009 |
| %RSD | .1265 | 1.176 | 8.388 | .3655 | .2228 | .7504 | .2053 | .3097 | 34.44 |
| #1 | .4770 | .0038 | .0005 | .0504 | .1479 | .0777 | 2.899 | .1123 | .0018 |
| #2 | .4760 | .0039 | .0006 | .0500 | .1486 | .0768 | 2.894 | .1116 | .0022 |
| #3 | .4770 | .0039 | .0005 | .0503 | .1481 | .0778 | 2.906 | .1120 | .0035 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2301** | **.2821** | **.0312** | **-.0017** | **.1569** | **.0001** | **.0020** | **114.5** | **7.568** |
| Stddev | .0004 | .0004 | .0018 | .0021 | .0002 | .0013 | .0005 | .2 | .024 |
| %RSD | .1911 | .1312 | 5.820 | 125.3 | .1591 | 932.0 | 27.11 | .1665 | .3141 |
| #1 | .2296 | .2818 | .0333 | -.0006 | .1567 | -.0008 | .0026 | 114.4 | 7.544 |
| #2 | .2304 | .2825 | .0304 | -.0003 | .1571 | .0017 | .0016 | 114.7 | 7.591 |
| #3 | .2304 | .2820 | .0300 | -.0041 | .1567 | -.0004 | .0017 | 114.4 | 7.569 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **136.8** | **17.29** | **5.843** | **.5796** | **.0311** | **.0041** | **1.375** | **.0265** | **.0531** |
| Stddev | 2.4 | .08 | .034 | .0118 | .0002 | .0005 | .005 | .0003 | .0001 |
| %RSD | 1.759 | .4613 | .5848 | 2.035 | .6308 | 10.97 | .3438 | .9651 | .1384 |
| #1 | 134.8 | 17.23 | 5.822 | .5685 | .0312 | .0043 | 1.379 | .0268 | .0530 |
| #2 | 136.2 | 17.38 | 5.883 | .5783 | .0309 | .0044 | 1.376 | .0263 | .0531 |
| #3 | 139.5 | 17.26 | 5.825 | .5920 | .0312 | .0036 | 1.370 | .0264 | .0531 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.192** | **.0013** | **.0219** | **.6588** | **.0565** | **.0500** | **2.872** |
| Stddev | .004 | .0012 | .0002 | .0094 | .0016 | .0019 | .004 |
| %RSD | .1615 | 90.29 | .7094 | 1.431 | 2.827 | 3.830 | .1518 |
| #1 | 2.195 | -.0001 | .0218 | .6695 | .0582 | .0519 | 2.867 |
| #2 | 2.192 | .0021 | .0220 | .6552 | .0551 | .0481 | 2.873 |
| #3 | 2.188 | .0019 | .0220 | .6517 | .0561 | .0499 | 2.876 |



Zoom In Zoom Out

Sample Name: jc86864-8 Acquired: 4/30/2019 19:59:22 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **176480.** | **30311.** | **7383.8** | **9945.2** |
| Stddev | 245. | 224. | 20.1 | 19.2 |
| %RSD | .13882 | .74038 | .27280 | .19285 |
| #1 | 176200. | 30390. | 7406.6 | 9967.3 |
| #2 | 176660. | 30058. | 7368.6 | 9934.9 |
| #3 | 176570. | 30485. | 7376.2 | 9933.4 |

Zoom In Zoom Out

Sample Name: jc86864-9 Acquired: 4/30/2019 20:04:36 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5596** | **.0041** | **.0019** | **.0492** | **.2000** | **.1399** | **4.197** | **.0988** |
| Stddev | .0004 | .0001 | .0001 | .0003 | .0005 | .0006 | .031 | .0005 |
| %RSD | .0742 | 1.298 | 2.735 | .5155 | .2608 | .4339 | .7380 | .5434 |
| #1 | .5601 | .0041 | .0019 | .0493 | .1998 | .1394 | 4.182 | .0994 |
| #2 | .5596 | .0040 | .0019 | .0489 | .2006 | .1406 | 4.233 | .0983 |
| #3 | .5592 | .0041 | .0018 | .0493 | .1997 | .1396 | 4.177 | .0986 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0026** | **.2211** | **.5068** | **.0462** | F **-.0037** | **.5780** | **.0013** | **.0016** |
| Stddev | .0004 | .0007 | .0001 | .0011 | .0006 | .0017 | .0016 | .0008 |
| %RSD | 14.05 | .3203 | .0280 | 2.358 | 15.35 | .2902 | 128.4 | 51.09 |
| #1 | .0030 | .2205 | .5068 | .0457 | -.0037 | .5775 | -.0005 | .0025 |
| #2 | .0023 | .2219 | .5070 | .0474 | -.0043 | .5767 | .0016 | .0013 |
| #3 | .0026 | .2210 | .5067 | .0454 | -.0032 | .5799 | .0027 | .0010 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **98.50** | **9.528** | **118.4** | **14.18** | **4.683** | **.7951** | **.0233** | **.0043** |
| Stddev | .11 | .014 | .1 | .04 | .048 | .0075 | .0002 | .0001 |
| %RSD | .1093 | .1420 | .1117 | .2613 | 1.029 | .9413 | .7757 | 2.987 |
| #1 | 98.60 | 9.542 | 118.5 | 14.22 | 4.736 | .8037 | .0234 | .0044 |
| #2 | 98.52 | 9.527 | 118.5 | 14.19 | 4.641 | .7915 | .0231 | .0044 |
| #3 | 98.38 | 9.515 | 118.3 | 14.14 | 4.673 | .7901 | .0233 | .0042 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.372** | **.0332** | **.0618** | **2.066** | **-.0002** | **.0095** | **1.265** | **.0541** |
| Stddev | .005 | .0003 | .0002 | .003 | .0007 | .0001 | .004 | .0015 |
| %RSD | .3555 | .8578 | .2809 | .1197 | 337.4 | .9143 | .3203 | 2.801 |
| #1 | 1.377 | .0329 | .0619 | 2.069 | .0000 | .0094 | 1.261 | .0525 |
| #2 | 1.367 | .0333 | .0620 | 2.066 | -.0010 | .0095 | 1.269 | .0543 |
| #3 | 1.372 | .0334 | .0616 | 2.064 | .0004 | .0095 | 1.266 | .0555 |



Zoom In Zoom Out

Sample Name: jc86864-9 Acquired: 4/30/2019 20:04:36 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0483** | **5.439** |
| Stddev | .0013 | .042 |
| %RSD | 2.677 | .7758 |
| #1 | .0492 | 5.390 |
| #2 | .0468 | 5.464 |
| #3 | .0487 | 5.463 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **180830.** | **31246.** | **7555.0** | **9909.7** |
| Stddev | 328. | 124. | 9.6 | 15.8 |
| %RSD | .18163 | .39724 | .12748 | .15918 |
| #1 | 181210. | 31384. | 7564.5 | 9923.0 |
| #2 | 180630. | 31143. | 7555.1 | 9913.9 |
| #3 | 180650. | 31212. | 7545.3 | 9892.3 |



Zoom In Zoom Out

Sample Name: MP14576-MB1CONF Acquired: 4/30/2019 20:09:41 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0001** | **.0002** | **.0002** | **.0004** | **.0015** | **.0005** | **.0003** | **.0002** |
| Stddev | .0003 | .0000 | .0001 | .0002 | .0004 | .0001 | .0000 | .0003 | .0005 |
| %RSD | 215.3 | 35.30 | 29.57 | 99.48 | 99.63 | 9.221 | 2.676 | 122.2 | 346.9 |
| #1 | .0004 | .0001 | .0002 | .0000 | .0010 | .0016 | .0006 | .0006 | .0002 |
| #2 | .0002 | .0001 | .0002 | .0002 | .0002 | .0013 | .0005 | .0002 | .0007 |
| #3 | -.0002 | .0001 | .0001 | .0003 | .0002 | .0015 | .0005 | -.0000 | -.0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0103** | **.0007** | **-.0000** | **.0004** | **.0005** | **-.0007** | **.0148** | **.3847** |
| Stddev | .0002 | .0001 | .0008 | .0001 | .0000 | .0019 | .0014 | .0041 | .0012 |
| %RSD | 56.64 | .5039 | 118.8 | 553.2 | 8.834 | 419.3 | 211.0 | 27.71 | .3180 |
| #1 | -.0002 | .0103 | -.0003 | .0001 | .0005 | -.0010 | .0009 | .0193 | .3839 |
| #2 | -.0003 | .0102 | .0012 | -.0001 | .0004 | .0026 | -.0018 | .0139 | .3861 |
| #3 | -.0006 | .0103 | .0011 | -.0000 | .0004 | -.0002 | -.0011 | .0112 | .3842 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0316** | **.0220** | **.0814** | **.1069** | **.0022** | **.0007** | **.0107** | **.0233** | **.0006** |
| Stddev | .0012 | .0049 | .0233 | .0026 | .0000 | .0002 | .0003 | .0003 | .0000 |
| %RSD | 3.667 | 22.34 | 28.58 | 2.423 | 1.847 | 24.17 | 2.542 | 1.137 | 7.570 |
| #1 | .0319 | .0164 | .0639 | .1098 | .0022 | .0008 | .0104 | .0236 | .0006 |
| #2 | .0326 | .0251 | .0724 | .1047 | .0022 | .0006 | .0109 | .0231 | .0006 |
| #3 | .0303 | .0246 | .1078 | .1063 | .0022 | .0005 | .0109 | .0231 | .0005 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0081** | **.0011** | **.0001** | **.0182** | **-.0007** | **-.0049** | **.0161** |
| Stddev | .0003 | .0009 | .0001 | .0025 | .0021 | .0028 | .0004 |
| %RSD | 3.304 | 82.87 | 95.34 | 13.51 | 308.6 | 56.75 | 2.437 |
| #1 | .0078 | .0021 | .0002 | .0178 | -.0007 | -.0022 | .0162 |
| #2 | .0082 | .0011 | .0001 | .0159 | .0014 | -.0047 | .0157 |
| #3 | .0083 | .0002 | -.0000 | .0208 | -.0028 | -.0078 | .0165 |



Zoom In Zoom Out

Sample Name: MP14576-MB1CONF Acquired: 4/30/2019 20:09:41 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **176380.** | **29352.** | **7211.7** | **10497.** |
| Stddev | 365. | 160. | 50.2 | 63. |
| %RSD | .20670 | .54651 | .69587 | .60020 |
| #1 | 176760. | 29188. | 7194.0 | 10477. |
| #2 | 176030. | 29509. | 7268.3 | 10568. |
| #3 | 176340. | 29359. | 7172.7 | 10447. |

Zoom In Zoom Out

Sample Name: JC86881-7 Acquired: 4/30/2019 20:14:48 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.169** | **.0177** | **.0012** | **.2106** | **.3835** | **.0373** | **4.487** | **.4686** |
| Stddev | .001 | .0001 | .0005 | .0034 | .0025 | .0027 | .009 | .0051 |
| %RSD | .0774 | .6293 | 44.27 | 1.636 | .6572 | 7.169 | .1904 | 1.085 |
| #1 | 1.168 | .0178 | .0012 | .2122 | .3838 | .0355 | 4.490 | .4719 |
| #2 | 1.170 | .0177 | .0017 | .2129 | .3808 | .0404 | 4.478 | .4711 |
| #3 | 1.168 | .0176 | .0007 | .2066 | .3858 | .0361 | 4.495 | .4627 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0060** | **.4561** | **1.220** | **.0297** | F **-.0066** | **.1403** | **-.0090** | **.0073** |
| Stddev | .0014 | .0025 | .016 | .0012 | .0018 | .0029 | .0049 | .0019 |
| %RSD | 23.69 | .5384 | 1.318 | 3.980 | 27.12 | 2.032 | 54.70 | 25.58 |
| #1 | .0070 | .4557 | 1.228 | .0303 | -.0048 | .1435 | -.0119 | .0079 |
| #2 | .0067 | .4539 | 1.231 | .0284 | -.0083 | .1394 | -.0119 | .0052 |
| #3 | .0044 | .4588 | 1.202 | .0306 | -.0066 | .1380 | -.0033 | .0087 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **220.7** | **92.63** | **407.0** | **176.5** | **37.07** | **2.324** | **.2956** | **.0060** |
| Stddev | .3 | .07 | 2.9 | .2 | .02 | .018 | .0020 | .0003 |
| %RSD | .1389 | .0741 | .7085 | .1033 | .0430 | .7694 | .6672 | 5.385 |
| #1 | 220.6 | 92.67 | 410.0 | 176.7 | 37.05 | 2.324 | .2963 | .0059 |
| #2 | 220.4 | 92.55 | 406.5 | 176.3 | 37.07 | 2.307 | .2971 | .0058 |
| #3 | 221.0 | 92.67 | 404.3 | 176.5 | 37.08 | 2.343 | .2934 | .0064 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.013** | **.0238** | **.2692** | **3.242** | **-.0000** | **.1317** | **.5288** | **.0789** |
| Stddev | .029 | .0013 | .0002 | .004 | .0006 | .0008 | .0126 | .0069 |
| %RSD | 1.440 | 5.412 | .0712 | .1139 | 3516. | .6223 | 2.388 | 8.680 |
| #1 | 2.027 | .0223 | .2690 | 3.243 | -.0007 | .1320 | .5263 | .0765 |
| #2 | 2.032 | .0242 | .2692 | 3.238 | .0003 | .1307 | .5425 | .0736 |
| #3 | 1.979 | .0248 | .2694 | 3.245 | .0003 | .1322 | .5177 | .0867 |



Zoom In Zoom Out

Sample Name: JC86881-7 Acquired: 4/30/2019 20:14:48 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **1.082** | **5.953** |
| Stddev | .004 | .103 |
| %RSD | .3940 | 1.735 |
| #1 | 1.086 | 5.979 |
| #2 | 1.082 | 6.041 |
| #3 | 1.077 | 5.839 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **167740.** | **29146.** | **7016.8** | **9744.7** |
| Stddev | 708. | 159. | 89.2 | 96.9 |
| %RSD | .42188 | .54553 | 1.2712 | .99402 |
| #1 | 167180. | 28968. | 6978.7 | 9706.0 |
| #2 | 168540. | 29196. | 6952.9 | 9673.1 |
| #3 | 167510. | 29274. | 7118.7 | 9854.9 |



Zoom In Zoom Out

Sample Name: JC86890-1 Acquired: 4/30/2019 20:19:54 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.004** | **.0081** | **.0028** | **.1298** | **.9705** | **.2437** | **3.846** | **1.468** | **.0034** |
| Stddev | .008 | .0001 | .0003 | .0005 | .0093 | .0020 | .032 | .007 | .0009 |
| %RSD | .7667 | .7017 | 9.526 | .3485 | .9531 | .8077 | .8302 | .4780 | 25.49 |
| #1 | .9960 | .0081 | .0031 | .1295 | .9623 | .2415 | 3.843 | 1.460 | .0028 |
| #2 | 1.004 | .0082 | .0027 | .1304 | .9687 | .2441 | 3.816 | 1.470 | .0030 |
| #3 | 1.011 | .0081 | .0025 | .1297 | .9805 | .2454 | 3.880 | 1.473 | .0044 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3007** | **1.098** | **.0369** | **-.0029** | **.2547** | **-.0015** | **.0067** | **112.4** | **15.27** |
| Stddev | .0037 | .004 | .0012 | .0005 | .0015 | .0013 | .0032 | .9 | .12 |
| %RSD | 1.218 | .3370 | 3.367 | 18.16 | .5820 | 84.48 | 47.37 | .8200 | .8156 |
| #1 | .2978 | 1.094 | .0356 | -.0032 | .2530 | -.0007 | .0055 | 111.6 | 15.17 |
| #2 | .2995 | 1.098 | .0369 | -.0032 | .2556 | -.0008 | .0043 | 112.4 | 15.25 |
| #3 | .3048 | 1.101 | .0381 | -.0023 | .2555 | -.0030 | .0103 | 113.4 | 15.41 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **206.0** | **41.29** | **15.74** | **2.336** | **.1425** | **.0424** | **1.625** | **.0273** | **.0928** |
| Stddev | 1.6 | .32 | .15 | .024 | .0016 | .0006 | .007 | .0009 | .0011 |
| %RSD | .7902 | .7748 | .9810 | 1.039 | 1.130 | 1.375 | .4055 | 3.237 | 1.159 |
| #1 | 204.4 | 40.98 | 15.60 | 2.308 | .1430 | .0417 | 1.619 | .0263 | .0916 |
| #2 | 205.8 | 41.27 | 15.72 | 2.343 | .1407 | .0426 | 1.623 | .0281 | .0930 |
| #3 | 207.7 | 41.62 | 15.91 | 2.355 | .1438 | .0428 | 1.632 | .0274 | .0937 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.836** | **.0066** | **.0487** | **9.137** | **.0724** | **.2674** | **3.748** |
| Stddev | .032 | .0005 | .0005 | .026 | .0030 | .0044 | .015 |
| %RSD | 1.130 | 7.758 | 1.031 | .2883 | 4.132 | 1.639 | .4114 |
| #1 | 2.804 | .0060 | .0481 | 9.114 | .0694 | .2632 | 3.733 |
| #2 | 2.836 | .0069 | .0489 | 9.131 | .0723 | .2671 | 3.747 |
| #3 | 2.868 | .0068 | .0491 | 9.166 | .0754 | .2719 | 3.764 |



Zoom In Zoom Out

Sample Name: JC86890-1 Acquired: 4/30/2019 20:19:54 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173740.** | **29654.** | **7170.3** | **9978.0** |
| Stddev | 199. | 137. | 18.6 | 13.6 |
| %RSD | .11429 | .46234 | .25896 | .13655 |
| #1 | 173840. | 29503. | 7151.7 | 9964.8 |
| #2 | 173870. | 29688. | 7188.8 | 9992.0 |
| #3 | 173510. | 29771. | 7170.3 | 9977.2 |

Zoom In Zoom Out

Sample Name: JC86890-2 Acquired: 4/30/2019 20:24:59 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9676** | **.0092** | **.0022** | **.1594** | **.2807** | **.0873** | **10.91** | **.3444** |
| Stddev | .0390 | .0003 | .0010 | .0085 | .0124 | .0033 | .56 | .0171 |
| %RSD | 4.033 | 3.271 | 47.32 | 5.318 | 4.411 | 3.798 | 5.171 | 4.951 |
| #1 | .9302 | .0089 | .0030 | .1503 | .2684 | .0839 | 10.38 | .3262 |
| #2 | .9647 | .0092 | .0025 | .1609 | .2807 | .0877 | 10.84 | .3469 |
| #3 | 1.008 | .0095 | .0010 | .1671 | .2931 | .0905 | 11.50 | .3601 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0046** | **.3598** | **1.361** | **.0537** | F **-.0116** | **.3040** | **-.0223** | **.0115** |
| Stddev | .0019 | .0166 | .067 | .0042 | .0019 | .0180 | .0010 | .0017 |
| %RSD | 40.17 | 4.616 | 4.884 | 7.835 | 16.49 | 5.929 | 4.457 | 14.42 |
| #1 | -.0025 | .3441 | 1.291 | .0488 | -.0094 | .2862 | -.0218 | .0105 |
| #2 | -.0056 | .3582 | 1.369 | .0561 | -.0122 | .3036 | -.0217 | .0134 |
| #3 | -.0057 | .3772 | 1.423 | .0561 | -.0131 | .3222 | -.0235 | .0106 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **115.4** | **13.20** | **307.5** | **50.21** | **17.51** | **2.170** | **.1694** | **.0117** |
| Stddev | 4.5 | .48 | 11.7 | 1.91 | .62 | .083 | .0079 | .0007 |
| %RSD | 3.892 | 3.627 | 3.791 | 3.805 | 3.556 | 3.801 | 4.666 | 6.099 |
| #1 | 111.0 | 12.74 | 296.1 | 48.40 | 16.92 | 2.092 | .1610 | .0111 |
| #2 | 115.1 | 13.19 | 306.9 | 50.02 | 17.46 | 2.161 | .1706 | .0117 |
| #3 | 120.0 | 13.69 | 319.4 | 52.20 | 18.16 | 2.256 | .1767 | .0125 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.504** | **.0357** | **.0877** | **3.105** | **.0032** | **.0734** | **1.444** | **.0765** |
| Stddev | .064 | .0016 | .0030 | .143 | .0038 | .0032 | .064 | .0029 |
| %RSD | 4.257 | 4.383 | 3.388 | 4.603 | 118.3 | 4.373 | 4.463 | 3.790 |
| #1 | 1.438 | .0347 | .0848 | 2.962 | -.0009 | .0701 | 1.380 | .0760 |
| #2 | 1.509 | .0349 | .0876 | 3.106 | .0066 | .0735 | 1.444 | .0738 |
| #3 | 1.566 | .0375 | .0907 | 3.248 | .0040 | .0765 | 1.509 | .0796 |



Zoom In Zoom Out

Sample Name: JC86890-2 Acquired: 4/30/2019 20:24:59 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.3053** | **6.006** |
| Stddev | .0136 | .252 |
| %RSD | 4.457 | 4.188 |
| #1 | .2924 | 5.756 |
| #2 | .3041 | 6.005 |
| #3 | .3195 | 6.259 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **171700.** | **29039.** | **7081.1** | **9963.0** |
| Stddev | 663. | 228. | 24.8 | 38.9 |
| %RSD | .38633 | .78675 | .35085 | .39013 |
| #1 | 170990. | 28787. | 7109.0 | 9997.3 |
| #2 | 171830. | 29099. | 7072.9 | 9970.8 |
| #3 | 172300. | 29232. | 7061.4 | 9920.8 |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 20:30:08 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.988** | **2.004** | **1.996** | **2.016** | **1.979** | **1.951** | **2.028** | **1.999** | **.2449** |
| Stddev | .003 | .002 | .002 | .000 | .006 | .006 | .006 | .002 | .0005 |
| %RSD | .1327 | .0911 | .0915 | .0212 | .2821 | .3326 | .3080 | .0794 | .2139 |
| #1 | 1.991 | 2.005 | 1.997 | 2.015 | 1.985 | 1.958 | 2.024 | 1.997 | .2454 |
| #2 | 1.987 | 2.001 | 1.995 | 2.016 | 1.977 | 1.948 | 2.035 | 2.000 | .2451 |
| #3 | 1.987 | 2.004 | 1.998 | 2.016 | 1.975 | 1.946 | 2.025 | 2.000 | .2444 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.002** | **2.015** | **1.935** | **2.033** | **2.000** | **1.957** | **1.945** | **38.65** | **39.31** |
| Stddev | .004 | .003 | .004 | .004 | .002 | .006 | .002 | .07 | .06 |
| %RSD | .1827 | .1584 | .2185 | .1736 | .0975 | .3225 | .0990 | .1751 | .1398 |
| #1 | 2.005 | 2.018 | 1.934 | 2.029 | 2.002 | 1.960 | 1.945 | 38.71 | 39.37 |
| #2 | 2.003 | 2.012 | 1.931 | 2.032 | 1.998 | 1.950 | 1.943 | 38.58 | 39.26 |
| #3 | 1.998 | 2.017 | 1.939 | 2.036 | 2.000 | 1.961 | 1.947 | 38.68 | 39.30 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.55** | **39.34** | **39.21** | **39.61** | **2.002** | **1.990** | **4.884** | **2.015** | **1.995** |
| Stddev | .03 | .09 | .10 | .11 | .003 | .002 | .006 | .001 | .001 |
| %RSD | .0668 | .2265 | .2555 | .2709 | .1487 | .0772 | .1288 | .0599 | .0708 |
| #1 | 38.57 | 39.44 | 39.31 | 39.73 | 1.998 | 1.991 | 4.880 | 2.016 | 1.996 |
| #2 | 38.52 | 39.29 | 39.11 | 39.59 | 2.002 | 1.988 | 4.880 | 2.014 | 1.994 |
| #3 | 38.55 | 39.28 | 39.21 | 39.52 | 2.004 | 1.989 | 4.891 | 2.015 | 1.994 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 20:30:08 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.944** | **1.900** | **1.967** | **1.954** | **1.958** | **1.994** | **2.000** |
| Stddev | .001 | .003 | .002 | .007 | .004 | .005 | .008 |
| %RSD | .0727 | .1472 | .1239 | .3754 | .2158 | .2782 | .4128 |
| #1 | 1.944 | 1.899 | 1.969 | 1.962 | 1.963 | 1.995 | 2.002 |
| #2 | 1.942 | 1.897 | 1.968 | 1.948 | 1.954 | 1.988 | 1.991 |
| #3 | 1.945 | 1.903 | 1.965 | 1.952 | 1.958 | 1.998 | 2.007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **164740.** | **28530.** | **6821.0** | **9485.5** |
| Stddev | 151. | 132. | 11.4 | 11.0 |
| %RSD | .09138 | .46109 | .16696 | .11638 |
| #1 | 164610. | 28378. | 6816.4 | 9482.4 |
| #2 | 164910. | 28608. | 6834.0 | 9497.7 |
| #3 | 164710. | 28604. | 6812.7 | 9476.3 |

Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 20:35:09 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0000** | **.0003** | **.0002** | **-.0001** | **.0006** | **.0003** | **-.0000** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0003 | .0002 | .0001 | .0001 |
| %RSD | 1343. | 197.4 | 34.98 | 96.55 | 343.6 | 38.37 | 43.59 | 314.7 |
| #1 | .0002 | -.0000 | .0002 | .0002 | -.0000 | .0005 | .0001 | .0000 |
| #2 | .0000 | .0001 | .0005 | .0003 | -.0004 | .0005 | .0003 | .0000 |
| #3 | -.0002 | .0001 | .0003 | -.0000 | .0002 | .0009 | .0004 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0002** | **-.0004** | **.0007** | **.0002** | **.0003** | **.0002** | **-.0005** |
| Stddev | .0004 | .0003 | .0000 | .0007 | .0016 | .0008 | .0013 | .0013 |
| %RSD | 63.95 | 161.0 | 12.00 | 105.1 | 895.7 | 244.7 | 779.6 | 261.3 |
| #1 | .0003 | -.0003 | -.0004 | .0013 | -.0008 | -.0003 | -.0010 | -.0008 |
| #2 | .0011 | .0001 | -.0003 | -.0001 | -.0007 | .0001 | .0000 | -.0017 |
| #3 | .0005 | -.0003 | -.0003 | .0009 | .0020 | .0012 | .0015 | .0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0046** | **-.0040** | **.0019** | **-.0026** | **.1269** | **.0325** | **.0026** | **.0002** |
| Stddev | .0032 | .0019 | .0024 | .0079 | .0648 | .0092 | .0001 | .0002 |
| %RSD | 69.73 | 47.26 | 129.3 | 304.1 | 51.03 | 28.27 | 4.144 | 110.7 |
| #1 | -.0055 | -.0029 | .0045 | -.0002 | .0938 | .0221 | .0025 | .0004 |
| #2 | -.0010 | -.0062 | .0016 | .0038 | .2015 | .0397 | .0025 | .0001 |
| #3 | -.0071 | -.0030 | -.0004 | -.0114 | .0854 | .0357 | .0027 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 20:35:09 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0005** | **.0000** | **.0004** | **-.0002** | **.0003** | **.0016** | **-.0017** |
| Stddev | .0010 | .0007 | .0001 | .0004 | .0007 | .0001 | .0019 | .0006 |
| %RSD | 637.8 | 144.6 | 293.6 | 101.8 | 423.1 | 38.19 | 120.9 | 35.07 |
| #1 | -.0005 | .0010 | .0002 | .0007 | -.0003 | .0003 | .0035 | -.0010 |
| #2 | -.0003 | -.0003 | -.0000 | -.0000 | .0006 | .0004 | .0018 | -.0019 |
| #3 | .0013 | .0008 | -.0000 | .0005 | -.0008 | .0002 | -.0004 | -.0021 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0069** | **-.0024** |
| Stddev | .0022 | .0022 |
| %RSD | 32.34 | 91.50 |
| #1 | -.0048 | -.0044 |
| #2 | -.0092 | -.0000 |
| #3 | -.0067 | -.0028 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **177140.** | **29026.** | **7190.5** | **10507.** |
| Stddev | 712. | 230. | 30.2 | 29. |
| %RSD | .40175 | .79161 | .41992 | .27519 |
| #1 | 177400. | 28928. | 7224.3 | 10540. |
| #2 | 177680. | 28862. | 7166.2 | 10487. |
| #3 | 176330. | 29289. | 7181.0 | 10493. |



Zoom In Zoom Out

Sample Name: JC86890-3 Acquired: 4/30/2019 20:40:17 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.005** | **.0104** | **.0013** | **.1343** | **.3136** | **.3686** | **14.84** | **.4203** |
| Stddev | .029 | .0003 | .0003 | .0030 | .0104 | .0127 | .48 | .0079 |
| %RSD | 2.856 | 2.980 | 24.53 | 2.256 | 3.307 | 3.434 | 3.220 | 1.871 |
| #1 | .9766 | .0101 | .0016 | .1311 | .3029 | .3559 | 14.34 | .4121 |
| #2 | 1.006 | .0104 | .0010 | .1345 | .3142 | .3686 | 14.90 | .4212 |
| #3 | 1.034 | .0107 | .0012 | .1372 | .3236 | .3812 | 15.29 | .4277 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.3083** | **.7806** | **.0491** | F **-.0085** | **.2122** | **-.0105** | **.0066** |
| Stddev | .0002 | .0109 | .0152 | .0022 | .0024 | .0051 | .0039 | .0032 |
| %RSD | 33.10 | 3.523 | 1.942 | 4.492 | 28.49 | 2.402 | 37.22 | 47.93 |
| #1 | .0010 | .2969 | .7640 | .0469 | -.0084 | .2064 | -.0103 | .0031 |
| #2 | .0006 | .3096 | .7842 | .0489 | -.0061 | .2153 | -.0067 | .0075 |
| #3 | .0005 | .3185 | .7937 | .0513 | -.0110 | .2151 | -.0144 | .0091 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **133.5** | **8.660** | **224.9** | **38.96** | **12.75** | **1.898** | **.1193** | **.0226** |
| Stddev | 4.0 | .241 | 6.5 | 1.16 | .35 | .061 | .0019 | .0003 |
| %RSD | 2.989 | 2.778 | 2.898 | 2.982 | 2.758 | 3.196 | 1.583 | 1.455 |
| #1 | 129.6 | 8.429 | 218.5 | 37.81 | 12.46 | 1.841 | .1172 | .0222 |
| #2 | 133.3 | 8.642 | 224.9 | 38.93 | 12.65 | 1.891 | .1208 | .0228 |
| #3 | 137.6 | 8.909 | 231.5 | 40.13 | 13.14 | 1.962 | .1199 | .0228 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.054** | **.0280** | **.0660** | **2.455** | **-.0007** | **.0164** | **1.188** | **.0609** |
| Stddev | .033 | .0003 | .0019 | .082 | .0015 | .0008 | .021 | .0039 |
| %RSD | 1.609 | 1.186 | 2.860 | 3.344 | 211.1 | 4.632 | 1.784 | 6.329 |
| #1 | 2.017 | .0277 | .0641 | 2.373 | .0009 | .0155 | 1.164 | .0570 |
| #2 | 2.063 | .0280 | .0660 | 2.455 | -.0021 | .0167 | 1.198 | .0647 |
| #3 | 2.081 | .0284 | .0678 | 2.537 | -.0010 | .0169 | 1.203 | .0611 |



Zoom In Zoom Out

Sample Name: JC86890-3 Acquired: 4/30/2019 20:40:17 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2808** | **6.387** |
| Stddev | .0096 | .104 |
| %RSD | 3.411 | 1.630 |
| #1 | .2732 | 6.267 |
| #2 | .2777 | 6.448 |
| #3 | .2916 | 6.447 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173290.** | **29421.** | **7135.1** | **9933.6** |
| Stddev | 587. | 135. | 24.9 | 23.4 |
| %RSD | .33868 | .46037 | .34905 | .23570 |
| #1 | 173720. | 29530. | 7115.9 | 9916.5 |
| #2 | 173530. | 29464. | 7126.2 | 9924.0 |
| #3 | 172620. | 29269. | 7163.2 | 9960.3 |

Zoom In Zoom Out

Sample Name: MP14586-MB1CONF Acquired: 4/30/2019 20:45:23 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0000** | **.0002** | **.0000** | **-.0002** | **.0005** | **.0001** | **.0000** | **.0007** |
| Stddev | .0003 | .0000 | .0001 | .0001 | .0003 | .0003 | .0000 | .0003 | .0000 |
| %RSD | 61.42 | 313.5 | 58.59 | 269.3 | 185.6 | 62.93 | 12.75 | 2684. | 6.609 |
| #1 | -.0007 | -.0000 | .0003 | .0002 | .0000 | .0009 | .0001 | .0003 | .0007 |
| #2 | -.0002 | .0000 | .0001 | -.0001 | -.0005 | .0003 | .0001 | -.0002 | .0006 |
| #3 | -.0003 | -.0000 | .0002 | .0000 | -.0000 | .0004 | .0001 | -.0000 | .0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0008** | **.0010** | **-.0001** | **.0003** | **-.0003** | **.0007** | **-.0015** | **.0063** | **.0014** |
| Stddev | .0001 | .0001 | .0007 | .0013 | .0009 | .0004 | .0006 | .0048 | .0019 |
| %RSD | 7.874 | 8.456 | 512.8 | 502.0 | 276.6 | 54.36 | 41.88 | 76.31 | 134.6 |
| #1 | -.0008 | .0010 | -.0007 | .0013 | -.0007 | .0012 | -.0022 | .0053 | -.0008 |
| #2 | -.0008 | .0011 | -.0004 | .0006 | .0007 | .0006 | -.0010 | .0021 | .0025 |
| #3 | -.0007 | .0010 | .0007 | -.0012 | -.0009 | .0005 | -.0012 | .0116 | .0024 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0018** | **.0150** | **.0094** | **.0026** | **.0001** | **.0064** | **.0003** | **-.0001** |
| Stddev | .0008 | .0121 | .0094 | .0098 | .0003 | .0003 | .0007 | .0007 | .0001 |
| %RSD | 92.55 | 660.0 | 62.90 | 104.6 | 12.69 | 307.1 | 11.33 | 233.2 | 165.7 |
| #1 | .0017 | -.0047 | .0155 | .0116 | .0027 | -.0000 | .0071 | .0002 | -.0001 |
| #2 | .0003 | .0158 | .0242 | .0179 | .0029 | .0004 | .0056 | -.0003 | .0000 |
| #3 | .0004 | -.0056 | .0053 | -.0013 | .0023 | -.0001 | .0066 | .0011 | -.0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0009** | **.0001** | **.0010** | **.0003** | **-.0052** | **-.0028** |
| Stddev | .0002 | .0011 | .0002 | .0029 | .0004 | .0029 | .0005 |
| %RSD | 64.03 | 123.5 | 142.0 | 288.8 | 122.9 | 56.02 | 18.85 |
| #1 | .0003 | -.0015 | .0003 | .0009 | .0008 | -.0078 | -.0025 |
| #2 | .0005 | .0004 | .0001 | -.0019 | .0001 | -.0059 | -.0025 |
| #3 | .0001 | -.0015 | -.0000 | .0040 | .0001 | -.0020 | -.0034 |



Zoom In Zoom Out

Sample Name: MP14586-MB1CONF Acquired: 4/30/2019 20:45:23 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **177180.** | **29340.** | **7171.9** | **10486.** |
| Stddev | 853. | 109. | 13.3 | 19. |
| %RSD | .48122 | .37164 | .18481 | .18365 |
| #1 | 177800. | 29455. | 7185.2 | 10498. |
| #2 | 176200. | 29239. | 7158.6 | 10464. |
| #3 | 177520. | 29326. | 7171.9 | 10497. |



Zoom In Zoom Out

Sample Name: JC86950-7 Acquired: 4/30/2019 20:50:30 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0491** | **.0026** | **.0031** | **.1723** | **.0125** | **.2301** | **15.34** | **.0689** |
| Stddev | .0003 | .0005 | .0013 | .0014 | .0030 | .0010 | .01 | .0017 |
| %RSD | .6402 | 18.09 | 40.56 | .8108 | 23.70 | .4205 | .0810 | 2.474 |
| #1 | .0493 | .0028 | .0046 | .1707 | .0135 | .2310 | 15.34 | .0686 |
| #2 | .0488 | .0020 | .0023 | .1729 | .0092 | .2291 | 15.33 | .0707 |
| #3 | .0493 | .0029 | .0025 | .1732 | .0149 | .2303 | 15.35 | .0674 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0006** | **.0223** | **.1431** | **.0041** | F **-.0333** | **-.0069** | **.0075** | **.0018** |
| Stddev | .0011 | .0044 | .0006 | .0028 | .0068 | .0032 | .0145 | .0044 |
| %RSD | 195.3 | 19.94 | .4265 | 67.01 | 20.30 | 46.30 | 194.4 | 242.1 |
| #1 | -.0007 | .0230 | .1428 | .0010 | -.0288 | -.0040 | -.0053 | -.0032 |
| #2 | .0006 | .0175 | .1428 | .0053 | -.0410 | -.0065 | .0233 | .0038 |
| #3 | -.0016 | .0264 | .1439 | .0061 | -.0300 | -.0103 | .0045 | .0049 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **16.10** | **209.9** | **55.13** | **19.13** | **11.22** | **892.5** | **.0765** | **-.0015** |
| Stddev | .10 | .2 | .10 | .14 | .19 | 1.5 | .0063 | .0033 |
| %RSD | .6155 | .0928 | .1737 | .7447 | 1.672 | .1720 | 8.187 | 222.7 |
| #1 | 15.98 | 209.9 | 55.17 | 19.24 | 11.26 | 893.6 | .0703 | -.0017 |
| #2 | 16.16 | 209.7 | 55.19 | 19.18 | 11.39 | 893.2 | .0828 | -.0047 |
| #3 | 16.15 | 210.1 | 55.02 | 18.97 | 11.02 | 890.8 | .0765 | .0019 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **19.46** | **-.0043** | **.5830** | **.0073** | **-.0046** | **.0068** | F **1248.** | **-.0001** |
| Stddev | .15 | .0041 | .0012 | .0028 | .0058 | .0012 | 8. | .0051 |
| %RSD | .7552 | 94.76 | .2109 | 38.62 | 126.7 | 17.56 | .6174 | 8597. |
| #1 | 19.30 | .0003 | .5839 | .0066 | -.0040 | .0077 | 1239. | -.0038 |
| #2 | 19.57 | -.0057 | .5816 | .0049 | .0009 | .0074 | 1254. | -.0021 |
| #3 | 19.52 | -.0076 | .5837 | .0103 | -.0106 | .0055 | 1251. | .0057 |



Zoom In Zoom Out

Sample Name: JC86950-7 Acquired: 4/30/2019 20:50:30 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0059** | **.3488** |
| Stddev | .0069 | .0028 |
| %RSD | 115.6 | .7940 |
| #1 | -.0066 | .3515 |
| #2 | -.0125 | .3489 |
| #3 | .0012 | .3460 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **168990.** | **29165.** | **6959.1** | **9607.3** |
| Stddev | 329. | 131. | 69.2 | 78.1 |
| %RSD | .19465 | .45083 | .99470 | .81243 |
| #1 | 169140. | 29088. | 7038.7 | 9697.1 |
| #2 | 169220. | 29317. | 6913.3 | 9555.8 |
| #3 | 168610. | 29091. | 6925.3 | 9568.9 |

Zoom In Zoom Out

Sample Name: JC86984-1 Acquired: 4/30/2019 20:55:32 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0472** | **.0003** | **.0008** | **.0013** | **.0002** | **.0131** | **.9831** | **.0039** | **.0050** |
| Stddev | .0006 | .0002 | .0005 | .0014 | .0002 | .0004 | .0007 | .0014 | .0028 |
| %RSD | 1.208 | 52.21 | 61.60 | 104.7 | 113.9 | 3.136 | .0744 | 35.41 | 56.41 |
| #1 | .0475 | .0002 | .0010 | .0002 | .0005 | .0135 | .9826 | .0025 | .0074 |
| #2 | .0465 | .0005 | .0003 | .0009 | -.0000 | .0130 | .9827 | .0039 | .0019 |
| #3 | .0476 | .0003 | .0012 | .0029 | .0002 | .0127 | .9839 | .0053 | .0057 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.1386** | **.0062** | **-.0048** | **.0019** | **.0021** | **-.0009** | **.0593** | **44.90** |
| Stddev | .0015 | .0009 | .0033 | .0040 | .0053 | .0083 | .0065 | .0285 | .06 |
| %RSD | 283.4 | .6446 | 53.03 | 84.10 | 275.4 | 395.7 | 732.1 | 48.15 | .1379 |
| #1 | .0003 | .1378 | .0086 | -.0036 | -.0042 | .0113 | -.0041 | .0462 | 44.97 |
| #2 | .0021 | .1396 | .0024 | -.0093 | .0047 | -.0049 | .0066 | .0920 | 44.88 |
| #3 | -.0008 | .1384 | .0076 | -.0015 | .0054 | -.0000 | -.0052 | .0396 | 44.85 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.051** | **5.307** | **4.285** | **255.7** | **.0657** | **.0004** | **4.430** | **.0002** | **.3198** |
| Stddev | .001 | .028 | .136 | .2 | .0004 | .0007 | .008 | .0010 | .0009 |
| %RSD | .0675 | .5289 | 3.175 | .0767 | .6786 | 170.7 | .1870 | 489.0 | .2765 |
| #1 | 1.051 | 5.297 | 4.182 | 255.8 | .0659 | -.0003 | 4.422 | -.0006 | .3205 |
| #2 | 1.051 | 5.339 | 4.439 | 255.9 | .0660 | .0010 | 4.439 | .0014 | .3201 |
| #3 | 1.050 | 5.285 | 4.234 | 255.5 | .0652 | .0005 | 4.428 | -.0001 | .3188 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0024** | **.0001** | **10.81** | **.0001** | **.0055** | **.2924** |
| Stddev | .0017 | .0054 | .0004 | .03 | .0067 | .0050 | .0095 |
| %RSD | 266.2 | 229.0 | 596.1 | .2351 | 12650. | 90.90 | 3.250 |
| #1 | .0022 | .0000 | .0001 | 10.81 | .0048 | .0012 | .3015 |
| #2 | .0009 | -.0085 | -.0004 | 10.84 | -.0076 | .0043 | .2932 |
| #3 | -.0012 | .0014 | .0005 | 10.79 | .0029 | .0109 | .2825 |



Zoom In Zoom Out

Sample Name: JC86984-1 Acquired: 4/30/2019 20:55:32 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **168760.** | **28631.** | **6938.7** | **9809.0** |
| Stddev | 666. | 124. | 2.0 | 3.1 |
| %RSD | .39464 | .43477 | .02831 | .03211 |
| #1 | 168300. | 28737. | 6936.5 | 9807.9 |
| #2 | 168450. | 28494. | 6940.2 | 9806.5 |
| #3 | 169520. | 28663. | 6939.4 | 9812.5 |



Zoom In Zoom Out

Sample Name: MP14597-MB1CONF Acquired: 4/30/2019 21:00:36 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0002** | **.0004** | **-.0003** | **.0006** | **.0057** | **.0013** | **.0078** | **.0036** |
| Stddev | .0020 | .0002 | .0003 | .0005 | .0011 | .0004 | .0002 | .0008 | .0021 |
| %RSD | 205.8 | 107.6 | 75.33 | 161.6 | 179.2 | 6.506 | 14.86 | 9.975 | 58.29 |
| #1 | -.0011 | .0003 | .0001 | -.0009 | -.0004 | .0058 | .0015 | .0085 | .0058 |
| #2 | .0010 | .0003 | .0004 | .0001 | .0018 | .0053 | .0014 | .0070 | .0016 |
| #3 | .0030 | -.0000 | .0007 | -.0002 | .0005 | .0060 | .0011 | .0080 | .0034 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0035** | **.0095** | **.0013** | **-.0026** | **.0004** | **-.0019** | **-.0221** | **.1533** |
| Stddev | .0008 | .0001 | .0019 | .0080 | .0023 | .0132 | .0096 | .0427 | .0104 |
| %RSD | 67.08 | 1.901 | 19.77 | 620.8 | 86.55 | 3088. | 502.1 | 193.3 | 6.775 |
| #1 | -.0015 | .0035 | .0083 | .0070 | -.0002 | .0154 | -.0122 | -.0561 | .1453 |
| #2 | -.0016 | .0035 | .0086 | .0047 | -.0030 | -.0098 | .0068 | -.0360 | .1495 |
| #3 | -.0003 | .0034 | .0117 | -.0078 | -.0047 | -.0043 | -.0003 | .0258 | .1650 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0228** | **.0407** | **3.856** | F **1234.** | **.0953** | **.0011** | **.3710** | **.0033** | **.0062** |
| Stddev | .0037 | .0382 | .257 | 6. | .0020 | .0004 | .0050 | .0021 | .0001 |
| %RSD | 16.13 | 93.79 | 6.666 | .5024 | 2.148 | 37.23 | 1.353 | 63.33 | 1.494 |
| #1 | .0207 | .0778 | 3.565 | 1232. | .0943 | .0010 | .3654 | .0048 | .0061 |
| #2 | .0207 | .0016 | 4.049 | 1241. | .0940 | .0015 | .3726 | .0009 | .0061 |
| #3 | .0271 | .0426 | 3.955 | 1229. | .0977 | .0007 | .3750 | .0042 | .0063 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0024** | **.0074** | **.0001** | **.2839** | **-.0085** | **.0491** | **-.0387** |
| Stddev | .0013 | .0033 | .0008 | .0044 | .0069 | .0085 | .0062 |
| %RSD | 56.60 | 44.94 | 614.9 | 1.534 | 81.16 | 17.35 | 16.13 |
| #1 | .0011 | .0112 | -.0002 | .2790 | -.0090 | .0428 | -.0394 |
| #2 | .0022 | .0052 | -.0005 | .2872 | -.0151 | .0588 | -.0446 |
| #3 | .0038 | .0057 | .0010 | .2856 | -.0014 | .0458 | -.0322 |



Zoom In Zoom Out

Sample Name: MP14597-MB1CONF Acquired: 4/30/2019 21:00:36 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160090.** | **28261.** | **6699.1** | **9237.5** |
| Stddev | 492. | 137. | 19.8 | 11.9 |
| %RSD | .30716 | .48300 | .29498 | .12929 |
| #1 | 159810. | 28419. | 6715.1 | 9247.3 |
| #2 | 160660. | 28176. | 6677.0 | 9224.2 |
| #3 | 159810. | 28189. | 6705.2 | 9240.9 |

Zoom In Zoom Out

Sample Name: JC86552-25 Acquired: 4/30/2019 21:05:52 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3797** | **.0003** | **.0045** | **.0244** | **.0033** | **.0016** | **9.794** | **.1647** | **.0064** |
| Stddev | .0053 | .0001 | .0006 | .0006 | .0007 | .0009 | .138 | .0009 | .0016 |
| %RSD | 1.384 | 41.86 | 13.00 | 2.379 | 21.33 | 57.63 | 1.409 | .5586 | 24.28 |
| #1 | .3845 | .0003 | .0049 | .0250 | .0041 | .0020 | 9.947 | .1658 | .0081 |
| #2 | .3807 | .0002 | .0038 | .0238 | .0029 | .0022 | 9.756 | .1643 | .0052 |
| #3 | .3741 | .0004 | .0048 | .0244 | .0029 | .0005 | 9.679 | .1641 | .0059 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0099** | **.5435** | **.0073** | **-.0082** | **.0105** | **.0056** | **.0065** | **.0700** | **360.9** |
| Stddev | .0015 | .0020 | .0013 | .0036 | .0047 | .0057 | .0076 | .0028 | 4.5 |
| %RSD | 15.70 | .3677 | 17.27 | 44.06 | 44.79 | 101.8 | 116.9 | 3.950 | 1.244 |
| #1 | .0089 | .5434 | .0066 | -.0069 | .0105 | .0117 | .0104 | .0727 | 365.4 |
| #2 | .0116 | .5456 | .0088 | -.0123 | .0152 | .0003 | -.0023 | .0672 | 360.7 |
| #3 | .0090 | .5416 | .0066 | -.0054 | .0058 | .0049 | .0113 | .0700 | 356.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **149.4** | **15.38** | **8.174** | F **1270.** | **.3897** | **.0018** | **8.548** | **-.0019** | **.4521** |
| Stddev | 1.8 | .25 | .089 | 23. | .0029 | .0013 | .016 | .0027 | .0051 |
| %RSD | 1.215 | 1.619 | 1.085 | 1.812 | .7435 | 74.68 | .1846 | 139.7 | 1.126 |
| #1 | 151.3 | 15.65 | 8.072 | 1293. | .3896 | .0029 | 8.567 | .0011 | .4576 |
| #2 | 149.3 | 15.34 | 8.232 | 1269. | .3868 | .0003 | 8.538 | -.0027 | .4512 |
| #3 | 147.7 | 15.16 | 8.219 | 1247. | .3926 | .0022 | 8.540 | -.0042 | .4476 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **.0012** | **.0004** | **2.965** | **.0056** | **.0616** | **.0290** |
| Stddev | .0017 | .0058 | .0005 | .012 | .0039 | .0159 | .0130 |
| %RSD | 93.93 | 473.8 | 118.5 | .4194 | 69.72 | 25.81 | 44.72 |
| #1 | .0026 | .0071 | .0003 | 2.974 | .0098 | .0487 | .0167 |
| #2 | .0030 | -.0045 | -.0000 | 2.951 | .0048 | .0568 | .0425 |
| #3 | -.0001 | .0011 | .0009 | 2.970 | .0021 | .0794 | .0277 |



Zoom In Zoom Out

Sample Name: JC86552-25 Acquired: 4/30/2019 21:05:52 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160240.** | **28278.** | **6621.2** | **9091.6** |
| Stddev | 559. | 148. | 6.3 | 14.1 |
| %RSD | .34876 | .52252 | .09465 | .15485 |
| #1 | 159710. | 28333. | 6624.7 | 9100.6 |
| #2 | 160190. | 28110. | 6614.0 | 9075.4 |
| #3 | 160830. | 28389. | 6624.9 | 9098.9 |



Zoom In Zoom Out

Sample Name: MP14510-MB1CONF Acquired: 4/30/2019 21:11:12 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0000** | **.0002** | **-.0000** | **.0002** | **.0025** | **.0001** | **.0000** | **.0003** |
| Stddev | .0002 | .0000 | .0002 | .0002 | .0002 | .0002 | .0000 | .0001 | .0004 |
| %RSD | 121.2 | 33.56 | 80.96 | 3345. | 117.7 | 9.858 | 80.56 | 258.8 | 121.1 |
| #1 | .0001 | -.0000 | .0001 | .0002 | .0002 | .0025 | .0000 | .0001 | .0005 |
| #2 | -.0003 | -.0001 | .0004 | -.0001 | -.0000 | .0028 | .0001 | -.0001 | .0007 |
| #3 | -.0003 | -.0000 | .0001 | -.0001 | .0004 | .0023 | .0001 | .0001 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **.0011** | **.0006** | **-.0006** | **-.0013** | **.0005** | **-.0012** | **-.0139** | **-.0005** |
| Stddev | .0001 | .0001 | .0003 | .0005 | .0003 | .0019 | .0008 | .0085 | .0016 |
| %RSD | 26.91 | 7.486 | 48.40 | 77.61 | 20.53 | 392.6 | 67.58 | 61.43 | 299.3 |
| #1 | -.0006 | .0012 | .0008 | -.0012 | -.0015 | .0018 | -.0015 | -.0124 | .0013 |
| #2 | -.0006 | .0011 | .0003 | -.0002 | -.0014 | -.0016 | -.0020 | -.0230 | -.0014 |
| #3 | -.0004 | .0010 | .0007 | -.0005 | -.0010 | .0012 | -.0003 | -.0062 | -.0014 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **-.0028** | **.1965** | **.1651** | **.0016** | **.0002** | **.0087** | **.0002** | **.0000** |
| Stddev | .0014 | .0042 | .0464 | .0154 | .0002 | .0001 | .0010 | .0003 | .0001 |
| %RSD | 120.3 | 147.4 | 23.64 | 9.340 | 10.71 | 70.82 | 12.07 | 182.0 | 4931. |
| #1 | .0021 | -.0060 | .2497 | .1812 | .0018 | .0001 | .0097 | .0005 | .0000 |
| #2 | -.0004 | .0019 | .1758 | .1638 | .0016 | .0003 | .0076 | -.0002 | -.0002 |
| #3 | .0019 | -.0045 | .1640 | .1504 | .0015 | .0001 | .0087 | .0002 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0002** | **.0002** | **.0029** | **-.0007** | **-.0022** | **-.0057** |
| Stddev | .0001 | .0010 | .0002 | .0026 | .0008 | .0020 | .0016 |
| %RSD | 18.65 | 576.1 | 125.2 | 90.08 | 115.8 | 89.50 | 27.52 |
| #1 | .0004 | .0010 | .0001 | .0016 | -.0000 | -.0045 | -.0059 |
| #2 | .0005 | -.0008 | -.0000 | .0059 | -.0015 | -.0009 | -.0072 |
| #3 | .0004 | -.0008 | .0004 | .0012 | -.0005 | -.0013 | -.0041 |



Zoom In Zoom Out

Sample Name: MP14510-MB1CONF Acquired: 4/30/2019 21:11:12 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **177160.** | **29286.** | **7172.1** | **10504.** |
| Stddev | 466. | 95. | 18.6 | 15. |
| %RSD | .26285 | .32451 | .25877 | .14329 |
| #1 | 177310. | 29356. | 7193.5 | 10520. |
| #2 | 177540. | 29324. | 7161.5 | 10490. |
| #3 | 176640. | 29178. | 7161.3 | 10502. |

Zoom In Zoom Out

Sample Name: JC86691-6F Acquired: 4/30/2019 21:16:18 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1943** | **.0001** | **.0007** | **.0363** | **.0103** | **.0112** | **29.93** | **.1263** | **.0024** |
| Stddev | .0020 | .0005 | .0013 | .0032 | .0048 | .0024 | .25 | .0028 | .0019 |
| %RSD | 1.009 | 330.8 | 193.1 | 8.690 | 46.41 | 21.29 | .8311 | 2.229 | 81.48 |
| #1 | .1934 | -.0004 | .0018 | .0341 | .0143 | .0138 | 29.96 | .1252 | .0016 |
| #2 | .1928 | .0005 | -.0008 | .0399 | .0050 | .0092 | 29.67 | .1243 | .0009 |
| #3 | .1965 | .0003 | .0010 | .0350 | .0116 | .0106 | 30.16 | .1295 | .0045 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0399** | **.0303** | **.0078** | **-.0141** | **-.0105** | **-.0064** | **-.0104** | **.0526** | **72.29** |
| Stddev | .0013 | .0005 | .0124 | .0076 | .0075 | .0130 | .0097 | .0688 | .20 |
| %RSD | 3.318 | 1.635 | 159.2 | 54.23 | 70.96 | 205.2 | 93.61 | 130.8 | .2805 |
| #1 | .0411 | .0300 | .0220 | -.0086 | -.0103 | .0019 | .0007 | .0127 | 72.50 |
| #2 | .0401 | .0301 | -.0010 | -.0109 | -.0181 | .0004 | -.0142 | .0130 | 72.10 |
| #3 | .0385 | .0309 | .0024 | -.0228 | -.0032 | -.0214 | -.0176 | .1321 | 72.26 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.383** | **125.7** | **43.03** | **1108.** | **.1811** | **.0088** | **15.86** | **.0054** | **.2487** |
| Stddev | .028 | .4 | .12 | 17. | .0065 | .0015 | .00 | .0030 | .0007 |
| %RSD | 2.027 | .3143 | .2866 | 1.576 | 3.611 | 16.83 | .0043 | 55.87 | .2728 |
| #1 | 1.398 | 125.9 | 42.95 | 1091. | .1848 | .0073 | 15.86 | .0023 | .2494 |
| #2 | 1.350 | 126.0 | 42.98 | 1126. | .1849 | .0102 | 15.86 | .0056 | .2484 |
| #3 | 1.399 | 125.3 | 43.17 | 1108. | .1735 | .0089 | 15.86 | .0084 | .2481 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0069** | **.0126** | **.0071** | **.6184** | **-.0072** | **.0105** | **.1302** |
| Stddev | .0034 | .0094 | .0011 | .0210 | .0093 | .0171 | .0245 |
| %RSD | 50.22 | 74.73 | 14.80 | 3.391 | 128.9 | 162.6 | 18.81 |
| #1 | .0038 | .0175 | .0067 | .6416 | -.0024 | .0203 | .1212 |
| #2 | .0106 | .0185 | .0064 | .6126 | -.0180 | .0204 | .1579 |
| #3 | .0061 | .0017 | .0083 | .6009 | -.0013 | -.0092 | .1114 |



Zoom In Zoom Out

Sample Name: JC86691-6F Acquired: 4/30/2019 21:16:18 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **167750.** | **28815.** | **6874.8** | **9562.6** |
| Stddev | 2110. | 106. | 12.8 | 4.7 |
| %RSD | 1.2580 | .36733 | .18653 | .04937 |
| #1 | 167140. | 28706. | 6867.8 | 9560.1 |
| #2 | 170100. | 28821. | 6889.6 | 9568.0 |
| #3 | 166020. | 28918. | 6866.9 | 9559.6 |



Zoom In Zoom Out

Sample Name: MP14617-MB1 Acquired: 4/30/2019 21:21:40 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **.0001** | **-.0000** | **.0002** | **.0037** | **.0005** | **.0002** | **.0001** |
| Stddev | .0001 | .0000 | .0000 | .0003 | .0003 | .0003 | .0001 | .0003 | .0004 |
| %RSD | 155.4 | 18.73 | 14.99 | 912.6 | 136.5 | 7.435 | 12.79 | 125.2 | 423.9 |
| #1 | -.0002 | .0001 | .0001 | -.0001 | -.0001 | .0039 | .0005 | .0002 | -.0004 |
| #2 | -.0000 | .0001 | .0001 | -.0003 | .0005 | .0039 | .0004 | .0006 | .0004 |
| #3 | .0000 | .0001 | .0001 | .0003 | .0002 | .0034 | .0006 | -.0000 | .0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0061** | **.0006** | **-.0009** | **-.0009** | **-.0013** | **-.0012** | **.0040** | **.0630** |
| Stddev | .0002 | .0001 | .0004 | .0015 | .0008 | .0022 | .0006 | .0123 | .0018 |
| %RSD | 60.06 | .8757 | 61.90 | 171.2 | 85.69 | 171.6 | 49.91 | 305.3 | 2.901 |
| #1 | -.0005 | .0061 | .0002 | -.0006 | -.0008 | -.0012 | -.0018 | -.0062 | .0627 |
| #2 | -.0005 | .0060 | .0009 | -.0024 | -.0002 | .0009 | -.0006 | .0177 | .0650 |
| #3 | -.0001 | .0060 | .0007 | .0005 | -.0018 | -.0036 | -.0013 | .0005 | .0614 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0222** | **.0202** | **.1651** | **.1712** | **.0016** | **.0006** | **.0083** | **.0229** | **.0003** |
| Stddev | .0009 | .0028 | .0250 | .0108 | .0008 | .0002 | .0005 | .0003 | .0001 |
| %RSD | 4.000 | 13.86 | 15.16 | 6.292 | 47.73 | 25.40 | 5.438 | 1.447 | 25.42 |
| #1 | .0231 | .0226 | .1923 | .1822 | .0008 | .0004 | .0079 | .0230 | .0004 |
| #2 | .0222 | .0171 | .1430 | .1710 | .0018 | .0007 | .0088 | .0225 | .0002 |
| #3 | .0213 | .0209 | .1599 | .1606 | .0024 | .0007 | .0083 | .0231 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0009** | **.0003** | **.0091** | **-.0001** | **-.0051** | **.0157** |
| Stddev | .0002 | .0002 | .0001 | .0048 | .0015 | .0018 | .0029 |
| %RSD | 22.04 | 19.47 | 17.62 | 52.48 | 2226. | 34.86 | 18.26 |
| #1 | .0010 | .0008 | .0003 | .0076 | .0014 | -.0060 | .0131 |
| #2 | .0007 | .0011 | .0002 | .0145 | -.0017 | -.0062 | .0152 |
| #3 | .0007 | .0008 | .0003 | .0053 | .0001 | -.0030 | .0188 |



Zoom In Zoom Out

Sample Name: MP14617-MB1 Acquired: 4/30/2019 21:21:40 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **177070.** | **29298.** | **7182.6** | **10534.** |
| Stddev | 952. | 167. | 16.6 | 16. |
| %RSD | .53754 | .56880 | .23070 | .15066 |
| #1 | 175980. | 29454. | 7180.4 | 10535. |
| #2 | 177550. | 29122. | 7167.2 | 10517. |
| #3 | 177690. | 29319. | 7200.1 | 10549. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 21:26:47 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.982** | **1.992** | **2.003** | **2.014** | **1.970** | **1.937** | **2.028** | **1.989** | **.2437** |
| Stddev | .002 | .003 | .003 | .005 | .004 | .003 | .007 | .004 | .0003 |
| %RSD | .0974 | .1584 | .1636 | .2285 | .2217 | .1509 | .3319 | .1912 | .1224 |
| #1 | 1.981 | 1.990 | 2.006 | 2.018 | 1.971 | 1.937 | 2.025 | 1.992 | .2439 |
| #2 | 1.985 | 1.995 | 2.003 | 2.016 | 1.965 | 1.934 | 2.023 | 1.989 | .2433 |
| #3 | 1.982 | 1.991 | 2.000 | 2.009 | 1.974 | 1.940 | 2.035 | 1.985 | .2437 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.004** | **2.021** | **1.935** | **2.035** | **1.992** | **1.958** | **1.946** | **38.46** | **39.21** |
| Stddev | .002 | .004 | .003 | .008 | .003 | .006 | .003 | .08 | .07 |
| %RSD | .0990 | .1756 | .1275 | .3943 | .1656 | .3100 | .1559 | .2204 | .1831 |
| #1 | 2.003 | 2.025 | 1.937 | 2.031 | 1.994 | 1.961 | 1.947 | 38.41 | 39.17 |
| #2 | 2.003 | 2.019 | 1.936 | 2.045 | 1.993 | 1.961 | 1.948 | 38.56 | 39.29 |
| #3 | 2.006 | 2.018 | 1.932 | 2.031 | 1.988 | 1.951 | 1.942 | 38.41 | 39.16 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.21** | **39.39** | **39.06** | **39.41** | **2.001** | **2.003** | **4.890** | **2.030** | **1.982** |
| Stddev | .08 | .09 | .10 | .06 | .001 | .003 | .011 | .002 | .003 |
| %RSD | .2133 | .2303 | .2585 | .1433 | .0660 | .1254 | .2244 | .0945 | .1528 |
| #1 | 38.17 | 39.32 | 39.01 | 39.40 | 2.002 | 2.005 | 4.900 | 2.029 | 1.979 |
| #2 | 38.31 | 39.49 | 39.17 | 39.47 | 2.002 | 2.003 | 4.893 | 2.032 | 1.985 |
| #3 | 38.17 | 39.37 | 38.99 | 39.36 | 1.999 | 2.000 | 4.878 | 2.028 | 1.982 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 21:26:47 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.933** | **1.897** | **1.965** | **1.958** | **1.952** | **1.988** | **1.904** |
| Stddev | .001 | .002 | .001 | .009 | .002 | .005 | .007 |
| %RSD | .0736 | .1218 | .0353 | .4788 | .1069 | .2320 | .3697 |
| #1 | 1.934 | 1.899 | 1.965 | 1.953 | 1.954 | 1.989 | 1.912 |
| #2 | 1.931 | 1.897 | 1.965 | 1.968 | 1.953 | 1.992 | 1.899 |
| #3 | 1.934 | 1.894 | 1.964 | 1.951 | 1.950 | 1.983 | 1.900 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **164740.** | **28302.** | **6791.6** | **9500.0** |
| Stddev | 1155. | 219. | 21.3 | 19.8 |
| %RSD | .70088 | .77294 | .31368 | .20834 |
| #1 | 165140. | 28201. | 6794.7 | 9507.5 |
| #2 | 165640. | 28152. | 6811.1 | 9514.9 |
| #3 | 163440. | 28553. | 6768.9 | 9477.5 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 21:31:48 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0001** | **.0004** | **.0003** | **.0000** | **.0007** | **.0002** | **.0004** | **.0007** |
| Stddev | .0003 | .0000 | .0002 | .0002 | .0003 | .0001 | .0000 | .0003 | .0005 |
| %RSD | 154.6 | 32.55 | 43.84 | 53.99 | 833.0 | 8.317 | 10.35 | 65.29 | 67.68 |
| #1 | .0005 | .0001 | .0006 | .0001 | -.0002 | .0007 | .0001 | .0006 | .0009 |
| #2 | .0002 | .0001 | .0003 | .0005 | -.0001 | .0007 | .0002 | .0001 | .0009 |
| #3 | -.0001 | .0002 | .0003 | .0003 | .0004 | .0006 | .0002 | .0005 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0003** | **.0003** | **.0002** | **-.0003** | **-.0000** | **-.0005** | **-.0097** | **-.0024** |
| Stddev | .0001 | .0002 | .0012 | .0009 | .0004 | .0022 | .0001 | .0066 | .0014 |
| %RSD | 26.47 | 63.40 | 437.7 | 432.6 | 114.1 | 4991. | 11.01 | 68.04 | 55.73 |
| #1 | -.0004 | -.0002 | .0009 | -.0003 | -.0007 | -.0005 | -.0005 | -.0168 | -.0039 |
| #2 | -.0005 | -.0002 | .0010 | .0013 | -.0001 | .0024 | -.0004 | -.0088 | -.0011 |
| #3 | -.0003 | -.0005 | -.0011 | -.0003 | -.0001 | -.0020 | -.0006 | -.0037 | -.0023 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **.0036** | **.1135** | **.0681** | **.0025** | **.0003** | **.0016** | **.0009** | **.0001** |
| Stddev | .0012 | .0112 | .0138 | .0153 | .0004 | .0001 | .0020 | .0002 | .0000 |
| %RSD | 98.02 | 314.9 | 12.16 | 22.52 | 14.33 | 23.32 | 121.2 | 17.19 | 81.77 |
| #1 | .0024 | .0134 | .1175 | .0845 | .0025 | .0003 | .0003 | .0007 | .0001 |
| #2 | .0000 | .0059 | .1249 | .0658 | .0028 | .0004 | .0038 | .0010 | .0000 |
| #3 | .0012 | -.0087 | .0981 | .0541 | .0021 | .0003 | .0007 | .0010 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 21:31:48 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0007** | **.0003** | **-.0029** | **.0001** | **-.0023** | **-.0076** |
| Stddev | .0005 | .0004 | .0001 | .0016 | .0008 | .0013 | .0002 |
| %RSD | 114.9 | 62.99 | 43.40 | 53.46 | 1530. | 58.71 | 2.384 |
| #1 | .0004 | .0005 | .0002 | -.0039 | .0004 | -.0037 | -.0077 |
| #2 | -.0000 | .0011 | .0005 | -.0038 | -.0009 | -.0019 | -.0074 |
| #3 | .0010 | .0003 | .0003 | -.0011 | .0006 | -.0012 | -.0076 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173200.** | **28714.** | **7081.1** | **10440.** |
| Stddev | 737. | 189. | 6.3 | 7. |
| %RSD | .42534 | .65989 | .08869 | .06741 |
| #1 | 173020. | 28696. | 7075.7 | 10437. |
| #2 | 172560. | 28912. | 7088.0 | 10448. |
| #3 | 174000. | 28534. | 7079.6 | 10434. |

Zoom In Zoom Out

Sample Name: vconf Acquired: 4/30/2019 21:36:56 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **-.0009** | **.0004** | **.0003** | **-.0006** | **-.0005** | **.0000** | **.0002** |
| Stddev | .0001 | .0001 | .0001 | .0001 | .0003 | .0002 | .0001 | .0001 |
| %RSD | 14.85 | 10.05 | 23.81 | 32.51 | 52.17 | 37.78 | 267.5 | 63.55 |
| #1 | .0006 | -.0009 | .0005 | .0002 | -.0009 | -.0006 | .0000 | .0002 |
| #2 | .0007 | -.0010 | .0005 | .0003 | -.0003 | -.0003 | -.0000 | .0001 |
| #3 | .0007 | -.0009 | .0003 | .0003 | -.0006 | -.0006 | .0001 | .0003 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0030** | F **10.60** | **.0000** | **.0012** | **-.0009** | **-.0003** | **.0011** | **.0051** |
| Stddev | .0006 | .12 | .0001 | .0005 | .0035 | .0003 | .0005 | .0006 |
| %RSD | 21.44 | 1.097 | 109.3 | 40.49 | 378.7 | 82.57 | 51.22 | 12.05 |
| #1 | -.0033 | 10.57 | .0001 | .0017 | -.0030 | -.0004 | .0016 | .0051 |
| #2 | -.0022 | 10.73 | -.0000 | .0008 | .0031 | -.0000 | .0005 | .0045 |
| #3 | -.0033 | 10.50 | .0001 | .0011 | -.0029 | -.0006 | .0011 | .0057 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0098** | **.0056** | **.0044** | **.0032** | **.0380** | **.0816** | **.0023** | **-.0018** |
| Stddev | .0093 | .0016 | .0021 | .0136 | .0247 | .0101 | .0005 | .0000 |
| %RSD | 94.02 | 28.27 | 47.51 | 422.9 | 64.84 | 12.40 | 22.98 | 2.758 |
| #1 | -.0034 | .0071 | .0022 | -.0125 | .0101 | .0933 | .0029 | -.0018 |
| #2 | -.0057 | .0057 | .0047 | .0121 | .0473 | .0754 | .0021 | -.0017 |
| #3 | -.0204 | .0039 | .0063 | .0101 | .0567 | .0762 | .0019 | -.0018 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.2742** | **-.0001** | **.0001** | **.0015** | **.0031** | **.0033** | **-.0043** | **.0002** |
| Stddev | .0074 | .0003 | .0001 | .0004 | .0010 | .0001 | .0021 | .0004 |
| %RSD | 2.702 | 207.0 | 154.3 | 23.54 | 33.40 | 3.095 | 48.35 | 191.5 |
| #1 | -.2754 | -.0005 | -.0000 | .0017 | .0033 | .0032 | -.0024 | -.0002 |
| #2 | -.2810 | .0000 | .0001 | .0017 | .0020 | .0033 | -.0065 | .0002 |
| #3 | -.2663 | .0000 | .0002 | .0011 | .0041 | .0034 | -.0041 | .0006 |



Zoom In Zoom Out

Sample Name: vconf Acquired: 4/30/2019 21:36:56 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0026** | **.0156** |
| Stddev | .0014 | .0011 |
| %RSD | 53.96 | 6.759 |
| #1 | -.0015 | .0154 |
| #2 | -.0022 | .0168 |
| #3 | -.0042 | .0147 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **174020.** | **28668.** | **7071.4** | **10400.** |
| Stddev | 519. | 61. | 9.4 | 16. |
| %RSD | .29829 | .21257 | .13347 | .15296 |
| #1 | 174260. | 28617. | 7067.6 | 10398. |
| #2 | 173430. | 28650. | 7082.1 | 10417. |
| #3 | 174380. | 28736. | 7064.4 | 10385. |



Zoom In Zoom Out

Sample Name: ticonf Acquired: 4/30/2019 21:42:13 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | F **-.0014** | **.0001** | **-.0011** | **.0001** | **-.0002** | **.0002** | **.0000** |
| Stddev | .0002 | .0000 | .0002 | .0001 | .0001 | .0003 | .0000 | .0002 |
| %RSD | 101.4 | .8204 | 166.9 | 10.25 | 143.9 | 120.4 | 9.305 | 3556. |
| #1 | -.0000 | -.0015 | -.0001 | -.0012 | .0001 | -.0003 | .0002 | .0002 |
| #2 | .0003 | -.0014 | .0002 | -.0011 | -.0000 | .0001 | .0002 | -.0001 |
| #3 | .0002 | -.0014 | .0003 | -.0010 | .0002 | -.0004 | .0002 | -.0001 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0010** | **.0042** | **-.0006** | **.0016** | **.0089** | **-.0002** | **.0051** |
| Stddev | .0002 | .0006 | .0001 | .0009 | .0014 | .0009 | .0017 | .0019 |
| %RSD | 97.60 | 60.27 | 2.654 | 159.1 | 83.92 | 10.52 | 1085. | 36.81 |
| #1 | .0002 | .0008 | .0041 | -.0009 | .0032 | .0086 | .0011 | .0051 |
| #2 | .0004 | .0017 | .0043 | .0004 | .0013 | .0099 | -.0021 | .0033 |
| #3 | .0000 | .0006 | .0041 | -.0012 | .0005 | .0081 | .0005 | .0070 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0927** | **.0526** | **.0119** | **-.0168** | **.0225** | **.0456** | **.0022** | **-.0000** |
| Stddev | .0088 | .0014 | .0009 | .0098 | .0358 | .0023 | .0004 | .0002 |
| %RSD | 9.523 | 2.719 | 7.940 | 58.04 | 159.5 | 5.104 | 17.55 | 487.5 |
| #1 | .0833 | .0539 | .0110 | -.0112 | .0586 | .0483 | .0026 | -.0001 |
| #2 | .1008 | .0528 | .0129 | -.0281 | .0219 | .0448 | .0021 | .0002 |
| #3 | .0939 | .0511 | .0118 | -.0111 | -.0131 | .0439 | .0019 | -.0002 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0127** | **-.0025** | **-.0000** | F **10.14** | **-.0016** | **-.0020** | **.0006** | **.1482** |
| Stddev | .0024 | .0003 | .0001 | .15 | .0011 | .0002 | .0025 | .0115 |
| %RSD | 19.17 | 12.06 | 1701. | 1.527 | 68.98 | 10.61 | 446.2 | 7.727 |
| #1 | -.0154 | -.0027 | .0001 | 10.29 | -.0020 | -.0022 | .0020 | .1594 |
| #2 | -.0117 | -.0022 | .0000 | 10.14 | -.0025 | -.0018 | -.0023 | .1488 |
| #3 | -.0108 | -.0027 | -.0001 | 9.983 | -.0004 | -.0019 | .0020 | .1365 |



Zoom In Zoom Out

Sample Name: ticonf Acquired: 4/30/2019 21:42:13 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0015** | **.1137** |
| Stddev | .0008 | .0026 |
| %RSD | 50.10 | 2.328 |
| #1 | -.0014 | .1163 |
| #2 | -.0008 | .1137 |
| #3 | -.0024 | .1110 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173670.** | **28793.** | **7057.9** | **10360.** |
| Stddev | 514. | 77. | 9.3 | 5. |
| %RSD | .29611 | .26631 | .13173 | .04556 |
| #1 | 173130. | 28736. | 7066.7 | 10365. |
| #2 | 174150. | 28762. | 7058.8 | 10359. |
| #3 | 173750. | 28880. | 7048.2 | 10356. |

Zoom In Zoom Out

Sample Name: moconf Acquired: 4/30/2019 21:47:28 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **.0001** | **.0004** | **-.0018** | **-.0013** | **.0031** | **-.0004** | **.0001** | **.0006** |
| Stddev | .0002 | .0001 | .0000 | .0002 | .0002 | .0003 | .0000 | .0001 | .0003 |
| %RSD | 44.35 | 60.01 | 11.02 | 11.78 | 13.86 | 9.584 | 8.693 | 144.8 | 43.13 |
| #1 | -.0002 | .0001 | .0003 | -.0016 | -.0011 | .0029 | -.0004 | -.0000 | .0003 |
| #2 | -.0007 | .0001 | .0004 | -.0018 | -.0013 | .0034 | -.0003 | .0001 | .0007 |
| #3 | -.0006 | .0002 | .0004 | -.0021 | -.0015 | .0030 | -.0004 | .0003 | .0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **-.0012** | **-.0001** | **.0077** | **-.0001** | **-.0028** | **-.0023** | **.0106** | **.0738** |
| Stddev | .0003 | .0001 | .0011 | .0011 | .0009 | .0015 | .0002 | .0153 | .0021 |
| %RSD | 56.46 | 5.750 | 924.5 | 14.01 | 627.7 | 54.37 | 10.05 | 145.1 | 2.887 |
| #1 | -.0007 | -.0012 | -.0001 | .0086 | .0007 | -.0018 | -.0025 | .0218 | .0713 |
| #2 | -.0002 | -.0012 | -.0012 | .0065 | -.0011 | -.0021 | -.0023 | -.0069 | .0749 |
| #3 | -.0007 | -.0013 | .0010 | .0080 | -.0000 | -.0046 | -.0020 | .0168 | .0752 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0304** | **.0311** | **.0555** | **-.0145** | F **10.51** | **-.0479** | **.0018** | **.0000** |
| Stddev | .0019 | .0104 | .0412 | .0038 | .0009 | .00 | .0000 | .0003 | .0001 |
| %RSD | 307.9 | 34.34 | 132.5 | 6.798 | 6.164 | .0424 | .0526 | 18.13 | 369.3 |
| #1 | -.0000 | -.0288 | -.0138 | .0579 | -.0144 | 10.51 | -.0479 | .0016 | .0002 |
| #2 | .0028 | -.0209 | .0398 | .0512 | -.0154 | 10.51 | -.0479 | .0022 | .0000 |
| #3 | -.0009 | -.0416 | .0673 | .0575 | -.0136 | 10.50 | -.0480 | .0018 | -.0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0033** | **.0033** | **-.0022** | **.0502** | **-.0017** | **-.0027** | **.0105** |
| Stddev | .0001 | .0009 | .0001 | .0008 | .0010 | .0008 | .0005 |
| %RSD | 1.619 | 26.59 | 5.373 | 1.525 | 55.88 | 27.88 | 4.345 |
| #1 | -.0033 | .0036 | -.0023 | .0494 | -.0028 | -.0027 | .0101 |
| #2 | -.0033 | .0023 | -.0022 | .0508 | -.0011 | -.0020 | .0106 |
| #3 | -.0034 | .0040 | -.0021 | .0504 | -.0012 | -.0035 | .0110 |



Zoom In Zoom Out

Sample Name: moconf Acquired: 4/30/2019 21:47:28 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173390.** | **28756.** | **7043.3** | **10396.** |
| Stddev | 369. | 178. | 22.2 | 28. |
| %RSD | .21295 | .61801 | .31474 | .26971 |
| #1 | 173150. | 28918. | 7068.9 | 10429. |
| #2 | 173200. | 28566. | 7030.2 | 10382. |
| #3 | 173820. | 28783. | 7030.8 | 10379. |



Zoom In Zoom Out

Sample Name: siconf Acquired: 4/30/2019 21:52:32 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **.0002** | **-.0002** | **-.0003** | **.0004** | **-.0000** | **.0001** | **.0005** |
| Stddev | .0001 | .0000 | .0000 | .0002 | .0002 | .0004 | .0000 | .0002 | .0003 |
| %RSD | 127.2 | 167.8 | 11.94 | 134.2 | 83.40 | 89.67 | 150.5 | 236.7 | 56.51 |
| #1 | -.0003 | -.0000 | .0002 | -.0001 | -.0005 | .0008 | -.0000 | -.0002 | .0008 |
| #2 | -.0000 | -.0001 | .0002 | -.0005 | -.0002 | .0000 | -.0000 | .0001 | .0002 |
| #3 | -.0000 | .0000 | .0002 | -.0000 | -.0001 | .0005 | .0000 | .0003 | .0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0002** | **.0005** | **-.0002** | **.0004** | **-.0019** | **.0020** | **-.0084** | **.0048** |
| Stddev | .0003 | .0000 | .0007 | .0010 | .0005 | .0003 | .0006 | .0093 | .0023 |
| %RSD | 78.02 | 25.44 | 126.6 | 651.5 | 116.8 | 18.53 | 31.93 | 111.0 | 47.27 |
| #1 | -.0001 | -.0001 | -.0001 | -.0004 | .0007 | -.0021 | .0013 | -.0180 | .0031 |
| #2 | -.0004 | -.0002 | .0005 | .0009 | .0008 | -.0020 | .0020 | .0007 | .0039 |
| #3 | -.0007 | -.0002 | .0012 | -.0010 | -.0001 | -.0015 | .0026 | -.0080 | .0074 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0067** | **-.0002** | **.0654** | **.0201** | **.0011** | **.0011** | **11.01** | **-.0007** | **-.0004** |
| Stddev | .0013 | .0032 | .0506 | .0121 | .0004 | .0003 | .10 | .0002 | .0000 |
| %RSD | 19.80 | 1701. | 77.41 | 60.28 | 31.27 | 23.79 | .9091 | 29.90 | 10.60 |
| #1 | -.0060 | .0033 | .1225 | .0339 | .0014 | .0014 | 10.95 | -.0008 | -.0004 |
| #2 | -.0082 | -.0030 | .0476 | .0117 | .0007 | .0010 | 11.13 | -.0008 | -.0004 |
| #3 | -.0058 | -.0009 | .0261 | .0146 | .0013 | .0009 | 10.95 | -.0004 | -.0005 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0013** | **-.0004** | **.0030** | **-.0014** | **-.0039** | **.0073** |
| Stddev | .0003 | .0003 | .0001 | .0023 | .0020 | .0007 | .0025 |
| %RSD | 168.2 | 23.19 | 15.11 | 75.82 | 144.4 | 17.75 | 34.68 |
| #1 | -.0001 | -.0010 | -.0004 | .0006 | -.0034 | -.0047 | .0062 |
| #2 | .0005 | -.0016 | -.0004 | .0051 | .0007 | -.0033 | .0055 |
| #3 | .0001 | -.0012 | -.0005 | .0032 | -.0015 | -.0039 | .0102 |



Zoom In Zoom Out

Sample Name: siconf Acquired: 4/30/2019 21:52:32 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **174580.** | **28809.** | **7106.6** | **10414.** |
| Stddev | 875. | 26. | 68.5 | 98. |
| %RSD | .50114 | .09150 | .96440 | .94491 |
| #1 | 173570. | 28779. | 7131.6 | 10453. |
| #2 | 175160. | 28823. | 7029.0 | 10303. |
| #3 | 175010. | 28826. | 7159.0 | 10487. |

Zoom In Zoom Out

Sample Name: mnconf Acquired: 4/30/2019 21:57:40 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0002** | **-.0002** | **.0002** | **.0019** | **.0004** | F **10.06** | **.0003** |
| Stddev | .0007 | .0001 | .0001 | .0002 | .0002 | .0002 | .17 | .0004 |
| %RSD | 2958. | 30.71 | 37.49 | 100.5 | 12.40 | 46.67 | 1.675 | 136.1 |
| #1 | .0001 | -.0002 | -.0001 | -.0000 | .0018 | .0002 | 10.25 | .0007 |
| #2 | .0006 | -.0001 | -.0002 | .0002 | .0018 | .0006 | 10.00 | -.0002 |
| #3 | -.0007 | -.0002 | -.0002 | .0004 | .0022 | .0005 | 9.933 | .0005 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0057** | **.0001** | **-.0015** | F **-.0061** | **-.0006** | **-.0008** | **-.0013** |
| Stddev | .0005 | .0003 | .0001 | .0004 | .0007 | .0004 | .0015 | .0007 |
| %RSD | 546.1 | 5.731 | 103.4 | 27.69 | 10.94 | 70.22 | 200.5 | 54.43 |
| #1 | .0004 | .0061 | .0000 | -.0017 | -.0063 | -.0003 | -.0022 | -.0008 |
| #2 | .0003 | .0056 | .0002 | -.0010 | -.0066 | -.0011 | .0009 | -.0009 |
| #3 | -.0005 | .0055 | .0000 | -.0018 | -.0053 | -.0004 | -.0010 | -.0020 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0086** | **.0022** | **-.0012** | **.0063** | **.0657** | **.0113** | **.0008** | **.0003** |
| Stddev | .0105 | .0020 | .0005 | .0014 | .0043 | .0074 | .0005 | .0001 |
| %RSD | 122.1 | 89.63 | 44.70 | 21.71 | 6.475 | 65.34 | 57.83 | 41.76 |
| #1 | .0133 | .0026 | -.0016 | .0053 | .0704 | .0087 | .0013 | .0003 |
| #2 | -.0034 | .0039 | -.0014 | .0058 | .0647 | .0056 | .0006 | .0004 |
| #3 | .0158 | .0001 | -.0006 | .0079 | .0621 | .0197 | .0004 | .0002 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0061** | **.0001** | **-.0000** | **.0004** | **-.0012** | **.0001** | **.0027** | **.0001** |
| Stddev | .0004 | .0003 | .0000 | .0003 | .0011 | .0001 | .0028 | .0011 |
| %RSD | 6.797 | 228.7 | 383.9 | 73.54 | 94.11 | 85.62 | 103.1 | 990.5 |
| #1 | .0064 | .0005 | .0000 | .0001 | -.0004 | .0000 | .0031 | -.0002 |
| #2 | .0056 | -.0002 | -.0000 | .0004 | -.0024 | .0000 | -.0002 | -.0008 |
| #3 | .0063 | .0002 | -.0000 | .0007 | -.0006 | .0002 | .0054 | .0013 |



Zoom In Zoom Out

Sample Name: mnconf Acquired: 4/30/2019 21:57:40 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0038** | **.0339** |
| Stddev | .0013 | .0027 |
| %RSD | 34.29 | 7.837 |
| #1 | -.0023 | .0367 |
| #2 | -.0048 | .0314 |
| #3 | -.0043 | .0336 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **174000.** | **28632.** | **7126.1** | **10446.** |
| Stddev | 1752. | 1006. | 23.2 | 27. |
| %RSD | 1.0066 | 3.5140 | .32549 | .25819 |
| #1 | 172260. | 28380. | 7149.9 | 10470. |
| #2 | 173980. | 27776. | 7103.6 | 10417. |
| #3 | 175760. | 29740. | 7124.7 | 10452. |



Zoom In Zoom Out

Sample Name: snconf Acquired: 4/30/2019 22:02:56 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0000** | **.0003** | **-.0001** | **-.0002** | **.0007** | **.0005** | **-.0000** |
| Stddev | .0004 | .0001 | .0002 | .0001 | .0001 | .0003 | .0000 | .0002 |
| %RSD | 20850. | 176.5 | 58.72 | 63.69 | 41.45 | 47.35 | 1.832 | 775.1 |
| #1 | .0005 | -.0000 | .0002 | -.0002 | -.0001 | .0006 | .0005 | -.0003 |
| #2 | -.0004 | .0001 | .0002 | -.0001 | -.0002 | .0004 | .0005 | .0002 |
| #3 | -.0001 | .0000 | .0005 | -.0000 | -.0002 | .0010 | .0005 | -.0000 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0003** | **.0005** | **.0015** | **.0007** | **-.0006** | **.0003** | F **-.0045** |
| Stddev | .0005 | .0003 | .0000 | .0002 | .0012 | .0006 | .0016 | .0009 |
| %RSD | 89.65 | 97.26 | 8.577 | 16.14 | 168.1 | 99.66 | 463.0 | 19.13 |
| #1 | .0003 | -.0004 | .0006 | .0018 | .0021 | -.0008 | .0010 | -.0039 |
| #2 | .0012 | .0000 | .0005 | .0013 | -.0001 | -.0011 | -.0014 | -.0055 |
| #3 | .0003 | -.0005 | .0005 | .0015 | .0001 | .0001 | .0014 | -.0042 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1176** | **.0292** | **.0029** | **.0081** | **.0608** | **.0121** | **.0056** | **.0002** |
| Stddev | .0075 | .0011 | .0016 | .0101 | .0385 | .0097 | .0002 | .0001 |
| %RSD | 6.410 | 3.606 | 55.20 | 125.1 | 63.34 | 80.63 | 3.787 | 44.05 |
| #1 | .1208 | .0295 | .0011 | .0166 | .0171 | .0036 | .0055 | .0001 |
| #2 | .1090 | .0300 | .0037 | -.0031 | .0899 | .0098 | .0058 | .0002 |
| #3 | .1230 | .0280 | .0040 | .0108 | .0754 | .0227 | .0054 | .0003 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0226** | F **10.71** | **.0000** | **.0008** | **-.0137** | **.0004** | **-.0003** | **-.0001** |
| Stddev | .0010 | .02 | .0001 | .0004 | .0004 | .0002 | .0014 | .0001 |
| %RSD | 4.228 | .2264 | 224.1 | 53.53 | 2.700 | 47.82 | 490.3 | 57.27 |
| #1 | -.0216 | 10.68 | -.0001 | .0003 | -.0139 | .0002 | -.0020 | -.0002 |
| #2 | -.0227 | 10.71 | .0001 | .0010 | -.0140 | .0003 | .0004 | -.0001 |
| #3 | -.0235 | 10.73 | .0001 | .0010 | -.0133 | .0006 | .0007 | -.0001 |



Zoom In Zoom Out

Sample Name: snconf Acquired: 4/30/2019 22:02:56 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0038** | **-.0078** |
| Stddev | .0019 | .0013 |
| %RSD | 50.75 | 17.02 |
| #1 | -.0017 | -.0070 |
| #2 | -.0044 | -.0070 |
| #3 | -.0054 | -.0093 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173610.** | **28708.** | **7082.8** | **10419.** |
| Stddev | 726. | 167. | 23.8 | 32. |
| %RSD | .41817 | .58117 | .33574 | .30655 |
| #1 | 172770. | 28811. | 7103.7 | 10448. |
| #2 | 174030. | 28515. | 7087.8 | 10424. |
| #3 | 174020. | 28797. | 7056.9 | 10385. |

Zoom In Zoom Out

Sample Name: srconf Acquired: 4/30/2019 22:08:03 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0000** | **.0006** | **-.0001** | **.0010** | **.0007** | **.0001** | **-.0001** | **.0010** |
| Stddev | .0003 | .0001 | .0001 | .0001 | .0003 | .0002 | .0001 | .0001 | .0002 |
| %RSD | 2360. | 146.8 | 16.99 | 82.37 | 24.60 | 25.58 | 50.41 | 206.4 | 18.97 |
| #1 | -.0000 | .0000 | .0006 | -.0002 | .0013 | .0008 | .0000 | -.0002 | .0012 |
| #2 | .0003 | .0001 | .0005 | -.0000 | .0009 | .0008 | .0001 | .0000 | .0008 |
| #3 | -.0003 | -.0000 | .0007 | -.0002 | .0009 | .0005 | .0001 | -.0000 | .0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0002** | **.0001** | **-.0005** | **.0008** | **-.0007** | **-.0017** | **-.0026** | **.0000** |
| Stddev | .0003 | .0001 | .0006 | .0005 | .0012 | .0009 | .0006 | .0074 | .0001 |
| %RSD | 30.42 | 36.37 | 603.6 | 96.37 | 136.6 | 124.3 | 38.80 | 286.9 | 334.9 |
| #1 | .0007 | .0001 | .0007 | .0000 | .0012 | -.0003 | -.0009 | .0051 | .0001 |
| #2 | .0013 | .0002 | -.0002 | -.0009 | -.0004 | -.0018 | -.0019 | -.0097 | .0001 |
| #3 | .0009 | .0003 | -.0003 | -.0006 | .0018 | -.0001 | -.0022 | -.0032 | -.0001 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0018** | **.0023** | **-.0280** | **.0092** | **.0006** | **.0003** | **-.0012** | **.0017** | F **11.56** |
| Stddev | .0022 | .0054 | .0400 | .0073 | .0003 | .0002 | .0004 | .0006 | .06 |
| %RSD | 127.1 | 231.1 | 142.6 | 79.20 | 48.58 | 85.49 | 31.37 | 35.59 | .4766 |
| #1 | .0019 | -.0036 | -.0694 | .0047 | .0004 | .0002 | -.0008 | .0010 | 11.53 |
| #2 | -.0005 | .0035 | .0103 | .0177 | .0005 | .0005 | -.0015 | .0021 | 11.62 |
| #3 | .0040 | .0071 | -.0250 | .0054 | .0010 | .0001 | -.0013 | .0021 | 11.51 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0094** | **.0011** | **-.0011** | **.0004** | **-.0027** | **-.0080** |
| Stddev | .0001 | .0011 | .0000 | .0027 | .0006 | .0009 | .0015 |
| %RSD | 21.39 | 12.05 | 4.235 | 236.3 | 139.6 | 32.04 | 18.54 |
| #1 | .0002 | .0090 | .0010 | -.0018 | -.0002 | -.0017 | -.0063 |
| #2 | .0003 | .0107 | .0011 | .0018 | .0009 | -.0033 | -.0088 |
| #3 | .0003 | .0086 | .0011 | -.0034 | .0005 | -.0032 | -.0089 |



Zoom In Zoom Out

Sample Name: srconf Acquired: 4/30/2019 22:08:03 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172840.** | **28636.** | **6988.3** | **10315.** |
| Stddev | 555. | 134. | 30.5 | 47. |
| %RSD | .32123 | .46933 | .43611 | .45306 |
| #1 | 173320. | 28766. | 7005.0 | 10339. |
| #2 | 172980. | 28497. | 7006.7 | 10345. |
| #3 | 172230. | 28645. | 6953.1 | 10261. |



Zoom In Zoom Out

Sample Name: coconf Acquired: 4/30/2019 22:13:19 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0002** | **.0006** | F **10.86** | **.0002** | **.0001** | **.0000** | **-.0008** | **.0004** |
| Stddev | .0001 | .0000 | .0001 | .00 | .0002 | .0002 | .0000 | .0003 | .0002 |
| %RSD | 86.96 | 15.35 | 17.04 | .0332 | 80.80 | 191.3 | 145.0 | 33.74 | 53.94 |
| #1 | .0001 | .0002 | .0005 | 10.86 | .0001 | .0001 | .0000 | -.0007 | .0002 |
| #2 | .0000 | .0002 | .0007 | 10.85 | .0005 | .0003 | .0000 | -.0006 | .0007 |
| #3 | .0001 | .0002 | .0006 | 10.86 | .0002 | -.0001 | .0000 | -.0011 | .0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0002** | **-.0001** | **-.0018** | **-.0017** | **.0045** | **.0006** | **-.0140** | **.0031** |
| Stddev | .0001 | .0000 | .0006 | .0014 | .0005 | .0012 | .0016 | .0105 | .0013 |
| %RSD | 58.13 | 12.15 | 555.9 | 78.03 | 31.07 | 27.57 | 262.8 | 75.07 | 40.59 |
| #1 | -.0004 | -.0002 | -.0007 | -.0024 | -.0013 | .0035 | .0007 | -.0035 | .0023 |
| #2 | -.0003 | -.0002 | -.0002 | -.0027 | -.0016 | .0041 | -.0010 | -.0140 | .0045 |
| #3 | -.0001 | -.0002 | .0005 | -.0002 | -.0023 | .0059 | .0021 | -.0245 | .0025 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0063** | **.0032** | **.0166** | **-.0002** | **.0001** | **-.0004** | **-.0000** | **.0001** |
| Stddev | .0011 | .0117 | .0148 | .0060 | .0007 | .0002 | .0007 | .0002 | .0000 |
| %RSD | 408.3 | 186.0 | 456.7 | 36.04 | 415.9 | 159.0 | 198.6 | 538.2 | 32.18 |
| #1 | .0010 | -.0044 | -.0079 | .0098 | .0005 | .0002 | -.0007 | -.0000 | .0001 |
| #2 | -.0010 | .0187 | -.0024 | .0210 | -.0010 | -.0001 | .0005 | -.0003 | .0001 |
| #3 | -.0008 | .0045 | .0200 | .0190 | -.0000 | .0003 | -.0009 | .0001 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0098** | **.0001** | **.0004** | **.0052** | **-.0032** | **.0151** |
| Stddev | .0002 | .0004 | .0002 | .0014 | .0017 | .0012 | .0009 |
| %RSD | 71.57 | 4.529 | 217.7 | 320.8 | 31.74 | 36.04 | 5.885 |
| #1 | -.0002 | .0096 | .0003 | .0018 | .0062 | -.0020 | .0159 |
| #2 | -.0004 | .0103 | -.0001 | -.0011 | .0033 | -.0034 | .0152 |
| #3 | -.0001 | .0095 | .0001 | .0006 | .0061 | -.0043 | .0142 |



Zoom In Zoom Out

Sample Name: coconf Acquired: 4/30/2019 22:13:19 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **174080.** | **28816.** | **7054.7** | **10494.** |
| Stddev | 860. | 62. | 19.9 | 19. |
| %RSD | .49407 | .21385 | .28221 | .17997 |
| #1 | 174940. | 28796. | 7072.1 | 10511. |
| #2 | 174080. | 28767. | 7033.0 | 10474. |
| #3 | 173220. | 28885. | 7059.0 | 10497. |

Zoom In Zoom Out

Sample Name: alconf Acquired: 4/30/2019 22:18:27 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0000** | **.0002** | **.0008** | **-.0001** | **-.0005** | **-.0012** | **.0000** |
| Stddev | .0003 | .0001 | .0002 | .0004 | .0002 | .0003 | .0001 | .0001 |
| %RSD | 53.61 | 248.3 | 80.04 | 52.77 | 205.2 | 47.17 | 6.476 | 300.6 |
| #1 | .0002 | -.0000 | .0004 | .0003 | -.0000 | -.0003 | -.0012 | .0000 |
| #2 | .0007 | .0001 | .0002 | .0011 | .0001 | -.0008 | -.0012 | .0002 |
| #3 | .0005 | .0000 | .0001 | .0008 | -.0002 | -.0006 | -.0013 | -.0001 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0035** | **-.0007** | **-.0003** | **-.0003** | **.0017** | **-.0030** | **-.0003** | F **-.0031** |
| Stddev | .0003 | .0001 | .0001 | .0014 | .0016 | .0011 | .0023 | .0039 |
| %RSD | 9.609 | 14.21 | 44.28 | 397.4 | 92.16 | 35.67 | 671.8 | 126.4 |
| #1 | .0035 | -.0008 | -.0004 | -.0010 | .0010 | -.0039 | -.0023 | -.0059 |
| #2 | .0037 | -.0006 | -.0004 | -.0012 | .0007 | -.0018 | .0022 | .0013 |
| #3 | .0031 | -.0007 | -.0002 | .0012 | .0036 | -.0032 | -.0010 | -.0046 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **502.7** | **.0076** | **.0016** | **.0076** | **-.0637** | **.0409** | **.0000** | **-.0006** |
| Stddev | 1.2 | .0012 | .0019 | .0105 | .0270 | .0028 | .0008 | .0001 |
| %RSD | .2321 | 16.02 | 117.7 | 137.9 | 42.35 | 6.943 | 4024. | 11.45 |
| #1 | 503.9 | .0089 | .0019 | -.0030 | -.0327 | .0382 | .0007 | -.0007 |
| #2 | 502.7 | .0073 | .0034 | .0180 | -.0772 | .0406 | -.0008 | -.0005 |
| #3 | 501.6 | .0065 | -.0004 | .0078 | -.0813 | .0439 | .0002 | -.0007 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0032** | **-.0016** | **.0002** | **.0018** | **.0005** | **.0006** | **-.0030** | **-.0060** |
| Stddev | .0013 | .0006 | .0000 | .0001 | .0008 | .0000 | .0011 | .0015 |
| %RSD | 39.29 | 34.77 | 19.58 | 5.060 | 173.9 | 4.340 | 34.79 | 24.54 |
| #1 | .0034 | -.0016 | .0002 | .0018 | .0013 | .0005 | -.0040 | -.0067 |
| #2 | .0019 | -.0022 | .0002 | .0018 | -.0003 | .0006 | -.0019 | -.0069 |
| #3 | .0043 | -.0011 | .0003 | .0017 | .0004 | .0005 | -.0033 | -.0043 |



Zoom In Zoom Out

Sample Name: alconf Acquired: 4/30/2019 22:18:27 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0009** | **.0019** |
| Stddev | .0015 | .0019 |
| %RSD | 159.4 | 99.10 |
| #1 | .0005 | .0002 |
| #2 | -.0025 | .0040 |
| #3 | -.0008 | .0016 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158800.** | **28976.** | **6988.3** | **9473.2** |
| Stddev | 420. | 63. | 4.0 | 11.3 |
| %RSD | .26470 | .21714 | .05692 | .11911 |
| #1 | 158710. | 28903. | 6992.8 | 9486.1 |
| #2 | 159260. | 29006. | 6985.4 | 9468.4 |
| #3 | 158440. | 29018. | 6986.6 | 9465.1 |



Zoom In Zoom Out

Sample Name: caconf Acquired: 4/30/2019 22:23:34 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **.0002** | **.0001** | **-.0001** | **.0009** | **.0005** | **.0003** | **.0004** |
| Stddev | .0001 | .0000 | .0001 | .0003 | .0001 | .0002 | .0000 | .0001 | .0004 |
| %RSD | 96.50 | 9.855 | 31.47 | 226.0 | 205.4 | 21.74 | 5.476 | 46.63 | 96.21 |
| #1 | -.0001 | .0001 | .0002 | .0001 | .0000 | .0007 | .0005 | .0001 | .0003 |
| #2 | -.0000 | .0001 | .0001 | -.0001 | -.0002 | .0008 | .0004 | .0004 | .0008 |
| #3 | -.0000 | .0001 | .0001 | .0004 | -.0000 | .0011 | .0005 | .0003 | .0000 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0016** | **-.0001** | **.0008** | **-.0026** | **.0008** | **-.0003** | **.0264** | F **423.7** |
| Stddev | .0002 | .0001 | .0011 | .0013 | .0010 | .0008 | .0002 | .0119 | 5.0 |
| %RSD | 48.29 | 7.704 | 988.9 | 153.5 | 37.90 | 92.71 | 71.08 | 45.01 | 1.171 |
| #1 | -.0006 | .0015 | .0002 | -.0005 | -.0018 | .0016 | -.0006 | .0356 | 424.0 |
| #2 | -.0002 | .0017 | .0008 | .0009 | -.0022 | .0000 | -.0002 | .0305 | 428.5 |
| #3 | -.0005 | .0015 | -.0014 | .0021 | -.0037 | .0009 | -.0002 | .0130 | 418.6 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0063** | **.0004** | **.0612** | **-.0303** | **.0008** | **-.0000** | **.0058** | **-.0004** | **-.0007** |
| Stddev | .0015 | .0134 | .0326 | .0030 | .0002 | .0002 | .0015 | .0006 | .0000 |
| %RSD | 24.59 | 3052. | 53.22 | 10.02 | 23.78 | 1051. | 25.97 | 128.8 | 4.760 |
| #1 | -.0054 | -.0096 | .0409 | -.0277 | .0010 | .0000 | .0067 | -.0011 | -.0006 |
| #2 | -.0053 | .0157 | .0988 | -.0336 | .0009 | -.0002 | .0040 | -.0000 | -.0007 |
| #3 | -.0080 | -.0048 | .0439 | -.0295 | .0006 | .0001 | .0066 | -.0002 | -.0007 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **-.0003** | **-.0001** | **-.0101** | **.0007** | **.0092** | **-.0017** |
| Stddev | .0003 | .0008 | .0000 | .0020 | .0013 | .0012 | .0014 |
| %RSD | 30.83 | 230.5 | 13.97 | 19.50 | 196.6 | 13.22 | 83.38 |
| #1 | -.0011 | .0004 | -.0000 | -.0122 | .0016 | .0078 | -.0031 |
| #2 | -.0007 | -.0012 | -.0001 | -.0097 | -.0008 | .0097 | -.0003 |
| #3 | -.0012 | -.0002 | -.0001 | -.0083 | .0011 | .0101 | -.0017 |



Zoom In Zoom Out

Sample Name: caconf Acquired: 4/30/2019 22:23:34 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158040.** | **27673.** | **6490.7** | **9044.0** |
| Stddev | 367. | 86. | 11.1 | 4.8 |
| %RSD | .23231 | .31036 | .17141 | .05344 |
| #1 | 158410. | 27706. | 6492.9 | 9041.5 |
| #2 | 157670. | 27737. | 6500.5 | 9049.5 |
| #3 | 158030. | 27575. | 6478.6 | 9040.9 |

Zoom In Zoom Out

Sample Name: sconf Acquired: 4/30/2019 22:28:50 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0000** | **.0002** | **.0001** | **-.0002** | **.0004** | **.0000** | **-.0001** | **.0005** |
| Stddev | .0004 | .0000 | .0001 | .0000 | .0003 | .0003 | .0000 | .0000 | .0003 |
| %RSD | 428.3 | 162.0 | 56.27 | 41.58 | 157.5 | 75.46 | 62.16 | 22.35 | 63.60 |
| #1 | .0004 | .0001 | .0003 | .0001 | -.0002 | .0006 | .0000 | -.0001 | .0007 |
| #2 | -.0005 | -.0000 | .0002 | .0002 | -.0004 | .0007 | .0000 | -.0001 | .0001 |
| #3 | -.0002 | .0000 | .0001 | .0001 | .0001 | .0001 | .0000 | -.0001 | .0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0005** | **-.0003** | **-.0011** | **-.0010** | **-.0011** | **.0011** | **-.0004** | **.0317** | **.0046** |
| Stddev | .0002 | .0002 | .0005 | .0011 | .0003 | .0010 | .0016 | .0043 | .0012 |
| %RSD | 39.40 | 52.55 | 42.03 | 107.2 | 30.01 | 93.52 | 394.0 | 13.52 | 25.38 |
| #1 | -.0003 | -.0001 | -.0006 | -.0022 | -.0008 | .0003 | -.0005 | .0356 | .0048 |
| #2 | -.0004 | -.0004 | -.0015 | -.0008 | -.0014 | .0006 | .0012 | .0324 | .0034 |
| #3 | -.0007 | -.0005 | -.0013 | -.0001 | -.0010 | .0022 | -.0019 | .0271 | .0057 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **-.0085** | **.0174** | **.0198** | **.0011** | **.0001** | **.0021** | **.0001** | **-.0000** |
| Stddev | .0010 | .0106 | .0090 | .0090 | .0004 | .0003 | .0003 | .0003 | .0001 |
| %RSD | 91.30 | 123.5 | 51.85 | 45.64 | 40.34 | 191.4 | 15.97 | 192.2 | 12870. |
| #1 | .0014 | -.0010 | .0180 | .0141 | .0008 | .0004 | .0018 | -.0001 | -.0000 |
| #2 | -.0000 | -.0040 | .0261 | .0150 | .0016 | -.0000 | .0020 | .0001 | -.0001 |
| #3 | .0019 | -.0206 | .0081 | .0302 | .0008 | .0000 | .0025 | .0004 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0003** | **.0003** | **91.95** | **-.0018** | **-.0057** | **.0077** |
| Stddev | .0003 | .0010 | .0001 | .07 | .0002 | .0016 | .0021 |
| %RSD | 76.93 | 309.0 | 45.03 | .0804 | 9.535 | 27.91 | 27.33 |
| #1 | .0001 | .0007 | .0002 | 91.87 | -.0017 | -.0039 | .0082 |
| #2 | .0006 | -.0004 | .0002 | 92.00 | -.0020 | -.0062 | .0054 |
| #3 | .0003 | -.0013 | .0004 | 91.99 | -.0016 | -.0069 | .0096 |



Zoom In Zoom Out

Sample Name: sconf Acquired: 4/30/2019 22:28:50 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **174350.** | **28623.** | **7068.6** | **10430.** |
| Stddev | 671. | 102. | 35.3 | 39. |
| %RSD | .38464 | .35470 | .49981 | .37731 |
| #1 | 173580. | 28527. | 7096.9 | 10459. |
| #2 | 174680. | 28614. | 7029.0 | 10385. |
| #3 | 174800. | 28730. | 7079.9 | 10446. |



Zoom In Zoom Out

Sample Name: zrconf Acquired: 4/30/2019 22:33:56 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0002** | **.0003** | **.0003** | **-.0008** | **.0028** | **.0005** | **-.0003** | **.0010** |
| Stddev | .0001 | .0000 | .0000 | .0001 | .0003 | .0003 | .0000 | .0003 | .0007 |
| %RSD | 11.14 | 22.85 | 7.975 | 33.75 | 33.51 | 10.60 | 7.163 | 97.38 | 70.97 |
| #1 | -.0010 | .0002 | .0003 | .0003 | -.0011 | .0026 | .0005 | .0000 | .0019 |
| #2 | -.0012 | .0002 | .0003 | .0002 | -.0007 | .0026 | .0005 | -.0006 | .0006 |
| #3 | -.0012 | .0001 | .0003 | .0003 | -.0006 | .0031 | .0004 | -.0005 | .0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0004** | **.0023** | **-.0001** | **.0009** | **.0018** | **-.0001** | **.0144** | **.0126** |
| Stddev | .0002 | .0001 | .0005 | .0005 | .0005 | .0019 | .0004 | .0035 | .0020 |
| %RSD | 21.86 | 14.37 | 22.26 | 357.3 | 57.73 | 103.3 | 352.2 | 24.44 | 15.98 |
| #1 | .0010 | .0004 | .0026 | .0003 | .0008 | .0002 | -.0005 | .0184 | .0149 |
| #2 | .0009 | .0004 | .0017 | -.0007 | .0004 | .0014 | -.0001 | .0129 | .0118 |
| #3 | .0014 | .0005 | .0025 | -.0000 | .0014 | .0038 | .0003 | .0119 | .0111 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0068** | **.0069** | **.0612** | **.0355** | **.0013** | **-.0001** | **-.0001** | **.0009** | **.0003** |
| Stddev | .0006 | .0003 | .0096 | .0091 | .0006 | .0001 | .0011 | .0009 | .0001 |
| %RSD | 9.202 | 3.931 | 15.64 | 25.61 | 47.10 | 122.7 | 1217. | 96.22 | 38.08 |
| #1 | .0074 | .0072 | .0671 | .0268 | .0018 | -.0003 | -.0012 | .0016 | .0002 |
| #2 | .0062 | .0067 | .0663 | .0349 | .0006 | -.0000 | .0009 | -.0001 | .0004 |
| #3 | .0069 | .0070 | .0502 | .0449 | .0014 | -.0000 | .0001 | .0013 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **-.0004** | F **10.62** | **.0146** | **.0003** | **-.0055** | **-.0103** |
| Stddev | .0002 | .0007 | .05 | .0014 | .0016 | .0026 | .0010 |
| %RSD | 25.30 | 181.3 | .4308 | 9.426 | 526.0 | 46.36 | 9.510 |
| #1 | .0007 | -.0001 | 10.60 | .0161 | -.0003 | -.0034 | -.0092 |
| #2 | .0009 | .0001 | 10.58 | .0142 | .0021 | -.0049 | -.0111 |
| #3 | .0012 | -.0011 | 10.67 | .0134 | -.0008 | -.0084 | -.0105 |



