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## Technical Report for

**Arcadis**

**National Grid, Philly Coke, Philadelphia, PA**

**B0036790.0001**

**SGS Job Number: JC86337**

**Sampling Dates: 04/04/19 - 04/05/19**



### Report to:

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**ATTN: John Brussel**

**Total number of pages in report: 1990**



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**

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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 # JC86337 – Reissues**

**Dear Mr. Brussel,**

**The final report for SGS job number JC86337 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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## Sample Summary

**Arcadis**

**Job No: JC86337**

**National Grid, Philly Coke, Philadelphia, PA  
Project No: B0036790.0001**

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JC86337-1	04/04/19	10:15 EG	04/12/19	SO	Soil	PCTP-66R-HC (0-2)
JC86337-2	04/04/19	10:25 EG	04/12/19	SO	Soil	PCTP-66R-HC (2-4)
JC86337-3	04/05/19	08:45 EG	04/12/19	SO	Soil	PCTP-02R(4-6)
JC86337-4	04/05/19	10:00 EG	04/12/19	SO	Soil	PCTP-01R(5-7)
JC86337-5	04/05/19	11:20 EG	04/12/19	SO	Soil	PCSB-01R (14-16)
JC86337-6	04/05/19	11:30 EG	04/12/19	SO	Soil	PCSB-01R (18-20)
JC86337-7	04/05/19	13:30 EG	04/12/19	SO	Soil	S-138 (0.0-0.5)
JC86337-8	04/05/19	13:10 EG	04/12/19	SO	Soil	S-138 (0.5-2.0)

---

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

## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** Arcadis

**Job No** JC86337

**Site:** National Grid, Philly Coke, Philadelphia, PA

**Report Date** 4/23/2019 12:54:54 P

On 04/12/2019, 8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC86337 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

<b>Matrix:</b> SO	<b>Batch ID:</b> VI9085
-------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC86190-3MS, JC86190-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for 1,2-Dibromoethane are outside control limits. High percent recoveries and no associated positive reported in the QC batch.
- JC86337-2: Diluted due to high concentration of non-target compound.
- JC86337-5: Diluted due to high concentration of non-target compound.
- JC86337-5 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JC86337-5 for 4-Bromofluorobenzene: Outside control limits due to matrix interference.
- JC86337-5 for 1,2-Dibromoethane: This compound in BS is outside in house QC limits bias high. Associated CCV outside of control limits high, sample was ND.
- JC86337-2 for 1,2-Dibromoethane: Associated CCV and BS outside of control limits high, sample was ND.
- JC86337-2 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.

<b>Matrix:</b> SO	<b>Batch ID:</b> VI9086
-------------------	-------------------------

- The data for SW846 8260C meets quality control requirements.
- JC86337-5: Confirmation run.
- JC86337-5 for 4-Bromofluorobenzene: Outside control limits due to matrix interference.

<b>Matrix:</b> SO	<b>Batch ID:</b> VY8006
-------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86337-1MS, JC86337-3DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for Acetone are outside control limits for sample JC86337-3DUP. High RPD due to possible sample nonhomogeneity.
- JC86337-6: DI vials received unfrozen and out of hold time.
- JC86337-3: DI vials received unfrozen and out of hold time.
- JC86337-4: DI vials received unfrozen and out of hold time.
- JC86337-1: DI vials received unfrozen and out of hold time.
- JC86337-4 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JC86337-1 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JC86337-6 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.
- JC86337-3 for Dichlorodifluoromethane: Associated CCV outside of control limits high, sample was ND.

Tuesday, April 23, 2019

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## MS Semi-volatiles By Method SW846 8270D

**Matrix:** SO **Batch ID:** OP19786

- All samples were extracted within the recommended method holding time.
- Sample(s) JC86337-1MS, JC86337-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Anthracene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike Duplicate Recovery(s) for Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Phenanthrene, Pyrene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MSD for Benzo(a)anthracene, Pyrene are outside control limits for sample OP19786-MSD. Outside of in house control limits.

## GC/LC Semi-volatiles By Method SW846 8081B

**Matrix:** SO **Batch ID:** OP19789

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86300-2MS, JC86300-2MSD, OP19789-MSMSD were used as the QC samples indicated.
- RPD(s) for MSD for alpha-BHC, beta-BHC are outside control limits for sample OP19789-MSD. Analytical precision exceeds in-house control limits.
- OP19789-BS1 for Tetrachloro-m-xylene: Surrogate not spiked.
- OP19789-BS1 for Decachlorobiphenyl: Surrogate not spiked.
- JC86337-1 for Decachlorobiphenyl: Outside control limits due to matrix interference.
- JC86337-2 for Decachlorobiphenyl: Outside control limits due to matrix interference.
- OP19789-MSD for Decachlorobiphenyl: Outside control limits due to matrix interference.

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

**Matrix:** SO **Batch ID:** OP19788

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86334-1MS, JC86334-1MSD, OP19788-MSMSD were used as the QC samples indicated.
- JC86337-1: Dilution required due to matrix interference.
- JC86337-2: Dilution required due to matrix interference.
- JC86337-1 for Decachlorobiphenyl: Outside control limits due to matrix interference.
- JC86337-2 for Decachlorobiphenyl: Outside control limits due to matrix interference.

**Matrix:** SO **Batch ID:** OP19829

- All samples were extracted within the recommended method holding time.
- Sample(s) JC86211-2MS, JC86211-2MSD, OP19829-MSMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC86337-8 for Decachlorobiphenyl: Outside control limits due to matrix interference.
- JC86337-7 for Decachlorobiphenyl: Outside control limits due to matrix interference.

### Metals Analysis By Method SW846 6010D

<b>Matrix:</b> SO	<b>Batch ID:</b> MP14249
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- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86190-3MS, JC86190-3MSD, JC86190-3SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Beryllium, Chromium, Cobalt, Iron, Magnesium, Manganese, Sodium, Vanadium, Zinc are outside control limits for sample MP14249-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

### Metals Analysis By Method SW846 7471B

<b>Matrix:</b> SO	<b>Batch ID:</b> MP14256
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- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86337-1MS, JC86337-1MSD were used as the QC samples for metals.

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

<b>Matrix:</b> SO	<b>Batch ID:</b> GN94163
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- Sample(s) JC86336-5DUP were used as the QC samples for Solids, Percent.

<b>Matrix:</b> SO	<b>Batch ID:</b> GN94167
-------------------	--------------------------

- Sample(s) JC86305-1DUP were used as the QC samples for Solids, Percent.

<b>Matrix:</b> SO	<b>Batch ID:</b> GN94267
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- Sample(s) JC86390-6DUP were used as the QC samples for Solids, Percent.

### General Chemistry By Method SW846 9012B/LACHAT

<b>Matrix:</b> SO	<b>Batch ID:</b> GP20669
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- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC86337-1MS, JC86337-2MS, JC86337-1DUP were used as the QC samples for Cyanide.
- RPD(s) for Duplicate for Cyanide are outside control limits for sample GP20669-D1. RPD acceptable due to low duplicate and sample concentrations.

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:** JC86337  
**Account:** Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA  
**Collected:** 04/04/19 thru 04/05/19



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC86337-1      PCTP-66R-HC (0-2)

Acenaphthene	234	40	14	ug/kg	SW846 8270D
Acenaphthylene	2900	40	20	ug/kg	SW846 8270D
Anthracene	5810	400	240	ug/kg	SW846 8270D
Benzo(a)anthracene	8240	400	110	ug/kg	SW846 8270D
Benzo(a)pyrene	8360	400	180	ug/kg	SW846 8270D
Benzo(b)fluoranthene	10400	400	180	ug/kg	SW846 8270D
Benzo(g,h,i)perylene	5360	400	200	ug/kg	SW846 8270D
Benzo(k)fluoranthene	4160	400	190	ug/kg	SW846 8270D
1,1'-Biphenyl	211	79	5.4	ug/kg	SW846 8270D
Carbazole	1590	79	5.8	ug/kg	SW846 8270D
Chrysene	8310	400	130	ug/kg	SW846 8270D
Dibenzo(a,h)anthracene	1660	40	18	ug/kg	SW846 8270D
Dibenzofuran	1390	79	16	ug/kg	SW846 8270D
bis(2-Ethylhexyl)phthalate	149	79	9.3	ug/kg	SW846 8270D
Fluoranthene	17300	400	180	ug/kg	SW846 8270D
Fluorene	2790	40	18	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	5970	400	190	ug/kg	SW846 8270D
2-Methylnaphthalene	502	40	9.0	ug/kg	SW846 8270D
Naphthalene	643	40	11	ug/kg	SW846 8270D
Phenanthrene	15000	400	130	ug/kg	SW846 8270D
Pyrene	14600	400	130	ug/kg	SW846 8270D
4,4'-DDE	3.0	0.78	0.68	ug/kg	SW846 8081B
4,4'-DDT	11.3	0.78	0.69	ug/kg	SW846 8081B
Aroclor 1260 <sup>a</sup>	369	200	83	ug/kg	SW846 8082A
Aluminum	6260	58	9.3	mg/kg	SW846 6010D
Antimony	2.6	2.3	0.47	mg/kg	SW846 6010D
Arsenic	35.7	2.3	0.32	mg/kg	SW846 6010D
Barium	79.4	23	2.2	mg/kg	SW846 6010D
Beryllium	0.68	0.23	0.092	mg/kg	SW846 6010D
Cadmium	1.9	0.58	0.081	mg/kg	SW846 6010D
Calcium	3170	580	51	mg/kg	SW846 6010D
Chromium	19.8	1.2	0.43	mg/kg	SW846 6010D
Cobalt	5.8	5.8	0.32	mg/kg	SW846 6010D
Copper	127	2.9	0.97	mg/kg	SW846 6010D
Iron	18900	58	22	mg/kg	SW846 6010D
Lead	323	2.3	0.47	mg/kg	SW846 6010D
Magnesium	1640	580	16	mg/kg	SW846 6010D
Manganese	279	1.7	0.47	mg/kg	SW846 6010D
Mercury	0.23	0.038	0.017	mg/kg	SW846 7471B
Nickel	23.8	4.6	0.40	mg/kg	SW846 6010D
Potassium	740 J	1200	37	mg/kg	SW846 6010D
Silver	0.33 J	0.58	0.20	mg/kg	SW846 6010D
Sodium	130 J	1200	90	mg/kg	SW846 6010D



## Summary of Hits

Job Number: JC86337  
 Account: Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Collected: 04/04/19 thru 04/05/19



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Vanadium		20.5	5.8	0.22	mg/kg	SW846 6010D
Zinc		339	5.8	2.6	mg/kg	SW846 6010D
Cyanide		0.14 J	0.28	0.14	mg/kg	SW846 9012B/LACHAT

JC86337-2 PCTP-66R-HC (2-4)

Toluene <sup>b</sup>		68.7 J	120	44	ug/kg	SW846 8260C
Acenaphthene		616	34	12	ug/kg	SW846 8270D
Acenaphthylene		7040	340	170	ug/kg	SW846 8270D
Anthracene		8170	340	210	ug/kg	SW846 8270D
Benzo(a)anthracene		13000	340	97	ug/kg	SW846 8270D
Benzo(a)pyrene		12500	340	160	ug/kg	SW846 8270D
Benzo(b)fluoranthene		15300	340	150	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		8240	340	170	ug/kg	SW846 8270D
Benzo(k)fluoranthene		6320	340	160	ug/kg	SW846 8270D
1,1'-Biphenyl		677	69	4.7	ug/kg	SW846 8270D
Carbazole		2410	69	5.0	ug/kg	SW846 8270D
Chrysene		11300	340	110	ug/kg	SW846 8270D
Dibenzo(a,h)anthracene		2240	34	15	ug/kg	SW846 8270D
Dibenzofuran		5280	690	140	ug/kg	SW846 8270D
Fluoranthene		28900	340	150	ug/kg	SW846 8270D
Fluorene		9190	340	160	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		8580	340	160	ug/kg	SW846 8270D
2-Methylnaphthalene		1960	34	7.8	ug/kg	SW846 8270D
Naphthalene		1760	34	9.7	ug/kg	SW846 8270D
Phenanthrene		29700	340	120	ug/kg	SW846 8270D
Pyrene		22500	340	110	ug/kg	SW846 8270D
Aluminum		4950	53	8.5	mg/kg	SW846 6010D
Arsenic		4.2	2.1	0.30	mg/kg	SW846 6010D
Barium		28.1	21	2.0	mg/kg	SW846 6010D
Beryllium		0.44	0.21	0.084	mg/kg	SW846 6010D
Cadmium		0.11 J	0.53	0.074	mg/kg	SW846 6010D
Calcium		364 J	530	47	mg/kg	SW846 6010D
Chromium		12.8	1.1	0.39	mg/kg	SW846 6010D
Cobalt		6.0	5.3	0.30	mg/kg	SW846 6010D
Copper		8.5	2.6	0.89	mg/kg	SW846 6010D
Iron		13100	53	20	mg/kg	SW846 6010D
Lead		25.8	2.1	0.43	mg/kg	SW846 6010D
Magnesium		1140	530	14	mg/kg	SW846 6010D
Manganese		203	1.6	0.43	mg/kg	SW846 6010D
Mercury		0.046	0.032	0.014	mg/kg	SW846 7471B
Nickel		8.4	4.2	0.37	mg/kg	SW846 6010D
Potassium		982 J	1100	33	mg/kg	SW846 6010D
Vanadium		13.4	5.3	0.20	mg/kg	SW846 6010D
Zinc		47.3	5.3	2.4	mg/kg	SW846 6010D

## Summary of Hits

Job Number: JC86337  
 Account: Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Collected: 04/04/19 thru 04/05/19



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Cyanide		0.13 J	0.23	0.12	mg/kg	SW846 9012B/LACHAT
<b>JC86337-3 PCTP-02R(4-6)</b>						
Acetone <sup>c</sup>		11.0	9.9	5.0	ug/kg	SW846 8260C
Aluminum		9610	55	8.9	mg/kg	SW846 6010D
Arsenic		2.7	2.2	0.31	mg/kg	SW846 6010D
Barium		28.6	22	2.1	mg/kg	SW846 6010D
Beryllium		0.31	0.22	0.089	mg/kg	SW846 6010D
Calcium		475 J	550	49	mg/kg	SW846 6010D
Chromium		9.7	1.1	0.41	mg/kg	SW846 6010D
Cobalt		3.6 J	5.5	0.31	mg/kg	SW846 6010D
Copper		4.9	2.8	0.93	mg/kg	SW846 6010D
Iron		9460	55	21	mg/kg	SW846 6010D
Lead		6.3	2.2	0.45	mg/kg	SW846 6010D
Magnesium		1230	550	15	mg/kg	SW846 6010D
Manganese		112	1.7	0.45	mg/kg	SW846 6010D
Mercury		0.16	0.031	0.014	mg/kg	SW846 7471B
Nickel		9.2	4.4	0.39	mg/kg	SW846 6010D
Potassium		798 J	1100	35	mg/kg	SW846 6010D
Vanadium		10.2	5.5	0.21	mg/kg	SW846 6010D
Zinc		28.9	5.5	2.5	mg/kg	SW846 6010D
<b>JC86337-4 PCTP-01R(5-7)</b>						
Acetone <sup>c</sup>		142	16	7.9	ug/kg	SW846 8260C
2-Butanone (MEK) <sup>c</sup>		17.9	16	5.9	ug/kg	SW846 8260C
Carbon disulfide <sup>c</sup>		5.3	3.2	1.5	ug/kg	SW846 8260C
1,4-Dichlorobenzene <sup>c</sup>		2.0	1.6	0.55	ug/kg	SW846 8260C
Toluene <sup>c</sup>		0.72 J	1.6	0.60	ug/kg	SW846 8260C
Acenaphthene		1640	39	13	ug/kg	SW846 8270D
Acenaphthylene		87.3	39	20	ug/kg	SW846 8270D
Anthracene		1730	39	24	ug/kg	SW846 8270D
Benzo(a)anthracene		4390	200	55	ug/kg	SW846 8270D
Benzo(a)pyrene		4610	200	89	ug/kg	SW846 8270D
Benzo(b)fluoranthene		5590	200	86	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		2660	39	20	ug/kg	SW846 8270D
Benzo(k)fluoranthene		2140	200	91	ug/kg	SW846 8270D
1,1'-Biphenyl		52.6 J	78	5.4	ug/kg	SW846 8270D
Benzaldehyde		40.6 J	200	9.7	ug/kg	SW846 8270D
Carbazole		962	78	5.7	ug/kg	SW846 8270D
Caprolactam		125	78	15	ug/kg	SW846 8270D
Chrysene		4270	200	62	ug/kg	SW846 8270D
Dibenzo(a,h)anthracene		780	39	17	ug/kg	SW846 8270D
Dibenzofuran		489	78	16	ug/kg	SW846 8270D

## Summary of Hits

Job Number: JC86337  
 Account: Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Collected: 04/04/19 thru 04/05/19



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Di-n-octyl phthalate		330	78	9.7	ug/kg	SW846 8270D
Dimethyl phthalate		20.6 J	78	7.0	ug/kg	SW846 8270D
bis(2-Ethylhexyl)phthalate		185	78	9.1	ug/kg	SW846 8270D
Fluoranthene		8810	200	87	ug/kg	SW846 8270D
Fluorene		1020	39	18	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		2970	39	18	ug/kg	SW846 8270D
2-Methylnaphthalene		142	39	8.8	ug/kg	SW846 8270D
Naphthalene		266	39	11	ug/kg	SW846 8270D
Phenanthrene		6490	200	66	ug/kg	SW846 8270D
Pyrene		7250	200	63	ug/kg	SW846 8270D
Aluminum		6460	60	9.6	mg/kg	SW846 6010D
Antimony		1.3 J	2.4	0.49	mg/kg	SW846 6010D
Arsenic		4.7	2.4	0.33	mg/kg	SW846 6010D
Barium		125	24	2.3	mg/kg	SW846 6010D
Beryllium		0.32	0.24	0.096	mg/kg	SW846 6010D
Cadmium		0.84	0.60	0.084	mg/kg	SW846 6010D
Calcium		47500	3000	260	mg/kg	SW846 6010D
Chromium		15.1	1.2	0.44	mg/kg	SW846 6010D
Cobalt		4.0 J	6.0	0.33	mg/kg	SW846 6010D
Copper		19.9	3.0	1.0	mg/kg	SW846 6010D
Iron		19000	60	23	mg/kg	SW846 6010D
Lead		111	2.4	0.49	mg/kg	SW846 6010D
Magnesium		3730	600	16	mg/kg	SW846 6010D
Manganese		187	1.8	0.49	mg/kg	SW846 6010D
Nickel		13.7	4.8	0.42	mg/kg	SW846 6010D
Potassium		1370	1200	38	mg/kg	SW846 6010D
Silver		0.25 J	0.60	0.20	mg/kg	SW846 6010D
Sodium		158 J	1200	93	mg/kg	SW846 6010D
Vanadium		14.1	6.0	0.23	mg/kg	SW846 6010D
Zinc		115	6.0	2.7	mg/kg	SW846 6010D

JC86337-5      PCSB-01R (14-16)

Anthracene		41.4	38	23	ug/kg	SW846 8270D
Benzo(a)anthracene		60.4	38	11	ug/kg	SW846 8270D
Benzo(a)pyrene		49.8	38	17	ug/kg	SW846 8270D
Benzo(b)fluoranthene		71.1	38	17	ug/kg	SW846 8270D
Benzo(g,h,i)perylene		30.6 J	38	19	ug/kg	SW846 8270D
Benzo(k)fluoranthene		26.3 J	38	18	ug/kg	SW846 8270D
Carbazole		16.2 J	76	5.5	ug/kg	SW846 8270D
Chrysene		59.2	38	12	ug/kg	SW846 8270D
Dibenzofuran		24.1 J	76	15	ug/kg	SW846 8270D
Fluoranthene		156	38	17	ug/kg	SW846 8270D
Fluorene		21.6 J	38	17	ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		31.0 J	38	18	ug/kg	SW846 8270D

## Summary of Hits

Job Number: JC86337  
 Account: Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Collected: 04/04/19 thru 04/05/19



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
		Phenanthrene	210	38	13	ug/kg SW846 8270D
		Pyrene	130	38	12	ug/kg SW846 8270D
		Aluminum	7220	61	9.9	mg/kg SW846 6010D
		Arsenic	5.8	2.5	0.34	mg/kg SW846 6010D
		Barium	22.5 J	25	2.3	mg/kg SW846 6010D
		Beryllium	0.50	0.25	0.098	mg/kg SW846 6010D
		Calcium	238 J	610	54	mg/kg SW846 6010D
		Chromium	15.5	1.2	0.45	mg/kg SW846 6010D
		Cobalt	5.2 J	6.1	0.34	mg/kg SW846 6010D
		Copper	7.6	3.1	1.0	mg/kg SW846 6010D
		Iron	17200	61	24	mg/kg SW846 6010D
		Lead	10.5	2.5	0.50	mg/kg SW846 6010D
		Magnesium	1120	610	17	mg/kg SW846 6010D
		Manganese	217	1.8	0.50	mg/kg SW846 6010D
		Nickel	8.3	4.9	0.43	mg/kg SW846 6010D
		Potassium	832 J	1200	39	mg/kg SW846 6010D
		Vanadium	19.1	6.1	0.23	mg/kg SW846 6010D
		Zinc	32.5	6.1	2.8	mg/kg SW846 6010D
JC86337-6	PCSB-01R (18-20)					
		Acetone <sup>c</sup>	16.4	11	5.3	ug/kg SW846 8260C
		Aluminum	864	59	9.4	mg/kg SW846 6010D
		Arsenic	1.7 J	2.3	0.33	mg/kg SW846 6010D
		Barium	4.8 J	23	2.2	mg/kg SW846 6010D
		Chromium	3.7	1.2	0.43	mg/kg SW846 6010D
		Cobalt	0.56 J	5.9	0.33	mg/kg SW846 6010D
		Iron	1650	59	22	mg/kg SW846 6010D
		Lead	2.1 J	2.3	0.48	mg/kg SW846 6010D
		Magnesium	77.5 J	590	16	mg/kg SW846 6010D
		Manganese	8.7	1.8	0.48	mg/kg SW846 6010D
		Nickel	0.76 J	4.7	0.41	mg/kg SW846 6010D
		Potassium	113 J	1200	37	mg/kg SW846 6010D
		Vanadium	3.8 J	5.9	0.22	mg/kg SW846 6010D
		Zinc	3.9 J	5.9	2.7	mg/kg SW846 6010D
JC86337-7	S-138 (0.0-0.5)					
		Aroclor 1254	159	36	19	ug/kg SW846 8082A
JC86337-8	S-138 (0.5-2.0)					
		Aroclor 1254	426	34	18	ug/kg SW846 8082A

(a) Dilution required due to matrix interference.

## Summary of Hits

**Job Number:** JC86337  
**Account:** Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA  
**Collected:** 04/04/19 thru 04/05/19



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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- (b) Diluted due to high concentration of non-target compound.
- (c) DI vials received unfrozen and out of hold time.

**Sample Results**

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**Report of Analysis**

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SGS North America Inc.

## Report of Analysis

Page 1 of 2

Client Sample ID: PCTP-66R-HC (0-2)	Date Sampled: 04/04/19
Lab Sample ID: JC86337-1	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 83.7
Method: SW846 8260C	
Project: National Grid, Philly Coke, Philadelphia, PA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	Y184543.D	1	04/17/19 11:30	PS	n/a	n/a	VY8006
Run #2							

Run #	Initial Weight
Run #1	3.1 g
Run #2	

## VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	19	9.6	ug/kg	
71-43-2	Benzene	ND	0.96	0.73	ug/kg	
74-97-5	Bromochloromethane	ND	9.6	0.83	ug/kg	
75-27-4	Bromodichloromethane	ND	3.9	0.85	ug/kg	
75-25-2	Bromoform	ND	9.6	0.78	ug/kg	
74-83-9	Bromomethane	ND	9.6	1.9	ug/kg	
78-93-3	2-Butanone (MEK)	ND	19	7.2	ug/kg	
75-15-0	Carbon disulfide	ND	3.9	1.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	3.9	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	3.9	0.68	ug/kg	
75-00-3	Chloroethane	ND	9.6	1.3	ug/kg	
67-66-3	Chloroform	ND	3.9	0.72	ug/kg	
74-87-3	Chloromethane	ND	9.6	3.8	ug/kg	
110-82-7	Cyclohexane	ND	3.9	0.78	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.9	1.6	ug/kg	
124-48-1	Dibromochloromethane	ND	3.9	0.65	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.9	0.63	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.59	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.69	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.66	ug/kg	
75-71-8	Dichlorodifluoromethane <sup>b</sup>	ND	9.6	1.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.9	0.74	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.9	0.91	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.9	1.3	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	3.9	0.78	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.9	0.68	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.9	0.63	ug/kg	
100-41-4	Ethylbenzene	ND	1.9	1.1	ug/kg	
76-13-1	Freon 113	ND	9.6	1.5	ug/kg	
591-78-6	2-Hexanone	ND	9.6	2.4	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

<b>Client Sample ID:</b> PCTP-66R-HC (0-2) <b>Lab Sample ID:</b> JC86337-1 <b>Matrix:</b> SO - Soil <b>Method:</b> SW846 8260C <b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	<b>Date Sampled:</b> 04/04/19 <b>Date Received:</b> 04/12/19 <b>Percent Solids:</b> 83.7
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**VOA TCL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	3.9	1.3	ug/kg	
79-20-9	Methyl Acetate	ND	9.6	2.7	ug/kg	
108-87-2	Methylcyclohexane	ND	3.9	1.4	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.9	0.68	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	9.6	3.0	ug/kg	
75-09-2	Methylene chloride	ND	9.6	4.8	ug/kg	
100-42-5	Styrene	ND	3.9	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.9	0.75	ug/kg	
127-18-4	Tetrachloroethene	ND	3.9	0.89	ug/kg	
108-88-3	Toluene	ND	1.9	0.72	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	9.6	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	9.6	1.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.9	0.82	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.9	0.66	ug/kg	
79-01-6	Trichloroethene	ND	1.9	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	ND	9.6	1.3	ug/kg	
75-01-4	Vinyl chloride	ND	3.9	0.90	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	105%		75-127%
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	102%		79-127%

- (a) DI vials received unfrozen and out of hold time.
- (b) 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

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SGS North America Inc.

## Report of Analysis

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Client Sample ID:	PCTP-66R-HC (0-2)	Date Sampled:	04/04/19
Lab Sample ID:	JC86337-1	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	83.7
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P58616.D	1	04/18/19 16:08	CC	04/16/19 18:25	OP19786	E5P2776
Run #2	5P58655.D	10	04/19/19 09:52	CB	04/16/19 18:25	OP19786	E5P2777

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

## ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	79	20	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	200	24	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	200	34	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	71	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	200	150	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	200	42	ug/kg	
95-48-7	2-Methylphenol	ND	79	25	ug/kg	
	3&4-Methylphenol	ND	79	33	ug/kg	
88-75-5	2-Nitrophenol	ND	200	26	ug/kg	
100-02-7	4-Nitrophenol	ND	400	110	ug/kg	
87-86-5	Pentachlorophenol	ND	160	37	ug/kg	
108-95-2	Phenol	ND	79	21	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	200	26	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	234	40	14	ug/kg	
208-96-8	Acenaphthylene	2900	40	20	ug/kg	
98-86-2	Acetophenone	ND	200	8.5	ug/kg	
120-12-7	Anthracene	5810 <sup>a</sup>	400	240	ug/kg	
1912-24-9	Atrazine	ND	79	17	ug/kg	
56-55-3	Benzo(a)anthracene	8240 <sup>a</sup>	400	110	ug/kg	
50-32-8	Benzo(a)pyrene	8360 <sup>a</sup>	400	180	ug/kg	
205-99-2	Benzo(b)fluoranthene	10400 <sup>a</sup>	400	180	ug/kg	
191-24-2	Benzo(g,h,i)perylene	5360 <sup>a</sup>	400	200	ug/kg	
207-08-9	Benzo(k)fluoranthene	4160 <sup>a</sup>	400	190	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	79	15	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	79	9.7	ug/kg	
92-52-4	1,1'-Biphenyl	211	79	5.4	ug/kg	
100-52-7	Benzaldehyde	ND	200	9.8	ug/kg	
91-58-7	2-Chloronaphthalene	ND	79	9.4	ug/kg	
106-47-8	4-Chloroaniline	ND	200	14	ug/kg	
86-74-8	Carbazole	1590	79	5.8	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

Client Sample ID: PCTP-66R-HC (0-2)	
Lab Sample ID: JC86337-1	Date Sampled: 04/04/19
Matrix: SO - Soil	Date Received: 04/12/19
Method: SW846 8270D SW846 3546	Percent Solids: 83.7
Project: National Grid, Philly Coke, Philadelphia, PA	

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ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	79	16	ug/kg	
218-01-9	Chrysene	8310 <sup>a</sup>	400	130	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	79	8.5	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	79	17	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	79	14	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	79	13	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	79	33	ug/kg	
123-91-1	1,4-Dioxane	ND	40	26	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	1660	40	18	ug/kg	
132-64-9	Dibenzofuran	1390	79	16	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	79	6.5	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	79	9.9	ug/kg	
84-66-2	Diethyl phthalate	ND	79	8.5	ug/kg	
131-11-3	Dimethyl phthalate	ND	79	7.1	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	149	79	9.3	ug/kg	
206-44-0	Fluoranthene	17300 <sup>a</sup>	400	180	ug/kg	
86-73-7	Fluorene	2790	40	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	79	10	ug/kg	
87-68-3	Hexachlorobutadiene	ND	40	16	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	400	16	ug/kg	
67-72-1	Hexachloroethane	ND	200	20	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	5970 <sup>a</sup>	400	190	ug/kg	
78-59-1	Isophorone	ND	79	8.5	ug/kg	
91-57-6	2-Methylnaphthalene	502	40	9.0	ug/kg	
88-74-4	2-Nitroaniline	ND	200	9.4	ug/kg	
99-09-2	3-Nitroaniline	ND	200	9.9	ug/kg	
100-01-6	4-Nitroaniline	ND	200	10	ug/kg	
91-20-3	Naphthalene	643	40	11	ug/kg	
98-95-3	Nitrobenzene	ND	79	15	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	79	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	200	15	ug/kg	
85-01-8	Phenanthrene	15000 <sup>a</sup>	400	130	ug/kg	
129-00-0	Pyrene	14600 <sup>a</sup>	400	130	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	200	10	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%	46%	23-115%

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

<b>Client Sample ID:</b> PCTP-66R-HC (0-2)	
<b>Lab Sample ID:</b> JC86337-1	<b>Date Sampled:</b> 04/04/19
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 04/12/19
<b>Method:</b> SW846 8270D SW846 3546	<b>Percent Solids:</b> 83.7
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

ABN TCL List (SOM0 2.0)

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	49%	48%	27-114%
118-79-6	2,4,6-Tribromophenol	55%	61%	19-152%
4165-60-0	Nitrobenzene-d5	53%	55%	26-134%
321-60-8	2-Fluorobiphenyl	61%	66%	39-124%
1718-51-0	Terphenyl-d14	61%	65%	36-134%

(a) Result is from Run# 2

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

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SGS North America Inc.

## Report of Analysis

Page 1 of 1

Client Sample ID:	PCTP-66R-HC (0-2)	Date Sampled:	04/04/19
Lab Sample ID:	JC86337-1	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	83.7
Method:	SW846 8081B SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G64317.D	1	04/18/19 14:23	TL	04/17/19 03:00	OP19789	G6G1984
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.3 g	10.0 ml
Run #2		

## Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.78	0.64	ug/kg	
319-84-6	alpha-BHC	ND	0.78	0.63	ug/kg	
319-85-7	beta-BHC	ND	0.78	0.71	ug/kg	
319-86-8	delta-BHC	ND	0.78	0.75	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.78	0.58	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.78	0.63	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.78	0.35	ug/kg	
60-57-1	Dieldrin	ND	0.78	0.54	ug/kg	
72-54-8	4,4'-DDD	ND	0.78	0.72	ug/kg	
72-55-9	4,4'-DDE	3.0	0.78	0.68	ug/kg	
50-29-3	4,4'-DDT	11.3	0.78	0.69	ug/kg	
72-20-8	Endrin	ND	0.78	0.61	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.78	0.61	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.78	0.44	ug/kg	
959-98-8	Endosulfan-I	ND	0.78	0.45	ug/kg	
33213-65-9	Endosulfan-II	ND	0.78	0.49	ug/kg	
76-44-8	Heptachlor	ND	0.78	0.67	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.78	0.55	ug/kg	
72-43-5	Methoxychlor	ND	1.6	0.62	ug/kg	
53494-70-5	Endrin ketone	ND	0.78	0.56	ug/kg	
8001-35-2	Toxaphene	ND	20	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	49%		25-135%
877-09-8	Tetrachloro-m-xylene	39%		25-135%
2051-24-3	Decachlorobiphenyl	33%		10-156%
2051-24-3	Decachlorobiphenyl	173% <sup>a</sup>		10-156%

(a) Outside control limits due to matrix interference.

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

Page 1 of 1

Client Sample ID: PCTP-66R-HC (0-2)	Date Sampled: 04/04/19
Lab Sample ID: JC86337-1	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 83.7
Method: SW846 8082A SW846 3546	
Project: National Grid, Philly Coke, Philadelphia, PA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	XX2433923.D	5	04/18/19 13:15	SK	04/17/19 03:00	OP19788	GXX6659
Run #2							

Run #	Initial Weight	Final Volume
Run #1	15.3 g	10.0 ml
Run #2		

## PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	200	91	ug/kg	
11104-28-2	Aroclor 1221	ND	200	100	ug/kg	
11141-16-5	Aroclor 1232	ND	200	150	ug/kg	
53469-21-9	Aroclor 1242	ND	200	80	ug/kg	
12672-29-6	Aroclor 1248	ND	200	170	ug/kg	
11097-69-1	Aroclor 1254	ND	200	110	ug/kg	
11096-82-5	Aroclor 1260	369	200	83	ug/kg	
11100-14-4	Aroclor 1268	ND	200	82	ug/kg	
37324-23-5	Aroclor 1262	ND	200	130	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	51%		31-146%
877-09-8	Tetrachloro-m-xylene	60%		31-146%
2051-24-3	Decachlorobiphenyl	103%		17-164%
2051-24-3	Decachlorobiphenyl	254% <sup>b</sup>		17-164%

(a) Dilution required due to matrix interference.

(b) Outside control limits due to matrix interference.

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: PCTP-66R-HC (0-2)	Date Sampled: 04/04/19
Lab Sample ID: JC86337-1	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 83.7
Project: National Grid, Philly Coke, Philadelphia, PA	

## Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	6260	58	9.3	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Antimony	2.6	2.3	0.47	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Arsenic	35.7	2.3	0.32	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Barium	79.4	23	2.2	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Beryllium	0.68	0.23	0.092	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Cadmium	1.9	0.58	0.081	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Calcium	3170	580	51	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Chromium	19.8	1.2	0.43	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Cobalt	5.8	5.8	0.32	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Copper	127	2.9	0.97	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Iron	18900	58	22	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Lead	323	2.3	0.47	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Magnesium	1640	580	16	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Manganese	279	1.7	0.47	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Mercury	0.23	0.038	0.017	mg/kg	1	04/16/19	04/16/19	EAL	SW846 7471B <sup>1</sup> SW846 7471B <sup>4</sup>
Nickel	23.8	4.6	0.40	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Potassium	740 J	1200	37	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Selenium	0.75 U	2.3	0.75	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Silver	0.33 J	0.58	0.20	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Sodium	130 J	1200	90	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Thallium	0.67 U	1.2	0.67	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Vanadium	20.5	5.8	0.22	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Zinc	339	5.8	2.6	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA46516

(2) Instrument QC Batch: MA46525

(3) Prep QC Batch: MP14249

(4) Prep QC Batch: MP14256

RL = Reporting Limit  
MDL = Method Detection Limit

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

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## Report of Analysis

<b>Client Sample ID:</b> PCTP-66R-HC (0-2)	<b>Date Sampled:</b> 04/04/19
<b>Lab Sample ID:</b> JC86337-1	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 83.7
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

### General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide	0.14 J	0.28	0.14	mg/kg	1	04/17/19 15:44	KI	SW846 9012B/LACHAT
Solids, Percent	83.7			%	1	04/16/19 16:30	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

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SGS North America Inc.

## Report of Analysis

Page 1 of 2

Client Sample ID:	PCTP-66R-HC (2-4)	Date Sampled:	04/04/19
Lab Sample ID:	JC86337-2	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	95.0
Method:	SW846 8260C		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	I225496.D	1	04/17/19 18:33	TDN	n/a	n/a	VI9085
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.6 g	10.0 ml	100 ul
Run #2			

## VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	1200	590	ug/kg	
71-43-2	Benzene	ND	59	44	ug/kg	
74-97-5	Bromochloromethane	ND	590	50	ug/kg	
75-27-4	Bromodichloromethane	ND	230	52	ug/kg	
75-25-2	Bromoform	ND	590	47	ug/kg	
74-83-9	Bromomethane	ND	590	120	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	440	ug/kg	
75-15-0	Carbon disulfide	ND	230	110	ug/kg	
56-23-5	Carbon tetrachloride	ND	230	64	ug/kg	
108-90-7	Chlorobenzene	ND	230	41	ug/kg	
75-00-3	Chloroethane	ND	590	80	ug/kg	
67-66-3	Chloroform	ND	230	44	ug/kg	
74-87-3	Chloromethane	ND	590	230	ug/kg	
110-82-7	Cyclohexane	ND	230	48	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	230	98	ug/kg	
124-48-1	Dibromochloromethane	ND	230	40	ug/kg	
106-93-4	1,2-Dibromoethane <sup>b</sup>	ND	120	38	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	120	36	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	120	42	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	120	40	ug/kg	
75-71-8	Dichlorodifluoromethane <sup>c</sup>	ND	590	74	ug/kg	
75-34-3	1,1-Dichloroethane	ND	120	45	ug/kg	
107-06-2	1,2-Dichloroethane	ND	120	55	ug/kg	
75-35-4	1,1-Dichloroethene	ND	120	77	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	120	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	120	78	ug/kg	
78-87-5	1,2-Dichloropropane	ND	230	48	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	230	41	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	230	38	ug/kg	
100-41-4	Ethylbenzene	ND	120	65	ug/kg	
76-13-1	Freon 113	ND	590	89	ug/kg	
591-78-6	2-Hexanone	ND	590	150	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

<b>Client Sample ID:</b> PCTP-66R-HC (2-4)	<b>Date Sampled:</b> 04/04/19
<b>Lab Sample ID:</b> JC86337-2	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 95.0
<b>Method:</b> SW846 8260C	
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

**VOA TCL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	230	82	ug/kg	
79-20-9	Methyl Acetate	ND	590	160	ug/kg	
108-87-2	Methylcyclohexane	ND	230	83	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	120	41	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	590	180	ug/kg	
75-09-2	Methylene chloride	ND	590	290	ug/kg	
100-42-5	Styrene	ND	230	67	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	230	46	ug/kg	
127-18-4	Tetrachloroethene	ND	230	54	ug/kg	
108-88-3	Toluene	68.7	120	44	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	590	120	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	590	120	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	230	50	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	230	40	ug/kg	
79-01-6	Trichloroethene	ND	120	89	ug/kg	
75-69-4	Trichlorofluoromethane <sup>c</sup>	ND	590	80	ug/kg	
75-01-4	Vinyl chloride <sup>c</sup>	ND	230	55	ug/kg	
	m,p-Xylene	ND	120	87	ug/kg	
95-47-6	o-Xylene	ND	120	68	ug/kg	
1330-20-7	Xylene (total)	ND	120	68	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		75-127%
17060-07-0	1,2-Dichloroethane-D4	102%		75-130%
2037-26-5	Toluene-D8	100%		80-120%
460-00-4	4-Bromofluorobenzene	109%		79-127%

- (a) Diluted due to high concentration of non-target compound.
- (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

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SGS North America Inc.

## Report of Analysis

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Client Sample ID:	PCTP-66R-HC (2-4)	Date Sampled:	04/04/19
Lab Sample ID:	JC86337-2	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	95.0
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P58617.D	1	04/18/19 16:33	CC	04/16/19 18:25	OP19786	E5P2776
Run #2	5P58656.D	10	04/19/19 10:17	CB	04/16/19 18:25	OP19786	E5P2777

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

## ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	69	17	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	21	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	29	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	61	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	37	ug/kg	
95-48-7	2-Methylphenol	ND	69	22	ug/kg	
	3&4-Methylphenol	ND	69	28	ug/kg	
88-75-5	2-Nitrophenol	ND	170	23	ug/kg	
100-02-7	4-Nitrophenol	ND	340	92	ug/kg	
87-86-5	Pentachlorophenol	ND	140	32	ug/kg	
108-95-2	Phenol	ND	69	18	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	23	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	26	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	21	ug/kg	
83-32-9	Acenaphthene	616	34	12	ug/kg	
208-96-8	Acenaphthylene	7040 <sup>a</sup>	340	170	ug/kg	
98-86-2	Acetophenone	ND	170	7.4	ug/kg	
120-12-7	Anthracene	8170 <sup>a</sup>	340	210	ug/kg	
1912-24-9	Atrazine	ND	69	15	ug/kg	
56-55-3	Benzo(a)anthracene	13000 <sup>a</sup>	340	97	ug/kg	
50-32-8	Benzo(a)pyrene	12500 <sup>a</sup>	340	160	ug/kg	
205-99-2	Benzo(b)fluoranthene	15300 <sup>a</sup>	340	150	ug/kg	
191-24-2	Benzo(g,h,i)perylene	8240 <sup>a</sup>	340	170	ug/kg	
207-08-9	Benzo(k)fluoranthene	6320 <sup>a</sup>	340	160	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	69	13	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	69	8.4	ug/kg	
92-52-4	1,1'-Biphenyl	677	69	4.7	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.5	ug/kg	
91-58-7	2-Chloronaphthalene	ND	69	8.2	ug/kg	
106-47-8	4-Chloroaniline	ND	170	12	ug/kg	
86-74-8	Carbazole	2410	69	5.0	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:	PCTP-66R-HC (2-4)	Date Sampled:	04/04/19
Lab Sample ID:	JC86337-2	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	95.0
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	69	14	ug/kg	
218-01-9	Chrysene	11300 <sup>a</sup>	340	110	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	69	7.4	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	69	15	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	69	12	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	69	11	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	34	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	34	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	69	29	ug/kg	
123-91-1	1,4-Dioxane	ND	34	23	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	2240	34	15	ug/kg	
132-64-9	Dibenzofuran	5280 <sup>a</sup>	690	140	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	69	5.6	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	69	8.6	ug/kg	
84-66-2	Diethyl phthalate	ND	69	7.3	ug/kg	
131-11-3	Dimethyl phthalate	ND	69	6.1	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	69	8.0	ug/kg	
206-44-0	Fluoranthene	28900 <sup>a</sup>	340	150	ug/kg	
86-73-7	Fluorene	9190 <sup>a</sup>	340	160	ug/kg	
118-74-1	Hexachlorobenzene	ND	69	8.7	ug/kg	
87-68-3	Hexachlorobutadiene	ND	34	14	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	340	14	ug/kg	
67-72-1	Hexachloroethane	ND	170	17	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	8580 <sup>a</sup>	340	160	ug/kg	
78-59-1	Isophorone	ND	69	7.4	ug/kg	
91-57-6	2-Methylnaphthalene	1960	34	7.8	ug/kg	
88-74-4	2-Nitroaniline	ND	170	8.1	ug/kg	
99-09-2	3-Nitroaniline	ND	170	8.6	ug/kg	
100-01-6	4-Nitroaniline	ND	170	8.9	ug/kg	
91-20-3	Naphthalene	1760	34	9.7	ug/kg	
98-95-3	Nitrobenzene	ND	69	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	69	9.9	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	13	ug/kg	
85-01-8	Phenanthrene	29700 <sup>a</sup>	340	120	ug/kg	
129-00-0	Pyrene	22500 <sup>a</sup>	340	110	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	63%	60%	23-115%

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

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> PCTP-66R-HC (2-4)	
<b>Lab Sample ID:</b> JC86337-2	<b>Date Sampled:</b> 04/04/19
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 04/12/19
<b>Method:</b> SW846 8270D SW846 3546	<b>Percent Solids:</b> 95.0
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

ABN TCL List (SOM0 2.0)

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	65%	56%	27-114%
118-79-6	2,4,6-Tribromophenol	71%	72%	19-152%
4165-60-0	Nitrobenzene-d5	65%	63%	26-134%
321-60-8	2-Fluorobiphenyl	74%	77%	39-124%
1718-51-0	Terphenyl-d14	73%	72%	36-134%

(a) Result is from Run# 2

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

4.2  
4

SGS North America Inc.

## Report of Analysis

Page 1 of 1

Client Sample ID:	PCTP-66R-HC (2-4)	Date Sampled:	04/04/19
Lab Sample ID:	JC86337-2	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	95.0
Method:	SW846 8081B SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6G64318.D	1	04/18/19 14:41	TL	04/17/19 03:00	OP19789	G6G1984
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.8 g	10.0 ml
Run #2		

## Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.63	0.52	ug/kg	
319-84-6	alpha-BHC	ND	0.63	0.51	ug/kg	
319-85-7	beta-BHC	ND	0.63	0.57	ug/kg	
319-86-8	delta-BHC	ND	0.63	0.60	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.63	0.46	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.63	0.51	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.63	0.28	ug/kg	
60-57-1	Dieldrin	ND	0.63	0.43	ug/kg	
72-54-8	4,4'-DDD	ND	0.63	0.58	ug/kg	
72-55-9	4,4'-DDE	ND	0.63	0.55	ug/kg	
50-29-3	4,4'-DDT	ND	0.63	0.56	ug/kg	
72-20-8	Endrin	ND	0.63	0.49	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.63	0.49	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.63	0.36	ug/kg	
959-98-8	Endosulfan-I	ND	0.63	0.36	ug/kg	
33213-65-9	Endosulfan-II	ND	0.63	0.39	ug/kg	
76-44-8	Heptachlor	ND	0.63	0.54	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.63	0.44	ug/kg	
72-43-5	Methoxychlor	ND	1.3	0.50	ug/kg	
53494-70-5	Endrin ketone	ND	0.63	0.45	ug/kg	
8001-35-2	Toxaphene	ND	16	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	51%		25-135%
877-09-8	Tetrachloro-m-xylene	37%		25-135%
2051-24-3	Decachlorobiphenyl	36%		10-156%
2051-24-3	Decachlorobiphenyl	293% <sup>a</sup>		10-156%

(a) Outside control limits due to matrix interference.

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

Page 1 of 1

Client Sample ID:	PCTP-66R-HC (2-4)	Date Sampled:	04/04/19
Lab Sample ID:	JC86337-2	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	95.0
Method:	SW846 8082A SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	XX2433924.D	5	04/18/19 13:34	SK	04/17/19 03:00	OP19788	GXX6659
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.8 g	10.0 ml
Run #2		

## PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	160	73	ug/kg	
11104-28-2	Aroclor 1221	ND	160	80	ug/kg	
11141-16-5	Aroclor 1232	ND	160	120	ug/kg	
53469-21-9	Aroclor 1242	ND	160	64	ug/kg	
12672-29-6	Aroclor 1248	ND	160	140	ug/kg	
11097-69-1	Aroclor 1254	ND	160	84	ug/kg	
11096-82-5	Aroclor 1260	ND	160	67	ug/kg	
11100-14-4	Aroclor 1268	ND	160	66	ug/kg	
37324-23-5	Aroclor 1262	ND	160	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	49%		31-146%
877-09-8	Tetrachloro-m-xylene	79%		31-146%
2051-24-3	Decachlorobiphenyl	467% <sup>b</sup>		17-164%
2051-24-3	Decachlorobiphenyl	384% <sup>b</sup>		17-164%

(a) Dilution required due to matrix interference.

(b) Outside control limits due to matrix interference.

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: PCTP-66R-HC (2-4)	Date Sampled: 04/04/19
Lab Sample ID: JC86337-2	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 95.0
Project: National Grid, Philly Coke, Philadelphia, PA	

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	4950	53	8.5	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Antimony	0.43 U	2.1	0.43	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Arsenic	4.2	2.1	0.30	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Barium	28.1	21	2.0	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Beryllium	0.44	0.21	0.084	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Cadmium	0.11 J	0.53	0.074	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Calcium	364 J	530	47	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Chromium	12.8	1.1	0.39	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Cobalt	6.0	5.3	0.30	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Copper	8.5	2.6	0.89	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Iron	13100	53	20	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Lead	25.8	2.1	0.43	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Magnesium	1140	530	14	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Manganese	203	1.6	0.43	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Mercury	0.046	0.032	0.014	mg/kg	1	04/16/19	04/16/19	EAL	SW846 7471B <sup>1</sup> SW846 7471B <sup>4</sup>
Nickel	8.4	4.2	0.37	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Potassium	982 J	1100	33	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Selenium	0.68 U	2.1	0.68	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Silver	0.18 U	0.53	0.18	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Sodium	82 U	1100	82	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Thallium	0.61 U	1.1	0.61	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Vanadium	13.4	5.3	0.20	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Zinc	47.3	5.3	2.4	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA46516

(2) Instrument QC Batch: MA46525

(3) Prep QC Batch: MP14249

(4) Prep QC Batch: MP14256

RL = Reporting Limit  
MDL = Method Detection Limit

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

4.2  
4

## Report of Analysis

<b>Client Sample ID:</b> PCTP-66R-HC (2-4)	<b>Date Sampled:</b> 04/04/19
<b>Lab Sample ID:</b> JC86337-2	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 95.0
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

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### General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide	0.13 J	0.23	0.12	mg/kg	1	04/17/19 15:45	KI	SW846 9012B/LACHAT
Solids, Percent	95			%	1	04/16/19 16:30	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

Page 1 of 2

Client Sample ID:	PCTP-02R(4-6)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-3	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	89.9
Method:	SW846 8260C		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	Y184544.D	1	04/17/19 11:59	PS	n/a	n/a	VY8006
Run #2							

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

## VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	11.0	9.9	5.0	ug/kg	
71-43-2	Benzene	ND	0.50	0.37	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	0.99	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.9	3.7	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.92	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	0.68	ug/kg	
67-66-3	Chloroform	ND	2.0	0.37	ug/kg	
74-87-3	Chloromethane	ND	5.0	1.9	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.40	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.83	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.34	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.99	0.32	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	0.99	0.30	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	0.99	0.36	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	0.99	0.34	ug/kg	
75-71-8	Dichlorodifluoromethane <sup>b</sup>	ND	5.0	0.63	ug/kg	
75-34-3	1,1-Dichloroethane	ND	0.99	0.38	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.99	0.47	ug/kg	
75-35-4	1,1-Dichloroethene	ND	0.99	0.65	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	0.99	0.95	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	0.99	0.66	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.40	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	0.32	ug/kg	
100-41-4	Ethylbenzene	ND	0.99	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	

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

<b>Client Sample ID:</b> PCTP-02R(4-6) <b>Lab Sample ID:</b> JC86337-3 <b>Matrix:</b> SO - Soil <b>Method:</b> SW846 8260C <b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	<b>Date Sampled:</b> 04/05/19 <b>Date Received:</b> 04/12/19 <b>Percent Solids:</b> 89.9
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**VOA TCL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	2.0	0.69	ug/kg	
79-20-9	Methyl Acetate	ND	5.0	1.4	ug/kg	
108-87-2	Methylcyclohexane	ND	2.0	0.70	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.99	0.35	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	5.0	2.5	ug/kg	
100-42-5	Styrene	ND	2.0	0.57	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	0.99	0.37	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.99	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.99	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.42	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.34	ug/kg	
79-01-6	Trichloroethene	ND	0.99	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	0.99	0.74	ug/kg	
95-47-6	o-Xylene	ND	0.99	0.58	ug/kg	
1330-20-7	Xylene (total)	ND	0.99	0.58	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		75-127%
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	99%		79-127%

- (a) DI vials received unfrozen and out of hold time.
- (b) 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

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SGS North America Inc.

## Report of Analysis

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Client Sample ID:	PCTP-02R(4-6)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-3	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	89.9
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	5P58580.D	1	04/18/19 00:21	CS	04/16/19 18:25	OP19786	E5P2775

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

## ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	22	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	31	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	65	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	39	ug/kg	
95-48-7	2-Methylphenol	ND	73	23	ug/kg	
	3&4-Methylphenol	ND	73	30	ug/kg	
88-75-5	2-Nitrophenol	ND	180	24	ug/kg	
100-02-7	4-Nitrophenol	ND	360	97	ug/kg	
87-86-5	Pentachlorophenol	ND	150	34	ug/kg	
108-95-2	Phenol	ND	73	19	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	180	24	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	180	27	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	22	ug/kg	
83-32-9	Acenaphthene	ND	36	13	ug/kg	
208-96-8	Acenaphthylene	ND	36	19	ug/kg	
98-86-2	Acetophenone	ND	180	7.8	ug/kg	
120-12-7	Anthracene	ND	36	22	ug/kg	
1912-24-9	Atrazine	ND	73	16	ug/kg	
56-55-3	Benzo(a)anthracene	ND	36	10	ug/kg	
50-32-8	Benzo(a)pyrene	ND	36	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	36	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	36	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	36	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	14	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	8.9	ug/kg	
92-52-4	1,1'-Biphenyl	ND	73	5.0	ug/kg	
100-52-7	Benzaldehyde	ND	180	9.0	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	8.7	ug/kg	
106-47-8	4-Chloroaniline	ND	180	13	ug/kg	
86-74-8	Carbazole	ND	73	5.3	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:	PCTP-02R(4-6)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-3	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	89.9
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

## ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	73	14	ug/kg	
218-01-9	Chrysene	ND	36	11	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	73	7.8	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	13	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	12	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	36	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	36	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	30	ug/kg	
123-91-1	1,4-Dioxane	ND	36	24	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	36	16	ug/kg	
132-64-9	Dibenzofuran	ND	73	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	5.9	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	73	9.1	ug/kg	
84-66-2	Diethyl phthalate	ND	73	7.8	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	6.5	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	73	8.5	ug/kg	
206-44-0	Fluoranthene	ND	36	16	ug/kg	
86-73-7	Fluorene	ND	36	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	9.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	36	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	360	15	ug/kg	
67-72-1	Hexachloroethane	ND	180	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	36	17	ug/kg	
78-59-1	Isophorone	ND	73	7.8	ug/kg	
91-57-6	2-Methylnaphthalene	ND	36	8.2	ug/kg	
88-74-4	2-Nitroaniline	ND	180	8.6	ug/kg	
99-09-2	3-Nitroaniline	ND	180	9.1	ug/kg	
100-01-6	4-Nitroaniline	ND	180	9.4	ug/kg	
91-20-3	Naphthalene	ND	36	10	ug/kg	
98-95-3	Nitrobenzene	ND	73	14	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	13	ug/kg	
85-01-8	Phenanthrene	ND	36	12	ug/kg	
129-00-0	Pyrene	ND	36	12	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	180	9.3	ug/kg	

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

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

<b>Client Sample ID:</b> PCTP-02R(4-6)	<b>Date Sampled:</b> 04/05/19
<b>Lab Sample ID:</b> JC86337-3	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 89.9
<b>Method:</b> SW846 8270D SW846 3546	
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

**ABN TCL List (SOM0 2.0)**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	66%		27-114%
118-79-6	2,4,6-Tribromophenol	65%		19-152%
4165-60-0	Nitrobenzene-d5	70%		26-134%
321-60-8	2-Fluorobiphenyl	72%		39-124%
1718-51-0	Terphenyl-d14	65%		36-134%

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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

4.3  
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## Report of Analysis

Client Sample ID: PCTP-02R(4-6)	Date Sampled: 04/05/19
Lab Sample ID: JC86337-3	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 89.9
Project: National Grid, Philly Coke, Philadelphia, PA	

### Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	9610	55	8.9	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Antimony	0.45 U	2.2	0.45	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Arsenic	2.7	2.2	0.31	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Barium	28.6	22	2.1	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Beryllium	0.31	0.22	0.089	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Cadmium	0.077 U	0.55	0.077	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Calcium	475 J	550	49	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Chromium	9.7	1.1	0.41	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Cobalt	3.6 J	5.5	0.31	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Copper	4.9	2.8	0.93	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Iron	9460	55	21	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Lead	6.3	2.2	0.45	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Magnesium	1230	550	15	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Manganese	112	1.7	0.45	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Mercury	0.16	0.031	0.014	mg/kg	1	04/16/19	04/16/19	EAL	SW846 7471B <sup>1</sup> SW846 7471B <sup>4</sup>
Nickel	9.2	4.4	0.39	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Potassium	798 J	1100	35	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Selenium	0.72 U	2.2	0.72	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Silver	0.19 U	0.55	0.19	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Sodium	86 U	1100	86	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Thallium	0.64 U	1.1	0.64	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Vanadium	10.2	5.5	0.21	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Zinc	28.9	5.5	2.5	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>

(1) Instrument QC Batch: MA46516

(2) Instrument QC Batch: MA46525

(3) Prep QC Batch: MP14249

(4) Prep QC Batch: MP14256

RL = Reporting Limit  
MDL = Method Detection Limit

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

4.3  
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## Report of Analysis

<b>Client Sample ID:</b> PCTP-02R(4-6)	<b>Date Sampled:</b> 04/05/19
<b>Lab Sample ID:</b> JC86337-3	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 89.9
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

### General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide	0.13 U	0.27	0.13	mg/kg	1	04/17/19 15:47	KI	SW846 9012B/LACHAT
Solids, Percent	89.9			%	1	04/16/19 16:30	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

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## Report of Analysis

Page 1 of 2

Client Sample ID: PCTP-01R(5-7)	Date Sampled: 04/05/19
Lab Sample ID: JC86337-4	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 85.0
Method: SW846 8260C	
Project: National Grid, Philly Coke, Philadelphia, PA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	Y184545.D	1	04/17/19 12:27	PS	n/a	n/a	VY8006
Run #2							

Run #	Initial Weight
Run #1	3.7 g
Run #2	

## VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	142	16	7.9	ug/kg	
71-43-2	Benzene	ND	0.79	0.60	ug/kg	
74-97-5	Bromochloromethane	ND	7.9	0.68	ug/kg	
75-27-4	Bromodichloromethane	ND	3.2	0.70	ug/kg	
75-25-2	Bromoform	ND	7.9	0.64	ug/kg	
74-83-9	Bromomethane	ND	7.9	1.6	ug/kg	
78-93-3	2-Butanone (MEK)	17.9	16	5.9	ug/kg	
75-15-0	Carbon disulfide	5.3	3.2	1.5	ug/kg	
56-23-5	Carbon tetrachloride	ND	3.2	0.87	ug/kg	
108-90-7	Chlorobenzene	ND	3.2	0.56	ug/kg	
75-00-3	Chloroethane	ND	7.9	1.1	ug/kg	
67-66-3	Chloroform	ND	3.2	0.59	ug/kg	
74-87-3	Chloromethane	ND	7.9	3.1	ug/kg	
110-82-7	Cyclohexane	ND	3.2	0.65	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.2	1.3	ug/kg	
124-48-1	Dibromochloromethane	ND	3.2	0.54	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.6	0.52	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.6	0.48	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.6	0.57	ug/kg	
106-46-7	1,4-Dichlorobenzene	2.0	1.6	0.55	ug/kg	
75-71-8	Dichlorodifluoromethane <sup>b</sup>	ND	7.9	1.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.6	0.61	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.6	0.75	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.6	1.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.6	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.6	1.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.2	0.65	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.2	0.56	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.2	0.52	ug/kg	
100-41-4	Ethylbenzene	ND	1.6	0.88	ug/kg	
76-13-1	Freon 113	ND	7.9	1.2	ug/kg	
591-78-6	2-Hexanone	ND	7.9	2.0	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

<b>Client Sample ID:</b> PCTP-01R(5-7)	<b>Date Sampled:</b> 04/05/19
<b>Lab Sample ID:</b> JC86337-4	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 85.0
<b>Method:</b> SW846 8260C	
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

**VOA TCL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	3.2	1.1	ug/kg	
79-20-9	Methyl Acetate	ND	7.9	2.2	ug/kg	
108-87-2	Methylcyclohexane	ND	3.2	1.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.6	0.56	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	7.9	2.5	ug/kg	
75-09-2	Methylene chloride	ND	7.9	4.0	ug/kg	
100-42-5	Styrene	ND	3.2	0.91	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.2	0.62	ug/kg	
127-18-4	Tetrachloroethene	ND	3.2	0.73	ug/kg	
108-88-3	Toluene	0.72	1.6	0.60	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	7.9	1.6	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.9	1.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.2	0.68	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.2	0.54	ug/kg	
79-01-6	Trichloroethene	ND	1.6	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.9	1.1	ug/kg	
75-01-4	Vinyl chloride	ND	3.2	0.75	ug/kg	
	m,p-Xylene	ND	1.6	1.2	ug/kg	
95-47-6	o-Xylene	ND	1.6	0.93	ug/kg	
1330-20-7	Xylene (total)	ND	1.6	0.93	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		75-127%
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	94%		80-120%
460-00-4	4-Bromofluorobenzene	99%		79-127%

- (a) DI vials received unfrozen and out of hold time.
- (b) 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

4.4  
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SGS North America Inc.

## Report of Analysis

Page 1 of 3

Client Sample ID:	PCTP-01R(5-7)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-4	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5P58618.D	1	04/18/19 16:58	CC	04/16/19 18:25	OP19786	E5P2776
Run #2	5P58657.D	5	04/19/19 10:42	CB	04/16/19 18:25	OP19786	E5P2777

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

## ABN TCL List (SOM0 2.0)

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	200	24	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	200	33	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	70	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	200	150	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	200	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	200	26	ug/kg	
100-02-7	4-Nitrophenol	ND	390	100	ug/kg	
87-86-5	Pentachlorophenol	ND	160	37	ug/kg	
108-95-2	Phenol	ND	78	20	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	200	26	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	200	29	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	200	23	ug/kg	
83-32-9	Acenaphthene	1640	39	13	ug/kg	
208-96-8	Acenaphthylene	87.3	39	20	ug/kg	
98-86-2	Acetophenone	ND	200	8.4	ug/kg	
120-12-7	Anthracene	1730	39	24	ug/kg	
1912-24-9	Atrazine	ND	78	17	ug/kg	
56-55-3	Benzo(a)anthracene	4390 <sup>a</sup>	200	55	ug/kg	
50-32-8	Benzo(a)pyrene	4610 <sup>a</sup>	200	89	ug/kg	
205-99-2	Benzo(b)fluoranthene	5590 <sup>a</sup>	200	86	ug/kg	
191-24-2	Benzo(g,h,i)perylene	2660	39	20	ug/kg	
207-08-9	Benzo(k)fluoranthene	2140 <sup>a</sup>	200	91	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	
92-52-4	1,1'-Biphenyl	52.6	78	5.4	ug/kg	J
100-52-7	Benzaldehyde	40.6	200	9.7	ug/kg	J
91-58-7	2-Chloronaphthalene	ND	78	9.3	ug/kg	
106-47-8	4-Chloroaniline	ND	200	14	ug/kg	
86-74-8	Carbazole	962	78	5.7	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

<b>Client Sample ID:</b> PCTP-01R(5-7)	
<b>Lab Sample ID:</b> JC86337-4	<b>Date Sampled:</b> 04/05/19
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 04/12/19
<b>Method:</b> SW846 8270D SW846 3546	<b>Percent Solids:</b> 85.0
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	125	78	15	ug/kg	
218-01-9	Chrysene	4270 <sup>a</sup>	200	62	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	78	8.4	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	
121-14-2	2,4-Dinitrotoluene	ND	39	12	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	39	20	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	78	33	ug/kg	
123-91-1	1,4-Dioxane	ND	39	26	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	780	39	17	ug/kg	
132-64-9	Dibenzofuran	489	78	16	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	78	6.4	ug/kg	
117-84-0	Di-n-octyl phthalate	330	78	9.7	ug/kg	
84-66-2	Diethyl phthalate	ND	78	8.3	ug/kg	
131-11-3	Dimethyl phthalate	20.6	78	7.0	ug/kg	J
117-81-7	bis(2-Ethylhexyl)phthalate	185	78	9.1	ug/kg	
206-44-0	Fluoranthene	8810 <sup>a</sup>	200	87	ug/kg	
86-73-7	Fluorene	1020	39	18	ug/kg	
118-74-1	Hexachlorobenzene	ND	78	9.9	ug/kg	
87-68-3	Hexachlorobutadiene	ND	39	16	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	390	16	ug/kg	
67-72-1	Hexachloroethane	ND	200	19	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	2970	39	18	ug/kg	
78-59-1	Isophorone	ND	78	8.4	ug/kg	
91-57-6	2-Methylnaphthalene	142	39	8.8	ug/kg	
88-74-4	2-Nitroaniline	ND	200	9.2	ug/kg	
99-09-2	3-Nitroaniline	ND	200	9.8	ug/kg	
100-01-6	4-Nitroaniline	ND	200	10	ug/kg	
91-20-3	Naphthalene	266	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	200	14	ug/kg	
85-01-8	Phenanthrene	6490 <sup>a</sup>	200	66	ug/kg	
129-00-0	Pyrene	7250 <sup>a</sup>	200	63	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	200	9.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	68%	64%	23-115%

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

4.4  
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## Report of Analysis

<b>Client Sample ID:</b> PCTP-01R(5-7)	
<b>Lab Sample ID:</b> JC86337-4	<b>Date Sampled:</b> 04/05/19
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 04/12/19
<b>Method:</b> SW846 8270D SW846 3546	<b>Percent Solids:</b> 85.0
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

ABN TCL List (SOM0 2.0)

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	74%	67%	27-114%
118-79-6	2,4,6-Tribromophenol	50%	49%	19-152%
4165-60-0	Nitrobenzene-d5	73%	74%	26-134%
321-60-8	2-Fluorobiphenyl	77%	84%	39-124%
1718-51-0	Terphenyl-d14	69%	74%	36-134%

(a) Result is from Run# 2

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

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# Report of Analysis

Client Sample ID: PCTP-01R(5-7)	Date Sampled: 04/05/19
Lab Sample ID: JC86337-4	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 85.0
Project: National Grid, Philly Coke, Philadelphia, PA	

## Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	6460	60	9.6	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Antimony	1.3 J	2.4	0.49	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Arsenic	4.7	2.4	0.33	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Barium	125	24	2.3	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Beryllium	0.32	0.24	0.096	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Cadmium	0.84	0.60	0.084	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Calcium	47500	3000	260	mg/kg	5	04/16/19	04/18/19	ND	SW846 6010D <sup>3</sup> SW846 3050B <sup>4</sup>
Chromium	15.1	1.2	0.44	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Cobalt	4.0 J	6.0	0.33	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Copper	19.9	3.0	1.0	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Iron	19000	60	23	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Lead	111	2.4	0.49	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Magnesium	3730	600	16	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Manganese	187	1.8	0.49	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Mercury	0.014 U	0.031	0.014	mg/kg	1	04/16/19	04/16/19	EAL	SW846 7471B <sup>1</sup> SW846 7471B <sup>5</sup>
Nickel	13.7	4.8	0.42	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Potassium	1370	1200	38	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Selenium	0.78 U	2.4	0.78	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Silver	0.25 J	0.60	0.20	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Sodium	158 J	1200	93	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Thallium	0.69 U	1.2	0.69	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Vanadium	14.1	6.0	0.23	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>
Zinc	115	6.0	2.7	mg/kg	1	04/16/19	04/17/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>4</sup>

- (1) Instrument QC Batch: MA46516
- (2) Instrument QC Batch: MA46525
- (3) Instrument QC Batch: MA46535
- (4) Prep QC Batch: MP14249
- (5) Prep QC Batch: MP14256

RL = Reporting Limit  
 MDL = Method Detection Limit

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

4.4  
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## Report of Analysis

<b>Client Sample ID:</b> PCTP-01R(5-7)	<b>Date Sampled:</b> 04/05/19
<b>Lab Sample ID:</b> JC86337-4	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 85.0
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

### General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide	0.14 U	0.27	0.14	mg/kg	1	04/17/19 15:48	KI	SW846 9012B/LACHAT
Solids, Percent	85			%	1	04/16/19 16:30	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

4.4  
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SGS North America Inc.

## Report of Analysis

Page 1 of 2

Client Sample ID:	PCSB-01R (14-16)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-5	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	SW846 8260C		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	I225497.D	1	04/17/19 19:02	TDN	n/a	n/a	VI9085
Run #2 <sup>b</sup>	I225511.D	1	04/18/19 11:08	TDN	n/a	n/a	VI9086

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.8 g	10.0 ml	100 ul
Run #2	5.8 g	10.0 ml	50.0 ul

## VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	1100	560	ug/kg	
71-43-2	Benzene	ND	56	42	ug/kg	
74-97-5	Bromochloromethane	ND	560	48	ug/kg	
75-27-4	Bromodichloromethane	ND	220	50	ug/kg	
75-25-2	Bromoform	ND	560	45	ug/kg	
74-83-9	Bromomethane	ND	560	110	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	420	ug/kg	
75-15-0	Carbon disulfide	ND	220	100	ug/kg	
56-23-5	Carbon tetrachloride	ND	220	62	ug/kg	
108-90-7	Chlorobenzene	ND	220	40	ug/kg	
75-00-3	Chloroethane	ND	560	77	ug/kg	
67-66-3	Chloroform	ND	220	42	ug/kg	
74-87-3	Chloromethane	ND	560	220	ug/kg	
110-82-7	Cyclohexane	ND	220	45	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	220	94	ug/kg	
124-48-1	Dibromochloromethane	ND	220	38	ug/kg	
106-93-4	1,2-Dibromoethane <sup>c</sup>	ND	110	36	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	110	34	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	110	40	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	110	39	ug/kg	
75-71-8	Dichlorodifluoromethane <sup>d</sup>	ND	560	71	ug/kg	
75-34-3	1,1-Dichloroethane	ND	110	43	ug/kg	
107-06-2	1,2-Dichloroethane	ND	110	53	ug/kg	
75-35-4	1,1-Dichloroethene	ND	110	73	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	110	110	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	110	75	ug/kg	
78-87-5	1,2-Dichloropropane	ND	220	46	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	220	39	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	220	37	ug/kg	
100-41-4	Ethylbenzene	ND	110	62	ug/kg	
76-13-1	Freon 113	ND	560	85	ug/kg	
591-78-6	2-Hexanone	ND	560	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: PCSB-01R (14-16)	Date Sampled: 04/05/19
Lab Sample ID: JC86337-5	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 84.1
Method: SW846 8260C	
Project: National Grid, Philly Coke, Philadelphia, PA	

**VOA TCL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	220	78	ug/kg	
79-20-9	Methyl Acetate	ND	560	160	ug/kg	
108-87-2	Methylcyclohexane	ND	220	79	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	110	39	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	560	170	ug/kg	
75-09-2	Methylene chloride	ND	560	280	ug/kg	
100-42-5	Styrene	ND	220	64	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	220	44	ug/kg	
127-18-4	Tetrachloroethene	ND	220	52	ug/kg	
108-88-3	Toluene	ND	110	42	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	560	110	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	560	110	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	220	48	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	220	38	ug/kg	
79-01-6	Trichloroethene	ND	110	85	ug/kg	
75-69-4	Trichlorofluoromethane <sup>d</sup>	ND	560	76	ug/kg	
75-01-4	Vinyl chloride <sup>d</sup>	ND	220	53	ug/kg	
	m,p-Xylene	ND	110	84	ug/kg	
95-47-6	o-Xylene	ND	110	65	ug/kg	
1330-20-7	Xylene (total)	ND	110	65	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	101%	75-127%
17060-07-0	1,2-Dichloroethane-D4	99%	109%	75-130%
2037-26-5	Toluene-D8	112%	100%	80-120%
460-00-4	4-Bromofluorobenzene	174% <sup>e</sup>	142% <sup>e</sup>	79-127%

- (a) Diluted due to high concentration of non-target compound.
- (b) Confirmation run.
- (c) This compound in BS is outside in house QC limits bias high. Associated CCV outside of control limits high, sample was ND.
- (d) Associated CCV outside of control limits high, sample was ND.
- (e) Outside control limits due to matrix interference.

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

4.5  
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SGS North America Inc.

## Report of Analysis

Page 1 of 3

Client Sample ID:	PCSB-01R (14-16)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-5	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	5P58581.D	1	04/18/19 00:45	CS	04/16/19 18:25	OP19786	E5P2775

Run #1	Initial Weight	Final Volume
Run #2	31.4 g	1.0 ml

## ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	76	19	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	190	23	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	190	32	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	67	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	190	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	190	41	ug/kg	
95-48-7	2-Methylphenol	ND	76	24	ug/kg	
	3&4-Methylphenol	ND	76	31	ug/kg	
88-75-5	2-Nitrophenol	ND	190	25	ug/kg	
100-02-7	4-Nitrophenol	ND	380	100	ug/kg	
87-86-5	Pentachlorophenol	ND	150	36	ug/kg	
108-95-2	Phenol	ND	76	20	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	190	25	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	190	28	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	190	23	ug/kg	
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	19	ug/kg	
98-86-2	Acetophenone	ND	190	8.1	ug/kg	
120-12-7	Anthracene	41.4	38	23	ug/kg	
1912-24-9	Atrazine	ND	76	16	ug/kg	
56-55-3	Benzo(a)anthracene	60.4	38	11	ug/kg	
50-32-8	Benzo(a)pyrene	49.8	38	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	71.1	38	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	30.6	38	19	ug/kg	J
207-08-9	Benzo(k)fluoranthene	26.3	38	18	ug/kg	J
101-55-3	4-Bromophenyl phenyl ether	ND	76	15	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	76	9.2	ug/kg	
92-52-4	1,1'-Biphenyl	ND	76	5.2	ug/kg	
100-52-7	Benzaldehyde	ND	190	9.4	ug/kg	
91-58-7	2-Chloronaphthalene	ND	76	9.0	ug/kg	
106-47-8	4-Chloroaniline	ND	190	14	ug/kg	
86-74-8	Carbazole	16.2	76	5.5	ug/kg	J

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: PCSB-01R (14-16)	Date Sampled: 04/05/19
Lab Sample ID: JC86337-5	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 84.1
Method: SW846 8270D SW846 3546	
Project: National Grid, Philly Coke, Philadelphia, PA	

ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	76	15	ug/kg	
218-01-9	Chrysene	59.2	38	12	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	76	8.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	76	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	76	14	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	76	12	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	38	12	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	38	19	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	76	32	ug/kg	
123-91-1	1,4-Dioxane	ND	38	25	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
132-64-9	Dibenzofuran	24.1	76	15	ug/kg	J
84-74-2	Di-n-butyl phthalate	ND	76	6.2	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	76	9.4	ug/kg	
84-66-2	Diethyl phthalate	ND	76	8.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	76	6.7	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	76	8.9	ug/kg	
206-44-0	Fluoranthene	156	38	17	ug/kg	
86-73-7	Fluorene	21.6	38	17	ug/kg	J
118-74-1	Hexachlorobenzene	ND	76	9.6	ug/kg	
87-68-3	Hexachlorobutadiene	ND	38	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	380	15	ug/kg	
67-72-1	Hexachloroethane	ND	190	19	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	31.0	38	18	ug/kg	J
78-59-1	Isophorone	ND	76	8.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	38	8.6	ug/kg	
88-74-4	2-Nitroaniline	ND	190	8.9	ug/kg	
99-09-2	3-Nitroaniline	ND	190	9.5	ug/kg	
100-01-6	4-Nitroaniline	ND	190	9.8	ug/kg	
91-20-3	Naphthalene	ND	38	11	ug/kg	
98-95-3	Nitrobenzene	ND	76	15	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	76	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	14	ug/kg	
85-01-8	Phenanthrene	210	38	13	ug/kg	
129-00-0	Pyrene	130	38	12	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	190	9.6	ug/kg	

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

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

4.5  
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## Report of Analysis

<b>Client Sample ID:</b> PCSB-01R (14-16)	
<b>Lab Sample ID:</b> JC86337-5	<b>Date Sampled:</b> 04/05/19
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 04/12/19
<b>Method:</b> SW846 8270D SW846 3546	<b>Percent Solids:</b> 84.1
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

ABN TCL List (SOM0 2.0)

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	64%		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%
1718-51-0	Terphenyl-d14	67%		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

# Report of Analysis

<b>Client Sample ID:</b> PCSB-01R (14-16)	<b>Date Sampled:</b> 04/05/19
<b>Lab Sample ID:</b> JC86337-5	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 84.1
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

## Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Aluminum	7220	61	9.9	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Antimony	0.50 U	2.5	0.50	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Arsenic	5.8	2.5	0.34	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Barium	22.5 J	25	2.3	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Beryllium	0.50	0.25	0.098	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Cadmium	0.086 U	0.61	0.086	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Calcium	238 J	610	54	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Chromium	15.5	1.2	0.45	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Cobalt	5.2 J	6.1	0.34	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Copper	7.6	3.1	1.0	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Iron	17200	61	24	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Lead	10.5	2.5	0.50	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Magnesium	1120	610	17	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Manganese	217	1.8	0.50	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Mercury	0.015 U	0.035	0.015	mg/kg	1	04/16/19	04/16/19	EAL	SW846 7471B <sup>1</sup>	SW846 7471B <sup>4</sup>
Nickel	8.3	4.9	0.43	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Potassium	832 J	1200	39	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Selenium	0.80 U	2.5	0.80	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Silver	0.21 U	0.61	0.21	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Sodium	96 U	1200	96	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Thallium	0.71 U	1.2	0.71	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Vanadium	19.1	6.1	0.23	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>
Zinc	32.5	6.1	2.8	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup>	SW846 3050B <sup>3</sup>

- (1) Instrument QC Batch: MA46516
- (2) Instrument QC Batch: MA46525
- (3) Prep QC Batch: MP14249
- (4) Prep QC Batch: MP14256

RL = Reporting Limit  
 MDL = Method Detection Limit

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

## Report of Analysis

<b>Client Sample ID:</b> PCSB-01R (14-16)	<b>Date Sampled:</b> 04/05/19
<b>Lab Sample ID:</b> JC86337-5	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 84.1
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

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### General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide	0.14 U	0.29	0.14	mg/kg	1	04/17/19 15:49	KI	SW846 9012B/LACHAT
Solids, Percent	84.1			%	1	04/16/19 16:30	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

Page 1 of 2

Client Sample ID:	PCSB-01R (18-20)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-6	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	89.1
Method:	SW846 8260C		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	Y184546.D	1	04/17/19 12:56	PS	n/a	n/a	VY8006
Run #2							

Run #	Initial Weight
Run #1	5.3 g
Run #2	

## VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	16.4	11	5.3	ug/kg	
71-43-2	Benzene	ND	0.53	0.40	ug/kg	
74-97-5	Bromochloromethane	ND	5.3	0.46	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	0.47	ug/kg	
75-25-2	Bromoform	ND	5.3	0.43	ug/kg	
74-83-9	Bromomethane	ND	5.3	1.1	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	4.0	ug/kg	
75-15-0	Carbon disulfide	ND	2.1	0.98	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	0.58	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	0.37	ug/kg	
75-00-3	Chloroethane	ND	5.3	0.73	ug/kg	
67-66-3	Chloroform	ND	2.1	0.39	ug/kg	
74-87-3	Chloromethane	ND	5.3	2.1	ug/kg	
110-82-7	Cyclohexane	ND	2.1	0.43	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.1	0.89	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	0.36	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.34	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.32	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.38	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.36	ug/kg	
75-71-8	Dichlorodifluoromethane <sup>b</sup>	ND	5.3	0.67	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.1	0.41	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.50	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.1	0.69	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.1	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.71	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	0.43	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	0.35	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.58	ug/kg	
76-13-1	Freon 113	ND	5.3	0.81	ug/kg	
591-78-6	2-Hexanone	ND	5.3	1.3	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: PCSB-01R (18-20)	Date Sampled: 04/05/19
Lab Sample ID: JC86337-6	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 89.1
Method: SW846 8260C	
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	0.74	ug/kg	
79-20-9	Methyl Acetate	ND	5.3	1.5	ug/kg	
108-87-2	Methylcyclohexane	ND	2.1	0.75	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.37	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.3	1.7	ug/kg	
75-09-2	Methylene chloride	ND	5.3	2.6	ug/kg	
100-42-5	Styrene	ND	2.1	0.61	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.41	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	0.49	ug/kg	
108-88-3	Toluene	ND	1.1	0.40	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.3	1.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.3	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.45	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.36	ug/kg	
79-01-6	Trichloroethene	ND	1.1	0.81	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.3	0.72	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	0.50	ug/kg	
	m,p-Xylene	ND	1.1	0.79	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.62	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.62	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		75-127%
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	93%		80-120%
460-00-4	4-Bromofluorobenzene	103%		79-127%

- (a) DI vials received unfrozen and out of hold time.
- (b) 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

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## Report of Analysis

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Client Sample ID:	PCSB-01R (18-20)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-6	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	89.1
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	5P58582.D	1	04/18/19 01:10	CS	04/16/19 18:25	OP19786	E5P2775

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

## ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	73	18	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	22	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	31	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	65	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	39	ug/kg	
95-48-7	2-Methylphenol	ND	73	23	ug/kg	
	3&4-Methylphenol	ND	73	30	ug/kg	
88-75-5	2-Nitrophenol	ND	180	24	ug/kg	
100-02-7	4-Nitrophenol	ND	370	98	ug/kg	
87-86-5	Pentachlorophenol	ND	150	34	ug/kg	
108-95-2	Phenol	ND	73	19	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	180	24	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	180	27	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	22	ug/kg	
83-32-9	Acenaphthene	ND	37	13	ug/kg	
208-96-8	Acenaphthylene	ND	37	19	ug/kg	
98-86-2	Acetophenone	ND	180	7.9	ug/kg	
120-12-7	Anthracene	ND	37	22	ug/kg	
1912-24-9	Atrazine	ND	73	16	ug/kg	
56-55-3	Benzo(a)anthracene	ND	37	10	ug/kg	
50-32-8	Benzo(a)pyrene	ND	37	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	37	16	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	18	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	37	17	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	73	14	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	73	8.9	ug/kg	
92-52-4	1,1'-Biphenyl	ND	73	5.0	ug/kg	
100-52-7	Benzaldehyde	ND	180	9.1	ug/kg	
91-58-7	2-Chloronaphthalene	ND	73	8.7	ug/kg	
106-47-8	4-Chloroaniline	ND	180	13	ug/kg	
86-74-8	Carbazole	ND	73	5.3	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:	PCSB-01R (18-20)	Date Sampled:	04/05/19
Lab Sample ID:	JC86337-6	Date Received:	04/12/19
Matrix:	SO - Soil	Percent Solids:	89.1
Method:	SW846 8270D SW846 3546		
Project:	National Grid, Philly Coke, Philadelphia, PA		

## ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	73	14	ug/kg	
218-01-9	Chrysene	ND	37	12	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	73	7.8	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	73	16	ug/kg	
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	73	13	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	73	12	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	37	11	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	37	18	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	73	31	ug/kg	
123-91-1	1,4-Dioxane	ND	37	24	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	37	16	ug/kg	
132-64-9	Dibenzofuran	ND	73	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	73	6.0	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	73	9.1	ug/kg	
84-66-2	Diethyl phthalate	ND	73	7.8	ug/kg	
131-11-3	Dimethyl phthalate	ND	73	6.5	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	73	8.6	ug/kg	
206-44-0	Fluoranthene	ND	37	16	ug/kg	
86-73-7	Fluorene	ND	37	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	73	9.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	37	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	370	15	ug/kg	
67-72-1	Hexachloroethane	ND	180	18	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	37	17	ug/kg	
78-59-1	Isophorone	ND	73	7.8	ug/kg	
91-57-6	2-Methylnaphthalene	ND	37	8.3	ug/kg	
88-74-4	2-Nitroaniline	ND	180	8.7	ug/kg	
99-09-2	3-Nitroaniline	ND	180	9.2	ug/kg	
100-01-6	4-Nitroaniline	ND	180	9.5	ug/kg	
91-20-3	Naphthalene	ND	37	10	ug/kg	
98-95-3	Nitrobenzene	ND	73	14	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	73	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	13	ug/kg	
85-01-8	Phenanthrene	ND	37	12	ug/kg	
129-00-0	Pyrene	ND	37	12	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	180	9.3	ug/kg	

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

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

<b>Client Sample ID:</b> PCSB-01R (18-20)	
<b>Lab Sample ID:</b> JC86337-6	<b>Date Sampled:</b> 04/05/19
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 04/12/19
<b>Method:</b> SW846 8270D SW846 3546	<b>Percent Solids:</b> 89.1
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

ABN TCL List (SOM0 2.0)

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	69%		27-114%
118-79-6	2,4,6-Tribromophenol	70%		19-152%
4165-60-0	Nitrobenzene-d5	73%		26-134%
321-60-8	2-Fluorobiphenyl	73%		39-124%
1718-51-0	Terphenyl-d14	70%		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

## Report of Analysis

<b>Client Sample ID:</b> PCSB-01R (18-20) <b>Lab Sample ID:</b> JC86337-6 <b>Matrix:</b> SO - Soil <b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	<b>Date Sampled:</b> 04/05/19 <b>Date Received:</b> 04/12/19 <b>Percent Solids:</b> 89.1
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**Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	864	59	9.4	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Antimony	0.48 U	2.3	0.48	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Arsenic	1.7 J	2.3	0.33	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Barium	4.8 J	23	2.2	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Beryllium	0.094 U	0.23	0.094	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Cadmium	0.082 U	0.59	0.082	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Calcium	52 U	590	52	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Chromium	3.7	1.2	0.43	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Cobalt	0.56 J	5.9	0.33	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Copper	0.98 U	2.9	0.98	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Iron	1650	59	22	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Lead	2.1 J	2.3	0.48	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Magnesium	77.5 J	590	16	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Manganese	8.7	1.8	0.48	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Mercury	0.014 U	0.032	0.014	mg/kg	1	04/16/19	04/16/19	EAL	SW846 7471B <sup>1</sup> SW846 7471B <sup>4</sup>
Nickel	0.76 J	4.7	0.41	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Potassium	113 J	1200	37	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Selenium	0.76 U	2.3	0.76	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Silver	0.20 U	0.59	0.20	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Sodium	91 U	1200	91	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Thallium	0.68 U	1.2	0.68	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Vanadium	3.8 J	5.9	0.22	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>
Zinc	3.9 J	5.9	2.7	mg/kg	1	04/16/19	04/18/19	ND	SW846 6010D <sup>2</sup> SW846 3050B <sup>3</sup>

- (1) Instrument QC Batch: MA46516
- (2) Instrument QC Batch: MA46525
- (3) Prep QC Batch: MP14249
- (4) Prep QC Batch: MP14256

RL = Reporting Limit  
 MDL = Method Detection Limit

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

4.6  
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## Report of Analysis

<b>Client Sample ID:</b> PCSB-01R (18-20)	<b>Date Sampled:</b> 04/05/19
<b>Lab Sample ID:</b> JC86337-6	<b>Date Received:</b> 04/12/19
<b>Matrix:</b> SO - Soil	<b>Percent Solids:</b> 89.1
<b>Project:</b> National Grid, Philly Coke, Philadelphia, PA	

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### General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide	0.13 U	0.27	0.13	mg/kg	1	04/17/19 15:54	KI	SW846 9012B/LACHAT
Solids, Percent	89.1			%	1	04/16/19 16:30	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

Page 1 of 1

Client Sample ID: S-138 (0.0-0.5)	Date Sampled: 04/05/19
Lab Sample ID: JC86337-7	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 84.8
Method: SW846 8082A SW846 3546	
Project: National Grid, Philly Coke, Philadelphia, PA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF189209.D	1	04/19/19 18:13	TR	04/19/19 09:50	OP19829	GEF6426
Run #2							

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

## PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	36	17	ug/kg	
11104-28-2	Aroclor 1221	ND	36	18	ug/kg	
11141-16-5	Aroclor 1232	ND	36	28	ug/kg	
53469-21-9	Aroclor 1242	ND	36	15	ug/kg	
12672-29-6	Aroclor 1248	ND	36	32	ug/kg	
11097-69-1	Aroclor 1254	159	36	19	ug/kg	
11096-82-5	Aroclor 1260	ND	36	15	ug/kg	
11100-14-4	Aroclor 1268	ND	36	15	ug/kg	
37324-23-5	Aroclor 1262	ND	36	24	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	75%		31-146%
877-09-8	Tetrachloro-m-xylene	69%		31-146%
2051-24-3	Decachlorobiphenyl	83%		17-164%
2051-24-3	Decachlorobiphenyl	165% <sup>a</sup>		17-164%

(a) Outside control limits due to matrix interference.

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

Page 1 of 1

Client Sample ID: S-138 (0.5-2.0)	Date Sampled: 04/05/19
Lab Sample ID: JC86337-8	Date Received: 04/12/19
Matrix: SO - Soil	Percent Solids: 87.6
Method: SW846 8082A SW846 3546	
Project: National Grid, Philly Coke, Philadelphia, PA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EF189210.D	1	04/19/19 18:38	TR	04/19/19 09:50	OP19829	GEF6426
Run #2							

Run #	Initial Weight	Final Volume
Run #1	16.7 g	10.0 ml
Run #2		

## PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	16	ug/kg	
11104-28-2	Aroclor 1221	ND	34	17	ug/kg	
11141-16-5	Aroclor 1232	ND	34	26	ug/kg	
53469-21-9	Aroclor 1242	ND	34	14	ug/kg	
12672-29-6	Aroclor 1248	ND	34	30	ug/kg	
11097-69-1	Aroclor 1254	426	34	18	ug/kg	
11096-82-5	Aroclor 1260	ND	34	15	ug/kg	
11100-14-4	Aroclor 1268	ND	34	14	ug/kg	
37324-23-5	Aroclor 1262	ND	34	22	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		31-146%
877-09-8	Tetrachloro-m-xylene	87%		31-146%
2051-24-3	Decachlorobiphenyl	124%		17-164%
2051-24-3	Decachlorobiphenyl	250% <sup>a</sup>		17-164%

(a) Outside control limits due to matrix interference.

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

**Misc. Forms**

**Custody Documents and Other Forms**

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**Includes the following where applicable:**

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



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### 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/ehausa

Page 1 of 1

PN

FED-EX Tracking #	Order Control #
	<u>AK-031919-43</u>
SGS Quote #	SGS Job #
	<u>JC86337</u>

Client / Reporting Information		Project Information					Requested Analysis					Matrix Codes						
Company Name: <b>Arcadis-US</b>		Project Name: <b>Philadelphia Cotx</b>										DW - Drinking Water GW - Ground Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Waste FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank						
Street Address: <b>100 Wijkendyck #300</b>		Street Address: <b>9501 Rubenise</b>																
City, State, Zip: <b>SYRACUSE NY 13202</b>		City, State, Zip: <b>Philadelphia PA</b>																
Project Contact: <b>Carey Harty Lawrence</b>		Company Name: <b>Scame</b>																
E-mail: <b>Lawrence.Carey@Arcadis.com</b>		Project #: <b>80036790001</b>																
Phone #: <b>(315) 335-9443</b>		Street Address: <b>80036790001</b>																
Samples (Name): <b>Evan Gryn (623) 323-2642</b>		City, State, Zip: <b>Philadelphia PA</b>																
Phone #: <b>(623) 323-2642</b>		Attention: <b>John Brussel</b>																
SGS Sample #	Field ID / Point of Collection	MECHDI Viol #	Date	Time	Sampled by	Grab (ID) Comp (C)	Matrix	# of bottles	HC	NH3	H2S	H2O	NO3	NO2	NI	Methanol	LAB USE ONLY	
1	PCTP-66R-HC (0-2)		4/14/19	1015	EG	F	5-1	6									X	D56
2	PCTP-66R-HC (2-4)		4/14/19	1025	EG	F	5-1	6									X	P30
3	PCTP-02R (4-6)		4/15/19	0845	EG	F	5-1	5									X	14K1
4	PCTP-01R (5-7)		4/15/19	1000	EG	F	5-1	5									X	4084
5	PCSB-01R (14-16)		4/15/19	1120	EG	F	5-1	5									X	
6	PCSB-01R (18-20)		4/15/19	1130	EG	F	5-1	5									X	
7	S-138 (0.0-0.5)		4/15/19	1300	EG	F	5-1	1									X	
8	S-138 (0.5-2.0)		4/15/19	1310	EG	F	5-1	1									X	

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Turn Around Time (Business Days)		Deliverable				Comments / Special Instructions	
<input checked="" type="checkbox"/> 10 Business Days	Approved By (SGS PM) / Date:	<input type="checkbox"/> Commercial "A" (Level 1)	<input type="checkbox"/> NYASP Category A	<input type="checkbox"/> DOD-QSMS	INITIAL ASSESSMENT <u>3A DM</u> LABEL VERIFICATION _____		
<input type="checkbox"/> 5 Business Days		<input type="checkbox"/> Commercial "B" (Level 2)	<input type="checkbox"/> NYASP Category B				
<input type="checkbox"/> 3 Business Days		<input type="checkbox"/> NJ Reduced (Level 3)	<input type="checkbox"/> MA MCP Criteria				
<input type="checkbox"/> 2 Business Days		<input checked="" type="checkbox"/> Full Tier I (Level 4)	<input type="checkbox"/> CT RCP Criteria				
<input type="checkbox"/> 1 Business Day		<input type="checkbox"/> Commercial "C"	<input type="checkbox"/> State Forms				
<input type="checkbox"/> Other _____		<input type="checkbox"/> NJ DKQP	<input type="checkbox"/> EDO Format				
All data available via Lablink		Commercial "A" = Results only; Commercial "B" = Results + QC Summary				http://www.sgs.com/en/terms-and-conditions	
Approval needed for 1-3 Business Day TAT		Commercial "C" = Results + QC Summary + Partial Raw Data					

Samples Custody must be documented below each time samples change possession, including courier delivery.			
Relinquished By:	Date / Time:	Received By:	Received By:
1 [Signature]	4/15/19 1500	1 [Signature]	2 [Signature]
3 [Signature]	4/17/19	3 [Signature]	4 [Signature]
5 [Signature]		5 [Signature]	4 [Signature]

4.1

EHS-A-QAC-0023-02-FORM-Dayton - Standard COC.xlsx



## SGS Sample Receipt Summary

**Job Number:** JC86337

**Client:** ARCADIS U.S.

**Project:** NATIONAL GRID, PHILLY COKE, PHILADELPHI

**Date / Time Received:** 4/12/2019 5:10:00 PM

**Delivery Method:** Accutest Courier

**Airbill #'s:**

**Cooler Temps (Raw Measured) °C:** Cooler 1: (4.1);

**Cooler Temps (Corrected) °C:** Cooler 1: (3.1);

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Comments -1 thru -6 DI vials rec'd unfrozen/ out of hold. Samples collected 4/4/19 and 4/5/19.

SM089-03  
Rev. Date 12/7/17

**JC86337: Chain of Custody**

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5.1  
5

Responded to by: Kelly Ramos

Response Date: 4/15/19

Response:

Please proceed with all analysis. Log in for 1 week TAT, due 4/19/2019

5.1

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**JC86337: Chain of Custody**  
**Page 3 of 3**

### Internal Sample Tracking Chronicle

Arcadis

Job No: JC86337

National Grid, Philly Coke, Philadelphia, PA  
 Project No: B0036790.0001

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
<b>JC86337-1 Collected: 04-APR-19 10:15 By: EG Received: 12-APR-19 By: AS</b>						
<b>PCTP-66R-HC (0-2)</b>						
JC86337-1	SW846 7471B	16-APR-19 15:33	EAL	16-APR-19	EAL	HG
JC86337-1	SM2540 G 18TH ED M00	17-APR-19 16:30	BG			SOL104
JC86337-1	SW846 8260C	17-APR-19 11:30	PS			V8260TCL20
JC86337-1	SW846 9012B/LACHAT	17-APR-19 15:44	KI	17-APR-19	RC	CN
JC86337-1	SW846 6010D	17-APR-19 23:40	ND	16-APR-19	TG	AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN
JC86337-1	SW846 8082A	18-APR-19 13:15	SK	17-APR-19	NT	P8082PCB11
JC86337-1	SW846 8081B	18-APR-19 14:23	TL	17-APR-19	NT	P8081PESTTCL
JC86337-1	SW846 8270D	18-APR-19 16:08	CC	16-APR-19	LJ	AB8270TCL20
JC86337-1	SW846 8270D	19-APR-19 09:52	CB	16-APR-19	LJ	AB8270TCL20
<b>JC86337-2 Collected: 04-APR-19 10:25 By: EG Received: 12-APR-19 By: AS</b>						
<b>PCTP-66R-HC (2-4)</b>						
JC86337-2	SW846 7471B	16-APR-19 15:35	EAL	16-APR-19	EAL	HG
JC86337-2	SM2540 G 18TH ED M00	17-APR-19 16:30	BG			SOL104
JC86337-2	SW846 9012B/LACHAT	17-APR-19 15:45	KI	17-APR-19	RC	CN
JC86337-2	SW846 8260C	17-APR-19 18:33	TDN			V8260TCL20
JC86337-2	SW846 6010D	17-APR-19 23:46	ND	16-APR-19	TG	AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN
JC86337-2	SW846 8082A	18-APR-19 13:34	SK	17-APR-19	NT	P8082PCB11
JC86337-2	SW846 8081B	18-APR-19 14:41	TL	17-APR-19	NT	P8081PESTTCL
JC86337-2	SW846 8270D	18-APR-19 16:33	CC	16-APR-19	LJ	AB8270TCL20
JC86337-2	SW846 8270D	19-APR-19 10:17	CB	16-APR-19	LJ	AB8270TCL20
<b>JC86337-3 Collected: 05-APR-19 08:45 By: EG Received: 12-APR-19 By: AS</b>						
<b>PCTP-02R(4-6)</b>						
JC86337-3	SW846 7471B	16-APR-19 15:36	EAL	16-APR-19	EAL	HG
JC86337-3	SM2540 G 18TH ED M00	17-APR-19 16:30	BG			SOL104
JC86337-3	SW846 8260C	17-APR-19 11:59	PS			V8260TCL20
JC86337-3	SW846 9012B/LACHAT	17-APR-19 15:47	KI	17-APR-19	RC	CN
JC86337-3	SW846 6010D	17-APR-19 23:51	ND	16-APR-19	TG	AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN

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### Internal Sample Tracking Chronicle

Arcadis

Job No: JC86337

National Grid, Philly Coke, Philadelphia, PA  
 Project No: B0036790.0001

5.2  
5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC86337-3	SW846 8270D	18-APR-19 00:21	CS	16-APR-19	LJ	AB8270TCL20
JC86337-4 Collected: 05-APR-19 10:00 By: EG Received: 12-APR-19 By: AS PCTP-01R(5-7)						
JC86337-4	SW846 7471B	16-APR-19 15:38	EAL	16-APR-19	EAL	HG
JC86337-4	SM2540 G 18TH ED M	16-APR-19 16:30	BG			SOL104
JC86337-4	SW846 8260C	17-APR-19 12:27	PS			V8260TCL20
JC86337-4	SW846 9012B/LACHAT	17-APR-19 15:48	KI	17-APR-19	RC	CN
JC86337-4	SW846 6010D	17-APR-19 23:56	ND	16-APR-19	TG	AG,AL,AS,BA,BE,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN
JC86337-4	SW846 6010D	18-APR-19 15:28	ND	16-APR-19	TG	CA
JC86337-4	SW846 8270D	18-APR-19 16:58	CC	16-APR-19	LJ	AB8270TCL20
JC86337-4	SW846 8270D	19-APR-19 10:42	CB	16-APR-19	LJ	AB8270TCL20
JC86337-5 Collected: 05-APR-19 11:20 By: EG Received: 12-APR-19 By: AS PCSB-01R (14-16)						
JC86337-5	SW846 7471B	16-APR-19 15:40	EAL	16-APR-19	EAL	HG
JC86337-5	SM2540 G 18TH ED M	16-APR-19 16:30	BG			SOL104
JC86337-5	SW846 9012B/LACHAT	17-APR-19 15:49	KI	17-APR-19	RC	CN
JC86337-5	SW846 8260C	17-APR-19 19:02	TDN			V8260TCL20
JC86337-5	SW846 6010D	18-APR-19 00:01	ND	16-APR-19	TG	AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN
JC86337-5	SW846 8270D	18-APR-19 00:45	CS	16-APR-19	LJ	AB8270TCL20
JC86337-5	SW846 8260C	18-APR-19 11:08	TDN			V8260TCL20
JC86337-6 Collected: 05-APR-19 11:30 By: EG Received: 12-APR-19 By: AS PCSB-01R (18-20)						
JC86337-6	SW846 7471B	16-APR-19 15:41	EAL	16-APR-19	EAL	HG
JC86337-6	SM2540 G 18TH ED M	16-APR-19 16:30	BG			SOL104
JC86337-6	SW846 8260C	17-APR-19 12:56	PS			V8260TCL20
JC86337-6	SW846 9012B/LACHAT	17-APR-19 15:54	KI	17-APR-19	RC	CN
JC86337-6	SW846 6010D	18-APR-19 00:07	ND	16-APR-19	TG	AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN
JC86337-6	SW846 8270D	18-APR-19 01:10	CS	16-APR-19	LJ	AB8270TCL20

### Internal Sample Tracking Chronicle

Arcadis

Job No: JC86337

National Grid, Philly Coke, Philadelphia, PA  
 Project No: B0036790.0001

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
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JC86337-7 Collected: 05-APR-19 13:30 By: EG Received: 12-APR-19 By: AS  
 S-138 (0.0-0.5)

JC86337-7 SM2540 G 18TH ED M08 APR-19 15:55 BG SOL104  
 JC86337-7 SW846 8082A 19-APR-19 18:13 TR 19-APR-19 SA P8082PCB11

JC86337-8 Collected: 05-APR-19 13:10 By: EG Received: 12-APR-19 By: AS  
 S-138 (0.5-2.0)

JC86337-8 SM2540 G 18TH ED M08 APR-19 15:55 BG SOL104  
 JC86337-8 SW846 8082A 19-APR-19 18:38 TR 19-APR-19 SA P8082PCB11

# SGS Internal Chain of Custody

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Received: 04/12/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86337-1.1	Secured Storage	Matthew Robbins	04/15/19 18:38	Retrieve from Storage
JC86337-1.1	Matthew Robbins	Secured Staging Area	04/15/19 18:38	Return to Storage
JC86337-1.1	Secured Staging Area	Taylor Gorman	04/16/19 06:42	Retrieve from Storage
JC86337-1.1	Secured Storage	Benjamin Gaines	04/16/19 11:40	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC86337-1.1	Benjamin Gaines	Secured Staging Area	04/16/19 11:40	Return to Storage
JC86337-1.1	Secured Staging Area	Benjamin Gaines	04/16/19 13:51	Retrieve from Storage
JC86337-1.1	Benjamin Gaines	Secured Storage	04/16/19 15:23	Return to Storage
JC86337-1.1	Secured Storage	Todd Shoemaker	04/17/19 08:54	Retrieve from Storage
JC86337-1.1	Todd Shoemaker	Secured Staging Area	04/17/19 08:55	Return to Storage
JC86337-1.1	Secured Staging Area	Ruchitaben Chauhan	04/17/19 09:25	Retrieve from Storage
JC86337-1.1	Ruchitaben Chauhan	Secured Storage	04/17/19 17:45	Return to Storage
JC86337-1.1	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-1.1.1	Taylor Gorman	Metals Digestion	04/16/19 09:00	Digestate from JC86337-1.1
JC86337-1.1.1	Taylor Gorman	Metals Digestate Storage	04/16/19 09:00	Return to Storage
JC86337-1.1.1	Metals Digestion	Taylor Gorman	04/16/19 09:00	Digestate from JC86337-1.1
JC86337-1.1.1	Metals Digestate Storage	Rakesh Pathak	04/17/19 16:21	Retrieve from Storage
JC86337-1.1.1	Rakesh Pathak	Metals Digestate Storage	04/17/19 19:05	Return to Storage
JC86337-1.1.1	Metals Digestate Storage		06/24/19 09:00	Disposed
JC86337-1.2	Secured Storage	Matthew Robbins	04/15/19 20:11	Retrieve from Storage
JC86337-1.2	Matthew Robbins	Secured Staging Area	04/15/19 20:11	Return to Storage
JC86337-1.2	Secured Staging Area	Colleen Hill	04/16/19 08:23	Retrieve from Storage
JC86337-1.2	Colleen Hill	Secured Storage	04/16/19 14:23	Return to Storage
JC86337-1.2	Secured Storage	Todd Shoemaker	04/16/19 15:40	Retrieve from Storage
JC86337-1.2	Todd Shoemaker	Secured Staging Area	04/16/19 15:41	Return to Storage
JC86337-1.2	Secured Staging Area	Sarah Halim	04/16/19 16:13	Retrieve from Storage
JC86337-1.2	Sarah Halim	Secured Storage	04/16/19 21:24	Return to Storage
JC86337-1.2	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-1.2.1	Sarah Halim	Organics Prep	04/16/19 16:15	Extract from JC86337-1.2
JC86337-1.2.1	Luis Jimenez	Extract Storage	04/16/19 23:30	Return to Storage
JC86337-1.2.1	Organics Prep	Luis Jimenez	04/16/19 23:30	Extract from JC86337-1.2
JC86337-1.2.1	Extract Storage	Christopher Sowa	04/17/19 22:41	Retrieve from Storage
JC86337-1.2.1	Christopher Sowa	GCMS5P	04/17/19 22:41	Load on Instrument
JC86337-1.2.1	GCMS5P	Christine Change	04/18/19 10:33	Unload from Instrument
JC86337-1.2.1	Christine Change	Extract Freezer	04/18/19 10:33	Return to Storage
JC86337-1.2.1	Extract Freezer		05/27/19 09:00	Disposed
JC86337-1.2.2	Sarah Halim	Organics Prep	04/16/19 16:21	Extract from JC86337-1.2
JC86337-1.2.2	Natasha Torres	Extract Storage	04/17/19 09:32	Return to Storage
JC86337-1.2.2	Organics Prep	Natasha Torres	04/17/19 09:32	Extract from JC86337-1.2
JC86337-1.2.2	Extract Storage	Summer Kotb	04/17/19 15:10	Retrieve from Storage

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# SGS Internal Chain of Custody

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Received: 04/12/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86337-1.2.2	Summer Kotb	GCXX	04/17/19 15:10	Load on Instrument
JC86337-1.2.2	GCXX	Tianwei Ruan	07/12/19 11:05	Unload from Instrument
JC86337-1.2.2	Tianwei Ruan	Extract Freezer	07/12/19 11:05	Return to Storage
JC86337-1.2.2	Extract Freezer		07/15/19 09:00	Disposed
JC86337-1.2.3	Sarah Halim	Organics Prep	04/16/19 16:21	Extract from JC86337-1.2
JC86337-1.2.3	Organics Prep	Natasha Torres	04/17/19 09:32	Extract from JC86337-1.2
JC86337-1.2.3	Natasha Torres	Extract Storage	04/17/19 09:32	Return to Storage
JC86337-1.2.3	Extract Storage	Mailisi Heshuote	04/17/19 12:17	Retrieve from Storage
JC86337-1.2.3	Mailisi Heshuote	GC8G	04/17/19 12:17	Load on Instrument
JC86337-1.2.3	GC8G	Thomas Lally	04/18/19 10:48	Unload from Instrument
JC86337-1.2.3	Thomas Lally	GC6G	04/18/19 10:48	Load on Instrument
JC86337-1.5	Secured Storage	Prashant Shukla	04/17/19 12:44	Retrieve from Storage
JC86337-1.5	Prashant Shukla	GCMSY	04/17/19 12:44	Load on Instrument
JC86337-1.5	GCMSY	Prashant Shukla	04/18/19 09:44	Unload from Instrument
JC86337-1.5	Prashant Shukla		04/18/19 09:44	Depleted
JC86337-1.6	Secured Storage	Prashant Shukla	04/17/19 11:11	Retrieve from Storage
JC86337-1.6	Prashant Shukla	GCMSY	04/17/19 11:11	Load on Instrument
JC86337-1.6	GCMSY	Prashant Shukla	04/18/19 09:44	Unload from Instrument
JC86337-1.6	Prashant Shukla		04/18/19 09:44	Depleted
JC86337-2.1	Secured Storage	Matthew Robbins	04/15/19 18:38	Retrieve from Storage
JC86337-2.1	Matthew Robbins	Secured Staging Area	04/15/19 18:38	Return to Storage
JC86337-2.1	Secured Staging Area	Taylor Gorman	04/16/19 06:42	Retrieve from Storage
JC86337-2.1	Secured Storage	Benjamin Gaines	04/16/19 11:40	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC86337-2.1	Benjamin Gaines	Secured Staging Area	04/16/19 11:40	Return to Storage
JC86337-2.1	Secured Staging Area	Benjamin Gaines	04/16/19 13:51	Retrieve from Storage
JC86337-2.1	Benjamin Gaines	Secured Storage	04/16/19 15:23	Return to Storage
JC86337-2.1	Secured Storage	Todd Shoemaker	04/17/19 08:54	Retrieve from Storage
JC86337-2.1	Todd Shoemaker	Secured Staging Area	04/17/19 08:55	Return to Storage
JC86337-2.1	Secured Staging Area	Ruchitaben Chauhan	04/17/19 09:25	Retrieve from Storage
JC86337-2.1	Ruchitaben Chauhan	Secured Storage	04/17/19 17:45	Return to Storage
JC86337-2.1	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-2.1.1	Taylor Gorman	Metals Digestion	04/16/19 09:00	Digestate from JC86337-2.1
JC86337-2.1.1	Taylor Gorman	Metals Digestate Storage	04/16/19 09:00	Return to Storage
JC86337-2.1.1	Metals Digestion	Taylor Gorman	04/16/19 09:00	Digestate from JC86337-2.1
JC86337-2.1.1	Metals Digestate Storage	Rakesh Pathak	04/17/19 16:21	Retrieve from Storage
JC86337-2.1.1	Rakesh Pathak	Metals Digestate Storage	04/17/19 19:05	Return to Storage
JC86337-2.1.1	Metals Digestate Storage		06/24/19 09:00	Disposed

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# SGS Internal Chain of Custody

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Received: 04/12/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86337-2.2	Secured Storage	Matthew Robbins	04/15/19 20:11	Retrieve from Storage
JC86337-2.2	Matthew Robbins	Secured Staging Area	04/15/19 20:11	Return to Storage
JC86337-2.2	Secured Staging Area	Colleen Hill	04/16/19 08:23	Retrieve from Storage
JC86337-2.2	Colleen Hill	Secured Storage	04/16/19 14:23	Return to Storage
JC86337-2.2	Secured Storage	Todd Shoemaker	04/16/19 15:40	Retrieve from Storage
JC86337-2.2	Todd Shoemaker	Secured Staging Area	04/16/19 15:41	Return to Storage
JC86337-2.2	Secured Staging Area	Sarah Halim	04/16/19 16:13	Retrieve from Storage
JC86337-2.2	Sarah Halim	Secured Storage	04/16/19 21:24	Return to Storage
JC86337-2.2	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-2.2.1	Sarah Halim	Organics Prep	04/16/19 16:15	Extract from JC86337-2.2
JC86337-2.2.1	Organics Prep	Luis Jimenez	04/16/19 23:30	Extract from JC86337-2.2
JC86337-2.2.1	Luis Jimenez	Extract Storage	04/16/19 23:30	Return to Storage
JC86337-2.2.1	Extract Storage	Christopher Sowa	04/17/19 22:41	Retrieve from Storage
JC86337-2.2.1	Christopher Sowa	GCMS5P	04/17/19 22:41	Load on Instrument
JC86337-2.2.1	GCMS5P	Christine Change	04/18/19 10:33	Unload from Instrument
JC86337-2.2.1	Christine Change	Extract Freezer	04/18/19 10:33	Return to Storage
JC86337-2.2.1	Extract Freezer		05/27/19 09:00	Disposed
JC86337-2.2.2	Sarah Halim	Organics Prep	04/16/19 16:21	Extract from JC86337-2.2
JC86337-2.2.2	Organics Prep	Natasha Torres	04/17/19 09:32	Extract from JC86337-2.2
JC86337-2.2.2	Natasha Torres	Extract Storage	04/17/19 09:32	Return to Storage
JC86337-2.2.2	Extract Storage	Summer Kotb	04/17/19 15:10	Retrieve from Storage
JC86337-2.2.2	Summer Kotb	GCXX	04/17/19 15:10	Load on Instrument
JC86337-2.2.2	GCXX	Tianwei Ruan	07/12/19 11:05	Unload from Instrument
JC86337-2.2.2	Tianwei Ruan	Extract Freezer	07/12/19 11:05	Return to Storage
JC86337-2.2.2	Extract Freezer		07/15/19 09:00	Disposed
JC86337-2.2.3	Sarah Halim	Organics Prep	04/16/19 16:21	Extract from JC86337-2.2
JC86337-2.2.3	Natasha Torres	Extract Storage	04/17/19 09:32	Return to Storage
JC86337-2.2.3	Organics Prep	Natasha Torres	04/17/19 09:32	Extract from JC86337-2.2
JC86337-2.2.3	Extract Storage	Mailisi Heshuote	04/17/19 12:17	Retrieve from Storage
JC86337-2.2.3	Mailisi Heshuote	GC8G	04/17/19 12:17	Load on Instrument
JC86337-2.2.3	GC8G	Thomas Lally	04/18/19 10:48	Unload from Instrument
JC86337-2.2.3	Thomas Lally	GC6G	04/18/19 10:48	Load on Instrument
JC86337-2.4	Secured Storage	Thien Nguyen	04/17/19 09:40	Retrieve from Storage
JC86337-2.4	Thien Nguyen	Secured Storage	04/17/19 09:40	Return to Storage
JC86337-2.4	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-3.1	Secured Storage	Matthew Robbins	04/15/19 18:38	Retrieve from Storage
JC86337-3.1	Matthew Robbins	Secured Staging Area	04/15/19 18:38	Return to Storage
JC86337-3.1	Secured Staging Area	Taylor Gorman	04/16/19 06:42	Retrieve from Storage
JC86337-3.1	Taylor Gorman	Secured Storage	04/16/19 12:32	Return to Storage

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# SGS Internal Chain of Custody

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Received: 04/12/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86337-3.1	Secured Storage	Todd Shoemaker	04/16/19 15:40	Retrieve from Storage
JC86337-3.1	Todd Shoemaker	Secured Staging Area	04/16/19 15:41	Return to Storage
JC86337-3.1	Secured Staging Area	Sarah Halim	04/16/19 16:13	Retrieve from Storage
JC86337-3.1	Sarah Halim	Secured Storage	04/16/19 21:24	Return to Storage
JC86337-3.1	Secured Storage	Todd Shoemaker	04/17/19 08:54	Retrieve from Storage
JC86337-3.1	Todd Shoemaker	Secured Staging Area	04/17/19 08:55	Return to Storage
JC86337-3.1	Secured Staging Area	Ruchitaben Chauhan	04/17/19 09:25	Retrieve from Storage
JC86337-3.1	Ruchitaben Chauhan	Secured Storage	04/17/19 17:45	Return to Storage
JC86337-3.1	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-3.1.1	Taylor Gorman	Metals Digestion	04/16/19 09:00	Digestate from JC86337-3.1
JC86337-3.1.1	Taylor Gorman	Metals Digestate Storage	04/16/19 09:00	Return to Storage
JC86337-3.1.1	Metals Digestion	Taylor Gorman	04/16/19 09:00	Digestate from JC86337-3.1
JC86337-3.1.1	Metals Digestate Storage	Rakesh Pathak	04/17/19 16:21	Retrieve from Storage
JC86337-3.1.1	Rakesh Pathak	Metals Digestate Storage	04/17/19 19:05	Return to Storage
JC86337-3.1.1	Metals Digestate Storage		06/24/19 09:00	Disposed
JC86337-3.1.2	Sarah Halim	Organics Prep	04/16/19 16:15	Extract from JC86337-3.1
JC86337-3.1.2	Luis Jimenez	Extract Storage	04/16/19 23:30	Return to Storage
JC86337-3.1.2	Organics Prep	Luis Jimenez	04/16/19 23:30	Extract from JC86337-3.1
JC86337-3.1.2	Extract Storage	Christopher Sowa	04/17/19 22:41	Retrieve from Storage
JC86337-3.1.2	Christopher Sowa	GCMS5P	04/17/19 22:41	Load on Instrument
JC86337-3.1.2	GCMS5P	Christine Change	04/18/19 10:33	Unload from Instrument
JC86337-3.1.2	Christine Change	Extract Freezer	04/18/19 10:33	Return to Storage
JC86337-3.1.2	Extract Freezer		05/27/19 09:00	Disposed
JC86337-3.2	Secured Storage	Benjamin Gaines	04/16/19 11:40	Retrieve from Storage
JC86337-3.2	Benjamin Gaines	Secured Staging Area	04/16/19 11:40	Return to Storage
JC86337-3.2	Secured Staging Area	Benjamin Gaines	04/16/19 13:51	Retrieve from Storage
JC86337-3.2	Benjamin Gaines	Secured Storage	04/16/19 15:23	Return to Storage
JC86337-3.2	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-3.4	Secured Storage	Prashant Shukla	04/17/19 11:11	Retrieve from Storage
JC86337-3.4	Prashant Shukla	GCMSY	04/17/19 11:11	Load on Instrument
JC86337-3.4	GCMSY	Prashant Shukla	04/18/19 09:44	Unload from Instrument
JC86337-3.4	Prashant Shukla		04/18/19 09:44	Depleted
JC86337-3.5	Secured Storage	Prashant Shukla	04/17/19 12:44	Retrieve from Storage
JC86337-3.5	Prashant Shukla	GCMSY	04/17/19 12:44	Load on Instrument
JC86337-3.5	GCMSY	Prashant Shukla	04/18/19 09:44	Unload from Instrument
JC86337-3.5	Prashant Shukla		04/18/19 09:44	Depleted
JC86337-4.1	Secured Storage	Matthew Robbins	04/15/19 18:38	Retrieve from Storage
JC86337-4.1	Matthew Robbins	Secured Staging Area	04/15/19 18:38	Return to Storage

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# SGS Internal Chain of Custody

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Received: 04/12/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86337-4.1	Secured Staging Area	Taylor Gorman	04/16/19 06:42	Retrieve from Storage
JC86337-4.1	Taylor Gorman	Secured Storage	04/16/19 12:32	Return to Storage
JC86337-4.1	Secured Storage	Todd Shoemaker	04/16/19 15:40	Retrieve from Storage
JC86337-4.1	Todd Shoemaker	Secured Staging Area	04/16/19 15:41	Return to Storage
JC86337-4.1	Secured Staging Area	Sarah Halim	04/16/19 16:13	Retrieve from Storage
JC86337-4.1	Sarah Halim	Secured Storage	04/16/19 21:24	Return to Storage
JC86337-4.1	Secured Storage	Todd Shoemaker	04/17/19 08:54	Retrieve from Storage
JC86337-4.1	Todd Shoemaker	Secured Staging Area	04/17/19 08:55	Return to Storage
JC86337-4.1	Secured Staging Area	Ruchitaben Chauhan	04/17/19 09:25	Retrieve from Storage
JC86337-4.1	Ruchitaben Chauhan	Secured Storage	04/17/19 17:45	Return to Storage
JC86337-4.1	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-4.1.1	Taylor Gorman	Metals Digestion	04/16/19 09:00	Digestate from JC86337-4.1
JC86337-4.1.1	Taylor Gorman	Metals Digestate Storage	04/16/19 09:00	Return to Storage
JC86337-4.1.1	Metals Digestion	Taylor Gorman	04/16/19 09:00	Digestate from JC86337-4.1
JC86337-4.1.1	Metals Digestate Storage	Rakesh Pathak	04/17/19 16:21	Retrieve from Storage
JC86337-4.1.1	Rakesh Pathak	Metals Digestate Storage	04/17/19 19:05	Return to Storage
JC86337-4.1.1	Metals Digestate Storage		06/24/19 09:00	Disposed
JC86337-4.1.2	Sarah Halim	Organics Prep	04/16/19 16:15	Extract from JC86337-4.1
JC86337-4.1.2	Luis Jimenez	Extract Storage	04/16/19 23:30	Return to Storage
JC86337-4.1.2	Organics Prep	Luis Jimenez	04/16/19 23:30	Extract from JC86337-4.1
JC86337-4.1.2	Extract Storage	Christopher Sowa	04/17/19 22:41	Retrieve from Storage
JC86337-4.1.2	Christopher Sowa	GCMS5P	04/17/19 22:41	Load on Instrument
JC86337-4.1.2	GCMS5P	Christine Change	04/18/19 10:33	Unload from Instrument
JC86337-4.1.2	Christine Change	Extract Freezer	04/18/19 10:33	Return to Storage
JC86337-4.1.2	Extract Freezer		05/27/19 09:00	Disposed
JC86337-4.2	Secured Storage	Benjamin Gaines	04/16/19 11:40	Retrieve from Storage
JC86337-4.2	Benjamin Gaines	Secured Staging Area	04/16/19 11:40	Return to Storage
JC86337-4.2	Secured Staging Area	Benjamin Gaines	04/16/19 13:51	Retrieve from Storage
JC86337-4.2	Benjamin Gaines	Secured Storage	04/16/19 15:23	Return to Storage
JC86337-4.2	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-4.4	Secured Storage	Prashant Shukla	04/17/19 11:11	Retrieve from Storage
JC86337-4.4	Prashant Shukla	GCMSY	04/17/19 11:11	Load on Instrument
JC86337-4.4	GCMSY	Prashant Shukla	04/18/19 09:44	Unload from Instrument
JC86337-4.4	Prashant Shukla		04/18/19 09:44	Depleted
JC86337-5.1	Secured Storage	Matthew Robbins	04/15/19 18:38	Retrieve from Storage
JC86337-5.1	Matthew Robbins	Secured Staging Area	04/15/19 18:38	Return to Storage
JC86337-5.1	Secured Staging Area	Taylor Gorman	04/16/19 06:42	Retrieve from Storage
JC86337-5.1	Taylor Gorman	Secured Storage	04/16/19 12:32	Return to Storage
JC86337-5.1	Secured Storage	Todd Shoemaker	04/16/19 15:40	Retrieve from Storage

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# SGS Internal Chain of Custody

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Received: 04/12/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86337-5.1	Todd Shoemaker	Secured Staging Area	04/16/19 15:41	Return to Storage
JC86337-5.1	Secured Staging Area	Sarah Halim	04/16/19 16:13	Retrieve from Storage
JC86337-5.1	Sarah Halim	Secured Storage	04/16/19 21:24	Return to Storage
JC86337-5.1	Secured Storage	Todd Shoemaker	04/17/19 08:54	Retrieve from Storage
JC86337-5.1	Todd Shoemaker	Secured Staging Area	04/17/19 08:55	Return to Storage
JC86337-5.1	Secured Staging Area	Ruchitaben Chauhan	04/17/19 09:25	Retrieve from Storage
JC86337-5.1	Ruchitaben Chauhan	Secured Storage	04/17/19 17:45	Return to Storage
JC86337-5.1	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-5.1.1	Taylor Gorman	Metals Digestion	04/16/19 09:00	Digestate from JC86337-5.1
JC86337-5.1.1	Taylor Gorman	Metals Digestate Storage	04/16/19 09:00	Return to Storage
JC86337-5.1.1	Metals Digestion	Taylor Gorman	04/16/19 09:00	Digestate from JC86337-5.1
JC86337-5.1.1	Metals Digestate Storage	Rakesh Pathak	04/17/19 16:21	Retrieve from Storage
JC86337-5.1.1	Rakesh Pathak	Metals Digestate Storage	04/17/19 19:05	Return to Storage
JC86337-5.1.1	Metals Digestate Storage		06/24/19 09:00	Disposed
JC86337-5.1.2	Sarah Halim	Organics Prep	04/16/19 16:15	Extract from JC86337-5.1
JC86337-5.1.2	Luis Jimenez	Extract Storage	04/16/19 23:30	Return to Storage
JC86337-5.1.2	Organics Prep	Luis Jimenez	04/16/19 23:30	Extract from JC86337-5.1
JC86337-5.1.2	Extract Storage	Christopher Sowa	04/17/19 22:41	Retrieve from Storage
JC86337-5.1.2	Christopher Sowa	GCMS5P	04/17/19 22:41	Load on Instrument
JC86337-5.1.2	GCMS5P	Christine Change	04/18/19 10:33	Unload from Instrument
JC86337-5.1.2	Christine Change	Extract Freezer	04/18/19 10:33	Return to Storage
JC86337-5.1.2	Extract Freezer		05/27/19 09:00	Disposed
JC86337-5.2	Secured Storage	Benjamin Gaines	04/16/19 11:40	Retrieve from Storage
JC86337-5.2	Benjamin Gaines	Secured Staging Area	04/16/19 11:40	Return to Storage
JC86337-5.2	Secured Staging Area	Benjamin Gaines	04/16/19 13:51	Retrieve from Storage
JC86337-5.2	Benjamin Gaines	Secured Storage	04/16/19 15:23	Return to Storage
JC86337-5.2	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-5.3	Secured Storage	Thien Nguyen	04/17/19 09:40	Retrieve from Storage
JC86337-5.3	Thien Nguyen	Secured Storage	04/17/19 09:40	Return to Storage
JC86337-5.3	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-6.1	Secured Storage	Matthew Robbins	04/15/19 18:38	Retrieve from Storage
JC86337-6.1	Matthew Robbins	Secured Staging Area	04/15/19 18:38	Return to Storage
JC86337-6.1	Secured Staging Area	Taylor Gorman	04/16/19 06:42	Retrieve from Storage
JC86337-6.1	Taylor Gorman	Secured Storage	04/16/19 12:32	Return to Storage
JC86337-6.1	Secured Storage	Todd Shoemaker	04/16/19 15:40	Retrieve from Storage
JC86337-6.1	Todd Shoemaker	Secured Staging Area	04/16/19 15:41	Return to Storage
JC86337-6.1	Secured Staging Area	Sarah Halim	04/16/19 16:13	Retrieve from Storage
JC86337-6.1	Sarah Halim	Secured Storage	04/16/19 21:24	Return to Storage
JC86337-6.1	Secured Storage	Todd Shoemaker	04/17/19 08:54	Retrieve from Storage

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# SGS Internal Chain of Custody

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA  
 Received: 04/12/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86337-6.1	Todd Shoemaker	Secured Staging Area	04/17/19 08:55	Return to Storage
JC86337-6.1	Secured Staging Area	Ruchitaben Chauhan	04/17/19 09:25	Retrieve from Storage
JC86337-6.1	Ruchitaben Chauhan	Secured Storage	04/17/19 17:45	Return to Storage
JC86337-6.1	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-6.1.1	Taylor Gorman	Metals Digestion	04/16/19 09:00	Digestate from JC86337-6.1
JC86337-6.1.1	Taylor Gorman	Metals Digestate Storage	04/16/19 09:00	Return to Storage
JC86337-6.1.1	Metals Digestion	Taylor Gorman	04/16/19 09:00	Digestate from JC86337-6.1
JC86337-6.1.1	Metals Digestate Storage	Rakesh Pathak	04/17/19 16:21	Retrieve from Storage
JC86337-6.1.1	Rakesh Pathak	Metals Digestate Storage	04/17/19 19:05	Return to Storage
JC86337-6.1.1	Metals Digestate Storage		06/24/19 09:00	Disposed
JC86337-6.1.2	Sarah Halim	Organics Prep	04/16/19 16:15	Extract from JC86337-6.1
JC86337-6.1.2	Luis Jimenez	Extract Storage	04/16/19 23:30	Return to Storage
JC86337-6.1.2	Organics Prep	Luis Jimenez	04/16/19 23:30	Extract from JC86337-6.1
JC86337-6.1.2	Extract Storage	Christopher Sowa	04/17/19 22:41	Retrieve from Storage
JC86337-6.1.2	Christopher Sowa	GCMS5P	04/17/19 22:41	Load on Instrument
JC86337-6.1.2	GCMS5P	Christine Change	04/18/19 10:33	Unload from Instrument
JC86337-6.1.2	Christine Change	Extract Freezer	04/18/19 10:33	Return to Storage
JC86337-6.1.2	Extract Freezer		05/27/19 09:00	Disposed
JC86337-6.2	Secured Storage	Benjamin Gaines	04/16/19 11:40	Retrieve from Storage
JC86337-6.2	Benjamin Gaines	Secured Staging Area	04/16/19 11:40	Return to Storage
JC86337-6.2	Secured Staging Area	Benjamin Gaines	04/16/19 13:51	Retrieve from Storage
JC86337-6.2	Benjamin Gaines	Secured Storage	04/16/19 15:23	Return to Storage
JC86337-6.2	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-6.4	Secured Storage	Prashant Shukla	04/17/19 11:11	Retrieve from Storage
JC86337-6.4	Prashant Shukla	GCMSY	04/17/19 11:11	Load on Instrument
JC86337-6.4	GCMSY	Prashant Shukla	04/18/19 09:44	Unload from Instrument
JC86337-6.4	Prashant Shukla		04/18/19 09:44	Depleted
JC86337-7.1	Secured Storage	Sahara Feliciano	04/17/19 22:30	Retrieve from Storage
JC86337-7.1	Sahara Feliciano	Secured Staging Area	04/17/19 22:30	Return to Storage
JC86337-7.1	Secured Staging Area	Natasha Torres	04/18/19 07:53	Retrieve from Storage
JC86337-7.1	Natasha Torres	Secured Storage	04/18/19 13:10	Return to Storage
JC86337-7.1	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-7.1.1	Natasha Torres	Organics Prep	04/18/19 10:35	Extract from JC86337-7.1
JC86337-7.1.1	Organics Prep	Sauvelson Auguste	04/19/19 09:47	Extract from JC86337-7.1
JC86337-7.1.1	Sauvelson Auguste	Extract Storage	04/19/19 09:47	Return to Storage
JC86337-7.1.1	Extract Storage		05/29/19 09:00	Disposed
JC86337-8.1	Secured Storage	Sahara Feliciano	04/17/19 22:30	Retrieve from Storage

5.3  
5

# SGS Internal Chain of Custody

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA  
**Received:** 04/12/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC86337-8.1	Sahara Feliciano	Secured Staging Area	04/17/19 22:30	Return to Storage
JC86337-8.1	Secured Staging Area	Natasha Torres	04/18/19 07:53	Retrieve from Storage
JC86337-8.1	Natasha Torres	Secured Storage	04/18/19 13:10	Return to Storage
JC86337-8.1	Dominic Guerriero		05/23/19 07:48	Disposed
JC86337-8.1.1	Natasha Torres	Organics Prep	04/18/19 10:35	Extract from JC86337-8.1
JC86337-8.1.1	Organics Prep	Sauvelson Auguste	04/19/19 09:47	Extract from JC86337-8.1
JC86337-8.1.1	Sauvelson Auguste	Extract Storage	04/19/19 09:47	Return to Storage
JC86337-8.1.1	Extract Storage		05/29/19 09:00	Disposed

5.3  
5

## MS Volatiles

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## QC Data Summaries

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### 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: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI9085-MB	I225477.D	1	04/17/19	TDN	n/a	n/a	VI9085

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-2, JC86337-5

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: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI9085-MB	I225477.D	1	04/17/19	TDN	n/a	n/a	VI9085

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-2, JC86337-5

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	ND	250	50	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	250	50	ug/kg	
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	106% 75-127%
17060-07-0	1,2-Dichloroethane-D4	117% 75-130%
2037-26-5	Toluene-D8	98% 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	

6.1.1

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## Method Blank Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY8006-MB	Y184542.D	1	04/17/19	PS	n/a	n/a	VY8006

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-1, JC86337-3, JC86337-4, JC86337-6

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: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY8006-MB	Y184542.D	1	04/17/19	PS	n/a	n/a	VY8006

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-1, JC86337-3, JC86337-4, JC86337-6

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	101% 75-127%
17060-07-0	1,2-Dichloroethane-D4	99% 75-130%
2037-26-5	Toluene-D8	95% 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	

**Blank Spike Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample VI9085-BS	File ID I225475.D	DF 1	Analyzed 04/17/19	By TDN	Prep Date n/a	Prep Batch n/a	Analytical Batch VI9085
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The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-2, JC86337-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	10000	10700	107	48-149
71-43-2	Benzene	2500	2370	95	74-117
74-97-5	Bromochloromethane	2500	2470	99	82-121
75-27-4	Bromodichloromethane	2500	2490	100	78-119
75-25-2	Bromoform	2500	2550	102	76-130
74-83-9	Bromomethane	2500	2830	113	58-137
78-93-3	2-Butanone (MEK)	10000	10700	107	65-143
75-15-0	Carbon disulfide	2500	2130	85	66-140
56-23-5	Carbon tetrachloride	2500	2590	104	69-136
108-90-7	Chlorobenzene	2500	2440	98	79-117
75-00-3	Chloroethane	2500	2730	109	62-139
67-66-3	Chloroform	2500	2510	100	76-119
74-87-3	Chloromethane	2500	2890	116	52-144
110-82-7	Cyclohexane	2500	2400	96	64-136
96-12-8	1,2-Dibromo-3-chloropropane	2500	2520	101	72-124
124-48-1	Dibromochloromethane	2500	2470	99	78-122
106-93-4	1,2-Dibromoethane	2500	2920	117* a	80-116
95-50-1	1,2-Dichlorobenzene	2500	2480	99	77-117
541-73-1	1,3-Dichlorobenzene	2500	2540	102	75-117
106-46-7	1,4-Dichlorobenzene	2500	2510	100	76-115
75-71-8	Dichlorodifluoromethane	2500	3640	146	43-156
75-34-3	1,1-Dichloroethane	2500	2400	96	75-124
107-06-2	1,2-Dichloroethane	2500	2720	109	74-124
75-35-4	1,1-Dichloroethene	2500	2450	98	64-129
156-59-2	cis-1,2-Dichloroethene	2500	2320	93	74-118
156-60-5	trans-1,2-Dichloroethene	2500	2450	98	71-125
78-87-5	1,2-Dichloropropane	2500	2200	88	80-119
10061-01-5	cis-1,3-Dichloropropene	2500	2460	98	80-119
10061-02-6	trans-1,3-Dichloropropene	2500	2610	104	78-119
100-41-4	Ethylbenzene	2500	2420	97	75-118
76-13-1	Freon 113	2500	2440	98	60-181
591-78-6	2-Hexanone	10000	9840	98	63-138
98-82-8	Isopropylbenzene	2500	2450	98	74-122
79-20-9	Methyl Acetate	2500	2110	84	61-140
108-87-2	Methylcyclohexane	2500	2210	88	67-136
1634-04-4	Methyl Tert Butyl Ether	2500	2650	106	75-123

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI9085-BS	I225475.D	1	04/17/19	TDN	n/a	n/a	VI9085

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-2, JC86337-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	10000	9990	100	73-136
75-09-2	Methylene chloride	2500	2280	91	73-120
100-42-5	Styrene	2500	2360	94	78-120
79-34-5	1,1,2,2-Tetrachloroethane	2500	2490	100	72-120
127-18-4	Tetrachloroethene	2500	2380	95	69-128
108-88-3	Toluene	2500	2430	97	74-117
87-61-6	1,2,3-Trichlorobenzene	2500	2440	98	72-133
120-82-1	1,2,4-Trichlorobenzene	2500	2540	102	73-132
71-55-6	1,1,1-Trichloroethane	2500	2640	106	73-131
79-00-5	1,1,2-Trichloroethane	2500	2370	95	79-117
79-01-6	Trichloroethene	2500	2390	96	80-120
75-69-4	Trichlorofluoromethane	2500	2780	111	63-141
75-01-4	Vinyl chloride	2500	3070	123	55-145
	m,p-Xylene	5000	4750	95	75-120
95-47-6	o-Xylene	2500	2290	92	75-119
1330-20-7	Xylene (total)	7500	7040	94	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	75-127%
17060-07-0	1,2-Dichloroethane-D4	111%	75-130%
2037-26-5	Toluene-D8	100%	80-120%
460-00-4	4-Bromofluorobenzene	104%	79-127%

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

\* = Outside of Control Limits.

**Blank Spike Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY8006-BS	Y184540.D	1	04/17/19	PS	n/a	n/a	VY8006

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-1, JC86337-3, JC86337-4, JC86337-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	200	173	87	48-149
71-43-2	Benzene	50	44.9	90	74-117
74-97-5	Bromochloromethane	50	49.1	98	82-121
75-27-4	Bromodichloromethane	50	47.9	96	78-119
75-25-2	Bromoform	50	52.9	106	76-130
74-83-9	Bromomethane	50	51.9	104	58-137
78-93-3	2-Butanone (MEK)	200	209	105	65-143
75-15-0	Carbon disulfide	50	48.3	97	66-140
56-23-5	Carbon tetrachloride	50	49.8	100	69-136
108-90-7	Chlorobenzene	50	44.9	90	79-117
75-00-3	Chloroethane	50	48.1	96	62-139
67-66-3	Chloroform	50	46.4	93	76-119
74-87-3	Chloromethane	50	54.9	110	52-144
110-82-7	Cyclohexane	50	50.8	102	64-136
96-12-8	1,2-Dibromo-3-chloropropane	50	50.3	101	72-124
124-48-1	Dibromochloromethane	50	49.6	99	78-122
106-93-4	1,2-Dibromoethane	50	47.9	96	80-116
95-50-1	1,2-Dichlorobenzene	50	47.3	95	77-117
541-73-1	1,3-Dichlorobenzene	50	45.7	91	75-117
106-46-7	1,4-Dichlorobenzene	50	46.6	93	76-115
75-71-8	Dichlorodifluoromethane	50	62.3	125	43-156
75-34-3	1,1-Dichloroethane	50	46.8	94	75-124
107-06-2	1,2-Dichloroethane	50	45.4	91	74-124
75-35-4	1,1-Dichloroethene	50	48.9	98	64-129
156-59-2	cis-1,2-Dichloroethene	50	47.2	94	74-118
156-60-5	trans-1,2-Dichloroethene	50	47.5	95	71-125
78-87-5	1,2-Dichloropropane	50	47.0	94	80-119
10061-01-5	cis-1,3-Dichloropropene	50	47.1	94	80-119
10061-02-6	trans-1,3-Dichloropropene	50	46.5	93	78-119
100-41-4	Ethylbenzene	50	44.9	90	75-118
76-13-1	Freon 113	50	53.1	106	60-181
591-78-6	2-Hexanone	200	190	95	63-138
98-82-8	Isopropylbenzene	50	45.9	92	74-122
79-20-9	Methyl Acetate	50	47.5	95	61-140
108-87-2	Methylcyclohexane	50	48.2	96	67-136
1634-04-4	Methyl Tert Butyl Ether	50	49.2	98	75-123

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY8006-BS	Y184540.D	1	04/17/19	PS	n/a	n/a	VY8006

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-1, JC86337-3, JC86337-4, JC86337-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	200	200	100	73-136
75-09-2	Methylene chloride	50	42.6	85	73-120
100-42-5	Styrene	50	46.1	92	78-120
79-34-5	1,1,2,2-Tetrachloroethane	50	48.9	98	72-120
127-18-4	Tetrachloroethene	50	46.0	92	69-128
108-88-3	Toluene	50	44.6	89	74-117
87-61-6	1,2,3-Trichlorobenzene	50	50.7	101	72-133
120-82-1	1,2,4-Trichlorobenzene	50	50.2	100	73-132
71-55-6	1,1,1-Trichloroethane	50	47.2	94	73-131
79-00-5	1,1,2-Trichloroethane	50	46.0	92	79-117
79-01-6	Trichloroethene	50	45.8	92	80-120
75-69-4	Trichlorofluoromethane	50	51.7	103	63-141
75-01-4	Vinyl chloride	50	55.0	110	55-145
	m,p-Xylene	100	89.3	89	75-120
95-47-6	o-Xylene	50	45.3	91	75-119
1330-20-7	Xylene (total)	150	135	90	76-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	75-127%
17060-07-0	1,2-Dichloroethane-D4	98%	75-130%
2037-26-5	Toluene-D8	96%	80-120%
460-00-4	4-Bromofluorobenzene	99%	79-127%

\* = Outside of Control Limits.