Zoom In Zoom Out

Sample Name: zrconf Acquired: 4/30/2019 22:33:56 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **170600.** | **28587.** | **7027.0** | **10368.** |
| Stddev | 445. | 104. | 16.2 | 23. |
| %RSD | .26068 | .36311 | .22993 | .22302 |
| #1 | 171110. | 28475. | 7041.4 | 10389. |
| #2 | 170390. | 28680. | 7009.5 | 10343. |
| #3 | 170300. | 28606. | 7030.1 | 10371. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 22:39:13 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.000** | **2.011** | **2.025** | **2.027** | **1.991** | **1.953** | **2.036** | **1.998** | **.2465** |
| Stddev | .003 | .004 | .002 | .002 | .006 | .003 | .012 | .001 | .0006 |
| %RSD | .1640 | .2025 | .1137 | .0843 | .3198 | .1438 | .5962 | .0336 | .2382 |
| #1 | 2.002 | 2.008 | 2.027 | 2.028 | 1.991 | 1.953 | 2.042 | 1.999 | .2459 |
| #2 | 2.002 | 2.016 | 2.025 | 2.027 | 1.985 | 1.951 | 2.022 | 1.999 | .2470 |
| #3 | 1.996 | 2.009 | 2.023 | 2.025 | 1.997 | 1.956 | 2.044 | 1.998 | .2468 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.028** | **2.040** | **1.942** | **2.030** | **2.004** | **1.964** | **1.966** | **38.84** | **39.58** |
| Stddev | .004 | .003 | .005 | .016 | .000 | .003 | .002 | .07 | .07 |
| %RSD | .2067 | .1638 | .2558 | .7765 | .0221 | .1600 | .0827 | .1896 | .1756 |
| #1 | 2.028 | 2.042 | 1.947 | 2.039 | 2.004 | 1.968 | 1.966 | 38.78 | 39.53 |
| #2 | 2.024 | 2.042 | 1.937 | 2.012 | 2.004 | 1.961 | 1.968 | 38.92 | 39.66 |
| #3 | 2.032 | 2.036 | 1.942 | 2.038 | 2.003 | 1.964 | 1.965 | 38.82 | 39.55 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.44** | **39.74** | **39.35** | **39.86** | **2.017** | **2.026** | **4.929** | **2.043** | **1.997** |
| Stddev | .06 | .05 | .09 | .03 | .002 | .003 | .001 | .005 | .002 |
| %RSD | .1530 | .1145 | .2283 | .0633 | .1017 | .1561 | .0261 | .2561 | .0972 |
| #1 | 38.40 | 39.79 | 39.25 | 39.87 | 2.019 | 2.029 | 4.930 | 2.049 | 1.995 |
| #2 | 38.51 | 39.72 | 39.41 | 39.87 | 2.017 | 2.026 | 4.931 | 2.042 | 1.999 |
| #3 | 38.41 | 39.71 | 39.38 | 39.83 | 2.015 | 2.023 | 4.928 | 2.039 | 1.996 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 22:39:13 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.948** | **1.907** | **1.987** | **1.968** | **1.962** | **2.014** | **1.982** |
| Stddev | .003 | .003 | .003 | .009 | .001 | .006 | .001 |
| %RSD | .1404 | .1352 | .1367 | .4560 | .0632 | .2977 | .0372 |
| #1 | 1.946 | 1.906 | 1.988 | 1.975 | 1.961 | 2.011 | 1.982 |
| #2 | 1.947 | 1.909 | 1.984 | 1.958 | 1.961 | 2.021 | 1.981 |
| #3 | 1.951 | 1.904 | 1.989 | 1.972 | 1.963 | 2.010 | 1.983 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **163270.** | **28077.** | **6721.4** | **9434.4** |
| Stddev | 737. | 96. | 20.0 | 18.1 |
| %RSD | .45154 | .34292 | .29823 | .19147 |
| #1 | 163380. | 28127. | 6714.0 | 9426.2 |
| #2 | 163940. | 28137. | 6706.2 | 9422.0 |
| #3 | 162480. | 27966. | 6744.1 | 9455.1 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 22:44:13 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0001** | **.0004** | **.0000** | **-.0000** | **.0007** | **.0001** | **.0003** |
| Stddev | .0001 | .0001 | .0001 | .0002 | .0003 | .0002 | .0001 | .0004 |
| %RSD | 61.26 | 36.06 | 29.14 | 353.6 | 1500. | 33.31 | 76.39 | 134.7 |
| #1 | .0003 | .0001 | .0006 | .0002 | -.0003 | .0007 | .0001 | -.0001 |
| #2 | .0003 | .0001 | .0004 | -.0001 | -.0000 | .0005 | .0001 | .0004 |
| #3 | .0001 | .0002 | .0003 | .0001 | .0003 | .0009 | .0003 | .0006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0002** | **-.0004** | **.0012** | **-.0004** | **-.0008** | **.0004** | **-.0009** |
| Stddev | .0001 | .0003 | .0001 | .0013 | .0018 | .0004 | .0031 | .0021 |
| %RSD | 14.60 | 126.2 | 14.84 | 110.8 | 402.2 | 48.51 | 757.0 | 233.1 |
| #1 | .0005 | -.0004 | -.0004 | .0014 | -.0024 | -.0007 | .0039 | -.0017 |
| #2 | .0006 | -.0004 | -.0004 | .0024 | .0011 | -.0012 | -.0006 | -.0024 |
| #3 | .0006 | .0001 | -.0005 | -.0002 | -.0001 | -.0005 | -.0020 | .0015 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0018** | **-.0032** | **.0033** | **-.0053** | **.0101** | **.0243** | **.0028** | **.0005** |
| Stddev | .0027 | .0014 | .0009 | .0182 | .0444 | .0050 | .0002 | .0001 |
| %RSD | 152.4 | 43.21 | 27.85 | 342.2 | 438.5 | 20.54 | 7.745 | 27.06 |
| #1 | -.0045 | -.0017 | .0044 | -.0166 | .0229 | .0193 | .0026 | .0006 |
| #2 | -.0016 | -.0043 | .0028 | .0157 | -.0393 | .0293 | .0030 | .0004 |
| #3 | .0008 | -.0037 | .0027 | -.0150 | .0468 | .0241 | .0026 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 22:44:13 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0005** | **.0001** | **.0005** | **.0001** | **.0003** | **-.0014** | **.0003** |
| Stddev | .0007 | .0001 | .0000 | .0001 | .0013 | .0001 | .0019 | .0027 |
| %RSD | 355.2 | 25.74 | 61.01 | 10.85 | 892.5 | 20.49 | 132.1 | 1065. |
| #1 | -.0001 | .0004 | .0000 | .0005 | .0009 | .0004 | .0004 | .0026 |
| #2 | .0004 | .0007 | .0001 | .0005 | .0010 | .0003 | -.0033 | -.0028 |
| #3 | -.0009 | .0005 | .0001 | .0004 | -.0014 | .0004 | -.0014 | .0010 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0046** | **-.0074** |
| Stddev | .0024 | .0017 |
| %RSD | 50.82 | 23.69 |
| #1 | -.0026 | -.0077 |
| #2 | -.0072 | -.0089 |
| #3 | -.0041 | -.0055 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173590.** | **28626.** | **7035.4** | **10386.** |
| Stddev | 869. | 303. | 4.2 | 7. |
| %RSD | .50040 | 1.0588 | .05964 | .06887 |
| #1 | 174250. | 28307. | 7038.8 | 10394. |
| #2 | 172610. | 28911. | 7036.8 | 10384. |
| #3 | 173920. | 28658. | 7030.8 | 10380. |

Zoom In Zoom Out

Sample Name: MP14617-B1 Acquired: 4/30/2019 22:49:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.010** | **2.032** | **2.044** | **2.055** | **2.080** | **2.054** | **2.129** | **2.025** | **.2566** |
| Stddev | .001 | .002 | .002 | .002 | .136 | .131 | .124 | .002 | .0155 |
| %RSD | .0420 | .1028 | .0842 | .1025 | 6.514 | 6.393 | 5.806 | .0886 | 6.057 |
| #1 | 2.010 | 2.033 | 2.046 | 2.056 | 1.998 | 1.977 | 2.039 | 2.024 | .2473 |
| #2 | 2.009 | 2.029 | 2.045 | 2.057 | 2.005 | 1.980 | 2.079 | 2.027 | .2479 |
| #3 | 2.011 | 2.032 | 2.043 | 2.053 | 2.236 | 2.206 | 2.270 | 2.024 | .2745 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.109** | **2.072** | **1.947** | **2.096** | **2.034** | **1.974** | **1.971** | **23.91** | **24.48** |
| Stddev | .138 | .003 | .004 | .017 | .003 | .006 | .006 | .05 | .02 |
| %RSD | 6.534 | .1499 | .2150 | .8106 | .1304 | .2990 | .3276 | .2017 | .0830 |
| #1 | 2.030 | 2.075 | 1.945 | 2.079 | 2.034 | 1.975 | 1.977 | 23.94 | 24.48 |
| #2 | 2.029 | 2.073 | 1.951 | 2.113 | 2.037 | 1.978 | 1.972 | 23.85 | 24.47 |
| #3 | 2.268 | 2.069 | 1.943 | 2.096 | 2.031 | 1.967 | 1.964 | 23.93 | 24.51 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **23.74** | **24.54** | **24.22** | **24.67** | **1.995** | **2.031** | **.0328** | **2.098** | **2.008** |
| Stddev | .02 | .02 | .05 | .01 | .001 | .003 | .0054 | .006 | .001 |
| %RSD | .0757 | .0967 | .1867 | .0446 | .0676 | .1605 | 16.61 | .2972 | .0522 |
| #1 | 23.75 | 24.52 | 24.19 | 24.67 | 1.996 | 2.033 | .0347 | 2.096 | 2.009 |
| #2 | 23.72 | 24.56 | 24.20 | 24.69 | 1.994 | 2.033 | .0370 | 2.105 | 2.007 |
| #3 | 23.74 | 24.54 | 24.27 | 24.67 | 1.994 | 2.027 | .0266 | 2.093 | 2.009 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.022** | **1.655** | **2.053** | **.0285** | **.0792** | **-.0033** | **1.986** |
| Stddev | .131 | .003 | .134 | .0014 | .0103 | .0015 | .023 |
| %RSD | 6.482 | .1573 | 6.535 | 4.844 | 12.98 | 44.42 | 1.141 |
| #1 | 1.946 | 1.653 | 1.976 | .0298 | .0727 | -.0017 | 1.960 |
| #2 | 1.947 | 1.658 | 1.976 | .0271 | .0738 | -.0038 | 2.003 |
| #3 | 2.174 | 1.655 | 2.208 | .0287 | .0910 | -.0045 | 1.994 |



Zoom In Zoom Out

Sample Name: MP14617-B1 Acquired: 4/30/2019 22:49:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **161900.** | **28592.** | **6797.0** | **9624.8** |
| Stddev | 9438. | 139. | 19.9 | 21.7 |
| %RSD | 5.8295 | .48789 | .29291 | .22524 |
| #1 | 167530. | 28740. | 6780.2 | 9613.9 |
| #2 | 167170. | 28463. | 6791.7 | 9610.6 |
| #3 | 151000. | 28573. | 6819.0 | 9649.7 |



Zoom In Zoom Out

Sample Name: MP14617-S1 Acquired: 4/30/2019 22:54:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.053** | **1.885** | **1.911** | **2.057** | **2.817** | **2.673** | **7.028** | **2.127** | **.2440** |
| Stddev | .003 | .005 | .001 | .001 | .005 | .004 | .050 | .001 | .0014 |
| %RSD | .0908 | .2616 | .0256 | .0661 | .1655 | .1426 | .7117 | .0369 | .5654 |
| #1 | 3.052 | 1.887 | 1.911 | 2.058 | 2.820 | 2.674 | 7.030 | 2.128 | .2427 |
| #2 | 3.056 | 1.888 | 1.911 | 2.056 | 2.811 | 2.669 | 6.977 | 2.126 | .2437 |
| #3 | 3.051 | 1.879 | 1.911 | 2.057 | 2.819 | 2.677 | 7.077 | 2.127 | .2455 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.137** | **5.899** | **2.058** | **1.921** | **3.411** | **1.805** | **.9164** | **169.5** | **48.18** |
| Stddev | .003 | .003 | .000 | .010 | .002 | .004 | .0022 | .4 | .10 |
| %RSD | .1359 | .0533 | .0172 | .5286 | .0500 | .2440 | .2379 | .2386 | .1975 |
| #1 | 2.136 | 5.895 | 2.058 | 1.923 | 3.410 | 1.805 | .9142 | 169.4 | 48.21 |
| #2 | 2.135 | 5.901 | 2.058 | 1.930 | 3.411 | 1.810 | .9165 | 170.0 | 48.26 |
| #3 | 2.140 | 5.900 | 2.058 | 1.910 | 3.413 | 1.801 | .9186 | 169.2 | 48.08 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **200.1** | **52.40** | **41.82** | **24.33** | **1.805** | **1.804** | **2.856** | **1.966** | **2.032** |
| Stddev | 4.0 | .05 | .06 | .02 | .003 | .002 | .013 | .004 | .005 |
| %RSD | 1.998 | .0898 | .1346 | .0886 | .1458 | .0917 | .4672 | .1762 | .2396 |
| #1 | 196.5 | 52.41 | 41.79 | 24.31 | 1.802 | 1.804 | 2.866 | 1.963 | 2.031 |
| #2 | 199.4 | 52.44 | 41.89 | 24.35 | 1.804 | 1.806 | 2.841 | 1.970 | 2.037 |
| #3 | 204.4 | 52.35 | 41.79 | 24.32 | 1.807 | 1.803 | 2.861 | 1.964 | 2.028 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.441** | **1.103** | **1.770** | **18.29** | **.1347** | **.1708** | F **8.422** |
| Stddev | .002 | .003 | .002 | .09 | .0006 | .0020 | .055 |
| %RSD | .0472 | .2407 | .0882 | .5099 | .4182 | 1.189 | .6504 |
| #1 | 4.442 | 1.102 | 1.768 | 18.30 | .1350 | .1731 | 8.422 |
| #2 | 4.441 | 1.100 | 1.771 | 18.38 | .1351 | .1698 | 8.477 |
| #3 | 4.438 | 1.106 | 1.771 | 18.20 | .1341 | .1695 | 8.368 |



Zoom In Zoom Out

Sample Name: MP14617-S1 Acquired: 4/30/2019 22:54:20 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172270.** | **30655.** | **7165.8** | **9633.7** |
| Stddev | 1103. | 137. | 10.5 | 10.4 |
| %RSD | .64035 | .44689 | .14607 | .10831 |
| #1 | 171740. | 30785. | 7176.5 | 9641.7 |
| #2 | 173540. | 30669. | 7165.4 | 9637.5 |
| #3 | 171530. | 30512. | 7155.6 | 9621.9 |

Zoom In Zoom Out

Sample Name: MP14617-S2 Acquired: 4/30/2019 22:59:30 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.845** | **1.904** | **1.930** | **2.054** | **2.604** | **2.498** | **6.267** | **2.102** | **.2446** |
| Stddev | .001 | .004 | .003 | .002 | .003 | .004 | .022 | .002 | .0009 |
| %RSD | .0404 | .1946 | .1392 | .1006 | .1050 | .1788 | .3570 | .1035 | .3718 |
| #1 | 2.844 | 1.903 | 1.931 | 2.053 | 2.601 | 2.493 | 6.249 | 2.101 | .2438 |
| #2 | 2.845 | 1.909 | 1.932 | 2.057 | 2.606 | 2.501 | 6.261 | 2.104 | .2443 |
| #3 | 2.846 | 1.901 | 1.927 | 2.053 | 2.604 | 2.500 | 6.292 | 2.100 | .2456 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.104** | **5.061** | **2.022** | **1.958** | **3.266** | **1.823** | **1.000** | **144.3** | **44.89** |
| Stddev | .001 | .004 | .003 | .003 | .004 | .002 | .002 | .2 | .06 |
| %RSD | .0671 | .0744 | .1229 | .1414 | .1255 | .1037 | .2344 | .1339 | .1245 |
| #1 | 2.105 | 5.064 | 2.021 | 1.957 | 3.268 | 1.821 | 1.003 | 144.2 | 44.85 |
| #2 | 2.102 | 5.062 | 2.025 | 1.961 | 3.270 | 1.824 | 1.000 | 144.5 | 44.95 |
| #3 | 2.103 | 5.057 | 2.021 | 1.956 | 3.262 | 1.824 | .9979 | 144.1 | 44.87 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **174.8** | **48.58** | **39.29** | **24.23** | **1.831** | **1.824** | **2.927** | **1.957** | **2.022** |
| Stddev | 2.8 | .05 | .10 | .00 | .002 | .003 | .006 | .000 | .004 |
| %RSD | 1.604 | .1068 | .2661 | .0083 | .1228 | .1450 | .2145 | .0094 | .1709 |
| #1 | 172.4 | 48.52 | 39.31 | 24.23 | 1.833 | 1.825 | 2.934 | 1.957 | 2.023 |
| #2 | 174.1 | 48.62 | 39.39 | 24.23 | 1.830 | 1.826 | 2.922 | 1.957 | 2.025 |
| #3 | 177.9 | 48.61 | 39.18 | 24.23 | 1.828 | 1.821 | 2.925 | 1.957 | 2.018 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.121** | **1.007** | **1.818** | **16.01** | **.1182** | **.1423** | **7.203** |
| Stddev | .004 | .003 | .002 | .02 | .0017 | .0020 | .027 |
| %RSD | .0978 | .2783 | .0825 | .1393 | 1.443 | 1.371 | .3785 |
| #1 | 4.123 | 1.006 | 1.818 | 16.00 | .1200 | .1401 | 7.197 |
| #2 | 4.117 | 1.010 | 1.817 | 16.04 | .1166 | .1437 | 7.232 |
| #3 | 4.124 | 1.004 | 1.820 | 16.01 | .1179 | .1432 | 7.178 |



Zoom In Zoom Out

Sample Name: MP14617-S2 Acquired: 4/30/2019 22:59:30 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **171670.** | **30293.** | **7125.9** | **9642.1** |
| Stddev | 281. | 246. | 19.5 | 17.3 |
| %RSD | .16361 | .81131 | .27339 | .17922 |
| #1 | 171350. | 30415. | 7107.9 | 9625.6 |
| #2 | 171860. | 30453. | 7146.6 | 9660.1 |
| #3 | 171810. | 30010. | 7123.1 | 9640.6 |



Zoom In Zoom Out

Sample Name: JC86986-2 Acquired: 4/30/2019 23:04:37 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.043** | **.0079** | **.0133** | **.1106** | **.9064** | **.7633** | **4.978** | **.1975** |
| Stddev | .001 | .0000 | .0001 | .0005 | .0193 | .0158 | .147 | .0012 |
| %RSD | .1154 | .5862 | .4231 | .4377 | 2.124 | 2.069 | 2.958 | .6024 |
| #1 | 1.044 | .0079 | .0133 | .1107 | .9257 | .7796 | 5.110 | .1983 |
| #2 | 1.043 | .0080 | .0133 | .1101 | .9061 | .7623 | 5.006 | .1961 |
| #3 | 1.042 | .0080 | .0134 | .1110 | .8872 | .7481 | 4.819 | .1980 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0108** | **.2125** | **3.863** | **.2508** | F **-.0025** | **1.436** | **.0080** | **.0083** |
| Stddev | .0007 | .0048 | .025 | .0026 | .0009 | .007 | .0008 | .0016 |
| %RSD | 6.277 | 2.266 | .6434 | 1.048 | 34.65 | .4608 | 10.00 | 18.79 |
| #1 | .0100 | .2174 | 3.885 | .2526 | -.0015 | 1.439 | .0085 | .0091 |
| #2 | .0109 | .2123 | 3.836 | .2478 | -.0032 | 1.428 | .0085 | .0065 |
| #3 | .0114 | .2078 | 3.868 | .2520 | -.0029 | 1.440 | .0071 | .0092 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **105.7** | **23.17** | **171.1** | **26.21** | **11.75** | **.9740** | **.0465** | **.0055** |
| Stddev | .2 | .04 | .9 | .07 | .03 | .0052 | .0012 | .0002 |
| %RSD | .1524 | .1526 | .5255 | .2506 | .2147 | .5344 | 2.627 | 3.508 |
| #1 | 105.8 | 23.16 | 170.1 | 26.15 | 11.77 | .9683 | .0475 | .0053 |
| #2 | 105.5 | 23.13 | 171.4 | 26.28 | 11.72 | .9751 | .0468 | .0057 |
| #3 | 105.8 | 23.20 | 171.8 | 26.20 | 11.76 | .9785 | .0451 | .0055 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.279** | **.1804** | **.1472** | **2.269** | **-.0047** | **.0514** | **18.35** | **.0581** |
| Stddev | .016 | .0006 | .0001 | .044 | .0009 | .0009 | .03 | .0029 |
| %RSD | .7106 | .3471 | .0687 | 1.952 | 19.38 | 1.681 | .1695 | 5.048 |
| #1 | 2.291 | .1811 | .1473 | 2.314 | -.0041 | .0521 | 18.38 | .0604 |
| #2 | 2.261 | .1800 | .1471 | 2.266 | -.0058 | .0516 | 18.32 | .0591 |
| #3 | 2.284 | .1801 | .1473 | 2.226 | -.0043 | .0504 | 18.35 | .0548 |



Zoom In Zoom Out

Sample Name: JC86986-2 Acquired: 4/30/2019 23:04:37 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1464** | **6.266** |
| Stddev | .0028 | .030 |
| %RSD | 1.915 | .4761 |
| #1 | .1484 | 6.270 |
| #2 | .1475 | 6.235 |
| #3 | .1432 | 6.294 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **177650.** | **30861.** | **7430.2** | **10051.** |
| Stddev | 2946. | 168. | 61.5 | 63. |
| %RSD | 1.6585 | .54447 | .82717 | .62604 |
| #1 | 174790. | 31014. | 7366.0 | 9984.7 |
| #2 | 177470. | 30681. | 7488.5 | 10110. |
| #3 | 180680. | 30886. | 7436.2 | 10057. |

Zoom In Zoom Out

Sample Name: MP14617-SD1 Acquired: 4/30/2019 23:09:48 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.030** | **.0078** | **.0143** | **.1106** | **.9192** | **.7419** | **5.249** | **.1960** | **.0149** |
| Stddev | .030 | .0003 | .0011 | .0035 | .0234 | .0141 | .121 | .0047 | .0025 |
| %RSD | 2.950 | 3.630 | 7.382 | 3.182 | 2.549 | 1.904 | 2.311 | 2.392 | 17.03 |
| #1 | 1.010 | .0079 | .0155 | .1136 | .9392 | .7534 | 5.345 | .2006 | .0136 |
| #2 | 1.065 | .0081 | .0136 | .1067 | .8934 | .7261 | 5.112 | .1912 | .0178 |
| #3 | 1.015 | .0075 | .0139 | .1116 | .9249 | .7462 | 5.288 | .1962 | .0132 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2164** | **4.046** | **.2563** | **-.0031** | **1.450** | **.0073** | **.0037** | **104.6** | **23.16** |
| Stddev | .0068 | .119 | .0047 | .0013 | .039 | .0076 | .0032 | 2.8 | .62 |
| %RSD | 3.157 | 2.944 | 1.850 | 40.82 | 2.695 | 104.5 | 86.40 | 2.719 | 2.671 |
| #1 | .2213 | 4.149 | .2571 | -.0019 | 1.488 | -.0015 | .0003 | 102.8 | 22.75 |
| #2 | .2086 | 3.916 | .2512 | -.0044 | 1.410 | .0109 | .0041 | 107.9 | 23.87 |
| #3 | .2192 | 4.074 | .2606 | -.0029 | 1.450 | .0124 | .0068 | 103.1 | 22.85 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **175.6** | **26.62** | **11.54** | **1.161** | **.0642** | **.0060** | **2.566** | **.1926** | **.1473** |
| Stddev | 4.7 | .68 | .24 | .059 | .0029 | .0013 | .068 | .0067 | .0038 |
| %RSD | 2.650 | 2.566 | 2.040 | 5.064 | 4.453 | 21.35 | 2.633 | 3.494 | 2.609 |
| #1 | 172.7 | 26.17 | 11.32 | 1.099 | .0675 | .0075 | 2.629 | .1985 | .1447 |
| #2 | 181.0 | 27.41 | 11.79 | 1.216 | .0626 | .0054 | 2.495 | .1853 | .1517 |
| #3 | 173.2 | 26.29 | 11.50 | 1.167 | .0626 | .0052 | 2.575 | .1939 | .1454 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.278** | **-.0035** | **.0547** | **18.62** | **.0544** | **.1361** | **6.366** |
| Stddev | .052 | .0026 | .0008 | .49 | .0084 | .0087 | .175 |
| %RSD | 2.292 | 73.52 | 1.403 | 2.653 | 15.44 | 6.399 | 2.756 |
| #1 | 2.320 | -.0048 | .0547 | 19.07 | .0595 | .1426 | 6.527 |
| #2 | 2.220 | -.0005 | .0539 | 18.09 | .0590 | .1395 | 6.179 |
| #3 | 2.293 | -.0053 | .0554 | 18.69 | .0447 | .1262 | 6.393 |



Zoom In Zoom Out

Sample Name: MP14617-SD1 Acquired: 4/30/2019 23:09:48 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **174910.** | **29830.** | **7160.9** | **10217.** |
| Stddev | 3563. | 746. | 189.1 | 232. |
| %RSD | 2.0367 | 2.4993 | 2.6409 | 2.2754 |
| #1 | 172180. | 30268. | 6994.7 | 10013. |
| #2 | 178940. | 28969. | 7366.7 | 10470. |
| #3 | 173620. | 30252. | 7121.5 | 10169. |



Zoom In Zoom Out

Sample Name: JC86986-3 Acquired: 4/30/2019 23:14:48 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6533** | **.0072** | **.0114** | **.0418** | **.4213** | **.8539** | **.4790** | **.2500** | **.0050** |
| Stddev | .0135 | .0002 | .0003 | .0007 | .0050 | .0097 | .0063 | .0025 | .0010 |
| %RSD | 2.070 | 2.804 | 2.698 | 1.613 | 1.195 | 1.135 | 1.309 | .9956 | 19.92 |
| #1 | .6688 | .0074 | .0111 | .0417 | .4222 | .8564 | .4811 | .2506 | .0061 |
| #2 | .6437 | .0071 | .0117 | .0425 | .4158 | .8432 | .4720 | .2521 | .0048 |
| #3 | .6475 | .0070 | .0112 | .0412 | .4258 | .8621 | .4839 | .2472 | .0041 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2371** | **3.755** | **.1091** | **.0027** | **1.219** | **.0161** | **.0149** | **50.22** | **7.091** |
| Stddev | .0026 | .041 | .0010 | .0010 | .013 | .0022 | .0007 | 1.08 | .149 |
| %RSD | 1.079 | 1.101 | .9380 | 35.08 | 1.092 | 13.80 | 4.390 | 2.159 | 2.097 |
| #1 | .2377 | 3.758 | .1091 | .0022 | 1.221 | .0186 | .0146 | 51.47 | 7.262 |
| #2 | .2343 | 3.795 | .1102 | .0022 | 1.231 | .0151 | .0157 | 49.52 | 6.995 |
| #3 | .2393 | 3.713 | .1081 | .0039 | 1.205 | .0145 | .0144 | 49.67 | 7.015 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **100.6** | **11.84** | **3.764** | **.7344** | **.0422** | **.0457** | **4.188** | **.0955** | **.2828** |
| Stddev | 2.2 | .26 | .064 | .0135 | .0005 | .0005 | .057 | .0014 | .0063 |
| %RSD | 2.158 | 2.195 | 1.686 | 1.833 | 1.144 | 1.130 | 1.356 | 1.514 | 2.218 |
| #1 | 103.1 | 12.14 | 3.837 | .7458 | .0422 | .0453 | 4.193 | .0954 | .2900 |
| #2 | 99.16 | 11.65 | 3.723 | .7378 | .0427 | .0462 | 4.242 | .0970 | .2785 |
| #3 | 99.48 | 11.73 | 3.732 | .7196 | .0417 | .0454 | 4.129 | .0941 | .2800 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.362** | **-.0033** | **.0385** | **68.42** | **.0339** | **.0392** | **1.253** |
| Stddev | .018 | .0007 | .0008 | .69 | .0028 | .0010 | .014 |
| %RSD | 1.337 | 21.49 | 2.182 | 1.003 | 8.245 | 2.679 | 1.129 |
| #1 | 1.366 | -.0029 | .0391 | 68.27 | .0333 | .0394 | 1.248 |
| #2 | 1.342 | -.0030 | .0376 | 69.17 | .0315 | .0401 | 1.269 |
| #3 | 1.378 | -.0042 | .0390 | 67.82 | .0370 | .0380 | 1.242 |



Zoom In Zoom Out

Sample Name: JC86986-3 Acquired: 4/30/2019 23:14:48 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **176790.** | **29806.** | **7228.6** | **10250.** |
| Stddev | 2025. | 593. | 62.5 | 77. |
| %RSD | 1.1452 | 1.9912 | .86463 | .75410 |
| #1 | 176500. | 29132. | 7228.9 | 10258. |
| #2 | 178950. | 30248. | 7165.9 | 10170. |
| #3 | 174930. | 30039. | 7290.9 | 10324. |

Zoom In Zoom Out

Sample Name: JC86986-4 Acquired: 4/30/2019 23:19:45 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8919** | **.0055** | **.0009** | **.0668** | **.2473** | **.0576** | **1.946** | **.1637** | **.0033** |
| Stddev | .0009 | .0000 | .0002 | .0048 | .0007 | .0003 | .016 | .0103 | .0005 |
| %RSD | .1031 | .2636 | 16.42 | 7.162 | .2700 | .4345 | .8150 | 6.297 | 16.59 |
| #1 | .8915 | .0055 | .0011 | .0723 | .2476 | .0579 | 1.943 | .1753 | .0039 |
| #2 | .8913 | .0055 | .0009 | .0633 | .2477 | .0574 | 1.964 | .1557 | .0029 |
| #3 | .8930 | .0055 | .0008 | .0649 | .2465 | .0575 | 1.933 | .1600 | .0031 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2498** | **.3908** | **.0269** | **-.0014** | **.0776** | **.0002** | **.0027** | **120.8** | **19.19** |
| Stddev | .0004 | .0249 | .0022 | .0006 | .0053 | .0015 | .0020 | .2 | .01 |
| %RSD | .1467 | 6.373 | 8.272 | 42.95 | 6.771 | 778.4 | 75.19 | .1343 | .0764 |
| #1 | .2498 | .4189 | .0293 | -.0019 | .0836 | .0009 | .0034 | 120.9 | 19.20 |
| #2 | .2502 | .3712 | .0249 | -.0015 | .0738 | .0012 | .0004 | 120.8 | 19.19 |
| #3 | .2494 | .3824 | .0264 | -.0007 | .0755 | -.0015 | .0042 | 120.6 | 19.17 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **118.4** | **32.16** | **11.18** | **2.087** | **.0403** | **.0035** | **1.857** | **.0244** | **.1310** |
| Stddev | .1 | .05 | .01 | .007 | .0019 | .0002 | .127 | .0014 | .0002 |
| %RSD | .1080 | .1531 | .1172 | .3336 | 4.707 | 4.688 | 6.816 | 5.803 | .1364 |
| #1 | 118.5 | 32.17 | 11.17 | 2.079 | .0424 | .0034 | 1.998 | .0258 | .1312 |
| #2 | 118.4 | 32.21 | 11.17 | 2.092 | .0387 | .0033 | 1.754 | .0230 | .1309 |
| #3 | 118.2 | 32.11 | 11.19 | 2.090 | .0398 | .0037 | 1.819 | .0245 | .1308 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.889** | **-.0005** | **.0966** | **5.687** | **.0846** | **.1758** | **2.287** |
| Stddev | .006 | .0026 | .0001 | .368 | .0114 | .0010 | .139 |
| %RSD | .1532 | 472.0 | .0746 | 6.475 | 13.51 | .5841 | 6.083 |
| #1 | 3.892 | .0024 | .0965 | 6.105 | .0716 | .1766 | 2.442 |
| #2 | 3.893 | -.0024 | .0966 | 5.410 | .0933 | .1760 | 2.173 |
| #3 | 3.882 | -.0016 | .0967 | 5.547 | .0887 | .1746 | 2.247 |



Zoom In Zoom Out

Sample Name: JC86986-4 Acquired: 4/30/2019 23:19:45 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **178090.** | **30744.** | **7522.9** | **10009.** |
| Stddev | 518. | 166. | 375.0 | 459. |
| %RSD | .29089 | .54093 | 4.9848 | 4.5844 |
| #1 | 177900. | 30584. | 7105.6 | 9496.3 |
| #2 | 177710. | 30731. | 7831.8 | 10381. |
| #3 | 178680. | 30916. | 7631.2 | 10150. |



Zoom In Zoom Out

Sample Name: JC86986-5 Acquired: 4/30/2019 23:24:49 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2077** | **.0027** | **.0005** | **.0496** | **.1223** | **.0636** | **1.115** | **.0815** |
| Stddev | .0079 | .0000 | .0002 | .0037 | .0004 | .0162 | .010 | .0007 |
| %RSD | 3.815 | .7692 | 40.98 | 7.543 | .3280 | 25.43 | .9181 | .9161 |
| #1 | .2017 | .0027 | .0005 | .0475 | .1222 | .0727 | 1.119 | .0816 |
| #2 | .2167 | .0027 | .0003 | .0539 | .1220 | .0449 | 1.103 | .0822 |
| #3 | .2047 | .0027 | .0008 | .0474 | .1228 | .0732 | 1.123 | .0808 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0068** | **.1821** | **.3571** | **.0194** | F **-.0047** | **.0674** | **-.0081** | **.0039** |
| Stddev | .0181 | .0006 | .0016 | .0065 | .0082 | .0079 | .0136 | .0017 |
| %RSD | 266.4 | .3551 | .4485 | 33.50 | 173.2 | 11.76 | 168.6 | 42.76 |
| #1 | .0036 | .1816 | .3573 | .0228 | -.0009 | .0715 | .0015 | .0041 |
| #2 | -.0277 | .1819 | .3585 | .0119 | -.0141 | .0583 | -.0236 | .0054 |
| #3 | .0037 | .1828 | .3554 | .0234 | .0009 | .0725 | -.0020 | .0021 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **88.02** | **1.917** | **125.6** | **19.99** | **9.114** | **.5255** | **.0527** | **.0045** |
| Stddev | 3.14 | .077 | 4.5 | .69 | .319 | .0146 | .0003 | .0009 |
| %RSD | 3.568 | 4.015 | 3.551 | 3.428 | 3.494 | 2.782 | .4924 | 19.88 |
| #1 | 85.59 | 1.865 | 122.2 | 19.49 | 8.884 | .5093 | .0525 | .0050 |
| #2 | 91.57 | 2.006 | 130.6 | 20.77 | 9.477 | .5377 | .0530 | .0035 |
| #3 | 86.91 | 1.881 | 124.0 | 19.71 | 8.980 | .5295 | .0525 | .0050 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.155** | **.0252** | **.0252** | **2.152** | **.0006** | **.0695** | **.5840** | **-.0000** |
| Stddev | .018 | .0021 | .0009 | .007 | .0024 | .0049 | .0053 | .0770 |
| %RSD | .8176 | 8.460 | 3.659 | .3076 | 405.2 | 7.005 | .9118 | 998500. |
| #1 | 2.153 | .0266 | .0246 | 2.150 | .0006 | .0719 | .5866 | .0451 |
| #2 | 2.174 | .0227 | .0262 | 2.146 | .0030 | .0639 | .5876 | -.0889 |
| #3 | 2.138 | .0262 | .0247 | 2.159 | -.0018 | .0727 | .5779 | .0438 |



Zoom In Zoom Out

Sample Name: JC86986-5 Acquired: 4/30/2019 23:24:49 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.1331** | **1.270** |
| Stddev | .0112 | .016 |
| %RSD | 8.422 | 1.239 |
| #1 | .1262 | 1.288 |
| #2 | .1461 | 1.258 |
| #3 | .1272 | 1.263 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **171600.** | ***** | **7165.8** | **9986.5** |
| Stddev | 447. | ----- | 17.3 | 24.1 |
| %RSD | .26073 | ----- | .24156 | .24165 |
| #1 | 171220. | 29248. | 7149.6 | 9962.5 |
| #2 | 172090. | ----- | 7163.6 | 9986.3 |
| #3 | 171490. | 29360. | 7184.1 | 10011. |

Zoom In Zoom Out

Sample Name: JC86986-6 Acquired: 4/30/2019 23:29:48 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0360** | **.0014** | **.0005** | **.0076** | **.0448** | **.0098** | **.1015** | **.0112** | **.0011** |
| Stddev | .0002 | .0000 | .0002 | .0001 | .0007 | .0002 | .0011 | .0002 | .0003 |
| %RSD | .5920 | 1.405 | 34.56 | 1.070 | 1.636 | 1.610 | 1.082 | 1.482 | 24.99 |
| #1 | .0360 | .0014 | .0004 | .0077 | .0447 | .0098 | .1015 | .0114 | .0010 |
| #2 | .0363 | .0014 | .0007 | .0076 | .0440 | .0096 | .1004 | .0112 | .0008 |
| #3 | .0358 | .0014 | .0004 | .0075 | .0455 | .0099 | .1026 | .0110 | .0014 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0340** | **.0468** | **.0137** | **.0005** | **.0088** | **-.0012** | **-.0001** | **9.421** | **.5139** |
| Stddev | .0001 | .0001 | .0003 | .0008 | .0002 | .0018 | .0014 | .022 | .0023 |
| %RSD | .2831 | .2424 | 2.527 | 171.5 | 2.430 | 158.2 | 1726. | .2341 | .4542 |
| #1 | .0340 | .0468 | .0137 | .0015 | .0087 | -.0010 | -.0011 | 9.441 | .5152 |
| #2 | .0339 | .0470 | .0141 | -.0001 | .0090 | -.0030 | .0015 | 9.423 | .5112 |
| #3 | .0340 | .0467 | .0134 | .0001 | .0087 | .0006 | -.0006 | 9.397 | .5152 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **22.03** | **.6325** | **1.054** | **.3206** | **.0061** | **.0024** | **1.331** | **.0261** | **.0062** |
| Stddev | .01 | .0143 | .019 | .0070 | .0003 | .0000 | .008 | .0001 | .0001 |
| %RSD | .0492 | 2.266 | 1.764 | 2.187 | 4.816 | 1.236 | .5945 | .3298 | 2.123 |
| #1 | 22.04 | .6366 | 1.046 | .3208 | .0061 | .0024 | 1.337 | .0261 | .0061 |
| #2 | 22.02 | .6444 | 1.040 | .3135 | .0063 | .0024 | 1.333 | .0260 | .0063 |
| #3 | 22.03 | .6166 | 1.075 | .3276 | .0057 | .0025 | 1.322 | .0261 | .0063 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2632** | **.0007** | **.0118** | **.0876** | **.0045** | **-.0010** | **.5444** |
| Stddev | .0021 | .0008 | .0001 | .0021 | .0013 | .0019 | .0013 |
| %RSD | .7821 | 113.4 | 1.208 | 2.424 | 29.39 | 193.8 | .2407 |
| #1 | .2626 | .0006 | .0119 | .0877 | .0033 | -.0020 | .5449 |
| #2 | .2616 | -.0001 | .0117 | .0854 | .0059 | .0012 | .5429 |
| #3 | .2655 | .0015 | .0119 | .0897 | .0044 | -.0021 | .5454 |



Zoom In Zoom Out

Sample Name: JC86986-6 Acquired: 4/30/2019 23:29:48 Type: Unk
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **173980.** | **28934.** | **7103.5** | **10305.** |
| Stddev | 2383. | 193. | 14.5 | 15. |
| %RSD | 1.3694 | .66849 | .20459 | .14469 |
| #1 | 173870. | 28827. | 7095.0 | 10297. |
| #2 | 176420. | 28817. | 7095.3 | 10296. |
| #3 | 171660. | 29157. | 7120.3 | 10322. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 23:34:53 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.986** | **1.989** | **2.022** | **2.025** | **1.979** | **1.945** | **2.028** | **1.995** | **.2454** |
| Stddev | .009 | .008 | .017 | .016 | .006 | .007 | .010 | .016 | .0007 |
| %RSD | .4360 | .4018 | .8602 | .7742 | .3062 | .3793 | .4918 | .7874 | .2837 |
| #1 | 1.995 | 1.997 | 2.005 | 2.010 | 1.985 | 1.954 | 2.037 | 1.980 | .2462 |
| #2 | 1.986 | 1.990 | 2.021 | 2.024 | 1.977 | 1.942 | 2.017 | 1.995 | .2450 |
| #3 | 1.977 | 1.981 | 2.039 | 2.042 | 1.974 | 1.940 | 2.031 | 2.011 | .2450 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.021** | **2.037** | **1.944** | **2.042** | **2.001** | **1.964** | **1.963** | **38.39** | **39.22** |
| Stddev | .011 | .022 | .016 | .013 | .016 | .018 | .017 | .14 | .14 |
| %RSD | .5226 | 1.104 | .8290 | .6444 | .7844 | .9322 | .8550 | .3606 | .3641 |
| #1 | 2.033 | 2.016 | 1.928 | 2.027 | 1.985 | 1.945 | 1.947 | 38.52 | 39.34 |
| #2 | 2.017 | 2.035 | 1.945 | 2.047 | 2.001 | 1.967 | 1.962 | 38.40 | 39.25 |
| #3 | 2.014 | 2.061 | 1.960 | 2.051 | 2.016 | 1.981 | 1.980 | 38.24 | 39.06 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **37.95** | **39.36** | **39.00** | **39.54** | **2.014** | **2.028** | **4.930** | **2.052** | **1.978** |
| Stddev | .15 | .10 | .06 | .13 | .019 | .020 | .047 | .019 | .008 |
| %RSD | .3917 | .2620 | .1656 | .3310 | .9255 | .9841 | .9612 | .9303 | .3903 |
| #1 | 38.09 | 39.45 | 39.05 | 39.68 | 1.997 | 2.008 | 4.884 | 2.033 | 1.986 |
| #2 | 37.98 | 39.37 | 39.02 | 39.53 | 2.011 | 2.028 | 4.928 | 2.053 | 1.979 |
| #3 | 37.79 | 39.25 | 38.92 | 39.42 | 2.034 | 2.048 | 4.979 | 2.071 | 1.970 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 4/30/2019 23:34:53 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.938** | **1.903** | **1.978** | **1.976** | **1.957** | **1.993** | **1.978** |
| Stddev | .010 | .017 | .011 | .015 | .011 | .008 | .014 |
| %RSD | .5183 | .8925 | .5717 | .7353 | .5358 | .4024 | .7156 |
| #1 | 1.950 | 1.887 | 1.991 | 1.960 | 1.945 | 2.000 | 1.962 |
| #2 | 1.933 | 1.902 | 1.973 | 1.985 | 1.960 | 1.994 | 1.983 |
| #3 | 1.932 | 1.921 | 1.970 | 1.984 | 1.965 | 1.984 | 1.989 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **163880.** | **28325.** | **6722.3** | **9451.1** |
| Stddev | 281. | 21. | 73.2 | 85.0 |
| %RSD | .17147 | .07586 | 1.0896 | .89905 |
| #1 | 164070. | 28301. | 6789.1 | 9530.8 |
| #2 | 164010. | 28340. | 6733.8 | 9460.7 |
| #3 | 163560. | 28336. | 6644.0 | 9361.7 |

Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 23:39:54 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0002** | **.0004** | **.0001** | **-.0000** | **.0007** | **.0002** | **.0000** |
| Stddev | .0002 | .0000 | .0002 | .0001 | .0002 | .0001 | .0000 | .0003 |
| %RSD | 136.7 | 23.85 | 54.58 | 61.84 | 658.9 | 14.67 | 19.43 | 1001. |
| #1 | .0003 | .0001 | .0002 | .0001 | .0002 | .0009 | .0002 | .0002 |
| #2 | .0003 | .0002 | .0004 | .0000 | -.0000 | .0007 | .0001 | -.0003 |
| #3 | -.0001 | .0002 | .0006 | .0001 | -.0002 | .0007 | .0002 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0002** | **-.0005** | **.0003** | **.0004** | **.0009** | **-.0009** | **.0003** |
| Stddev | .0001 | .0003 | .0001 | .0007 | .0013 | .0018 | .0011 | .0010 |
| %RSD | 16.83 | 157.7 | 16.25 | 210.7 | 357.1 | 187.4 | 118.3 | 298.6 |
| #1 | .0004 | .0001 | -.0004 | -.0002 | .0007 | -.0003 | -.0017 | -.0008 |
| #2 | .0003 | -.0005 | -.0004 | .0001 | -.0010 | .0001 | .0003 | .0007 |
| #3 | .0005 | -.0001 | -.0005 | .0011 | .0014 | .0029 | -.0013 | .0010 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0078** | **-.0032** | **.0003** | **.0058** | **.0436** | **.0357** | **.0032** | **.0002** |
| Stddev | .0071 | .0010 | .0029 | .0088 | .0178 | .0048 | .0003 | .0001 |
| %RSD | 89.84 | 29.32 | 1045. | 150.5 | 40.91 | 13.51 | 10.87 | 47.90 |
| #1 | -.0017 | -.0041 | .0007 | -.0036 | .0630 | .0328 | .0033 | .0003 |
| #2 | -.0063 | -.0035 | -.0028 | .0073 | .0280 | .0413 | .0028 | .0001 |
| #3 | -.0155 | -.0022 | .0030 | .0138 | .0396 | .0331 | .0034 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 4/30/2019 23:39:54 Type: QC
Method: SGS 3 NO Valve(v324) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0009** | **.0001** | **.0007** | **.0002** | **.0003** | **-.0041** | **-.0009** |
| Stddev | .0006 | .0008 | .0001 | .0003 | .0011 | .0000 | .0002 | .0013 |
| %RSD | 95.74 | 88.48 | 79.80 | 39.91 | 490.5 | 18.67 | 5.952 | 137.4 |
| #1 | .0012 | .0003 | .0000 | .0007 | -.0004 | .0003 | -.0041 | -.0017 |
| #2 | -.0000 | .0017 | .0001 | .0009 | .0015 | .0003 | -.0039 | -.0017 |
| #3 | .0008 | .0005 | .0002 | .0004 | -.0004 | .0002 | -.0044 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0055** | **-.0092** |
| Stddev | .0005 | .0027 |
| %RSD | 8.761 | 29.40 |
| #1 | -.0056 | -.0065 |
| #2 | -.0050 | -.0092 |
| #3 | -.0060 | -.0119 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **172830.** | **28693.** | **6992.2** | **10355.** |
| Stddev | 739. | 250. | 3.8 | 7. |
| %RSD | .42740 | .87081 | .05403 | .07022 |
| #1 | 171980. | 28949. | 6996.2 | 10364. |
| #2 | 173310. | 28450. | 6991.5 | 10351. |
| #3 | 173210. | 28679. | 6988.8 | 10351. |





**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | ☒ | 1 | Zr | 0.001245 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 6 | V | 0.000906 | 0.000000 | No |
| | | | Mo | -0.000047 | 0.000000 | No |
| | | | Ti | -0.000191 | 0.000000 | No |
| | | | Mn | 0.000010 | 0.000000 | No |
| | | | Cu | 0.000014 | 0.000000 | No |
| | | | Bi | 0.000060 | 0.000000 | No |
| Cd 228.802 {448} | ☒ | 11 | As | 0.010800 | 0.000000 | No |
| | | | Ni | -0.000628 | 0.000000 | No |
| | | | Fe | -0.000003 | 0.000000 | No |
| | | | V | 0.000091 | 0.000000 | No |
| | | | Ba | 0.000064 | 0.000000 | No |
| | | | Co | -0.001530 | 0.000000 | No |
| | | | Sr | -0.000020 | 0.000000 | No |
| | | | Mn | 0.000050 | 0.000000 | No |
| | | | Cu | -0.000026 | 0.000000 | No |
| | | | Zn | -0.000018 | 0.000000 | No |
| | | | W | -0.000482 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 7 | Fe | 0.000009 | 0.000000 | No |
| | | | Mo | -0.000790 | 0.000000 | No |
| | | | Ni | 0.000091 | 0.000000 | No |
| | | | Ti | 0.002192 | 0.000000 | No |
| | | | Ba | 0.000140 | 0.000000 | No |
| | | | W | 0.000327 | 0.000000 | No |
| | | | Cd | -0.000510 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 9 | Mn | 0.000348 | 0.000000 | No |
| | | | V | 0.000090 | 0.000000 | No |
| | | | Mo | -0.000082 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Ti | 0.000060 | 0.000000 | No |
| | | | Ba | 0.000045 | 0.000000 | No |
| | | | Cu | 0.000100 | 0.000000 | No |
| | | | Sr | -0.000100 | 0.000000 | No |
| | | | W | 0.000404 | 0.000000 | No |
| Cu 324.754 {104}2 | ☒ | 13 | Cr | -0.000004 | 0.000000 | No |
| | | | V | -0.000397 | 0.000000 | No |
| | | | Mo | 0.000544 | 0.000000 | No |
| | | | Ti | -0.000208 | 0.000000 | No |
| | | | Fe | -0.000226 | 0.000000 | No |
| | | | Zn | -0.000041 | 0.000000 | No |
| | | | Co | -0.001373 | 0.000000 | No |
| | | | Si | 0.000016 | 0.000000 | No |
| | | | Mn | 0.000003 | 0.000000 | No |
| | | | Se | 0.000050 | 0.000000 | No |
| | | | Sb | 0.000069 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 4 | Fe | -0.000107 | 0.000000 | No |
| | | | Si | 0.000010 | 0.000000 | No |
| | | | Ba | 0.000004 | 0.000000 | No |
| | | | Ni | 0.000028 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 8 | Fe | 0.000008 | 0.000000 | No |
| | | | Zn | -0.000013 | 0.000000 | No |
| | | | Be | 0.000213 | 0.000000 | No |
| | | | Co | -0.000220 | 0.000000 | No |
| | | | Tl | 0.000209 | 0.000000 | No |
| | | | Mo | 0.000026 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Cu | 0.000050 | 0.000000 | No |
| | | | Se | 0.000100 | 0.000000 | No |
| Ag 328.068 {103} | ☒ | 14 | Mn | 0.000252 | 0.000000 | No |
| | | | Mo | 0.000012 | -0.000003 | No |
| | | | Ti | -0.000090 | 0.000000 | No |
| | | | Fe | -0.000250 | 0.000000 | No |
| | | | Zn | -0.000120 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Zr | 0.007615 | 0.000000 | No |
| | | | Sr | -0.000020 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Ba | 0.000071 | 0.000000 | No |
| | | | Cr | 0.000022 | 0.000000 | No |
| | | | V | -0.004200 | 0.000000 | No |
| | | | Al | -0.000006 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| V 292.402 {115} | ☒ | 6 | Ti | 0.000689 | 0.000000 | No |
| | | | Mo | -0.000304 | 0.000000 | No |
| | | | Fe | 0.000029 | 0.000000 | No |
| | | | Sr | -0.000100 | 0.000000 | No |
| | | | Cr | -0.007536 | 0.000000 | No |
| | | | Mn | -0.002777 | 0.000000 | No |
| Zn 206.200 {464} | ☒ | 9 | Cr | -0.000850 | 0.000000 | No |
| | | | Fe | 0.000011 | 0.000000 | No |
| | | | Si | 0.000015 | 0.000000 | No |
| | | | Mn | -0.000045 | 0.000000 | No |
| | | | Ba | -0.000060 | 0.000000 | No |
| | | | Sn | -0.000023 | 0.000000 | No |
| | | | Cu | 0.000148 | 0.000000 | No |
| | | | As | 0.000055 | 0.000000 | No |
| | | | Be | 0.000058 | 0.000000 | No |
| As 189.042 {478} | ☒ | 18 | Al | 0.000008 | 0.000000 | No |
| | | | Fe | -0.000035 | 0.000000 | No |
| | | | Ca | 0.000004 | 0.000000 | No |
| | | | Mo | 0.003450 | 0.000000 | No |
| | | | Cr | -0.009806 | 0.000000 | No |
| | | | Ba | -0.000114 | 0.000000 | No |
| | | | Sn | -0.000130 | 0.000000 | No |
| | | | Cd | -0.000328 | 0.000000 | No |
| | | | Si | 0.000024 | 0.000000 | No |
| | | | Zn | -0.000082 | 0.000000 | No |
| | | | Sr | -0.000045 | 0.000000 | No |
| | | | W | 0.010000 | 0.000000 | No |
| | | | Cu | -0.000058 | 0.000000 | No |
| | | | Co | -0.000445 | 0.000000 | No |
| | | | Zr | 0.000036 | 0.000000 | No |
| | | | Mn | 0.000022 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Ti | 0.000100 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 24 | Cr | 0.000315 | 0.000000 | No |
| | | | Mo | -0.008200 | 0.000000 | No |
| | | | Al | -0.000003 | 0.000000 | No |
| | | | Fe | -0.000032 | 0.000000 | No |
| | | | V | -0.029988 | 0.000000 | No |
| | | | Mn | 0.002390 | 0.000000 | No |
| | | | Si | -0.000018 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Ti | -0.002190 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Co | 0.004080 | 0.000000 | No |
| | | | Sr | 0.000010 | 0.000000 | No |
| | | | B | -0.000003 | 0.000000 | No |
| | | | Ba | 0.000034 | 0.000000 | No |
| | | | Zn | -0.000053 | 0.000000 | No |
| | | | As | 0.000068 | 0.000000 | No |
| | | | W | -0.007000 | 0.000000 | No |
| | | | Cu | 0.000142 | 0.000000 | No |
| | | | Pb | -0.000020 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Sn | -0.000086 | 0.000000 | No |
| | | | Li | 0.000000 | 0.000000 | No |
| | | | K | 0.000000 | 0.000000 | No |
| | | | Zr | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 20 | Al | -0.000177 | 0.000000 | No |
| | | | Fe | 0.000039 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mn | 0.000154 | 0.000000 | No |
| | | | Mo | -0.000500 | 0.000000 | No |
| | | | Cu | 0.000154 | 0.000000 | No |
| | | | Co | 0.000264 | 0.000000 | No |
| | | | Ti | -0.000900 | 0.000000 | No |
| | | | Si | -0.000067 | 0.000000 | No |
| | | | Ba | -0.000022 | 0.000000 | No |
| | | | Sb | -0.000084 | 0.000000 | No |
| | | | Sr | -0.000033 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cd | 0.000012 | 0.000000 | No |
| | | | Cr | -0.000031 | 0.000000 | No |
| | | | Zr | -0.000281 | 0.000000 | No |
| | | | Ni | 0.000371 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Zn | -0.000106 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 23 | Al | -0.000002 | 0.000000 | No |
| | | | Ca | -0.000007 | 0.000000 | No |
| | | | Mn | 0.000594 | 0.000000 | No |
| | | | Mo | 0.000400 | 0.000000 | No |
| | | | Fe | -0.000172 | 0.000000 | No |
| | | | Co | -0.000182 | 0.000000 | No |
| | | | Sr | -0.000011 | 0.000000 | No |
| | | | Cu | -0.000087 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Si | 0.000054 | 0.000000 | No |
| | | | Be | -0.000347 | 0.000000 | No |
| | | | Zn | 0.000050 | 0.000000 | No |
| | | | B | 0.000028 | 0.000000 | No |
| | | | Ti | -0.000020 | 0.000000 | No |
| | | | Cd | 0.000090 | 0.000000 | No |
| | | | Zr | -0.000297 | 0.000000 | No |
| | | | Ba | -0.000046 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Pb | -0.000078 | 0.000000 | No |
| | | | Ni | -0.000100 | 0.000000 | No |
| | | | Cr | -0.000024 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | S | -0.000014 | 0.000000 | No |
| | | | V | 0.000188 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 17 | Fe | -0.000005 | 0.000000 | No |
| | | | Al | 0.000015 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Ni | -0.000716 | 0.000000 | No |
| | | | Cr | 0.021900 | 0.000000 | No |
| | | | V | -0.003422 | 0.000000 | No |
| | | | Zn | -0.000115 | 0.000000 | No |
| | | | Mo | 0.000289 | 0.000000 | No |
| | | | Ti | 0.000630 | 0.000000 | No |
| | | | Sn | -0.010425 | 0.000000 | No |
| | | | Mg | -0.000003 | 0.000000 | No |
| | | | Zr | -0.000463 | 0.000000 | No |
| | | | Sr | 0.000031 | 0.000000 | No |
| | | | B | -0.000100 | 0.000000 | No |
| | | | Co | -0.000251 | 0.000000 | No |
| | | | W | 0.010000 | 0.000000 | No |
| | | | Si | -0.000170 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 5 | Si | 0.000652 | 0.000000 | No |
| | | | Ca | 0.000018 | 0.000000 | No |
| | | | Mo | 0.043916 | 0.000000 | No |
| | | | Zr | 0.005268 | 0.000000 | No |
| | | | Ti | -0.000583 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | 14 | Fe | 0.000012 | 0.000000 | No |
| | | | W | 0.003960 | 0.000000 | No |
| | | | Tl | -0.000152 | 0.000000 | No |
| | | | Be | 0.001840 | 0.000000 | No |
| | | | Ba | -0.001224 | 0.000000 | No |
| | | | Cu | -0.000822 | 0.000000 | No |
| | | | Cd | -0.007593 | 0.000000 | No |
| | | | Ni | 0.000667 | 0.000000 | No |
| | | | B | -0.000210 | 0.000000 | No |
| | | | Se | 0.000923 | 0.000000 | No |
| | | | Co | -0.000408 | 0.000000 | No |
| | | | Cr | 0.000640 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | As | 0.010000 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 10 | Si | 0.000819 | 0.000000 | No |
| | | | Tl | -0.000051 | 0.000000 | No |
| | | | Cr | 0.000310 | 0.000000 | No |
| | | | Mn | -0.000196 | 0.000000 | No |
| | | | V | -0.000064 | 0.000000 | No |
| | | | Cu | -0.000015 | 0.000000 | No |
| | | | Zn | 0.000046 | 0.000000 | No |
| | | | Ti | -0.000631 | 0.000000 | No |
| | | | Ca | 0.000020 | 0.000000 | No |
| | | | Ba | 0.001000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 3 | Mo | -0.013702 | 0.000000 | No |
| | | | W | -0.006578 | 0.000000 | No |
| | | | Mn | -0.002445 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 11 | Fe | -0.000440 | 0.000000 | No |
| | | | Al | 0.000077 | 0.000000 | No |
| | | | Ca | -0.000121 | 0.000000 | No |
| | | | Mn | -0.007074 | 0.000000 | No |
| | | | Si | -0.003000 | 0.000000 | No |
| | | | V | -0.002000 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Sn | -0.004700 | 0.000000 | No |
| | | | Ba | -0.010574 | 0.000000 | No |
| | | | Mo | -0.000850 | 0.000000 | No |
| | | | Cu | -0.011483 | 0.000000 | No |
| | | | Ni | -0.010000 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 4 | K | -0.000560 | 0.000000 | No |
| | | | Ba | 0.000900 | 0.000000 | No |
| | | | Ca | 0.000180 | 0.000000 | No |
| | | | V | -0.005000 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.038137 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 2 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000010 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 12 | Sr | 0.000366 | 0.000000 | No |
| | | | Ni | 0.002092 | 0.000000 | No |
| | | | Mo | 0.034932 | 0.000000 | No |
| | | | V | 0.036950 | 0.000000 | No |
| | | | Ti | 0.004593 | 0.000000 | No |
| | | | Al | -0.000010 | 0.000000 | No |
| | | | Cd | 0.001043 | 0.000000 | No |
| | | | Ba | 0.001987 | 0.000000 | No |
| | | | Sn | 0.007500 | 0.000000 | No |
| | | | Zn | 0.000385 | 0.000000 | No |
| | | | Be | -0.000048 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | 4 | Ti | -0.001964 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |
| | | | Si | 0.000131 | 0.000000 | No |
| | | | Zr | 0.000908 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 2 | Ca | 0.000018 | 0.000000 | No |
| | | | Si | 0.000033 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 3 | Cr | 0.000189 | 0.000000 | No |
| | | | Mo | 0.001351 | 0.000000 | No |
| | | | Si | 0.000035 | 0.000000 | No |
| Y 360.073 { 94}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| In 230.606 {446}* | ☒ | None | | | | |
| W 207.911 {462} | ☒ | 20 | Si | 0.000105 | 0.000000 | No |
| | | | As | 0.000100 | 0.000000 | No |
| | | | Mn | 0.000066 | 0.000000 | No |
| | | | Mo | -0.000300 | 0.000000 | No |
| | | | Ti | 0.000080 | 0.000000 | No |
| | | | Sr | -0.000850 | 0.000000 | No |
| | | | V | -0.000140 | 0.000000 | No |
| | | | Cd | -0.000650 | 0.000000 | No |
| | | | Cr | -0.000390 | 0.000000 | No |
| | | | Zn | 0.013026 | 0.000000 | No |
| | | | Sn | 0.001300 | 0.000000 | No |
| | | | Zr | 0.000061 | 0.000000 | No |
| | | | B | 0.000009 | 0.000000 | No |
| | | | Sb | -0.000300 | 0.000000 | No |
| | | | Co | -0.001000 | 0.000000 | No |
| | | | Ni | -0.003000 | 0.000000 | No |
| | | | Be | -0.000185 | 0.000000 | No |
| | | | Se | -0.000105 | 0.000000 | No |
| | | | Cu | -0.000138 | 0.000000 | No |
| | | | Tl | -0.000220 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Zr 339.198 { 99} | ☒ | 6 | Mo | 0.001069 | 0.000000 | No |
| | | | Ti | 0.000203 | 0.000000 | No |
| | | | Fe | -0.000070 | 0.000000 | No |
| | | | Si | 0.000074 | 0.000000 | No |
| | | | S | -0.000002 | 0.000000 | No |
| | | | Cr | -0.000700 | 0.000000 | No |
| S 182.034 {485} | ☒ | 7 | Mo | -0.004201 | 0.000000 | No |
| | | | Al | -0.000034 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| | | | Mn | 0.004620 | 0.000000 | No |
| | | | W | -0.032564 | 0.000000 | No |
| | | | Ca | 0.000032 | 0.000000 | No |
| | | | Mg | 0.000005 | 0.000000 | No |
| Bi 223.061 {451} | ☒ | 9 | Ti | -0.072020 | 0.000000 | No |
| | | | V | -0.000704 | 0.000000 | No |
| | | | Co | -0.002380 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Fe | 0.000187 | 0.000000 | No |
| | | | Cr | 0.001595 | 0.000000 | No |
| | | | Cu | -0.001148 | 0.000000 | No |
| | | | W | -0.020000 | 0.000000 | No |
| Li 670.784 { 50} | ☒ | 2 | Ca | 0.000023 | 0.000000 | No |
| | | | Fe | 0.000081 | 0.000000 | No |
| P 177.495 {490} | ☒ | 9 | Mn | -0.006184 | 0.000000 | No |
| | | | Al | -0.000060 | 0.000000 | No |
| | | | V | -0.001953 | 0.000000 | No |
| | | | Si | -0.001622 | 0.000000 | No |
| | | | Ti | 0.000000 | -0.001185 | No |
| | | | Mo | -0.001880 | 0.000000 | No |
| | | | S | -0.000189 | 0.000000 | No |
| | | | Co | -0.002198 | 0.000000 | No |
| | | | Cu | -0.023500 | 0.000000 | No |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) |
|---|---|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.012948 | 1.687332 | 0.000000 | 1.000000 |
| Be 313.042 {108} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000796 | 2.702600 | 0.000000 | 1.000000 |
| Cd 228.802 {448} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000224 | 1.053897 | 0.000000 | 1.000000 |
| Co 228.616 {448} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000060 | 0.720874 | 0.000000 | 1.000000 |
| Cr 267.716 {126} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000034 | 0.143016 | 0.000000 | 1.000000 |
| Cu 324.754 {104}2 | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.002520 | 0.232747 | 0.000000 | 1.000000 |
| Mn 257.610 {131} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000068 | 0.801202 | 0.000000 | 1.000000 |
| Ni 231.604 {446} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000023 | 0.583840 | 0.000000 | 1.000000 |
| Ag 328.068 {103} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000250 | 0.143509 | 0.000000 | 1.000000 |
| V 292.402 {115} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000302 | 0.205299 | 0.000000 | 1.000000 |
| Zn 206.200 {464} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000468 | 1.568435 | 0.000000 | 1.000000 |
| As 189.042 {478} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000117 | 0.113901 | 0.000000 | 1.000000 |
| Tl 190.856 {477} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000179 | 0.077916 | 0.000000 | 1.000000 |
| Pb 220.353 {453} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000521 | 0.259796 | 0.000000 | 1.000000 |
| Se 196.090 {472} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000014 | 0.086613 | 0.000000 | 1.000000 |
| Sb 206.833 {463} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000737 | 0.147099 | 0.000000 | 1.000000 |
| Al 396.152 { 85} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000555 | 0.040427 | 0.000000 | 1.000000 |
| Ca 317.933 {106} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.005513 | 0.096945 | 0.000000 | 1.000000 |
| Fe 259.940 {130} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000150 | 0.056595 | 0.000000 | 1.000000 |
| Mg 279.079 {121} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000029 | 0.010797 | 0.000000 | 1.000000 |
| K 766.490 { 44} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.005921 | 0.019988 | 0.000000 | 1.000000 |
| Na 589.592 { 57} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.012253 | 0.076131 | 0.000000 | 1.000000 |
| B 208.959 {462} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000353 | 0.222921 | 0.000000 | 1.000000 |
| Mo 202.030 {467} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000869 | 0.722736 | 0.000000 | 1.000000 |
| Si 212.412 {459} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.002566 | 0.199406 | 0.000000 | 1.000000 |
| Sn 189.989 {478} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000146 | 0.219047 | 0.000000 | 1.000000 |
| Sr 407.771 { 83} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.001641 | 2.986807 | 0.000000 | 1.000000 |
| Ti 334.904 {101} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000044 | 0.163112 | 0.000000 | 1.000000 |
| Y 360.073 { 94}* | 5/1/2019 9:24:48 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| Y 371.030 { 91}* | 5/1/2019 9:24:48 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| Y 224.306 {451}* | 5/1/2019 9:24:48 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| In 230.606 {446}* | 5/1/2019 9:24:48 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| W 207.911 {462} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000822 | 0.361744 | 0.000000 | 1.000000 |
| Zr 339.198 { 99} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000463 | 0.469523 | 0.000000 | 1.000000 |
| S 182.034 {485} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | -0.000385 | 0.049435 | 0.000000 | 1.000000 |
| Bi 223.061 {451} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.000085 | 0.172354 | 0.000000 | 1.000000 |
| Li 670.784 { 50} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | None | 0.004326 | 0.451249 | 0.000000 | 1.000000 |
| P 177.495 {490} | 5/1/2019 9:24:48 | 4/30/2019 15:26:52 | Linear | 1/Conc | -0.002016 | 0.036702 | 0.000000 | 1.000000 |

| Element, Wavelength and Order | Correlation | Std Error of Est | Predicted MDL | Predicted MQL | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Slope | Y-int | Slope factor | Offset |
| Ba 455.403 { 74} | 1.000000 | 0.000000 | 0.000287 | 0.000955 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Be 313.042 {108} | 1.000000 | 0.000000 | 0.000067 | 0.000222 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cd 228.802 {448} | 1.000000 | 0.000000 | 0.000199 | 0.000662 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Co 228.616 {448} | 1.000000 | 0.000000 | 0.000240 | 0.000799 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cr 267.716 {126} | 1.000000 | 0.000000 | 0.000306 | 0.001019 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cu 324.754 {104}2 | 1.000000 | 0.000000 | 0.000429 | 0.001430 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mn 257.610 {131} | 1.000000 | 0.000000 | 0.000049 | 0.000163 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ni 231.604 {446} | 1.000000 | 0.000000 | 0.000339 | 0.001129 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ag 328.068 {103} | 1.000000 | 0.000000 | 0.000456 | 0.001520 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| V 292.402 {115} | 1.000000 | 0.000000 | 0.000360 | 0.001199 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Zn 206.200 {464} | 1.000000 | 0.000000 | 0.000111 | 0.000369 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| As 189.042 {478} | 1.000000 | 0.000000 | 0.001353 | 0.004508 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Tl 190.856 {477} | 1.000000 | 0.000000 | 0.001362 | 0.004540 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Pb 220.353 {453} | 1.000000 | 0.000000 | 0.001072 | 0.003574 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Se 196.090 {472} | 1.000000 | 0.000000 | 0.002054 | 0.006846 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sb 206.833 {463} | 1.000000 | 0.000000 | 0.001563 | 0.005210 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Al 396.152 { 85} | 1.000000 | 0.000000 | 0.009830 | 0.032767 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ca 317.933 {106} | 1.000000 | 0.000000 | 0.002317 | 0.007724 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Fe 259.940 {130} | 1.000000 | 0.000000 | 0.001987 | 0.006622 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mg 279.079 {121} | 1.000000 | 0.000000 | 0.013272 | 0.044239 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| K 766.490 { 44} | 1.000000 | 0.000000 | 0.035835 | 0.119450 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Na 589.592 { 57} | 1.000000 | 0.000000 | 0.009921 | 0.033071 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| B 208.959 {462} | 1.000000 | 0.000000 | 0.000714 | 0.002380 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mo 202.030 {467} | 1.000000 | 0.000000 | 0.000275 | 0.000917 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Si 212.412 {459} | 1.000000 | 0.000000 | 0.001149 | 0.003831 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sn 189.989 {478} | 1.000000 | 0.000000 | 0.000588 | 0.001961 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sr 407.771 { 83} | 1.000000 | 0.000000 | 0.000110 | 0.000366 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ti 334.904 {101} | 1.000000 | 0.000000 | 0.000357 | 0.001191 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Y 360.073 { 94}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| Y 371.030 { 91}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| Y 224.306 {451}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| In 230.606 {446}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| W 207.911 {462} | 1.000000 | 0.000000 | 0.001095 | 0.003649 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Zr 339.198 { 99} | 1.000000 | 0.000000 | 0.000176 | 0.000586 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| S 182.034 {485} | 1.000000 | 0.000000 | 0.002439 | 0.008129 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Bi 223.061 {451} | 1.000000 | 0.000000 | 0.001794 | 0.005980 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Li 670.784 { 50} | 1.000000 | 0.000000 | 0.001699 | 0.005663 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| P 177.495 {490} | 1.000000 | 0.000000 | 0.002511 | 0.008370 | OK. | 1.000000 | 0.000000 | 1 | 0 |

Zoom In ▶
Zoom Out

Sample Name: STDA Acquired: 5/1/2019 12:20:28 Type: Cal
Method: SGS 3 NO Valve(v328) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0149** | **-.0004** | **.0005** | **-.0001** | **-.0001** | **.0028** | **.0001** | **-.0001** | **-.0002** |
| Stddev | .0005 | .0001 | .0004 | .0001 | .0000 | .0001 | .0000 | .0002 | .0000 |
| %RSD | 3.103 | 30.12 | 69.88 | 116.9 | 73.03 | 3.518 | 39.35 | 123.3 | 12.88 |
| #1 | .0150 | -.0003 | .0003 | -.0000 | -.0000 | .0028 | .0001 | -.0000 | -.0002 |
| #2 | .0144 | -.0005 | .0009 | -.0000 | -.0001 | .0029 | .0002 | -.0003 | -.0002 |
| #3 | .0153 | -.0003 | .0003 | -.0001 | -.0001 | .0027 | .0001 | -.0000 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0003** | **.0006** | **-.0001** | **-.0001** | **.0008** | **.0000** | **.0008** | **.0004** | **.0057** |
| Stddev | .0000 | .0002 | .0000 | .0000 | .0002 | .0000 | .0004 | .0003 | .0002 |
| %RSD | 2.824 | 34.34 | 38.75 | 31.72 | 25.91 | 79.62 | 43.87 | 87.67 | 3.729 |
| #1 | .0003 | .0006 | -.0001 | -.0001 | .0008 | .0001 | .0006 | .0006 | .0055 |
| #2 | .0003 | .0005 | -.0001 | -.0000 | .0009 | .0000 | .0006 | .0000 | .0059 |
| #3 | .0003 | .0009 | -.0000 | -.0001 | .0005 | .0000 | .0012 | .0005 | .0057 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0001** | **-.0001** | **.0006** | **-.0077** | **.0013** | **-.0009** | **.0028** | **.0004** | **-.0017** |
| Stddev | .0000 | .0000 | .0006 | .0007 | .0001 | .0001 | .0004 | .0001 | .0003 |
| %RSD | 26.95 | 46.30 | 97.83 | 9.173 | 9.157 | 7.651 | 13.26 | 31.36 | 16.02 |
| #1 | .0001 | -.0002 | -.0001 | -.0084 | .0014 | -.0008 | .0026 | .0005 | -.0020 |
| #2 | .0001 | -.0001 | .0010 | -.0070 | .0012 | -.0009 | .0032 | .0005 | -.0014 |
| #3 | .0001 | -.0001 | .0010 | -.0079 | .0012 | -.0010 | .0026 | .0003 | -.0017 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0001** | **.0007** | **-.0004** | **-.0005** | **.0002** | **.0021** | **-.0031** |
| Stddev | .0001 | .0002 | .0000 | .0001 | .0002 | .0008 | .0000 |
| %RSD | 71.64 | 34.12 | 5.458 | 10.51 | 133.4 | 37.43 | .6729 |
| #1 | .0000 | .0008 | -.0004 | -.0005 | -.0001 | .0029 | -.0031 |
| #2 | .0002 | .0005 | -.0004 | -.0006 | .0004 | .0023 | -.0031 |
| #3 | .0001 | .0009 | -.0005 | -.0005 | .0002 | .0013 | -.0030 |



◀ Zoom In ▶
Zoom Out

Sample Name: STDA Acquired: 5/1/2019 12:20:28 Type: Cal
Method: SGS 3 NO Valve(v328) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147250.** | **23863.** | **5967.1** | **9951.4** |
| Stddev | 315. | 677. | 13.2 | 17.0 |
| %RSD | .21359 | 2.8391 | .22172 | .17044 |
| #1 | 147500. | 23106. | 5972.4 | 9954.0 |
| #2 | 146890. | 24411. | 5952.1 | 9933.3 |
| #3 | 147350. | 24072. | 5976.9 | 9966.9 |



◀ Zoom In ▶
Zoom Out

Sample Name: STDb Acquired: 5/1/2019 12:25:29 Type: Cal
Method: SGS 3 NO Valve(v328) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.703** | **12.46** | **5.092** | **3.029** | **.6697** | **1.077** | **3.831** | **2.409** | **.0823** |
| Stddev | .018 | .09 | .013 | .003 | .0018 | .003 | .014 | .003 | .0002 |
| %RSD | .2405 | .7285 | .2505 | .0917 | .2746 | .2540 | .3659 | .1232 | .2216 |
| #1 | 7.719 | 12.37 | 5.078 | 3.026 | .6715 | 1.080 | 3.827 | 2.406 | .0825 |
| #2 | 7.708 | 12.55 | 5.095 | 3.028 | .6696 | 1.077 | 3.820 | 2.409 | .0822 |
| #3 | 7.683 | 12.45 | 5.102 | 3.032 | .6679 | 1.075 | 3.847 | 2.412 | .0822 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.9802** | **7.474** | **.5389** | **.2809** | **1.070** | **.4023** | **.7065** | **3.230** | **8.930** |
| Stddev | .0019 | .013 | .0019 | .0011 | .001 | .0012 | .0009 | .006 | .018 |
| %RSD | .1926 | .1753 | .3479 | .4053 | .0784 | .3071 | .1231 | .2022 | .1966 |
| #1 | .9819 | 7.462 | .5371 | .2796 | 1.069 | .4009 | .7055 | 3.235 | 8.947 |
| #2 | .9805 | 7.470 | .5387 | .2817 | 1.070 | .4027 | .7068 | 3.233 | 8.933 |
| #3 | .9781 | 7.488 | .5409 | .2815 | 1.071 | .4033 | .7072 | 3.223 | 8.912 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.933** | **.9832** | **1.803** | **7.471** | **1.096** | **3.488** | **2.443** | **1.054** | **13.79** |
| Stddev | .009 | .0018 | .005 | .025 | .003 | .009 | .006 | .002 | .18 |
| %RSD | .1825 | .1822 | .2858 | .3412 | .2295 | .2478 | .2530 | .1818 | 1.287 |
| #1 | 4.942 | .9853 | 1.808 | 7.497 | 1.094 | 3.478 | 2.437 | 1.052 | 13.97 |
| #2 | 4.934 | .9824 | 1.805 | 7.468 | 1.095 | 3.492 | 2.444 | 1.055 | 13.61 |
| #3 | 4.924 | .9820 | 1.798 | 7.446 | 1.099 | 3.495 | 2.449 | 1.055 | 13.79 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.7583** | **1.692** | **2.230** | **.2296** | **.7236** | **2.163** | **.1922** |
| Stddev | .0011 | .002 | .018 | .0014 | .0009 | .005 | .0013 |
| %RSD | .1431 | .1102 | .8184 | .5962 | .1210 | .2146 | .6913 |
| #1 | .7591 | 1.690 | 2.235 | .2280 | .7226 | 2.166 | .1907 |
| #2 | .7588 | 1.693 | 2.244 | .2302 | .7240 | 2.165 | .1927 |
| #3 | .7571 | 1.694 | 2.209 | .2305 | .7243 | 2.158 | .1931 |



◀ Zoom In ▶
Zoom Out

Sample Name: STDb Acquired: 5/1/2019 12:25:29 Type: Cal
Method: SGS 3 NO Valve(v328) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **136600.** | **24025.** | **5640.1** | **8965.3** |
| Stddev | 402. | 118. | 11.5 | 13.0 |
| %RSD | .29410 | .49136 | .20423 | .14465 |
| #1 | 136190. | 23902. | 5651.6 | 8977.8 |
| #2 | 136610. | 24138. | 5640.1 | 8966.3 |
| #3 | 136990. | 24036. | 5628.5 | 8951.9 |

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 5/1/2019 12:30:54 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.020** | **2.075** | **2.018** | **2.043** | **2.032** | **2.012** | **2.027** | **2.049** | **.2527** |
| Stddev | .002 | .001 | .001 | .001 | .005 | .005 | .019 | .000 | .0005 |
| %RSD | .1047 | .0610 | .0529 | .0694 | .2586 | .2512 | .9470 | .0210 | .2037 |
| #1 | 2.022 | 2.077 | 2.017 | 2.042 | 2.031 | 2.013 | 2.049 | 2.049 | .2530 |
| #2 | 2.019 | 2.074 | 2.019 | 2.043 | 2.038 | 2.017 | 2.020 | 2.048 | .2530 |
| #3 | 2.019 | 2.075 | 2.019 | 2.045 | 2.028 | 2.007 | 2.013 | 2.049 | .2521 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.015** | **2.040** | **1.992** | **2.086** | **2.042** | **2.014** | **1.994** | **40.19** | **40.65** |
| Stddev | .003 | .002 | .007 | .016 | .002 | .006 | .001 | .06 | .07 |
| %RSD | .1251 | .0839 | .3698 | .7567 | .1134 | .3143 | .0711 | .1383 | .1843 |
| #1 | 2.015 | 2.042 | 1.984 | 2.071 | 2.040 | 2.009 | 1.995 | 40.25 | 40.73 |
| #2 | 2.017 | 2.040 | 1.998 | 2.085 | 2.042 | 2.011 | 1.994 | 40.14 | 40.59 |
| #3 | 2.012 | 2.039 | 1.995 | 2.102 | 2.045 | 2.021 | 1.992 | 40.17 | 40.62 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.75** | **40.72** | **40.32** | **40.57** | **2.044** | **2.006** | **5.002** | **2.032** | **2.059** |
| Stddev | .06 | .07 | .04 | .08 | .001 | .002 | .001 | .003 | .000 |
| %RSD | .1398 | .1748 | .0991 | .2080 | .0574 | .1096 | .0242 | .1465 | .0141 |
| #1 | 40.80 | 40.78 | 40.31 | 40.66 | 2.043 | 2.004 | 5.003 | 2.031 | 2.059 |
| #2 | 40.69 | 40.64 | 40.36 | 40.51 | 2.045 | 2.008 | 5.003 | 2.030 | 2.058 |
| #3 | 40.75 | 40.73 | 40.29 | 40.53 | 2.045 | 2.007 | 5.001 | 2.035 | 2.059 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 5/1/2019 12:30:54 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.003** | **1.961** | **1.997** | **2.016** | **2.027** | **2.034** | **2.030** |
| Stddev | .001 | .002 | .004 | .011 | .002 | .004 | .005 |
| %RSD | .0631 | .0822 | .1750 | .5330 | .0747 | .2083 | .2620 |
| #1 | 2.003 | 1.962 | 1.997 | 2.005 | 2.026 | 2.038 | 2.027 |
| #2 | 2.005 | 1.961 | 2.000 | 2.018 | 2.027 | 2.030 | 2.027 |
| #3 | 2.002 | 1.959 | 1.993 | 2.026 | 2.029 | 2.033 | 2.036 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **138340.** | **23796.** | **5681.5** | **9027.3** |
| Stddev | 230. | 238. | 15.0 | 11.5 |
| %RSD | .16635 | 1.0014 | .26319 | .12707 |
| #1 | 138250. | 23593. | 5673.7 | 9023.1 |
| #2 | 138170. | 24058. | 5672.0 | 9018.6 |
| #3 | 138600. | 23738. | 5698.7 | 9040.3 |



Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 5/1/2019 12:35:57 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0000** | **.0000** | **-.0001** | **.0000** | **.0003** | **.0000** | **-.0002** |
| Stddev | .0002 | .0001 | .0000 | .0002 | .0001 | .0002 | .0000 | .0002 |
| %RSD | 62.93 | 400.2 | 56.91 | 163.1 | 368.8 | 88.86 | 112.7 | 72.13 |
| #1 | -.0003 | -.0001 | .0000 | .0001 | -.0001 | .0002 | .0000 | -.0004 |
| #2 | -.0001 | .0001 | .0001 | -.0002 | .0001 | .0005 | .0001 | -.0002 |
| #3 | -.0004 | -.0000 | .0000 | -.0002 | .0001 | .0001 | -.0000 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0000** | **-.0005** | **.0006** | **-.0011** | **.0003** | **-.0012** | **-.0001** |
| Stddev | .0001 | .0003 | .0001 | .0004 | .0012 | .0006 | .0009 | .0011 |
| %RSD | 82.61 | 709.0 | 18.19 | 75.81 | 107.5 | 194.9 | 79.59 | 1442. |
| #1 | .0003 | -.0003 | -.0005 | .0007 | -.0009 | -.0004 | -.0001 | .0011 |
| #2 | .0000 | .0003 | -.0006 | .0010 | -.0000 | .0005 | -.0019 | -.0001 |
| #3 | .0002 | .0002 | -.0004 | .0001 | -.0024 | .0008 | -.0014 | -.0012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0079** | **-.0033** | **.0018** | **.0126** | **.2311** | **.0655** | **.0014** | **.0003** |
| Stddev | .0074 | .0023 | .0029 | .0009 | .0389 | .0147 | .0003 | .0004 |
| %RSD | 94.65 | 70.37 | 156.6 | 7.192 | 16.82 | 22.41 | 19.73 | 158.6 |
| #1 | -.0054 | -.0060 | .0001 | .0128 | .2461 | .0720 | .0014 | -.0001 |
| #2 | -.0162 | -.0015 | .0002 | .0117 | .2603 | .0759 | .0012 | .0007 |
| #3 | -.0019 | -.0026 | .0052 | .0135 | .1870 | .0487 | .0017 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 5/1/2019 12:35:57 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **-.0003** | **-.0001** | **-.0001** | **.0009** | **.0001** | **.0019** | **.0004** |
| Stddev | .0008 | .0001 | .0001 | .0001 | .0009 | .0002 | .0011 | .0004 |
| %RSD | 145.8 | 28.40 | 121.6 | 156.8 | 100.4 | 214.5 | 55.97 | 100.6 |
| #1 | .0008 | -.0003 | -.0002 | -.0001 | .0015 | .0002 | .0028 | .0009 |
| #2 | .0012 | -.0003 | .0000 | -.0001 | .0013 | .0001 | .0023 | .0001 |
| #3 | -.0003 | -.0002 | -.0001 | .0000 | -.0001 | -.0001 | .0007 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0105** | **.0007** |
| Stddev | .0004 | .0022 |
| %RSD | 3.681 | 321.8 |
| #1 | -.0104 | .0006 |
| #2 | -.0102 | -.0014 |
| #3 | -.0110 | .0029 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149740.** | **24710.** | **6055.8** | **10055.** |
| Stddev | 278. | 45. | 1.7 | 9. |
| %RSD | .18535 | .18177 | .02849 | .09165 |
| #1 | 149550. | 24697. | 6054.9 | 10058. |
| #2 | 149610. | 24760. | 6057.8 | 10045. |
| #3 | 150060. | 24674. | 6054.7 | 10063. |

Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/1/2019 12:41:05 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.001** | **2.068** | **2.002** | **2.022** | **2.021** | **2.001** | **2.036** | **2.024** | **.2508** |
| Stddev | .005 | .005 | .001 | .001 | .006 | .005 | .016 | .001 | .0004 |
| %RSD | .2567 | .2368 | .0394 | .0406 | .3114 | .2404 | .7798 | .0261 | .1780 |
| #1 | 2.006 | 2.069 | 2.001 | 2.021 | 2.023 | 2.005 | 2.044 | 2.023 | .2513 |
| #2 | 1.996 | 2.072 | 2.002 | 2.022 | 2.026 | 2.003 | 2.046 | 2.024 | .2508 |
| #3 | 2.000 | 2.062 | 2.002 | 2.022 | 2.014 | 1.995 | 2.017 | 2.024 | .2504 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.004** | **2.018** | **1.958** | **2.053** | **2.021** | **1.986** | **1.972** | **40.13** | **40.42** |
| Stddev | .004 | .003 | .004 | .009 | .001 | .004 | .001 | .12 | .11 |
| %RSD | .2145 | .1517 | .1885 | .4529 | .0522 | .2060 | .0509 | .3059 | .2820 |
| #1 | 2.009 | 2.015 | 1.954 | 2.047 | 2.021 | 1.984 | 1.972 | 40.21 | 40.47 |
| #2 | 2.005 | 2.021 | 1.959 | 2.064 | 2.021 | 1.991 | 1.972 | 40.20 | 40.50 |
| #3 | 2.000 | 2.017 | 1.961 | 2.049 | 2.020 | 1.984 | 1.973 | 39.99 | 40.29 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.51** | **40.39** | **40.24** | **40.34** | **2.018** | **1.988** | **4.972** | **2.004** | **2.038** |
| Stddev | .07 | .05 | .05 | .11 | .003 | .001 | .003 | .004 | .003 |
| %RSD | .1777 | .1198 | .1232 | .2845 | .1429 | .0559 | .0574 | .2207 | .1373 |
| #1 | 40.56 | 40.42 | 40.28 | 40.47 | 2.015 | 1.987 | 4.972 | 1.999 | 2.041 |
| #2 | 40.55 | 40.42 | 40.25 | 40.30 | 2.018 | 1.989 | 4.969 | 2.008 | 2.036 |
| #3 | 40.43 | 40.34 | 40.18 | 40.26 | 2.021 | 1.988 | 4.974 | 2.006 | 2.036 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icv 1 Acquired: 5/1/2019 12:41:05 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.981** | **1.933** | **1.985** | **1.960** | **1.998** | **2.015** | F **1.765** |
| Stddev | .004 | .003 | .003 | .005 | .004 | .005 | .009 |
| %RSD | .2172 | .1283 | .1354 | .2425 | .2236 | .2706 | .4897 |
| #1 | 1.985 | 1.931 | 1.987 | 1.955 | 2.000 | 2.017 | 1.760 |
| #2 | 1.980 | 1.934 | 1.986 | 1.965 | 1.992 | 2.020 | 1.761 |
| #3 | 1.977 | 1.935 | 1.982 | 1.961 | 2.000 | 2.009 | 1.775 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | -5.000% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **138610.** | **23879.** | **5745.3** | **9107.5** |
| Stddev | 551. | 100. | 16.1 | 22.7 |
| %RSD | .39728 | .41696 | .28021 | .24965 |
| #1 | 138480. | 23808. | 5760.2 | 9127.1 |
| #2 | 138140. | 23836. | 5728.2 | 9082.6 |
| #3 | 139210. | 23993. | 5747.6 | 9112.8 |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/1/2019 12:46:06 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0000** | **.0000** | **.0001** | **-.0003** | **.0004** | **-.0000** | **.0000** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0003 | .0003 | .0000 | .0001 |
| %RSD | 101.3 | 86.59 | 389.9 | 178.5 | 97.95 | 78.11 | 135.4 | 418.3 |
| #1 | .0001 | -.0001 | -.0001 | .0001 | -.0004 | .0001 | .0000 | .0000 |
| #2 | -.0006 | -.0001 | .0001 | .0001 | -.0006 | .0006 | -.0000 | -.0001 |
| #3 | -.0006 | -.0000 | .0000 | -.0001 | .0000 | .0004 | -.0000 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **.0002** | **-.0006** | **-.0004** | **.0006** | **.0001** | **-.0009** | **.0005** |
| Stddev | .0003 | .0004 | .0000 | .0003 | .0017 | .0008 | .0010 | .0012 |
| %RSD | 1338. | 277.8 | 7.168 | 78.70 | 291.4 | 692.5 | 116.7 | 230.2 |
| #1 | -.0003 | -.0000 | -.0005 | -.0005 | .0021 | -.0005 | .0002 | -.0008 |
| #2 | .0003 | -.0002 | -.0006 | -.0001 | -.0013 | -.0002 | -.0018 | .0015 |
| #3 | -.0001 | .0007 | -.0005 | -.0007 | .0010 | .0010 | -.0011 | .0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0031** | **-.0033** | **.0014** | **.0083** | **.1675** | **.0409** | **.0011** | **.0001** |
| Stddev | .0054 | .0011 | .0021 | .0035 | .0342 | .0008 | .0006 | .0001 |
| %RSD | 175.5 | 33.37 | 147.2 | 42.83 | 20.40 | 1.878 | 59.86 | 116.7 |
| #1 | -.0000 | -.0045 | .0037 | .0123 | .1759 | .0405 | .0018 | .0002 |
| #2 | -.0093 | -.0028 | .0011 | .0069 | .1966 | .0417 | .0009 | .0000 |
| #3 | .0001 | -.0025 | -.0005 | .0056 | .1299 | .0403 | .0005 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: icb 7 Acquired: 5/1/2019 12:46:06 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0015** | **-.0001** | **.0000** | **-.0002** | **.0005** | **-.0001** | **.0008** | **-.0005** |
| Stddev | .0007 | .0008 | .0000 | .0001 | .0007 | .0001 | .0013 | .0013 |
| %RSD | 48.40 | 1103. | 237.6 | 80.18 | 143.0 | 116.3 | 158.0 | 289.9 |
| #1 | .0007 | -.0009 | .0000 | -.0002 | -.0001 | .0000 | .0017 | .0007 |
| #2 | .0015 | .0007 | -.0000 | -.0000 | .0012 | -.0001 | .0013 | -.0002 |
| #3 | .0022 | .0000 | .0001 | -.0003 | .0003 | -.0002 | -.0006 | -.0019 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0097** | **.0015** |
| Stddev | .0014 | .0039 |
| %RSD | 13.97 | 262.6 |
| #1 | -.0090 | -.0000 |
| #2 | -.0088 | .0059 |
| #3 | -.0112 | -.0014 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149200.** | **24620.** | **6028.9** | **10023.** |
| Stddev | 586. | 321. | 12.7 | 15. |
| %RSD | .39292 | 1.3033 | .21137 | .15301 |
| #1 | 149100. | 24262. | 6042.2 | 10035. |
| #2 | 149840. | 24883. | 6016.9 | 10006. |
| #3 | 148680. | 24714. | 6027.6 | 10029. |

Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/1/2019 12:54:39 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.026** | **2.076** | **2.016** | **2.042** | **2.032** | **2.010** | **2.027** | **2.044** | **.2525** |
| Stddev | .001 | .002 | .003 | .002 | .004 | .004 | .008 | .002 | .0005 |
| %RSD | .0324 | .0824 | .1321 | .0972 | .1935 | .1908 | .4032 | .0909 | .2113 |
| #1 | 2.027 | 2.076 | 2.017 | 2.044 | 2.035 | 2.014 | 2.018 | 2.044 | .2526 |
| #2 | 2.026 | 2.074 | 2.016 | 2.041 | 2.034 | 2.011 | 2.026 | 2.045 | .2532 |
| #3 | 2.027 | 2.076 | 2.019 | 2.043 | 2.026 | 2.005 | 2.028 | 2.045 | .2520 |
| #4 | 2.026 | 2.078 | 2.013 | 2.039 | 2.032 | 2.011 | 2.038 | 2.041 | .2523 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.019** | **2.039** | **1.984** | **2.091** | **2.039** | **2.012** | **1.993** | **40.43** | **40.76** |
| Stddev | .002 | .001 | .002 | .006 | .002 | .003 | .005 | .05 | .04 |
| %RSD | .0976 | .0707 | .0975 | .2806 | .0965 | .1225 | .2516 | .1282 | .1032 |
| #1 | 2.021 | 2.040 | 1.985 | 2.097 | 2.040 | 2.015 | 1.999 | 40.47 | 40.78 |
| #2 | 2.018 | 2.037 | 1.981 | 2.094 | 2.040 | 2.014 | 1.990 | 40.35 | 40.70 |
| #3 | 2.016 | 2.040 | 1.985 | 2.088 | 2.041 | 2.010 | 1.994 | 40.43 | 40.77 |
| #4 | 2.019 | 2.040 | 1.982 | 2.085 | 2.036 | 2.011 | 1.987 | 40.45 | 40.79 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/1/2019 12:54:39 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.67** | **40.75** | **40.32** | **40.67** | **2.037** | **2.008** | **4.991** | **2.030** | **2.055** |
| Stddev | .05 | .01 | .06 | .02 | .002 | .002 | .004 | .001 | .001 |
| %RSD | .1249 | .0220 | .1421 | .0471 | .1059 | .1130 | .0739 | .0415 | .0682 |
| #1 | 40.72 | 40.74 | 40.36 | 40.70 | 2.040 | 2.010 | 4.995 | 2.029 | 2.055 |
| #2 | 40.61 | 40.75 | 40.27 | 40.66 | 2.036 | 2.007 | 4.988 | 2.029 | 2.054 |
| #3 | 40.66 | 40.76 | 40.27 | 40.66 | 2.036 | 2.009 | 4.994 | 2.030 | 2.053 |
| #4 | 40.70 | 40.74 | 40.38 | 40.67 | 2.038 | 2.005 | 4.989 | 2.031 | 2.056 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.999** | **1.957** | **1.998** | **2.011** | **2.021** | **2.031** | **2.012** |
| Stddev | .002 | .002 | .002 | .006 | .006 | .002 | .016 |
| %RSD | .1002 | .0917 | .1142 | .2779 | .3106 | .0780 | .7960 |
| #1 | 2.002 | 1.959 | 1.998 | 2.016 | 2.029 | 2.033 | 2.028 |
| #2 | 1.998 | 1.955 | 1.998 | 2.013 | 2.021 | 2.029 | 2.010 |
| #3 | 1.997 | 1.958 | 1.994 | 2.011 | 2.023 | 2.031 | 2.018 |
| #4 | 1.998 | 1.957 | 1.999 | 2.003 | 2.013 | 2.031 | 1.991 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |



Zoom In Zoom Out

Sample Name: iccv 1 Acquired: 5/1/2019 12:54:39 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137850.** | **23741.** | **5685.8** | **9037.6** |
| Stddev | 483. | 109. | 17.4 | 18.5 |
| %RSD | .35031 | .45759 | .30633 | .20485 |
| #1 | 137190. | 23600. | 5699.9 | 9055.2 |
| #2 | 138330. | 23817. | 5693.5 | 9042.2 |
| #3 | 138020. | 23713. | 5689.4 | 9041.4 |
| #4 | 137870. | 23835. | 5660.5 | 9011.5 |



Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 5/1/2019 13:03:37 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0000** | **.0001** | **.0001** | **-.0003** | **.0005** | **.0001** | **.0004** | **-.0000** |
| Stddev | .0006 | .0000 | .0001 | .0004 | .0001 | .0004 | .0000 | .0004 | .0005 |
| %RSD | 287.3 | 189.4 | 92.95 | 269.1 | 28.21 | 81.38 | 29.99 | 92.75 | 2527. |
| #1 | -.0006 | -.0000 | .0001 | .0005 | -.0004 | .0001 | .0001 | .0003 | .0003 |
| #2 | .0005 | .0000 | .0002 | -.0002 | -.0003 | .0005 | .0001 | .0001 | -.0005 |
| #3 | -.0005 | .0001 | .0000 | .0001 | -.0002 | .0010 | .0001 | .0008 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0006** | **-.0002** | **.0000** | **-.0004** | **.0001** | **-.0003** | **-.0057** | **-.0005** |
| Stddev | .0002 | .0000 | .0010 | .0004 | .0002 | .0010 | .0006 | .0145 | .0022 |
| %RSD | 72.16 | 3.777 | 477.2 | 1241. | 41.16 | 1103. | 221.4 | 253.0 | 413.2 |
| #1 | -.0003 | -.0006 | .0001 | -.0004 | -.0003 | -.0001 | -.0009 | -.0220 | -.0031 |
| #2 | -.0001 | -.0005 | .0006 | .0002 | -.0006 | -.0008 | -.0002 | .0060 | .0006 |
| #3 | -.0005 | -.0005 | -.0013 | .0002 | -.0004 | .0012 | .0003 | -.0012 | .0009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0027** | **.0110** | **.0423** | **-.0027** | **.0012** | **.0001** | **.0012** | **.0000** | **.0001** |
| Stddev | .0014 | .0108 | .0169 | .0057 | .0006 | .0001 | .0006 | .0008 | .0001 |
| %RSD | 51.39 | 98.34 | 40.04 | 212.8 | 53.32 | 71.45 | 52.71 | 1941. | 164.1 |
| #1 | .0016 | .0012 | .0241 | -.0088 | .0015 | .0000 | .0015 | -.0002 | .0000 |
| #2 | .0042 | .0092 | .0451 | .0025 | .0016 | .0002 | .0005 | .0009 | -.0000 |
| #3 | .0022 | .0227 | .0576 | -.0018 | .0005 | .0002 | .0016 | -.0006 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccb 7 Acquired: 5/1/2019 13:03:37 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0005** | **-.0001** | **-.0019** | **-.0016** | **-.0031** | **-.0001** |
| Stddev | .0004 | .0008 | .0001 | .0003 | .0012 | .0003 | .0011 |
| %RSD | 764.7 | 142.8 | 110.5 | 13.42 | 73.23 | 9.056 | 942.1 |
| #1 | -.0004 | .0000 | .0000 | -.0016 | -.0027 | -.0032 | -.0014 |
| #2 | .0004 | .0001 | -.0001 | -.0020 | -.0004 | -.0034 | .0005 |
| #3 | .0002 | .0014 | -.0002 | -.0021 | -.0016 | -.0028 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145940.** | **23974.** | **5909.7** | **9857.8** |
| Stddev | 193. | 706. | 2.6 | 4.1 |
| %RSD | .13226 | 2.9465 | .04360 | .04192 |
| #1 | 146140. | 24482. | 5911.1 | 9855.8 |
| #2 | 145750. | 23168. | 5906.8 | 9855.2 |
| #3 | 145940. | 24273. | 5911.3 | 9862.6 |



Zoom In Zoom Out

Sample Name: CRI Acquired: 5/1/2019 13:08:01 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2058** | **.0020** | **.0031** | **.0527** | **.0106** | **.0101** | **.0162** | **.0106** | **.0047** |
| Stddev | .0007 | .0000 | .0002 | .0001 | .0003 | .0005 | .0000 | .0002 | .0002 |
| %RSD | .3166 | 1.024 | 7.254 | .2122 | 3.201 | 4.712 | .1230 | 1.467 | 3.533 |
| #1 | .2064 | .0021 | .0029 | .0528 | .0108 | .0101 | .0162 | .0107 | .0046 |
| #2 | .2059 | .0020 | .0030 | .0528 | .0102 | .0105 | .0162 | .0105 | .0047 |
| #3 | .2051 | .0021 | .0033 | .0526 | .0109 | .0096 | .0161 | .0104 | .0049 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0522** | **.0208** | **.0075** | **.0104** | **.0032** | **.0112** | **.0068** | **.2104** | **5.254** |
| Stddev | .0002 | .0001 | .0015 | .0017 | .0008 | .0028 | .0011 | .0050 | .011 |
| %RSD | .3900 | .7204 | 20.28 | 16.40 | 23.90 | 24.86 | 16.74 | 2.377 | .2108 |
| #1 | .0525 | .0208 | .0087 | .0100 | .0034 | .0094 | .0064 | .2160 | 5.248 |
| #2 | .0521 | .0207 | .0081 | .0088 | .0038 | .0144 | .0059 | .2065 | 5.246 |
| #3 | .0521 | .0210 | .0058 | .0122 | .0023 | .0098 | .0081 | .2086 | 5.266 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1065** | **5.401** | **5.280** | **5.358** | **.1033** | **.0212** | **.2139** | **.0111** | **.0105** |
| Stddev | .0007 | .024 | .005 | .024 | .0006 | .0001 | .0014 | .0008 | .0001 |
| %RSD | .6530 | .4522 | .1032 | .4426 | .5517 | .4916 | .6427 | 7.082 | .9631 |
| #1 | .1066 | 5.387 | 5.283 | 5.382 | .1035 | .0212 | .2152 | .0117 | .0106 |
| #2 | .1057 | 5.386 | 5.284 | 5.355 | .1026 | .0212 | .2125 | .0102 | .0105 |
| #3 | .1071 | 5.429 | 5.274 | 5.335 | .1037 | .0210 | .2141 | .0113 | .0104 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CRI Acquired: 5/1/2019 13:08:01 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0104** | **.0524** | **.0106** | **.0523** | **.0217** | **.0553** | **.0488** |
| Stddev | .0003 | .0005 | .0001 | .0012 | .0006 | .0012 | .0017 |
| %RSD | 2.671 | .8942 | .6583 | 2.293 | 2.557 | 2.242 | 3.480 |
| #1 | .0107 | .0519 | .0107 | .0522 | .0211 | .0553 | .0496 |
| #2 | .0102 | .0529 | .0106 | .0512 | .0217 | .0540 | .0468 |
| #3 | .0103 | .0524 | .0106 | .0536 | .0222 | .0565 | .0499 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145250.** | **24337.** | **5873.9** | **9605.4** |
| Stddev | 469. | 194. | 10.4 | 24.4 |
| %RSD | .32275 | .79650 | .17732 | .25428 |
| #1 | 145130. | 24544. | 5866.6 | 9578.6 |
| #2 | 144850. | 24160. | 5885.8 | 9626.3 |
| #3 | 145760. | 24307. | 5869.4 | 9611.3 |



Zoom In Zoom Out

Sample Name: CRID Acquired: 5/1/2019 13:13:04 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0038** | **.0009** | **.0010** | **.0031** | **.0020** | F **.0006** | **.0032** | **.0043** |
| Stddev | .0002 | .0001 | .0001 | .0001 | .0003 | .0002 | .0000 | .0000 |
| %RSD | 5.606 | 5.719 | 10.35 | 2.475 | 14.79 | 24.74 | .3601 | .6747 |
| #1 | .0038 | .0010 | .0011 | .0030 | .0021 | .0007 | .0032 | .0043 |
| #2 | .0036 | .0009 | .0011 | .0031 | .0017 | .0004 | .0032 | .0043 |
| #3 | .0040 | .0009 | .0009 | .0032 | .0023 | .0007 | .0032 | .0043 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | .0020 | | |
| Range | | | | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **.0003** | **.0021** | **.0101** | **.0025** | F **.0014** | F **-.0004** | F **.0038** | F **-.0008** |
| Stddev | .0004 | .0000 | .0001 | .0005 | .0013 | .0010 | .0016 | .0007 |
| %RSD | 107.8 | 2.345 | .5766 | 21.44 | 96.07 | 283.6 | 41.24 | 82.07 |
| #1 | .0000 | .0021 | .0100 | .0020 | .0014 | .0003 | .0055 | -.0005 |
| #2 | .0007 | .0020 | .0101 | .0024 | .0027 | .0002 | .0036 | -.0004 |
| #3 | .0003 | .0021 | .0102 | .0031 | .0001 | -.0015 | .0023 | -.0016 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | .0050 | .0030 |
| Range | -20.00% | | | | -20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0962** | **1.058** | **.0018** | F **.1205** | **2.060** | **1.056** | **-.0005** | **-.0001** |
| Stddev | .0031 | .003 | .0009 | .0058 | .027 | .013 | .0005 | .0002 |
| %RSD | 3.219 | .2448 | 49.13 | 4.773 | 1.299 | 1.268 | 90.61 | 154.9 |
| #1 | .0945 | 1.059 | .0025 | .1259 | 2.046 | 1.043 | -.0011 | .0001 |
| #2 | .0998 | 1.055 | .0020 | .1144 | 2.043 | 1.056 | -.0003 | -.0002 |
| #3 | .0943 | 1.060 | .0008 | .1212 | 2.091 | 1.070 | -.0002 | -.0002 |
| Check ? | Chk Pass | Chk Pass | None | Chk Fail | Chk Pass | Chk Pass | None | None |
| Value | | | | .1000 | | | | |
| Range | | | | 20.00% | | | | |

Zoom In Zoom Out

Sample Name: CRID Acquired: 5/1/2019 13:13:04 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **-.0005** | **-.0001** | **.0001** | **-.0000** | **-.0002** | **-.0004** | **-.0011** |
| Stddev | .0009 | .0001 | .0001 | .0001 | .0005 | .0001 | .0012 | .0023 |
| %RSD | 69.16 | 17.84 | 187.0 | 71.94 | 1890. | 29.60 | 328.6 | 218.1 |
| #1 | .0008 | -.0004 | -.0002 | .0001 | -.0006 | -.0002 | .0010 | -.0026 |
| #2 | .0008 | -.0005 | .0000 | .0001 | .0002 | -.0003 | -.0013 | -.0022 |
| #3 | .0023 | -.0005 | -.0000 | .0002 | .0004 | -.0002 | -.0007 | .0016 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0050** | **-.0022** |
| Stddev | .0028 | .0017 |
| %RSD | 56.56 | 75.26 |
| #1 | -.0034 | -.0004 |
| #2 | -.0033 | -.0026 |
| #3 | -.0082 | -.0037 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145370.** | **23900.** | **5926.4** | **9837.4** |
| Stddev | 319. | 145. | 17.3 | 14.0 |
| %RSD | .21919 | .60733 | .29224 | .14259 |
| #1 | 145730. | 23878. | 5917.0 | 9831.7 |
| #2 | 145220. | 24054. | 5915.9 | 9827.0 |
| #3 | 145150. | 23766. | 5946.4 | 9853.3 |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 5/1/2019 13:18:10 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0000** | **.0003** | **.0009** | **-.0010** | **-.0082** | **.0034** | **-.0001** | **.0034** |
| Stddev | .0003 | .0000 | .0002 | .0001 | .0006 | .0005 | .0001 | .0003 | .0002 |
| %RSD | 43.43 | 133.1 | 75.09 | 14.25 | 62.09 | 5.560 | 1.841 | 180.3 | 5.198 |
| #1 | .0008 | .0000 | .0004 | .0010 | -.0003 | -.0087 | .0033 | -.0004 | .0033 |
| #2 | .0003 | -.0000 | .0004 | .0008 | -.0012 | -.0080 | .0034 | .0002 | .0034 |
| #3 | .0008 | -.0000 | .0000 | .0010 | -.0014 | -.0078 | .0033 | -.0002 | .0036 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0035** | **-.0017** | **-.0002** | **-.0013** | **-.0002** | **-.0019** | **.0007** | **511.9** | **390.4** |
| Stddev | .0001 | .0001 | .0016 | .0018 | .0019 | .0010 | .0004 | 1.1 | 3.9 |
| %RSD | 1.583 | 6.171 | 907.3 | 130.7 | 1226. | 52.61 | 53.83 | .2069 | .9896 |
| #1 | -.0034 | -.0017 | .0016 | -.0023 | -.0019 | -.0007 | .0011 | 510.9 | 386.0 |
| #2 | -.0035 | -.0016 | -.0014 | -.0024 | .0019 | -.0025 | .0005 | 513.0 | 392.7 |
| #3 | -.0035 | -.0018 | -.0008 | .0007 | -.0005 | -.0024 | .0005 | 511.8 | 392.6 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **189.8** | **501.0** | **.3725** | **.1332** | **-.0022** | **.0003** | **.0061** | **-.0021** | **-.0004** |
| Stddev | .8 | .5 | .0931 | .0133 | .0009 | .0004 | .0039 | .0005 | .0001 |
| %RSD | .4071 | .0924 | 25.00 | 9.976 | 41.19 | 136.5 | 64.24 | 25.96 | 30.96 |
| #1 | 189.0 | 501.4 | .2752 | .1193 | -.0012 | .0003 | .0069 | -.0025 | -.0003 |
| #2 | 190.5 | 501.2 | .3816 | .1345 | -.0030 | .0006 | .0096 | -.0022 | -.0005 |
| #3 | 190.0 | 500.5 | .4608 | .1458 | -.0025 | -.0001 | .0018 | -.0015 | -.0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 5/1/2019 13:18:10 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0016** | **.0025** | **.0009** | **-.0085** | **.0003** | **-.0070** | **.0170** |
| Stddev | .0002 | .0010 | .0001 | .0010 | .0022 | .0018 | .0016 |
| %RSD | 14.42 | 39.85 | 15.02 | 12.27 | 837.5 | 25.99 | 9.400 |
| #1 | -.0017 | .0020 | .0009 | -.0078 | -.0020 | -.0049 | .0160 |
| #2 | -.0013 | .0018 | .0011 | -.0097 | .0004 | -.0079 | .0162 |
| #3 | -.0017 | .0036 | .0008 | -.0080 | .0024 | -.0082 | .0188 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **126400.** | **22994.** | **5250.8** | **8262.9** |
| Stddev | 164. | 51. | 24.8 | 21.3 |
| %RSD | .12936 | .22367 | .47136 | .25718 |
| #1 | 126330. | 23012. | 5251.0 | 8271.7 |
| #2 | 126280. | 22936. | 5226.0 | 8238.7 |
| #3 | 126590. | 23035. | 5275.5 | 8278.4 |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/1/2019 13:23:32 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5249** | **.5187** | **1.039** | **.5018** | **.5011** | **.5097** | **.5242** | **.9944** | **1.088** |
| Stddev | .0004 | .0002 | .002 | .0001 | .0010 | .0009 | .0008 | .0003 | .002 |
| %RSD | .0806 | .0304 | .2144 | .0268 | .2029 | .1778 | .1533 | .0297 | .1575 |
| #1 | .5247 | .5188 | 1.040 | .5016 | .5021 | .5102 | .5248 | .9946 | 1.090 |
| #2 | .5246 | .5185 | 1.041 | .5019 | .5013 | .5087 | .5244 | .9945 | 1.088 |
| #3 | .5254 | .5187 | 1.037 | .5019 | .5001 | .5104 | .5233 | .9941 | 1.086 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5067** | **.9863** | **1.084** | **.9936** | **.9720** | **1.077** | **1.087** | **507.6** | **385.4** |
| Stddev | .0007 | .0023 | .002 | .0031 | .0020 | .003 | .002 | 12.6 | 7.4 |
| %RSD | .1467 | .2300 | .1490 | .3166 | .2105 | .3123 | .1593 | 2.476 | 1.918 |
| #1 | .5076 | .9887 | 1.084 | .9972 | .9716 | 1.081 | 1.089 | 511.9 | 378.3 |
| #2 | .5064 | .9859 | 1.083 | .9922 | .9743 | 1.074 | 1.086 | 517.4 | 393.1 |
| #3 | .5063 | .9843 | 1.086 | .9913 | .9703 | 1.078 | 1.086 | 493.4 | 384.9 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **197.9** | **508.8** | **.3097** | **.1308** | **.4953** | **.4896** | **.5098** | **.4818** | **.5330** |
| Stddev | 2.6 | .1 | .0359 | .0047 | .0022 | .0011 | .0010 | .0013 | .0007 |
| %RSD | 1.339 | .0195 | 11.60 | 3.600 | .4389 | .2263 | .2021 | .2621 | .1284 |
| #1 | 198.4 | 508.7 | .3170 | .1254 | .4955 | .4908 | .5089 | .4823 | .5335 |
| #2 | 195.1 | 508.9 | .2707 | .1338 | .4931 | .4885 | .5096 | .4828 | .5322 |
| #3 | 200.3 | 508.7 | .3415 | .1333 | .4974 | .4895 | .5110 | .4804 | .5334 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/1/2019 13:23:32 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .5067 | .4794 | .4943 | .5126 | .5150 | .5471 | .5696 |
| Stddev | .0012 | .0010 | .0007 | .0038 | .0024 | .0010 | .0019 |
| %RSD | .2347 | .2006 | .1471 | .7331 | .4605 | .1877 | .3367 |
| #1 | .5071 | .4790 | .4950 | .5167 | .5177 | .5481 | .5710 |
| #2 | .5076 | .4805 | .4942 | .5094 | .5133 | .5461 | .5703 |
| #3 | .5053 | .4787 | .4936 | .5116 | .5139 | .5470 | .5674 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 126540. | 23038. | 5253.8 | 8294.6 |
| Stddev | 349. | 152. | 12.3 | 10.5 |
| %RSD | .27568 | .66174 | .23452 | .12690 |
| #1 | 126580. | 23198. | 5240.5 | 8282.5 |
| #2 | 126180. | 22895. | 5256.0 | 8300.8 |
| #3 | 126880. | 23022. | 5264.9 | 8300.6 |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/1/2019 13:28:50 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 8.102 | 8.098 | 8.057 | 8.095 | 8.285 | 8.073 | 8.062 | 8.101 | .6336 |
| Stddev | .031 | .129 | .021 | .011 | .023 | .101 | .037 | .008 | .0009 |
| %RSD | .3801 | 1.598 | .2579 | .1367 | .2785 | 1.257 | .4587 | .0987 | .1389 |
| #1 | 8.125 | 8.112 | 8.043 | 8.087 | 8.282 | 8.146 | 8.050 | 8.095 | .6345 |
| #2 | 8.113 | 8.220 | 8.047 | 8.090 | 8.310 | 8.115 | 8.103 | 8.098 | .6337 |
| #3 | 8.067 | 7.962 | 8.081 | 8.107 | 8.264 | 7.957 | 8.033 | 8.110 | .6327 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 8.083 | 8.345 | 8.148 | 8.258 | 8.246 | 8.142 | 8.313 | .1659 | .0035 |
| Stddev | .085 | .026 | .002 | .075 | .012 | .006 | .026 | .0163 | .0129 |
| %RSD | 1.049 | .3100 | .0250 | .9043 | .1496 | .0745 | .3112 | 9.812 | 371.8 |
| #1 | 8.177 | 8.336 | 8.146 | 8.293 | 8.239 | 8.142 | 8.295 | .1493 | -.0083 |
| #2 | 8.060 | 8.325 | 8.150 | 8.308 | 8.238 | 8.148 | 8.301 | .1818 | .0172 |
| #3 | 8.012 | 8.374 | 8.148 | 8.172 | 8.260 | 8.136 | 8.342 | .1665 | .0015 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.0027 | .0246 | .5361 | .1085 | 8.258 | 8.368 | 26.43 | 8.556 | 8.150 |
| Stddev | .0072 | .0226 | .0546 | .0072 | .025 | .013 | .09 | .000 | .091 |
| %RSD | 265.0 | 91.65 | 10.18 | 6.669 | .3038 | .1521 | .3484 | .0016 | 1.123 |
| #1 | -.0087 | .0014 | .4758 | .1003 | 8.244 | 8.359 | 26.37 | 8.556 | 8.236 |
| #2 | .0052 | .0465 | .5503 | .1142 | 8.243 | 8.362 | 26.38 | 8.556 | 8.054 |
| #3 | -.0047 | .0261 | .5822 | .1109 | 8.287 | 8.383 | 26.53 | 8.556 | 8.159 |
| Check ? | None | None | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/1/2019 13:28:50 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 8.208 | 8.506 | 8.017 | 97.48 | 8.422 | 8.132 | 8.264 |
| Stddev | .041 | .015 | .019 | .86 | .013 | .016 | .081 |
| %RSD | .4995 | .1753 | .2405 | .8821 | .1513 | .1966 | .9811 |
| #1 | 8.186 | 8.507 | 8.022 | 97.73 | 8.416 | 8.151 | 8.284 |
| #2 | 8.255 | 8.491 | 8.034 | 98.18 | 8.413 | 8.124 | 8.334 |
| #3 | 8.183 | 8.521 | 7.996 | 96.52 | 8.437 | 8.123 | 8.175 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 142990. | 24347. | 5754.1 | 9707.5 |
| Stddev | 741. | 102. | 30.6 | 28.5 |
| %RSD | .51842 | .41994 | .53095 | .29396 |
| #1 | 142490. | 24229. | 5761.4 | 9713.1 |
| #2 | 142640. | 24402. | 5780.3 | 9732.8 |
| #3 | 143850. | 24411. | 5720.5 | 9676.5 |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/1/2019 13:34:52 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: ` Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .0008 | .0006 | .0002 | .0011 | -.0011 | -.0069 | .0043 | .0005 | .0038 |
| Stddev | .0002 | .0000 | .0000 | .0003 | .0002 | .0008 | .0001 | .0001 | .0005 |
| %RSD | 29.20 | 2.893 | 17.14 | 22.81 | 16.88 | 11.20 | 3.214 | 19.39 | 13.15 |
| #1 | .0010 | .0005 | .0002 | .0009 | -.0013 | -.0061 | .0042 | .0005 | .0042 |
| #2 | .0005 | .0006 | .0002 | .0010 | -.0009 | -.0070 | .0045 | .0004 | .0039 |
| #3 | .0009 | .0006 | .0003 | .0014 | -.0011 | -.0076 | .0043 | .0005 | .0033 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.0037 | -.0007 | .0003 | -.0011 | .0004 | -.0023 | .0010 | 322.0 | 204.0 |
| Stddev | .0005 | .0001 | .0011 | .0011 | .0011 | .0024 | .0033 | 4.7 | .9 |
| %RSD | 12.70 | 8.622 | 314.9 | 101.1 | 292.7 | 103.1 | 313.2 | 1.470 | .4656 |
| #1 | -.0033 | -.0007 | .0008 | -.0023 | .0005 | -.0017 | .0006 | 319.5 | 203.1 |
| #2 | -.0042 | -.0008 | .0010 | -.0011 | .0015 | -.0003 | .0045 | 318.9 | 203.9 |
| #3 | -.0037 | -.0007 | -.0009 | -.0000 | -.0008 | -.0049 | -.0020 | 327.4 | 205.0 |
| Check ? | None | None | None | None | None | None | None | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 203.4 | 310.7 | 207.0 | 199.0 | .0022 | .0004 | .0091 | -.0019 | -.0002 |
| Stddev | 1.5 | 1.6 | 1.2 | 2.5 | .0005 | .0003 | .0009 | .0001 | .0001 |
| %RSD | .7500 | .5156 | .5936 | 1.280 | 22.02 | 89.02 | 10.09 | 4.661 | 26.91 |
| #1 | 201.9 | 310.1 | 207.3 | 199.0 | .0017 | -.0000 | .0098 | -.0018 | -.0001 |
| #2 | 204.9 | 312.5 | 208.0 | 201.6 | .0021 | .0005 | .0093 | -.0019 | -.0002 |
| #3 | 203.4 | 309.5 | 205.6 | 196.5 | .0027 | .0006 | .0081 | -.0019 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/1/2019 13:34:52 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: ` Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **.0025** | **.0018** | **-.0057** | **.0001** | **.0007** | **.0075** |
| Stddev | .0002 | .0011 | .0001 | .0019 | .0016 | .0015 | .0022 |
| %RSD | 21.40 | 45.79 | 5.220 | 33.09 | 1931. | 202.8 | 29.65 |
| #1 | -.0010 | .0014 | .0017 | -.0036 | .0020 | .0023 | .0058 |
| #2 | -.0007 | .0036 | .0019 | -.0062 | -.0011 | .0006 | .0067 |
| #3 | -.0011 | .0024 | .0019 | -.0073 | -.0006 | -.0007 | .0100 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **127350.** | **22971.** | **5276.0** | **8218.4** |
| Stddev | 370. | 129. | 7.9 | 10.7 |
| %RSD | .29080 | .56110 | .14939 | .13037 |
| #1 | 127700. | 23117. | 5273.7 | 8211.8 |
| #2 | 127380. | 22875. | 5269.4 | 8212.7 |
| #3 | 126970. | 22921. | 5284.7 | 8230.8 |



Zoom In Zoom Out

Sample Name: FECONF Acquired: 5/1/2019 13:40:27 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **.0002** | **.0009** | **-.0014** | **-.0076** | **.0043** | **.0003** |
| Stddev | .0002 | .0000 | .0001 | .0000 | .0001 | .0003 | .0002 | .0003 |
| %RSD | 223.8 | 38.40 | 45.45 | 5.088 | 7.947 | 4.480 | 4.176 | 79.17 |
| #1 | .0003 | -.0001 | .0001 | .0009 | -.0013 | -.0080 | .0041 | .0002 |
| #2 | -.0001 | -.0001 | .0001 | .0008 | -.0013 | -.0074 | .0045 | .0002 |
| #3 | .0001 | -.0001 | .0003 | .0009 | -.0015 | -.0075 | .0044 | .0006 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0020** | **-.0038** | **-.0011** | **-.0023** | F **-.0030** | **-.0005** | **-.0035** | **.0039** |
| Stddev | .0003 | .0001 | .0001 | .0009 | .0005 | .0006 | .0011 | .0012 |
| %RSD | 15.65 | 2.700 | 8.056 | 39.89 | 16.21 | 120.9 | 30.53 | 30.58 |
| #1 | .0018 | -.0037 | -.0012 | -.0021 | -.0026 | -.0011 | -.0030 | .0053 |
| #2 | .0024 | -.0039 | -.0012 | -.0034 | -.0029 | .0000 | -.0047 | .0035 |
| #3 | .0019 | -.0038 | -.0010 | -.0015 | -.0036 | -.0003 | -.0027 | .0030 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0023** | **.0064** | **195.7** | **-.0008** | **.3195** | **.1283** | **-.0000** | **.0001** |
| Stddev | .0111 | .0025 | 3.2 | .0006 | .0429 | .0104 | .0007 | .0002 |
| %RSD | 486.7 | 39.60 | 1.632 | 77.53 | 13.44 | 8.075 | 1998. | 235.7 |
| #1 | -.0081 | .0043 | 195.4 | -.0005 | .3485 | .1360 | .0004 | -.0001 |
| #2 | -.0093 | .0057 | 199.0 | -.0014 | .3399 | .1324 | .0004 | .0001 |
| #3 | .0105 | .0093 | 192.7 | -.0004 | .2702 | .1165 | -.0009 | .0003 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0055** | **.0000** | **.0000** | **-.0000** | **.0001** | **.0013** | **-.0012** | **.0064** |
| Stddev | .0012 | .0005 | .0001 | .0002 | .0009 | .0001 | .0017 | .0012 |
| %RSD | 21.37 | 1855. | 413.3 | 613.5 | 778.0 | 9.440 | 145.2 | 19.60 |
| #1 | .0042 | .0003 | .0000 | -.0001 | -.0001 | .0012 | -.0031 | .0077 |
| #2 | .0058 | -.0006 | -.0001 | .0002 | -.0007 | .0013 | .0003 | .0062 |
| #3 | .0064 | .0003 | .0001 | -.0002 | .0012 | .0014 | -.0008 | .0052 |



Zoom In Zoom Out

Sample Name: FECONF Acquired: 5/1/2019 13:40:27 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0205** | **-.0017** |
| Stddev | .0002 | .0004 |
| %RSD | 1.042 | 20.92 |
| #1 | -.0205 | -.0019 |
| #2 | -.0206 | -.0013 |
| #3 | -.0202 | -.0020 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144610.** | **24119.** | **5802.9** | **9824.2** |
| Stddev | 2130. | 128. | 14.2 | 11.5 |
| %RSD | 1.4730 | .52993 | .24514 | .11753 |
| #1 | 143480. | 24108. | 5786.6 | 9811.1 |
| #2 | 143280. | 24252. | 5812.9 | 9832.9 |
| #3 | 147060. | 23997. | 5809.0 | 9828.6 |



Zoom In Zoom Out

Sample Name: CRCONF Acquired: 5/1/2019 13:45:41 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **-.0001** | **-.0000** | **-.0005** | F **10.09** | **.0001** | **-.0015** | **-.0001** | **.0000** |
| Stddev | .0002 | .0000 | .0003 | .0002 | .11 | .0001 | .0000 | .0001 | .0001 |
| %RSD | 58.53 | 13.01 | 1152. | 32.84 | 1.108 | 45.86 | 1.767 | 262.4 | 630.9 |
| #1 | .0001 | -.0001 | .0001 | -.0006 | 9.986 | .0001 | -.0015 | -.0002 | .0000 |
| #2 | .0004 | -.0001 | -.0004 | -.0003 | 10.07 | .0001 | -.0016 | .0000 | .0001 |
| #3 | .0005 | -.0001 | .0002 | -.0006 | 10.21 | .0002 | -.0015 | .0001 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0050** | **.0022** | **.0005** | **-.0012** | **.0001** | **.0004** | **.0016** | **-.0013** | **.0173** |
| Stddev | .0011 | .0001 | .0004 | .0021 | .0008 | .0014 | .0038 | .0037 | .0025 |
| %RSD | 21.99 | 4.634 | 89.65 | 169.4 | 883.6 | 388.7 | 238.3 | 295.2 | 14.40 |
| #1 | -.0061 | .0021 | .0010 | -.0013 | .0010 | -.0012 | .0051 | -.0042 | .0145 |
| #2 | -.0049 | .0023 | .0002 | .0009 | -.0000 | .0015 | .0021 | .0030 | .0183 |
| #3 | -.0039 | .0022 | .0003 | -.0033 | -.0007 | .0009 | -.0024 | -.0026 | .0192 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0146** | **.0118** | **.3357** | **.0765** | **.0016** | **.0007** | **.0107** | **-.0008** | **.0001** |
| Stddev | .0032 | .0069 | .0095 | .0064 | .0007 | .0001 | .0013 | .0001 | .0000 |
| %RSD | 22.00 | 58.30 | 2.825 | 8.325 | 41.52 | 10.85 | 11.96 | 15.58 | 57.98 |
| #1 | .0183 | .0106 | .3467 | .0804 | .0024 | .0006 | .0101 | -.0008 | .0001 |
| #2 | .0130 | .0191 | .3298 | .0691 | .0011 | .0007 | .0098 | -.0009 | .0000 |
| #3 | .0124 | .0056 | .3307 | .0799 | .0014 | .0008 | .0121 | -.0006 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0028** | **.0065** | **.0042** | **.0044** | **-.0032** | **-.0129** | **-.0023** |
| Stddev | .0003 | .0006 | .0001 | .0020 | .0011 | .0005 | .0015 |
| %RSD | 10.19 | 9.552 | 2.465 | 46.33 | 34.52 | 3.827 | 62.42 |
| #1 | -.0026 | .0061 | .0041 | .0021 | -.0020 | -.0132 | -.0011 |
| #2 | -.0027 | .0072 | .0043 | .0060 | -.0034 | -.0123 | -.0040 |
| #3 | -.0031 | .0062 | .0043 | .0050 | -.0043 | -.0131 | -.0020 |

Zoom In
Zoom Out

Sample Name: CRCONF Acquired: 5/1/2019 13:45:41 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147420.** | **24070.** | **5782.9** | **9924.2** |
| Stddev | 218. | 51. | 4.4 | 10.9 |
| %RSD | .14767 | .21204 | .07686 | .11008 |
| #1 | 147660. | 24128. | 5783.8 | 9923.8 |
| #2 | 147370. | 24032. | 5778.1 | 9913.6 |
| #3 | 147230. | 24050. | 5786.8 | 9935.4 |



Zoom In
Zoom Out

Sample Name: ASCONF Acquired: 5/1/2019 13:50:58 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | W **-.0011** | **-.0001** | **-.0001** | **.0003** | **.0000** | **.0002** |
| Stddev | .0001 | .0000 | .0005 | .0001 | .0003 | .0003 | .0000 | .0001 |
| %RSD | 56.86 | 38.37 | 40.95 | 97.58 | 425.3 | 125.7 | 350.2 | 28.07 |
| #1 | -.0003 | -.0001 | -.0013 | -.0000 | -.0002 | .0005 | -.0000 | .0002 |
| #2 | -.0003 | -.0001 | -.0006 | -.0001 | -.0003 | .0003 | .0000 | .0002 |
| #3 | -.0001 | -.0001 | -.0015 | -.0002 | .0002 | -.0001 | -.0000 | .0001 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0003** | **-.0007** | **5.386** | **-.0001** | **.0001** | **-.0002** | **.0013** |
| Stddev | .0002 | .0001 | .0001 | .008 | .0009 | .0007 | .0010 | .0002 |
| %RSD | 113.3 | 25.98 | 11.21 | .1429 | 662.2 | 605.3 | 637.4 | 18.83 |
| #1 | .0000 | .0003 | -.0007 | 5.384 | -.0009 | .0003 | .0010 | .0011 |
| #2 | .0004 | .0004 | -.0007 | 5.380 | .0008 | .0007 | -.0006 | .0015 |
| #3 | .0001 | .0002 | -.0006 | 5.395 | -.0003 | -.0007 | -.0008 | .0012 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0101** | **-.0594** | **.0029** | **.0103** | **.2576** | **.0441** | **-.0003** | **-.0000** |
| Stddev | .0087 | .0017 | .0011 | .0155 | .0373 | .0033 | .0006 | .0001 |
| %RSD | 85.89 | 2.839 | 39.04 | 150.8 | 14.46 | 7.405 | 201.7 | 528.1 |
| #1 | -.0201 | -.0576 | .0022 | -.0048 | .2161 | .0425 | .0004 | -.0001 |
| #2 | -.0049 | -.0598 | .0041 | .0095 | .2686 | .0479 | -.0006 | -.0001 |
| #3 | -.0053 | -.0609 | .0022 | .0262 | .2881 | .0419 | -.0006 | .0001 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0031** | **.0002** | **-.0002** | **-.0000** | **-.0001** | **-.0000** | **.0013** | **-.0013** |
| Stddev | .0007 | .0001 | .0001 | .0003 | .0009 | .0000 | .0017 | .0009 |
| %RSD | 20.78 | 24.25 | 62.67 | 1103. | 598.9 | 99.25 | 127.6 | 68.67 |
| #1 | .0029 | .0002 | -.0003 | .0002 | -.0012 | -.0001 | .0017 | -.0020 |
| #2 | .0026 | .0002 | -.0001 | -.0003 | .0002 | .0000 | .0029 | -.0003 |
| #3 | .0039 | .0003 | -.0002 | -.0000 | .0005 | -.0001 | -.0005 | -.0016 |



Zoom In
Zoom Out

Sample Name: ASCONF Acquired: 5/1/2019 13:50:58 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **-.0142** | **-.0021** |
| Stddev | .0004 | .0010 |
| %RSD | 3.037 | 47.93 |
| #1 | -.0145 | -.0032 |
| #2 | -.0145 | -.0015 |
| #3 | -.0137 | -.0015 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146980.** | **24310.** | **5958.9** | **9929.7** |
| Stddev | 583. | 50. | 5.1 | 1.7 |
| %RSD | .39654 | .20639 | .08617 | .01751 |
| #1 | 147330. | 24315. | 5961.7 | 9928.9 |
| #2 | 146300. | 24357. | 5952.9 | 9928.6 |
| #3 | 147300. | 24257. | 5961.9 | 9931.7 |



Zoom In
Zoom Out

Sample Name: CCV Acquired: 5/1/2019 13:56:03 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.044** | **2.098** | **2.044** | **2.064** | **2.053** | **2.031** | **2.072** | **2.064** | **.2553** |
| Stddev | .004 | .002 | .002 | .003 | .004 | .004 | .020 | .003 | .0005 |
| %RSD | .1998 | .1109 | .1127 | .1208 | .2051 | .1773 | .9473 | .1499 | .1930 |
| #1 | 2.040 | 2.097 | 2.046 | 2.064 | 2.054 | 2.035 | 2.068 | 2.063 | .2552 |
| #2 | 2.044 | 2.101 | 2.045 | 2.066 | 2.049 | 2.028 | 2.055 | 2.067 | .2548 |
| #3 | 2.048 | 2.096 | 2.041 | 2.061 | 2.057 | 2.031 | 2.093 | 2.061 | .2558 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.041** | **2.065** | **2.012** | **2.120** | **2.058** | **2.040** | **2.020** | **40.99** | **41.12** |
| Stddev | .003 | .001 | .001 | .010 | .004 | .002 | .004 | .03 | .07 |
| %RSD | .1545 | .0452 | .0709 | .4926 | .2030 | .0906 | .2201 | .0705 | .1642 |
| #1 | 2.041 | 2.066 | 2.014 | 2.112 | 2.061 | 2.037 | 2.025 | 40.97 | 41.05 |
| #2 | 2.038 | 2.065 | 2.011 | 2.132 | 2.060 | 2.041 | 2.020 | 41.02 | 41.18 |
| #3 | 2.044 | 2.065 | 2.011 | 2.115 | 2.053 | 2.040 | 2.016 | 40.97 | 41.15 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.04** | **40.97** | **41.07** | **41.09** | **2.063** | **2.037** | **5.079** | **2.058** | **2.070** |
| Stddev | .04 | .03 | .13 | .05 | .002 | .001 | .034 | .002 | .004 |
| %RSD | .0885 | .0802 | .3183 | .1177 | .0831 | .0431 | .6611 | .0765 | .1672 |
| #1 | 41.01 | 41.00 | 41.18 | 41.04 | 2.064 | 2.037 | 5.058 | 2.060 | 2.066 |
| #2 | 41.08 | 40.98 | 41.11 | 41.13 | 2.061 | 2.037 | 5.061 | 2.059 | 2.073 |
| #3 | 41.02 | 40.94 | 40.93 | 41.10 | 2.064 | 2.036 | 5.118 | 2.057 | 2.072 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/1/2019 13:56:03 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.017** | **1.979** | **2.020** | **2.041** | **2.047** | **2.051** | **2.029** |
| Stddev | .002 | .002 | .002 | .005 | .004 | .007 | .012 |
| %RSD | .0833 | .1181 | .1139 | .2540 | .1911 | .3619 | .5818 |
| #1 | 2.016 | 1.982 | 2.021 | 2.037 | 2.051 | 2.043 | 2.017 |
| #2 | 2.016 | 1.978 | 2.017 | 2.039 | 2.048 | 2.053 | 2.040 |
| #3 | 2.019 | 1.978 | 2.021 | 2.047 | 2.043 | 2.058 | 2.030 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **136220.** | **23525.** | **5613.8** | **8950.2** |
| Stddev | 707. | 80. | 8.9 | 8.3 |
| %RSD | .51866 | .33992 | .15912 | .09289 |
| #1 | 136820. | 23522. | 5605.4 | 8940.6 |
| #2 | 136410. | 23447. | 5623.2 | 8956.0 |
| #3 | 135440. | 23607. | 5612.8 | 8953.9 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/1/2019 14:01:05 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0000** | **.0001** | **.0001** | **-.0001** | **.0005** | **.0000** | **-.0001** |
| Stddev | .0002 | .0000 | .0001 | .0001 | .0002 | .0002 | .0000 | .0004 |
| %RSD | 1780. | 258.9 | 43.48 | 64.36 | 154.1 | 38.14 | 49.49 | 380.0 |
| #1 | .0002 | -.0000 | .0002 | .0000 | .0001 | .0003 | .0001 | .0001 |
| #2 | -.0001 | .0000 | .0001 | .0001 | -.0002 | .0006 | .0000 | -.0006 |
| #3 | -.0000 | -.0000 | .0002 | .0001 | -.0003 | .0007 | .0000 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0003** | **-.0005** | **.0010** | **-.0002** | **-.0001** | **-.0016** | **.0011** |
| Stddev | .0001 | .0004 | .0001 | .0003 | .0002 | .0013 | .0012 | .0012 |
| %RSD | 33.83 | 121.9 | 12.57 | 29.14 | 93.48 | 907.5 | 74.96 | 107.8 |
| #1 | .0001 | .0005 | -.0005 | .0013 | -.0003 | -.0002 | -.0007 | .0020 |
| #2 | .0003 | -.0001 | -.0005 | .0007 | .0000 | -.0014 | -.0011 | -.0002 |
| #3 | .0002 | .0006 | -.0006 | .0010 | -.0003 | .0012 | -.0029 | .0015 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0021** | **-.0019** | **.0013** | **.0064** | **.1960** | **.0381** | **.0014** | **.0001** |
| Stddev | .0132 | .0019 | .0009 | .0087 | .0147 | .0046 | .0003 | .0002 |
| %RSD | 623.8 | 100.4 | 65.66 | 136.0 | 7.485 | 11.98 | 23.08 | 160.4 |
| #1 | -.0161 | -.0021 | .0006 | .0047 | .1875 | .0427 | .0017 | -.0000 |
| #2 | -.0003 | -.0037 | .0011 | -.0013 | .2129 | .0381 | .0011 | .0004 |
| #3 | .0100 | .0001 | .0023 | .0158 | .1875 | .0336 | .0013 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/1/2019 14:01:05 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0000** | **.0001** | **.0003** | **-.0002** | **.0001** | **.0003** | **-.0014** |
| Stddev | .0003 | .0003 | .0000 | .0003 | .0001 | .0002 | .0025 | .0012 |
| %RSD | 24.65 | 921.5 | 13.25 | 101.5 | 41.50 | 321.6 | 964.0 | 84.40 |
| #1 | .0014 | -.0000 | .0001 | .0004 | -.0002 | -.0002 | .0013 | -.0004 |
| #2 | .0015 | -.0002 | .0001 | -.0000 | -.0002 | .0002 | -.0026 | -.0026 |
| #3 | .0009 | .0004 | .0001 | .0004 | -.0001 | .0002 | .0021 | -.0011 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0115** | **-.0024** |
| Stddev | .0004 | .0022 |
| %RSD | 3.306 | 91.24 |
| #1 | -.0113 | -.0049 |
| #2 | -.0119 | -.0020 |
| #3 | -.0112 | -.0005 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145440.** | **23815.** | **5862.5** | **9796.8** |
| Stddev | 603. | 61. | 14.2 | 10.4 |
| %RSD | .41431 | .25445 | .24147 | .10622 |
| #1 | 145780. | 23860. | 5846.4 | 9787.6 |
| #2 | 144750. | 23746. | 5873.0 | 9808.1 |
| #3 | 145800. | 23839. | 5868.1 | 9794.7 |



Zoom In Zoom Out

Sample Name: MP14600-MB1conf Acquired: 5/1/2019 14:06:12 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0000** | **.0000** | **.0001** | **.0009** | **.0018** | **.0022** | **.0009** | **.0001** |
| Stddev | .0004 | .0000 | .0002 | .0002 | .0003 | .0007 | .0000 | .0003 | .0001 |
| %RSD | 141.4 | 649.2 | 542.3 | 287.5 | 27.16 | 36.90 | 1.731 | 29.33 | 174.5 |
| #1 | .0007 | .0000 | .0002 | -.0001 | .0008 | .0023 | .0022 | .0012 | .0001 |
| #2 | .0000 | -.0000 | -.0002 | .0002 | .0012 | .0011 | .0022 | .0010 | .0001 |
| #3 | .0001 | .0000 | .0002 | .0001 | .0008 | .0021 | .0022 | .0006 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0071** | **.0002** | **-.0003** | **-.0002** | **.0011** | **-.0004** | **.1026** | **.0750** |
| Stddev | .0001 | .0001 | .0015 | .0011 | .0001 | .0009 | .0002 | .0070 | .0013 |
| %RSD | 54.09 | 1.263 | 962.8 | 337.1 | 72.92 | 83.44 | 58.70 | 6.851 | 1.776 |
| #1 | .0003 | .0071 | -.0006 | .0005 | -.0001 | .0019 | -.0003 | .1105 | .0763 |
| #2 | .0003 | .0070 | .0018 | -.0016 | -.0003 | .0011 | -.0006 | .1000 | .0750 |
| #3 | .0001 | .0071 | -.0008 | .0001 | -.0001 | .0002 | -.0002 | .0971 | .0737 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1563** | **.0665** | **.1291** | **.0776** | **.0007** | **.0003** | **.0211** | **.0194** | **.0005** |
| Stddev | .0004 | .0157 | .0491 | .0098 | .0003 | .0001 | .0010 | .0004 | .0000 |
| %RSD | .2547 | 23.65 | 38.05 | 12.67 | 42.48 | 45.61 | 4.548 | 2.034 | 9.411 |
| #1 | .1562 | .0508 | .1703 | .0836 | .0007 | .0003 | .0206 | .0199 | .0005 |
| #2 | .1559 | .0663 | .1422 | .0831 | .0010 | .0002 | .0222 | .0192 | .0004 |
| #3 | .1567 | .0823 | .0747 | .0663 | .0004 | .0004 | .0205 | .0192 | .0005 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0022** | **.0016** | **.0003** | **.0111** | **-.0017** | **-.0096** | **.0227** |
| Stddev | .0003 | .0006 | .0003 | .0012 | .0010 | .0020 | .0003 |
| %RSD | 12.60 | 35.76 | 83.40 | 10.39 | 57.70 | 20.64 | 1.268 |
| #1 | .0024 | .0017 | .0002 | .0115 | -.0020 | -.0093 | .0228 |
| #2 | .0019 | .0021 | .0002 | .0120 | -.0006 | -.0118 | .0224 |
| #3 | .0023 | .0010 | .0006 | .0098 | -.0024 | -.0079 | .0229 |

Zoom In Zoom Out

Sample Name: MP14600-MB1conf Acquired: 5/1/2019 14:06:12 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149420.** | **24668.** | **6011.5** | **9966.9** |
| Stddev | 421. | 86. | 4.1 | 5.3 |
| %RSD | .28156 | .34732 | .06820 | .05298 |
| #1 | 148970. | 24570. | 6014.2 | 9963.7 |
| #2 | 149500. | 24716. | 6013.5 | 9973.0 |
| #3 | 149800. | 24719. | 6006.8 | 9964.0 |



Zoom In Zoom Out

Sample Name: MP14600-B1 7 Acquired: 5/1/2019 14:11:18 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.066** | **2.123** | **2.043** | **2.085** | **2.060** | **2.055** | **2.061** | **2.084** | **.2547** |
| Stddev | .001 | .005 | .001 | .002 | .004 | .002 | .016 | .002 | .0002 |
| %RSD | .0312 | .2301 | .0557 | .0822 | .2156 | .1174 | .7908 | .0734 | .0723 |
| #1 | 2.066 | 2.127 | 2.043 | 2.083 | 2.060 | 2.054 | 2.057 | 2.082 | .2546 |
| #2 | 2.065 | 2.117 | 2.045 | 2.085 | 2.065 | 2.058 | 2.079 | 2.085 | .2549 |
| #3 | 2.066 | 2.124 | 2.042 | 2.086 | 2.056 | 2.055 | 2.047 | 2.085 | .2545 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.043** | **2.082** | **1.966** | **2.141** | **2.078** | **2.015** | **1.978** | **25.45** | **25.76** |
| Stddev | .002 | .003 | .003 | .004 | .002 | .002 | .003 | .04 | .04 |
| %RSD | .1067 | .1417 | .1732 | .1636 | .0904 | .1116 | .1390 | .1417 | .1658 |
| #1 | 2.045 | 2.082 | 1.969 | 2.145 | 2.076 | 2.017 | 1.978 | 25.46 | 25.80 |
| #2 | 2.044 | 2.085 | 1.962 | 2.139 | 2.078 | 2.015 | 1.980 | 25.41 | 25.71 |
| #3 | 2.041 | 2.079 | 1.965 | 2.139 | 2.079 | 2.013 | 1.974 | 25.48 | 25.76 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.69** | **25.66** | **25.51** | **25.88** | **2.021** | **2.005** | **.0186** | **2.058** | **2.095** |
| Stddev | .04 | .02 | .10 | .02 | .005 | .002 | .0011 | .003 | .002 |
| %RSD | .1505 | .0710 | .3820 | .0774 | .2503 | .1153 | 6.033 | .1613 | .1161 |
| #1 | 25.72 | 25.64 | 25.53 | 25.87 | 2.015 | 2.005 | .0195 | 2.062 | 2.098 |
| #2 | 25.65 | 25.68 | 25.41 | 25.87 | 2.023 | 2.008 | .0190 | 2.056 | 2.094 |
| #3 | 25.69 | 25.66 | 25.60 | 25.91 | 2.025 | 2.003 | .0174 | 2.056 | 2.094 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.998** | **1.636** | **1.988** | **.0173** | **.0685** | **-.0072** | **1.967** |
| Stddev | .000 | .002 | .001 | .0010 | .0012 | .0011 | .007 |
| %RSD | .0082 | .1277 | .0645 | 5.496 | 1.740 | 14.98 | .3525 |
| #1 | 1.998 | 1.634 | 1.988 | .0164 | .0697 | -.0083 | 1.973 |
| #2 | 1.998 | 1.638 | 1.989 | .0171 | .0674 | -.0062 | 1.969 |
| #3 | 1.998 | 1.635 | 1.987 | .0183 | .0684 | -.0072 | 1.960 |



Zoom In Zoom Out

Sample Name: MP14600-B1 7 Acquired: 5/1/2019 14:11:18 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142340.** | **24070.** | **5769.8** | **9241.7** |
| Stddev | 441. | 38. | 18.1 | 18.7 |
| %RSD | .30995 | .15695 | .31400 | .20201 |
| #1 | 142850. | 24106. | 5760.2 | 9230.8 |
| #2 | 142110. | 24074. | 5758.4 | 9231.0 |
| #3 | 142070. | 24030. | 5790.7 | 9263.3 |



Zoom In Zoom Out

Sample Name: MP14600-S1 Acquired: 5/1/2019 14:16:17 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.490** | **2.006** | **1.979** | **1.801** | **3.022** | **1.944** | **3.692** | **1.934** | **.2171** |
| Stddev | .008 | .005 | .016 | .012 | .088 | .043 | .095 | .013 | .0040 |
| %RSD | .3049 | .2635 | .8227 | .6493 | 2.909 | 2.240 | 2.585 | .6548 | 1.822 |
| #1 | 2.484 | 2.005 | 1.967 | 1.791 | 3.042 | 1.950 | 3.682 | 1.923 | .2141 |
| #2 | 2.498 | 2.012 | 1.998 | 1.814 | 3.099 | 1.985 | 3.792 | 1.948 | .2157 |
| #3 | 2.488 | 2.001 | 1.972 | 1.798 | 2.926 | 1.898 | 3.602 | 1.931 | .2216 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.772** | **2.985** | **2.144** | **1.711** | **1.834** | **1.855** | **1.023** | **194.7** | **38.44** |
| Stddev | .105 | .026 | .017 | .010 | .012 | .016 | .009 | 2.5 | .08 |
| %RSD | 2.775 | .8797 | .7952 | .5946 | .6264 | .8665 | .9092 | 1.291 | .2104 |
| #1 | 3.792 | 2.969 | 2.128 | 1.701 | 1.825 | 1.836 | 1.016 | 192.4 | 38.40 |
| #2 | 3.864 | 3.015 | 2.162 | 1.721 | 1.847 | 1.865 | 1.033 | 197.4 | 38.53 |
| #3 | 3.658 | 2.970 | 2.143 | 1.709 | 1.831 | 1.863 | 1.019 | 194.5 | 38.38 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **1051.** | **54.71** | **80.31** | **26.13** | **2.201** | **1.846** | **3.613** | **1.785** | **2.163** |
| Stddev | 13. | .15 | .27 | .09 | .020 | .016 | .032 | .015 | .004 |
| %RSD | 1.277 | .2718 | .3345 | .3377 | .8936 | .8445 | .8886 | .8159 | .1813 |
| #1 | 1038. | 54.60 | 80.19 | 26.04 | 2.186 | 1.833 | 3.584 | 1.776 | 2.161 |
| #2 | 1049. | 54.88 | 80.62 | 26.22 | 2.223 | 1.863 | 3.648 | 1.802 | 2.168 |
| #3 | 1065. | 54.65 | 80.13 | 26.13 | 2.194 | 1.840 | 3.607 | 1.777 | 2.161 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.666** | **1.444** | **1.866** | **2.575** | **.2260** | **.0415** | F **18.82** |
| Stddev | .152 | .012 | .048 | .021 | .0125 | .0012 | .14 |
| %RSD | 2.690 | .8062 | 2.563 | .8187 | 5.523 | 2.990 | .7278 |
| #1 | 5.697 | 1.436 | 1.877 | 2.554 | .2285 | .0426 | 18.73 |
| #2 | 5.801 | 1.458 | 1.908 | 2.596 | .2370 | .0402 | 18.97 |
| #3 | 5.501 | 1.439 | 1.814 | 2.576 | .2124 | .0418 | 18.75 |

Zoom In Zoom Out

Sample Name: MP14600-S1 Acquired: 5/1/2019 14:16:17 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141060.** | **25073.** | **5722.1** | **10003.** |
| Stddev | 3992. | 95. | 52.8 | 64. |
| %RSD | 2.8300 | .37792 | .92234 | .63875 |
| #1 | 140180. | 25178. | 5734.8 | 10021. |
| #2 | 137590. | 25048. | 5664.1 | 9931.9 |
| #3 | 145420. | 24994. | 5767.3 | 10056. |



Zoom In Zoom Out

Sample Name: MP14600-S2 Acquired: 5/1/2019 14:21:33 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.475** | **1.962** | **1.949** | **1.788** | **2.949** | **1.939** | **3.710** | **1.922** | **.2250** |
| Stddev | .005 | .002 | .007 | .004 | .004 | .006 | .015 | .002 | .0056 |
| %RSD | .2068 | .1050 | .3414 | .2134 | .1304 | .3298 | .4145 | .1023 | 2.487 |
| #1 | 2.471 | 1.961 | 1.941 | 1.783 | 2.952 | 1.947 | 3.720 | 1.920 | .2312 |
| #2 | 2.481 | 1.965 | 1.951 | 1.790 | 2.944 | 1.936 | 3.692 | 1.924 | .2237 |
| #3 | 2.474 | 1.961 | 1.954 | 1.790 | 2.950 | 1.935 | 3.718 | 1.921 | .2202 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.689** | **2.929** | **2.124** | **1.696** | **1.823** | **1.832** | **1.007** | **193.7** | **48.77** |
| Stddev | .006 | .007 | .002 | .005 | .001 | .005 | .002 | 3.3 | .07 |
| %RSD | .1555 | .2272 | .0741 | .3254 | .0688 | .2970 | .1938 | 1.698 | .1453 |
| #1 | 3.696 | 2.921 | 2.122 | 1.701 | 1.822 | 1.836 | 1.005 | 196.7 | 48.81 |
| #2 | 3.686 | 2.931 | 2.124 | 1.697 | 1.825 | 1.834 | 1.007 | 194.1 | 48.82 |
| #3 | 3.686 | 2.934 | 2.125 | 1.690 | 1.823 | 1.826 | 1.009 | 190.2 | 48.69 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **1020.** | **56.90** | **79.41** | **25.93** | **2.165** | **1.836** | **4.047** | **1.778** | **2.157** |
| Stddev | 20. | .14 | .20 | .04 | .006 | .004 | .007 | .004 | .003 |
| %RSD | 1.926 | .2442 | .2504 | .1404 | .2827 | .2117 | .1799 | .2203 | .1191 |
| #1 | 1040. | 57.04 | 79.33 | 25.93 | 2.159 | 1.832 | 4.039 | 1.774 | 2.155 |
| #2 | 1017. | 56.91 | 79.64 | 25.97 | 2.165 | 1.837 | 4.050 | 1.777 | 2.160 |
| #3 | 1001. | 56.76 | 79.27 | 25.90 | 2.172 | 1.840 | 4.053 | 1.782 | 2.156 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.621** | **1.464** | **1.875** | **2.043** | **.2123** | **.0409** | F **18.08** |
| Stddev | .009 | .004 | .003 | .005 | .0011 | .0012 | .30 |
| %RSD | .1504 | .2586 | .1840 | .2648 | .5204 | 2.973 | 1.634 |
| #1 | 5.630 | 1.460 | 1.879 | 2.047 | .2130 | .0403 | 18.32 |
| #2 | 5.619 | 1.467 | 1.874 | 2.046 | .2110 | .0402 | 18.17 |
| #3 | 5.613 | 1.465 | 1.873 | 2.037 | .2128 | .0423 | 17.75 |



Zoom In Zoom Out

Sample Name: MP14600-S2 Acquired: 5/1/2019 14:21:33 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **139340.** | **24866.** | **5699.4** | **9891.6** |
| Stddev | 163. | 217. | 15.8 | 12.1 |
| %RSD | .11684 | .87457 | .27713 | .12251 |
| #1 | 139290. | 24617. | 5711.7 | 9893.2 |
| #2 | 139200. | 24961. | 5704.9 | 9902.8 |
| #3 | 139520. | 25019. | 5681.6 | 9878.7 |



Zoom In Zoom Out

Sample Name: JC86989-3 Acquired: 5/1/2019 14:26:48 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5080** | **.0155** | **.0072** | **.0887** | **1.095** | ***** | **1.824** | **.2197** |
| Stddev | .0009 | .0001 | .0002 | .0003 | .000 | ----- | .004 | .0006 |
| %RSD | .1743 | .4735 | 2.213 | .3021 | .0312 | ----- | .2321 | .2700 |
| #1 | .5090 | .0156 | .0072 | .0891 | 1.095 | ----- | 1.827 | .2192 |
| #2 | .5078 | .0154 | .0073 | .0886 | 1.095 | ----- | 1.819 | .2203 |
| #3 | .5073 | .0155 | .0070 | .0886 | 1.095 | ----- | 1.824 | .2195 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **1.875** | **1.163** | **.2352** | F **-.1095** | **.1765** | F **-.2171** | **.0841** |
| Stddev | ----- | .001 | .001 | .0014 | .0017 | .0011 | .0016 | .0014 |
| %RSD | ----- | .0402 | .0916 | .6147 | 1.554 | .6246 | .7290 | 1.613 |
| #1 | ----- | 1.875 | 1.164 | .2343 | -.1100 | .1768 | -.2159 | .0826 |
| #2 | ----- | 1.876 | 1.162 | .2369 | -.1108 | .1753 | -.2165 | .0847 |
| #3 | ----- | 1.874 | 1.163 | .2345 | -.1076 | .1775 | -.2189 | .0851 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **160.0** | **14.69** | F **1074.** | **30.51** | **52.46** | **1.255** | **.3642** | **-.0064** |
| Stddev | .0 | .01 | 6. | .03 | .07 | .005 | .0009 | .0002 |
| %RSD | .0219 | .0610 | .5252 | .1143 | .1320 | .4226 | .2587 | 3.414 |
| #1 | 160.0 | 14.69 | 1068. | 30.55 | 52.38 | 1.256 | .3652 | -.0062 |
| #2 | 160.0 | 14.68 | 1075. | 30.50 | 52.51 | 1.250 | .3634 | -.0064 |
| #3 | 160.0 | 14.70 | 1079. | 30.49 | 52.49 | 1.260 | .3640 | -.0066 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.779** | **.0196** | **.1541** | **3.509** | **.0183** | **.0037** | **2.175** | **.0997** |
| Stddev | .008 | .0005 | .0001 | .000 | .0008 | .0001 | .008 | .0006 |
| %RSD | .2834 | 2.696 | .0451 | .0109 | 4.487 | 3.705 | .3799 | .6499 |
| #1 | 2.785 | .0191 | .1541 | 3.509 | .0175 | .0036 | 2.184 | .1001 |
| #2 | 2.781 | .0197 | .1540 | 3.509 | .0182 | .0037 | 2.175 | .0990 |
| #3 | 2.770 | .0201 | .1542 | 3.509 | .0192 | .0038 | 2.168 | .1002 |

Zoom In Zoom Out

Sample Name: JC86989-3 Acquired: 5/1/2019 14:26:48 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0815** | F **16.45** |
| Stddev | .0007 | .08 |
| %RSD | .8118 | .5064 |
| #1 | .0812 | 16.53 |
| #2 | .0823 | 16.45 |
| #3 | .0810 | 16.36 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **140970.** | **25034.** | **5817.1** | **10121.** |
| Stddev | 496. | 221. | 13.4 | 15. |
| %RSD | .35166 | .88224 | .22975 | .14563 |
| #1 | 140600. | 24836. | 5814.1 | 10124. |
| #2 | 141530. | 25272. | 5831.7 | 10135. |
| #3 | 140780. | 24993. | 5805.4 | 10105. |



Zoom In Zoom Out

Sample Name: MP14600-SD1 Acquired: 5/1/2019 14:31:59 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5225** | **.0150** | **.0078** | **.1005** | **1.157** | ***** | **1.931** | **.2575** |
| Stddev | .0014 | .0002 | .0002 | .0006 | .008 | ----- | .016 | .0009 |
| %RSD | .2628 | 1.228 | 1.986 | .6076 | .6729 | ----- | .8476 | .3363 |
| #1 | .5223 | .0150 | .0079 | .1002 | 1.159 | ----- | 1.939 | .2575 |
| #2 | .5213 | .0148 | .0079 | .1001 | 1.149 | ----- | 1.912 | .2565 |
| #3 | .5240 | .0152 | .0076 | .1012 | 1.164 | ----- | 1.941 | .2583 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.3002** | **1.943** | **1.258** | **.2328** | F **-.1251** | **.2018** | F **-.2305** | **.0927** |
| Stddev | .0045 | .017 | .001 | .0021 | .0019 | .0051 | .0082 | .0058 |
| %RSD | 1.500 | .8581 | .1132 | .9184 | 1.558 | 2.539 | 3.570 | 6.239 |
| #1 | -.3044 | 1.950 | 1.260 | .2322 | -.1256 | .2055 | -.2222 | .0986 |
| #2 | -.2954 | 1.923 | 1.257 | .2352 | -.1230 | .1960 | -.2386 | .0924 |
| #3 | -.3007 | 1.954 | 1.259 | .2310 | -.1269 | .2040 | -.2308 | .0870 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **165.9** | **15.69** | F **1325.** | **33.42** | **55.70** | **1.399** | **.3929** | **-.0080** |
| Stddev | .4 | .07 | 30. | .15 | .08 | .010 | .0038 | .0006 |
| %RSD | .2267 | .4409 | 2.240 | .4493 | .1494 | .7307 | .9697 | 7.800 |
| #1 | 166.2 | 15.76 | 1349. | 33.59 | 55.71 | 1.410 | .3973 | -.0076 |
| #2 | 165.5 | 15.62 | 1292. | 33.29 | 55.62 | 1.389 | .3908 | -.0077 |
| #3 | 166.1 | 15.68 | 1334. | 33.39 | 55.78 | 1.398 | .3905 | -.0087 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.899** | **.0206** | **.1597** | **3.602** | **.0262** | **-.0014** | **2.253** | **.0823** |
| Stddev | .007 | .0049 | .0002 | .032 | .0110 | .0007 | .009 | .0058 |
| %RSD | .2358 | 23.76 | .1180 | .8810 | 41.86 | 51.32 | .3810 | 7.020 |
| #1 | 2.892 | .0220 | .1597 | 3.622 | .0324 | -.0006 | 2.245 | .0762 |
| #2 | 2.905 | .0152 | .1595 | 3.565 | .0135 | -.0020 | 2.262 | .0877 |
| #3 | 2.901 | .0247 | .1599 | 3.619 | .0327 | -.0016 | 2.251 | .0832 |



Zoom In Zoom Out

Sample Name: MP14600-SD1 Acquired: 5/1/2019 14:31:59 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0249** | **17.12** |
| Stddev | .0023 | .11 |
| %RSD | 9.142 | .6609 |
| #1 | .0274 | 17.15 |
| #2 | .0242 | 17.20 |
| #3 | .0230 | 16.99 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142070.** | **23899.** | **5858.8** | **9644.7** |
| Stddev | 1060. | 218. | 18.8 | 21.9 |
| %RSD | .74608 | .91118 | .32103 | .22743 |
| #1 | 142190. | 23669. | 5837.1 | 9619.9 |
| #2 | 143060. | 24101. | 5870.4 | 9652.9 |
| #3 | 140950. | 23929. | 5868.9 | 9661.4 |



Zoom In Zoom Out

Sample Name: JC86989-1 Acquired: 5/1/2019 14:37:06 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3829** | **.0116** | **.0020** | **.0765** | **.8406** | ***** | **1.269** | **.1802** |
| Stddev | .0003 | .0001 | .0001 | .0003 | .0029 | ----- | .003 | .0003 |
| %RSD | .0660 | .9370 | 4.793 | .3632 | .3473 | ----- | .2477 | .1742 |
| #1 | .3827 | .0117 | .0020 | .0762 | .8439 | ----- | 1.272 | .1801 |
| #2 | .3832 | .0115 | .0021 | .0764 | .8384 | ----- | 1.267 | .1806 |
| #3 | .3828 | .0116 | .0019 | .0768 | .8394 | ----- | 1.267 | .1800 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **1.504** | **.8239** | **.1543** | F **-.0872** | **.2084** | F **-.1336** | **.0544** |
| Stddev | ----- | .005 | .0011 | .0003 | .0009 | .0003 | .0020 | .0007 |
| %RSD | ----- | .3189 | .1343 | .1712 | 1.051 | .1291 | 1.514 | 1.205 |
| #1 | ----- | 1.510 | .8248 | .1545 | -.0866 | .2087 | -.1321 | .0545 |
| #2 | ----- | 1.501 | .8227 | .1540 | -.0883 | .2082 | -.1359 | .0550 |
| #3 | ----- | 1.502 | .8241 | .1543 | -.0868 | .2084 | -.1328 | .0537 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **136.9** | **15.88** | F **705.8** | **33.64** | **43.81** | **1.313** | **.3596** | **-.0026** |
| Stddev | .3 | .05 | 13.1 | .10 | .07 | .004 | .0008 | .0003 |
| %RSD | .2233 | .3280 | 1.849 | .2864 | .1597 | .3009 | .2309 | 11.82 |
| #1 | 137.3 | 15.94 | 711.4 | 33.72 | 43.89 | 1.317 | .3591 | -.0024 |
| #2 | 136.7 | 15.85 | 715.2 | 33.53 | 43.77 | 1.309 | .3606 | -.0025 |
| #3 | 136.9 | 15.86 | 690.9 | 33.67 | 43.78 | 1.314 | .3592 | -.0029 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.960** | **.0168** | **.1459** | **3.421** | **.0144** | **.0276** | **1.281** | **-.0062** |
| Stddev | .001 | .0005 | .0004 | .007 | .0005 | .0001 | .002 | .0010 |
| %RSD | .0396 | 3.056 | .2547 | .1991 | 3.700 | .4510 | .1675 | 15.95 |
| #1 | 1.960 | .0174 | .1463 | 3.428 | .0145 | .0276 | 1.281 | -.0060 |
| #2 | 1.960 | .0165 | .1456 | 3.421 | .0139 | .0276 | 1.284 | -.0073 |
| #3 | 1.961 | .0165 | .1457 | 3.415 | .0149 | .0278 | 1.280 | -.0054 |

Zoom In
Zoom Out

Sample Name: JC86989-1 Acquired: 5/1/2019 14:37:06 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0771** | F **11.03** |
| Stddev | .0008 | .09 |
| %RSD | 1.059 | .8074 |
| #1 | .0762 | 11.06 |
| #2 | .0773 | 10.93 |
| #3 | .0778 | 11.11 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **143380.** | **25126.** | **5916.2** | **9833.8** |
| Stddev | 635. | 226. | 11.3 | 19.2 |
| %RSD | .44314 | .90144 | .19157 | .19569 |
| #1 | 142710. | 25073. | 5913.5 | 9837.1 |
| #2 | 143970. | 24930. | 5928.7 | 9851.1 |
| #3 | 143470. | 25374. | 5906.5 | 9813.1 |



Zoom In
Zoom Out

Sample Name: JC86989-2 Acquired: 5/1/2019 14:42:09 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3739** | **.0126** | **.0047** | **.0783** | **.8761** | ***** | **1.258** | **.1843** |
| Stddev | .0093 | .0004 | .0001 | .0003 | .0021 | ----- | .001 | .0009 |
| %RSD | 2.496 | 2.928 | 2.712 | .4152 | .2445 | ----- | .0972 | .4822 |
| #1 | .3846 | .0130 | .0047 | .0787 | .8782 | ----- | 1.259 | .1849 |
| #2 | .3672 | .0123 | .0047 | .0782 | .8762 | ----- | 1.257 | .1833 |
| #3 | .3699 | .0124 | .0045 | .0781 | .8739 | ----- | 1.258 | .1848 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **1.615** | **1.010** | **.1921** | F **-.0966** | **.1512** | F **-.1840** | **.0704** |
| Stddev | ----- | .002 | .008 | .0024 | .0015 | .0024 | .0013 | .0007 |
| %RSD | ----- | .1023 | .7882 | 1.250 | 1.604 | 1.573 | .7178 | .9487 |
| #1 | ----- | 1.616 | 1.015 | .1946 | -.0981 | .1536 | -.1830 | .0703 |
| #2 | ----- | 1.613 | 1.001 | .1898 | -.0950 | .1513 | -.1836 | .0711 |
| #3 | ----- | 1.614 | 1.014 | .1919 | -.0965 | .1488 | -.1855 | .0698 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **130.3** | **9.278** | F **951.5** | **25.02** | **43.57** | **.8937** | **.2965** | **-.0060** |
| Stddev | 3.6 | .260 | 12.8 | .70 | 1.18 | .0153 | .0027 | .0006 |
| %RSD | 2.769 | 2.807 | 1.344 | 2.785 | 2.698 | 1.712 | .9170 | 9.837 |
| #1 | 134.5 | 9.578 | 964.9 | 25.82 | 44.92 | .9090 | .2985 | -.0060 |
| #2 | 128.1 | 9.109 | 950.1 | 24.56 | 42.76 | .8935 | .2934 | -.0054 |
| #3 | 128.4 | 9.147 | 939.4 | 24.68 | 43.04 | .8785 | .2976 | -.0066 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.242** | **.0179** | **.1138** | **2.869** | **.0144** | **.0059** | **.6326** | **.0860** |
| Stddev | .016 | .0006 | .0031 | .003 | .0005 | .0001 | .0077 | .0023 |
| %RSD | .7211 | 3.265 | 2.691 | .1068 | 3.469 | 2.396 | 1.220 | 2.719 |
| #1 | 2.251 | .0184 | .1173 | 2.871 | .0141 | .0061 | .6365 | .0854 |
| #2 | 2.223 | .0180 | .1118 | 2.865 | .0141 | .0059 | .6237 | .0841 |
| #3 | 2.252 | .0172 | .1124 | 2.870 | .0149 | .0058 | .6377 | .0886 |



Zoom In
Zoom Out

Sample Name: JC86989-2 Acquired: 5/1/2019 14:42:09 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0778** | F **12.29** |
| Stddev | .0034 | .18 |
| %RSD | 4.399 | 1.465 |
| #1 | .0814 | 12.33 |
| #2 | .0774 | 12.10 |
| #3 | .0746 | 12.45 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141230.** | **24493.** | **5843.7** | **10044.** |
| Stddev | 406. | 767. | 36.6 | 43. |
| %RSD | .28757 | 3.1331 | .62717 | .43137 |
| #1 | 140970. | 23613. | 5831.8 | 10032. |
| #2 | 141700. | 25021. | 5884.8 | 10091. |
| #3 | 141020. | 24846. | 5814.5 | 10007. |



Zoom In
Zoom Out

Sample Name: JC86989-4 Acquired: 5/1/2019 14:47:11 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5685** | **.0182** | **.0029** | **.1052** | **1.470** | ***** | **1.040** | **.2305** |
| Stddev | .0002 | .0001 | .0003 | .0004 | .007 | ----- | .003 | .0004 |
| %RSD | .0437 | .4067 | 10.08 | .3909 | .4855 | ----- | .2860 | .1771 |
| #1 | .5683 | .0182 | .0030 | .1049 | 1.474 | ----- | 1.043 | .2301 |
| #2 | .5687 | .0181 | .0032 | .1051 | 1.474 | ----- | 1.041 | .2305 |
| #3 | .5683 | .0182 | .0026 | .1057 | 1.461 | ----- | 1.037 | .2309 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **2.486** | **1.247** | **.2218** | F **-.1386** | **.2078** | F **-.2278** | **.0928** |
| Stddev | ----- | .007 | .003 | .0010 | .0010 | .0012 | .0045 | .0019 |
| %RSD | ----- | .2894 | .2078 | .4335 | .7529 | .5717 | 1.995 | 2.101 |
| #1 | ----- | 2.493 | 1.248 | .2225 | -.1377 | .2073 | -.2284 | .0906 |
| #2 | ----- | 2.486 | 1.249 | .2221 | -.1385 | .2070 | -.2321 | .0937 |
| #3 | ----- | 2.479 | 1.244 | .2207 | -.1397 | .2092 | -.2230 | .0942 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **172.7** | **12.97** | F **1119.** | **34.69** | **67.23** | **1.189** | **.4573** | **-.0082** |
| Stddev | .9 | .01 | 6. | .03 | .09 | .003 | .0001 | .0002 |
| %RSD | .5184 | .0656 | .5595 | .0999 | .1402 | .2188 | .0153 | 2.460 |
| #1 | 173.3 | 12.98 | 1124. | 34.73 | 67.32 | 1.187 | .4574 | -.0082 |
| #2 | 171.7 | 12.96 | 1122. | 34.66 | 67.24 | 1.188 | .4573 | -.0084 |
| #3 | 173.2 | 12.96 | 1112. | 34.69 | 67.13 | 1.192 | .4574 | -.0080 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.694** | **.0201** | **.1296** | **3.975** | **.0188** | **.0173** | **1.274** | **.0980** |
| Stddev | .144 | .0006 | .0003 | .007 | .0014 | .0002 | .009 | .0025 |
| %RSD | 5.361 | 2.899 | .2335 | .1763 | 7.556 | 1.104 | .7208 | 2.587 |
| #1 | 2.861 | .0197 | .1299 | 3.981 | .0204 | .0172 | 1.285 | .0970 |
| #2 | 2.617 | .0208 | .1297 | 3.976 | .0181 | .0171 | 1.269 | .0961 |
| #3 | 2.605 | .0198 | .1293 | 3.967 | .0178 | .0175 | 1.270 | .1009 |

Zoom In Zoom Out

Sample Name: JC86989-4 Acquired: 5/1/2019 14:47:11 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0761** | F **17.63** |
| Stddev | .0014 | .13 |
| %RSD | 1.878 | .7531 |
| #1 | .0777 | 17.78 |
| #2 | .0755 | 17.52 |
| #3 | .0750 | 17.59 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142280.** | **25094.** | **5857.5** | **10109.** |
| Stddev | 691. | 50. | 16.9 | 19. |
| %RSD | .48588 | .20054 | .28853 | .18409 |
| #1 | 141840. | 25132. | 5846.2 | 10100. |
| #2 | 141920. | 25113. | 5849.3 | 10096. |
| #3 | 143080. | 25037. | 5876.9 | 10130. |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/1/2019 14:52:16 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.067** | **2.097** | **2.059** | **2.085** | **2.068** | **2.056** | **2.080** | **2.091** | **.2572** |
| Stddev | .004 | .000 | .005 | .004 | .002 | .001 | .005 | .001 | .0004 |
| %RSD | .1956 | .0197 | .2639 | .1804 | .0842 | .0665 | .2315 | .0648 | .1666 |
| #1 | 2.064 | 2.097 | 2.065 | 2.089 | 2.067 | 2.055 | 2.076 | 2.093 | .2576 |
| #2 | 2.066 | 2.097 | 2.056 | 2.082 | 2.070 | 2.057 | 2.086 | 2.091 | .2574 |
| #3 | 2.072 | 2.098 | 2.056 | 2.084 | 2.067 | 2.054 | 2.078 | 2.090 | .2568 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.050** | **2.079** | **2.029** | **2.129** | **2.080** | **2.062** | **2.036** | **41.01** | **41.23** |
| Stddev | .000 | .005 | .006 | .007 | .005 | .006 | .005 | .05 | .00 |
| %RSD | .0184 | .2655 | .2877 | .3267 | .2203 | .2890 | .2598 | .1103 | .0045 |
| #1 | 2.050 | 2.085 | 2.035 | 2.137 | 2.085 | 2.069 | 2.042 | 40.97 | 41.23 |
| #2 | 2.050 | 2.076 | 2.025 | 2.124 | 2.077 | 2.058 | 2.032 | 40.99 | 41.24 |
| #3 | 2.051 | 2.076 | 2.026 | 2.125 | 2.078 | 2.059 | 2.033 | 41.06 | 41.24 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.36** | **41.08** | **41.39** | **41.34** | **2.085** | **2.047** | **5.100** | **2.070** | **2.103** |
| Stddev | .02 | .05 | .08 | .06 | .003 | .007 | .013 | .007 | .002 |
| %RSD | .0468 | .1291 | .1851 | .1366 | .1446 | .3264 | .2588 | .3234 | .0916 |
| #1 | 41.37 | 41.07 | 41.31 | 41.31 | 2.088 | 2.055 | 5.115 | 2.077 | 2.104 |
| #2 | 41.36 | 41.14 | 41.43 | 41.31 | 2.082 | 2.043 | 5.090 | 2.064 | 2.101 |
| #3 | 41.34 | 41.04 | 41.45 | 41.40 | 2.083 | 2.043 | 5.096 | 2.068 | 2.104 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/1/2019 14:52:16 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.042** | **2.007** | **2.034** | **2.038** | **2.074** | **2.037** | **1.920** |
| Stddev | .000 | .003 | .002 | .009 | .001 | .003 | .011 |
| %RSD | .0127 | .1539 | .1026 | .4374 | .0595 | .1467 | .5547 |
| #1 | 2.042 | 2.011 | 2.035 | 2.047 | 2.075 | 2.041 | 1.931 |
| #2 | 2.042 | 2.006 | 2.035 | 2.029 | 2.073 | 2.037 | 1.910 |
| #3 | 2.041 | 2.006 | 2.032 | 2.038 | 2.073 | 2.035 | 1.919 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137240.** | **23325.** | **5630.0** | **8941.7** |
| Stddev | 739. | 87. | 12.2 | 8.0 |
| %RSD | .53816 | .37230 | .21701 | .08993 |
| #1 | 138050. | 23278. | 5616.0 | 8932.5 |
| #2 | 137030. | 23271. | 5638.5 | 8946.1 |
| #3 | 136620. | 23425. | 5635.4 | 8946.7 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/1/2019 14:57:17 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **-.0001** | **.0000** | **-.0002** | **.0004** | **-.0000** | **.0003** |
| Stddev | .0004 | .0000 | .0002 | .0001 | .0003 | .0003 | .0000 | .0003 |
| %RSD | 1267. | 6.651 | 271.8 | 181.5 | 191.8 | 92.26 | 97.85 | 116.9 |
| #1 | .0002 | -.0001 | -.0000 | .0001 | .0002 | .0003 | -.0001 | -.0001 |
| #2 | .0002 | -.0001 | -.0002 | .0001 | -.0004 | .0007 | .0000 | .0003 |
| #3 | -.0005 | -.0001 | .0001 | -.0000 | -.0003 | .0001 | -.0001 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | **-.0006** | **-.0007** | **-.0008** | **.0000** | **-.0016** | **-.0002** |
| Stddev | .0005 | .0004 | .0000 | .0007 | .0024 | .0010 | .0003 | .0022 |
| %RSD | 272.5 | 559.3 | 4.453 | 93.98 | 313.3 | 2409. | 20.66 | 1410. |
| #1 | .0001 | -.0004 | -.0006 | -.0005 | .0008 | .0002 | -.0014 | .0022 |
| #2 | .0001 | .0003 | -.0006 | -.0014 | .0004 | -.0010 | -.0014 | -.0004 |
| #3 | -.0007 | -.0001 | -.0006 | -.0001 | -.0035 | .0010 | -.0020 | -.0022 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0052** | **-.0063** | **.0005** | **.0082** | **.3029** | **.0237** | **.0005** | **-.0000** |
| Stddev | .0155 | .0023 | .0011 | .0119 | .0252 | .0071 | .0003 | .0000 |
| %RSD | 299.5 | 35.95 | 221.4 | 144.7 | 8.334 | 30.03 | 62.10 | 737.5 |
| #1 | .0183 | -.0063 | -.0003 | .0044 | .3183 | .0274 | .0005 | -.0000 |
| #2 | .0090 | -.0086 | .0001 | .0215 | .3168 | .0281 | .0002 | .0000 |
| #3 | -.0119 | -.0041 | .0017 | -.0013 | .2738 | .0155 | .0009 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCB Acquired: 5/1/2019 14:57:17 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **-.0000** | **-.0001** | **.0000** | **.0008** | **-.0000** | **.0002** | **-.0015** |
| Stddev | .0004 | .0002 | .0000 | .0002 | .0008 | .0001 | .0023 | .0014 |
| %RSD | 40.68 | 1032. | 53.71 | 648.4 | 98.31 | 152.3 | 1474. | 94.78 |
| #1 | .0005 | -.0001 | -.0000 | -.0001 | .0015 | .0000 | -.0015 | -.0029 |
| #2 | .0011 | -.0001 | -.0001 | -.0001 | -.0001 | -.0001 | .0027 | -.0014 |
| #3 | .0012 | .0002 | -.0001 | .0003 | .0010 | -.0000 | -.0008 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0111** | **.0055** |
| Stddev | .0011 | .0009 |
| %RSD | 9.786 | 15.84 |
| #1 | -.0099 | .0056 |
| #2 | -.0116 | .0064 |
| #3 | -.0119 | .0046 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145730.** | **23459.** | **5897.1** | **9795.6** |
| Stddev | 601. | 137. | 12.1 | 14.2 |
| %RSD | .41267 | .58419 | .20574 | .14521 |
| #1 | 145100. | 23304. | 5883.8 | 9780.0 |
| #2 | 145800. | 23564. | 5907.6 | 9799.0 |
| #3 | 146300. | 23508. | 5899.9 | 9807.8 |



Zoom In Zoom Out

Sample Name: JC86989-5 Acquired: 5/1/2019 15:02:25 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3124** | **.0106** | **.0034** | **.0611** | **.7165** | ***** | **1.091** | **.1374** |
| Stddev | .0001 | .0001 | .0003 | .0001 | .0008 | ----- | .001 | .0007 |
| %RSD | .0366 | .9547 | 8.769 | .1931 | .1130 | ----- | .1228 | .4774 |
| #1 | .3124 | .0107 | .0037 | .0610 | .7168 | ----- | 1.092 | .1378 |
| #2 | .3123 | .0105 | .0031 | .0612 | .7156 | ----- | 1.090 | .1367 |
| #3 | .3125 | .0107 | .0035 | .0612 | .7171 | ----- | 1.092 | .1379 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | ***** | **1.196** | **.7273** | **.1523** | F **-.0742** | **.1485** | F **-.1307** | **.0530** |
| Stddev | ----- | .001 | .0006 | .0008 | .0012 | .0009 | .0019 | .0007 |
| %RSD | ----- | .0935 | .0865 | .4966 | 1.631 | .5984 | 1.490 | 1.341 |
| #1 | ----- | 1.197 | .7280 | .1531 | -.0729 | .1486 | -.1297 | .0538 |
| #2 | ----- | 1.195 | .7271 | .1517 | -.0754 | .1494 | -.1330 | .0528 |
| #3 | ----- | 1.197 | .7268 | .1519 | -.0743 | .1476 | -.1294 | .0524 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **111.2** | **10.29** | F **707.6** | **18.92** | **32.47** | **.9951** | **.2368** | **-.0033** |
| Stddev | .2 | .02 | 4.8 | .04 | .08 | .0111 | .0007 | .0002 |
| %RSD | .1495 | .1958 | .6772 | .2338 | .2499 | 1.112 | .2766 | 6.402 |
| #1 | 111.3 | 10.31 | 704.8 | 18.96 | 32.43 | .9866 | .2368 | -.0031 |
| #2 | 111.1 | 10.27 | 704.7 | 18.88 | 32.42 | 1.008 | .2374 | -.0035 |
| #3 | 111.3 | 10.30 | 713.1 | 18.91 | 32.57 | .9911 | .2361 | -.0033 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.138** | **.0174** | **.1106** | **2.458** | **.0124** | **.0045** | **.8260** | **.0427** |
| Stddev | .005 | .0002 | .0001 | .003 | .0004 | .0003 | .0016 | .0018 |
| %RSD | .2213 | 1.023 | .0648 | .1128 | 3.523 | 7.413 | .1966 | 4.126 |
| #1 | 2.133 | .0176 | .1106 | 2.456 | .0129 | .0043 | .8278 | .0441 |
| #2 | 2.143 | .0174 | .1106 | 2.456 | .0122 | .0048 | .8251 | .0407 |
| #3 | 2.137 | .0173 | .1107 | 2.461 | .0122 | .0043 | .8250 | .0432 |



Zoom In Zoom Out

Sample Name: JC86989-5 Acquired: 5/1/2019 15:02:25 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0748** | F **11.35** |
| Stddev | .0015 | .04 |
| %RSD | 2.023 | .3158 |
| #1 | .0756 | 11.39 |
| #2 | .0730 | 11.33 |
| #3 | .0757 | 11.33 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142790.** | **24835.** | **5922.3** | **9851.8** |
| Stddev | 270. | 108. | 11.6 | 12.6 |
| %RSD | .18901 | .43503 | .19506 | .12746 |
| #1 | 142660. | 24800. | 5912.8 | 9847.1 |
| #2 | 143100. | 24956. | 5919.0 | 9842.3 |
| #3 | 142610. | 24749. | 5935.1 | 9866.1 |



Zoom In Zoom Out

Sample Name: mp14600-s1 Acquired: 5/1/2019 15:07:25 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.632** | **2.118** | **2.087** | **2.172** | **3.309** | **2.003** | **4.148** | **2.354** | **.2715** |
| Stddev | .004 | .009 | .004 | .003 | .005 | .004 | .004 | .005 | .0021 |
| %RSD | .1519 | .4053 | .2124 | .1402 | .1498 | .1982 | .0908 | .2152 | .7881 |
| #1 | 2.636 | 2.126 | 2.092 | 2.170 | 3.308 | 2.006 | 4.147 | 2.350 | .2730 |
| #2 | 2.628 | 2.109 | 2.084 | 2.176 | 3.304 | 2.006 | 4.144 | 2.359 | .2690 |
| #3 | 2.631 | 2.118 | 2.086 | 2.170 | 3.314 | 1.999 | 4.152 | 2.352 | .2724 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.031** | **3.349** | **2.240** | **2.146** | **2.267** | **2.012** | **1.067** | **206.7** | **42.15** |
| Stddev | .000 | .009 | .021 | .009 | .008 | .023 | .003 | .8 | .13 |
| %RSD | .0071 | .2793 | .9327 | .4393 | .3535 | 1.123 | .2358 | .3864 | .3097 |
| #1 | 4.031 | 3.360 | 2.264 | 2.136 | 2.263 | 2.038 | 1.066 | 207.5 | 42.29 |
| #2 | 4.031 | 3.342 | 2.223 | 2.155 | 2.261 | 2.002 | 1.066 | 206.0 | 42.02 |
| #3 | 4.031 | 3.345 | 2.234 | 2.146 | 2.276 | 1.997 | 1.070 | 206.6 | 42.14 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1364.** | **61.72** | **87.05** | **27.84** | **2.437** | **2.002** | **4.008** | **2.016** | **2.306** |
| Stddev | 5. | .22 | .62 | .03 | .004 | .002 | .015 | .004 | .004 |
| %RSD | .3361 | .3519 | .7130 | .1066 | .1440 | .0920 | .3814 | .1867 | .1625 |
| #1 | 1368. | 61.83 | 87.76 | 27.80 | 2.433 | 2.004 | 3.993 | 2.019 | 2.309 |
| #2 | 1359. | 61.47 | 86.70 | 27.86 | 2.439 | 2.000 | 4.024 | 2.012 | 2.302 |
| #3 | 1363. | 61.85 | 86.68 | 27.84 | 2.439 | 2.001 | 4.009 | 2.016 | 2.307 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.089** | **1.586** | **1.988** | **2.692** | **.1849** | **-.1025** | **19.89** |
| Stddev | .005 | .016 | .003 | .032 | .0098 | .0050 | .17 |
| %RSD | .0851 | 1.037 | .1243 | 1.168 | 5.326 | 4.878 | .8333 |
| #1 | 6.088 | 1.605 | 1.987 | 2.704 | .1803 | -.1026 | 20.05 |
| #2 | 6.085 | 1.577 | 1.987 | 2.657 | .1963 | -.0975 | 19.72 |
| #3 | 6.095 | 1.575 | 1.991 | 2.716 | .1783 | -.1075 | 19.89 |

Zoom In Zoom Out

Sample Name: mp14600-s1 Acquired: 5/1/2019 15:07:25 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142390.** | **23675.** | **5842.8** | **9500.8** |
| Stddev | 612. | 98. | 17.1 | 16.7 |
| %RSD | .43006 | .41303 | .29279 | .17621 |
| #1 | 142960. | 23602. | 5830.5 | 9495.5 |
| #2 | 142460. | 23636. | 5862.3 | 9519.6 |
| #3 | 141750. | 23786. | 5835.5 | 9487.4 |



Zoom In Zoom Out

Sample Name: mp14600-s2 Acquired: 5/1/2019 15:12:15 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.603** | **2.088** | **2.047** | **2.141** | **3.203** | **1.979** | **4.109** | **2.315** | **.2678** |
| Stddev | .005 | .008 | .016 | .015 | .018 | .006 | .008 | .018 | .0034 |
| %RSD | .1861 | .3948 | .7962 | .6978 | .5523 | .3308 | .2006 | .7876 | 1.280 |
| #1 | 2.609 | 2.096 | 2.049 | 2.145 | 3.218 | 1.985 | 4.117 | 2.319 | .2679 |
| #2 | 2.599 | 2.090 | 2.030 | 2.125 | 3.207 | 1.979 | 4.110 | 2.296 | .2643 |
| #3 | 2.601 | 2.079 | 2.063 | 2.155 | 3.184 | 1.972 | 4.101 | 2.332 | .2711 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.904** | **3.264** | **2.219** | **2.099** | **2.234** | **1.988** | **1.064** | **206.0** | **53.63** |
| Stddev | .016 | .026 | .009 | .022 | .013 | .035 | .025 | .8 | .29 |
| %RSD | .4106 | .7993 | .3902 | 1.073 | .5873 | 1.767 | 2.365 | .3708 | .5380 |
| #1 | 3.921 | 3.269 | 2.219 | 2.102 | 2.227 | 1.989 | 1.052 | 206.9 | 53.93 |
| #2 | 3.901 | 3.235 | 2.211 | 2.075 | 2.226 | 1.952 | 1.048 | 205.9 | 53.61 |
| #3 | 3.890 | 3.287 | 2.228 | 2.119 | 2.249 | 2.022 | 1.093 | 205.4 | 53.35 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1279.** | **64.35** | **85.21** | **27.42** | **2.385** | **1.983** | **4.665** | **1.991** | **2.303** |
| Stddev | 6. | .46 | .62 | .11 | .020 | .018 | .034 | .024 | .008 |
| %RSD | .4480 | .7078 | .7297 | .4095 | .8351 | .8949 | .7235 | 1.212 | .3382 |
| #1 | 1284. | 64.83 | 85.90 | 27.54 | 2.384 | 1.986 | 4.672 | 1.995 | 2.309 |
| #2 | 1281. | 64.29 | 84.71 | 27.41 | 2.365 | 1.963 | 4.628 | 1.966 | 2.307 |
| #3 | 1273. | 63.92 | 85.01 | 27.32 | 2.405 | 1.998 | 4.695 | 2.014 | 2.295 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.975** | **1.595** | **1.980** | **2.142** | **.1738** | **-.0871** | **19.13** |
| Stddev | .016 | .007 | .005 | .020 | .0087 | .0020 | .21 |
| %RSD | .2629 | .4266 | .2731 | .9180 | 5.023 | 2.309 | 1.092 |
| #1 | 5.993 | 1.589 | 1.986 | 2.136 | .1654 | -.0892 | 19.12 |
| #2 | 5.969 | 1.593 | 1.979 | 2.125 | .1828 | -.0852 | 18.92 |
| #3 | 5.963 | 1.602 | 1.976 | 2.164 | .1730 | -.0867 | 19.34 |



Zoom In Zoom Out

Sample Name: mp14600-s2 Acquired: 5/1/2019 15:12:15 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142650.** | **23516.** | **5885.0** | **9527.8** |
| Stddev | 378. | 251. | 49.3 | 65.5 |
| %RSD | .26528 | 1.0662 | .83714 | .68712 |
| #1 | 142580. | 23348. | 5868.1 | 9504.9 |
| #2 | 142320. | 23396. | 5940.5 | 9601.7 |
| #3 | 143060. | 23804. | 5846.5 | 9476.9 |



Zoom In Zoom Out

Sample Name: jc86989-3 Acquired: 5/1/2019 15:17:07 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5264** | **.0141** | **.0053** | **.0841** | **1.189** | **-.0059** | **2.130** | **.2591** | **.0074** |
| Stddev | .0030 | .0007 | .0005 | .0013 | .002 | .0014 | .002 | .0025 | .0068 |
| %RSD | .5642 | 5.046 | 9.074 | 1.567 | .1873 | 23.64 | .1127 | .9716 | 91.55 |
| #1 | .5243 | .0133 | .0048 | .0850 | 1.187 | -.0075 | 2.127 | .2585 | .0140 |
| #2 | .5252 | .0144 | .0057 | .0826 | 1.190 | -.0054 | 2.131 | .2570 | .0080 |
| #3 | .5298 | .0146 | .0055 | .0847 | 1.190 | -.0049 | 2.132 | .2619 | .0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.945** | **1.292** | **.3028** | **-.0191** | **.1576** | **-.0153** | **.0042** | **166.5** | **16.00** |
| Stddev | .004 | .001 | .0004 | .0105 | .0066 | .0116 | .0097 | .4 | .07 |
| %RSD | .2069 | .0620 | .1342 | 55.06 | 4.180 | 76.04 | 230.8 | .2105 | .4567 |
| #1 | 1.940 | 1.292 | .3027 | -.0311 | .1500 | -.0039 | -.0025 | 166.1 | 15.91 |
| #2 | 1.945 | 1.293 | .3032 | -.0116 | .1616 | -.0148 | .0153 | 166.7 | 16.05 |
| #3 | 1.948 | 1.291 | .3024 | -.0145 | .1613 | -.0272 | -.0002 | 166.7 | 16.03 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1378.** | **34.14** | **55.08** | **1.162** | **.3936** | **.0037** | **2.940** | **.0218** | **.1640** |
| Stddev | 1. | .20 | .03 | .086 | .0062 | .0019 | .016 | .0021 | .0005 |
| %RSD | .0430 | .5729 | .0613 | 7.431 | 1.565 | 50.37 | .5297 | 9.840 | .2881 |
| #1 | 1377. | 34.00 | 55.10 | 1.254 | .3897 | .0018 | 2.926 | .0226 | .1634 |
| #2 | 1378. | 34.05 | 55.04 | 1.151 | .3904 | .0038 | 2.957 | .0234 | .1642 |
| #3 | 1378. | 34.36 | 55.11 | 1.082 | .4007 | .0056 | 2.938 | .0194 | .1643 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.709** | **.0081** | **.1001** | **2.399** | **.0863** | **-.1134** | **19.43** |
| Stddev | .009 | .0088 | .0007 | .016 | .0062 | .0065 | .05 |
| %RSD | .2293 | 108.6 | .7336 | .6686 | 7.226 | 5.760 | .2619 |
| #1 | 3.717 | .0175 | .0999 | 2.403 | .0872 | -.1210 | 19.46 |
| #2 | 3.700 | .0000 | .1010 | 2.382 | .0921 | -.1099 | 19.38 |
| #3 | 3.708 | .0068 | .0995 | 2.413 | .0797 | -.1094 | 19.46 |

Zoom In
Zoom Out

Sample Name: jc86989-3 Acquired: 5/1/2019 15:17:07 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144160.** | **23584.** | **5873.5** | **9585.6** |
| Stddev | 438. | 90. | 22.1 | 29.5 |
| %RSD | .30406 | .38217 | .37604 | .30742 |
| #1 | 143860. | 23534. | 5877.4 | 9590.5 |
| #2 | 144670. | 23688. | 5849.8 | 9554.0 |
| #3 | 143970. | 23530. | 5893.4 | 9612.3 |



Zoom In
Zoom Out

Sample Name: mp14600-sd1 Acquired: 5/1/2019 15:22:07 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5346** | **.0105** | **-.0028** | **.0900** | **1.186** | **-.0021** | **2.154** | **.2628** | **.0182** |
| Stddev | .0143 | .0009 | .0035 | .0046 | .009 | .0223 | .002 | .0041 | .0300 |
| %RSD | 2.674 | 8.166 | 125.4 | 5.063 | .7758 | 1087. | .0738 | 1.579 | 164.2 |
| #1 | .5248 | .0095 | .0009 | .0858 | 1.196 | -.0254 | 2.152 | .2659 | -.0000 |
| #2 | .5281 | .0112 | -.0032 | .0949 | 1.177 | .0191 | 2.154 | .2581 | .0019 |
| #3 | .5510 | .0107 | -.0061 | .0892 | 1.186 | .0002 | 2.156 | .2644 | .0528 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.957** | **1.320** | **.3370** | **-.0572** | **.1449** | **-.0440** | **-.0272** | **167.2** | **16.30** |
| Stddev | .006 | .022 | .0139 | .0345 | .0374 | .0395 | .0472 | .9 | .02 |
| %RSD | .3195 | 1.646 | 4.125 | 60.43 | 25.84 | 89.84 | 173.7 | .5627 | .1472 |
| #1 | 1.953 | 1.311 | .3210 | -.0723 | .1251 | -.0163 | -.0299 | 166.2 | 16.28 |
| #2 | 1.955 | 1.304 | .3451 | -.0176 | .1215 | -.0893 | -.0730 | 168.1 | 16.32 |
| #3 | 1.964 | 1.345 | .3450 | -.0815 | .1881 | -.0264 | .0213 | 167.1 | 16.31 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1394.** | **35.25** | **63.27** | **1.105** | **.3572** | **.0019** | **3.039** | **.0237** | **.1655** |
| Stddev | 2. | .40 | 2.04 | .322 | .0299 | .0057 | .025 | .0323 | .0022 |
| %RSD | .1246 | 1.129 | 3.225 | 29.17 | 8.382 | 296.9 | .8206 | 136.3 | 1.337 |
| #1 | 1392. | 34.81 | 61.15 | .7344 | .3766 | -.0043 | 3.017 | .0609 | .1644 |
| #2 | 1395. | 35.37 | 63.45 | 1.261 | .3723 | .0033 | 3.033 | .0071 | .1641 |
| #3 | 1395. | 35.58 | 65.22 | 1.319 | .3227 | .0068 | 3.066 | .0031 | .1681 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.723** | **-.0182** | **.0947** | **2.232** | **.0685** | **-.6238** | **19.12** |
| Stddev | .042 | .0624 | .0048 | .029 | .0576 | .0864 | .37 |
| %RSD | 1.130 | 341.9 | 5.094 | 1.321 | 84.07 | 13.85 | 1.910 |
| #1 | 3.675 | -.0484 | .1001 | 2.260 | .0335 | -.5282 | 19.20 |
| #2 | 3.753 | .0535 | .0910 | 2.234 | .0370 | -.6466 | 18.72 |
| #3 | 3.741 | -.0598 | .0929 | 2.201 | .1350 | -.6965 | 19.44 |



Zoom In
Zoom Out

Sample Name: mp14600-sd1 Acquired: 5/1/2019 15:22:07 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146620.** | **23751.** | **5903.4** | **9688.8** |
| Stddev | 731. | 123. | 87.5 | 126.1 |
| %RSD | .49869 | .51962 | 1.4814 | 1.3013 |
| #1 | 146460. | 23753. | 5941.7 | 9754.0 |
| #2 | 147420. | 23874. | 5965.2 | 9768.9 |
| #3 | 145990. | 23627. | 5803.4 | 9543.5 |



Zoom In
Zoom Out

Sample Name: jc86989-1 Acquired: 5/1/2019 15:27:11 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3846** | **.0110** | **.0014** | **.0729** | **.9157** | **.0286** | **1.462** | **.2098** | **.0021** |
| Stddev | .0102 | .0001 | .0010 | .0009 | .0001 | .0043 | .006 | .0006 | .0030 |
| %RSD | 2.661 | 1.220 | 73.78 | 1.188 | .0139 | 14.88 | .3862 | .3053 | 145.2 |
| #1 | .3776 | .0110 | .0022 | .0724 | .9156 | .0272 | 1.456 | .2098 | .0002 |
| #2 | .3798 | .0109 | .0016 | .0739 | .9158 | .0253 | 1.466 | .2104 | .0005 |
| #3 | .3963 | .0112 | .0002 | .0724 | .9158 | .0334 | 1.465 | .2092 | .0055 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.590** | **.9391** | **.2057** | **-.0066** | **.2151** | **-.0122** | **.0222** | **139.2** | **16.62** |
| Stddev | .011 | .0057 | .0191 | .0025 | .0127 | .0203 | .0032 | 3.0 | .37 |
| %RSD | .7123 | .6080 | 9.265 | 37.24 | 5.914 | 165.6 | 14.39 | 2.173 | 2.213 |
| #1 | 1.583 | .9326 | .1867 | -.0042 | .2092 | .0095 | .0192 | 136.7 | 16.32 |
| #2 | 1.603 | .9413 | .2056 | -.0091 | .2297 | -.0306 | .0219 | 138.4 | 16.51 |
| #3 | 1.584 | .9433 | .2248 | -.0064 | .2063 | -.0157 | .0255 | 142.6 | 17.03 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **823.8** | **36.05** | **45.23** | **1.181** | **.3979** | **.0052** | **2.162** | **.0186** | **.1494** |
| Stddev | 18.3 | .91 | 1.37 | .070 | .0039 | .0007 | .019 | .0065 | .0037 |
| %RSD | 2.217 | 2.521 | 3.023 | 5.927 | .9835 | 12.70 | .8669 | 34.92 | 2.465 |
| #1 | 808.1 | 35.32 | 44.49 | 1.191 | .3934 | .0060 | 2.140 | .0253 | .1459 |
| #2 | 819.6 | 35.78 | 44.40 | 1.107 | .4007 | .0048 | 2.171 | .0180 | .1491 |
| #3 | 843.9 | 37.07 | 46.81 | 1.246 | .3996 | .0049 | 2.174 | .0123 | .1533 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.636** | **.0006** | **.0856** | **1.416** | **.0742** | **-.0938** | **12.64** |
| Stddev | .007 | .0027 | .0021 | .012 | .0060 | .0151 | .14 |
| %RSD | .1983 | 451.8 | 2.417 | .8782 | 8.033 | 16.15 | 1.083 |
| #1 | 3.629 | .0031 | .0833 | 1.414 | .0798 | -.0837 | 12.51 |
| #2 | 3.644 | -.0022 | .0861 | 1.404 | .0747 | -.0864 | 12.62 |
| #3 | 3.635 | .0009 | .0873 | 1.429 | .0680 | -.1112 | 12.78 |

Zoom In Zoom Out

Sample Name: jc86989-1 Acquired: 5/1/2019 15:27:11 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144090.** | **23651.** | **5892.7** | **9569.7** |
| Stddev | 1264. | 223. | 11.5 | 15.6 |
| %RSD | .87701 | .94168 | .19469 | .16329 |
| #1 | 144140. | 23636. | 5899.1 | 9582.6 |
| #2 | 142800. | 23881. | 5899.6 | 9574.2 |
| #3 | 145330. | 23437. | 5879.5 | 9552.3 |



Zoom In Zoom Out

Sample Name: jc86989-2 Acquired: 5/1/2019 15:32:12 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3865** | **.0115** | **.0055** | **.0742** | **.9485** | **-.0113** | **1.474** | **.2134** | **.0127** |
| Stddev | .0011 | .0007 | .0013 | .0019 | .0013 | .0004 | .001 | .0011 | .0048 |
| %RSD | .2881 | 6.119 | 23.75 | 2.592 | .1418 | 3.340 | .0919 | .4980 | 38.13 |
| #1 | .3878 | .0109 | .0070 | .0730 | .9491 | -.0111 | 1.475 | .2140 | .0183 |
| #2 | .3861 | .0114 | .0053 | .0732 | .9470 | -.0110 | 1.475 | .2141 | .0101 |
| #3 | .3857 | .0123 | .0044 | .0764 | .9495 | -.0117 | 1.473 | .2122 | .0097 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.676** | **1.122** | **.2474** | **-.0133** | **.1349** | **-.0053** | **.0146** | **134.6** | **10.51** |
| Stddev | .004 | .003 | .0082 | .0062 | .0196 | .0041 | .0113 | .5 | .03 |
| %RSD | .2162 | .2873 | 3.329 | 46.78 | 14.56 | 77.90 | 77.42 | .3498 | .2864 |
| #1 | 1.680 | 1.119 | .2499 | -.0121 | .1571 | -.0023 | .0096 | 135.1 | 10.54 |
| #2 | 1.676 | 1.120 | .2382 | -.0078 | .1199 | -.0100 | .0276 | 134.7 | 10.51 |
| #3 | 1.673 | 1.125 | .2541 | -.0200 | .1277 | -.0035 | .0067 | 134.2 | 10.48 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1167.** | **27.53** | **46.85** | **.8317** | **.3185** | **.0044** | **2.400** | **.0175** | **.1206** |
| Stddev | 5. | .11 | .37 | .0911 | .0043 | .0006 | .012 | .0009 | .0011 |
| %RSD | .4036 | .3887 | .7969 | 10.95 | 1.357 | 12.60 | .5080 | 5.148 | .9199 |
| #1 | 1172. | 27.55 | 46.52 | .9200 | .3147 | .0040 | 2.399 | .0180 | .1209 |
| #2 | 1167. | 27.62 | 47.26 | .7381 | .3175 | .0050 | 2.388 | .0165 | .1216 |
| #3 | 1162. | 27.41 | 46.79 | .8368 | .3232 | .0041 | 2.412 | .0180 | .1194 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.014** | **.0063** | **.0832** | **.6666** | **.0898** | **-.1269** | **13.16** |
| Stddev | .009 | .0182 | .0012 | .0052 | .0061 | .0120 | .05 |
| %RSD | .3094 | 287.3 | 1.492 | .7840 | 6.846 | 9.479 | .3427 |
| #1 | 3.003 | .0134 | .0834 | .6721 | .0893 | -.1152 | 13.16 |
| #2 | 3.021 | .0199 | .0819 | .6659 | .0962 | -.1263 | 13.11 |
| #3 | 3.018 | -.0143 | .0843 | .6617 | .0839 | -.1392 | 13.20 |



Zoom In Zoom Out

Sample Name: jc86989-2 Acquired: 5/1/2019 15:32:12 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **143420.** | **23490.** | **5877.1** | **9591.8** |
| Stddev | 304. | 110. | 2.2 | 5.9 |
| %RSD | .21202 | .46671 | .03720 | .06143 |
| #1 | 143110. | 23520. | 5877.1 | 9597.5 |
| #2 | 143420. | 23369. | 5879.4 | 9585.7 |
| #3 | 143720. | 23583. | 5875.0 | 9592.3 |



Zoom In Zoom Out

Sample Name: jc86989-4 Acquired: 5/1/2019 15:37:14 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5792** | **.0172** | **.0005** | **.1023** | **1.620** | **-.0397** | **1.292** | **.2771** | **-.0001** |
| Stddev | .0106 | .0003 | .0016 | .0010 | .015 | .0034 | .013 | .0066 | .0057 |
| %RSD | 1.825 | 1.858 | 314.1 | .9359 | .9155 | 8.449 | 1.025 | 2.382 | 6483. |
| #1 | .5673 | .0169 | .0017 | .1012 | 1.604 | -.0390 | 1.278 | .2694 | -.0044 |
| #2 | .5830 | .0173 | -.0013 | .1027 | 1.624 | -.0434 | 1.295 | .2805 | -.0022 |
| #3 | .5874 | .0175 | .0011 | .1030 | 1.633 | -.0368 | 1.304 | .2812 | .0064 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.650** | **1.432** | **.3084** | **.0007** | **.2017** | **-.0337** | **.0248** | **176.5** | **13.78** |
| Stddev | .031 | .011 | .0030 | .0056 | .0083 | .0133 | .0072 | 2.4 | .20 |
| %RSD | 1.154 | .7912 | .9880 | 813.5 | 4.105 | 39.38 | 28.88 | 1.371 | 1.416 |
| #1 | 2.616 | 1.421 | .3106 | .0028 | .2095 | -.0197 | .0166 | 174.4 | 13.61 |
| #2 | 2.661 | 1.431 | .3097 | .0049 | .1930 | -.0353 | .0300 | 175.9 | 13.74 |
| #3 | 2.674 | 1.444 | .3049 | -.0057 | .2026 | -.0460 | .0278 | 179.2 | 14.00 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1398.** | **37.96** | **69.93** | **1.019** | **.5165** | **.0037** | **2.889** | **.0204** | **.1331** |
| Stddev | 19. | .60 | .44 | .072 | .0021 | .0008 | .024 | .0034 | .0017 |
| %RSD | 1.382 | 1.591 | .6252 | 7.027 | .4038 | 20.57 | .8359 | 16.84 | 1.248 |
| #1 | 1381. | 37.44 | 69.58 | 1.090 | .5161 | .0044 | 2.862 | .0165 | .1316 |
| #2 | 1394. | 37.83 | 69.78 | 1.021 | .5146 | .0038 | 2.896 | .0219 | .1327 |
| #3 | 1419. | 38.62 | 70.42 | .9468 | .5187 | .0029 | 2.909 | .0228 | .1349 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.276** | **.0073** | **.1104** | **1.382** | **.1323** | **-.1341** | **19.34** |
| Stddev | .048 | .0056 | .0018 | .034 | .0181 | .0181 | .06 |
| %RSD | 1.115 | 76.34 | 1.636 | 2.444 | 13.70 | 13.50 | .3089 |
| #1 | 4.224 | .0019 | .1084 | 1.371 | .1297 | -.1391 | 19.28 |
| #2 | 4.285 | .0130 | .1108 | 1.356 | .1516 | -.1140 | 19.35 |
| #3 | 4.318 | .0069 | .1120 | 1.420 | .1156 | -.1491 | 19.40 |

Zoom In Zoom Out

Sample Name: jc86989-4 Acquired: 5/1/2019 15:37:14 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **143080.** | **23568.** | **5848.1** | **9549.3** |
| Stddev | 134. | 111. | 14.1 | 15.5 |
| %RSD | .09372 | .47021 | .24027 | .16192 |
| #1 | 143200. | 23675. | 5848.6 | 9550.8 |
| #2 | 142940. | 23453. | 5861.8 | 9563.9 |
| #3 | 143090. | 23575. | 5833.7 | 9533.1 |



Zoom In Zoom Out

Sample Name: jc86989-5conf Acquired: 5/1/2019 15:42:15 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3024** | **.0092** | **.0003** | **.0542** | **.7298** | **-.0005** | **1.189** | **.1524** | **.0032** |
| Stddev | .0028 | .0007 | .0006 | .0029 | .0060 | .0013 | .015 | .0043 | .0042 |
| %RSD | .9418 | 7.417 | 193.4 | 5.436 | .8235 | 264.3 | 1.245 | 2.812 | 131.4 |
| #1 | .2993 | .0097 | .0002 | .0509 | .7229 | -.0011 | 1.175 | .1491 | -.0016 |
| #2 | .3029 | .0095 | .0010 | .0565 | .7323 | -.0014 | 1.188 | .1572 | .0049 |
| #3 | .3049 | .0085 | -.0002 | .0551 | .7341 | .0010 | 1.204 | .1508 | .0063 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.185** | **.7902** | **.2000** | **.0002** | **.1494** | **-.0228** | **.0212** | **107.9** | **10.30** |
| Stddev | .017 | .0231 | .0069 | .0131 | .0059 | .0178 | .0110 | 1.4 | .16 |
| %RSD | 1.394 | 2.918 | 3.455 | 6111. | 3.931 | 77.95 | 52.02 | 1.301 | 1.556 |
| #1 | 1.169 | .7688 | .1950 | -.0068 | .1518 | -.0070 | .0230 | 106.6 | 10.15 |
| #2 | 1.185 | .7871 | .2079 | .0154 | .1537 | -.0421 | .0094 | 107.6 | 10.26 |
| #3 | 1.202 | .8146 | .1971 | -.0079 | .1427 | -.0193 | .0313 | 109.4 | 10.47 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **775.8** | **19.23** | **34.04** | **.9333** | **.2415** | **.0039** | **2.290** | **.0211** | **.1081** |
| Stddev | 11.8 | .19 | .57 | .0694 | .0037 | .0021 | .071 | .0046 | .0006 |
| %RSD | 1.520 | .9900 | 1.677 | 7.431 | 1.538 | 55.12 | 3.086 | 21.63 | .5177 |
| #1 | 765.5 | 19.11 | 34.05 | .9243 | .2420 | .0059 | 2.223 | .0158 | .1075 |
| #2 | 773.1 | 19.13 | 33.46 | 1.007 | .2376 | .0016 | 2.284 | .0239 | .1082 |
| #3 | 788.7 | 19.45 | 34.61 | .8689 | .2450 | .0042 | 2.364 | .0236 | .1085 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.439** | **.0084** | **.0578** | **.8961** | **.0615** | **-.1331** | **11.63** |
| Stddev | .033 | .0068 | .0008 | .0342 | .0099 | .0258 | .39 |
| %RSD | 1.360 | 81.76 | 1.462 | 3.814 | 16.11 | 19.35 | 3.334 |
| #1 | 2.410 | .0033 | .0587 | .8652 | .0513 | -.1594 | 11.23 |
| #2 | 2.431 | .0162 | .0573 | .8902 | .0711 | -.1079 | 11.65 |
| #3 | 2.475 | .0056 | .0572 | .9328 | .0621 | -.1321 | 12.00 |



Zoom In Zoom Out

Sample Name: jc86989-5conf Acquired: 5/1/2019 15:42:15 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144520.** | **23565.** | **5895.5** | **9612.6** |
| Stddev | 279. | 226. | 14.1 | 19.1 |
| %RSD | .19319 | .95889 | .23889 | .19823 |
| #1 | 144500. | 23534. | 5892.6 | 9604.8 |
| #2 | 144810. | 23804. | 5910.8 | 9634.3 |
| #3 | 144250. | 23355. | 5883.1 | 9598.7 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/1/2019 15:47:19 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.065** | **2.111** | **2.067** | **2.094** | **2.083** | **2.069** | **2.089** | **2.103** | **.2586** |
| Stddev | .005 | .003 | .002 | .001 | .003 | .003 | .004 | .001 | .0003 |
| %RSD | .2254 | .1359 | .0964 | .0686 | .1399 | .1194 | .2080 | .0419 | .1001 |
| #1 | 2.064 | 2.110 | 2.067 | 2.095 | 2.084 | 2.070 | 2.093 | 2.104 | .2585 |
| #2 | 2.060 | 2.109 | 2.069 | 2.093 | 2.080 | 2.067 | 2.089 | 2.103 | .2585 |
| #3 | 2.069 | 2.114 | 2.065 | 2.093 | 2.085 | 2.072 | 2.084 | 2.103 | .2589 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.055** | **2.085** | **2.040** | **2.129** | **2.092** | **2.072** | **2.044** | **41.10** | **41.43** |
| Stddev | .001 | .003 | .003 | .008 | .002 | .004 | .005 | .01 | .03 |
| %RSD | .0527 | .1394 | .1582 | .3748 | .0789 | .2085 | .2391 | .0340 | .0831 |
| #1 | 2.056 | 2.086 | 2.043 | 2.136 | 2.091 | 2.076 | 2.039 | 41.09 | 41.40 |
| #2 | 2.054 | 2.087 | 2.040 | 2.120 | 2.094 | 2.067 | 2.049 | 41.09 | 41.45 |
| #3 | 2.056 | 2.081 | 2.036 | 2.131 | 2.091 | 2.072 | 2.043 | 41.11 | 41.46 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.68** | **41.24** | **41.55** | **41.46** | **2.094** | **2.048** | **5.120** | **2.069** | **2.119** |
| Stddev | .05 | .05 | .01 | .05 | .003 | .001 | .010 | .003 | .003 |
| %RSD | .1224 | .1278 | .0293 | .1127 | .1540 | .0488 | .1981 | .1618 | .1556 |
| #1 | 41.68 | 41.19 | 41.56 | 41.45 | 2.093 | 2.048 | 5.115 | 2.073 | 2.119 |
| #2 | 41.62 | 41.29 | 41.54 | 41.42 | 2.098 | 2.049 | 5.131 | 2.067 | 2.116 |
| #3 | 41.72 | 41.26 | 41.56 | 41.52 | 2.092 | 2.047 | 5.113 | 2.067 | 2.123 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/1/2019 15:47:19 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.054** | **2.020** | **2.042** | **2.037** | **2.090** | **2.040** | **1.887** |
| Stddev | .001 | .002 | .002 | .009 | .003 | .004 | .010 |
| %RSD | .0659 | .0750 | .1105 | .4573 | .1290 | .1921 | .5123 |
| #1 | 2.055 | 2.020 | 2.042 | 2.047 | 2.093 | 2.037 | 1.897 |
| #2 | 2.053 | 2.021 | 2.039 | 2.032 | 2.088 | 2.037 | 1.878 |
| #3 | 2.055 | 2.018 | 2.044 | 2.031 | 2.088 | 2.044 | 1.886 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **135700.** | **22956.** | **5606.4** | **8874.4** |
| Stddev | 191. | 183. | 16.3 | 18.7 |
| %RSD | .14082 | .79600 | .29159 | .21037 |
| #1 | 135640. | 23085. | 5596.7 | 8856.4 |
| #2 | 135910. | 22747. | 5597.3 | 8873.2 |
| #3 | 135540. | 23036. | 5625.3 | 8893.7 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/1/2019 15:52:20 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0001** | **-.0000** | **-.0003** | **.0004** | **-.0000** | **-.0000** |
| Stddev | .0004 | .0000 | .0001 | .0003 | .0001 | .0003 | .0001 | .0001 |
| %RSD | 468.5 | 27.76 | 145.4 | 2900. | 42.56 | 86.46 | 363.4 | 325.9 |
| #1 | -.0002 | -.0001 | -.0001 | .0001 | -.0003 | .0000 | .0000 | -.0000 |
| #2 | -.0001 | -.0001 | -.0001 | -.0004 | -.0005 | .0005 | -.0001 | .0001 |
| #3 | .0005 | -.0001 | .0000 | .0003 | -.0002 | .0006 | .0000 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0001** | **-.0006** | **-.0005** | **-.0007** | **.0001** | **.0003** | **.0006** |
| Stddev | .0003 | .0003 | .0001 | .0006 | .0012 | .0011 | .0009 | .0005 |
| %RSD | 120.5 | 655.6 | 13.43 | 121.4 | 161.5 | 934.5 | 319.3 | 89.18 |
| #1 | .0005 | -.0003 | -.0007 | .0000 | -.0020 | .0011 | -.0007 | .0009 |
| #2 | .0002 | .0004 | -.0006 | -.0011 | -.0005 | -.0011 | .0010 | .0009 |
| #3 | -.0000 | -.0000 | -.0005 | -.0004 | .0003 | .0003 | .0006 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **-.0041** | **-.0001** | **.0206** | **.1246** | **-.0207** | **-.0008** | **.0000** |
| Stddev | .0040 | .0047 | .0017 | .0060 | .0283 | .0019 | .0002 | .0002 |
| %RSD | 316.7 | 112.9 | 1640. | 29.34 | 22.75 | 9.139 | 29.10 | 959.5 |
| #1 | .0056 | -.0079 | .0010 | .0138 | .1568 | -.0213 | -.0011 | .0001 |
| #2 | -.0025 | -.0057 | -.0021 | .0253 | .1035 | -.0186 | -.0006 | -.0002 |
| #3 | .0007 | .0011 | .0008 | .0228 | .1135 | -.0222 | -.0008 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/1/2019 15:52:20 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0004** | **-.0000** | **-.0003** | **.0003** | **.0002** | **-.0004** | **-.0025** |
| Stddev | .0011 | .0002 | .0001 | .0002 | .0007 | .0001 | .0038 | .0009 |
| %RSD | 253.9 | 42.55 | 2142. | 84.04 | 239.7 | 70.17 | 851.6 | 33.87 |
| #1 | .0014 | -.0003 | -.0001 | -.0003 | .0001 | .0003 | -.0006 | -.0034 |
| #2 | -.0008 | -.0003 | .0000 | -.0000 | -.0003 | .0000 | -.0042 | -.0024 |
| #3 | .0007 | -.0006 | .0000 | -.0005 | .0010 | .0002 | .0034 | -.0017 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0090** | **.0078** |
| Stddev | .0022 | .0017 |
| %RSD | 24.48 | 22.08 |
| #1 | -.0103 | .0092 |
| #2 | -.0102 | .0084 |
| #3 | -.0064 | .0059 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144960.** | **23395.** | **5881.4** | **9743.7** |
| Stddev | 415. | 116. | 25.0 | 29.7 |
| %RSD | .28606 | .49524 | .42502 | .30456 |
| #1 | 145380. | 23452. | 5882.9 | 9741.5 |
| #2 | 144550. | 23471. | 5855.6 | 9715.2 |
| #3 | 144970. | 23261. | 5905.6 | 9774.4 |



Zoom In Zoom Out

Sample Name: jc86989-1 Acquired: 5/1/2019 15:57:29 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3999** | **.0116** | **.0010** | **.0697** | **.9033** | **.0265** | **1.437** | **.1975** | **-.0004** |
| Stddev | .0005 | .0001 | .0012 | .0016 | .0030 | .0021 | .001 | .0013 | .0019 |
| %RSD | .1282 | 1.183 | 117.8 | 2.234 | .3364 | 7.887 | .0870 | .6744 | 489.5 |
| #1 | .4005 | .0116 | .0008 | .0714 | .9002 | .0246 | 1.438 | .1960 | .0003 |
| #2 | .3999 | .0114 | .0023 | .0683 | .9063 | .0261 | 1.436 | .1979 | -.0026 |
| #3 | .3994 | .0117 | -.0001 | .0694 | .9032 | .0287 | 1.438 | .1986 | .0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.567** | **.8873** | **.1928** | **.0033** | **.2025** | **.0017** | **.0132** | **142.8** | **16.99** |
| Stddev | .004 | .0011 | .0091 | .0033 | .0062 | .0082 | .0023 | .2 | .02 |
| %RSD | .2636 | .1281 | 4.739 | 98.35 | 3.082 | 483.5 | 17.54 | .1579 | .0974 |
| #1 | 1.568 | .8862 | .2031 | .0068 | .2081 | .0057 | .0111 | 143.0 | 17.00 |
| #2 | 1.571 | .8873 | .1857 | .0029 | .1958 | .0071 | .0156 | 142.9 | 16.99 |
| #3 | 1.563 | .8885 | .1897 | .0003 | .2036 | -.0077 | .0127 | 142.6 | 16.97 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **817.6** | **36.73** | **46.48** | **1.344** | **.3836** | **.0043** | **2.029** | **.0191** | **.1556** |
| Stddev | 5.7 | .11 | .30 | .041 | .0014 | .0006 | .004 | .0019 | .0004 |
| %RSD | .7013 | .2917 | .6375 | 3.035 | .3727 | 14.52 | .1811 | 10.16 | .2794 |
| #1 | 820.7 | 36.75 | 46.81 | 1.391 | .3852 | .0037 | 2.028 | .0191 | .1558 |
| #2 | 810.9 | 36.83 | 46.40 | 1.320 | .3825 | .0042 | 2.027 | .0210 | .1551 |
| #3 | 821.0 | 36.62 | 46.23 | 1.321 | .3831 | .0050 | 2.034 | .0171 | .1558 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.604** | **.0062** | **.0854** | **1.322** | **.0981** | **-.0342** | **11.83** |
| Stddev | .007 | .0022 | .0036 | .008 | .0004 | .0032 | .02 |
| %RSD | .2080 | 35.98 | 4.225 | .6383 | .4537 | 9.340 | .1323 |
| #1 | 3.595 | .0044 | .0842 | 1.329 | .0979 | -.0313 | 11.83 |
| #2 | 3.609 | .0055 | .0826 | 1.325 | .0986 | -.0377 | 11.84 |
| #3 | 3.607 | .0086 | .0895 | 1.313 | .0978 | -.0337 | 11.81 |

Zoom In Zoom Out

Sample Name: jc86989-1 Acquired: 5/1/2019 15:57:29 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **142840.** | **23707.** | **5873.3** | **9505.3** |
| Stddev | 166. | 130. | 14.2 | 8.7 |
| %RSD | .11620 | .54987 | .24247 | .09106 |
| #1 | 143030. | 23557. | 5856.9 | 9495.3 |
| #2 | 142760. | 23774. | 5879.8 | 9510.9 |
| #3 | 142720. | 23790. | 5883.1 | 9509.7 |



Zoom In Zoom Out

Sample Name: jc86989-5 Acquired: 5/1/2019 16:02:38 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3236** | **.0105** | **.0020** | **.0537** | **.7599** | **.0001** | **1.236** | **.1488** | **.0003** |
| Stddev | .0016 | .0001 | .0007 | .0007 | .0043 | .0033 | .001 | .0003 | .0034 |
| %RSD | .5071 | 1.046 | 36.52 | 1.361 | .5613 | 3235. | .0732 | .1854 | 1147. |
| #1 | .3224 | .0104 | .0012 | .0546 | .7560 | -.0023 | 1.236 | .1491 | -.0010 |
| #2 | .3254 | .0106 | .0024 | .0533 | .7644 | -.0013 | 1.236 | .1486 | -.0023 |
| #3 | .3229 | .0104 | .0026 | .0533 | .7594 | .0039 | 1.237 | .1487 | .0042 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.231** | **.7754** | **.1942** | **-.0037** | **.1385** | **-.0041** | **.0084** | **115.3** | **10.96** |
| Stddev | .003 | .0017 | .0052 | .0037 | .0051 | .0097 | .0055 | .2 | .04 |
| %RSD | .2501 | .2137 | 2.661 | 100.4 | 3.665 | 238.5 | 65.71 | .1603 | .3468 |
| #1 | 1.228 | .7764 | .1979 | .0005 | .1428 | .0043 | .0046 | 115.4 | 10.94 |
| #2 | 1.234 | .7735 | .1883 | -.0053 | .1398 | -.0147 | .0147 | 115.4 | 11.00 |
| #3 | 1.232 | .7762 | .1964 | -.0064 | .1329 | -.0017 | .0058 | 115.1 | 10.93 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **814.8** | **20.47** | **34.47** | **.9648** | **.2471** | **.0044** | **2.212** | **.0208** | **.1163** |
| Stddev | 17.2 | .09 | .08 | .0566 | .0050 | .0011 | .016 | .0006 | .0003 |
| %RSD | 2.116 | .4607 | .2437 | 5.866 | 2.042 | 23.74 | .7171 | 2.934 | .2470 |
| #1 | 806.0 | 20.37 | 34.41 | 1.027 | .2478 | .0052 | 2.217 | .0212 | .1162 |
| #2 | 803.8 | 20.55 | 34.56 | .9172 | .2518 | .0032 | 2.194 | .0201 | .1161 |
| #3 | 834.7 | 20.49 | 34.43 | .9498 | .2418 | .0049 | 2.224 | .0210 | .1166 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.553** | **.0026** | **.0608** | **.8449** | **.0717** | **-.0363** | **12.00** |
| Stddev | .006 | .0021 | .0015 | .0060 | .0134 | .0078 | .02 |
| %RSD | .2327 | 78.45 | 2.461 | .7144 | 18.74 | 21.55 | .1701 |
| #1 | 2.553 | .0010 | .0611 | .8385 | .0574 | -.0338 | 11.98 |
| #2 | 2.559 | .0049 | .0591 | .8457 | .0841 | -.0451 | 12.01 |
| #3 | 2.547 | .0020 | .0620 | .8504 | .0735 | -.0300 | 12.02 |



Zoom In Zoom Out

Sample Name: jc86989-5 Acquired: 5/1/2019 16:02:38 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **143480.** | **23554.** | **5892.3** | **9553.0** |
| Stddev | 666. | 94. | 22.1 | 30.4 |
| %RSD | .46389 | .40074 | .37564 | .31788 |
| #1 | 144120. | 23564. | 5876.8 | 9538.8 |
| #2 | 142790. | 23454. | 5917.6 | 9587.9 |
| #3 | 143520. | 23642. | 5882.3 | 9532.4 |



Zoom In Zoom Out

Sample Name: MP14617-B1 Acquired: 5/1/2019 16:07:47 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.064** | **2.123** | **2.048** | **2.088** | **2.084** | **2.086** | **2.075** | **2.100** | **.2589** |
| Stddev | .001 | .003 | .000 | .001 | .002 | .003 | .020 | .003 | .0001 |
| %RSD | .0310 | .1558 | .0185 | .0404 | .0903 | .1207 | .9581 | .1267 | .0570 |
| #1 | 2.063 | 2.124 | 2.048 | 2.088 | 2.082 | 2.084 | 2.089 | 2.097 | .2590 |
| #2 | 2.063 | 2.119 | 2.048 | 2.088 | 2.085 | 2.089 | 2.052 | 2.102 | .2588 |
| #3 | 2.065 | 2.125 | 2.048 | 2.089 | 2.086 | 2.086 | 2.083 | 2.101 | .2588 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.040** | **2.081** | **1.999** | **2.135** | **2.091** | **2.035** | **2.010** | **25.07** | **25.50** |
| Stddev | .001 | .002 | .003 | .009 | .000 | .005 | .002 | .04 | .04 |
| %RSD | .0624 | .0742 | .1410 | .4313 | .0188 | .2317 | .1185 | .1481 | .1693 |
| #1 | 2.039 | 2.080 | 1.997 | 2.134 | 2.091 | 2.031 | 2.013 | 25.07 | 25.53 |
| #2 | 2.040 | 2.082 | 1.998 | 2.126 | 2.092 | 2.034 | 2.008 | 25.03 | 25.45 |
| #3 | 2.042 | 2.082 | 2.003 | 2.145 | 2.092 | 2.041 | 2.010 | 25.10 | 25.52 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.61** | **25.29** | **25.34** | **25.50** | **2.032** | **2.013** | **.0603** | **2.073** | **2.127** |
| Stddev | .04 | .04 | .07 | .03 | .000 | .002 | .0010 | .003 | .002 |
| %RSD | .1643 | .1499 | .2669 | .1013 | .0198 | .1189 | 1.717 | .1613 | .0684 |
| #1 | 25.61 | 25.29 | 25.31 | 25.47 | 2.032 | 2.011 | .0615 | 2.070 | 2.128 |
| #2 | 25.56 | 25.25 | 25.30 | 25.50 | 2.032 | 2.014 | .0594 | 2.073 | 2.126 |
| #3 | 25.65 | 25.33 | 25.42 | 25.52 | 2.031 | 2.015 | .0601 | 2.077 | 2.128 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.038** | **1.716** | **2.018** | **.0274** | **.0807** | **-.0128** | **1.827** |
| Stddev | .001 | .001 | .001 | .0008 | .0013 | .0021 | .011 |
| %RSD | .0278 | .0525 | .0290 | 2.792 | 1.610 | 16.24 | .5980 |
| #1 | 2.038 | 1.715 | 2.018 | .0283 | .0805 | -.0110 | 1.815 |
| #2 | 2.039 | 1.717 | 2.017 | .0270 | .0795 | -.0123 | 1.837 |
| #3 | 2.038 | 1.716 | 2.018 | .0269 | .0821 | -.0151 | 1.829 |