## Matrix Spike Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86337-1MS <sup>a</sup>	Y184548.D	1	04/17/19	PS	n/a	n/a	VY8006
JC86337-1 <sup>a</sup>	Y184543.D	1	04/17/19	PS	n/a	n/a	VY8006

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-1, JC86337-3, JC86337-4, JC86337-6

CAS No.	Compound	JC86337-1 ug/kg	Spike Q	MS ug/kg	MS %	Limits
67-64-1	Acetone	ND	597	398	67	10-157
71-43-2	Benzene	ND	149	133	89	58-125
74-97-5	Bromochloromethane	ND	149	130	87	60-127
75-27-4	Bromodichloromethane	ND	149	130	87	57-128
75-25-2	Bromoform	ND	149	108	72	48-133
74-83-9	Bromomethane	ND	149	148	99	31-141
78-93-3	2-Butanone (MEK)	ND	597	458	77	29-146
75-15-0	Carbon disulfide	ND	149	119	80	47-145
56-23-5	Carbon tetrachloride	ND	149	149	100	51-143
108-90-7	Chlorobenzene	ND	149	100	67	54-130
75-00-3	Chloroethane	ND	149	155	104	22-153
67-66-3	Chloroform	ND	149	137	92	61-125
74-87-3	Chloromethane	ND	149	151	101	43-142
110-82-7	Cyclohexane	ND	149	129	86	37-148
96-12-8	1,2-Dibromo-3-chloropropane	ND	149	87.6	59	41-127
124-48-1	Dibromochloromethane	ND	149	117	78	56-127
106-93-4	1,2-Dibromoethane	ND	149	109	73	54-121
95-50-1	1,2-Dichlorobenzene	ND	149	69.8	47	41-134
541-73-1	1,3-Dichlorobenzene	ND	149	69.6	47	41-135
106-46-7	1,4-Dichlorobenzene	ND	149	68.7	46	41-133
75-71-8	Dichlorodifluoromethane	ND	149	181	121	30-153
75-34-3	1,1-Dichloroethane	ND	149	146	98	61-131
107-06-2	1,2-Dichloroethane	ND	149	118	79	56-126
75-35-4	1,1-Dichloroethene	ND	149	152	102	53-132
156-59-2	cis-1,2-Dichloroethene	ND	149	129	86	57-125
156-60-5	trans-1,2-Dichloroethene	ND	149	128	86	56-130
78-87-5	1,2-Dichloropropane	ND	149	134	90	63-126
10061-01-5	cis-1,3-Dichloropropene	ND	149	115	77	55-126
10061-02-6	trans-1,3-Dichloropropene	ND	149	101	68	51-126
100-41-4	Ethylbenzene	ND	149	109	73	49-132
76-13-1	Freon 113	ND	149	161	108	42-179
591-78-6	2-Hexanone	ND	597	423	71	25-150
98-82-8	Isopropylbenzene	ND	149	98.7	66	43-141
79-20-9	Methyl Acetate	ND	149	202	135	32-158
108-87-2	Methylcyclohexane	ND	149	89.0	60	22-158
1634-04-4	Methyl Tert Butyl Ether	ND	149	132	88	58-123

\* = Outside of Control Limits.

# Matrix Spike Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86337-1MS <sup>a</sup>	Y184548.D	1	04/17/19	PS	n/a	n/a	VY8006
JC86337-1 <sup>a</sup>	Y184543.D	1	04/17/19	PS	n/a	n/a	VY8006

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-1, JC86337-3, JC86337-4, JC86337-6

CAS No.	Compound	JC86337-1 ug/kg	Spike Q	MS ug/kg	MS %	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	597	478	80	40-140
75-09-2	Methylene chloride	ND	149	123	82	57-123
100-42-5	Styrene	ND	149	91.4	61	46-139
79-34-5	1,1,2,2-Tetrachloroethane	ND	149	106	71	44-127
127-18-4	Tetrachloroethene	ND	149	108	72	39-154
108-88-3	Toluene	ND	149	117	78	54-127
87-61-6	1,2,3-Trichlorobenzene	ND	149	33.8	23	17-151
120-82-1	1,2,4-Trichlorobenzene	ND	149	36.7	25	19-153
71-55-6	1,1,1-Trichloroethane	ND	149	149	100	57-138
79-00-5	1,1,2-Trichloroethane	ND	149	115	77	53-127
79-01-6	Trichloroethene	ND	149	127	85	52-140
75-69-4	Trichlorofluoromethane	ND	149	168	112	46-142
75-01-4	Vinyl chloride	ND	149	165	110	43-146
	m,p-Xylene	ND	299	212	71	45-137
95-47-6	o-Xylene	ND	149	107	72	48-135
1330-20-7	Xylene (total)	ND	448	319	71	46-137

CAS No.	Surrogate Recoveries	MS	JC86337-1	Limits
1868-53-7	Dibromofluoromethane	100%	105%	75-127%
17060-07-0	1,2-Dichloroethane-D4	91%	104%	75-130%
2037-26-5	Toluene-D8	97%	94%	80-120%
460-00-4	4-Bromofluorobenzene	99%	102%	79-127%

(a) DI vials received unfrozen and out of hold time.

\* = Outside of Control Limits.



## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86190-3MS	I225483.D	1	04/17/19	TDN	n/a	n/a	VI9085
JC86190-3MSD	I225484.D	1	04/17/19	TDN	n/a	n/a	VI9085
JC86190-3 <sup>a</sup>	I225479.D	1	04/17/19	TDN	n/a	n/a	VI9085

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-2, JC86337-5

CAS No.	Compound	JC86190-3 ug/kg	Spike Q	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		100000	123	1000000	1220000	122	1	10-157/31
71-43-2	Benzene	ND		250000	84	250000	212000	85	0	58-125/22
74-97-5	Bromochloromethane	ND		250000	91	250000	225000	90	1	60-127/22
75-27-4	Bromodichloromethane	ND		250000	86	250000	215000	86	0	57-128/22
75-25-2	Bromoform	ND		250000	91	250000	226000	90	1	48-133/21
74-83-9	Bromomethane	ND		250000	94	250000	244000	98	3	31-141/28
78-93-3	2-Butanone (MEK)	ND		1000000	116	1000000	1170000	117	1	29-146/27
75-15-0	Carbon disulfide	ND		250000	78	250000	200000	80	2	47-145/24
56-23-5	Carbon tetrachloride	ND		250000	85	250000	216000	86	1	51-143/25
108-90-7	Chlorobenzene	ND		250000	85	250000	214000	86	0	54-130/22
75-00-3	Chloroethane	ND		250000	99	250000	256000	102	3	22-153/32
67-66-3	Chloroform	ND		250000	88	250000	224000	90	2	61-125/22
74-87-3	Chloromethane	ND		250000	103	250000	267000	107	3	43-142/27
110-82-7	Cyclohexane	ND		250000	88	250000	226000	90	2	37-148/26
96-12-8	1,2-Dibromo-3-chloropropane	ND		250000	102	250000	239000	96	6	41-127/23
124-48-1	Dibromochloromethane	ND		250000	85	250000	217000	87	2	56-127/21
106-93-4	1,2-Dibromoethane	ND		250000	108	250000	271000	108	0	54-121/21
95-50-1	1,2-Dichlorobenzene	ND		250000	90	250000	222000	89	2	41-134/22
541-73-1	1,3-Dichlorobenzene	ND		250000	89	250000	224000	90	0	41-135/22
106-46-7	1,4-Dichlorobenzene	ND		250000	87	250000	214000	86	2	41-133/22
75-71-8	Dichlorodifluoromethane	ND		250000	119	250000	303000	121	2	30-153/29
75-34-3	1,1-Dichloroethane	ND		250000	88	250000	222000	89	0	61-131/23
107-06-2	1,2-Dichloroethane	ND		250000	91	250000	225000	90	1	56-126/21
75-35-4	1,1-Dichloroethene	ND		250000	86	250000	221000	88	2	53-132/23
156-59-2	cis-1,2-Dichloroethene	ND		250000	86	250000	214000	86	0	57-125/22
156-60-5	trans-1,2-Dichloroethene	ND		250000	88	250000	223000	89	2	56-130/23
78-87-5	1,2-Dichloropropane	ND		250000	82	250000	203000	81	0	63-126/22
10061-01-5	cis-1,3-Dichloropropene	ND		250000	88	250000	220000	88	0	55-126/21
10061-02-6	trans-1,3-Dichloropropene	ND		250000	91	250000	229000	92	0	51-126/21
100-41-4	Ethylbenzene	ND		250000	86	250000	217000	87	1	49-132/23
76-13-1	Freon 113	ND		250000	84	250000	215000	86	2	42-179/25
591-78-6	2-Hexanone	ND		1000000	107	1000000	1070000	107	0	25-150/25
98-82-8	Isopropylbenzene	ND		250000	84	250000	220000	88	4	43-141/25
79-20-9	Methyl Acetate	ND		250000	94	250000	231000	92	2	32-158/26
108-87-2	Methylcyclohexane	ND		250000	78	250000	196000	78	1	22-158/30
1634-04-4	Methyl Tert Butyl Ether	ND		250000	100	250000	252000	101	1	58-123/23

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86190-3MS	I225483.D	1	04/17/19	TDN	n/a	n/a	VI9085
JC86190-3MSD	I225484.D	1	04/17/19	TDN	n/a	n/a	VI9085
JC86190-3 <sup>a</sup>	I225479.D	1	04/17/19	TDN	n/a	n/a	VI9085

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-2, JC86337-5

CAS No.	Compound	JC86190-3 ug/kg	Spike Q	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		1000000	1040000	104	1000000	1040000	104	0	40-140/24
75-09-2	Methylene chloride	17600	J	250000	208000	76	250000	211000	77	1	57-123/23
100-42-5	Styrene	ND		250000	211000	84	250000	211000	84	0	46-139/22
79-34-5	1,1,2,2-Tetrachloroethane	ND		250000	253000	101	250000	262000	105	3	44-127/26
127-18-4	Tetrachloroethene	ND		250000	201000	80	250000	200000	80	0	39-154/26
108-88-3	Toluene	2730	J	250000	215000	85	250000	217000	86	1	54-127/22
87-61-6	1,2,3-Trichlorobenzene	ND		250000	218000	87	250000	210000	84	4	17-151/32
120-82-1	1,2,4-Trichlorobenzene	ND		250000	227000	91	250000	225000	90	1	19-153/32
71-55-6	1,1,1-Trichloroethane	ND		250000	221000	88	250000	227000	91	3	57-138/24
79-00-5	1,1,2-Trichloroethane	ND		250000	222000	89	250000	222000	89	0	53-127/22
79-01-6	Trichloroethene	ND		250000	205000	82	250000	206000	82	0	52-140/24
75-69-4	Trichlorofluoromethane	ND		250000	229000	92	250000	237000	95	3	46-142/27
75-01-4	Vinyl chloride	ND		250000	273000	109	250000	284000	114	4	43-146/26
	m,p-Xylene	ND		500000	418000	84	500000	428000	86	2	45-137/23
95-47-6	o-Xylene	ND		250000	207000	83	250000	210000	84	1	48-135/22
1330-20-7	Xylene (total)	ND		750000	624000	83	750000	637000	85	2	46-137/23

CAS No.	Surrogate Recoveries	MS	MSD	JC86190-3	Limits
1868-53-7	Dibromofluoromethane	103%	102%	102%	75-127%
17060-07-0	1,2-Dichloroethane-D4	105%	104%	117%	75-130%
2037-26-5	Toluene-D8	101%	101%	96%	80-120%
460-00-4	4-Bromofluorobenzene	107%	104%	99%	79-127%

(a) Diluted due to high concentration of non-target compound.

\* = Outside of Control Limits.

## Duplicate Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86337-3DUP <sup>a</sup>	Y184550.D	1	04/17/19	PS	n/a	n/a	VY8006
JC86337-3 <sup>a</sup>	Y184544.D	1	04/17/19	PS	n/a	n/a	VY8006

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-1, JC86337-3, JC86337-4, JC86337-6

CAS No.	Compound	JC86337-3 ug/kg	DUP Q	ug/kg	Q	RPD	Limits
67-64-1	Acetone	11.0		41.3		116* <sup>b</sup>	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)	ND		ND		nc	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: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC86337-3DUP <sup>a</sup>	Y184550.D	1	04/17/19	PS	n/a	n/a	VY8006
JC86337-3 <sup>a</sup>	Y184544.D	1	04/17/19	PS	n/a	n/a	VY8006

The QC reported here applies to the following samples:

Method: SW846 8260C

JC86337-1, JC86337-3, JC86337-4, JC86337-6

CAS No.	Compound	JC86337-3 ug/kg	DUP Q	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	JC86337-3	Limits
1868-53-7	Dibromofluoromethane	103%	103%	75-127%
17060-07-0	1,2-Dichloroethane-D4	102%	103%	75-130%
2037-26-5	Toluene-D8	94%	94%	80-120%
460-00-4	4-Bromofluorobenzene	97%	99%	79-127%

- (a) DI vials received unfrozen and out of hold time.
- (b) High RPD due to possible sample nonhomogeneity.

\* = Outside of Control Limits.

**Instrument Performance Check (BFB)**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-BFB	Injection Date: 11/27/18
Lab File ID: I223174.D	Injection Time: 17:41
Instrument ID: GCMSI	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	9909	18.4	Pass
75	30.0 - 60.0% of mass 95	25472	47.3	Pass
95	Base peak, 100% relative abundance	53864	100.0	Pass
96	5.0 - 9.0% of mass 95	3552	6.59	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) <sup>a</sup>	Pass
174	50.0 - 120.0% of mass 95	52357	97.2	Pass
175	5.0 - 9.0% of mass 174	4272	7.93 (8.16) <sup>a</sup>	Pass
176	95.0 - 101.0% of mass 174	51597	95.8 (98.5) <sup>a</sup>	Pass
177	5.0 - 9.0% of mass 176	3571	6.63 (6.92) <sup>b</sup>	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
VI8986-IC8986	I223175.D	11/27/18	18:23	00:42	Initial cal 0.5
VI8986-IC8986	I223176.D	11/27/18	18:52	01:11	Initial cal 1
VI8986-IC8986	I223177.D	11/27/18	19:22	01:41	Initial cal 2
VI8986-IC8986	I223178.D	11/27/18	19:51	02:10	Initial cal 4
VI8986-IC8986	I223179.D	11/27/18	20:21	02:40	Initial cal 8
VI8986-IC8986	I223180.D	11/27/18	20:51	03:10	Initial cal 20
VI8986-ICC8986	I223181.D	11/27/18	21:20	03:39	Initial cal 50
VI8986-IC8986	I223182.D	11/27/18	21:50	04:09	Initial cal 100
VI8986-IC8986	I223183.D	11/27/18	22:20	04:39	Initial cal 200
VI8986-ICV8986	I223186.D	11/27/18	23:48	06:07	Initial cal verification 50
VI8986-ICV8986	I223187.D	11/28/18	00:18	06:37	Initial cal verification 50

## Instrument Performance Check (BFB)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI9085-BFB	Injection Date: 04/17/19
Lab File ID: I225474.D	Injection Time: 07:43
Instrument ID: GCMSI	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	12384	20.6	Pass
75	30.0 - 60.0% of mass 95	30928	51.5	Pass
95	Base peak, 100% relative abundance	60067	100.0	Pass
96	5.0 - 9.0% of mass 95	4046	6.74	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) <sup>a</sup>	Pass
174	50.0 - 120.0% of mass 95	61643	102.6	Pass
175	5.0 - 9.0% of mass 174	4825	8.03 (7.83) <sup>a</sup>	Pass
176	95.0 - 101.0% of mass 174	58933	98.1 (95.6) <sup>a</sup>	Pass
177	5.0 - 9.0% of mass 176	3864	6.43 (6.56) <sup>b</sup>	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
VI9085-CC8986	I225474.D	04/17/19	07:43	00:00	Continuing cal 50
VI9085-BS	I225475.D	04/17/19	08:19	00:36	Blank Spike
VI9085-MB	I225477.D	04/17/19	09:17	01:34	Method Blank
ZZZZZZ	I225477A.D	04/17/19	09:17	01:34	(unrelated sample)
ZZZZZZ	I225478.D	04/17/19	09:46	02:03	(unrelated sample)
JC86190-3	I225479.D	04/17/19	10:16	02:33	(used for QC only; not part of job JC86337)
ZZZZZZ	I225480.D	04/17/19	10:45	03:02	(unrelated sample)
JC86190-3MS	I225483.D	04/17/19	12:13	04:30	Matrix Spike
JC86190-3MSD	I225484.D	04/17/19	12:42	04:59	Matrix Spike Duplicate
ZZZZZZ	I225486.D	04/17/19	13:41	05:58	(unrelated sample)
ZZZZZZ	I225487.D	04/17/19	14:10	06:27	(unrelated sample)
ZZZZZZ	I225492.D	04/17/19	16:36	08:53	(unrelated sample)
ZZZZZZ	I225495.D	04/17/19	18:04	10:21	(unrelated sample)
JC86337-2	I225496.D	04/17/19	18:33	10:50	PCTP-66R-HC (2-4)
JC86337-5	I225497.D	04/17/19	19:02	11:19	PCSB-01R (14-16)

## Instrument Performance Check (BFB)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI9086-BFB	Injection Date: 04/18/19
Lab File ID: I225506.D	Injection Time: 08:29
Instrument ID: GCMSI	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	11532	19.9	Pass
75	30.0 - 60.0% of mass 95	28938	50.0	Pass
95	Base peak, 100% relative abundance	57909	100.0	Pass
96	5.0 - 9.0% of mass 95	3941	6.81	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) <sup>a</sup>	Pass
174	50.0 - 120.0% of mass 95	56792	98.1	Pass
175	5.0 - 9.0% of mass 174	4615	7.97 (8.13) <sup>a</sup>	Pass
176	95.0 - 101.0% of mass 174	54890	94.8 (96.7) <sup>a</sup>	Pass
177	5.0 - 9.0% of mass 176	3817	6.59 (6.95) <sup>b</sup>	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
VI9086-CC8986	I225506.D	04/18/19	08:29	00:00	Continuing cal 20
VI9086-BS	I225507.D	04/18/19	09:11	00:42	Blank Spike
VI9086-MB	I225509.D	04/18/19	10:10	01:41	Method Blank
ZZZZZZ	I225510.D	04/18/19	10:38	02:09	(unrelated sample)
JC86337-5	I225511.D	04/18/19	11:08	02:39	PCSB-01R (14-16)
JC86210-1	I225512.D	04/18/19	11:57	03:28	(used for QC only; not part of job JC86337)
JC86210-1	I225513.D	04/18/19	12:27	03:58	(used for QC only; not part of job JC86337)
ZZZZZZ	I225515.D	04/18/19	13:25	04:56	(unrelated sample)
ZZZZZZ	I225516.D	04/18/19	13:55	05:26	(unrelated sample)
ZZZZZZ	I225517.D	04/18/19	14:24	05:55	(unrelated sample)
ZZZZZZ	I225519.D	04/18/19	15:22	06:53	(unrelated sample)
ZZZZZZ	I225520.D	04/18/19	15:52	07:23	(unrelated sample)
ZZZZZZ	I225521.D	04/18/19	16:21	07:52	(unrelated sample)
ZZZZZZ	I225522.D	04/18/19	16:50	08:21	(unrelated sample)
ZZZZZZ	I225524.D	04/18/19	17:49	09:20	(unrelated sample)
JC86210-1MS	I225525.D	04/18/19	18:19	09:50	Matrix Spike
JC86210-1MSD	I225526.D	04/18/19	18:48	10:19	Matrix Spike Duplicate
ZZZZZZ	I225529.D	04/18/19	20:16	11:47	(unrelated sample)

**Instrument Performance Check (BFB)**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-BFB	Injection Date: 04/11/19
Lab File ID: Y184472.D	Injection Time: 10:44
Instrument ID: GCMSY	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	14077	18.4	Pass
75	30.0 - 60.0% of mass 95	35637	46.5	Pass
95	Base peak, 100% relative abundance	76629	100.0	Pass
96	5.0 - 9.0% of mass 95	5218	6.81	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) <sup>a</sup>	Pass
174	50.0 - 120.0% of mass 95	67760	88.4	Pass
175	5.0 - 9.0% of mass 174	5482	7.15 (8.09) <sup>a</sup>	Pass
176	95.0 - 101.0% of mass 174	66314	86.5 (97.9) <sup>a</sup>	Pass
177	5.0 - 9.0% of mass 176	4274	5.58 (6.45) <sup>b</sup>	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
VY8003-IC8003	Y184473.D	04/11/19	11:20	00:36	Initial cal 0.5
VY8003-IC8003	Y184474.D	04/11/19	11:48	01:04	Initial cal 1
VY8003-IC8003	Y184475.D	04/11/19	12:27	01:43	Initial cal 2
VY8003-IC8003	Y184476.D	04/11/19	12:56	02:12	Initial cal 4
VY8003-IC8003	Y184477.D	04/11/19	13:24	02:40	Initial cal 8
VY8003-IC8003	Y184478.D	04/11/19	13:53	03:09	Initial cal 20
VY8003-ICC8003	Y184479.D	04/11/19	14:21	03:37	Initial cal 50
VY8003-IC8003	Y184480.D	04/11/19	14:50	04:06	Initial cal 100
VY8003-IC8003	Y184481.D	04/11/19	15:18	04:34	Initial cal 200
VY8003-ICV8003	Y184484.D	04/11/19	16:44	06:00	Initial cal verification 50
VY8003-ICV8003	Y184485.D	04/11/19	17:13	06:29	Initial cal verification 50



## Instrument Performance Check (BFB)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8006-BFB	Injection Date: 04/17/19
Lab File ID: Y184539.D	Injection Time: 08:52
Instrument ID: GCMSY	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	13384	16.7	Pass
75	30.0 - 60.0% of mass 95	35992	44.9	Pass
95	Base peak, 100% relative abundance	80186	100.0	Pass
96	5.0 - 9.0% of mass 95	5322	6.64	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) <sup>a</sup>	Pass
174	50.0 - 120.0% of mass 95	76602	95.5	Pass
175	5.0 - 9.0% of mass 174	5899	7.36 (7.70) <sup>a</sup>	Pass
176	95.0 - 101.0% of mass 174	75170	93.7 (98.1) <sup>a</sup>	Pass
177	5.0 - 9.0% of mass 176	4928	6.15 (6.56) <sup>b</sup>	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
VY8006-CC8003	Y184539.D	04/17/19	08:52	00:00	Continuing cal 50
VY8006-BS	Y184540.D	04/17/19	09:50	00:58	Blank Spike
VY8006-MB	Y184542.D	04/17/19	10:59	02:07	Method Blank
JC86337-1	Y184543.D	04/17/19	11:30	02:38	PCTP-66R-HC (0-2)
JC86337-3	Y184544.D	04/17/19	11:59	03:07	PCTP-02R(4-6)
JC86337-4	Y184545.D	04/17/19	12:27	03:35	PCTP-01R(5-7)
JC86337-6	Y184546.D	04/17/19	12:56	04:04	PCSB-01R (18-20)
ZZZZZZ	Y184547.D	04/17/19	13:24	04:32	(unrelated sample)
JC86337-1MS	Y184548.D	04/17/19	13:53	05:01	Matrix Spike
JC86337-3DUP	Y184550.D	04/17/19	14:50	05:58	Duplicate
ZZZZZZ	Y184551.D	04/17/19	15:18	06:26	(unrelated sample)
ZZZZZZ	Y184552.D	04/17/19	15:47	06:55	(unrelated sample)
ZZZZZZ	Y184553.D	04/17/19	16:15	07:23	(unrelated sample)
ZZZZZZ	Y184554.D	04/17/19	16:43	07:51	(unrelated sample)
ZZZZZZ	Y184555.D	04/17/19	17:12	08:20	(unrelated sample)
ZZZZZZ	Y184556.D	04/17/19	17:40	08:48	(unrelated sample)
ZZZZZZ	Y184557.D	04/17/19	18:09	09:17	(unrelated sample)
ZZZZZZ	Y184558.D	04/17/19	18:37	09:45	(unrelated sample)
ZZZZZZ	Y184559.D	04/17/19	19:06	10:14	(unrelated sample)
ZZZZZZ	Y184560.D	04/17/19	19:34	10:42	(unrelated sample)
ZZZZZZ	Y184561.D	04/17/19	20:03	11:11	(unrelated sample)
ZZZZZZ	Y184562.D	04/17/19	20:31	11:39	(unrelated sample)

# Internal Standard Area Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	VI9085-CC8986	Injection Date:	04/17/19
Lab File ID:	I225474.D	Injection Time:	07:43
Instrument ID:	GCMSI	Method:	SW846 8260C

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	66317	7.35	172039	9.70	233404	10.63	195369	13.77	119472	16.11
Upper Limit <sup>a</sup>	132634	7.85	344078	10.20	466808	11.13	390738	14.27	238944	16.61
Lower Limit <sup>b</sup>	33159	6.85	86020	9.20	116702	10.13	97685	13.27	59736	15.61

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
VI9085-BS	63680	7.35	180719	9.70	241135	10.63	201681	13.77	116400	16.11
VI9085-MB	60307	7.35	167703	9.70	220185	10.63	189586	13.77	106105	16.11
ZZZZZZ	60307	7.35	167703	9.70	220185	10.63	189586	13.77	106105	16.11
ZZZZZZ	54133	7.35	164998	9.70	218587	10.64	186989	13.77	105985	16.11
JC86190-3	51816	7.35	163878	9.70	207318	10.63	196297	13.77	130113	16.11
ZZZZZZ	55551	7.35	198470	9.70	255570	10.63	228992	13.77	142566	16.11
JC86190-3MS	88621	7.35	209526	9.70	286792	10.63	237067	13.77	136111	16.11
JC86190-3MSD	89912	7.35	214593	9.70	297466	10.63	246746	13.77	145314	16.11
ZZZZZZ	48096	7.35	183578	9.70	237567	10.64	216090	13.77	128515	16.11
ZZZZZZ	56018	7.35	186640	9.70	242316	10.63	224642	13.77	136820	16.11
ZZZZZZ	60482	7.35	190302	9.70	254102	10.63	212749	13.77	121599	16.11
ZZZZZZ	63399	7.37	200858	9.70	267699	10.63	230267	13.77	142701	16.11
JC86337-2 <sup>c</sup>	66496	7.38	202872	9.70	275224	10.63	230340	13.77	127730	16.11
JC86337-5 <sup>c</sup>	64237	7.38	203044	9.70	272427	10.63	230631	13.77	143698	16.11

- 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.

6.7.1

6

# Internal Standard Area Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	VI9086-CC8986	Injection Date:	04/18/19
Lab File ID:	I225506.D	Injection Time:	08:29
Instrument ID:	GCMSI	Method:	SW846 8260C

	IS 1		IS 2		IS 3		IS 4		IS 5	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	61876	7.35	172106	9.70	230773	10.63	191353	13.77	109897	16.11
Upper Limit <sup>a</sup>	123752	7.85	344212	10.20	461546	11.13	382706	14.27	219794	16.61
Lower Limit <sup>b</sup>	30938	6.85	86053	9.20	115387	10.13	95677	13.27	54949	15.61

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
VI9086-BS	66938	7.35	176025	9.70	239309	10.63	198535	13.77	117549	16.11
VI9086-MB	48044	7.35	161084	9.70	209909	10.64	179913	13.77	102400	16.11
ZZZZZZ	49188	7.35	162203	9.70	212575	10.64	181244	13.77	103806	16.11
JC86337-5 <sup>c</sup>	44876	7.36	159319	9.70	210470	10.63	193045	13.77	126166	16.11
JC86210-1	67361	7.36	198178	9.70	266239	10.64	222385	13.77	126996	16.11
JC86210-1	69798	7.38	200846	9.70	267068	10.63	241283	13.77	149695	16.11
ZZZZZZ	74686	7.38	211860	9.70	297670	10.63	247225	13.77	153326	16.11
ZZZZZZ	82640	7.37	219277	9.70	307416	10.63	265103	13.77	163382	16.11
ZZZZZZ	108549	7.38	232183	9.70	325812	10.63	299201	13.77	177593	16.11
ZZZZZZ	68484	7.37	208384	9.70	287203	10.63	247185	13.77	154106	16.11
ZZZZZZ	70536	7.37	214184	9.70	295605	10.63	262379	13.77	164076	16.11
ZZZZZZ	69119	7.37	214273	9.70	297767	10.63	251131	13.77	140641	16.11
ZZZZZZ	67123	7.37	212513	9.70	295471	10.63	245567	13.77	138480	16.11
ZZZZZZ	77253	7.38	207330	9.70	280352	10.63	248244	13.77	155423	16.11
JC86210-1MS	96686	7.39	210419	9.70	297999	10.63	256991	13.77	157762	16.11
JC86210-1MSD	103570	7.39	215307	9.70	300623	10.63	258697	13.77	158309	16.11
ZZZZZZ	74179	7.38	205724	9.70	278828	10.63	235188	13.77	139277	16.11

- 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) Confirmation run.

6.7.2  
6

# Internal Standard Area Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	VY8006-CC8003	Injection Date:	04/17/19
Lab File ID:	Y184539.D	Injection Time:	08:52
Instrument ID:	GCMSY	Method:	SW846 8260C

	IS 1	RT	IS 2	RT	IS 3	RT	IS 4	RT	IS 5	RT
	AREA		AREA		AREA		AREA		AREA	
Check Std	65419	7.75	192899	9.97	278380	10.91	269991	13.99	151102	16.29
Upper Limit <sup>a</sup>	130838	8.25	385798	10.47	556760	11.41	539982	14.49	302204	16.79
Lower Limit <sup>b</sup>	32710	7.25	96450	9.47	139190	10.41	134996	13.49	75551	15.79

Lab	IS 1	RT	IS 2	RT	IS 3	RT	IS 4	RT	IS 5	RT
Sample ID	AREA		AREA		AREA		AREA		AREA	
VY8006-BS	71975	7.74	201204	9.97	294425	10.91	279534	13.99	161390	16.29
VY8006-MB	58077	7.75	181798	9.98	261193	10.91	255112	13.99	145466	16.29
JC86337-1 <sup>c</sup>	65086	7.73	178328	9.97	257131	10.91	260287	13.99	140044	16.29
JC86337-3 <sup>c</sup>	70098	7.74	190892	9.97	279129	10.91	272090	13.99	158621	16.29
JC86337-4 <sup>c</sup>	71121	7.73	197647	9.97	289578	10.91	281663	13.99	160473	16.29
JC86337-6 <sup>c</sup>	71750	7.73	194735	9.97	283287	10.91	294696	13.99	167304	16.29
ZZZZZZ	73560	7.74	198380	9.97	290946	10.91	273840	13.99	163964	16.29
JC86337-1MS <sup>c</sup>	48782	7.75	173578	9.97	249871	10.91	244763	13.99	138481	16.29
JC86337-3DUP <sup>c</sup>	74224	7.74	201463	9.97	293307	10.91	290877	13.99	167234	16.29
ZZZZZZ	67603	7.74	184346	9.97	271398	10.91	271682	13.99	152674	16.29
ZZZZZZ	72707	7.73	187068	9.97	271768	10.91	273828	13.99	153153	16.29
ZZZZZZ	71475	7.74	176837	9.97	261302	10.91	260474	13.99	152631	16.29
ZZZZZZ	62872	7.73	168110	9.97	247653	10.91	236588	13.99	138778	16.29
ZZZZZZ	67798	7.74	179090	9.97	263415	10.91	258675	13.99	152259	16.29
ZZZZZZ	67153	7.73	192506	9.97	282455	10.91	286792	13.99	163068	16.29
ZZZZZZ	65401	7.74	186158	9.97	279414	10.91	270376	13.99	156835	16.29
ZZZZZZ	61038	7.73	170424	9.97	255152	10.91	261872	13.99	151799	16.29
ZZZZZZ	69366	7.72	173530	9.97	261706	10.91	263018	13.99	150809	16.29
ZZZZZZ	70814	7.74	167893	9.97	253107	10.91	251744	13.99	149542	16.29
ZZZZZZ	69856	7.72	174972	9.97	264824	10.91	254780	13.99	152622	16.29
ZZZZZZ	74180	7.73	185343	9.97	274408	10.91	275248	13.99	159918	16.29

- 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) DI vials received unfrozen and out of hold time.

6.7.3  
6

# Surrogate Recovery Summary

Job Number: JC86337  
 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
JC86337-1	Y184543.D	105	104	94	102
JC86337-2	I225496.D	104	102	100	109
JC86337-3	Y184544.D	103	103	94	99
JC86337-4	Y184545.D	103	103	94	99
JC86337-5	I225511.D	101	109	100	142* a
JC86337-5	I225497.D	97	99	112	174* a
JC86337-6	Y184546.D	104	103	93	103
JC86190-3MS	I225483.D	103	105	101	107
JC86190-3MSD	I225484.D	102	104	101	104
JC86337-1MS	Y184548.D	100	91	97	99
JC86337-3DUP	Y184550.D	103	102	94	97
VI9085-BS	I225475.D	101	111	100	104
VI9085-MB	I225477.D	106	117	98	107
VY8006-BS	Y184540.D	102	98	96	99
VY8006-MB	Y184542.D	101	99	95	97

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%

(a) Outside control limits due to matrix interference.

6.8.1  
6

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICC8986  
 Lab FileID: I223181.D

Response Factor Report GCMSI

Method : C:\MSDCHEM\1\METHODS\MI8986.M (RTE Integrator)  
 Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 Last Update : Wed Nov 28 13:32:54 2018  
 Response via : Initial Calibration

Calibration Files

0.5 =I223175.D 1 =I223176.D 2 =I223177.D 8 =I223179.D  
 4 =I223178.D 20 =I223180.D 50 =I223181.D 100 =I223182.D  
 200 =I223183.D = = =

Compound

Compound	0.5	1	2	8	4	20	50	100	200	Avg	%RSD
1) I tert butyl alcohol-d9 -----ISTD-----											
2) tertiary butyl alcohol		0.930	1.080	0.924	1.036	1.052	1.129	1.093		1.035	7.68
3) 1,4-dioxane		0.127	0.105	0.121	0.116	0.118	0.109			0.116	6.89
4) I pentafluorobenzene -----ISTD-----											
5) dichlorodifluoromethane		0.407	0.389	0.432	0.465	0.450	0.451	0.465	0.435	0.437	6.24
6) chlorodifluoromethane		0.367	0.391	0.421	0.411	0.420	0.424	0.440	0.425	0.412	5.60
7) chloromethane		0.429	0.425	0.402	0.371	0.418	0.373	0.377	0.416	0.429	6.06
8) vinyl chloride		0.294	0.326	0.296	0.337	0.359	0.349	0.352	0.377	0.376	8.99
9) 1,3-butadiene		0.214	0.214	0.240	0.221	0.242	0.245	0.264	0.262	0.238	8.39
10) bromomethane		0.221	0.229	0.209	0.233	0.233	0.224	0.222	0.240	0.232	4.05
11) chloroethane		0.170	0.191	0.209	0.204	0.218	0.208	0.226	0.222	0.206	8.89
12) vinyl bromide		0.214	0.232	0.259	0.282	0.275	0.274	0.288	0.283	0.263	10.16
13) trichlorofluoromethane		0.431	0.518	0.481	0.526	0.525	0.534	0.548	0.573	0.554	8.15
14) ethyl ether		0.102	0.152	0.131	0.155	0.156	0.168	0.169		0.148	16.02
15) 2-chloropropane		0.105	0.126	0.122	0.132	0.128	0.120	0.109		0.120	8.10
16) acrolein			0.036		0.044	0.048	0.055	0.058		0.048	18.24
17) freon 113		0.209	0.230	0.280	0.253	0.267	0.269	0.273	0.263	0.255	9.46
18) 1,1-dichloroethene		0.401	0.453	0.492	0.446	0.480	0.473	0.492	0.485	0.465	6.65
19) acetone		0.071	0.088	0.074	0.087	0.087	0.094	0.089		0.084	9.74
20) iodomethane----The compound does not meet initial criteria.		0.229	0.182	0.308	0.365	0.375	0.330			0.298	25.82
----- Linear regression ----- Coefficient = 0.9944											
Response Ratio = 0.00375 + 0.33860 *A											
21) carbon disulfide		1.073	1.026	1.023	0.973	0.962	0.988	0.972		1.002	3.99

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICC8986  
 Lab FileID: I223181.D

22)	acetonitrile	0.036 0.044 0.037 0.044 0.043 0.046 0.044	0.042	9.18
23)	methyl acetate	0.040 0.021 0.042 0.047 0.052 0.052	0.042	27.02
	----- Linear regression -----	Coefficient = 0.9990		
	Response Ratio = -0.00254 + 0.05196 *A			
24)	methylene chloride	0.365 0.360 0.343 0.331 0.331 0.329 0.349 0.348	0.345	3.98
25)	acrylonitrile	0.089 0.096 0.099 0.105 0.107	0.099	7.29
26)	methyl tert butyl ether	0.728 0.765 0.820 0.774 0.842 0.846 0.884 0.875	0.817	6.84
27)	trans-1,2-dichloroethene	0.379 0.432 0.460 0.446 0.459 0.455 0.466 0.452	0.444	6.35
28)	hexane	0.513 0.555 0.513 0.543 0.513 0.546 0.534 0.550 0.548	0.535	3.28
29)	1,1-dichloroethane	0.521 0.550 0.602 0.566 0.578 0.560 0.587 0.568	0.566	4.29
30)	vinyl acetate	0.046 0.051 0.054 0.059 0.060	0.054	10.74
31)	di-isopropyl ether	0.874 0.926 1.043 0.972 1.028 1.034 1.085 1.070	1.004	7.33
32)	chloroprene	0.387 0.419 0.514 0.469 0.510 0.506 0.521 0.498	0.478	10.38
33)	ethyl tert-butyl ether	0.866 0.876 0.987 0.920 0.991 1.005 1.063 1.044	0.969	7.65
34)	2-butanone	0.021 0.031 0.026 0.033 0.035 0.038 0.037	0.032	19.75
35)	2,2-dichloropropane	0.429 0.476 0.492 0.525 0.505 0.510 0.495 0.505 0.483	0.491	5.64
36)	ethyl acetate	0.034 0.025 0.042 0.044 0.050 0.049	0.041	23.88
	----- Linear regression -----	Coefficient = 0.9988		
	Response Ratio = -0.00230 + 0.04933 *A			
37)	cis-1,2-dichloroethene	0.343 0.355 0.385 0.363 0.369 0.366 0.372 0.366	0.365	3.41
38)	propionitrile	0.037 0.049 0.042 0.048 0.048 0.051 0.050	0.046	11.09
39)	methyl acrylate	0.035 0.024 0.041 0.046 0.051 0.050	0.041	25.42
	----- Linear regression -----	Coefficient = 0.9991		
	Response Ratio = -0.00251 + 0.05085 *A			
40)	methacrylonitrile	0.112 0.091 0.115 0.122 0.131 0.130	0.117	12.59
41)	bromochloromethane	0.123 0.155 0.174 0.166 0.173 0.169 0.180 0.173	0.164	11.11
42)	tetrahydrofuran	0.037 0.027 0.036 0.036 0.041 0.040	0.036	13.64
43)	chloroform	0.556 0.543 0.613 0.588 0.603 0.595 0.608 0.584	0.586	4.26
44)	carbon tetrachloride	0.433 0.454 0.509 0.486 0.502 0.493 0.488 0.465	0.479	5.45
45)	1,1-dichloropropene	0.398 0.428 0.455 0.429 0.447 0.457 0.464 0.451	0.441	4.91
46)	isobutyl alcohol		0.000	-1.00
47)	dibromofluoromethane (s)			

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICC8986  
 Lab FileID: I223181.D

	0.390	0.394	0.393	0.395	0.393	0.396	0.393	0.392	0.389	0.393	0.56
48)	1,1,1-trichloroethane										
	0.488	0.467	0.568	0.525	0.541	0.530	0.549	0.516		0.523	6.26
49)	cyclohexane										
	0.424	0.430	0.463	0.490	0.474	0.460	0.476	0.468		0.461	4.91
50)	tert-amyl alcohol										
	0.012	0.006	0.012	0.013	0.014	0.013				0.012	23.67
	----- Linear regression ----- Coefficient = 0.9991										
	Response Ratio = -0.00177 + 0.01357 *A										
51) I	1,4-difluorobenzene -----ISTD-----										
52)	1,2-dichloroethane-d4 (s)										
	0.312	0.320	0.317	0.319	0.318	0.316	0.312	0.301	0.293	0.312	2.94
53)	isopropyl acetate										
	0.045	0.030	0.045	0.049	0.051	0.051				0.045	17.50
54)	1,2-dichloroethane										
	0.278	0.363	0.337	0.342	0.342	0.329	0.326	0.329	0.310	0.328	7.24
55)	benzene										
	0.793	0.933	0.958	1.053	0.987	1.017	1.002	1.043	1.006	0.977	8.06
56)	2,2,4-trimethylpentane										
	0.789	1.032	0.969	1.094	1.039	1.049	1.009	1.009	1.011	1.000	8.63
57)	tert-amyl methyl ether										
	0.123	0.153	0.180	0.163	0.177	0.176	0.184	0.178		0.167	12.29
58)	heptane										
	0.177	0.205	0.229	0.207	0.221	0.209	0.212	0.211		0.209	7.27
59)	n-butyl alcohol										
	0.007	0.008	0.007	0.009	0.009	0.009	0.009	0.009		0.008	11.40
60)	trichloroethene										
	0.231	0.258	0.280	0.261	0.268	0.264	0.275	0.256		0.262	5.67
61)	ethyl acrylate										
	0.249	0.280	0.237	0.277	0.287	0.308	0.298			0.277	9.24
62)	methylcyclohexane										
	0.444	0.410	0.453	0.438	0.455	0.445	0.454	0.446		0.443	3.32
63)	1,2-dichloropropane										
	0.238	0.245	0.259	0.245	0.251	0.250	0.262	0.251		0.250	3.00
64)	methyl methacrylate										
	0.055	0.048	0.058	0.062	0.066	0.064				0.059	11.63
65)	dibromomethane										
	0.122	0.143	0.154	0.142	0.150	0.149	0.156	0.149		0.146	7.41
66)	bromodichloromethane										
	0.317	0.332	0.368	0.338	0.354	0.351	0.367	0.345		0.346	4.99
67)	2-nitropropane										
	0.057	0.060	0.059	0.061	0.063	0.059				0.060	3.83
68)	2-chloroethyl vinyl ether										
	0.123	0.135	0.152	0.142	0.151	0.152	0.161	0.154		0.146	8.40
69)	epichlorohydrin										
	0.023	0.025	0.024	0.024	0.024	0.024	0.026	0.025		0.024	4.87
70)	cis-1,3-dichloropropene										
	0.301	0.375	0.369	0.416	0.399	0.414	0.405	0.432	0.409	0.391	9.97
71)	4-methyl-2-pentanone										
	0.066	0.068	0.083	0.073	0.081	0.080	0.088	0.084		0.078	10.04
72)	3-methyl-1-butanol										
	0.006	0.007	0.006	0.007	0.007	0.007	0.008	0.008		0.007	11.88
73) I	chlorobenzene-d5 -----ISTD-----										
74)	toluene-d8 (s)										
	1.298	1.292	1.290	1.276	1.288	1.296	1.284	1.261	1.253	1.282	1.23
75)	toluene										
	0.555	0.658	0.686	0.753	0.724	0.722	0.706	0.728	0.698	0.692	8.39



# Initial Calibration Summary

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VI8986-ICC8986  
**Lab FileID:** I223181.D

76)	trans-1,3-dichloropropene	0.330 0.445 0.385 0.451 0.408 0.438 0.434 0.438 0.418	0.416	9.22
77)	ethyl methacrylate	0.284 0.279 0.335 0.299 0.334 0.323 0.332 0.325	0.314	7.42
78)	1,1,2-trichloroethane	0.167 0.183 0.214 0.207 0.209 0.212 0.221 0.211	0.203	8.90
79)	1,3-dichloropropane	0.294 0.342 0.355 0.405 0.370 0.397 0.386 0.395 0.383	0.370	9.44
80)	tetrachloroethene	0.268 0.350 0.349 0.375 0.359 0.364 0.359 0.361 0.341	0.347	9.00
81)	2-hexanone	0.073 0.086 0.097 0.084 0.094 0.095 0.101 0.096	0.091	10.11
82)	butyl acetate	0.124 0.163 0.149 0.166 0.164 0.172 0.167	0.158	10.53
83)	n-butyl ether	0.988 1.088 1.099 1.222 1.156 1.169 1.148 1.213 1.203	1.143	6.53
84)	dibromochloromethane	0.284 0.300 0.329 0.306 0.329 0.328 0.340 0.323	0.317	5.95
85)	1,2-dibromoethane	0.235 0.241 0.291 0.270 0.287 0.292 0.306 0.289	0.276	9.31
86)	chlorobenzene	0.576 0.718 0.725 0.797 0.745 0.771 0.755 0.781 0.767	0.737	8.90
87)	1,1,1,2-tetrachloroethane	0.252 0.283 0.311 0.288 0.297 0.301 0.308 0.302	0.293	6.47
88)	ethylbenzene	1.044 1.264 1.282 1.387 1.324 1.332 1.307 1.345 1.320	1.289	7.63
89)	m,p-xylene	0.408 0.503 0.508 0.544 0.511 0.527 0.515 0.529 0.519	0.507	7.71
90)	o-xylene	0.474 0.491 0.527 0.493 0.507 0.510 0.521 0.515	0.505	3.50
91)	styrene	0.724 0.816 0.895 0.819 0.865 0.868 0.898 0.897	0.848	7.07
92)	butyl acrylate	0.402 0.443 0.483 0.461 0.505 0.503 0.531 0.541	0.484	9.66
93)	cis-1,4-dichloro-2-butene	0.107 0.108 0.131 0.120 0.131 0.130 0.136 0.133	0.124	9.19
94)	bromoform	0.182 0.212 0.224 0.212 0.230 0.237 0.243 0.243	0.223	9.25
95)	isopropylbenzene	0.977 1.219 1.236 1.361 1.265 1.342 1.320 1.358 1.356	1.271	9.68
96) I	1,4-dichlorobenzene-d -----ISTD-----			
97)	4-bromofluorobenzene (s)	0.771 0.787 0.778 0.773 0.767 0.757 0.754 0.727 0.748	0.762	2.37
98)	1,1,1,2-tetrachloroethane	0.454 0.493 0.555 0.501 0.523 0.528 0.540 0.543	0.517	6.36
99)	trans-1,4-dichloro-2-butene	0.147 0.121 0.132 0.135 0.139 0.134	0.135	6.19
100)	1,2,3-trichloropropane	0.124 0.114 0.148 0.124 0.139 0.137 0.142 0.137	0.133	8.31
101)	bromobenzene	0.513 0.610 0.614 0.679 0.638 0.630 0.621 0.631 0.621	0.617	7.16
102)	n-propylbenzene	2.090 2.610 2.510 2.813 2.602 2.633 2.588 2.631 2.586	2.563	7.60
103)	2-chlorotoluene	0.416 0.539 0.542 0.594 0.574 0.542 0.539 0.552 0.547	0.538	9.17
104)	4-chlorotoluene	1.273 1.602 1.489 1.653 1.558 1.583 1.513 1.568 1.550	1.532	7.08
105)	1,3,5-trimethylbenzene	1.477 1.869 1.992 2.123 2.006 2.010 1.936 1.986 1.957	1.928	9.45

# Initial Calibration Summary

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** VI8986-ICC8986  
**Lab FileID:** I223181.D

106)	tert-butylbenzene	0.343	0.288	0.392	0.351	0.372	0.366	0.373	0.373	0.357	8.91	
107)	1,2,4-trimethylbenzene	1.638	1.951	2.093	2.099	2.011	2.013	1.978	2.035	1.964	1.976	6.92
108)	sec-butylbenzene	2.478	2.397	2.578	2.411	2.514	2.459	2.534	2.512	2.485	2.48	
109)	p-isopropyltoluene	1.810	2.103	2.212	2.284	2.103	2.239	2.196	2.284	2.183	2.157	6.77
110)	benzyl chloride	1.070	1.179	1.204	1.270	1.201	1.244	1.208	1.286	1.230	1.210	5.20
111)	1,3-dichlorobenzene	0.925	1.218	1.196	1.229	1.196	1.219	1.181	1.233	1.203	1.178	8.18
112)	1,4-dichlorobenzene	0.970	1.219	1.234	1.263	1.233	1.237	1.187	1.259	1.225	1.203	7.50
113)	1,2-dichlorobenzene	0.888	1.141	1.118	1.236	1.169	1.204	1.174	1.237	1.209	1.153	9.29
114)	n-butylbenzene	0.858	1.105	1.172	1.207	1.118	1.165	1.155	1.184	1.134	1.122	9.27
115)	hexachloroethane	0.382	0.394	0.448	0.411	0.438	0.450	0.460	0.458	0.430	7.04	
116)	1,2-dibromo-3-chloropropane	0.137	0.169	0.148	0.157	0.168	0.177	0.167		0.160	8.68	
117)	nitrobenzene		0.051	0.045	0.054	0.057	0.064	0.059		0.055	12.02	
118)	1,3,5-trichlorobenzene	1.003	1.217	1.181	1.257	1.153	1.225	1.175	1.206	1.121	1.171	6.39
119)	1,2,4-trichlorobenzene	0.865	1.128	1.035	1.114	1.046	1.129	1.063	1.091	1.010	1.053	7.83
120)	2-ethylhexyl acrylate	0.842	0.891	0.867	0.904	0.878	0.859	0.770		0.859	5.16	
121)	hexachlorobutadiene	0.743	0.648	0.734	0.704	0.694	0.694	0.691	0.639	0.693	5.25	
122)	naphthalene	1.682	1.895	2.082	2.151	2.032	2.087	2.115	2.252	2.033	2.037	8.06
123)	1,2,3-trichlorobenzene	0.958	1.041	1.112	1.036	1.071	1.044	1.060	0.969	1.036	4.92	
124)	2-methylnaphthalene	0.746	0.753	0.723	0.711	0.764	0.661			0.726	5.17	

-----  
(#) = Out of Range ### Number of calibration levels exceeded format ###

MI8986.M

Wed Nov 28 14:14:26 2018

6.9.1

6

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICV8986  
 Lab FileID: I223186.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\VI8986\I223186.D Vial: 13  
 Acq On : 27 Nov 2018 11:48 pm Operator: thienn  
 Sample : ICV8986-50 Inst : GCMSI  
 Misc : MS30885,VI8986,5.0,,,,,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MI8986.M (RTE Integrator)  
 Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 Last Update : Wed Nov 28 13:32:54 2018  
 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	107	0.00	7.37
2	tertiary butyl alcohol	1.035	1.090	-5.3	111	-0.01	7.49
3	1,4-dioxane	0.116	0.119	-2.6	109	0.00	11.30
4 I	pentafluorobenzene	1.000	1.000	0.0	106	0.00	9.72
5	dichlorodifluoromethane	0.437	0.482	-10.3	113	0.00	3.89
6	chlorodifluoromethane	0.412	0.431	-4.6	108	0.00	3.92
7	chloromethane	0.404	0.416	-3.0	117	0.00	4.28
8	vinyl chloride	0.341	0.354	-3.8	107	0.00	4.53
9	1,3-butadiene	0.238	0.284	-19.3	123	0.00	4.62
10	bromomethane	0.227	0.247	-8.8	118	0.01	5.19
11	chloroethane	0.206	0.198	3.9	101	0.00	5.40
12	vinyl bromide	0.263	0.289	-9.9	112	0.00	5.75
13	trichlorofluoromethane	0.521	0.527	-1.2	102	0.00	5.87
14	ethyl ether	0.148	0.157	-6.1	107	0.00	6.31
15	2-chloropropane	0.120	0.121	-0.8	101	0.00	6.52
16	acrolein	0.048	0.049	-2.1	108	0.00	6.52
17	freon 113	0.255	0.276	-8.2	109	0.00	6.73
18	1,1-dichloroethene	0.465	0.432	7.1	97	0.00	6.73
19	acetone	0.084	0.088	-4.8	108	0.00	6.71
	----- True Calc. % Drift -----						
20	iodomethane	50.000	54.759	-9.5	109	0.00	6.98
	----- AvgRF CCRF % Dev -----						
21	carbon disulfide	1.002	1.024	-2.2	113	0.00	7.13
22	acetonitrile	0.042	0.041	2.4	100	0.00	7.11
	----- True Calc. % Drift -----						
23	methyl acetate	50.000	46.407	7.2	104	0.00	7.21
	----- AvgRF CCRF % Dev -----						
24	methylene chloride	0.345	0.329	4.6	106	0.00	7.44
25	acrylonitrile	0.099	0.100	-1.0	108	0.00	7.72
26	methyl tert butyl ether	0.817	0.862	-5.5	108	0.00	7.82
27	trans-1,2-dichloroethene	0.444	0.439	1.1	102	0.00	7.86
28	hexane	0.535	0.434	18.9	86	0.00	8.24
29	1,1-dichloroethane	0.566	0.562	0.7	107	0.00	8.44
30	vinyl acetate	0.054	0.052	3.7	102	0.00	8.38
31	di-isopropyl ether	1.004	1.003	0.1	103	0.00	8.45
32	chloroprene	0.478	0.506	-5.9	106	0.00	8.55
33	ethyl tert-butyl ether	0.969	0.976	-0.7	103	0.00	8.91

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICV8986  
 Lab FileID: I223186.D

		True	Calc.	% Drift			
34	2-butanone	0.032	0.036	-12.5	109	0.00	9.08
35	2,2-dichloropropane	0.491	0.489	0.4	105	0.00	9.19
	----- True		Calc.	% Drift	-----		
36	ethyl acetate	50.000	48.197	3.6	110	0.00	9.12
	----- AvgRF		CCRF	% Dev	-----		
37	cis-1,2-dichloroethene	0.365	0.370	-1.4	107	0.00	9.16
38	propionitrile	0.046	0.050	-8.7	111	0.00	9.14
	----- True		Calc.	% Drift	-----		
39	methyl acrylate	50.000	49.175	1.7	110	0.00	9.20
	----- AvgRF		CCRF	% Dev	-----		
40	methacrylonitrile	0.117	0.128	-9.4	111	0.00	9.35
41	bromochloromethane	0.164	0.172	-4.9	108	0.00	9.46
42	tetrahydrofuran	0.036	0.038	-5.6	113	0.00	9.49
43	chloroform	0.586	0.594	-1.4	106	0.00	9.55
44	carbon tetrachloride	0.479	0.469	2.1	101	0.00	10.03
45	1,1-dichloropropene	0.441	0.449	-1.8	104	0.00	9.99
46	isobutyl alcohol			-----NA-----			
47 S	dibromofluoromethane (s)	0.393	0.399	-1.5	108	0.00	9.74
48	1,1,1-trichloroethane	0.523	0.515	1.5	103	0.00	9.82
49	cyclohexane	0.461	0.484	-5.0	112	0.00	9.94
	----- True		Calc.	% Drift	-----		
50	tert-amyl alcohol	250.000	246.823	1.3	107	0.00	10.10
	----- AvgRF		CCRF	% Dev	-----		
51 I	1,4-difluorobenzene	1.000	1.000	0.0	108	0.00	10.65
52 S	1,2-dichloroethane-d4 (s)	0.312	0.304	2.6	105	0.00	10.16
53	isopropyl acetate	0.045	0.046	-2.2	102	0.00	10.15
54	1,2-dichloroethane	0.328	0.315	4.0	104	0.00	10.25
55	benzene	0.977	0.993	-1.6	107	0.00	10.23
56	2,2,4-trimethylpentane	1.000	0.980	2.0	105	0.00	10.36
57	tert-amyl methyl ether	0.167	0.164	1.8	101	0.00	10.33
58	heptane	0.209	0.233	-11.5	120	0.00	10.52
59	n-butyl alcohol	0.008	0.009	-12.5	112	0.00	10.68
60	trichloroethene	0.262	0.260	0.8	106	0.00	10.97
61	ethyl acrylate	0.277	0.295	-6.5	111	0.00	10.95
62	methylcyclohexane	0.443	0.426	3.8	103	0.00	11.28
63	1,2-dichloropropane	0.250	0.243	2.8	105	0.00	11.25
64	methyl methacrylate	0.059	0.062	-5.1	108	0.00	11.22
65	dibromomethane	0.146	0.152	-4.1	109	0.00	11.35
66	bromodichloromethane	0.346	0.342	1.2	105	0.00	11.51
67	2-nitropropane	0.060	0.064	-6.7	112	0.00	11.68
68	2-chloroethyl vinyl ether	0.146	0.157	-7.5	112	0.00	11.75
69	epichlorohydrin	0.024	0.025	-4.2	109	0.00	11.82
70	cis-1,3-dichloropropene	0.391	0.407	-4.1	108	0.00	11.97
71	4-methyl-2-pentanone	0.078	0.082	-5.1	111	0.00	12.06
72	3-methyl-1-butanol	0.007	0.007	0.0	113	0.00	12.05
	----- True		Calc.	% Drift	-----		
73 I	chlorobenzene-d5	1.000	1.000	0.0	107	0.00	13.79
74 S	toluene-d8 (s)	1.282	1.291	-0.7	107	0.00	12.28
75	toluene	0.692	0.718	-3.8	109	0.00	12.36
76	trans-1,3-dichloropropene	0.416	0.410	1.4	101	0.00	12.53
77	ethyl methacrylate	0.314	0.310	1.3	103	0.00	12.53
78	1,1,2-trichloroethane	0.203	0.211	-3.9	106	0.00	12.75
79	1,3-dichloropropane	0.370	0.394	-6.5	109	0.00	12.93

6.9.2

6

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICV8986  
 Lab FileID: I223186.D

80	tetrachloroethene	0.347	0.397	-14.4	118	0.00	12.92
81	2-hexanone	0.091	0.097	-6.6	108	0.00	12.91
82	butyl acetate	0.158	0.165	-4.4	107	0.00	13.00
83	n-butyl ether	1.143	1.141	0.2	106	0.00	13.79
84	dibromochloromethane	0.317	0.335	-5.7	109	0.00	13.17
85	1,2-dibromoethane	0.276	0.297	-7.6	109	0.00	13.33
86	chlorobenzene	0.737	0.763	-3.5	108	0.00	13.82
87	1,1,1,2-tetrachloroethane	0.293	0.305	-4.1	108	0.00	13.88
88	ethylbenzene	1.289	1.321	-2.5	108	0.00	13.88
89	m,p-xylene	0.507	0.521	-2.8	108	0.00	14.01
90	o-xylene	0.505	0.512	-1.4	107	0.00	14.40
91	styrene	0.848	0.878	-3.5	108	0.00	14.41
92	butyl acrylate	0.484	0.522	-7.9	111	0.00	14.23
93	cis-1,4-dichloro-2-butene	0.124	0.122	1.6	100	0.00	14.77
94	bromoform	0.223	0.244	-9.4	110	0.00	14.63
95	isopropylbenzene	1.271	1.330	-4.6	108	0.00	14.75
96 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	16.13
97 S	4-bromofluorobenzene (s)	0.762	0.768	-0.8	106	0.00	14.95
98	1,1,2,2-tetrachloroethane	0.517	0.529	-2.3	105	0.00	15.02
99	trans-1,4-dichloro-2-bute	0.135	0.159	-17.8	123	0.00	15.05
100	1,2,3-trichloropropane	0.133	0.141	-6.0	108	0.00	15.10
101	bromobenzene	0.617	0.633	-2.6	107	0.00	15.13
102	n-propylbenzene	2.563	2.623	-2.3	106	0.00	15.17
103	2-chlorotoluene	0.538	0.550	-2.2	107	0.00	15.30
104	4-chlorotoluene	1.532	1.592	-3.9	110	0.00	15.41
105	1,3,5-trimethylbenzene	1.928	1.958	-1.6	106	0.00	15.33
106	tert-butylbenzene	0.357	0.377	-5.6	107	0.00	15.67
107	1,2,4-trimethylbenzene	1.976	2.047	-3.6	108	0.00	15.72
108	sec-butylbenzene	2.485	2.555	-2.8	108	0.00	15.89
109	p-isopropyltoluene	2.157	2.255	-4.5	107	0.00	16.03
110	benzyl chloride	1.210	1.013	16.3	88	0.00	16.24
111	1,3-dichlorobenzene	1.178	1.207	-2.5	107	0.00	16.06
112	1,4-dichlorobenzene	1.203	1.224	-1.7	108	0.00	16.16
113	1,2-dichlorobenzene	1.153	1.197	-3.8	106	0.00	16.54
114	n-butylbenzene	1.122	1.162	-3.6	105	0.00	16.45
115	hexachloroethane	0.430	0.472	-9.8	109	0.00	16.86
116	1,2-dibromo-3-chloropropa	0.160	0.167	-4.4	104	0.00	17.33
117	nitrobenzene	0.055	0.059	-7.3	107	0.00	17.52
118	1,3,5-trichlorobenzene	1.171	1.212	-3.5	108	0.00	17.54
119	1,2,4-trichlorobenzene	1.053	1.053	0.0	103	0.00	18.20
120	2-ethylhexyl acrylate	0.859	0.939	-9.3	112	0.00	18.22
121	hexachlorobutadiene	0.693	0.694	-0.1	104	0.00	18.33
122	naphthalene	2.037	2.153	-5.7	106	0.00	18.49
123	1,2,3-trichlorobenzene	1.036	1.034	0.2	103	0.00	18.71
124	2-methylnaphthalene	0.726	0.700	3.6	103	0.00	19.59

(#) = Out of Range  
 I223181.D MI8986.M

SPCC's out = 0 CCC's out = 0  
 Wed Nov 28 14:09:03 2018

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICV8986  
 Lab FileID: I223187.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\VI8986\I223187.D Vial: 14  
 Acq On : 28 Nov 2018 12:18 am Operator: thienn  
 Sample : ICV8986-50 Inst : GCMSI  
 Misc : MS30885,VI8986,5.0,,,,,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MI8986.M (RTE Integrator)  
 Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 Last Update : Wed Nov 28 13:32:54 2018  
 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	7.37
2	tertiary butyl alcohol			-----NA-----			
3	1,4-dioxane			-----NA-----			
4 I	pentafluorobenzene	1.000	1.000	0.0	108	0.00	9.72
5	dichlorodifluoromethane			-----NA-----			
6	chlorodifluoromethane			-----NA-----			
7	chloromethane			-----NA-----			
8	vinyl chloride			-----NA-----			
9	1,3-butadiene			-----NA-----			
10	bromomethane			-----NA-----			
11	chloroethane			-----NA-----			
12	vinyl bromide			-----NA-----			
13	trichlorofluoromethane			-----NA-----			
14	ethyl ether			-----NA-----			
15	2-chloropropane			-----NA-----			
16	acrolein			-----NA-----			
17	freon 113			-----NA-----			
18	1,1-dichloroethene			-----NA-----			
19	acetone	0.084	0.079	6.0	99	0.00	6.71
	----- True		Calc.	% Drift			
20	iodomethane			-----NA-----			
	----- AvgRF		CCRF	% Dev			
21	carbon disulfide			-----NA-----			
22	acetonitrile	0.042	0.044	-4.8	109	0.00	7.12
	----- True		Calc.	% Drift			
23	methyl acetate			-----NA-----			
	----- AvgRF		CCRF	% Dev			
24	methylene chloride			-----NA-----			
25	acrylonitrile			-----NA-----			
26	methyl tert butyl ether			-----NA-----			
27	trans-1,2-dichloroethene			-----NA-----			
28	hexane			-----NA-----			
29	1,1-dichloroethane			-----NA-----			
30	vinyl acetate			-----NA-----			
31	di-isopropyl ether			-----NA-----			
32	chloroprene			-----NA-----			
33	ethyl tert-butyl ether			-----NA-----			

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICV8986  
 Lab FileID: I223187.D

34	2-butanone								
35	2,2-dichloropropane								
		True	Calc.	% Drift					
36	ethyl acetate								
		AvgRF	CCRF	% Dev					
37	cis-1,2-dichloroethene								
38	propionitrile								
		True	Calc.	% Drift					
39	methyl acrylate								
		AvgRF	CCRF	% Dev					
40	methacrylonitrile								
41	bromochloromethane								
42	tetrahydrofuran								
43	chloroform								
44	carbon tetrachloride								
45	1,1-dichloropropene								
46	isobutyl alcohol								
47 S	dibromofluoromethane (s)	0.393	0.394	-0.3	109	0.00		9.74	
48	1,1,1-trichloroethane								
49	cyclohexane								
		True	Calc.	% Drift					
50	tert-amyl alcohol								
		AvgRF	CCRF	% Dev					
51 I	1,4-difluorobenzene	1.000	1.000	0.0	106	0.00		10.65	
52 S	1,2-dichloroethane-d4 (s)	0.312	0.308	1.3	104	0.00		10.16	
53	isopropyl acetate								
54	1,2-dichloroethane								
55	benzene								
56	2,2,4-trimethylpentane								
57	tert-amyl methyl ether								
58	heptane								
59	n-butyl alcohol								
60	trichloroethene								
61	ethyl acrylate								
62	methylcyclohexane								
63	1,2-dichloropropane								
64	methyl methacrylate								
65	dibromomethane								
66	bromodichloromethane								
67	2-nitropropane								
68	2-chloroethyl vinyl ether								
69	epichlorohydrin								
70	cis-1,3-dichloropropene								
71	4-methyl-2-pentanone								
72	3-methyl-1-butanol								
73 I	chlorobenzene-d5	1.000	1.000	0.0	107	0.00		13.79	
74 S	toluene-d8 (s)	1.282	1.292	-0.8	108	0.00		12.28	
75	toluene								
76	trans-1,3-dichloropropene								
77	ethyl methacrylate								
78	1,1,2-trichloroethane								
79	1,3-dichloropropane								

6.9.3

6

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI8986-ICV8986  
 Lab FileID: I223187.D

80	tetrachloroethene	0.347	0.311	10.4	93	0.00	12.92
81	2-hexanone			-----NA-----			
82	butyl acetate			-----NA-----			
83	n-butyl ether			-----NA-----			
84	dibromochloromethane			-----NA-----			
85	1,2-dibromoethane			-----NA-----			
86	chlorobenzene			-----NA-----			
87	1,1,1,2-tetrachloroethane			-----NA-----			
88	ethylbenzene			-----NA-----			
89	m,p-xylene			-----NA-----			
90	o-xylene			-----NA-----			
91	styrene			-----NA-----			
92	butyl acrylate			-----NA-----			
93	cis-1,4-dichloro-2-butene			-----NA-----			
94	bromoform			-----NA-----			
95	isopropylbenzene			-----NA-----			
96 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	16.13
97 S	4-bromofluorobenzene (s)	0.762	0.792	-3.9	103	0.00	14.95
98	1,1,2,2-tetrachloroethane			-----NA-----			
99	trans-1,4-dichloro-2-bute			-----NA-----			
100	1,2,3-trichloropropane			-----NA-----			
101	bromobenzene			-----NA-----			
102	n-propylbenzene			-----NA-----			
103	2-chlorotoluene			-----NA-----			
104	4-chlorotoluene			-----NA-----			
105	1,3,5-trimethylbenzene			-----NA-----			
106	tert-butylbenzene			-----NA-----			
107	1,2,4-trimethylbenzene			-----NA-----			
108	sec-butylbenzene			-----NA-----			
109	p-isopropyltoluene			-----NA-----			
110	benzyl chloride			-----NA-----			
111	1,3-dichlorobenzene			-----NA-----			
112	1,4-dichlorobenzene			-----NA-----			
113	1,2-dichlorobenzene			-----NA-----			
114	n-butylbenzene			-----NA-----			
115	hexachloroethane			-----NA-----			
116	1,2-dibromo-3-chloropropa			-----NA-----			
117	nitrobenzene			-----NA-----			
118	1,3,5-trichlorobenzene			-----NA-----			
119	1,2,4-trichlorobenzene			-----NA-----			
120	2-ethylhexyl acrylate			-----NA-----			
121	hexachlorobutadiene			-----NA-----			
122	naphthalene			-----NA-----			
123	1,2,3-trichlorobenzene			-----NA-----			
124	2-methylnaphthalene			-----NA-----			

(#) = Out of Range  
 I223181.D MI8986.M

SPPC's out = 0 CCC's out = 0  
 Wed Nov 28 14:09:05 2018



## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI9085-CC8986  
 Lab FileID: I225474.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\kenrickb\vi9085\i225474.d Vial: 3  
 Acq On : 17 Apr 2019 7:43 am Operator: thienn  
 Sample : CC8986-50 Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MI8986.M (RTE Integrator)  
 Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 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	102	-0.03	7.35
2	tertiary butyl alcohol	1.035	1.111	-7.3	107	-0.03	7.47
3	1,4-dioxane	0.116	0.117	-0.9	102	-0.02	11.28
4 I	pentafluorobenzene	1.000	1.000	0.0	94	-0.02	9.70
5	dichlorodifluoromethane	0.437	0.682	-56.1#	142	0.00	3.89
6	chlorodifluoromethane	0.412	0.465	-12.9	103	0.00	3.92
7	chloromethane	0.404	0.480	-18.8	119	0.00	4.28
8	vinyl chloride	0.341	0.446	-30.8#	119	0.00	4.52
9	1,3-butadiene	0.238	0.263	-10.5	100	-0.01	4.61
10	bromomethane	0.227	0.271	-19.4	114	0.00	5.18
11	chloroethane	0.206	0.240	-16.5	108	-0.01	5.39
12	vinyl bromide	0.263	0.246	6.5	84	-0.01	5.73
13	trichlorofluoromethane	0.521	0.642	-23.2#	110	-0.01	5.86
14	ethyl ether	0.148	0.157	-6.1	94	-0.02	6.30
15	2-chloropropane	0.120	0.125	-4.2	92	-0.02	6.50
16	acrolein	0.048	0.041	14.6	79	-0.01	6.50
17	freon 113	0.255	0.273	-7.1	95	-0.02	6.72
18	1,1-dichloroethene	0.465	0.500	-7.5	99	-0.02	6.71
19	acetone	0.084	0.094	-11.9	101	-0.02	6.69
	----- True Calc. % Drift -----						
20	iodomethane	50.000	47.537	4.9	84	-0.02	6.96
	----- AvgRF CCRF % Dev -----						
21	carbon disulfide	1.002	0.934	6.8	91	-0.02	7.11
22	acetonitrile	0.042	0.041	2.4	89	-0.03	7.09
	----- True Calc. % Drift -----						
23	methyl acetate	50.000	45.209	9.6	89	-0.02	7.19
	----- AvgRF CCRF % Dev -----						
24	methylene chloride	0.345	0.332	3.8	94	-0.02	7.43
25	acrylonitrile	0.099	0.096	3.0	91	-0.02	7.70
26	methyl tert butyl ether	0.817	0.911	-11.5	101	-0.02	7.81
27	trans-1,2-dichloroethene	0.444	0.469	-5.6	97	-0.02	7.84
28	hexane	0.535	0.487	9.0	86	-0.02	8.23
29	1,1-dichloroethane	0.566	0.579	-2.3	97	-0.02	8.41
30	vinyl acetate	0.054	0.055	-1.9	96	-0.02	8.36
31	di-isopropyl ether	1.004	0.980	2.4	89	-0.02	8.43
32	chloroprene	0.478	0.553	-15.7	102	-0.02	8.53
33	ethyl tert-butyl ether	0.969	1.025	-5.8	95	-0.02	8.90