Zoom In Zoom Out

Sample Name: MP14617-B1 Acquired: 5/1/2019 16:07:47 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **139300.** | **23364.** | **5711.1** | **9092.2** |
| Stddev | 292. | 113. | 2.6 | 2.2 |
| %RSD | .20964 | .48307 | .04546 | .02377 |
| #1 | 139450. | 23396. | 5708.2 | 9090.1 |
| #2 | 139490. | 23458. | 5713.2 | 9094.4 |
| #3 | 138970. | 23239. | 5712.0 | 9092.1 |



Zoom In Zoom Out

Sample Name: mp14617-mb1 Acquired: 5/1/2019 16:12:47 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **-.0000** | **.0001** | **-.0000** | **.0007** | **.0032** | **.0004** | **.0007** | **-.0001** |
| Stddev | .0005 | .0001 | .0001 | .0000 | .0003 | .0000 | .0000 | .0002 | .0002 |
| %RSD | 590.2 | 572.0 | 93.46 | 195.7 | 36.51 | 1.107 | 4.339 | 29.97 | 156.5 |
| #1 | -.0005 | -.0001 | .0001 | -.0000 | .0010 | .0032 | .0004 | .0005 | -.0003 |
| #2 | -.0002 | .0000 | .0003 | -.0001 | .0005 | .0031 | .0004 | .0009 | .0000 |
| #3 | .0005 | .0000 | .0000 | .0000 | .0007 | .0032 | .0004 | .0006 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0060** | **.0000** | **-.0006** | **-.0004** | **-.0000** | **-.0009** | **.0043** | **.0494** |
| Stddev | .0002 | .0002 | .0007 | .0011 | .0007 | .0004 | .0006 | .0085 | .0024 |
| %RSD | 273.7 | 2.918 | 4934. | 182.7 | 186.8 | 855.9 | 64.32 | 197.4 | 4.856 |
| #1 | .0002 | .0059 | .0005 | -.0004 | .0000 | -.0001 | -.0004 | -.0032 | .0468 |
| #2 | -.0002 | .0058 | .0004 | -.0018 | .0000 | .0004 | -.0008 | .0136 | .0496 |
| #3 | .0002 | .0062 | -.0008 | .0004 | -.0012 | -.0004 | -.0015 | .0026 | .0516 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0263** | **.0251** | **.1441** | **.0489** | **.0009** | **.0003** | **.0115** | **.0226** | **.0004** |
| Stddev | .0001 | .0200 | .0165 | .0074 | .0005 | .0002 | .0007 | .0003 | .0001 |
| %RSD | .3463 | 79.49 | 11.44 | 15.22 | 52.41 | 61.89 | 6.255 | 1.140 | 18.09 |
| #1 | .0264 | .0046 | .1519 | .0571 | .0013 | .0001 | .0107 | .0224 | .0004 |
| #2 | .0262 | .0264 | .1553 | .0427 | .0008 | .0004 | .0118 | .0229 | .0005 |
| #3 | .0264 | .0444 | .1252 | .0467 | .0004 | .0003 | .0120 | .0224 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0041** | **.0007** | **.0085** | **-.0008** | **-.0111** | **.0292** |
| Stddev | .0004 | .0004 | .0001 | .0023 | .0003 | .0020 | .0020 |
| %RSD | 46.61 | 9.446 | 19.50 | 27.52 | 36.23 | 18.11 | 7.009 |
| #1 | .0013 | .0037 | .0007 | .0067 | -.0007 | -.0088 | .0313 |
| #2 | .0006 | .0043 | .0005 | .0112 | -.0006 | -.0121 | .0272 |
| #3 | .0006 | .0044 | .0008 | .0078 | -.0012 | -.0124 | .0291 |



Zoom In Zoom Out

Sample Name: mp14617-mb1 Acquired: 5/1/2019 16:12:47 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147360.** | **23544.** | **5957.5** | **9828.8** |
| Stddev | 954. | 871. | 17.0 | 17.2 |
| %RSD | .64708 | 3.6975 | .28580 | .17490 |
| #1 | 146880. | 24222. | 5941.7 | 9809.5 |
| #2 | 146740. | 23847. | 5955.2 | 9834.7 |
| #3 | 148460. | 22562. | 5975.6 | 9842.3 |



Zoom In Zoom Out

Sample Name: MP14617-S1 Acquired: 5/1/2019 16:17:53 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.191** | **1.986** | **1.955** | **2.126** | **2.954** | **2.797** | **7.343** | **2.246** | **.2526** |
| Stddev | .001 | .002 | .002 | .002 | .008 | .008 | .023 | .003 | .0007 |
| %RSD | .0355 | .1043 | .0748 | .0707 | .2557 | .2861 | .3190 | .1171 | .2706 |
| #1 | 3.192 | 1.987 | 1.955 | 2.127 | 2.952 | 2.789 | 7.326 | 2.249 | .2529 |
| #2 | 3.190 | 1.987 | 1.954 | 2.124 | 2.948 | 2.795 | 7.335 | 2.244 | .2532 |
| #3 | 3.191 | 1.983 | 1.957 | 2.126 | 2.962 | 2.805 | 7.370 | 2.245 | .2519 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.172** | **6.172** | **2.148** | **2.036** | **3.559** | **1.909** | **.9467** | **179.6** | **50.93** |
| Stddev | .003 | .011 | .004 | .009 | .002 | .006 | .0020 | .1 | .08 |
| %RSD | .1443 | .1813 | .1960 | .4500 | .0615 | .3266 | .2080 | .0520 | .1486 |
| #1 | 2.169 | 6.170 | 2.143 | 2.026 | 3.557 | 1.902 | .9448 | 179.6 | 50.97 |
| #2 | 2.171 | 6.161 | 2.151 | 2.043 | 3.560 | 1.912 | .9487 | 179.6 | 50.98 |
| #3 | 2.175 | 6.184 | 2.149 | 2.040 | 3.561 | 1.913 | .9468 | 179.5 | 50.85 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **226.3** | **55.39** | **44.01** | **25.57** | **1.901** | **1.846** | **2.907** | **2.027** | **2.181** |
| Stddev | .4 | .08 | .10 | .02 | .001 | .002 | .007 | .004 | .004 |
| %RSD | .1779 | .1412 | .2219 | .0626 | .0590 | .0819 | .2370 | .2110 | .1606 |
| #1 | 226.4 | 55.44 | 43.99 | 25.58 | 1.900 | 1.845 | 2.914 | 2.022 | 2.181 |
| #2 | 226.7 | 55.44 | 43.92 | 25.55 | 1.901 | 1.845 | 2.900 | 2.029 | 2.185 |
| #3 | 225.9 | 55.30 | 44.11 | 25.57 | 1.902 | 1.847 | 2.906 | 2.029 | 2.178 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.709** | **1.180** | **1.821** | **18.69** | **.1405** | **.1597** | **7.871** |
| Stddev | .002 | .002 | .002 | .05 | .0039 | .0016 | .031 |
| %RSD | .0352 | .1936 | .1089 | .2664 | 2.788 | .9899 | .3983 |
| #1 | 4.707 | 1.182 | 1.818 | 18.63 | .1381 | .1612 | 7.860 |
| #2 | 4.709 | 1.180 | 1.821 | 18.73 | .1450 | .1598 | 7.907 |
| #3 | 4.710 | 1.177 | 1.822 | 18.70 | .1384 | .1580 | 7.847 |

Zoom In Zoom Out

Sample Name: MP14617-S1 Acquired: 5/1/2019 16:17:53 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144680.** | **24647.** | **5939.8** | **9160.4** |
| Stddev | 360. | 165. | 27.2 | 32.2 |
| %RSD | .24881 | .67044 | .45735 | .35125 |
| #1 | 145050. | 24635. | 5949.6 | 9172.9 |
| #2 | 144660. | 24489. | 5960.7 | 9184.5 |
| #3 | 144330. | 24818. | 5909.1 | 9123.9 |



Zoom In Zoom Out

Sample Name: MP14617-S2 Acquired: 5/1/2019 16:22:52 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.957** | **2.007** | **1.986** | **2.143** | **2.752** | **2.636** | **6.464** | **2.245** | **.2551** |
| Stddev | .011 | .006 | .004 | .004 | .012 | .014 | .063 | .003 | .0012 |
| %RSD | .3764 | .3044 | .1978 | .2009 | .4490 | .5105 | .9792 | .1176 | .4602 |
| #1 | 2.944 | 2.003 | 1.985 | 2.141 | 2.738 | 2.621 | 6.392 | 2.243 | .2540 |
| #2 | 2.959 | 2.004 | 1.991 | 2.148 | 2.757 | 2.639 | 6.509 | 2.248 | .2550 |
| #3 | 2.966 | 2.014 | 1.983 | 2.140 | 2.761 | 2.647 | 6.491 | 2.244 | .2563 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.143** | **5.320** | **2.124** | **2.088** | **3.438** | **1.932** | **1.044** | **152.8** | **47.44** |
| Stddev | .009 | .014 | .009 | .005 | .007 | .004 | .005 | .4 | .10 |
| %RSD | .4053 | .2577 | .4127 | .2281 | .1989 | .1857 | .4471 | .2434 | .2002 |
| #1 | 2.133 | 5.314 | 2.119 | 2.087 | 3.433 | 1.934 | 1.045 | 152.5 | 47.37 |
| #2 | 2.147 | 5.336 | 2.135 | 2.093 | 3.446 | 1.928 | 1.048 | 152.9 | 47.42 |
| #3 | 2.150 | 5.310 | 2.120 | 2.084 | 3.436 | 1.934 | 1.039 | 153.2 | 47.55 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **195.5** | **51.20** | **41.46** | **25.41** | **1.943** | **1.873** | **3.009** | **2.031** | **2.167** |
| Stddev | .6 | .19 | .20 | .11 | .007 | .004 | .020 | .004 | .006 |
| %RSD | .3000 | .3634 | .4918 | .4316 | .3427 | .2150 | .6482 | .1958 | .2865 |
| #1 | 194.9 | 51.06 | 41.25 | 25.30 | 1.938 | 1.871 | 2.996 | 2.032 | 2.161 |
| #2 | 195.5 | 51.12 | 41.48 | 25.41 | 1.950 | 1.877 | 3.032 | 2.034 | 2.169 |
| #3 | 196.0 | 51.41 | 41.65 | 25.51 | 1.940 | 1.870 | 3.001 | 2.026 | 2.173 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.399** | **1.084** | **1.874** | **16.50** | **.1292** | **.1281** | **6.947** |
| Stddev | .018 | .005 | .007 | .08 | .0023 | .0043 | .059 |
| %RSD | .4073 | .4339 | .3819 | .4582 | 1.750 | 3.370 | .8479 |
| #1 | 4.379 | 1.079 | 1.866 | 16.46 | .1272 | .1327 | 6.883 |
| #2 | 4.406 | 1.086 | 1.877 | 16.59 | .1289 | .1241 | 6.999 |
| #3 | 4.413 | 1.088 | 1.879 | 16.46 | .1316 | .1275 | 6.958 |



Zoom In Zoom Out

Sample Name: MP14617-S2 Acquired: 5/1/2019 16:22:52 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **144560.** | **24179.** | **5951.3** | **9208.9** |
| Stddev | 810. | 128. | 20.3 | 24.6 |
| %RSD | .56051 | .53028 | .34112 | .26693 |
| #1 | 145200. | 24156. | 5940.2 | 9191.9 |
| #2 | 143650. | 24064. | 5939.1 | 9197.8 |
| #3 | 144840. | 24317. | 5974.8 | 9237.1 |



Zoom In Zoom Out

Sample Name: JC86986-4 Acquired: 5/1/2019 16:27:51 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9007** | **.0061** | **.0007** | **.0697** | **.2513** | **.0600** | **1.912** | **.1737** | **.0002** |
| Stddev | .0004 | .0000 | .0001 | .0001 | .0004 | .0005 | .026 | .0004 | .0007 |
| %RSD | .0411 | .7662 | 15.12 | .1657 | .1602 | .8584 | 1.361 | .2211 | 300.1 |
| #1 | .9009 | .0061 | .0006 | .0696 | .2514 | .0596 | 1.882 | .1732 | .0009 |
| #2 | .9010 | .0061 | .0008 | .0698 | .2509 | .0597 | 1.923 | .1740 | -.0004 |
| #3 | .9003 | .0061 | .0007 | .0696 | .2517 | .0605 | 1.931 | .1737 | .0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2451** | **.3991** | **.0279** | **.0011** | **.0760** | **-.0002** | **-.0013** | **123.0** | **19.37** |
| Stddev | .0006 | .0007 | .0001 | .0005 | .0007 | .0011 | .0006 | .2 | .07 |
| %RSD | .2648 | .1773 | .4851 | 44.45 | .9508 | 596.8 | 47.32 | .1533 | .3526 |
| #1 | .2444 | .3998 | .0280 | .0008 | .0767 | .0011 | -.0010 | 122.9 | 19.29 |
| #2 | .2452 | .3984 | .0278 | .0017 | .0760 | -.0007 | -.0020 | 122.8 | 19.37 |
| #3 | .2457 | .3991 | .0278 | .0008 | .0753 | -.0010 | -.0009 | 123.2 | 19.43 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **124.6** | **32.24** | **11.39** | **2.083** | **.0397** | **.0036** | **1.875** | **.0228** | **.1363** |
| Stddev | .4 | .21 | .04 | .003 | .0007 | .0001 | .003 | .0006 | .0002 |
| %RSD | .2828 | .6555 | .3771 | .1431 | 1.841 | 3.379 | .1676 | 2.433 | .1831 |
| #1 | 124.2 | 32.01 | 11.43 | 2.086 | .0405 | .0036 | 1.875 | .0223 | .1364 |
| #2 | 124.7 | 32.29 | 11.38 | 2.080 | .0390 | .0038 | 1.872 | .0234 | .1360 |
| #3 | 124.9 | 32.42 | 11.35 | 2.084 | .0396 | .0035 | 1.879 | .0228 | .1365 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.005** | **.0010** | **.0979** | **5.731** | **.0969** | **.1660** | **2.050** |
| Stddev | .002 | .0005 | .0001 | .038 | .0019 | .0017 | .011 |
| %RSD | .0555 | 54.29 | .1106 | .6624 | 1.960 | 1.011 | .5240 |
| #1 | 4.002 | .0016 | .0977 | 5.727 | .0950 | .1647 | 2.053 |
| #2 | 4.005 | .0009 | .0979 | 5.695 | .0988 | .1678 | 2.038 |
| #3 | 4.007 | .0005 | .0979 | 5.771 | .0968 | .1653 | 2.059 |

Zoom In Zoom Out

Sample Name: JC86986-4 Acquired: 5/1/2019 16:27:51 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150610.** | **25773.** | **6251.7** | **9237.8** |
| Stddev | 169. | 332. | 14.5 | 17.7 |
| %RSD | .11199 | 1.2888 | .23155 | .19152 |
| #1 | 150760. | 26115. | 6235.6 | 9217.6 |
| #2 | 150660. | 25752. | 6263.6 | 9245.1 |
| #3 | 150430. | 25452. | 6255.9 | 9250.6 |



Zoom In Zoom Out

Sample Name: JC86986-5 Acquired: 5/1/2019 16:32:55 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2038** | **.0030** | **.0005** | **.0484** | **.1253** | **.0757** | **1.109** | **.0842** | **.0005** |
| Stddev | .0003 | .0000 | .0001 | .0003 | .0003 | .0004 | .001 | .0003 | .0004 |
| %RSD | .1280 | .6888 | 24.69 | .6492 | .2325 | .4642 | .1125 | .4109 | 70.64 |
| #1 | .2039 | .0030 | .0006 | .0484 | .1255 | .0760 | 1.109 | .0840 | .0004 |
| #2 | .2036 | .0030 | .0004 | .0486 | .1250 | .0757 | 1.107 | .0846 | .0009 |
| #3 | .2041 | .0030 | .0004 | .0480 | .1255 | .0753 | 1.109 | .0840 | .0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1791** | **.3568** | **.0254** | **.0008** | **.0710** | **-.0016** | **.0012** | **87.58** | **1.848** |
| Stddev | .0001 | .0012 | .0004 | .0007 | .0001 | .0021 | .0008 | .24 | .004 |
| %RSD | .0585 | .3297 | 1.489 | 97.71 | .1992 | 131.9 | 65.61 | .2747 | .2329 |
| #1 | .1790 | .3571 | .0252 | .0001 | .0711 | -.0038 | .0008 | 87.31 | 1.844 |
| #2 | .1792 | .3578 | .0252 | .0016 | .0709 | -.0011 | .0006 | 87.73 | 1.852 |
| #3 | .1792 | .3555 | .0259 | .0006 | .0708 | .0002 | .0020 | 87.71 | 1.848 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **129.5** | **19.64** | **9.159** | **.4881** | **.0506** | **.0048** | **2.204** | **.0247** | **.0254** |
| Stddev | .2 | .10 | .020 | .0083 | .0003 | .0001 | .014 | .0004 | .0000 |
| %RSD | .1566 | .4968 | .2228 | 1.691 | .6204 | 1.360 | .6513 | 1.538 | .0822 |
| #1 | 129.3 | 19.53 | 9.152 | .4885 | .0506 | .0048 | 2.209 | .0246 | .0254 |
| #2 | 129.6 | 19.72 | 9.142 | .4796 | .0503 | .0048 | 2.215 | .0251 | .0254 |
| #3 | 129.7 | 19.66 | 9.182 | .4961 | .0509 | .0049 | 2.187 | .0244 | .0254 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.226** | **.0010** | **.0734** | **.5750** | **.0531** | **.1177** | **1.163** |
| Stddev | .000 | .0010 | .0002 | .0016 | .0012 | .0012 | .003 |
| %RSD | .0099 | 92.61 | .2207 | .2863 | 2.209 | 1.028 | .2504 |
| #1 | 2.225 | .0010 | .0733 | .5733 | .0544 | .1164 | 1.160 |
| #2 | 2.226 | .0001 | .0736 | .5766 | .0521 | .1183 | 1.163 |
| #3 | 2.226 | .0020 | .0734 | .5750 | .0528 | .1185 | 1.166 |



Zoom In Zoom Out

Sample Name: JC86986-5 Acquired: 5/1/2019 16:32:55 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145840.** | **24482.** | **6029.8** | **9366.1** |
| Stddev | 213. | 182. | 14.3 | 14.7 |
| %RSD | .14607 | .74511 | .23688 | .15712 |
| #1 | 145700. | 24687. | 6035.2 | 9375.2 |
| #2 | 146090. | 24420. | 6013.7 | 9349.1 |
| #3 | 145740. | 24339. | 6040.7 | 9374.1 |



Zoom In Zoom Out

Sample Name: JC86986-7 Acquired: 5/1/2019 16:37:53 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.6517** | **.0168** | **.0103** | **.3125** | **.0593** | **.5958** | **.2091** | **.5714** | **.0004** |
| Stddev | .0009 | .0001 | .0001 | .0007 | .0005 | .0009 | .0003 | .0011 | .0000 |
| %RSD | .1311 | .5026 | 1.388 | .2315 | .8177 | .1535 | .1399 | .1840 | 11.00 |
| #1 | .6511 | .0168 | .0103 | .3118 | .0591 | .5967 | .2091 | .5702 | .0004 |
| #2 | .6527 | .0167 | .0101 | .3123 | .0599 | .5957 | .2094 | .5718 | .0004 |
| #3 | .6514 | .0169 | .0104 | .3133 | .0590 | .5949 | .2088 | .5722 | .0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0544** | **1.393** | **.0598** | **.0008** | **.3340** | **.0405** | **.0065** | **24.01** | **6.950** |
| Stddev | .0003 | .002 | .0005 | .0006 | .0001 | .0015 | .0001 | .05 | .007 |
| %RSD | .5729 | .1283 | .8903 | 75.57 | .0161 | 3.721 | 1.602 | .2189 | .0994 |
| #1 | .0540 | 1.392 | .0603 | .0014 | .3341 | .0421 | .0064 | 24.07 | 6.956 |
| #2 | .0545 | 1.392 | .0593 | .0008 | .3340 | .0391 | .0065 | 23.97 | 6.942 |
| #3 | .0546 | 1.395 | .0598 | .0002 | .3340 | .0403 | .0066 | 24.00 | 6.952 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **56.93** | **1.328** | **1.690** | **.7679** | **.0265** | **.0114** | **6.508** | **.0246** | **.3992** |
| Stddev | .12 | .009 | .062 | .0127 | .0007 | .0002 | .003 | .0000 | .0006 |
| %RSD | .2128 | .7077 | 3.690 | 1.649 | 2.520 | 1.508 | .0424 | .1117 | .1419 |
| #1 | 57.07 | 1.337 | 1.760 | .7782 | .0258 | .0116 | 6.505 | .0246 | .3997 |
| #2 | 56.84 | 1.329 | 1.639 | .7716 | .0267 | .0113 | 6.510 | .0246 | .3986 |
| #3 | 56.88 | 1.318 | 1.672 | .7537 | .0271 | .0114 | 6.510 | .0246 | .3995 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.536** | **.0056** | **.0276** | **33.30** | **.0341** | **.0087** | **.6108** |
| Stddev | .001 | .0008 | .0001 | .07 | .0016 | .0017 | .0035 |
| %RSD | .0771 | 14.46 | .3388 | .1996 | 4.602 | 19.77 | .5752 |
| #1 | 1.537 | .0056 | .0275 | 33.33 | .0324 | .0070 | .6145 |
| #2 | 1.536 | .0065 | .0276 | 33.22 | .0344 | .0088 | .6075 |
| #3 | 1.535 | .0048 | .0277 | 33.35 | .0355 | .0105 | .6105 |

Zoom In Zoom Out

Sample Name: JC86986-7 Acquired: 5/1/2019 16:37:53 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148550.** | **24787.** | **6049.5** | **9578.6** |
| Stddev | 265. | 204. | 11.6 | 21.0 |
| %RSD | .17860 | .82305 | .19254 | .21906 |
| #1 | 148720. | 24612. | 6054.8 | 9596.3 |
| #2 | 148250. | 24738. | 6057.7 | 9584.0 |
| #3 | 148690. | 25011. | 6036.2 | 9555.4 |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/1/2019 16:42:53 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.045** | **2.078** | **2.034** | **2.074** | **2.055** | **2.050** | **2.046** | **2.091** | **.2566** |
| Stddev | .005 | .009 | .001 | .003 | .006 | .004 | .032 | .003 | .0004 |
| %RSD | .2489 | .4244 | .0500 | .1379 | .2723 | .2193 | 1.585 | .1302 | .1530 |
| #1 | 2.049 | 2.079 | 2.033 | 2.072 | 2.058 | 2.053 | 2.081 | 2.088 | .2569 |
| #2 | 2.039 | 2.068 | 2.035 | 2.073 | 2.058 | 2.052 | 2.018 | 2.090 | .2566 |
| #3 | 2.046 | 2.085 | 2.035 | 2.077 | 2.048 | 2.045 | 2.038 | 2.094 | .2562 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.028** | **2.053** | **2.017** | **2.092** | **2.076** | **2.050** | **2.019** | **40.26** | **40.76** |
| Stddev | .004 | .001 | .003 | .005 | .005 | .005 | .003 | .16 | .16 |
| %RSD | .1966 | .0469 | .1390 | .2509 | .2501 | .2636 | .1381 | .3935 | .3855 |
| #1 | 2.028 | 2.052 | 2.014 | 2.088 | 2.070 | 2.047 | 2.017 | 40.26 | 40.77 |
| #2 | 2.031 | 2.054 | 2.020 | 2.098 | 2.078 | 2.056 | 2.022 | 40.10 | 40.59 |
| #3 | 2.023 | 2.052 | 2.017 | 2.090 | 2.080 | 2.047 | 2.020 | 40.41 | 40.90 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.23** | **40.67** | **40.81** | **41.04** | **2.068** | **2.010** | **5.050** | **2.032** | **2.106** |
| Stddev | .17 | .13 | .16 | .10 | .002 | .002 | .007 | .006 | .008 |
| %RSD | .4225 | .3085 | .4032 | .2541 | .0748 | .1082 | .1341 | .2735 | .3885 |
| #1 | 41.25 | 40.68 | 40.83 | 41.12 | 2.067 | 2.009 | 5.042 | 2.029 | 2.110 |
| #2 | 41.05 | 40.55 | 40.64 | 40.92 | 2.070 | 2.013 | 5.055 | 2.039 | 2.096 |
| #3 | 41.39 | 40.80 | 40.97 | 41.09 | 2.068 | 2.009 | 5.052 | 2.029 | 2.111 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/1/2019 16:42:53 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.041** | **1.997** | **2.019** | **2.011** | **2.072** | **2.002** | **1.867** |
| Stddev | .003 | .003 | .004 | .010 | .005 | .008 | .010 |
| %RSD | .1400 | .1718 | .1882 | .5040 | .2318 | .3886 | .5452 |
| #1 | 2.042 | 1.993 | 2.019 | 2.003 | 2.067 | 2.005 | 1.858 |
| #2 | 2.043 | 2.000 | 2.023 | 2.023 | 2.071 | 1.994 | 1.878 |
| #3 | 2.038 | 1.997 | 2.015 | 2.009 | 2.077 | 2.009 | 1.865 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **138110.** | **23105.** | **5692.4** | **8944.1** |
| Stddev | 343. | 125. | 7.6 | 8.7 |
| %RSD | .24829 | .54168 | .13401 | .09701 |
| #1 | 137820. | 23243. | 5698.5 | 8952.8 |
| #2 | 138490. | 23072. | 5683.8 | 8944.0 |
| #3 | 138030. | 22999. | 5694.9 | 8935.4 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/1/2019 16:47:55 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0001** | **-.0000** | **-.0000** | **-.0002** | **-.0001** | **-.0000** | **-.0001** |
| Stddev | .0003 | .0001 | .0001 | .0003 | .0002 | .0004 | .0001 | .0002 |
| %RSD | 531.1 | 69.25 | 2502. | 4183. | 132.0 | 340.9 | 281.7 | 194.4 |
| #1 | -.0003 | -.0001 | .0001 | -.0002 | .0001 | .0002 | -.0001 | -.0003 |
| #2 | .0002 | -.0002 | -.0001 | .0004 | -.0004 | -.0006 | -.0000 | .0001 |
| #3 | .0003 | -.0000 | .0000 | -.0002 | -.0002 | -.0000 | .0000 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **-.0001** | **-.0005** | **.0002** | **.0002** | **-.0007** | **.0004** | **-.0008** |
| Stddev | .0003 | .0002 | .0000 | .0006 | .0019 | .0004 | .0010 | .0005 |
| %RSD | 87.59 | 145.9 | 6.978 | 291.8 | 770.7 | 58.39 | 276.9 | 61.29 |
| #1 | -.0005 | -.0000 | -.0005 | -.0005 | .0003 | -.0007 | -.0008 | -.0009 |
| #2 | -.0006 | -.0003 | -.0005 | .0007 | -.0016 | -.0003 | .0009 | -.0011 |
| #3 | -.0000 | .0000 | -.0004 | .0004 | .0021 | -.0011 | .0009 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0177** | **-.0071** | **.0011** | **.0138** | **.2972** | **.0094** | **-.0004** | **.0001** |
| Stddev | .0094 | .0008 | .0017 | .0049 | .0444 | .0129 | .0002 | .0000 |
| %RSD | 52.83 | 11.48 | 148.4 | 35.63 | 14.95 | 137.1 | 55.68 | 47.69 |
| #1 | -.0285 | -.0079 | -.0006 | .0194 | .2907 | .0103 | -.0006 | .0001 |
| #2 | -.0138 | -.0063 | .0013 | .0123 | .2564 | -.0039 | -.0003 | .0000 |
| #3 | -.0110 | -.0070 | .0028 | .0099 | .3445 | .0218 | -.0003 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCB Acquired: 5/1/2019 16:47:55 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0009** | **.0003** | **-.0000** | **.0002** | **.0012** | **.0000** | **.0030** | **-.0018** |
| Stddev | .0005 | .0002 | .0001 | .0005 | .0004 | .0001 | .0032 | .0005 |
| %RSD | 61.57 | 56.32 | 784.3 | 199.1 | 31.42 | 179.1 | 104.9 | 25.38 |
| #1 | .0005 | .0004 | .0001 | .0002 | .0012 | .0000 | .0055 | -.0017 |
| #2 | .0015 | .0001 | -.0001 | .0007 | .0016 | .0001 | .0042 | -.0023 |
| #3 | .0006 | .0004 | -.0001 | -.0002 | .0009 | -.0000 | -.0006 | -.0014 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0132** | **.0097** |
| Stddev | .0008 | .0028 |
| %RSD | 6.179 | 29.15 |
| #1 | -.0139 | .0068 |
| #2 | -.0123 | .0099 |
| #3 | -.0134 | .0125 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146680.** | **23089.** | **5974.5** | **9858.4** |
| Stddev | 230. | 798. | 94.1 | 136.6 |
| %RSD | .15688 | 3.4580 | 1.5756 | 1.3853 |
| #1 | 146450. | 23475. | 6078.6 | 10010. |
| #2 | 146910. | 23621. | 5949.8 | 9818.7 |
| #3 | 146700. | 22171. | 5895.3 | 9746.1 |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/1/2019 16:53:02 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0000** | **.0001** | **.0008** | **-.0012** | **-.0071** | **.0034** | **-.0002** | **.0019** |
| Stddev | .0000 | .0001 | .0001 | .0003 | .0003 | .0005 | .0001 | .0004 | .0000 |
| %RSD | 6.114 | 411.5 | 41.71 | 33.95 | 21.88 | 7.745 | 2.965 | 201.1 | 1.908 |
| #1 | .0004 | .0001 | .0001 | .0010 | -.0010 | -.0077 | .0033 | -.0001 | .0019 |
| #2 | .0004 | -.0001 | .0001 | .0005 | -.0015 | -.0068 | .0034 | -.0006 | .0019 |
| #3 | .0004 | .0000 | .0002 | .0009 | -.0010 | -.0067 | .0035 | .0002 | .0019 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0032** | **-.0014** | **.0007** | **-.0017** | **-.0007** | **-.0020** | **-.0010** | **511.4** | **386.4** |
| Stddev | .0002 | .0001 | .0003 | .0018 | .0005 | .0035 | .0013 | 5.3 | 4.1 |
| %RSD | 5.071 | 4.885 | 46.54 | 105.3 | 77.04 | 173.0 | 130.3 | 1.028 | 1.053 |
| #1 | -.0031 | -.0013 | .0005 | -.0033 | -.0013 | .0020 | -.0020 | 516.7 | 384.0 |
| #2 | -.0032 | -.0014 | .0011 | .0003 | -.0005 | -.0044 | .0004 | 506.2 | 391.1 |
| #3 | -.0034 | -.0015 | .0005 | -.0022 | -.0003 | -.0036 | -.0014 | 511.2 | 384.1 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **196.0** | **501.2** | **.4884** | **.0660** | **-.0023** | **.0002** | **.0010** | **-.0033** | **-.0001** |
| Stddev | 1.2 | .7 | .0358 | .0111 | .0008 | .0002 | .0010 | .0010 | .0001 |
| %RSD | .6211 | .1327 | 7.333 | 16.82 | 34.88 | 100.1 | 101.6 | 30.37 | 134.3 |
| #1 | 194.9 | 501.7 | .4690 | .0731 | -.0014 | .0004 | .0016 | -.0028 | -.0001 |
| #2 | 197.3 | 501.5 | .4665 | .0716 | -.0030 | -.0000 | -.0002 | -.0026 | -.0003 |
| #3 | 195.8 | 500.5 | .5298 | .0532 | -.0024 | .0002 | .0017 | -.0045 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icsa Acquired: 5/1/2019 16:53:02 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0019** | **.0006** | **.0010** | **-.0047** | **-.0011** | **-.0133** | **.0294** |
| Stddev | .0002 | .0001 | .0001 | .0018 | .0021 | .0009 | .0028 |
| %RSD | 10.88 | 16.85 | 9.000 | 39.20 | 202.4 | 6.944 | 9.447 |
| #1 | -.0021 | .0006 | .0010 | -.0067 | .0013 | -.0124 | .0297 |
| #2 | -.0017 | .0005 | .0011 | -.0031 | -.0017 | -.0132 | .0264 |
| #3 | -.0019 | .0007 | .0009 | -.0043 | -.0028 | -.0142 | .0319 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **124530.** | **22412.** | **5218.5** | **8148.2** |
| Stddev | 842. | 22. | 18.1 | 21.9 |
| %RSD | .67625 | .09959 | .34763 | .26864 |
| #1 | 124770. | 22406. | 5197.9 | 8125.2 |
| #2 | 123590. | 22394. | 5232.3 | 8168.7 |
| #3 | 125230. | 22437. | 5225.2 | 8150.6 |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/1/2019 16:58:24 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5311** | **.5244** | **1.058** | **.5095** | **.5114** | **.5229** | **.5278** | **1.014** | **1.110** |
| Stddev | .0008 | .0013 | .004 | .0018 | .0023 | .0009 | .0004 | .004 | .002 |
| %RSD | .1578 | .2458 | .3650 | .3582 | .4521 | .1781 | .0730 | .4140 | .1577 |
| #1 | .5301 | .5229 | 1.054 | .5077 | .5136 | .5230 | .5282 | 1.010 | 1.112 |
| #2 | .5316 | .5248 | 1.062 | .5113 | .5116 | .5237 | .5274 | 1.018 | 1.109 |
| #3 | .5316 | .5254 | 1.058 | .5095 | .5090 | .5219 | .5280 | 1.012 | 1.109 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5120** | **.9980** | **1.103** | **.9851** | **.9885** | **1.094** | **1.107** | **519.3** | **389.5** |
| Stddev | .0006 | .0026 | .001 | .0046 | .0020 | .003 | .002 | 9.8 | 3.3 |
| %RSD | .1102 | .2600 | .1132 | .4671 | .2006 | .3029 | .1817 | 1.889 | .8479 |
| #1 | .5126 | .9958 | 1.104 | .9822 | .9863 | 1.097 | 1.105 | 513.5 | 387.8 |
| #2 | .5115 | 1.001 | 1.103 | .9904 | .9902 | 1.095 | 1.109 | 530.6 | 393.3 |
| #3 | .5119 | .9973 | 1.102 | .9827 | .9890 | 1.091 | 1.107 | 513.7 | 387.4 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **203.9** | **512.3** | **.4327** | **.0671** | **.5050** | **.4946** | **.5200** | **.4826** | **.5473** |
| Stddev | 2.6 | .9 | .0149 | .0116 | .0038 | .0012 | .0027 | .0006 | .0011 |
| %RSD | 1.282 | .1727 | 3.439 | 17.29 | .7478 | .2492 | .5280 | .1269 | .2016 |
| #1 | 204.8 | 511.3 | .4372 | .0610 | .5007 | .4943 | .5191 | .4823 | .5462 |
| #2 | 205.9 | 512.5 | .4161 | .0598 | .5078 | .4959 | .5231 | .4833 | .5472 |
| #3 | 200.9 | 513.0 | .4449 | .0804 | .5064 | .4935 | .5178 | .4822 | .5484 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/1/2019 16:58:24 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5135** | **.4902** | **.5007** | **.5079** | **.5288** | **.5378** | **.4727** |
| Stddev | .0010 | .0028 | .0003 | .0017 | .0027 | .0020 | .0022 |
| %RSD | .1942 | .5610 | .0539 | .3328 | .5100 | .3809 | .4666 |
| #1 | .5144 | .4875 | .5010 | .5098 | .5272 | .5355 | .4746 |
| #2 | .5124 | .4930 | .5004 | .5065 | .5319 | .5390 | .4734 |
| #3 | .5136 | .4900 | .5008 | .5075 | .5272 | .5391 | .4703 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **124140.** | **22222.** | **5165.5** | **8116.1** |
| Stddev | 140. | 107. | 10.4 | 20.9 |
| %RSD | .11238 | .47985 | .20211 | .25755 |
| #1 | 123980. | 22343. | 5177.4 | 8137.9 |
| #2 | 124180. | 22180. | 5157.7 | 8096.2 |
| #3 | 124250. | 22142. | 5161.5 | 8114.2 |



Zoom In Zoom Out

Sample Name: JC86986-8 Acquired: 5/1/2019 17:03:42 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.198** | **.0068** | **.0011** | **.0719** | **.3247** | **.0649** | **2.513** | **.1924** |
| Stddev | .002 | .0008 | .0002 | .0065 | .0124 | .0190 | .094 | .0018 |
| %RSD | .1685 | 11.14 | 20.65 | 9.098 | 3.813 | 29.21 | 3.749 | .9461 |
| #1 | 1.197 | .0072 | .0010 | .0676 | .3181 | .0756 | 2.468 | .1906 |
| #2 | 1.198 | .0072 | .0010 | .0688 | .3170 | .0761 | 2.450 | .1942 |
| #3 | 1.200 | .0059 | .0014 | .0795 | .3390 | .0430 | 2.621 | .1925 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0142** | **.2997** | **.4669** | **.0356** | F **-.0049** | **.1167** | **-.0091** | **.0041** |
| Stddev | .0232 | .0095 | .0049 | .0026 | .0115 | .0054 | .0139 | .0090 |
| %RSD | 163.0 | 3.183 | 1.057 | 7.199 | 234.9 | 4.666 | 152.8 | 219.1 |
| #1 | -.0006 | .2943 | .4636 | .0365 | .0021 | .1176 | .0002 | -.0019 |
| #2 | -.0011 | .2940 | .4725 | .0376 | .0014 | .1216 | -.0024 | -.0002 |
| #3 | -.0410 | .3107 | .4645 | .0327 | -.0181 | .1108 | -.0252 | .0145 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **159.6** | **23.15** | **159.1** | **38.33** | **14.45** | **2.130** | **.0504** | **.0027** |
| Stddev | .1 | .02 | 1.1 | .08 | .07 | .015 | .0003 | .0011 |
| %RSD | .0507 | .0987 | .6740 | .2079 | .4800 | .7085 | .6887 | 42.32 |
| #1 | 159.7 | 23.18 | 159.9 | 38.38 | 14.50 | 2.113 | .0503 | .0033 |
| #2 | 159.5 | 23.13 | 157.8 | 38.24 | 14.49 | 2.141 | .0507 | .0034 |
| #3 | 159.6 | 23.15 | 159.5 | 38.38 | 14.37 | 2.136 | .0500 | .0014 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.139** | **.0212** | **.1684** | **4.889** | **.0037** | **.1163** | **6.177** | **.0130** |
| Stddev | .019 | .0050 | .0004 | .168 | .0029 | .0025 | .071 | .1815 |
| %RSD | .8962 | 23.60 | .2658 | 3.442 | 78.00 | 2.156 | 1.158 | 1392. |
| #1 | 2.117 | .0243 | .1680 | 4.793 | .0020 | .1182 | 6.138 | .1193 |
| #2 | 2.152 | .0240 | .1683 | 4.790 | .0021 | .1174 | 6.259 | .1163 |
| #3 | 2.148 | .0155 | .1689 | 5.083 | .0070 | .1135 | 6.133 | -.1965 |



Zoom In Zoom Out

Sample Name: JC86986-8 Acquired: 5/1/2019 17:03:42 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2107** | **2.246** |
| Stddev | .0068 | .063 |
| %RSD | 3.237 | 2.823 |
| #1 | .2064 | 2.262 |
| #2 | .2071 | 2.299 |
| #3 | .2185 | 2.176 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | ***** | **25680.** | **6235.2** | **9157.0** |
| Stddev | ----- | 36. | 68.0 | 90.8 |
| %RSD | ----- | .14074 | 1.0906 | .99203 |
| #1 | 150630. | 25668. | 6259.4 | 9196.5 |
| #2 | 150200. | 25721. | 6158.4 | 9053.1 |
| #3 | ----- | 25652. | 6287.7 | 9221.3 |



Zoom In Zoom Out

Sample Name: JC86986-9 Acquired: 5/1/2019 17:08:55 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8395** | **.0029** | **.0058** | **.0387** | **.9668** | **.8779** | **1.575** | **.2959** |
| Stddev | .0013 | .0001 | .0002 | .0002 | .0046 | .0024 | .004 | .0016 |
| %RSD | .1554 | 2.487 | 3.028 | .4208 | .4746 | .2740 | .2644 | .5261 |
| #1 | .8410 | .0030 | .0060 | .0389 | .9616 | .8752 | 1.571 | .2975 |
| #2 | .8384 | .0029 | .0057 | .0386 | .9702 | .8797 | 1.578 | .2944 |
| #3 | .8391 | .0029 | .0058 | .0386 | .9687 | .8787 | 1.578 | .2957 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.1043** | **.8483** | **.1097** | F **-.0052** | **.6969** | **.0206** | **.0140** |
| Stddev | .0018 | .0001 | .0030 | .0004 | .0008 | .0023 | .0027 | .0015 |
| %RSD | 1308. | .1336 | .3574 | .4077 | 16.09 | .3256 | 13.08 | 10.52 |
| #1 | .0014 | .1042 | .8514 | .1092 | -.0054 | .6995 | .0178 | .0148 |
| #2 | .0004 | .1044 | .8454 | .1101 | -.0042 | .6954 | .0209 | .0123 |
| #3 | -.0021 | .1041 | .8480 | .1099 | -.0059 | .6957 | .0231 | .0149 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **26.19** | **41.93** | F **297.6** | **7.366** | **2.992** | **.6728** | **.0265** | **.1241** |
| Stddev | .09 | .13 | 5.2 | .012 | .044 | .0036 | .0005 | .0005 |
| %RSD | .3482 | .3037 | 1.735 | .1656 | 1.471 | .5394 | 1.861 | .4121 |
| #1 | 26.25 | 41.98 | 301.6 | 7.374 | 3.027 | .6752 | .0268 | .1246 |
| #2 | 26.24 | 42.03 | 299.5 | 7.372 | 3.007 | .6747 | .0268 | .1236 |
| #3 | 26.09 | 41.79 | 291.8 | 7.352 | 2.943 | .6687 | .0260 | .1241 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.366** | **.1249** | **.2246** | **1.162** | **.0104** | **.0411** | F **371.7** | **.0398** |
| Stddev | .008 | .0007 | .0003 | .003 | .0008 | .0003 | 2.3 | .0028 |
| %RSD | .1194 | .5990 | .1543 | .2610 | 8.061 | .7993 | .6302 | 7.006 |
| #1 | 6.371 | .1255 | .2249 | 1.158 | .0101 | .0414 | 374.4 | .0366 |
| #2 | 6.358 | .1251 | .2248 | 1.163 | .0098 | .0410 | 370.1 | .0412 |
| #3 | 6.370 | .1240 | .2242 | 1.164 | .0114 | .0408 | 370.6 | .0415 |

Zoom In Zoom Out

Sample Name: JC86986-9 Acquired: 5/1/2019 17:08:55 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0071** | **.9258** |
| Stddev | .0022 | .0023 |
| %RSD | 30.55 | .2442 |
| #1 | .0047 | .9255 |
| #2 | .0090 | .9237 |
| #3 | .0076 | .9282 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141190.** | **23959.** | **5807.4** | **9549.8** |
| Stddev | 714. | 97. | 23.3 | 40.6 |
| %RSD | .50552 | .40293 | .40196 | .42559 |
| #1 | 142010. | 24016. | 5784.1 | 9507.7 |
| #2 | 140780. | 24014. | 5830.8 | 9588.8 |
| #3 | 140780. | 23848. | 5807.3 | 9553.0 |



Zoom In Zoom Out

Sample Name: JC86986-10 Acquired: 5/1/2019 17:14:01 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.9104** | **.0064** | **.0009** | **.0671** | **.2802** | **.0882** | **2.672** | **.1791** | **-.0001** |
| Stddev | .0010 | .0000 | .0001 | .0002 | .0008 | .0006 | .008 | .0006 | .0001 |
| %RSD | .1102 | .2326 | 5.634 | .2923 | .2695 | .6582 | .3105 | .3206 | 89.48 |
| #1 | .9107 | .0064 | .0009 | .0669 | .2806 | .0876 | 2.665 | .1789 | -.0003 |
| #2 | .9112 | .0064 | .0010 | .0672 | .2793 | .0882 | 2.681 | .1797 | -.0000 |
| #3 | .9093 | .0064 | .0009 | .0673 | .2807 | .0887 | 2.668 | .1786 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2469** | **.4914** | **.0320** | **.0003** | **.2555** | **.0007** | **.0003** | **126.3** | **18.90** |
| Stddev | .0002 | .0003 | .0004 | .0010 | .0030 | .0009 | .0023 | .3 | .05 |
| %RSD | .0825 | .0562 | 1.267 | 370.5 | 1.165 | 132.5 | 663.1 | .2749 | .2451 |
| #1 | .2467 | .4911 | .0318 | .0005 | .2525 | .0009 | .0030 | 125.9 | 18.85 |
| #2 | .2469 | .4916 | .0317 | -.0008 | .2584 | .0015 | -.0008 | 126.5 | 18.91 |
| #3 | .2471 | .4916 | .0325 | .0011 | .2557 | -.0003 | -.0011 | 126.4 | 18.94 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **164.8** | **33.03** | **14.20** | **1.536** | **.0485** | **.0071** | **2.030** | **.0257** | **.1357** |
| Stddev | .9 | .02 | .06 | .009 | .0003 | .0004 | .004 | .0006 | .0002 |
| %RSD | .5605 | .0654 | .4207 | .6134 | .5337 | 5.152 | .2162 | 2.405 | .1522 |
| #1 | 165.3 | 33.03 | 14.14 | 1.534 | .0486 | .0070 | 2.035 | .0253 | .1354 |
| #2 | 163.8 | 33.06 | 14.26 | 1.546 | .0482 | .0075 | 2.028 | .0264 | .1358 |
| #3 | 165.4 | 33.01 | 14.18 | 1.527 | .0486 | .0068 | 2.027 | .0253 | .1357 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.481** | **.0138** | **.1039** | **9.870** | **.1142** | **.1607** | **1.899** |
| Stddev | .001 | .0012 | .0002 | .011 | .0021 | .0021 | .015 |
| %RSD | .0253 | 8.691 | .1723 | .1157 | 1.828 | 1.297 | .7658 |
| #1 | 4.480 | .0124 | .1039 | 9.858 | .1139 | .1584 | 1.916 |
| #2 | 4.480 | .0147 | .1041 | 9.872 | .1164 | .1625 | 1.894 |
| #3 | 4.482 | .0142 | .1038 | 9.880 | .1123 | .1612 | 1.888 |



Zoom In Zoom Out

Sample Name: JC86986-10 Acquired: 5/1/2019 17:14:01 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149580.** | **25535.** | **6205.7** | **9265.0** |
| Stddev | 255. | 73. | 19.8 | 19.6 |
| %RSD | .17070 | .28492 | .31923 | .21159 |
| #1 | 149580. | 25496. | 6205.6 | 9267.3 |
| #2 | 149840. | 25619. | 6225.6 | 9283.3 |
| #3 | 149330. | 25490. | 6185.9 | 9244.3 |



Zoom In Zoom Out

Sample Name: JC86986-11 Acquired: 5/1/2019 17:19:15 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7634** | **.0068** | **.0028** | **.0302** | **.1511** | **.2310** | **3.167** | **.0848** | **.0008** |
| Stddev | .0020 | .0000 | .0000 | .0002 | .0016 | .0026 | .026 | .0003 | .0005 |
| %RSD | .2669 | .3496 | 1.451 | .7461 | 1.068 | 1.121 | .8268 | .3391 | 56.87 |
| #1 | .7615 | .0068 | .0028 | .0300 | .1521 | .2328 | 3.165 | .0846 | .0004 |
| #2 | .7630 | .0068 | .0028 | .0302 | .1520 | .2321 | 3.193 | .0847 | .0006 |
| #3 | .7656 | .0068 | .0027 | .0304 | .1493 | .2280 | 3.141 | .0851 | .0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1243** | **.4443** | **.0629** | **.0015** | **.9281** | **.0067** | **.0079** | **61.19** | **158.5** |
| Stddev | .0013 | .0025 | .0004 | .0014 | .0041 | .0017 | .0005 | .15 | 1.3 |
| %RSD | 1.032 | .5595 | .5594 | 92.66 | .4385 | 25.57 | 6.402 | .2428 | .8451 |
| #1 | .1249 | .4419 | .0631 | .0024 | .9237 | .0076 | .0083 | 61.04 | 157.5 |
| #2 | .1252 | .4443 | .0632 | -.0001 | .9287 | .0048 | .0073 | 61.19 | 158.0 |
| #3 | .1228 | .4469 | .0625 | .0021 | .9318 | .0079 | .0081 | 61.34 | 160.0 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **105.2** | **35.20** | **7.731** | **2.475** | **.0534** | **.0075** | **1.545** | **.0800** | **.3715** |
| Stddev | .3 | .11 | .046 | .003 | .0001 | .0003 | .008 | .0006 | .0009 |
| %RSD | .2510 | .3070 | .5989 | .1360 | .2321 | 3.528 | .5165 | .7988 | .2381 |
| #1 | 104.9 | 35.14 | 7.681 | 2.479 | .0533 | .0076 | 1.538 | .0804 | .3707 |
| #2 | 105.2 | 35.14 | 7.771 | 2.473 | .0535 | .0073 | 1.544 | .0793 | .3714 |
| #3 | 105.5 | 35.33 | 7.743 | 2.473 | .0532 | .0078 | 1.553 | .0803 | .3725 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.558** | **.0004** | **.1787** | **10.20** | **.0944** | **.0585** | **4.433** |
| Stddev | .039 | .0012 | .0018 | .08 | .0034 | .0009 | .055 |
| %RSD | 1.099 | 348.0 | 1.019 | .7443 | 3.567 | 1.462 | 1.250 |
| #1 | 3.579 | .0001 | .1798 | 10.15 | .0940 | .0580 | 4.371 |
| #2 | 3.581 | -.0008 | .1798 | 10.17 | .0979 | .0580 | 4.451 |
| #3 | 3.512 | .0017 | .1766 | 10.29 | .0912 | .0595 | 4.477 |

Zoom In Zoom Out

Sample Name: JC86986-11 Acquired: 5/1/2019 17:19:15 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150710.** | **26040.** | **6288.8** | **8987.6** |
| Stddev | 1686. | 132. | 30.0 | 43.5 |
| %RSD | 1.1186 | .50820 | .47765 | .48416 |
| #1 | 150160. | 25967. | 6316.7 | 9024.9 |
| #2 | 149380. | 26193. | 6292.7 | 8998.2 |
| #3 | 152610. | 25960. | 6257.0 | 8939.8 |



Zoom In Zoom Out

Sample Name: JC86986-12 Acquired: 5/1/2019 17:24:30 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.137** | **.0056** | **.0006** | **.0915** | **.2491** | **.3488** | **2.864** | **.1886** | **-.0000** |
| Stddev | .003 | .0001 | .0001 | .0059 | .0004 | .0009 | .033 | .0099 | .0006 |
| %RSD | .2514 | 1.533 | 13.95 | 6.429 | .1463 | .2637 | 1.139 | 5.265 | 12130. |
| #1 | 1.139 | .0056 | .0005 | .0847 | .2491 | .3488 | 2.876 | .1771 | -.0001 |
| #2 | 1.138 | .0055 | .0007 | .0950 | .2495 | .3479 | 2.889 | .1948 | -.0005 |
| #3 | 1.134 | .0056 | .0007 | .0948 | .2487 | .3497 | 2.827 | .1938 | .0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2758** | **.8018** | **.0218** | **.0032** | **.7750** | **-.0002** | **.0015** | **121.1** | **55.77** |
| Stddev | .0010 | .0450 | .0012 | .0017 | .0370 | .0010 | .0009 | .4 | .13 |
| %RSD | .3799 | 5.617 | 5.697 | 53.09 | 4.770 | 425.9 | 60.57 | .3491 | .2300 |
| #1 | .2760 | .7498 | .0204 | .0051 | .7323 | -.0005 | .0016 | 121.3 | 55.84 |
| #2 | .2768 | .8279 | .0222 | .0024 | .7953 | .0009 | .0023 | 121.3 | 55.84 |
| #3 | .2747 | .8276 | .0227 | .0020 | .7974 | -.0010 | .0005 | 120.6 | 55.62 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **197.3** | **63.05** | **58.19** | **1.298** | **.0177** | **.0026** | **1.832** | **.0740** | **.2841** |
| Stddev | 2.2 | .07 | .30 | .013 | .0009 | .0005 | .108 | .0031 | .0006 |
| %RSD | 1.101 | .1100 | .5209 | .9800 | 5.300 | 20.06 | 5.910 | 4.191 | .1965 |
| #1 | 194.8 | 63.11 | 58.38 | 1.311 | .0166 | .0025 | 1.707 | .0705 | .2843 |
| #2 | 197.9 | 63.07 | 58.34 | 1.297 | .0184 | .0021 | 1.896 | .0753 | .2845 |
| #3 | 199.1 | 62.98 | 57.84 | 1.286 | .0179 | .0031 | 1.893 | .0763 | .2834 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **9.753** | **-.0018** | **.0381** | **1.132** | **.2350** | **.1482** | **2.450** |
| Stddev | .043 | .0010 | .0002 | .063 | .0244 | .0008 | .107 |
| %RSD | .4432 | 58.59 | .4408 | 5.531 | 10.38 | .5608 | 4.366 |
| #1 | 9.722 | -.0030 | .0380 | 1.060 | .2629 | .1485 | 2.328 |
| #2 | 9.735 | -.0011 | .0380 | 1.163 | .2177 | .1489 | 2.495 |
| #3 | 9.802 | -.0012 | .0383 | 1.173 | .2244 | .1473 | 2.527 |



Zoom In Zoom Out

Sample Name: JC86986-12 Acquired: 5/1/2019 17:24:30 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **143900.** | **24606.** | **5992.3** | **9184.3** |
| Stddev | 905. | 62. | 297.3 | 400.1 |
| %RSD | .62858 | .25398 | 4.9612 | 4.3563 |
| #1 | 143730. | 24643. | 6335.6 | 9646.3 |
| #2 | 143100. | 24641. | 5820.4 | 8955.3 |
| #3 | 144880. | 24534. | 5820.8 | 8951.4 |



Zoom In Zoom Out

Sample Name: JC86986-13 Acquired: 5/1/2019 17:29:53 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.306** | **.0068** | **.0010** | **.1137** | **.2880** | **.4662** | **3.956** | **.2765** | **-.0007** |
| Stddev | .002 | .0001 | .0001 | .0002 | .0004 | .0010 | .050 | .0008 | .0006 |
| %RSD | .1268 | 1.248 | 12.40 | .2199 | .1273 | .2174 | 1.256 | .3048 | 84.69 |
| #1 | 1.304 | .0068 | .0009 | .1137 | .2884 | .4650 | 3.974 | .2768 | -.0013 |
| #2 | 1.306 | .0069 | .0012 | .1139 | .2877 | .4669 | 3.900 | .2771 | -.0008 |
| #3 | 1.308 | .0067 | .0010 | .1134 | .2881 | .4665 | 3.995 | .2755 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3666** | **1.059** | **.0191** | **.0053** | **.3100** | **-.0012** | **.0017** | **158.0** | **14.54** |
| Stddev | .0006 | .003 | .0004 | .0015 | .0021 | .0023 | .0020 | .2 | .02 |
| %RSD | .1686 | .3076 | 2.339 | 28.90 | .6810 | 186.6 | 119.2 | .1201 | .1294 |
| #1 | .3670 | 1.056 | .0192 | .0058 | .3106 | -.0036 | -.0006 | 157.9 | 14.53 |
| #2 | .3659 | 1.063 | .0195 | .0036 | .3117 | -.0011 | .0027 | 157.9 | 14.52 |
| #3 | .3669 | 1.058 | .0186 | .0066 | .3076 | .0010 | .0029 | 158.2 | 14.56 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **251.5** | **82.81** | **87.98** | **1.622** | **.0079** | **.0053** | **2.029** | **.0319** | **.1070** |
| Stddev | 2.9 | .14 | .15 | .005 | .0009 | .0002 | .007 | .0009 | .0001 |
| %RSD | 1.172 | .1751 | .1750 | .3243 | 11.04 | 3.345 | .3556 | 2.877 | .1084 |
| #1 | 248.6 | 82.82 | 87.97 | 1.616 | .0074 | .0054 | 2.025 | .0310 | .1069 |
| #2 | 251.5 | 82.66 | 87.83 | 1.627 | .0089 | .0051 | 2.037 | .0328 | .1071 |
| #3 | 254.5 | 82.94 | 88.14 | 1.622 | .0073 | .0054 | 2.024 | .0320 | .1070 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **14.40** | **-.0017** | **.0276** | **.7827** | **.2609** | **.1788** | **3.464** |
| Stddev | .17 | .0009 | .0005 | .0036 | .0122 | .0013 | .020 |
| %RSD | 1.190 | 49.60 | 1.985 | .4654 | 4.666 | .7063 | .5853 |
| #1 | 14.44 | -.0023 | .0270 | .7810 | .2639 | .1786 | 3.442 |
| #2 | 14.55 | -.0021 | .0277 | .7869 | .2712 | .1777 | 3.470 |
| #3 | 14.21 | -.0007 | .0281 | .7803 | .2475 | .1802 | 3.481 |

Zoom In Zoom Out

Sample Name: JC86986-13 Acquired: 5/1/2019 17:29:53 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **141920.** | **24358.** | **5857.0** | **9064.9** |
| Stddev | 382. | 207. | 23.6 | 15.8 |
| %RSD | .26906 | .84969 | .40342 | .17468 |
| #1 | 141680. | 24247. | 5883.9 | 9082.7 |
| #2 | 142360. | 24597. | 5839.8 | 9052.4 |
| #3 | 141720. | 24230. | 5847.2 | 9059.7 |



Zoom In Zoom Out

Sample Name: JC87092-1 Acquired: 5/1/2019 17:35:17 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7131** | **.0064** | **.0002** | **.0877** | **.2517** | **.0992** | **2.949** | **.1405** | **-.0008** |
| Stddev | .0026 | .0000 | .0002 | .0025 | .0018 | .0005 | .052 | .0032 | .0011 |
| %RSD | .3638 | .6921 | 133.6 | 2.864 | .7108 | .4728 | 1.770 | 2.303 | 139.0 |
| #1 | .7149 | .0064 | .0004 | .0870 | .2534 | .0995 | 2.962 | .1391 | .0000 |
| #2 | .7143 | .0064 | -.0000 | .0856 | .2520 | .0994 | 2.994 | .1382 | -.0004 |
| #3 | .7101 | .0063 | .0001 | .0905 | .2498 | .0986 | 2.892 | .1442 | -.0021 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3254** | **.4085** | **.0471** | **.0024** | **.1251** | **.0003** | **-.0005** | **154.8** | **15.05** |
| Stddev | .0014 | .0108 | .0013 | .0013 | .0032 | .0026 | .0024 | .3 | .02 |
| %RSD | .4280 | 2.641 | 2.764 | 55.43 | 2.562 | 912.1 | 472.8 | .1778 | .1521 |
| #1 | .3265 | .4046 | .0458 | .0033 | .1239 | .0028 | -.0011 | 155.0 | 15.07 |
| #2 | .3258 | .4003 | .0470 | .0009 | .1227 | .0006 | -.0026 | 154.9 | 15.06 |
| #3 | .3238 | .4207 | .0484 | .0029 | .1287 | -.0025 | .0021 | 154.5 | 15.03 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **175.0** | **22.31** | **13.16** | **4.343** | **.0376** | **.0070** | **2.035** | **.0247** | **.1122** |
| Stddev | 4.3 | .05 | .02 | .017 | .0005 | .0000 | .053 | .0004 | .0003 |
| %RSD | 2.446 | .2403 | .1572 | .4010 | 1.285 | .5750 | 2.611 | 1.734 | .2384 |
| #1 | 177.1 | 22.37 | 13.16 | 4.361 | .0375 | .0070 | 2.017 | .0247 | .1125 |
| #2 | 177.8 | 22.28 | 13.17 | 4.341 | .0372 | .0070 | 1.993 | .0242 | .1122 |
| #3 | 170.1 | 22.28 | 13.13 | 4.326 | .0381 | .0071 | 2.094 | .0251 | .1120 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.539** | **.0010** | **.0899** | **3.242** | **.1148** | **.0992** | **2.749** |
| Stddev | .022 | .0007 | .0006 | .079 | .0051 | .0013 | .067 |
| %RSD | .4877 | 63.89 | .6773 | 2.437 | 4.476 | 1.306 | 2.453 |
| #1 | 4.562 | .0018 | .0903 | 3.219 | .1178 | .0993 | 2.727 |
| #2 | 4.538 | .0007 | .0903 | 3.177 | .1177 | .0979 | 2.696 |
| #3 | 4.518 | .0006 | .0892 | 3.330 | .1088 | .1005 | 2.825 |



Zoom In Zoom Out

Sample Name: JC87092-1 Acquired: 5/1/2019 17:35:17 Type: Unk
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **151980.** | **26215.** | **6330.0** | **9308.2** |
| Stddev | 859. | 106. | 140.3 | 184.3 |
| %RSD | .56520 | .40552 | 2.2162 | 1.9797 |
| #1 | 151260. | 26282. | 6378.6 | 9367.2 |
| #2 | 151750. | 26092. | 6439.5 | 9455.6 |
| #3 | 152930. | 26270. | 6171.9 | 9101.6 |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/1/2019 17:40:31 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.054** | **2.098** | **2.057** | **2.086** | **2.071** | **2.068** | **2.056** | **2.105** | **.2581** |
| Stddev | .004 | .006 | .004 | .002 | .002 | .003 | .010 | .004 | .0007 |
| %RSD | .1824 | .2728 | .2007 | .0938 | .0824 | .1645 | .4872 | .1729 | .2592 |
| #1 | 2.051 | 2.103 | 2.053 | 2.084 | 2.069 | 2.065 | 2.047 | 2.101 | .2589 |
| #2 | 2.058 | 2.100 | 2.056 | 2.087 | 2.072 | 2.069 | 2.054 | 2.106 | .2576 |
| #3 | 2.053 | 2.092 | 2.061 | 2.088 | 2.072 | 2.072 | 2.067 | 2.108 | .2579 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.040** | **2.069** | **2.034** | **2.098** | **2.090** | **2.067** | **2.039** | **40.55** | **41.04** |
| Stddev | .002 | .006 | .004 | .012 | .002 | .001 | .007 | .13 | .09 |
| %RSD | .0813 | .3090 | .1887 | .5687 | .1052 | .0684 | .3267 | .3133 | .2277 |
| #1 | 2.041 | 2.062 | 2.031 | 2.098 | 2.087 | 2.066 | 2.033 | 40.60 | 41.12 |
| #2 | 2.039 | 2.070 | 2.038 | 2.110 | 2.090 | 2.069 | 2.037 | 40.64 | 41.07 |
| #3 | 2.038 | 2.075 | 2.032 | 2.086 | 2.092 | 2.067 | 2.046 | 40.40 | 40.94 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.63** | **40.93** | **40.92** | **41.15** | **2.092** | **2.028** | **5.099** | **2.047** | **2.125** |
| Stddev | .08 | .03 | .09 | .09 | .006 | .003 | .008 | .003 | .003 |
| %RSD | .1859 | .0841 | .2137 | .2132 | .2943 | .1228 | .1531 | .1365 | .1244 |
| #1 | 41.69 | 40.92 | 40.87 | 41.07 | 2.085 | 2.025 | 5.091 | 2.044 | 2.126 |
| #2 | 41.67 | 40.97 | 41.02 | 41.24 | 2.093 | 2.030 | 5.098 | 2.050 | 2.127 |
| #3 | 41.54 | 40.90 | 40.88 | 41.14 | 2.097 | 2.028 | 5.107 | 2.048 | 2.122 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/1/2019 17:40:31 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.053** | **2.015** | **2.032** | **2.003** | **2.089** | **2.001** | F **1.755** |
| Stddev | .002 | .003 | .001 | .014 | .005 | .007 | .013 |
| %RSD | .0719 | .1563 | .0673 | .6840 | .2609 | .3468 | .7177 |
| #1 | 2.054 | 2.012 | 2.032 | 2.007 | 2.084 | 2.006 | 1.750 |
| #2 | 2.052 | 2.015 | 2.031 | 2.013 | 2.090 | 2.004 | 1.770 |
| #3 | 2.052 | 2.019 | 2.033 | 1.987 | 2.094 | 1.993 | 1.746 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | -10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **136340.** | **22917.** | **5609.3** | **8833.8** |
| Stddev | 189. | 26. | 24.8 | 28.6 |
| %RSD | .13863 | .11225 | .44186 | .32377 |
| #1 | 136140. | 22891. | 5626.2 | 8855.4 |
| #2 | 136380. | 22917. | 5620.9 | 8844.7 |
| #3 | 136510. | 22943. | 5580.9 | 8801.4 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/1/2019 17:45:33 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0002** | **-.0000** | **-.0002** | **-.0000** | **.0003** | **-.0000** | **.0001** |
| Stddev | .0001 | .0000 | .0001 | .0001 | .0002 | .0003 | .0000 | .0000 |
| %RSD | 599.6 | 12.15 | 785.0 | 28.22 | 987.5 | 93.05 | 96.19 | 12.84 |
| #1 | -.0001 | -.0002 | .0001 | -.0002 | -.0001 | .0001 | -.0001 | .0001 |
| #2 | .0001 | -.0002 | -.0002 | -.0003 | -.0002 | .0002 | -.0000 | .0001 |
| #3 | -.0001 | -.0001 | .0000 | -.0002 | .0002 | .0007 | -.0000 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0002** | **-.0006** | **-.0002** | **.0005** | **.0002** | **.0003** | **-.0004** |
| Stddev | .0002 | .0001 | .0001 | .0003 | .0009 | .0006 | .0008 | .0010 |
| %RSD | 745.6 | 28.43 | 12.55 | 138.2 | 179.4 | 312.5 | 303.1 | 292.3 |
| #1 | -.0001 | -.0001 | -.0006 | -.0002 | -.0003 | .0002 | .0002 | -.0006 |
| #2 | -.0001 | -.0002 | -.0006 | .0001 | .0003 | -.0004 | -.0005 | .0008 |
| #3 | .0002 | -.0002 | -.0007 | -.0006 | .0016 | .0007 | .0011 | -.0012 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0061** | **-.0060** | **.0012** | **.0125** | **.1923** | **.0027** | **-.0007** | **-.0000** |
| Stddev | .0106 | .0013 | .0009 | .0034 | .0237 | .0051 | .0008 | .0002 |
| %RSD | 174.7 | 21.77 | 78.64 | 27.30 | 12.35 | 192.7 | 115.4 | 533.1 |
| #1 | .0051 | -.0045 | .0009 | .0155 | .1726 | .0052 | -.0005 | .0002 |
| #2 | -.0073 | -.0070 | .0004 | .0088 | .2187 | -.0032 | -.0000 | -.0001 |
| #3 | -.0161 | -.0064 | .0022 | .0132 | .1857 | .0060 | -.0015 | -.0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/1/2019 17:45:33 Type: QC
Method: SGS 3 NO Valve(v328) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0005** | **.0000** | **-.0001** | **.0009** | **.0001** | **.0041** | **-.0024** |
| Stddev | .0006 | .0004 | .0001 | .0005 | .0010 | .0002 | .0007 | .0019 |
| %RSD | 44.00 | 84.52 | 779.9 | 656.3 | 117.7 | 201.8 | 15.88 | 76.33 |
| #1 | .0009 | .0005 | .0001 | -.0005 | .0018 | .0000 | .0034 | -.0043 |
| #2 | .0011 | .0001 | .0000 | .0005 | .0010 | .0003 | .0047 | -.0026 |
| #3 | .0019 | .0009 | -.0001 | -.0002 | -.0002 | -.0001 | .0043 | -.0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F **-.0122** | **.0121** |
| Stddev | .0009 | .0010 |
| %RSD | 7.431 | 7.897 |
| #1 | -.0118 | .0110 |
| #2 | -.0132 | .0129 |
| #3 | -.0115 | .0124 |
| Check ? | Chk Fail | Chk Pass |
| High Limit | .0040 | |
| Low Limit | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **146110.** | **23410.** | **5910.1** | **9755.0** |
| Stddev | 485. | 141. | 18.6 | 21.4 |
| %RSD | .33217 | .60074 | .31485 | .21985 |
| #1 | 146670. | 23513. | 5931.4 | 9778.1 |
| #2 | 145850. | 23250. | 5902.0 | 9751.0 |
| #3 | 145810. | 23468. | 5897.0 | 9735.8 |





**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | ☒ | 1 | Zr | 0.001245 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 6 | V | 0.000906 | 0.000000 | No |
| | | | Mo | -0.000047 | 0.000000 | No |
| | | | Ti | -0.000331 | 0.000000 | No |
| | | | Mn | 0.000010 | 0.000000 | No |
| | | | Cu | 0.000014 | 0.000000 | No |
| | | | Bi | 0.000060 | 0.000000 | No |
| Cd 228.802 {448} | ☒ | 11 | As | 0.013800 | 0.000000 | No |
| | | | Ni | -0.000628 | 0.000000 | No |
| | | | Fe | -0.000003 | 0.000000 | No |
| | | | V | 0.000091 | 0.000000 | No |
| | | | Ba | 0.000064 | 0.000000 | No |
| | | | Co | -0.001530 | 0.000000 | No |
| | | | Sr | -0.000020 | 0.000000 | No |
| | | | Mn | 0.000050 | 0.000000 | No |
| | | | Cu | -0.000026 | 0.000000 | No |
| | | | Zn | -0.000018 | 0.000000 | No |
| | | | W | -0.000482 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 7 | Fe | 0.000009 | 0.000000 | No |
| | | | Mo | -0.000790 | 0.000000 | No |
| | | | Ni | 0.000091 | 0.000000 | No |
| | | | Ti | 0.002192 | 0.000000 | No |
| | | | Ba | 0.000140 | 0.000000 | No |
| | | | W | 0.000327 | 0.000000 | No |
| | | | Cd | -0.000510 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 9 | Mn | 0.000348 | 0.000000 | No |
| | | | V | 0.000090 | 0.000000 | No |
| | | | Mo | -0.000082 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Ti | 0.000060 | 0.000000 | No |
| | | | Ba | 0.000045 | 0.000000 | No |
| | | | Cu | 0.000100 | 0.000000 | No |
| | | | Sr | -0.000100 | 0.000000 | No |
| | | | W | 0.000404 | 0.000000 | No |
| Cu 324.754 {104}2 | ☒ | 13 | Cr | -0.000004 | 0.000000 | No |
| | | | V | -0.000397 | 0.000000 | No |
| | | | Mo | 0.000544 | 0.000000 | No |
| | | | Ti | -0.000208 | 0.000000 | No |
| | | | Fe | -0.000226 | 0.000000 | No |
| | | | Zn | -0.000041 | 0.000000 | No |
| | | | Co | -0.001373 | 0.000000 | No |
| | | | Si | 0.000016 | 0.000000 | No |
| | | | Mn | 0.000003 | 0.000000 | No |
| | | | Se | 0.000050 | 0.000000 | No |
| | | | Sb | 0.000069 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 4 | Fe | -0.000107 | 0.000000 | No |
| | | | Si | 0.000010 | 0.000000 | No |
| | | | Ba | 0.000004 | 0.000000 | No |
| | | | Ni | 0.000028 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 8 | Fe | 0.000008 | 0.000000 | No |
| | | | Zn | -0.000013 | 0.000000 | No |
| | | | Be | 0.000213 | 0.000000 | No |
| | | | Co | -0.000220 | 0.000000 | No |
| | | | Tl | 0.000209 | 0.000000 | No |
| | | | Mo | 0.000026 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Cu | 0.000050 | 0.000000 | No |
| | | | Se | 0.000100 | 0.000000 | No |
| Ag 328.068 {103} | ☒ | 14 | Mn | 0.000252 | 0.000000 | No |
| | | | Mo | 0.000012 | -0.000003 | No |
| | | | Ti | -0.000090 | 0.000000 | No |
| | | | Fe | -0.000230 | 0.000000 | No |
| | | | Zn | -0.000120 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Zr | 0.007615 | 0.000000 | No |
| | | | Sr | -0.000020 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Ba | 0.000071 | 0.000000 | No |
| | | | Cr | 0.000022 | 0.000000 | No |
| | | | V | -0.004200 | 0.000000 | No |
| | | | Al | -0.000006 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| V 292.402 {115} | ☒ | 6 | Ti | 0.000689 | 0.000000 | No |
| | | | Mo | -0.000304 | 0.000000 | No |
| | | | Fe | 0.000029 | 0.000000 | No |
| | | | Sr | -0.000100 | 0.000000 | No |
| | | | Cr | -0.007536 | 0.000000 | No |
| | | | Mn | -0.002777 | 0.000000 | No |
| Zn 206.200 {464} | ☒ | 9 | Cr | -0.000850 | 0.000000 | No |
| | | | Fe | 0.000011 | 0.000000 | No |
| | | | Si | 0.000015 | 0.000000 | No |
| | | | Mn | -0.000045 | 0.000000 | No |
| | | | Ba | -0.000060 | 0.000000 | No |
| | | | Sn | -0.000023 | 0.000000 | No |
| | | | Cu | 0.000148 | 0.000000 | No |
| | | | As | 0.000055 | 0.000000 | No |
| | | | Be | 0.000058 | 0.000000 | No |
| As 189.042 {478} | ☒ | 18 | Al | 0.000008 | 0.000000 | No |
| | | | Fe | -0.000045 | 0.000000 | No |
| | | | Ca | 0.000004 | 0.000000 | No |
| | | | Mo | 0.002750 | 0.000000 | No |
| | | | Cr | 0.001200 | 0.000000 | No |
| | | | Ba | -0.000114 | 0.000000 | No |
| | | | Sn | -0.000130 | 0.000000 | No |
| | | | Cd | -0.000328 | 0.000000 | No |
| | | | Si | 0.000024 | 0.000000 | No |
| | | | Zn | -0.000082 | 0.000000 | No |
| | | | Sr | -0.000045 | 0.000000 | No |
| | | | W | 0.010000 | 0.000000 | No |
| | | | Cu | -0.000058 | 0.000000 | No |
| | | | Co | -0.000045 | 0.000000 | No |
| | | | Zr | 0.000036 | 0.000000 | No |
| | | | Mn | 0.000022 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Ti | 0.000100 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 24 | Cr | 0.000315 | 0.000000 | No |
| | | | Mo | -0.008200 | 0.000000 | No |
| | | | Al | -0.000003 | 0.000000 | No |
| | | | Fe | -0.000032 | 0.000000 | No |
| | | | V | -0.039088 | 0.000000 | No |
| | | | Mn | 0.002890 | 0.000000 | No |
| | | | Si | -0.000018 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |

| | Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|---|
| | | | | Ti | -0.002790 | 0.000000 | No |
| | | | | Mg | 0.000000 | 0.000000 | No |
| | | | | Co | 0.008080 | 0.000000 | No |
| | | | | Sr | 0.000010 | 0.000000 | No |
| | | | | B | -0.000003 | 0.000000 | No |
| | | | | Ba | 0.000034 | 0.000000 | No |
| | | | | Zn | -0.000053 | 0.000000 | No |
| | | | | As | 0.000068 | 0.000000 | No |
| | | | | W | -0.007000 | 0.000000 | No |
| | | | | Cu | 0.000142 | 0.000000 | No |
| | | | | Pb | -0.000020 | 0.000000 | No |
| | | | | S | 0.000010 | 0.000000 | No |
| | | | | Sn | -0.000086 | 0.000000 | No |
| | | | | Li | 0.000000 | 0.000000 | No |
| | | | | K | 0.000000 | 0.000000 | No |
| | | | | Zr | 0.000000 | 0.000000 | No |
| | Pb 220.353 {453} | ☒ | 20 | Al | -0.000093 | 0.000000 | No |
| | | | | Fe | 0.000039 | 0.000000 | No |
| | | | | Ca | 0.000005 | 0.000000 | No |
| | | | | Mn | 0.000154 | 0.000000 | No |
| | | | | Mo | -0.001500 | 0.000000 | No |
| | | | | Cu | 0.000154 | 0.000000 | No |
| | | | | Co | 0.000264 | 0.000000 | No |
| | | | | Ti | -0.000900 | 0.000000 | No |
| | | | | Si | -0.000067 | 0.000000 | No |
| | | | | Ba | -0.000022 | 0.000000 | No |
| | | | | Sb | -0.000084 | 0.000000 | No |
| | | | | Sr | -0.000033 | 0.000000 | No |
| | | | | W | 0.000000 | 0.000000 | No |
| | | | | Mg | 0.000004 | 0.000000 | No |
| | | | | Cd | 0.000012 | 0.000000 | No |
| | | | | Cr | -0.000031 | 0.000000 | No |
| | | | | Zr | -0.000281 | 0.000000 | No |
| | | | | Ni | 0.000371 | 0.000000 | No |
| | | | | S | 0.000010 | 0.000000 | No |
| | | | | Zn | -0.000106 | 0.000000 | No |
| | Se 196.090 {472} | ☒ | 23 | Al | -0.000002 | 0.000000 | No |
| | | | | Ca | -0.000007 | 0.000000 | No |
| | | | | Mn | 0.000594 | 0.000000 | No |
| | | | | Mo | 0.000400 | 0.000000 | No |
| | | | | Fe | -0.000172 | 0.000000 | No |
| | | | | Co | -0.000182 | 0.000000 | No |
| | | | | Sr | -0.000011 | 0.000000 | No |
| | | | | Cu | -0.000087 | 0.000000 | No |
| | | | | W | 0.000000 | 0.000000 | No |
| | | | | Si | 0.000054 | 0.000000 | No |
| | | | | Be | -0.000347 | 0.000000 | No |
| | | | | Zn | 0.000050 | 0.000000 | No |
| | | | | B | 0.000028 | 0.000000 | No |
| | | | | Ti | -0.000020 | 0.000000 | No |
| | | | | Cd | 0.000090 | 0.000000 | No |
| | | | | Zr | -0.000297 | 0.000000 | No |
| | | | | Ba | -0.000046 | 0.000000 | No |
| | | | | Mg | -0.000000 | 0.000000 | No |
| | | | | Pb | -0.000078 | 0.000000 | No |
| | | | | Ni | -0.000100 | 0.000000 | No |
| | | | | Cr | -0.000024 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | S | -0.000014 | 0.000000 | No |
| | | | V | 0.000188 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 17 | Fe | 0.000035 | 0.000000 | No |
| | | | Al | 0.000015 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Ni | -0.000716 | 0.000000 | No |
| | | | Cr | 0.023400 | 0.000000 | No |
| | | | V | -0.003422 | 0.000000 | No |
| | | | Zn | -0.000115 | 0.000000 | No |
| | | | Mo | -0.004911 | 0.000000 | No |
| | | | Ti | 0.000630 | 0.000000 | No |
| | | | Sn | -0.005225 | 0.000000 | No |
| | | | Mg | -0.000003 | 0.000000 | No |
| | | | Zr | -0.000463 | 0.000000 | No |
| | | | Sr | 0.000031 | 0.000000 | No |
| | | | B | -0.000100 | 0.000000 | No |
| | | | Co | -0.000251 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Si | -0.000170 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 5 | Si | 0.000652 | 0.000000 | No |
| | | | Ca | 0.000018 | 0.000000 | No |
| | | | Mo | 0.043916 | 0.000000 | No |
| | | | Zr | 0.005268 | 0.000000 | No |
| | | | Ti | -0.000583 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | 14 | Fe | 0.000012 | 0.000000 | No |
| | | | W | 0.003960 | 0.000000 | No |
| | | | Tl | -0.000152 | 0.000000 | No |
| | | | Be | 0.001840 | 0.000000 | No |
| | | | Ba | -0.001224 | 0.000000 | No |
| | | | Cu | -0.000822 | 0.000000 | No |
| | | | Cd | -0.007593 | 0.000000 | No |
| | | | Ni | 0.000667 | 0.000000 | No |
| | | | B | -0.000210 | 0.000000 | No |
| | | | Se | 0.000923 | 0.000000 | No |
| | | | Co | -0.000408 | 0.000000 | No |
| | | | Cr | 0.000640 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | As | 0.010000 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 10 | Si | 0.000819 | 0.000000 | No |
| | | | Tl | -0.000051 | 0.000000 | No |
| | | | Cr | 0.000310 | 0.000000 | No |
| | | | Mn | -0.000196 | 0.000000 | No |
| | | | V | -0.000064 | 0.000000 | No |
| | | | Cu | -0.000015 | 0.000000 | No |
| | | | Zn | 0.000046 | 0.000000 | No |
| | | | Ti | -0.000631 | 0.000000 | No |
| | | | Ca | 0.000020 | 0.000000 | No |
| | | | Ba | 0.001000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 3 | Mo | -0.013702 | 0.000000 | No |
| | | | W | -0.006578 | 0.000000 | No |
| | | | Mn | -0.002445 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 11 | Fe | -0.000440 | 0.000000 | No |
| | | | Al | 0.000077 | 0.000000 | No |
| | | | Ca | -0.000121 | 0.000000 | No |
| | | | Mn | -0.007074 | 0.000000 | No |
| | | | Si | -0.003000 | 0.000000 | No |
| | | | V | -0.002000 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Sn | -0.004700 | 0.000000 | No |
| | | | Ba | -0.010574 | 0.000000 | No |
| | | | Mo | -0.000850 | 0.000000 | No |
| | | | Cu | -0.011483 | 0.000000 | No |
| | | | Ni | -0.010000 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 4 | K | -0.000560 | 0.000000 | No |
| | | | Ba | 0.000900 | 0.000000 | No |
| | | | Ca | 0.000180 | 0.000000 | No |
| | | | V | -0.005000 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.038137 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 2 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000010 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 12 | Sr | 0.000366 | 0.000000 | No |
| | | | Ni | 0.002092 | 0.000000 | No |
| | | | Mo | 0.034932 | 0.000000 | No |
| | | | V | 0.036950 | 0.000000 | No |
| | | | Ti | 0.004593 | 0.000000 | No |
| | | | Al | -0.000010 | 0.000000 | No |
| | | | Cd | 0.001043 | 0.000000 | No |
| | | | Ba | 0.001987 | 0.000000 | No |
| | | | Sn | 0.007500 | 0.000000 | No |
| | | | Zn | 0.000385 | 0.000000 | No |
| | | | Be | -0.000048 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | 4 | Ti | -0.001964 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |
| | | | Si | 0.000131 | 0.000000 | No |
| | | | Zr | 0.000908 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 2 | Ca | 0.000018 | 0.000000 | No |
| | | | Si | 0.000033 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 3 | Cr | 0.000189 | 0.000000 | No |
| | | | Mo | 0.001351 | 0.000000 | No |
| | | | Si | 0.000035 | 0.000000 | No |
| Y 360.073 { 94}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| In 230.606 {446}* | ☒ | None | | | | |
| W 207.911 {462} | ☒ | 20 | Si | 0.000105 | 0.000000 | No |
| | | | As | 0.000100 | 0.000000 | No |
| | | | Mn | 0.000066 | 0.000000 | No |
| | | | Mo | -0.000300 | 0.000000 | No |
| | | | Ti | 0.000080 | 0.000000 | No |
| | | | Sr | -0.000850 | 0.000000 | No |
| | | | V | -0.000140 | 0.000000 | No |
| | | | Cd | -0.000650 | 0.000000 | No |
| | | | Cr | -0.000390 | 0.000000 | No |
| | | | Zn | 0.013026 | 0.000000 | No |
| | | | Sn | 0.001300 | 0.000000 | No |
| | | | Zr | 0.000061 | 0.000000 | No |
| | | | B | 0.000009 | 0.000000 | No |
| | | | Sb | -0.000300 | 0.000000 | No |
| | | | Co | -0.001000 | 0.000000 | No |
| | | | Ni | -0.003000 | 0.000000 | No |
| | | | Be | -0.000185 | 0.000000 | No |
| | | | Se | -0.000105 | 0.000000 | No |
| | | | Cu | -0.000138 | 0.000000 | No |
| | | | Tl | -0.000220 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Zr 339.198 { 99} | ☒ | 6 | Mo | 0.001069 | 0.000000 | No |
| | | | Ti | 0.000203 | 0.000000 | No |
| | | | Fe | -0.000070 | 0.000000 | No |
| | | | Si | 0.000074 | 0.000000 | No |
| | | | S | -0.000002 | 0.000000 | No |
| | | | Cr | -0.000700 | 0.000000 | No |
| S 182.034 {485} | ☒ | 7 | Mo | -0.004201 | 0.000000 | No |
| | | | Al | -0.000034 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| | | | Mn | 0.004620 | 0.000000 | No |
| | | | W | -0.032564 | 0.000000 | No |
| | | | Ca | 0.000032 | 0.000000 | No |
| | | | Mg | 0.000005 | 0.000000 | No |
| Bi 223.061 {451} | ☒ | 9 | Ti | -0.072020 | 0.000000 | No |
| | | | V | -0.000704 | 0.000000 | No |
| | | | Co | -0.002380 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Fe | 0.000187 | 0.000000 | No |
| | | | Cr | 0.001595 | 0.000000 | No |
| | | | Cu | -0.001148 | 0.000000 | No |
| | | | W | -0.020000 | 0.000000 | No |
| Li 670.784 { 50} | ☒ | 2 | Ca | 0.000023 | 0.000000 | No |
| | | | Fe | 0.000081 | 0.000000 | No |
| P 177.495 {490} | ☒ | 9 | Mn | -0.006184 | 0.000000 | No |
| | | | Al | -0.000060 | 0.000000 | No |
| | | | V | -0.001953 | 0.000000 | No |
| | | | Si | -0.001622 | 0.000000 | No |
| | | | Ti | 0.000000 | -0.001185 | No |
| | | | Mo | -0.001880 | 0.000000 | No |
| | | | S | -0.000189 | 0.000000 | No |
| | | | Co | -0.002198 | 0.000000 | No |
| | | | Cu | -0.023500 | 0.000000 | No |

| | Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) |
|---|---|---|---|---|---|---|---|---|---|
| | Ba 455.403 { 74} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.014901 | 1.919736 | 0.000000 | 1.000000 |
| | Be 313.042 {108} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000354 | 3.112879 | 0.000000 | 1.000000 |
| | Cd 228.802 {448} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000520 | 1.258679 | 0.000000 | 1.000000 |
| | Co 228.616 {448} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000053 | 0.755943 | 0.000000 | 1.000000 |
| | Cr 267.716 {126} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000054 | 0.167308 | 0.000000 | 1.000000 |
| | Cu 324.754 {104}2 | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.002764 | 0.270220 | 0.000000 | 1.000000 |
| | Mn 257.610 {131} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000107 | 0.959840 | 0.000000 | 1.000000 |
| | Ni 231.604 {446} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000136 | 0.601927 | 0.000000 | 1.000000 |
| | Ag 328.068 {103} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000196 | 0.166631 | 0.000000 | 1.000000 |
| | V 292.402 {115} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000273 | 0.247312 | 0.000000 | 1.000000 |
| | Zn 206.200 {464} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000631 | 1.869077 | 0.000000 | 1.000000 |
| | As 189.042 {478} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000065 | 0.133050 | 0.000000 | 1.000000 |
| | Tl 190.856 {477} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000057 | 0.073671 | 0.000000 | 1.000000 |
| | Pb 220.353 {453} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000758 | 0.268212 | 0.000000 | 1.000000 |
| | Se 196.090 {472} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000046 | 0.100902 | 0.000000 | 1.000000 |
| | Sb 206.833 {463} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000800 | 0.174778 | 0.000000 | 1.000000 |
| | Al 396.152 { 85} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000380 | 0.040269 | 0.000000 | 1.000000 |
| | Ca 317.933 {106} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.005705 | 0.111515 | 0.000000 | 1.000000 |
| | Fe 259.940 {130} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000109 | 0.061658 | 0.000000 | 1.000000 |
| | Mg 279.079 {121} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000106 | 0.012306 | 0.000000 | 1.000000 |
| | K 766.490 { 44} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000647 | 0.022604 | 0.000000 | 1.000000 |
| | Na 589.592 { 57} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.007745 | 0.093533 | 0.000000 | 1.000000 |
| | B 208.959 {462} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.001260 | 0.263705 | 0.000000 | 1.000000 |
| | Mo 202.030 {467} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000897 | 0.872533 | 0.000000 | 1.000000 |
| | Si 212.412 {459} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.002814 | 0.235609 | 0.000000 | 1.000000 |
| | Sn 189.989 {478} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000398 | 0.263514 | 0.000000 | 1.000000 |
| | Sr 407.771 { 83} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.001713 | 3.446329 | 0.000000 | 1.000000 |
| | Ti 334.904 {101} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000114 | 0.189250 | 0.000000 | 1.000000 |
| | Y 360.073 { 94}* | 5/2/2019 8:57:06 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 371.030 { 91}* | 5/2/2019 8:57:06 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | Y 224.306 {451}* | 5/2/2019 8:57:06 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | In 230.606 {446}* | 5/2/2019 8:57:06 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| | W 207.911 {462} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000716 | 0.419632 | 0.000000 | 1.000000 |
| | Zr 339.198 { 99} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000448 | 0.557864 | 0.000000 | 1.000000 |
| | S 182.034 {485} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | -0.000526 | 0.059424 | 0.000000 | 1.000000 |
| | Bi 223.061 {451} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.000170 | 0.198965 | 0.000000 | 1.000000 |
| | Li 670.784 { 50} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | None | 0.002148 | 0.539060 | 0.000000 | 1.000000 |
| | P 177.495 {490} | 5/2/2019 8:57:06 | 5/1/2019 12:30:48 | Linear | 1/Conc | -0.003064 | 0.051157 | 0.000000 | 1.000000 |

| Element, Wavelength and Order | Correlation | Std Error of Est | Predicted MDL | Predicted MQL | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Slope | Y-int | Slope factor | Offset |
| Ba 455.403 { 74} | 1.000000 | 0.000000 | 0.000293 | 0.000975 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Be 313.042 {108} | 1.000000 | 0.000000 | 0.000066 | 0.000220 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cd 228.802 {448} | 1.000000 | 0.000000 | 0.000195 | 0.000650 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Co 228.616 {448} | 1.000000 | 0.000000 | 0.000235 | 0.000784 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cr 267.716 {126} | 1.000000 | 0.000000 | 0.000302 | 0.001008 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cu 324.754 {104}2 | 1.000000 | 0.000000 | 0.000428 | 0.001426 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mn 257.610 {131} | 1.000000 | 0.000000 | 0.000048 | 0.000158 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ni 231.604 {446} | 1.000000 | 0.000000 | 0.000338 | 0.001128 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ag 328.068 {103} | 1.000000 | 0.000000 | 0.000455 | 0.001518 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| V 292.402 {115} | 1.000000 | 0.000000 | 0.000348 | 0.001161 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Zn 206.200 {464} | 1.000000 | 0.000000 | 0.000109 | 0.000363 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| As 189.042 {478} | 1.000000 | 0.000000 | 0.001144 | 0.003813 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Tl 190.856 {477} | 1.000000 | 0.000000 | 0.001480 | 0.004933 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Pb 220.353 {453} | 1.000000 | 0.000000 | 0.001069 | 0.003563 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Se 196.090 {472} | 1.000000 | 0.000000 | 0.002066 | 0.006888 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sb 206.833 {463} | 1.000000 | 0.000000 | 0.001545 | 0.005150 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Al 396.152 { 85} | 1.000000 | 0.000000 | 0.011457 | 0.038192 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ca 317.933 {106} | 1.000000 | 0.000000 | 0.002315 | 0.007715 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Fe 259.940 {130} | 1.000000 | 0.000000 | 0.002074 | 0.006913 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mg 279.079 {121} | 1.000000 | 0.000000 | 0.013381 | 0.044602 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| K 766.490 { 44} | 1.000000 | 0.000000 | 0.037162 | 0.123873 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Na 589.592 { 57} | 1.000000 | 0.000000 | 0.009463 | 0.031543 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| B 208.959 {462} | 1.000000 | 0.000000 | 0.000710 | 0.002365 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mo 202.030 {467} | 1.000000 | 0.000000 | 0.000267 | 0.000891 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Si 212.412 {459} | 1.000000 | 0.000000 | 0.001142 | 0.003808 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sn 189.989 {478} | 1.000000 | 0.000000 | 0.000573 | 0.001911 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sr 407.771 { 83} | 1.000000 | 0.000000 | 0.000111 | 0.000370 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ti 334.904 {101} | 1.000000 | 0.000000 | 0.000359 | 0.001197 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Y 360.073 { 94}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| Y 371.030 { 91}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| Y 224.306 {451}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| In 230.606 {446}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| W 207.911 {462} | 1.000000 | 0.000000 | 0.001109 | 0.003695 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Zr 339.198 { 99} | 1.000000 | 0.000000 | 0.000172 | 0.000575 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| S 182.034 {485} | 1.000000 | 0.000000 | 0.002398 | 0.007994 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Bi 223.061 {451} | 1.000000 | 0.000000 | 0.001823 | 0.006078 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Li 670.784 { 50} | 1.000000 | 0.000000 | 0.001674 | 0.005579 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| P 177.495 {490} | 1.000000 | 0.000000 | 0.002205 | 0.007349 | OK. | 1.000000 | 0.000000 | 1 | 0 |

Zoom In ▶
Zoom Out

Sample Name: STDA Acquired: 5/2/2019 11:57:48 Type: Cal
Method: SGS 3 NO Valve(v332) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0144** | **-.0007** | **.0005** | **-.0001** | **-.0001** | **.0026** | **.0001** | **-.0001** | **-.0003** |
| Stddev | .0001 | .0001 | .0001 | .0001 | .0000 | .0001 | .0000 | .0000 | .0001 |
| %RSD | .4413 | 10.43 | 13.11 | 91.11 | 32.65 | 2.702 | 30.61 | 65.62 | 32.04 |
| #1 | .0145 | -.0007 | .0004 | -.0000 | -.0000 | .0026 | .0001 | -.0001 | -.0003 |
| #2 | .0144 | -.0007 | .0005 | -.0002 | -.0001 | .0027 | .0001 | -.0000 | -.0002 |
| #3 | .0144 | -.0008 | .0004 | -.0001 | -.0001 | .0026 | .0001 | -.0001 | -.0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0002** | **.0002** | **-.0002** | **-.0002** | **.0008** | **.0001** | **.0009** | **.0006** | **.0049** |
| Stddev | .0000 | .0001 | .0000 | .0001 | .0001 | .0002 | .0001 | .0002 | .0002 |
| %RSD | 10.89 | 43.14 | 7.544 | 36.72 | 18.40 | 159.7 | 16.87 | 38.58 | 4.493 |
| #1 | .0002 | .0003 | -.0002 | -.0001 | .0008 | .0002 | .0007 | .0003 | .0050 |
| #2 | .0003 | .0002 | -.0002 | -.0003 | .0007 | -.0001 | .0009 | .0007 | .0051 |
| #3 | .0002 | .0001 | -.0002 | -.0003 | .0010 | .0002 | .0010 | .0007 | .0047 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0002** | **.0000** | **.0043** | **-.0038** | **.0005** | **-.0010** | **.0024** | **.0004** | **-.0018** |
| Stddev | .0000 | .0000 | .0003 | .0004 | .0002 | .0001 | .0003 | .0001 | .0003 |
| %RSD | 4.571 | 68.61 | 7.534 | 11.45 | 31.96 | 6.287 | 11.56 | 28.55 | 16.83 |
| #1 | .0002 | .0001 | .0041 | -.0035 | .0006 | -.0010 | .0023 | .0005 | -.0015 |
| #2 | .0002 | .0001 | .0047 | -.0035 | .0006 | -.0010 | .0027 | .0006 | -.0021 |
| #3 | .0002 | .0000 | .0042 | -.0042 | .0003 | -.0009 | .0021 | .0003 | -.0017 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.0001** | **.0006** | **-.0004** | **-.0001** | **.0000** | **-.0055** | **-.0016** |
| Stddev | .0000 | .0002 | .0001 | .0000 | .0002 | .0010 | .0001 |
| %RSD | 47.86 | 28.06 | 19.67 | 13.00 | 641.1 | 18.51 | 4.437 |
| #1 | .0001 | .0004 | -.0005 | -.0002 | .0003 | -.0066 | -.0015 |
| #2 | .0001 | .0007 | -.0003 | -.0001 | -.0001 | -.0046 | -.0017 |
| #3 | .0000 | .0005 | -.0005 | -.0001 | -.0001 | -.0053 | -.0017 |



◀ Zoom In ▶
Zoom Out

Sample Name: STDA Acquired: 5/2/2019 11:57:48 Type: Cal
Method: SGS 3 NO Valve(v332) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **161940.** | **24771.** | **6526.3** | **10236.** |
| Stddev | 396. | 65. | 5.7 | 5. |
| %RSD | .24431 | .26401 | .08670 | .04579 |
| #1 | 161730. | 24707. | 6520.3 | 10236. |
| #2 | 161690. | 24838. | 6531.5 | 10240. |
| #3 | 162390. | 24769. | 6527.3 | 10231. |



◀ Zoom In ▶
Zoom Out

Sample Name: STDb Acquired: 5/2/2019 12:02:51 Type: Cal
Method: SGS 3 NO Valve(v332) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **7.850** | **11.39** | **4.671** | **2.908** | **.6264** | **1.027** | **3.456** | **2.358** | **.0776** |
| Stddev | .023 | .14 | .008 | .004 | .0009 | .001 | .006 | .003 | .0001 |
| %RSD | .2960 | 1.233 | .1688 | .1408 | .1449 | .1274 | .1822 | .1450 | .0953 |
| #1 | 7.841 | 11.24 | 4.679 | 2.909 | .6261 | 1.026 | 3.454 | 2.358 | .0777 |
| #2 | 7.833 | 11.42 | 4.669 | 2.912 | .6257 | 1.027 | 3.452 | 2.362 | .0776 |
| #3 | 7.877 | 11.51 | 4.664 | 2.904 | .6275 | 1.029 | 3.463 | 2.355 | .0777 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.8885** | **6.806** | **.5053** | **.2975** | **1.033** | **.3807** | **.6606** | **3.644** | **8.176** |
| Stddev | .0005 | .018 | .0014 | .0008 | .001 | .0004 | .0013 | .014 | .034 |
| %RSD | .0592 | .2636 | .2692 | .2585 | .1122 | .1059 | .1905 | .3752 | .4106 |
| #1 | .8885 | 6.826 | .5069 | .2976 | 1.034 | .3811 | .6609 | 3.637 | 8.155 |
| #2 | .8880 | 6.802 | .5046 | .2967 | 1.034 | .3803 | .6617 | 3.636 | 8.158 |
| #3 | .8890 | 6.791 | .5045 | .2982 | 1.032 | .3805 | .6592 | 3.660 | 8.215 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **4.491** | **.8645** | **1.913** | **7.192** | **1.026** | **3.162** | **2.283** | **.9469** | **13.36** |
| Stddev | .016 | .0032 | .007 | .021 | .002 | .005 | .004 | .0023 | .28 |
| %RSD | .3627 | .3654 | .3576 | .2912 | .1716 | .1573 | .1641 | .2416 | 2.063 |
| #1 | 4.483 | .8620 | 1.909 | 7.186 | 1.028 | 3.167 | 2.285 | .9495 | 13.21 |
| #2 | 4.480 | .8636 | 1.909 | 7.175 | 1.026 | 3.159 | 2.285 | .9452 | 13.20 |
| #3 | 4.510 | .8681 | 1.921 | 7.215 | 1.025 | 3.158 | 2.278 | .9460 | 13.68 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.7191** | **1.608** | **2.047** | **.2036** | **.6981** | **2.109** | **.1195** |
| Stddev | .0005 | .003 | .028 | .0009 | .0016 | .011 | .0010 |
| %RSD | .0645 | .1584 | 1.356 | .4644 | .2320 | .5014 | .8490 |
| #1 | .7189 | 1.609 | 2.079 | .2043 | .6982 | 2.105 | .1203 |
| #2 | .7187 | 1.610 | 2.036 | .2026 | .6996 | 2.101 | .1184 |
| #3 | .7196 | 1.606 | 2.027 | .2040 | .6964 | 2.121 | .1199 |



◀ Zoom In ▶
Zoom Out

Sample Name: STDb Acquired: 5/2/2019 12:02:51 Type: Cal
Method: SGS 3 NO Valve(v332) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **147730.** | **24290.** | **6072.5** | **9091.4** |
| Stddev | 697. | 201. | 23.6 | 19.5 |
| %RSD | .47174 | .82550 | .38930 | .21458 |
| #1 | 147060. | 24485. | 6045.4 | 9069.8 |
| #2 | 148450. | 24300. | 6083.3 | 9096.7 |
| #3 | 147690. | 24084. | 6088.8 | 9107.7 |

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 5/2/2019 12:08:17 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.984** | **2.042** | **2.002** | **2.031** | **2.007** | **1.986** | **2.033** | **2.032** | **.2415** |
| Stddev | .005 | .007 | .014 | .015 | .009 | .007 | .018 | .014 | .0005 |
| %RSD | .2769 | .3225 | .7155 | .7373 | .4344 | .3618 | .8771 | .6925 | .2244 |
| #1 | 1.981 | 2.037 | 2.010 | 2.040 | 2.014 | 1.992 | 2.029 | 2.040 | .2416 |
| #2 | 1.990 | 2.049 | 2.012 | 2.039 | 1.998 | 1.978 | 2.018 | 2.040 | .2409 |
| #3 | 1.981 | 2.039 | 1.986 | 2.014 | 2.010 | 1.988 | 2.052 | 2.016 | .2420 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.998** | **2.025** | **1.954** | **2.068** | **2.026** | **1.991** | **1.964** | **38.81** | **39.16** |
| Stddev | .008 | .016 | .016 | .020 | .015 | .019 | .013 | .11 | .12 |
| %RSD | .3849 | .7715 | .8334 | .9435 | .7440 | .9352 | .6772 | .2878 | .3169 |
| #1 | 2.004 | 2.035 | 1.964 | 2.080 | 2.034 | 2.008 | 1.971 | 38.76 | 39.08 |
| #2 | 1.989 | 2.034 | 1.962 | 2.078 | 2.036 | 1.993 | 1.973 | 38.94 | 39.30 |
| #3 | 2.000 | 2.007 | 1.935 | 2.046 | 2.009 | 1.971 | 1.949 | 38.74 | 39.10 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **38.92** | **39.62** | **38.97** | **39.37** | **2.026** | **1.985** | **5.013** | **2.006** | **2.042** |
| Stddev | .12 | .15 | .17 | .11 | .017 | .016 | .037 | .018 | .006 |
| %RSD | .3169 | .3787 | .4490 | .2827 | .8324 | .7868 | .7369 | .9040 | .3058 |
| #1 | 38.84 | 39.57 | 38.84 | 39.32 | 2.038 | 1.994 | 5.037 | 2.018 | 2.038 |
| #2 | 39.06 | 39.79 | 39.17 | 39.50 | 2.034 | 1.994 | 5.033 | 2.014 | 2.049 |
| #3 | 38.86 | 39.51 | 38.90 | 39.29 | 2.007 | 1.967 | 4.971 | 1.985 | 2.039 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 5/2/2019 12:08:17 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.970** | **1.934** | **1.987** | **1.954** | **1.991** | **1.981** | **2.038** |
| Stddev | .009 | .015 | .009 | .017 | .012 | .005 | .017 |
| %RSD | .4843 | .7802 | .4791 | .8596 | .5916 | .2519 | .8491 |
| #1 | 1.976 | 1.943 | 1.995 | 1.968 | 1.998 | 1.979 | 2.056 |
| #2 | 1.959 | 1.942 | 1.977 | 1.958 | 1.996 | 1.986 | 2.037 |
| #3 | 1.974 | 1.917 | 1.991 | 1.935 | 1.977 | 1.977 | 2.021 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **151810.** | **24682.** | **6223.8** | **9302.3** |
| Stddev | 582. | 145. | 36.8 | 45.4 |
| %RSD | .38340 | .58774 | .59047 | .48826 |
| #1 | 151250. | 24766. | 6202.5 | 9279.2 |
| #2 | 152410. | 24514. | 6202.7 | 9273.1 |
| #3 | 151760. | 24765. | 6266.3 | 9354.7 |



Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 5/2/2019 12:13:21 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **.0001** | **.0001** | **.0000** | **.0004** | **.0000** | **.0002** | **.0002** |
| Stddev | .0002 | .0000 | .0002 | .0001 | .0001 | .0003 | .0000 | .0002 | .0002 |
| %RSD | 478.7 | 39.13 | 157.8 | 95.67 | 1081. | 75.44 | 213.9 | 84.25 | 139.4 |
| #1 | -.0003 | .0001 | .0002 | .0000 | -.0001 | .0002 | .0000 | .0000 | .0001 |
| #2 | .0002 | .0001 | -.0001 | .0001 | -.0000 | .0008 | .0000 | .0002 | .0004 |
| #3 | -.0000 | .0001 | .0003 | .0002 | .0002 | .0003 | -.0000 | .0004 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0007** | **.0005** | **.0009** | **.0006** | **-.0015** | **-.0010** | **-.0080** | **.0041** |
| Stddev | .0003 | .0001 | .0003 | .0007 | .0007 | .0006 | .0005 | .0015 | .0004 |
| %RSD | 356.7 | 14.44 | 67.75 | 70.88 | 102.8 | 37.69 | 51.47 | 18.88 | 9.723 |
| #1 | -.0002 | .0006 | .0008 | .0002 | .0007 | -.0021 | -.0008 | -.0094 | .0045 |
| #2 | .0001 | .0008 | .0001 | .0015 | .0013 | -.0009 | -.0005 | -.0081 | .0040 |
| #3 | .0004 | .0008 | .0006 | .0011 | -.0000 | -.0016 | -.0015 | -.0064 | .0037 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0026** | **-.0029** | **.1020** | **.0384** | **.0037** | **.0004** | **.0003** | **.0000** | **.0002** |
| Stddev | .0002 | .0075 | .0273 | .0044 | .0005 | .0000 | .0010 | .0002 | .0001 |
| %RSD | 8.836 | 256.6 | 26.78 | 11.47 | 14.13 | 12.59 | 304.7 | 387.7 | 66.10 |
| #1 | .0024 | .0051 | .0727 | .0356 | .0043 | .0004 | .0001 | -.0001 | .0003 |
| #2 | .0028 | -.0098 | .1268 | .0435 | .0034 | .0004 | -.0005 | .0003 | .0001 |
| #3 | .0026 | -.0041 | .1065 | .0362 | .0034 | .0003 | .0014 | -.0000 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 5/2/2019 12:13:21 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0002** | **.0001** | **.0006** | **.0005** | **.0023** | **.0015** |
| Stddev | .0003 | .0004 | .0001 | .0022 | .0020 | .0008 | .0002 |
| %RSD | 55.76 | 188.7 | 86.65 | 396.3 | 407.9 | 34.52 | 11.31 |
| #1 | .0009 | .0001 | .0001 | -.0020 | .0013 | .0027 | .0016 |
| #2 | .0004 | -.0001 | .0001 | .0014 | -.0018 | .0014 | .0015 |
| #3 | .0003 | .0006 | .0000 | .0022 | .0020 | .0029 | .0013 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160470.** | **24565.** | **6464.5** | **10167.** |
| Stddev | 458. | 72. | 15.6 | 14. |
| %RSD | .28561 | .29451 | .24141 | .14203 |
| #1 | 159960. | 24523. | 6453.7 | 10155. |
| #2 | 160590. | 24522. | 6457.4 | 10163. |
| #3 | 160850. | 24648. | 6482.4 | 10183. |

Zoom In Zoom Out

Sample Name: icv 7 Acquired: 5/2/2019 12:18:30 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.987** | **2.062** | **2.000** | **2.048** | **1.978** | **1.971** | **2.014** | **2.009** | **.2376** |
| Stddev | .002 | .004 | .018 | .013 | .003 | .002 | .009 | .011 | .0006 |
| %RSD | .1210 | .2001 | .8942 | .6485 | .1674 | .0985 | .4558 | .5620 | .2543 |
| #1 | 1.985 | 2.065 | 2.020 | 2.063 | 1.977 | 1.971 | 2.023 | 2.022 | .2375 |
| #2 | 1.989 | 2.057 | 1.995 | 2.042 | 1.982 | 1.973 | 2.013 | 2.003 | .2382 |
| #3 | 1.989 | 2.063 | 1.985 | 2.038 | 1.976 | 1.969 | 2.005 | 2.002 | .2370 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.984** | **1.991** | **1.942** | **2.062** | **1.995** | **1.966** | **1.925** | **38.73** | **38.83** |
| Stddev | .001 | .016 | .013 | .014 | .014 | .020 | .020 | .06 | .07 |
| %RSD | .0670 | .8013 | .6755 | .6705 | .6798 | .9915 | 1.050 | .1614 | .1700 |
| #1 | 1.983 | 2.009 | 1.957 | 2.078 | 2.010 | 1.987 | 1.947 | 38.80 | 38.87 |
| #2 | 1.985 | 1.987 | 1.938 | 2.056 | 1.990 | 1.960 | 1.919 | 38.67 | 38.75 |
| #3 | 1.985 | 1.977 | 1.932 | 2.053 | 1.985 | 1.949 | 1.908 | 38.72 | 38.86 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.13** | **39.39** | **38.79** | **39.04** | **2.018** | **1.947** | **5.002** | **1.966** | **2.049** |
| Stddev | .05 | .08 | .10 | .02 | .016 | .017 | .036 | .016 | .001 |
| %RSD | .1361 | .2134 | .2464 | .0452 | .7886 | .8744 | .7293 | .8227 | .0601 |
| #1 | 39.16 | 39.49 | 38.84 | 39.06 | 2.036 | 1.966 | 5.044 | 1.984 | 2.048 |
| #2 | 39.07 | 39.32 | 38.68 | 39.03 | 2.013 | 1.942 | 4.989 | 1.960 | 2.048 |
| #3 | 39.17 | 39.37 | 38.84 | 39.03 | 2.006 | 1.933 | 4.975 | 1.954 | 2.050 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icv 7 Acquired: 5/2/2019 12:18:30 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.942** | F **1.897** | **1.950** | **1.943** | **1.975** | **2.023** | **2.016** |
| Stddev | .001 | .014 | .002 | .014 | .015 | .003 | .024 |
| %RSD | .0331 | .7094 | .1052 | .7217 | .7640 | .1605 | 1.188 |
| #1 | 1.941 | 1.912 | 1.948 | 1.959 | 1.993 | 2.025 | 1.991 |
| #2 | 1.941 | 1.893 | 1.952 | 1.936 | 1.970 | 2.019 | 2.020 |
| #3 | 1.942 | 1.886 | 1.951 | 1.934 | 1.964 | 2.024 | 2.038 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | 2.000 | | | | | |
| Range | | -5.000% | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150310.** | **24212.** | **6162.4** | **9240.9** |
| Stddev | 268. | 96. | 38.2 | 45.0 |
| %RSD | .17829 | .39851 | .61970 | .48673 |
| #1 | 150200. | 24104. | 6123.0 | 9192.3 |
| #2 | 150110. | 24244. | 6165.1 | 9249.3 |
| #3 | 150610. | 24289. | 6199.2 | 9281.1 |



Zoom In Zoom Out

Sample Name: icb Acquired: 5/2/2019 12:23:32 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0001** | **.0001** | **.0002** | **.0001** | **.0006** | **.0001** | **.0002** | **.0003** |
| Stddev | .0003 | .0001 | .0002 | .0001 | .0003 | .0002 | .0000 | .0004 | .0002 |
| %RSD | 128.3 | 73.31 | 214.1 | 44.29 | 384.9 | 27.53 | 9.425 | 216.2 | 73.64 |
| #1 | -.0002 | .0002 | .0002 | .0003 | -.0003 | .0005 | .0001 | -.0000 | .0005 |
| #2 | .0001 | .0002 | .0002 | .0001 | .0002 | .0005 | .0001 | -.0001 | .0001 |
| #3 | -.0004 | .0000 | -.0001 | .0001 | .0003 | .0008 | .0001 | .0007 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0010** | **.0003** | **.0009** | **.0002** | **-.0015** | **-.0013** | **.0032** | **.0018** |
| Stddev | .0002 | .0001 | .0009 | .0007 | .0003 | .0013 | .0020 | .0047 | .0010 |
| %RSD | 285.9 | 13.91 | 334.6 | 80.09 | 116.9 | 83.14 | 158.8 | 146.9 | 56.27 |
| #1 | -.0002 | .0011 | -.0006 | .0009 | .0001 | -.0013 | .0002 | -.0009 | .0026 |
| #2 | .0003 | .0008 | .0011 | .0017 | .0000 | -.0004 | -.0005 | .0022 | .0007 |
| #3 | .0001 | .0010 | .0002 | .0002 | .0006 | -.0030 | -.0035 | .0083 | .0021 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0025** | **.0031** | **.0051** | **.0132** | **.0031** | **.0003** | **.0006** | **.0002** | **.0002** |
| Stddev | .0014 | .0091 | .0231 | .0048 | .0009 | .0000 | .0009 | .0005 | .0000 |
| %RSD | 57.86 | 296.5 | 451.4 | 36.74 | 29.75 | 14.94 | 159.9 | 261.7 | 19.59 |
| #1 | .0039 | -.0063 | -.0134 | .0083 | .0040 | .0002 | .0016 | .0005 | .0002 |
| #2 | .0026 | .0036 | .0310 | .0179 | .0022 | .0003 | .0001 | -.0004 | .0002 |
| #3 | .0010 | .0119 | -.0023 | .0133 | .0031 | .0003 | -.0000 | .0004 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: icb Acquired: 5/2/2019 12:23:32 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0019** | **.0003** | **.0002** | **-.0016** | **.0020** | **-.0015** |
| Stddev | .0002 | .0007 | .0001 | .0009 | .0006 | .0016 | .0017 |
| %RSD | 50.25 | 38.65 | 26.16 | 453.6 | 36.17 | 80.65 | 115.7 |
| #1 | .0002 | .0022 | .0002 | -.0006 | -.0023 | .0014 | -.0015 |
| #2 | .0006 | .0023 | .0003 | .0001 | -.0015 | .0007 | .0002 |
| #3 | .0005 | .0010 | .0004 | .0011 | -.0011 | .0038 | -.0031 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159280.** | **24581.** | **6487.1** | **10176.** |
| Stddev | 11. | 156. | 5.7 | 14. |
| %RSD | .00710 | .63369 | .08794 | .13696 |
| #1 | 159290. | 24688. | 6481.3 | 10160. |
| #2 | 159270. | 24653. | 6487.5 | 10180. |
| #3 | 159290. | 24403. | 6492.7 | 10187. |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/2/2019 12:28:41 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.992** | **2.063** | **1.999** | **2.019** | **2.009** | **1.991** | **2.050** | **2.023** | **.2423** |
| Stddev | .001 | .002 | .001 | .003 | .001 | .001 | .012 | .001 | .0009 |
| %RSD | .0517 | .1105 | .0347 | .1217 | .0671 | .0679 | .5620 | .0553 | .3548 |
| #1 | 1.993 | 2.061 | 1.998 | 2.016 | 2.009 | 1.990 | 2.063 | 2.022 | .2421 |
| #2 | 1.991 | 2.066 | 2.000 | 2.020 | 2.008 | 1.991 | 2.048 | 2.024 | .2416 |
| #3 | 1.993 | 2.063 | 1.999 | 2.020 | 2.010 | 1.992 | 2.041 | 2.023 | .2433 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.997** | **2.019** | **1.953** | **2.088** | **2.020** | **1.985** | **1.958** | **39.12** | **39.40** |
| Stddev | .001 | .003 | .000 | .001 | .002 | .001 | .002 | .04 | .03 |
| %RSD | .0570 | .1441 | .0205 | .0435 | .1093 | .0380 | .0755 | .0956 | .0870 |
| #1 | 1.998 | 2.019 | 1.954 | 2.089 | 2.019 | 1.984 | 1.957 | 39.08 | 39.36 |
| #2 | 1.996 | 2.022 | 1.953 | 2.089 | 2.018 | 1.985 | 1.958 | 39.15 | 39.42 |
| #3 | 1.998 | 2.016 | 1.953 | 2.087 | 2.022 | 1.986 | 1.960 | 39.12 | 39.42 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **39.46** | **40.11** | **38.91** | **39.68** | **2.023** | **1.977** | **4.995** | **2.003** | **2.055** |
| Stddev | .03 | .10 | .06 | .05 | .002 | .001 | .003 | .001 | .001 |
| %RSD | .0681 | .2525 | .1429 | .1372 | .1144 | .0687 | .0566 | .0505 | .0394 |
| #1 | 39.43 | 39.99 | 38.85 | 39.63 | 2.025 | 1.978 | 4.994 | 2.002 | 2.054 |
| #2 | 39.48 | 40.16 | 38.94 | 39.74 | 2.020 | 1.977 | 4.998 | 2.004 | 2.056 |
| #3 | 39.48 | 40.18 | 38.95 | 39.69 | 2.023 | 1.975 | 4.992 | 2.002 | 2.055 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/2/2019 12:28:41 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.977** | **1.933** | **1.992** | **1.977** | **1.992** | **1.990** | **2.193** |
| Stddev | .001 | .002 | .001 | .005 | .005 | .004 | .014 |
| %RSD | .0260 | .1261 | .0427 | .2414 | .2377 | .2139 | .6472 |
| #1 | 1.977 | 1.935 | 1.992 | 1.983 | 1.998 | 1.985 | 2.198 |
| #2 | 1.977 | 1.931 | 1.993 | 1.973 | 1.988 | 1.994 | 2.203 |
| #3 | 1.976 | 1.931 | 1.992 | 1.976 | 1.991 | 1.992 | 2.177 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150230.** | **24172.** | **6160.7** | **9218.7** |
| Stddev | 482. | 152. | 19.8 | 28.0 |
| %RSD | .32085 | .62770 | .32102 | .30422 |
| #1 | 149810. | 24347. | 6160.3 | 9227.8 |
| #2 | 150760. | 24079. | 6141.1 | 9187.2 |
| #3 | 150110. | 24089. | 6180.7 | 9241.1 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/2/2019 12:33:42 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0006** | **.0003** | **.0005** | **.0006** | **.0008** | **.0007** | **.0003** | **-.0000** |
| Stddev | .0003 | .0001 | .0001 | .0002 | .0002 | .0002 | .0000 | .0002 | .0002 |
| %RSD | 167.4 | 10.97 | 27.09 | 40.76 | 33.68 | 28.56 | 7.308 | 55.81 | 1306. |
| #1 | .0002 | .0005 | .0004 | .0008 | .0007 | .0010 | .0007 | .0004 | -.0002 |
| #2 | .0004 | .0006 | .0003 | .0006 | .0007 | .0005 | .0007 | .0001 | .0001 |
| #3 | -.0001 | .0006 | .0002 | .0003 | .0003 | .0009 | .0006 | .0004 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0012** | **.0012** | **.0010** | **.0002** | **-.0012** | **-.0014** | **.0111** | **.0117** |
| Stddev | .0003 | .0002 | .0008 | .0006 | .0008 | .0013 | .0021 | .0066 | .0024 |
| %RSD | 61.36 | 19.75 | 66.12 | 58.91 | 390.4 | 112.7 | 144.5 | 58.94 | 20.32 |
| #1 | .0003 | .0014 | .0018 | .0011 | .0007 | -.0005 | .0007 | .0126 | .0102 |
| #2 | .0007 | .0012 | .0003 | .0016 | -.0007 | -.0003 | -.0034 | .0040 | .0105 |
| #3 | .0002 | .0010 | .0015 | .0004 | .0005 | -.0027 | -.0016 | .0168 | .0145 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0109** | **.0276** | **.0034** | **.0336** | **.0035** | **.0007** | **.0014** | **.0005** | **.0007** |
| Stddev | .0025 | .0052 | .0438 | .0091 | .0006 | .0003 | .0008 | .0003 | .0000 |
| %RSD | 22.96 | 18.91 | 1284. | 27.13 | 18.01 | 36.26 | 54.67 | 64.72 | 6.364 |
| #1 | .0095 | .0331 | .0521 | .0257 | .0031 | .0009 | .0018 | .0002 | .0007 |
| #2 | .0095 | .0228 | -.0090 | .0436 | .0043 | .0009 | .0005 | .0004 | .0007 |
| #3 | .0138 | .0268 | -.0329 | .0316 | .0032 | .0004 | .0019 | .0008 | .0008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/2/2019 12:33:42 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0006** | **.0006** | **-.0003** | **.0011** | **.0016** | **-.0009** |
| Stddev | .0002 | .0002 | .0001 | .0013 | .0006 | .0016 | .0023 |
| %RSD | 22.15 | 26.55 | 17.20 | 527.2 | 60.91 | 98.34 | 240.0 |
| #1 | .0011 | .0006 | .0006 | -.0012 | .0017 | .0035 | .0012 |
| #2 | .0008 | .0004 | .0005 | .0013 | .0004 | .0011 | -.0033 |
| #3 | .0012 | .0007 | .0007 | -.0008 | .0010 | .0003 | -.0007 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159800.** | **24519.** | **6485.2** | **10174.** |
| Stddev | 502. | 129. | 9.8 | 16. |
| %RSD | .31440 | .52567 | .15166 | .15799 |
| #1 | 159380. | 24384. | 6477.8 | 10158. |
| #2 | 160360. | 24533. | 6481.5 | 10175. |
| #3 | 159660. | 24641. | 6496.3 | 10190. |

Zoom In Zoom Out

Sample Name: emptyconf Acquired: 5/2/2019 12:38:51 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F .0302 | F .0001 | F -.0001 | F .0030 | F .0013 | F -.0012 | F .0021 | F .0006 |
| Stddev | .0029 | .0001 | .0001 | .0005 | .0004 | .0006 | .0004 | .0001 |
| %RSD | 9.679 | 46.68 | 170.5 | 17.89 | 28.51 | 47.46 | 20.61 | 22.67 |
| #1 | .0334 | .0002 | -.0001 | .0036 | .0018 | -.0010 | .0025 | .0008 |
| #2 | .0277 | .0001 | .0001 | .0028 | .0012 | -.0007 | .0020 | .0006 |
| #3 | .0294 | .0001 | -.0001 | .0026 | .0011 | -.0018 | .0017 | .0005 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .2000 | .0020 | .0030 | .0500 | .0100 | .0100 | .0150 | .0100 |
| Range | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F .0007 | F .0062 | F .0121 | F .0015 | F .0019 | F -.0005 | F -.0016 | F -.0028 |
| Stddev | .0001 | .0012 | .0012 | .0000 | .0006 | .0001 | .0001 | .0009 |
| %RSD | 18.46 | 19.58 | 9.741 | 2.838 | 30.78 | 16.26 | 4.961 | 33.05 |
| #1 | .0008 | .0074 | .0113 | .0015 | .0025 | -.0005 | -.0015 | -.0021 |
| #2 | .0005 | .0063 | .0115 | .0015 | .0017 | -.0005 | -.0015 | -.0024 |
| #3 | .0007 | .0050 | .0135 | .0014 | .0014 | -.0006 | -.0017 | -.0039 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .0050 | .0500 | .0200 | .0080 | .0100 | .0030 | .0100 | .0060 |
| Range | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F .0306 | F .8451 | F .0151 | F .9130 | F .7183 | F .8689 | F .0068 | F .0017 |
| Stddev | .0046 | .0755 | .0009 | .0734 | .0638 | .0749 | .0008 | .0002 |
| %RSD | 14.91 | 8.932 | 5.951 | 8.039 | 8.884 | 8.616 | 11.46 | 12.78 |
| #1 | .0356 | .9310 | .0160 | .9970 | .7911 | .9548 | .0077 | .0019 |
| #2 | .0295 | .7895 | .0142 | .8612 | .6918 | .8178 | .0063 | .0016 |
| #3 | .0266 | .8147 | .0152 | .8808 | .6720 | .8340 | .0065 | .0015 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .2000 | 5.000 | .1000 | 5.000 | 5.000 | 5.000 | .1000 | .0200 |
| Range | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% |



Zoom In Zoom Out

Sample Name: emptyconf Acquired: 5/2/2019 12:38:51 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F .0059 | F -.0009 | F .0018 | F .0015 | F .0025 | F .0020 | F .0039 | F .0005 |
| Stddev | .0021 | .0004 | .0002 | .0002 | .0008 | .0004 | .0010 | .0007 |
| %RSD | 34.74 | 45.33 | 9.270 | 16.34 | 30.98 | 19.71 | 24.98 | 127.2 |
| #1 | .0083 | -.0004 | .0020 | .0017 | .0032 | .0024 | .0032 | .0001 |
| #2 | .0050 | -.0009 | .0017 | .0014 | .0017 | .0019 | .0050 | .0002 |
| #3 | .0045 | -.0012 | .0018 | .0013 | .0027 | .0017 | .0034 | .0013 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .2000 | .0100 | .0100 | .0100 | .0500 | .0100 | .0500 | .0200 |
| Range | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | F .0185 | F .0030 |
| Stddev | .0013 | .0007 |
| %RSD | 6.744 | 24.16 |
| #1 | .0197 | .0031 |
| #2 | .0172 | .0038 |
| #3 | .0187 | .0023 |
| Check ? | Chk Fail | Chk Fail |
| Value | .0500 | .0500 |
| Range | -20.00% | -20.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 298890. | 37823. | 13230. | 19851. |
| Stddev | 10231. | 1146. | 20. | 41. |
| %RSD | 3.4232 | 3.0310 | .15278 | .20831 |
| #1 | 291970. | 36733. | 13212. | 19809. |
| #2 | 294050. | 37717. | 13252. | 19892. |
| #3 | 310640. | 39018. | 13227. | 19854. |



Zoom In Zoom Out

Sample Name: emptyconf Acquired: 5/2/2019 12:44:02 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F -.0022 | F -.0003 | F -.0002 | F .0000 | F -.0002 | F -.0029 | F -.0001 | F .0001 |
| Stddev | .0001 | .0000 | .0000 | .0000 | .0001 | .0002 | .0000 | .0001 |
| %RSD | 4.499 | 1.694 | 13.29 | 107.9 | 59.09 | 6.294 | 21.06 | 59.10 |
| #1 | -.0022 | -.0003 | -.0002 | .0000 | -.0001 | -.0030 | -.0001 | .0000 |
| #2 | -.0023 | -.0003 | -.0003 | .0000 | -.0002 | -.0030 | -.0001 | .0002 |
| #3 | -.0021 | -.0003 | -.0003 | .0001 | -.0003 | -.0027 | -.0001 | .0002 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .0040 | .0010 | .0010 | .0030 | .0020 | .0020 | .0030 | .0040 |
| Range | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F -.0000 | F -.0005 | F -.0003 | F .0012 | .0020 | F -.0011 | F -.0023 | F -.0025 |
| Stddev | .0002 | .0002 | .0000 | .0004 | .0001 | .0002 | .0002 | .0003 |
| %RSD | 1414. | 39.74 | 14.99 | 38.62 | 4.981 | 15.16 | 7.833 | 13.58 |
| #1 | -.0003 | -.0005 | -.0003 | .0014 | .0021 | -.0009 | -.0021 | -.0021 |
| #2 | .0002 | -.0006 | -.0003 | .0006 | .0019 | -.0012 | -.0024 | -.0028 |
| #3 | .0000 | -.0003 | -.0004 | .0014 | .0020 | -.0011 | -.0025 | -.0024 |
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail | Chk Fail |
| Value | .0020 | .0020 | .0100 | .0030 | | .0025 | .0050 | .0030 |
| Range | -20.00% | -20.00% | -20.00% | -20.00% | | -20.00% | -20.00% | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F -.0086 | F -.0090 | -.0025 | F -.0028 | F -.2461 | F -.0490 | .0010 | .0005 |
| Stddev | .0054 | .0014 | .0009 | .0059 | .0241 | .0038 | .0002 | .0001 |
| %RSD | 63.56 | 15.56 | 38.15 | 208.9 | 9.789 | 7.830 | 20.55 | 11.87 |
| #1 | -.0133 | -.0089 | -.0021 | -.0051 | -.2625 | -.0507 | .0010 | .0005 |
| #2 | -.0098 | -.0105 | -.0018 | -.0072 | -.2575 | -.0517 | .0012 | .0005 |
| #3 | -.0026 | -.0077 | -.0036 | .0038 | -.2185 | -.0446 | .0008 | .0006 |
| Check ? | Chk Fail | Chk Fail | None | Chk Fail | Chk Fail | Chk Fail | None | None |
| Value | .1000 | 1.000 | | .1000 | 2.000 | 1.000 | | |
| Range | -20.00% | -20.00% | | -20.00% | -20.00% | -20.00% | | |



Zoom In Zoom Out

Sample Name: emptyconf Acquired: 5/2/2019 12:44:02 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | -.0063 | -.0018 | .0001 | .0003 | -.0007 | .0002 | .0010 | -.0007 |
| Stddev | .0003 | .0003 | .0001 | .0001 | .0000 | .0001 | .0009 | .0012 |
| %RSD | 4.040 | 14.61 | 81.97 | 24.67 | 6.692 | 32.85 | 86.86 | 181.5 |
| #1 | -.0060 | -.0016 | .0001 | .0002 | -.0007 | .0001 | .0002 | .0005 |
| #2 | -.0063 | -.0018 | .0000 | .0003 | -.0006 | .0002 | .0008 | -.0020 |
| #3 | -.0065 | -.0021 | .0002 | .0004 | -.0007 | .0001 | .0020 | -.0006 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | .0120 | .0018 |
| Stddev | .0012 | .0018 |
| %RSD | 10.32 | 102.3 |
| #1 | .0134 | .0024 |
| #2 | .0118 | .0031 |
| #3 | .0109 | -.0003 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 333350. | 41863. | 14320. | 21418. |
| Stddev | 2610. | 310. | 180. | 247. |
| %RSD | .78292 | .74000 | 1.2581 | 1.1538 |
| #1 | 336110. | 41526. | 14390. | 21517. |
| #2 | 333040. | 41928. | 14455. | 21600. |
| #3 | 330910. | 42136. | 14115. | 21137. |

Zoom In Zoom Out

Sample Name: cri Acquired: 5/2/2019 12:49:55 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2035** | **.0021** | **.0030** | **.0514** | **.0105** | **.0098** | **.0161** | **.0104** | **.0049** |
| Stddev | .0004 | .0000 | .0001 | .0003 | .0000 | .0003 | .0000 | .0003 | .0002 |
| %RSD | .2038 | 1.723 | 2.661 | .5588 | .4291 | 2.872 | .1189 | 3.225 | 3.363 |
| #1 | .2034 | .0021 | .0031 | .0512 | .0105 | .0095 | .0161 | .0106 | .0051 |
| #2 | .2032 | .0021 | .0030 | .0517 | .0104 | .0099 | .0161 | .0106 | .0048 |
| #3 | .2040 | .0021 | .0031 | .0512 | .0105 | .0101 | .0161 | .0100 | .0050 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0509** | **.0206** | **.0073** | **.0096** | **.0034** | **.0094** | **.0050** | **.1939** | **5.097** |
| Stddev | .0002 | .0001 | .0007 | .0001 | .0003 | .0010 | .0010 | .0076 | .034 |
| %RSD | .4677 | .3030 | 9.453 | .6571 | 8.995 | 10.16 | 19.13 | 3.907 | .6678 |
| #1 | .0508 | .0207 | .0077 | .0097 | .0031 | .0092 | .0039 | .2017 | 5.133 |
| #2 | .0508 | .0206 | .0078 | .0096 | .0037 | .0085 | .0055 | .1936 | 5.095 |
| #3 | .0512 | .0206 | .0065 | .0097 | .0033 | .0104 | .0057 | .1865 | 5.065 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1055** | **5.279** | **5.158** | **5.300** | **.1035** | **.0206** | **.2112** | **.0098** | **.0105** |
| Stddev | .0013 | .025 | .039 | .002 | .0004 | .0002 | .0005 | .0001 | .0001 |
| %RSD | 1.245 | .4818 | .7508 | .0441 | .3901 | .8860 | .2266 | 1.301 | .5570 |
| #1 | .1043 | 5.283 | 5.201 | 5.301 | .1040 | .0208 | .2117 | .0097 | .0106 |
| #2 | .1052 | 5.302 | 5.147 | 5.301 | .1032 | .0205 | .2111 | .0098 | .0105 |
| #3 | .1069 | 5.252 | 5.126 | 5.297 | .1034 | .0204 | .2107 | .0099 | .0105 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: cri Acquired: 5/2/2019 12:49:55 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0103** | **.0511** | **.0104** | **.0516** | **.0210** | F **.0637** | **.0538** |
| Stddev | .0003 | .0010 | .0001 | .0020 | .0017 | .0003 | .0023 |
| %RSD | 3.349 | 1.927 | .9877 | 3.822 | 8.093 | .5080 | 4.277 |
| #1 | .0105 | .0517 | .0104 | .0529 | .0215 | .0637 | .0538 |
| #2 | .0106 | .0516 | .0104 | .0493 | .0224 | .0633 | .0515 |
| #3 | .0100 | .0500 | .0105 | .0525 | .0191 | .0640 | .0561 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value | | | | | | .0500 | |
| Range | | | | | | 20.00% | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155290.** | **24022.** | **6315.7** | **9685.8** |
| Stddev | 257. | 56. | 28.9 | 35.4 |
| %RSD | .16539 | .23330 | .45777 | .36534 |
| #1 | 155510. | 23963. | 6291.6 | 9647.7 |
| #2 | 155360. | 24074. | 6347.7 | 9717.6 |
| #3 | 155010. | 24028. | 6307.7 | 9692.0 |



Zoom In Zoom Out

Sample Name: crid Acquired: 5/2/2019 12:55:00 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0041** | **.0010** | **.0009** | **.0032** | **.0023** | F **.0002** | **.0032** | **.0042** |
| Stddev | .0001 | .0001 | .0001 | .0001 | .0003 | .0004 | .0000 | .0003 |
| %RSD | 2.421 | 4.998 | 8.768 | 4.617 | 11.90 | 161.8 | .6431 | 7.666 |
| #1 | .0040 | .0010 | .0010 | .0030 | .0023 | -.0000 | .0032 | .0038 |
| #2 | .0042 | .0010 | .0008 | .0033 | .0026 | .0007 | .0032 | .0044 |
| #3 | .0041 | .0011 | .0009 | .0033 | .0021 | .0001 | .0032 | .0044 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | .0020 | | |
| Range | | | | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0005** | **.0020** | **.0102** | F **.0038** | F **.0025** | F **-.0004** | F **.0029** | F **-.0018** |
| Stddev | .0002 | .0004 | .0000 | .0002 | .0003 | .0002 | .0007 | .0012 |
| %RSD | 33.95 | 21.95 | .3714 | 4.038 | 13.34 | 46.59 | 25.03 | 67.72 |
| #1 | -.0007 | .0023 | .0102 | .0038 | .0021 | -.0002 | .0037 | -.0018 |
| #2 | -.0005 | .0015 | .0102 | .0036 | .0028 | -.0004 | .0026 | -.0030 |
| #3 | -.0003 | .0021 | .0103 | .0039 | .0027 | -.0005 | .0024 | -.0006 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .0020 | | | .0030 | .0020 | .0025 | .0050 | .0030 |
| Range | -20.00% | | | 20.00% | 20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0945** | **1.015** | **.0010** | **.1134** | **1.911** | **1.032** | **.0012** | **.0000** |
| Stddev | .0059 | .004 | .0004 | .0125 | .025 | .006 | .0006 | .0001 |
| %RSD | 6.221 | .4398 | 42.53 | 11.06 | 1.332 | .6324 | 50.88 | 219.5 |
| #1 | .0918 | 1.010 | .0014 | .1278 | 1.882 | 1.037 | .0018 | .0001 |
| #2 | .0905 | 1.018 | .0009 | .1077 | 1.921 | 1.035 | .0008 | -.0000 |
| #3 | .1013 | 1.018 | .0006 | .1047 | 1.929 | 1.025 | .0009 | .0001 |
| Check ? | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |



Zoom In Zoom Out

Sample Name: crid Acquired: 5/2/2019 12:55:00 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0012** | **-.0000** | **.0000** | **.0007** | **-.0000** | **.0050** | **-.0017** |
| Stddev | .0001 | .0004 | .0001 | .0004 | .0012 | .0000 | .0008 | .0015 |
| %RSD | 42.03 | 29.27 | 303.2 | 5453. | 165.0 | 90.89 | 16.50 | 91.16 |
| #1 | .0001 | -.0014 | .0001 | .0003 | .0020 | -.0001 | .0041 | -.0002 |
| #2 | .0002 | -.0014 | -.0001 | .0002 | .0005 | -.0000 | .0054 | -.0032 |
| #3 | .0003 | -.0008 | -.0002 | -.0004 | -.0004 | -.0000 | .0056 | -.0017 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0024** | **.0047** |
| Stddev | .0009 | .0004 |
| %RSD | 39.97 | 9.374 |
| #1 | .0034 | .0051 |
| #2 | .0023 | .0048 |
| #3 | .0015 | .0042 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158790.** | **24387.** | **6447.6** | **10020.** |
| Stddev | 431. | 1. | 5.8 | 10. |
| %RSD | .27115 | .00373 | .08948 | .09694 |
| #1 | 158480. | 24388. | 6450.4 | 10026. |
| #2 | 158610. | 24387. | 6451.5 | 10024. |
| #3 | 159280. | 24387. | 6441.0 | 10008. |

Zoom In Zoom Out

Sample Name: ICSA Acquired: 5/2/2019 13:00:07 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0001** | **-.0002** | **.0015** | **-.0006** | **-.0041** | **.0017** | **-.0005** | **.0016** |
| Stddev | .0004 | .0001 | .0000 | .0001 | .0002 | .0003 | .0001 | .0006 | .0007 |
| %RSD | 64.68 | 50.29 | 18.43 | 7.420 | 35.80 | 8.343 | 8.478 | 108.6 | 43.44 |
| #1 | .0006 | .0001 | -.0002 | .0016 | -.0008 | -.0037 | .0018 | -.0007 | .0021 |
| #2 | .0008 | .0001 | -.0002 | .0016 | -.0004 | -.0043 | .0016 | .0001 | .0008 |
| #3 | .0002 | .0002 | -.0002 | .0014 | -.0005 | -.0043 | .0019 | -.0010 | .0020 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0017** | **-.0016** | **.0009** | **-.0017** | **.0024** | **.0002** | **-.0030** | **496.2** | **377.4** |
| Stddev | .0002 | .0002 | .0005 | .0004 | .0022 | .0021 | .0024 | 5.7 | 4.2 |
| %RSD | 10.59 | 10.91 | 54.29 | 24.27 | 88.42 | 1231. | 78.82 | 1.142 | 1.123 |
| #1 | -.0015 | -.0018 | .0004 | -.0022 | -.0001 | .0006 | -.0035 | 502.7 | 381.3 |
| #2 | -.0019 | -.0014 | .0013 | -.0013 | .0037 | .0020 | -.0004 | 492.9 | 378.1 |
| #3 | -.0017 | -.0015 | .0010 | -.0017 | .0037 | -.0021 | -.0050 | 493.0 | 372.9 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **191.6** | **492.0** | **.1059** | **.0569** | **-.0002** | **-.0002** | **.0033** | **-.0037** | **.0001** |
| Stddev | 1.8 | .5 | .0378 | .0017 | .0007 | .0003 | .0011 | .0003 | .0001 |
| %RSD | .9520 | .1108 | 35.72 | 2.932 | 289.2 | 146.7 | 32.01 | 8.476 | 175.1 |
| #1 | 192.8 | 492.5 | .1110 | .0564 | .0004 | -.0004 | .0023 | -.0040 | -.0000 |
| #2 | 189.5 | 491.4 | .0658 | .0588 | -.0010 | -.0002 | .0044 | -.0034 | .0002 |
| #3 | 192.6 | 492.0 | .1409 | .0555 | -.0001 | .0001 | .0033 | -.0038 | .0000 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ICSA Acquired: 5/2/2019 13:00:07 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0011** | **.0015** | **.0004** | **-.0004** | **-.0039** | **.0094** | **.0249** |
| Stddev | .0003 | .0004 | .0002 | .0026 | .0010 | .0014 | .0037 |
| %RSD | 24.42 | 27.63 | 43.17 | 630.5 | 25.33 | 15.24 | 14.90 |
| #1 | -.0014 | .0020 | .0004 | -.0030 | -.0030 | .0078 | .0207 |
| #2 | -.0008 | .0014 | .0002 | -.0005 | -.0038 | .0106 | .0275 |
| #3 | -.0011 | .0012 | .0005 | .0023 | -.0050 | .0097 | .0266 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137280.** | **23317.** | **5753.4** | **8418.6** |
| Stddev | 110. | 119. | 3.5 | 3.0 |
| %RSD | .08028 | .51005 | .06017 | .03554 |
| #1 | 137400. | 23245. | 5750.7 | 8415.5 |
| #2 | 137230. | 23454. | 5757.3 | 8418.9 |
| #3 | 137200. | 23252. | 5752.1 | 8421.4 |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/2/2019 13:05:29 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5253** | **.5252** | **1.021** | **.4946** | **.4962** | **.5122** | **.5190** | **.9882** | **1.073** |
| Stddev | .0159 | .0146 | .002 | .0002 | .0002 | .0008 | .0007 | .0007 | .002 |
| %RSD | 3.034 | 2.782 | .2167 | .0490 | .0358 | .1634 | .1339 | .0703 | .1484 |
| #1 | .5170 | .5174 | 1.024 | .4943 | .4960 | .5132 | .5196 | .9876 | 1.075 |
| #2 | .5152 | .5161 | 1.021 | .4946 | .4963 | .5117 | .5182 | .9879 | 1.072 |
| #3 | .5437 | .5420 | 1.019 | .4948 | .4963 | .5117 | .5191 | .9889 | 1.073 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4974** | **.9644** | **1.068** | **1.001** | **.9683** | **1.073** | **1.059** | **503.5** | **383.5** |
| Stddev | .0009 | .0011 | .002 | .000 | .0011 | .007 | .002 | 17.1 | 12.6 |
| %RSD | .1751 | .1165 | .2068 | .0088 | .1106 | .6234 | .2139 | 3.399 | 3.295 |
| #1 | .4983 | .9656 | 1.065 | 1.001 | .9672 | 1.079 | 1.062 | 494.7 | 379.9 |
| #2 | .4965 | .9640 | 1.068 | 1.001 | .9682 | 1.072 | 1.059 | 492.6 | 373.0 |
| #3 | .4974 | .9635 | 1.070 | 1.001 | .9694 | 1.066 | 1.057 | 523.2 | 397.5 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **200.9** | **508.7** | **.0573** | **.0675** | **.4902** | **.4726** | **.4980** | **.4639** | **.5446** |
| Stddev | 4.7 | 14.4 | .0271 | .0155 | .0011 | .0009 | .0009 | .0014 | .0161 |
| %RSD | 2.336 | 2.822 | 47.37 | 23.04 | .2260 | .1929 | .1899 | .2995 | 2.953 |
| #1 | 197.6 | 501.3 | .0876 | .0852 | .4897 | .4735 | .4975 | .4650 | .5359 |
| #2 | 198.9 | 499.5 | .0489 | .0610 | .4895 | .4727 | .4991 | .4624 | .5346 |
| #3 | 206.3 | 525.3 | .0353 | .0562 | .4915 | .4717 | .4975 | .4645 | .5631 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ICSAB Acquired: 5/2/2019 13:05:29 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4986** | **.4711** | **.4860** | **.5147** | **.5050** | **.5551** | **.5805** |
| Stddev | .0013 | .0014 | .0009 | .0081 | .0016 | .0161 | .0096 |
| %RSD | .2654 | .2916 | .1945 | 1.569 | .3095 | 2.898 | 1.661 |
| #1 | .5001 | .4704 | .4871 | .5238 | .5063 | .5458 | .5739 |
| #2 | .4976 | .4702 | .4852 | .5082 | .5053 | .5458 | .5760 |
| #3 | .4980 | .4727 | .4859 | .5122 | .5032 | .5737 | .5915 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137570.** | **22952.** | **5740.3** | **8422.1** |
| Stddev | 350. | 633. | .9 | 5.0 |
| %RSD | .25424 | 2.7577 | .01618 | .05929 |
| #1 | 137950. | 23282. | 5740.7 | 8427.5 |
| #2 | 137490. | 23352. | 5739.3 | 8417.7 |
| #3 | 137270. | 22222. | 5741.0 | 8421.1 |

Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/2/2019 13:10:47 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.986** | **8.141** | **7.870** | **7.941** | **8.150** | **7.947** | **8.013** | **8.030** | **.6209** |
| Stddev | .198 | .157 | .007 | .003 | .029 | .075 | .109 | .006 | .0021 |
| %RSD | 2.474 | 1.932 | .0941 | .0409 | .3582 | .9381 | 1.366 | .0692 | .3353 |
| #1 | 7.797 | 7.964 | 7.878 | 7.940 | 8.155 | 7.862 | 8.090 | 8.024 | .6221 |
| #2 | 7.970 | 8.265 | 7.864 | 7.944 | 8.176 | 8.002 | 8.060 | 8.035 | .6221 |
| #3 | 8.191 | 8.194 | 7.869 | 7.938 | 8.119 | 7.977 | 7.887 | 8.031 | .6185 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **7.855** | **8.130** | **7.974** | **8.350** | **8.131** | **8.074** | **8.045** | **.0457** | **-.0482** |
| Stddev | .066 | .011 | .002 | .011 | .006 | .004 | .007 | .0056 | .0017 |
| %RSD | .8420 | .1346 | .0194 | .1362 | .0775 | .0540 | .0863 | 12.29 | 3.564 |
| #1 | 7.922 | 8.127 | 7.976 | 8.352 | 8.127 | 8.069 | 8.053 | .0410 | -.0464 |
| #2 | 7.853 | 8.142 | 7.974 | 8.338 | 8.139 | 8.077 | 8.043 | .0443 | -.0499 |
| #3 | 7.790 | 8.121 | 7.973 | 8.361 | 8.128 | 8.075 | 8.039 | .0519 | -.0482 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0297** | **-.0509** | **.2404** | **.0478** | **8.101** | **8.005** | **25.75** | **8.230** | **8.250** |
| Stddev | .0002 | .0070 | .0167 | .0033 | .010 | .010 | .01 | .005 | .022 |
| %RSD | .7413 | 13.82 | 6.967 | 6.952 | .1216 | .1254 | .0255 | .0590 | .2709 |
| #1 | -.0298 | -.0586 | .2592 | .0477 | 8.109 | 8.016 | 25.76 | 8.236 | 8.251 |
| #2 | -.0299 | -.0492 | .2348 | .0511 | 8.104 | 8.003 | 25.76 | 8.228 | 8.272 |
| #3 | -.0294 | -.0449 | .2272 | .0445 | 8.090 | 7.996 | 25.75 | 8.227 | 8.227 |
| Check ? | None | None | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/2/2019 13:10:47 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **8.131** | **8.323** | **7.908** | **95.66** | **8.303** | **8.017** | **8.679** |
| Stddev | .061 | .008 | .056 | .18 | .002 | .027 | .097 |
| %RSD | .7522 | .0957 | .7015 | .1870 | .0224 | .3377 | 1.114 |
| #1 | 8.077 | 8.322 | 7.844 | 95.54 | 8.303 | 7.989 | 8.571 |
| #2 | 8.198 | 8.331 | 7.931 | 95.58 | 8.305 | 8.017 | 8.712 |
| #3 | 8.119 | 8.315 | 7.947 | 95.86 | 8.302 | 8.043 | 8.756 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155790.** | **24723.** | **6332.6** | **9893.0** |
| Stddev | 514. | 248. | 4.3 | 8.5 |
| %RSD | .33022 | 1.0018 | .06846 | .08632 |
| #1 | 155600. | 25002. | 6333.7 | 9902.8 |
| #2 | 155400. | 24639. | 6327.8 | 9887.9 |
| #3 | 156370. | 24528. | 6336.2 | 9888.2 |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/2/2019 13:16:49 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0007** | **.0002** | **.0019** | **-.0004** | **-.0034** | **.0017** | **.0002** | **-.0002** |
| Stddev | .0001 | .0001 | .0001 | .0003 | .0005 | .0003 | .0001 | .0003 | .0003 |
| %RSD | 17.75 | 8.583 | 71.99 | 14.50 | 117.7 | 7.851 | 4.092 | 126.8 | 132.9 |
| #1 | .0005 | .0007 | .0000 | .0016 | .0001 | -.0032 | .0017 | .0005 | -.0004 |
| #2 | .0007 | .0007 | .0003 | .0019 | -.0006 | -.0033 | .0018 | -.0001 | .0001 |
| #3 | .0007 | .0006 | .0002 | .0022 | -.0008 | -.0037 | .0018 | .0002 | -.0004 |
| Check ? | None | None | None | None | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0016** | **-.0006** | **-.0002** | **-.0040** | **.0026** | **-.0000** | **-.0025** | **308.1** | **196.6** |
| Stddev | .0001 | .0002 | .0007 | .0020 | .0012 | .0005 | .0014 | 1.1 | 1.9 |
| %RSD | 8.034 | 37.92 | 436.3 | 50.78 | 46.56 | 2037. | 57.07 | .3495 | .9553 |
| #1 | -.0015 | -.0005 | -.0009 | -.0018 | .0012 | -.0002 | -.0041 | 307.0 | 198.7 |
| #2 | -.0016 | -.0009 | .0000 | -.0044 | .0031 | .0005 | -.0012 | 308.3 | 195.0 |
| #3 | -.0017 | -.0005 | .0004 | -.0057 | .0034 | -.0004 | -.0023 | 309.1 | 196.3 |
| Check ? | None | None | None | None | None | None | None | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **197.9** | **304.0** | **198.0** | **198.1** | **.0056** | **.0008** | **.0128** | **-.0028** | **.0002** |
| Stddev | 1.0 | 1.4 | .7 | .4 | .0006 | .0003 | .0015 | .0007 | .0001 |
| %RSD | .5235 | .4467 | .3759 | .2098 | 10.36 | 34.40 | 11.79 | 23.75 | 34.70 |
| #1 | 198.4 | 303.4 | 197.9 | 197.6 | .0054 | .0005 | .0142 | -.0024 | .0002 |
| #2 | 198.6 | 305.6 | 198.8 | 198.5 | .0062 | .0010 | .0112 | -.0024 | .0002 |
| #3 | 196.7 | 303.1 | 197.3 | 198.1 | .0051 | .0009 | .0130 | -.0035 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | None | None | None | None |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: HSTD Acquired: 5/2/2019 13:16:49 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0004** | **.0011** | **.0007** | **.0046** | **-.0038** | **.0218** | **.0152** |
| Stddev | .0002 | .0004 | .0003 | .0016 | .0015 | .0007 | .0026 |
| %RSD | 57.57 | 40.29 | 43.55 | 34.19 | 39.52 | 3.316 | 17.14 |
| #1 | -.0003 | .0009 | .0008 | .0060 | -.0054 | .0224 | .0170 |
| #2 | -.0003 | .0016 | .0009 | .0029 | -.0024 | .0220 | .0122 |
| #3 | -.0007 | .0008 | .0003 | .0049 | -.0035 | .0210 | .0165 |
| Check ? | None | None | None | None | None | None | None |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **139090.** | **23635.** | **5821.6** | **8386.3** |
| Stddev | 559. | 134. | 8.7 | 13.5 |
| %RSD | .40213 | .56547 | .15023 | .16152 |
| #1 | 138480. | 23713. | 5831.7 | 8401.8 |
| #2 | 139580. | 23481. | 5816.5 | 8376.8 |
| #3 | 139200. | 23712. | 5816.7 | 8380.3 |

Zoom In Zoom Out

Sample Name: FECONF Acquired: 5/2/2019 13:22:24 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **-.0000** | **-.0001** | **.0013** | **-.0006** | **-.0036** | **.0023** | **-.0002** | **.0003** |
| Stddev | .0004 | .0001 | .0001 | .0001 | .0002 | .0005 | .0000 | .0001 | .0000 |
| %RSD | 336.2 | 221.1 | 98.69 | 6.849 | 38.50 | 13.05 | 2.050 | 81.78 | 6.783 |
| #1 | -.0002 | -.0001 | -.0001 | .0012 | -.0005 | -.0039 | .0023 | -.0003 | .0003 |
| #2 | .0006 | .0000 | -.0000 | .0013 | -.0009 | -.0030 | .0024 | -.0001 | .0003 |
| #3 | -.0000 | -.0000 | -.0003 | .0014 | -.0004 | -.0038 | .0023 | -.0001 | .0003 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0017** | **-.0019** | **-.0012** | **-.0016** | **.0002** | **.0012** | **-.0006** | **-.0090** | **-.0070** |
| Stddev | .0002 | .0001 | .0008 | .0003 | .0004 | .0026 | .0019 | .0040 | .0024 |
| %RSD | 10.22 | 3.115 | 65.04 | 21.28 | 188.7 | 210.0 | 304.7 | 44.29 | 33.71 |
| #1 | -.0015 | -.0018 | -.0004 | -.0013 | .0006 | -.0015 | -.0018 | -.0126 | -.0080 |
| #2 | -.0016 | -.0019 | -.0014 | -.0020 | -.0002 | .0036 | .0016 | -.0095 | -.0087 |
| #3 | -.0018 | -.0019 | -.0019 | -.0015 | .0002 | .0016 | -.0017 | -.0048 | -.0043 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **193.0** | **-.0265** | **.0623** | **.0667** | **.0023** | **.0012** | **.0044** | **-.0005** | **.0001** |
| Stddev | .5 | .0080 | .0103 | .0116 | .0005 | .0000 | .0014 | .0004 | .0001 |
| %RSD | .2707 | 30.13 | 16.59 | 17.47 | 21.52 | 1.266 | 31.82 | 75.32 | 75.68 |
| #1 | 192.4 | -.0353 | .0577 | .0770 | .0023 | .0012 | .0031 | -.0003 | .0002 |
| #2 | 193.3 | -.0197 | .0551 | .0690 | .0028 | .0012 | .0043 | -.0010 | .0000 |
| #3 | 193.2 | -.0245 | .0742 | .0540 | .0018 | .0013 | .0059 | -.0003 | .0002 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0045** | **.0004** | **-.0007** | **-.0001** | **-.0009** | **.0041** |
| Stddev | .0003 | .0012 | .0001 | .0011 | .0011 | .0007 | .0037 |
| %RSD | 69.59 | 27.12 | 30.68 | 149.8 | 978.7 | 79.39 | 90.96 |
| #1 | .0005 | .0031 | .0006 | -.0002 | .0011 | -.0017 | .0075 |
| #2 | .0008 | .0052 | .0003 | -.0020 | -.0006 | -.0004 | .0002 |
| #3 | .0001 | .0051 | .0004 | -.0000 | -.0009 | -.0006 | .0044 |



Zoom In Zoom Out

Sample Name: FECONF Acquired: 5/2/2019 13:22:24 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156260.** | **24578.** | **6412.0** | **10031.** |
| Stddev | 503. | 110. | 17.2 | 18. |
| %RSD | .32210 | .44695 | .26838 | .18383 |
| #1 | 155730. | 24701. | 6392.1 | 10010. |
| #2 | 156730. | 24545. | 6422.0 | 10037. |
| #3 | 156320. | 24490. | 6421.8 | 10046. |



Zoom In Zoom Out

Sample Name: CRCONF Acquired: 5/2/2019 13:27:39 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0001** | **.0000** | **-.0007** | F **10.03** | **.0001** | **-.0014** | **-.0001** | **-.0004** |
| Stddev | .0002 | .0001 | .0000 | .0001 | .10 | .0004 | .0000 | .0002 | .0003 |
| %RSD | 74.64 | 128.4 | 84.30 | 15.77 | .9517 | 434.4 | 1.710 | 319.4 | 78.72 |
| #1 | .0001 | -.0001 | .0000 | -.0008 | 9.971 | .0003 | -.0014 | .0002 | -.0006 |
| #2 | .0004 | .0000 | .0001 | -.0006 | 9.983 | -.0003 | -.0014 | -.0002 | -.0000 |
| #3 | .0001 | -.0001 | .0001 | -.0007 | 10.14 | .0003 | -.0014 | -.0002 | -.0007 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0093** | **.0017** | **-.0000** | **-.0009** | **-.0003** | **-.0026** | **-.0010** | **-.0059** | **-.0044** |
| Stddev | .0010 | .0001 | .0008 | .0008 | .0006 | .0021 | .0019 | .0047 | .0019 |
| %RSD | 10.88 | 6.624 | 1873. | 89.76 | 171.9 | 81.10 | 193.1 | 79.94 | 44.07 |
| #1 | .0086 | .0018 | -.0008 | -.0000 | -.0004 | -.0009 | -.0015 | -.0022 | -.0040 |
| #2 | .0088 | .0016 | .0008 | -.0011 | -.0009 | -.0019 | .0011 | -.0113 | -.0027 |
| #3 | .0104 | .0018 | -.0002 | -.0016 | .0003 | -.0050 | -.0025 | -.0044 | -.0065 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0016** | **-.0035** | **-.1375** | **-.0051** | **.0031** | **.0009** | **.0048** | **-.0013** | **.0001** |
| Stddev | .0005 | .0063 | .0175 | .0172 | .0001 | .0002 | .0010 | .0004 | .0001 |
| %RSD | 28.37 | 181.7 | 12.71 | 336.6 | 3.843 | 20.99 | 21.32 | 27.65 | 111.4 |
| #1 | -.0012 | -.0088 | -.1359 | .0137 | .0032 | .0007 | .0036 | -.0010 | .0002 |
| #2 | -.0015 | .0035 | -.1557 | -.0091 | .0032 | .0010 | .0056 | -.0013 | .0002 |
| #3 | -.0021 | -.0050 | -.1209 | -.0200 | .0030 | .0011 | .0050 | -.0017 | -.0000 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0022** | **.0057** | **.0024** | **.0019** | **.0000** | **.0094** | **.0003** |
| Stddev | .0003 | .0000 | .0002 | .0015 | .0009 | .0014 | .0021 |
| %RSD | 13.50 | .8359 | 6.881 | 78.86 | 4717. | 14.74 | 722.7 |
| #1 | -.0019 | .0057 | .0023 | .0037 | .0003 | .0079 | .0007 |
| #2 | -.0023 | .0058 | .0024 | .0008 | .0007 | .0105 | -.0020 |
| #3 | -.0025 | .0057 | .0026 | .0013 | -.0010 | .0100 | .0021 |



Zoom In Zoom Out

Sample Name: CRCONF Acquired: 5/2/2019 13:27:39 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158560.** | **24310.** | **6297.2** | **10017.** |
| Stddev | 488. | 232. | 2.9 | 3. |
| %RSD | .30805 | .95379 | .04558 | .03107 |
| #1 | 158730. | 24469. | 6295.3 | 10020. |
| #2 | 158940. | 24044. | 6295.7 | 10014. |
| #3 | 158010. | 24417. | 6300.5 | 10018. |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/2/2019 13:32:56 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.011** | **2.086** | **1.986** | **2.022** | **2.023** | **2.016** | **2.040** | **2.047** | **.2442** |
| Stddev | .001 | .004 | .001 | .002 | .001 | .002 | .023 | .003 | .0008 |
| %RSD | .0703 | .2001 | .0572 | .0927 | .0418 | .1051 | 1.111 | .1340 | .3161 |
| #1 | 2.011 | 2.091 | 1.985 | 2.024 | 2.022 | 2.016 | 2.015 | 2.049 | .2440 |
| #2 | 2.010 | 2.083 | 1.985 | 2.020 | 2.024 | 2.018 | 2.046 | 2.044 | .2451 |
| #3 | 2.013 | 2.083 | 1.987 | 2.022 | 2.024 | 2.014 | 2.059 | 2.047 | .2436 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.980** | **2.007** | **1.966** | **2.102** | **2.032** | **2.009** | **1.956** | **39.64** | **39.50** |
| Stddev | .002 | .001 | .004 | .006 | .002 | .002 | .004 | .08 | .11 |
| %RSD | .0783 | .0586 | .1873 | .2908 | .1084 | .0973 | .2324 | .1931 | .2835 |
| #1 | 1.979 | 2.006 | 1.966 | 2.106 | 2.030 | 2.011 | 1.960 | 39.73 | 39.63 |
| #2 | 1.981 | 2.008 | 1.963 | 2.095 | 2.032 | 2.008 | 1.951 | 39.59 | 39.44 |
| #3 | 1.982 | 2.008 | 1.970 | 2.104 | 2.035 | 2.007 | 1.957 | 39.62 | 39.44 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.36** | **40.13** | **39.37** | **40.16** | **2.032** | **1.944** | **4.999** | **1.973** | **2.091** |
| Stddev | .06 | .07 | .09 | .03 | .003 | .003 | .009 | .003 | .003 |
| %RSD | .1561 | .1691 | .2233 | .0867 | .1281 | .1304 | .1744 | .1339 | .1464 |
| #1 | 40.43 | 40.17 | 39.46 | 40.18 | 2.030 | 1.944 | 5.007 | 1.972 | 2.095 |
| #2 | 40.31 | 40.17 | 39.30 | 40.12 | 2.031 | 1.941 | 4.989 | 1.971 | 2.088 |
| #3 | 40.34 | 40.05 | 39.34 | 40.17 | 2.035 | 1.946 | 5.001 | 1.976 | 2.091 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/2/2019 13:32:56 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.992** | **1.947** | **1.982** | **1.983** | **2.012** | **2.002** | F **2.243** |
| Stddev | .002 | .002 | .001 | .007 | .003 | .007 | .018 |
| %RSD | .1153 | .1019 | .0347 | .3645 | .1525 | .3513 | .7843 |
| #1 | 1.990 | 1.949 | 1.982 | 1.990 | 2.013 | 2.010 | 2.259 |
| #2 | 1.994 | 1.945 | 1.982 | 1.975 | 2.008 | 1.998 | 2.225 |
| #3 | 1.992 | 1.947 | 1.983 | 1.984 | 2.014 | 1.999 | 2.246 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149590.** | **23966.** | **6209.0** | **9155.8** |
| Stddev | 623. | 219. | 27.6 | 31.6 |
| %RSD | .41628 | .91300 | .44472 | .34503 |
| #1 | 150290. | 23727. | 6240.9 | 9192.2 |
| #2 | 149090. | 24016. | 6191.6 | 9139.2 |
| #3 | 149380. | 24156. | 6194.6 | 9135.9 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/2/2019 13:37:58 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0003** | **.0004** | **.0002** | **.0001** | **.0002** | **.0003** | **.0002** | **-.0001** |
| Stddev | .0002 | .0000 | .0001 | .0002 | .0003 | .0004 | .0000 | .0003 | .0004 |
| %RSD | 3854. | 10.40 | 20.29 | 65.13 | 485.2 | 229.9 | 10.15 | 117.1 | 502.8 |
| #1 | -.0002 | .0002 | .0005 | .0001 | .0004 | -.0003 | .0003 | -.0001 | -.0002 |
| #2 | .0001 | .0003 | .0004 | .0004 | .0000 | .0003 | .0003 | .0005 | -.0004 |
| #3 | .0001 | .0003 | .0003 | .0003 | -.0002 | .0005 | .0003 | .0003 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0001** | **.0011** | **.0011** | **.0007** | **-.0020** | **-.0007** | **-.0013** | **.0051** |
| Stddev | .0003 | .0000 | .0009 | .0004 | .0006 | .0003 | .0003 | .0046 | .0013 |
| %RSD | 119.7 | 28.01 | 84.11 | 34.77 | 87.48 | 13.04 | 45.66 | 359.9 | 24.37 |
| #1 | .0000 | .0001 | .0013 | .0016 | -.0000 | -.0017 | -.0006 | -.0056 | .0037 |
| #2 | .0005 | .0001 | .0020 | .0010 | .0010 | -.0019 | -.0010 | -.0017 | .0056 |
| #3 | .0002 | .0001 | .0001 | .0008 | .0010 | -.0023 | -.0004 | .0035 | .0061 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0047** | **.0063** | **-.1412** | **-.0142** | **.0037** | **.0004** | **.0007** | **.0004** | **.0004** |
| Stddev | .0014 | .0070 | .0187 | .0035 | .0001 | .0003 | .0008 | .0008 | .0000 |
| %RSD | 29.04 | 112.2 | 13.26 | 24.49 | 2.755 | 62.98 | 117.1 | 208.7 | 9.461 |
| #1 | .0032 | .0012 | -.1315 | -.0107 | .0036 | .0004 | .0010 | .0003 | .0005 |
| #2 | .0060 | .0143 | -.1628 | -.0177 | .0037 | .0007 | -.0002 | .0012 | .0005 |
| #3 | .0049 | .0033 | -.1294 | -.0142 | .0038 | .0001 | .0014 | -.0004 | .0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/2/2019 13:37:58 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0015** | **.0005** | **.0029** | **.0003** | F **.0094** | **.0046** |
| Stddev | .0000 | .0004 | .0001 | .0011 | .0018 | .0029 | .0033 |
| %RSD | 1.581 | 23.85 | 15.15 | 37.84 | 648.1 | 30.83 | 71.18 |
| #1 | .0008 | .0011 | .0004 | .0041 | .0015 | .0122 | .0011 |
| #2 | .0008 | .0018 | .0004 | .0027 | -.0017 | .0064 | .0076 |
| #3 | .0007 | .0016 | .0005 | .0019 | .0010 | .0097 | .0050 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159390.** | **24376.** | **6483.2** | **10033.** |
| Stddev | 716. | 75. | 22.4 | 27. |
| %RSD | .44913 | .30767 | .34599 | .27080 |
| #1 | 160090. | 24328. | 6494.5 | 10044. |
| #2 | 158660. | 24338. | 6497.7 | 10053. |
| #3 | 159420. | 24462. | 6457.3 | 10002. |

Zoom In Zoom Out

Sample Name: crid Acquired: 5/2/2019 13:43:07 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0039** | **.0010** | **.0010** | **.0032** | **.0022** | F **.0003** | **.0032** | **.0041** |
| Stddev | .0001 | .0001 | .0001 | .0003 | .0003 | .0003 | .0000 | .0002 |
| %RSD | 3.359 | 6.721 | 13.54 | 8.058 | 14.55 | 99.98 | .7472 | 5.762 |
| #1 | .0040 | .0009 | .0010 | .0034 | .0022 | .0005 | .0032 | .0042 |
| #2 | .0038 | .0011 | .0009 | .0032 | .0026 | .0004 | .0032 | .0038 |
| #3 | .0038 | .0010 | .0012 | .0029 | .0020 | -.0000 | .0032 | .0043 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| Value | | | | | | .0020 | | |
| Range | | | | | | -20.00% | | |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0003** | **.0020** | **.0101** | **.0033** | F **.0026** | F **.0000** | F **.0021** | F **-.0013** |
| Stddev | .0003 | .0003 | .0000 | .0006 | .0004 | .0012 | .0010 | .0003 |
| %RSD | 108.9 | 13.06 | .1801 | 18.71 | 13.75 | 2965. | 48.41 | 24.33 |
| #1 | -.0007 | .0018 | .0101 | .0035 | .0022 | -.0013 | .0031 | -.0011 |
| #2 | -.0000 | .0020 | .0101 | .0038 | .0028 | .0008 | .0011 | -.0012 |
| #3 | -.0002 | .0023 | .0101 | .0026 | .0027 | .0006 | .0021 | -.0017 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value | .0020 | | | | .0020 | .0025 | .0050 | .0030 |
| Range | -20.00% | | | | 20.00% | -20.00% | -20.00% | -20.00% |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0912** | **1.012** | **.0009** | **.1082** | **1.860** | **1.030** | **.0031** | **.0001** |
| Stddev | .0019 | .003 | .0014 | .0080 | .017 | .008 | .0002 | .0001 |
| %RSD | 2.041 | .3231 | 147.1 | 7.352 | .8998 | .7745 | 5.535 | 136.9 |
| #1 | .0896 | 1.014 | .0022 | .1027 | 1.879 | 1.029 | .0033 | .0001 |
| #2 | .0933 | 1.014 | .0012 | .1173 | 1.854 | 1.022 | .0029 | .0001 |
| #3 | .0907 | 1.008 | -.0006 | .1045 | 1.847 | 1.038 | .0031 | -.0000 |
| Check ? | Chk Pass | Chk Pass | None | Chk Pass | Chk Pass | Chk Pass | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |



Zoom In Zoom Out

Sample Name: crid Acquired: 5/2/2019 13:43:07 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **-.0011** | **.0001** | **.0004** | **.0007** | **.0000** | **.0016** | **-.0014** |
| Stddev | .0008 | .0005 | .0001 | .0001 | .0012 | .0001 | .0013 | .0019 |
| %RSD | 67.56 | 43.93 | 132.8 | 31.44 | 161.2 | 3447. | 85.52 | 131.8 |
| #1 | .0019 | -.0016 | .0002 | .0003 | .0005 | .0001 | .0026 | -.0026 |
| #2 | .0004 | -.0009 | -.0000 | .0005 | -.0003 | -.0000 | .0021 | .0007 |
| #3 | .0011 | -.0007 | .0001 | .0004 | .0021 | -.0001 | .0000 | -.0023 |
| Check ? | None | None | None | None | None | None | None | None |
| Value | | | | | | | | |
| Range | | | | | | | | |

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.0066** | **.0046** |
| Stddev | .0031 | .0028 |
| %RSD | 47.55 | 61.52 |
| #1 | .0044 | .0032 |
| #2 | .0052 | .0027 |
| #3 | .0102 | .0078 |
| Check ? | None | None |
| Value | | |
| Range | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158160.** | **24409.** | **6463.5** | **9962.0** |
| Stddev | 932. | 213. | 17.6 | 22.6 |
| %RSD | .58922 | .87222 | .27176 | .22682 |
| #1 | 157700. | 24164. | 6444.0 | 9936.2 |
| #2 | 157540. | 24514. | 6468.5 | 9971.5 |
| #3 | 159230. | 24549. | 6478.0 | 9978.3 |



Zoom In Zoom Out

Sample Name: mp14678-mb1conf Acquired: 5/2/2019 13:48:15 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **.0001** | **.0001** | **.0002** | **.0089** | **.0011** | **.0010** | **.0038** | **-.0006** |
| Stddev | .0001 | .0000 | .0001 | .0002 | .0004 | .0001 | .0000 | .0001 | .0003 |
| %RSD | 40.78 | 61.03 | 125.1 | 81.78 | 4.168 | 9.604 | 4.666 | 1.902 | 44.97 |
| #1 | -.0004 | .0000 | .0001 | .0003 | .0087 | .0011 | .0010 | .0037 | -.0006 |
| #2 | -.0003 | .0001 | .0002 | .0003 | .0086 | .0011 | .0010 | .0039 | -.0003 |
| #3 | -.0002 | .0000 | -.0000 | .0000 | .0093 | .0010 | .0009 | .0038 | -.0008 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0109** | **-.0007** | **.0004** | **.0006** | **-.0025** | **-.0011** | **-.0043** | **.0640** |
| Stddev | .0003 | .0002 | .0003 | .0006 | .0004 | .0013 | .0007 | .0043 | .0005 |
| %RSD | 387.0 | 2.216 | 48.68 | 162.7 | 74.64 | 54.14 | 61.52 | 100.4 | .8427 |
| #1 | -.0002 | .0112 | -.0004 | .0008 | .0001 | -.0029 | -.0004 | -.0072 | .0644 |
| #2 | .0000 | .0107 | -.0005 | -.0003 | .0009 | -.0035 | -.0017 | -.0064 | .0634 |
| #3 | .0004 | .0109 | -.0010 | .0007 | .0008 | -.0010 | -.0013 | .0007 | .0641 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0459** | **.0076** | **-.1909** | **.0045** | **.0031** | **.0007** | **.0072** | **.0152** | **.0004** |
| Stddev | .0021 | .0056 | .0227 | .0121 | .0006 | .0001 | .0019 | .0000 | .0001 |
| %RSD | 4.556 | 73.21 | 11.87 | 266.5 | 19.26 | 21.08 | 26.12 | .1196 | 16.66 |
| #1 | .0475 | .0138 | -.2144 | -.0091 | .0034 | .0009 | .0055 | .0152 | .0004 |
| #2 | .0435 | .0031 | -.1892 | .0087 | .0034 | .0006 | .0068 | .0152 | .0005 |
| #3 | .0467 | .0059 | -.1692 | .0140 | .0024 | .0006 | .0092 | .0152 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0007** | **.0003** | **.0078** | **-.0007** | **.0058** | **.0230** |
| Stddev | .0001 | .0008 | .0001 | .0010 | .0022 | .0025 | .0016 |
| %RSD | 21.18 | 111.7 | 33.49 | 12.17 | 331.6 | 43.00 | 7.030 |
| #1 | .0008 | .0002 | .0002 | .0080 | -.0027 | .0063 | .0230 |
| #2 | .0006 | .0003 | .0004 | .0068 | -.0009 | .0079 | .0247 |
| #3 | .0006 | .0015 | .0003 | .0087 | .0016 | .0030 | .0214 |



Zoom In Zoom Out

Sample Name: mp14678-mb1conf Acquired: 5/2/2019 13:48:15 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **162430.** | **25040.** | **6570.3** | **10121.** |
| Stddev | 1085. | 78. | 13.4 | 22. |
| %RSD | .66791 | .31036 | .20401 | .22075 |
| #1 | 161250. | 25017. | 6575.6 | 10132. |
| #2 | 163390. | 25126. | 6580.3 | 10135. |
| #3 | 162640. | 24976. | 6555.1 | 10095. |

Zoom In Zoom Out

Sample Name: mp14579-mb1conf Acquired: 5/2/2019 13:53:21 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0002** | **.0002** | **.0003** | **.0010** | **.0010** | **.0006** | **.0007** | **-.0002** |
| Stddev | .0004 | .0001 | .0001 | .0000 | .0004 | .0001 | .0000 | .0000 | .0001 |
| %RSD | 219.0 | 40.08 | 66.38 | 7.082 | 39.12 | 14.70 | 6.009 | 5.099 | 67.81 |
| #1 | .0005 | .0002 | .0003 | .0003 | .0014 | .0012 | .0006 | .0007 | -.0003 |
| #2 | -.0002 | .0001 | .0003 | .0003 | .0007 | .0009 | .0006 | .0006 | -.0001 |
| #3 | .0002 | .0003 | .0001 | .0003 | .0008 | .0010 | .0006 | .0007 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0101** | **.0006** | **.0001** | **.0009** | **-.0005** | **-.0010** | **.0136** | **.0830** |
| Stddev | .0004 | .0001 | .0005 | .0004 | .0010 | .0010 | .0017 | .0074 | .0014 |
| %RSD | 145.2 | 1.294 | 82.63 | 322.9 | 102.5 | 192.1 | 168.4 | 54.65 | 1.628 |
| #1 | .0004 | .0100 | .0003 | .0000 | .0019 | .0006 | -.0030 | .0142 | .0820 |
| #2 | -.0002 | .0102 | .0013 | -.0002 | -.0000 | -.0013 | -.0003 | .0059 | .0846 |
| #3 | .0005 | .0100 | .0003 | .0006 | .0009 | -.0009 | .0002 | .0206 | .0826 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0424** | **.0301** | **-.1267** | **.1074** | **.0027** | **.0006** | **.0125** | **.0196** | **.0006** |
| Stddev | .0008 | .0128 | .0315 | .0127 | .0008 | .0001 | .0007 | .0002 | .0000 |
| %RSD | 1.930 | 42.43 | 24.85 | 11.83 | 29.60 | 16.99 | 5.897 | 1.263 | 7.111 |
| #1 | .0426 | .0434 | -.1388 | .0958 | .0018 | .0007 | .0127 | .0194 | .0006 |
| #2 | .0415 | .0180 | -.1503 | .1054 | .0031 | .0005 | .0117 | .0198 | .0006 |
| #3 | .0431 | .0288 | -.0909 | .1210 | .0032 | .0006 | .0131 | .0198 | .0006 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0013** | **.0004** | **.0004** | **.0216** | **-.0008** | **.0047** | **.0271** |
| Stddev | .0003 | .0002 | .0002 | .0015 | .0004 | .0026 | .0021 |
| %RSD | 22.95 | 46.48 | 36.77 | 7.014 | 52.88 | 54.18 | 7.755 |
| #1 | .0013 | .0006 | .0005 | .0200 | -.0004 | .0054 | .0289 |
| #2 | .0011 | .0002 | .0005 | .0217 | -.0012 | .0069 | .0275 |
| #3 | .0017 | .0004 | .0002 | .0230 | -.0009 | .0019 | .0248 |



Zoom In Zoom Out

Sample Name: mp14579-mb1conf Acquired: 5/2/2019 13:53:21 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160020.** | **24680.** | **6548.1** | **10112.** |
| Stddev | 610. | 383. | 32.5 | 47. |
| %RSD | .38120 | 1.5525 | .49571 | .46184 |
| #1 | 160670. | 24698. | 6585.5 | 10165. |
| #2 | 159470. | 25053. | 6532.0 | 10090. |
| #3 | 159900. | 24288. | 6526.8 | 10080. |



Zoom In Zoom Out

Sample Name: mp14579-ps1 Acquired: 5/2/2019 13:58:27 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.947** | **2.085** | **2.043** | **2.068** | **2.138** | **3.102** | **3.782** | **2.196** | **.2503** |
| Stddev | .059 | .009 | .004 | .004 | .003 | .004 | .032 | .004 | .0012 |
| %RSD | 1.492 | .4107 | .1775 | .1840 | .1231 | .1445 | .8483 | .1742 | .4952 |
| #1 | 3.926 | 2.089 | 2.046 | 2.070 | 2.136 | 3.103 | 3.747 | 2.198 | .2493 |
| #2 | 3.901 | 2.075 | 2.044 | 2.071 | 2.141 | 3.097 | 3.789 | 2.198 | .2499 |
| #3 | 4.013 | 2.091 | 2.039 | 2.064 | 2.137 | 3.106 | 3.810 | 2.191 | .2516 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.124** | F **8.015** | **2.870** | **2.131** | **4.604** | **2.050** | **2.030** | **69.70** | **45.26** |
| Stddev | .002 | .008 | .007 | .012 | .007 | .005 | .003 | .36 | .20 |
| %RSD | .0741 | .0943 | .2494 | .5492 | .1426 | .2591 | .1439 | .5126 | .4504 |
| #1 | 2.123 | 8.020 | 2.878 | 2.140 | 4.605 | 2.055 | 2.033 | 69.83 | 45.27 |
| #2 | 2.126 | 8.018 | 2.870 | 2.137 | 4.610 | 2.051 | 2.029 | 69.29 | 45.05 |
| #3 | 2.124 | 8.006 | 2.863 | 2.118 | 4.597 | 2.045 | 2.028 | 69.97 | 45.46 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **160.7** | **33.64** | **29.16** | **25.77** | **2.066** | **1.946** | **1.190** | **2.111** | **2.267** |
| Stddev | 4.0 | .09 | .18 | .07 | .005 | .003 | .004 | .005 | .010 |
| %RSD | 2.495 | .2776 | .6136 | .2823 | .2537 | .1372 | .3644 | .2540 | .4248 |
| #1 | 157.7 | 33.58 | 29.26 | 25.81 | 2.069 | 1.946 | 1.193 | 2.116 | 2.270 |
| #2 | 159.0 | 33.59 | 28.95 | 25.69 | 2.069 | 1.949 | 1.192 | 2.111 | 2.256 |
| #3 | 165.2 | 33.75 | 29.27 | 25.82 | 2.060 | 1.943 | 1.185 | 2.105 | 2.275 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.182** | **1.848** | **2.026** | **3.271** | **.1617** | **.0638** | **7.604** |
| Stddev | .003 | .005 | .001 | .002 | .0008 | .0012 | .041 |
| %RSD | .0923 | .2530 | .0530 | .0612 | .5159 | 1.839 | .5425 |
| #1 | 3.180 | 1.842 | 2.025 | 3.271 | .1621 | .0624 | 7.571 |
| #2 | 3.185 | 1.849 | 2.026 | 3.272 | .1607 | .0644 | 7.590 |
| #3 | 3.181 | 1.852 | 2.027 | 3.268 | .1621 | .0645 | 7.650 |



Zoom In Zoom Out

Sample Name: mp14579-ps1 Acquired: 5/2/2019 13:58:27 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155130.** | **25041.** | **6387.3** | **9422.9** |
| Stddev | 840. | 209. | 4.2 | 5.4 |
| %RSD | .54180 | .83425 | .06625 | .05698 |
| #1 | 155840. | 25245. | 6386.9 | 9419.4 |
| #2 | 154200. | 25052. | 6391.7 | 9429.0 |
| #3 | 155340. | 24828. | 6383.2 | 9420.1 |

Zoom In Zoom Out

Sample Name: jc86901-3 Acquired: 5/2/2019 14:03:41 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5796** | **.0074** | **.0004** | **.0917** | **.2769** | **.2630** | **3.919** | **.1705** | **.0041** |
| Stddev | .0078 | .0001 | .0002 | .0007 | .0078 | .0047 | .099 | .0023 | .0010 |
| %RSD | 1.343 | 1.311 | 46.27 | .7643 | 2.799 | 1.788 | 2.523 | 1.368 | 24.32 |
| #1 | .5865 | .0073 | .0006 | .0925 | .2838 | .2670 | 4.009 | .1731 | .0030 |
| #2 | .5811 | .0074 | .0004 | .0912 | .2784 | .2641 | 3.936 | .1693 | .0045 |
| #3 | .5712 | .0075 | .0002 | .0914 | .2685 | .2578 | 3.813 | .1689 | .0049 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4329** | **.4544** | **.0794** | **.0032** | **.1513** | **.0119** | **-.0076** | **246.8** | **7.576** |
| Stddev | .0125 | .0060 | .0029 | .0076 | .0031 | .0067 | .0015 | 3.8 | .103 |
| %RSD | 2.883 | 1.328 | 3.699 | 235.6 | 2.072 | 56.27 | 19.70 | 1.520 | 1.357 |
| #1 | .4444 | .4609 | .0823 | -.0049 | .1534 | .0042 | -.0075 | 250.2 | 7.666 |
| #2 | .4347 | .4534 | .0764 | .0102 | .1529 | .0149 | -.0091 | 247.4 | 7.598 |
| #3 | .4196 | .4489 | .0796 | .0044 | .1477 | .0165 | -.0061 | 242.7 | 7.464 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **317.9** | **35.18** | **13.79** | **.5687** | **.0712** | **.0216** | **1.599** | **.0228** | **.0953** |
| Stddev | 4.4 | .50 | .26 | .0550 | .0018 | .0004 | .027 | .0006 | .0014 |
| %RSD | 1.392 | 1.432 | 1.898 | 9.676 | 2.575 | 1.691 | 1.670 | 2.751 | 1.496 |
| #1 | 321.9 | 35.65 | 14.06 | .6279 | .0702 | .0220 | 1.627 | .0221 | .0964 |
| #2 | 318.5 | 35.26 | 13.78 | .5192 | .0733 | .0215 | 1.593 | .0228 | .0957 |
| #3 | 313.1 | 34.65 | 13.54 | .5589 | .0701 | .0213 | 1.575 | .0233 | .0937 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.210** | **.0741** | **.1143** | **.5421** | **.1610** | **.2646** | **3.566** |
| Stddev | .109 | .0066 | .0026 | .0089 | .0093 | .0034 | .034 |
| %RSD | 2.593 | 8.911 | 2.265 | 1.645 | 5.773 | 1.290 | .9660 |
| #1 | 4.311 | .0804 | .1165 | .5521 | .1715 | .2646 | 3.593 |
| #2 | 4.225 | .0747 | .1150 | .5389 | .1575 | .2680 | 3.577 |
| #3 | 4.094 | .0673 | .1114 | .5351 | .1540 | .2611 | 3.527 |



Zoom In Zoom Out

Sample Name: jc86901-3 Acquired: 5/2/2019 14:03:41 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156770.** | **25139.** | **6536.3** | **9711.8** |
| Stddev | 315. | 85. | 5.1 | 7.2 |
| %RSD | .20082 | .33665 | .07872 | .07451 |
| #1 | 156680. | 25057. | 6540.2 | 9715.4 |
| #2 | 157120. | 25134. | 6538.1 | 9716.6 |
| #3 | 156520. | 25226. | 6530.4 | 9703.5 |



Zoom In Zoom Out

Sample Name: jc86901-9conf Acquired: 5/2/2019 14:08:44 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7291** | **.0136** | **.0010** | **.1497** | **.2744** | **.0655** | **4.489** | **.2957** | **-.0048** |
| Stddev | .0137 | .0004 | .0002 | .0061 | .0083 | .0007 | .166 | .0115 | .0016 |
| %RSD | 1.877 | 2.579 | 18.38 | 4.093 | 3.034 | 1.113 | 3.696 | 3.900 | 33.93 |
| #1 | .7153 | .0132 | .0011 | .1431 | .2661 | .0646 | 4.329 | .2839 | -.0034 |
| #2 | .7293 | .0136 | .0008 | .1508 | .2743 | .0659 | 4.479 | .2964 | -.0043 |
| #3 | .7427 | .0139 | .0011 | .1552 | .2828 | .0659 | 4.660 | .3069 | -.0065 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3242** | **1.009** | **.0457** | **.0005** | **.1421** | **-.0090** | **-.0020** | **205.5** | **7.221** |
| Stddev | .0110 | .038 | .0025 | .0009 | .0080 | .0035 | .0026 | 3.5 | .122 |
| %RSD | 3.399 | 3.799 | 5.443 | 186.0 | 5.604 | 38.96 | 126.1 | 1.695 | 1.690 |
| #1 | .3134 | .9682 | .0432 | .0001 | .1345 | -.0129 | .0005 | 201.9 | 7.095 |
| #2 | .3237 | 1.015 | .0482 | .0015 | .1415 | -.0060 | -.0047 | 205.9 | 7.230 |
| #3 | .3354 | 1.044 | .0456 | -.0002 | .1504 | -.0083 | -.0019 | 208.8 | 7.339 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **290.3** | **79.98** | **65.58** | **1.297** | **.4362** | **.0065** | **1.702** | **.0196** | **.0945** |
| Stddev | 4.9 | 1.43 | 1.18 | .008 | .0147 | .0008 | .060 | .0003 | .0018 |
| %RSD | 1.672 | 1.790 | 1.804 | .6322 | 3.368 | 12.69 | 3.555 | 1.750 | 1.931 |
| #1 | 285.4 | 78.54 | 64.45 | 1.300 | .4201 | .0067 | 1.638 | .0193 | .0927 |
| #2 | 290.5 | 80.01 | 65.46 | 1.288 | .4398 | .0073 | 1.711 | .0196 | .0944 |
| #3 | 295.1 | 81.40 | 66.81 | 1.304 | .4488 | .0056 | 1.758 | .0200 | .0963 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.192** | **.0189** | **.0974** | **.3693** | **.1509** | **.6047** | **2.315** |
| Stddev | .136 | .0008 | .0032 | .0145 | .0070 | .0133 | .099 |
| %RSD | 3.244 | 4.375 | 3.319 | 3.931 | 4.638 | 2.193 | 4.286 |
| #1 | 4.050 | .0179 | .0940 | .3528 | .1455 | .5910 | 2.206 |
| #2 | 4.203 | .0194 | .0979 | .3751 | .1485 | .6056 | 2.342 |
| #3 | 4.322 | .0193 | .1004 | .3800 | .1588 | .6175 | 2.399 |



Zoom In Zoom Out

Sample Name: jc86901-9conf Acquired: 5/2/2019 14:08:44 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157210.** | **25297.** | **6468.2** | **9379.8** |
| Stddev | 1419. | 154. | 17.0 | 37.0 |
| %RSD | .90275 | .60937 | .26218 | .39486 |
| #1 | 158830. | 25165. | 6486.8 | 9422.4 |
| #2 | 156580. | 25259. | 6453.7 | 9355.8 |
| #3 | 156210. | 25466. | 6464.1 | 9361.1 |

Zoom In Zoom Out

Sample Name: jc86901-13conf Acquired: 5/2/2019 14:13:55 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7551** | **.0116** | **-.0002** | **.1632** | **.3470** | **.0441** | **6.675** | **.3706** | **-.0034** |
| Stddev | .0079 | .0003 | .0005 | .0031 | .0039 | .0018 | .091 | .0053 | .0019 |
| %RSD | 1.048 | 2.690 | 214.0 | 1.896 | 1.136 | 4.099 | 1.364 | 1.420 | 55.52 |
| #1 | .7463 | .0112 | -.0008 | .1599 | .3428 | .0427 | 6.707 | .3650 | -.0053 |
| #2 | .7574 | .0118 | .0002 | .1637 | .3474 | .0461 | 6.573 | .3714 | -.0016 |
| #3 | .7616 | .0117 | -.0001 | .1661 | .3506 | .0434 | 6.746 | .3755 | -.0031 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3559** | **.8335** | **.0626** | **.0004** | **.2270** | **-.0014** | **-.0033** | **178.1** | **5.476** |
| Stddev | .0030 | .0107 | .0015 | .0040 | .0047 | .0048 | .0031 | 2.2 | .063 |
| %RSD | .8504 | 1.278 | 2.389 | 1026. | 2.072 | 349.9 | 95.04 | 1.232 | 1.144 |
| #1 | .3530 | .8223 | .0629 | -.0019 | .2219 | -.0069 | -.0059 | 175.9 | 5.412 |
| #2 | .3557 | .8348 | .0640 | .0051 | .2279 | .0009 | -.0041 | 178.2 | 5.479 |
| #3 | .3590 | .8435 | .0610 | -.0020 | .2312 | .0018 | .0002 | 180.2 | 5.538 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **368.3** | **65.11** | **26.33** | **1.450** | **.1875** | **.0087** | **1.512** | **.0187** | **.1299** |
| Stddev | 8.3 | .56 | .42 | .019 | .0028 | .0005 | .019 | .0016 | .0013 |
| %RSD | 2.242 | .8665 | 1.580 | 1.292 | 1.509 | 5.559 | 1.278 | 8.694 | 1.004 |
| #1 | 360.2 | 64.50 | 25.94 | 1.430 | .1844 | .0090 | 1.493 | .0170 | .1285 |
| #2 | 376.7 | 65.20 | 26.29 | 1.453 | .1884 | .0090 | 1.511 | .0202 | .1300 |
| #3 | 368.1 | 65.62 | 26.77 | 1.467 | .1898 | .0082 | 1.531 | .0190 | .1311 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.551** | **.0155** | **.0848** | **.3219** | **.2456** | **.4216** | **2.437** |
| Stddev | .064 | .0010 | .0010 | .0036 | .0022 | .0028 | .049 |
| %RSD | .9736 | 6.145 | 1.232 | 1.107 | .9010 | .6720 | 1.992 |
| #1 | 6.486 | .0144 | .0836 | .3200 | .2471 | .4187 | 2.386 |
| #2 | 6.555 | .0162 | .0855 | .3260 | .2430 | .4217 | 2.445 |
| #3 | 6.613 | .0159 | .0853 | .3197 | .2465 | .4244 | 2.482 |



Zoom In Zoom Out

Sample Name: jc86901-13conf Acquired: 5/2/2019 14:13:55 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157970.** | **25288.** | **6566.5** | **9577.0** |
| Stddev | 460. | 52. | 18.6 | 15.5 |
| %RSD | .29095 | .20673 | .28348 | .16217 |
| #1 | 157620. | 25244. | 6546.0 | 9559.4 |
| #2 | 157790. | 25346. | 6571.2 | 9582.8 |
| #3 | 158490. | 25273. | 6582.3 | 9588.8 |



Zoom In Zoom Out

Sample Name: jc86837-1 Acquired: 5/2/2019 14:19:12 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.422** | **.0078** | **.0109** | **.0638** | **.2124** | **1.595** | **4.554** | **.3127** | **.0033** |
| Stddev | .002 | .0002 | .0002 | .0017 | .0012 | .004 | .030 | .0073 | .0008 |
| %RSD | .1591 | 2.634 | 2.061 | 2.739 | .5727 | .2549 | .6696 | 2.343 | 24.61 |
| #1 | 1.420 | .0079 | .0108 | .0627 | .2111 | 1.596 | 4.519 | .3080 | .0038 |
| #2 | 1.425 | .0078 | .0107 | .0629 | .2134 | 1.598 | 4.569 | .3089 | .0024 |
| #3 | 1.422 | .0075 | .0111 | .0658 | .2129 | 1.590 | 4.574 | .3211 | .0038 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2615** | **4.395** | **.1608** | **.0021** | **8.134** | **.0057** | **.1627** | **61.90** | **94.81** |
| Stddev | .0011 | .112 | .0048 | .0021 | .178 | .0042 | .0054 | .11 | .18 |
| %RSD | .4285 | 2.539 | 2.957 | 95.65 | 2.192 | 73.44 | 3.299 | .1850 | .1849 |
| #1 | .2606 | 4.333 | .1565 | .0032 | 8.041 | .0070 | .1604 | 61.91 | 94.86 |
| #2 | .2628 | 4.327 | .1599 | .0034 | 8.021 | .0010 | .1589 | 62.01 | 94.95 |
| #3 | .2611 | 4.523 | .1659 | -.0002 | 8.340 | .0092 | .1689 | 61.78 | 94.61 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **233.5** | **38.17** | **8.584** | **1.648** | **.0638** | **.0184** | **3.952** | **.3150** | **.5260** |
| Stddev | .3 | .05 | .041 | .004 | .0028 | .0006 | .098 | .0079 | .0007 |
| %RSD | .1422 | .1246 | .4814 | .2644 | 4.438 | 3.073 | 2.491 | 2.504 | .1304 |
| #1 | 233.4 | 38.16 | 8.543 | 1.643 | .0616 | .0179 | 3.905 | .3113 | .5263 |
| #2 | 233.8 | 38.23 | 8.584 | 1.648 | .0628 | .0182 | 3.885 | .3097 | .5265 |
| #3 | 233.1 | 38.13 | 8.626 | 1.652 | .0670 | .0190 | 4.065 | .3241 | .5252 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.722** | **.0136** | **.0709** | **8.663** | **.1058** | **.0792** | **5.148** |
| Stddev | .006 | .0015 | .0003 | .188 | .0038 | .0015 | .096 |
| %RSD | .2150 | 10.95 | .4226 | 2.169 | 3.562 | 1.903 | 1.862 |
| #1 | 2.719 | .0122 | .0709 | 8.577 | .1087 | .0810 | 5.141 |
| #2 | 2.729 | .0135 | .0712 | 8.533 | .1072 | .0785 | 5.056 |
| #3 | 2.718 | .0151 | .0706 | 8.878 | .1015 | .0782 | 5.248 |



Zoom In Zoom Out

Sample Name: jc86837-1 Acquired: 5/2/2019 14:19:12 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156010.** | **25075.** | **6385.1** | **9496.8** |
| Stddev | 711. | 56. | 138.8 | 177.3 |
| %RSD | .45570 | .22375 | 2.1730 | 1.8668 |
| #1 | 156820. | 25030. | 6461.1 | 9595.0 |
| #2 | 155500. | 25057. | 6469.2 | 9603.3 |
| #3 | 155700. | 25137. | 6224.9 | 9292.2 |

Zoom In Zoom Out

Sample Name: jc86837-4 Acquired: 5/2/2019 14:24:17 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.847** | **.0014** | **.0006** | **.0241** | **.1016** | **.1219** | **.6766** | **.0584** | **.0003** |
| Stddev | .040 | .0002 | .0006 | .0017 | .0021 | .0023 | .0040 | .0020 | .0027 |
| %RSD | 1.397 | 10.85 | 93.86 | 7.167 | 2.097 | 1.894 | .5880 | 3.504 | 1030. |
| #1 | 2.815 | .0013 | .0003 | .0222 | .0998 | .1195 | .6722 | .0560 | .0009 |
| #2 | 2.835 | .0016 | .0013 | .0245 | .1010 | .1223 | .6775 | .0595 | -.0027 |
| #3 | 2.891 | .0014 | .0003 | .0256 | .1040 | .1241 | .6800 | .0596 | .0027 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0601** | **.5941** | **.0523** | **.0067** | **21.37** | **-.0185** | **.0062** | **33.08** | **4.479** |
| Stddev | .0013 | .0156 | .0034 | .0026 | .55 | .0111 | .0020 | .44 | .071 |
| %RSD | 2.151 | 2.622 | 6.418 | 38.42 | 2.581 | 59.95 | 31.94 | 1.341 | 1.591 |
| #1 | .0605 | .5785 | .0526 | .0094 | 20.81 | -.0057 | .0066 | 32.72 | 4.414 |
| #2 | .0612 | .5941 | .0555 | .0064 | 21.38 | -.0242 | .0080 | 32.95 | 4.469 |
| #3 | .0587 | .6096 | .0488 | .0043 | 21.91 | -.0256 | .0041 | 33.57 | 4.555 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **68.79** | **12.84** | **7.667** | **.2260** | **.0175** | **.0046** | **.9742** | **.1075** | **.0679** |
| Stddev | 1.00 | .22 | .169 | .0254 | .0012 | .0000 | .0274 | .0023 | .0012 |
| %RSD | 1.453 | 1.688 | 2.202 | 11.25 | 7.049 | .5148 | 2.813 | 2.174 | 1.839 |
| #1 | 67.98 | 12.63 | 7.823 | .1975 | .0181 | .0046 | .9450 | .1049 | .0670 |
| #2 | 68.50 | 12.81 | 7.488 | .2343 | .0161 | .0046 | .9780 | .1093 | .0674 |
| #3 | 69.91 | 13.07 | 7.692 | .2463 | .0183 | .0046 | .9994 | .1084 | .0693 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.704** | **.0234** | **.0225** | **7.801** | **.0623** | **.0696** | **1.363** |
| Stddev | .009 | .0057 | .0016 | .215 | .0121 | .0050 | .024 |
| %RSD | .5556 | 24.18 | 7.183 | 2.752 | 19.49 | 7.124 | 1.780 |
| #1 | 1.693 | .0261 | .0209 | 7.588 | .0581 | .0708 | 1.341 |
| #2 | 1.711 | .0271 | .0242 | 7.798 | .0760 | .0641 | 1.359 |
| #3 | 1.707 | .0169 | .0223 | 8.017 | .0528 | .0738 | 1.389 |



Zoom In Zoom Out

Sample Name: jc86837-4 Acquired: 5/2/2019 14:24:17 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160000.** | **24842.** | **6550.3** | **9953.4** |
| Stddev | 467. | 72. | 24.7 | 30.5 |
| %RSD | .29212 | .29136 | .37694 | .30638 |
| #1 | 160510. | 24856. | 6557.0 | 9964.4 |
| #2 | 159900. | 24907. | 6570.9 | 9976.9 |
| #3 | 159590. | 24764. | 6522.9 | 9919.0 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/2/2019 14:29:19 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.021** | **2.092** | **2.001** | **2.026** | **2.024** | **2.015** | **2.043** | **2.051** | **.2442** |
| Stddev | .001 | .005 | .002 | .001 | .005 | .004 | .027 | .001 | .0006 |
| %RSD | .0362 | .2285 | .1122 | .0424 | .2387 | .2151 | 1.330 | .0355 | .2616 |
| #1 | 2.021 | 2.096 | 2.002 | 2.026 | 2.023 | 2.012 | 2.065 | 2.051 | .2438 |
| #2 | 2.020 | 2.087 | 1.998 | 2.025 | 2.020 | 2.014 | 2.051 | 2.051 | .2438 |
| #3 | 2.020 | 2.093 | 2.002 | 2.026 | 2.030 | 2.020 | 2.013 | 2.052 | .2449 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.987** | **2.015** | **1.975** | **2.099** | **2.038** | **2.012** | **1.968** | **39.72** | **39.62** |
| Stddev | .003 | .001 | .001 | .008 | .004 | .005 | .005 | .09 | .09 |
| %RSD | .1658 | .0564 | .0350 | .3683 | .2196 | .2731 | .2416 | .2330 | .2237 |
| #1 | 1.987 | 2.015 | 1.975 | 2.108 | 2.035 | 2.015 | 1.969 | 39.78 | 39.67 |
| #2 | 1.983 | 2.014 | 1.975 | 2.095 | 2.036 | 2.005 | 1.963 | 39.61 | 39.52 |
| #3 | 1.990 | 2.016 | 1.976 | 2.095 | 2.043 | 2.015 | 1.972 | 39.76 | 39.67 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.68** | **40.41** | **39.41** | **40.37** | **2.041** | **1.953** | **5.016** | **1.980** | **2.096** |
| Stddev | .05 | .04 | .11 | .03 | .001 | .002 | .004 | .003 | .003 |
| %RSD | .1215 | .1056 | .2749 | .0728 | .0585 | .1125 | .0843 | .1400 | .1249 |
| #1 | 40.72 | 40.37 | 39.44 | 40.38 | 2.039 | 1.956 | 5.019 | 1.982 | 2.099 |
| #2 | 40.62 | 40.41 | 39.30 | 40.33 | 2.041 | 1.953 | 5.011 | 1.981 | 2.094 |
| #3 | 40.69 | 40.46 | 39.51 | 40.39 | 2.042 | 1.951 | 5.018 | 1.977 | 2.096 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/2/2019 14:29:19 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.992** | **1.959** | **1.990** | **1.954** | **2.021** | **1.986** | **1.996** |
| Stddev | .002 | .003 | .002 | .003 | .000 | .006 | .011 |
| %RSD | .0757 | .1298 | .1051 | .1594 | .0179 | .3109 | .5590 |
| #1 | 1.994 | 1.959 | 1.989 | 1.958 | 2.022 | 1.992 | 1.994 |
| #2 | 1.992 | 1.957 | 1.988 | 1.952 | 2.021 | 1.979 | 1.987 |
| #3 | 1.992 | 1.962 | 1.992 | 1.952 | 2.021 | 1.987 | 2.009 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149100.** | **24042.** | **6173.8** | **9140.3** |
| Stddev | 356. | 57. | 7.3 | 10.1 |
| %RSD | .23874 | .23603 | .11809 | .11023 |
| #1 | 148960. | 24107. | 6181.9 | 9150.8 |
| #2 | 149500. | 24015. | 6167.8 | 9130.7 |
| #3 | 148840. | 24004. | 6171.5 | 9139.6 |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/2/2019 14:34:22 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0001** | **.0002** | **.0002** | **.0002** | **-.0000** | **.0001** | **.0003** | **-.0003** |
| Stddev | .0002 | .0000 | .0001 | .0001 | .0001 | .0003 | .0000 | .0001 | .0001 |
| %RSD | 107.5 | 22.07 | 50.12 | 63.27 | 39.79 | 17110. | 10.17 | 43.50 | 45.66 |
| #1 | .0004 | .0001 | .0001 | .0001 | .0002 | .0003 | .0001 | .0004 | -.0002 |
| #2 | .0001 | .0002 | .0001 | .0003 | .0003 | -.0003 | .0001 | .0004 | -.0003 |
| #3 | .0000 | .0001 | .0003 | .0001 | .0001 | .0000 | .0001 | .0002 | -.0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **-.0002** | **-.0004** | **.0007** | **.0006** | **-.0013** | **-.0001** | **-.0017** | **.0003** |
| Stddev | .0002 | .0001 | .0010 | .0013 | .0007 | .0008 | .0005 | .0149 | .0004 |
| %RSD | 140.8 | 61.03 | 255.1 | 199.8 | 117.0 | 61.35 | 361.3 | 859.7 | 154.7 |
| #1 | .0004 | -.0003 | .0007 | -.0008 | .0006 | -.0004 | .0004 | .0122 | .0005 |
| #2 | .0001 | -.0001 | -.0007 | .0009 | -.0001 | -.0019 | -.0004 | -.0175 | -.0002 |
| #3 | -.0000 | -.0002 | -.0012 | .0019 | .0013 | -.0016 | -.0004 | .0001 | .0006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **-.0009** | **-.0318** | **-.0021** | **.0021** | **.0007** | **.0017** | **-.0002** | **.0003** |
| Stddev | .0018 | .0059 | .0336 | .0072 | .0011 | .0001 | .0018 | .0004 | .0001 |
| %RSD | 469.3 | 620.8 | 105.8 | 334.6 | 50.55 | 15.39 | 104.5 | 178.0 | 48.57 |
| #1 | -.0014 | -.0019 | -.0121 | -.0104 | .0009 | .0006 | .0038 | .0002 | .0002 |
| #2 | .0004 | .0054 | -.0706 | .0013 | .0030 | .0007 | .0006 | -.0005 | .0004 |
| #3 | .0021 | -.0063 | -.0126 | .0027 | .0024 | .0007 | .0007 | -.0005 | .0002 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/2/2019 14:34:22 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0002** | **.0031** | **.0002** | **.0048** | **-.0010** | **.0017** | **-.0027** |
| Stddev | .0001 | .0010 | .0001 | .0011 | .0004 | .0014 | .0005 |
| %RSD | 52.53 | 33.33 | 77.21 | 21.82 | 34.81 | 82.64 | 17.69 |
| #1 | .0003 | .0042 | .0001 | .0041 | -.0010 | .0023 | -.0027 |
| #2 | .0001 | .0021 | .0001 | .0060 | -.0007 | .0001 | -.0031 |
| #3 | .0002 | .0030 | .0003 | .0043 | -.0014 | .0027 | -.0022 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158090.** | **24278.** | **6444.4** | **10011.** |
| Stddev | 1114. | 158. | 16.9 | 18. |
| %RSD | .70456 | .65039 | .26153 | .18113 |
| #1 | 159310. | 24096. | 6426.7 | 9990.8 |
| #2 | 157140. | 24359. | 6446.2 | 10018. |
| #3 | 157810. | 24379. | 6460.3 | 10025. |



Zoom In Zoom Out

Sample Name: jc86837-9 Acquired: 5/2/2019 14:39:30 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2251** | **.0019** | **.0005** | **.0455** | **.0982** | **.0533** | **2.403** | **.0753** | **-.0001** |
| Stddev | .0029 | .0001 | .0002 | .0005 | .0004 | .0003 | .019 | .0005 | .0005 |
| %RSD | 1.275 | 2.707 | 36.09 | 1.059 | .3933 | .4719 | .7746 | .6419 | 655.0 |
| #1 | .2224 | .0019 | .0003 | .0450 | .0983 | .0530 | 2.423 | .0749 | -.0001 |
| #2 | .2247 | .0020 | .0006 | .0460 | .0985 | .0535 | 2.400 | .0758 | -.0006 |
| #3 | .2281 | .0020 | .0006 | .0455 | .0978 | .0534 | 2.387 | .0750 | .0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0639** | **.6547** | **.0440** | **.0012** | **.0679** | **-.0002** | **-.0016** | **37.26** | **7.556** |
| Stddev | .0006 | .0055 | .0017 | .0007 | .0010 | .0016 | .0008 | .63 | .119 |
| %RSD | .9611 | .8343 | 3.776 | 59.31 | 1.510 | 660.0 | 48.31 | 1.695 | 1.575 |
| #1 | .0642 | .6505 | .0449 | .0005 | .0667 | -.0021 | -.0008 | 36.68 | 7.447 |
| #2 | .0644 | .6609 | .0451 | .0011 | .0684 | .0007 | -.0024 | 37.18 | 7.537 |
| #3 | .0632 | .6526 | .0421 | .0019 | .0685 | .0006 | -.0016 | 37.93 | 7.683 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **80.03** | **14.02** | **5.430** | **.4020** | **.0232** | **.0016** | **1.039** | **.0246** | **.0484** |
| Stddev | 1.24 | .21 | .105 | .0052 | .0003 | .0003 | .010 | .0003 | .0007 |
| %RSD | 1.544 | 1.468 | 1.939 | 1.289 | 1.391 | 18.00 | .9896 | 1.129 | 1.410 |
| #1 | 78.89 | 13.85 | 5.319 | .3973 | .0228 | .0013 | 1.034 | .0243 | .0479 |
| #2 | 79.86 | 13.97 | 5.442 | .4011 | .0234 | .0018 | 1.051 | .0248 | .0481 |
| #3 | 81.34 | 14.25 | 5.529 | .4075 | .0234 | .0018 | 1.032 | .0247 | .0492 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.138** | **.0017** | **.0333** | **6.153** | **.0389** | **.0805** | **2.004** |
| Stddev | .003 | .0009 | .0000 | .045 | .0007 | .0011 | .015 |
| %RSD | .2621 | 57.01 | .1185 | .7361 | 1.778 | 1.427 | .7662 |
| #1 | 1.141 | .0025 | .0334 | 6.104 | .0396 | .0815 | 2.022 |
| #2 | 1.138 | .0019 | .0333 | 6.194 | .0382 | .0808 | 1.994 |
| #3 | 1.135 | .0006 | .0333 | 6.159 | .0388 | .0792 | 1.996 |



Zoom In Zoom Out

Sample Name: jc86837-9 Acquired: 5/2/2019 14:39:30 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159780.** | **25136.** | **6570.4** | **9710.3** |
| Stddev | 151. | 323. | 46.0 | 55.2 |
| %RSD | .09469 | 1.2870 | .70078 | .56853 |
| #1 | 159610. | 25462. | 6607.9 | 9757.6 |
| #2 | 159890. | 25131. | 6519.0 | 9649.6 |
| #3 | 159830. | 24815. | 6584.2 | 9723.6 |

Zoom In Zoom Out

Sample Name: jc86837-12 Acquired: 5/2/2019 14:44:40 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7472** | **.0055** | **.0023** | **.0394** | **.1295** | **.4568** | **1.125** | **.1098** | **.0000** |
| Stddev | .0003 | .0000 | .0000 | .0003 | .0002 | .0007 | .002 | .0007 | .0013 |
| %RSD | .0339 | .2406 | 1.652 | .7518 | .1440 | .1492 | .1504 | .6269 | 11030. |
| #1 | .7470 | .0055 | .0023 | .0397 | .1293 | .4560 | 1.127 | .1105 | .0015 |
| #2 | .7471 | .0055 | .0022 | .0391 | .1296 | .4573 | 1.125 | .1091 | -.0004 |
| #3 | .7475 | .0055 | .0023 | .0394 | .1295 | .4569 | 1.124 | .1097 | -.0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1422** | **1.200** | **.4835** | **-.0002** | **5.693** | **.0058** | **.0166** | **77.33** | **6.648** |
| Stddev | .0002 | .007 | .0040 | .0008 | .043 | .0008 | .0015 | .02 | .006 |
| %RSD | .1651 | .5722 | .8257 | 340.5 | .7576 | 12.98 | 8.869 | .0207 | .0985 |
| #1 | .1421 | 1.207 | .4870 | -.0011 | 5.737 | .0052 | .0168 | 77.31 | 6.641 |
| #2 | .1421 | 1.193 | .4791 | -.0000 | 5.651 | .0067 | .0180 | 77.34 | 6.649 |
| #3 | .1425 | 1.201 | .4842 | .0004 | 5.692 | .0056 | .0150 | 77.33 | 6.654 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **162.3** | **13.12** | **5.798** | **.4896** | **.0271** | **.0079** | **1.422** | **.0621** | **.1125** |
| Stddev | 3.5 | .02 | .039 | .0053 | .0004 | .0001 | .008 | .0004 | .0000 |
| %RSD | 2.130 | .1681 | .6719 | 1.074 | 1.385 | 1.590 | .5895 | .6742 | .0374 |
| #1 | 165.9 | 13.14 | 5.841 | .4906 | .0275 | .0078 | 1.430 | .0625 | .1125 |
| #2 | 161.9 | 13.11 | 5.766 | .4943 | .0270 | .0081 | 1.413 | .0617 | .1124 |
| #3 | 159.0 | 13.10 | 5.788 | .4840 | .0268 | .0080 | 1.424 | .0621 | .1125 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.140** | **.0017** | **.0239** | **1.539** | **.0430** | **.1015** | **4.161** |
| Stddev | .002 | .0005 | .0003 | .020 | .0011 | .0023 | .076 |
| %RSD | .1446 | 29.83 | 1.291 | 1.302 | 2.586 | 2.270 | 1.837 |
| #1 | 1.141 | .0013 | .0243 | 1.552 | .0427 | .0991 | 4.229 |
| #2 | 1.140 | .0022 | .0237 | 1.516 | .0421 | .1016 | 4.078 |
| #3 | 1.138 | .0015 | .0237 | 1.550 | .0443 | .1037 | 4.177 |



Zoom In Zoom Out

Sample Name: jc86837-12 Acquired: 5/2/2019 14:44:40 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160200.** | **25710.** | **6720.4** | **9835.4** |
| Stddev | 474. | 136. | 22.5 | 41.4 |
| %RSD | .29613 | .52794 | .33523 | .42140 |
| #1 | 159990. | 25553. | 6700.8 | 9796.9 |
| #2 | 159860. | 25782. | 6745.0 | 9879.3 |
| #3 | 160740. | 25793. | 6715.3 | 9830.0 |



Zoom In Zoom Out

Sample Name: jc86981-4 Acquired: 5/2/2019 14:49:43 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14628

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0466** | **-.0000** | **.0002** | **-.0001** | **.0059** | **.0009** | **.8490** | **.0000** | **-.0010** |
| Stddev | .0007 | .0001 | .0003 | .0005 | .0002 | .0002 | .0045 | .0005 | .0004 |
| %RSD | 1.531 | 994.3 | 142.8 | 615.2 | 3.284 | 23.64 | .5297 | 6546. | 35.50 |
| #1 | .0467 | -.0001 | -.0001 | .0001 | .0057 | .0010 | .8536 | .0005 | -.0006 |
| #2 | .0473 | -.0000 | .0004 | -.0006 | .0061 | .0006 | .8486 | -.0005 | -.0013 |
| #3 | .0458 | .0001 | .0003 | .0002 | .0059 | .0010 | .8447 | .0001 | -.0011 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0026** | **.0046** | **-.0034** | **-.0018** | **.0030** | **-.0060** | **.0033** | **.0957** | **273.3** |
| Stddev | .0006 | .0001 | .0014 | .0016 | .0021 | .0036 | .0004 | .0157 | 1.7 |
| %RSD | 21.56 | 2.416 | 40.13 | 89.63 | 72.16 | 59.06 | 12.14 | 16.40 | .6271 |
| #1 | .0022 | .0045 | -.0045 | -.0023 | .0009 | -.0022 | .0028 | .1039 | 273.5 |
| #2 | .0024 | .0046 | -.0019 | -.0031 | .0028 | -.0093 | .0034 | .0776 | 274.9 |
| #3 | .0032 | .0047 | -.0038 | .0000 | .0052 | -.0066 | .0036 | .1055 | 271.5 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2521** | **33.06** | **11.17** | **42.70** | **.0702** | **.0018** | **35.07** | **-.0061** | **.6559** |
| Stddev | .0048 | .38 | .20 | .50 | .0007 | .0009 | .10 | .0012 | .0090 |
| %RSD | 1.922 | 1.163 | 1.785 | 1.177 | 1.060 | 47.91 | .2841 | 19.52 | 1.378 |
| #1 | .2519 | 32.98 | 11.10 | 42.54 | .0707 | .0009 | 35.19 | -.0061 | .6536 |
| #2 | .2570 | 33.48 | 11.39 | 43.27 | .0693 | .0020 | 35.03 | -.0049 | .6659 |
| #3 | .2473 | 32.73 | 11.01 | 42.30 | .0704 | .0026 | 35.00 | -.0072 | .6483 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0040** | **.0022** | **-.0014** | **189.0** | **-.0021** | **.2691** | **1.790** |
| Stddev | .0003 | .0015 | .0002 | .4 | .0008 | .0022 | .019 |
| %RSD | 6.903 | 67.19 | 12.52 | .2043 | 39.64 | .8192 | 1.053 |
| #1 | .0037 | .0022 | -.0015 | 189.3 | -.0015 | .2696 | 1.793 |
| #2 | .0042 | .0007 | -.0016 | 189.1 | -.0030 | .2710 | 1.770 |
| #3 | .0041 | .0037 | -.0013 | 188.6 | -.0018 | .2667 | 1.807 |



Zoom In Zoom Out

Sample Name: jc86981-4 Acquired: 5/2/2019 14:49:43 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: mp14628

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **153770.** | **24795.** | **6198.9** | **9191.2** |
| Stddev | 352. | 200. | 4.5 | 3.8 |
| %RSD | .22858 | .80554 | .07210 | .04144 |
| #1 | 153390. | 24843. | 6203.3 | 9195.2 |
| #2 | 153860. | 24576. | 6194.4 | 9187.7 |
| #3 | 154070. | 24966. | 6199.0 | 9190.7 |

Zoom In Zoom Out

Sample Name: jc87088-1 Acquired: 5/2/2019 14:54:53 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1438** | **-.0001** | **.0001** | **.0010** | **.0079** | **.0110** | **1.170** | **.0117** | **-.0009** |
| Stddev | .0012 | .0002 | .0005 | .0007 | .0001 | .0006 | .005 | .0012 | .0006 |
| %RSD | .8178 | 144.7 | 626.7 | 71.41 | 1.105 | 5.802 | .3924 | 10.49 | 63.01 |
| #1 | .1449 | .0001 | -.0001 | .0002 | .0078 | .0105 | 1.167 | .0104 | -.0015 |
| #2 | .1439 | -.0003 | .0007 | .0013 | .0080 | .0117 | 1.169 | .0129 | -.0003 |
| #3 | .1426 | -.0002 | -.0003 | .0016 | .0078 | .0108 | 1.176 | .0118 | -.0009 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0050** | **.0174** | **-.0014** | **.0011** | **-.0002** | **-.0061** | **.0011** | **1.180** | **395.9** |
| Stddev | .0006 | .0003 | .0020 | .0013 | .0032 | .0022 | .0056 | .023 | 5.6 |
| %RSD | 12.83 | 1.609 | 139.1 | 115.0 | 1292. | 35.32 | 522.9 | 1.965 | 1.420 |
| #1 | .0054 | .0176 | -.0004 | .0026 | -.0034 | -.0085 | -.0052 | 1.196 | 396.3 |
| #2 | .0053 | .0176 | -.0002 | .0004 | .0029 | -.0045 | .0027 | 1.190 | 390.2 |
| #3 | .0042 | .0171 | -.0037 | .0004 | -.0002 | -.0053 | .0057 | 1.153 | 401.4 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.670** | **93.77** | **44.81** | F **657.0** | **.1381** | **.0082** | **6.999** | **-.0057** | **14.99** |
| Stddev | .007 | .27 | .21 | 8.6 | .0018 | .0003 | .152 | .0016 | .16 |
| %RSD | .4431 | .2929 | .4760 | 1.308 | 1.330 | 4.142 | 2.172 | 28.11 | 1.099 |
| #1 | 1.678 | 94.08 | 44.60 | 650.1 | .1397 | .0086 | 7.012 | -.0065 | 15.09 |
| #2 | 1.666 | 93.61 | 44.82 | 666.6 | .1384 | .0080 | 7.144 | -.0067 | 15.07 |
| #3 | 1.665 | 93.61 | 45.02 | 654.2 | .1361 | .0080 | 6.841 | -.0038 | 14.80 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0136** | **.0196** | **.0004** | **235.4** | **-.0007** | **.1191** | **.1420** |
| Stddev | .0011 | .0020 | .0004 | 4.7 | .0032 | .0044 | .0066 |
| %RSD | 7.855 | 10.11 | 89.67 | 1.999 | 432.5 | 3.715 | 4.680 |
| #1 | .0143 | .0173 | .0004 | 235.6 | -.0025 | .1155 | .1496 |
| #2 | .0142 | .0208 | .0008 | 240.0 | .0029 | .1177 | .1393 |
| #3 | .0124 | .0206 | .0001 | 230.6 | -.0027 | .1240 | .1372 |



Zoom In Zoom Out

Sample Name: jc87088-1 Acquired: 5/2/2019 14:54:53 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **145130.** | **24179.** | **6071.1** | **8775.4** |
| Stddev | 651. | 47. | 114.5 | 145.0 |
| %RSD | .44840 | .19430 | 1.8857 | 1.6528 |
| #1 | 145850. | 24198. | 6041.4 | 8746.4 |
| #2 | 144960. | 24214. | 5974.5 | 8647.1 |
| #3 | 144580. | 24126. | 6197.5 | 8932.8 |



Zoom In Zoom Out

Sample Name: mp14600-mb1conf Acquired: 5/2/2019 15:00:21 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0000** | **.0002** | **.0000** | **.0008** | **.0006** | **.0003** | **.0004** | **-.0004** |
| Stddev | .0003 | .0000 | .0001 | .0002 | .0001 | .0004 | .0000 | .0002 | .0003 |
| %RSD | 22360. | 182.7 | 62.31 | 411.6 | 17.64 | 61.55 | 5.901 | 52.96 | 65.10 |
| #1 | .0004 | .0000 | .0001 | .0002 | .0007 | .0008 | .0004 | .0001 | -.0002 |
| #2 | -.0001 | -.0000 | .0002 | -.0001 | .0009 | .0002 | .0003 | .0004 | -.0007 |
| #3 | -.0002 | -.0000 | .0003 | .0001 | .0009 | .0009 | .0003 | .0005 | -.0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0073** | **-.0006** | **.0006** | **.0001** | **-.0020** | **-.0004** | **.0025** | **.0575** |
| Stddev | .0002 | .0001 | .0009 | .0015 | .0006 | .0013 | .0003 | .0039 | .0024 |
| %RSD | 59.54 | 1.096 | 159.7 | 267.9 | 745.5 | 64.49 | 75.14 | 154.3 | 4.088 |
| #1 | .0003 | .0074 | .0005 | .0018 | .0006 | -.0015 | -.0006 | .0042 | .0594 |
| #2 | .0001 | .0072 | -.0012 | -.0011 | -.0005 | -.0035 | -.0001 | .0052 | .0583 |
| #3 | .0004 | .0073 | -.0009 | .0011 | .0001 | -.0011 | -.0006 | -.0019 | .0549 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0254** | **.0062** | **-.0871** | **.1104** | **.0019** | **.0010** | **.0082** | **.0171** | **.0005** |
| Stddev | .0012 | .0079 | .0117 | .0097 | .0007 | .0001 | .0014 | .0006 | .0000 |
| %RSD | 4.601 | 128.4 | 13.39 | 8.741 | 35.39 | 10.29 | 17.31 | 3.321 | 6.901 |
| #1 | .0253 | .0045 | -.0737 | .1188 | .0022 | .0011 | .0092 | .0176 | .0005 |
| #2 | .0266 | .0148 | -.0947 | .0999 | .0023 | .0009 | .0089 | .0170 | .0005 |
| #3 | .0243 | -.0008 | -.0929 | .1126 | .0011 | .0010 | .0066 | .0165 | .0005 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0035** | **.0003** | **.0149** | **-.0005** | **.0067** | **.0260** |
| Stddev | .0004 | .0006 | .0001 | .0010 | .0010 | .0008 | .0011 |
| %RSD | 55.69 | 17.48 | 41.22 | 6.805 | 198.0 | 11.93 | 4.418 |
| #1 | .0006 | .0042 | .0002 | .0143 | -.0008 | .0074 | .0248 |
| #2 | .0004 | .0030 | .0005 | .0143 | .0006 | .0058 | .0271 |
| #3 | .0012 | .0033 | .0002 | .0161 | -.0014 | .0068 | .0262 |



Zoom In Zoom Out

Sample Name: mp14600-mb1conf Acquired: 5/2/2019 15:00:21 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **162810.** | **25059.** | **6640.9** | **10187.** |
| Stddev | 343. | 225. | 86.8 | 103. |
| %RSD | .21055 | .89843 | 1.3064 | 1.0111 |
| #1 | 162440. | 24882. | 6574.9 | 10115. |
| #2 | 162890. | 24983. | 6608.7 | 10142. |
| #3 | 163110. | 25312. | 6739.2 | 10305. |