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI9085-CC8986  
 Lab FileID: I225474.D

34	2-butanone	0.032	0.033	-3.1	91	-0.03	9.06
35	2,2-dichloropropane	0.491	0.590	-20.2#	112	-0.02	9.17
	----- True	Calc.	% Drift	-----			
36	ethyl acetate	50.000	44.035	11.9	88	-0.02	9.10
	----- AvgRF	CCRF	% Dev	-----			
37	cis-1,2-dichloroethene	0.365	0.365	0.0	93	-0.02	9.14
38	propionitrile	0.046	0.049	-6.5	96	-0.03	9.11
	----- True	Calc.	% Drift	-----			
39	methyl acrylate	50.000	49.611	0.8	98	-0.02	9.18
	----- AvgRF	CCRF	% Dev	-----			
40	methacrylonitrile	0.117	0.119	-1.7	91	-0.03	9.32
41	bromochloromethane	0.164	0.173	-5.5	96	-0.02	9.43
42	tetrahydrofuran	0.036	0.041	-13.9	107	-0.02	9.47
43	chloroform	0.586	0.640	-9.2	101	-0.03	9.52
44	carbon tetrachloride	0.479	0.550	-14.8	104	-0.02	10.00
45	1,1-dichloropropene	0.441	0.473	-7.3	97	-0.02	9.97
46	isobutyl alcohol			-----NA-----			
47 S	dibromofluoromethane (s)	0.393	0.415	-5.6	99	-0.02	9.72
48	1,1,1-trichloroethane	0.523	0.609	-16.4	108	-0.02	9.80
49	cyclohexane	0.461	0.480	-4.1	98	-0.02	9.93
	----- True	Calc.	% Drift	-----			
50	tert-amyl alcohol	250.000	286.035	-14.4	110	-0.03	10.08
	----- AvgRF	CCRF	% Dev	-----			
51 I	1,4-difluorobenzene	1.000	1.000	0.0	97	-0.02	10.63
52 S	1,2-dichloroethane-d4 (s)	0.312	0.354	-13.5	110	-0.03	10.14
53	isopropyl acetate	0.045	0.047	-4.4	92	-0.02	10.13
54	1,2-dichloroethane	0.328	0.370	-12.8	110	-0.02	10.23
55	benzene	0.977	0.978	-0.1	95	-0.02	10.22
56	2,2,4-trimethylpentane	1.000	0.891	10.9	86	-0.02	10.33
57	tert-amyl methyl ether	0.167	0.174	-4.2	96	-0.02	10.31
58	heptane	0.209	0.186	11.0	86	-0.02	10.50
59	n-butyl alcohol	0.008	0.009	-12.5	100	-0.03	10.66
60	trichloroethene	0.262	0.267	-1.9	98	-0.02	10.95
61	ethyl acrylate	0.277	0.275	0.7	92	-0.02	10.93
62	methylcyclohexane	0.443	0.418	5.6	91	-0.02	11.27
63	1,2-dichloropropane	0.250	0.231	7.6	90	-0.02	11.23
64	methyl methacrylate	0.059	0.059	0.0	93	-0.02	11.20
65	dibromomethane	0.146	0.149	-2.1	96	-0.02	11.33
66	bromodichloromethane	0.346	0.366	-5.8	101	-0.03	11.49
67	2-nitropropane	0.060	0.075	-25.0#	118	-0.03	11.66
68	2-chloroethyl vinyl ether	0.146	0.146	0.0	93	-0.02	11.73
69	epichlorohydrin	0.024	0.026	-8.3	106	-0.02	11.80
70	cis-1,3-dichloropropene	0.391	0.407	-4.1	97	-0.02	11.95
71	4-methyl-2-pentanone	0.078	0.081	-3.8	99	-0.02	12.04
72	3-methyl-1-butanol	0.007	0.007	0.0	97	-0.02	12.04
	----- True	Calc.	% Drift	-----			
73 I	chlorobenzene-d5	1.000	1.000	0.0	98	-0.02	13.77
74 S	toluene-d8 (s)	1.282	1.279	0.2	98	-0.02	12.26
75	toluene	0.692	0.701	-1.3	97	-0.02	12.34
76	trans-1,3-dichloropropene	0.416	0.457	-9.9	103	-0.02	12.50
77	ethyl methacrylate	0.314	0.307	2.2	93	-0.02	12.51
78	1,1,2-trichloroethane	0.203	0.201	1.0	93	-0.03	12.72
79	1,3-dichloropropane	0.370	0.382	-3.2	97	-0.02	12.91

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI9085-CC8986  
 Lab FileID: I225474.D

80	tetrachloroethene	0.347	0.360	-3.7	98	-0.02	12.90
81	2-hexanone	0.091	0.094	-3.3	97	-0.02	12.89
82	butyl acetate	0.158	0.154	2.5	92	-0.02	12.98
83	n-butyl ether	1.143	0.976	14.6	83	-0.02	13.77
84	dibromochloromethane	0.317	0.330	-4.1	99	-0.03	13.15
85	1,2-dibromoethane	0.276	0.339	-22.8#	114	-0.02	13.31
86	chlorobenzene	0.737	0.767	-4.1	100	-0.02	13.80
87	1,1,1,2-tetrachloroethane	0.293	0.307	-4.8	100	-0.02	13.86
88	ethylbenzene	1.289	1.328	-3.0	100	-0.02	13.86
89	m,p-xylene	0.507	0.516	-1.8	98	-0.02	13.99
90	o-xylene	0.505	0.498	1.4	96	-0.02	14.38
91	styrene	0.848	0.857	-1.1	97	-0.02	14.39
92	butyl acrylate	0.484	0.495	-2.3	96	-0.02	14.21
93	cis-1,4-dichloro-2-butene	0.124	0.150	-21.0#	114	-0.02	14.75
94	bromoform	0.223	0.236	-5.8	98	-0.02	14.61
95	isopropylbenzene	1.271	1.331	-4.7	99	-0.02	14.73
96 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	-0.02	16.11
97 S	4-bromofluorobenzene (s)	0.762	0.780	-2.4	101	-0.02	14.93
98	1,1,2,2-tetrachloroethane	0.517	0.511	1.2	95	-0.02	14.99
99	trans-1,4-dichloro-2-bute	0.135	0.159	-17.8	115	-0.02	15.03
100	1,2,3-trichloropropane	0.133	0.140	-5.3	100	-0.03	15.08
101	bromobenzene	0.617	0.617	0.0	97	-0.02	15.11
102	n-propylbenzene	2.563	2.589	-1.0	98	-0.02	15.15
103	2-chlorotoluene	0.538	0.536	0.4	97	-0.02	15.28
104	4-chlorotoluene	1.532	1.611	-5.2	104	-0.02	15.39
105	1,3,5-trimethylbenzene	1.928	1.956	-1.5	99	-0.02	15.31
106	tert-butylbenzene	0.357	0.351	1.7	94	-0.02	15.65
107	1,2,4-trimethylbenzene	1.976	1.998	-1.1	99	-0.02	15.70
108	sec-butylbenzene	2.485	2.440	1.8	97	-0.02	15.87
109	p-isopropyltoluene	2.157	2.246	-4.1	100	-0.02	16.01
110	benzyl chloride	1.210	1.342	-10.9	109	-0.02	16.22
111	1,3-dichlorobenzene	1.178	1.221	-3.7	101	-0.02	16.04
112	1,4-dichlorobenzene	1.203	1.233	-2.5	102	-0.02	16.13
113	1,2-dichlorobenzene	1.153	1.179	-2.3	98	-0.02	16.52
114	n-butylbenzene	1.122	1.190	-6.1	101	-0.02	16.43
115	hexachloroethane	0.430	0.449	-4.4	98	-0.02	16.84
116	1,2-dibromo-3-chloropropa	0.160	0.156	2.5	91	-0.02	17.31
117	nitrobenzene	0.055	0.066	-20.0#	113	-0.03	17.49
118	1,3,5-trichlorobenzene	1.171	1.231	-5.1	103	-0.02	17.52
119	1,2,4-trichlorobenzene	1.053	1.092	-3.7	101	-0.02	18.18
120	2-ethylhexyl acrylate	0.859	0.928	-8.0	104	-0.02	18.20
121	hexachlorobutadiene	0.693	0.705	-1.7	99	-0.02	18.31
122	naphthalene	2.037	2.240	-10.0	104	-0.02	18.47
123	1,2,3-trichlorobenzene	1.036	1.027	0.9	96	-0.02	18.69
124	2-methylnaphthalene	0.726	1.108	-52.6#	153	-0.02	19.57

(#) = Out of Range  
 I223181.D MI8986.M

SPCC's out = 0 CCC's out = 0  
 Thu Apr 18 04:50:49 2019

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI9086-CC8986  
 Lab FileID: I225506.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\VI9086\I225506.D Vial: 4  
 Acq On : 18 Apr 2019 8:29 am Operator: thienn  
 Sample : cc8986-20 Inst : GCMSI  
 Misc : MS31989,VI9086,5,,100,5,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MI8986.M (RTE Integrator)  
 Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 Last Update : Fri Jan 25 14:07:54 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	102	-0.03	7.35
2	tertiary butyl alcohol	1.035	1.080	-4.3	106	-0.03	7.47
3	1,4-dioxane	0.116	0.114	1.7	96	-0.02	11.28
4 I	pentafluorobenzene	1.000	1.000	0.0	96	-0.02	9.70
5	dichlorodifluoromethane	0.437	0.598	-36.8#	128	0.00	3.89
6	chlorodifluoromethane	0.412	0.429	-4.1	99	0.00	3.92
7	chloromethane	0.404	0.464	-14.9	120	-0.01	4.28
8	vinyl chloride	0.341	0.408	-19.6	113	0.00	4.52
9	1,3-butadiene	0.238	0.252	-5.9	100	-0.01	4.61
10	bromomethane	0.227	0.258	-13.7	111	0.00	5.19
11	chloroethane	0.206	0.228	-10.7	101	-0.01	5.39
12	vinyl bromide	0.263	0.226	14.1	79	0.00	5.74
13	trichlorofluoromethane	0.521	0.550	-5.6	99	-0.01	5.86
14	ethyl ether	0.148	0.147	0.7	92	-0.02	6.30
15	2-chloropropane	0.120	0.118	1.7	87	-0.02	6.50
16	acrolein	0.048	0.043	10.4	93	0.00	6.51
17	freon 113	0.255	0.249	2.4	90	-0.01	6.72
18	1,1-dichloroethene	0.465	0.447	3.9	90	-0.02	6.71
19	acetone	0.084	0.094	-11.9	104	-0.02	6.70
	----- True Calc. % Drift -----						
20	iodomethane	20.000	15.491	22.5#	85	-0.02	6.96
	----- AvgRF CCRF % Dev -----						
21	carbon disulfide	1.002	0.870	13.2	86	-0.02	7.11
22	acetonitrile	0.042	0.042	0.0	92	-0.02	7.10
	----- True Calc. % Drift -----						
23	methyl acetate	20.000	17.828	10.9	91	-0.02	7.19
	----- AvgRF CCRF % Dev -----						
24	methylene chloride	0.345	0.324	6.1	94	-0.02	7.43
25	acrylonitrile	0.099	0.089	10.1	89	-0.02	7.70
26	methyl tert butyl ether	0.817	0.861	-5.4	99	-0.02	7.81
27	trans-1,2-dichloroethene	0.444	0.434	2.3	91	-0.02	7.84
28	hexane	0.535	0.423	20.9#	75	-0.01	8.23
29	1,1-dichloroethane	0.566	0.544	3.9	91	-0.02	8.41
30	vinyl acetate	0.054	0.051	5.6	97	-0.01	8.37
31	di-isopropyl ether	1.004	0.914	9.0	86	-0.02	8.43
32	chloroprene	0.478	0.487	-1.9	92	-0.02	8.53
33	ethyl tert-butyl ether	0.969	0.949	2.1	92	-0.02	8.90

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI9086-CC8986  
 Lab FileID: I225506.D

		True	Calc.	% Drift			
34	2-butanone	0.032	0.032	0.0	94	-0.02	9.06
35	2,2-dichloropropane	0.491	0.539	-9.8	102	-0.02	9.17
	----- True		Calc.	% Drift	-----		
36	ethyl acetate	20.000	18.916	5.4	93	-0.02	9.10
	----- AvgRF		CCRF	% Dev	-----		
37	cis-1,2-dichloroethene	0.365	0.336	7.9	88	-0.02	9.14
38	propionitrile	0.046	0.048	-4.3	96	-0.03	9.11
	----- True		Calc.	% Drift	-----		
39	methyl acrylate	20.000	19.657	1.7	102	-0.02	9.18
	----- AvgRF		CCRF	% Dev	-----		
40	methacrylonitrile	0.117	0.115	1.7	96	-0.02	9.33
41	bromochloromethane	0.164	0.159	3.0	89	-0.02	9.44
42	tetrahydrofuran	0.036	0.042	-16.7	112	-0.02	9.47
43	chloroform	0.586	0.604	-3.1	97	-0.02	9.53
44	carbon tetrachloride	0.479	0.487	-1.7	94	-0.02	10.00
45	1,1-dichloropropene	0.441	0.428	2.9	92	-0.02	9.97
46	isobutyl alcohol			-----NA-----			
47 S	dibromofluoromethane (s)	0.393	0.404	-2.8	98	-0.02	9.72
48	1,1,1-trichloroethane	0.523	0.551	-5.4	98	-0.02	9.80
49	cyclohexane	0.461	0.417	9.5	85	-0.02	9.93
	----- True		Calc.	% Drift	-----		
50	tert-amyl alcohol	100.000	108.139	-8.1	111	-0.03	10.08
	----- AvgRF		CCRF	% Dev	-----		
51 I	1,4-difluorobenzene	1.000	1.000	0.0	100	-0.02	10.63
52 S	1,2-dichloroethane-d4 (s)	0.312	0.351	-12.5	111	-0.02	10.14
53	isopropyl acetate	0.045	0.044	2.2	96	-0.02	10.13
54	1,2-dichloroethane	0.328	0.357	-8.8	108	-0.02	10.23
55	benzene	0.977	0.918	6.0	90	-0.02	10.22
56	2,2,4-trimethylpentane	1.000	0.775	22.5#	74	-0.02	10.33
57	tert-amyl methyl ether	0.167	0.166	0.6	93	-0.02	10.31
58	heptane	0.209	0.159	23.9#	72	-0.02	10.51
59	n-butyl alcohol	0.008	0.009	-12.5	100	-0.03	10.66
60	trichloroethene	0.262	0.243	7.3	90	-0.02	10.95
61	ethyl acrylate	0.277	0.252	9.0	91	-0.02	10.94
62	methylcyclohexane	0.443	0.357	19.4	78	-0.02	11.26
63	1,2-dichloropropane	0.250	0.213	14.8	85	-0.02	11.23
64	methyl methacrylate	0.059	0.053	10.2	92	-0.02	11.20
65	dibromomethane	0.146	0.144	1.4	96	-0.02	11.33
66	bromodichloromethane	0.346	0.346	0.0	97	-0.02	11.49
67	2-nitropropane	0.060	0.071	-18.3	120	-0.03	11.66
68	2-chloroethyl vinyl ether	0.146	0.140	4.1	92	-0.02	11.73
69	epichlorohydrin	0.024	0.025	-4.2	101	-0.02	11.80
70	cis-1,3-dichloropropene	0.391	0.376	3.8	91	-0.02	11.95
71	4-methyl-2-pentanone	0.078	0.075	3.8	92	-0.02	12.04
72	3-methyl-1-butanol	0.007	0.006	14.3	98	-0.03	12.03
	----- True		Calc.	% Drift	-----		
73 I	chlorobenzene-d5	1.000	1.000	0.0	99	-0.02	13.77
74 S	toluene-d8 (s)	1.282	1.265	1.3	97	-0.02	12.26
75	toluene	0.692	0.658	4.9	91	-0.02	12.34
76	trans-1,3-dichloropropene	0.416	0.425	-2.2	97	-0.02	12.51
77	ethyl methacrylate	0.314	0.283	9.9	84	-0.02	12.51
78	1,1,2-trichloroethane	0.203	0.183	9.9	87	-0.02	12.73
79	1,3-dichloropropane	0.370	0.359	3.0	90	-0.02	12.91

6.9.5  
6

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VI9086-CC8986  
 Lab FileID: I225506.D

80	tetrachloroethene	0.347	0.330	4.9	90	-0.02	12.90
81	2-hexanone	0.091	0.086	5.5	91	-0.02	12.89
82	butyl acetate	0.158	0.141	10.8	84	-0.02	12.98
83	n-butyl ether	1.143	0.891	22.0#	76	-0.02	13.77
84	dibromochloromethane	0.317	0.310	2.2	94	-0.02	13.16
85	1,2-dibromoethane	0.276	0.319	-15.6	111	-0.02	13.31
86	chlorobenzene	0.737	0.707	4.1	91	-0.02	13.80
87	1,1,1,2-tetrachloroethane	0.293	0.282	3.8	94	-0.02	13.86
88	ethylbenzene	1.289	1.219	5.4	91	-0.02	13.86
89	m,p-xylene	0.507	0.475	6.3	90	-0.02	13.98
90	o-xylene	0.505	0.459	9.1	90	-0.02	14.38
91	styrene	0.848	0.773	8.8	89	-0.02	14.39
92	butyl acrylate	0.484	0.442	8.7	87	-0.02	14.21
93	cis-1,4-dichloro-2-butene	0.124	0.141	-13.7	108	-0.02	14.75
94	bromoform	0.223	0.224	-0.4	97	-0.02	14.61
95	isopropylbenzene	1.271	1.181	7.1	88	-0.02	14.74
96 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	95	-0.02	16.11
97 S	4-bromofluorobenzene (s)	0.762	0.802	-5.2	101	-0.02	14.93
98	1,1,2,2-tetrachloroethane	0.517	0.512	1.0	93	-0.02	14.99
99	trans-1,4-dichloro-2-bute	0.135	0.158	-17.0	114	-0.02	15.03
100	1,2,3-trichloropropane	0.133	0.146	-9.8	100	-0.03	15.08
101	bromobenzene	0.617	0.596	3.4	90	-0.02	15.11
102	n-propylbenzene	2.563	2.458	4.1	89	-0.02	15.15
103	2-chlorotoluene	0.538	0.515	4.3	90	-0.02	15.28
104	4-chlorotoluene	1.532	1.551	-1.2	93	-0.02	15.39
105	1,3,5-trimethylbenzene	1.928	1.826	5.3	86	-0.02	15.31
106	tert-butylbenzene	0.357	0.331	7.3	84	-0.02	15.65
107	1,2,4-trimethylbenzene	1.976	1.878	5.0	89	-0.02	15.70
108	sec-butylbenzene	2.485	2.234	10.1	84	-0.02	15.87
109	p-isopropyltoluene	2.157	2.042	5.3	87	-0.02	16.01
110	benzyl chloride	1.210	1.292	-6.8	99	-0.02	16.22
111	1,3-dichlorobenzene	1.178	1.165	1.1	91	-0.02	16.04
112	1,4-dichlorobenzene	1.203	1.171	2.7	90	-0.02	16.14
113	1,2-dichlorobenzene	1.153	1.133	1.7	89	-0.02	16.52
114	n-butylbenzene	1.122	1.086	3.2	88	-0.02	16.43
115	hexachloroethane	0.430	0.412	4.2	89	-0.02	16.84
116	1,2-dibromo-3-chloropropa	0.160	0.154	3.8	94	-0.03	17.30
117	nitrobenzene	0.055	0.062	-12.7	109	-0.03	17.49
118	1,3,5-trichlorobenzene	1.171	1.131	3.4	88	-0.02	17.52
119	1,2,4-trichlorobenzene	1.053	1.012	3.9	85	-0.02	18.18
120	2-ethylhexyl acrylate	0.859	0.777	9.5	82	-0.02	18.20
121	hexachlorobutadiene	0.693	0.629	9.2	86	-0.02	18.31
122	naphthalene	2.037	2.100	-3.1	96	-0.02	18.47
123	1,2,3-trichlorobenzene	1.036	0.950	8.3	84	-0.02	18.69
124	2-methylnaphthalene	0.726	1.005	-38.4#	132	-0.02	19.57

(#) = Out of Range  
 I223180.D MI8986.M

SPCC's out = 0 CCC's out = 0  
 Thu Apr 18 12:04:13 2019

**Initial Calibration Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICC8003  
 Lab FileID: Y184479.D

Response Factor Report MSY

Method : C:\MSDCHEM\1\METHODS\MYS8003.M (RTE Integrator)  
 Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 Last Update : Mon Apr 15 08:12:27 2019  
 Response via : Initial Calibration

Calibration Files

4 =Y184476.D 8 =Y184477.D 0.5 =Y184473.D 50 =Y184479.D  
 100 =Y184480.D 1 =Y184474.D 200 =Y184481.D 20 =Y184478.D  
 2 =Y184475.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											
1.588 1.614				1.588 1.588			1.767 1.574 1.434			1.594	6.08
4) 1,4-dioxane											
0.151 0.151				0.146 0.143			0.141 0.148 0.145			0.147	2.49
5) I pentafluorobenzene -----ISTD-----											
6) chlorodifluoromethane											
0.906 0.868 1.027				0.816 0.822 0.919			0.833 0.878 0.981			0.894	8.10
7) dichlorodifluoromethane											
0.960 0.981 0.912				0.959 0.940 0.728			0.946 0.982 1.003			0.935	8.76
8) chloromethane											
1.140 1.146 1.374				1.029 1.008 1.169			1.174 1.123 1.281			1.161	9.76
9) vinyl chloride											
0.940 0.960 0.935				0.886 0.887 0.828			0.904 0.982 0.990			0.924	5.66
10) 1,3-butadiene											
0.596 0.593				0.567 0.568 0.613			0.577 0.607 0.675			0.600	5.80
11) bromomethane											
0.754 0.741				0.648 0.643 0.774			0.652 0.723 0.855			0.724	10.21
12) chloroethane											
0.553 0.551				0.487 0.487 0.637			0.490 0.534 0.637			0.547	11.35
13) vinyl bromide											
0.521 0.520				0.469 0.464 0.466			0.478 0.508 0.491			0.490	4.89
14) trichlorofluoromethane											
1.002 1.032 1.097				0.949 0.940 0.892			0.961 1.026 1.057			0.995	6.49
15) ethyl ether											
0.272 0.289				0.277 0.283 0.239			0.286 0.284 0.254			0.273	6.45
16) 2-chloropropane											
0.244 0.239				0.230 0.232			0.235 0.254 0.229			0.238	3.73
17) acrolein											
0.073 0.078				0.077 0.076			0.079 0.084 0.070			0.077	5.76
18) freon 113											
0.480 0.486				0.477 0.461 0.428			0.471 0.499 0.460			0.470	4.53
19) 1,1-dichloroethene											
0.926 0.882 0.865				0.863 0.865 0.861			0.877 0.910 0.945			0.888	3.49
20) acetone											
0.157 0.141				0.125 0.130			0.130 0.140 0.183			0.144	14.08
21) acetonitrile											
0.064 0.063				0.059 0.060			0.061 0.064			0.062	3.62
22) iodomethane											
1.045 1.041 1.131				0.985 1.000 1.023			1.035 1.031 1.053			1.038	3.95
23) carbon disulfide											

6.9.6  
6



# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICC8003  
 Lab FileID: Y184479.D

24)	methylen chloride	1.826	1.764	1.986	1.728	1.739	1.844	1.780	1.812	1.955	1.826	4.97
		0.991	0.852		0.684	0.669		0.690	0.739		0.771	16.46
25)	methyl acetate	0.351	0.335		0.292	0.296		0.294	0.300		0.311	8.08
26)	methyl tert butyl ether	1.623	1.665	1.757	1.615	1.652	1.618	1.714	1.683	1.682	1.668	2.85
27)	trans-1,2-dichloroethene	0.842	0.824	0.779	0.789	0.789	0.781	0.802	0.836	0.851	0.810	3.47
28)	hexane	0.831	0.787		0.759	0.746		0.739	0.766	0.834	0.780	4.95
29)	di-isopropyl ether	2.046	2.110	2.242	2.030	2.086	2.104	2.125	2.127	2.109	2.109	2.86
30)	ethyl tert-butyl ether	1.901	1.970	1.941	1.913	1.997	1.754	2.083	1.986	1.901	1.938	4.65
31)	2-butanone	0.038	0.040		0.042	0.044		0.043	0.043	0.036	0.041	7.51
32)	1,1-dichloroethane	1.028	1.017	1.027	0.969	0.985	0.968	0.996	1.037	1.088	1.013	3.76
33)	chloroprene	0.814	0.781	0.867	0.771	0.773	0.769	0.779	0.809	0.841	0.800	4.37
34)	acrylonitrile	0.142			0.154	0.162		0.164	0.161		0.157	5.72
35)	vinyl acetate	0.069	0.086		0.083	0.082		0.084	0.081		0.081	7.73
36)	ethyl acetate	0.054	0.060		0.057	0.061		0.056	0.057		0.057	4.46
37)	2,2-dichloropropane	0.931	0.932		0.855	0.857	0.868	0.866	0.898	0.961	0.896	4.52
38)	cis-1,2-dichloroethene	0.649	0.680		0.648	0.644	0.627	0.655	0.679	0.696	0.660	3.48
39)	propionitrile	0.055	0.056		0.055	0.056	0.047	0.057	0.056	0.054	0.055	6.01
40)	bromochloromethane	0.385	0.387		0.389	0.396	0.359	0.403	0.402	0.410	0.391	4.08
41)	tetrahydrofuran	0.043			0.048	0.054		0.055	0.060		0.052	12.68
42)	chloroform	1.087	1.052		0.990	1.013	1.054	1.024	1.058	1.135	1.052	4.29
43)	tert-butyl formate	0.410	0.417		0.432	0.454		0.468	0.440	0.433	0.436	4.64
44)	isobutyl alcohol										0.000	-1.00
45)	dibromofluoromethane (s)	0.444	0.442	0.441	0.449	0.456	0.443	0.460	0.441	0.442	0.446	1.62
46)	methacrylonitrile	0.141	0.153		0.151	0.158		0.160	0.158	0.146	0.152	4.50
47)	1,1,1-trichloroethane	0.970	0.912	1.112	0.901	0.922	0.845	0.936	0.958	0.988	0.949	7.81
48)	cyclohexane	0.926	0.898	0.801	0.821	0.828	0.826	0.831	0.891	0.890	0.857	5.15
49)	1,1-dichloropropene	0.709	0.681	0.622	0.648	0.667	0.678	0.667	0.699	0.727	0.678	4.73
50)	tert-amyl alcohol	0.020	0.019		0.017	0.019		0.018	0.018		0.019	4.98
51)	carbon tetrachloride	0.791	0.776	0.751	0.755	0.766	0.695	0.786	0.803	0.831	0.773	4.96
52)	I 1,4-difluorobenzene	-----ISTD-----										
53)	1,2-dichloroethane-d4 (s)											

6.9.6  
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# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICC8003  
 Lab FileID: Y184479.D

54)	2,2,4-trimethylpentane	0.279	0.272	0.275	0.267	0.272	0.272	0.270	0.270	0.279	0.273	1.53
		1.544	1.515	1.590	1.558	1.574	1.371	1.603	1.519	1.566	1.538	4.50
55)	tert-amyl methyl ether	1.216	1.241	1.392	1.204	1.255	1.124	1.297	1.244	1.270	1.249	5.80
56)	n-butyl alcohol	0.006	0.007		0.007	0.007		0.007	0.007	0.007	0.007	3.32
57)	benzene	1.523	1.561	1.794	1.466	1.500	1.422	1.495	1.564	1.613	1.549	6.99
58)	heptane	0.300	0.277		0.274	0.271	0.268	0.263	0.273	0.284	0.276	4.14
59)	isopropyl acetate	0.057	0.058		0.060	0.063		0.063	0.065		0.061	4.90
60)	1,2-dichloroethane	0.460	0.466		0.441	0.446	0.498	0.444	0.463	0.505	0.465	5.16
61)	trichloroethene	0.389	0.385	0.431	0.381	0.385	0.393	0.383	0.405	0.392	0.394	4.00
62)	ethyl acrylate	0.325	0.334		0.332	0.336	0.329	0.327	0.337	0.343	0.333	1.72
63)	2-nitropropane	0.114	0.101		0.096	0.095		0.095	0.100		0.100	7.44
64)	2-chloroethyl vinyl ether	0.182	0.180	0.201	0.181	0.179	0.184	0.176	0.182	0.178	0.183	4.00
65)	methyl methacrylate	0.068	0.074		0.073	0.074		0.074	0.074		0.073	3.57
66)	1,2-dichloropropane	0.392	0.397	0.353	0.379	0.380	0.366	0.377	0.398	0.381	0.380	3.87
67)	methylcyclohexane	0.693	0.672	0.704	0.663	0.657	0.657	0.666	0.684	0.710	0.679	2.98
68)	dibromomethane	0.216	0.216	0.224	0.212	0.214	0.197	0.217	0.216	0.220	0.215	3.51
69)	bromodichloromethane	0.505	0.527	0.554	0.509	0.524	0.462	0.528	0.524	0.495	0.514	5.03
70)	epichlorohydrin	0.028	0.028		0.026	0.027		0.026	0.027	0.029	0.027	4.22
71)	cis-1,3-dichloropropene	0.600	0.595	0.581	0.591	0.598	0.567	0.596	0.604	0.583	0.590	1.97
72)	4-methyl-2-pentanone	0.107	0.106	0.123	0.106	0.106	0.107	0.105	0.111	0.102	0.108	5.51
73)	3-methyl-1-butanol	0.008	0.008		0.008	0.009		0.009	0.009	0.008	0.008	4.45
74)	I chlorobenzene-d5	-----ISTD-----										
75)	toluene-d8 (s)	1.208	1.249	1.207	1.239	1.298	1.213	1.287	1.271	1.270	1.249	2.78
76)	toluene	0.943	1.004	1.138	0.926	0.999	0.922	0.969	1.007	1.030	0.993	6.71
77)	trans-1,3-dichloropropene	0.493	0.521	0.571	0.517	0.561	0.490	0.545	0.567	0.522	0.532	5.76
78)	ethyl methacrylate	0.394	0.414	0.411	0.402	0.427	0.398	0.409	0.418	0.405	0.409	2.47
79)	1,1,2-trichloroethane	0.253	0.265	0.282	0.251	0.270	0.238	0.264	0.265	0.280	0.263	5.32
80)	2-hexanone	0.101	0.110	0.130	0.105	0.110	0.100	0.104	0.115	0.107	0.109	8.39
81)	tetrachloroethene	0.421	0.424	0.440	0.408	0.435	0.410	0.430	0.452	0.464	0.432	4.27
82)	1,3-dichloropropane	0.470	0.496	0.462	0.472	0.496	0.483	0.484	0.499	0.503	0.485	3.00
83)	butyl acetate											

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICC8003  
 Lab FileID: Y184479.D

84)	dibromochloromethane	0.193	0.210	0.202	0.209	0.196	0.196	0.218	0.218	0.205	4.85
85)	1,2-dibromoethane	0.371	0.375	0.353	0.386	0.420	0.358	0.417	0.390	0.367	6.23
86)	n-butyl ether	0.387	0.413	0.463	0.404	0.429	0.369	0.418	0.423	0.421	6.38
87)	chlorobenzene	1.751	1.817	1.664	1.737	1.705	1.665	1.811	1.804	1.744	3.60
88)	1,1,1,2-tetrachloroethane	1.120	1.143	1.223	1.080	1.112	1.068	1.098	1.141	1.148	4.07
89)	ethylbenzene	0.423	0.451	0.383	0.415	0.465	0.380	0.461	0.451	0.467	7.92
90)	m,p-xylene	1.875	1.923	1.947	1.800	1.863	1.824	1.807	1.956	1.999	3.79
91)	o-xylene	0.740	0.756	0.780	0.695	0.720	0.733	0.710	0.750	0.763	3.66
92)	styrene	1.584	1.612	1.729	1.524	1.604	1.510	1.584	1.660	1.675	4.38
93)	bromoform	1.289	1.325	1.296	1.225	1.266	1.222	1.235	1.315	1.280	3.01
94)	butyl acrylate	0.223	0.235	0.248	0.266	0.189	0.268	0.247	0.223	0.237	10.97
95)	isopropylbenzene	0.695	0.745	0.789	0.706	0.753	0.678	0.701	0.753	0.759	5.05
96)	cis-1,4-dichloro-2-butene	1.900	1.986	2.031	1.842	1.962	1.863	1.930	2.019	2.000	3.52
97)	I 1,4-dichlorobenzene-d	0.133	0.140	0.136	0.149		0.140	0.137		0.139	3.85
98)	4-bromofluorobenzene (s)	-----ISTD-----									
99)	bromobenzene	0.880	0.855	0.867	0.871	0.826	0.876	0.839	0.848	0.854	2.09
100)	1,1,2,2-tetrachloroethane	0.951	0.968	1.059	0.926	0.905	0.898	0.910	0.957	0.951	5.16
101)	trans-1,4-dichloro-2-butene	0.729	0.732	0.743	0.722	0.714	0.691	0.722	0.730	0.758	2.55
102)	1,2,3-trichloropropane	0.183	0.167	0.164	0.168		0.165	0.171		0.170	4.14
103)	n-propylbenzene	0.166	0.186	0.176	0.175	0.180	0.175	0.182	0.181	0.178	3.44
104)	2-chlorotoluene	4.105	4.028	4.340	3.822	3.714	3.898	3.751	4.021	4.100	5.02
105)	4-chlorotoluene	0.884	0.866	0.934	0.838	0.835	0.827	0.837	0.879	0.864	3.91
106)	1,3,5-trimethylbenzene	2.550	2.493	2.553	2.385	2.333	2.473	2.351	2.514	2.524	3.47
107)	tert-butylbenzene	3.005	3.017	3.232	2.844	2.796	2.869	2.904	2.996	3.026	4.41
108)	1,2,4-trimethylbenzene	0.521	0.532	0.523	0.510	0.528	0.454	0.556	0.541	0.524	5.44
109)	sec-butylbenzene	3.158	3.101	3.571	2.923	2.892	2.943	2.961	3.090	3.005	6.77
110)	1,3-dichlorobenzene	3.734	3.743	4.134	3.626	3.632	3.587	3.736	3.811	3.746	4.30
111)	p-isopropyltoluene	1.862	1.903	2.056	1.754	1.765	1.796	1.768	1.871	1.917	5.26
112)	1,4-dichlorobenzene	3.355	3.285	3.443	3.191	3.140	3.144	3.239	3.320	3.232	3.08
113)	1,2-dichlorobenzene	1.900	1.891	1.943	1.764	1.798	1.681	1.796	1.849	1.868	4.40

6.9.6  
6

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICC8003  
 Lab FileID: Y184479.D

114)	n-butylbenzene	1.777	1.851	1.894	1.754	1.755	1.652	1.775	1.830	1.849	1.793	4.01
115)	1,2-dibromo-3-chloropropane	1.779	1.763	1.815	1.715	1.700	1.589	1.713	1.797	1.685	1.728	4.01
116)	1,3,5-trichlorobenzene	0.168	0.166		0.167	0.181		0.186	0.171	0.166	0.172	4.70
117)	1,2,4-trichlorobenzene	1.744	1.808	1.877	1.724	1.754	1.582	1.826	1.812	1.771	1.766	4.75
118)	hexachlorobutadiene	1.401	1.475	1.459	1.489	1.522	1.306	1.627	1.506	1.375	1.462	6.37
119)	naphthalene	0.903	0.907	1.007	0.906	0.884	0.856	0.933	0.932	0.882	0.912	4.73
120)	1,2,3-trichlorobenzene	2.239	2.442	2.422	2.556	2.683	2.112	2.863	2.550	2.380	2.472	9.11
121)	hexachloroethane	1.180	1.310	1.316	1.310	1.378	1.109	1.469	1.323	1.273	1.296	8.05
122)	benzyl chloride	0.445	0.471		0.519	0.571		0.618	0.523	0.433	0.511	13.21
	*This compound does not meet initial calibration criteria*											
123)	2-ethylhexyl acrylate	1.308	1.370	1.411	1.362	1.426	1.256	1.434	1.412	1.387	1.374	4.28
		0.746		1.026	1.104		1.304	0.886			1.013	20.96
		----- Linear regression ----- Coefficient = 0.9922										
		Response Ratio = -0.02324 + 1.25719 *A										
124)	2-methylnaphthalene	1.062		1.288	1.424		1.583	1.110			1.293	16.78
125)	bis(chloromethyl)ether										0.000	-1.00
126)	ethylenimine										0.000	-1.00

-----  
 (#) = Out of Range ### Number of calibration levels exceeded format ###

MYS8003.M

Mon Apr 15 08:15:30 2019

RPT1

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICV8003  
 Lab FileID: Y184484.D

## Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\VY8003\Y184484.D Vial: 13  
 Acq On : 11 Apr 2019 4:44 pm Operator: Prashans  
 Sample : ICV8003-50 Inst : MSY  
 Misc : MS31717,VY8003,5.0,,,,,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8003.M (RTE Integrator)  
 Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 Last Update : Mon Apr 15 08:12:27 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	111	0.00	7.74
2	ethanol			-----NA-----			
3	tertiary butyl alcohol	1.594	1.609	-0.9	112	-0.02	7.84
4	1,4-dioxane	0.147	0.143	2.7	108	0.00	11.54
5 I	pentafluorobenzene	1.000	1.000	0.0	99	0.00	9.97
6	chlorodifluoromethane	0.894	0.917	-2.6	111	0.00	4.38
7	dichlorodifluoromethane	0.935	0.997	-6.6	103	0.01	4.35
8	chloromethane	1.161	1.235	-6.4	119	0.00	4.74
9	vinyl chloride	0.924	0.925	-0.1	103	0.00	4.99
10	1,3-butadiene	0.600	0.698	-16.3	122	0.00	5.03
11	bromomethane	0.724	0.694	4.1	106	0.00	5.63
12	chloroethane	0.547	0.518	5.3	105	0.00	5.81
13	vinyl bromide	0.490	0.514	-4.9	109	0.00	6.15
14	trichlorofluoromethane	0.995	0.969	2.6	101	0.00	6.27
15	ethyl ether	0.273	0.297	-8.8	106	0.00	6.63
16	2-chloropropane	0.238	0.255	-7.1	110	0.00	6.86
17	acrolein	0.077	0.099	-28.6	127	0.00	6.87
18	freon 113	0.470	0.553	-17.7	115	0.00	7.09
19	1,1-dichloroethene	0.888	0.844	5.0	97	0.00	7.07
20	acetone	0.144	0.142	1.4	112	0.00	7.07
21	acetonitrile			-----NA-----			
22	iodomethane	1.038	1.183	-14.0	119	0.00	7.33
23	carbon disulfide	1.826	2.047	-12.1	117	0.00	7.47
24	methylene chloride	0.771	0.687	10.9	99	0.00	7.78
25	methyl acetate	0.311	0.312	-0.3	106	0.00	7.52
26	methyl tert butyl ether	1.668	1.710	-2.5	105	0.00	8.14
27	trans-1,2-dichloroethene	0.810	0.811	-0.1	102	0.00	8.15
28	hexane	0.780	0.768	1.5	100	0.00	8.50
29	di-isopropyl ether	2.109	2.062	2.2	101	0.00	8.72
30	ethyl tert-butyl ether	1.938	1.964	-1.3	102	0.00	9.18
31	2-butanone	0.041	0.046	-12.2	109	0.00	9.37
32	1,1-dichloroethane	1.013	1.031	-1.8	105	0.00	8.73
33	chloroprene	0.800	0.812	-1.5	104	0.00	8.83
34	acrylonitrile	0.157	0.198	-26.1	127	-0.01	8.06
35	vinyl acetate	0.081	0.082	-1.2	98	0.00	8.66
36	ethyl acetate	0.057	0.062	-8.8	109	0.00	9.39
37	2,2-dichloropropane	0.896	0.880	1.8	102	0.00	9.49
38	cis-1,2-dichloroethene	0.660	0.648	1.8	99	0.00	9.45
39	propionitrile	0.055	0.062	-12.7	111	0.00	9.46
40	bromochloromethane	0.391	0.413	-5.6	105	0.00	9.74
41	tetrahydrofuran	0.052	0.057	-9.6	119	0.00	9.76

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICV8003  
 Lab FileID: Y184484.D

42	chloroform	1.052	1.034	1.7	103	0.00	9.82
43	tert-butyl formate	0.436	0.416	4.6	95	0.00	9.86
44	isobutyl alcohol			-----NA-----			
45 S	dibromofluoromethane (s)	0.446	0.453	-1.6	100	0.00	10.02
46	methacrylonitrile	0.152	0.162	-6.6	106	0.00	9.66
47	1,1,1-trichloroethane	0.949	0.913	3.8	100	0.00	10.09
48	cyclohexane	0.857	0.867	-1.2	105	0.00	10.20
49	1,1-dichloropropene	0.678	0.688	-1.5	105	0.00	10.25
50	tert-amyl alcohol	0.019	0.021	-10.5	119	0.00	10.38
51	carbon tetrachloride	0.773	0.786	-1.7	103	0.00	10.29
52 I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.00	10.91
53 S	1,2-dichloroethane-d4 (s)	0.273	0.275	-0.7	102	0.00	10.44
54	2,2,4-trimethylpentane	1.538	1.612	-4.8	102	0.00	10.60
55	tert-amyl methyl ether	1.249	1.252	-0.2	103	0.00	10.58
56	n-butyl alcohol	0.007	0.007	0.0	113	0.00	10.95
57	benzene	1.549	1.546	0.2	104	0.00	10.50
58	heptane	0.276	0.328	-18.8	118	0.00	10.75
59	isopropyl acetate	0.061	0.064	-4.9	105	0.00	10.40
60	1,2-dichloroethane	0.465	0.454	2.4	102	0.00	10.53
61	trichloroethene	0.394	0.403	-2.3	104	0.00	11.21
62	ethyl acrylate	0.333	0.370	-11.1	110	0.00	11.19
63	2-nitropropane	0.100	0.107	-7.0	111	0.00	11.96
64	2-chloroethyl vinyl ether	0.183	0.200	-9.3	109	0.00	11.98
65	methyl methacrylate	0.073	0.080	-9.6	108	0.00	11.45
66	1,2-dichloropropane	0.380	0.397	-4.5	103	0.00	11.50
67	methylcyclohexane	0.679	0.678	0.1	101	0.00	11.51
68	dibromomethane	0.215	0.222	-3.3	103	0.00	11.61
69	bromodichloromethane	0.514	0.530	-3.1	103	0.00	11.75
70	epichlorohydrin	0.027	0.030	-11.1	113	0.00	12.07
71	cis-1,3-dichloropropene	0.590	0.627	-6.3	105	0.00	12.20
72	4-methyl-2-pentanone	0.108	0.117	-8.3	108	0.00	12.30
73	3-methyl-1-butanol	0.008	0.010	-25.0	116	0.00	12.29
74 I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	13.99
75 S	toluene-d8 (s)	1.249	1.246	0.2	97	0.00	12.51
76	toluene	0.993	0.967	2.6	101	0.00	12.58
77	trans-1,3-dichloropropene	0.532	0.569	-7.0	107	0.00	12.76
78	ethyl methacrylate	0.409	0.444	-8.6	107	0.00	12.74
79	1,1,2-trichloroethane	0.263	0.271	-3.0	104	0.00	12.98
80	2-hexanone	0.109	0.118	-8.3	109	0.00	13.13
81	tetrachloroethene			-----NA-----			
82	1,3-dichloropropane	0.485	0.504	-3.9	103	0.00	13.15
83	butyl acetate	0.205	0.222	-8.3	107	0.00	13.20
84	dibromochloromethane	0.382	0.419	-9.7	105	0.00	13.39
85	1,2-dibromoethane	0.414	0.431	-4.1	103	0.00	13.55
86	n-butyl ether	1.744	1.834	-5.2	107	0.00	13.97
87	chlorobenzene	1.126	1.141	-1.3	102	0.00	14.02
88	1,1,1,2-tetrachloroethane	0.433	0.448	-3.5	105	0.00	14.08
89	ethylbenzene	1.888	1.881	0.4	101	0.00	14.07
90	m,p-xylene	0.739	0.735	0.5	102	0.00	14.20
91	o-xylene	1.609	1.607	0.1	102	0.00	14.59
92	styrene	1.273	1.291	-1.4	102	0.00	14.60
93	bromoform	0.237	0.282	-19.0	110	0.00	14.83
94	butyl acrylate	0.731	0.755	-3.3	104	0.00	14.41
95	isopropylbenzene	1.948	1.940	0.4	102	0.00	14.93
96	cis-1,4-dichloro-2-butene	0.139	0.147	-5.8	105	0.00	14.97
97 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	16.29
98 S	4-bromofluorobenzene (s)	0.857	0.866	-1.1	98	0.00	15.13

6.9.7  
6

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICV8003  
 Lab FileID: Y184484.D

99	bromobenzene	0.947	0.949	-0.2	101	0.00	15.31
100	1,1,2,2-tetrachloroethane	0.727	0.770	-5.9	105	0.00	15.21
101	trans-1,4-dichloro-2-bute	0.170	0.199	-17.1	119	0.00	15.24
102	1,2,3-trichloropropane	0.178	0.187	-5.1	104	0.00	15.29
103	n-propylbenzene	3.975	3.971	0.1	102	0.00	15.35
104	2-chlorotoluene	0.863	0.853	1.2	100	0.00	15.48
105	4-chlorotoluene	2.464	2.523	-2.4	104	0.00	15.59
106	1,3,5-trimethylbenzene	2.965	2.913	1.8	101	0.00	15.50
107	tert-butylbenzene	0.521	0.531	-1.9	102	0.00	15.84
108	1,2,4-trimethylbenzene	3.072	3.084	-0.4	104	0.00	15.88
109	sec-butylbenzene	3.750	3.768	-0.5	102	0.00	16.05
110	1,3-dichlorobenzene	1.855	1.860	-0.3	104	0.00	16.22
111	p-isopropyltoluene	3.261	3.358	-3.0	103	0.00	16.18
112	1,4-dichlorobenzene	1.832	1.858	-1.4	103	0.00	16.31
113	1,2-dichlorobenzene	1.793	1.841	-2.7	103	0.00	16.68
114	n-butylbenzene	1.728	1.757	-1.7	101	0.00	16.59
115	1,2-dibromo-3-chloropropa	0.172	0.180	-4.7	106	0.00	17.45
116	1,3,5-trichlorobenzene	1.766	1.822	-3.2	104	0.00	17.64
117	1,2,4-trichlorobenzene	1.462	1.543	-5.5	102	0.00	18.29
118	hexachlorobutadiene	0.912	0.900	1.3	98	0.00	18.41
119	naphthalene	2.472	2.800	-13.3	108	0.00	18.59
120	1,2,3-trichlorobenzene	1.296	1.393	-7.5	104	0.00	18.83
121	hexachloroethane	0.511	0.564	-10.4	107	0.00	16.98
122	benzyl chloride	1.374	1.973	-43.6#	142	0.00	16.41
		----- True	Calc.	% Drift	-----		
123	2-ethylhexyl acrylate	10.000	9.571	4.3	104	0.00	18.30
		----- AvgRF	CCRF	% Dev	-----		
124	2-methylnaphthalene	1.293	1.344	-3.9	102	0.00	19.84
125	bis(chloromethyl)ether			-----NA-----			
126	ethylenimine			-----NA-----			

(#) = Out of Range  
 Y184479.D MYS8003.M

SPCC's out = 0 CCC's out = 0  
 Mon Apr 15 08:15:31 2019 RPT1

6.9.7  
 6

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICV8003  
 Lab FileID: Y184485.D

## Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\VY8003\Y184485.D Vial: 14  
 Acq On : 11 Apr 2019 5:13 pm Operator: Prashans  
 Sample : ICV8003-50 Inst : MSY  
 Misc : MS31717,VY8003,5.0,,,,,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8003.M (RTE Integrator)  
 Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 Last Update : Mon Apr 15 08:12:27 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	109	-0.01	7.73
2	ethanol			-----NA-----			
3	tertiary butyl alcohol			-----NA-----			
4	1,4-dioxane			-----NA-----			
5 I	pentafluorobenzene	1.000	1.000	0.0	103	0.00	9.97
6	chlorodifluoromethane			-----NA-----			
7	dichlorodifluoromethane			-----NA-----			
8	chloromethane			-----NA-----			
9	vinyl chloride			-----NA-----			
10	1,3-butadiene			-----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			-----NA-----			
21	acetonitrile	0.062	0.062	0.0	108	0.00	7.50
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-----			
36	ethyl acetate			-----NA-----			
37	2,2-dichloropropane			-----NA-----			
38	cis-1,2-dichloroethene			-----NA-----			
39	propionitrile			-----NA-----			
40	bromochloromethane			-----NA-----			
41	tetrahydrofuran			-----NA-----			

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICV8003  
 Lab FileID: Y184485.D

42	chloroform							
43	tert-butyl formate							
44	isobutyl alcohol							
45 S	dibromofluoromethane (s)	0.446	0.451	-1.1	103	0.00	10.02	
46	methacrylonitrile							
47	1,1,1-trichloroethane							
48	cyclohexane							
49	1,1-dichloropropene							
50	tert-amyl alcohol							
51	carbon tetrachloride							
52 I	1,4-difluorobenzene	1.000	1.000	0.0	102	0.00	10.91	
53 S	1,2-dichloroethane-d4 (s)	0.273	0.278	-1.8	106	0.00	10.43	
54	2,2,4-trimethylpentane							
55	tert-amyl methyl ether							
56	n-butyl alcohol							
57	benzene							
58	heptane							
59	isopropyl acetate							
60	1,2-dichloroethane							
61	trichloroethene							
62	ethyl acrylate							
63	2-nitropropane							
64	2-chloroethyl vinyl ether							
65	methyl methacrylate							
66	1,2-dichloropropane							
67	methylcyclohexane							
68	dibromomethane							
69	bromodichloromethane							
70	epichlorohydrin							
71	cis-1,3-dichloropropene							
72	4-methyl-2-pentanone							
73	3-methyl-1-butanol							
74 I	chlorobenzene-d5	1.000	1.000	0.0	103	0.00	13.99	
75 S	toluene-d8 (s)	1.249	1.205	3.5	100	0.00	12.51	
76	toluene							
77	trans-1,3-dichloropropene							
78	ethyl methacrylate							
79	1,1,2-trichloroethane							
80	2-hexanone							
81	tetrachloroethene	0.432	0.397	8.1	100	0.00	13.12	
82	1,3-dichloropropane							
83	butyl acetate							
84	dibromochloromethane							
85	1,2-dibromoethane							
86	n-butyl ether							
87	chlorobenzene							
88	1,1,1,2-tetrachloroethane							
89	ethylbenzene							
90	m,p-xylene							
91	o-xylene							
92	styrene							
93	bromoform							
94	butyl acrylate							
95	isopropylbenzene							
96	cis-1,4-dichloro-2-butene							
97 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	16.29	
98 S	4-bromofluorobenzene (s)	0.857	0.866	-1.1	102	0.00	15.13	

6.9.8

6



# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8003-ICV8003  
 Lab FileID: Y184485.D

99	bromobenzene	-----NA-----
100	1,1,2,2-tetrachloroethane	-----NA-----
101	trans-1,4-dichloro-2-bute	-----NA-----
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-----
115	1,2-dibromo-3-chloropropa	-----NA-----
116	1,3,5-trichlorobenzene	-----NA-----
117	1,2,4-trichlorobenzene	-----NA-----
118	hexachlorobutadiene	-----NA-----
119	naphthalene	-----NA-----
120	1,2,3-trichlorobenzene	-----NA-----
121	hexachloroethane	-----NA-----
122	benzyl chloride	-----NA-----
----- True Calc. % Drift -----		
123	2-ethylhexyl acrylate	-----NA-----
----- AvgRF CCRF % Dev -----		
124	2-methylnaphthalene	-----NA-----
125	bis(chloromethyl)ether	-----NA-----
126	ethylenimine	-----NA-----
-----		
-----		

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0  
 Y184479.D    MYS8003.M                      Mon Apr 15 08:15:31 2019    RPT1

6.9.8  
6

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8006-CC8003  
 Lab FileID: Y184539.D

## Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\VY8006\Y184539.D Vial: 1  
 Acq On : 17 Apr 2019 8:52 am Operator: Prashans  
 Sample : cc8003-50 Inst : MSY  
 Misc : MS33788,VY8006,5.0,,,,,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8003.M (RTE Integrator)  
 Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 Last Update : Mon Apr 15 08:30:42 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	106	0.00	7.75
2	ethanol			-----NA-----			
3	tertiary butyl alcohol	1.594	1.592	0.1	106	-0.02	7.84
4	1,4-dioxane	0.147	0.150	-2.0	108	0.00	11.55
5 I	pentafluorobenzene	1.000	1.000	0.0	105	0.00	9.97
6	chlorodifluoromethane	0.894	0.909	-1.7	117	0.00	4.38
7	dichlorodifluoromethane	0.935	1.249	-33.6#	136	0.00	4.34
8	chloromethane	1.161	1.312	-13.0	133	0.00	4.74
9	vinyl chloride	0.924	1.045	-13.1	123	0.00	4.99
10	1,3-butadiene	0.600	0.661	-10.2	122	0.00	5.02
11	bromomethane	0.724	0.775	-7.0	125	0.00	5.62
12	chloroethane	0.547	0.550	-0.5	118	0.00	5.81
13	vinyl bromide	0.490	0.499	-1.8	111	0.00	6.15
14	trichlorofluoromethane	0.995	1.098	-10.4	121	0.00	6.27
15	ethyl ether	0.273	0.274	-0.4	103	0.00	6.63
16	2-chloropropane	0.238	0.240	-0.8	109	0.00	6.86
17	acrolein	0.077	0.089	-15.6	120	0.00	6.88
18	freon 113	0.470	0.534	-13.6	117	0.00	7.10
19	1,1-dichloroethene	0.888	0.902	-1.6	109	0.00	7.07
20	acetone	0.144	0.124	13.9	103	0.00	7.07
21	acetonitrile	0.062	0.062	0.0	110	0.00	7.51
22	iodomethane	1.038	1.010	2.7	107	0.00	7.33
23	carbon disulfide	1.826	1.822	0.2	110	0.00	7.47
24	methylene chloride	0.771	0.662	14.1	101	0.00	7.78
25	methyl acetate	0.311	0.288	7.4	103	0.00	7.52
26	methyl tert butyl ether	1.668	1.629	2.3	106	-0.01	8.13
27	trans-1,2-dichloroethene	0.810	0.798	1.5	106	0.00	8.16
28	hexane	0.780	0.771	1.2	106	0.00	8.51
29	di-isopropyl ether	2.109	2.034	3.6	105	0.00	8.72
30	ethyl tert-butyl ether	1.938	1.907	1.6	104	0.00	9.18
31	2-butanone	0.041	0.043	-4.9	107	0.00	9.38
32	1,1-dichloroethane	1.013	0.972	4.0	105	0.00	8.73
33	chloroprene	0.800	0.779	2.6	106	0.00	8.83
34	acrylonitrile	0.157	0.160	-1.9	108	0.00	8.07
35	vinyl acetate	0.081	0.080	1.2	100	0.00	8.67
36	ethyl acetate	0.057	0.054	5.3	100	0.01	9.39
37	2,2-dichloropropane	0.896	0.898	-0.2	110	0.00	9.49
38	cis-1,2-dichloroethene	0.660	0.633	4.1	102	0.00	9.45
39	propionitrile	0.055	0.057	-3.6	109	0.00	9.46
40	bromochloromethane	0.391	0.388	0.8	104	0.00	9.74
41	tetrahydrofuran	0.052	0.049	5.8	108	0.01	9.77

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8006-CC8003  
 Lab FileID: Y184539.D

42	chloroform	1.052	0.981	6.7	104	0.00	9.83
43	tert-butyl formate	0.436	0.414	5.0	100	0.00	9.87
44	isobutyl alcohol			-----NA-----			
45 S	dibromofluoromethane (s)	0.446	0.449	-0.7	105	0.00	10.02
46	methacrylonitrile	0.152	0.150	1.3	103	0.00	9.66
47	1,1,1-trichloroethane	0.949	0.940	0.9	109	0.00	10.09
48	cyclohexane	0.857	0.941	-9.8	120	0.00	10.21
49	1,1-dichloropropene	0.678	0.667	1.6	108	0.00	10.26
50	tert-amyl alcohol	0.019	0.018	5.3	111	0.00	10.38
51	carbon tetrachloride	0.773	0.806	-4.3	112	0.00	10.29
52 I	1,4-difluorobenzene	1.000	1.000	0.0	106	0.00	10.91
53 S	1,2-dichloroethane-d4 (s)	0.273	0.272	0.4	108	0.00	10.44
54	2,2,4-trimethylpentane	1.538	1.612	-4.8	109	0.00	10.60
55	tert-amyl methyl ether	1.249	1.188	4.9	104	0.00	10.58
56	n-butyl alcohol	0.007	0.007	0.0	109	0.00	10.95
57	benzene	1.549	1.452	6.3	105	0.00	10.50
58	heptane	0.276	0.280	-1.4	108	0.00	10.75
59	isopropyl acetate	0.061	0.061	0.0	106	0.00	10.40
60	1,2-dichloroethane	0.465	0.424	8.8	102	0.00	10.53
61	trichloroethene	0.394	0.384	2.5	106	0.00	11.21
62	ethyl acrylate	0.333	0.328	1.5	104	0.00	11.19
63	2-nitropropane	0.100	0.098	2.0	109	0.00	11.96
64	2-chloroethyl vinyl ether	0.183	0.179	2.2	104	0.00	11.98
65	methyl methacrylate	0.073	0.071	2.7	102	0.00	11.45
66	1,2-dichloropropane	0.380	0.366	3.7	102	0.00	11.50
67	methylcyclohexane	0.679	0.706	-4.0	112	0.00	11.51
68	dibromomethane	0.215	0.213	0.9	106	0.00	11.61
69	bromodichloromethane	0.514	0.508	1.2	105	0.00	11.76
70	epichlorohydrin	0.027	0.027	0.0	110	0.00	12.07
71	cis-1,3-dichloropropene	0.590	0.573	2.9	102	0.00	12.20
72	4-methyl-2-pentanone	0.108	0.111	-2.8	110	0.00	12.30
73	3-methyl-1-butanol	0.008	0.008	0.0	109	0.00	12.30
74 I	chlorobenzene-d5	1.000	1.000	0.0	107	0.00	13.99
75 S	toluene-d8 (s)	1.249	1.202	3.8	104	0.00	12.51
76	toluene	0.993	0.905	8.9	104	0.00	12.58
77	trans-1,3-dichloropropene	0.532	0.510	4.1	105	0.00	12.76
78	ethyl methacrylate	0.409	0.386	5.6	103	0.00	12.74
79	1,1,2-trichloroethane	0.263	0.249	5.3	106	0.00	12.98
80	2-hexanone	0.109	0.104	4.6	106	0.00	13.13
81	tetrachloroethene	0.432	0.426	1.4	112	0.00	13.12
82	1,3-dichloropropane	0.485	0.464	4.3	105	0.00	13.15
83	butyl acetate	0.205	0.197	3.9	104	0.00	13.21
84	dibromochloromethane	0.382	0.376	1.6	104	0.00	13.39
85	1,2-dibromoethane	0.414	0.406	1.9	107	0.00	13.55
86	n-butyl ether	1.744	1.640	6.0	105	0.00	13.97
87	chlorobenzene	1.126	1.051	6.7	104	0.00	14.02
88	1,1,1,2-tetrachloroethane	0.433	0.416	3.9	107	0.00	14.08
89	ethylbenzene	1.888	1.778	5.8	106	0.00	14.07
90	m,p-xylene	0.739	0.692	6.4	106	0.00	14.20
91	o-xylene	1.609	1.506	6.4	106	0.00	14.59
92	styrene	1.273	1.190	6.5	104	0.00	14.60
93	bromoform	0.237	0.252	-6.3	108	0.00	14.83
94	butyl acrylate	0.731	0.675	7.7	102	0.00	14.41
95	isopropylbenzene	1.948	1.861	4.5	108	0.00	14.93
96	cis-1,4-dichloro-2-butene	0.139	0.133	4.3	105	0.00	14.97
97 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	105	0.00	16.29
98 S	4-bromofluorobenzene (s)	0.857	0.862	-0.6	104	0.00	15.14

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: VY8006-CC8003  
 Lab FileID: Y184539.D

99	bromobenzene	0.947	0.911	3.8	103	0.00	15.32
100	1,1,2,2-tetrachloroethane	0.727	0.732	-0.7	106	0.00	15.20
101	trans-1,4-dichloro-2-bute	0.170	0.169	0.6	108	0.00	15.24
102	1,2,3-trichloropropane	0.178	0.184	-3.4	109	0.00	15.29
103	n-propylbenzene	3.975	3.899	1.9	107	0.00	15.35
104	2-chlorotoluene	0.863	0.852	1.3	106	0.00	15.48
105	4-chlorotoluene	2.464	2.388	3.1	105	0.00	15.59
106	1,3,5-trimethylbenzene	2.965	2.865	3.4	105	0.00	15.50
107	tert-butylbenzene	0.521	0.534	-2.5	110	0.00	15.84
108	1,2,4-trimethylbenzene	3.072	2.943	4.2	105	0.00	15.88
109	sec-butylbenzene	3.750	3.761	-0.3	109	0.00	16.05
110	1,3-dichlorobenzene	1.855	1.779	4.1	106	0.00	16.22
111	p-isopropyltoluene	3.261	3.282	-0.6	108	0.00	16.18
112	1,4-dichlorobenzene	1.832	1.767	3.5	105	0.00	16.32
113	1,2-dichlorobenzene	1.793	1.768	1.4	105	0.00	16.69
114	n-butylbenzene	1.728	1.755	-1.6	107	0.00	16.59
115	1,2-dibromo-3-chloropropa	0.172	0.176	-2.3	110	0.00	17.45
116	1,3,5-trichlorobenzene	1.766	1.798	-1.8	109	0.00	17.64
117	1,2,4-trichlorobenzene	1.462	1.569	-7.3	110	0.00	18.29
118	hexachlorobutadiene	0.912	0.904	0.9	104	0.00	18.41
119	naphthalene	2.472	2.715	-9.8	111	0.00	18.59
120	1,2,3-trichlorobenzene	1.296	1.396	-7.7	112	0.00	18.83
121	hexachloroethane	0.511	0.527	-3.1	106	0.00	16.98
122	benzyl chloride	1.374	1.465	-6.6	113	0.00	16.41
		----- True	Calc.	% Drift	-----		
123	2-ethylhexyl acrylate	10.000	8.571	14.3	98	0.00	18.30
		----- AvgRF	CCRF	% Dev	-----		
124	2-methylnaphthalene	1.293	1.338	-3.5	109	0.00	19.84
125	bis(chloromethyl)ether			-----NA-----			
126	ethylenimine			-----NA-----			

(#) = Out of Range  
 Y184479.D MYS8003.M

SPCC's out = 0 CCC's out = 0  
 Thu Apr 18 10:16:06 2019 RPT1

**MS Volatiles**

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**Raw Data**

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## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184543.D  
 Acq On : 17 Apr 2019 11:30 am  
 Operator : Prashans  
 Sample : JC86337-1  
 Misc : MS33992,VY8006,3.1,,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 18 10:23:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.73	65	65086	500.00	ug/L	-0.01
5) pentafluorobenzene	9.97	168	178328	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	257131	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	260287	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	140044	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	83235	52.28	ug/L	0.00
Spiked Amount	50.000	Range 75 - 127	Recovery	=	104.56%	
53) 1,2-dichloroethane-d4 (s)	10.44	65	72936	51.96	ug/L	0.00
Spiked Amount	50.000	Range 75 - 130	Recovery	=	103.92%	
75) toluene-d8 (s)	12.51	98	304080	46.77	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	93.54%	
98) 4-bromofluorobenzene (s)	15.14	95	122738	51.10	ug/L	0.00
Spiked Amount	50.000	Range 79 - 127	Recovery	=	102.20%	

## Target Compounds

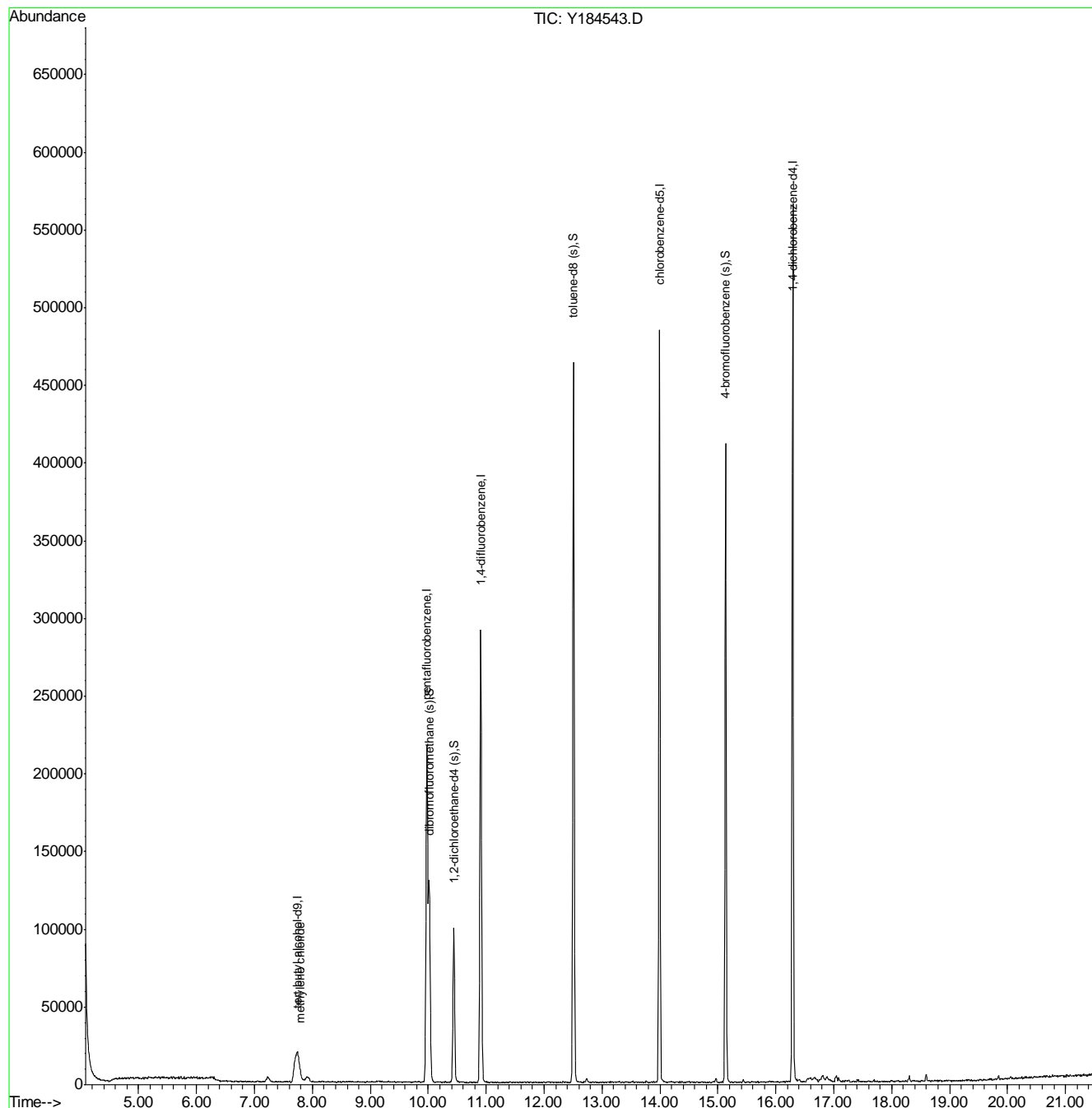
	R.T.	QIon	Response	Conc	Units	Qvalue
24) methylene chloride	7.79	84	646	0.23	ug/L	# 32

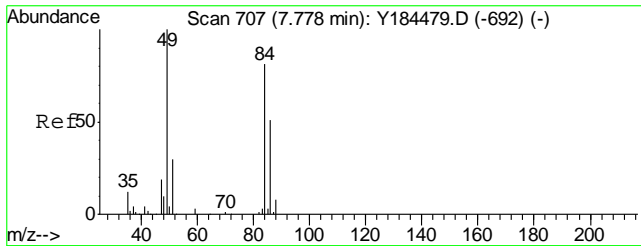
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184543.D  
 Acq On : 17 Apr 2019 11:30 am  
 Operator : Prashans  
 Sample : JC86337-1  
 Misc : MS33992,VY8006,3.1,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

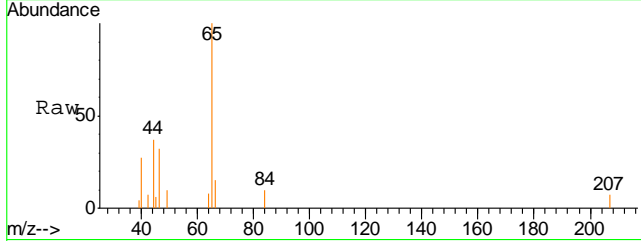
Quant Time: Apr 18 10:23:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration



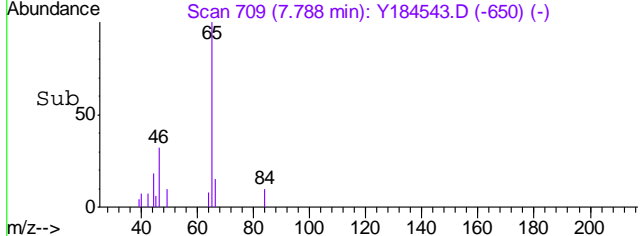
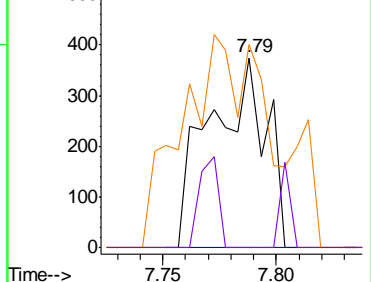