Zoom In Zoom Out

Sample Name: jc86901-3 Acquired: 5/2/2019 15:05:26 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5236** | **.0069** | **.0001** | **.0950** | **.2594** | **.2447** | **3.561** | **.1769** |
| Stddev | .0005 | .0001 | .0002 | .0023 | .0011 | .0002 | .038 | .0033 |
| %RSD | .0872 | .8017 | 251.5 | 2.382 | .4357 | .0930 | 1.074 | 1.891 |
| #1 | .5232 | .0069 | -.0000 | .0976 | .2607 | .2449 | 3.594 | .1808 |
| #2 | .5241 | .0068 | -.0000 | .0935 | .2588 | .2447 | 3.571 | .1750 |
| #3 | .5234 | .0069 | .0002 | .0940 | .2587 | .2445 | 3.519 | .1749 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0023** | **.4041** | **.4611** | **.0764** | **-.0002** | **.1518** | **.0034** | F **-.0046** |
| Stddev | .0006 | .0014 | .0101 | .0016 | .0013 | .0023 | .0026 | .0028 |
| %RSD | 25.71 | .3536 | 2.192 | 2.120 | 827.9 | 1.523 | 75.08 | 59.98 |
| #1 | -.0029 | .4051 | .4727 | .0781 | -.0014 | .1537 | .0007 | -.0017 |
| #2 | -.0021 | .4047 | .4555 | .0762 | -.0002 | .1492 | .0038 | -.0051 |
| #3 | -.0018 | .4025 | .4550 | .0749 | .0011 | .1526 | .0057 | -.0072 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **219.4** | **6.693** | F **272.5** | **30.97** | **12.83** | **.6249** | **.0650** | **.0089** |
| Stddev | 5.6 | .021 | 1.1 | .11 | .05 | .0063 | .0003 | .0003 |
| %RSD | 2.556 | .3062 | .3922 | .3395 | .3593 | 1.002 | .5384 | 3.258 |
| #1 | 217.9 | 6.709 | 271.4 | 31.08 | 12.88 | .6225 | .0650 | .0091 |
| #2 | 214.6 | 6.670 | 273.5 | 30.88 | 12.83 | .6320 | .0653 | .0090 |
| #3 | 225.6 | 6.700 | 272.5 | 30.94 | 12.78 | .6202 | .0646 | .0086 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.670** | **.0207** | **.0848** | **3.995** | **.0023** | **.1062** | **.5563** | **.1550** |
| Stddev | .047 | .0007 | .0000 | .008 | .0006 | .0001 | .0148 | .0013 |
| %RSD | 2.794 | 3.620 | .0334 | .2003 | 27.81 | .0687 | 2.669 | .8202 |
| #1 | 1.723 | .0212 | .0849 | 4.000 | .0027 | .1061 | .5733 | .1540 |
| #2 | 1.649 | .0198 | .0848 | 3.998 | .0016 | .1063 | .5460 | .1546 |
| #3 | 1.638 | .0211 | .0848 | 3.985 | .0027 | .1062 | .5496 | .1565 |



Zoom In Zoom Out

Sample Name: jc86901-3 Acquired: 5/2/2019 15:05:26 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2247** | **3.586** |
| Stddev | .0017 | .049 |
| %RSD | .7419 | 1.372 |
| #1 | .2256 | 3.643 |
| #2 | .2228 | 3.556 |
| #3 | .2258 | 3.560 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156210.** | **25448.** | **6424.3** | **9409.0** |
| Stddev | 676. | 180. | 119.0 | 147.2 |
| %RSD | .43256 | .70539 | 1.8530 | 1.5639 |
| #1 | 155760. | 25268. | 6286.8 | 9239.1 |
| #2 | 155890. | 25627. | 6492.0 | 9496.1 |
| #3 | 156990. | 25450. | 6494.0 | 9491.7 |



Zoom In Zoom Out

Sample Name: jc86901-9 Acquired: 5/2/2019 15:10:45 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8322** | **.0154** | **.0009** | **.1400** | **.2865** | **.0730** | **4.648** | **.2797** |
| Stddev | .0013 | .0001 | .0001 | .0004 | .0005 | .0007 | .039 | .0003 |
| %RSD | .1538 | .9567 | 10.41 | .2900 | .1792 | .9712 | .8348 | .1152 |
| #1 | .8335 | .0154 | .0008 | .1396 | .2864 | .0722 | 4.605 | .2799 |
| #2 | .8321 | .0155 | .0010 | .1404 | .2860 | .0736 | 4.661 | .2793 |
| #3 | .8310 | .0152 | .0010 | .1399 | .2870 | .0733 | 4.679 | .2798 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0027** | **.3353** | **.9302** | **.0438** | **.0001** | **.1371** | **.0023** | F **-.0048** |
| Stddev | .0009 | .0002 | .0008 | .0006 | .0007 | .0005 | .0015 | .0018 |
| %RSD | 34.27 | .0627 | .0837 | 1.299 | 675.4 | .3585 | 62.18 | 37.28 |
| #1 | -.0037 | .3352 | .9311 | .0443 | .0008 | .1368 | .0014 | -.0031 |
| #2 | -.0020 | .3356 | .9299 | .0439 | -.0000 | .1377 | .0040 | -.0046 |
| #3 | -.0023 | .3353 | .9296 | .0432 | -.0005 | .1368 | .0016 | -.0067 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **233.0** | **7.971** | F **315.6** | **89.19** | **74.76** | **1.565** | **.4055** | **.0044** |
| Stddev | 2.3 | .019 | 3.0 | .28 | .20 | .008 | .0009 | .0004 |
| %RSD | .9779 | .2415 | .9652 | .3146 | .2682 | .5212 | .2124 | 8.044 |
| #1 | 231.1 | 7.977 | 312.4 | 89.39 | 74.63 | 1.557 | .4065 | .0047 |
| #2 | 235.5 | 7.985 | 318.5 | 89.32 | 74.99 | 1.573 | .4049 | .0046 |
| #3 | 232.4 | 7.949 | 316.0 | 88.87 | 74.66 | 1.566 | .4052 | .0040 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.605** | **.0186** | **.1069** | **4.389** | **.0034** | **.1031** | **.3486** | **.1755** |
| Stddev | .002 | .0005 | .0002 | .006 | .0001 | .0003 | .0034 | .0019 |
| %RSD | .1485 | 2.812 | .1948 | .1400 | 3.824 | .2631 | .9630 | 1.093 |
| #1 | 1.604 | .0189 | .1071 | 4.386 | .0034 | .1029 | .3521 | .1733 |
| #2 | 1.604 | .0180 | .1070 | 4.396 | .0034 | .1034 | .3484 | .1763 |
| #3 | 1.608 | .0189 | .1067 | 4.385 | .0032 | .1031 | .3454 | .1769 |



Zoom In Zoom Out

Sample Name: jc86901-9 Acquired: 5/2/2019 15:10:45 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.6767** | **2.122** |
| Stddev | .0018 | .020 |
| %RSD | .2639 | .9514 |
| #1 | .6788 | 2.145 |
| #2 | .6758 | 2.109 |
| #3 | .6756 | 2.112 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156690.** | **25662.** | **6584.7** | **9302.2** |
| Stddev | 229. | 132. | 4.2 | 6.0 |
| %RSD | .14603 | .51549 | .06312 | .06450 |
| #1 | 156770. | 25631. | 6581.6 | 9299.3 |
| #2 | 156430. | 25548. | 6583.2 | 9298.3 |
| #3 | 156860. | 25807. | 6589.4 | 9309.1 |

Zoom In Zoom Out

Sample Name: jc86901-13 Acquired: 5/2/2019 15:16:05 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.7891** | **.0103** | **-.0004** | **.1757** | **.3448** | ***** | **6.521** | **.3625** |
| Stddev | .0124 | .0002 | .0001 | .0030 | .0027 | ----- | .045 | .0063 |
| %RSD | 1.574 | 2.153 | 28.18 | 1.696 | .7859 | ----- | .6979 | 1.725 |
| #1 | .7845 | .0102 | -.0003 | .1744 | .3467 | ----- | 6.573 | .3591 |
| #2 | .7796 | .0102 | -.0004 | .1791 | .3460 | ----- | 6.499 | .3697 |
| #3 | .8031 | .0106 | -.0005 | .1737 | .3417 | ----- | 6.490 | .3587 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **-.0986** | **.3436** | **.7937** | **.0464** | F **-.0285** | **.2304** | F **-.0572** | **.0080** |
| Stddev | .0012 | .0022 | .0161 | .0011 | .0018 | .0045 | .0022 | .0022 |
| %RSD | 1.207 | .6504 | 2.031 | 2.470 | 6.177 | 1.963 | 3.803 | 28.01 |
| #1 | -.0991 | .3446 | .7850 | .0462 | -.0292 | .2276 | -.0554 | .0055 |
| #2 | -.0995 | .3451 | .8123 | .0477 | -.0298 | .2357 | -.0596 | .0089 |
| #3 | -.0972 | .3410 | .7838 | .0454 | -.0265 | .2280 | -.0566 | .0097 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **185.6** | **5.552** | F **370.9** | **66.17** | **27.57** | **1.562** | **.1781** | **.0036** |
| Stddev | 2.9 | .108 | 5.3 | 1.19 | .54 | .025 | .0032 | .0002 |
| %RSD | 1.586 | 1.940 | 1.438 | 1.794 | 1.953 | 1.604 | 1.781 | 6.684 |
| #1 | 183.9 | 5.502 | 369.6 | 65.64 | 27.35 | 1.574 | .1762 | .0033 |
| #2 | 183.9 | 5.478 | 366.4 | 65.34 | 27.17 | 1.533 | .1817 | .0036 |
| #3 | 188.9 | 5.676 | 376.8 | 67.53 | 28.18 | 1.579 | .1763 | .0038 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.597** | **.0068** | **.1355** | **6.399** | **.0130** | **.0607** | **.3432** | F **-.1415** |
| Stddev | .031 | .0004 | .0022 | .084 | .0009 | .0002 | .0080 | .0022 |
| %RSD | 1.944 | 6.212 | 1.657 | 1.318 | 6.583 | .3886 | 2.334 | 1.532 |
| #1 | 1.580 | .0073 | .1345 | 6.490 | .0129 | .0607 | .3396 | -.1402 |
| #2 | 1.632 | .0066 | .1339 | 6.384 | .0122 | .0609 | .3524 | -.1440 |
| #3 | 1.577 | .0065 | .1381 | 6.323 | .0139 | .0604 | .3377 | -.1403 |



Zoom In Zoom Out

Sample Name: jc86901-13 Acquired: 5/2/2019 15:16:05 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.4672** | **2.233** |
| Stddev | .0078 | .051 |
| %RSD | 1.670 | 2.262 |
| #1 | .4618 | 2.204 |
| #2 | .4636 | 2.291 |
| #3 | .4762 | 2.203 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159410.** | **25791.** | **6590.0** | **9391.1** |
| Stddev | 1396. | 542. | 119.3 | 145.3 |
| %RSD | .87540 | 2.1007 | 1.8102 | 1.5474 |
| #1 | 158540. | 26082. | 6660.9 | 9475.3 |
| #2 | 158680. | 26125. | 6452.3 | 9223.3 |
| #3 | 161020. | 25165. | 6656.8 | 9474.6 |



Zoom In Zoom Out

Sample Name: jc86901-9 Acquired: 5/2/2019 15:21:37 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8453** | **.0156** | **.0010** | **.1428** | **.2918** | **.0753** | **4.820** | **.2849** |
| Stddev | .0017 | .0002 | .0002 | .0012 | .0015 | .0013 | .053 | .0020 |
| %RSD | .2000 | 1.277 | 22.27 | .8420 | .5097 | 1.741 | 1.095 | .7146 |
| #1 | .8452 | .0154 | .0008 | .1430 | .2911 | .0739 | 4.771 | .2833 |
| #2 | .8436 | .0157 | .0012 | .1439 | .2935 | .0754 | 4.876 | .2872 |
| #3 | .8470 | .0158 | .0009 | .1415 | .2909 | .0765 | 4.812 | .2843 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.3415** | **.9693** | **.0461** | **.0023** | **.1416** | **.0009** | F **-.0077** |
| Stddev | .0006 | .0037 | .0058 | .0004 | .0015 | .0013 | .0018 | .0042 |
| %RSD | 145.6 | 1.081 | .5957 | .8864 | 67.66 | .9271 | 204.4 | 54.27 |
| #1 | .0005 | .3375 | .9666 | .0457 | .0010 | .1408 | .0012 | -.0031 |
| #2 | -.0002 | .3446 | .9760 | .0465 | .0018 | .1410 | -.0011 | -.0086 |
| #3 | .0011 | .3426 | .9654 | .0462 | .0039 | .1432 | .0026 | -.0114 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **237.8** | **8.203** | **331.8** | **91.63** | **76.42** | **1.568** | **.4205** | **.0046** |
| Stddev | .7 | .020 | 4.2 | .30 | .34 | .009 | .0012 | .0008 |
| %RSD | .2946 | .2390 | 1.275 | .3236 | .4436 | .5572 | .2861 | 17.84 |
| #1 | 238.3 | 8.219 | 327.5 | 91.80 | 76.56 | 1.561 | .4199 | .0037 |
| #2 | 237.0 | 8.181 | 331.8 | 91.28 | 76.03 | 1.578 | .4219 | .0051 |
| #3 | 238.0 | 8.208 | 336.0 | 91.79 | 76.66 | 1.565 | .4198 | .0051 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.596** | **.0172** | **.1093** | **4.475** | **.0019** | **.1060** | **.3615** | **.1720** |
| Stddev | .119 | .0011 | .0001 | .054 | .0023 | .0007 | .0026 | .0062 |
| %RSD | 4.600 | 6.583 | .1267 | 1.212 | 117.5 | .6708 | .7068 | 3.579 |
| #1 | 2.727 | .0173 | .1094 | 4.414 | -.0006 | .1052 | .3635 | .1661 |
| #2 | 2.568 | .0182 | .1092 | 4.495 | .0038 | .1066 | .3623 | .1717 |
| #3 | 2.493 | .0160 | .1094 | 4.517 | .0026 | .1061 | .3586 | .1784 |



Zoom In Zoom Out

Sample Name: jc86901-9 Acquired: 5/2/2019 15:21:37 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.7021** | **2.216** |
| Stddev | .0024 | .009 |
| %RSD | .3385 | .4170 |
| #1 | .7031 | 2.209 |
| #2 | .7039 | 2.226 |
| #3 | .6994 | 2.213 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157100.** | **25012.** | **6506.4** | **9399.2** |
| Stddev | 1804. | 203. | 24.7 | 35.4 |
| %RSD | 1.1480 | .81176 | .38006 | .37653 |
| #1 | 158700. | 24980. | 6510.4 | 9409.0 |
| #2 | 155150. | 25229. | 6479.9 | 9360.0 |
| #3 | 157470. | 24826. | 6528.9 | 9428.7 |

Zoom In Zoom Out

Sample Name: ccv Acquired: 5/2/2019 15:26:54 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.038** | **2.101** | **1.999** | **2.034** | **2.039** | **2.037** | **2.051** | **2.066** | **.2479** |
| Stddev | .003 | .002 | .002 | .002 | .001 | .002 | .018 | .001 | .0002 |
| %RSD | .1676 | .0802 | .0843 | .1076 | .0580 | .1040 | .8710 | .0504 | .0740 |
| #1 | 2.039 | 2.102 | 2.000 | 2.036 | 2.037 | 2.037 | 2.031 | 2.067 | .2477 |
| #2 | 2.041 | 2.102 | 1.997 | 2.033 | 2.039 | 2.039 | 2.061 | 2.065 | .2479 |
| #3 | 2.034 | 2.099 | 1.999 | 2.032 | 2.040 | 2.035 | 2.062 | 2.065 | .2481 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.987** | **2.017** | **2.001** | **2.124** | **2.046** | **2.029** | **1.986** | **40.01** | **39.77** |
| Stddev | .002 | .003 | .003 | .003 | .001 | .006 | .001 | .03 | .05 |
| %RSD | .0895 | .1459 | .1486 | .1571 | .0618 | .2776 | .0488 | .0827 | .1159 |
| #1 | 1.986 | 2.020 | 2.004 | 2.128 | 2.047 | 2.036 | 1.986 | 39.99 | 39.80 |
| #2 | 1.989 | 2.015 | 1.998 | 2.122 | 2.045 | 2.025 | 1.988 | 40.04 | 39.79 |
| #3 | 1.986 | 2.016 | 2.000 | 2.123 | 2.047 | 2.027 | 1.986 | 39.98 | 39.72 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.99** | **40.23** | **39.77** | **40.61** | **2.060** | **1.964** | **5.171** | **1.992** | **2.121** |
| Stddev | .08 | .10 | .12 | .09 | .003 | .002 | .005 | .004 | .003 |
| %RSD | .1897 | .2484 | .2895 | .2287 | .1267 | .1097 | .1069 | .2075 | .1560 |
| #1 | 41.05 | 40.22 | 39.84 | 40.65 | 2.063 | 1.964 | 5.176 | 1.996 | 2.120 |
| #2 | 41.02 | 40.34 | 39.84 | 40.67 | 2.059 | 1.961 | 5.165 | 1.988 | 2.124 |
| #3 | 40.90 | 40.14 | 39.64 | 40.50 | 2.058 | 1.966 | 5.172 | 1.993 | 2.118 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/2/2019 15:26:54 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.028** | **1.981** | **2.012** | **2.007** | **2.027** | **2.029** | F **2.261** |
| Stddev | .001 | .003 | .001 | .005 | .000 | .002 | .008 |
| %RSD | .0650 | .1454 | .0290 | .2510 | .0056 | .1123 | .3523 |
| #1 | 2.026 | 1.982 | 2.012 | 2.010 | 2.027 | 2.031 | 2.260 |
| #2 | 2.029 | 1.978 | 2.011 | 2.009 | 2.027 | 2.030 | 2.253 |
| #3 | 2.027 | 1.984 | 2.011 | 2.001 | 2.027 | 2.026 | 2.269 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149320.** | **23844.** | **6187.1** | **9096.9** |
| Stddev | 459. | 114. | 12.2 | 13.4 |
| %RSD | .30719 | .47636 | .19736 | .14680 |
| #1 | 149570. | 23753. | 6177.8 | 9083.4 |
| #2 | 148790. | 23808. | 6200.9 | 9110.1 |
| #3 | 149600. | 23971. | 6182.6 | 9097.2 |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/2/2019 15:31:56 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0001** | **.0003** | **.0003** | **.0001** | **.0002** | **.0001** | **.0000** | **-.0002** |
| Stddev | .0003 | .0001 | .0002 | .0003 | .0003 | .0004 | .0000 | .0004 | .0002 |
| %RSD | 382.9 | 112.3 | 79.81 | 111.4 | 554.9 | 140.7 | 20.13 | 2686. | 129.4 |
| #1 | -.0003 | .0000 | .0000 | -.0000 | -.0002 | .0003 | .0001 | -.0004 | -.0002 |
| #2 | .0002 | .0002 | .0004 | .0003 | -.0001 | .0006 | .0001 | .0002 | .0001 |
| #3 | .0003 | .0000 | .0004 | .0007 | .0005 | -.0001 | .0001 | .0003 | -.0004 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0001** | **.0006** | **.0009** | **.0007** | **-.0017** | **-.0018** | **-.0045** | **-.0003** |
| Stddev | .0002 | .0001 | .0008 | .0007 | .0003 | .0004 | .0007 | .0078 | .0005 |
| %RSD | 64.46 | 232.2 | 133.5 | 84.24 | 43.60 | 26.13 | 38.34 | 172.2 | 196.3 |
| #1 | .0001 | -.0000 | .0014 | .0007 | .0009 | -.0019 | -.0025 | -.0130 | .0003 |
| #2 | .0006 | .0000 | .0006 | .0002 | .0010 | -.0012 | -.0011 | .0024 | -.0006 |
| #3 | .0003 | .0002 | -.0002 | .0017 | .0004 | -.0019 | -.0020 | -.0030 | -.0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0012** | **.0081** | **-.1101** | **-.0239** | **.0023** | **.0004** | **.0015** | **-.0006** | **.0003** |
| Stddev | .0030 | .0065 | .0283 | .0019 | .0002 | .0002 | .0011 | .0005 | .0000 |
| %RSD | 255.0 | 79.94 | 25.72 | 8.164 | 8.510 | 57.16 | 71.13 | 79.39 | 2.343 |
| #1 | -.0022 | .0144 | -.1399 | -.0261 | .0022 | .0002 | .0003 | -.0011 | .0003 |
| #2 | .0021 | .0014 | -.1068 | -.0229 | .0022 | .0005 | .0019 | -.0001 | .0003 |
| #3 | .0036 | .0086 | -.0835 | -.0226 | .0026 | .0006 | .0024 | -.0006 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/2/2019 15:31:56 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0018** | **.0003** | **.0020** | **.0000** | F **.0068** | **.0052** |
| Stddev | .0004 | .0009 | .0001 | .0004 | .0021 | .0029 | .0021 |
| %RSD | 124.9 | 49.05 | 33.10 | 21.85 | 64350. | 42.39 | 40.95 |
| #1 | -.0001 | .0024 | .0004 | .0021 | -.0020 | .0092 | .0043 |
| #2 | .0006 | .0022 | .0002 | .0025 | .0022 | .0076 | .0076 |
| #3 | .0004 | .0008 | .0003 | .0016 | -.0002 | .0036 | .0036 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | .0040 | |
| Low Limit | | | | | | -.0040 | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158470.** | **24346.** | **6453.2** | **9949.7** |
| Stddev | 676. | 93. | 39.3 | 51.0 |
| %RSD | .42666 | .38345 | .60902 | .51255 |
| #1 | 159200. | 24449. | 6467.9 | 9981.4 |
| #2 | 157870. | 24322. | 6483.1 | 9976.8 |
| #3 | 158320. | 24268. | 6408.7 | 9890.9 |

Zoom In Zoom Out

Sample Name: jc86901-13 Acquired: 5/2/2019 15:37:04 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8040** | **.0122** | **.0003** | **.1601** | **.3577** | **.0476** | **6.925** | **.3659** | **-.0041** |
| Stddev | .0010 | .0001 | .0005 | .0004 | .0012 | .0010 | .033 | .0007 | .0008 |
| %RSD | .1227 | .4649 | 174.2 | .2297 | .3462 | 2.001 | .4810 | .1944 | 20.45 |
| #1 | .8031 | .0123 | .0008 | .1605 | .3591 | .0475 | 6.902 | .3660 | -.0036 |
| #2 | .8038 | .0122 | -.0002 | .1598 | .3568 | .0468 | 6.963 | .3651 | -.0050 |
| #3 | .8051 | .0122 | .0002 | .1600 | .3572 | .0486 | 6.909 | .3664 | -.0036 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3649** | **.8206** | **.0644** | **.0024** | **.2247** | **.0005** | **-.0039** | **189.1** | **5.923** |
| Stddev | .0004 | .0008 | .0027 | .0020 | .0034 | .0032 | .0026 | .2 | .007 |
| %RSD | .1163 | .0938 | 4.255 | 81.85 | 1.501 | 594.7 | 65.57 | .1235 | .1157 |
| #1 | .3654 | .8197 | .0654 | .0047 | .2215 | .0025 | -.0032 | 188.9 | 5.920 |
| #2 | .3649 | .8209 | .0613 | .0017 | .2282 | -.0032 | -.0067 | 189.1 | 5.919 |
| #3 | .3645 | .8211 | .0665 | .0009 | .2245 | .0023 | -.0018 | 189.4 | 5.931 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **384.3** | **68.34** | **28.23** | **1.630** | **.1849** | **.0075** | **1.757** | **.0179** | **.1385** |
| Stddev | 3.5 | .15 | .16 | .011 | .0007 | .0003 | .040 | .0014 | .0002 |
| %RSD | .9140 | .2217 | .5574 | .6444 | .3771 | 3.381 | 2.263 | 7.587 | .1430 |
| #1 | 385.3 | 68.22 | 28.06 | 1.638 | .1857 | .0072 | 1.731 | .0163 | .1383 |
| #2 | 380.4 | 68.29 | 28.37 | 1.635 | .1843 | .0075 | 1.738 | .0184 | .1386 |
| #3 | 387.3 | 68.51 | 28.27 | 1.618 | .1848 | .0077 | 1.803 | .0189 | .1387 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **6.755** | **.0051** | **.0877** | **.3242** | **.2654** | **.4426** | **2.558** |
| Stddev | .001 | .0008 | .0003 | .0037 | .0026 | .0043 | .038 |
| %RSD | .0078 | 16.23 | .3863 | 1.129 | .9896 | .9661 | 1.485 |
| #1 | 6.755 | .0041 | .0877 | .3205 | .2630 | .4377 | 2.515 |
| #2 | 6.755 | .0054 | .0873 | .3278 | .2682 | .4440 | 2.571 |
| #3 | 6.754 | .0057 | .0879 | .3243 | .2650 | .4459 | 2.588 |



Zoom In Zoom Out

Sample Name: jc86901-13 Acquired: 5/2/2019 15:37:04 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156910.** | **25228.** | **6503.7** | **9485.8** |
| Stddev | 381. | 219. | 8.0 | 13.5 |
| %RSD | .24273 | .86769 | .12375 | .14190 |
| #1 | 157350. | 25477. | 6513.0 | 9501.3 |
| #2 | 156660. | 25064. | 6498.6 | 9477.6 |
| #3 | 156730. | 25144. | 6499.6 | 9478.4 |



Zoom In Zoom Out

Sample Name: mp14600-ps1 7 Acquired: 5/2/2019 15:42:19 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.456** | **2.014** | **1.958** | **1.789** | **2.971** | **2.011** | **3.685** | **1.941** | ***** |
| Stddev | .002 | .004 | .004 | .002 | .003 | .006 | .019 | .003 | ----- |
| %RSD | .0735 | .1788 | .2135 | .1341 | .1130 | .2878 | .5208 | .1274 | ----- |
| #1 | 2.455 | 2.018 | 1.962 | 1.791 | 2.973 | 2.014 | 3.693 | 1.943 | ----- |
| #2 | 2.456 | 2.011 | 1.954 | 1.790 | 2.968 | 2.005 | 3.663 | 1.942 | ----- |
| #3 | 2.458 | 2.012 | 1.958 | 1.787 | 2.974 | 2.015 | 3.698 | 1.939 | ----- |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.631** | **2.932** | **2.241** | **1.737** | **1.834** | **1.910** | **1.918** | **173.3** | **36.95** |
| Stddev | .002 | .005 | .004 | .002 | .002 | .004 | .004 | .3 | .08 |
| %RSD | .0609 | .1769 | .1683 | .1153 | .0981 | .2221 | .2096 | .1510 | .2282 |
| #1 | 3.633 | 2.938 | 2.245 | 1.738 | 1.835 | 1.915 | 1.922 | 173.6 | 37.05 |
| #2 | 3.630 | 2.928 | 2.238 | 1.738 | 1.832 | 1.907 | 1.915 | 173.1 | 36.89 |
| #3 | 3.629 | 2.930 | 2.241 | 1.735 | 1.835 | 1.908 | 1.916 | 173.3 | 36.93 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **1057.** | **51.65** | **72.64** | **26.06** | **2.215** | **1.829** | **2.564** | **1.835** | **2.191** |
| Stddev | 12. | .07 | .07 | .03 | .005 | .003 | .014 | .006 | .001 |
| %RSD | 1.127 | .1305 | .0926 | .1023 | .2086 | .1412 | .5362 | .3231 | .0430 |
| #1 | 1071. | 51.67 | 72.66 | 26.04 | 2.221 | 1.832 | 2.568 | 1.842 | 2.192 |
| #2 | 1049. | 51.57 | 72.56 | 26.04 | 2.212 | 1.827 | 2.575 | 1.831 | 2.190 |
| #3 | 1052. | 51.70 | 72.69 | 26.09 | 2.213 | 1.828 | 2.549 | 1.833 | 2.191 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.257** | **1.718** | **2.015** | **2.150** | **.2867** | **.0071** | F **23.65** |
| Stddev | .005 | .007 | .001 | .012 | .0011 | .0008 | .69 |
| %RSD | .1014 | .4375 | .0504 | .5785 | .3778 | 11.58 | 2.920 |
| #1 | 5.262 | 1.711 | 2.016 | 2.164 | .2870 | .0067 | 24.40 |
| #2 | 5.257 | 1.717 | 2.014 | 2.144 | .2876 | .0066 | 23.51 |
| #3 | 5.251 | 1.726 | 2.014 | 2.142 | .2855 | .0081 | 23.04 |



Zoom In Zoom Out

Sample Name: mp14600-ps1 7 Acquired: 5/2/2019 15:42:19 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150270.** | **25022.** | **6206.8** | **10044.** |
| Stddev | 303. | 134. | 8.3 | 3. |
| %RSD | .20145 | .53635 | .13358 | .02689 |
| #1 | 149980. | 24933. | 6200.3 | 10047. |
| #2 | 150250. | 25176. | 6216.2 | 10044. |
| #3 | 150580. | 24956. | 6204.1 | 10041. |

Zoom In Zoom Out

Sample Name: mp14600-ps1 Acquired: 5/2/2019 15:47:24 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.496** | **2.068** | **1.987** | **2.064** | **3.103** | **1.969** | **3.992** | **2.255** | **.2436** |
| Stddev | .004 | .004 | .002 | .006 | .003 | .005 | .004 | .007 | .0060 |
| %RSD | .1500 | .1716 | .0761 | .3088 | .0926 | .2589 | .1079 | .3301 | 2.470 |
| #1 | 2.492 | 2.064 | 1.985 | 2.058 | 3.100 | 1.966 | 3.994 | 2.248 | .2377 |
| #2 | 2.500 | 2.070 | 1.987 | 2.071 | 3.103 | 1.966 | 3.995 | 2.256 | .2497 |
| #3 | 2.496 | 2.070 | 1.988 | 2.065 | 3.106 | 1.975 | 3.987 | 2.262 | .2435 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.711** | **3.178** | **2.263** | **2.104** | **2.165** | **1.967** | **1.951** | **177.2** | **39.52** |
| Stddev | .002 | .005 | .015 | .011 | .015 | .017 | .008 | .3 | .05 |
| %RSD | .0563 | .1538 | .6562 | .5395 | .6895 | .8867 | .4224 | .1650 | .1306 |
| #1 | 3.709 | 3.175 | 2.280 | 2.117 | 2.157 | 1.953 | 1.959 | 176.9 | 39.47 |
| #2 | 3.713 | 3.175 | 2.252 | 2.100 | 2.182 | 1.962 | 1.943 | 177.5 | 39.52 |
| #3 | 3.711 | 3.184 | 2.258 | 2.095 | 2.157 | 1.987 | 1.951 | 177.2 | 39.57 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1306.** | **56.20** | **73.88** | **26.77** | **2.373** | **1.907** | **2.662** | **2.003** | **2.241** |
| Stddev | 2. | .13 | .57 | .02 | .005 | .002 | .016 | .004 | .001 |
| %RSD | .1386 | .2308 | .7744 | .0817 | .1937 | .1024 | .6091 | .1919 | .0344 |
| #1 | 1304. | 56.10 | 73.47 | 26.80 | 2.375 | 1.905 | 2.658 | 2.007 | 2.240 |
| #2 | 1308. | 56.35 | 74.53 | 26.77 | 2.367 | 1.906 | 2.680 | 2.000 | 2.242 |
| #3 | 1307. | 56.15 | 73.63 | 26.75 | 2.375 | 1.909 | 2.649 | 2.004 | 2.241 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **5.364** | **1.786** | **2.060** | **2.192** | **.2301** | **.0154** | **22.56** |
| Stddev | .013 | .007 | .005 | .015 | .0126 | .0077 | .30 |
| %RSD | .2473 | .4140 | .2416 | .7029 | 5.474 | 49.94 | 1.326 |
| #1 | 5.373 | 1.794 | 2.058 | 2.209 | .2430 | .0238 | 22.91 |
| #2 | 5.369 | 1.780 | 2.066 | 2.180 | .2294 | .0138 | 22.40 |
| #3 | 5.349 | 1.784 | 2.057 | 2.186 | .2178 | .0086 | 22.38 |



Zoom In Zoom Out

Sample Name: mp14600-ps1 Acquired: 5/2/2019 15:47:24 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156730.** | **24461.** | **6439.6** | **9763.6** |
| Stddev | 59. | 131. | 19.9 | 25.1 |
| %RSD | .03766 | .53447 | .30871 | .25670 |
| #1 | 156770. | 24505. | 6442.1 | 9773.4 |
| #2 | 156670. | 24314. | 6458.1 | 9782.2 |
| #3 | 156760. | 24565. | 6418.5 | 9735.1 |



Zoom In Zoom Out

Sample Name: jc86838-1 Acquired: 5/2/2019 15:52:16 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0903** | **.0011** | **-.0001** | **.0186** | **.1962** | **.0324** | **.2783** | **.0165** | **-.0002** |
| Stddev | .0009 | .0001 | .0001 | .0002 | .0023 | .0004 | .0024 | .0001 | .0004 |
| %RSD | 1.042 | 6.368 | 47.19 | .8563 | 1.176 | 1.160 | .8490 | .6729 | 157.8 |
| #1 | .0893 | .0012 | -.0001 | .0185 | .1953 | .0324 | .2778 | .0166 | -.0000 |
| #2 | .0907 | .0011 | -.0001 | .0186 | .1988 | .0327 | .2809 | .0164 | -.0007 |
| #3 | .0910 | .0011 | -.0002 | .0188 | .1944 | .0320 | .2763 | .0166 | -.0000 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2361** | **.0624** | **.0078** | **-.0008** | **.1208** | **.0003** | **-.0026** | **11.45** | **.5179** |
| Stddev | .0025 | .0006 | .0008 | .0009 | .0009 | .0007 | .0014 | .07 | .0007 |
| %RSD | 1.072 | .8829 | 9.908 | 121.1 | .7525 | 203.5 | 55.15 | .6023 | .1435 |
| #1 | .2360 | .0622 | .0071 | -.0006 | .1211 | .0011 | -.0015 | 11.37 | .5179 |
| #2 | .2387 | .0630 | .0075 | -.0017 | .1216 | .0000 | -.0041 | 11.47 | .5171 |
| #3 | .2337 | .0619 | .0086 | .0001 | .1198 | -.0001 | -.0020 | 11.51 | .5186 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **61.45** | **.4426** | **.0452** | **.1931** | **.0042** | **.0030** | **1.800** | **.0203** | **.0063** |
| Stddev | .40 | .0098 | .0366 | .0091 | .0003 | .0002 | .011 | .0004 | .0000 |
| %RSD | .6578 | 2.224 | 81.11 | 4.700 | 6.874 | 7.054 | .6277 | 2.160 | .3120 |
| #1 | 61.01 | .4518 | .0087 | .1840 | .0043 | .0029 | 1.799 | .0208 | .0063 |
| #2 | 61.52 | .4437 | .0449 | .1931 | .0038 | .0033 | 1.812 | .0201 | .0063 |
| #3 | 61.81 | .4322 | .0819 | .2022 | .0044 | .0029 | 1.790 | .0199 | .0063 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.229** | **.0131** | **.0135** | **.0802** | **.0453** | **.0005** | **.3725** |
| Stddev | .012 | .0005 | .0001 | .0022 | .0014 | .0021 | .0040 |
| %RSD | .9322 | 3.827 | .9070 | 2.745 | 3.043 | 405.4 | 1.078 |
| #1 | 1.227 | .0127 | .0136 | .0779 | .0463 | .0029 | .3763 |
| #2 | 1.242 | .0128 | .0136 | .0823 | .0458 | -.0013 | .3683 |
| #3 | 1.219 | .0136 | .0134 | .0804 | .0437 | -.0001 | .3730 |



Zoom In Zoom Out

Sample Name: jc86838-1 Acquired: 5/2/2019 15:52:16 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **165840.** | **25743.** | **6777.3** | **9956.0** |
| Stddev | 1216. | 249. | 57.9 | 65.7 |
| %RSD | .73340 | .96595 | .85472 | .65955 |
| #1 | 166250. | 26020. | 6804.3 | 9991.0 |
| #2 | 164470. | 25539. | 6710.8 | 9880.2 |
| #3 | 166800. | 25671. | 6816.8 | 9996.7 |

Zoom In Zoom Out

Sample Name: jc86838-5 Acquired: 5/2/2019 15:57:19 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .2962 | .0052 | .0000 | .1056 | .2024 | .0758 | 1.600 | .0935 | -.0003 |
| Stddev | .0018 | .0000 | .0004 | .0001 | .0013 | .0003 | .004 | .0007 | .0002 |
| %RSD | .6041 | .3995 | 9440. | .1298 | .6639 | .3600 | .2183 | .7628 | 80.68 |
| #1 | .2944 | .0052 | .0001 | .1058 | .2040 | .0758 | 1.601 | .0929 | -.0003 |
| #2 | .2979 | .0052 | .0003 | .1055 | .2015 | .0760 | 1.596 | .0943 | -.0006 |
| #3 | .2962 | .0051 | -.0004 | .1057 | .2018 | .0755 | 1.603 | .0934 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .3084 | .2208 | .0582 | -.0004 | .0915 | .0035 | -.0050 | 133.2 | 4.446 |
| Stddev | .0001 | .0006 | .0019 | .0019 | .0026 | .0010 | .0017 | .5 | .019 |
| %RSD | .0246 | .2790 | 3.180 | 479.9 | 2.791 | 28.06 | 34.77 | .4088 | .4298 |
| #1 | .3083 | .2203 | .0561 | .0011 | .0931 | .0041 | -.0030 | 132.8 | 4.432 |
| #2 | .3085 | .2205 | .0593 | -.0025 | .0929 | .0040 | -.0061 | 133.8 | 4.467 |
| #3 | .3084 | .2215 | .0592 | .0002 | .0886 | .0024 | -.0059 | 132.9 | 4.437 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 242.0 | 11.79 | 7.671 | 3.741 | .0325 | .0090 | 1.842 | .0151 | .0575 |
| Stddev | 1.2 | .14 | .060 | .037 | .0011 | .0002 | .004 | .0015 | .0003 |
| %RSD | .4853 | 1.151 | .7881 | .9831 | 3.434 | 1.758 | .1929 | 9.703 | .5352 |
| #1 | 241.3 | 11.76 | 7.629 | 3.702 | .0314 | .0091 | 1.840 | .0162 | .0572 |
| #2 | 243.3 | 11.93 | 7.643 | 3.775 | .0325 | .0088 | 1.840 | .0135 | .0578 |
| #3 | 241.3 | 11.66 | 7.740 | 3.747 | .0336 | .0091 | 1.846 | .0157 | .0574 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 3.776 | .0135 | .0848 | .4788 | .1453 | .0654 | 3.223 |
| Stddev | .007 | .0019 | .0002 | .0022 | .0020 | .0028 | .023 |
| %RSD | .1858 | 14.32 | .1827 | .4686 | 1.374 | 4.274 | .7248 |
| #1 | 3.776 | .0157 | .0846 | .4814 | .1440 | .0674 | 3.244 |
| #2 | 3.769 | .0121 | .0849 | .4777 | .1476 | .0666 | 3.225 |
| #3 | 3.783 | .0127 | .0849 | .4774 | .1443 | .0622 | 3.198 |



Zoom In Zoom Out

Sample Name: jc86838-5 Acquired: 5/2/2019 15:57:19 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 157510. | 24721. | 6563.6 | 9694.3 |
| Stddev | 953. | 249. | 17.5 | 17.3 |
| %RSD | .60492 | 1.0057 | .26685 | .17896 |
| #1 | 158100. | 24938. | 6570.9 | 9707.9 |
| #2 | 158020. | 24450. | 6576.2 | 9700.2 |
| #3 | 156410. | 24777. | 6543.6 | 9674.8 |



Zoom In Zoom Out

Sample Name: jc86838-11 Acquired: 5/2/2019 16:02:20 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .7064 | .0053 | .0013 | .0769 | .1938 | .5791 | 3.062 | .1234 | -.0004 |
| Stddev | .0046 | .0000 | .0002 | .0004 | .0009 | .0049 | .034 | .0004 | .0005 |
| %RSD | .6556 | .4825 | 13.79 | .5671 | .4616 | .8385 | 1.093 | .2841 | 137.7 |
| #1 | .7089 | .0053 | .0014 | .0764 | .1937 | .5779 | 3.075 | .1233 | .0001 |
| #2 | .7092 | .0053 | .0011 | .0772 | .1947 | .5845 | 3.087 | .1232 | -.0009 |
| #3 | .7010 | .0053 | .0014 | .0771 | .1929 | .5750 | 3.024 | .1238 | -.0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | .2361 | .6094 | .1985 | .0022 | .6763 | .0030 | .0002 | 104.7 | 29.13 |
| Stddev | .0015 | .0029 | .0025 | .0014 | .0013 | .0017 | .0015 | .8 | .23 |
| %RSD | .6394 | .4737 | 1.266 | 61.85 | .1879 | 56.24 | 750.8 | .7899 | .7858 |
| #1 | .2364 | .6085 | .1962 | .0029 | .6752 | .0047 | .0019 | 105.3 | 29.30 |
| #2 | .2375 | .6071 | .1981 | .0032 | .6759 | .0013 | -.0004 | 105.0 | 29.22 |
| #3 | .2345 | .6127 | .2011 | .0006 | .6777 | .0030 | -.0009 | 103.8 | 28.87 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 154.5 | 19.20 | 7.226 | 7.974 | .0253 | .0153 | 2.236 | .0371 | .1553 |
| Stddev | 1.4 | .13 | .052 | .045 | .0000 | .0004 | .007 | .0005 | .0009 |
| %RSD | .9282 | .6788 | .7271 | .5710 | .1368 | 2.367 | .3311 | 1.219 | .5965 |
| #1 | 155.6 | 19.26 | 7.259 | 7.986 | .0253 | .0157 | 2.234 | .0376 | .1559 |
| #2 | 155.1 | 19.29 | 7.254 | 8.012 | .0253 | .0150 | 2.229 | .0371 | .1557 |
| #3 | 152.9 | 19.05 | 7.166 | 7.924 | .0254 | .0151 | 2.244 | .0367 | .1542 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | 2.749 | .0049 | .0308 | 1.212 | .1052 | .1081 | 3.440 |
| Stddev | .016 | .0017 | .0003 | .006 | .0017 | .0016 | .004 |
| %RSD | .5662 | 35.68 | 1.086 | .4720 | 1.644 | 1.442 | .1240 |
| #1 | 2.749 | .0030 | .0310 | 1.209 | .1040 | .1064 | 3.437 |
| #2 | 2.765 | .0065 | .0310 | 1.209 | .1071 | .1094 | 3.445 |
| #3 | 2.734 | .0051 | .0304 | 1.219 | .1043 | .1084 | 3.439 |



Zoom In Zoom Out

Sample Name: jc86838-11 Acquired: 5/2/2019 16:02:20 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | 161480. | 25846. | 6721.0 | 9425.2 |
| Stddev | 1075. | 382. | 34.8 | 36.6 |
| %RSD | .66592 | 1.4787 | .51711 | .38856 |
| #1 | 161380. | 25734. | 6724.3 | 9432.6 |
| #2 | 160450. | 25533. | 6754.0 | 9457.6 |
| #3 | 162600. | 26272. | 6684.8 | 9385.5 |

Zoom In Zoom Out

Sample Name: jc86838-13 Acquired: 5/2/2019 16:07:28 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.366** | **.0088** | **.0092** | **.0571** | **.1884** | **.9275** | **2.052** | **.1428** | **.0019** |
| Stddev | .002 | .0000 | .0002 | .0001 | .0004 | .0005 | .009 | .0005 | .0007 |
| %RSD | .1614 | .3205 | 2.285 | .2035 | .1958 | .0581 | .4558 | .3350 | 34.87 |
| #1 | 1.369 | .0088 | .0091 | .0572 | .1887 | .9279 | 2.051 | .1433 | .0026 |
| #2 | 1.366 | .0088 | .0092 | .0570 | .1880 | .9269 | 2.042 | .1424 | .0017 |
| #3 | 1.364 | .0088 | .0095 | .0572 | .1884 | .9278 | 2.061 | .1427 | .0013 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2835** | **2.337** | **.4289** | **.0348** | **1.890** | **.0059** | **.0082** | **111.4** | **61.70** |
| Stddev | .0002 | .001 | .0007 | .0016 | .002 | .0025 | .0004 | .2 | .15 |
| %RSD | .0761 | .0202 | .1730 | 4.647 | .1271 | 41.53 | 5.507 | .1515 | .2469 |
| #1 | .2833 | 2.337 | .4282 | .0333 | 1.887 | .0042 | .0086 | 111.5 | 61.77 |
| #2 | .2835 | 2.337 | .4289 | .0346 | 1.889 | .0088 | .0077 | 111.5 | 61.81 |
| #3 | .2837 | 2.338 | .4297 | .0365 | 1.892 | .0049 | .0082 | 111.2 | 61.53 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **158.4** | **35.68** | **7.294** | **6.691** | **.0540** | **.0142** | **2.244** | **.5272** | **.2874** |
| Stddev | 1.6 | .14 | .020 | .006 | .0003 | .0001 | .001 | .0003 | .0003 |
| %RSD | 1.001 | .3815 | .2766 | .0922 | .5546 | .8811 | .0398 | .0530 | .1209 |
| #1 | 159.9 | 35.84 | 7.271 | 6.692 | .0536 | .0143 | 2.245 | .5270 | .2877 |
| #2 | 158.7 | 35.63 | 7.305 | 6.697 | .0542 | .0142 | 2.243 | .5271 | .2875 |
| #3 | 156.8 | 35.58 | 7.306 | 6.685 | .0541 | .0141 | 2.244 | .5275 | .2870 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.321** | **.0046** | **.0519** | **7.164** | **.1387** | **.1234** | **6.079** |
| Stddev | .003 | .0008 | .0002 | .018 | .0014 | .0007 | .026 |
| %RSD | .0787 | 18.32 | .4679 | .2520 | 1.037 | .5301 | .4263 |
| #1 | 3.322 | .0056 | .0521 | 7.158 | .1374 | .1229 | 6.097 |
| #2 | 3.318 | .0041 | .0520 | 7.151 | .1386 | .1241 | 6.091 |
| #3 | 3.324 | .0041 | .0516 | 7.185 | .1402 | .1232 | 6.050 |



Zoom In Zoom Out

Sample Name: jc86838-13 Acquired: 5/2/2019 16:07:28 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160120.** | **25825.** | **6679.6** | **9409.4** |
| Stddev | 435. | 66. | 5.9 | 4.8 |
| %RSD | .27147 | .25415 | .08774 | .05148 |
| #1 | 160500. | 25762. | 6684.1 | 9413.7 |
| #2 | 160220. | 25893. | 6681.8 | 9410.4 |
| #3 | 159650. | 25822. | 6673.0 | 9404.1 |



Zoom In Zoom Out

Sample Name: jc87020-1 Acquired: 5/2/2019 16:12:39 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2865** | **.0090** | **.0001** | **.0852** | **.1327** | **.2533** | **1.904** | **.2123** | **-.0047** |
| Stddev | .0033 | .0000 | .0003 | .0009 | .0008 | .0028 | .016 | .0012 | .0007 |
| %RSD | 1.168 | .2057 | 349.2 | 1.078 | .6348 | 1.088 | .8271 | .5471 | 14.59 |
| #1 | .2836 | .0089 | .0003 | .0842 | .1321 | .2506 | 1.888 | .2111 | -.0045 |
| #2 | .2858 | .0090 | .0001 | .0854 | .1323 | .2531 | 1.904 | .2124 | -.0054 |
| #3 | .2902 | .0089 | -.0002 | .0860 | .1336 | .2561 | 1.920 | .2134 | -.0041 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3215** | **.3922** | **.1052** | **-.0023** | **.1455** | **-.0000** | **-.0045** | **277.3** | **9.515** |
| Stddev | .0018 | .0045 | .0018 | .0006 | .0053 | .0010 | .0019 | 1.9 | .089 |
| %RSD | .5618 | 1.145 | 1.726 | 24.68 | 3.628 | 5053. | 41.59 | .6931 | .9342 |
| #1 | .3203 | .3875 | .1034 | -.0020 | .1395 | .0011 | -.0062 | 275.4 | 9.429 |
| #2 | .3207 | .3928 | .1052 | -.0030 | .1493 | -.0009 | -.0025 | 277.2 | 9.509 |
| #3 | .3236 | .3964 | .1070 | -.0020 | .1477 | -.0002 | -.0050 | 279.3 | 9.607 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **400.4** | **8.554** | **12.29** | **.1382** | **.0091** | **.0154** | **2.543** | **.0171** | **.0866** |
| Stddev | 6.0 | .023 | .26 | .0145 | .0003 | .0005 | .022 | .0006 | .0008 |
| %RSD | 1.507 | .2656 | 2.099 | 10.48 | 3.161 | 3.137 | .8746 | 3.561 | .8773 |
| #1 | 394.5 | 8.528 | 12.09 | .1355 | .0094 | .0150 | 2.519 | .0175 | .0858 |
| #2 | 400.0 | 8.561 | 12.21 | .1252 | .0088 | .0160 | 2.549 | .0164 | .0868 |
| #3 | 406.6 | 8.572 | 12.58 | .1538 | .0091 | .0153 | 2.562 | .0174 | .0873 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.519** | **.0089** | **.1497** | **.5698** | **.0488** | **.1398** | **6.380** |
| Stddev | .010 | .0019 | .0013 | .0074 | .0022 | .0007 | .087 |
| %RSD | .6855 | 21.11 | .8895 | 1.302 | 4.533 | .4785 | 1.357 |
| #1 | 1.509 | .0075 | .1485 | .5612 | .0495 | .1395 | 6.293 |
| #2 | 1.519 | .0081 | .1494 | .5742 | .0464 | .1405 | 6.381 |
| #3 | 1.530 | .0110 | .1511 | .5740 | .0507 | .1393 | 6.466 |



Zoom In Zoom Out

Sample Name: jc87020-1 Acquired: 5/2/2019 16:12:39 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158050.** | **25213.** | **6653.3** | **9608.5** |
| Stddev | 86. | 103. | 31.3 | 35.1 |
| %RSD | .05427 | .40952 | .47024 | .36528 |
| #1 | 158080. | 25193. | 6685.5 | 9647.2 |
| #2 | 157950. | 25325. | 6651.4 | 9599.6 |
| #3 | 158110. | 25122. | 6623.0 | 9578.7 |

Zoom In Zoom Out

Sample Name: jc87020-2 Acquired: 5/2/2019 16:17:46 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3331** | **.0163** | **.0005** | **.2738** | **.0815** | **.2722** | **3.682** | **.3014** | **-.0056** |
| Stddev | .0032 | .0002 | .0001 | .0040 | .0014 | .0023 | .070 | .0033 | .0013 |
| %RSD | .9672 | 1.116 | 29.07 | 1.460 | 1.717 | .8313 | 1.903 | 1.100 | 22.75 |
| #1 | .3304 | .0161 | .0006 | .2696 | .0809 | .2697 | 3.646 | .2980 | -.0055 |
| #2 | .3323 | .0163 | .0006 | .2740 | .0805 | .2730 | 3.638 | .3014 | -.0044 |
| #3 | .3367 | .0164 | .0003 | .2776 | .0831 | .2740 | 3.763 | .3047 | -.0069 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2172** | **.3727** | **.1048** | **.0011** | **.1377** | **-.0031** | **-.0056** | **232.3** | **6.156** |
| Stddev | .0032 | .0044 | .0001 | .0013 | .0008 | .0014 | .0014 | 1.3 | .048 |
| %RSD | 1.467 | 1.193 | .1419 | 121.7 | .5551 | 44.87 | 24.78 | .5615 | .7867 |
| #1 | .2146 | .3679 | .1048 | .0026 | .1372 | -.0018 | -.0041 | 231.1 | 6.111 |
| #2 | .2163 | .3734 | .1050 | .0002 | .1372 | -.0031 | -.0069 | 232.1 | 6.152 |
| #3 | .2208 | .3767 | .1047 | .0005 | .1385 | -.0046 | -.0060 | 233.7 | 6.207 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **325.8** | **10.40** | **14.22** | **.1141** | **.0098** | **.0179** | **2.242** | **.0149** | **.0976** |
| Stddev | 4.0 | .13 | .17 | .0131 | .0001 | .0003 | .029 | .0011 | .0006 |
| %RSD | 1.213 | 1.208 | 1.228 | 11.52 | 1.362 | 1.768 | 1.278 | 7.512 | .5957 |
| #1 | 322.6 | 10.27 | 14.05 | .1211 | .0097 | .0176 | 2.211 | .0136 | .0971 |
| #2 | 330.3 | 10.39 | 14.22 | .0990 | .0099 | .0179 | 2.249 | .0156 | .0973 |
| #3 | 324.7 | 10.53 | 14.40 | .1223 | .0097 | .0182 | 2.267 | .0156 | .0982 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.754** | **.0057** | **.1734** | **.2766** | **.0578** | **.1875** | **7.953** |
| Stddev | .017 | .0013 | .0018 | .0065 | .0014 | .0023 | .092 |
| %RSD | .9590 | 23.76 | 1.024 | 2.352 | 2.497 | 1.253 | 1.155 |
| #1 | 1.738 | .0070 | .1716 | .2714 | .0563 | .1858 | 7.959 |
| #2 | 1.752 | .0044 | .1735 | .2744 | .0579 | .1864 | 7.858 |
| #3 | 1.771 | .0056 | .1751 | .2839 | .0592 | .1902 | 8.042 |



Zoom In Zoom Out

Sample Name: jc87020-2 Acquired: 5/2/2019 16:17:46 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **162150.** | **25881.** | **6866.8** | **9610.3** |
| Stddev | 631. | 37. | 5.2 | 5.0 |
| %RSD | .38895 | .14348 | .07630 | .05153 |
| #1 | 161810. | 25899. | 6871.7 | 9614.4 |
| #2 | 162880. | 25838. | 6861.3 | 9611.7 |
| #3 | 161770. | 25905. | 6867.6 | 9604.8 |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/2/2019 16:23:04 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.044** | **2.091** | **2.005** | **2.034** | **2.030** | **2.030** | **2.046** | **2.066** | **.2478** |
| Stddev | .002 | .004 | .000 | .002 | .005 | .003 | .021 | .003 | .0004 |
| %RSD | .1043 | .1858 | .0100 | .1188 | .2616 | .1686 | 1.011 | .1189 | .1597 |
| #1 | 2.042 | 2.087 | 2.005 | 2.034 | 2.034 | 2.033 | 2.025 | 2.066 | .2483 |
| #2 | 2.046 | 2.095 | 2.005 | 2.036 | 2.024 | 2.027 | 2.066 | 2.068 | .2475 |
| #3 | 2.043 | 2.090 | 2.005 | 2.031 | 2.033 | 2.031 | 2.047 | 2.063 | .2477 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.987** | **2.018** | **2.008** | **2.106** | **2.049** | **2.031** | **1.994** | **39.96** | **39.60** |
| Stddev | .004 | .002 | .001 | .005 | .002 | .005 | .002 | .04 | .07 |
| %RSD | .2137 | .1084 | .0707 | .2226 | .0716 | .2257 | .0928 | .0923 | .1856 |
| #1 | 1.990 | 2.016 | 2.007 | 2.111 | 2.049 | 2.035 | 1.993 | 39.92 | 39.52 |
| #2 | 1.982 | 2.019 | 2.010 | 2.103 | 2.048 | 2.031 | 1.996 | 39.99 | 39.67 |
| #3 | 1.989 | 2.020 | 2.008 | 2.103 | 2.051 | 2.026 | 1.994 | 39.95 | 39.60 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.83** | **40.10** | **40.07** | **40.87** | **2.070** | **1.964** | **5.193** | **1.995** | **2.117** |
| Stddev | .03 | .03 | .09 | .05 | .001 | .002 | .005 | .002 | .002 |
| %RSD | .0744 | .0623 | .2315 | .1184 | .0553 | .1148 | .0992 | .0953 | .0942 |
| #1 | 40.80 | 40.08 | 39.99 | 40.82 | 2.069 | 1.963 | 5.192 | 1.993 | 2.116 |
| #2 | 40.86 | 40.08 | 40.17 | 40.92 | 2.071 | 1.966 | 5.198 | 1.996 | 2.120 |
| #3 | 40.84 | 40.13 | 40.04 | 40.86 | 2.070 | 1.961 | 5.188 | 1.997 | 2.117 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccv Acquired: 5/2/2019 16:23:04 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.024** | **1.992** | **2.014** | **1.968** | **2.034** | **2.013** | **2.038** |
| Stddev | .004 | .003 | .006 | .009 | .002 | .004 | .022 |
| %RSD | .1970 | .1373 | .3039 | .4717 | .1040 | .2247 | 1.077 |
| #1 | 2.029 | 1.989 | 2.020 | 1.977 | 2.032 | 2.009 | 2.064 |
| #2 | 2.021 | 1.994 | 2.008 | 1.968 | 2.034 | 2.018 | 2.024 |
| #3 | 2.024 | 1.992 | 2.016 | 1.959 | 2.036 | 2.012 | 2.027 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **149890.** | **23859.** | **6178.7** | **9113.8** |
| Stddev | 395. | 124. | 21.1 | 22.3 |
| %RSD | .26386 | .52100 | .34102 | .24489 |
| #1 | 150060. | 23980. | 6191.9 | 9123.7 |
| #2 | 150170. | 23867. | 6189.7 | 9129.5 |
| #3 | 149440. | 23731. | 6154.4 | 9088.3 |

Zoom In Zoom Out

Sample Name: ccb Acquired: 5/2/2019 16:28:06 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0001** | **.0002** | F **.0007** | **.0007** | **.0005** | **.0005** | **.0003** | **.0007** | **-.0001** |
| Stddev | .0003 | .0000 | .0000 | .0002 | .0006 | .0003 | .0001 | .0003 | .0002 |
| %RSD | 479.9 | 12.99 | 4.933 | 28.24 | 124.0 | 70.97 | 25.77 | 48.63 | 189.8 |
| #1 | .0001 | .0002 | .0007 | .0007 | .0009 | .0004 | .0004 | .0010 | .0000 |
| #2 | .0003 | .0002 | .0008 | .0005 | -.0002 | .0002 | .0002 | .0004 | -.0004 |
| #3 | -.0002 | .0003 | .0007 | .0008 | .0007 | .0008 | .0003 | .0007 | -.0000 |
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | .0007 | | | | | | |
| Low Limit | | | -.0007 | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **.0003** | **.0012** | **.0010** | **.0007** | **-.0005** | **.0007** | **.0013** | **.0012** |
| Stddev | .0002 | .0001 | .0004 | .0010 | .0004 | .0014 | .0021 | .0079 | .0009 |
| %RSD | 35.87 | 18.56 | 34.71 | 102.8 | 56.78 | 278.4 | 319.3 | 618.3 | 77.96 |
| #1 | .0007 | .0003 | .0008 | .0021 | .0008 | -.0006 | -.0013 | .0007 | .0001 |
| #2 | .0003 | .0003 | .0016 | .0001 | .0010 | -.0018 | .0004 | .0095 | .0018 |
| #3 | .0005 | .0004 | .0011 | .0008 | .0002 | .0009 | .0030 | -.0063 | .0016 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0049** | **.0045** | **-.0304** | **.0078** | **.0029** | **.0011** | **.0024** | **.0003** | **.0005** |
| Stddev | .0035 | .0055 | .0254 | .0134 | .0005 | .0001 | .0003 | .0005 | .0000 |
| %RSD | 70.84 | 121.3 | 83.51 | 172.2 | 17.52 | 9.341 | 10.49 | 156.5 | 5.432 |
| #1 | .0010 | .0037 | -.0509 | .0009 | .0030 | .0012 | .0026 | -.0002 | .0005 |
| #2 | .0063 | .0104 | -.0020 | -.0007 | .0024 | .0011 | .0022 | .0008 | .0006 |
| #3 | .0075 | -.0005 | -.0383 | .0232 | .0034 | .0010 | .0026 | .0004 | .0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: ccb Acquired: 5/2/2019 16:28:06 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0030** | **.0005** | **.0075** | **.0014** | **.0010** | **.0061** |
| Stddev | .0001 | .0011 | .0001 | .0014 | .0007 | .0005 | .0021 |
| %RSD | 20.00 | 37.69 | 26.43 | 18.53 | 47.44 | 54.50 | 34.12 |
| #1 | .0006 | .0021 | .0006 | .0059 | .0020 | .0013 | .0046 |
| #2 | .0007 | .0042 | .0003 | .0085 | .0007 | .0004 | .0085 |
| #3 | .0005 | .0026 | .0005 | .0082 | .0014 | .0014 | .0052 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160310.** | **24357.** | **6514.1** | **10072.** |
| Stddev | 760. | 216. | 12.1 | 15. |
| %RSD | .47395 | .88725 | .18574 | .14813 |
| #1 | 159590. | 24238. | 6517.8 | 10075. |
| #2 | 161100. | 24607. | 6500.6 | 10055. |
| #3 | 160230. | 24227. | 6523.9 | 10084. |



Zoom In Zoom Out

Sample Name: jc87020-3conf Acquired: 5/2/2019 16:33:15 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4460** | **.0123** | **-.0002** | **.1987** | **.0953** | **.2529** | **2.052** | **.2848** | **-.0060** |
| Stddev | .0156 | .0006 | .0008 | .0065 | .0012 | .0067 | .042 | .0091 | .0011 |
| %RSD | 3.495 | 4.488 | 333.3 | 3.266 | 1.274 | 2.669 | 2.045 | 3.183 | 18.04 |
| #1 | .4304 | .0118 | -.0008 | .1925 | .0939 | .2466 | 2.010 | .2754 | -.0048 |
| #2 | .4460 | .0122 | -.0005 | .1982 | .0956 | .2520 | 2.052 | .2854 | -.0068 |
| #3 | .4616 | .0129 | .0006 | .2054 | .0963 | .2600 | 2.093 | .2935 | -.0064 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2432** | **.4164** | **.1241** | **-.0008** | **.1509** | **-.0061** | **-.0027** | **216.0** | **5.378** |
| Stddev | .0045 | .0140 | .0036 | .0027 | .0046 | .0019 | .0005 | 4.1 | .173 |
| %RSD | 1.854 | 3.353 | 2.912 | 357.4 | 3.050 | 30.86 | 18.31 | 1.906 | 3.214 |
| #1 | .2390 | .4019 | .1200 | -.0031 | .1457 | -.0081 | -.0033 | 211.9 | 5.209 |
| #2 | .2425 | .4175 | .1259 | .0022 | .1525 | -.0058 | -.0023 | 215.8 | 5.372 |
| #3 | .2480 | .4298 | .1266 | -.0013 | .1545 | -.0044 | -.0026 | 220.2 | 5.554 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **341.6** | **8.785** | **11.06** | **.1846** | **.0120** | **.0194** | **2.140** | **.0166** | **.1162** |
| Stddev | 7.0 | .291 | .60 | .0372 | .0016 | .0012 | .076 | .0022 | .0036 |
| %RSD | 2.036 | 3.311 | 5.388 | 20.18 | 13.54 | 6.123 | 3.564 | 13.45 | 3.122 |
| #1 | 334.8 | 8.518 | 10.47 | .2028 | .0103 | .0180 | 2.064 | .0164 | .1126 |
| #2 | 341.4 | 8.742 | 11.05 | .1417 | .0135 | .0199 | 2.139 | .0145 | .1162 |
| #3 | 348.7 | 9.095 | 11.66 | .2092 | .0122 | .0203 | 2.216 | .0190 | .1198 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.326** | **.0036** | **.1736** | **.1412** | **.0365** | **.1649** | **7.699** |
| Stddev | .022 | .0010 | .0034 | .0100 | .0034 | .0087 | .399 |
| %RSD | 1.679 | 28.30 | 1.984 | 7.080 | 9.279 | 5.252 | 5.188 |
| #1 | 1.303 | .0026 | .1700 | .1325 | .0336 | .1563 | 7.300 |
| #2 | 1.327 | .0047 | .1739 | .1521 | .0356 | .1649 | 7.699 |
| #3 | 1.348 | .0035 | .1769 | .1389 | .0402 | .1736 | 8.099 |



Zoom In Zoom Out

Sample Name: jc87020-3conf Acquired: 5/2/2019 16:33:15 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **162910.** | **25589.** | **6796.8** | **9730.8** |
| Stddev | 592. | 158. | 14.1 | 5.9 |
| %RSD | .36351 | .61586 | .20686 | .06111 |
| #1 | 162340. | 25407. | 6785.4 | 9723.9 |
| #2 | 162880. | 25677. | 6792.5 | 9733.8 |
| #3 | 163520. | 25682. | 6812.5 | 9734.6 |

Zoom In Zoom Out

Sample Name: jc86838-13 Acquired: 5/2/2019 16:38:15 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.429** | **.0091** | **.0099** | **.0585** | **.2028** | **.9328** | **2.217** | **.1470** | **.0018** |
| Stddev | .002 | .0002 | .0006 | .0012 | .0015 | .0079 | .003 | .0004 | .0011 |
| %RSD | .1085 | 1.718 | 6.023 | 2.033 | .7454 | .8498 | .1225 | .2958 | 62.46 |
| #1 | 1.428 | .0092 | .0103 | .0592 | .2037 | .9308 | 2.219 | .1474 | .0025 |
| #2 | 1.430 | .0090 | .0102 | .0591 | .2038 | .9261 | 2.214 | .1465 | .0024 |
| #3 | 1.431 | .0089 | .0092 | .0571 | .2011 | .9415 | 2.218 | .1470 | .0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3010** | **2.533** | **.4469** | **.0357** | **1.964** | **-.0032** | **.0101** | **116.9** | **65.53** |
| Stddev | .0011 | .005 | .0028 | .0072 | .004 | .0068 | .0057 | .5 | .30 |
| %RSD | .3609 | .2190 | .6271 | 20.18 | .1910 | 209.3 | 56.76 | .4595 | .4643 |
| #1 | .3022 | 2.537 | .4497 | .0394 | 1.965 | .0012 | .0163 | 116.3 | 65.18 |
| #2 | .3000 | 2.527 | .4469 | .0274 | 1.961 | .0001 | .0091 | 117.2 | 65.65 |
| #3 | .3009 | 2.536 | .4441 | .0403 | 1.968 | -.0110 | .0049 | 117.3 | 65.75 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **171.3** | **38.52** | **7.599** | **7.022** | **.0622** | **.0164** | **2.399** | **.5672** | **.3037** |
| Stddev | .6 | .19 | .150 | .081 | .0007 | .0002 | .006 | .0019 | .0010 |
| %RSD | .3640 | .4832 | 1.970 | 1.156 | 1.100 | 1.433 | .2525 | .3343 | .3435 |
| #1 | 170.6 | 38.36 | 7.481 | 6.954 | .0622 | .0162 | 2.392 | .5693 | .3025 |
| #2 | 171.5 | 38.49 | 7.549 | 6.999 | .0615 | .0164 | 2.405 | .5661 | .3043 |
| #3 | 171.8 | 38.72 | 7.767 | 7.112 | .0629 | .0167 | 2.399 | .5660 | .3044 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.469** | **.0097** | **.0588** | **7.315** | **.1318** | **.1292** | **6.062** |
| Stddev | .001 | .0065 | .0012 | .032 | .0024 | .0083 | .055 |
| %RSD | .0268 | 67.20 | 2.062 | .4309 | 1.823 | 6.393 | .9023 |
| #1 | 3.470 | .0025 | .0602 | 7.346 | .1298 | .1314 | 6.121 |
| #2 | 3.470 | .0151 | .0581 | 7.314 | .1312 | .1362 | 6.052 |
| #3 | 3.468 | .0115 | .0580 | 7.283 | .1345 | .1201 | 6.013 |



Zoom In Zoom Out

Sample Name: jc86838-13 Acquired: 5/2/2019 16:38:15 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156530.** | **24466.** | **6448.6** | **9646.4** |
| Stddev | 366. | 200. | 28.9 | 31.9 |
| %RSD | .23376 | .81541 | .44760 | .33095 |
| #1 | 156450. | 24677. | 6436.6 | 9626.2 |
| #2 | 156920. | 24439. | 6481.6 | 9683.2 |
| #3 | 156200. | 24281. | 6427.7 | 9629.8 |



Zoom In Zoom Out

Sample Name: mp14617-mb1conf Acquired: 5/2/2019 16:43:17 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0001** | **.0001** | **.0001** | **.0001** | **.0009** | **.0030** | **.0004** | **.0005** | **-.0003** |
| Stddev | .0002 | .0001 | .0001 | .0002 | .0002 | .0002 | .0000 | .0001 | .0003 |
| %RSD | 219.0 | 128.4 | 75.84 | 198.1 | 18.37 | 6.525 | 1.633 | 27.41 | 93.87 |
| #1 | -.0002 | .0000 | .0000 | .0002 | .0010 | .0032 | .0004 | .0003 | -.0004 |
| #2 | -.0000 | -.0000 | .0002 | -.0001 | .0007 | .0030 | .0004 | .0004 | -.0006 |
| #3 | .0001 | .0001 | .0001 | .0001 | .0009 | .0028 | .0004 | .0006 | -.0000 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0076** | **-.0001** | **.0009** | **.0002** | **-.0024** | **-.0017** | **.0047** | **.0588** |
| Stddev | .0002 | .0001 | .0010 | .0012 | .0001 | .0009 | .0009 | .0036 | .0016 |
| %RSD | 59.31 | 1.953 | 931.2 | 137.6 | 53.76 | 36.82 | 51.95 | 77.22 | 2.786 |
| #1 | .0001 | .0076 | -.0008 | -.0003 | .0003 | -.0026 | -.0025 | .0053 | .0603 |
| #2 | .0003 | .0077 | .0011 | .0022 | .0003 | -.0014 | -.0017 | .0081 | .0570 |
| #3 | .0005 | .0074 | -.0006 | .0009 | .0001 | -.0031 | -.0008 | .0008 | .0590 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0246** | **.0128** | **-.0558** | **.0340** | **.0017** | **.0008** | **.0091** | **.0205** | **.0005** |
| Stddev | .0019 | .0142 | .0453 | .0092 | .0010 | .0002 | .0011 | .0005 | .0001 |
| %RSD | 7.918 | 110.9 | 81.19 | 27.08 | 57.45 | 23.92 | 11.90 | 2.382 | 10.80 |
| #1 | .0225 | .0086 | -.0087 | .0432 | .0006 | .0010 | .0096 | .0208 | .0004 |
| #2 | .0249 | .0287 | -.0596 | .0340 | .0019 | .0006 | .0098 | .0207 | .0005 |
| #3 | .0264 | .0012 | -.0990 | .0248 | .0025 | .0007 | .0078 | .0199 | .0005 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0027** | **.0007** | **.0128** | **-.0001** | **.0009** | **.0293** |
| Stddev | .0003 | .0005 | .0001 | .0014 | .0013 | .0008 | .0011 |
| %RSD | 29.65 | 16.94 | 9.808 | 11.01 | 2240. | 82.07 | 3.756 |
| #1 | .0012 | .0031 | .0007 | .0138 | .0015 | .0010 | .0289 |
| #2 | .0011 | .0027 | .0007 | .0134 | -.0007 | .0001 | .0284 |
| #3 | .0007 | .0022 | .0006 | .0112 | -.0010 | .0016 | .0305 |



Zoom In Zoom Out

Sample Name: mp14617-mb1conf Acquired: 5/2/2019 16:43:17 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **162660.** | **25068.** | **6570.0** | **10154.** |
| Stddev | 720. | 197. | 55.5 | 69. |
| %RSD | .44256 | .78462 | .84400 | .68014 |
| #1 | 163290. | 25286. | 6576.4 | 10169. |
| #2 | 162830. | 25014. | 6511.6 | 10079. |
| #3 | 161880. | 24904. | 6622.0 | 10214. |

Zoom In
Zoom Out

Sample Name: icsa Acquired: 5/2/2019 16:48:25 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0000** | **.0000** | **.0016** | **-.0006** | **-.0039** | **.0016** | **-.0005** | **.0013** |
| Stddev | .0002 | .0000 | .0001 | .0002 | .0001 | .0010 | .0005 | .0003 | .0012 |
| %RSD | 30.17 | 63.59 | 297.1 | 10.36 | 23.73 | 26.14 | 28.27 | 50.90 | 91.03 |
| #1 | .0009 | .0001 | .0001 | .0018 | -.0005 | -.0035 | .0019 | -.0003 | .0020 |
| #2 | .0005 | .0000 | -.0001 | .0015 | -.0008 | -.0051 | .0011 | -.0009 | -.0001 |
| #3 | .0005 | .0000 | .0001 | .0015 | -.0006 | -.0032 | .0019 | -.0005 | .0019 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0014** | **-.0016** | **.0009** | **-.0012** | **.0027** | **.0020** | **-.0035** | **505.1** | **377.9** |
| Stddev | .0003 | .0002 | .0025 | .0011 | .0016 | .0034 | .0017 | 2.6 | 1.1 |
| %RSD | 24.92 | 15.19 | 296.2 | 95.66 | 60.41 | 170.2 | 46.93 | .5101 | .3014 |
| #1 | -.0010 | -.0019 | -.0021 | -.0019 | .0014 | .0055 | -.0022 | 507.2 | 379.1 |
| #2 | -.0015 | -.0014 | .0022 | .0001 | .0045 | .0015 | -.0030 | 505.9 | 377.7 |
| #3 | -.0016 | -.0016 | .0024 | -.0018 | .0021 | -.0011 | -.0054 | 502.2 | 376.9 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **192.1** | **491.8** | **.1020** | **.0155** | **-.0001** | **.0004** | **.0019** | **-.0044** | **.0001** |
| Stddev | 4.3 | 1.1 | .0587 | .0027 | .0011 | .0001 | .0016 | .0002 | .0001 |
| %RSD | 2.259 | .2174 | 57.55 | 17.32 | 1011. | 30.81 | 83.24 | 4.642 | 111.2 |
| #1 | 193.9 | 492.6 | .0750 | .0126 | -.0012 | .0005 | .0023 | -.0043 | -.0000 |
| #2 | 187.2 | 490.6 | .0616 | .0159 | -.0002 | .0003 | .0001 | -.0046 | .0002 |
| #3 | 195.3 | 492.2 | .1693 | .0179 | .0011 | .0003 | .0032 | -.0043 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In
Zoom Out

Sample Name: icsa Acquired: 5/2/2019 16:48:25 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **.0017** | **.0004** | **.0017** | **-.0035** | **.0066** | **.0312** |
| Stddev | .0003 | .0009 | .0003 | .0009 | .0025 | .0020 | .0035 |
| %RSD | 33.02 | 56.18 | 64.08 | 54.51 | 72.98 | 30.04 | 11.10 |
| #1 | -.0007 | .0014 | .0005 | .0026 | -.0008 | .0085 | .0329 |
| #2 | -.0013 | .0009 | .0001 | .0008 | -.0038 | .0069 | .0272 |
| #3 | -.0011 | .0027 | .0007 | .0016 | -.0059 | .0045 | .0336 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137390.** | **23209.** | **5733.1** | **8339.7** |
| Stddev | 626. | 217. | 10.5 | 6.7 |
| %RSD | .45530 | .93689 | .18325 | .08025 |
| #1 | 137850. | 22960. | 5736.0 | 8333.7 |
| #2 | 137650. | 23361. | 5741.9 | 8346.9 |
| #3 | 136680. | 23307. | 5721.5 | 8338.6 |



Zoom In
Zoom Out

Sample Name: ICSAB Acquired: 5/2/2019 16:53:48 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.5225** | **.5181** | **1.024** | **.4949** | **.4967** | **.5135** | **.5183** | **.9927** | **1.075** |
| Stddev | .0006 | .0012 | .002 | .0017 | .0011 | .0005 | .0003 | .0025 | .001 |
| %RSD | .1182 | .2325 | .1694 | .3510 | .2269 | .1010 | .0618 | .2484 | .0439 |
| #1 | .5224 | .5190 | 1.025 | .4965 | .4966 | .5130 | .5179 | .9952 | 1.075 |
| #2 | .5220 | .5185 | 1.025 | .4951 | .4979 | .5135 | .5185 | .9927 | 1.075 |
| #3 | .5232 | .5167 | 1.022 | .4930 | .4957 | .5141 | .5185 | .9902 | 1.075 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4974** | **.9645** | **1.070** | **.9907** | **.9746** | **1.072** | **1.062** | **504.0** | **377.4** |
| Stddev | .0007 | .0010 | .005 | .0082 | .0053 | .003 | .004 | 10.0 | 5.2 |
| %RSD | .1319 | .1037 | .4791 | .8316 | .5404 | .2948 | .4247 | 1.991 | 1.366 |
| #1 | .4970 | .9646 | 1.069 | .9936 | .9799 | 1.069 | 1.065 | 513.2 | 383.3 |
| #2 | .4981 | .9654 | 1.075 | .9971 | .9745 | 1.075 | 1.064 | 505.4 | 373.6 |
| #3 | .4971 | .9634 | 1.065 | .9814 | .9694 | 1.071 | 1.057 | 493.3 | 375.4 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **198.9** | **500.7** | **.1581** | **.0552** | **.4955** | **.4704** | **.5013** | **.4619** | **.5403** |
| Stddev | .9 | 1.2 | .0413 | .0020 | .0017 | .0024 | .0015 | .0011 | .0001 |
| %RSD | .4694 | .2373 | 26.15 | 3.624 | .3414 | .5203 | .3054 | .2333 | .0274 |
| #1 | 198.3 | 502.0 | .1383 | .0539 | .4954 | .4718 | .5028 | .4627 | .5403 |
| #2 | 198.4 | 500.4 | .1304 | .0542 | .4973 | .4718 | .4997 | .4606 | .5404 |
| #3 | 200.0 | 499.6 | .2056 | .0575 | .4939 | .4676 | .5014 | .4622 | .5401 |
| Check ? | Chk Pass | Chk Pass | None | None | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In
Zoom Out

Sample Name: ICSAB Acquired: 5/2/2019 16:53:48 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.4999** | **.4769** | **.4876** | **.5073** | **.5079** | **.5423** | **.5386** |
| Stddev | .0009 | .0012 | .0003 | .0073 | .0004 | .0034 | .0084 |
| %RSD | .1766 | .2486 | .0714 | 1.436 | .0701 | .6271 | 1.552 |
| #1 | .4989 | .4772 | .4872 | .5090 | .5082 | .5451 | .5427 |
| #2 | .5004 | .4779 | .4878 | .5136 | .5075 | .5433 | .5440 |
| #3 | .5004 | .4756 | .4877 | .4993 | .5078 | .5385 | .5289 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **137490.** | **23262.** | **5706.9** | **8358.3** |
| Stddev | 587. | 108. | 15.7 | 14.0 |
| %RSD | .42687 | .46398 | .27567 | .16700 |
| #1 | 137380. | 23138. | 5722.0 | 8368.7 |
| #2 | 136960. | 23316. | 5690.6 | 8342.4 |
| #3 | 138120. | 23333. | 5708.0 | 8363.7 |

Zoom In Zoom Out

Sample Name: mp14617-ps1 Acquired: 5/2/2019 16:59:07 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **3.013** | **2.027** | **1.981** | **2.139** | **2.841** | **2.790** | **6.614** | **2.254** | **.2468** |
| Stddev | .005 | .005 | .007 | .005 | .008 | .008 | .005 | .006 | .0016 |
| %RSD | .1585 | .2510 | .3805 | .2137 | .2724 | .2779 | .0775 | .2566 | .6615 |
| #1 | 3.011 | 2.026 | 1.982 | 2.140 | 2.845 | 2.793 | 6.620 | 2.255 | .2477 |
| #2 | 3.010 | 2.023 | 1.973 | 2.134 | 2.846 | 2.796 | 6.613 | 2.247 | .2478 |
| #3 | 3.018 | 2.033 | 1.988 | 2.143 | 2.832 | 2.781 | 6.610 | 2.258 | .2449 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.118** | **5.566** | **2.224** | **2.105** | **3.460** | **1.986** | **1.955** | **127.8** | **45.82** |
| Stddev | .003 | .020 | .007 | .007 | .008 | .007 | .006 | .3 | .09 |
| %RSD | .1558 | .3611 | .3041 | .3384 | .2295 | .3759 | .3290 | .2408 | .1950 |
| #1 | 2.120 | 5.564 | 2.225 | 2.106 | 3.463 | 1.992 | 1.957 | 127.7 | 45.77 |
| #2 | 2.120 | 5.546 | 2.217 | 2.097 | 3.452 | 1.978 | 1.947 | 127.6 | 45.76 |
| #3 | 2.114 | 5.586 | 2.231 | 2.111 | 3.467 | 1.989 | 1.959 | 128.1 | 45.92 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **197.8** | **48.94** | **35.38** | **26.17** | **2.018** | **1.862** | **2.111** | **2.068** | **2.202** |
| Stddev | 4.2 | .09 | .13 | .03 | .005 | .008 | .007 | .012 | .005 |
| %RSD | 2.130 | .1898 | .3629 | .1024 | .2708 | .4472 | .3470 | .5619 | .2463 |
| #1 | 200.0 | 48.84 | 35.27 | 26.16 | 2.018 | 1.861 | 2.112 | 2.067 | 2.199 |
| #2 | 200.4 | 48.99 | 35.34 | 26.16 | 2.012 | 1.854 | 2.103 | 2.057 | 2.198 |
| #3 | 192.9 | 49.01 | 35.52 | 26.20 | 2.023 | 1.870 | 2.118 | 2.080 | 2.208 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.172** | **1.765** | **2.006** | **17.77** | **.2059** | **.1394** | **7.788** |
| Stddev | .010 | .013 | .004 | .13 | .0013 | .0023 | .102 |
| %RSD | .2410 | .7389 | .2116 | .7368 | .6129 | 1.665 | 1.313 |
| #1 | 4.180 | 1.757 | 2.009 | 17.79 | .2072 | .1402 | 7.762 |
| #2 | 4.175 | 1.758 | 2.008 | 17.63 | .2047 | .1368 | 7.701 |
| #3 | 4.160 | 1.780 | 2.002 | 17.89 | .2059 | .1413 | 7.900 |



Zoom In Zoom Out

Sample Name: mp14617-ps1 Acquired: 5/2/2019 16:59:07 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159190.** | **25936.** | **6563.1** | **9321.4** |
| Stddev | 62. | 199. | 30.7 | 28.6 |
| %RSD | .03917 | .76608 | .46828 | .30665 |
| #1 | 159190. | 26092. | 6578.7 | 9332.5 |
| #2 | 159130. | 25712. | 6582.9 | 9342.8 |
| #3 | 159260. | 26003. | 6527.7 | 9288.9 |



Zoom In Zoom Out

Sample Name: ASCONF Acquired: 5/2/2019 17:04:15 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0001** | **-.0002** | **-.0000** | **.0001** | **.0002** | **.0000** | **.0000** | **-.0004** |
| Stddev | .0003 | .0000 | .0002 | .0002 | .0001 | .0004 | .0000 | .0003 | .0003 |
| %RSD | 198.1 | 38.29 | 91.61 | 615.8 | 244.8 | 189.6 | 62.49 | 708.6 | 74.23 |
| #1 | -.0002 | -.0000 | -.0002 | -.0002 | -.0001 | .0003 | .0000 | .0002 | -.0008 |
| #2 | -.0005 | -.0001 | -.0004 | .0001 | .0000 | -.0002 | .0001 | -.0003 | -.0004 |
| #3 | .0002 | -.0001 | -.0000 | .0001 | .0002 | .0006 | .0000 | .0002 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **-.0001** | **5.175** | **-.0008** | **-.0000** | **-.0015** | **-.0005** | **-.0032** | **-.0459** |
| Stddev | .0003 | .0001 | .008 | .0007 | .0002 | .0009 | .0007 | .0081 | .0015 |
| %RSD | 28.79 | 96.27 | .1543 | 85.00 | 453.2 | 60.35 | 149.4 | 254.3 | 3.217 |
| #1 | .0013 | -.0001 | 5.183 | -.0012 | .0001 | -.0023 | .0003 | .0002 | -.0476 |
| #2 | .0008 | -.0002 | 5.176 | -.0011 | -.0000 | -.0005 | -.0012 | .0026 | -.0449 |
| #3 | .0014 | -.0000 | 5.167 | -.0000 | -.0003 | -.0016 | -.0005 | -.0124 | -.0452 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0014** | **-.0041** | **-.0692** | **-.0168** | **.0022** | **.0042** | **.0028** | **-.0003** | **.0001** |
| Stddev | .0017 | .0043 | .0510 | .0052 | .0005 | .0005 | .0009 | .0003 | .0000 |
| %RSD | 116.8 | 105.0 | 73.72 | 31.02 | 24.95 | 12.77 | 31.51 | 83.20 | 24.18 |
| #1 | .0004 | -.0035 | -.0668 | -.0144 | .0028 | .0046 | .0018 | -.0003 | .0001 |
| #2 | .0033 | -.0088 | -.0194 | -.0132 | .0018 | .0045 | .0032 | -.0005 | .0002 |
| #3 | .0005 | -.0002 | -.1213 | -.0228 | .0019 | .0036 | .0034 | -.0000 | .0001 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0008** | **.0251** | **.0008** | **.0088** | **-.0010** | **.0013** | **.0087** |
| Stddev | .0001 | .0015 | .0001 | .0012 | .0006 | .0008 | .0015 |
| %RSD | 19.25 | 6.058 | 10.38 | 13.78 | 58.88 | 57.22 | 17.28 |
| #1 | .0009 | .0269 | .0008 | .0085 | -.0016 | .0007 | .0104 |
| #2 | .0007 | .0242 | .0009 | .0101 | -.0010 | .0012 | .0080 |
| #3 | .0006 | .0243 | .0007 | .0077 | -.0004 | .0021 | .0077 |



Zoom In Zoom Out

Sample Name: ASCONF Acquired: 5/2/2019 17:04:15 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159190.** | **24469.** | **6476.7** | **10036.** |
| Stddev | 740. | 133. | 2.6 | 10. |
| %RSD | .46493 | .54483 | .04059 | .10320 |
| #1 | 159360. | 24565. | 6476.0 | 10031. |
| #2 | 158380. | 24526. | 6479.7 | 10047. |
| #3 | 159830. | 24317. | 6474.6 | 10029. |

Zoom In Zoom Out

Sample Name: MP14667-MB2 Acquired: 5/2/2019 17:09:19 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0003** | **-.0000** | **.0001** | **.0001** | **.0006** | **.0006** | **.0002** | **.0005** | **-.0003** |
| Stddev | .0004 | .0000 | .0000 | .0000 | .0002 | .0004 | .0000 | .0004 | .0002 |
| %RSD | 136.9 | 253.6 | 29.99 | 32.76 | 34.14 | 55.58 | 11.77 | 68.04 | 45.70 |
| #1 | -.0007 | -.0000 | .0001 | .0001 | .0004 | .0003 | .0002 | .0008 | -.0003 |
| #2 | .0000 | -.0000 | .0001 | .0001 | .0008 | .0010 | .0002 | .0006 | -.0005 |
| #3 | -.0002 | .0000 | .0001 | .0001 | .0006 | .0006 | .0002 | .0001 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | **.0071** | **.0009** | **.0013** | **-.0011** | **-.0015** | **-.0005** | **.0051** | **.1001** |
| Stddev | .0001 | .0001 | .0007 | .0011 | .0011 | .0006 | .0007 | .0023 | .0018 |
| %RSD | 36.29 | .8281 | 76.96 | 85.64 | 104.3 | 40.36 | 138.6 | 45.15 | 1.788 |
| #1 | .0004 | .0072 | .0008 | .0000 | -.0003 | -.0019 | -.0012 | .0034 | .0984 |
| #2 | .0002 | .0071 | .0017 | .0020 | -.0024 | -.0008 | .0002 | .0042 | .1000 |
| #3 | .0003 | .0071 | .0003 | .0018 | -.0006 | -.0019 | -.0005 | .0077 | .1019 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0188** | **.0239** | **-.0892** | **.0363** | **.0022** | **.0013** | **.0079** | **.0186** | **.0004** |
| Stddev | .0005 | .0148 | .0167 | .0022 | .0001 | .0002 | .0015 | .0005 | .0001 |
| %RSD | 2.665 | 61.97 | 18.71 | 5.968 | 2.687 | 13.15 | 18.85 | 2.450 | 33.96 |
| #1 | .0194 | .0239 | -.1074 | .0342 | .0023 | .0012 | .0076 | .0191 | .0002 |
| #2 | .0184 | .0386 | -.0858 | .0363 | .0022 | .0015 | .0096 | .0184 | .0004 |
| #3 | .0188 | .0091 | -.0745 | .0385 | .0022 | .0012 | .0067 | .0184 | .0005 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0004** | **.0059** | **.0003** | **.0115** | **-.0006** | **.0001** | **.0214** |
| Stddev | .0003 | .0005 | .0001 | .0012 | .0013 | .0016 | .0023 |
| %RSD | 83.22 | 8.392 | 41.26 | 10.63 | 204.0 | 1564. | 10.80 |
| #1 | .0000 | .0064 | .0004 | .0127 | -.0014 | .0019 | .0207 |
| #2 | .0007 | .0056 | .0003 | .0116 | -.0014 | -.0005 | .0240 |
| #3 | .0004 | .0055 | .0001 | .0103 | .0009 | -.0011 | .0195 |



Zoom In Zoom Out

Sample Name: MP14667-MB2 Acquired: 5/2/2019 17:09:19 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159800.** | **24456.** | **6460.9** | **10037.** |
| Stddev | 615. | 77. | 12.0 | 12. |
| %RSD | .38463 | .31409 | .18632 | .12103 |
| #1 | 160460. | 24530. | 6472.8 | 10049. |
| #2 | 159240. | 24377. | 6448.7 | 10024. |
| #3 | 159700. | 24460. | 6461.3 | 10039. |



Zoom In Zoom Out

Sample Name: MP14667-B2 Acquired: 5/2/2019 17:14:25 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.046** | **2.124** | **2.016** | **2.026** | **2.032** | **2.043** | **2.030** | **2.052** | **.2523** |
| Stddev | .003 | .003 | .001 | .002 | .003 | .005 | .009 | .002 | .0004 |
| %RSD | .1378 | .1515 | .0466 | .1085 | .1322 | .2355 | .4475 | .1136 | .1759 |
| #1 | 2.044 | 2.120 | 2.017 | 2.028 | 2.035 | 2.048 | 2.027 | 2.055 | .2518 |
| #2 | 2.044 | 2.124 | 2.016 | 2.024 | 2.030 | 2.043 | 2.040 | 2.051 | .2527 |
| #3 | 2.049 | 2.127 | 2.015 | 2.025 | 2.033 | 2.039 | 2.022 | 2.050 | .2523 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.977** | **2.019** | **1.967** | **2.140** | **2.051** | **1.994** | **1.972** | **24.71** | **24.77** |
| Stddev | .001 | .002 | .004 | .007 | .002 | .005 | .002 | .07 | .06 |
| %RSD | .0606 | .1127 | .1937 | .3409 | .0863 | .2423 | .0810 | .2946 | .2357 |
| #1 | 1.978 | 2.022 | 1.971 | 2.149 | 2.053 | 2.000 | 1.974 | 24.64 | 24.71 |
| #2 | 1.977 | 2.018 | 1.965 | 2.138 | 2.050 | 1.991 | 1.971 | 24.72 | 24.78 |
| #3 | 1.976 | 2.018 | 1.965 | 2.134 | 2.049 | 1.992 | 1.972 | 24.78 | 24.82 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **25.41** | **24.89** | **24.81** | **25.33** | **1.991** | **1.935** | **-.0570** | **1.994** | **2.122** |
| Stddev | .04 | .05 | .09 | .04 | .001 | .003 | .0005 | .003 | .004 |
| %RSD | .1607 | .1935 | .3637 | .1435 | .0543 | .1286 | .9247 | .1471 | .2012 |
| #1 | 25.37 | 24.83 | 24.71 | 25.30 | 1.990 | 1.937 | -.0571 | 1.994 | 2.119 |
| #2 | 25.41 | 24.91 | 24.83 | 25.32 | 1.990 | 1.935 | -.0565 | 1.996 | 2.119 |
| #3 | 25.45 | 24.92 | 24.89 | 25.37 | 1.992 | 1.932 | -.0575 | 1.990 | 2.127 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.988** | **1.398** | **1.985** | **.0277** | **.1037** | **.0003** | **2.076** |
| Stddev | .003 | .010 | .002 | .0010 | .0005 | .0018 | .023 |
| %RSD | .1475 | .7427 | .0810 | 3.727 | .4577 | 688.2 | 1.119 |
| #1 | 1.990 | 1.389 | 1.986 | .0282 | .1037 | .0023 | 2.103 |
| #2 | 1.990 | 1.395 | 1.985 | .0283 | .1042 | -.0011 | 2.062 |
| #3 | 1.985 | 1.409 | 1.983 | .0265 | .1032 | -.0005 | 2.064 |



Zoom In Zoom Out

Sample Name: MP14667-B2 Acquired: 5/2/2019 17:14:25 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **151430.** | **23875.** | **6218.0** | **9294.8** |
| Stddev | 426. | 217. | 2.8 | 3.5 |
| %RSD | .28132 | .90911 | .04426 | .03713 |
| #1 | 151910. | 24086. | 6219.0 | 9292.8 |
| #2 | 151120. | 23652. | 6220.2 | 9298.8 |
| #3 | 151250. | 23887. | 6214.9 | 9292.8 |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/2/2019 17:19:27 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.045** | **2.102** | **2.026** | **2.040** | **2.043** | **2.042** | **2.042** | **2.069** | **.2490** |
| Stddev | .005 | .008 | .002 | .001 | .003 | .004 | .027 | .002 | .0005 |
| %RSD | .2658 | .3801 | .0917 | .0470 | .1308 | .1923 | 1.313 | .1010 | .1995 |
| #1 | 2.045 | 2.111 | 2.025 | 2.040 | 2.043 | 2.038 | 2.038 | 2.069 | .2488 |
| #2 | 2.050 | 2.100 | 2.026 | 2.038 | 2.046 | 2.042 | 2.071 | 2.067 | .2486 |
| #3 | 2.040 | 2.096 | 2.028 | 2.040 | 2.041 | 2.045 | 2.018 | 2.071 | .2495 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.004** | **2.027** | **2.017** | **2.105** | **2.055** | **2.035** | **2.017** | **40.05** | **39.80** |
| Stddev | .003 | .003 | .003 | .003 | .002 | .005 | .003 | .14 | .16 |
| %RSD | .1498 | .1423 | .1628 | .1368 | .0908 | .2438 | .1231 | .3589 | .3947 |
| #1 | 2.003 | 2.024 | 2.014 | 2.106 | 2.055 | 2.033 | 2.016 | 40.21 | 39.97 |
| #2 | 2.008 | 2.030 | 2.018 | 2.102 | 2.054 | 2.032 | 2.016 | 40.01 | 39.76 |
| #3 | 2.002 | 2.028 | 2.020 | 2.108 | 2.057 | 2.041 | 2.020 | 39.93 | 39.67 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.85** | **40.22** | **40.18** | **40.92** | **2.089** | **1.986** | **5.232** | **2.004** | **2.119** |
| Stddev | .16 | .11 | .23 | .08 | .004 | .001 | .005 | .001 | .006 |
| %RSD | .3893 | .2804 | .5649 | .1953 | .1932 | .0718 | .0958 | .0476 | .2751 |
| #1 | 41.02 | 40.31 | 40.44 | 40.96 | 2.084 | 1.985 | 5.228 | 2.003 | 2.123 |
| #2 | 40.84 | 40.25 | 40.09 | 40.98 | 2.089 | 1.987 | 5.230 | 2.004 | 2.121 |
| #3 | 40.70 | 40.09 | 40.01 | 40.83 | 2.092 | 1.987 | 5.237 | 2.005 | 2.112 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/2/2019 17:19:27 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.027** | **2.017** | **2.029** | **1.953** | **2.042** | **2.032** | **1.870** |
| Stddev | .002 | .003 | .002 | .002 | .005 | .008 | .017 |
| %RSD | .0891 | .1220 | .0958 | .1203 | .2606 | .3944 | .9107 |
| #1 | 2.027 | 2.014 | 2.027 | 1.952 | 2.038 | 2.040 | 1.889 |
| #2 | 2.029 | 2.017 | 2.031 | 1.952 | 2.041 | 2.029 | 1.861 |
| #3 | 2.025 | 2.019 | 2.028 | 1.956 | 2.048 | 2.025 | 1.859 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148220.** | **23707.** | **6104.3** | **9042.4** |
| Stddev | 545. | 149. | 9.9 | 6.5 |
| %RSD | .36778 | .62656 | .16151 | .07162 |
| #1 | 148120. | 23535. | 6109.6 | 9043.6 |
| #2 | 147730. | 23792. | 6092.9 | 9035.4 |
| #3 | 148810. | 23793. | 6110.4 | 9048.2 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/2/2019 17:24:30 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **.0004** | **.0004** | **.0006** | **.0004** | **.0003** | **.0005** | **.0005** | **-.0003** |
| Stddev | .0002 | .0001 | .0002 | .0003 | .0003 | .0001 | .0000 | .0002 | .0006 |
| %RSD | 26.60 | 33.35 | 38.51 | 53.26 | 69.53 | 31.33 | 5.779 | 36.44 | 215.2 |
| #1 | .0008 | .0003 | .0003 | .0002 | .0005 | .0003 | .0005 | .0004 | .0003 |
| #2 | .0007 | .0003 | .0006 | .0008 | .0007 | .0004 | .0005 | .0008 | -.0003 |
| #3 | .0004 | .0005 | .0004 | .0006 | .0001 | .0002 | .0005 | .0005 | -.0008 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0010** | **.0006** | **.0012** | **-.0001** | **.0006** | **-.0009** | **-.0006** | **.0043** | **.0061** |
| Stddev | .0002 | .0008 | .0013 | .0009 | .0000 | .0017 | .0007 | .0058 | .0013 |
| %RSD | 16.23 | 131.4 | 110.8 | 949.5 | 2.677 | 185.4 | 123.4 | 134.2 | 20.75 |
| #1 | .0010 | .0015 | .0025 | .0007 | .0006 | .0009 | -.0002 | .0062 | .0060 |
| #2 | .0008 | .0002 | .0012 | .0000 | .0006 | -.0011 | -.0001 | -.0022 | .0049 |
| #3 | .0012 | .0001 | -.0001 | -.0011 | .0007 | -.0025 | -.0013 | .0089 | .0074 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0069** | **.0018** | **.0363** | **.0091** | **.0033** | **.0017** | F **.2426** | **.0000** | **.0005** |
| Stddev | .0020 | .0018 | .0244 | .0108 | .0003 | .0002 | .4169 | .0004 | .0001 |
| %RSD | 29.42 | 103.5 | 67.03 | 119.3 | 10.71 | 10.79 | 171.8 | 2327. | 26.73 |
| #1 | .0046 | .0033 | .0469 | .0134 | .0037 | .0017 | .7240 | .0002 | .0004 |
| #2 | .0078 | -.0003 | .0536 | .0170 | .0030 | .0019 | .0013 | -.0004 | .0004 |
| #3 | .0083 | .0023 | .0085 | -.0033 | .0031 | .0015 | .0026 | .0002 | .0006 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| High Limit | | | | | | | .0591 | | |
| Low Limit | | | | | | | -.0591 | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/2/2019 17:24:30 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | F **.0123** | **.0005** | **.0096** | **-.0002** | **.0011** | **.0096** |
| Stddev | .0001 | .0004 | .0000 | .0055 | .0009 | .0023 | .0008 |
| %RSD | 22.01 | 3.633 | 8.911 | 57.08 | 503.2 | 204.7 | 8.491 |
| #1 | .0006 | .0125 | .0005 | .0158 | -.0010 | .0028 | .0091 |
| #2 | .0006 | .0118 | .0005 | .0077 | -.0003 | -.0014 | .0106 |
| #3 | .0008 | .0126 | .0006 | .0053 | .0008 | .0019 | .0092 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | .0050 | | | | | |
| Low Limit | | -.0050 | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157170.** | **23868.** | **6295.6** | **9783.3** |
| Stddev | 185. | 84. | 108.5 | 146.3 |
| %RSD | .11750 | .35391 | 1.7231 | 1.4951 |
| #1 | 157220. | 23771. | 6170.4 | 9614.6 |
| #2 | 156970. | 23906. | 6360.6 | 9874.9 |
| #3 | 157330. | 23927. | 6355.8 | 9860.4 |

Zoom In Zoom Out

Sample Name: JC87312-2 Acquired: 5/2/2019 17:29:37 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8416** | **.0046** | **.0012** | **.0512** | **.1872** | **.2237** | **2.366** | **.1871** | **.0008** |
| Stddev | .0006 | .0000 | .0002 | .0001 | .0007 | .0008 | .006 | .0001 | .0002 |
| %RSD | .0747 | .4344 | 13.47 | .2323 | .3491 | .3465 | .2421 | .0396 | 30.65 |
| #1 | .8414 | .0046 | .0013 | .0512 | .1865 | .2228 | 2.362 | .1872 | .0007 |
| #2 | .8410 | .0046 | .0010 | .0514 | .1874 | .2240 | 2.372 | .1871 | .0010 |
| #3 | .8422 | .0046 | .0012 | .0511 | .1878 | .2243 | 2.364 | .1870 | .0006 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2509** | **.5899** | **.0714** | **.0023** | **.7042** | **.0025** | **.0000** | **97.97** | **186.7** |
| Stddev | .0013 | .0007 | .0008 | .0007 | .0012 | .0017 | .0012 | .15 | 3.1 |
| %RSD | .5177 | .1170 | 1.168 | 29.87 | .1764 | 67.38 | 2741. | .1509 | 1.683 |
| #1 | .2501 | .5902 | .0706 | .0029 | .7037 | .0018 | -.0007 | 98.07 | 187.4 |
| #2 | .2503 | .5904 | .0715 | .0026 | .7033 | .0045 | -.0006 | 98.03 | 189.4 |
| #3 | .2524 | .5891 | .0722 | .0015 | .7056 | .0013 | .0014 | 97.80 | 183.3 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **125.2** | **39.89** | **17.47** | **1.828** | **.0358** | **.0075** | **2.959** | **.0365** | **.4068** |
| Stddev | .2 | .12 | .01 | .008 | .0002 | .0001 | .015 | .0006 | .0002 |
| %RSD | .1452 | .3103 | .0373 | .4222 | .6910 | 1.005 | .5185 | 1.771 | .0449 |
| #1 | 125.3 | 39.95 | 17.48 | 1.820 | .0359 | .0075 | 2.976 | .0369 | .4070 |
| #2 | 125.3 | 39.98 | 17.47 | 1.827 | .0359 | .0074 | 2.946 | .0358 | .4067 |
| #3 | 125.0 | 39.75 | 17.47 | 1.835 | .0355 | .0076 | 2.956 | .0368 | .4067 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.939** | **.0078** | **.0168** | **3.787** | **.2018** | **.0993** | **4.666** |
| Stddev | .014 | .0007 | .0001 | .017 | .0029 | .0003 | .056 |
| %RSD | .2772 | 8.826 | .6042 | .4459 | 1.439 | .3515 | 1.199 |
| #1 | 4.927 | .0079 | .0169 | 3.804 | .2009 | .0989 | 4.729 |
| #2 | 4.936 | .0071 | .0168 | 3.787 | .1994 | .0995 | 4.648 |
| #3 | 4.954 | .0085 | .0167 | 3.771 | .2050 | .0995 | 4.622 |



Zoom In Zoom Out

Sample Name: JC87312-2 Acquired: 5/2/2019 17:29:37 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **154280.** | **24810.** | **6400.8** | **9027.3** |
| Stddev | 912. | 171. | 5.4 | 2.4 |
| %RSD | .59147 | .68750 | .08432 | .02646 |
| #1 | 155330. | 24863. | 6395.2 | 9027.7 |
| #2 | 153690. | 24620. | 6406.0 | 9029.6 |
| #3 | 153810. | 24949. | 6401.4 | 9024.8 |



Zoom In Zoom Out

Sample Name: JC87313-1 Acquired: 5/2/2019 17:34:53 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8388** | **.0061** | **.0017** | **.0335** | **.1622** | **.1504** | **1.293** | **.1227** | **-.0000** |
| Stddev | .0014 | .0001 | .0002 | .0003 | .0003 | .0007 | .002 | .0009 | .0003 |
| %RSD | .1624 | 1.095 | 9.496 | .7680 | .2134 | .4326 | .1207 | .7520 | 735.1 |
| #1 | .8403 | .0061 | .0017 | .0337 | .1619 | .1502 | 1.292 | .1235 | -.0004 |
| #2 | .8381 | .0060 | .0019 | .0335 | .1626 | .1499 | 1.294 | .1217 | .0000 |
| #3 | .8379 | .0062 | .0016 | .0332 | .1621 | .1512 | 1.291 | .1228 | .0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2399** | **.6861** | **.2170** | **.0049** | **.1259** | **.0144** | **.0024** | **46.01** | **137.2** |
| Stddev | .0006 | .0026 | .0013 | .0016 | .0012 | .0019 | .0001 | .10 | 1.4 |
| %RSD | .2470 | .3731 | .5815 | 32.31 | .9233 | 13.14 | 2.950 | .2120 | 1.007 |
| #1 | .2394 | .6884 | .2160 | .0066 | .1270 | .0147 | .0024 | 46.11 | 138.7 |
| #2 | .2405 | .6833 | .2164 | .0045 | .1247 | .0161 | .0025 | 46.02 | 136.0 |
| #3 | .2397 | .6866 | .2184 | .0035 | .1261 | .0123 | .0024 | 45.91 | 136.9 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **149.7** | **72.03** | **10.44** | **2.837** | **.1887** | **.0234** | **6.018** | **.0264** | **.7336** |
| Stddev | .2 | .13 | .02 | .016 | .0008 | .0001 | .065 | .0004 | .0010 |
| %RSD | .1357 | .1762 | .2243 | .5458 | .4300 | .2199 | 1.079 | 1.511 | .1428 |
| #1 | 149.9 | 72.17 | 10.44 | 2.848 | .1891 | .0234 | 6.044 | .0260 | .7347 |
| #2 | 149.6 | 71.99 | 10.46 | 2.843 | .1878 | .0234 | 6.066 | .0265 | .7334 |
| #3 | 149.5 | 71.93 | 10.41 | 2.819 | .1893 | .0235 | 5.944 | .0268 | .7326 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.238** | **.0069** | **.0735** | **40.83** | **.0922** | **.1210** | **1.788** |
| Stddev | .005 | .0012 | .0000 | .21 | .0015 | .0013 | .016 |
| %RSD | .2362 | 16.99 | .0572 | .5236 | 1.610 | 1.089 | .9070 |
| #1 | 2.234 | .0069 | .0735 | 40.79 | .0908 | .1215 | 1.773 |
| #2 | 2.244 | .0080 | .0735 | 40.63 | .0937 | .1195 | 1.786 |
| #3 | 2.236 | .0057 | .0736 | 41.05 | .0921 | .1220 | 1.805 |



Zoom In Zoom Out

Sample Name: JC87313-1 Acquired: 5/2/2019 17:34:53 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **152620.** | **24745.** | **6280.1** | **9130.9** |
| Stddev | 539. | 136. | 20.6 | 25.7 |
| %RSD | .35318 | .54854 | .32855 | .28108 |
| #1 | 152940. | 24590. | 6262.0 | 9109.2 |
| #2 | 152000. | 24802. | 6302.5 | 9159.2 |
| #3 | 152930. | 24842. | 6275.7 | 9124.3 |

Zoom In Zoom Out

Sample Name: JC87313-2 Acquired: 5/2/2019 17:39:57 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.307** | **.0079** | **.0007** | **.0284** | **.1000** | **.1013** | **5.683** | **.0974** | **-.0003** |
| Stddev | .002 | .0001 | .0001 | .0006 | .0011 | .0008 | .059 | .0008 | .0004 |
| %RSD | .1782 | .9741 | 12.12 | 2.176 | 1.055 | .8188 | 1.035 | .8378 | 124.9 |
| #1 | 1.308 | .0080 | .0007 | .0279 | .1003 | .1017 | 5.732 | .0971 | -.0006 |
| #2 | 1.309 | .0079 | .0007 | .0281 | .1009 | .1018 | 5.701 | .0968 | -.0004 |
| #3 | 1.304 | .0079 | .0008 | .0291 | .0988 | .1004 | 5.618 | .0983 | .0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1817** | **.4025** | **.1339** | **.0038** | **.1107** | **.0099** | **.0013** | **55.82** | F **243.5** |
| Stddev | .0018 | .0064 | .0025 | .0013 | .0005 | .0008 | .0005 | .15 | 1.7 |
| %RSD | 1.008 | 1.581 | 1.882 | 34.93 | .4603 | 8.418 | 39.30 | .2682 | .6910 |
| #1 | .1832 | .3996 | .1329 | .0050 | .1104 | .0100 | .0018 | 55.85 | 245.4 |
| #2 | .1822 | .3980 | .1320 | .0040 | .1105 | .0090 | .0014 | 55.96 | 242.4 |
| #3 | .1797 | .4097 | .1368 | .0024 | .1113 | .0106 | .0008 | 55.66 | 242.6 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **119.1** | **110.2** | **7.286** | **2.898** | **.2384** | **.0191** | **5.731** | **.0229** | **.8088** |
| Stddev | .2 | .2 | .013 | .005 | .0030 | .0003 | .080 | .0007 | .0014 |
| %RSD | .1720 | .1388 | .1822 | .1876 | 1.239 | 1.772 | 1.396 | 3.042 | .1701 |
| #1 | 119.1 | 110.2 | 7.289 | 2.903 | .2364 | .0192 | 5.699 | .0237 | .8090 |
| #2 | 119.2 | 110.3 | 7.297 | 2.897 | .2369 | .0187 | 5.672 | .0227 | .8101 |
| #3 | 118.8 | 110.0 | 7.271 | 2.893 | .2418 | .0193 | 5.822 | .0224 | .8073 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.900** | **.0052** | **.0820** | **39.07** | **.1184** | **.0760** | **1.406** |
| Stddev | .031 | .0017 | .0008 | .59 | .0036 | .0018 | .017 |
| %RSD | 1.065 | 32.57 | 1.019 | 1.521 | 3.026 | 2.389 | 1.208 |
| #1 | 2.917 | .0033 | .0825 | 38.75 | .1204 | .0759 | 1.404 |
| #2 | 2.918 | .0058 | .0825 | 38.70 | .1206 | .0779 | 1.389 |
| #3 | 2.864 | .0066 | .0811 | 39.76 | .1143 | .0743 | 1.423 |



Zoom In Zoom Out

Sample Name: JC87313-2 Acquired: 5/2/2019 17:39:57 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **151590.** | **24704.** | **6151.5** | **8742.9** |
| Stddev | 1653. | 77. | 94.3 | 113.3 |
| %RSD | 1.0905 | .31083 | 1.5327 | 1.2956 |
| #1 | 150790. | 24627. | 6198.7 | 8799.6 |
| #2 | 150490. | 24704. | 6212.8 | 8816.6 |
| #3 | 153490. | 24780. | 6042.9 | 8612.4 |



Zoom In Zoom Out

Sample Name: JC87313-3 Acquired: 5/2/2019 17:45:13 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8888** | **.0058** | **.0026** | **.0365** | **.1066** | **.1294** | **1.974** | **.0997** | **-.0002** |
| Stddev | .0009 | .0001 | .0001 | .0003 | .0003 | .0006 | .009 | .0004 | .0004 |
| %RSD | .1035 | 1.121 | 2.039 | .9408 | .3181 | .4846 | .4380 | .3737 | 162.1 |
| #1 | .8886 | .0059 | .0027 | .0362 | .1069 | .1298 | 1.966 | .1000 | -.0004 |
| #2 | .8880 | .0058 | .0026 | .0363 | .1066 | .1287 | 1.973 | .0993 | .0002 |
| #3 | .8898 | .0058 | .0025 | .0369 | .1062 | .1296 | 1.983 | .0998 | -.0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1841** | **.6466** | **.1854** | **.0073** | **.1737** | **.0112** | **.0027** | **43.50** | **181.1** |
| Stddev | .0004 | .0006 | .0014 | .0007 | .0006 | .0004 | .0007 | .03 | 1.5 |
| %RSD | .2202 | .0994 | .7303 | 10.08 | .3396 | 3.775 | 23.84 | .0703 | .8361 |
| #1 | .1836 | .6460 | .1839 | .0080 | .1743 | .0112 | .0021 | 43.53 | 179.4 |
| #2 | .1842 | .6473 | .1864 | .0065 | .1731 | .0108 | .0028 | 43.50 | 181.6 |
| #3 | .1844 | .6465 | .1860 | .0074 | .1737 | .0117 | .0034 | 43.47 | 182.3 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **150.8** | **82.29** | **6.864** | **2.099** | **.1760** | **.0236** | **5.703** | **.0294** | **.7707** |
| Stddev | .3 | .10 | .011 | .007 | .0010 | .0002 | .029 | .0008 | .0015 |
| %RSD | .1971 | .1181 | .1630 | .3448 | .5649 | .6773 | .5159 | 2.795 | .1998 |
| #1 | 151.2 | 82.40 | 6.852 | 2.094 | .1757 | .0237 | 5.728 | .0297 | .7725 |
| #2 | 150.7 | 82.22 | 6.866 | 2.096 | .1752 | .0235 | 5.710 | .0300 | .7697 |
| #3 | 150.7 | 82.25 | 6.874 | 2.107 | .1771 | .0238 | 5.671 | .0284 | .7699 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.429** | **.0038** | **.0733** | **42.10** | **.1014** | **.0566** | **2.001** |
| Stddev | .013 | .0004 | .0003 | .06 | .0007 | .0014 | .013 |
| %RSD | .5283 | 9.788 | .3474 | .1414 | .6501 | 2.512 | .6329 |
| #1 | 2.417 | .0040 | .0733 | 42.12 | .1014 | .0572 | 1.988 |
| #2 | 2.443 | .0034 | .0730 | 42.14 | .1020 | .0550 | 2.014 |
| #3 | 2.428 | .0042 | .0736 | 42.03 | .1007 | .0577 | 2.001 |