#24  
 methylene chloride  
 Concen: 0.23 ug/L  
 RT: 7.79 min Scan# 709  
 Delta R.T. 0.01 min  
 Lab File: Y184543.D  
 Acq: 17 Apr 2019 11:30 am

Tgt Ion	Resp	Lower	Upper
84	646		
84	100		
49	53.9	93.9	153.9#
86	0.0	32.7	92.7#



Abundance Ion 84.00 (83.70 to 84.70): Y18  
 Ion 49.00 (48.70 to 49.70): Y18  
 Ion 86.00 (85.70 to 86.70): Y18



7.1.1  
 7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225496.d  
 Acq On : 17 Apr 2019 6:33 pm  
 Operator : thienn  
 Sample : jc86337-2 Inst : GCMSI  
 Misc : MS33992,VI9085,4.6,,100,10,1  
 ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 03:56:42 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.379	65	66496	500.00	ug/L	0.00
4) pentafluorobenzene	9.696	168	202872	50.00	ug/L	-0.02
51) 1,4-difluorobenzene	10.632	114	275224	50.00	ug/L	-0.02
73) chlorobenzene-d5	13.765	117	230340	50.00	ug/L	-0.02
96) 1,4-dichlorobenzene-d4	16.108	152	127730	50.00	ug/L	-0.02
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.712	113	82543	51.78	ug/L	-0.03
Spiked Amount	50.000	Range	75 - 127	Recovery	=	103.56%
52) 1,2-dichloroethane-d4 (s)	10.135	65	87486	50.93	ug/L	-0.03
Spiked Amount	50.000	Range	75 - 130	Recovery	=	101.86%
74) toluene-d8 (s)	12.264	98	295753	50.08	ug/L	-0.02
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.16%
97) 4-bromofluorobenzene (s)	14.932	95	105879	54.36	ug/L	-0.02
Spiked Amount	50.000	Range	79 - 127	Recovery	=	108.72%
Target Compounds						
21) carbon disulfide	7.112	76	1431	0.35	ug/L	75
24) methylene chloride	7.421	84	1283	0.92	ug/L	89
54) 1,2-dichloroethane	10.230	62	410	0.23	ug/L #	50
55) benzene	10.219	78	941	0.17	ug/L	56
62) methylcyclohexane	11.260	83	1139	0.47	ug/L #	84
75) toluene	12.337	92	1870	0.59	ug/L	89

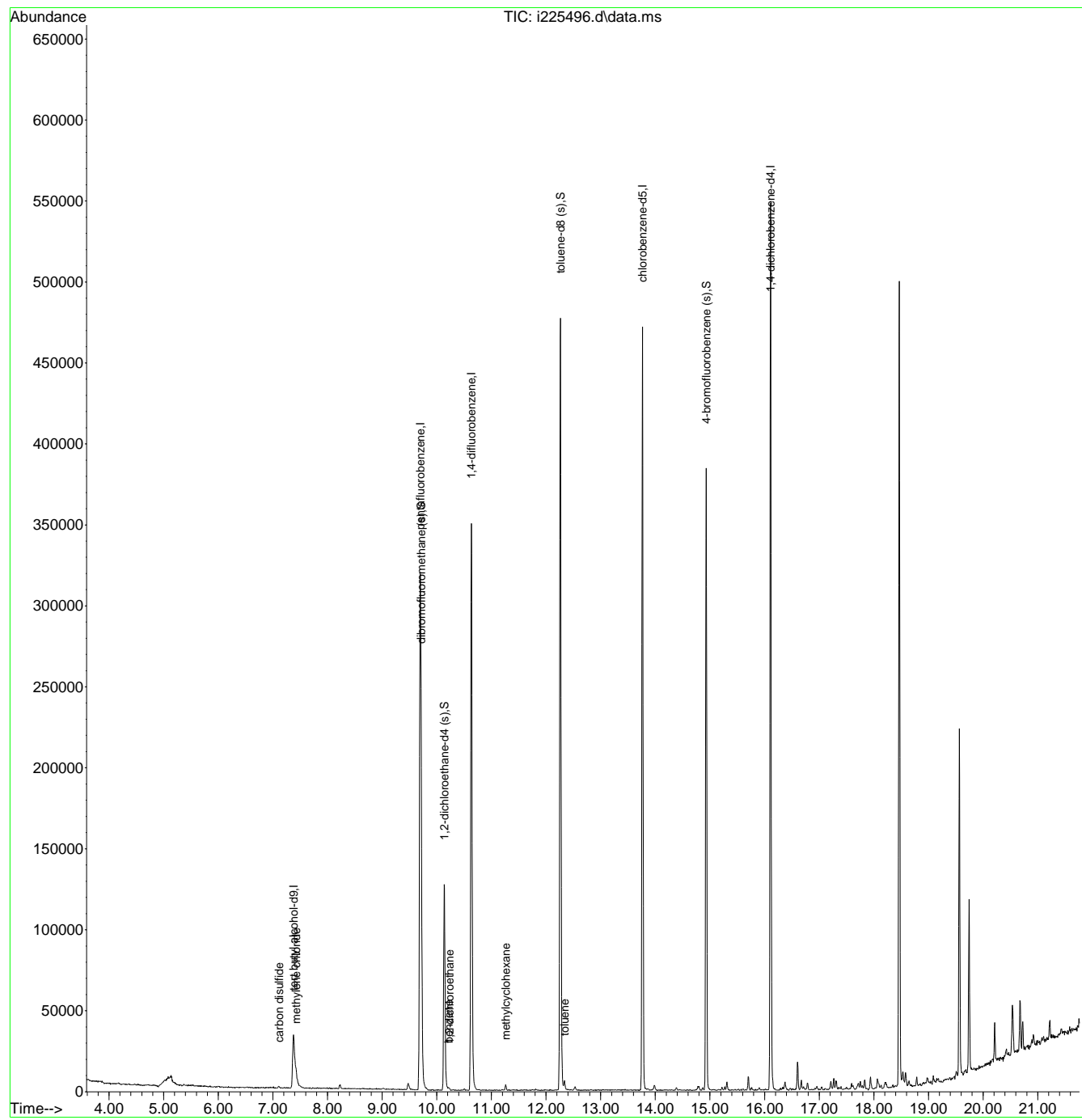
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.12  
7

Quantitation Report (QT Reviewed)

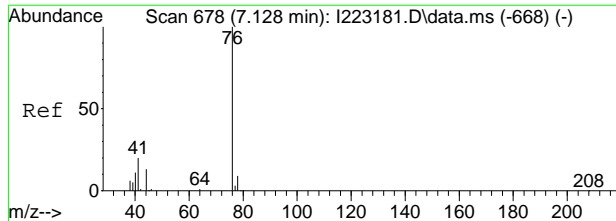
Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
Data File : i225496.d  
Acq On : 17 Apr 2019 6:33 pm  
Operator : thienn  
Sample : jc86337-2 Inst : GCMSI  
Misc : MS33992,VI9085,4.6,,100,10,1  
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Results File: MI8986.RES  
Quant Time: Apr 18 03:56:42 2019  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Fri Jan 25 14:07:54 2019  
Response via : Initial Calibration



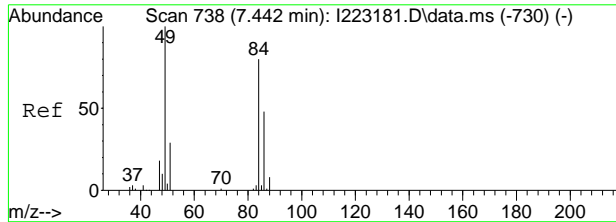
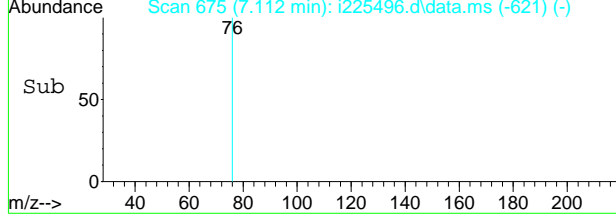
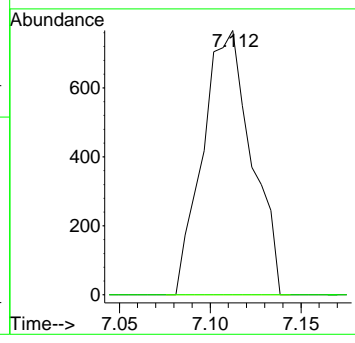
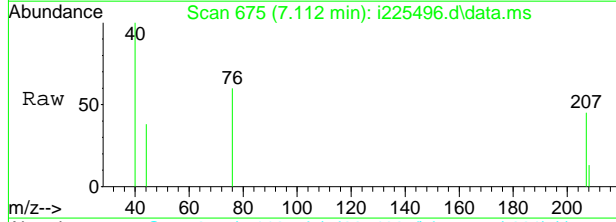
7.1.2  
7





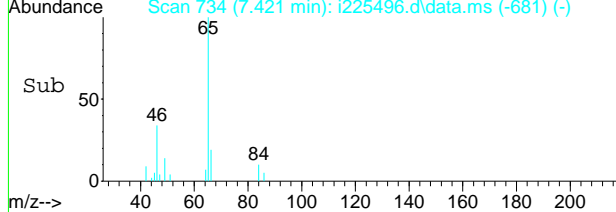
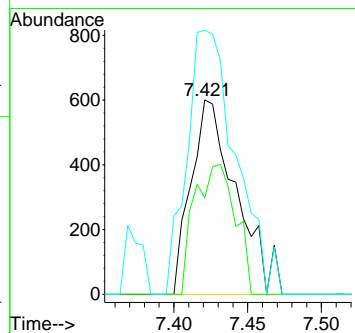
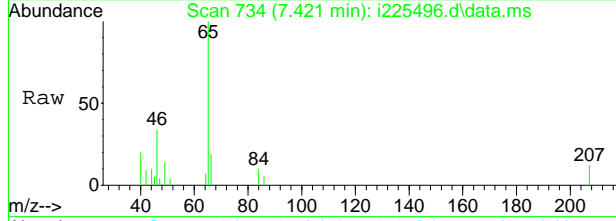
#21  
 carbon disulfide  
 Concen: 0.35 ug/L  
 RT: 7.112 min Scan# 675  
 Delta R.T. -0.016 min  
 Lab File: i225496.d  
 Acq: 17 Apr 2019 6:33 pm

Tgt Ion	Resp	Lower	Upper
76	1431	100	
78	0.0	0.0	29.0



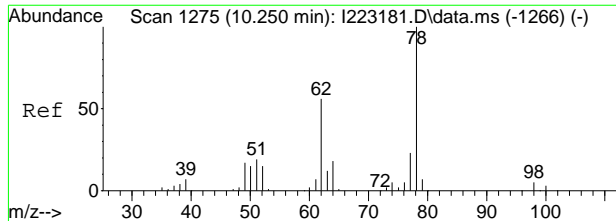
#24  
 methylene chloride  
 Concen: 0.92 ug/L  
 RT: 7.421 min Scan# 734  
 Delta R.T. -0.021 min  
 Lab File: i225496.d  
 Acq: 17 Apr 2019 6:33 pm

Tgt Ion	Resp	Lower	Upper
84	1283	100	
86	49.6	30.4	90.4
49	135.9	95.7	155.7



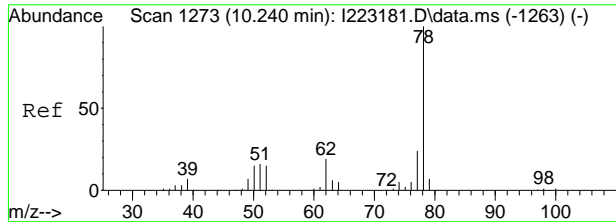
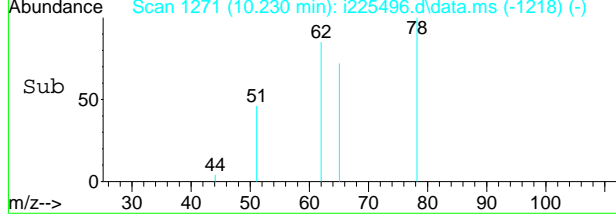
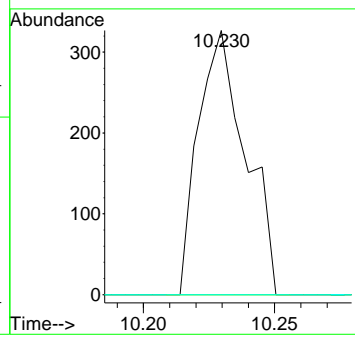
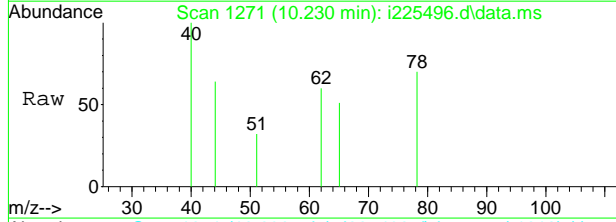
7.12  
7





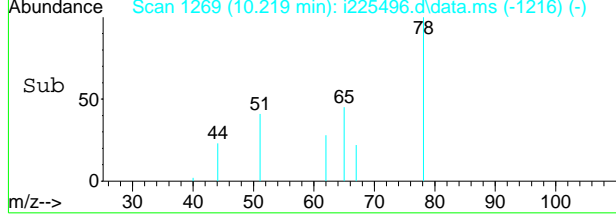
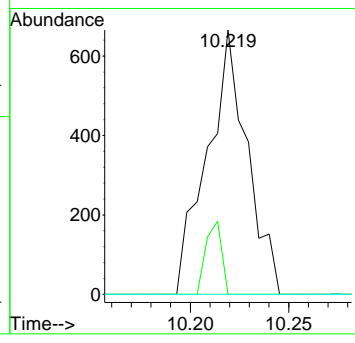
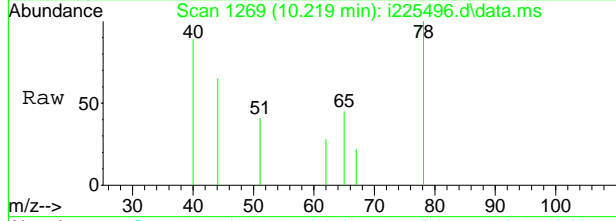
#54  
1,2-dichloroethane  
Concen: 0.23 ug/L  
RT: 10.230 min Scan# 1271  
Delta R.T. -0.021 min  
Lab File: i225496.d  
Acq: 17 Apr 2019 6:33 pm

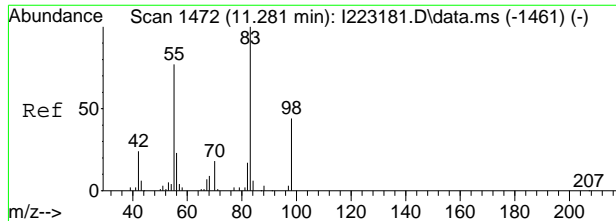
Tgt Ion	Resp	Lower	Upper
62	410		
62	100		
98	0.0	0.0	28.5
64	0.0	11.4	51.4#



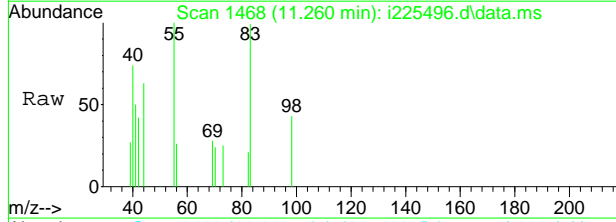
#55  
benzene  
Concen: 0.17 ug/L  
RT: 10.219 min Scan# 1269  
Delta R.T. -0.021 min  
Lab File: i225496.d  
Acq: 17 Apr 2019 6:33 pm

Tgt Ion	Resp	Lower	Upper
78	941		
78	100		
77	0.0	0.0	54.0
52	0.0	0.0	45.4



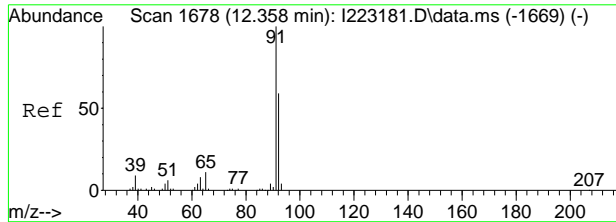
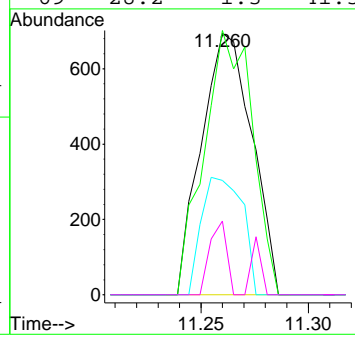
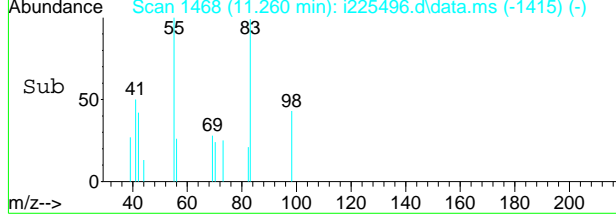


#62  
methylcyclohexane  
Concen: 0.47 ug/L  
RT: 11.260 min Scan# 1468  
Delta R.T. -0.021 min  
Lab File: i225496.d  
Acq: 17 Apr 2019 6:33 pm

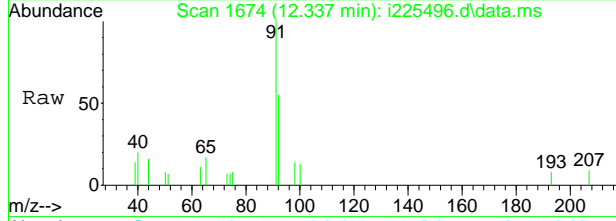


Tgt Ion: 83 Resp: 1139

Ion	Ratio	Lower	Upper
83	100		
55	101.2	59.8	99.8#
98	43.8	24.4	64.4
69	28.2	1.3	41.3

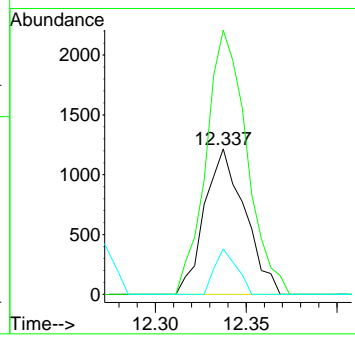
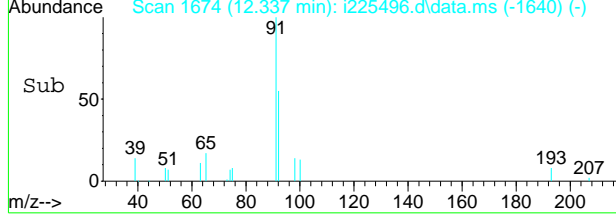


#75  
toluene  
Concen: 0.59 ug/L  
RT: 12.337 min Scan# 1674  
Delta R.T. -0.021 min  
Lab File: i225496.d  
Acq: 17 Apr 2019 6:33 pm



Tgt Ion: 92 Resp: 1870

Ion	Ratio	Lower	Upper
92	100		
91	181.7	149.6	189.6
65	31.3	0.0	38.7



## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184544.D  
 Acq On : 17 Apr 2019 11:59 am  
 Operator : Prashans  
 Sample : JC86337-3  
 Misc : MS33992,VY8006,5.6,,,,,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 18 10:26:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	70098	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	190892	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	279129	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	272090	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	158621	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	87905	51.58	ug/L	0.00
Spiked Amount	50.000	Range 75 - 127	Recovery	=	103.16%	
53) 1,2-dichloroethane-d4 (s)	10.43	65	78171	51.30	ug/L	0.00
Spiked Amount	50.000	Range 75 - 130	Recovery	=	102.60%	
75) toluene-d8 (s)	12.51	98	318860	46.91	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	93.82%	
98) 4-bromofluorobenzene (s)	15.13	95	134516	49.45	ug/L	0.00
Spiked Amount	50.000	Range 79 - 127	Recovery	=	98.90%	

## Target Compounds

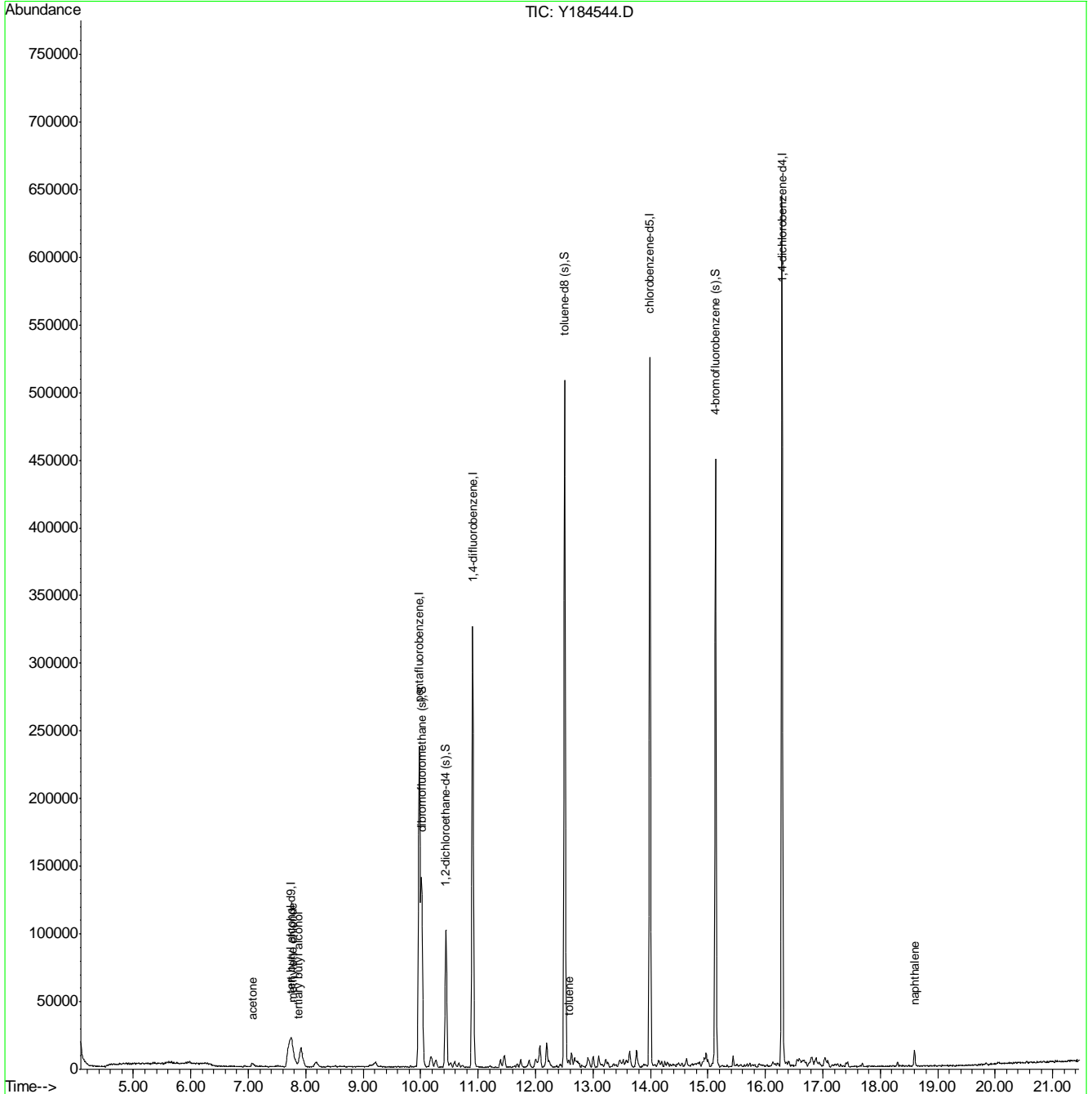
						Qvalue
3) tertiary butyl alcohol	7.86	59	1189	5.32	ug/L	56
20) acetone	7.07	43	6098	11.11	ug/L	84
24) methylene chloride	7.78	84	1522	0.52	ug/L	75
76) toluene	12.58	92	1829	0.34	ug/L	93
119) naphthalene	18.59	128	9300	1.19	ug/L	98

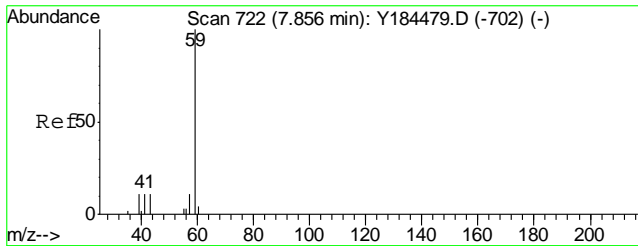
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184544.D  
 Acq On : 17 Apr 2019 11:59 am  
 Operator : Prashans  
 Sample : JC86337-3  
 Misc : MS33992,VY8006,5.6,,,,,1  
 ALS Vial : 6 Sample Multiplier: 1

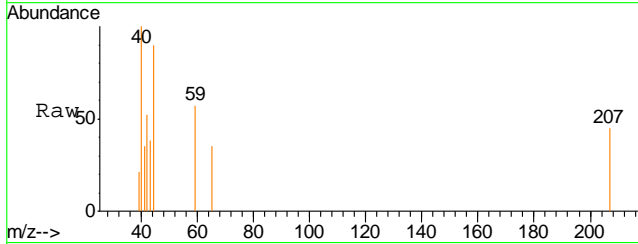
Quant Time: Apr 18 10:26:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration



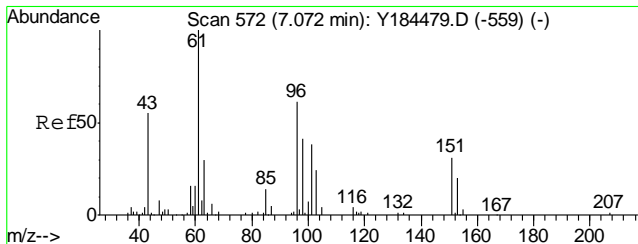
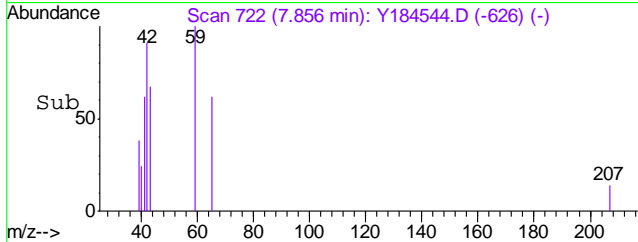
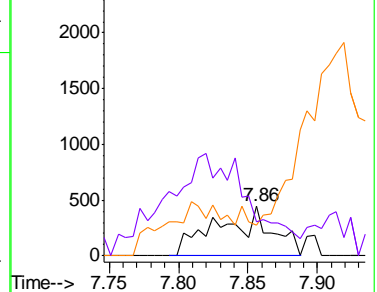


#3  
 tertiary butyl alcohol  
 Concen: 5.32 ug/L  
 RT: 7.86 min Scan# 722  
 Delta R.T. -0.00 min  
 Lab File: Y184544.D  
 Acq: 17 Apr 2019 11:59 am

Tgt Ion	Resp	Lower	Upper
59	1189	100	
41	0.0	0.0	52.0
43	32.4	0.0	45.0

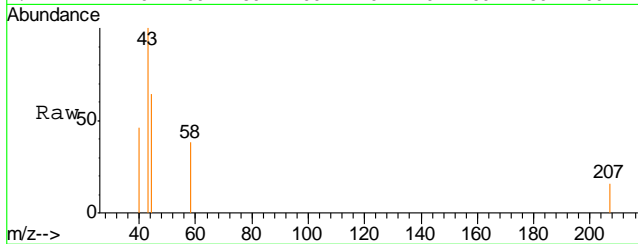


Abundance Ion 59.10 (58.80 to 59.80): Y18  
 Ion 41.10 (40.80 to 41.80): Y18  
 Ion 43.10 (42.80 to 43.80): Y18

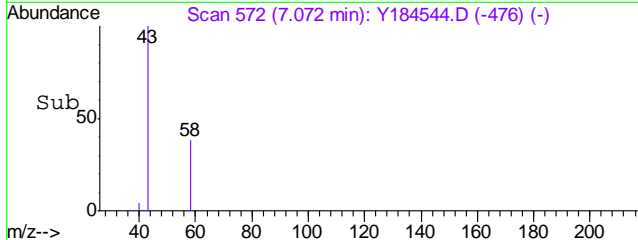
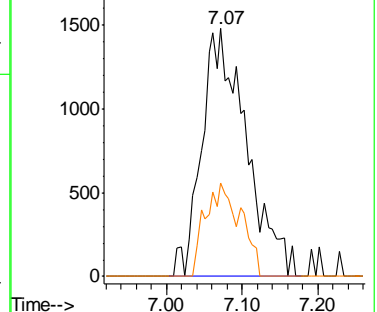


#20  
 acetone  
 Concen: 11.11 ug/L  
 RT: 7.07 min Scan# 572  
 Delta R.T. -0.00 min  
 Lab File: Y184544.D  
 Acq: 17 Apr 2019 11:59 am

Tgt Ion	Resp	Lower	Upper
43	6098	100	
58	37.7	0.0	59.1

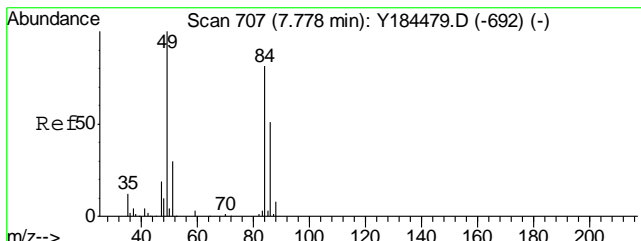


Abundance Ion 43.00 (42.70 to 43.70): Y18  
 Ion 58.00 (57.70 to 58.70): Y18



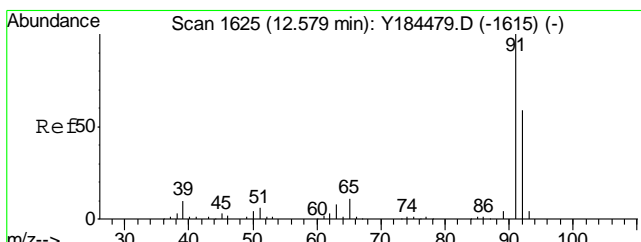
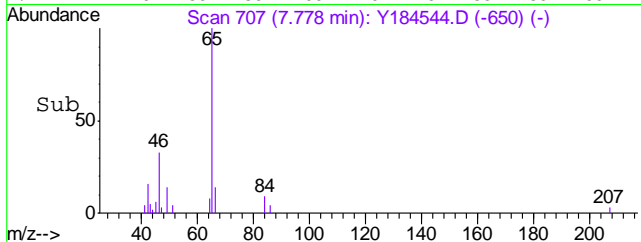
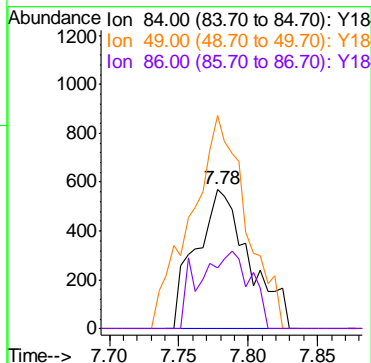
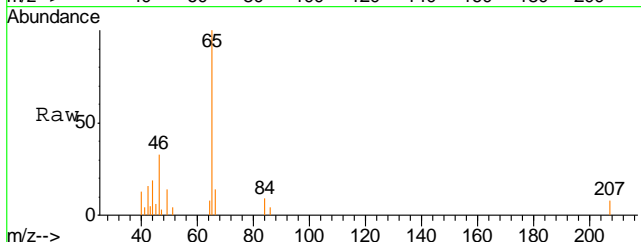
7.13  
7





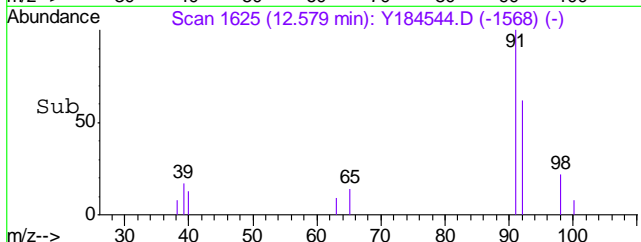
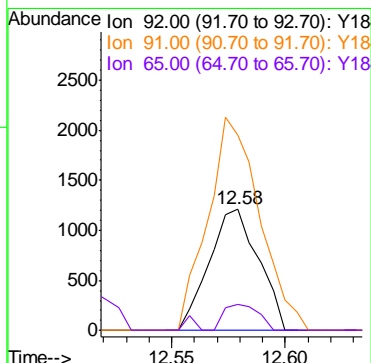
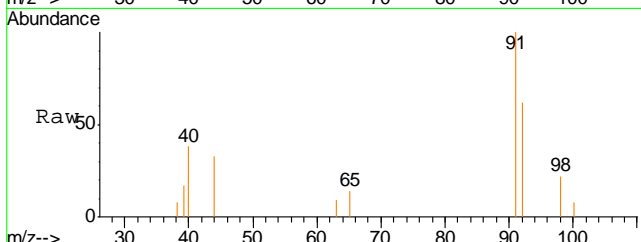
#24  
methylene chloride  
Concen: 0.52 ug/L  
RT: 7.78 min Scan# 707  
Delta R.T. -0.00 min  
Lab File: Y184544.D  
Acq: 17 Apr 2019 11:59 am

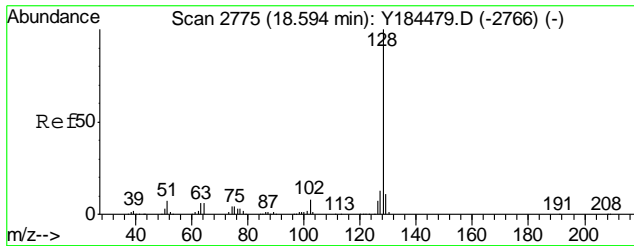
Tgt Ion	Resp	Lower	Upper
84	1522		
84	100		
49	152.7	93.9	153.9
86	44.0	32.7	92.7



#76  
toluene  
Concen: 0.34 ug/L  
RT: 12.58 min Scan# 1625  
Delta R.T. -0.00 min  
Lab File: Y184544.D  
Acq: 17 Apr 2019 11:59 am

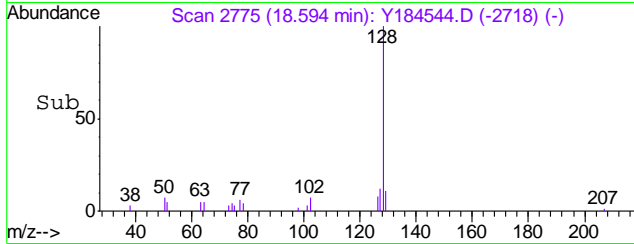
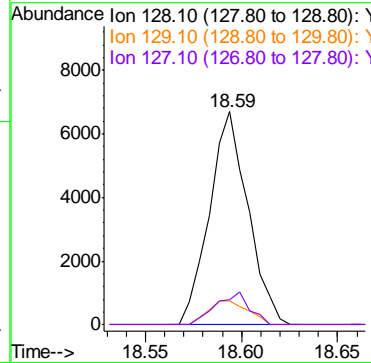
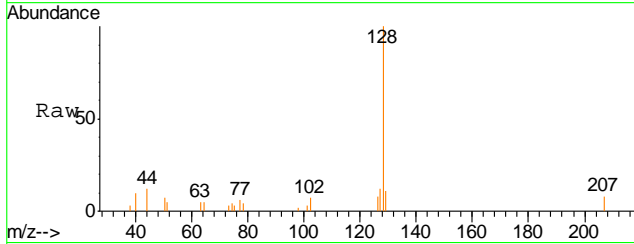
Tgt Ion	Resp	Lower	Upper
92	1829		
92	100		
91	160.6	149.9	189.9
65	21.9	0.0	38.9





#119  
 naphthalene  
 Concen: 1.19 ug/L  
 RT: 18.59 min Scan# 2775  
 Delta R.T. -0.00 min  
 Lab File: Y184544.D  
 Acq: 17 Apr 2019 11:59 am

Tgt Ion	Resp	Lower	Upper
128	9300		
129	11.3	0.0	40.9
127	11.8	0.0	42.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\Apr-2019\4-18\vy8006\  
 Data File : y184545.d  
 Acq On : 17 Apr 2019 12:27 pm  
 Operator : Prashans  
 Sample : JC86337-4 Inst : MSY  
 Misc : MS33992,VY8006,3.7,,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Results File: MYS8003.RES  
 Quant Time: Apr 18 11:07:42 2019  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.731	65	71121	500.00	ug/L	-0.01
5) pentafluorobenzene	9.974	168	197647	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.905	114	289578	50.00	ug/L	0.00
74) chlorobenzene-d5	13.986	117	281663	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.293	152	160473	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	10.016	113	90536	51.31	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	102.62%
53) 1,2-dichloroethane-d4 (s)	10.435	65	81129	51.32	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	102.64%
75) toluene-d8 (s)	12.506	98	329695	46.86	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	93.72%
98) 4-bromofluorobenzene (s)	15.131	95	135597	49.27	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	98.54%
Target Compounds						
20) acetone	7.077	43	50664	89.18	ug/L	97
23) carbon disulfide	7.480	76	24259	3.36	ug/L	87
24) methylene chloride	7.783	84	1112	0.36	ug/L	87
25) methyl acetate	7.527	43	832	0.68	ug/L	49
31) 2-butanone	9.378	72	1818	11.28	ug/L #	57
76) toluene	12.579	92	2541	0.45	ug/L	98
81) tetrachloroethene	13.118	166	566	0.23	ug/L	76
90) m,p-xylene	14.190	106	1942	0.47	ug/L	87
91) o-xylene	14.588	91	2700	0.30	ug/L	97
112) 1,4-dichlorobenzene	16.313	146	7534	1.28	ug/L	97

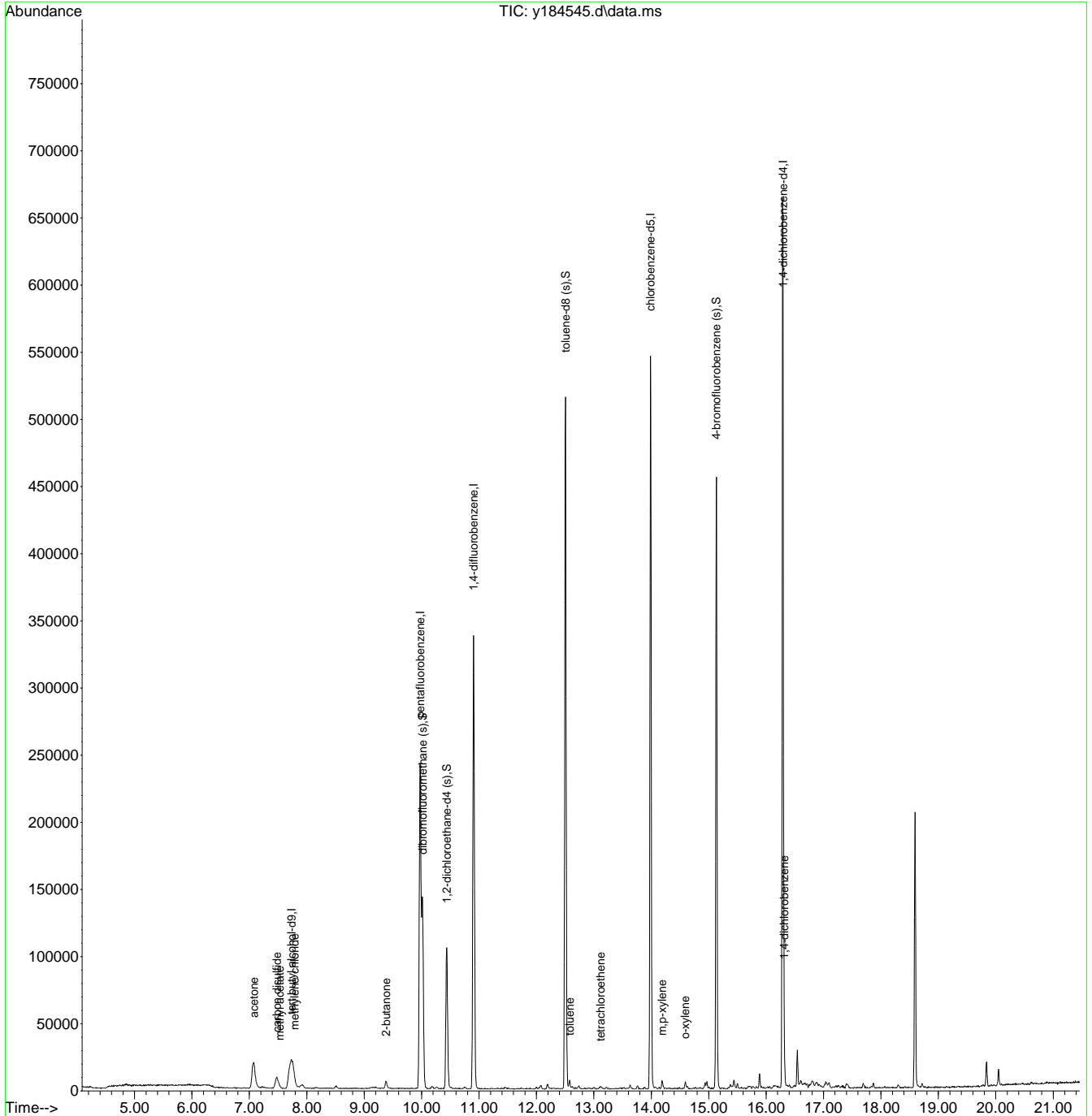
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.14  
7

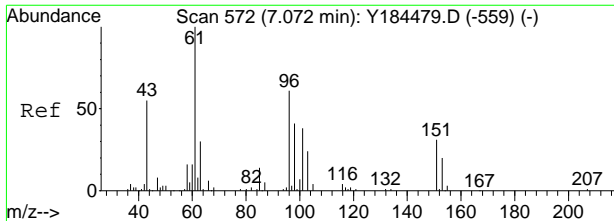
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\Apr-2019\4-18\vy8006\  
 Data File : y184545.d  
 Acq On : 17 Apr 2019 12:27 pm  
 Operator : Prashans  
 Sample : JC86337-4 Inst : MSY  
 Misc : MS33992,VY8006,3.7,,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Results File: MYS8003.RES  
 Quant Time: Apr 18 11:07:42 2019  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

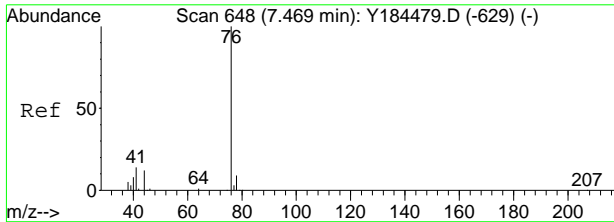
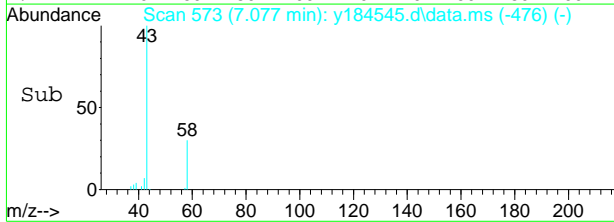
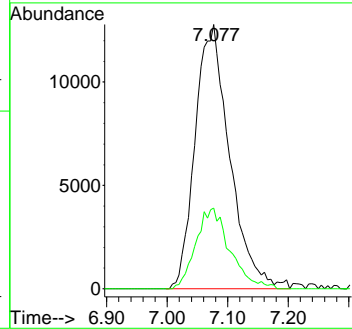
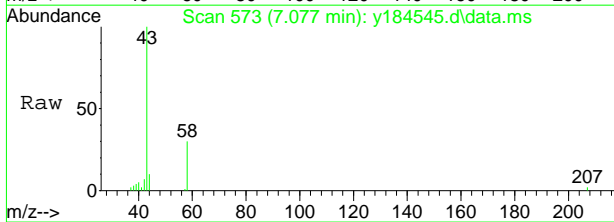


7.1.4  
7



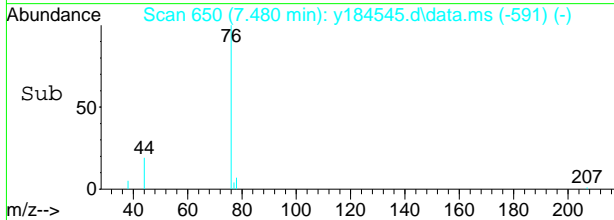
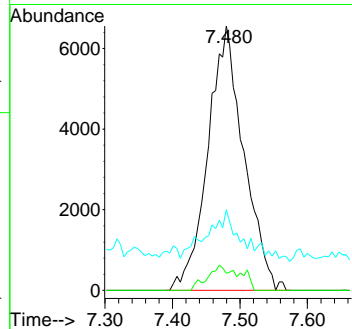
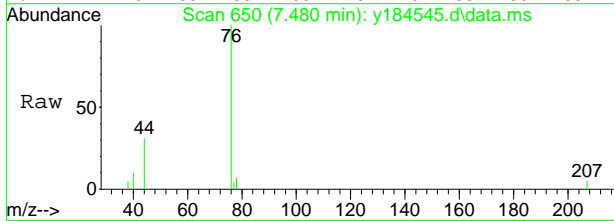
#20  
 acetone  
 Concen: 89.18 ug/L  
 RT: 7.077 min Scan# 573  
 Delta R.T. 0.005 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

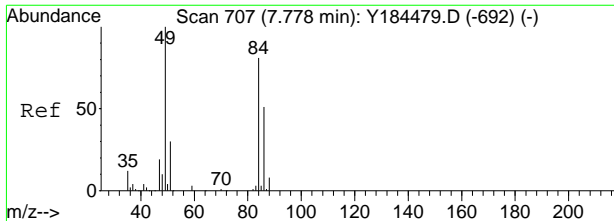
Tgt Ion	Resp	Lower	Upper
43	50664	100	
58	30.5	0.0	59.1



#23  
 carbon disulfide  
 Concen: 3.36 ug/L  
 RT: 7.480 min Scan# 650  
 Delta R.T. 0.010 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

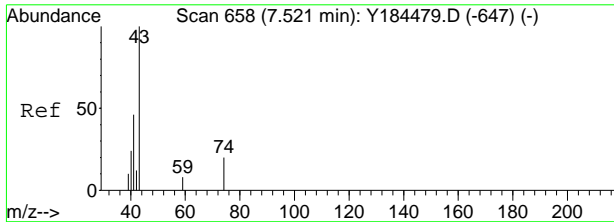
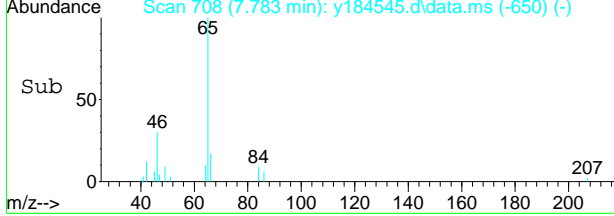
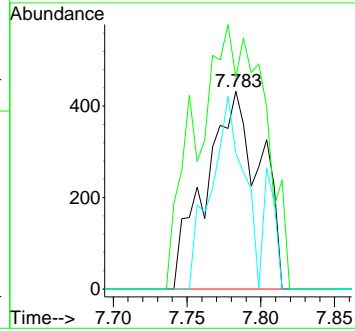
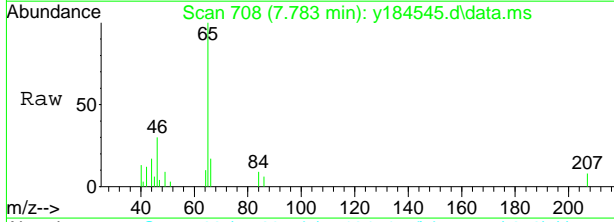
Tgt Ion	Resp	Lower	Upper
76	24259	100	
78	6.5	0.0	39.0
44	19.6	0.0	42.5





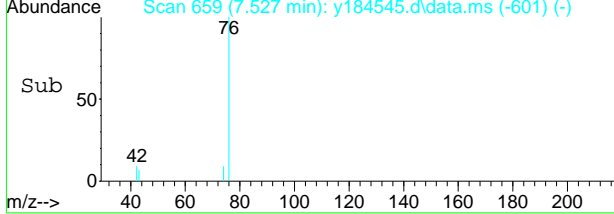
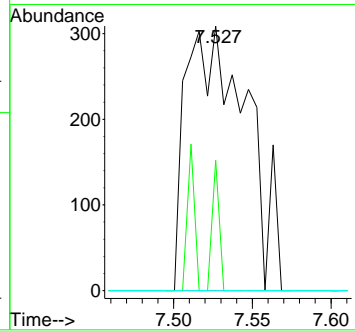
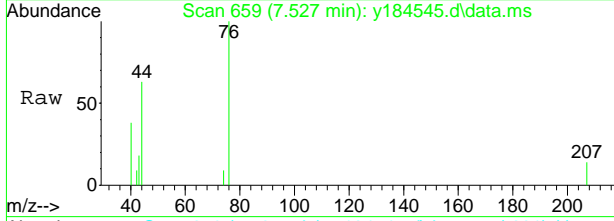
#24  
 methylene chloride  
 Concen: 0.36 ug/L  
 RT: 7.783 min Scan# 708  
 Delta R.T. 0.005 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

Tgt Ion	Resp	Lower	Upper
84	1112		
84	100		
49	106.9	93.9	153.9
86	68.8	32.7	92.7

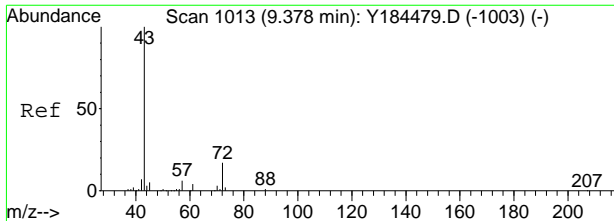


#25  
 methyl acetate  
 Concen: 0.68 ug/L  
 RT: 7.527 min Scan# 659  
 Delta R.T. 0.005 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

Tgt Ion	Resp	Lower	Upper
43	832		
43	100		
74	49.2	0.0	50.3
59	0.0	0.0	38.0

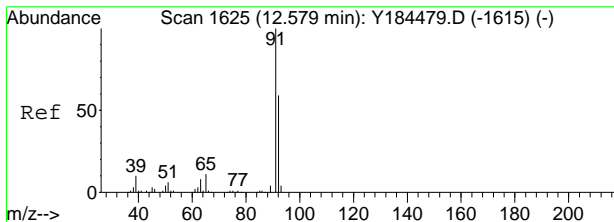
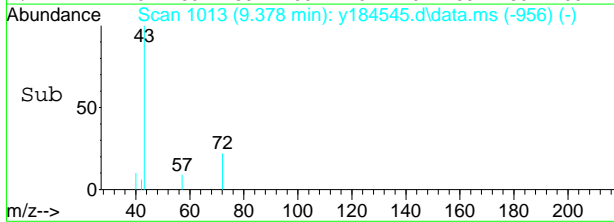
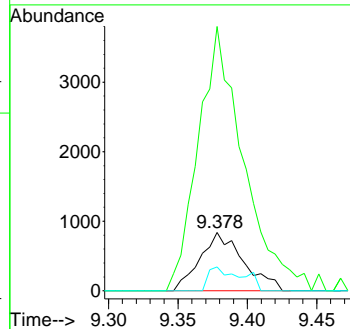
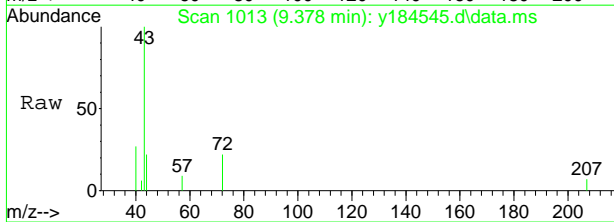


7.14  
7



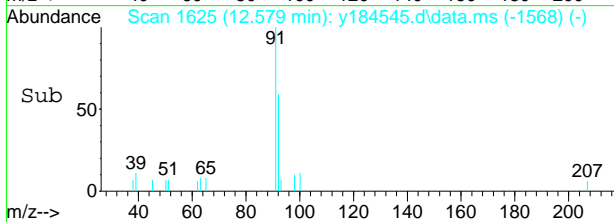
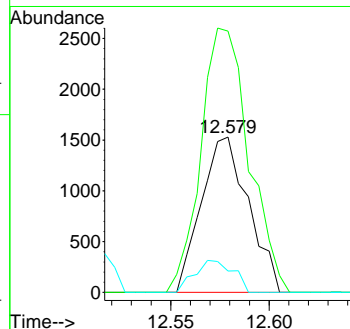
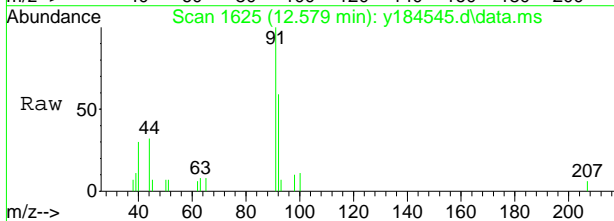
#31  
 2-butanone  
 Concen: 11.28 ug/L  
 RT: 9.378 min Scan# 1013  
 Delta R.T. 0.000 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

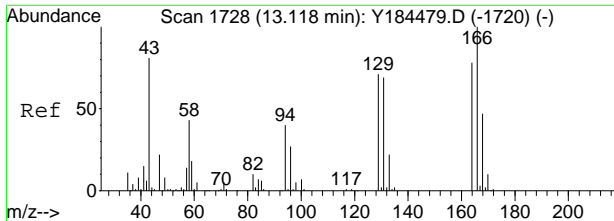
Tgt Ion	Resp	Lower	Upper
72	1818		
72	100		
43	453.3	561.2	621.2#
57	41.0	3.6	63.6



#76  
 toluene  
 Concen: 0.45 ug/L  
 RT: 12.579 min Scan# 1625  
 Delta R.T. 0.000 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

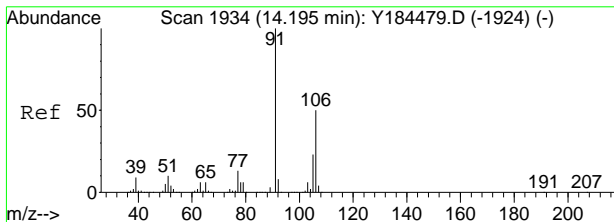
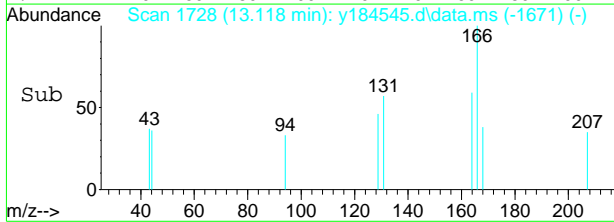
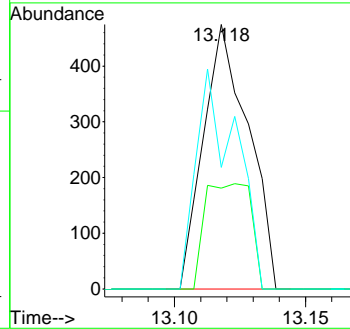
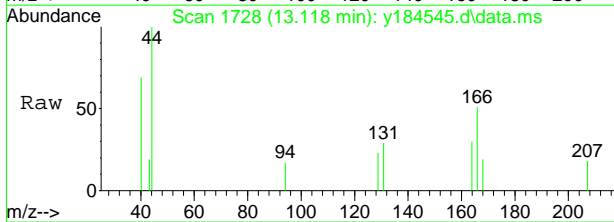
Tgt Ion	Resp	Lower	Upper
92	2541		
92	100		
91	168.4	149.9	189.9
65	13.8	0.0	38.9





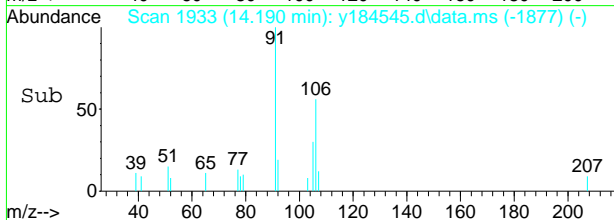
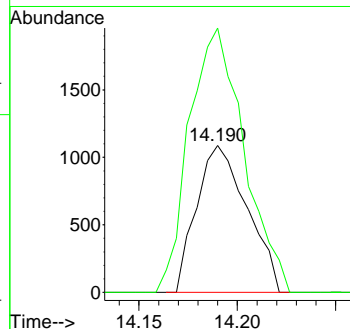
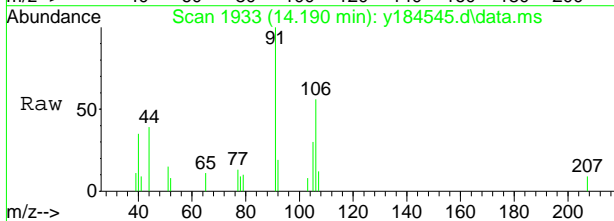
#81  
 tetrachloroethene  
 Concen: 0.23 ug/L  
 RT: 13.118 min Scan# 1728  
 Delta R.T. 0.000 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

Tgt Ion	Ratio	Lower	Upper
166	100		
168	38.1	16.9	76.9
129	45.9	41.0	101.0

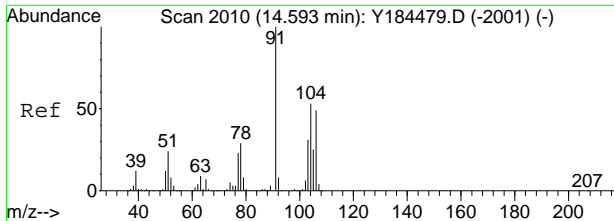


#90  
 m,p-xylene  
 Concen: 0.47 ug/L  
 RT: 14.190 min Scan# 1933  
 Delta R.T. -0.005 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

Tgt Ion	Ratio	Lower	Upper
106	100		
91	179.9	169.8	229.8

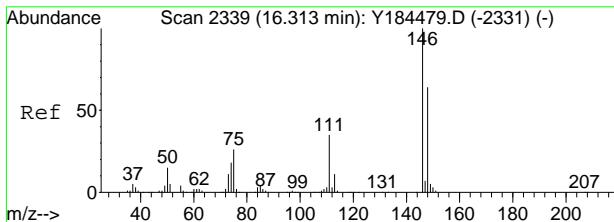
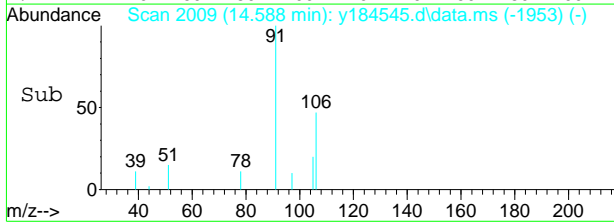
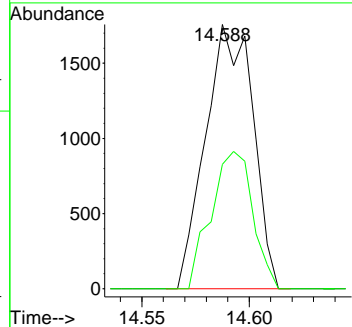
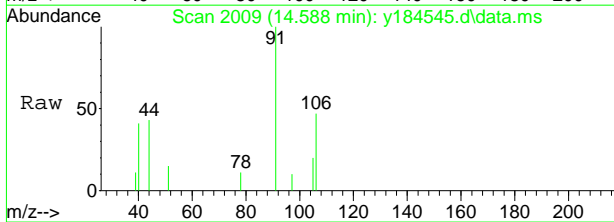






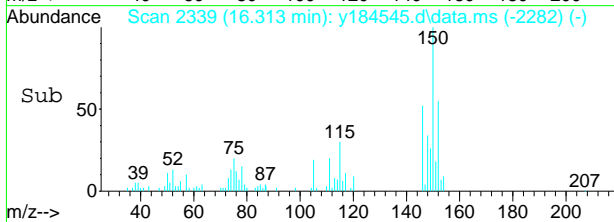
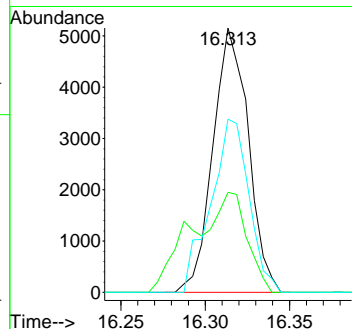
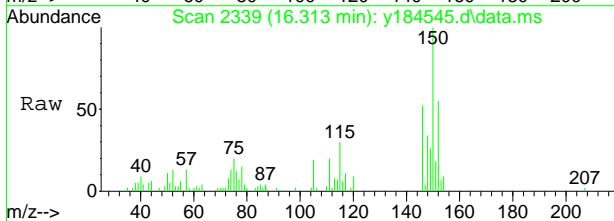
#91  
 o-xylene  
 Concen: 0.30 ug/L  
 RT: 14.588 min Scan# 2009  
 Delta R.T. -0.005 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

Tgt Ion	Resp	Lower	Upper
91	2700		
106	47.0	19.1	79.1



#112  
 1,4-dichlorobenzene  
 Concen: 1.28 ug/L  
 RT: 16.313 min Scan# 2339  
 Delta R.T. 0.000 min  
 Lab File: y184545.d  
 Acq: 17 Apr 2019 12:27 pm

Tgt Ion	Resp	Lower	Upper
146	7534		
111	37.9	5.3	65.3
148	65.5	34.2	94.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\
Data File : i225497.d
Acq On : 17 Apr 2019 7:02 pm
Operator : thienn
Sample : jc86337-5 Inst : GCMSI
Misc : MS33992,VI9085,5.8,,100,10,1
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M
Quant Results File: MI8986.RES
Quant Time: Apr 18 03:56:51 2019
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um
QLast Update : Fri Jan 25 14:07:54 2019
Response via : Initial Calibration

Table with 7 columns: Compound, R.T., QIon, Response, Conc, Units, Dev(Min). Rows include Internal Standards (tert butyl alcohol-d9, pentafluorobenzene, etc.), System Monitoring Compounds (dibromofluoromethane, 1,2-dichloroethane, etc.), and Target Compounds (carbon disulfide, methylene chloride).