Zoom In Zoom Out

Sample Name: JC87313-3 Acquired: 5/2/2019 17:45:13 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150120.** | **24358.** | **6203.2** | **8963.2** |
| Stddev | 379. | 18. | 11.7 | 12.4 |
| %RSD | .25276 | .07364 | .18854 | .13782 |
| #1 | 150270. | 24366. | 6215.0 | 8976.5 |
| #2 | 149690. | 24338. | 6202.9 | 8961.2 |
| #3 | 150400. | 24371. | 6191.6 | 8952.0 |

Zoom In Zoom Out

Sample Name: JC87313-4 Acquired: 5/2/2019 17:50:26 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.190** | **.0068** | **.0010** | **.0275** | **.1021** | **.1089** | **1.435** | **.0940** | **-.0005** |
| Stddev | .002 | .0001 | .0002 | .0002 | .0005 | .0004 | .008 | .0008 | .0004 |
| %RSD | .1692 | .9160 | 18.21 | .8274 | .4905 | .3407 | .5825 | .8551 | 93.82 |
| #1 | 1.191 | .0067 | .0012 | .0273 | .1021 | .1088 | 1.436 | .0944 | -.0008 |
| #2 | 1.192 | .0067 | .0010 | .0276 | .1015 | .1085 | 1.426 | .0931 | -.0006 |
| #3 | 1.188 | .0068 | .0008 | .0277 | .1025 | .1093 | 1.442 | .0945 | .0000 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2510** | **.2284** | **.2800** | **.0027** | **.1307** | **.0090** | **.0011** | **56.77** | **173.8** |
| Stddev | .0012 | .0006 | .0014 | .0013 | .0010 | .0016 | .0024 | .15 | 2.6 |
| %RSD | .4646 | .2581 | .5029 | 49.43 | .7890 | 17.98 | 229.4 | .2610 | 1.511 |
| #1 | .2511 | .2278 | .2798 | .0018 | .1300 | .0095 | .0014 | 56.66 | 175.5 |
| #2 | .2498 | .2289 | .2786 | .0042 | .1302 | .0072 | -.0015 | 56.70 | 175.2 |
| #3 | .2521 | .2286 | .2814 | .0020 | .1319 | .0104 | .0033 | 56.94 | 170.8 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **139.0** | **95.02** | **9.060** | **2.258** | **.1561** | **.0199** | **5.181** | **.0247** | **.6988** |
| Stddev | .3 | .04 | .048 | .009 | .0007 | .0002 | .245 | .0003 | .0009 |
| %RSD | .1946 | .0424 | .5337 | .3824 | .4236 | .8663 | 4.727 | 1.198 | .1310 |
| #1 | 138.7 | 94.98 | 9.038 | 2.251 | .1555 | .0200 | 5.042 | .0247 | .6978 |
| #2 | 139.1 | 95.03 | 9.027 | 2.268 | .1558 | .0200 | 5.464 | .0250 | .6991 |
| #3 | 139.3 | 95.06 | 9.115 | 2.256 | .1568 | .0197 | 5.037 | .0244 | .6996 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.668** | **.0038** | **.0772** | **35.01** | **.1109** | **.0621** | **2.040** |
| Stddev | .017 | .0007 | .0004 | .12 | .0003 | .0007 | .028 |
| %RSD | .6267 | 18.33 | .4634 | .3318 | .2859 | 1.138 | 1.394 |
| #1 | 2.666 | .0046 | .0773 | 35.02 | .1109 | .0613 | 2.012 |
| #2 | 2.652 | .0032 | .0768 | 34.88 | .1106 | .0623 | 2.039 |
| #3 | 2.685 | .0036 | .0776 | 35.11 | .1112 | .0627 | 2.069 |



Zoom In Zoom Out

Sample Name: JC87313-4 Acquired: 5/2/2019 17:50:26 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150620.** | **24558.** | **6178.6** | **8884.3** |
| Stddev | 593. | 74. | 82.0 | 99.6 |
| %RSD | .39377 | .30081 | 1.3275 | 1.1210 |
| #1 | 150090. | 24473. | 6239.7 | 8959.7 |
| #2 | 151260. | 24605. | 6085.3 | 8771.4 |
| #3 | 150510. | 24595. | 6210.6 | 8921.7 |



Zoom In Zoom Out

Sample Name: JC87313-5 Acquired: 5/2/2019 17:55:29 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.382** | **.0091** | **.0010** | **.0351** | **.1535** | **.1262** | **4.042** | **.1097** | **-.0015** |
| Stddev | .002 | .0001 | .0001 | .0003 | .0007 | .0005 | .019 | .0000 | .0004 |
| %RSD | .1549 | .6557 | 8.733 | .9765 | .4268 | .4020 | .4797 | .0402 | 29.04 |
| #1 | 1.384 | .0090 | .0011 | .0351 | .1533 | .1265 | 4.049 | .1098 | -.0020 |
| #2 | 1.382 | .0091 | .0009 | .0354 | .1542 | .1256 | 4.056 | .1097 | -.0011 |
| #3 | 1.379 | .0091 | .0011 | .0347 | .1529 | .1265 | 4.020 | .1097 | -.0015 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2544** | **.3112** | **.1436** | **.0028** | **.1059** | **.0107** | **.0005** | **85.28** | F **213.7** |
| Stddev | .0004 | .0004 | .0005 | .0005 | .0013 | .0009 | .0014 | .07 | 4.0 |
| %RSD | .1743 | .1351 | .3526 | 18.73 | 1.259 | 8.410 | 275.0 | .0787 | 1.882 |
| #1 | .2539 | .3113 | .1435 | .0029 | .1049 | .0097 | -.0011 | 85.31 | 209.1 |
| #2 | .2548 | .3115 | .1441 | .0033 | .1053 | .0111 | .0016 | 85.33 | 215.3 |
| #3 | .2545 | .3107 | .1431 | .0023 | .1074 | .0114 | .0011 | 85.20 | 216.7 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **173.3** | **92.92** | **11.54** | **3.644** | **.1840** | **.0233** | **4.661** | **.0234** | **.9264** |
| Stddev | 1.7 | .04 | .03 | .006 | .0008 | .0004 | .029 | .0006 | .0013 |
| %RSD | .9736 | .0405 | .2780 | .1649 | .4172 | 1.909 | .6111 | 2.448 | .1432 |
| #1 | 172.0 | 92.89 | 11.50 | 3.649 | .1839 | .0238 | 4.693 | .0228 | .9276 |
| #2 | 172.6 | 92.96 | 11.57 | 3.645 | .1833 | .0231 | 4.642 | .0238 | .9267 |
| #3 | 175.2 | 92.90 | 11.54 | 3.637 | .1848 | .0230 | 4.646 | .0237 | .9250 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.969** | **.0046** | **.1166** | **28.93** | **.2096** | **.0959** | **2.317** |
| Stddev | .006 | .0015 | .0000 | .07 | .0006 | .0020 | .021 |
| %RSD | .1199 | 32.48 | .0198 | .2291 | .2707 | 2.125 | .9165 |
| #1 | 4.964 | .0056 | .1166 | 28.90 | .2102 | .0983 | 2.296 |
| #2 | 4.976 | .0029 | .1166 | 29.00 | .2091 | .0945 | 2.338 |
| #3 | 4.968 | .0055 | .1166 | 28.88 | .2095 | .0950 | 2.319 |



Zoom In Zoom Out

Sample Name: JC87313-5 Acquired: 5/2/2019 17:55:29 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **151220.** | **24637.** | **6282.3** | **8963.8** |
| Stddev | 278. | 45. | 9.2 | 7.0 |
| %RSD | .18406 | .18437 | .14648 | .07820 |
| #1 | 150990. | 24690. | 6272.7 | 8957.1 |
| #2 | 151140. | 24615. | 6291.0 | 8971.1 |
| #3 | 151530. | 24608. | 6283.4 | 8963.1 |

Zoom In Zoom Out

Sample Name: jc86986-8 Acquired: 5/2/2019 18:00:52 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.187** | **.0076** | **.0009** | **.0657** | **.3068** | **.0788** | **2.409** | **.1868** |
| Stddev | .002 | .0000 | .0001 | .0005 | .0006 | .0008 | .007 | .0014 |
| %RSD | .1446 | .3598 | 15.67 | .7864 | .2087 | 1.037 | .2968 | .7239 |
| #1 | 1.185 | .0076 | .0010 | .0651 | .3075 | .0783 | 2.417 | .1854 |
| #2 | 1.187 | .0076 | .0008 | .0658 | .3066 | .0784 | 2.405 | .1869 |
| #3 | 1.188 | .0077 | .0010 | .0662 | .3063 | .0798 | 2.405 | .1881 |

| Elem | Ag3280 | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0010** | **.2825** | **.4548** | **.0354** | **.0011** | **.1201** | **.0046** | F **-.0049** |
| Stddev | .0015 | .0007 | .0027 | .0009 | .0011 | .0011 | .0010 | .0009 |
| %RSD | 153.1 | .2541 | .5992 | 2.471 | 102.2 | .8784 | 21.17 | 19.34 |
| #1 | -.0022 | .2828 | .4518 | .0347 | -.0001 | .1204 | .0042 | -.0038 |
| #2 | -.0014 | .2830 | .4554 | .0364 | .0013 | .1189 | .0038 | -.0053 |
| #3 | .0007 | .2817 | .4571 | .0351 | .0020 | .1210 | .0057 | -.0056 |

| Elem | Al3961 | Ca3179 | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **155.6** | **22.13** | **161.0** | **37.27** | **13.69** | **2.066** | **.0500** | **.0035** |
| Stddev | .2 | .04 | 3.8 | .14 | .01 | .006 | .0005 | .0002 |
| %RSD | .1522 | .1587 | 2.362 | .3812 | .1006 | .2743 | .9155 | 5.345 |
| #1 | 155.4 | 22.09 | 158.0 | 37.11 | 13.70 | 2.069 | .0495 | .0037 |
| #2 | 155.9 | 22.16 | 159.7 | 37.37 | 13.68 | 2.071 | .0502 | .0036 |
| #3 | 155.5 | 22.14 | 165.3 | 37.33 | 13.71 | 2.060 | .0504 | .0033 |

| Elem | Si2124 | Sn1899 | Sr4077 | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.067** | **.0199** | **.1677** | **4.644** | **.0031** | **.1119** | **6.307** | **.1907** |
| Stddev | .011 | .0005 | .0001 | .017 | .0012 | .0001 | .046 | .0029 |
| %RSD | .5432 | 2.320 | .0309 | .3570 | 39.14 | .1221 | .7264 | 1.518 |
| #1 | 2.055 | .0201 | .1676 | 4.661 | .0031 | .1117 | 6.258 | .1936 |
| #2 | 2.071 | .0193 | .1676 | 4.641 | .0043 | .1119 | 6.312 | .1906 |
| #3 | 2.076 | .0202 | .1677 | 4.629 | .0019 | .1120 | 6.350 | .1878 |



Zoom In Zoom Out

Sample Name: jc86986-8 Acquired: 5/2/2019 18:00:52 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Li6707 | P_1774 |
|---|---|---|
| Units | ppm | ppm |
| Avg | **.2188** | **3.208** |
| Stddev | .0007 | .064 |
| %RSD | .3175 | 1.993 |
| #1 | .2193 | 3.147 |
| #2 | .2180 | 3.203 |
| #3 | .2190 | 3.275 |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **165340.** | **26394.** | **6856.3** | **9442.9** |
| Stddev | 617. | 410. | 45.8 | 57.9 |
| %RSD | .37307 | 1.5518 | .66857 | .61340 |
| #1 | 164740. | 26835. | 6898.8 | 9493.5 |
| #2 | 165320. | 26320. | 6862.3 | 9455.5 |
| #3 | 165970. | 26026. | 6807.7 | 9379.7 |



Zoom In Zoom Out

Sample Name: JC87313-2 Acquired: 5/2/2019 18:06:38 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.319** | **.0079** | **.0008** | **.0277** | **.1012** | **.1031** | **5.927** | **.0969** | **-.0003** |
| Stddev | .013 | .0002 | .0002 | .0006 | .0004 | .0006 | .025 | .0008 | .0008 |
| %RSD | .9470 | 2.566 | 20.48 | 2.123 | .3479 | .5728 | .4230 | .8242 | 270.1 |
| #1 | 1.317 | .0077 | .0009 | .0271 | .1008 | .1027 | 5.901 | .0962 | .0001 |
| #2 | 1.333 | .0081 | .0006 | .0282 | .1013 | .1028 | 5.951 | .0978 | .0002 |
| #3 | 1.308 | .0078 | .0009 | .0280 | .1015 | .1037 | 5.928 | .0968 | -.0012 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1854** | **.4088** | **.1321** | **.0046** | **.1110** | **.0064** | **-.0005** | **55.82** | **247.0** |
| Stddev | .0006 | .0000 | .0005 | .0013 | .0012 | .0018 | .0029 | .53 | 6.5 |
| %RSD | .3342 | .0044 | .3513 | 29.12 | 1.042 | 27.63 | 550.4 | .9546 | 2.632 |
| #1 | .1851 | .4088 | .1316 | .0058 | .1114 | .0073 | .0021 | 55.73 | 246.6 |
| #2 | .1850 | .4088 | .1326 | .0031 | .1097 | .0076 | -.0036 | 56.39 | 253.7 |
| #3 | .1862 | .4088 | .1322 | .0049 | .1118 | .0044 | -.0001 | 55.33 | 240.7 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **122.0** | **112.8** | **7.127** | **2.896** | **.2350** | **.0188** | **5.740** | **.0212** | **.8135** |
| Stddev | 1.3 | 1.2 | .073 | .019 | .0002 | .0003 | .037 | .0008 | .0082 |
| %RSD | 1.057 | 1.034 | 1.018 | .6473 | .0975 | 1.716 | .6488 | 3.596 | 1.003 |
| #1 | 121.9 | 112.6 | 7.098 | 2.917 | .2350 | .0186 | 5.702 | .0203 | .8131 |
| #2 | 123.4 | 114.1 | 7.209 | 2.889 | .2348 | .0186 | 5.777 | .0217 | .8219 |
| #3 | 120.8 | 111.8 | 7.073 | 2.882 | .2353 | .0192 | 5.741 | .0216 | .8056 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.920** | **.0079** | **.0821** | **39.73** | **.1180** | **.0786** | **1.712** |
| Stddev | .008 | .0012 | .0002 | .19 | .0023 | .0039 | .020 |
| %RSD | .2857 | 15.78 | .2522 | .4786 | 1.917 | 4.911 | 1.155 |
| #1 | 2.911 | .0088 | .0822 | 39.95 | .1205 | .0780 | 1.735 |
| #2 | 2.921 | .0084 | .0823 | 39.66 | .1171 | .0827 | 1.698 |
| #3 | 2.928 | .0065 | .0819 | 39.59 | .1163 | .0750 | 1.705 |



Zoom In Zoom Out

Sample Name: JC87313-2 Acquired: 5/2/2019 18:06:38 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **152550.** | **24223.** | **6270.7** | **9135.2** |
| Stddev | 843. | 364. | 12.5 | 16.9 |
| %RSD | .55238 | 1.5015 | .19857 | .18500 |
| #1 | 153500. | 24353. | 6259.1 | 9124.8 |
| #2 | 151910. | 23812. | 6283.8 | 9154.7 |
| #3 | 152240. | 24504. | 6269.2 | 9126.1 |

Zoom In Zoom Out

Sample Name: JC87313-5 Acquired: 5/2/2019 18:11:54 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.388** | **.0088** | **.0007** | **.0359** | **.1504** | **.1233** | **4.036** | **.1111** | **.0009** |
| Stddev | .005 | .0001 | .0001 | .0003 | .0056 | .0043 | .082 | .0004 | .0012 |
| %RSD | .3936 | 1.438 | 14.29 | .8761 | 3.729 | 3.462 | 2.018 | .3447 | 124.0 |
| #1 | 1.395 | .0089 | .0007 | .0356 | .1534 | .1247 | 4.083 | .1113 | .0007 |
| #2 | 1.385 | .0089 | .0008 | .0359 | .1539 | .1267 | 4.083 | .1107 | -.0001 |
| #3 | 1.385 | .0087 | .0006 | .0363 | .1440 | .1185 | 3.942 | .1114 | .0022 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2519** | **.3250** | **.1447** | **.0029** | **.1059** | **.0116** | **-.0011** | **84.57** | **211.3** |
| Stddev | .0092 | .0005 | .0011 | .0016 | .0025 | .0048 | .0026 | .27 | 1.6 |
| %RSD | 3.662 | .1665 | .7489 | 54.59 | 2.350 | 41.45 | 236.8 | .3176 | .7413 |
| #1 | .2548 | .3250 | .1436 | .0015 | .1067 | .0063 | .0018 | 84.75 | 210.8 |
| #2 | .2593 | .3256 | .1458 | .0047 | .1079 | .0156 | -.0018 | 84.69 | 213.0 |
| #3 | .2416 | .3245 | .1448 | .0027 | .1031 | .0129 | -.0033 | 84.26 | 210.0 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **178.6** | **94.72** | **11.47** | **3.673** | **.1880** | **.0240** | **4.864** | **.0212** | **.9218** |
| Stddev | .5 | .09 | .05 | .019 | .0023 | .0004 | .014 | .0010 | .0021 |
| %RSD | .2962 | .0910 | .4099 | .5055 | 1.232 | 1.567 | .2825 | 4.530 | .2233 |
| #1 | 179.0 | 94.78 | 11.42 | 3.693 | .1868 | .0244 | 4.878 | .0221 | .9241 |
| #2 | 178.8 | 94.76 | 11.52 | 3.656 | .1906 | .0240 | 4.851 | .0214 | .9214 |
| #3 | 178.0 | 94.62 | 11.47 | 3.671 | .1865 | .0236 | 4.865 | .0202 | .9200 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.878** | **.0069** | **.1168** | **29.35** | **.1973** | **.0882** | **2.348** |
| Stddev | .188 | .0020 | .0072 | .18 | .0128 | .0012 | .042 |
| %RSD | 3.857 | 28.85 | 6.201 | .5997 | 6.492 | 1.362 | 1.784 |
| #1 | 4.943 | .0066 | .1157 | 29.20 | .2021 | .0896 | 2.301 |
| #2 | 5.025 | .0090 | .1246 | 29.32 | .2071 | .0877 | 2.380 |
| #3 | 4.666 | .0051 | .1102 | 29.54 | .1828 | .0874 | 2.364 |



Zoom In Zoom Out

Sample Name: JC87313-5 Acquired: 5/2/2019 18:11:54 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158210.** | **24675.** | **6323.4** | **9228.3** |
| Stddev | 5429. | 53. | 19.5 | 27.8 |
| %RSD | 3.4318 | .21661 | .30784 | .30141 |
| #1 | 155980. | 24693. | 6337.3 | 9255.0 |
| #2 | 154250. | 24615. | 6301.1 | 9199.5 |
| #3 | 164400. | 24717. | 6331.7 | 9230.5 |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/2/2019 18:17:11 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.050** | **2.091** | **2.005** | **2.037** | **2.044** | **2.041** | **2.064** | **2.066** | **.2515** |
| Stddev | .011 | .009 | .019 | .014 | .014 | .011 | .019 | .014 | .0015 |
| %RSD | .5373 | .4187 | .9398 | .6859 | .6943 | .5361 | .9330 | .6850 | .6069 |
| #1 | 2.058 | 2.098 | 2.013 | 2.043 | 2.047 | 2.042 | 2.081 | 2.072 | .2517 |
| #2 | 2.055 | 2.095 | 2.019 | 2.048 | 2.056 | 2.051 | 2.067 | 2.077 | .2528 |
| #3 | 2.038 | 2.081 | 1.984 | 2.022 | 2.028 | 2.029 | 2.043 | 2.050 | .2498 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.010** | **2.019** | **2.039** | **2.123** | **2.049** | **2.042** | **2.022** | **39.92** | **39.63** |
| Stddev | .010 | .019 | .018 | .005 | .016 | .017 | .018 | .20 | .19 |
| %RSD | .4853 | .9520 | .9085 | .2613 | .7912 | .8301 | .8697 | .4982 | .4723 |
| #1 | 2.008 | 2.026 | 2.047 | 2.128 | 2.053 | 2.049 | 2.028 | 40.06 | 39.80 |
| #2 | 2.020 | 2.033 | 2.053 | 2.122 | 2.062 | 2.054 | 2.037 | 40.00 | 39.67 |
| #3 | 2.001 | 1.997 | 2.018 | 2.117 | 2.031 | 2.022 | 2.003 | 39.69 | 39.43 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **41.15** | **40.10** | **39.96** | **40.94** | **2.087** | **1.994** | **5.359** | **2.032** | **2.122** |
| Stddev | .18 | .23 | .23 | .25 | .019 | .019 | .048 | .018 | .009 |
| %RSD | .4349 | .5643 | .5748 | .6057 | .9076 | .9351 | .8977 | .9022 | .4480 |
| #1 | 41.28 | 40.31 | 40.12 | 41.15 | 2.095 | 2.004 | 5.379 | 2.040 | 2.127 |
| #2 | 41.23 | 40.14 | 40.07 | 41.01 | 2.100 | 2.007 | 5.393 | 2.046 | 2.127 |
| #3 | 40.95 | 39.86 | 39.70 | 40.67 | 2.065 | 1.973 | 5.304 | 2.011 | 2.111 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/2/2019 18:17:11 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.069** | **2.008** | **2.052** | **2.049** | **2.033** | **2.029** | F **2.382** |
| Stddev | .012 | .016 | .009 | .021 | .013 | .010 | .012 |
| %RSD | .5696 | .8012 | .4549 | 1.021 | .6587 | .5060 | .4972 |
| #1 | 2.067 | 2.012 | 2.051 | 2.059 | 2.037 | 2.035 | 2.375 |
| #2 | 2.081 | 2.022 | 2.062 | 2.063 | 2.044 | 2.035 | 2.396 |
| #3 | 2.058 | 1.991 | 2.043 | 2.025 | 2.018 | 2.017 | 2.376 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| Value | | | | | | | 2.000 |
| Range | | | | | | | 10.00% |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **148810.** | **23560.** | **6201.0** | **9145.8** |
| Stddev | 1438. | 253. | 54.6 | 55.7 |
| %RSD | .96629 | 1.0754 | .88107 | .60898 |
| #1 | 148300. | 23310. | 6180.4 | 9123.7 |
| #2 | 147700. | 23553. | 6159.6 | 9104.6 |
| #3 | 150430. | 23817. | 6262.9 | 9209.2 |

Zoom In Zoom Out

Sample Name: CCB Acquired: 5/2/2019 18:22:12 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0000** | **.0003** | **.0003** | **-.0001** | **.0000** | **.0000** | **-.0000** | **-.0000** |
| Stddev | .0003 | .0001 | .0002 | .0003 | .0001 | .0003 | .0000 | .0001 | .0002 |
| %RSD | 127.1 | 1010. | 64.25 | 107.0 | 83.03 | 806.5 | 90.57 | 200.7 | 877.9 |
| #1 | -.0004 | .0001 | .0001 | -.0001 | -.0001 | -.0002 | .0000 | .0000 | -.0002 |
| #2 | .0001 | -.0000 | .0003 | .0004 | -.0001 | .0001 | .0001 | -.0000 | .0002 |
| #3 | -.0004 | -.0001 | .0004 | .0005 | -.0000 | .0003 | .0001 | -.0001 | -.0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **-.0002** | **.0003** | **.0007** | **.0009** | **-.0012** | **-.0006** | **-.0054** | **-.0045** |
| Stddev | .0002 | .0001 | .0005 | .0006 | .0004 | .0029 | .0023 | .0077 | .0006 |
| %RSD | 963.8 | 46.06 | 202.6 | 81.22 | 47.75 | 229.6 | 374.4 | 141.8 | 13.93 |
| #1 | -.0000 | -.0003 | .0005 | .0011 | .0007 | .0001 | -.0015 | -.0061 | -.0039 |
| #2 | .0002 | -.0002 | -.0004 | .0010 | .0015 | .0007 | -.0024 | -.0127 | -.0044 |
| #3 | -.0001 | -.0001 | .0006 | .0000 | .0007 | -.0045 | .0020 | .0026 | -.0051 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0015** | **.0025** | **-.1083** | **-.0156** | **.0026** | **.0006** | **.0014** | **-.0004** | **.0001** |
| Stddev | .0017 | .0106 | .0451 | .0099 | .0002 | .0003 | .0010 | .0005 | .0000 |
| %RSD | 111.2 | 423.4 | 41.60 | 63.35 | 6.914 | 46.73 | 72.93 | 119.6 | 27.15 |
| #1 | -.0033 | .0071 | -.0998 | -.0153 | .0027 | .0003 | .0025 | -.0005 | .0001 |
| #2 | .0001 | -.0096 | -.0682 | -.0256 | .0024 | .0006 | .0004 | -.0009 | .0002 |
| #3 | -.0014 | .0100 | -.1571 | -.0059 | .0027 | .0009 | .0013 | .0001 | .0001 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/2/2019 18:22:12 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0040** | **.0003** | **.0032** | **-.0013** | **.0038** | **-.0047** |
| Stddev | .0004 | .0008 | .0001 | .0015 | .0008 | .0011 | .0016 |
| %RSD | 52.75 | 20.23 | 48.26 | 48.10 | 61.27 | 28.68 | 33.62 |
| #1 | .0003 | .0042 | .0003 | .0049 | -.0004 | .0042 | -.0028 |
| #2 | .0010 | .0047 | .0003 | .0022 | -.0016 | .0026 | -.0055 |
| #3 | .0008 | .0031 | .0001 | .0023 | -.0020 | .0047 | -.0056 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **158010.** | **24173.** | **6449.2** | **9965.9** |
| Stddev | 553. | 46. | 13.4 | 13.9 |
| %RSD | .34974 | .19207 | .20760 | .13959 |
| #1 | 157970. | 24227. | 6454.8 | 9970.8 |
| #2 | 158580. | 24145. | 6433.9 | 9950.2 |
| #3 | 157480. | 24149. | 6458.8 | 9976.7 |



Zoom In Zoom Out

Sample Name: jc86986-9 Acquired: 5/2/2019 18:27:19 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.8257** | **.0030** | **.0054** | **.0391** | **.9549** | **.8501** | **1.565** | **.2955** | **.0006** |
| Stddev | .0010 | .0001 | .0003 | .0002 | .0014 | .0022 | .001 | .0006 | .0004 |
| %RSD | .1202 | 4.689 | 6.055 | .6214 | .1438 | .2646 | .0369 | .2123 | 62.34 |
| #1 | .8257 | .0030 | .0055 | .0389 | .9558 | .8526 | 1.566 | .2954 | .0004 |
| #2 | .8267 | .0029 | .0056 | .0391 | .9555 | .8493 | 1.565 | .2961 | .0010 |
| #3 | .8247 | .0032 | .0050 | .0394 | .9533 | .8483 | 1.565 | .2949 | .0004 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.1058** | **.8346** | **.1118** | **-.0039** | **.7047** | **.0229** | **.0078** | **25.71** | **40.78** |
| Stddev | .0006 | .0002 | .0018 | .0010 | .0008 | .0014 | .0016 | .07 | .06 |
| %RSD | .6055 | .0232 | 1.639 | 26.77 | .1098 | 6.167 | 20.90 | .2698 | .1363 |
| #1 | .1059 | .8347 | .1104 | -.0041 | .7055 | .0213 | .0059 | 25.75 | 40.84 |
| #2 | .1064 | .8348 | .1139 | -.0028 | .7046 | .0235 | .0086 | 25.63 | 40.77 |
| #3 | .1052 | .8344 | .1112 | -.0048 | .7039 | .0239 | .0089 | 25.75 | 40.72 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **306.2** | **7.301** | **2.507** | **.5908** | **.0320** | **.1200** | **6.155** | **.1203** | **.2237** |
| Stddev | .3 | .028 | .030 | .0163 | .0008 | .0005 | .011 | .0003 | .0001 |
| %RSD | .0875 | .3773 | 1.205 | 2.752 | 2.511 | .4502 | .1704 | .2471 | .0659 |
| #1 | 306.4 | 7.327 | 2.496 | .5840 | .0321 | .1195 | 6.148 | .1205 | .2239 |
| #2 | 306.3 | 7.303 | 2.484 | .6093 | .0328 | .1205 | 6.167 | .1204 | .2236 |
| #3 | 305.9 | 7.272 | 2.542 | .5790 | .0312 | .1200 | 6.151 | .1199 | .2237 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.127** | **.0124** | **.0392** | F **398.8** | **.0453** | **.0273** | **1.328** |
| Stddev | .001 | .0011 | .0002 | 1.5 | .0026 | .0009 | .016 |
| %RSD | .0951 | 8.788 | .5126 | .3813 | 5.672 | 3.247 | 1.234 |
| #1 | 1.127 | .0136 | .0393 | 400.5 | .0481 | .0282 | 1.347 |
| #2 | 1.127 | .0118 | .0393 | 398.1 | .0447 | .0265 | 1.315 |
| #3 | 1.125 | .0116 | .0390 | 397.7 | .0431 | .0273 | 1.323 |



Zoom In Zoom Out

Sample Name: jc86986-9 Acquired: 5/2/2019 18:27:19 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **154550.** | **24234.** | **6383.9** | **9783.1** |
| Stddev | 69. | 74. | 4.2 | 4.4 |
| %RSD | .04466 | .30596 | .06594 | .04484 |
| #1 | 154470. | 24196. | 6388.6 | 9778.4 |
| #2 | 154590. | 24186. | 6382.6 | 9783.9 |
| #3 | 154590. | 24319. | 6380.5 | 9787.1 |

Zoom In Zoom Out

Sample Name: jc86986-12 Acquired: 5/2/2019 18:32:16 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.140** | **.0064** | **.0007** | **.0899** | **.2455** | **.3495** | **2.882** | **.1858** | **-.0001** |
| Stddev | .001 | .0000 | .0001 | .0039 | .0011 | .0018 | .037 | .0061 | .0006 |
| %RSD | .0680 | .5220 | 11.27 | 4.328 | .4629 | .5029 | 1.269 | 3.283 | 412.8 |
| #1 | 1.139 | .0064 | .0008 | .0916 | .2443 | .3475 | 2.864 | .1888 | .0004 |
| #2 | 1.140 | .0064 | .0007 | .0854 | .2466 | .3501 | 2.857 | .1788 | -.0007 |
| #3 | 1.140 | .0063 | .0006 | .0926 | .2455 | .3509 | 2.924 | .1898 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2713** | **.7944** | **.0217** | **.0059** | **.7704** | **-.0002** | **.0019** | **119.7** | **54.19** |
| Stddev | .0014 | .0306 | .0015 | .0026 | .0234 | .0042 | .0015 | .2 | .07 |
| %RSD | .5285 | 3.846 | 6.792 | 44.61 | 3.038 | 2573. | 78.35 | .2077 | .1241 |
| #1 | .2697 | .8069 | .0222 | .0073 | .7815 | -.0030 | .0016 | 119.7 | 54.16 |
| #2 | .2723 | .7595 | .0200 | .0075 | .7436 | .0046 | .0006 | 119.9 | 54.27 |
| #3 | .2721 | .8166 | .0228 | .0029 | .7863 | -.0021 | .0035 | 119.4 | 54.14 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **198.5** | **62.50** | **57.15** | **1.286** | **.0209** | **.0033** | **1.792** | **.0667** | **.2845** |
| Stddev | 2.7 | .15 | .09 | .004 | .0011 | .0001 | .071 | .0018 | .0002 |
| %RSD | 1.366 | .2471 | .1520 | .3078 | 5.029 | 2.212 | 3.948 | 2.625 | .0837 |
| #1 | 200.5 | 62.42 | 57.19 | 1.283 | .0211 | .0033 | 1.823 | .0679 | .2844 |
| #2 | 195.4 | 62.68 | 57.20 | 1.291 | .0198 | .0032 | 1.711 | .0647 | .2848 |
| #3 | 199.6 | 62.41 | 57.05 | 1.285 | .0219 | .0033 | 1.841 | .0676 | .2844 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | F **9.655** | **-.0007** | **.0369** | **1.163** | **.3789** | **.1599** | **3.143** |
| Stddev | .088 | .0008 | .0003 | .042 | .0159 | .0021 | .093 |
| %RSD | .9155 | 115.4 | .7240 | 3.577 | 4.201 | 1.300 | 2.969 |
| #1 | 9.599 | -.0005 | .0370 | 1.185 | .3704 | .1596 | 3.169 |
| #2 | 9.757 | -.0017 | .0366 | 1.116 | .3973 | .1621 | 3.040 |
| #3 | 9.610 | -.0000 | .0371 | 1.190 | .3691 | .1580 | 3.221 |



Zoom In Zoom Out

Sample Name: jc86986-12 Acquired: 5/2/2019 18:32:16 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155520.** | **24958.** | **6465.8** | **9327.4** |
| Stddev | 808. | 146. | 231.6 | 273.1 |
| %RSD | .51958 | .58335 | 3.5826 | 2.9284 |
| #1 | 156300. | 25126. | 6375.6 | 9214.7 |
| #2 | 155570. | 24873. | 6729.0 | 9638.9 |
| #3 | 154690. | 24874. | 6292.8 | 9128.6 |



Zoom In Zoom Out

Sample Name: jc86986-12 Acquired: 5/2/2019 18:37:38 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.146** | **.0063** | **.0006** | **.0915** | **.2495** | **.3480** | **2.961** | **.1888** | **.0005** |
| Stddev | .002 | .0001 | .0002 | .0005 | .0009 | .0011 | .006 | .0007 | .0009 |
| %RSD | .1418 | 1.041 | 25.31 | .5534 | .3640 | .3054 | .1967 | .3530 | 194.0 |
| #1 | 1.145 | .0063 | .0008 | .0911 | .2501 | .3492 | 2.968 | .1895 | .0004 |
| #2 | 1.145 | .0063 | .0005 | .0920 | .2498 | .3478 | 2.958 | .1882 | -.0004 |
| #3 | 1.148 | .0062 | .0006 | .0913 | .2484 | .3471 | 2.958 | .1888 | .0014 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2758** | **.8197** | **.0207** | **.0068** | **.7823** | **-.0015** | **.0025** | **120.2** | **55.07** |
| Stddev | .0010 | .0007 | .0013 | .0014 | .0020 | .0022 | .0016 | .2 | .10 |
| %RSD | .3474 | .0795 | 6.311 | 20.39 | .2511 | 151.2 | 61.72 | .1395 | .1786 |
| #1 | .2766 | .8201 | .0198 | .0077 | .7836 | -.0032 | .0038 | 120.4 | 55.18 |
| #2 | .2748 | .8189 | .0201 | .0076 | .7800 | .0011 | .0008 | 120.3 | 55.04 |
| #3 | .2761 | .8200 | .0222 | .0052 | .7831 | -.0023 | .0031 | 120.0 | 54.99 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **203.2** | **63.84** | **57.60** | **1.311** | **.0228** | **.0035** | **1.845** | **.0697** | **.2868** |
| Stddev | .3 | .11 | .20 | .004 | .0008 | .0002 | .006 | .0002 | .0003 |
| %RSD | .1564 | .1652 | .3545 | .2926 | 3.597 | 4.678 | .3343 | .3477 | .0873 |
| #1 | 203.6 | 63.89 | 57.83 | 1.307 | .0234 | .0037 | 1.852 | .0696 | .2871 |
| #2 | 203.2 | 63.72 | 57.44 | 1.314 | .0219 | .0035 | 1.842 | .0700 | .2868 |
| #3 | 202.9 | 63.92 | 57.52 | 1.313 | .0231 | .0033 | 1.841 | .0696 | .2866 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **9.846** | **.0030** | **.0375** | **1.148** | **.3852** | **.1610** | **2.861** |
| Stddev | .016 | .0019 | .0001 | .009 | .0027 | .0018 | .016 |
| %RSD | .1588 | 62.11 | .3662 | .7591 | .7124 | 1.099 | .5701 |
| #1 | 9.864 | .0010 | .0374 | 1.140 | .3851 | .1627 | 2.871 |
| #2 | 9.837 | .0033 | .0376 | 1.157 | .3826 | .1610 | 2.869 |
| #3 | 9.837 | .0047 | .0376 | 1.145 | .3881 | .1592 | 2.842 |



Zoom In Zoom Out

Sample Name: jc86986-12 Acquired: 5/2/2019 18:37:38 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **155780.** | **24533.** | **6409.6** | **9458.4** |
| Stddev | 323. | 123. | 11.7 | 9.3 |
| %RSD | .20712 | .50303 | .18241 | .09839 |
| #1 | 155460. | 24414. | 6397.8 | 9450.9 |
| #2 | 155770. | 24660. | 6409.8 | 9455.4 |
| #3 | 156110. | 24526. | 6421.2 | 9468.8 |

Zoom In Zoom Out

Sample Name: jc86986-13 Acquired: 5/2/2019 18:42:37 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.317** | **.0078** | **.0006** | **.1131** | **.2899** | **.4630** | **4.008** | **.2758** | **.0010** |
| Stddev | .002 | .0000 | .0001 | .0006 | .0006 | .0017 | .068 | .0005 | .0010 |
| %RSD | .1143 | .3540 | 15.26 | .5464 | .2148 | .3677 | 1.693 | .1854 | 100.5 |
| #1 | 1.317 | .0078 | .0005 | .1124 | .2892 | .4618 | 4.073 | .2764 | .0017 |
| #2 | 1.317 | .0078 | .0006 | .1134 | .2904 | .4649 | 4.014 | .2756 | .0013 |
| #3 | 1.319 | .0077 | .0006 | .1134 | .2901 | .4622 | 3.938 | .2754 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3682** | **1.074** | **.0208** | **.0086** | **.3145** | **.0002** | **-.0006** | **158.0** | **14.43** |
| Stddev | .0010 | .001 | .0017 | .0030 | .0017 | .0034 | .0026 | .5 | .04 |
| %RSD | .2784 | .0857 | 8.333 | 34.66 | .5495 | 1867. | 424.4 | .3223 | .2898 |
| #1 | .3672 | 1.075 | .0223 | .0056 | .3126 | -.0025 | .0003 | 157.8 | 14.43 |
| #2 | .3692 | 1.075 | .0212 | .0085 | .3154 | -.0009 | .0014 | 157.6 | 14.39 |
| #3 | .3682 | 1.073 | .0189 | .0116 | .3157 | .0040 | -.0035 | 158.6 | 14.47 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **260.0** | **84.00** | **87.97** | **1.590** | **.0117** | **.0059** | **2.049** | **.0243** | **.1084** |
| Stddev | .7 | .20 | .22 | .022 | .0004 | .0008 | .004 | .0006 | .0001 |
| %RSD | .2533 | .2368 | .2461 | 1.389 | 3.584 | 13.22 | .1859 | 2.678 | .1203 |
| #1 | 259.5 | 83.83 | 88.02 | 1.585 | .0116 | .0066 | 2.053 | .0242 | .1085 |
| #2 | 259.6 | 83.94 | 87.73 | 1.571 | .0114 | .0060 | 2.046 | .0249 | .1085 |
| #3 | 260.7 | 84.22 | 88.15 | 1.614 | .0122 | .0051 | 2.048 | .0236 | .1083 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **14.25** | **.0030** | **.0271** | **.7895** | **.5500** | **.1948** | **3.788** |
| Stddev | .02 | .0012 | .0001 | .0027 | .0026 | .0005 | .036 |
| %RSD | .1151 | 40.53 | .5480 | .3436 | .4787 | .2674 | .9503 |
| #1 | 14.27 | .0043 | .0272 | .7890 | .5504 | .1954 | 3.779 |
| #2 | 14.24 | .0020 | .0269 | .7871 | .5472 | .1944 | 3.758 |
| #3 | 14.26 | .0027 | .0271 | .7924 | .5524 | .1946 | 3.828 |



Zoom In Zoom Out

Sample Name: jc86986-13 Acquired: 5/2/2019 18:42:37 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **154030.** | **24202.** | **6315.6** | **9350.7** |
| Stddev | 428. | 127. | 2.9 | 8.5 |
| %RSD | .27783 | .52374 | .04614 | .09130 |
| #1 | 153640. | 24343. | 6314.0 | 9354.8 |
| #2 | 153960. | 24166. | 6313.8 | 9356.4 |
| #3 | 154490. | 24098. | 6319.0 | 9340.9 |



Zoom In Zoom Out

Sample Name: mp14596-mb2conf Acquired: 5/2/2019 18:47:53 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0000** | **-.0001** | **.0001** | **-.0000** | **.0007** | **.0008** | **.0004** | **.0006** | **-.0002** |
| Stddev | .0001 | .0000 | .0003 | .0003 | .0002 | .0002 | .0000 | .0000 | .0002 |
| %RSD | 340.4 | 38.72 | 434.5 | 1118. | 29.42 | 21.95 | 1.739 | 7.897 | 111.0 |
| #1 | -.0000 | -.0001 | .0001 | .0003 | .0007 | .0007 | .0005 | .0007 | -.0004 |
| #2 | .0001 | -.0000 | .0004 | -.0002 | .0005 | .0010 | .0004 | .0006 | .0000 |
| #3 | -.0001 | -.0001 | -.0002 | -.0001 | .0009 | .0007 | .0004 | .0006 | -.0002 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0071** | **.0005** | **-.0002** | **-.0001** | **-.0017** | **-.0008** | **.0005** | **.0675** |
| Stddev | .0001 | .0001 | .0007 | .0006 | .0001 | .0005 | .0007 | .0129 | .0018 |
| %RSD | 379.6 | 1.391 | 156.8 | 234.4 | 68.35 | 27.54 | 94.16 | 2657. | 2.702 |
| #1 | -.0000 | .0073 | .0012 | -.0008 | -.0001 | -.0015 | .0000 | -.0114 | .0660 |
| #2 | .0001 | .0071 | -.0002 | .0004 | -.0001 | -.0022 | -.0009 | -.0012 | .0669 |
| #3 | -.0000 | .0071 | .0004 | -.0003 | -.0002 | -.0013 | -.0015 | .0141 | .0695 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0202** | **.0082** | **.0514** | **.0496** | **.0011** | **.0004** | **.0090** | **.0221** | **.0004** |
| Stddev | .0027 | .0071 | .0227 | .0096 | .0003 | .0001 | .0007 | .0005 | .0000 |
| %RSD | 13.28 | 86.03 | 44.05 | 19.30 | 24.26 | 17.21 | 7.380 | 2.312 | 12.50 |
| #1 | .0203 | .0057 | .0728 | .0386 | .0012 | .0004 | .0097 | .0223 | .0003 |
| #2 | .0175 | .0027 | .0538 | .0546 | .0014 | .0005 | .0088 | .0215 | .0004 |
| #3 | .0228 | .0162 | .0277 | .0557 | .0008 | .0004 | .0084 | .0224 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0007** | **.0015** | **.0003** | **.0111** | **.0010** | **.0014** | **.0277** |
| Stddev | .0002 | .0010 | .0001 | .0014 | .0026 | .0010 | .0017 |
| %RSD | 25.05 | 65.96 | 32.29 | 12.64 | 252.9 | 74.22 | 6.236 |
| #1 | .0006 | .0019 | .0002 | .0097 | .0036 | .0010 | .0272 |
| #2 | .0008 | .0023 | .0005 | .0125 | .0012 | .0025 | .0296 |
| #3 | .0005 | .0004 | .0003 | .0113 | -.0017 | .0005 | .0263 |



Zoom In Zoom Out

Sample Name: mp14596-mb2conf Acquired: 5/2/2019 18:47:53 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159670.** | **24503.** | **6503.2** | **10092.** |
| Stddev | 505. | 108. | 5.3 | 10. |
| %RSD | .31646 | .44048 | .08170 | .09932 |
| #1 | 159780. | 24395. | 6498.1 | 10081. |
| #2 | 159110. | 24610. | 6503.0 | 10100. |
| #3 | 160100. | 24503. | 6508.7 | 10095. |

Zoom In Zoom Out

Sample Name: jc86953-5r Acquired: 5/2/2019 18:52:59 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0431** | **.0008** | **.0002** | **.0025** | **.0637** | **.0215** | **.0674** | **.0086** | **.0004** |
| Stddev | .0001 | .0000 | .0002 | .0001 | .0007 | .0002 | .0006 | .0002 | .0001 |
| %RSD | .1244 | 4.848 | 113.6 | 5.577 | 1.065 | .8005 | .9613 | 2.469 | 38.41 |
| #1 | .0430 | .0008 | .0004 | .0024 | .0644 | .0214 | .0681 | .0086 | .0004 |
| #2 | .0431 | .0009 | .0000 | .0024 | .0636 | .0215 | .0672 | .0084 | .0002 |
| #3 | .0431 | .0008 | .0001 | .0027 | .0631 | .0217 | .0669 | .0088 | .0005 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0701** | **.1106** | **.0072** | **.0012** | **.0500** | **-.0007** | **.0000** | **20.50** | **1.977** |
| Stddev | .0003 | .0007 | .0010 | .0010 | .0016 | .0014 | .0004 | .01 | .002 |
| %RSD | .4530 | .6327 | 13.84 | 85.76 | 3.102 | 192.7 | 1400. | .0610 | .0849 |
| #1 | .0704 | .1115 | .0082 | .0013 | .0513 | -.0011 | -.0004 | 20.51 | 1.979 |
| #2 | .0699 | .1102 | .0062 | .0001 | .0483 | .0008 | .0001 | 20.50 | 1.976 |
| #3 | .0698 | .1103 | .0072 | .0021 | .0503 | -.0020 | .0004 | 20.48 | 1.975 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **62.61** | **.8630** | **.8192** | **.2773** | **.0079** | **.0040** | **1.847** | **.0188** | **.0206** |
| Stddev | .05 | .0091 | .0124 | .0064 | .0003 | .0003 | .010 | .0004 | .0000 |
| %RSD | .0802 | 1.051 | 1.508 | 2.299 | 3.838 | 6.688 | .5226 | 2.197 | .1409 |
| #1 | 62.63 | .8682 | .8233 | .2834 | .0082 | .0039 | 1.858 | .0187 | .0206 |
| #2 | 62.55 | .8526 | .8290 | .2779 | .0076 | .0039 | 1.839 | .0193 | .0206 |
| #3 | 62.64 | .8683 | .8053 | .2707 | .0078 | .0043 | 1.843 | .0185 | .0206 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.662** | **.0009** | **.1833** | **.8906** | **.0599** | **.0037** | **.7471** |
| Stddev | .018 | .0008 | .0019 | .0066 | .0027 | .0012 | .0127 |
| %RSD | 1.052 | 87.10 | 1.052 | .7421 | 4.585 | 31.55 | 1.704 |
| #1 | 1.681 | .0000 | .1853 | .8981 | .0630 | .0029 | .7615 |
| #2 | 1.657 | .0013 | .1832 | .8883 | .0581 | .0032 | .7373 |
| #3 | 1.647 | .0015 | .1814 | .8855 | .0585 | .0051 | .7425 |



Zoom In Zoom Out

Sample Name: jc86953-5r Acquired: 5/2/2019 18:52:59 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **159930.** | **24894.** | **6483.4** | **9868.6** |
| Stddev | 1966. | 168. | 40.4 | 52.7 |
| %RSD | 1.2289 | .67447 | .62248 | .53370 |
| #1 | 157680. | 24863. | 6436.8 | 9807.9 |
| #2 | 160860. | 24744. | 6507.0 | 9902.2 |
| #3 | 161260. | 25076. | 6506.4 | 9895.7 |



Zoom In Zoom Out

Sample Name: mp14636-mb1conf Acquired: 5/2/2019 18:58:01 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **-.0000** | **.0001** | **.0002** | **.0019** | **.0009** | **.0005** | **.0009** | **-.0002** |
| Stddev | .0001 | .0000 | .0002 | .0002 | .0002 | .0004 | .0000 | .0001 | .0001 |
| %RSD | 39.29 | 51.91 | 230.8 | 104.9 | 12.66 | 43.33 | 4.218 | 14.21 | 49.74 |
| #1 | -.0003 | -.0001 | -.0000 | .0002 | .0021 | .0014 | .0005 | .0009 | -.0002 |
| #2 | -.0003 | -.0001 | .0003 | .0003 | .0016 | .0007 | .0005 | .0009 | -.0002 |
| #3 | -.0001 | -.0000 | -.0000 | -.0000 | .0019 | .0007 | .0005 | .0011 | -.0001 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.0002** | **.0068** | **.0000** | **.0010** | **-.0007** | **-.0014** | **-.0017** | **-.0012** | **.0537** |
| Stddev | .0003 | .0012 | .0003 | .0015 | .0007 | .0013 | .0003 | .0075 | .0014 |
| %RSD | 168.3 | 17.90 | 3921. | 153.7 | 102.0 | 92.76 | 20.41 | 625.8 | 2.656 |
| #1 | -.0003 | .0060 | .0002 | -.0007 | -.0009 | -.0007 | -.0013 | .0070 | .0552 |
| #2 | -.0003 | .0082 | .0001 | .0020 | .0001 | -.0006 | -.0018 | -.0076 | .0535 |
| #3 | .0002 | .0062 | -.0003 | .0016 | -.0012 | -.0029 | -.0019 | -.0029 | .0524 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0406** | **.0127** | **-.0409** | **.0438** | **.0018** | **.0005** | **.0079** | **.0172** | **.0005** |
| Stddev | .0024 | .0081 | .0229 | .0067 | .0005 | .0001 | .0008 | .0002 | .0000 |
| %RSD | 5.797 | 63.75 | 56.05 | 15.22 | 27.89 | 20.93 | 10.59 | 1.393 | 9.261 |
| #1 | .0383 | .0178 | -.0376 | .0447 | .0012 | .0004 | .0069 | .0169 | .0005 |
| #2 | .0405 | .0034 | -.0653 | .0500 | .0020 | .0005 | .0085 | .0173 | .0005 |
| #3 | .0430 | .0169 | -.0198 | .0368 | .0022 | .0006 | .0082 | .0173 | .0004 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0011** | **.0020** | **.0008** | **.0162** | **.0007** | **.0005** | **.0233** |
| Stddev | .0001 | .0002 | .0001 | .0014 | .0017 | .0010 | .0017 |
| %RSD | 7.650 | 12.15 | 6.926 | 8.849 | 235.3 | 186.9 | 7.317 |
| #1 | .0011 | .0018 | .0008 | .0170 | .0023 | .0006 | .0217 |
| #2 | .0010 | .0023 | .0007 | .0146 | .0010 | .0015 | .0231 |
| #3 | .0011 | .0019 | .0007 | .0171 | -.0011 | -.0005 | .0250 |



Zoom In Zoom Out

Sample Name: mp14636-mb1conf Acquired: 5/2/2019 18:58:01 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **160320.** | **24857.** | **6539.5** | **10159.** |
| Stddev | 1820. | 150. | 8.0 | 10. |
| %RSD | 1.1351 | .60387 | .12238 | .09859 |
| #1 | 158280. | 24737. | 6531.6 | 10150. |
| #2 | 160890. | 24810. | 6539.3 | 10158. |
| #3 | 161790. | 25025. | 6547.6 | 10170. |

Zoom In Zoom Out

Sample Name: mp14636-ps1 Acquired: 5/2/2019 19:03:10 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.030** | **2.095** | **2.034** | **2.079** | **2.317** | **3.428** | **3.125** | **2.202** | **.2485** |
| Stddev | .017 | .008 | .087 | .076 | .005 | .010 | .041 | .080 | .0010 |
| %RSD | .4104 | .3823 | 4.297 | 3.680 | .2355 | .2803 | 1.305 | 3.651 | .3979 |
| #1 | 4.017 | 2.097 | 1.944 | 2.001 | 2.323 | 3.439 | 3.132 | 2.120 | .2477 |
| #2 | 4.048 | 2.102 | 2.119 | 2.153 | 2.317 | 3.423 | 3.161 | 2.281 | .2496 |
| #3 | 4.024 | 2.086 | 2.039 | 2.082 | 2.312 | 3.422 | 3.081 | 2.205 | .2484 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.235** | **3.251** | **2.114** | **2.130** | **5.299** | **2.047** | **2.019** | **88.02** | **73.63** |
| Stddev | .006 | .143 | .095 | .071 | .193 | .086 | .089 | .39 | .33 |
| %RSD | .2590 | 4.402 | 4.489 | 3.356 | 3.638 | 4.204 | 4.405 | .4411 | .4420 |
| #1 | 2.242 | 3.104 | 2.018 | 2.058 | 5.102 | 1.960 | 1.930 | 88.19 | 73.75 |
| #2 | 2.231 | 3.390 | 2.208 | 2.201 | 5.487 | 2.132 | 2.108 | 88.30 | 73.89 |
| #3 | 2.232 | 3.261 | 2.117 | 2.130 | 5.308 | 2.048 | 2.020 | 87.58 | 73.27 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **183.1** | **39.91** | **31.22** | **26.24** | **2.069** | **1.935** | **1.670** | **2.066** | **2.392** |
| Stddev | 5.3 | .25 | .14 | .08 | .086 | .084 | .075 | .093 | .006 |
| %RSD | 2.868 | .6213 | .4571 | .2986 | 4.164 | 4.323 | 4.494 | 4.500 | .2565 |
| #1 | 178.0 | 39.94 | 31.29 | 26.28 | 1.980 | 1.849 | 1.596 | 1.971 | 2.393 |
| #2 | 188.5 | 40.14 | 31.32 | 26.28 | 2.152 | 2.016 | 1.746 | 2.157 | 2.397 |
| #3 | 182.9 | 39.64 | 31.06 | 26.14 | 2.076 | 1.940 | 1.669 | 2.070 | 2.385 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **4.048** | **1.791** | **2.083** | **9.103** | **.1892** | **.0609** | **4.739** |
| Stddev | .011 | .084 | .005 | .391 | .0058 | .0004 | .201 |
| %RSD | .2707 | 4.675 | .2579 | 4.290 | 3.042 | .7354 | 4.240 |
| #1 | 4.060 | 1.703 | 2.089 | 8.706 | .1953 | .0613 | 4.540 |
| #2 | 4.038 | 1.869 | 2.078 | 9.487 | .1839 | .0610 | 4.942 |
| #3 | 4.046 | 1.800 | 2.082 | 9.116 | .1885 | .0604 | 4.736 |



Zoom In Zoom Out

Sample Name: mp14636-ps1 Acquired: 5/2/2019 19:03:10 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **153860.** | **25179.** | **6379.2** | **9306.3** |
| Stddev | 1041. | 241. | 254.7 | 303.6 |
| %RSD | .67662 | .95832 | 3.9929 | 3.2617 |
| #1 | 153820. | 25119. | 6649.0 | 9627.2 |
| #2 | 152840. | 24973. | 6142.8 | 9023.8 |
| #3 | 154920. | 25444. | 6345.7 | 9267.9 |



Zoom In Zoom Out

Sample Name: jc86916-2 Acquired: 5/2/2019 19:08:25 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.3833** | **.0056** | **.0010** | **.0654** | **.1705** | **.1545** | **1.885** | **.1052** | **.0011** |
| Stddev | .0005 | .0001 | .0002 | .0005 | .0003 | .0012 | .002 | .0005 | .0006 |
| %RSD | .1353 | 2.345 | 19.51 | .8148 | .1693 | .7991 | .1178 | .4850 | 58.35 |
| #1 | .3836 | .0055 | .0008 | .0648 | .1708 | .1555 | 1.886 | .1055 | .0005 |
| #2 | .3827 | .0058 | .0011 | .0657 | .1702 | .1550 | 1.886 | .1055 | .0017 |
| #3 | .3835 | .0056 | .0012 | .0658 | .1706 | .1531 | 1.882 | .1046 | .0010 |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.2065** | **.5565** | **.0605** | **-.0009** | **.2374** | **-.0007** | **-.0023** | **75.12** | **4.732** |
| Stddev | .0003 | .0016 | .0013 | .0022 | .0015 | .0032 | .0020 | .06 | .002 |
| %RSD | .1441 | .2811 | 2.176 | 241.0 | .6129 | 477.2 | 88.80 | .0863 | .0481 |
| #1 | .2066 | .5547 | .0593 | -.0026 | .2368 | -.0042 | -.0027 | 75.05 | 4.729 |
| #2 | .2062 | .5576 | .0619 | -.0018 | .2363 | .0020 | -.0040 | 75.17 | 4.732 |
| #3 | .2068 | .5573 | .0602 | .0016 | .2390 | .0001 | -.0001 | 75.15 | 4.734 |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **219.9** | **12.95** | **12.64** | **.2407** | **.0725** | **.0132** | **1.561** | **.0322** | **.0658** |
| Stddev | .1 | .01 | .07 | .0180 | .0004 | .0002 | .005 | .0006 | .0003 |
| %RSD | .0413 | .1039 | .5545 | 7.466 | .4922 | 1.167 | .3498 | 2.001 | .4550 |
| #1 | 219.8 | 12.95 | 12.61 | .2359 | .0721 | .0134 | 1.557 | .0330 | .0658 |
| #2 | 219.9 | 12.96 | 12.72 | .2606 | .0724 | .0131 | 1.567 | .0319 | .0654 |
| #3 | 220.0 | 12.93 | 12.58 | .2257 | .0728 | .0131 | 1.558 | .0318 | .0660 |

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.696** | **.0400** | **.1067** | **.4356** | **.0550** | **.0856** | **1.969** |
| Stddev | .002 | .0041 | .0001 | .0011 | .0021 | .0025 | .015 |
| %RSD | .1020 | 10.23 | .0919 | .2456 | 3.827 | 2.899 | .7644 |
| #1 | 1.697 | .0440 | .1068 | .4365 | .0529 | .0832 | 1.955 |
| #2 | 1.697 | .0400 | .1066 | .4358 | .0571 | .0882 | 1.967 |
| #3 | 1.694 | .0359 | .1067 | .4344 | .0549 | .0856 | 1.985 |



Zoom In Zoom Out

Sample Name: jc86916-2 Acquired: 5/2/2019 19:08:25 Type: Unk
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **157620.** | **24699.** | **6498.9** | **9787.7** |
| Stddev | 908. | 58. | 18.3 | 22.0 |
| %RSD | .57586 | .23373 | .28155 | .22442 |
| #1 | 158230. | 24642. | 6519.9 | 9812.6 |
| #2 | 156580. | 24757. | 6486.0 | 9771.4 |
| #3 | 158050. | 24698. | 6490.9 | 9778.9 |

Zoom In Zoom Out

Sample Name: CCV Acquired: 5/2/2019 19:13:29 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.008** | **2.090** | **2.015** | **2.027** | **2.016** | **2.004** | **2.026** | **2.044** | **.2474** |
| Stddev | .004 | .009 | .003 | .003 | .022 | .019 | .033 | .002 | .0018 |
| %RSD | .1918 | .4370 | .1374 | .1408 | 1.076 | .9598 | 1.628 | .0918 | .7245 |
| #1 | 2.007 | 2.083 | 2.017 | 2.030 | 2.031 | 2.018 | 2.024 | 2.046 | .2489 |
| #2 | 2.004 | 2.087 | 2.016 | 2.029 | 2.026 | 2.013 | 2.061 | 2.044 | .2480 |
| #3 | 2.012 | 2.100 | 2.012 | 2.024 | 1.991 | 1.982 | 1.995 | 2.043 | .2454 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.977** | **2.020** | **2.019** | **2.102** | **2.037** | **2.023** | **2.022** | **39.69** | **39.71** |
| Stddev | .021 | .002 | .004 | .005 | .004 | .006 | .003 | .14 | .18 |
| %RSD | 1.084 | .0987 | .1999 | .2571 | .1847 | .2806 | .1290 | .3639 | .4508 |
| #1 | 1.994 | 2.022 | 2.021 | 2.101 | 2.041 | 2.026 | 2.025 | 39.58 | 39.55 |
| #2 | 1.985 | 2.021 | 2.023 | 2.107 | 2.036 | 2.026 | 2.023 | 39.63 | 39.68 |
| #3 | 1.953 | 2.018 | 2.015 | 2.097 | 2.033 | 2.016 | 2.020 | 39.85 | 39.91 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **40.66** | **39.82** | **39.78** | **40.09** | **2.074** | **2.011** | **5.348** | **2.033** | **2.085** |
| Stddev | .12 | .22 | .22 | .08 | .003 | .004 | .011 | .003 | .005 |
| %RSD | .2943 | .5438 | .5531 | .1972 | .1276 | .1938 | .2087 | .1675 | .2650 |
| #1 | 40.57 | 39.59 | 39.58 | 40.03 | 2.076 | 2.014 | 5.358 | 2.034 | 2.083 |
| #2 | 40.60 | 39.83 | 39.73 | 40.07 | 2.076 | 2.013 | 5.348 | 2.036 | 2.081 |
| #3 | 40.79 | 40.02 | 40.02 | 40.18 | 2.071 | 2.007 | 5.336 | 2.029 | 2.091 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | | | |
| Range | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCV Acquired: 5/2/2019 19:13:29 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **2.003** | **1.999** | **2.015** | **1.986** | **2.013** | **2.036** | **2.001** |
| Stddev | .019 | .004 | .020 | .004 | .005 | .012 | .014 |
| %RSD | .9512 | .2176 | 1.007 | .1905 | .2428 | .5882 | .6793 |
| #1 | 2.018 | 2.003 | 2.030 | 1.988 | 2.018 | 2.027 | 1.988 |
| #2 | 2.010 | 1.999 | 2.024 | 1.989 | 2.009 | 2.032 | 2.000 |
| #3 | 1.982 | 1.995 | 1.992 | 1.982 | 2.012 | 2.050 | 2.015 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **150430.** | **23915.** | **6160.0** | **9158.8** |
| Stddev | 2015. | 230. | 13.0 | 17.7 |
| %RSD | 1.3396 | .95990 | .21067 | .19334 |
| #1 | 149040. | 24178. | 6171.2 | 9174.8 |
| #2 | 149500. | 23816. | 6145.8 | 9139.8 |
| #3 | 152740. | 23752. | 6163.1 | 9161.8 |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/2/2019 19:18:32 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ba4554 | Be3130 | Cd2288 | Co2286 | Cr2677 | Cu3247 | Mn2576 | Ni2316 | Ag3280 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0000** | **.0001** | **.0002** | **.0004** | **.0001** | **.0001** | **.0002** | **.0002** | **-.0003** |
| Stddev | .0004 | .0000 | .0001 | .0002 | .0002 | .0001 | .0001 | .0001 | .0001 |
| %RSD | 1796. | 38.57 | 47.71 | 59.63 | 253.5 | 118.3 | 29.85 | 48.08 | 30.35 |
| #1 | -.0005 | .0000 | .0002 | .0002 | .0002 | .0001 | .0002 | .0002 | -.0003 |
| #2 | .0002 | .0001 | .0001 | .0004 | .0002 | .0003 | .0002 | .0001 | -.0002 |
| #3 | .0003 | .0001 | .0003 | .0006 | -.0001 | .0000 | .0001 | .0002 | -.0005 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | V_2924 | Zn2062 | As1890 | Tl1908 | Pb2203 | Se1960 | Sb2068 | Al3961 | Ca3179 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0006** | **-.0002** | **-.0001** | **.0002** | **-.0005** | **-.0003** | **.0002** | **-.0035** | **-.0006** |
| Stddev | .0001 | .0000 | .0012 | .0011 | .0001 | .0008 | .0008 | .0055 | .0011 |
| %RSD | 14.16 | 19.03 | 1382. | 608.1 | 15.18 | 260.0 | 505.3 | 156.6 | 184.4 |
| #1 | .0005 | -.0002 | .0011 | .0001 | -.0004 | .0006 | -.0005 | -.0017 | -.0018 |
| #2 | .0006 | -.0002 | -.0013 | -.0009 | -.0005 | -.0008 | -.0001 | -.0097 | -.0002 |
| #3 | .0007 | -.0002 | .0000 | .0013 | -.0006 | -.0008 | .0011 | .0008 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |

| Elem | Fe2599 | Mg2790 | K_7664 | Na5895 | B_2089 | Mo2020 | Si2124 | Sn1899 | Sr4077 |
|---|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0005** | **-.0000** | **-.0207** | **-.0024** | **.0028** | **.0013** | **.0028** | **-.0008** | **.0002** |
| Stddev | .0026 | .0082 | .0487 | .0087 | .0001 | .0003 | .0017 | .0005 | .0001 |
| %RSD | 567.5 | 1345000. | 235.9 | 368.9 | 2.398 | 22.07 | 60.08 | 60.94 | 22.44 |
| #1 | -.0020 | -.0067 | .0330 | .0071 | .0028 | .0014 | .0030 | -.0013 | .0002 |
| #2 | .0031 | -.0024 | -.0329 | -.0100 | .0027 | .0015 | .0011 | -.0006 | .0003 |
| #3 | .0003 | .0091 | -.0621 | -.0042 | .0028 | .0010 | .0045 | -.0004 | .0003 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | | |
| Low Limit | | | | | | | | | |



Zoom In Zoom Out

Sample Name: CCB Acquired: 5/2/2019 19:18:32 Type: QC
Method: SGS 3 NO Valve(v332) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ti3349 | W_2079 | Zr3391 | S_1820 | Bi2230 | Li6707 | P_1774 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.0003** | F **.0063** | **.0002** | **.0031** | **-.0010** | **.0027** | **-.0000** |
| Stddev | .0001 | .0014 | .0001 | .0038 | .0016 | .0017 | .0023 |
| %RSD | 31.56 | 21.38 | 47.41 | 122.5 | 157.9 | 62.97 | 4663. |
| #1 | .0005 | .0072 | .0004 | .0061 | -.0008 | .0046 | .0024 |
| #2 | .0003 | .0070 | .0001 | .0044 | .0005 | .0015 | -.0020 |
| #3 | .0003 | .0048 | .0002 | -.0012 | -.0027 | .0020 | -.0006 |
| Check ? | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | .0050 | | | | | |
| Low Limit | | -.0050 | | | | | |

| Int. Std. | Y_3600 | Y_3710 | Y_2243 | In2306 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **156130.** | **23958.** | **6403.1** | **9973.7** |
| Stddev | 1506. | 105. | 26.0 | 42.0 |
| %RSD | .96479 | .43638 | .40631 | .42135 |
| #1 | 154970. | 24006. | 6394.2 | 9957.1 |
| #2 | 155600. | 23838. | 6382.7 | 9942.4 |
| #3 | 157830. | 24031. | 6432.4 | 10021. |





**NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.**

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | ☒ | 1 | Zr | 0.001245 | 0.000000 | No |
| Be 313.042 {108} | ☒ | 6 | V | 0.001106 | 0.000000 | No |
| | | | Mo | -0.000047 | 0.000000 | No |
| | | | Ti | -0.000331 | 0.000000 | No |
| | | | Mn | 0.000010 | 0.000000 | No |
| | | | Cu | 0.000014 | 0.000000 | No |
| | | | Bi | 0.000060 | 0.000000 | No |
| Cd 228.802 {448} | ☒ | 11 | As | 0.010200 | 0.000000 | No |
| | | | Ni | -0.000628 | 0.000000 | No |
| | | | Fe | -0.000003 | 0.000000 | No |
| | | | V | 0.000091 | 0.000000 | No |
| | | | Ba | 0.000064 | 0.000000 | No |
| | | | Co | -0.001130 | 0.000000 | No |
| | | | Sr | -0.000020 | 0.000000 | No |
| | | | Mn | 0.000050 | 0.000000 | No |
| | | | Cu | -0.000026 | 0.000000 | No |
| | | | Zn | -0.000018 | 0.000000 | No |
| | | | W | -0.000482 | 0.000000 | No |
| Co 228.616 {448} | ☒ | 7 | Fe | 0.000009 | 0.000000 | No |
| | | | Mo | -0.000790 | 0.000000 | No |
| | | | Ni | 0.000091 | 0.000000 | No |
| | | | Ti | 0.002192 | 0.000000 | No |
| | | | Ba | 0.000140 | 0.000000 | No |
| | | | W | 0.000327 | 0.000000 | No |
| | | | Cd | -0.000510 | 0.000000 | No |
| Cr 267.716 {126} | ☒ | 9 | Mn | 0.000348 | 0.000000 | No |
| | | | V | 0.000090 | 0.000000 | No |
| | | | Mo | -0.000082 | 0.000000 | No |
| | | | Fe | -0.000005 | 0.000000 | No |
| | | | Ti | 0.000060 | 0.000000 | No |
| | | | Ba | 0.000045 | 0.000000 | No |
| | | | Cu | 0.000100 | 0.000000 | No |
| | | | Sr | -0.000100 | 0.000000 | No |
| | | | W | 0.000404 | 0.000000 | No |
| Cu 324.754 {104}2 | ☒ | 13 | Cr | -0.000004 | 0.000000 | No |
| | | | V | -0.000397 | 0.000000 | No |
| | | | Mo | 0.000544 | 0.000000 | No |
| | | | Ti | -0.000208 | 0.000000 | No |
| | | | Fe | -0.000226 | 0.000000 | No |
| | | | Zn | -0.000041 | 0.000000 | No |
| | | | Co | -0.001373 | 0.000000 | No |
| | | | Si | 0.000016 | 0.000000 | No |
| | | | Mn | 0.000003 | 0.000000 | No |
| | | | Se | 0.000050 | 0.000000 | No |
| | | | Sb | 0.000069 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Al | 0.000004 | 0.000000 | No |
| Mn 257.610 {131} | ☒ | 4 | Fe | -0.000107 | 0.000000 | No |
| | | | Si | 0.000010 | 0.000000 | No |
| | | | Ba | 0.000004 | 0.000000 | No |
| | | | Ni | 0.000028 | 0.000000 | No |
| Ni 231.604 {446} | ☒ | 8 | Fe | 0.000008 | 0.000000 | No |
| | | | Zn | -0.000013 | 0.000000 | No |
| | | | Be | 0.000213 | 0.000000 | No |
| | | | Co | -0.000220 | 0.000000 | No |
| | | | Tl | 0.000209 | 0.000000 | No |
| | | | Mo | 0.000026 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Cu | 0.000050 | 0.000000 | No |
| | | | Se | 0.000100 | 0.000000 | No |
| Ag 328.068 {103} | ☒ | 14 | Mn | 0.000252 | 0.000000 | No |
| | | | Mo | 0.000012 | -0.000003 | No |
| | | | Ti | -0.000090 | 0.000000 | No |
| | | | Fe | -0.000255 | 0.000000 | No |
| | | | Zn | -0.000120 | 0.000000 | No |
| | | | Ca | -0.000001 | 0.000000 | No |
| | | | Zr | 0.007615 | 0.000000 | No |
| | | | Sr | -0.000020 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Ba | 0.000071 | 0.000000 | No |
| | | | Cr | 0.000022 | 0.000000 | No |
| | | | V | -0.003500 | 0.000000 | No |
| | | | Al | -0.000006 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| V 292.402 {115} | ☒ | 6 | Ti | 0.000689 | 0.000000 | No |
| | | | Mo | -0.000304 | 0.000000 | No |
| | | | Fe | 0.000029 | 0.000000 | No |
| | | | Sr | -0.000100 | 0.000000 | No |
| | | | Cr | -0.007536 | 0.000000 | No |
| | | | Mn | -0.002777 | 0.000000 | No |
| Zn 206.200 {464} | ☒ | 9 | Cr | -0.000850 | 0.000000 | No |
| | | | Fe | 0.000011 | 0.000000 | No |
| | | | Si | 0.000015 | 0.000000 | No |
| | | | Mn | -0.000045 | 0.000000 | No |
| | | | Ba | -0.000060 | 0.000000 | No |
| | | | Sn | -0.000023 | 0.000000 | No |
| | | | Cu | 0.000148 | 0.000000 | No |
| | | | As | 0.000055 | 0.000000 | No |
| | | | Be | 0.000058 | 0.000000 | No |
| As 189.042 {478} | ☒ | 18 | Al | 0.000008 | 0.000000 | No |
| | | | Fe | -0.000045 | 0.000000 | No |
| | | | Ca | 0.000004 | 0.000000 | No |
| | | | Mo | 0.002750 | 0.000000 | No |
| | | | Cr | 0.000100 | 0.000000 | No |
| | | | Ba | -0.000114 | 0.000000 | No |
| | | | Sn | -0.000130 | 0.000000 | No |
| | | | Cd | -0.000328 | 0.000000 | No |
| | | | Si | 0.000024 | 0.000000 | No |
| | | | Zn | -0.000082 | 0.000000 | No |
| | | | Sr | -0.000045 | 0.000000 | No |
| | | | W | 0.010000 | 0.000000 | No |
| | | | Cu | -0.000058 | 0.000000 | No |
| | | | Co | -0.000045 | 0.000000 | No |
| | | | Zr | 0.000036 | 0.000000 | No |
| | | | Mn | 0.000022 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Ti | 0.000100 | 0.000000 | No |
| Tl 190.856 {477} | ☒ | 24 | Cr | 0.000315 | 0.000000 | No |
| | | | Mo | -0.008200 | 0.000000 | No |
| | | | Al | -0.000003 | 0.000000 | No |
| | | | Fe | -0.000032 | 0.000000 | No |
| | | | V | -0.028288 | 0.000000 | No |
| | | | Mn | 0.001890 | 0.000000 | No |
| | | | Si | -0.000018 | 0.000000 | No |
| | | | Ca | 0.000000 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Ti | -0.002790 | 0.000000 | No |
| | | | Mg | 0.000000 | 0.000000 | No |
| | | | Co | 0.004280 | 0.000000 | No |
| | | | Sr | 0.000010 | 0.000000 | No |
| | | | B | -0.000003 | 0.000000 | No |
| | | | Ba | 0.000034 | 0.000000 | No |
| | | | Zn | -0.000053 | 0.000000 | No |
| | | | As | 0.000068 | 0.000000 | No |
| | | | W | -0.007000 | 0.000000 | No |
| | | | Cu | 0.000142 | 0.000000 | No |
| | | | Pb | -0.000020 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Sn | -0.000086 | 0.000000 | No |
| | | | Li | 0.000000 | 0.000000 | No |
| | | | K | 0.000000 | 0.000000 | No |
| | | | Zr | 0.000000 | 0.000000 | No |
| Pb 220.353 {453} | ☒ | 20 | Al | -0.000093 | 0.000000 | No |
| | | | Fe | 0.000039 | 0.000000 | No |
| | | | Ca | 0.000005 | 0.000000 | No |
| | | | Mn | 0.000154 | 0.000000 | No |
| | | | Mo | -0.001500 | 0.000000 | No |
| | | | Cu | 0.000154 | 0.000000 | No |
| | | | Co | 0.000264 | 0.000000 | No |
| | | | Ti | -0.000900 | 0.000000 | No |
| | | | Si | -0.000067 | 0.000000 | No |
| | | | Ba | -0.000022 | 0.000000 | No |
| | | | Sb | -0.000084 | 0.000000 | No |
| | | | Sr | -0.000033 | 0.000000 | No |
| | | | W | 0.005000 | 0.000000 | No |
| | | | Mg | 0.000004 | 0.000000 | No |
| | | | Cd | 0.000012 | 0.000000 | No |
| | | | Cr | -0.000031 | 0.000000 | No |
| | | | Zr | -0.000281 | 0.000000 | No |
| | | | Ni | 0.000371 | 0.000000 | No |
| | | | S | 0.000010 | 0.000000 | No |
| | | | Zn | -0.000106 | 0.000000 | No |
| Se 196.090 {472} | ☒ | 23 | Al | -0.000002 | 0.000000 | No |
| | | | Ca | -0.000007 | 0.000000 | No |
| | | | Mn | 0.000594 | 0.000000 | No |
| | | | Mo | 0.000400 | 0.000000 | No |
| | | | Fe | -0.000172 | 0.000000 | No |
| | | | Co | -0.000182 | 0.000000 | No |
| | | | Sr | -0.000011 | 0.000000 | No |
| | | | Cu | -0.000087 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Si | 0.000054 | 0.000000 | No |
| | | | Be | -0.000347 | 0.000000 | No |
| | | | Zn | 0.000050 | 0.000000 | No |
| | | | B | 0.000028 | 0.000000 | No |
| | | | Ti | -0.000020 | 0.000000 | No |
| | | | Cd | 0.000090 | 0.000000 | No |
| | | | Zr | -0.000297 | 0.000000 | No |
| | | | Ba | -0.000046 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Pb | -0.000078 | 0.000000 | No |
| | | | Ni | -0.000100 | 0.000000 | No |
| | | | Cr | -0.000024 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | S | -0.000014 | 0.000000 | No |
| | | | V | 0.000188 | 0.000000 | No |
| Sb 206.833 {463} | ☒ | 17 | Fe | 0.000005 | 0.000000 | No |
| | | | Al | 0.000015 | 0.000000 | No |
| | | | Ca | 0.000001 | 0.000000 | No |
| | | | Ni | -0.000716 | 0.000000 | No |
| | | | Cr | 0.020800 | 0.000000 | No |
| | | | V | -0.003422 | 0.000000 | No |
| | | | Zn | -0.000115 | 0.000000 | No |
| | | | Mo | 0.000589 | 0.000000 | No |
| | | | Ti | 0.000630 | 0.000000 | No |
| | | | Sn | -0.010725 | 0.000000 | No |
| | | | Mg | -0.000003 | 0.000000 | No |
| | | | Zr | -0.000463 | 0.000000 | No |
| | | | Sr | 0.000031 | 0.000000 | No |
| | | | B | -0.000100 | 0.000000 | No |
| | | | Co | -0.000251 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| | | | Si | -0.000170 | 0.000000 | No |
| Al 396.152 { 85} | ☒ | 5 | Si | 0.000652 | 0.000000 | No |
| | | | Ca | 0.000018 | 0.000000 | No |
| | | | Mo | 0.043916 | 0.000000 | No |
| | | | Zr | 0.005268 | 0.000000 | No |
| | | | Ti | -0.000583 | 0.000000 | No |
| Ca 317.933 {106} | ☒ | 14 | Fe | 0.000012 | 0.000000 | No |
| | | | W | 0.003960 | 0.000000 | No |
| | | | Tl | -0.000152 | 0.000000 | No |
| | | | Be | 0.001840 | 0.000000 | No |
| | | | Ba | -0.001224 | 0.000000 | No |
| | | | Cu | -0.000822 | 0.000000 | No |
| | | | Cd | -0.007593 | 0.000000 | No |
| | | | Ni | 0.000667 | 0.000000 | No |
| | | | B | -0.000210 | 0.000000 | No |
| | | | Se | 0.000923 | 0.000000 | No |
| | | | Co | -0.000408 | 0.000000 | No |
| | | | Cr | 0.000640 | 0.000000 | No |
| | | | Al | -0.000000 | 0.000000 | No |
| | | | As | 0.010000 | 0.000000 | No |
| Fe 259.940 {130} | ☒ | 10 | Si | 0.000819 | 0.000000 | No |
| | | | Tl | -0.000051 | 0.000000 | No |
| | | | Cr | 0.000310 | 0.000000 | No |
| | | | Mn | -0.000196 | 0.000000 | No |
| | | | V | -0.000064 | 0.000000 | No |
| | | | Cu | -0.000015 | 0.000000 | No |
| | | | Zn | 0.000046 | 0.000000 | No |
| | | | Ti | -0.000631 | 0.000000 | No |
| | | | Ca | 0.000020 | 0.000000 | No |
| | | | Ba | 0.001000 | 0.000000 | No |
| Mg 279.079 {121} | ☒ | 3 | Mo | -0.013702 | 0.000000 | No |
| | | | W | -0.006578 | 0.000000 | No |
| | | | Mn | -0.002445 | 0.000000 | No |
| K 766.490 { 44} | ☒ | 11 | Fe | -0.000440 | 0.000000 | No |
| | | | Al | 0.000077 | 0.000000 | No |
| | | | Ca | -0.000121 | 0.000000 | No |
| | | | Mn | -0.007074 | 0.000000 | No |
| | | | Si | -0.003000 | 0.000000 | No |
| | | | V | -0.002000 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| | | | Sn | -0.004700 | 0.000000 | No |
| | | | Ba | -0.010574 | 0.000000 | No |
| | | | Mo | -0.000850 | 0.000000 | No |
| | | | Cu | -0.011483 | 0.000000 | No |
| | | | Ni | -0.010000 | 0.000000 | No |
| Na 589.592 { 57} | ☒ | 4 | K | -0.000560 | 0.000000 | No |
| | | | Ba | 0.000900 | 0.000000 | No |
| | | | Ca | 0.000180 | 0.000000 | No |
| | | | V | -0.005000 | 0.000000 | No |
| B 208.959 {462} | ☒ | 1 | Mo | 0.038137 | 0.000000 | No |
| Mo 202.030 {467} | ☒ | 2 | Al | -0.000004 | 0.000000 | No |
| | | | Fe | -0.000010 | 0.000000 | No |
| Si 212.412 {459} | ☒ | 12 | Sr | 0.000366 | 0.000000 | No |
| | | | Ni | 0.002092 | 0.000000 | No |
| | | | Mo | 0.034932 | 0.000000 | No |
| | | | V | 0.036950 | 0.000000 | No |
| | | | Ti | 0.004593 | 0.000000 | No |
| | | | Al | -0.000010 | 0.000000 | No |
| | | | Cd | 0.001043 | 0.000000 | No |
| | | | Ba | 0.001987 | 0.000000 | No |
| | | | Sn | 0.007500 | 0.000000 | No |
| | | | Zn | 0.000385 | 0.000000 | No |
| | | | Be | -0.000048 | 0.000000 | No |
| | | | W | 0.000000 | 0.000000 | No |
| Sn 189.989 {478} | ☒ | 4 | Ti | -0.001964 | 0.000000 | No |
| | | | Fe | 0.000004 | 0.000000 | No |
| | | | Si | 0.000131 | 0.000000 | No |
| | | | Zr | 0.000908 | 0.000000 | No |
| Sr 407.771 { 83} | ☒ | 2 | Ca | 0.000018 | 0.000000 | No |
| | | | Si | 0.000033 | 0.000000 | No |
| Ti 334.904 {101} | ☒ | 3 | Cr | 0.000189 | 0.000000 | No |
| | | | Mo | 0.001351 | 0.000000 | No |
| | | | Si | 0.000035 | 0.000000 | No |
| Y 360.073 { 94}* | ☒ | None | | | | |
| Y 371.030 { 91}* | ☒ | None | | | | |
| Y 224.306 {451}* | ☒ | None | | | | |
| In 230.606 {446}* | ☒ | None | | | | |
| W 207.911 {462} | ☒ | 20 | Si | 0.000105 | 0.000000 | No |
| | | | As | 0.000100 | 0.000000 | No |
| | | | Mn | 0.000066 | 0.000000 | No |
| | | | Mo | -0.000300 | 0.000000 | No |
| | | | Ti | 0.000080 | 0.000000 | No |
| | | | Sr | -0.000850 | 0.000000 | No |
| | | | V | -0.000140 | 0.000000 | No |
| | | | Cd | -0.000650 | 0.000000 | No |
| | | | Cr | -0.000390 | 0.000000 | No |
| | | | Zn | 0.013026 | 0.000000 | No |
| | | | Sn | 0.001300 | 0.000000 | No |
| | | | Zr | 0.000061 | 0.000000 | No |
| | | | B | 0.000009 | 0.000000 | No |
| | | | Sb | -0.000300 | 0.000000 | No |
| | | | Co | -0.001000 | 0.000000 | No |
| | | | Ni | -0.003000 | 0.000000 | No |
| | | | Be | -0.000185 | 0.000000 | No |
| | | | Se | -0.000105 | 0.000000 | No |
| | | | Cu | -0.000138 | 0.000000 | No |
| | | | Tl | -0.000220 | 0.000000 | No |

| Element, Wavelength and Order | Use? | # IECs | IEC | k1 | k2 | Calc-in-fit? |
|---|---|---|---|---|---|---|
| Zr 339.198 { 99} | ☒ | 6 | Mo | 0.001069 | 0.000000 | No |
| | | | Ti | 0.000203 | 0.000000 | No |
| | | | Fe | -0.000070 | 0.000000 | No |
| | | | Si | 0.000074 | 0.000000 | No |
| | | | S | -0.000002 | 0.000000 | No |
| | | | Cr | -0.000700 | 0.000000 | No |
| S 182.034 {485} | ☒ | 7 | Mo | -0.004201 | 0.000000 | No |
| | | | Al | -0.000034 | 0.000000 | No |
| | | | Fe | 0.000002 | 0.000000 | No |
| | | | Mn | 0.004620 | 0.000000 | No |
| | | | W | -0.032564 | 0.000000 | No |
| | | | Ca | 0.000032 | 0.000000 | No |
| | | | Mg | 0.000005 | 0.000000 | No |
| Bi 223.061 {451} | ☒ | 9 | Ti | -0.072020 | 0.000000 | No |
| | | | V | -0.000704 | 0.000000 | No |
| | | | Co | -0.002380 | 0.000000 | No |
| | | | Ca | -0.000002 | 0.000000 | No |
| | | | Mg | -0.000000 | 0.000000 | No |
| | | | Fe | 0.000187 | 0.000000 | No |
| | | | Cr | 0.001595 | 0.000000 | No |
| | | | Cu | -0.001148 | 0.000000 | No |
| | | | W | -0.020000 | 0.000000 | No |
| Li 670.784 { 50} | ☒ | 2 | Ca | 0.000023 | 0.000000 | No |
| | | | Fe | 0.000081 | 0.000000 | No |
| P 177.495 {490} | ☒ | 9 | Mn | -0.006184 | 0.000000 | No |
| | | | Al | -0.000060 | 0.000000 | No |
| | | | V | -0.001953 | 0.000000 | No |
| | | | Si | -0.001622 | 0.000000 | No |
| | | | Ti | 0.000000 | -0.001185 | No |
| | | | Mo | -0.001880 | 0.000000 | No |
| | | | S | -0.000189 | 0.000000 | No |
| | | | Co | -0.002198 | 0.000000 | No |
| | | | Cu | -0.023500 | 0.000000 | No |

| Element, Wavelength and Order | Date of Fit | Date of Cal. | Type of Fit | Weighting | A0 | A1 | A2 | n (Exponent) |
|---|---|---|---|---|---|---|---|---|
| Ba 455.403 { 74} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.014402 | 1.956498 | 0.000000 | 1.000000 |
| Be 313.042 {108} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000738 | 2.845392 | 0.000000 | 1.000000 |
| Cd 228.802 {448} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000452 | 1.158256 | 0.000000 | 1.000000 |
| Co 228.616 {448} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000107 | 0.725950 | 0.000000 | 1.000000 |
| Cr 267.716 {126} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000070 | 0.156510 | 0.000000 | 1.000000 |
| Cu 324.754 {104}2 | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.002634 | 0.257696 | 0.000000 | 1.000000 |
| Mn 257.610 {131} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000093 | 0.865849 | 0.000000 | 1.000000 |
| Ni 231.604 {446} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000055 | 0.589198 | 0.000000 | 1.000000 |
| Ag 328.068 {103} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000252 | 0.157062 | 0.000000 | 1.000000 |
| V 292.402 {115} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000236 | 0.224187 | 0.000000 | 1.000000 |
| Zn 206.200 {464} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000190 | 1.702336 | 0.000000 | 1.000000 |
| As 189.042 {478} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000177 | 0.124920 | 0.000000 | 1.000000 |
| Tl 190.856 {477} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000237 | 0.077566 | 0.000000 | 1.000000 |
| Pb 220.353 {453} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000814 | 0.257621 | 0.000000 | 1.000000 |
| Se 196.090 {472} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000109 | 0.095454 | 0.000000 | 1.000000 |
| Sb 206.833 {463} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000852 | 0.163927 | 0.000000 | 1.000000 |
| Al 396.152 { 85} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000608 | 0.045432 | 0.000000 | 1.000000 |
| Ca 317.933 {106} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.004920 | 0.102097 | 0.000000 | 1.000000 |
| Fe 259.940 {130} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000202 | 0.056127 | 0.000000 | 1.000000 |
| Mg 279.079 {121} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000050 | 0.010818 | 0.000000 | 1.000000 |
| K 766.490 { 44} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.004340 | 0.023930 | 0.000000 | 1.000000 |
| Na 589.592 { 57} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.003751 | 0.090001 | 0.000000 | 1.000000 |
| B 208.959 {462} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000476 | 0.247032 | 0.000000 | 1.000000 |
| Mo 202.030 {467} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000960 | 0.790863 | 0.000000 | 1.000000 |
| Si 212.412 {459} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.002394 | 0.220142 | 0.000000 | 1.000000 |
| Sn 189.989 {478} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000441 | 0.236768 | 0.000000 | 1.000000 |
| Sr 407.771 { 83} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.001753 | 3.340113 | 0.000000 | 1.000000 |
| Ti 334.904 {101} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000070 | 0.179464 | 0.000000 | 1.000000 |
| Y 360.073 { 94}* | 5/3/2019 8:47:21 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| Y 371.030 { 91}* | 5/3/2019 8:47:21 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| Y 224.306 {451}* | 5/3/2019 8:47:21 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| In 230.606 {446}* | 5/3/2019 8:47:21 | 12/23/2009 10:44:16 | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| W 207.911 {462} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000554 | 0.398925 | 0.000000 | 1.000000 |
| Zr 339.198 { 99} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000429 | 0.512228 | 0.000000 | 1.000000 |
| S 182.034 {485} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.000140 | 0.052632 | 0.000000 | 1.000000 |
| Bi 223.061 {451} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | 0.000036 | 0.191973 | 0.000000 | 1.000000 |
| Li 670.784 { 50} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | None | -0.005527 | 0.527600 | 0.000000 | 1.000000 |
| P 177.495 {490} | 5/3/2019 8:47:21 | 5/2/2019 12:08:11 | Linear | 1/Conc | -0.001631 | 0.031743 | 0.000000 | 1.000000 |

| Element, Wavelength and Order | Correlation | Std Error of Est | Predicted MDL | Predicted MQL | Status | Reslope | | QC Norm | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Slope | Y-int | Slope factor | Offset |
| Ba 455.403 { 74} | 1.000000 | 0.000000 | 0.000272 | 0.000906 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Be 313.042 {108} | 1.000000 | 0.000000 | 0.000067 | 0.000222 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cd 228.802 {448} | 1.000000 | 0.000000 | 0.000191 | 0.000635 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Co 228.616 {448} | 1.000000 | 0.000000 | 0.000232 | 0.000774 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cr 267.716 {126} | 1.000000 | 0.000000 | 0.000288 | 0.000960 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Cu 324.754 {104}2 | 1.000000 | 0.000000 | 0.000399 | 0.001329 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mn 257.610 {131} | 1.000000 | 0.000000 | 0.000047 | 0.000155 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ni 231.604 {446} | 1.000000 | 0.000000 | 0.000328 | 0.001092 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ag 328.068 {103} | 1.000000 | 0.000000 | 0.000429 | 0.001430 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| V 292.402 {115} | 1.000000 | 0.000000 | 0.000340 | 0.001134 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Zn 206.200 {464} | 1.000000 | 0.000000 | 0.000108 | 0.000359 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| As 189.042 {478} | 1.000000 | 0.000000 | 0.001094 | 0.003648 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Tl 190.856 {477} | 1.000000 | 0.000000 | 0.001333 | 0.004444 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Pb 220.353 {453} | 1.000000 | 0.000000 | 0.001053 | 0.003511 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Se 196.090 {472} | 1.000000 | 0.000000 | 0.001963 | 0.006545 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sb 206.833 {463} | 1.000000 | 0.000000 | 0.001480 | 0.004934 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Al 396.152 { 85} | 1.000000 | 0.000000 | 0.009505 | 0.031683 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ca 317.933 {106} | 1.000000 | 0.000000 | 0.002319 | 0.007729 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Fe 259.940 {130} | 1.000000 | 0.000000 | 0.002055 | 0.006850 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mg 279.079 {121} | 1.000000 | 0.000000 | 0.013758 | 0.045861 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| K 766.490 { 44} | 1.000000 | 0.000000 | 0.033271 | 0.110903 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Na 589.592 { 57} | 1.000000 | 0.000000 | 0.009262 | 0.030872 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| B 208.959 {462} | 1.000000 | 0.000000 | 0.000681 | 0.002269 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Mo 202.030 {467} | 1.000000 | 0.000000 | 0.000265 | 0.000884 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Si 212.412 {459} | 1.000000 | 0.000000 | 0.001099 | 0.003664 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sn 189.989 {478} | 1.000000 | 0.000000 | 0.000573 | 0.001912 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Sr 407.771 { 83} | 1.000000 | 0.000000 | 0.000107 | 0.000357 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Ti 334.904 {101} | 1.000000 | 0.000000 | 0.000335 | 0.001116 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Y 360.073 { 94}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| Y 371.030 { 91}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| Y 224.306 {451}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| In 230.606 {446}* | 0.000000 | 0.000000 | -1.000000 | -1.000000 | Warnin | 1.000000 | 0.000000 | 1 | 0 |
| W 207.911 {462} | 1.000000 | 0.000000 | 0.001049 | 0.003496 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Zr 339.198 { 99} | 1.000000 | 0.000000 | 0.000166 | 0.000554 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| S 182.034 {485} | 1.000000 | 0.000000 | 0.002384 | 0.007948 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Bi 223.061 {451} | 1.000000 | 0.000000 | 0.001699 | 0.005662 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| Li 670.784 { 50} | 1.000000 | 0.000000 | 0.001627 | 0.005424 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| P 177.495 {490} | 1.000000 | 0.000000 | 0.002959 | 0.009864 | OK. | 1.000000 | 0.000000 | 1 | 0 |

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3C.

MA Batch #: MA46605
Analyst: EAL/LL
Date: 4/29/2019
Balance ID: B24
Reagents: See attached sheet
Auto pipet ID: M72

Hot Block # 7 Start Time: 7:30 End Time: 8:00 Tube # 1-35.
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236.
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236.
Hot Block # 7 Start Time: 8:00 End Time: 8:30 Tube # 36-59.
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236.
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236.

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| 1 | MP14626-MB1 | 0.6001 | 100 | | | | MP14626 | |
| 2 | MP14626-B1 | 0.6001 | 100 | 2.0 ml | Y | 0.1 | | HG-19-144-362-HGA1, IN. V |
| 3 | MP14626-S1 | 0.6603 | 100 | 2.0 ml | Y | 0.1 | | JC86972-2, HG-19-144-362-HGA1, IN. V |
| 4 | MP14626-S2 | 0.6914 | 100 | 2.0 ml | Y | 0.1 | | JC86972-2, HG-19-144-362-HGA1, IN. V |
| 5 | JC86972-2 | 0.6279 | 100 | | | | | |
| 6 | MP14626-S3 | 0.6234 | 100 | 2.0 ml | Y | 0.1 | | JC86972-9, HG-19-144-362-HGA1, IN. V |
| 7 | MP14626-S4 | 0.6523 | 100 | 2.0 ml | Y | 0.1 | | JC86972-9, HG-19-144-362-HGA1, IN. V |
| 8 | JC86972-9 | 0.6137 | 100 | | | | | |
| 9 | JC86972-3 | 0.6273 | 100 | | | | | |
| 10 | JC86972-4 | 0.6349 | 100 | | | | | |
| 11 | JC86972-5 | 0.6410 | 100 | | | | | |
| 12 | JC86972-6 | 0.6177 | 100 | | | | | |
| 13 | JC86972-7 | 0.6282 | 100 | | | | | |
| 14 | JC86972-8 | 0.6365 | 100 | | | | | |
| 15 | JC86972-10 | 0.7132 | 100 | | | | | |
| 16 | JC86972-11 | 0.6001 | 100 | | | | | |
| 17 | JC86972-12 | 0.6210 | 100 | | | | | |
| 18 | JC86972-13 | 0.6115 | 100 | | | | | |
| 19 | JC86972-15 | 0.6013 | 100 | | | | | |
| 20 | MP14631-MB1 | 0.6001 | 100 | | | | MP14631 | |
| 21 | MP14631-B1 | 0.6001 | 100 | 2.0 ml | Y | 0.1 | | HG-19-144-362-HGA1, IN. V |
| 22 | MP14631-S1 | 0.6434 | 100 | 2.0 ml | Y | 0.1 | | JC86986-2, HG-19-144-362-HGA1, IN. V |
| 23 | MP14631-S2 | 0.6585 | 100 | 2.0 ml | Y | 0.1 | | JC86986-2, HG-19-144-362-HGA1, IN. V |
| 24 | JC86986-2 | 0.6432 | 100 | | | | | |
| 25 | JC86986-3 | 0.6144 | 100 | | | | | |
| 26 | JC86986-4 | 0.7159 | 100 | | | | | |
| 27 | JC86986-5 | 0.6979 | 100 | | | | | |
| 28 | JC86986-6 | 0.6638 | 100 | | | | | |
| 29 | JC86986-7 | 0.6454 | 100 | | | | | |
| 30 | JC86986-8 | 0.6284 | 100 | | | | | |
| 31 | JC86986-9 | 0.6131 | 100 | | | | | |
| 32 | JC86986-10 | 0.6780 | 100 | | | | | |
| 33 | JC86986-11 | 0.7229 | 100 | | | | | |
| 34 | JC86986-12 | 0.7066 | 100 | | | | | |
| 35 | JC86986-13 | 0.6468 | 100 | | | | | |

Form: HG-022F-02
Revision Date:08/24/15

ANALYST: LL
SPIKE WITNESS: EM
QC REVIERER:

DATE: 4/30/19
DATE: 4/30/19
DATE:

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3C.

MA Batch #: MA46605
Analyst: EAL/LL
Date: 4/29/2019
Balance ID: B24
Reagents: See attached sheet
Auto pipet ID: M72

Hot Block # 7 Start Time: 7:30 End Time: 8:00 Tube # 1-35 .
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
Hot Block # 7 Start Time: 8:00 End Time: 8:30 Tube # 36-59 .
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236 .

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| 36 | MP14632-MB1 | 0.6001 | 100 | | | | MP14632 | |
| 37 | MP14632-B1 | 0.6001 | 100 | 2.0 ml | Y | 0.1 | | HG-19-144-362-HGA1, IN. V |
| 38 | MP14632-S1 | 0.6757 | 100 | 2.0 ml | Y | 0.1 | | JC86994-1, HG-19-144-362-HGA1, IN. V |
| 39 | MP14632-S2 | 0.6437 | 100 | 2.0 ml | Y | 0.1 | | JC86994-1, HG-19-144-362-HGA1, IN. V |
| 40 | JC86994-1 | 0.6486 | 100 | | | | | |
| 41 | JC86994-2 | 0.7175 | 100 | | | | | |
| 42 | JC86994-3 | 0.6427 | 100 | | | | | |
| 43 | JC86994-4 | 0.7348 | 100 | | | | | |
| 44 | JC86994-5 | 0.6144 | 100 | | | | | |
| 45 | JC86994-6 | 0.6673 | 100 | | | | | |
| 46 | JC86994-7 | 0.6235 | 100 | | | | | |
| 47 | JC86994-8 | 0.7151 | 100 | | | | | |
| 48 | JC86994-9 | 0.6414 | 100 | | | | | |
| 49 | JC86994-10 | 0.6565 | 100 | | | | | |
| 50 | JC86994-11 | 0.6227 | 100 | | | | | |
| 51 | JC86994-12 | 0.6771 | 100 | | | | | |
| 52 | JC86994-13 | 0.7520 | 100 | | | | | |
| 53 | JC86994-14 | 0.6486 | 100 | | | | | |
| 54 | JC86994-15 | 0.6445 | 100 | | | | | |
| 55 | JC86994-16 | 0.6430 | 100 | | | | | |
| 56 | JC86994-17 | 0.6207 | 100 | | | | | |
| 57 | JC86994-18 | 0.7285 | 100 | | | | | |
| 58 | JC86994-19 | 0.7623 | 100 | | | | | |
| 59 | JC86994-20 | 0.6804 | 100 | | | | | |
| 60 | | | 100 | | | | | |
| 61 | | | 100 | | | | | |
| 62 | | | 100 | | | | | |
| 63 | | | 100 | | | | | |
| 64 | | | 100 | | | | | |
| 65 | | | 100 | | | | | |
| 66 | | | 100 | | | | | |
| 67 | | | 100 | | | | | |
| 68 | | | 100 | | | | | |
| 69 | | | 100 | | | | | |
| 70 | | | 100 | | | | | |

Form: HG-022F-02
Revision Date:08/24/15

ANALYST: LL
SPIKE WITNESS: EM
QC REVIERER:

DATE: 4/30/19
DATE: 4/30/19
DATE:

11.5.1 11

SGS

**Mercury Digestion Log**

Product: **HG /HGLIQ**
Matrix: **Soil / Oil / SL / Wipes**

MA Batch #: MA46605
Analyst: EAL/LL
Date: 4/29/2019
Balance ID: B24
Reagents: See attached sheet
Auto pipet ID: M72

**Method: SW846 7471B**
Required corrected Temp. Range is 95C. +/- 3 C.

Hot Block # 7 Start Time: 7:30 End Time: 8:00 Tube # 1-CRI
Start Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236
End Temp: 94 Corrected Start Temp: 93 Correction: -1 Thermometer ID: 6805236

| Bot # | Sample ID | Initial Sample Wt. (gm) | Final Vol. (ml) | Spike Used | | Spikelot and Conc. | MP Number | Comments/Lot # and Vendor |
|---|---|---|---|---|---|---|---|---|
| | | | | Amount Spiked | Added Y or N | (mg/L) | | |
| S-1 | Calibration Blank | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | N/A |
| S-2 | 0.20 ug/l standard | 0.6 | 100 ml | 2.0 ml | Y | 0.0100 | N/A | HG-19-144-363-HGA2, IN. V |
| S-3 | 0.50 ug/l standard | 0.6 | 100 ml | 5.0 ml | Y | 0.0100 | N/A | HG-19-144-363-HGA2, IN. V |
| S-4 | 1.00 ug/l standard | 0.6 | 100 ml | 1.0 ml | Y | 0.1000 | N/A | HG-19-144-362-HGA1, IN. V |
| S-5 | 2.50 ug/l standard | 0.6 | 100 ml | 2.5 ml | Y | 0.1000 | N/A | HG-19-144-362-HGA1, IN. V |
| S-6 | 5.00 ug/l standard | 0.6 | 100 ml | 5.0 ml | Y | 0.1000 | N/A | HG-19-144-362-HGA1, IN. V |
| ICV | ICV (External) | 0.6 | 100 ml | 3.0 ml | Y | 0.1 | | HG-19-144-364-HGB1, IN. V |
| ICB | ICB | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | |
| CCV | CCV | 0.6 | 100 ml | 2.5 ml | Y | 0.1 | | HG-19-144-362-HGA1, IN. V |
| CCB | CCB | 0.6 | 100 ml | 0.0 ml | N | N/A | N/A | |
| CRI | CRI | 0.6 | 100 ml | 2.0 ml | Y | 0.01 | | HG-19-144-363-HGA2, IN. V |

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SGS

# Reagent Information Log- Hg Soil

**MA # 46605**

| Reagents | Exp. Date | Reagent # or manufacturer lot # |
|---|---|---|
| Conc. HydroChloric Acid | 4/19/2021 | Baker 221681 |
| Conc. Nitric Acid | 4/19/2021 | Baker 205793 |
| Sodium Chloride-Hydroxylamine Hydrochloride | 10/22/2019 | HG-19-144 360 -HGHCL |
| Potassium Permanganate | 10/22/2019 | HG-19-144 358 -HGKM2 |
| Stannous Chloride | 5/1/2019 | HG-19-144 365 -HGS |
| *STD Hg standard solution 1000 ppm* | 3/1/2020 | Inorganic Ventures K2-HG669550 |
| STD Hg standard solution 100 ppb | 5/1/2019 | HG-19-144 362 -HGA1 |
| STD Hg standard solution 10 ppb | 5/1/2019 | HG-19-144 363 -HGA2 |
| *ICV Hg standard solution 1000 ppm* | 6/30/2021 | Ultra T00601 |
| ICV Hg standard solution 100 ppb | 5/1/2019 | HG-19-144 364 -HGB1 |
| Solid Lab control/Soil LC | 3/31/2020 | ERA D094-540 |
| Aqua Regia | 5/1/2019 | HG-19-144 366 -HGKAQ |
| Dilution acid | 10/22/2019 | HG-19-144 361 -HGD1 |
| Digestion Tubes | N/A | Environmental Express 1812114 |
| Teflon Chips (For Soil MB) | N/A | Chemware , Lot: 23656541 |

**Form: GN087A80-04**
**Rev.Date: 06/06/17**

SGS North America Inc.

# Solids/Soil Metals Digestion Form

**Batch Information**

| Batch ID | Start Date | Start Time | End Date | End time | QC Samp 1 | QC Samp 2 |
|---|---|---|---|---|---|---|
| MP14617 | 4/29/2019 | 9:00 | 4/29/2019 | 1330 | JC86986-2 | |

**Temperature**

| | | Block ID | Therm. ID# | Balance ID | Temperature | Correction | Corrected Temp |
|---|---|---|---|---|---|---|---|
| 1 | Start | 9 | 4156488 | B-41 | 94 | 0 | 94 |
| 1 | End | 9 | 4156488 | NA | 95 | 0 | 95 |
| 2 | Start | | | | | | |
| 2 | End | | | NA | | | |

**Methods and Equipment**

| | Dig. Method | Heating Method | | Auto Pipette # | Digestion Tube Lot # | |
|---|---|---|---|---|---|---|
| | SW846 3050B | Digestion Block | | M-74 | 1812114 | |

| Sample ID | Bottle ID | Final Volume (ML) | Wet Weight (G) | Reagent Groups Added | Spike Groups Added | Comments |
|---|---|---|---|---|---|---|
| MP14617-MB1 | N/A | 100 | 0.97 | ABCD | | |
| MP14617-B1 | N/A | 100 | 0.96 | ABCD | ABCD | |
| MP14617-S1 | 1 | 100 | 1.03 | ABCD | ABCD | |
| MP14617-S2 | 1 | 100 | 0.95 | ABCD | ABCD | |
| MP14617-SD1 | 1 | 100 | 0.96 | ABCD | | |
| JC86986-10 | 1 | 100 | 1.00 | ABCD | | |
| JC86986-11 | 1 | 100 | 1.01 | ABCD | | |
| JC86986-12 | 1 | 100 | 0.96 | ABCD | | |
| JC86986-13 | 1 | 100 | 1.03 | ABCD | | |
| JC86986-2 | 1 | 100 | 0.96 | ABCD | | |
| JC86986-3 | 1 | 100 | 1.02 | ABCD | | |
| JC86986-4 | 1 | 100 | 0.99 | ABCD | | |
| JC86986-5 | 1 | 100 | 1.03 | ABCD | | |
| JC86986-6 | 1 | 100 | 1.02 | ABCD | | |
| JC86986-7 | 1 | 100 | 1.01 | ABCD | | |
| JC86986-8 | 1 | 100 | 1.05 | ABCD | | |
| JC86986-9 | 1 | 100 | 1.04 | ABCD | | |
| JC87092-1 | 1 | 100 | 0.98 | ABCD | | |
| JC87092-2 | 1 | 100 | 1.01 | ABCD | | |
| JC87092-3 | 1 | 100 | 0.96 | ABCD | | |
| JC87092-4 | 1 | 100 | 1.03 | ABCD | | |
| JC87092-5 | 1 | 100 | 1.04 | ABCD | | |
| JC87092-6 | 1 | 100 | 0.97 | ABCD | | |
| JC87092-7 | 1 | 100 | 1.05 | ABCD | | |

**Reagents Groups**

| Group | Description | MLs Used |
|---|---|---|
| A | CONC HNO3 | 5 |
| B | 1:1 HNO3 | 10 |
| C | H2O2 | 5 |
| D | CONC HCL | 10 |
| E | | |
| F | | |
| G | | |
| H | | |

**Spike Groups**

| Group | Description | MLs Used |
|---|---|---|
| A | ACCUTEST 13A REV-1 | 1 |
| B | ACCUTEST 14A REV-1 | 1 |
| C | MINERALS 5000PPM | 0.5 |
| D | AG 20PPM | 1.25 |
| E | | |
| F | AG 20PPM | 1.25 |
| G | | |
| H | | |

**Comments:**

**Analyst** COLLEENH **Approved by** Wendyz **Approved on** 4/29/2019

**Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.**
**Serial Dilution samples shown for QC purposes only.**
**Acceptable Temperature range is 90-95 degrees C unless otherwise noted**

Document Control #: NJ-MET-PREP-SO-01 (2456482.5460764432) Validated by: Validated on:

SGS

# Metals Digestion Reagents Information Log

**Digestion Batch ID:** MP 14617 **Date:** 4/29/19

**Matrix:** ALL

| Standard/Reagent Type | Exp. Date | Standard/Reagent ID |
|---|---|---|
| Spiking Solution - (ACCUTEST-13A REV1) | 10/16/2019 | MP-015-1159 |
| Spiking Solution - (ACCUTEST-14A REV1) | 10/16/2019 | MP-015-1160 |
| Spiking Solution - 5000 mg/l Minerals | 4/25/2020 | P2-MEB678659 MFG: INO. VENT. |
| Spiking Solution - Sulfur 1000ppm | 4/11/2021 | LOT: 041118 MFG: ABS. GRADE |
| Spiking Solution - Si 1000ppm | 10/31/2019 | N2-SI668066 MFG: INO. VENT. |
| Spiking Solution - Bi 1000ppm | 4/12/2020 | N2-BI669548 MFG: INO. VENT. |
| Spiking Solution - Se 20ppm | 10/10/2019 | MP-015-1156 |
| Spiking Solution - Li 1000ppm | 4/18/2020 | N2-LI665824 MFG: INO. VENT. |
| Spiking Solution- Ag 20 ppm | 10/23/2019 | MP-015-1163 |
| Spiking Solution - (ACCUTEST-13B REV1) | 10/10/2019 | MP-015-1157 |
| Spiking Solution - (ACCUTEST-14B REV1) | 9/27/2019 | MP-015-1148 |
| Spiking Solution - 1000ppm Minerals | 6/4/2019 | MP-015-1117 |
| Spiking Solution- P | | |
| Nitric Acid | 4/29/2021 | LOT: 213500 MFG: J.T. BAKER |
| Nitric Acid (1:1) | 10/29/2019 | MP-018-42-196 1:1 HNO3 |
| Hydrochloric Acid | 4/26/2021 | LOT: 221681 MFG: J.T. BAKER |
| Hydrochloric Acid (1:1) | 10/23/2019 | MP-018-42-192 1:1 HCL |
| Hydrogen Peroxide | 4/26/2021 | LOT: 189267 MFG: FISHER |
| Soil Lab Control/Soil LC | 3/31/2020 | LOT: D094-540 MFG: ERA |
| Teflon Chips(For Soil MB and Blank Spike) | N/A | LOT: 24242815 MFG: SAINT-GOBAIN |
| Digestion Tubes | N/A | LOT: 1812114 MFG: ENV. EXPRESS |
| pH Paper | 6/15/2021 | LOT: 217518 MFG: HYDRION |
| Filter paper Q8 | N/A | LOT: 16917460 MFG: FISHER |
| Filter paper 0.45µm | N/A | LOT: F8MA26136E MFG: FISHER |
| | | |
| | | |

Spike witnessed By: TG

Validated By:

Validated On:

Metals Prep Reagent.xls
1/17/18

11.5.2 11

Date 5/2/2019 Analyst NP MP # 14617, 14636, 14600, 14578

QC sample #

## Post spike for ICP Method 6010D

| Spiking solution | Elements | Spike added (Y/N) | Vendor | Intermediate Lot # | Exp. Date | Conc. (mg/l) | Amt of Spike added (ml) | Digestate sample volume (ml) | Final Digestate volume in ml (Spike+ Sample) | Final Conc at the instrument (mg/l) |
|---|---|---|---|---|---|---|---|---|---|---|
| Mixed ICP intermediate Metals Solution (ACCUTEST-13A-REV1) | Ba,Be,B Cd,Cr,Co,Cu,Pb, Mn,Ni,P,Se,Sr,TL, V,Zn | Yes | Inhouse | MP-015-1119 | 6/7/19 | 200 | 0.2 | 19.25 | 20 | 2 |
| Mixed ICP intermediate Metals Solution (ACCUTEST-14A-REV1) | Sb,As,Mo,Sn,Ti, W,Zr | Yes | Inhouse | MP-015-1120 | 6/7/19 | 200 | 0.2 | | | 2 |
| Ag Spike Intermediate | Ag | Yes | Inhouse | MP-015-1116 | 5/28/19 | 20 | 0.25 | | | 0.25 |
| Metals Mix | Ca,Al,Fe,Mg,K, Na | Yes | Inorganic Ventures | N2-MEB 672948 | 11/27/19 | 5000 | 0.1 | | | 25 |
| S spike | S | | | | | 200 | 0.2 | | | 2 |
| Bi Spike | Bi | | | | | 200 | 0.2 | | | 2 |
| Li Spike | Li | | | | | 200 | 0.2 | | | 2 |
| Si spike | Si | | | | | 1000 | 0.1 | | | 5 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Form: DAYT-MET-0095-01-FORM
Rev. Date : 7/10/2018

Reviewed by:

# General Chemistry

## QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC
- Percent Solids Raw Data Summary

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

| Analyte | Batch ID | RL | MB Result | Units | Spike Amount | BSP Result | BSP %Recov | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Cyanide | GP20998/GN94885 | 0.24 | 0.0 | mg/kg | 2 | 2.07 | 103.5 | 90-110% |

Associated Samples:
Batch GP20998: JC86986-1, JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

| Analyte | Batch ID | QC Sample | Units | Original Result | DUP Result | RPD | QC Limits |
|---|---|---|---|---|---|---|---|
| Cyanide | GP20998/GN94885 | JC86986-2 | mg/kg | 1.6 | 0.66 | 83.2*(a) | 0-49% |
| Solids, Percent | GN94774 | JC86972-9 | % | 95.3 | 95.2 | 0.1 | 0-5% |
| Solids, Percent | GN94777 | JC86986-2 | % | 53.6 | 54.4 | 1.5 | 0-5% |

Associated Samples:
Batch GN94774: JC86986-1, JC86986-3
Batch GN94777: JC86986-2, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13
Batch GP20998: JC86986-1, JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13
(*) Outside of QC limits
(a) High RPD due to possible sample nonhomogeneity.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

| Analyte | Batch ID | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec | QC Limits |
|---|---|---|---|---|---|---|---|---|
| Cyanide | GP20998/GN94885 | JC86986-2 | mg/kg | 1.6 | 3.73 | 3.9 | 61.7N(a) | 75-125% |
| Cyanide | GP20998/GN94885 | JC86986-5 | mg/kg | 0.14 | 2.45 | 2.7 | 104.6 | 75-125% |

Associated Samples:
Batch GP20998: JC86986-1, JC86986-2, JC86986-3, JC86986-4, JC86986-5, JC86986-6, JC86986-7, JC86986-8, JC86986-9, JC86986-10, JC86986-11, JC86986-12, JC86986-13
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference.

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E050319W1.CN  Date Analyzed: 05/03/19  Methods: EPA 335.4, EPA 335.4/LACHAT, SW846 9012B/LACHAT,
Analyst: KI  Run ID: GN94885
Parameters: Cyanide

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:56 | GN94885-STD1 | 1 | | STDA |
| 11:57 | GN94885-STD2 | 1 | | STDB |
| 11:59 | GN94885-STD3 | 1 | | STDC |
| 12:00 | GN94885-STD4 | 1 | | STDD |
| 12:02 | GN94885-STD5 | 1 | | STDE |
| 12:03 | GN94885-STD6 | 1 | | STDF |
| 12:04 | GN94885-STD7 | 1 | | STDG |
| 12:06 | GN94885-ICV1 | 1 | | |
| 12:07 | GN94885-ICB1 | 1 | | |
| 12:08 | GN94885-CCV1 | 1 | | |
| 12:10 | GN94885-CCB1 | 1 | | |
| 12:11 | GP20985-MB1 | 1 | | |
| 12:12 | GP20985-B1 | 1 | | |
| 12:14 | GP20985-D1 | 1 | | |
| 12:15 | JC87132-1 | 1 | | (sample used for QC only; not part of login JC86986) |
| 12:17 | GP20987-MB1 | 1 | | |
| 12:18 | GP20987-B1 | 1 | | |
| 12:19 | GP20987-D1 | 1 | | |
| 12:21 | JC86901-9A | 1 | | (sample used for QC only; not part of login JC86986) |
| 12:22 | ZZZZZZ | 1 | | |
| 12:23 | ZZZZZZ | 1 | | |
| 12:25 | GN94885-CCV2 | 1 | | |
| 12:26 | GN94885-CCB2 | 1 | | |
| 12:27 | ZZZZZZ | 1 | | |
| 12:29 | ZZZZZZ | 1 | | |
| 12:30 | ZZZZZZ | 1 | | |
| 12:32 | ZZZZZZ | 1 | | |
| 12:33 | ZZZZZZ | 1 | | |
| 12:34 | ZZZZZZ | 1 | | |
| 12:36 | ZZZZZZ | 1 | | |
| 12:37 | ZZZZZZ | 1 | | |
| 12:38 | ZZZZZZ | 1 | | |
| 12:40 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E050319W1.CN  Date Analyzed: 05/03/19  Methods: EPA 335.4, EPA 335.4/LACHAT, SW846 9012B/LACHAT,
Analyst: KI  Run ID: GN94885
Parameters: Cyanide

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:41 | GN94885-CCV3 | 1 | | |
| 12:42 | GN94885-CCB3 | 1 | | |
| 12:44 | ZZZZZZ | 1 | | |
| 12:45 | GN94885-CCV4 | 1 | | |
| 12:46 | GN94885-CCB4 | 1 | | |
| 12:51 | GN94885-CCV5 | 1 | | |
| 12:52 | GN94885-CCB5 | 1 | | |
| 12:53 | GP20975-MB2 | 1 | | |
| 12:55 | GP20975-B2 | 1 | | |
| 12:56 | GP20975-S1 | 1 | | |
| 12:58 | GP20975-S2 | 1 | | |
| 12:59 | GP20975-D1 | 1 | | |
| 13:00 | JC86782-2 | 1 | | (sample used for QC only; not part of login JC86986) |
| 13:02 | JC87191-1 | 1 | | (sample used for QC only; not part of login JC86986) |
| 13:03 | GN94885-CCV6 | 1 | | |
| 13:04 | GN94885-CCB6 | 1 | | |
| 13:06 | ZZZZZZ | 1 | | |
| 13:07 | ZZZZZZ | 1 | | |
| 13:08 | ZZZZZZ | 1 | | |
| 13:10 | ZZZZZZ | 1 | | |
| 13:11 | ZZZZZZ | 1 | | |
| 13:13 | ZZZZZZ | 1 | | |
| 13:14 | GP20998-MB1 | 1 | | |
| 13:15 | GP20998-B1 | 1 | | |
| 13:17 | GP20998-S1 | 1 | | |
| 13:18 | GP20998-S2 | 1 | | |
| 13:19 | GN94885-CCV7 | 1 | | |
| 13:21 | GN94885-CCB7 | 1 | | |
| 13:22 | GP20998-D1 | 1 | | |
| 13:23 | ZZZZZZ | 1 | | |
| 13:25 | ZZZZZZ | 1 | | |
| 13:26 | JC86986-1 | 1 | | |
| 13:28 | JC86986-2 | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E050319W1.CN  Date Analyzed: 05/03/19  Methods: EPA 335.4, EPA 335.4/LACHAT, SW846 9012B/LACHAT,
Analyst: KI  Run ID: GN94885
Parameters: Cyanide

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:29 | JC86986-3 | 1 | | |
| 13:30 | JC86986-4 | 1 | | |
| 13:32 | JC86986-5 | 1 | | |
| 13:33 | JC86986-6 | 1 | | |
| 13:34 | JC86986-7 | 1 | | |
| 13:36 | GN94885-CCV8 | 1 | | |
| 13:37 | GN94885-CCB8 | 1 | | |
| 13:38 | JC86986-8 | 1 | | |
| 13:40 | JC86986-9 | 1 | | |
| 13:41 | JC86986-10 | 1 | | |
| 13:42 | JC86986-11 | 1 | | |
| 13:44 | JC86986-12 | 1 | | |
| 13:45 | JC86986-13 | 1 | | |
| 13:47 | ZZZZZZ | 1 | | |
| 13:48 | ZZZZZZ | 1 | | |
| 13:49 | GP20977-MB1 | 1 | | |
| 13:51 | GP20977-B1 | 1 | | |
| 13:52 | GN94885-CCV9 | 1 | | |
| 13:53 | GN94885-CCB9 | 1 | | |
| 13:55 | GP20977-S1 | 1 | | |
| 13:56 | GP20977-S2 | 1 | | |
| 13:57 | GP20977-D1 | 1 | | |
| 13:59 | ZZZZZZ | 1 | | |
| 14:00 | JC87130-1 | 1 | | (sample used for QC only; not part of login JC86986) |
| 14:01 | ZZZZZZ | 1 | | |
| 14:03 | ZZZZZZ | 1 | | |
| 14:04 | ZZZZZZ | 1 | | |
| 14:06 | ZZZZZZ | 1 | | |
| 14:07 | ZZZZZZ | 1 | | |
| 14:08 | GN94885-CCV10 | 1 | | |
| 14:10 | GN94885-CCB10 | 1 | | |
| 14:11 | ZZZZZZ | 1 | | |
| 14:12 | ZZZZZZ | 1 | | |

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E050319W1.CN  Date Analyzed: 05/03/19  Methods: EPA 335.4, EPA 335.4/LACHAT, SW846 9012B/LACHAT,
Analyst: KI  Run ID: GN94885
Parameters: Cyanide

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:14 | ZZZZZZ | 1 | | |
| 14:15 | ZZZZZZ | 1 | | |
| 14:16 | ZZZZZZ | 1 | | |
| 14:18 | ZZZZZZ | 1 | | |
| 14:19 | JC86837-5 | 1 | | (sample used for QC only; not part of login JC86986) |
| 14:21 | ZZZZZZ | 1 | | |
| 14:22 | ZZZZZZ | 1 | | |
| 14:23 | ZZZZZZ | 1 | | |
| 14:25 | GN94885-CCV11 | 1 | | |
| 14:26 | GN94885-CCB11 | 1 | | |
| 14:27 | ZZZZZZ | 1 | | |
| 14:29 | ZZZZZZ | 1 | | |
| 14:30 | ZZZZZZ | 1 | | |
| 14:31 | GP21018-MB1 | 1 | | |
| 14:33 | GP21018-B1 | 1 | | |
| 14:34 | GP21018-S1 | 1 | | |
| 14:36 | GP21018-D1 | 1 | | |
| 14:37 | JC87355-1 | 1 | | (sample used for QC only; not part of login JC86986) |
| 14:38 | ZZZZZZ | 1 | | |
| 14:40 | ZZZZZZ | 1 | | |
| 14:41 | GN94885-CCV12 | 1 | | |
| 14:42 | GN94885-CCB12 | 1 | | |
| 14:44 | ZZZZZZ | 1 | | |
| 14:45 | ZZZZZZ | 1 | | |
| 14:46 | ZZZZZZ | 1 | | |
| 14:48 | ZZZZZZ | 1 | | |
| 14:49 | ZZZZZZ | 5 | | |
| 14:51 | ZZZZZZ | 10 | | |
| 14:54 | GN94885-CCV13 | 1 | | |
| 14:55 | GN94885-CCB13 | 1 | | |

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC86986
Account: BBLNYS - Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E050319W1.CN  Date Analyzed: 05/03/19  Methods: EPA 335.4, EPA 335.4/LACHAT, SW846 9012B/LACHAT,
Run ID: GN94885  Units: mg/l

| Sample Number | Parameter | Result | RL | IDL/MDL | True Value | % Recov. | QC Limits |
|---|---|---|---|---|---|---|---|
| GN94885-ICV1 | Cyanide | 0.313 | 0.010 | 0.0041 | .3 | 104.3 | 90-110 |
| GN94885-ICB1 | Cyanide | -0.00666 | 0.010 | 0.0041 | | | |
| GN94885-CCV1 | Cyanide | 0.395 | 0.010 | 0.0041 | .4 | 98.8 | 90-110 |
| GN94885-CCB1 | Cyanide | -0.00440 | 0.010 | 0.0041 | | | |
| GN94885-CCV2 | Cyanide | 0.396 | 0.010 | 0.0041 | .4 | 99.0 | 90-110 |
| GN94885-CCB2 | Cyanide | 0.0041 U | 0.010 | 0.0041 | | | |
| GN94885-CCV3 | Cyanide | 0.399 | 0.010 | 0.0041 | .4 | 99.8 | 90-110 |
| GN94885-CCB3 | Cyanide | -0.00588 | 0.010 | 0.0041 | | | |
| GN94885-CCV4 | Cyanide | 0.401 | 0.010 | 0.0041 | .4 | 100.3 | 90-110 |
| GN94885-CCB4 | Cyanide | 0.0041 U | 0.010 | 0.0041 | | | |
| GN94885-CCV5 | Cyanide | 0.398 | 0.010 | 0.0041 | .4 | 99.5 | 90-110 |
| GN94885-CCB5 | Cyanide | 0.0041 U | 0.010 | 0.0041 | | | |
| GN94885-CCV6 | Cyanide | 0.401 | 0.010 | 0.0041 | .4 | 100.3 | 90-110 |
| GN94885-CCB6 | Cyanide | -0.00444 | 0.010 | 0.0041 | | | |
| GN94885-CCV7 | Cyanide | 0.404 | 0.010 | 0.0041 | .4 | 101.0 | 90-110 |
| GN94885-CCB7 | Cyanide | -0.00441 | 0.010 | 0.0041 | | | |
| GN94885-CCV8 | Cyanide | 0.402 | 0.010 | 0.0041 | .4 | 100.5 | 90-110 |
| GN94885-CCB8 | Cyanide | -0.00432 | 0.010 | 0.0041 | | | |
| GN94885-CCV9 | Cyanide | 0.413 | 0.010 | 0.0041 | .4 | 103.3 | 90-110 |
| GN94885-CCB9 | Cyanide | 0.0041 U | 0.010 | 0.0041 | | | |
| GN94885-CCV10 | Cyanide | 0.411 | 0.010 | 0.0041 | .4 | 102.8 | 90-110 |
| GN94885-CCB10 | Cyanide | 0.0041 U | 0.010 | 0.0041 | | | |
| GN94885-CCV11 | Cyanide | 0.414 | 0.010 | 0.0041 | .4 | 103.5 | 90-110 |
| GN94885-CCB11 | Cyanide | 0.0041 U | 0.010 | 0.0041 | | | |
| GN94885-CCV12 | Cyanide | 0.417 | 0.010 | 0.0041 | .4 | 104.3 | 90-110 |
| GN94885-CCB12 | Cyanide | 0.0041 U | 0.010 | 0.0041 | | | |
| GN94885-CCV13 | Cyanide | 0.414 | 0.010 | 0.0041 | .4 | 103.5 | 90-110 |
| GN94885-CCB13 | Cyanide | 0.0041 U | 0.010 | 0.0041 | | | |

(!) Outside of QC limits

# Percent Solids Raw Data Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** JC86986-1 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-142(6-6.5)

| | | |
|---|---|---|
| Wet Weight (Total) | 31.77 | g |
| Tare Weight | 23.61 | g |
| Dry Weight (Total) | 25.1 | g |
| Solids, Percent | 18.3 | % |

**Sample:** JC86986-2 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-142(7-8)

| | | |
|---|---|---|
| Wet Weight (Total) | 31.56 | g |
| Tare Weight | 22.87 | g |
| Dry Weight (Total) | 27.53 | g |
| Solids, Percent | 53.6 | % |

**Sample:** JC86986-3 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-149(8-10)

| | | |
|---|---|---|
| Wet Weight (Total) | 27.82 | g |
| Tare Weight | 19.05 | g |
| Dry Weight (Total) | 25.85 | g |
| Solids, Percent | 77.5 | % |

**Sample:** JC86986-4 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED M
**ClientID:** S-149(18.5-20.5)

| | | |
|---|---|---|
| Wet Weight (Total) | 28.54 | g |
| Tare Weight | 20.46 | g |
| Dry Weight (Total) | 25.59 | g |
| Solids, Percent | 63.5 | % |

**Sample:** JC86986-5 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-146(14-16)

| | | |
|---|---|---|
| Wet Weight (Total) | 34.87 | g |
| Tare Weight | 25.08 | g |
| Dry Weight (Total) | 33.41 | g |
| Solids, Percent | 85.1 | % |

**Sample:** JC86986-6 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-146(17-19)

| | | |
|---|---|---|
| Wet Weight (Total) | 32.7 | g |
| Tare Weight | 23.82 | g |
| Dry Weight (Total) | 31.45 | g |
| Solids, Percent | 85.9 | % |

# Percent Solids Raw Data Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** JC86986-7 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-147(12-14)

| | | |
|---|---|---|
| Wet Weight (Total) | 29.51 | g |
| Tare Weight | 20.77 | g |
| Dry Weight (Total) | 27.18 | g |
| Solids, Percent | 73.3 | % |

**Sample:** JC86986-8 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-147(18-20)

| | | |
|---|---|---|
| Wet Weight (Total) | 34.93 | g |
| Tare Weight | 26.91 | g |
| Dry Weight (Total) | 32.08 | g |
| Solids, Percent | 64.5 | % |

**Sample:** JC86986-9 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-148(8-10)

| | | |
|---|---|---|
| Wet Weight (Total) | 32.63 | g |
| Tare Weight | 23.67 | g |
| Dry Weight (Total) | 30.73 | g |
| Solids, Percent | 78.8 | % |

**Sample:** JC86986-10 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED M
**ClientID:** S-148(16-18)

| | | |
|---|---|---|
| Wet Weight (Total) | 28.1 | g |
| Tare Weight | 19.71 | g |
| Dry Weight (Total) | 24.73 | g |
| Solids, Percent | 59.8 | % |

**Sample:** JC86986-11 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-151(0.5-2)

| | | |
|---|---|---|
| Wet Weight (Total) | 30.81 | g |
| Tare Weight | 22.21 | g |
| Dry Weight (Total) | 29.92 | g |
| Solids, Percent | 89.7 | % |

**Sample:** JC86986-12 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** S-151(3-5)

| | | |
|---|---|---|
| Wet Weight (Total) | 32.3 | g |
| Tare Weight | 22.76 | g |
| Dry Weight (Total) | 30.22 | g |
| Solids, Percent | 78.2 | % |

# Percent Solids Raw Data Summary



**Job Number:** JC86986
**Account:** BBLNYS Arcadis
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** JC86986-13 **Analyzed:** 01-MAY-19 by BG **Method:** SM2540 G 18TH ED MOD
**ClientID:** SO-DUP-0425

| | | |
|---|---|---|
| Wet Weight (Total) | 28.25 | g |
| Tare Weight | 19.78 | g |
| Dry Weight (Total) | 26.8 | g |
| Solids, Percent | 82.9 | % |

## General Chemistry

Raw Data

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: E050319W1.CN
Analyst: KI

Date Analyzed: 05/03/19
Run ID: GN94885

Methods: EPA 335.4, EPA 335.4/LACHAT, SW846 9012B/LAC

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: KI Date 5/3/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 5/6/19

13.1
13

GN94885 e050319w1 cn

Author: Chemistry

Date : 5/3/2019

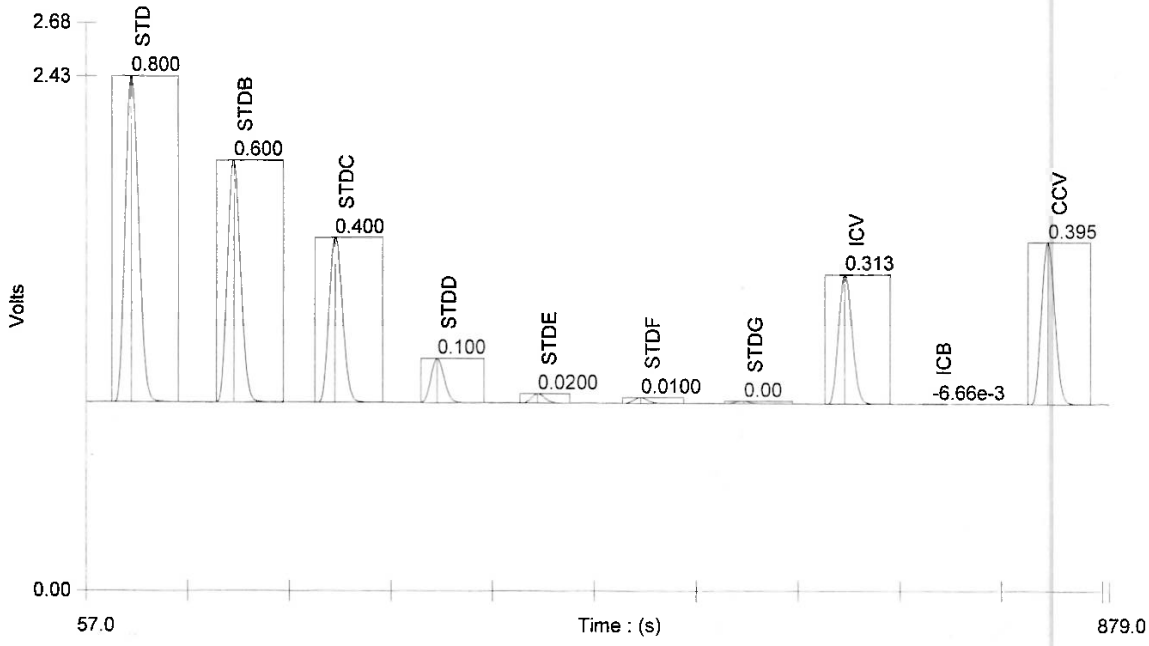
Original Run Filename: OM_5-3-2019_11-55-27AM.OMN Created: 5/3/2019 11:55:27 AM
Original Run Author's Signature: [Chemistry]
Current Run Filename: OM_5-3-2019_11-55-27AM.OMN Last Modified: 5/3/2019 12:49:16 PM
Current Run Author's Signature: [Chemistry]
Description: Default new Run

| Sample | Rep. | Cup No. | Channel 1 CN | Detection Time | MDF | % rec |
|---|---|---|---|---|---|---|
| STDA | 1 | 1 | 0.800 | 5/3/2019@11:56:36 AM | | |
| STDB | 1 | 2 | 0.600 | 5/3/2019@11:57:58 AM | | |
| STDC | 1 | 3 | 0.400 | 5/3/2019@11:59:20 AM | | |
| STDD | 1 | 4 | 0.100 | 5/3/2019@12:00:42 PM | | |
| STDE | 1 | 5 | 0.0200 | 5/3/2019@12:02:04 PM | | |
| STDF | 1 | 6 | 0.0100 | 5/3/2019@12:03:26 PM | | |
| STDG | 1 | 7 | 0.00 | 5/3/2019@12:04:48 PM | | |
| ICV | 1 | 8 | 0.313 | 5/3/2019@12:06:10 PM | | |
| | Known Conc: | | 0.300 | | | 104.3 |
| | Calibration: | | Table/Fig. : 1 | | | |
| ICB | 1 | 9 | -6.66e-3 | 5/3/2019@12:07:31 PM | | |
| | Known Conc: | | 0.00 | | | |
| CCV | 1 | S9 | 0.395 | 5/3/2019@12:08:53 PM | | |
| | Known Conc: | | 0.400 | | | 98.75 |
| CCB | 1 | S10 | -4.40e-3 | 5/3/2019@12:10:15 PM | | |
| | Known Conc: | | 0.00 | | | |
| GP20985-MB1 | 1 | 10 | -5.56e-3 | 5/3/2019@12:11:36 PM | | |
| GP20985-B1 | 1 | 11 | 0.658 | 5/3/2019@12:12:57 PM | | 32.9 |
| GP20985-D1 | 1 | 12 | -6.29e-3 | 5/3/2019@12:14:19 PM | | |
| JC87132-1 | 1 | 13 | -6.58e-3 | 5/3/2019@12:15:40 PM | | |
| GP20987-MB1 | 1 | 14 | -4.72e-3 | 5/3/2019@12:17:01 PM | | |
| GP20987-B1 | 1 | 15 | 0.667 | 5/3/2019@12:18:21 PM | | 33.4 |
| GP20987-D1 | 1 | 16 | -6.75e-3 | 5/3/2019@12:19:44 PM | | |
| JC86901-9A | 1 | 17 | -5.21e-3 | 5/3/2019@12:21:06 PM | | |
| JC86901-3A | 1 | 18 | -5.59e-3 | 5/3/2019@12:22:28 PM | | |
| JC86901-13A | 1 | 19 | -6.57e-3 | 5/3/2019@12:23:50 PM | | |
| CCV | 1 | S9 | 0.396 | 5/3/2019@12:25:12 PM | | |
| | Known Conc: | | 0.400 | | | 99 |
| CCB | 1 | S10 | -2.94e-3 | 5/3/2019@12:26:34 PM | | |
| | Known Conc: | | 0.00 | | | |
| JC87030-3A | 1 | 20 | -8.21e-3 | 5/3/2019@12:27:56 PM | | |
| JC87084-1 | 1 | 21 | -6.61e-3 | 5/3/2019@12:29:18 PM | | |
| JC87084-2 | 1 | 22 | -6.32e-3 | 5/3/2019@12:30:39 PM | | |
| JC86768-1A | 1 | 23 | -7.15e-3 | 5/3/2019@12:32:01 PM | | |
| JC86768-2A | 1 | 24 | -5.96e-3 | 5/3/2019@12:33:22 PM | | |
| JC86768-3A | 1 | 25 | -6.66e-3 | 5/3/2019@12:34:44 PM | | |
| JC86768-4A | 1 | 26 | -6.48e-3 | 5/3/2019@12:36:05 PM | | |
| JC86768-5A | 1 | 27 | -4.44e-3 | 5/3/2019@12:37:27 PM | | |
| JC86768-6A | 1 | 28 | -6.31e-3 | 5/3/2019@12:38:48 PM | | |
| JC86768-7A | 1 | 29 | -5.62e-3 | 5/3/2019@12:40:08 PM | | |
| CCV | 1 | S9 | 0.399 | 5/3/2019@12:41:30 PM | | |
| | Known Conc: | | 0.400 | | | 99.75 |
| CCB | 1 | S10 | -5.88e-3 | 5/3/2019@12:42:52 PM | | |
| | Known Conc: | | 0.00 | | | |
| JC87190-1 | 1 | 30 | -6.68e-3 | 5/3/2019@12:44:13 PM | | |
| CCV | 1 | S9 | 0.401 | 5/3/2019@12:45:35 PM | | |
| | Known Conc: | | 100 | | | 100.25 |
| CCB | 1 | S10 | -3.99e-3 | 5/3/2019@12:46:57 PM | | |
| | Known Conc: | | 100 | | | |

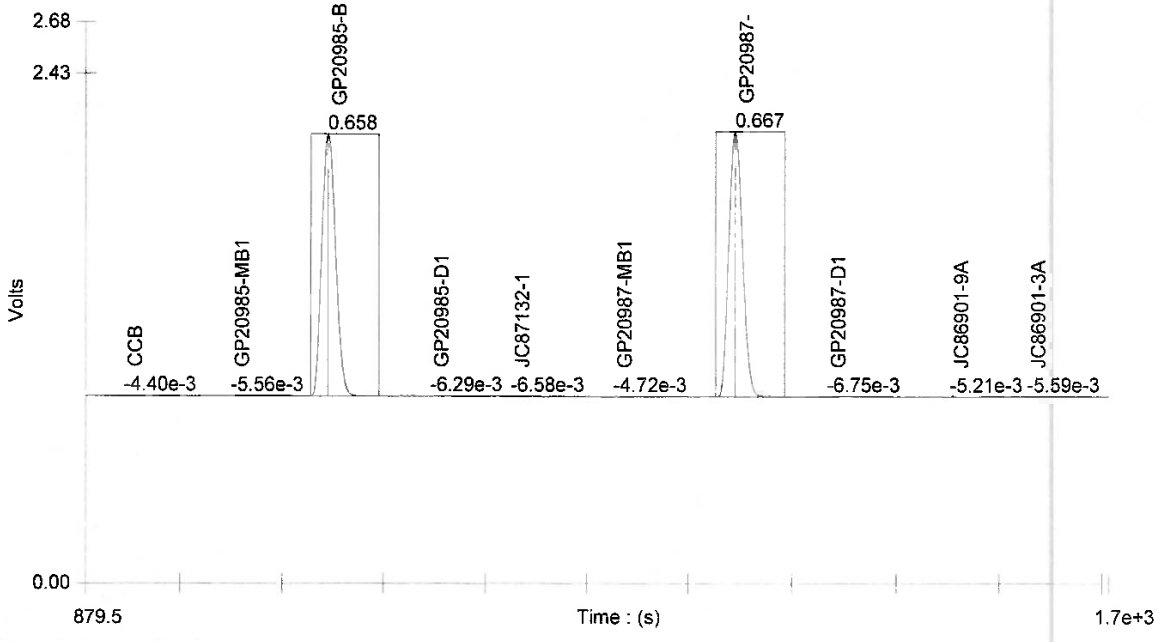
Author: Chemistry

Date : 5/3/2019

Channel 1 - Set: 1 / 4



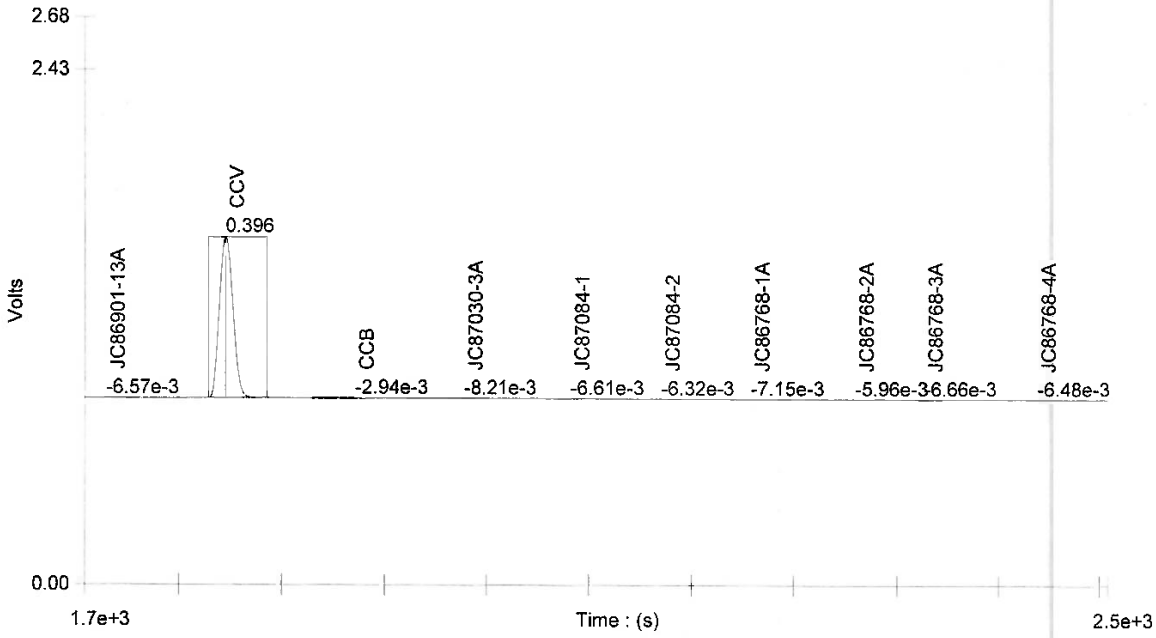

Channel 1 - Set: 2 / 4



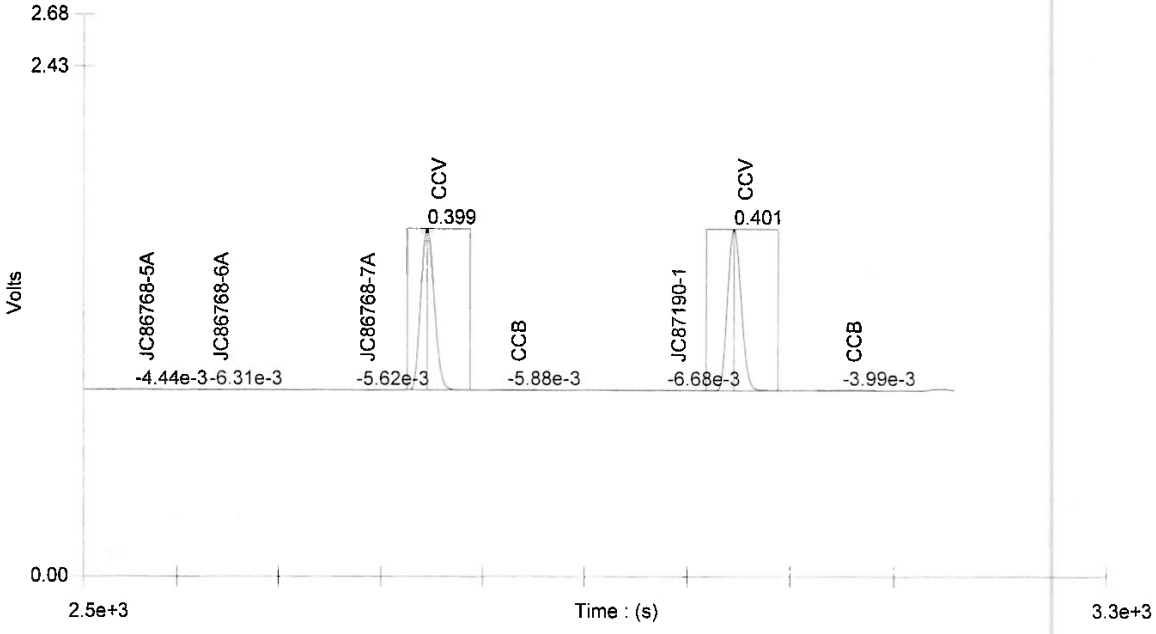
Author: Chemistry

Date : 5/3/2019

Channel 1 - Set: 3 / 4




Channel 1 - Set: 4 / 4



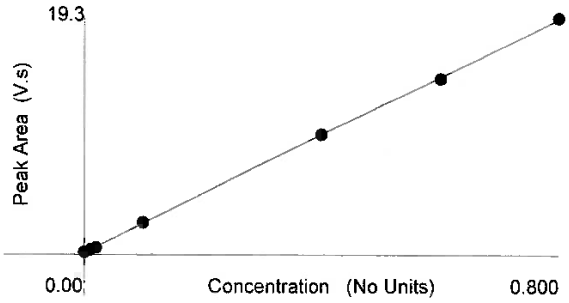
Author: Chemistry

Date : 5/3/2019

Table : 1 (CN)

| | Known Conc. () | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc () | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.800 | 1 | 19.3 | 1.53 | 0.0 | -0.5 | 0.804 | 5/3/2019 | 11:56:36 AM |
| 2 | 0.600 | 1 | 14.3 | 1.14 | 0.0 | 0.9 | 0.594 | 5/3/2019 | 11:57:58 AM |
| 3 | 0.400 | 1 | 9.67 | 0.780 | 0.0 | 0.1 | 0.399 | 5/3/2019 | 11:59:20 AM |
| 4 | 0.100 | 1 | 2.58 | 0.208 | 0.0 | -2.1 | 0.102 | 5/3/2019 | 12:00:42 PM |
| 5 | 0.0200 | 1 | 0.566 | 0.0457 | 0.0 | 8.2 | 0.0179 | 5/3/2019 | 12:02:04 PM |
| 6 | 0.0100 | 1 | 0.376 | 0.0285 | 0.0 | 0.2 | 9.99e-3 | 5/3/2019 | 12:03:26 PM |
| 7 | 0.00 | 1 | 0.183 | 0.0125 | | | 1.91e-3 | 5/3/2019 | 12:04:48 PM |

Figure : 1 (CN)




Area = 23.9 * Conc + 0.138
Conc = 0.0419 * Area - 5.77e-3
Correlation Coefficient (r) = 0.99995

Weighting : None

l050319w2.cn

Author: Chemistry

Date : 5/3/2019

Original Run Filename: OM_5-3-2019_12-50-06PM.OMN Created: 5/3/2019 12:50:06 PM
Original Run Author's Signature: [Chemistry]
Current Run Filename: OM_5-3-2019_12-50-06PM.OMN Last Modified: 5/3/2019 2:57:34 PM
Current Run Author's Signature: [Chemistry]
Description: Default new Run

| Sample | Rep. | Cup No. | Channel 1 CN | Detection Time | MDF | % REC |
|---|---|---|---|---|---|---|
| CCV | 1 | S9 | 0.398 | 5/3/2019@12:51:15 PM | | 99.5 |
| | Known Conc: | | 100 | | | |
| CCB | 1 | S10 | -3.47e-3 | 5/3/2019@12:52:37 PM | | |
| | Known Conc: | | 100 | | | |
| | Calibration: | | Table/Fig. : 1 | | | |
| GP20975-MB2 | 1 | 31 | 6.71e-4 | 5/3/2019@12:53:59 PM | | |
| GP20975-B2 | 1 | 32 | 0.0868 | 5/3/2019@12:55:22 PM | | 104.2 |
| GP20975-S1 | 1 | 33 | 0.0629 | 5/3/2019@12:56:44 PM | | |
| GP20975-S2 | 1 | 34 | 0.0486 | 5/3/2019@12:58:06 PM | | |
| GP20975-D1 | 1 | 35 | 6.37e-3 | 5/3/2019@12:59:28 PM | | |
| JC86782-2 | 1 | 36 | 6.39e-3 | 5/3/2019@1:00:50 PM | | |
| JC87191-1 | 1 | 37 | -2.01e-3 | 5/3/2019@1:02:11 PM | | |
| CCV | 1 | S9 | 0.401 | 5/3/2019@1:03:33 PM | | |
| | Known Conc: | | 0.400 | | | 100.25 |
| CCB | 1 | S10 | -4.44e-3 | 5/3/2019@1:04:55 PM | | |
| | Known Conc: | | 0.00 | | | |
| JC87191-2 | 1 | 38 | -2.08e-3 | 5/3/2019@1:06:16 PM | | |
| JC87191-3 | 1 | 39 | -2.39e-3 | 5/3/2019@1:07:38 PM | | |
| JC87191-4 | 1 | 40 | -9.03e-4 | 5/3/2019@1:08:59 PM | | |
| JC87191-5 | 1 | 41 | -2.68e-3 | 5/3/2019@1:10:21 PM | | |
| JC87010-1 | 1 | 42 | 4.10e-3 | 5/3/2019@1:11:42 PM | | |
| JC87050-1 | 1 | 43 | 7.79e-4 | 5/3/2019@1:13:03 PM | | |
| GP20998-MB1 | 1 | 44 | -6.18e-4 | 5/3/2019@1:14:23 PM | | |
| GP20998-B1 | 1 | 45 | 0.0862 | 5/3/2019@1:15:44 PM | | 103.5 |
| GP20998-S1 | 1 | 46 | 0.0869 | 5/3/2019@1:17:06 PM | | |
| GP20998-S2 | 1 | 47 | 0.0904 | 5/3/2019@1:18:28 PM | | |
| CCV | 1 | S9 | 0.404 | 5/3/2019@1:19:50 PM | | |
| | Known Conc: | | 0.400 | | | 101 |
| CCB | 1 | S10 | -4.41e-3 | 5/3/2019@1:21:11 PM | | |
| | Known Conc: | | 0.00 | | | |
| GP20998-D1 | 1 | 48 | 0.0172 | 5/3/2019@1:22:33 PM | | |
| JC86916-14 (2) | 1 | 49 | 2.56 | 5/3/2019@1:23:55 PM | | overrange, see rerun |
| JC86916-15 | 1 | 50 | 0.287 | 5/3/2019@1:25:17 PM | | |
| JC86986-1 | 1 | 51 | 0.0111 | 5/3/2019@1:26:39 PM | | |
| JC86986-2 | 1 | 52 | 0.0309 | 5/3/2019@1:28:01 PM | | |
| JC86986-3 | 1 | 53 | 0.326 | 5/3/2019@1:29:23 PM | | |
| JC86986-4 | 1 | 54 | 7.19e-3 | 5/3/2019@1:30:44 PM | | |
| JC86986-5 | 1 | 55 | 5.05e-3 | 5/3/2019@1:32:06 PM | | |
| JC86986-6 | 1 | 56 | 2.97e-3 | 5/3/2019@1:33:27 PM | | |
| JC86986-7 | 1 | 57 | 0.0376 | 5/3/2019@1:34:48 PM | | |
| CCV | 1 | S9 | 0.402 | 5/3/2019@1:36:09 PM | | |
| | Known Conc: | | 0.400 | | | 100.5 |
| CCB | 1 | S10 | -4.32e-3 | 5/3/2019@1:37:32 PM | | |
| | Known Conc: | | 0.00 | | | |
| JC86986-8 | 1 | 58 | 5.15e-3 | 5/3/2019@1:38:52 PM | | |
| JC86986-9 | 1 | 59 | 0.230 | 5/3/2019@1:40:13 PM | | |
| JC86986-10 | 1 | 60 | 0.0116 | 5/3/2019@1:41:34 PM | | |
| JC86986-11 | 1 | 61 | 0.0314 | 5/3/2019@1:42:56 PM | | |
| JC86986-12 | 1 | 62 | 4.18e-3 | 5/3/2019@1:44:19 PM | | |
| JC86986-13 | 1 | 63 | 7.28e-3 | 5/3/2019@1:45:40 PM | | |
| JC87231-5 | 1 | 64 | 3.48e-3 | 5/3/2019@1:47:03 PM | | |
| JC87231-9 | 1 | 65 | 6.83e-3 | 5/3/2019@1:48:24 PM | | |
| GP20977-MB1 | 1 | 66 | 1.17e-3 | 5/3/2019@1:49:46 PM | | |
| GP20977-B1 | 1 | 67 | 0.0901 | 5/3/2019@1:51:08 PM | | ~~103.25~~ 108.1 |
| CCV | 1 | S9 | 0.413 | 5/3/2019@1:52:29 PM | | |
| | Known Conc: | | 0.400 | | | ~~103.25~~ |
| CCB | 1 | S10 | -2.88e-3 | 5/3/2019@1:53:52 PM | | |
| | Known Conc: | | 0.00 | | | |
| GP20977-S1 | 1 | 68 | 0.0977 | 5/3/2019@1:55:13 PM | | |
| GP20977-S2 | 1 | 69 | 0.0870 | 5/3/2019@1:56:34 PM | | |

Author: Chemistry

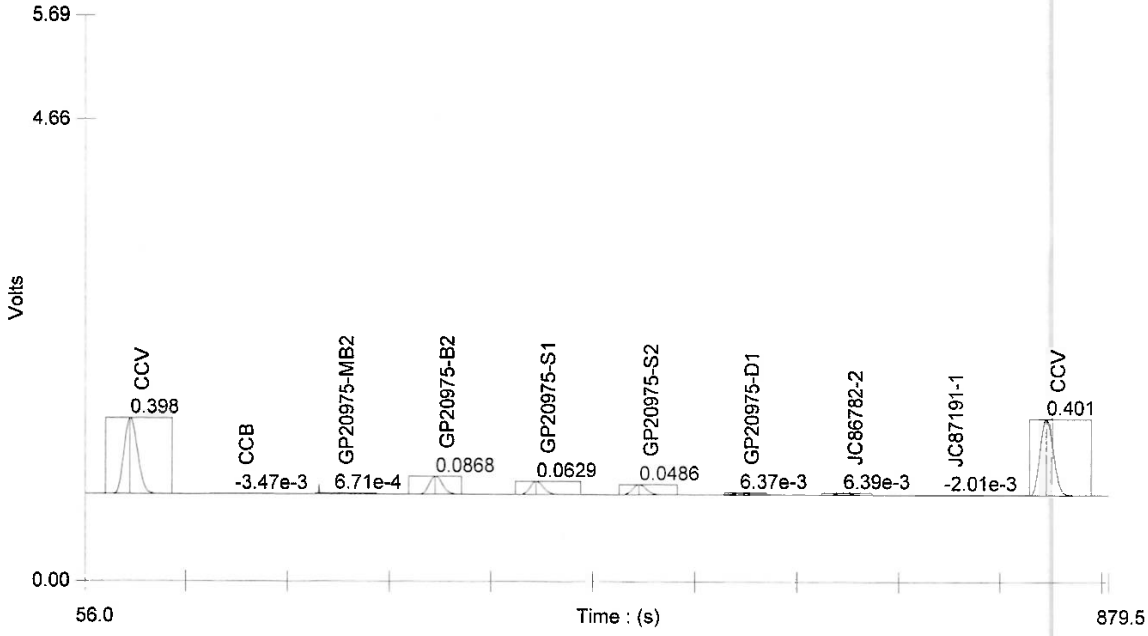
Date : 5/3/2019

| | | | | | |
|---|---|---|---|---|---|
| GP20977-D1 | 1 | 70 | 0.0229 | 5/3/2019@1:57:56 PM | |
| JC87091-19 | 1 | 71 | 3.96e-3 | 5/3/2019@1:59:17 PM | |
| JC87130-1 | 1 | 72 | 0.0236 | 5/3/2019@2:00:38 PM | |
| JC87130-2 | 1 | 73 | 0.0223 | 5/3/2019@2:01:59 PM | |
| JC87130-3 | 1 | 74 | 0.0103 | 5/3/2019@2:03:20 PM | |
| JC87130-4 | 1 | 75 | 0.0191 | 5/3/2019@2:04:41 PM | |
| JC87130-5 | 1 | 76 | 0.0153 | 5/3/2019@2:06:04 PM | |
| JC86821-9 | 1 | 77 | 6.82e-3 | 5/3/2019@2:07:26 PM | |
| CCV | 1 | S9 | 0.411 | 5/3/2019@2:08:48 PM | |
| | Known Conc: | | 0.400 | | 102.75 |
| CCB | 1 | S10 | -2.35e-3 | 5/3/2019@2:10:10 PM | |
| | Known Conc: | | 0.00 | | |
| JC86821-11 | 1 | 78 | 0.0168 | 5/3/2019@2:11:32 PM | |
| JC86821-12 | 1 | 79 | 0.0119 | 5/3/2019@2:12:54 PM | |
| JC86837-1 | 1 | 80 | 0.0163 | 5/3/2019@2:14:16 PM | |
| JC86837-2 | 1 | 81 | 4.69e-3 | 5/3/2019@2:15:38 PM | |
| JC86837-3 | 1 | 82 | 0.0849 | 5/3/2019@2:16:59 PM | |
| JC86837-4 | 1 | 83 | 1.76e-3 | 5/3/2019@2:18:21 PM | |
| JC86837-5 | 1 | 84 | 1.93e-3 | 5/3/2019@2:19:42 PM | |
| JC86837-6 | 1 | 85 | 0.0176 | 5/3/2019@2:21:04 PM | |
| JC86837-7 | 1 | 86 | -2.32e-4 | 5/3/2019@2:22:25 PM | |
| JC86837-8 | 1 | 87 | 0.0806 | 5/3/2019@2:23:46 PM | |
| CCV | 1 | S9 | 0.414 | 5/3/2019@2:25:08 PM | |
| | Known Conc: | | 0.400 | | 103.5 |
| CCB | 1 | S10 | -2.85e-3 | 5/3/2019@2:26:30 PM | |
| | Known Conc: | | 0.00 | | |
| JC86837-9 | 1 | 88 | 0.0224 | 5/3/2019@2:27:51 PM | |
| JC86837-10 | 1 | 89 | 0.0259 | 5/3/2019@2:29:12 PM | |
| JC86837-11 | 1 | 90 | 0.0992 | 5/3/2019@2:30:33 PM | |
| GP21018-MB1 | 1 | 91 | 3.09e-3 | 5/3/2019@2:31:56 PM | |
| GP21018-B1 | 1 | 92 | 0.0891 | 5/3/2019@2:33:18 PM | 106.9 |
| GP21018-S1 | 1 | 93 | 0.0884 | 5/3/2019@2:34:40 PM | |
| GP21018-D1 | 1 | 94 | 4.59e-3 | 5/3/2019@2:36:02 PM | |
| JC87355-1 | 1 | 95 | 6.41e-3 | 5/3/2019@2:37:24 PM | |
| JC87355-2 | 1 | 96 | 6.25e-3 | 5/3/2019@2:38:46 PM | |
| JC87355-3 | 1 | 97 | 3.68e-3 | 5/3/2019@2:40:08 PM | |
| CCV | 1 | S9 | 0.417 | 5/3/2019@2:41:29 PM | |
| | Known Conc: | | 0.400 | | 104.25 |
| CCB | 1 | S10 | -2.22e-3 | 5/3/2019@2:42:51 PM | |
| | Known Conc: | | 0.00 | | |
| JC87355-4 | 1 | 98 | 3.93e-3 | 5/3/2019@2:44:13 PM | |
| JC87355-5 | 1 | 99 | 5.82e-3 | 5/3/2019@2:45:34 PM | |
| JC80499-2A | 1 | 100 | 0.0100 | 5/3/2019@2:46:55 PM | |
| JC80499-2 | 1 | 101 | 0.0118 | 5/3/2019@2:48:17 PM | |
| JC86916-14 | 1 | 102 | 0.842 | 5/3/2019@2:49:38 PM | 5.00 |
| JC86916-14 | 1 | 103 | 0.485 | 5/3/2019@2:51:00 PM | 10.00 |
| CCV | 1 | S9 | 0.414 | 5/3/2019@2:54:04 PM | |
| | Known Conc: | | 0.400 | | 103.5 |
| CCB | 1 | S10 | -3.06e-3 | 5/3/2019@2:55:26 PM | |
| | Known Conc: | | 0.00 | | |

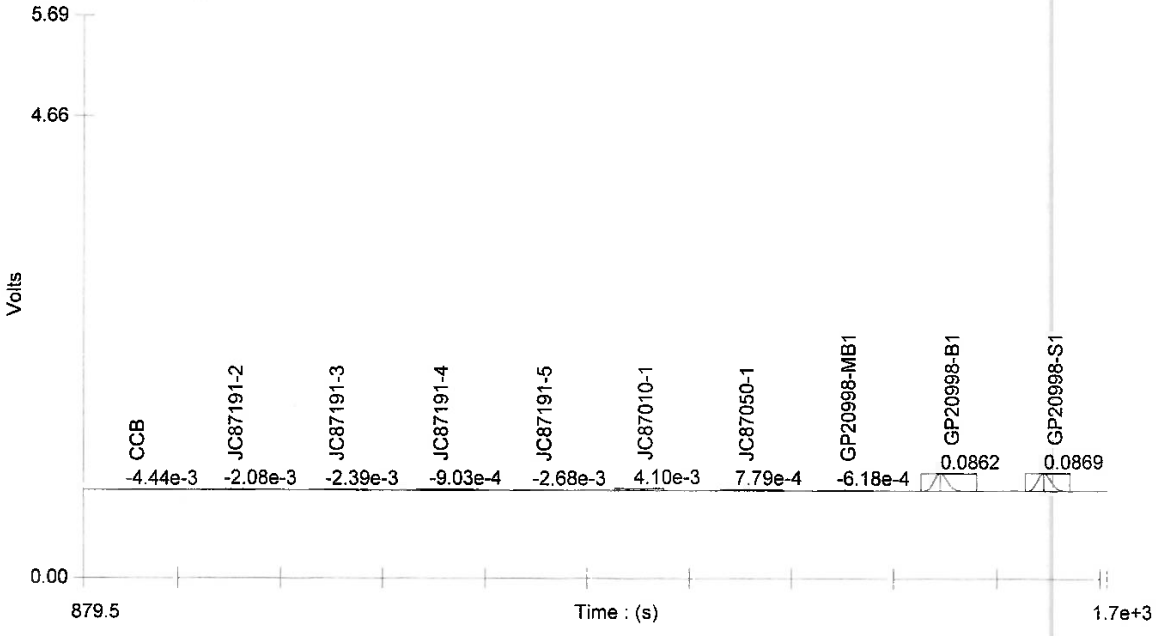
Author: Chemistry

Date : 5/3/2019

Channel 1 - Set: 1 / 10



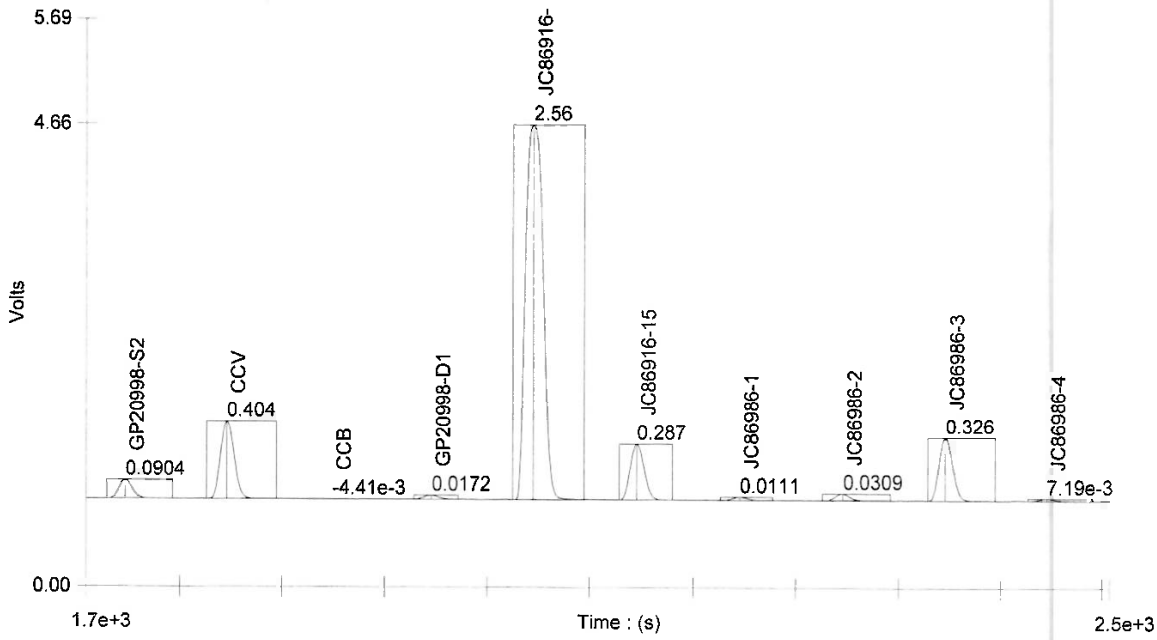

Channel 1 - Set: 2 / 10



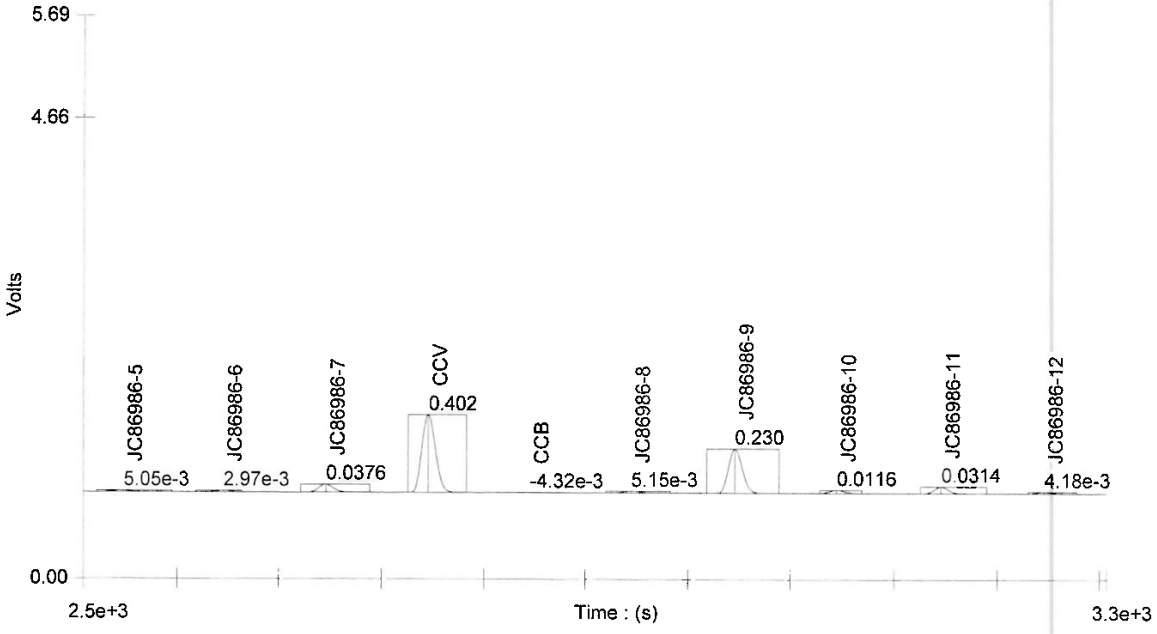
Author: Chemistry

Date : 5/3/2019

Channel 1 - Set: 3 / 10



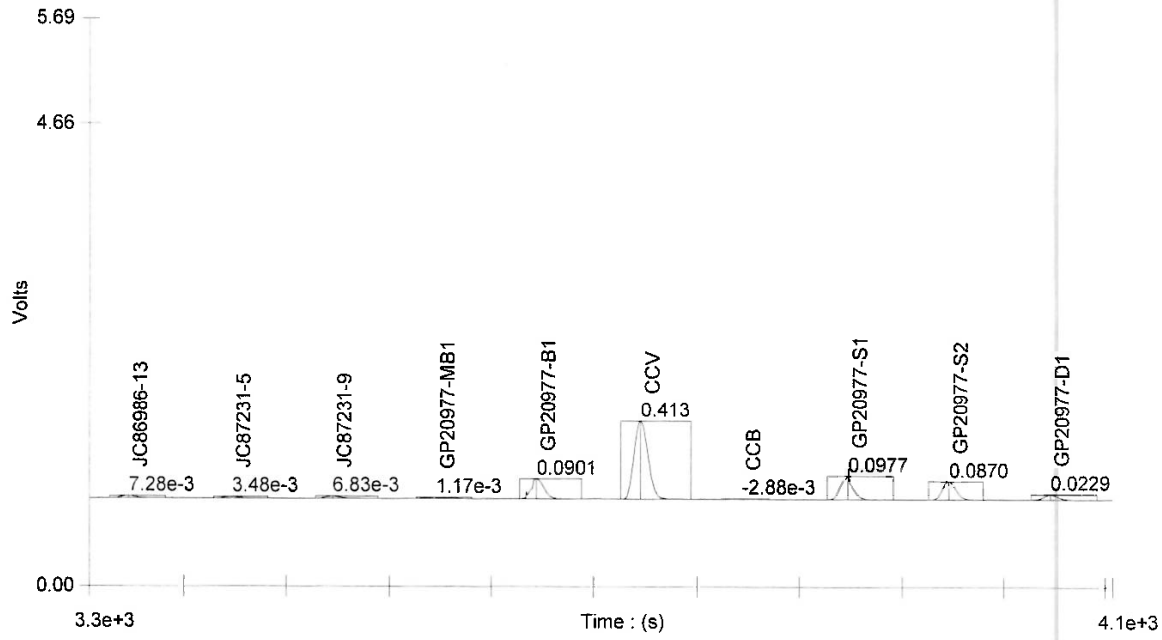

Channel 1 - Set: 4 / 10



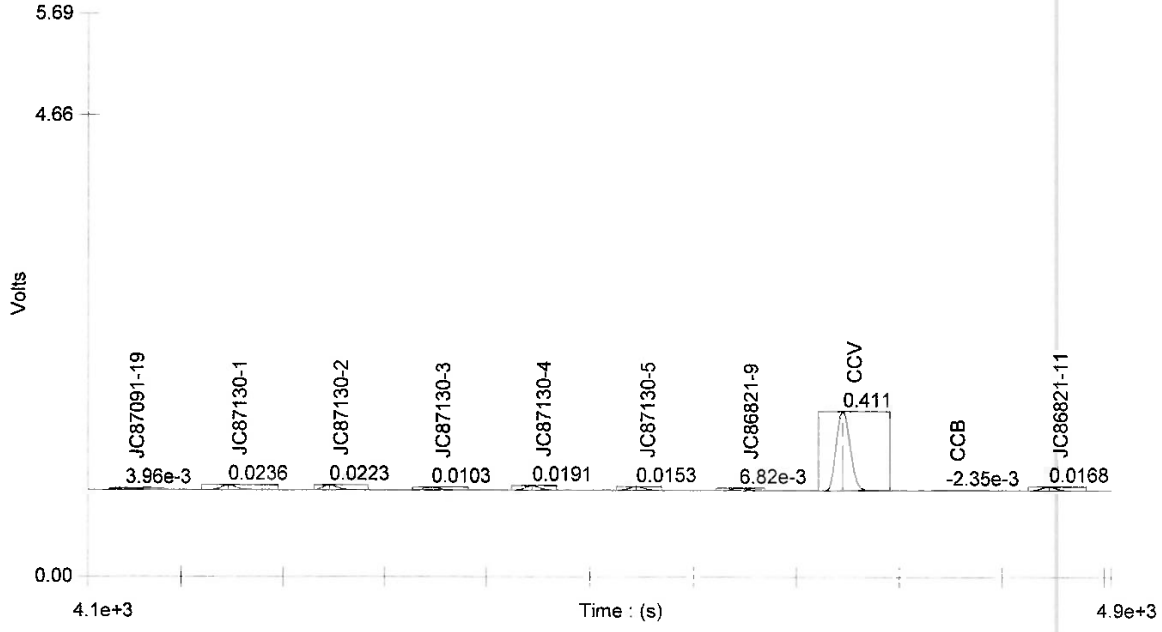
Author: Chemistry

Date : 5/3/2019

Channel 1 - Set: 5 / 10



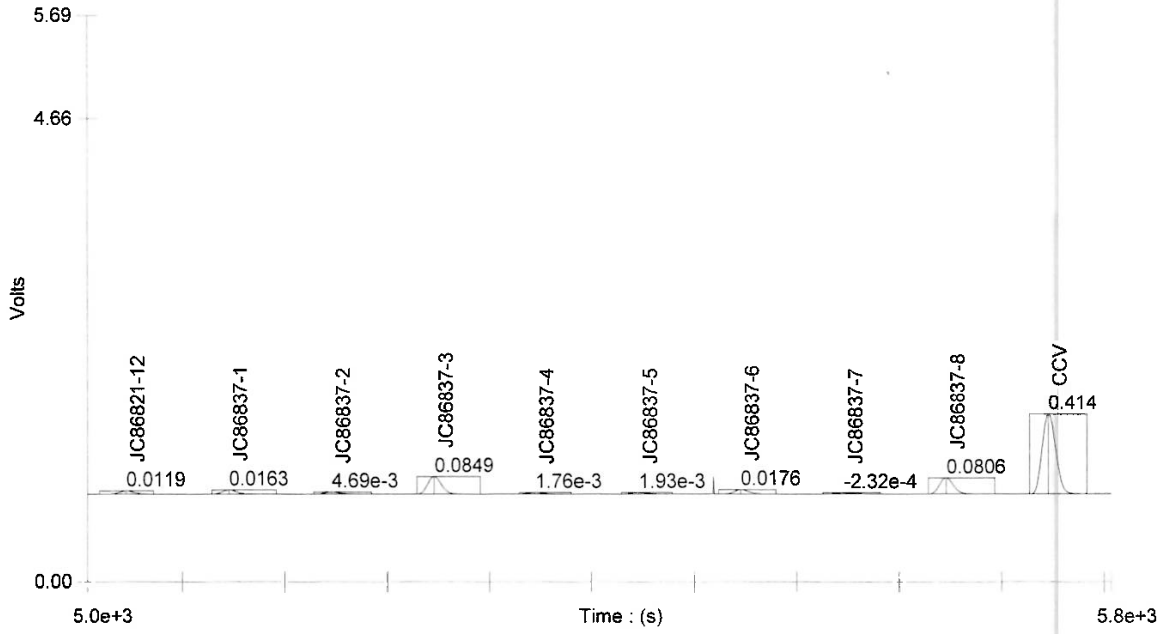

Channel 1 - Set: 6 / 10



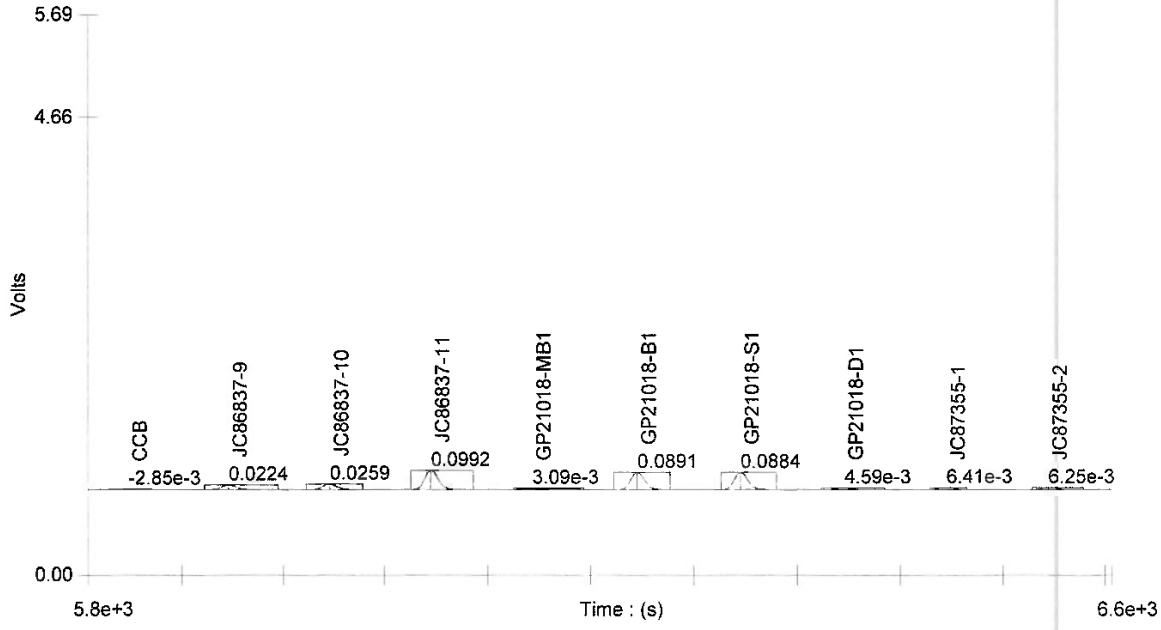
Author: Chemistry

Date : 5/3/2019

Channel 1 - Set: 7 / 10



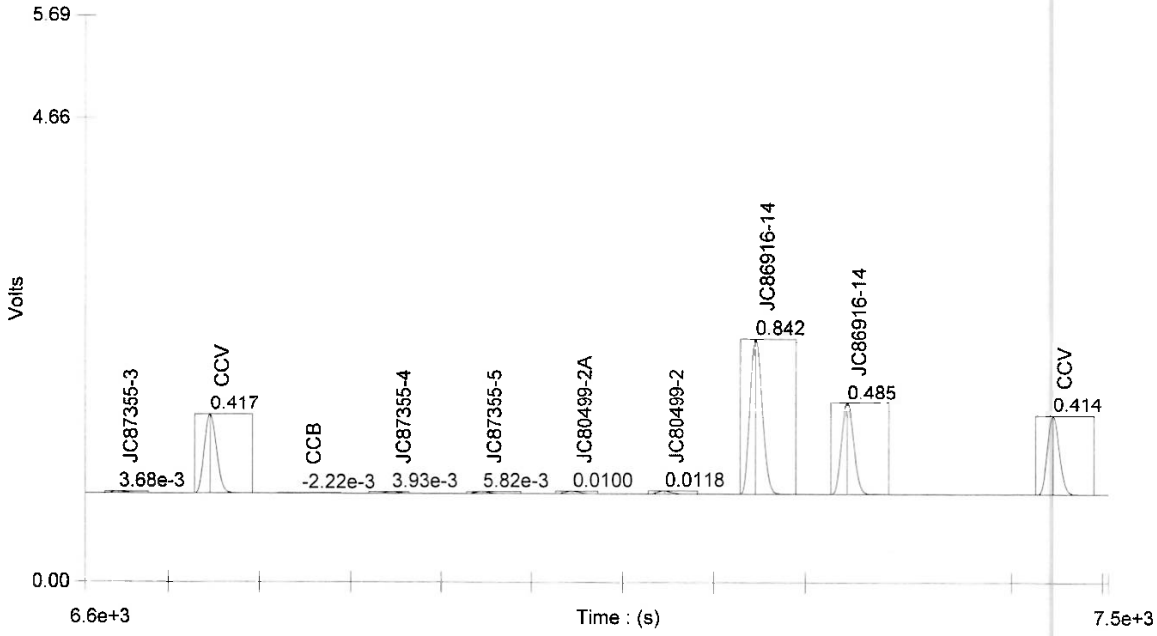

Channel 1 - Set: 8 / 10



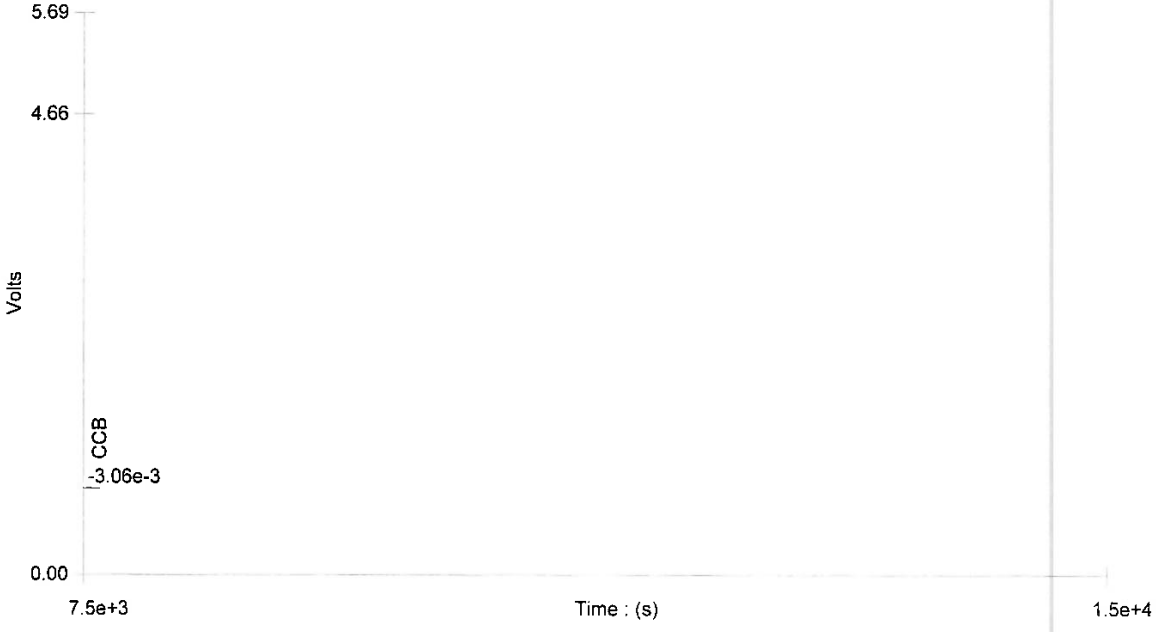
Author: Chemistry

Date : 5/3/2019

Channel 1 - Set: 9 / 10




Channel 1 - Set: 10 / 10



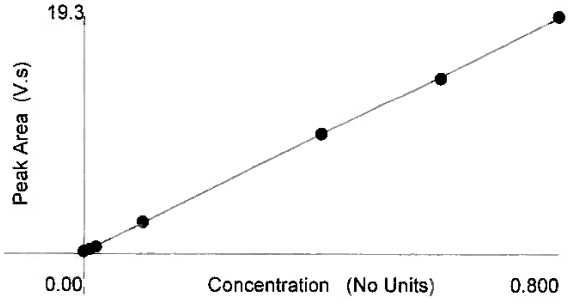
Author: Chemistry

Date : 5/3/2019

Table : 1 (CN)

| | Known Conc. () | Rep. | Peak Area (V.s) | Peak Height (V) | % RSD | % Residual | Det. Conc () | Detection Date | Detection Time |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.800 | 1 | 19.3 | 1.53 | 0.0 | -0.5 | 0.804 | 5/3/2019 | 11:56:36 AM |
| 2 | 0.600 | 1 | 14.3 | 1.14 | 0.0 | 0.9 | 0.594 | 5/3/2019 | 11:57:58 AM |
| 3 | 0.400 | 1 | 9.67 | 0.780 | 0.0 | 0.1 | 0.399 | 5/3/2019 | 11:59:20 AM |
| 4 | 0.100 | 1 | 2.58 | 0.208 | 0.0 | -2.1 | 0.102 | 5/3/2019 | 12:00:42 PM |
| 5 | 0.0200 | 1 | 0.566 | 0.0457 | 0.0 | 8.2 | 0.0179 | 5/3/2019 | 12:02:04 PM |
| 6 | 0.0100 | 1 | 0.376 | 0.0285 | 0.0 | 0.2 | 9.99e-3 | 5/3/2019 | 12:03:26 PM |
| 7 | 0.00 | 1 | 0.183 | 0.0125 | | | 1.91e-3 | 5/3/2019 | 12:04:48 PM |

Figure : 1 (CN)




Area = 23.9 * Conc + 0.138
Conc = 0.0419 * Area - 5.77e-3
Correlation Coefficient (r) = 0.99995

Weighting : None

SGS

Analyst KI Product CN Autopipette # 43

Date 5/3/19 Batch ID Class A Vol. Flask

## Sample Dilution Prep Log

| Sample ID | Dilution | Initial Volume | Final Volume | Comments |
|---|---|---|---|---|
| JC86916-14 | 1:5 | 1 | 5 | |
| ↓ | 1:10 | 1 | 10 | |
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QC Reviewer:_____ Date:_____

Form: GN165-01
Rev. Date: 2/25/03

SGS

# Reagent Information Log - CN Lachat Autoanalyzer

GN Number: GN94885

| Reagent | Reagent # or Manufacturer/Lot | Expiration date |
|---|---|---|
| Pyridine-Bartituric Acid Reagent | GNE2-57177-CN | 8/7/2019 |
| Chloramine-T | GNE4-57882-CN | 5/7/2019 |
| Phosphate Buffer Solution, 1.0 M | GNE3-57668-CN | 9/28/2019 |
| 0.25 N Sodium Hydroxide Carrier Solution | GNE2-57210-CN | 8/11/2019 |
| | | |
| | | |
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Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

Form: GN087A-27
Rev. Date: 7/19/06

SGS

**REACTIVITY DISTILLATION LOG (WATERS)**

Method: SW846 Chapter 7

SREAC GP20984 / CREAC GP20985

Batch ID: _____

Autopipette ID: n/a

Balance ID: n/a

| Bottle # | Sample ID | Initial Volume (ml) | Final Volume (ml) | Start Time | End Time | Date | QC ID | Product (SREAC, CREAC, or both) | Check when spike added | Spike Amounts and Comments including Spike Lots | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MB1 | 10 | 500 | 13:20 | | 5/2/19 | GP -MB1 | both | | | CZD |
| | B1 creac | | | | | | GP -B1 | CREAC | ✓ | 10mL of 100ppm | |
| | B1 sreac | | | | | | GP -B1 | SREAC | ✓ | 10mL of 537ppm | |
| | JC87132-1 (S1) | | | | | | GP -S1 | SREAC | ✓ | 10mL of 537ppm | |
| | (D1) | | | | | | GP -D1 | both | | | |
| | (QC) | | | | | | | | | | |

Comments: Creac Spike: 20 ml of 1000ppm cyanide stock diluted up to 200ml w/ 0.25N NaOH
Sreac Spike: 2.0g of Sodium Sulfide Nonahydrate diluted up to 500ml w/ DI H20

QC Reviewer: _____ Date: _____

Form GN282-01a
Rev. Date 02/28/13

SGS

# Reagent Information Log - CREAC and SREAC Distillations

GP Numbers:

| Reagent | Reagent # or Manufacturer/Lot | Expiration date | Standardization Date |
|---|---|---|---|
| Cyanide Spike Solution | GNE1-56946-CN | 7/11/2019 | 4/19/2019 |
| Sulfide Spike Solution | FISHER # 161566 | 4/22/2022 | NA |
| Sulfuric Acid, 0.010 N | GNE4-57873-REAC | 10/29/2019 | NA |
| Sodium Hydroxide, 0.25 N | GNE4-57872-REAC | 10/29/2019 | NA |
| Sodium Hydroxide, 0.25 N | GNE4-57872-REAC | 10/29/2019 | NA |
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Form: GN087A-64
Rev. Date: 3/12/04

SGS

Batch ID: _____

Autopipette ID: n/a

Balance ID: B-27

## REACTIVITY DISTILLATION LOG (SOILS)

Method: SW846 Chapter 7

SREAC / CREAC
GP20986 / GP20987

| Bottle # | Sample ID | Initial Volume (g) | Final Volume (ml) | Start Time | End Time | Date | QC ID | Product (SREAC, CREAC, or both) | Check when spike added | Spike Amounts and Comments including Spike Lots | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MBi | 10 | 500 | 13:20 | 13:50 | 5/2/19 | GP -MB | both | | | CZD |
| | Bi creac | ↓ | ↓ | ↓ | ↓ | ↓ | GP -B | CREAC | ✓ | 10ml of 100ppm | ↓ |
| | Bi sreac | ↓ | ↓ | ↓ | ↓ | ↓ | GP -B | SREAC | ✓ | 10ml of 537ppm | ↓ |
| 1 | JC86901-9A (S1) | 9.99 | ↓ | ↓ | ↓ | ↓ | GP -S | SREAC | ✓ | 10ml of 537 ppm | ↓ |
| 1 | ↓ (D1) | 10.01 | ↓ | ↓ | ↓ | ↓ | GP -D | both | | | ↓ |
| 1 | ↓ (QC) | 10.00 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86901-3A | 10.05 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86901-13A | 10.04 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC87030-3A | 10.03 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC87084-1 | 9.95 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC87084-2 | 9.96 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86768-1A | 10.04 | ↓ | 14:26 | 14:56 | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86768-2A | 9.98 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86768-3A | 10.01 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86768-4A | 10.00 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86768-5A | 10.02 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86768-6A | 10.01 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC86768-7A | 9.98 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |
| 1 | JC87190-1 | 9.97 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | ↓ |

Comments: Creac Spike: 20 ml of 1000ppm cyanide stock diluted up to 200ml w/ 0.25N NaOH
Sreac Spike: 2.0g of Sodium Sulfide Nonahydrate diluted up to 500ml w/ DI H20

QC Reviewer: _____ Date: _____

Form: GN282-01b
Rev. Date: 02/28/13

SGS

# Reagent Information Log - CREAC and SREAC Distillations

GP Numbers:

| Reagent | Reagent # or Manufacturer/Lot | Expiration date | Standardization Date |
|---|---|---|---|
| Cyanide Spike Solution | GNE1-56946-CN | 7/11/2019 | 4/19/2019 |
| Sulfide Spike Solution | FISHER # 161566 | 4/22/2022 | NA |
| Sulfuric Acid, 0.010 N | GNE4-57873-REAC | 10/29/2019 | NA |
| Sodium Hydroxide, 0.25 N | GNE4-57872-REAC | 10/29/2019 | NA |
| Sodium Hydroxide, 0.25 N | GNE4-57872-REAC | 10/29/2019 | NA |
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Form: GN087A-64
Rev. Date: 3/12/04

13.1 13

LABORATORIES

Redo

# CYANIDE DISTILLATION LOG (WATERS- MICRO DISTILLATION)

Method: EPA 335.4 or SW-846 9012 M (Circle Method)

GP20975

Batch ID:

Autopipette ID: 43

Balance ID: N/A

| Bottle # | Block # | Sample ID | pH | S2- | Add (a) | Initial Volume (ml) | Final Volume (ml) | Temp. in Deg. C (b) | Start Time | End Time | Date | QC ID | Spike Amounts and Comments | Spike Lot | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4 | MB2 | 12 | – | ✓ | 6 | 6 | 120 | 12:30 | 13:00 | 5/2/19 | GP -MB1 | | | BM |
| | | B2 | | | | | | | | | | GP -B1 | 0.10 ml of 5.0 mg/l (c) | / | |
| | | S1 JC86782-2 | | | | | | | | | | GP -S1 | 0.10 ml of 5.0 mg/l | / | |
| | | D1 | | | | | | | | | | GP -S2 | 0.10 ml of 5.0 mg/l | / | |
| 8 | | JC86782-2 | | | | | | | | | | GP -D1 | | | |
| 5 | | JC87191-1 | | | | | | | | | | | | | |
| 5 | | -2 | | | | | | | | | | | | | |
| 5 | | -3 | | | | | | | | | | | | | |
| 5 | | -4 | | | | | | | | | | | | | |
| 5 | | -5 | | | | | | | | | | | | | |
| 5 | | JC87010-1 | | | | | | | | | | | | | |
| 1 | | JC87050-1 | | | | | | | | | | | | | |
| | | S2 JC87191-1 | | | | | | | | | | | | | |

heck if sulfamic acid was added.

cord temp. from the LED readout on the distillation block. Temperatures verified with an external thermometer a min. of once per quarter.

he calibration curve is not distilled, then in addition to the blank spike, the analyst must also prepare two distilled standards using 0.12 ml of 1.0 mgl for one and 0.15 ml of 20.0 mg/l for the other.

nents:

eviewer:

Form: GN0012-04
Rev. Date: 03/09/13

Date:

SGS

# GENERAL CHEMISTRY STANDARD PREPARATION LOG

**Product: CN**

**GN or GP Number:** GP20975

| Intermediate Standard Description | Stock used to prepare standard | Standardization Date | Stock concentration in mg/l | Stock volume used in ml (a) | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. of Intermediate (mg/l) | Expiration Date (c) | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 PPM intermediate | GNE3-57465-CN | 4/30/19 | 1000 | 1.000 | 42 | .25 N NaOH | 200 | 5.00 | 5/7/19 | RC | 4/30/2019 |
| 5 PPM ext. | GNE1-56947-CN | 4/30/19 | 1000 | 1 | 42 | .25 N NaOH | 200 | 5.00 | 5/7/19 | RC | 4/30/2019 |
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| Standard Description | Intermediate or Stock used to prepare standard | | Intermediate or Stock concentration in mg/l | Intermediate or Stock volume used in ml | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. Of Standard (mg/l) | | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.0 ppm CN STD | | 5.0 | 16.00 | A | .25 N NaOH | 100 | | 5/7/19 | RC | 4/30/2019 |
| B | 5.0 ppm CN STD | | 5.0 | 12.00 | A | .25 N NaOH | 100 | 0.60 | 5/7/19 | RC | 4/30/2019 |
| C | 5.0 ppm CN STD | | 5.0 | 8.00 | A | .25 N NaOH | 100 | 0.40 | 5/7/19 | RC | 4/30/2019 |
| D | 5.0 ppm CN STD | | 5.0 | 2.00 | 42 | .25 N NaOH | 100 | 0.10 | 5/7/19 | RC | 4/30/2019 |
| E | 5.0 ppm CN STD | | 5.0 | 0.40 | 42 | .25 N NaOH | 100 | 0.02 | 5/7/19 | RC | 4/30/2019 |
| F | 5.0 ppm CN STD | 0.3 | 5.0 | 0.20 | 42 | .25 N NaOH | 100 | 0.01 | 5/7/19 | RC | 4/30/2019 |
| | | | | | | | | | | | |
| Undistilled ICV Int. | 5 PPM EXT STD | 11/4/18 | 0.3 | 6.00 | 42 | .25 N NaOH | 100 | 0.30 | 8/7/19 | BM | 4/30/2019 |
| Undistilled CCV Int. | 5.0 ppm CN STD | 11/4/18 | 0.4 | 8.00 | 42 | .25 N NaOH | 100 | 0.40 | 8/7/19 | BM | 4/30/2019 |
| | | | | | | | | | | | |
| | | | | | | 0 | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

(a) Concentration will change with standardization concentration.

(b) Diluent reagent reference number: SEE ATTACHED Expiration Date: SEE ATTACHED

(c) Standards must be made fresh (daily) before distillation. After distillation, they may be held under refrigeration for a maxiumum of 28 days before analysis.

*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the approcpriate Accutest ID number.

Form: GN193-02
Rev. Date:1/6/2014

SGS

# Reagent Information Log - CN - Distillation

GP Numbers: GP20975

| Reagent | Reagent # or Manufacturer/Lot | Expiration date |
|---|---|---|
| Silver Nitrate Solution 0.0192 N | GNE3-57464-CN | 3/11/2019 |
| Magnesium Chloride Solution | gne12-56762-cn | 6/21/2019 |
| Sulfamic Acid | RICCA 1705K24 | |
| Sulfuric Ac id | FISHER 7664-93-9 | 11/6/2022 |
| Sodium Hydroxide 1.25N/0.25N | GNE4-57812-CN | 10/19/2019 |
| Cadmium Carbonate, Powder | MKBF5367V | 3/14/2022 |
| Micro Distillation tubes | ENV-815190-9044-2 | NA |
| 95 NaOH | GNE4-57813-CN | 10/19/2019 |
| Cyanide Stock Solution A - spiking/standards | GNE3-57465-CN | 9/11/2019 |
| Cyanide Stock Solution B- externals | GNE1-56947-CN | 7/19/2019 |
| Lead Acetate Test Paper | FISHER : 12/8/2016 | 12/8/2021 |
| pH paper - range 12.5 to 14 | HYDRION : 210114B | 3/20/2020 |
| pH paper - range 1 to 12 | HYDRION : 223016 | 9/15/2019 |
| Benzalrthodanine | ricca 1805T07 | 10/1/2019 |

Reason codes for data corrections: 1-reviewer error correction; 2 s

Form: GN087A-28
Rev. Date: 03/19/13

13.1 13

SGS

Batch ID: _____

Autopipette ID: 43

Balance ID: B27

# CYANIDE DISTILLATION LOG (SOILS- MICRO DISTILLATION)

GP20998

Method: SW8469012B M

| Bottle # | Block # | Sample ID | pH | S2- | Add (a) | Initial Weight (g) | Final Volume (ml) | Temp. in Deg. C (b) | Start Time | End Time | Date | QC ID | Spike Amounts and Comments | Spike Lot | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | MB1 | 12 | — | ✓ | 0.25 | 6 | 120 | 12:30 | 13:00 | 5/2/19 | GP -MB1 | | | BM |
| | | B1 | | | | 0.25 | | | | | | GP -B1 | 0.10 ml of 5.0 mg/l (c) | / | |
| | | S1 JC86986-2 | | | | 0.25 | | | | | | GP -S1 | 0.10 ml of 5.0 mg/l | / | |
| | | S2 -5 | | | | 0.24 | | | | | | GP -S2 | 0.10 ml of 5.0 mg/l | / | |
| | | D1 JC86986-2 | | | | 0.29 | | | | | | GP -D1 | | | |
| 1 | | JC86916-14 | | | | 0.29 | | | | | | | | | |
| 1 | | -15 | | | | 0.28 | | | | | | | | | |
| 1 | | JC86986-1 | | | | 0.28 | | | | | | | | | |
| 2 | | -2QC | | | | 0.22 | | | | | | | | | |
| 1 | | -3 | | | | 0.20 | | | | | | | | | |
| 1 | | -4 | | | | 0.26 | | | | | | | | | |
| 1 | | -5 | | | | 0.26 | | | | | | | | | |
| 1 | | -6 | | | | 0.29 | | | | | | | | | |
| 1 | | -7 | | | | 0.20 | | | | | | | | | |
| 1 | | -8 | | | | 0.20 | | | | | | | | | |
| 1 | | -9 | | | | 0.22 | | | | | | | | | |
| 1 | | -10 | | | | 0.21 | | | | | | | | | |
| 1 | | -11 | | | | 0.29 | | | | | | | | | |
| 1 | | -12 | | | | 0.26 | | | | | | | | | |
| 1 | | -13 | | | | 0.26 | | | | | | | | | |
| 1 | | JC87231-5 | | | | 0.27 | | | | | | | | | |
| 1 | | -9 | | | | 0.25 | | | | | | | | | |

(a) Check if sulfamic acid was added.

(b) Record temp. from the LED readout on the distillation block. Temperatures verified with an external thermometer a min. of once per quarter.

(c) If the calibration curve is not distilled, then in addition to the blank spike, the analyst must also prepare two distilled standards using 0.12 ml of 1.0 mgl for one and 0.15 ml of 20.0 mg/l for the other

Comments:

QC Reviewer: _____ Date: _____

Form: GN0012-05

SGS

# GENERAL CHEMISTRY STANDARD PREPARATION LOG

**Product: CN**

**GN or GP Number:** GP 20990

| Intermediate Standard Description | Stock used to prepare standard | Standardization Date | Stock concentration in mg/l | Stock volume used in ml (a) | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. of Intermediate (mg/l) | Expiration Date (c) | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 PPM intermediate | GNE3-57465-CN | 4/30/19 | 1000 | 1.000 | 42 | .25 N NaOH | 200 | 5.00 | 5/7/19 | RC | 4/30/2019 |
| 5 PPM ext. | GNE1-56947-CN | 4/30/19 | 1000 | 1 | 42 | .25 N NaOH | 200 | 5.00 | 5/7/19 | RC | 4/30/2019 |
| | | | | | | | | | | | |
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| Standard Description | Intermediate or Stock used to prepare standard | | Intermediate or Stock concentration in mg/l | Intermediate or Stock volume used in ml | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. Of Standard (mg/l) | | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.0 ppm CN STD | | 5.0 | 16.00 | A | .25 N NaOH | 100 | | 5/7/19 | RC | 4/30/2019 |
| B | 5.0 ppm CN STD | | 5.0 | 12.00 | A | .25 N NaOH | 100 | 0.60 | 5/7/19 | RC | 4/30/2019 |
| C | 5.0 ppm CN STD | | 5.0 | 8.00 | A | .25 N NaOH | 100 | 0.40 | 5/7/19 | RC | 4/30/2019 |
| D | 5.0 ppm CN STD | | 5.0 | 2.00 | 42 | .25 N NaOH | 100 | 0.10 | 5/7/19 | RC | 4/30/2019 |
| E | 5.0 ppm CN STD | | 5.0 | 0.40 | 42 | .25 N NaOH | 100 | 0.02 | 5/7/19 | RC | 4/30/2019 |
| F | 5.0 ppm CN STD | 0.3 | 5.0 | 0.20 | 42 | .25 N NaOH | 100 | 0.01 | 5/7/19 | RC | 4/30/2019 |
| | | | | | | | | | | | |
| Undistilled ICV Int. | 5 PPM EXT STD | 11/4/18 | 0.3 | 6.00 | 42 | .25 N NaOH | 100 | 0.30 | 8/7/19 | BM | 4/30/2019 |
| Undistilled CCV Int. | 5.0 ppm CN STD | 11/4/18 | 0.4 | 8.00 | 42 | .25 N NaOH | 100 | 0.40 | 8/7/19 | BM | 4/30/2019 |
| | | | | | | | | | | | |
| | | | | | | 0 | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

(a) Concentration will change with standardization concentration.

(b) Diluent reagent reference number: SEE ATTACHED Expiration Date: SEE ATTACHED

(c) Standards must be made fresh (daily) before distillation. After distillation, they may be held under refrigeration for a maxiumum of 28 days before analysis.

*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the approcpriate Accutest ID number.

Form: GN193-02
Rev. Date:1/6/2014

SGS

# Reagent Information Log - CN - Distillation

GP Numbers: GP20998

| Reagent | Reagent # or Manufacturer/Lot | Expiration date |
|---|---|---|
| Silver Nitrate Solution 0.0192 N | GNE3-57464-CN | 3/11/2019 |
| Magnesium Chloride Solution | gne12-56762-cn | 6/21/2019 |
| Sulfamic Acid | RICCA 1705K24 | |
| Sulfuric Ac id | FISHER 7664-93-9 | 11/6/2022 |
| Sodium Hydroxide 1.25N/0.25N | GNE4-57812-CN | 10/19/2019 |
| Cadmium Carbonate, Powder | MKBF5367V | 3/14/2022 |
| Micro Distillation tubes | ENV-815190-9044-2 | NA |
| .95 NaOH | GNE4-57813-CN | 10/19/2019 |
| Cyanide Stock Solution A - spiking/standards | GNE3-57465-CN | 9/11/2019 |
| Cyanide Stock Solution B- externals | GNE1-56947-CN | 7/19/2019 |
| Lead Acetate Test Paper | FISHER : 12/8/2016 | 12/8/2021 |
| pH paper - range 12.5 to 14 | HYDRION : 210114B | 3/20/2020 |
| pH paper - range 1 to 12 | HYDRION : 223016 | 9/15/2019 |
| Benzalrthodanine | ricca 1805T07 | 10/1/2019 |

Reason codes for data corrections: 1-reviewer error correction: 2 s

Form: GN087A-28
Rev. Date: 03/19/13

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Redo

GP20977

Batch ID:

Autopipette ID: 43

Balance ID: 827

# CYANIDE DISTILLATION LOG (SOILS- MICRO DISTILLATION)

Method: SW8469012B M

| Bottle # | Block # | Sample ID | pH | S2- | Add (a) | Initial Weight (g) | Final Volume (ml) | Temp. in Deg. C (b) | Start Time | End Time | Date | QC ID | Spike Amounts and Comments | Spike Lot | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | MB1 | 12 | — | ✓ | 0.25 | 6 | 120 | 11:00 | 11:30 | 5/3/19 | GP -MB1 | | | BM |
| | | B1 | | | | 0.25 | | | | | | GP -B1 | 0.10 ml of 5.0 mg/l (c) | / | |
| | | S1 JC87130-1 | | | | 0.26 | | | | | | GP -S1 | 0.10 ml of 5.0 mg/l | / | |
| | | S2 JC86837-5 | | | | 0.25 | | | | | | GP -S2 | 0.10 ml of 5.0 mg/l | / | |
| | | D1 JC87130-1 | | | | 0.28 | | | | | | GP -D1 | | | |
| 1 | | JC87091-19 | | | | 0.28 | | | | | | | | | |
| 4 | | JC87130-1 QC | | | | 0.28 | | | | | | | | | |
| 1 | | -2 | | | | 0.30 | | | | | | | | | |
| 1 | | -3 | | | | 0.23 | | | | | | | | | |
| 4 | | -4 | | | | 0.30 | | | | | | | | | |
| 1 | | -5 | | | | 0.26 | | | | | | | | | |
| 1 | | JC86821-9 | | | | 0.24 | | | | | | | | | |
| 1 | | -11 | | | | 0.28 | | | | | | | | | |
| 1 | | -12 | | | | 0.22 | | | | | | | | | |
| 1 | | JC86837-1 | | | | 0.23 | | | | | | | | | |
| 1 | | -2 | | | | 0.29 | | | | | | | | | |
| 1 | | -3 | | | | 0.24 | | | | | | | | | |
| 1 | | -4 | | | | 0.24 | | | | | | | | | |
| 1 | | -5 QC | | | | 0.23 | | | | | | | | | |
| 1 | | -6 | | | | 0.22 | | | | | | | | | |
| 1 | | -7 | | | | 0.23 | | | | | | | | | |
| 1 | | -8 | | | | 0.25 | | | | | | | | | |
| 1 | | -9 | | | | 0.23 | | | | | | | | | |
| 1 | | -10 | | | | 0.23 | | | | | | | | | |
| 1 | | -11 | | | | 0.24 | | | | | | | | | |

a) Check if sulfamic acid was added.

b) Record temp. from the LED readout on the distillation block. Temperatures verified with an external thermometer a min. of once per quarter.

c) If the calibration curve is not distilled, then in addition to the blank spike, the analyst must also prepare two distilled standards using 0.12 ml of 1.0 mgl for one and 0.15 ml of 20.0 mg/l for the other.

Comments:

QC Reviewer: Date:

Form: GN0012-05

SGS

# GENERAL CHEMISTRY STANDARD PREPARATION LOG

**Product: CN**

**GN or GP Number:** GP 20977

| Intermediate Standard Description | Stock used to prepare standard | Standardization Date | Stock concentration in mg/l | Stock volume used in ml (a) | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. of Intermediate (mg/l) | Expiration Date (c) | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 PPM intermediate | GNE3-57465-CN | 4/30/19 | 1000 | 1.000 | 42 | .25 N NaOH | 200 | 5.00 | 5/7/19 | RC | 4/30/2019 |
| 5 PPM ext. | GNE1-56947-CN | 4/30/19 | 1000 | 1 | 42 | .25 N NaOH | 200 | 5.00 | 5/7/19 | RC | 4/30/2019 |

| Standard Description | Intermediate or Stock used to prepare standard | | Intermediate or Stock concentration in mg/l | Intermediate or Stock volume used in ml | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. Of Standard (mg/l) | | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.0 ppm CN STD | | 5.0 | 16.00 | A | .25 N NaOH | 100 | | 5/7/19 | RC | 4/30/2019 |
| B | 5.0 ppm CN STD | | 5.0 | 12.00 | A | .25 N NaOH | 100 | 0.60 | 5/7/19 | RC | 4/30/2019 |
| C | 5.0 ppm CN STD | | 5.0 | 8.00 | A | .25 N NaOH | 100 | 0.40 | 5/7/19 | RC | 4/30/2019 |
| D | 5.0 ppm CN STD | | 5.0 | 2.00 | 42 | .25 N NaOH | 100 | 0.10 | 5/7/19 | RC | 4/30/2019 |
| E | 5.0 ppm CN STD | | 5.0 | 0.40 | 42 | .25 N NaOH | 100 | 0.02 | 5/7/19 | RC | 4/30/2019 |
| F | 5.0 ppm CN STD | 0.3 | 5.0 | 0.20 | 42 | .25 N NaOH | 100 | 0.01 | 5/7/19 | RC | 4/30/2019 |
| Undistilled ICV Int. | 5 PPM EXT STD | 11/4/18 | 0.3 | 6.00 | 42 | .25 N NaOH | 100 | 0.30 | 8/7/19 | BM | 4/30/2019 |
| Undistilled CCV Int. | 5.0 ppm CN STD | 11/4/18 | 0.4 | 8.00 | 42 | .25 N NaOH | 100 | 0.40 | 8/7/19 | BM | 4/30/2019 |
| | | | | | | 0 | | | | | |

(a) Concentration will change with standardization concentration.

(b) Diluent reagent reference number: SEE ATTACHED Expiration Date: SEE ATTACHED

(c) Standards must be made fresh (daily) before distillation. After distillation, they may be held under refrigeration for a maxiumum of 28 days before analysis.

*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the approcpriate Accutest ID number.

Form: GN193-02
Rev. Date:1/6/2014

SGS

# Reagent Information Log - CN - Distillation

GP Numbers: GP20977

| Reagent | Reagent # or Manufacturer/Lot | Expiration date |
|---|---|---|
| Silver Nitrate Solution 0.0192 N | GNE3-57464-CN | 3/11/2019 |
| Magnesium Chloride Solution | gne12-56762-cn | 6/21/2019 |
| Sulfamic Acid | RICCA 1705K24 | |
| Sulfuric Ac id | FISHER 7664-93-9 | 11/6/2022 |
| Sodium Hydroxide 1.25N/0.25N | GNE4-57812-CN | 10/19/2019 |
| Cadmium Carbonate, Powder | MKBF5367V | 3/14/2022 |
| Micro Distillation tubes | ENV-815190-9044-2 | NA |
| .95 NaOH | GNE4-57813-CN | 10/19/2019 |
| Cyanide Stock Solution A - spiking/standards | GNE3-57465-CN | 9/11/2019 |
| Cyanide Stock Solution B- externals | GNE1-56947-CN | 7/19/2019 |
| Lead Acetate Test Paper | FISHER : 12/8/2016 | 12/8/2021 |
| pH paper - range 12.5 to 14 | HYDRION : 210114B | 3/20/2020 |
| pH paper - range 1 to 12 | HYDRION : 223016 | 9/15/2019 |
| Benzalrthodanine | ricca 1805T07 | 10/1/2019 |

Reason codes for data corrections: 1-reviewer error correction: 2 s

Form: GN087A-28
Rev. Date: 03/19/13

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GP21018

Batch ID: _____

# CYANIDE DISTILLATION LOG (SOILS- MICRO DISTILLATION)

~~GP21018~~ # 4BM

Autopipette ID: 43

Balance ID: B27

Method: SW8469012B M

| Bottle # | Block # | Sample ID | pH | S2- | Add (a) | Initial Weight (g) | Final Volume (ml) | Temp. in Deg. C (b) | Start Time | End Time | Date | QC ID | Spike Amounts and Comments | Spike Lot | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | MB1 | 12 | – | ✓ | 0.25 | 6 | 120 | 11:00 | 11:30 | 5/3/19 | GP -MB1 | | | BM |
| | | B1 | | | | 0.25 | | | | | | GP -B1 | 0.10 ml of 5.0 mg/l (c) | ✓ | |
| | | S1JC87355-1 | | | | 0.22 | | | | | | GP -S1 | 0.10 ml of 5.0 mg/l | | |
| | | | | | | | | | | | | GP -S2 | 0.10 ml of 5.0 mg/l | ✓ | |
| | | D1JC87355-1 | | | | 0.20 | | | | | | GP -D1 | | | |
| 1 | | JC87355-1 | | | | 0.21 | | | | | | | | | |
| 1 | | -2 | | | | 0.23 | | | | | | | | | |
| 1 | | -3 | | | | 0.24 | | | | | | | | | |
| 1 | | -4 | | | | 0.24 | | | | | | | | | |
| 1 | | -5 | | | | 0.27 | | | | | | | | | |
| N/A | | JC80499-2A | | | | 0.25 | | | | | | | | | |
| ↓ | ↓ | ↓ -2 | ↓ | ↓ | ↓ | 0.25 | ↓ | ↓ | ↓ | ↓ | ↓ | | | | ↓ |

(a) Check if sulfamic acid was added.

(b) Record temp. from the LED readout on the distillation block. Temperatures verified with an external thermometer a min. of once per quarter.

(c) If the calibration curve is not distilled, then in addition to the blank spike, the analyst must also prepare two distilled standards using 0.12 ml of 1.0 mgl for one and 0.15 ml of 20.0 mg/l for the other.

Comments:

QC Reviewer: _____ Date: _____

Form: GN0012-05

SGS

## LOD and LOQ Scheduling

LOD Sample ID: JC80499-2A

Product: CN

Matrix: SO

LOD Concentration: 0.18 (0.0075)

Units: mg/kg

LOD Prep: 0.15 ml of 5ppm CN STD up to 100ml 0.25N NaOH

Manufacturer/Lot: GNE3-57465-CN

Expiration Date: 9/11/19

GN ID:

Analysis Date:

Result/Units:

Recovery:

Within range of 50 to 150%? **

LOQ (RL) Sample ID: JC80499-2

Product: CN

Matrix: SO

LOQ Concentration: 0.24 (0.04)

Units: mg/kg

LOQ Prep: 0.2 ml of 5ppm CN STD up to 100 ml 0.25N NaOH

Manufacturer/Lot: GNE3-57465-CN

Expiration Date: 9/11/19

GN ID:

Analysis Date:

Result/Units:

Recovery:

Within range of 70 to 130%? **

** if outside of range, notify supervisory team immediately to reschedule

Analyst:

QC Review: Date:

Date:

Form: GN271-02
Rev. Date: 3/2/18

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SGS

# GENERAL CHEMISTRY STANDARD PREPARATION LOG

**Product: CN**

**GN or GP Number:** GP24018

| Intermediate Standard Description | Stock used to prepare standard | Standardization Date | Stock concentration in mg/l | Stock volume used in ml (a) | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. of Intermediate (mg/l) | Expiration Date (c) | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 PPM intermediate | GNE3-57465-CN | 4/30/19 | 1000 | 1.000 | 42 | .25 N NaOH | 200 | 5.00 | 5/7/19 | RC | 4/30/2019 |
| 5 PPM ext. | GNE1-56947-CN | 4/30/19 | 1000 | 1 | 42 | .25 N NaOH | 200 | 5.00 | 5/7/19 | RC | 4/30/2019 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

| Standard Description | Intermediate or Stock used to prepare standard | | Intermediate or Stock concentration in mg/l | Intermediate or Stock volume used in ml | Autopipet ID | Diluent (b) | Final Volume in ml | Final Conc. Of Standard (mg/l) | | Analyst | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 5.0 ppm CN STD | | 5.0 | 16.00 | A | .25 N NaOH | 100 | | 5/7/19 | RC | 4/30/2019 |
| B | 5.0 ppm CN STD | | 5.0 | 12.00 | A | .25 N NaOH | 100 | 0.60 | 5/7/19 | RC | 4/30/2019 |
| C | 5.0 ppm CN STD | | 5.0 | 8.00 | A | .25 N NaOH | 100 | 0.40 | 5/7/19 | RC | 4/30/2019 |
| D | 5.0 ppm CN STD | | 5.0 | 2.00 | 42 | .25 N NaOH | 100 | 0.10 | 5/7/19 | RC | 4/30/2019 |
| E | 5.0 ppm CN STD | | 5.0 | 0.40 | 42 | .25 N NaOH | 100 | 0.02 | 5/7/19 | RC | 4/30/2019 |
| F | 5.0 ppm CN STD | 0.3 | 5.0 | 0.20 | 42 | .25 N NaOH | 100 | 0.01 | 5/7/19 | RC | 4/30/2019 |
| | | | | | | | | | | | |
| Undistilled ICV Int. | 5 PPM EXT STD | 11/4/18 | 0.3 | 6.00 | 42 | .25 N NaOH | 100 | 0.30 | 8/7/19 | BM | 4/30/2019 |
| Undistilled CCV Int. | 5.0 ppm CN STD | 11/4/18 | 0.4 | 8.00 | 42 | .25 N NaOH | 100 | 0.40 | 8/7/19 | BM | 4/30/2019 |
| | | | | | | | | | | | |
| | | | | | | 0 | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

(a) Concentration will change with standardization concentration.

(b) Diluent reagent reference number: SEE ATTACHED Expiration Date: SEE ATTACHED

(c) Standards must be made fresh (daily) before distillation. After distillation, they may be held under refrigeration for a maxiumum of 28 days before analysis.

*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the approcpriate Accutest ID number.

Form: GN193-02
Rev. Date:1/6/2014

SGS

# Reagent Information Log - CN - Distillation

GP Numbers: GP21018

| Reagent | Reagent # or Manufacturer/Lot | Expiration date |
|---|---|---|
| Silver Nitrate Solution 0.0192 N | GNE3-57464-CN | 3/11/2019 |
| Magnesium Chloride Solution | gne12-56762-cn | 6/21/2019 |
| Sulfamic Acid | RICCA 1705K24 | |
| Sulfuric Ac id | FISHER 7664-93-9 | 11/6/2022 |
| Sodium Hydroxide 1.25N/0.25N | GNE4-57812-CN | 10/19/2019 |
| Cadmium Carbonate, Powder | MKBF5367V | 3/14/2022 |
| Micro Distillation tubes | ENV-815190-9044-2 | NA |
| .95 NaOH | GNE4-57813-CN | 10/19/2019 |
| Cyanide Stock Solution A - spiking/standards | GNE3-57465-CN | 9/11/2019 |
| Cyanide Stock Solution B- externals | GNE1-56947-CN | 7/19/2019 |
| Lead Acetate Test Paper | FISHER : 12/8/2016 | 12/8/2021 |
| pH paper - range 12.5 to 14 | HYDRION : 210114B | 3/20/2020 |
| pH paper - range 1 to 12 | HYDRION : 223016 | 9/15/2019 |
| Benzalrthodanine | ricca 1805T07 | 10/1/2019 |

Reason codes for data corrections: 1-reviewer error correction: 2 s

Form: GN087A-28
Rev. Date: 03/19/13

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## Misc. Raw Data

Raw Data

ACCUTEST LABORATORIES

# Methanol Prep Log



| Vial Track #: | Lims ID: | Initial Tare Wt (g) | Total Wt (g) | Weight of Sample (g) | Date Prepared | Lot #: | Prep By | Vial Desc: | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | JC86986-10.3 | 36.9100 | 41.6300 | 4.7200 | | | | NAB | |
| | JC86986-10.4 | 35.8100 | 41.3800 | 5.5700 | | | | NAB | |
| | JC86986-10.5 | 35.5300 | 40.5300 | 5.0000 | | | | NAB | |
| | JC86986-11.3 | 36.3000 | 40.4100 | 4.1100 | | | | NAB | |
| | JC86986-11.4 | 35.7700 | 38.9100 | 3.1400 | | | | NAB | |
| | JC86986-11.5 | 35.4900 | 40.0400 | 4.5500 | | | | NAB | |
| | JC86986-12.3 | 36.6100 | 41.7000 | 5.0900 | | | | NAB | |
| | JC86986-12.4 | 35.3600 | 40.5700 | 5.2100 | | | | NAB | |
| | JC86986-12.5 | 35.4700 | 40.4700 | 5.0000 | | | | NAB | |
| | JC86986-13.3 | 35.9900 | 41.0500 | 5.0600 | | | | NAB | |
| | JC86986-13.4 | 35.7700 | 41.6200 | 5.8500 | | | | NAB | |
| | JC86986-13.5 | 36.1000 | 41.6700 | 5.5700 | | | | NAB | |
| | JC86986-2.10 | 35.5000 | 40.0600 | 4.5600 | | | | NAB | |
| | JC86986-2.11 | 35.8100 | 39.9000 | 4.0900 | | | | NAB | |
| | JC86986-2.12 | 36.1700 | 41.7000 | 5.5300 | | | | NAB | |
| | JC86986-2.13 | 35.5000 | 41.2500 | 5.7500 | | | | NAB | |
| | JC86986-2.14 | 35.9500 | 40.8000 | 4.8500 | | | | NAB | |
| | JC86986-2.15 | 35.7900 | 40.3900 | 4.6000 | | | | NAB | |
| | JC86986-2.7 | 36.9800 | 41.2600 | 4.2800 | | | | NAB | |
| | JC86986-2.8 | 37.0400 | 41.4400 | 4.4000 | | | | NAB | |

ACCUTEST LABORATORIES

# Methanol Prep Log



| Vial Track #: | Lims ID: | Initial Tare Wt (g) | Total Wt (g) | Weight of Sample (g) | Date Prepared | Lot #: | Prep By | Vial Desc: | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | JC86986-2.9 | 36.6300 | 41.4200 | 4.7900 | | | | NAB | |
| | JC86986-3.3 | 36.5700 | 39.9300 | 3.3600 | | | | NAB | |
| | JC86986-3.4 | 35.8900 | 39.1800 | 3.2900 | | | | NAB | |
| | JC86986-3.5 | 35.5900 | 39.1700 | 3.5800 | | | | NAB | |
| | JC86986-4.3 | 36.6900 | 40.7400 | 4.0500 | | | | NAB | |
| | JC86986-4.4 | 35.1200 | 40.6500 | 5.5300 | | | | NAB | |
| | JC86986-4.5 | 35.6100 | 40.4900 | 4.8800 | | | | NAB | |
| | JC86986-5.3 | 36.4600 | 43.3300 | 6.8700 | | | | NAB | |
| | JC86986-5.4 | 35.9600 | 42.0300 | 6.0700 | | | | NAB | |
| | JC86986-5.5 | 35.7400 | 42.7200 | 6.9800 | | | | NAB | |
| | JC86986-6.3 | 36.5800 | 41.9500 | 5.3700 | | | | NAB | |
| | JC86986-6.4 | 35.9700 | 41.5900 | 5.6200 | | | | NAB | |
| | JC86986-6.5 | 35.8300 | 41.4300 | 5.6000 | | | | NAB | |
| | JC86986-7.3 | 36.5200 | 40.5000 | 3.9800 | | | | NAB | |
| | JC86986-7.4 | 35.1900 | 39.2600 | 4.0700 | | | | NAB | |
| | JC86986-7.5 | 35.5600 | 39.1400 | 3.5800 | | | | NAB | |
| | JC86986-8.3 | 36.3500 | 41.1900 | 4.8400 | | | | NAB | |
| | JC86986-8.4 | 36.0700 | 40.7200 | 4.6500 | | | | NAB | |
| | JC86986-8.5 | 35.7100 | 40.7900 | 5.0800 | | | | NAB | |
| | JC86986-9.3 | 36.5500 | 40.2800 | 3.7300 | | | | NAB | |

ACCUTEST LABORATORIES

# Methanol Prep Log



| Vial | Track #: | Lims ID: | Initial Tare Wt (g) | Total Wt (g) | Weight of Sample (g) | Date Prepared | Lot #: | Prep By | Vial Desc: | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | | JC86986-9.4 | 35.5000 | 39.3700 | 3.8700 | | | | NAB | |
| | | JC86986-9.5 | 35.7400 | 38.0400 | 2.3000 | | | | NAB | |