(#) = qualifier out of range (m) = manual integration (+) = signals summed

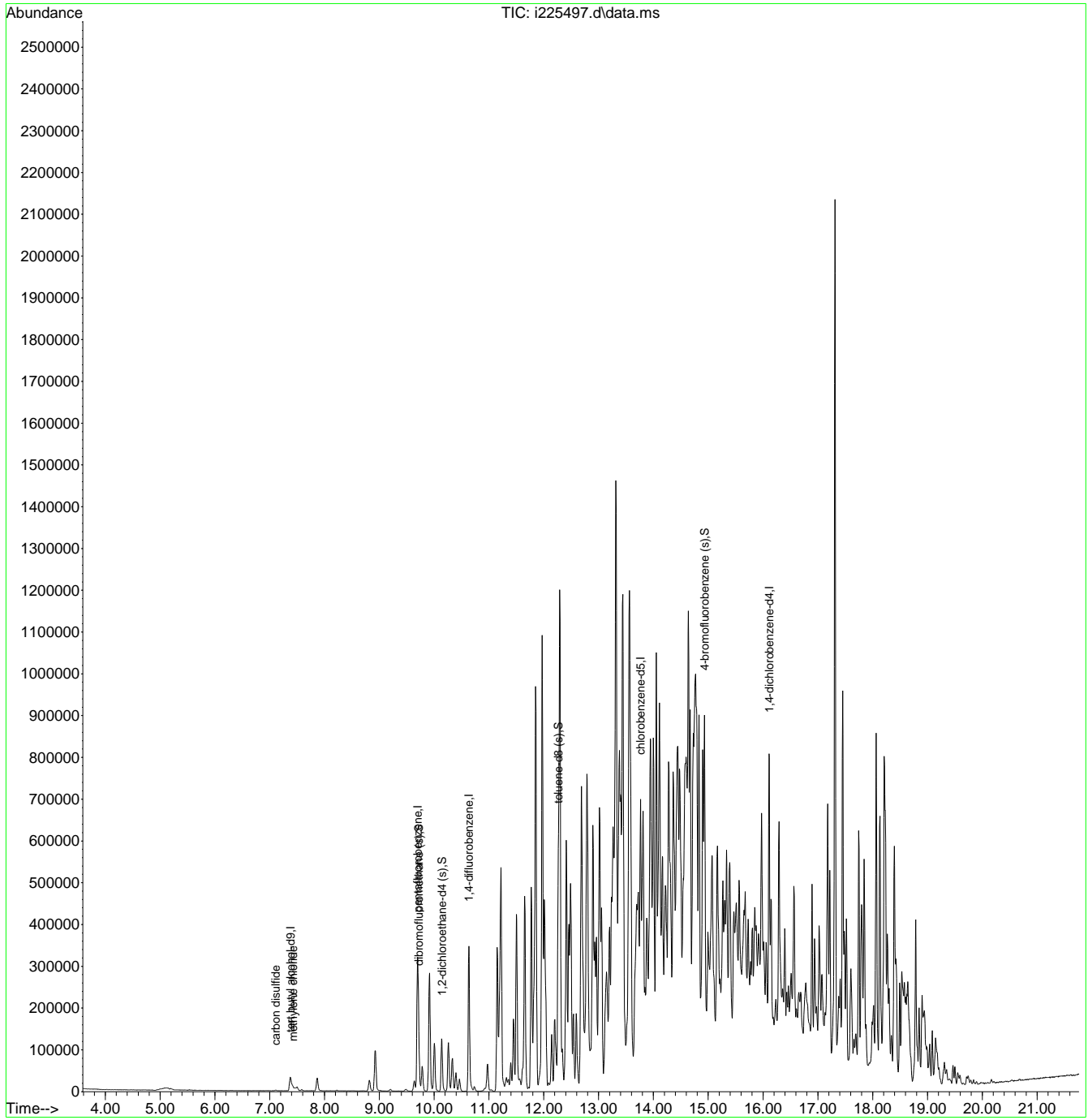
7.15
7



Quantitation Report (QT Reviewed)

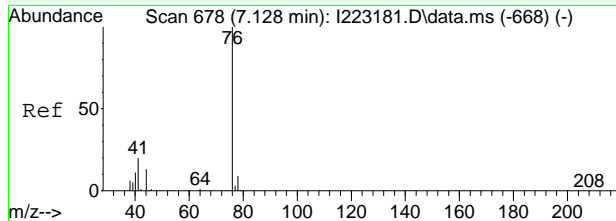
Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
Data File : i225497.d  
Acq On : 17 Apr 2019 7:02 pm  
Operator : thienn  
Sample : jc86337-5 Inst : GCMSI  
Misc : MS33992,VI9085,5.8,,100,10,1  
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Results File: MI8986.RES  
Quant Time: Apr 18 03:56:51 2019  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Fri Jan 25 14:07:54 2019  
Response via : Initial Calibration



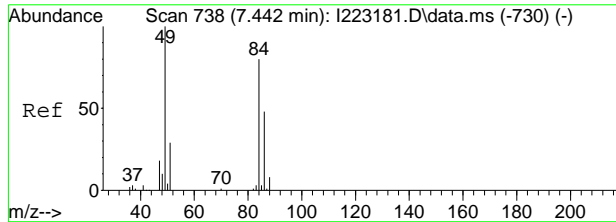
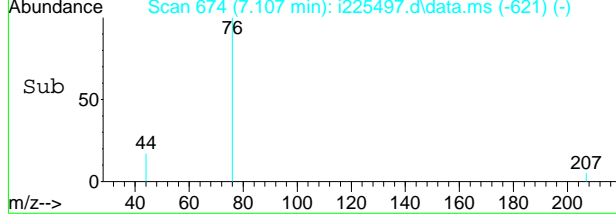
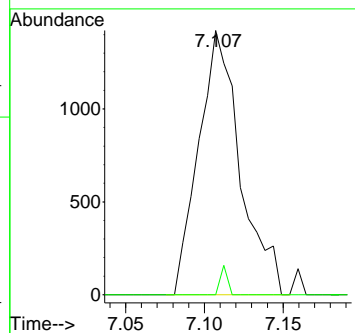
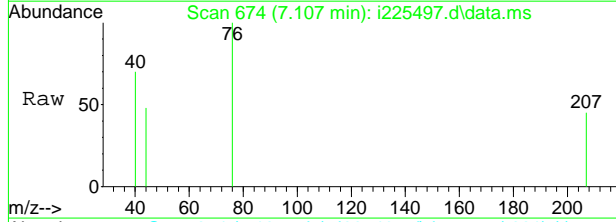
7.15  
7





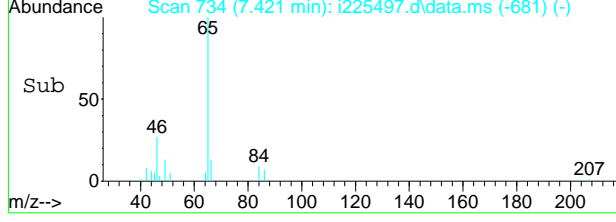
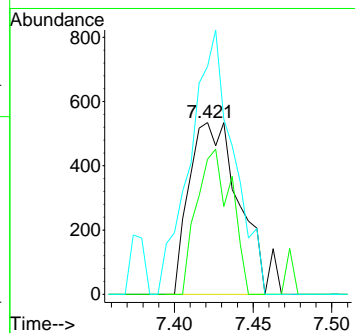
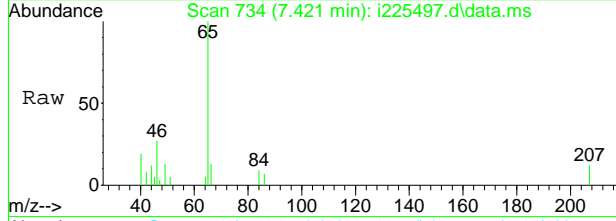
#21  
 carbon disulfide  
 Concen: 0.64 ug/L  
 RT: 7.107 min Scan# 674  
 Delta R.T. -0.021 min  
 Lab File: i225497.d  
 Acq: 17 Apr 2019 7:02 pm

Tgt Ion	Resp	Lower	Upper
76	2617	100	
78	0.0	0.0	29.0



#24  
 methylene chloride  
 Concen: 0.86 ug/L  
 RT: 7.421 min Scan# 734  
 Delta R.T. -0.021 min  
 Lab File: i225497.d  
 Acq: 17 Apr 2019 7:02 pm

Tgt Ion	Resp	Lower	Upper
84	1204	100	
86	78.5	30.4	90.4
49	132.5	95.7	155.7



7.15  
7



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\marianng\04-19-19\vi9086\  
 Data File : i225511.d  
 Acq On : 18 Apr 2019 11:08 am  
 Operator : thienn  
 Sample : jc86337-5 Inst : GCMSI  
 Misc : MS33992,VI9086,5.8,,50,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 19 02:58:41 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.363	65	44876	500.00	ug/L	-0.02
4) pentafluorobenzene	9.696	168	159319	50.00	ug/L	-0.02
51) 1,4-difluorobenzene	10.632	114	210470	50.00	ug/L	-0.02
73) chlorobenzene-d5	13.765	117	193045	50.00	ug/L	-0.02
96) 1,4-dichlorobenzene-d4	16.108	152	126166	50.00	ug/L	-0.02
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.717	113	63225	50.50	ug/L	-0.02
Spiked Amount	50.000	Range	75 - 127	Recovery	=	101.00%
52) 1,2-dichloroethane-d4 (s)	10.135	65	71443	54.38	ug/L	-0.03
Spiked Amount	50.000	Range	75 - 130	Recovery	=	108.76%
74) toluene-d8 (s)	12.264	98	246790	49.87	ug/L	-0.02
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.74%
97) 4-bromofluorobenzene (s)	14.932	95	136208	70.79	ug/L	-0.02
Spiked Amount	50.000	Range	79 - 127	Recovery	=	141.58%#

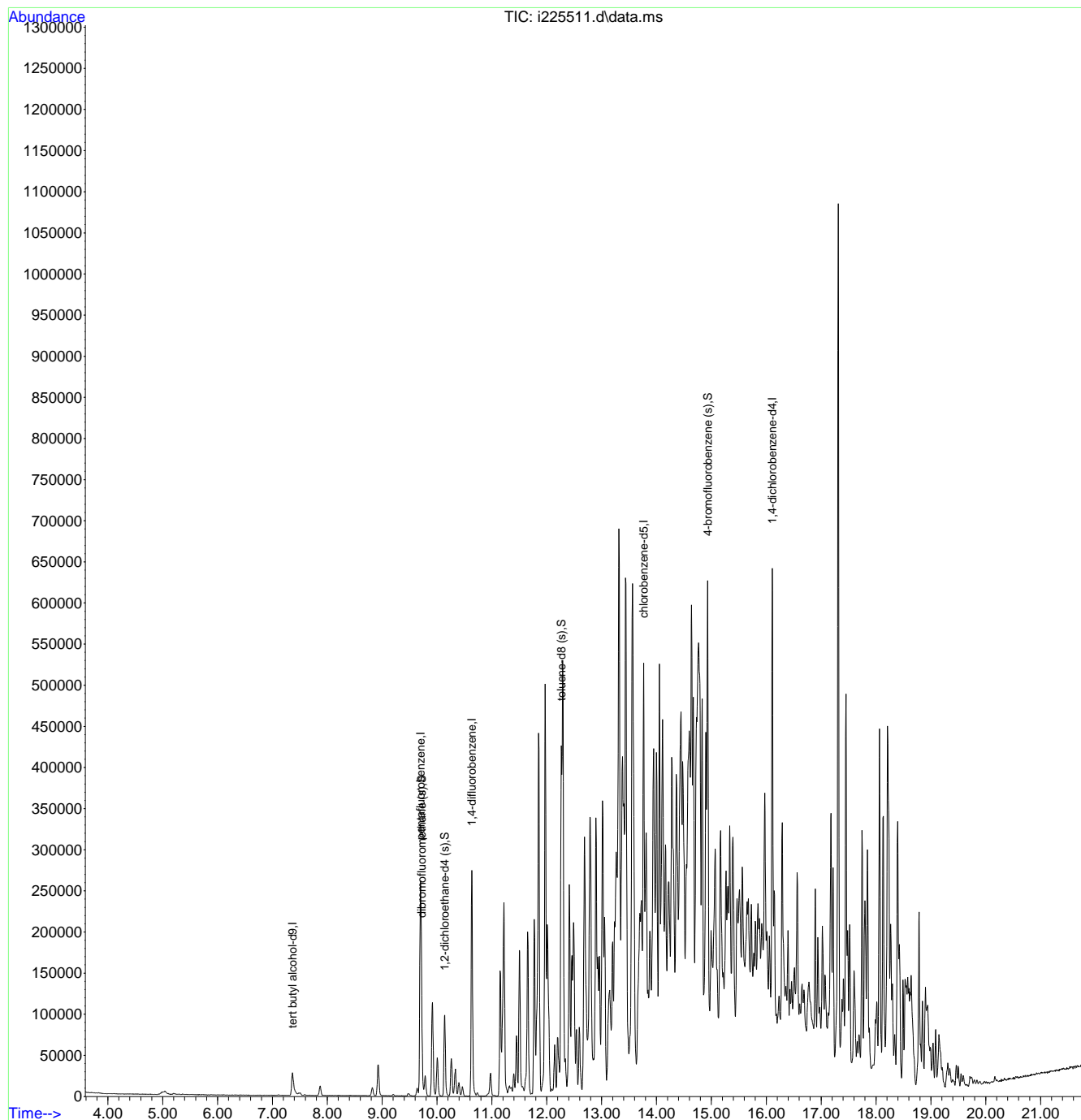
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\marianng\04-19-19\vi9086\  
Data File : i225511.d  
Acq On : 18 Apr 2019 11:08 am  
Operator : thienn  
Sample : jc86337-5 Inst : GCMSI  
Misc : MS33992,VI9086,5.8,,50,10,1  
ALS Vial : 9 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Results File: MI8986.RES  
Quant Time: Apr 19 02:58:41 2019  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Fri Jan 25 14:07:54 2019  
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\lotusa\VOA\Apr-2019\4-18\vy8006\  
 Data File : y184546.d  
 Acq On : 17 Apr 2019 12:56 pm  
 Operator : Prashans  
 Sample : JC86337-6 Inst : MSY  
 Misc : MS33992,VY8006,5.3,,,,,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Results File: MYS8003.RES  
 Quant Time: Apr 18 11:10:50 2019  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.730	65	71750	500.00	ug/L	-0.01
5) pentafluorobenzene	9.974	168	194735	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.905	114	283287	50.00	ug/L	0.00
74) chlorobenzene-d5	13.991	117	294696	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.287	152	167304	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	10.016	113	90296	51.94	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	103.88%
53) 1,2-dichloroethane-d4 (s)	10.440	65	79893	51.66	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	103.32%
75) toluene-d8 (s)	12.506	98	340601	46.27	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	92.54%
98) 4-bromofluorobenzene (s)	15.131	95	147111	51.27	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	102.54%
Target Compounds						
20) acetone	7.061	43	8659	15.47	ug/L	97
23) carbon disulfide	7.479	76	2580	0.36	ug/L	82
24) methylene chloride	7.788	84	688	0.23	ug/L	84
76) toluene	12.579	92	1155	0.20	ug/L #	53

(#) = qualifier out of range (m) = manual integration (+) = signals summed

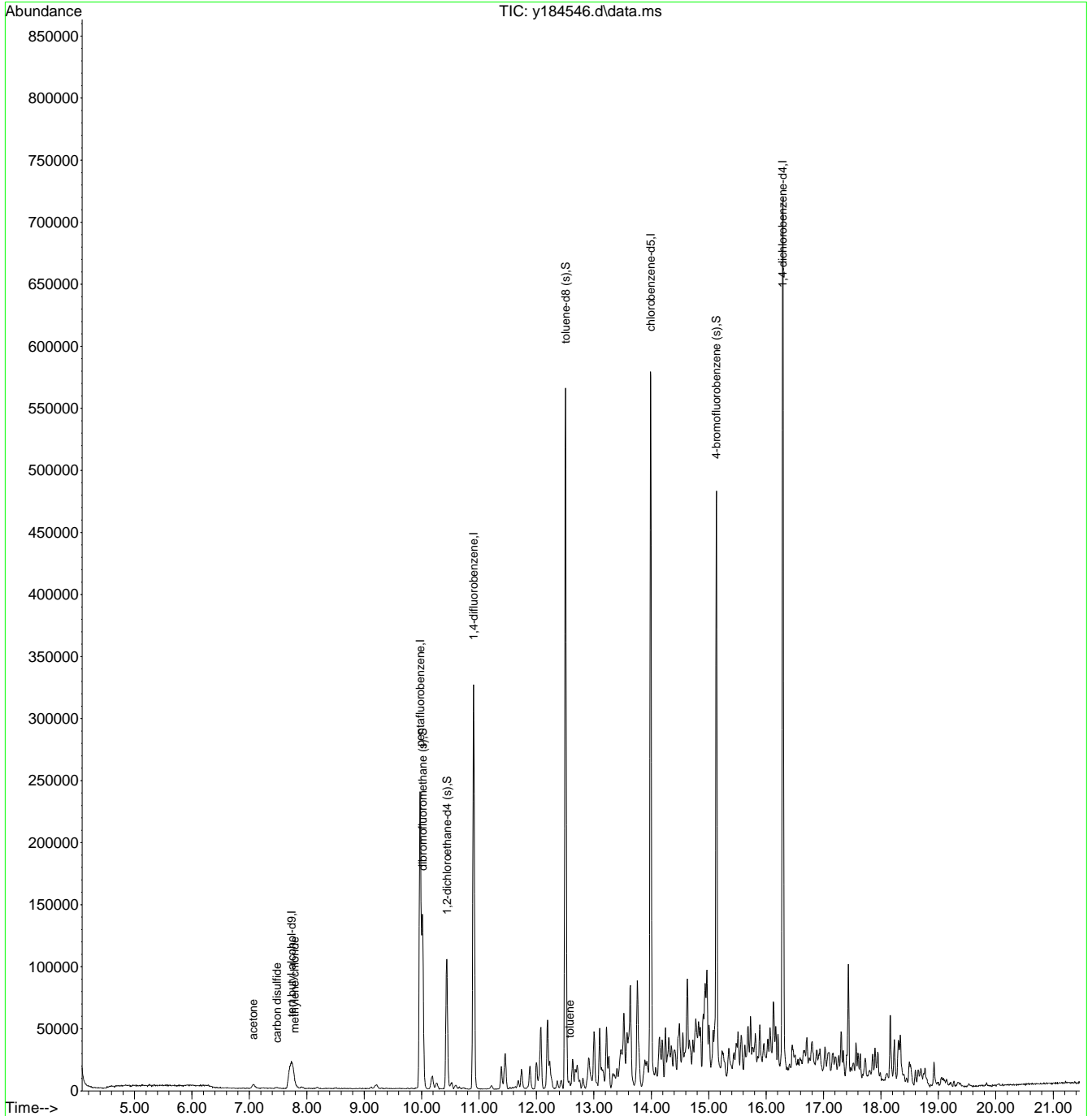
7.17  
7



Quantitation Report (QT Reviewed)

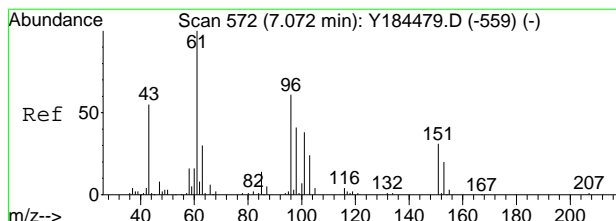
Data Path : C:\msdchem\1\data\lotusa\VOA\Apr-2019\4-18\vy8006\  
Data File : y184546.d  
Acq On : 17 Apr 2019 12:56 pm  
Operator : Prashans  
Sample : JC86337-6 Inst : MSY  
Misc : MS33992,VY8006,5.3,,,,,1  
ALS Vial : 8 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
Quant Results File: MYS8003.RES  
Quant Time: Apr 18 11:10:50 2019  
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
QLast Update : Mon Apr 15 08:30:42 2019  
Response via : Initial Calibration



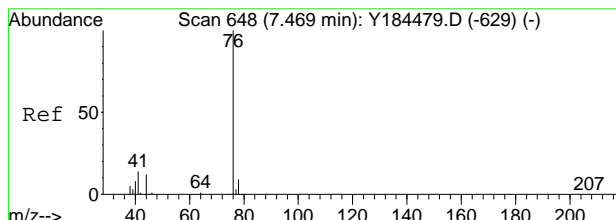
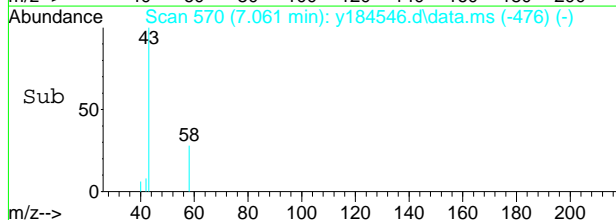
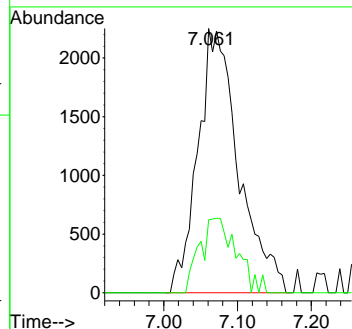
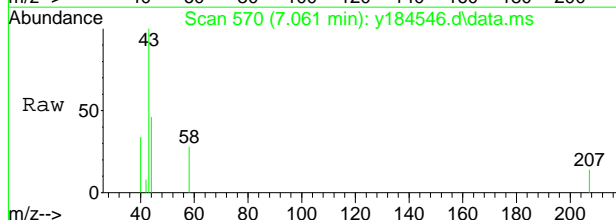
7.1.7  
7





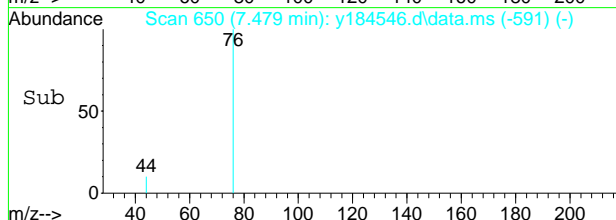
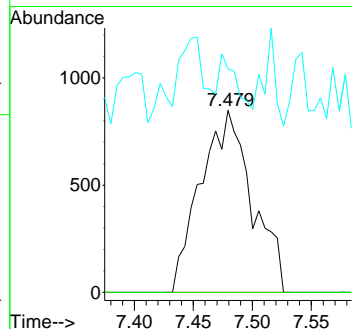
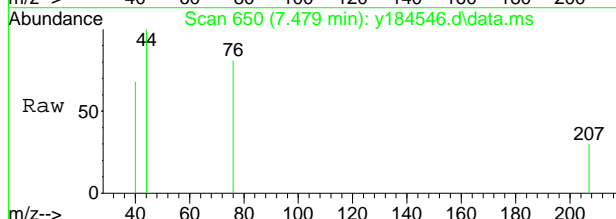
#20  
acetone  
Concen: 15.47 ug/L  
RT: 7.061 min Scan# 570  
Delta R.T. -0.011 min  
Lab File: y184546.d  
Acq: 17 Apr 2019 12:56 pm

Tgt Ion	Ratio	Lower	Upper
43	100		
58	27.6	0.0	59.1

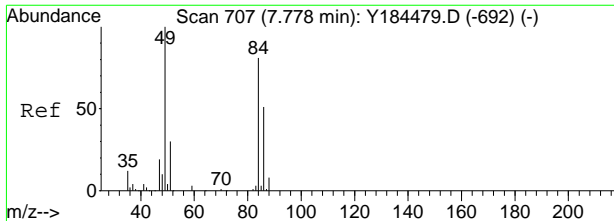


#23  
carbon disulfide  
Concen: 0.36 ug/L  
RT: 7.479 min Scan# 650  
Delta R.T. 0.010 min  
Lab File: y184546.d  
Acq: 17 Apr 2019 12:56 pm

Tgt Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	39.0
44	17.6	0.0	42.5

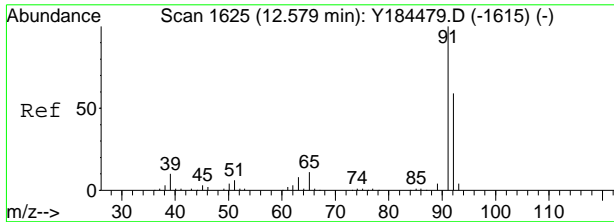
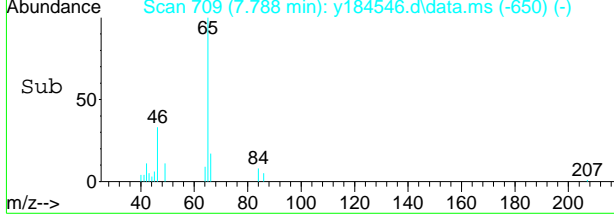
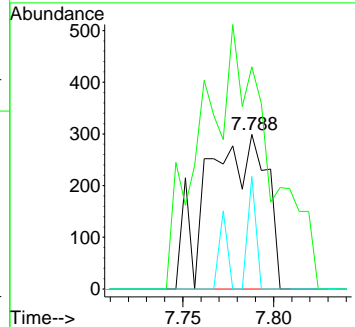
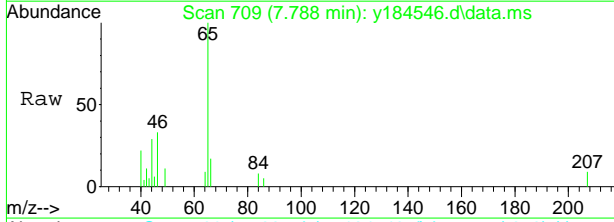


7.17  
7



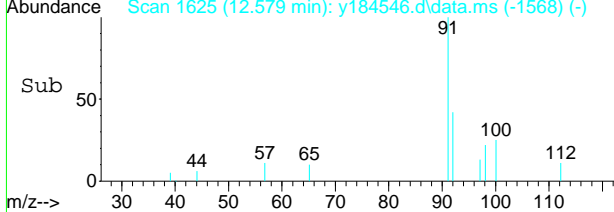
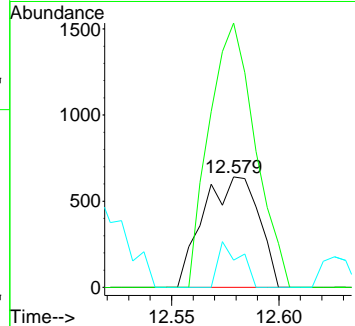
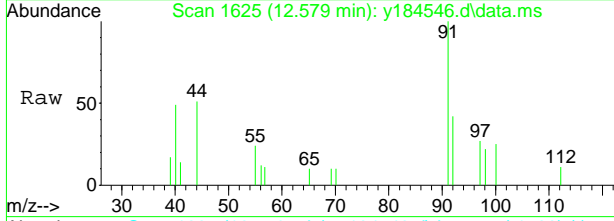
#24  
 methylene chloride  
 Concen: 0.23 ug/L  
 RT: 7.788 min Scan# 709  
 Delta R.T. 0.010 min  
 Lab File: y184546.d  
 Acq: 17 Apr 2019 12:56 pm

Tgt Ion	Ratio	Lower	Upper
84	100		
49	143.8	93.9	153.9
86	72.9	32.7	92.7



#76  
 toluene  
 Concen: 0.20 ug/L  
 RT: 12.579 min Scan# 1625  
 Delta R.T. -0.000 min  
 Lab File: y184546.d  
 Acq: 17 Apr 2019 12:56 pm

Tgt Ion	Ratio	Lower	Upper
92	100		
91	239.5	149.9	189.9#
65	24.6	0.0	38.9



7.17  
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225477.d  
 Acq On : 17 Apr 2019 9:17 am  
 Operator : thienn  
 Sample : mb Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:24:56 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
-----						
Internal Standards						
1) tert butyl alcohol-d9	7.353	65	60307	500.00	ug/L	-0.03
4) pentafluorobenzene	9.696	168	167703	50.00	ug/L	-0.02
51) 1,4-difluorobenzene	10.632	114	220185	50.00	ug/L	-0.02
73) chlorobenzene-d5	13.765	117	189586	50.00	ug/L	-0.02
96) 1,4-dichlorobenzene-d4	16.108	152	106105	50.00	ug/L	-0.02
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.717	113	69888	53.03	ug/L	-0.02
Spiked Amount	50.000	Range	75 - 127	Recovery	=	106.06%
52) 1,2-dichloroethane-d4 (s)	10.141	65	80443	58.53	ug/L	-0.02
Spiked Amount	50.000	Range	75 - 130	Recovery	=	117.06%
74) toluene-d8 (s)	12.264	98	237941	48.96	ug/L	-0.02
Spiked Amount	50.000	Range	80 - 120	Recovery	=	97.92%
97) 4-bromofluorobenzene (s)	14.932	95	86384	53.39	ug/L	-0.02
Spiked Amount	50.000	Range	79 - 127	Recovery	=	106.78%
Target Compounds						
21) carbon disulfide	7.118	76	1295	0.39	ug/L	75
62) methylcyclohexane	11.260	83	481	0.25	ug/L #	82
124) 2-methylnaphthalene	19.566	142	886	0.57	ug/L	92
-----						

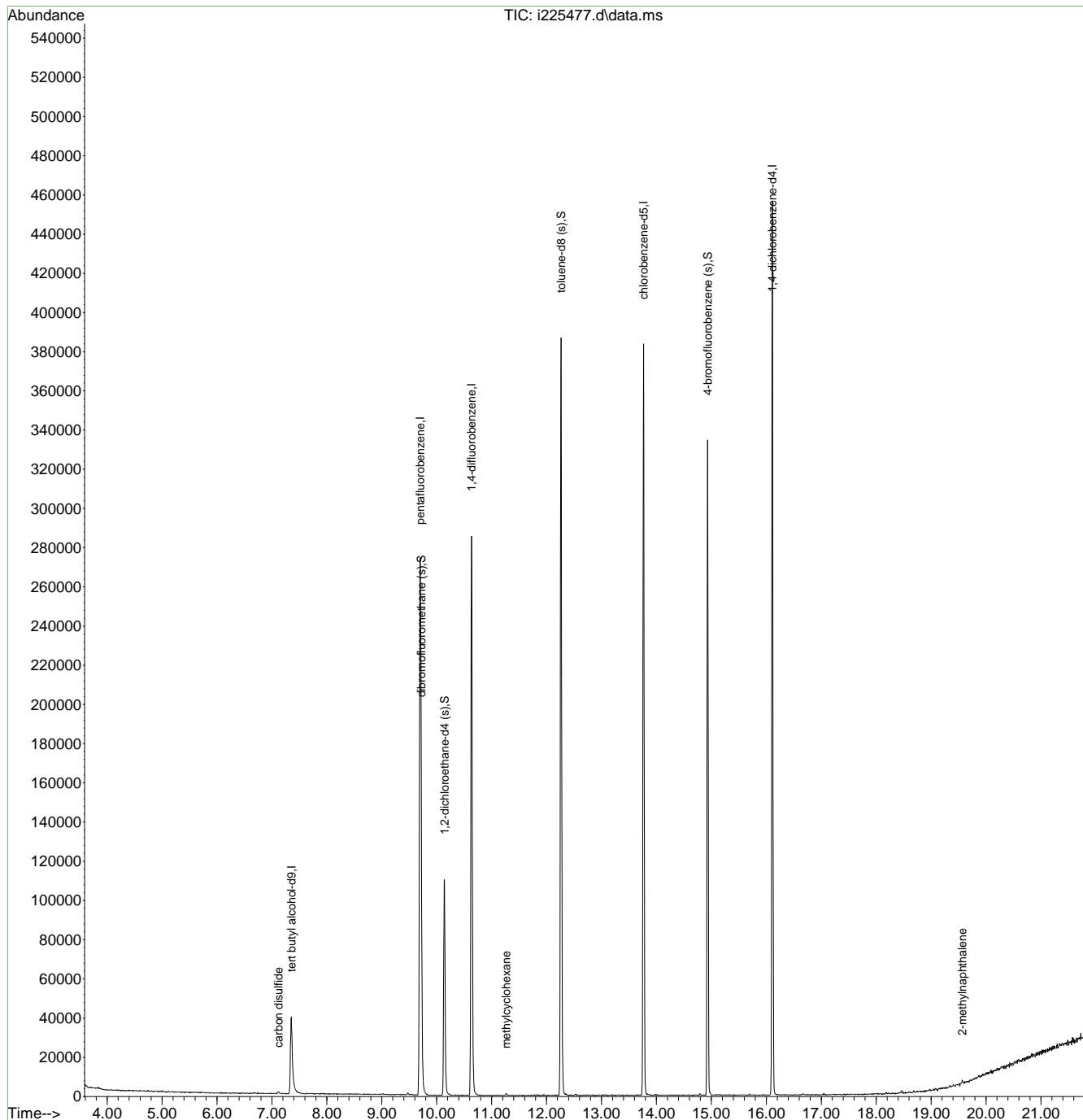
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.1  
7

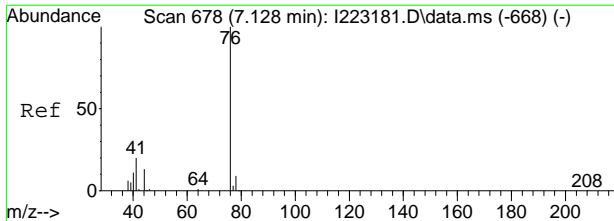
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225477.d  
 Acq On : 17 Apr 2019 9:17 am  
 Operator : thienn  
 Sample : mb  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 6 Sample Multiplier: 1  
 Inst : GCMSI

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:24:56 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

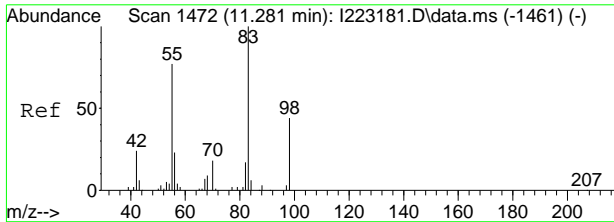
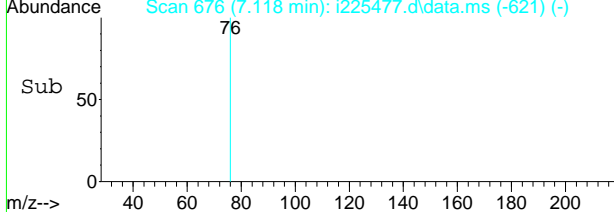
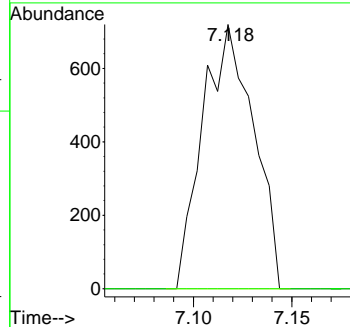
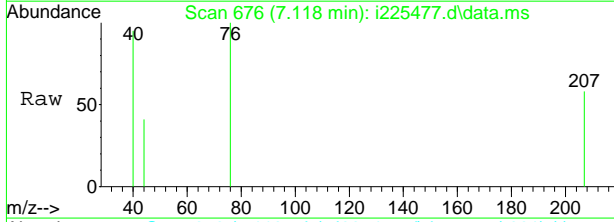


7.2.1  
7



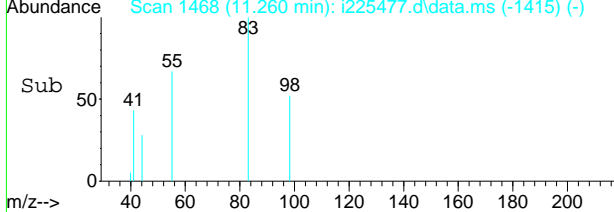
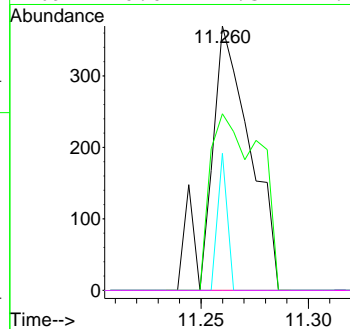
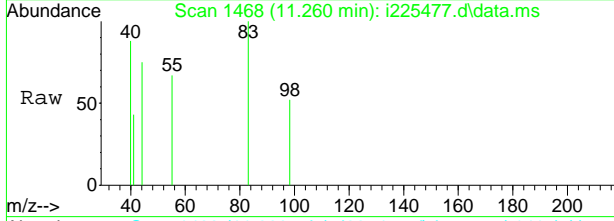
#21  
 carbon disulfide  
 Concen: 0.39 ug/L  
 RT: 7.118 min Scan# 676  
 Delta R.T. -0.011 min  
 Lab File: i225477.d  
 Acq: 17 Apr 2019 9:17 am

Tgt Ion	Resp	Lower	Upper
76	1295	100	
78	0.0	0.0	29.0

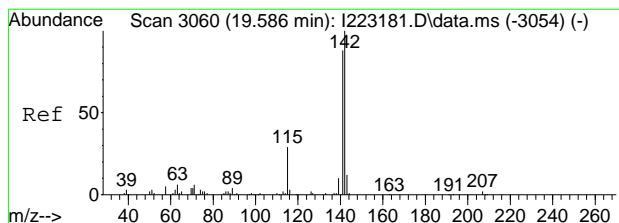


#62  
 methylcyclohexane  
 Concen: 0.25 ug/L  
 RT: 11.260 min Scan# 1468  
 Delta R.T. -0.021 min  
 Lab File: i225477.d  
 Acq: 17 Apr 2019 9:17 am

Tgt Ion	Resp	Lower	Upper
83	481	100	
55	66.8	59.8	99.8
98	51.9	24.4	64.4
69	0.0	1.3	41.3#

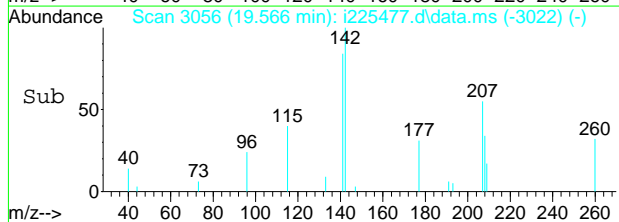
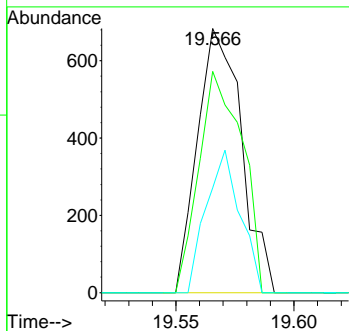
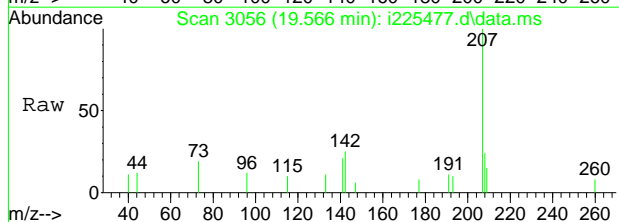


7.2.1  
7



#124  
 2-methylnaphthalene  
 Concen: 0.57 ug/L  
 RT: 19.566 min Scan# 3056  
 Delta R.T. -0.021 min  
 Lab File: i225477.d  
 Acq: 17 Apr 2019 9:17 am

Tgt Ion	Resp	Lower	Upper
142	886		
141	83.8	68.2	108.2
115	39.6	9.2	49.2



7.2.1  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184542.D  
 Acq On : 17 Apr 2019 10:59 am  
 Operator : Prashans  
 Sample : MB  
 Misc : MS33911,VY8006,5.0,,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 10:19:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.75	65	58077	500.00	ug/L	0.00
5) pentafluorobenzene	9.98	168	181798	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	261193	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	255112	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	145466	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	82016	50.53	ug/L	0.00
Spiked Amount	50.000	Range 75 - 127	Recovery	=	101.06%	
53) 1,2-dichloroethane-d4 (s)	10.44	65	70418	49.39	ug/L	0.00
Spiked Amount	50.000	Range 75 - 130	Recovery	=	98.78%	
75) toluene-d8 (s)	12.51	98	302646	47.49	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	94.98%	
98) 4-bromofluorobenzene (s)	15.14	95	121309	48.63	ug/L	0.00
Spiked Amount	50.000	Range 79 - 127	Recovery	=	97.26%	

## Target Compounds

					Qvalue
42) chloroform	9.83	83	911	0.24	ug/L 73
124) 2-methylnaphthalene	19.84	142	571	0.15	ug/L # 76

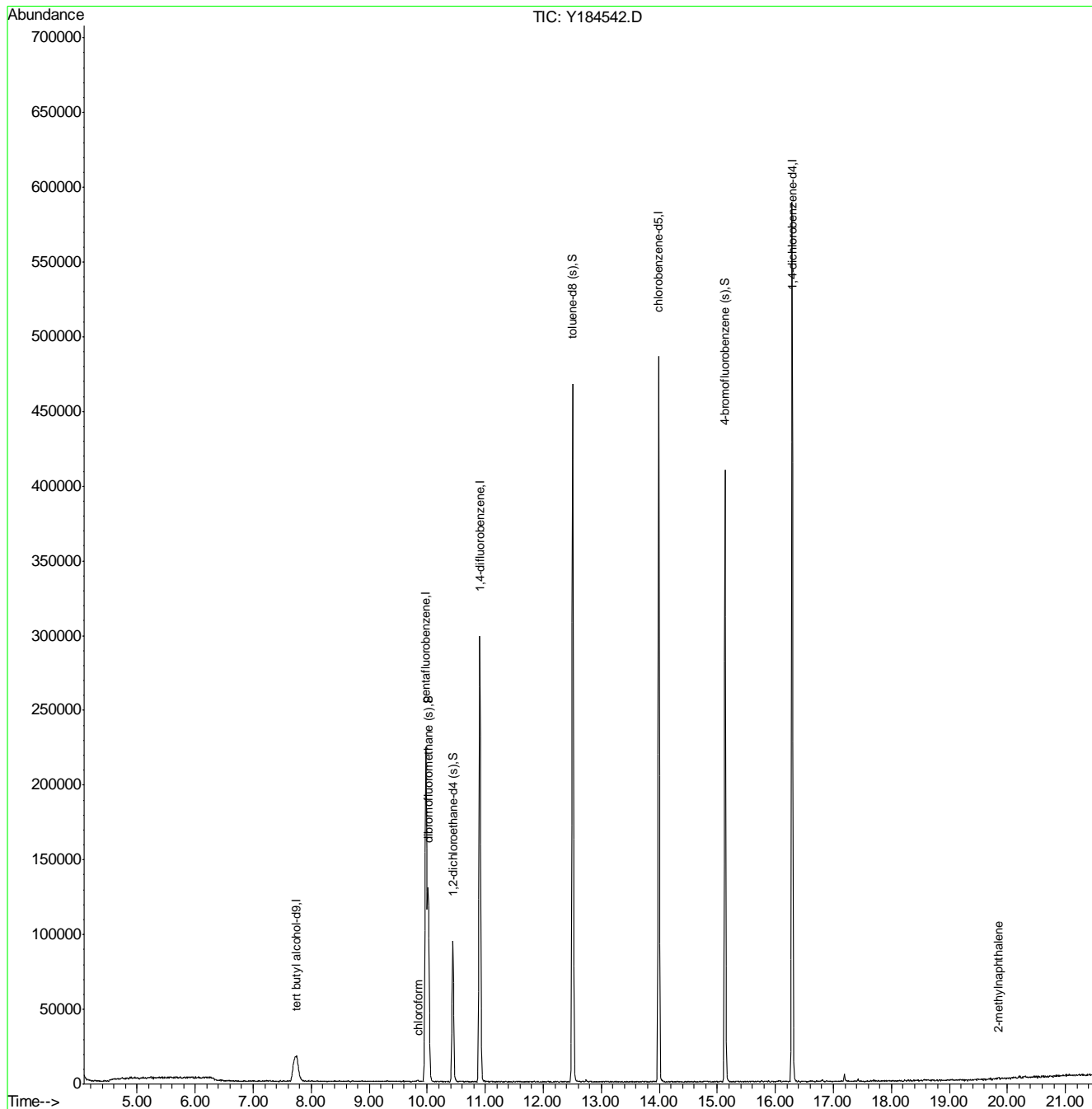
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.22  
7

Quantitation Report (QT Reviewed)

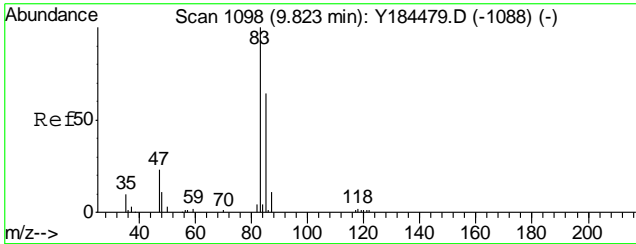
Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184542.D  
 Acq On : 17 Apr 2019 10:59 am  
 Operator : Prashans  
 Sample : MB  
 Misc : MS33911,VY8006,5.0,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 10:19:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration



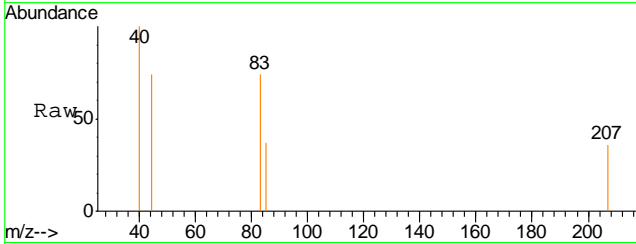
7.22  
7



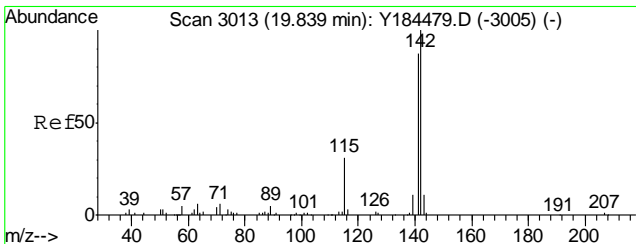
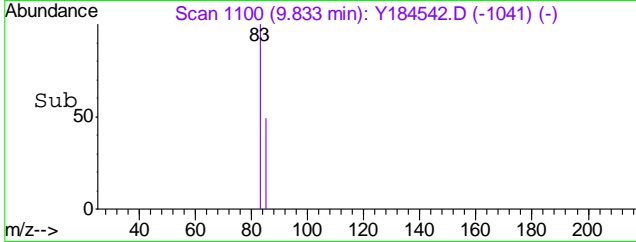
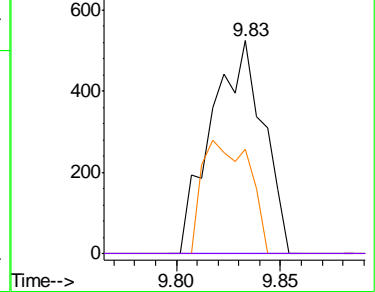


#42  
chloroform  
Concen: 0.24 ug/L  
RT: 9.83 min Scan# 1100  
Delta R.T. 0.01 min  
Lab File: Y184542.D  
Acq: 17 Apr 2019 10:59 am

Tgt Ion	Resp	Lower	Upper
83	911		
83	100		
85	49.2	34.2	94.2
47	0.0	0.0	53.6

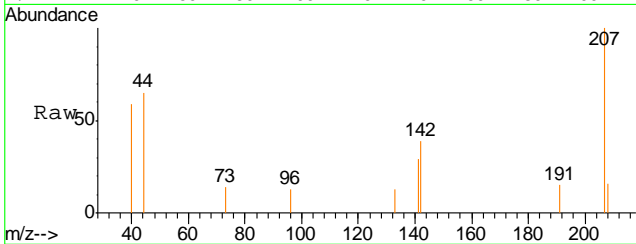


Abundance Ion 83.00 (82.70 to 83.70): Y18  
Ion 85.00 (84.70 to 85.70): Y18  
Ion 47.00 (46.70 to 47.70): Y18

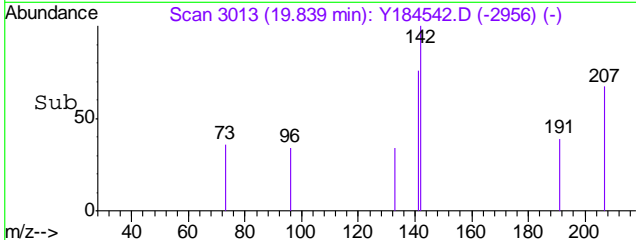
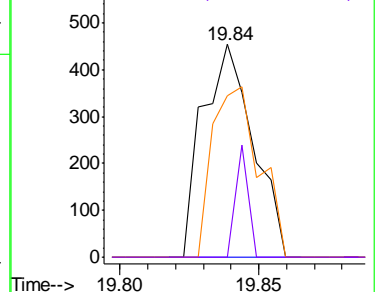


#124  
2-methylnaphthalene  
Concen: 0.15 ug/L  
RT: 19.84 min Scan# 3013  
Delta R.T. 0.00 min  
Lab File: Y184542.D  
Acq: 17 Apr 2019 10:59 am

Tgt Ion	Resp	Lower	Upper
142	571		
142	100		
141	75.8	67.3	107.3
115	0.0	10.6	50.6#



Abundance Ion 142.00 (141.70 to 142.70): Y  
Ion 141.00 (140.70 to 141.70): Y  
Ion 115.00 (114.70 to 115.70): Y



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225475.d  
 Acq On : 17 Apr 2019 8:19 am  
 Operator : thienn  
 Sample : bs Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:48:00 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.353	65	63680	500.00	ug/L	-0.03
4) pentafluorobenzene	9.696	168	180719	50.00	ug/L	-0.02
51) 1,4-difluorobenzene	10.632	114	241135	50.00	ug/L	-0.02
73) chlorobenzene-d5	13.765	117	201681	50.00	ug/L	-0.02
96) 1,4-dichlorobenzene-d4	16.108	152	116400	50.00	ug/L	-0.02
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.717	113	72031	50.72	ug/L	-0.02
Spiked Amount	50.000	Range	75 - 127	Recovery	=	101.44%
52) 1,2-dichloroethane-d4 (s)	10.141	65	83185	55.27	ug/L	-0.02
Spiked Amount	50.000	Range	75 - 130	Recovery	=	110.54%
74) toluene-d8 (s)	12.264	98	257385	49.78	ug/L	-0.02
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.56%
97) 4-bromofluorobenzene (s)	14.932	95	92665	52.20	ug/L	-0.02
Spiked Amount	50.000	Range	79 - 127	Recovery	=	104.40%
Target Compounds						
2) tertiary butyl alcohol	7.473	59	36173	274.45	ug/L	97
3) 1,4-dioxane	11.281	88	19199	1299.73	ug/L	98
5) dichlorodifluoromethane	3.885	85	115087	72.90	ug/L	99
6) chlorodifluoromethane	3.917	51	77391	51.92	ug/L	97
7) chloromethane	4.278	50	84445	57.76	ug/L	97
8) vinyl chloride	4.523	62	75574	61.39	ug/L	99
9) 1,3-butadiene	4.607	54	44580	51.84	ug/L	95
10) bromomethane	5.183	94	46384	56.55	ug/L	97
11) chloroethane	5.386	64	40724	54.69	ug/L	98
12) vinyl bromide	5.732	106	41485	43.59	ug/L	97
13) trichlorofluoromethane	5.857	101	104665	55.55	ug/L	96
14) ethyl ether	6.302	74	26684	49.99	ug/L	91
15) 2-chloropropane	6.495	63	21099	48.49	ug/L	95
16) acrolein	6.501	56	7270	41.80	ug/L	86
17) freon 113	6.715	151	45106	48.86	ug/L	95
18) 1,1-dichloroethene	6.710	61	82463	49.03	ug/L	97
19) acetone	6.694	43	65289	214.42	ug/L	95
20) iodomethane	6.956	142	57365	46.32	ug/L	96
21) carbon disulfide	7.112	76	154417	42.62	ug/L	100
22) acetonitrile	7.092	41	71867	472.62	ug/L	95
23) methyl acetate	7.186	74	7467	42.20	ug/L #	90
24) methylene chloride	7.426	84	56712	45.53	ug/L	96
25) acrylonitrile	7.698	53	16427	45.86	ug/L	94
26) methyl tert butyl ether	7.808	73	156284	52.94	ug/L	96
27) trans-1,2-dichloroethene	7.845	61	78485	48.95	ug/L	96
28) hexane	8.226	57	82114	42.47	ug/L	97
29) 1,1-dichloroethane	8.415	63	98210	47.97	ug/L	98
30) vinyl acetate	8.362	86	9869	50.63	ug/L #	90
31) di-isopropyl ether	8.425	45	169950	46.83	ug/L	97
32) chloroprene	8.530	53	90357	52.31	ug/L	96
33) ethyl tert-butyl ether	8.891	59	179138	51.14	ug/L	97
34) 2-butanone	9.058	72	24529	214.92	ug/L #	86
35) 2,2-dichloropropane	9.168	77	97555	54.96	ug/L	100
36) ethyl acetate	9.100	45	6962	41.38	ug/L #	70
37) cis-1,2-dichloroethene	9.137	96	61297	46.47	ug/L	97
38) propionitrile	9.105	54	83922	501.35	ug/L	99
39) methyl acrylate	9.178	85	8324	47.76	ug/L	98
40) methacrylonitrile	9.325	67	20826	49.29	ug/L	87
41) bromochloromethane	9.435	128	29272	49.35	ug/L	95

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225475.d  
 Acq On : 17 Apr 2019 8:19 am  
 Operator : thienn  
 Sample : bs Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:48:00 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) tetrahydrofuran	9.466	71	6893	52.41	ug/L	91
43) chloroform	9.524	83	106356	50.21	ug/L	97
44) carbon tetrachloride	10.005	117	89517	51.74	ug/L	97
45) 1,1-dichloropropene	9.973	75	79297	49.73	ug/L	98
48) 1,1,1-trichloroethane	9.796	97	99679	52.73	ug/L	98
49) cyclohexane	9.926	84	80011	48.06	ug/L	91
50) tert-amyl alcohol	10.078	55	12818	267.80	ug/L	88
53) isopropyl acetate	10.130	87	10972	50.22	ug/L #	94
54) 1,2-dichloroethane	10.230	62	86267	54.46	ug/L	98
55) benzene	10.219	78	223762	47.49	ug/L	99
56) 2,2,4-trimethylpentane	10.334	57	204796	42.46	ug/L	95
57) tert-amyl methyl ether	10.308	87	41215	51.26	ug/L	96
58) heptane	10.507	57	43311	43.02	ug/L	96
59) n-butyl alcohol	10.664	56	100844	2562.35	ug/L	91
60) trichloroethene	10.951	95	60319	47.80	ug/L	95
61) ethyl acrylate	10.931	55	64779	48.56	ug/L	97
62) methylcyclohexane	11.265	83	94277	44.11	ug/L	99
63) 1,2-dichloropropane	11.229	63	53068	44.00	ug/L	87
64) methyl methacrylate	11.197	100	13941	49.13	ug/L #	85
65) dibromomethane	11.333	93	34128	48.57	ug/L	97
66) bromodichloromethane	11.490	83	83314	49.86	ug/L	94
67) 2-nitropropane	11.663	41	17049	58.94	ug/L	91
68) 2-chloroethyl vinyl ether	11.726	63	170538	241.68	ug/L	99
69) epichlorohydrin	11.799	57	30127	255.63	ug/L	99
70) cis-1,3-dichloropropene	11.945	75	92858	49.23	ug/L	93
71) 4-methyl-2-pentanone	12.039	58	74978	199.82	ug/L	94
72) 3-methyl-1-butanol	12.034	70	32305	991.13	ug/L	94
75) toluene	12.337	92	135502	48.54	ug/L	97
76) trans-1,3-dichloropropene	12.510	75	87749	52.24	ug/L	98
77) ethyl methacrylate	12.510	69	60334	47.65	ug/L	98
78) 1,1,2-trichloroethane	12.730	83	38863	47.45	ug/L	97
79) 1,3-dichloropropane	12.908	76	72953	48.94	ug/L	98
80) tetrachloroethene	12.897	166	66800	47.66	ug/L	97
81) 2-hexanone	12.887	58	71998	196.74	ug/L	97
82) butyl acetate	12.981	56	29057	45.64	ug/L #	82
83) n-butyl ether	13.776	57	185011	40.13	ug/L	96
84) dibromochloromethane	13.159	129	63255	49.43	ug/L	98
85) 1,2-dibromoethane	13.310	107	65036	58.38	ug/L	99
86) chlorobenzene	13.797	112	145120	48.80	ug/L	98
87) 1,1,1,2-tetrachloroethane	13.859	131	58501	49.55	ug/L	99
88) ethylbenzene	13.865	91	251786	48.42	ug/L	98
89) m,p-xylene	13.985	106	194095	94.91	ug/L	96
90) o-xylene	14.382	106	93431	45.89	ug/L	95
91) styrene	14.393	104	161351	47.19	ug/L	97
92) butyl acrylate	14.210	55	93871	48.13	ug/L	99
93) cis-1,4-dichloro-2-butene	14.749	88	29253	58.37	ug/L	93
94) bromoform	14.613	173	45862	51.03	ug/L	98
95) isopropylbenzene	14.738	105	250708	48.92	ug/L	98
98) 1,1,2,2-tetrachloroethane	14.994	83	59834	49.71	ug/L	98
99) trans-1,4-dichloro-2-b...	15.026	53	18748	59.76	ug/L	95
100) 1,2,3-trichloropropane	15.083	110	17056	55.00	ug/L	92
101) bromobenzene	15.115	156	71262	49.59	ug/L	98
102) n-propylbenzene	15.151	91	293318	49.17	ug/L	99
103) 2-chlorotoluene	15.282	126	61651	49.20	ug/L	96
104) 4-chlorotoluene	15.392	91	182362	51.13	ug/L	98
105) 1,3,5-trimethylbenzene	15.313	105	220499	49.11	ug/L	99
106) tert-butylbenzene	15.648	134	39248	47.19	ug/L	95

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225475.d  
 Acq On : 17 Apr 2019 8:19 am  
 Operator : thienn  
 Sample : bs Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:48:00 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
107) 1,2,4-trimethylbenzene	15.701	105	225937	49.12	ug/L	96
108) sec-butylbenzene	15.873	105	277604	47.98	ug/L	97
109) p-isopropyltoluene	16.009	119	250044	49.79	ug/l	97
110) benzyl chloride	16.224	91	151383	53.74	ug/L	96
111) 1,3-dichlorobenzene	16.040	146	139083	50.72	ug/L	99
112) 1,4-dichlorobenzene	16.135	146	140446	50.15	ug/L	99
113) 1,2-dichlorobenzene	16.516	146	133208	49.63	ug/L	98
114) n-butylbenzene	16.433	92	133018	50.92	ug/L	96
115) hexachloroethane	16.841	201	50813	50.74	ug/L	93
116) 1,2-dibromo-3-chloropr...	17.306	157	18835	50.45	ug/L	95
117) nitrobenzene	17.494	77	7640	59.56	ug/L	92
118) 1,3,5-trichlorobenzene	17.521	180	138368	50.76	ug/L	98
119) 1,2,4-trichlorobenzene	18.180	180	124732	50.86	ug/L	98
120) 2-ethylhexyl acrylate	18.201	55	21080	10.55	ug/L	99
121) hexachlorobutadiene	18.310	225	80007	49.56	ug/L	98
122) naphthalene	18.467	128	260356	54.91	ug/L	99
123) 1,2,3-trichlorobenzene	18.687	180	117695	48.78	ug/L	98
124) 2-methylnaphthalene	19.566	142	67350	39.84	ug/L	97

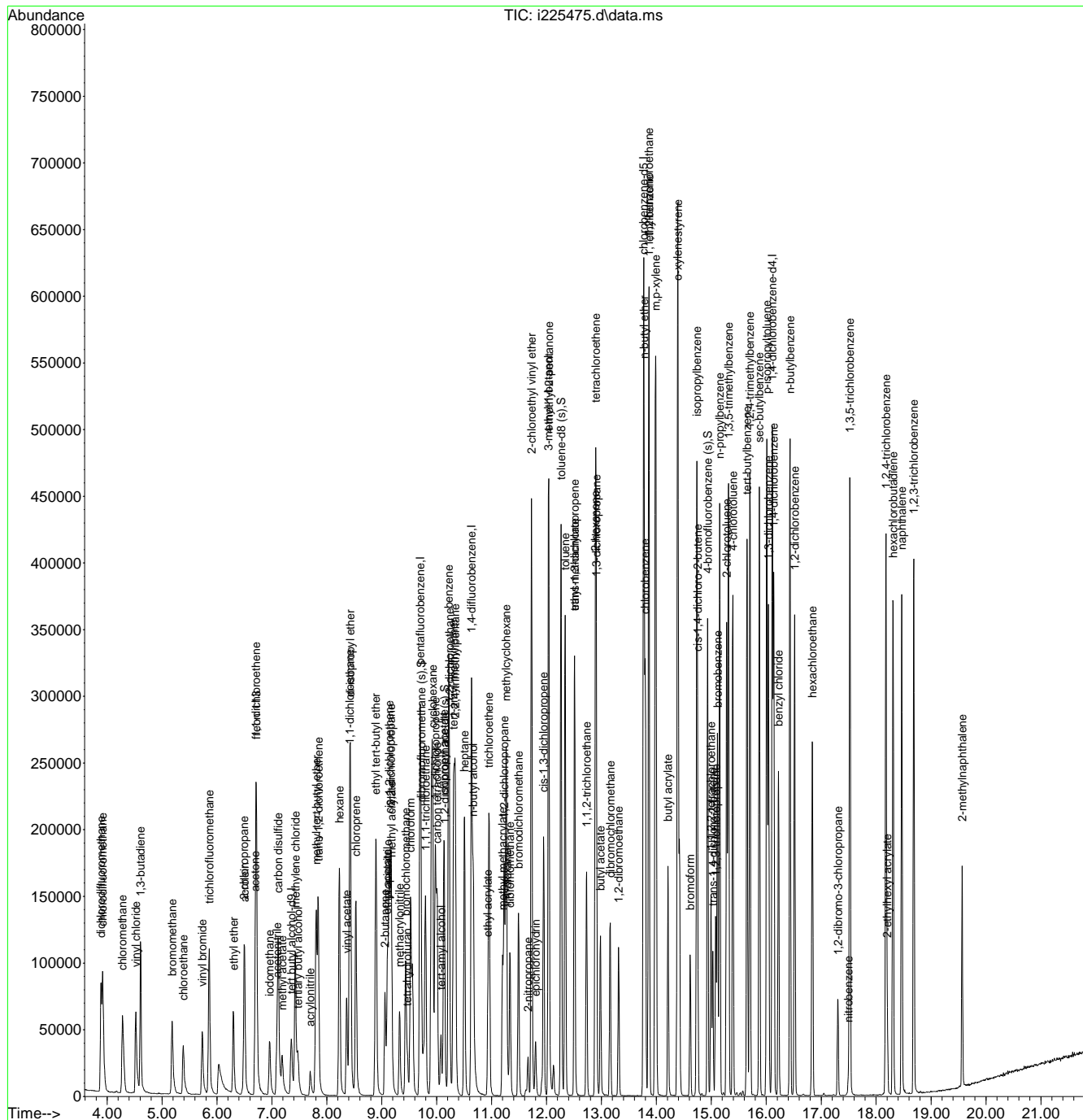
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
Data File : i225475.d  
Acq On : 17 Apr 2019 8:19 am  
Operator : thienn  
Sample : bs  
Misc : MS34003,VI9085,5,,100,5,1  
ALS Vial : 4 Sample Multiplier: 1

Inst : GCMSI

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Results File: MI8986.RES  
Quant Time: Apr 18 04:48:00 2019  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Fri Jan 25 14:07:54 2019  
Response via : Initial Calibration



7.3.1  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184540.D  
 Acq On : 17 Apr 2019 9:50 am  
 Operator : Prashans  
 Sample : BS  
 Misc : MS33788,VY8006,5.0,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 10:16:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	71975	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	201204	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	294425	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	279534	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	161390	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	91335	50.85	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	101.70%
53) 1,2-dichloroethane-d4 (s)	10.44	65	79007	49.16	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	98.32%
75) toluene-d8 (s)	12.51	98	336912	48.25	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	96.50%
98) 4-bromofluorobenzene (s)	15.14	95	136667	49.38	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	98.76%

## Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) tertiary butyl alcohol	7.86	59	56649	246.96	ug/L	94
4) 1,4-dioxane	11.55	88	26473	1254.93	ug/L	97
6) chlorodifluoromethane	4.39	51	174604	48.51	ug/L	98
7) dichlorodifluoromethane	4.36	85	234299	62.30	ug/L	98
8) chloromethane	4.75	50	256417	54.91	ug/L	97
9) vinyl chloride	5.00	62	204487	55.02	ug/L	98
10) 1,3-butadiene	5.03	54	123000	50.98	ug/L	98
11) bromomethane	5.63	94	151237	51.91	ug/L	99
12) chloroethane	5.81	64	105866	48.08	ug/L	97
13) vinyl bromide	6.15	106	96777	49.13	ug/L	99
14) trichlorofluoromethane	6.28	101	206928	51.67	ug/L	97
15) ethyl ether	6.64	74	55622	50.64	ug/L	95
16) 2-chloropropane	6.86	63	46886	49.00	ug/L #	83
17) acrolein	6.88	56	17844	57.82	ug/L	94
18) freon 113	7.11	151	100470	53.09	ug/L	98
19) 1,1-dichloroethene	7.08	61	174928	48.94	ug/L	98
20) acetone	7.07	43	100305	173.44	ug/L	92
21) acetonitrile	7.50	41	127732	512.24	ug/L	99
22) iodomethane	7.33	142	200562	48.00	ug/L	98
23) carbon disulfide	7.47	76	355062	48.32	ug/L	99
24) methylene chloride	7.78	84	132068	42.58	ug/L	97
25) methyl acetate	7.53	43	59545	47.53	ug/L	96
26) methyl tert butyl ether	8.15	73	330417	49.24	ug/L	98
27) trans-1,2-dichloroethene	8.16	61	154877	47.50	ug/L	98
28) hexane	8.51	57	145927	46.48	ug/L	98
29) di-isopropyl ether	8.73	45	407989	48.07	ug/L	100
30) ethyl tert-butyl ether	9.19	59	389654	49.95	ug/L	98
31) 2-butanone	9.38	72	34327	209.16	ug/L #	86
32) 1,1-dichloroethane	8.74	63	190869	46.83	ug/L	99
33) chloroprene	8.83	53	148023	45.95	ug/L	98
34) acrylonitrile	8.07	53	32904	52.22	ug/L	97
35) vinyl acetate	8.67	86	16237	49.91	ug/L #	90
36) ethyl acetate	9.38	45	11130	48.22	ug/L	91

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184540.D  
 Acq On : 17 Apr 2019 9:50 am  
 Operator : Prashans  
 Sample : BS  
 Misc : MS33788,VY8006,5.0,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 10:16:16 2019

Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M

Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um

QLast Update : Mon Apr 15 08:30:42 2019

Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	9.50	77	173292	48.06	ug/L	99
38) cis-1,2-dichloroethene	9.45	96	125366	47.22	ug/L	97
39) propionitrile	9.46	54	114852	523.45	ug/L	87
40) bromochloromethane	9.74	130	77281	49.07	ug/L	96
41) tetrahydrofuran	9.77	72	10640	50.90	ug/L	94
42) chloroform	9.83	83	196158	46.35	ug/L	100
43) tert-butyl formate	9.87	59	84966	48.39	ug/L	99
46) methacrylonitrile	9.66	67	31800	51.83	ug/L	99
47) 1,1,1-trichloroethane	10.09	97	180489	47.24	ug/L	97
48) cyclohexane	10.21	84	174968	50.75	ug/L	90
49) 1,1-dichloropropene	10.26	75	127673	46.82	ug/L	100
50) tert-amyl alcohol	10.38	55	18705	249.04	ug/L	84
51) carbon tetrachloride	10.29	117	154970	49.85	ug/L	98
54) 2,2,4-trimethylpentane	10.60	57	444667	49.10	ug/L	99
55) tert-amyl methyl ether	10.59	73	348520	47.38	ug/L	98
56) n-butyl alcohol	10.95	41	99609	2509.64	ug/L	98
57) benzene	10.50	78	409591	44.91	ug/L	99
58) heptane	10.75	57	75561	46.46	ug/L	97
59) isopropyl acetate	10.41	87	17819	49.48	ug/L	99
60) 1,2-dichloroethane	10.53	62	124410	45.39	ug/L	99
61) trichloroethene	11.22	130	106222	45.80	ug/L	100
62) ethyl acrylate	11.19	55	95860	48.89	ug/L	96
63) 2-nitropropane	11.96	41	27480	46.64	ug/L	98
64) 2-chloroethyl vinyl ether	11.98	63	255417	237.51	ug/L	99
65) methyl methacrylate	11.46	100	20752	48.39	ug/L #	86
66) 1,2-dichloropropane	11.50	63	105150	46.96	ug/L	100
67) methylcyclohexane	11.52	83	192769	48.24	ug/L	99
68) dibromomethane	11.61	93	61426	48.59	ug/L	97
69) bromodichloromethane	11.76	83	145075	47.91	ug/L	98
70) epichlorohydrin	12.07	57	39463	244.00	ug/L	99
71) cis-1,3-dichloropropene	12.20	75	163833	47.12	ug/L	99
72) 4-methyl-2-pentanone	12.30	58	127187	199.53	ug/L	95
73) 3-methyl-1-butanol	12.29	70	49059	1002.52	ug/L	100
76) toluene	12.58	92	247555	44.59	ug/L	98
77) trans-1,3-dichloropropene	12.76	75	138138	46.45	ug/L	98
78) ethyl methacrylate	12.74	69	106941	46.82	ug/L	97
79) 1,1,2-trichloroethane	12.98	83	67739	46.02	ug/L	97
80) 2-hexanone	13.13	58	115592	189.51	ug/L	98
81) tetrachloroethene	13.12	166	110965	45.99	ug/L	96
82) 1,3-dichloropropane	13.15	76	126614	46.70	ug/L	99
83) butyl acetate	13.21	56	55007	47.95	ug/L	96
84) dibromochloromethane	13.39	129	105827	49.57	ug/L	97
85) 1,2-dibromoethane	13.55	107	110789	47.85	ug/L	100
86) n-butyl ether	13.97	57	443370	45.46	ug/L	99
87) chlorobenzene	14.02	112	282793	44.92	ug/L	99
88) 1,1,1,2-tetrachloroethane	14.09	131	115319	47.64	ug/L	93
89) ethylbenzene	14.08	91	473875	44.89	ug/L	99
90) m,p-xylene	14.20	106	368921	89.35	ug/L	97
91) o-xylene	14.59	91	407981	45.35	ug/L	99
92) styrene	14.60	104	327675	46.06	ug/L	100



## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184540.D  
 Acq On : 17 Apr 2019 9:50 am  
 Operator : Prashans  
 Sample : BS  
 Misc : MS33788,VY8006,5.0,,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 10:16:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) bromoform	14.83	173	70272	52.93	ug/L	99
94) butyl acrylate	14.41	55	192869	47.19	ug/L	99
95) isopropylbenzene	14.93	105	500337	45.94	ug/L	100
96) cis-1,4-dichloro-2-butene	14.97	88	37999	48.82	ug/L	96
99) bromobenzene	15.32	156	141971	46.43	ug/L	91
100) 1,1,2,2-tetrachloroethane	15.21	83	114689	48.90	ug/L	100
101) trans-1,4-dichloro-2-buten	15.24	53	26484	48.37	ug/L	88
102) 1,2,3-trichloropropane	15.29	110	27275	47.55	ug/L	94
103) n-propylbenzene	15.35	91	588955	45.90	ug/L	98
104) 2-chlorotoluene	15.48	126	127387	45.75	ug/L	96
105) 4-chlorotoluene	15.59	91	364313	45.81	ug/L	97
106) 1,3,5-trimethylbenzene	15.50	105	436236	45.58	ug/L	97
107) tert-butylbenzene	15.84	134	80246	47.71	ug/L	97
108) 1,2,4-trimethylbenzene	15.88	105	450237	45.41	ug/L	99
109) sec-butylbenzene	16.05	105	565732	46.74	ug/L	99
110) 1,3-dichlorobenzene	16.22	146	273805	45.74	ug/L	98
111) p-isopropyltoluene	16.18	119	491966	46.74	ug/L	99
112) 1,4-dichlorobenzene	16.32	146	275433	46.57	ug/L	98
113) 1,2-dichlorobenzene	16.69	146	274031	47.35	ug/L	97
114) n-butylbenzene	16.59	92	261618	46.89	ug/L	97
115) 1,2-dibromo-3-chloropropan	17.45	157	27942	50.26	ug/L	99
116) 1,3,5-trichlorobenzene	17.64	180	274165	48.09	ug/L	99
117) 1,2,4-trichlorobenzene	18.29	180	237052	50.23	ug/L	98
118) hexachlorobutadiene	18.41	225	135982	46.18	ug/L	97
119) naphthalene	18.59	128	415228	52.04	ug/L	99
120) 1,2,3-trichlorobenzene	18.83	180	212261	50.73	ug/L	98
121) hexachloroethane	16.98	201	82072	49.72	ug/L	98
122) benzyl chloride	16.41	91	226621	51.10	ug/L	98
123) 2-ethylhexyl acrylate	18.30	70	28723	8.00	ug/L	99
124) 2-methylnaphthalene	19.84	142	102211	24.48	ug/L	99

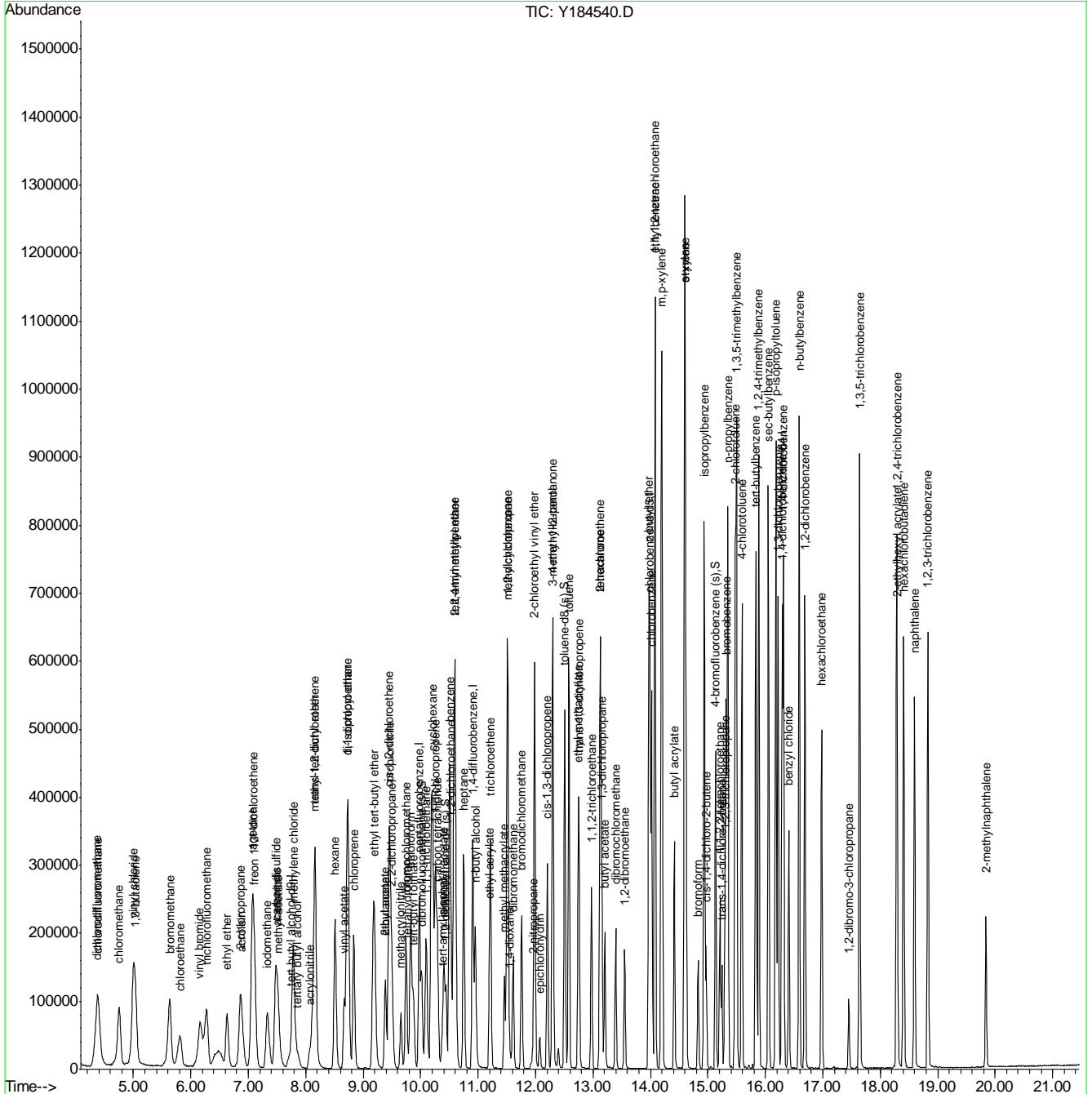
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
Data File : Y184540.D  
Acq On : 17 Apr 2019 9:50 am  
Operator : Prashans  
Sample : BS  
Misc : MS33788,VY8006,5.0,,,,,1  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 10:16:16 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
QLast Update : Mon Apr 15 08:30:42 2019  
Response via : Initial Calibration



7.3.2  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225483.d  
 Acq On : 17 Apr 2019 12:13 pm  
 Operator : thienn  
 Sample : jc86190-3ms Inst : GCMSI  
 Misc : MS34003,VI9085,10,,1,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:45:20 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) tert butyl alcohol-d9	7.353	65	88621	500.00	ug/L	-0.03	
4) pentafluorobenzene	9.696	168	209526	50.00	ug/L	-0.02	
51) 1,4-difluorobenzene	10.632	114	286792	50.00	ug/L	-0.02	
73) chlorobenzene-d5	13.765	117	237067	50.00	ug/L	-0.02	
96) 1,4-dichlorobenzene-d4	16.108	152	136111	50.00	ug/L	-0.02	
System Monitoring Compounds							
47) dibromofluoromethane (s)	9.717	113	84929	51.58	ug/L	-0.02	
Spiked Amount	50.000	Range	75 - 127	Recovery	=	103.16%	
52) 1,2-dichloroethane-d4 (s)	10.141	65	93657	52.32	ug/L	-0.02	
Spiked Amount	50.000	Range	75 - 130	Recovery	=	104.64%	
74) toluene-d8 (s)	12.264	98	305403	50.25	ug/L	-0.02	
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.50%	
97) 4-bromofluorobenzene (s)	14.932	95	110997	53.48	ug/L	-0.02	
Spiked Amount	50.000	Range	79 - 127	Recovery	=	106.96%	
Target Compounds							
2) tertiary butyl alcohol	7.473	59	47441	258.64	ug/L		99
3) 1,4-dioxane	11.281	88	24958	1214.09	ug/L		97
5) dichlorodifluoromethane	3.885	85	108972	59.53	ug/L		99
6) chlorodifluoromethane	3.917	51	78847	45.62	ug/L		96
7) chloromethane	4.283	50	87608	51.69	ug/L		98
8) vinyl chloride	4.518	62	77891	54.57	ug/L		96
9) 1,3-butadiene	4.607	54	46794	46.93	ug/L		95
10) bromomethane	5.177	94	44957	47.27	ug/L		97
11) chloroethane	5.381	64	42909	49.70	ug/L		100
12) vinyl bromide	5.732	106	42760	38.76	ug/L		96
13) trichlorofluoromethane	5.857	101	100239	45.89	ug/L		99
14) ethyl ether	6.297	74	31077	50.22	ug/L		88
15) 2-chloropropane	6.501	63	22007	43.62	ug/L		96
16) acrolein	6.495	56	10038	49.78	ug/L		97
17) freon 113	6.715	151	45258	42.29	ug/L		97
18) 1,1-dichloroethene	6.710	61	84072	43.11	ug/L		97
19) acetone	6.694	43	87123	246.78	ug/L		97
20) iodomethane	6.956	142	56652	39.37	ug/L		98
21) carbon disulfide	7.112	76	164408	39.14	ug/L		99
22) acetonitrile	7.092	41	100106	567.82	ug/L		90
23) methyl acetate	7.191	74	9763	47.28	ug/L		95
24) methylene chloride	7.426	84	60075	41.60	ug/L		96
25) acrylonitrile	7.698	53	22100	53.22	ug/L		91
26) methyl tert butyl ether	7.808	73	171466	50.10	ug/L		97
27) trans-1,2-dichloroethene	7.839	61	81570	43.88	ug/L		95
28) hexane	8.232	57	82928	36.99	ug/L		98
29) 1,1-dichloroethane	8.415	63	104943	44.21	ug/L		97
30) vinyl acetate	8.363	86	10808	47.82	ug/L		98
31) di-isopropyl ether	8.425	45	189996	45.16	ug/L		98
32) chloroprene	8.530	53	93032	46.45	ug/L		96
33) ethyl tert-butyl ether	8.891	59	194199	47.82	ug/L		96
34) 2-butanone	9.058	72	30820	232.91	ug/L		96
35) 2,2-dichloropropane	9.168	77	89035	43.26	ug/L		98
36) ethyl acetate	9.100	45	9319	47.42	ug/L	#	77
37) cis-1,2-dichloroethene	9.137	96	65547	42.86	ug/L		96
38) propionitrile	9.110	54	113702	585.86	ug/L		100
39) methyl acrylate	9.178	85	10145	50.08	ug/L		92
40) methacrylonitrile	9.325	67	25792	52.65	ug/L		91
41) bromochloromethane	9.435	128	31358	45.60	ug/L		94

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225483.d  
 Acq On : 17 Apr 2019 12:13 pm  
 Operator : thienn  
 Sample : jc86190-3ms Inst : GCMSI  
 Misc : MS34003,VI9085,10,,1,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:45:20 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) tetrahydrofuran	9.466	71	9197	60.32	ug/L	91
43) chloroform	9.524	83	108000	43.98	ug/L	98
44) carbon tetrachloride	10.005	117	85639	42.70	ug/L	98
45) 1,1-dichloropropene	9.973	75	80416	43.50	ug/L	98
48) 1,1,1-trichloroethane	9.796	97	96868	44.19	ug/L	100
49) cyclohexane	9.921	84	85245	44.17	ug/L	93
50) tert-amyl alcohol	10.078	55	16362	294.19	ug/L	96
53) isopropyl acetate	10.125	87	13151	50.61	ug/L	96
54) 1,2-dichloroethane	10.230	62	85430	45.34	ug/L	99
55) benzene	10.219	78	236148	42.14	ug/L	98
56) 2,2,4-trimethylpentane	10.334	57	201327	35.10	ug/L	95
57) tert-amyl methyl ether	10.308	87	43969	45.98	ug/L	99
58) heptane	10.507	57	41918	35.01	ug/L	98
59) n-butyl alcohol	10.664	56	137186	2930.84	ug/L	95
60) trichloroethene	10.951	95	61575	41.03	ug/L	96
61) ethyl acrylate	10.931	55	77665	48.95	ug/L	98
62) methylcyclohexane	11.265	83	99163	39.01	ug/L	98
63) 1,2-dichloropropane	11.229	63	58587	40.84	ug/L	96
64) methyl methacrylate	11.197	100	16539	49.00	ug/L #	92
65) dibromomethane	11.333	93	37106	44.40	ug/L	98
66) bromodichloromethane	11.490	83	84901	42.72	ug/L	98
67) 2-nitropropane	11.663	41	20106	58.44	ug/L	97
68) 2-chloroethyl vinyl ether	11.726	63	196744	234.43	ug/L	99
69) epichlorohydrin	11.799	57	38829	277.01	ug/L	95
70) cis-1,3-dichloropropene	11.945	75	98110	43.73	ug/L	96
71) 4-methyl-2-pentanone	12.039	58	92622	207.54	ug/L	93
72) 3-methyl-1-butanol	12.034	70	42992	1109.03	ug/L	94
75) toluene	12.337	92	140873	42.93	ug/L	97
76) trans-1,3-dichloropropene	12.510	75	89923	45.54	ug/L	98
77) ethyl methacrylate	12.510	69	69349	46.60	ug/L	97
78) 1,1,2-trichloroethane	12.725	83	42734	44.39	ug/L	98
79) 1,3-dichloropropane	12.908	76	79771	45.53	ug/L	99
80) tetrachloroethene	12.897	166	66093	40.12	ug/L	93
81) 2-hexanone	12.887	58	92199	214.34	ug/L	99
82) butyl acetate	12.981	56	38128	50.94	ug/L	94
83) n-butyl ether	13.776	57	322456	59.51	ug/L	92
84) dibromochloromethane	13.159	129	64020	42.56	ug/L	98
85) 1,2-dibromoethane	13.310	107	70664	53.96	ug/L	99
86) chlorobenzene	13.797	112	148907	42.60	ug/L	96
87) 1,1,1,2-tetrachloroethane	13.859	131	58794	42.36	ug/L	99
88) ethylbenzene	13.865	91	262423	42.93	ug/L	100
89) m,p-xylene	13.985	106	200736	83.50	ug/L	96
90) o-xylene	14.383	106	98909	41.33	ug/L	93
91) styrene	14.393	104	169839	42.26	ug/L	99
92) butyl acrylate	14.210	55	123576	53.90	ug/L	97
93) cis-1,4-dichloro-2-butene	14.749	88	30003	50.93	ug/L	96
94) bromoform	14.613	173	48100	45.53	ug/L	100
95) isopropylbenzene	14.733	105	254437	42.23	ug/L	97
98) 1,1,2,2-tetrachloroethane	14.994	83	71313	50.66	ug/L	77
99) trans-1,4-dichloro-2-b...	15.026	53	18228	49.69	ug/L	93
100) 1,2,3-trichloropropane	15.078	110	18550	51.16	ug/L	97
101) bromobenzene	15.110	156	72075	42.89	ug/L #	88
102) n-propylbenzene	15.151	91	307081	44.02	ug/L	99
103) 2-chlorotoluene	15.277	126	65323	44.58	ug/L	95
104) 4-chlorotoluene	15.392	91	188795	45.27	ug/L	100
105) 1,3,5-trimethylbenzene	15.308	105	233304	44.44	ug/L	99
106) tert-butylbenzene	15.648	134	42097	43.28	ug/L #	90

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225483.d  
 Acq On : 17 Apr 2019 12:13 pm  
 Operator : thienn  
 Sample : jc86190-3ms Inst : GCMSI  
 Misc : MS34003,VI9085,10,,1,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:45:20 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
107) 1,2,4-trimethylbenzene	15.701	105	239617	44.55	ug/L	97
108) sec-butylbenzene	15.873	105	293583	43.39	ug/L	97
109) p-isopropyltoluene	16.009	119	264050	44.97	ug/l	97
110) benzyl chloride	16.224	91	150877	45.80	ug/L	97
111) 1,3-dichlorobenzene	16.041	146	142901	44.57	ug/L	97
112) 1,4-dichlorobenzene	16.140	146	142574	43.54	ug/L	99
113) 1,2-dichlorobenzene	16.516	146	141558	45.11	ug/L	98
114) n-butylbenzene	16.433	92	138030	45.19	ug/L	98
115) hexachloroethane	16.841	201	51273	43.79	ug/L	99
116) 1,2-dibromo-3-chloropr...	17.306	157	22280	51.04	ug/L	98
117) nitrobenzene	17.494	77	12020	80.14	ug/L	85
118) 1,3,5-trichlorobenzene	17.521	180	143132	44.90	ug/L	99
119) 1,2,4-trichlorobenzene	18.180	180	130130	45.38	ug/L	98
120) 2-ethylhexyl acrylate	18.201	55	29403	12.58	ug/L	93
121) hexachlorobutadiene	18.310	225	76481	40.52	ug/L	100
122) naphthalene	18.467	128	304708	54.96	ug/L	99
123) 1,2,3-trichlorobenzene	18.687	180	122918	43.57	ug/L	98
124) 2-methylnaphthalene	19.566	142	73967	37.42	ug/L	99

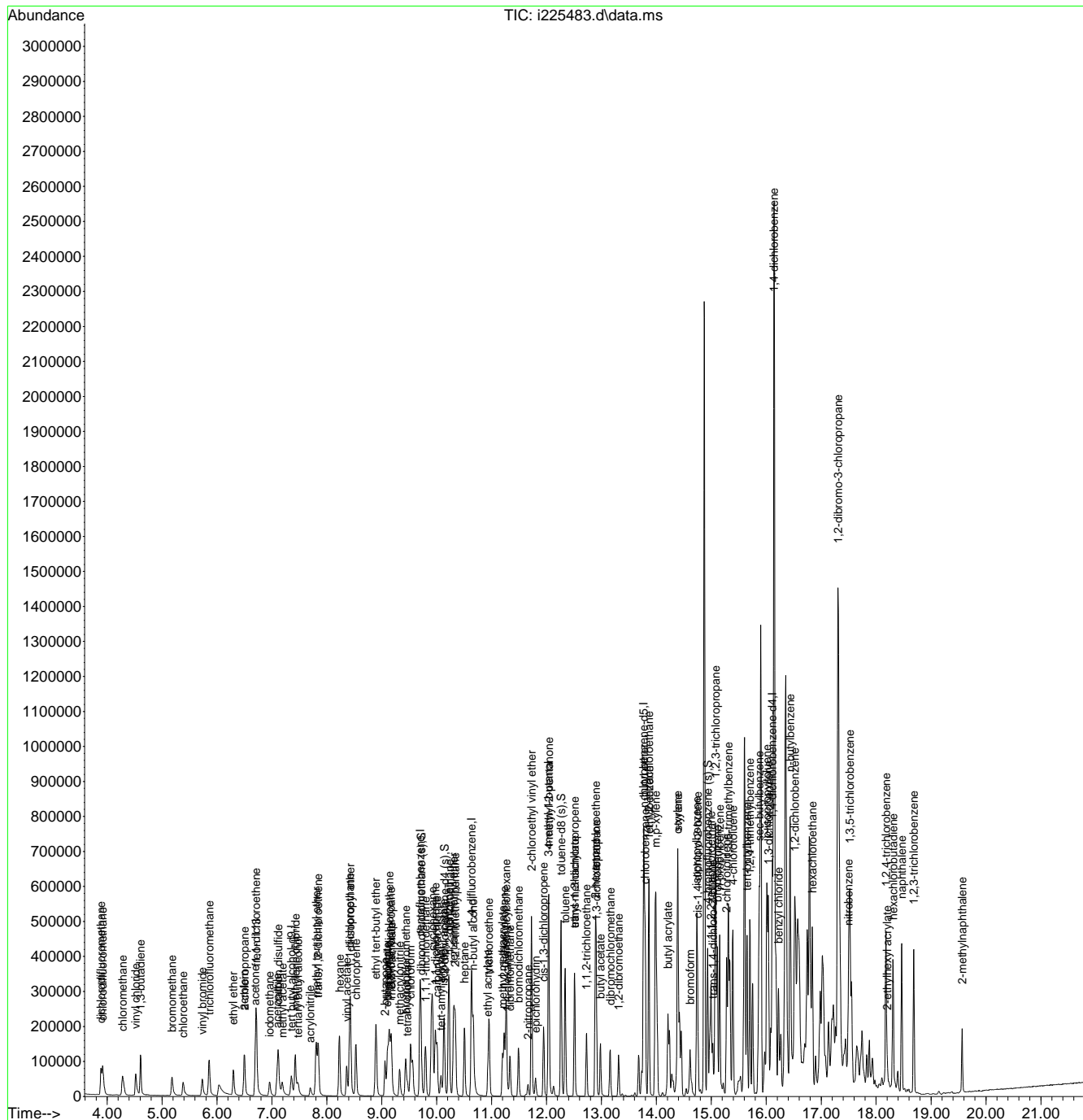
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
Data File : i225483.d  
Acq On : 17 Apr 2019 12:13 pm  
Operator : thienn  
Sample : jc86190-3ms  
Misc : MS34003,VI9085,10,,1,10,1  
ALS Vial : 12 Sample Multiplier: 1

Inst : GCMSI

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Results File: MI8986.RES  
Quant Time: Apr 18 04:45:20 2019  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Fri Jan 25 14:07:54 2019  
Response via : Initial Calibration



7.4.1  
7

## Quantitation Report (QT Reviewed)

Manual Integrations  
APPROVED  
(compounds with "m" flag)MoHui Huang  
04/18/19 11:49

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-18-19\kenrickb\vi9085\  
 Data File : i225484.d  
 Acq On : 17 Apr 2019 12:42 pm  
 Operator : thienn  
 Sample : jc86190-3msd  
 Misc : MS34003,VI9085,10,,1,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 11:38:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.353	65	89912	500.00	ug/L	-0.03
4) pentafluorobenzene	9.696	168	214593	50.00	ug/L	-0.02
51) 1,4-difluorobenzene	10.632	114	297466	50.00	ug/L	-0.02
73) chlorobenzene-d5	13.765	117	246746	50.00	ug/L	-0.02
96) 1,4-dichlorobenzene-d4	16.108	152	145314	50.00	ug/L	-0.02
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.717	113	86089	51.05	ug/L	-0.02
Spiked Amount	50.000	Range	75 - 127	Recovery	=	102.10%
52) 1,2-dichloroethane-d4 (s)	10.141	65	96634	52.05	ug/L	-0.02
Spiked Amount	50.000	Range	75 - 130	Recovery	=	104.10%
74) toluene-d8 (s)	12.264	98	317936	50.26	ug/L	-0.02
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.52%
97) 4-bromofluorobenzene (s)	14.932	95	115591	52.16	ug/L	-0.02
Spiked Amount	50.000	Range	79 - 127	Recovery	=	104.32%
Target Compounds						
						Qvalue
2) tertiary butyl alcohol	7.473	59	48197	258.99	ug/L	98
3) 1,4-dioxane	11.281	88	25247	1210.52	ug/L	89
5) dichlorodifluoromethane	3.891	85	113504	60.54	ug/L	99
6) chlorodifluoromethane	3.917	51	83361	47.10	ug/L	97
7) chloromethane	4.278	50	92557	53.32	ug/L	98
8) vinyl chloride	4.523	62	83017	56.79	ug/L	98
9) 1,3-butadiene	4.612	54	48316	47.32	ug/L	98
10) bromomethane	5.182	94	47566	48.83	ug/L	99
11) chloroethane	5.386	64	45301	51.23	ug/L	97
12) vinyl bromide	5.732	106	44505	39.38	ug/L	97
13) trichlorofluoromethane	5.857	101	106149	47.45	ug/L	100
14) ethyl ether	6.302	74	31219	49.26	ug/L	96
15) 2-chloropropane	6.500	63	23373	45.24	ug/L	98
16) acrolein	6.495	56	10107	48.94	ug/L	98
17) freon 113	6.720	151	47101	42.97	ug/L	98
18) 1,1-dichloroethene	6.710	61	88303	44.21	ug/L	98
19) acetone	6.694	43	88167	243.84	ug/L	95
20) iodomethane	6.961	142	60090	40.80	ug/L	98
21) carbon disulfide	7.112	76	172173	40.02	ug/L	98
22) acetonitrile	7.091	41	101341	561.25	ug/L	91
23) methyl acetate	7.191	74	9764	46.23	ug/L	# 77
24) methylene chloride	7.426	84	62541	42.28	ug/L	98
25) acrylonitrile	7.698	53	22189	52.17	ug/L	97
26) methyl tert butyl ether	7.808	73	176457	50.34	ug/L	97
27) trans-1,2-dichloroethene	7.845	61	85025	44.65	ug/L	98
28) hexane	8.232	57	89716	39.07	ug/L	96
29) 1,1-dichloroethane	8.415	63	107886	44.38	ug/L	99
30) vinyl acetate	8.362	86	11135	48.11	ug/L	# 81
31) di-isopropyl ether	8.425	45	196145	45.52	ug/L	97
32) chloroprene	8.530	53	96886	47.24	ug/L	98
33) ethyl tert-butyl ether	8.891	59	200325	48.17	ug/L	98
34) 2-butanone	9.063	72	31643	233.48	ug/L	94
35) 2,2-dichloropropane	9.168	77	92970	44.11	ug/L	100
36) ethyl acetate	9.100	45	9275	46.14	ug/L	98
37) cis-1,2-dichloroethene	9.136	96	67166	42.89	ug/L	94
38) propionitrile	9.110	54	114692	577.01	ug/L	98
39) methyl acrylate	9.184	85	10503	50.60	ug/L	90
40) methacrylonitrile	9.325	67	26812	53.44	ug/L	98
41) bromochloromethane	9.435	128	31711	45.02	ug/L	93
42) tetrahydrofuran	9.466	71	9015	57.73	ug/L	94
43) chloroform	9.523	83	112674	44.80	ug/L	97
44) carbon tetrachloride	10.005	117	88616	43.14	ug/L	99
45) 1,1-dichloropropene	9.973	75	84413	44.58	ug/L	99
48) 1,1,1-trichloroethane	9.795	97	101838	45.36	ug/L	98
49) cyclohexane	9.926	84	89352	45.20	ug/L	93



## Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-18-19\kenrickb\vi9085\  
 Data File : i225484.d  
 Acq On : 17 Apr 2019 12:42 pm  
 Operator : thienn  
 Sample : jc86190-3msd  
 Misc : MS34003,VI9085,10,,1,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 11:38:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50) tert-amyl alcohol	10.078	55	16577	291.08	ug/L	88
53) isopropyl acetate	10.130	87	13416	49.78	ug/L	95
54) 1,2-dichloroethane	10.230	62	87979	45.02	ug/L	97
55) benzene	10.219	78	246708	42.45	ug/L	98
56) 2,2,4-trimethylpentane	10.339	57	219624	36.92	ug/L	96
57) tert-amyl methyl ether	10.313	87	45536	45.91	ug/L	95
58) heptane	10.507	57	45602	36.72	ug/L	98
59) n-butyl alcohol	10.664	56	137274	2827.48	ug/L	91
60) trichloroethene	10.957	95	64010	41.12	ug/L	96
61) ethyl acrylate	10.930	55	80173	48.72	ug/L	98
62) methylcyclohexane	11.265	83	103590	39.29	ug/L	97
63) 1,2-dichloropropane	11.229	63	60271	40.51	ug/L	98
64) methyl methacrylate	11.197	100	16748	47.84	ug/L #	83
65) dibromomethane	11.333	93	37875	43.70	ug/L	96
66) bromodichloromethane	11.490	83	88634	43.00	ug/L	98
67) 2-nitropropane	11.663	41	20424	57.24	ug/L	96
68) 2-chloroethyl vinyl ether	11.725	63	203587	233.88	ug/L	98
69) epichlorohydrin	11.799	57	38294	263.39	ug/L	99
70) cis-1,3-dichloropropene	11.945	75	102190	43.91	ug/L	97
71) 4-methyl-2-pentanone	12.039	58	96058	207.52	ug/L	93
72) 3-methyl-1-butanol	12.039	70	43055	1070.80	ug/L	94
75) toluene	12.337	92	148197	43.39	ug/L	95
76) trans-1,3-dichloropropene	12.505	75	94254	45.86	ug/L	96
77) ethyl methacrylate	12.510	69	71538	46.18	ug/L	95
78) 1,1,2-trichloroethane	12.730	83	44497	44.41	ug/L	98
79) 1,3-dichloropropane	12.907	76	82690	45.34	ug/L	97
80) tetrachloroethene	12.897	166	68528	39.96	ug/L	94
81) 2-hexanone	12.887	58	95692	213.73	ug/L	97
82) butyl acetate	12.981	56	39109	50.21	ug/L	94
83) n-butyl ether	13.776	57	426074	75.55	ug/L	90
84) dibromochloromethane	13.159	129	67888	43.36	ug/L	98
85) 1,2-dibromoethane	13.310	107	73798	54.14	ug/L	100
86) chlorobenzene	13.797	112	156010	42.88	ug/L	96
87) 1,1,1,2-tetrachloroethane	13.859	131	61510	42.58	ug/L	96
88) ethylbenzene	13.865	91	275537	43.31	ug/L	99
89) m,p-xylene	13.985	106	214041	85.55	ug/L	96
90) o-xylene	14.382	106	104427	41.92	ug/L	91
91) styrene	14.393	104	176243	42.13	ug/L	96
92) butyl acrylate	14.210	55	136200	57.07	ug/L	95
93) cis-1,4-dichloro-2-butene	14.748	88	30413	49.60	ug/L	97
94) bromoform	14.613	173	49802	45.29	ug/L	97
95) isopropylbenzene	14.738	105	276389	44.08	ug/L	97
98) 1,1,2,2-tetrachloroethane	14.994	83	78744m	52.40	ug/L	
99) trans-1,4-dichloro-2-b...	15.026	53	17894	45.69	ug/L	91
100) 1,2,3-trichloropropane	15.078	110	19678	50.83	ug/L	94
101) bromobenzene	15.115	156	77047	42.95	ug/L	98
102) n-propylbenzene	15.151	91	333361	44.76	ug/L	100
103) 2-chlorotoluene	15.282	126	71691	45.82	ug/L	98
104) 4-chlorotoluene	15.392	91	201950	45.36	ug/L	99
105) 1,3,5-trimethylbenzene	15.313	105	250538	44.70	ug/L	98
106) tert-butylbenzene	15.648	134	44826	43.17	ug/L #	85
107) 1,2,4-trimethylbenzene	15.700	105	257475	44.84	ug/L	97
108) sec-butylbenzene	15.873	105	318869	44.14	ug/L	96
109) p-isopropyltoluene	16.009	119	287947	45.93	ug/l	99
110) benzyl chloride	16.223	91	156145	44.40	ug/L	98
111) 1,3-dichlorobenzene	16.040	146	153140	44.74	ug/L	97
112) 1,4-dichlorobenzene	16.140	146	149342	42.71	ug/L	99
113) 1,2-dichlorobenzene	16.516	146	148562	44.34	ug/L	97
114) n-butylbenzene	16.433	92	150324	46.10	ug/L	98
115) hexachloroethane	16.841	201	57042	45.63	ug/L	92
116) 1,2-dibromo-3-chloropr...	17.306	157	22237	47.71	ug/L	93
117) nitrobenzene	17.494	77	11161	69.70	ug/L	85
118) 1,3,5-trichlorobenzene	17.521	180	152596	44.84	ug/L	99

## Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-18-19\kenrickb\vi9085\  
 Data File : i225484.d  
 Acq On : 17 Apr 2019 12:42 pm  
 Operator : thienn  
 Sample : jc86190-3msd  
 Misc : MS34003,VI9085,10,,1,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 11:38:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
119) 1,2,4-trichlorobenzene	18.180	180	137678	44.97	ug/L	97
120) 2-ethylhexyl acrylate	18.200	55	31544	12.64	ug/L	95
121) hexachlorobutadiene	18.310	225	83556	41.46	ug/L	99
122) naphthalene	18.467	128	317054	53.57	ug/L	99
123) 1,2,3-trichlorobenzene	18.687	180	126484	41.99	ug/L	99
124) 2-methylnaphthalene	19.566	142	75936	35.98	ug/L	98

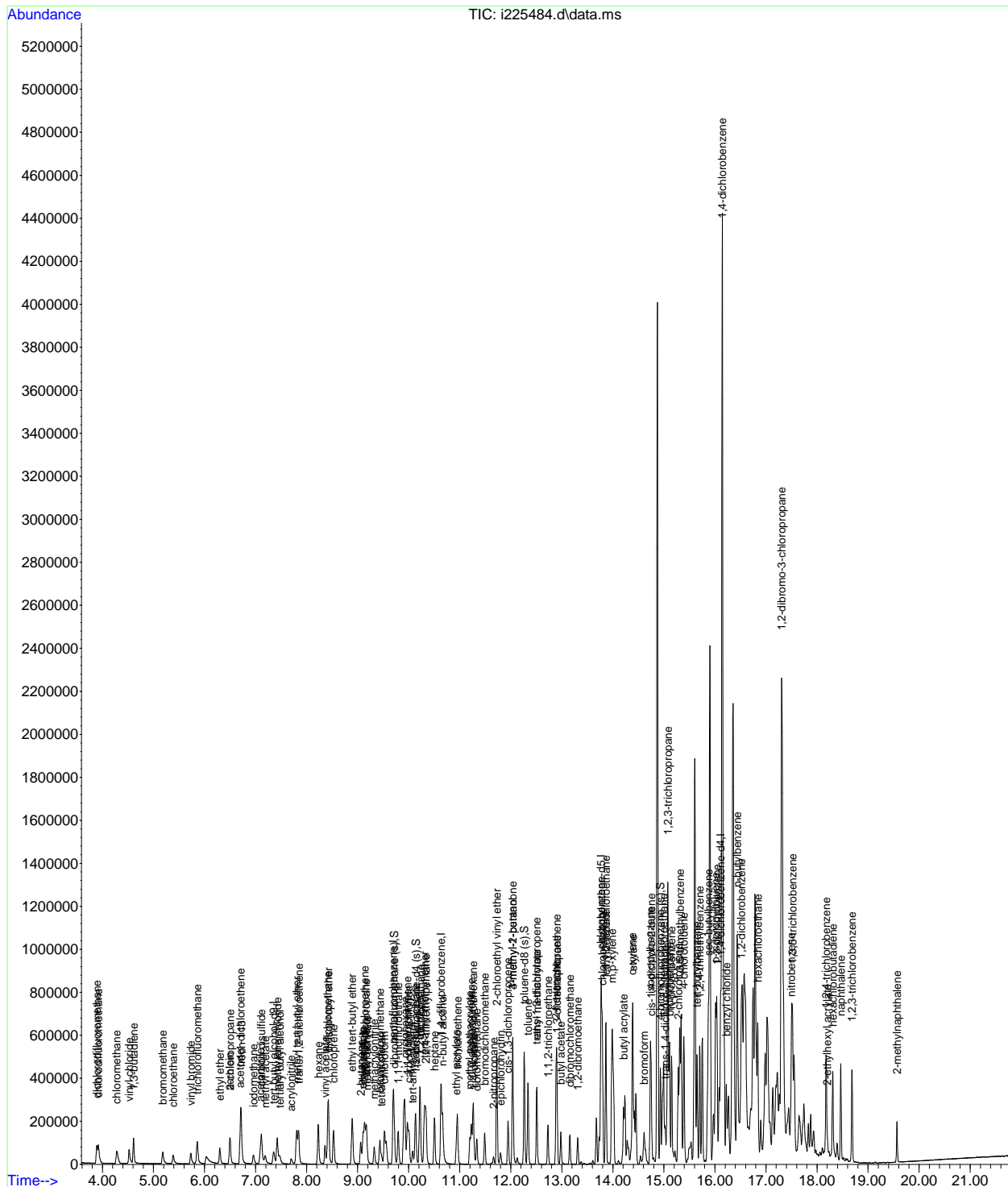
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-18-19\kenrickb\vi9085\  
Data File : i225484.d  
Acq On : 17 Apr 2019 12:42 pm  
Operator : thienn  
Sample : jc86190-3msd  
Misc : MS34003,VI9085,10,,1,10,1  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 11:38:38 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Fri Jan 25 14:07:54 2019  
Response via : Initial Calibration



7.4.2  
7

# Manual Integration Approval Summary

Sample Number: JC86190-3MSD      Method: SW846 8260C  
Lab FileID: I225484.D      Analyst approved: 04/18/19 11:41 MoHui Huang  
Injection Time: 04/17/19 12:42      Supervisor approved: 04/18/19 11:49 MoHui Huang

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,1,2,2-Tetrachloroethane	79-34-5		14.99	Missed peak

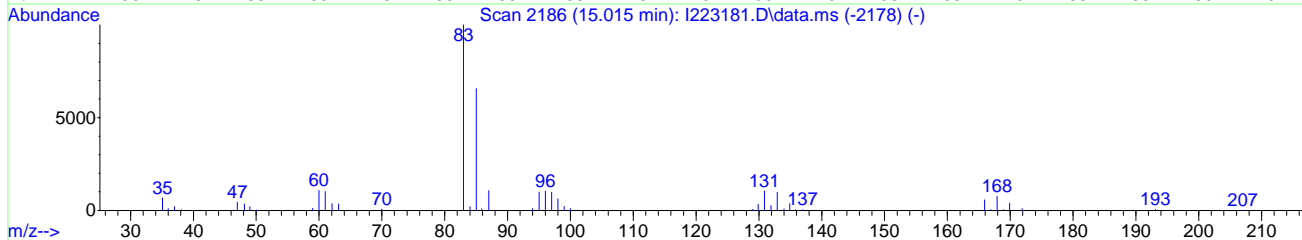
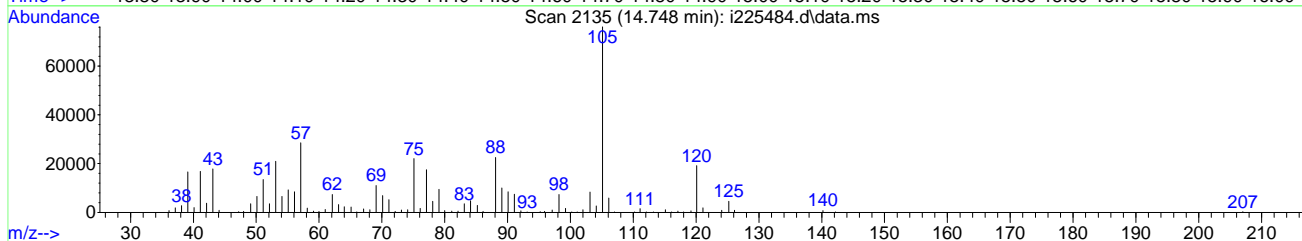
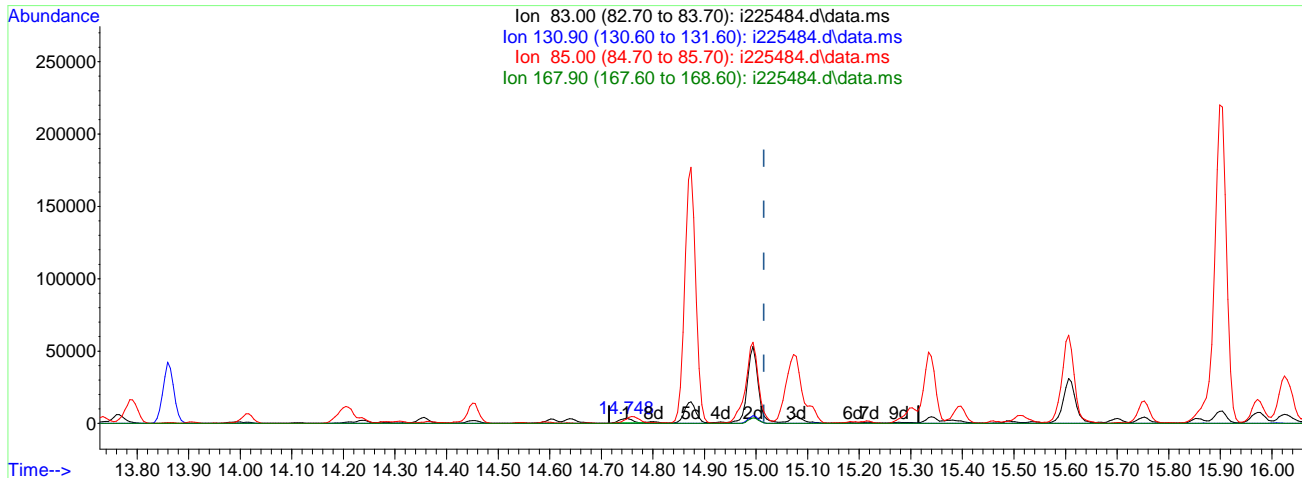
7.4.2.1

7

Quantitation Report (Qedit)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-18-19\kenrickb\vi9085\  
 Data File : i225484.d  
 Acq On : 17 Apr 2019 12:42 pm  
 Operator : thienn  
 Sample : jc86190-3msd  
 Misc : MS34003,VI9085,10,,1,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 04:47:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration



TIC: i225484.d\data.ms

(98) 1,1,2,2-tetrachloroethane

14.748min (-0.267) 3.24ug/L

response 4864

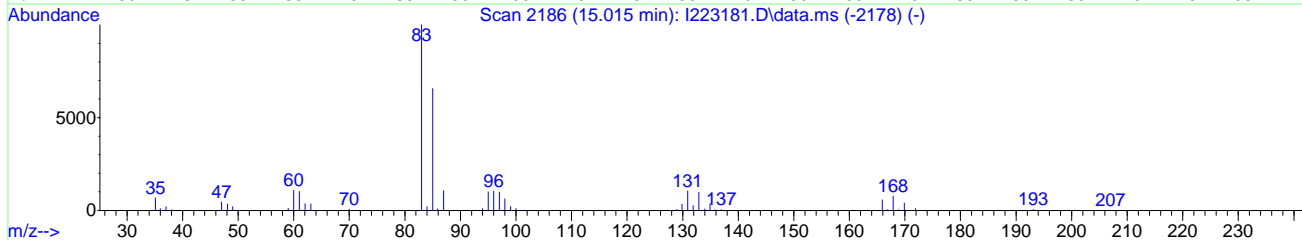
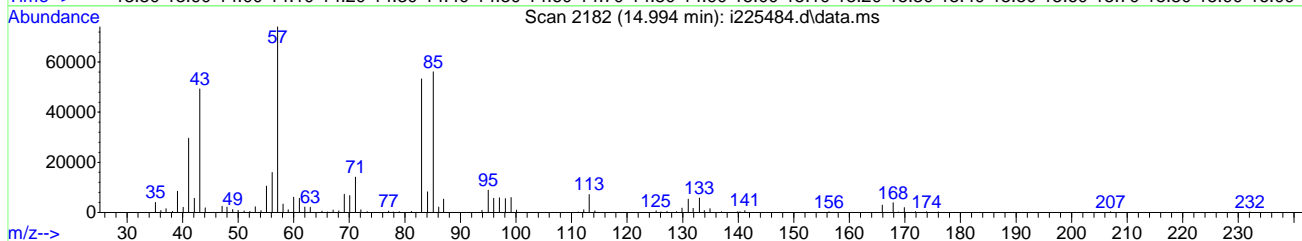
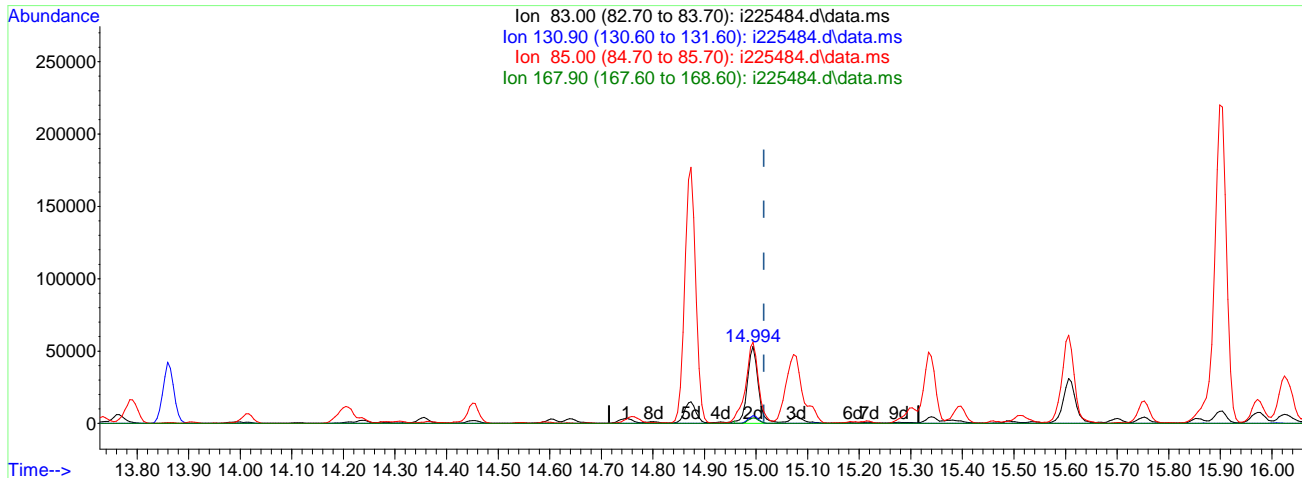
Ion	Exp%	Act%
83.00	100	100
130.90	10.50	0.00
85.00	65.60	82.93
167.90	7.50	0.00

7.4.2.2  
7

Quantitation Report (Qedit)

Data Path : R:\voa-gcms\complete\2019\dayton201904\04-18-19\kenrickb\vi9085\  
 Data File : i225484.d  
 Acq On : 17 Apr 2019 12:42 pm  
 Operator : thienn  
 Sample : jc86190-3msd  
 Misc : MS34003,VI9085,10,,1,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 04:47:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration



TIC: i225484.d\data.ms

(98) 1,1,2,2-tetrachloroethane

14.994min (-0.021) 52.40ug/L m

response 78744

Ion	Exp%	Act%
83.00	100	100
130.90	10.50	9.91
85.00	65.60	105.31#
167.90	7.50	7.34

7.4.2.3  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184548.D  
 Acq On : 17 Apr 2019 1:53 pm  
 Operator : Prashans  
 Sample : JC86337-1MS  
 Misc : MS33992,VY8006,2.0,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 18 10:27:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.75	65	48782	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	173578	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	249871	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	244763	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	138481	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	77175	49.80	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	99.60%
53) 1,2-dichloroethane-d4 (s)	10.43	65	62401	45.75	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	91.50%
75) toluene-d8 (s)	12.51	98	295929	48.40	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	96.80%
98) 4-bromofluorobenzene (s)	15.13	95	118122	49.74	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	99.48%

## Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) tertiary butyl alcohol	7.86	59	40468	260.29	ug/L	96
4) 1,4-dioxane	11.54	88	18359	1284.07	ug/L	92
6) chlorodifluoromethane	4.38	51	171314	55.18	ug/L	98
7) dichlorodifluoromethane	4.35	85	196913	60.69	ug/L	97
8) chloromethane	4.74	50	203783	50.58	ug/L	97
9) vinyl chloride	4.98	62	177603	55.40	ug/L	98
10) 1,3-butadiene	5.03	54	110257	52.97	ug/L	99
11) bromomethane	5.63	94	124623	49.59	ug/L	99
12) chloroethane	5.81	64	98410	51.81	ug/L	94
13) vinyl bromide	6.15	106	87650	51.57	ug/L	95
14) trichlorofluoromethane	6.27	101	194560	56.31	ug/L	98
15) ethyl ether	6.63	74	43000	45.38	ug/L	91
16) 2-chloropropane	6.86	63	44639	54.08	ug/L	99
17) acrolein	6.87	56	2992	11.24	ug/L	91
18) freon 113	7.10	151	87960	53.87	ug/L	95
19) 1,1-dichloroethene	7.07	61	156582	50.78	ug/L	94
20) acetone	7.08	43	66538	133.36	ug/L	94
21) acetonitrile	7.51	41	83480	388.06	ug/L	92
22) iodomethane	7.33	142	168943	46.87	ug/L	98
23) carbon disulfide	7.47	76	251830	39.73	ug/L	100
24) methylene chloride	7.78	84	110508	41.30	ug/L	99
25) methyl acetate	7.53	43	73237	67.76	ug/L	99
26) methyl tert butyl ether	8.14	73	256680	44.34	ug/L	98
27) trans-1,2-dichloroethene	8.16	61	120500	42.84	ug/L	97
28) hexane	8.51	57	66260	24.46	ug/L	95
29) di-isopropyl ether	8.72	45	344755	47.09	ug/L	98
30) ethyl tert-butyl ether	9.18	59	315129	46.83	ug/L	96
31) 2-butanone	9.38	72	21715	153.37	ug/L #	72
32) 1,1-dichloroethane	8.74	63	172043	48.93	ug/L	99
33) chloroprene	8.83	53	123718	44.52	ug/L	98
34) acrylonitrile	8.08	53	21087	38.79	ug/L	97
35) vinyl acetate	8.67	86	1790	6.38	ug/L #	85
36) ethyl acetate	9.38	45	3982	20.00	ug/L	83

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184548.D  
 Acq On : 17 Apr 2019 1:53 pm  
 Operator : Prashans  
 Sample : JC86337-1MS  
 Misc : MS33992,VY8006,2.0,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 18 10:27:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	9.49	77	149168	47.96	ug/L	97
38) cis-1,2-dichloroethene	9.45	96	99115	43.27	ug/L	97
39) propionitrile	9.46	54	74182	391.90	ug/L	63
40) bromochloromethane	9.74	130	58954	43.39	ug/L	96
41) tetrahydrofuran	9.76	72	7536	41.79	ug/L	92
42) chloroform	9.83	83	166992	45.74	ug/L	97
43) tert-butyl formate	9.87	59	19779	13.06	ug/L	98
46) methacrylonitrile	9.66	67	19163	36.21	ug/L	94
47) 1,1,1-trichloroethane	10.09	97	163926	49.74	ug/L	98
48) cyclohexane	10.20	84	128400	43.17	ug/L	96
49) 1,1-dichloropropene	10.25	75	102645	43.63	ug/L	97
50) tert-amyl alcohol	10.37	55	12690	195.84	ug/L	98
51) carbon tetrachloride	10.29	117	133935	49.94	ug/L	96
54) 2,2,4-trimethylpentane	10.59	57	117869	15.34	ug/L	87
55) tert-amyl methyl ether	10.58	73	268833	43.06	ug/L	96
56) n-butyl alcohol	10.95	41	64294	1908.72	ug/L	92
57) benzene	10.50	78	343824	44.43	ug/L	99
58) heptane	10.75	57	19900	14.42	ug/L	94
59) isopropyl acetate	10.41	87	8081	26.44	ug/L	82
60) 1,2-dichloroethane	10.53	62	92200	39.64	ug/L	97
61) trichloroethene	11.22	130	83634	42.49	ug/L	96
62) ethyl acrylate	11.20	55	29843	17.94	ug/L	99
63) 2-nitropropane	11.96	41	18705	37.41	ug/L	85
64) 2-chloroethyl vinyl ether	11.98	63	176631	193.53	ug/L	98
65) methyl methacrylate	11.46	100	16240	44.62	ug/L #	89
66) 1,2-dichloropropane	11.51	63	85415	44.95	ug/L	100
67) methylcyclohexane	11.51	83	101045	29.80	ug/L	99
68) dibromomethane	11.61	93	41916	39.07	ug/L	97
69) bromodichloromethane	11.76	83	111704	43.47	ug/L	98
70) epichlorohydrin	12.07	57	24460	178.20	ug/L	96
71) cis-1,3-dichloropropene	12.20	75	113865	38.59	ug/L	98
72) 4-methyl-2-pentanone	12.30	58	86595	160.07	ug/L	99
73) 3-methyl-1-butanol	12.30	70	31520	758.96	ug/L	98
76) toluene	12.58	92	191050	39.30	ug/L	99
77) trans-1,3-dichloropropene	12.76	75	87859	33.74	ug/L	97
78) ethyl methacrylate	12.74	69	43519	21.76	ug/L	97
79) 1,1,2-trichloroethane	12.98	83	49704	38.57	ug/L	98
80) 2-hexanone	13.13	58	75643	141.64	ug/L	98
81) tetrachloroethene	13.12	166	76382	36.15	ug/L	96
82) 1,3-dichloropropane	13.15	76	93008	39.18	ug/L	100
83) butyl acetate	13.20	56	14527	14.46	ug/L	93
84) dibromochloromethane	13.39	129	73013	39.06	ug/L	99
85) 1,2-dibromoethane	13.55	107	73763	36.38	ug/L	97
86) n-butyl ether	13.97	57	353578	41.41	ug/L	100
87) chlorobenzene	14.02	112	184898	33.54	ug/L	97
88) 1,1,1,2-tetrachloroethane	14.08	131	82739	39.04	ug/L	99
89) ethylbenzene	14.07	91	337380	36.50	ug/L	99
90) m,p-xylene	14.19	106	256378	70.91	ug/L	100
91) o-xylene	14.59	91	283418	35.98	ug/L	97
92) styrene	14.60	104	190688	30.61	ug/L	96

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184548.D  
 Acq On : 17 Apr 2019 1:53 pm  
 Operator : Prashans  
 Sample : JC86337-1MS  
 Misc : MS33992,VY8006,2.0,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 18 10:27:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

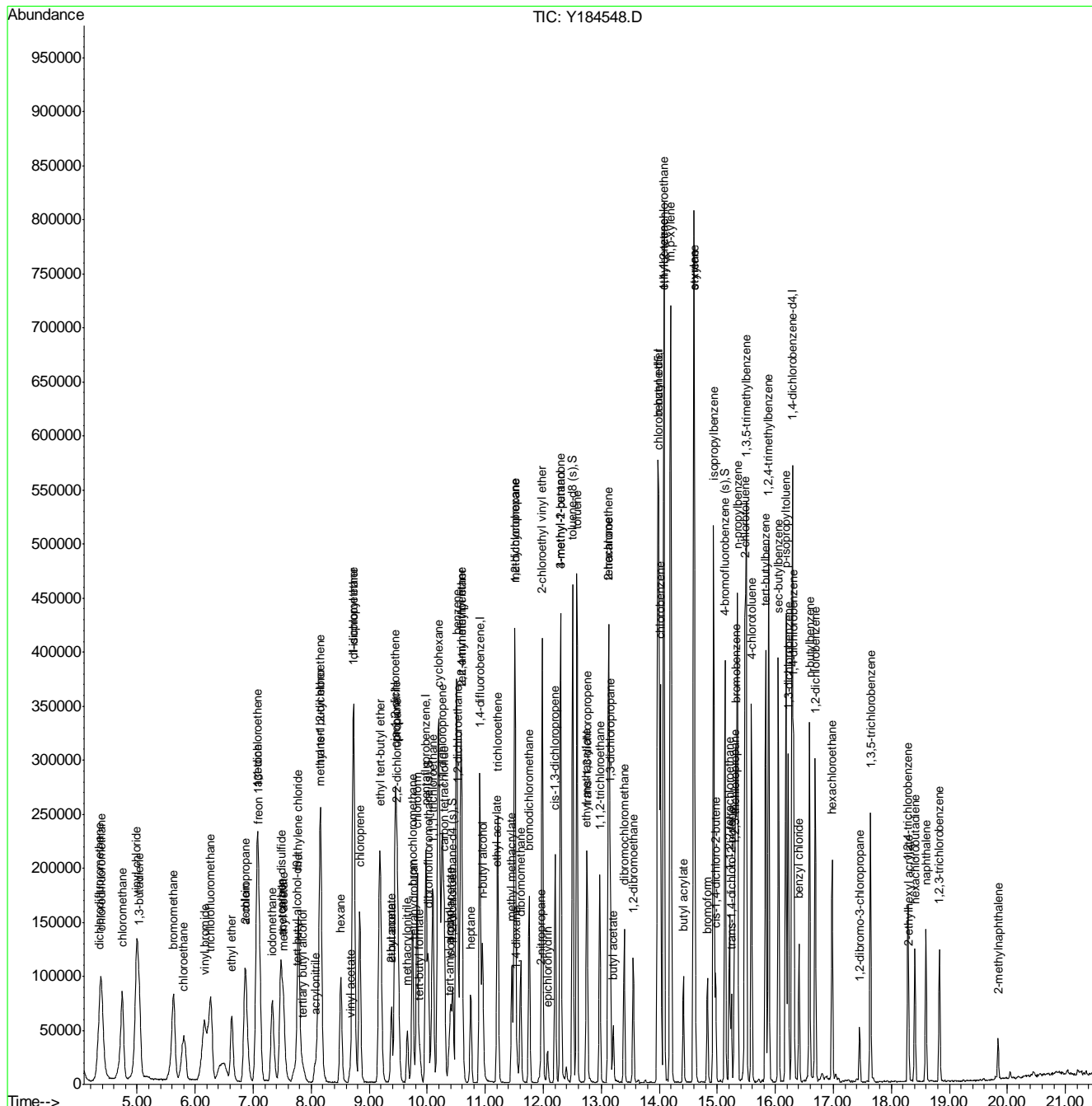
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) bromoform	14.83	173	42202	36.30	ug/L	98
94) butyl acrylate	14.41	55	59217	16.55	ug/L	96
95) isopropylbenzene	14.93	105	315116	33.04	ug/L	99
96) cis-1,4-dichloro-2-butene	14.97	88	20913	30.68	ug/L	96
99) bromobenzene	15.32	156	79566	30.33	ug/L	92
100) 1,1,2,2-tetrachloroethane	15.21	83	71714	35.64	ug/L	99
101) trans-1,4-dichloro-2-buten	15.24	53	13704	29.17	ug/L	89
102) 1,2,3-trichloropropane	15.29	110	18318	37.22	ug/L	95
103) n-propylbenzene	15.35	91	325444	29.56	ug/L	99
104) 2-chlorotoluene	15.48	126	71535	29.94	ug/L	97
105) 4-chlorotoluene	15.59	91	185811	27.23	ug/L	98
106) 1,3,5-trimethylbenzene	15.50	105	245382	29.88	ug/L	99
107) tert-butylbenzene	15.83	134	42361	29.35	ug/L	96
108) 1,2,4-trimethylbenzene	15.88	105	246494	28.97	ug/L	99
109) sec-butylbenzene	16.05	105	253775	24.43	ug/L	98
110) 1,3-dichlorobenzene	16.22	146	119728	23.31	ug/L	99
111) p-isopropyltoluene	16.18	119	221084	24.48	ug/L	99
112) 1,4-dichlorobenzene	16.32	146	116636	22.98	ug/L	97
113) 1,2-dichlorobenzene	16.69	146	116124	23.38	ug/L	98
114) n-butylbenzene	16.59	92	92040	19.23	ug/L	98
115) 1,2-dibromo-3-chloropropan	17.45	157	13993	29.33	ug/L	91
116) 1,3,5-trichlorobenzene	17.64	180	74756	15.28	ug/L	98
117) 1,2,4-trichlorobenzene	18.29	180	49747	12.28	ug/L	98
118) hexachlorobutadiene	18.41	225	25498	10.09	ug/L	98
119) naphthalene	18.59	128	108127	15.79	ug/L	98
120) 1,2,3-trichlorobenzene	18.83	180	40583	11.30	ug/L	97
121) hexachloroethane	16.98	201	32055	22.63	ug/L	94
122) benzyl chloride	16.41	91	81375	21.38	ug/L	98
123) 2-ethylhexyl acrylate	18.31	70	5979	2.64	ug/L	90
124) 2-methylnaphthalene	19.84	142	18105	5.05	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184548.D  
 Acq On : 17 Apr 2019 1:53 pm  
 Operator : Prashans  
 Sample : JC86337-1MS  
 Misc : MS33992,VY8006,2.0,,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 18 10:27:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration



7.4.3  
7



## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184550.D  
 Acq On : 17 Apr 2019 2:50 pm  
 Operator : Prashans  
 Sample : JC86337-3DUP  
 Misc : MS33992,VY8006,7.6,,,,,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 18 10:29:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	74224	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	201463	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	293307	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	290877	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	167234	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	92770	51.58	ug/L	0.00
Spiked Amount	50.000	Range 75 - 127	Recovery	=	103.16%	
53) 1,2-dichloroethane-d4 (s)	10.43	65	81468	50.88	ug/L	0.00
Spiked Amount	50.000	Range 75 - 130	Recovery	=	101.76%	
75) toluene-d8 (s)	12.51	98	340405	46.85	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	93.70%	
98) 4-bromofluorobenzene (s)	15.14	95	139334	48.58	ug/L	0.00
Spiked Amount	50.000	Range 79 - 127	Recovery	=	97.16%	

## Target Compounds

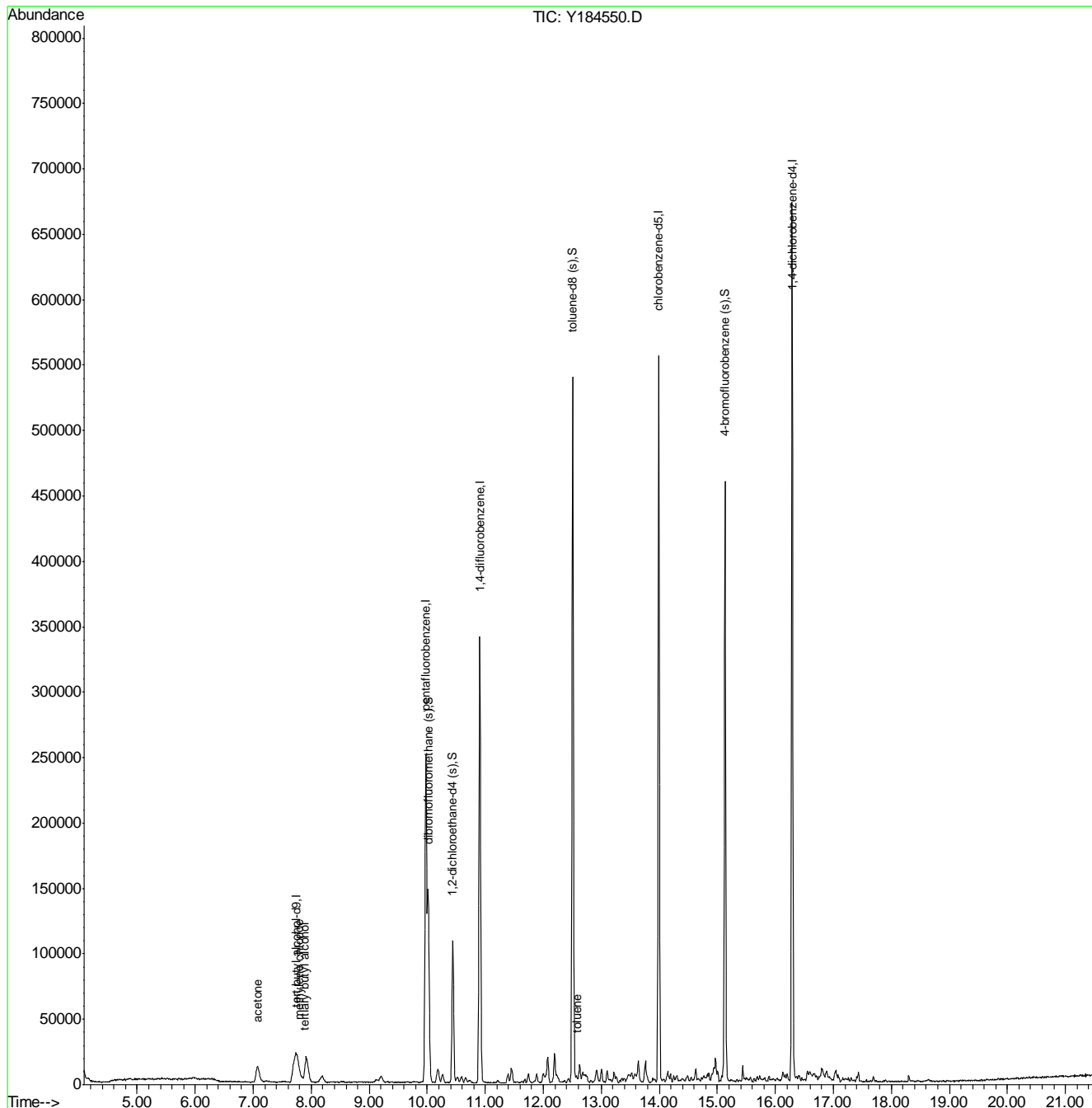
					Qvalue	
3) tertiary butyl alcohol	7.87	59	2139	9.04	ug/L #	35
20) acetone	7.07	43	32693	56.46	ug/L	100
24) methylene chloride	7.79	84	2295	0.74	ug/L	81
76) toluene	12.58	92	1572	0.27	ug/L #	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

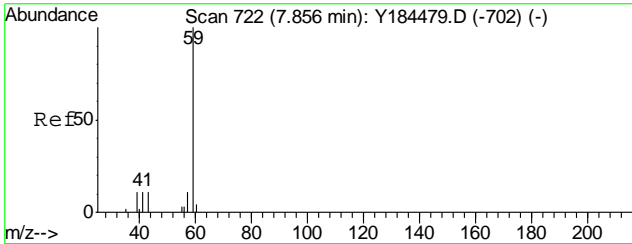
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184550.D  
 Acq On : 17 Apr 2019 2:50 pm  
 Operator : Prashans  
 Sample : JC86337-3DUP  
 Misc : MS33992,VY8006,7.6,,,,,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 18 10:29:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

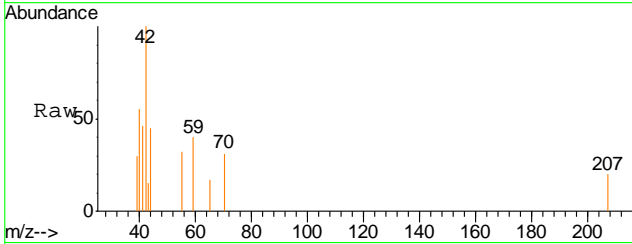


7.5.1  
7

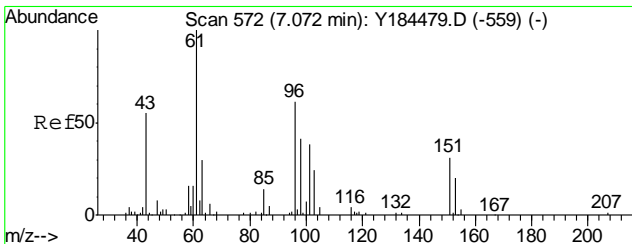
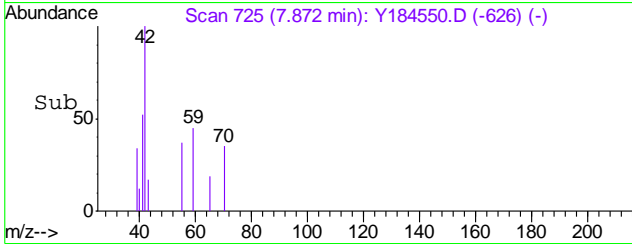
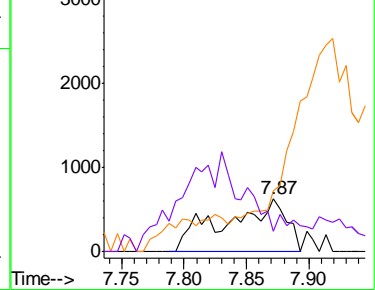


#3  
 tertiary butyl alcohol  
 Concen: 9.04 ug/L  
 RT: 7.87 min Scan# 725  
 Delta R.T. 0.02 min  
 Lab File: Y184550.D  
 Acq: 17 Apr 2019 2:50 pm

Tgt Ion	Resp	Lower	Upper
59	100		
41	62.3	0.0	52.0#
43	0.0	0.0	45.0

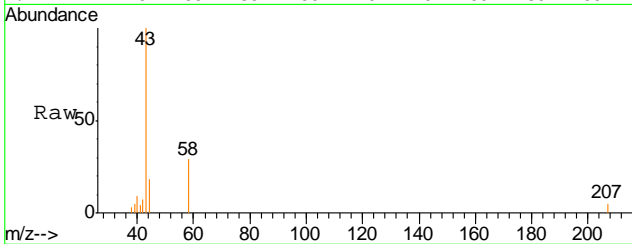


Abundance Ion 59.10 (58.80 to 59.80): Y18  
 Ion 41.10 (40.80 to 41.80): Y18  
 Ion 43.10 (42.80 to 43.80): Y18

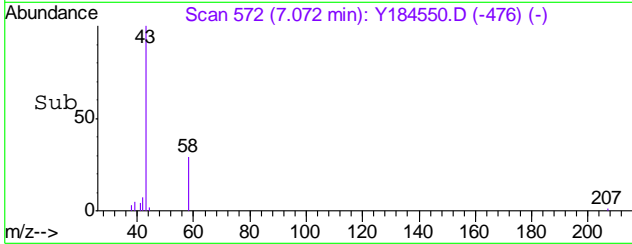
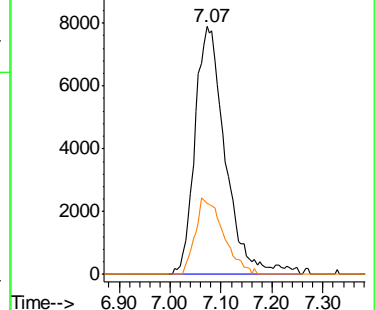


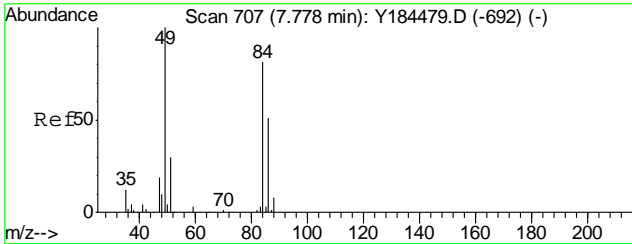
#20  
 acetone  
 Concen: 56.46 ug/L  
 RT: 7.07 min Scan# 572  
 Delta R.T. 0.00 min  
 Lab File: Y184550.D  
 Acq: 17 Apr 2019 2:50 pm

Tgt Ion	Resp	Lower	Upper
43	100		
58	28.8	0.0	59.1



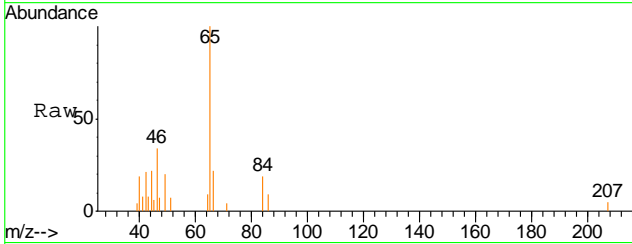
Abundance Ion 43.00 (42.70 to 43.70): Y18  
 Ion 58.00 (57.70 to 58.70): Y18



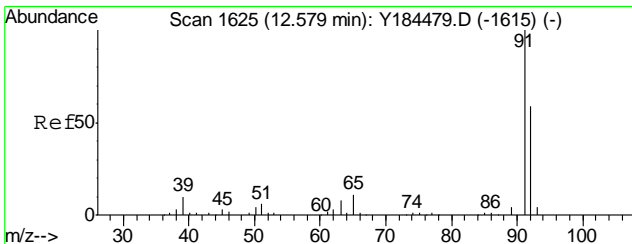
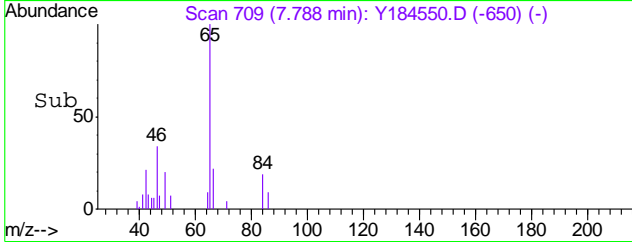
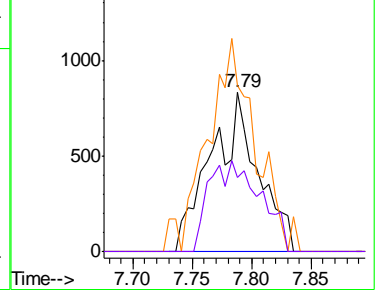


#24  
 methylene chloride  
 Concen: 0.74 ug/L  
 RT: 7.79 min Scan# 709  
 Delta R.T. 0.01 min  
 Lab File: Y184550.D  
 Acq: 17 Apr 2019 2:50 pm

Tgt Ion	Resp	Lower	Upper
84	2295		
84	100		
49	103.9	93.9	153.9
86	46.5	32.7	92.7

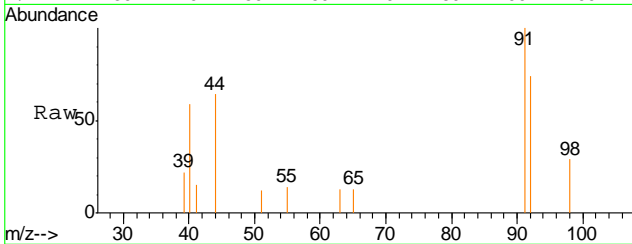


Abundance Ion 84.00 (83.70 to 84.70): Y18  
 Ion 49.00 (48.70 to 49.70): Y18  
 Ion 86.00 (85.70 to 86.70): Y18

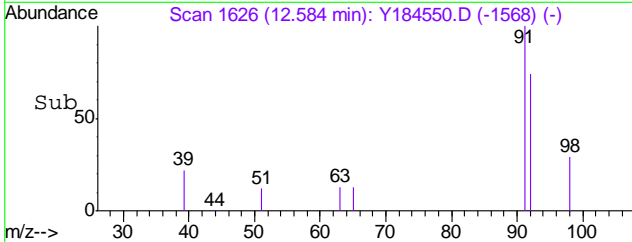
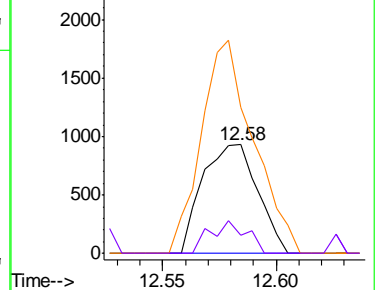


#76  
 toluene  
 Concen: 0.27 ug/L  
 RT: 12.58 min Scan# 1626  
 Delta R.T. 0.01 min  
 Lab File: Y184550.D  
 Acq: 17 Apr 2019 2:50 pm

Tgt Ion	Resp	Lower	Upper
92	1572		
92	100		
91	134.8	149.9	189.9#
65	17.1	0.0	38.9



Abundance Ion 92.00 (91.70 to 92.70): Y18  
 Ion 91.00 (90.70 to 91.70): Y18  
 Ion 65.00 (64.70 to 65.70): Y18



SW-846 Method 8260

Data File : C:\msdchem\1\DATA\VI8986\I223174.D

Vial: 1

Acq On : 27 Nov 2018 5:41 pm

Operator: thienn

Sample : BFB

Inst : GCMSI

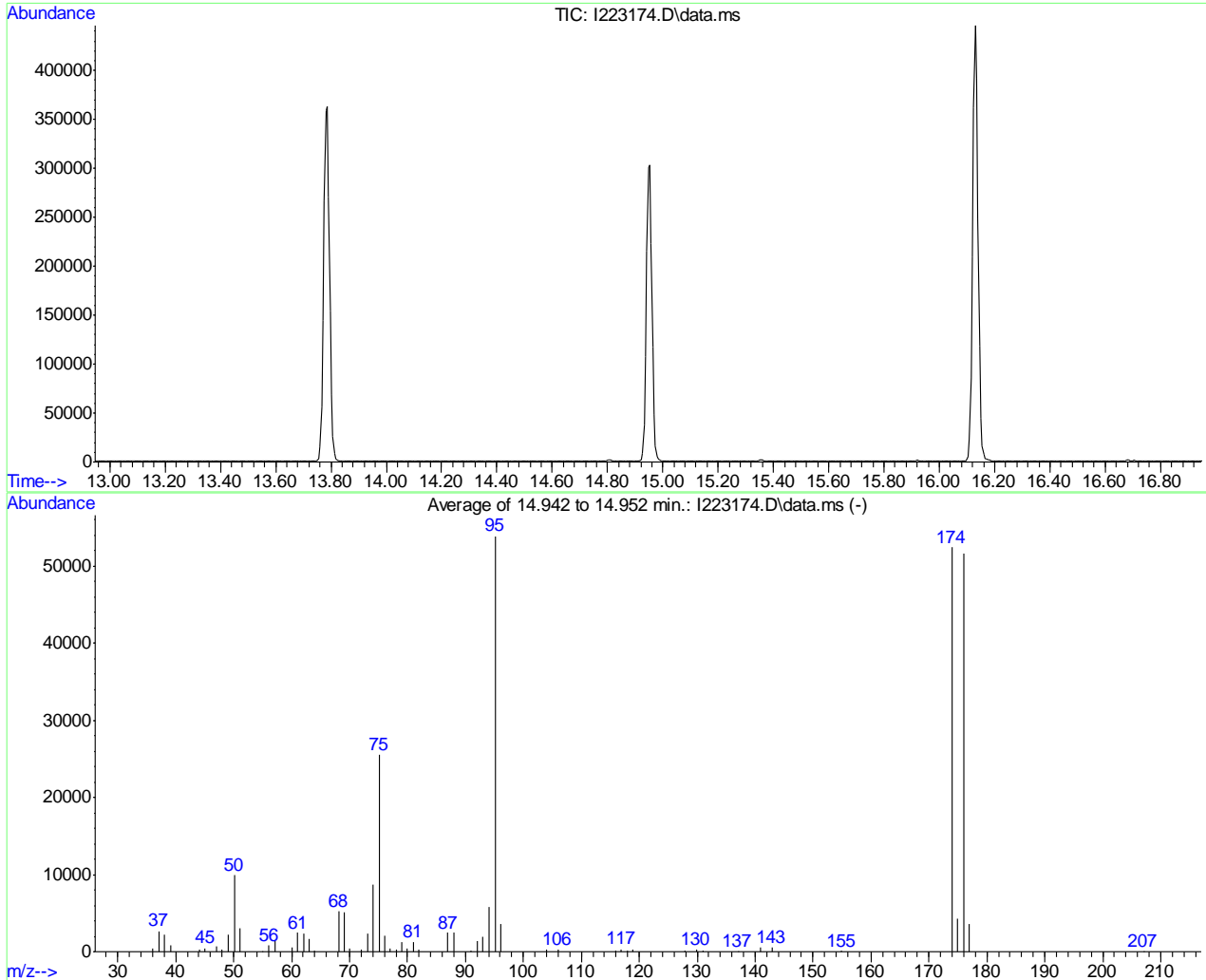
Misc : MS30885,VI8986,5.0,,,,,1

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MI8986.M (RTE Integrator)

Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um



AutoFind: Scans 2172, 2173, 2174; Background Corrected with Scan 2165

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.4	9909	PASS
75	95	30	60	47.3	25472	PASS
95	95	100	100	100.0	53864	PASS
96	95	5	9	6.6	3552	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.2	52357	PASS
175	174	5	9	8.2	4272	PASS
176	174	95	101	98.5	51597	PASS
177	176	5	9	6.9	3571	PASS

I223174.D MI8986.M

Wed Nov 28 14:05:27 2018

Average of 14.942 to 14.952 min.: I223174.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	461	55.00	51	72.00	308	87.00	2457
37.10	2623	56.05	764	73.10	2349	88.00	2420
38.10	2222	57.10	1362	74.10	8690	90.95	125
39.10	855	60.05	490	75.10	25472	92.00	1448
44.10	291	61.05	2449	76.05	2058	93.05	2005
45.10	447	62.10	2360	77.05	361	94.10	5755
47.10	646	63.10	1727	78.05	222	95.10	53864
48.05	318	64.00	122	79.00	1289	96.05	3552
49.10	2190	68.10	5234	80.00	359	103.95	231
50.10	9909	69.05	5171	80.95	1313	105.95	258
51.10	2973	70.05	377	81.95	278	116.00	185

Average of 14.942 to 14.952 min.: I223174.D\data.ms

BFB

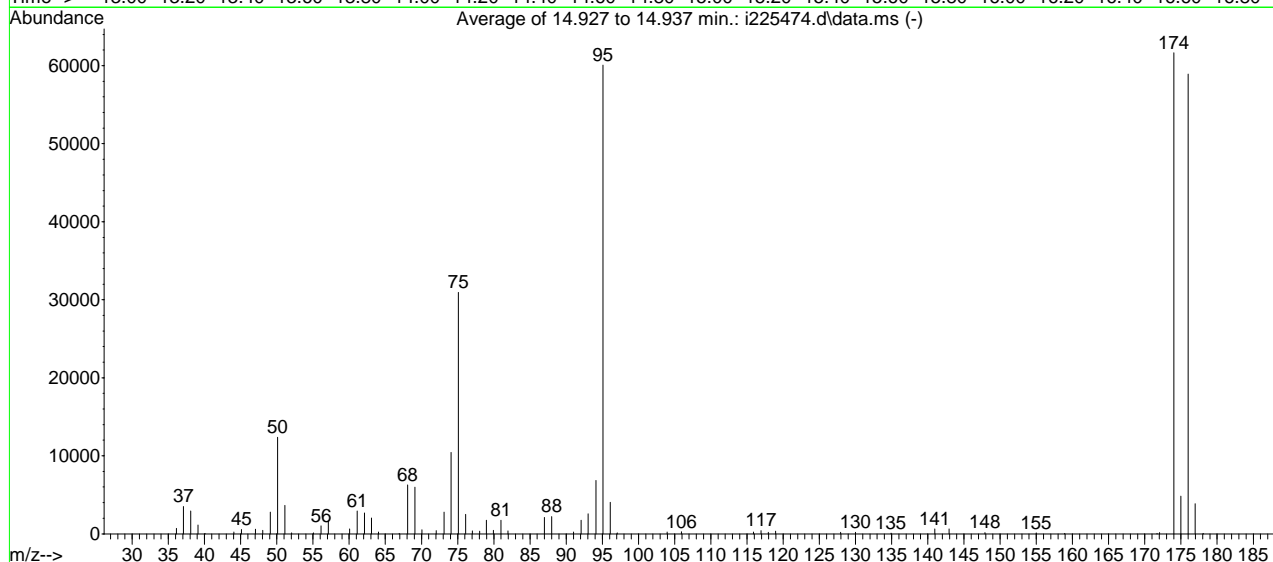
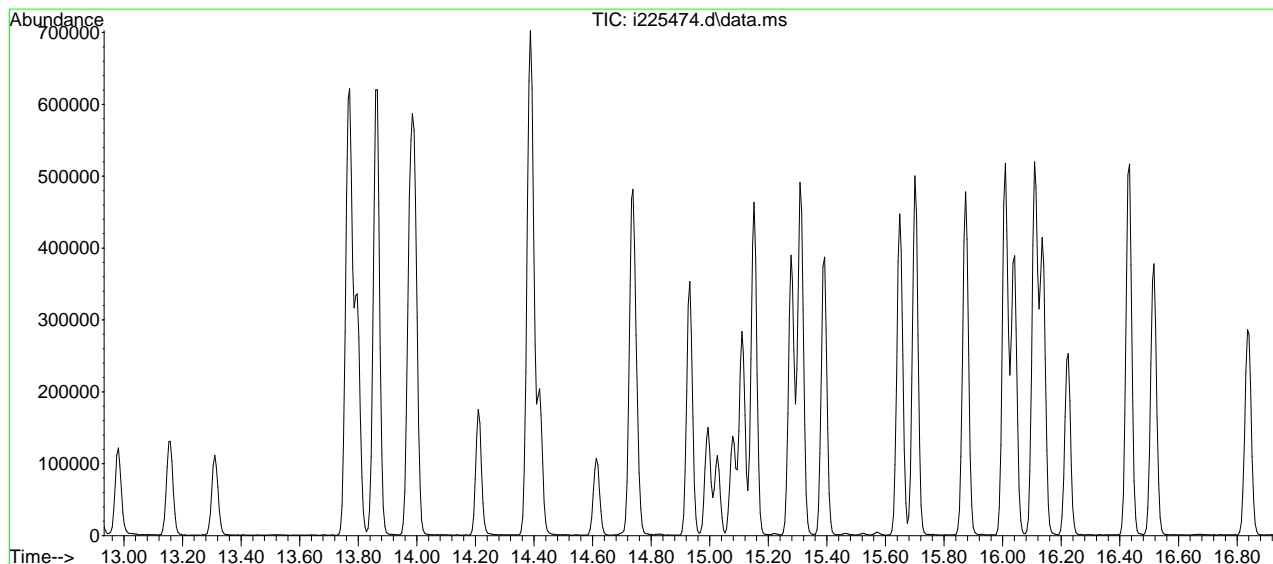
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
116.95	290	175.00	4272				
117.95	191	176.00	51597				
118.95	274	176.95	3571				
127.90	139	207.00	61				
129.90	242						
130.95	102						
137.00	51						
141.00	503						
142.90	521						
154.95	122						
174.00	52357						

SW-846 Method 8260

Data File : C:\msdchem\1\data\kenrickb\vi9085\i225474.d Vial: 3  
 Acq On : 17 Apr 2019 7:43 am Operator: thienn  
 Sample : BFB Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MI8986.M (RTE Integrator)  
 Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um



AutoFind: Scans 2169, 2170, 2171; Background Corrected with Scan 2161

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.6	12384	PASS
75	95	30	60	51.5	30928	PASS
95	95	100	100	100.0	60067	PASS
96	95	5	9	6.7	4046	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	102.6	61643	PASS
175	174	5	9	7.8	4825	PASS
176	174	95	101	95.6	58933	PASS
177	176	5	9	6.6	3864	PASS

7.6.2  
7

Average of 14.927 to 14.937 min.: i225474.d\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	715	51.10	3641	68.10	6276	79.95	461
37.10	3487	52.05	127	69.10	5995	81.00	1745
38.10	2929	55.05	131	70.05	534	81.95	369
39.10	1130	56.10	1018	72.05	407	87.00	2106
40.05	53	57.10	1639	73.10	2796	88.00	2195
44.05	241	60.05	612	74.10	10438	91.00	223
45.10	550	61.10	2938	75.10	30928	92.05	1730
47.05	577	62.10	2682	76.10	2492	93.05	2562
48.05	459	63.10	2043	77.05	396	94.10	6839
49.10	2781	64.05	228	78.05	338	95.10	60067
50.10	12384	66.90	53	78.95	1735	96.10	4046

Average of 14.927 to 14.937 min.: i225474.d\data.ms

BFB

Modified:subtracted

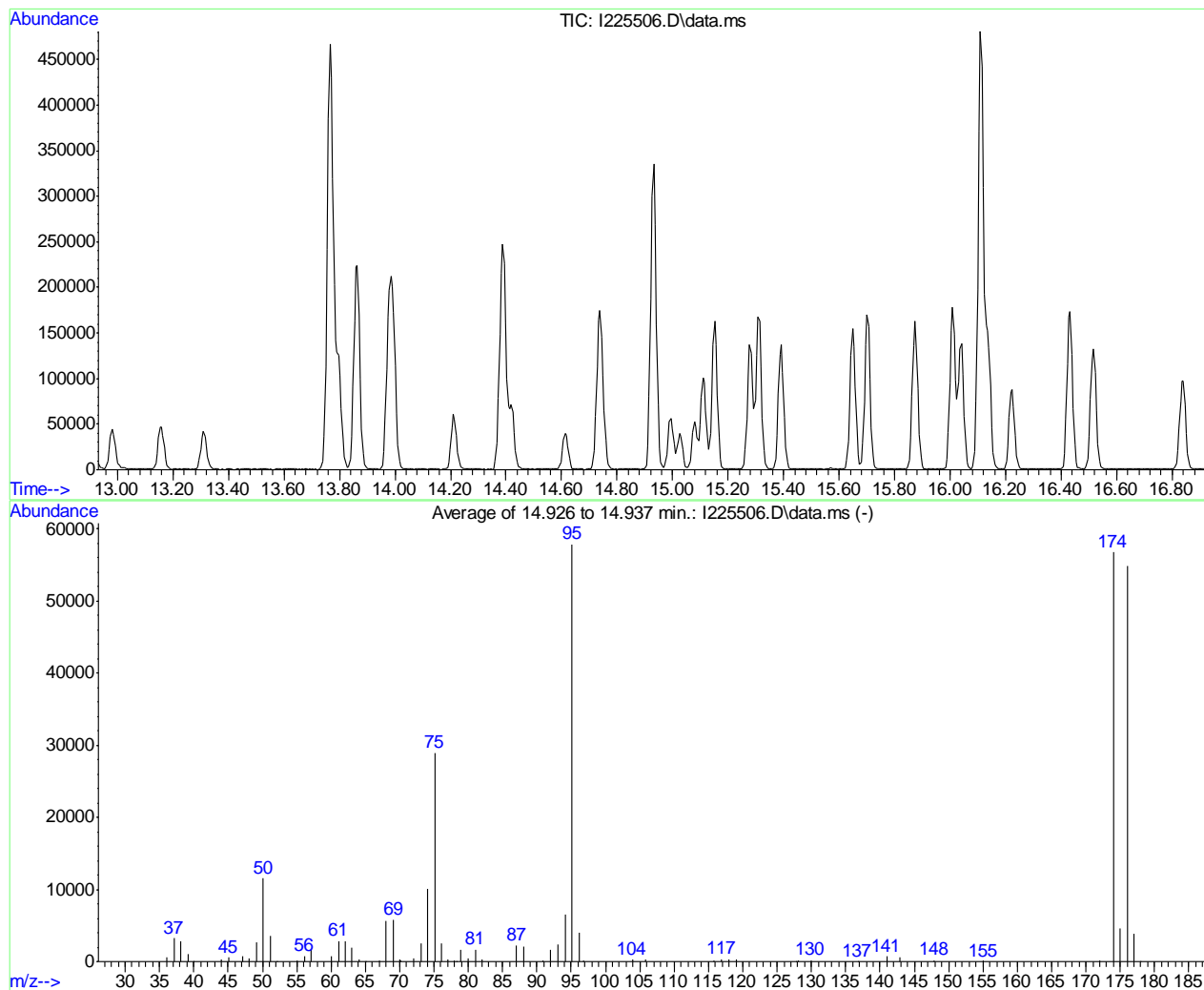
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.05	115	142.95	638				
103.95	252	147.90	169				
105.95	272	155.00	127				
115.90	237	158.90	56				
116.95	398	171.70	52				
117.95	185	172.05	146				
118.95	354	174.00	61643				
127.95	211	175.00	4825				
130.00	215	176.00	58933				
134.90	78	176.95	3864				
140.95	643	178.10	55				



SW-846 Method 8260

Data File : C:\msdchem\1\DATA\VI9086\I225506.D Vial: 4  
 Acq On : 18 Apr 2019 8:29 am Operator: thienn  
 Sample : bfb Inst : GCMSI  
 Misc : MS31989,VI9086,5,,100,5,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MI8986.M (RTE Integrator)  
 Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um



AutoFind: Scans 2169, 2170, 2171; Background Corrected with Scan 2162

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.9	11532	PASS
75	95	30	60	50.0	28938	PASS
95	95	100	100	100.0	57909	PASS
96	95	5	9	6.8	3941	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.1	56792	PASS
175	174	5	9	8.1	4615	PASS
176	174	95	101	96.7	54890	PASS
177	176	5	9	7.0	3817	PASS

I225506.D MI8986.M Thu Apr 18 12:02:56 2019

Average of 14.926 to 14.937 min.: I225506.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	603	51.10	3510	67.10	82	77.95	119
37.10	3258	52.10	72	68.05	5698	78.20	61
38.10	2779	55.05	125	69.10	5840	78.95	1593
39.10	982	56.10	775	70.00	324	79.95	471
40.00	21	57.05	1580	70.20	113	81.00	1662
44.00	291	60.05	679	72.05	453	81.95	354
45.05	536	61.10	2894	73.10	2567	87.00	2228
47.05	701	62.05	2789	74.10	10097	88.00	2031
48.05	485	63.05	1978	75.10	28938	90.95	204
49.10	2668	64.05	234	76.10	2593	92.00	1608
50.10	11532	65.10	47	77.00	291	93.05	2323

Average of 14.926 to 14.937 min.: I225506.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.10	6540	128.05	132	177.00	3817		
95.10	57909	129.90	215	177.90	48		
96.10	3941	136.80	49				
96.85	123	140.95	682				
103.95	271	142.90	623				
105.90	235	147.95	182				
115.85	191	155.05	105				
116.95	366	172.05	109				
117.95	260	174.00	56792				
119.00	328	175.00	4615				
127.80	77	176.00	54890				

SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\VY8003\Y184472.D

Vial: 1

Acq On : 11 Apr 2019 10:44 am

Operator: Prashans

Sample : BFB

Inst : MSY

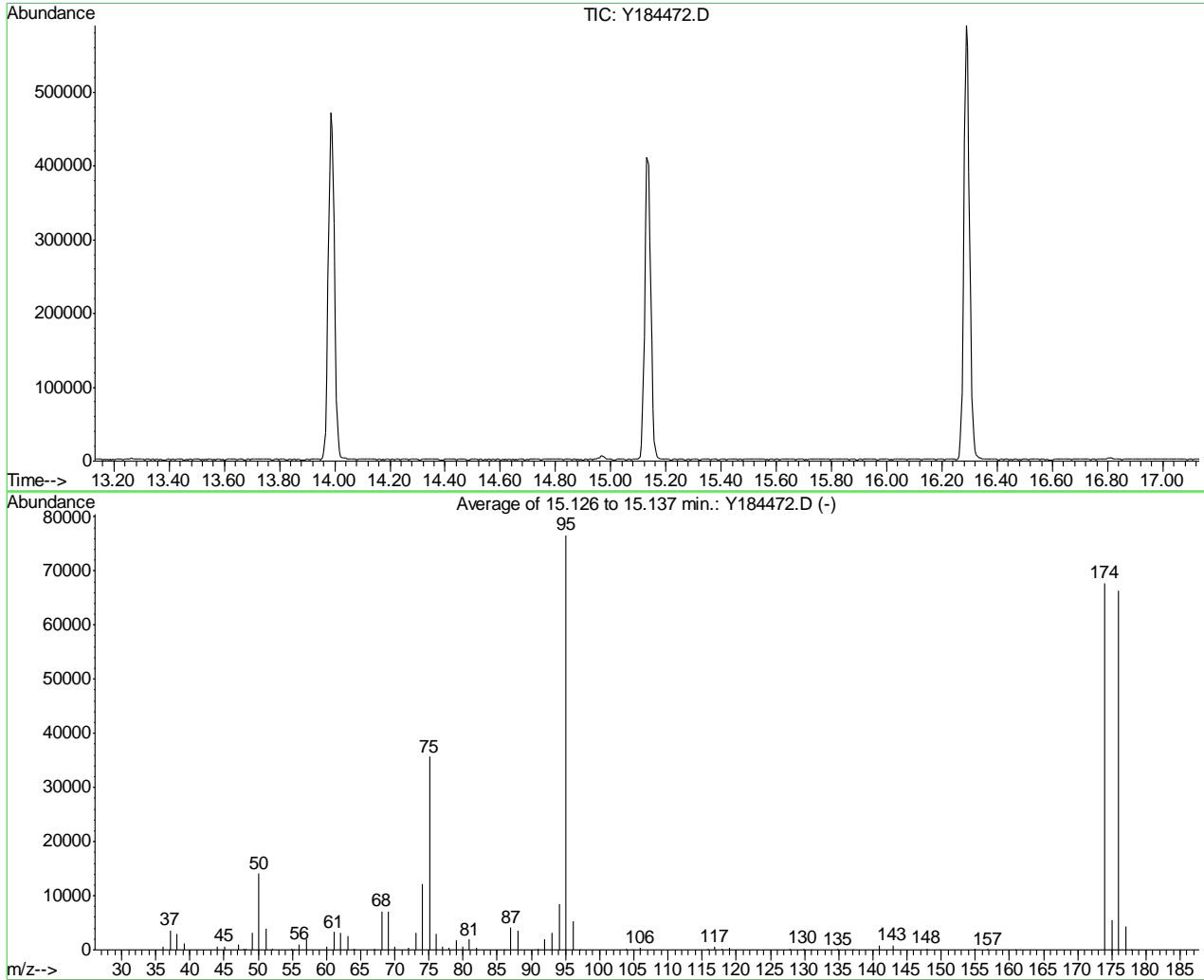
Misc : MS31717,VY8003,5.0,,,,,1

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8003.M (RTE Integrator)

Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um



AutoFind: Scans 2112, 2113, 2114; Background Corrected with Scan 2103

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.4	14077	PASS
75	95	30	60	46.5	35637	PASS
95	95	100	100	100.0	76629	PASS
96	95	5	9	6.8	5218	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	88.4	67760	PASS
175	174	5	9	8.1	5482	PASS
176	174	95	101	97.9	66314	PASS
177	176	5	9	6.4	4274	PASS

Y184472.D MYS8003.M Mon Apr 15 07:42:42 2019 RPT1

Average of 15.126 to 15.137 min.: Y184472.D

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	689	51.10	3904	64.05	156	77.90	333
37.10	3623	52.05	117	67.05	266	78.95	1852
38.10	2939	54.95	181	68.10	7147	79.95	524
39.10	1179	55.20	80	69.10	7001	80.95	1915
44.00	601	56.05	991	70.05	536	81.95	368
45.05	673	57.05	1928	72.05	373	86.00	56
47.05	1077	60.05	643	73.05	3055	87.00	4040
47.90	175	61.05	3262	74.10	12216	88.00	3462
48.15	269	62.10	3162	75.10	35637	91.00	138
49.10	3224	63.10	2554	76.05	3009	92.00	1970
50.10	14077	63.90	70	77.05	507	93.05	3087

Average of 15.126 to 15.137 min.: Y184472.D

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.10	8381	127.95	263	156.85	168		
95.10	76629	129.90	291	160.90	51		
96.10	5218	131.00	50	174.00	67760		
97.00	84	134.95	114	175.00	5482		
103.95	296	137.00	65	176.00	66314		
104.90	54	140.95	835	177.00	4274		
105.95	343	142.95	891	177.80	52		
115.95	251	147.90	214				
116.90	515	149.80	52				
117.90	300	154.80	52				
119.00	372	155.00	164				

SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\VY8006\Y184539.D

Vial: 1

Acq On : 17 Apr 2019 8:52 am

Operator: Prashans

Sample : bfb

Inst : MSY

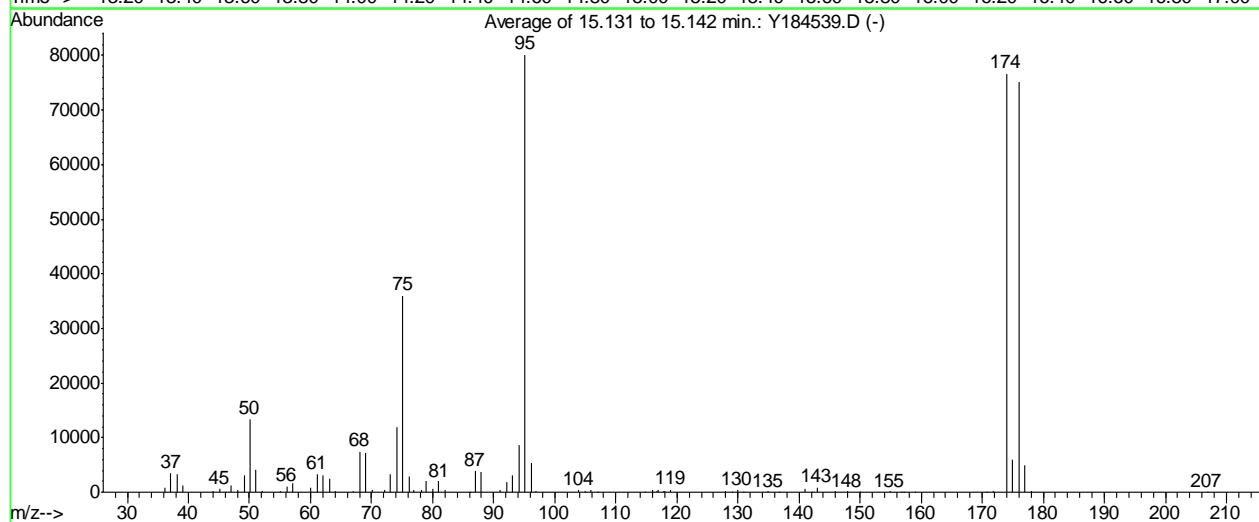
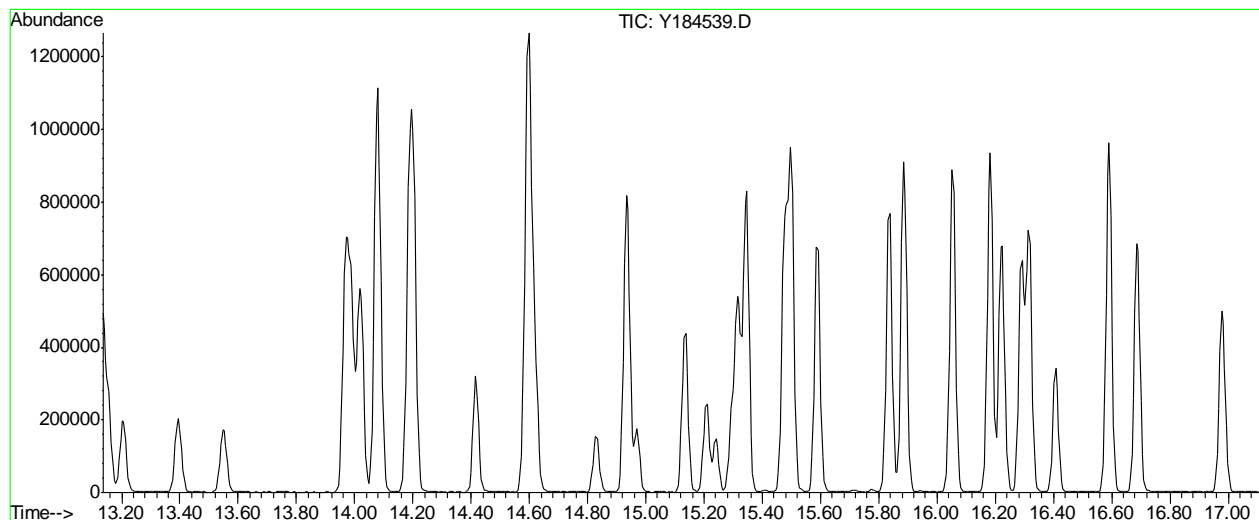
Misc : MS33788,VY8006,5.0,,,,,1

Multiplr: 1.00

MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS8003.M (RTE Integrator)

Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um



AutoFind: Scans 2113, 2114, 2115; Background Corrected with Scan 2105

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.7	13384	PASS
75	95	30	60	44.9	35992	PASS
95	95	100	100	100.0	80186	PASS
96	95	5	9	6.6	5322	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.5	76602	PASS
175	174	5	9	7.7	5899	PASS
176	174	95	101	98.1	75170	PASS
177	176	5	9	6.6	4928	PASS

Y184539.D MYS8003.M

Thu Apr 18 10:14:49 2019 RPT1

Average of 15.131 to 15.142 min.: Y184539.D

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	789	51.10	4113	68.05	7424	80.00	563
37.10	3528	52.05	228	69.05	7293	81.00	1970
38.10	3304	55.05	134	70.10	481	82.00	355
39.05	1163	56.10	1128	72.10	390	86.10	77
44.00	305	57.10	1707	73.05	3344	87.00	3892
45.05	530	60.05	738	74.10	11950	88.00	3671
46.10	61	61.10	3327	75.10	35992	91.05	354
47.05	1202	62.05	3113	76.10	2869	92.05	1931
48.00	467	63.10	2457	76.95	515	93.10	3087
49.10	3042	64.05	181	78.10	368	94.10	8648
50.10	13384	67.05	261	79.00	2106	95.10	80186

Average of 15.131 to 15.142 min.: Y184539.D

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.10	5322	117.95	193	146.00	132	176.00	75170
96.90	186	118.95	490	147.90	169	177.00	4928
103.95	406	127.90	281	149.90	59	178.00	143
104.95	117	129.10	55	154.90	137	206.80	56
105.95	379	129.95	334	156.70	54		
107.00	54	130.90	53	157.10	59		
114.80	53	134.95	131	158.90	52		
115.95	320	136.80	64	170.70	51		
116.80	132	140.95	704	171.85	122		
116.95	419	142.00	56	174.00	76602		
117.80	131	142.95	830	175.00	5899		

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223175.D  
 Acq On : 27 Nov 2018 6:23 pm  
 Operator : thienn  
 Sample : IC8986-0.5  
 Misc : MS30885,VI8986,5.0,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 28 13:28:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.369	65	56717	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	177083	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	226913	50.00	ug/L	0.00
73) chlorobenzene-d5	13.786	117	188157	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	109073	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	69022	49.60	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	99.20%
52) 1,2-dichloroethane-d4 (s)	10.162	65	70764	49.98	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	99.96%
74) toluene-d8 (s)	12.280	98	244147	50.62	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	101.24%
97) 4-bromofluorobenzene (s)	14.947	95	84146	50.61	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	101.22%
Target Compounds						
7) chloromethane	4.278	50	759	0.53	ug/L	# 49
8) vinyl chloride	4.529	62	520	0.43	ug/L	91
10) bromomethane	5.198	94	391	0.49	ug/L	72
13) trichlorofluoromethane	5.873	101	764	0.41	ug/L	83
28) hexane	8.242	57	909	0.48	ug/L	84
35) 2,2-dichloropropane	9.178	77	759	0.44	ug/L	# 48
54) 1,2-dichloroethane	10.256	62	631	0.42	ug/L	# 50
55) benzene	10.240	78	1799	0.41	ug/L	91
56) 2,2,4-trimethylpentane	10.345	57	1790	0.39	ug/L	90
70) cis-1,3-dichloropropene	11.966	75	684	0.39	ug/L	91
75) toluene	12.353	92	1045	0.40	ug/L	96
76) trans-1,3-dichloropropene	12.536	75	621	0.40	ug/L	# 69
79) 1,3-dichloropropane	12.928	76	554	0.40	ug/L	# 50
80) tetrachloroethene	12.918	166	505	0.39	ug/L	88
83) n-butyl ether	13.791	57	1859	0.43	ug/L	# 7
86) chlorobenzene	13.823	112	1084	0.39	ug/L	97
88) ethylbenzene	13.880	91	1965	0.40	ug/L	87
89) m,p-xylene	14.011	106	1536	0.81	ug/L	# 70
95) isopropylbenzene	14.754	105	1838	0.38	ug/L	97
101) bromobenzene	15.136	156	559	0.42	ug/L	91
102) n-propylbenzene	15.167	91	2280	0.41	ug/L	96
103) 2-chlorotoluene	15.298	126	454	0.39	ug/L	85
104) 4-chlorotoluene	15.413	91	1388	0.42	ug/L	88
105) 1,3,5-trimethylbenzene	15.329	105	1611	0.38	ug/L	96
107) 1,2,4-trimethylbenzene	15.721	105	1787	0.41	ug/L	100
109) p-isopropyltoluene	16.030	119	1974	0.42	ug/l	93
110) benzyl chloride	16.244	91	1167	0.44	ug/L	85
111) 1,3-dichlorobenzene	16.061	146	1009	0.39	ug/L	81
112) 1,4-dichlorobenzene	16.155	146	1058	0.40	ug/L	88
113) 1,2-dichlorobenzene	16.542	146	969	0.39	ug/L	82
114) n-butylbenzene	16.448	92	936	0.38	ug/L	93
118) 1,3,5-trichlorobenzene	17.547	180	1094	0.43	ug/L	90

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223175.D  
 Acq On : 27 Nov 2018 6:23 pm  
 Operator : thienn  
 Sample : IC8986-0.5  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 28 13:28:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
119) 1,2,4-trichlorobenzene	18.206	180	943	0.41	ug/L	79
122) naphthalene	18.488	128	1835	0.41	ug/L	82

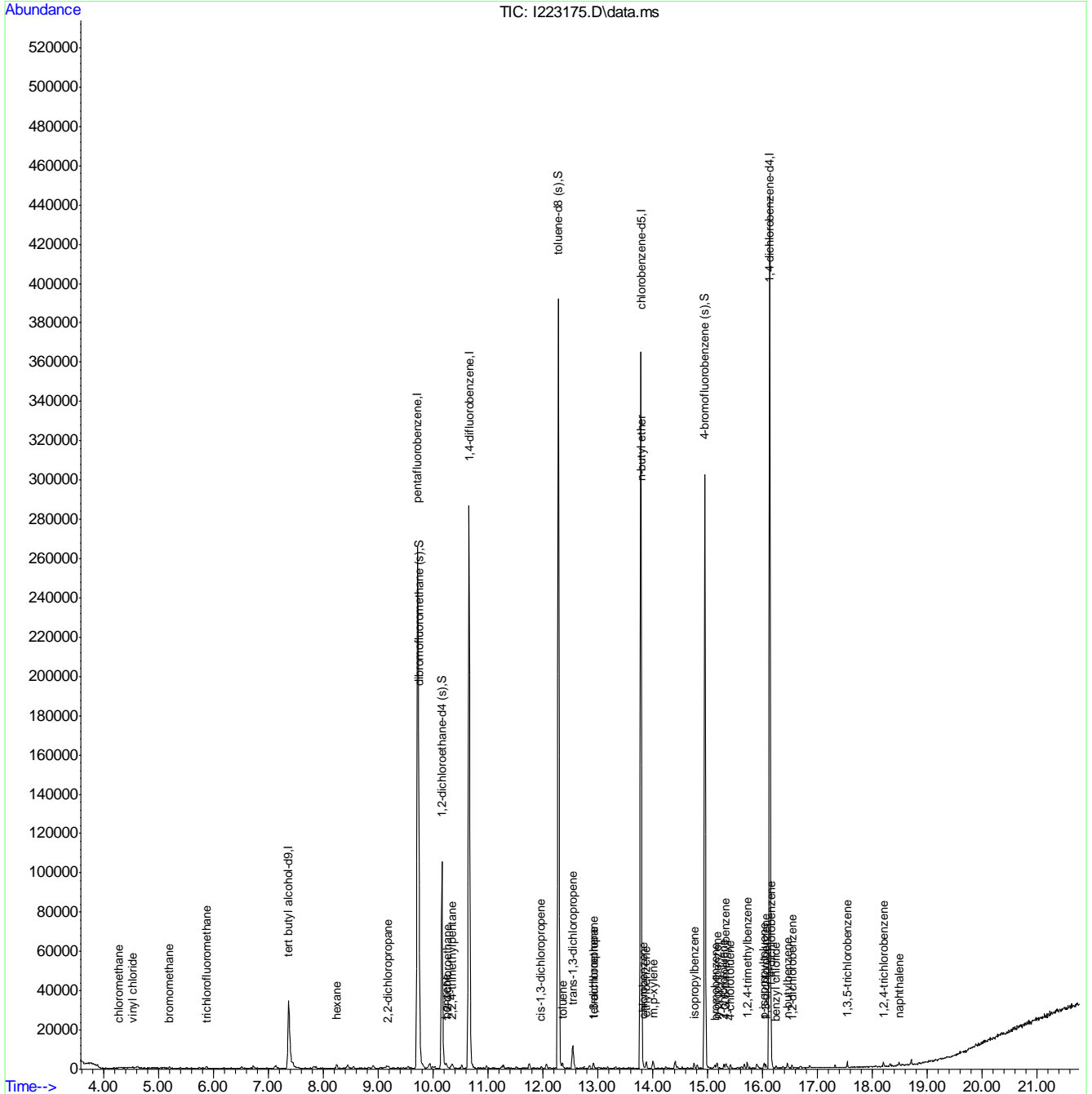
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223175.D  
 Acq On : 27 Nov 2018 6:23 pm  
 Operator : thienn  
 Sample : IC8986-0.5  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 28 13:28:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration



7.7.1  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223176.D  
 Acq On : 27 Nov 2018 6:52 pm  
 Operator : thienn  
 Sample : IC8986-1  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 28 13:29:53 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.369	65	56032	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	178959	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	224797	50.00	ug/L	0.00
73) chlorobenzene-d5	13.786	117	190466	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	109248	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	70424	50.08	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.16%
52) 1,2-dichloroethane-d4 (s)	10.162	65	71945	51.29	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	102.58%
74) toluene-d8 (s)	12.280	98	246014	50.39	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.78%
97) 4-bromofluorobenzene (s)	14.947	95	85952	51.61	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	103.22%
Target Compounds						
5) dichlorodifluoromethane	3.891	85	1456	0.95	ug/L	89
6) chlorodifluoromethane	3.922	51	1313	0.93	ug/L	65
7) chloromethane	4.278	50	1522	1.05	ug/L	89
8) vinyl chloride	4.534	62	1167	0.96	ug/L	80
9) 1,3-butadiene	4.618	54	766	0.95	ug/L	92
10) bromomethane	5.198	94	821	1.01	ug/L	94
11) chloroethane	5.397	64	609	0.86	ug/L #	44
12) vinyl bromide	5.747	106	766	0.87	ug/L	89
13) trichlorofluoromethane	5.873	101	1854	0.99	ug/L	89
17) freon 113	6.736	151	747	0.82	ug/L #	89
18) 1,1-dichloroethene	6.731	61	1436	0.90	ug/L	98
24) methylene chloride	7.447	84	1306	1.07	ug/L	76
26) methyl tert butyl ether	7.818	73	2605	0.93	ug/L	93
27) trans-1,2-dichloroethene	7.860	61	1356	0.89	ug/L	92
28) hexane	8.242	57	1988	1.04	ug/L	96
29) 1,1-dichloroethane	8.441	63	1866	0.96	ug/L	84
31) di-isopropyl ether	8.441	45	3129	0.90	ug/L	87
32) chloroprene	8.545	53	1384	0.84	ug/L	88
33) ethyl tert-butyl ether	8.912	59	3099	0.92	ug/L	86
35) 2,2-dichloropropane	9.189	77	1703	0.97	ug/L	90
37) cis-1,2-dichloroethene	9.152	96	1226	0.97	ug/L #	78
41) bromochloromethane	9.456	128	440	0.81	ug/L #	66
43) chloroform	9.544	83	1989	0.99	ug/L	90
44) carbon tetrachloride	10.020	117	1548	0.94	ug/L #	77
45) 1,1-dichloropropene	9.994	75	1424	0.95	ug/L	94
48) 1,1,1-trichloroethane	9.816	97	1746	0.97	ug/L	86
49) cyclohexane	9.942	84	1519	0.92	ug/L	89
54) 1,2-dichloroethane	10.256	62	1633	1.11	ug/L	92
55) benzene	10.240	78	4193	0.95	ug/L	98
56) 2,2,4-trimethylpentane	10.350	57	4640	1.03	ug/L	98
57) tert-amyl methyl ether	10.324	87	552	0.74	ug/L #	60
58) heptane	10.523	57	794	0.88	ug/L #	89

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223176.D  
 Acq On : 27 Nov 2018 6:52 pm  
 Operator : thienn  
 Sample : IC8986-1  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 28 13:29:53 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
60) trichloroethene	10.978	95	1039	0.92	ug/L	89
62) methylcyclohexane	11.281	83	1997	1.03	ug/L	94
63) 1,2-dichloropropane	11.250	63	1072	0.99	ug/L	87
65) dibromomethane	11.354	93	547	0.84	ug/L	92
66) bromodichloromethane	11.511	83	1425	0.95	ug/L	93
68) 2-chloroethyl vinyl ether	11.752	63	2773	4.39	ug/L	92
70) cis-1,3-dichloropropene	11.966	75	1687	0.96	ug/L	90
71) 4-methyl-2-pentanone	12.065	58	1182	3.57	ug/L	93
75) toluene	12.353	92	2505	0.95	ug/L	99
76) trans-1,3-dichloropropene	12.526	75	1695	1.07	ug/L	85
77) ethyl methacrylate	12.536	69	1080	0.95	ug/L	90
78) 1,1,2-trichloroethane	12.751	83	638	0.89	ug/L #	81
79) 1,3-dichloropropane	12.928	76	1301	0.92	ug/L	90
80) tetrachloroethene	12.913	166	1332	1.01	ug/L	82
81) 2-hexanone	12.913	58	1107	3.35	ug/L	94
83) n-butyl ether	13.786	57	4146	0.95	ug/L #	57
84) dibromochloromethane	13.174	129	1082	0.93	ug/L	93
85) 1,2-dibromoethane	13.336	107	894	0.87	ug/L	82
86) chlorobenzene	13.818	112	2734	0.97	ug/L	98
87) 1,1,1,2-tetrachloroethane	13.880	131	960	0.91	ug/L	95
88) ethylbenzene	13.886	91	4814	0.98	ug/L	98
89) m,p-xylene	14.006	106	3829	1.98	ug/L	93
90) o-xylene	14.403	106	1805	0.98	ug/L	95
91) styrene	14.414	104	2757	0.88	ug/L	95
92) butyl acrylate	14.231	55	1530	0.87	ug/L	96
93) cis-1,4-dichloro-2-butene	14.769	88	406	0.86	ug/L #	77
94) bromoform	14.639	173	692	0.86	ug/L	93
95) isopropylbenzene	14.754	105	4645	0.96	ug/L	95
98) 1,1,2,2-tetrachloroethane	15.015	83	992	0.90	ug/L	90
100) 1,2,3-trichloropropane	15.099	110	272	0.93	ug/L #	33
101) bromobenzene	15.130	156	1333	0.99	ug/L	91
102) n-propylbenzene	15.172	91	5703	1.02	ug/L	95
103) 2-chlorotoluene	15.303	126	1178	1.00	ug/L #	59
104) 4-chlorotoluene	15.408	91	3501	1.05	ug/L	97
105) 1,3,5-trimethylbenzene	15.329	105	4084	0.97	ug/L	97
106) tert-butylbenzene	15.669	134	750	0.98	ug/L #	70
107) 1,2,4-trimethylbenzene	15.721	105	4262	0.99	ug/L	96
108) sec-butylbenzene	15.889	105	5415	1.03	ug/L	94
109) p-isopropyltoluene	16.030	119	4595	0.97	ug/L	99
110) benzyl chloride	16.244	91	2575	0.97	ug/L	98
111) 1,3-dichlorobenzene	16.061	146	2661	1.03	ug/L	95
112) 1,4-dichlorobenzene	16.161	146	2663	1.01	ug/L	97
113) 1,2-dichlorobenzene	16.537	146	2492	0.99	ug/L	92
114) n-butylbenzene	16.448	92	2414	0.98	ug/L	96
115) hexachloroethane	16.856	201	834	0.93	ug/L #	84
118) 1,3,5-trichlorobenzene	17.547	180	2660	1.04	ug/L	92
119) 1,2,4-trichlorobenzene	18.201	180	2465	1.07	ug/L	93
121) hexachlorobutadiene	18.326	225	1623	1.11	ug/L #	68
122) naphthalene	18.488	128	4141	0.93	ug/L	98
123) 1,2,3-trichlorobenzene	18.708	180	2093	0.95	ug/L	94

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
Data File : I223176.D  
Acq On : 27 Nov 2018 6:52 pm  
Operator : thienn  
Sample : IC8986-1  
Misc : MS30885,VI8986,5.0,,,,,1  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 28 13:29:53 2018  
Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Wed Nov 28 12:53:10 2018  
Response via : Initial Calibration

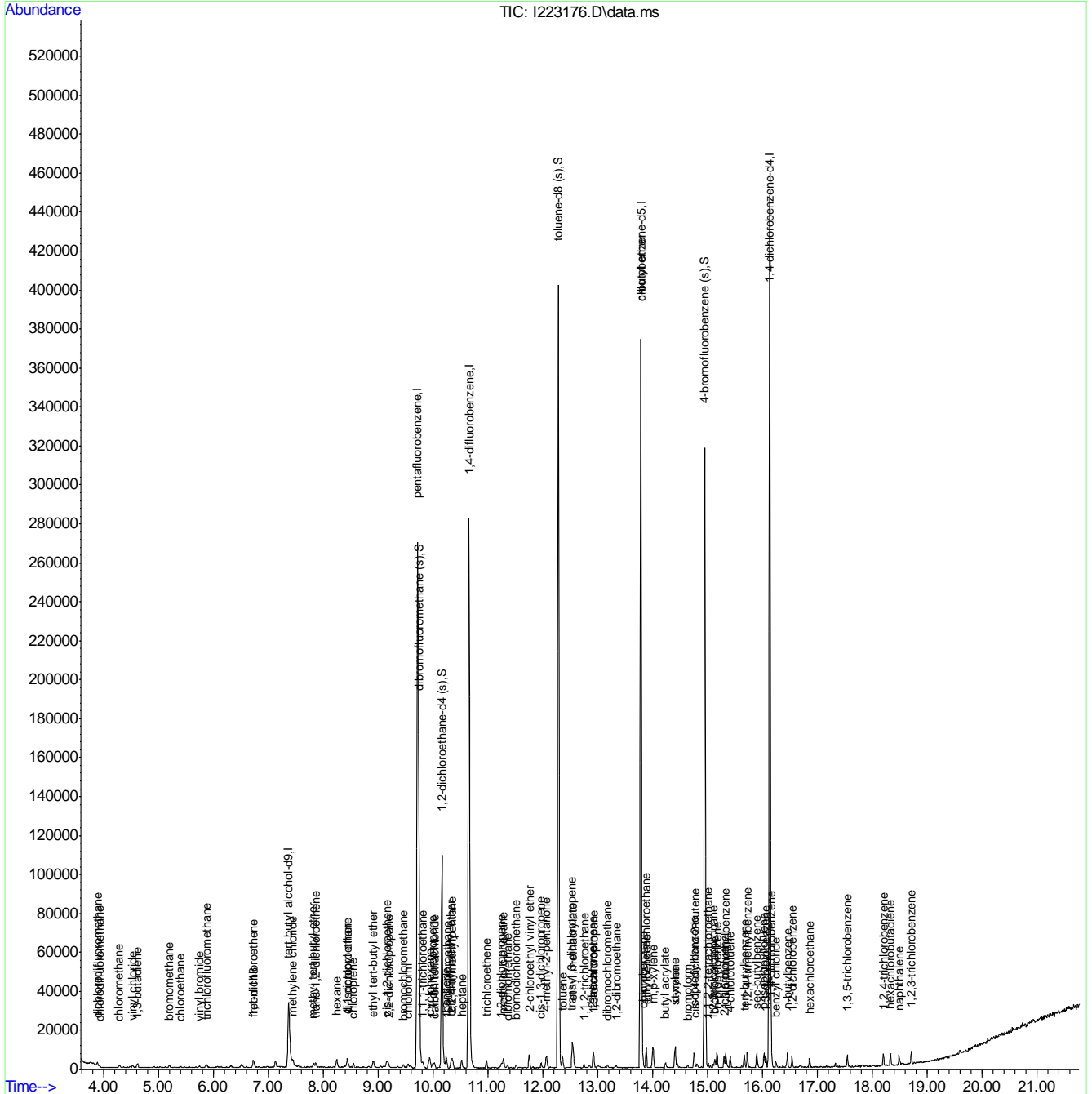
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223176.D  
 Acq On : 27 Nov 2018 6:52 pm  
 Operator : thienn  
 Sample : IC8986-1  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 28 13:29:53 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223177.D  
 Acq On : 27 Nov 2018 7:22 pm  
 Operator : thienn  
 Sample : IC8986-2  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 28 13:30:47 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.374	65	56476	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	176188	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	224153	50.00	ug/L	0.00
73) chlorobenzene-d5	13.786	117	187440	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	109015	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	69313	50.07	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.14%
52) 1,2-dichloroethane-d4 (s)	10.162	65	71103	50.83	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	101.66%
74) toluene-d8 (s)	12.280	98	241740	50.31	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.62%
97) 4-bromofluorobenzene (s)	14.947	95	84776	51.01	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	102.02%
Target Compounds						
2) tertiary butyl alcohol	7.505	59	1050	8.94	ug/L	76
5) dichlorodifluoromethane	3.891	85	2742	1.82	ug/L	89
6) chlorodifluoromethane	3.927	51	2757	1.98	ug/L	86
7) chloromethane	4.283	50	2832	1.99	ug/L	88
8) vinyl chloride	4.529	62	2087	1.74	ug/L	87
9) 1,3-butadiene	4.618	54	1510	1.91	ug/L	88
10) bromomethane	5.198	94	1470	1.84	ug/L	83
11) chloroethane	5.407	64	1344	1.94	ug/L	93
12) vinyl bromide	5.747	106	1633	1.88	ug/L	86
13) trichlorofluoromethane	5.878	101	3389	1.85	ug/L	98
14) ethyl ether	6.317	74	719	1.44	ug/L	93
15) 2-chloropropane	6.516	63	742	1.85	ug/L #	81
17) freon 113	6.731	151	1623	1.80	ug/L	95
18) 1,1-dichloroethene	6.731	61	3194	2.03	ug/L	95
19) acetone	6.731	43	2015	6.96	ug/L	94
21) carbon disulfide	7.133	76	7561	2.04	ug/L	98
22) acetonitrile	7.144	41	2525	17.06	ug/L	80
24) methylene chloride	7.447	84	2538	2.11	ug/L	98
26) methyl tert butyl ether	7.824	73	5390	1.95	ug/L	94
27) trans-1,2-dichloroethene	7.866	61	3045	2.04	ug/L	95
28) hexane	8.242	57	3614	1.92	ug/L	90
29) 1,1-dichloroethane	8.436	63	3877	2.02	ug/L	97
31) di-isopropyl ether	8.446	45	6524	1.90	ug/L	93
32) chloroprene	8.556	53	2952	1.83	ug/L	97
33) ethyl tert-butyl ether	8.912	59	6171	1.87	ug/L	97
34) 2-butanone	9.095	72	589	5.29	ug/L #	28
35) 2,2-dichloropropane	9.189	77	3470	2.01	ug/L	94
37) cis-1,2-dichloroethene	9.163	96	2503	2.01	ug/L	93
38) propionitrile	9.147	54	2576	15.79	ug/L	95
41) bromochloromethane	9.461	128	1091	2.03	ug/L	88
43) chloroform	9.550	83	3825	1.93	ug/L	94
44) carbon tetrachloride	10.026	117	3197	1.96	ug/L	97

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223177.D  
 Acq On : 27 Nov 2018 7:22 pm  
 Operator : thienn  
 Sample : IC8986-2  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 28 13:30:47 2018

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M

Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um

QLast Update : Wed Nov 28 12:53:10 2018

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
45) 1,1-dichloropropene	9.994	75	3019	2.04	ug/L	94
48) 1,1,1-trichloroethane	9.816	97	3293	1.85	ug/L	88
49) cyclohexane	9.937	84	3029	1.87	ug/L	88
54) 1,2-dichloroethane	10.256	62	3023	2.05	ug/L	94
55) benzene	10.240	78	8591	1.96	ug/L	99
56) 2,2,4-trimethylpentane	10.350	57	8690	1.94	ug/L	94
57) tert-amyl methyl ether	10.329	87	1372	1.84	ug/L	98
58) heptane	10.523	57	1835	2.05	ug/L #	88
59) n-butyl alcohol	10.695	56	3163	90.54	ug/L	84
60) trichloroethene	10.972	95	2311	2.06	ug/L	85
61) ethyl acrylate	10.962	55	2236	1.86	ug/L	77
62) methylcyclohexane	11.281	83	3672	1.91	ug/L	95
63) 1,2-dichloropropane	11.250	63	2198	2.04	ug/L	91
65) dibromomethane	11.354	93	1284	1.97	ug/L	94
66) bromodichloromethane	11.511	83	2980	1.99	ug/L	84
68) 2-chloroethyl vinyl ether	11.752	63	6041	9.60	ug/L	93
69) epichlorohydrin	11.830	57	1010	9.24	ug/L	91
70) cis-1,3-dichloropropene	11.966	75	3306	1.89	ug/L	95
71) 4-methyl-2-pentanone	12.060	58	2454	7.43	ug/L	98
72) 3-methyl-1-butanol	12.060	70	1046	35.95	ug/L	92
75) toluene	12.358	92	5141	1.98	ug/L	97
76) trans-1,3-dichloropropene	12.526	75	2889	1.85	ug/L	95
77) ethyl methacrylate	12.531	69	2090	1.87	ug/L	83
78) 1,1,2-trichloroethane	12.751	83	1373	1.96	ug/L	95
79) 1,3-dichloropropane	12.928	76	2659	1.92	ug/L	97
80) tetrachloroethene	12.913	166	2619	2.01	ug/L	95
81) 2-hexanone	12.913	58	2581	7.93	ug/L	97
82) butyl acetate	13.002	56	927	1.63	ug/L #	73
83) n-butyl ether	13.791	57	8237	1.92	ug/L	85
84) dibromochloromethane	13.174	129	2246	1.96	ug/L	99
85) 1,2-dibromoethane	13.331	107	1805	1.79	ug/L	97
86) chlorobenzene	13.818	112	5437	1.97	ug/L	96
87) 1,1,1,2-tetrachloroethane	13.880	131	2123	2.04	ug/L	97
88) ethylbenzene	13.880	91	9613	1.99	ug/L	95
89) m,p-xylene	14.001	106	7621	4.01	ug/L	98
90) o-xylene	14.403	106	3682	2.03	ug/L	89
91) styrene	14.414	104	6116	1.99	ug/L	95
92) butyl acrylate	14.231	55	3324	1.91	ug/L	94
93) cis-1,4-dichloro-2-butene	14.770	88	809	1.74	ug/L	93
94) bromoform	14.639	173	1591	2.00	ug/L	92
95) isopropylbenzene	14.754	105	9268	1.95	ug/L	97
98) 1,1,2,2-tetrachloroethane	15.015	83	2151	1.96	ug/L	97
100) 1,2,3-trichloropropane	15.099	110	499	1.72	ug/L	93
101) bromobenzene	15.130	156	2679	1.99	ug/L	94
102) n-propylbenzene	15.172	91	10946	1.96	ug/L	99
103) 2-chlorotoluene	15.298	126	2364	2.01	ug/L	89
104) 4-chlorotoluene	15.413	91	6491	1.94	ug/L	96
105) 1,3,5-trimethylbenzene	15.329	105	8685	2.07	ug/L	95
106) tert-butylbenzene	15.669	134	1254	1.65	ug/L #	56
107) 1,2,4-trimethylbenzene	15.721	105	9128	2.12	ug/L	99

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223177.D  
 Acq On : 27 Nov 2018 7:22 pm  
 Operator : thienn  
 Sample : IC8986-2  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 28 13:30:47 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) sec-butylbenzene	15.894	105	10453	2.00	ug/L	97
109) p-isopropyltoluene	16.030	119	9645	2.05	ug/l	97
110) benzyl chloride	16.244	91	5252	1.99	ug/L	97
111) 1,3-dichlorobenzene	16.056	146	5215	2.03	ug/L	90
112) 1,4-dichlorobenzene	16.156	146	5379	2.05	ug/L	96
113) 1,2-dichlorobenzene	16.537	146	4876	1.94	ug/L	97
114) n-butylbenzene	16.448	92	5110	2.09	ug/L	99
115) hexachloroethane	16.856	201	1719	1.92	ug/L	92
116) 1,2-dibromo-3-chloropr...	17.327	157	597	1.71	ug/L	80
118) 1,3,5-trichlorobenzene	17.542	180	5150	2.02	ug/L	97
119) 1,2,4-trichlorobenzene	18.201	180	4515	1.97	ug/L	94
120) 2-ethylhexyl acrylate	18.227	55	734	0.39	ug/L #	84
121) hexachlorobutadiene	18.326	225	2825	1.93	ug/L	97
122) naphthalene	18.488	128	9080	2.05	ug/L	95
123) 1,2,3-trichlorobenzene	18.708	180	4541	2.07	ug/L	96

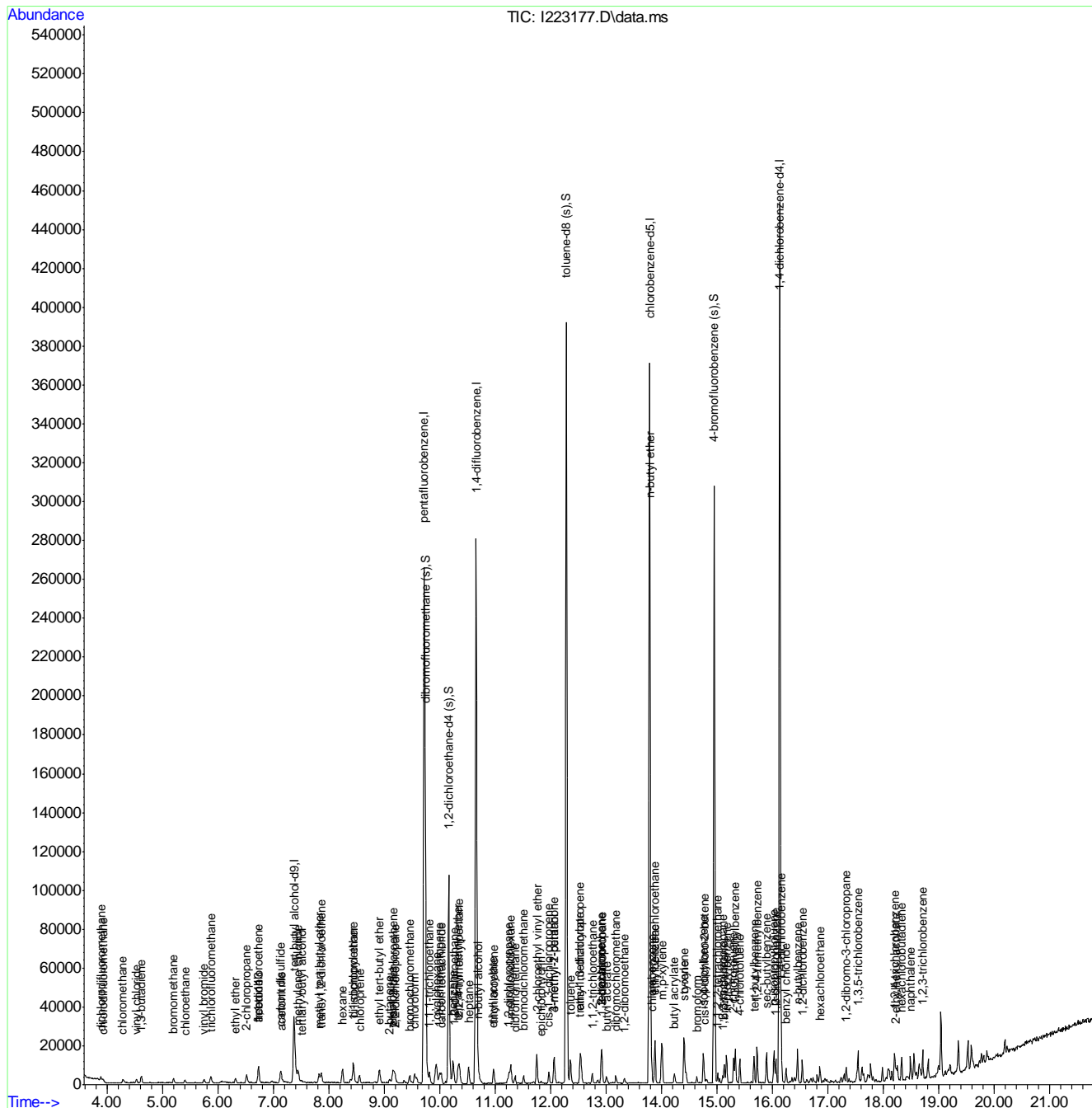
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223177.D  
 Acq On : 27 Nov 2018 7:22 pm  
 Operator : thienn  
 Sample : IC8986-2  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 28 13:30:47 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration



7.7.3  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223178.D  
 Acq On : 27 Nov 2018 7:51 pm  
 Operator : thienn  
 Sample : IC8986-4  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 28 13:31:17 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.374	65	56246	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	176556	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	225937	50.00	ug/L	0.00
73) chlorobenzene-d5	13.781	117	190137	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	111558	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	69434	50.05	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.10%
52) 1,2-dichloroethane-d4 (s)	10.162	65	71923	51.01	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	102.02%
74) toluene-d8 (s)	12.280	98	244882	50.24	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.48%
97) 4-bromofluorobenzene (s)	14.947	95	85555	50.31	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	100.62%
Target Compounds						
2) tertiary butyl alcohol	7.500	59	2079	17.77	ug/L	93
3) 1,4-dioxane	11.307	88	1177	89.79	ug/L	91
5) dichlorodifluoromethane	3.891	85	6572	4.35	ug/L	98
6) chlorodifluoromethane	3.917	51	5802	4.15	ug/L	95
7) chloromethane	4.283	50	5907	4.14	ug/L	94
8) vinyl chloride	4.529	62	5065	4.21	ug/L	92
9) 1,3-butadiene	4.618	54	3121	3.94	ug/L	97
10) bromomethane	5.193	94	3291	4.11	ug/L	85
11) chloroethane	5.402	64	2881	4.14	ug/L	89
12) vinyl bromide	5.742	106	3983	4.57	ug/L	91
13) trichlorofluoromethane	5.868	101	7415	4.03	ug/L	94
14) ethyl ether	6.317	74	1856	3.72	ug/L	84
15) 2-chloropropane	6.516	63	1728	4.30	ug/L	94
17) freon 113	6.731	151	3568	3.96	ug/L	93
18) 1,1-dichloroethene	6.725	61	6304	4.00	ug/L	96
19) acetone	6.725	43	4188	14.43	ug/L	89
20) iodomethane	6.976	142	2576	2.19	ug/L	97
21) carbon disulfide	7.128	76	14445	3.88	ug/L	99
22) acetonitrile	7.123	41	5289	35.65	ug/L	96
23) methyl acetate	7.217	74	297	4.73	ug/L #	32
24) methylene chloride	7.447	84	4671	3.87	ug/L	88
26) methyl tert butyl ether	7.824	73	10938	3.95	ug/L	97
27) trans-1,2-dichloroethene	7.860	61	6302	4.21	ug/L	96
28) hexane	8.242	57	7243	3.84	ug/L	94
29) 1,1-dichloroethane	8.436	63	7996	4.16	ug/L	97
31) di-isopropyl ether	8.446	45	13729	4.00	ug/L	95
32) chloroprene	8.551	53	6628	4.10	ug/L	98
33) ethyl tert-butyl ether	8.912	59	12990	3.92	ug/L	96
34) 2-butanone	9.090	72	1455	13.05	ug/L #	69
35) 2,2-dichloropropane	9.189	77	7138	4.12	ug/L	94
36) ethyl acetate	9.131	45	349	2.44	ug/L #	34
37) cis-1,2-dichloroethene	9.163	96	5131	4.12	ug/L	86

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223178.D  
 Acq On : 27 Nov 2018 7:51 pm  
 Operator : thienn  
 Sample : IC8986-4  
 Misc : MS30885,VI8986,5.0,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 28 13:31:17 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) propionitrile	9.142	54	5988	36.63	ug/L	89
39) methyl acrylate	9.215	85	334	2.30	ug/L #	61
40) methacrylonitrile	9.351	67	1288	3.31	ug/L	87
41) bromochloromethane	9.461	128	2348	4.37	ug/L	92
42) tetrahydrofuran	9.492	71	385	3.00	ug/L	80
43) chloroform	9.550	83	8299	4.17	ug/L	93
44) carbon tetrachloride	10.026	117	6868	4.21	ug/L	89
45) 1,1-dichloropropene	9.994	75	6056	4.09	ug/L	95
48) 1,1,1-trichloroethane	9.811	97	7418	4.17	ug/L	96
49) cyclohexane	9.942	84	6917	4.25	ug/L	87
50) tert-amyl alcohol	10.104	55	446	10.75	ug/L #	61
53) isopropyl acetate	10.156	87	543	2.65	ug/L #	34
54) 1,2-dichloroethane	10.256	62	6182	4.16	ug/L	96
55) benzene	10.240	78	17835	4.04	ug/L	99
56) 2,2,4-trimethylpentane	10.350	57	18780	4.16	ug/L	96
57) tert-amyl methyl ether	10.324	87	2943	3.91	ug/L #	87
58) heptane	10.523	57	3749	4.15	ug/L	95
59) n-butyl alcohol	10.695	56	6210	176.35	ug/L	85
60) trichloroethene	10.967	95	4719	4.17	ug/L #	80
61) ethyl acrylate	10.957	55	4276	3.53	ug/L	98
62) methylcyclohexane	11.281	83	7925	4.09	ug/L	98
63) 1,2-dichloropropane	11.250	63	4432	4.08	ug/L	93
64) methyl methacrylate	11.223	100	861	3.38	ug/L #	83
65) dibromomethane	11.354	93	2569	3.90	ug/L	92
66) bromodichloromethane	11.506	83	6102	4.05	ug/L	98
67) 2-nitropropane	11.684	41	1087	4.18	ug/L	89
68) 2-chloroethyl vinyl ether	11.746	63	12802	20.17	ug/L	99
69) epichlorohydrin	11.825	57	2136	19.38	ug/L	88
70) cis-1,3-dichloropropene	11.966	75	7213	4.08	ug/L	93
71) 4-methyl-2-pentanone	12.060	58	5298	15.91	ug/L	96
72) 3-methyl-1-butanol	12.060	70	2062	70.31	ug/L	95
75) toluene	12.358	92	11007	4.18	ug/L	99
76) trans-1,3-dichloropropene	12.531	75	6206	3.92	ug/L	95
77) ethyl methacrylate	12.531	69	4545	4.00	ug/L	99
78) 1,1,2-trichloroethane	12.751	83	3155	4.43	ug/L #	84
79) 1,3-dichloropropane	12.929	76	5622	4.00	ug/L	93
80) tetrachloroethene	12.913	166	5461	4.13	ug/L	92
81) 2-hexanone	12.908	58	5119	15.51	ug/L	93
82) butyl acetate	13.002	56	2274	3.95	ug/L	86
83) n-butyl ether	13.791	57	17588	4.05	ug/L	91
84) dibromochloromethane	13.180	129	4648	4.00	ug/L	91
85) 1,2-dibromoethane	13.331	107	4108	4.02	ug/L	91
86) chlorobenzene	13.818	112	11335	4.04	ug/L	97
87) 1,1,1,2-tetrachloroethane	13.880	131	4380	4.15	ug/L	98
88) ethylbenzene	13.880	91	20145	4.11	ug/L	97
89) m,p-xylene	14.006	106	15542	8.06	ug/L	96
90) o-xylene	14.403	106	7506	4.07	ug/L	98
91) styrene	14.414	104	12462	3.99	ug/L	98
92) butyl acrylate	14.231	55	7007	3.97	ug/L	93
93) cis-1,4-dichloro-2-butene	14.775	88	1826	3.86	ug/L	87

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223178.D  
 Acq On : 27 Nov 2018 7:51 pm  
 Operator : thienn  
 Sample : IC8986-4  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 28 13:31:17 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

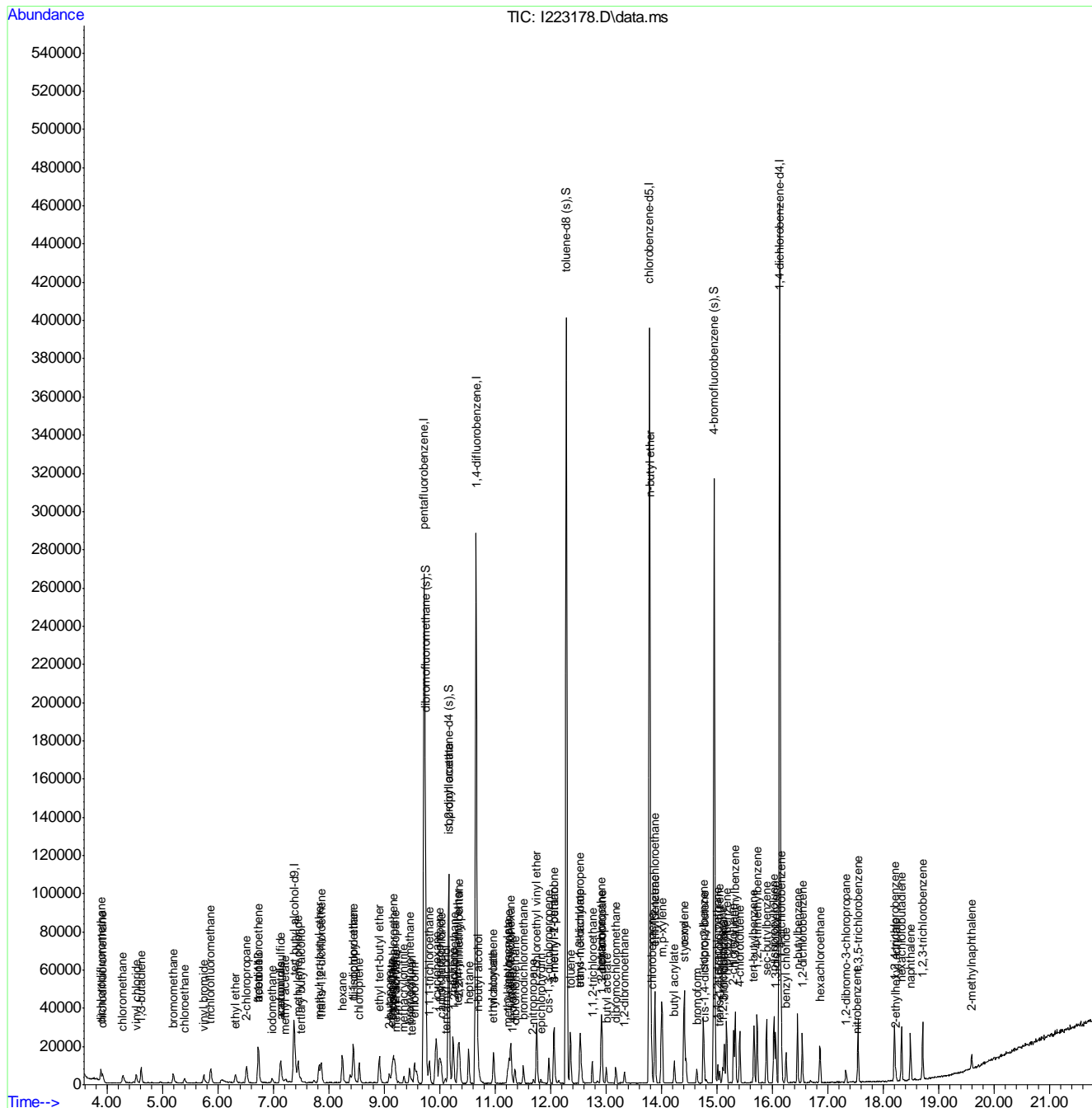
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
94) bromoform	14.634	173	3228	4.00	ug/L	99
95) isopropylbenzene	14.754	105	19237	3.98	ug/L	98
98) 1,1,2,2-tetrachloroethane	15.015	83	4469	3.98	ug/L	97
99) trans-1,4-dichloro-2-b...	15.047	53	1081	3.85	ug/L	97
100) 1,2,3-trichloropropane	15.099	110	1108	3.73	ug/L	90
101) bromobenzene	15.130	156	5691	4.13	ug/L	93
102) n-propylbenzene	15.167	91	23225	4.06	ug/L	99
103) 2-chlorotoluene	15.298	126	5120	4.26	ug/L	88
104) 4-chlorotoluene	15.408	91	13909	4.07	ug/L	96
105) 1,3,5-trimethylbenzene	15.329	105	17906	4.16	ug/L	99
106) tert-butylbenzene	15.664	134	3131	4.02	ug/L #	91
107) 1,2,4-trimethylbenzene	15.721	105	17951	4.07	ug/L	97
108) sec-butylbenzene	15.889	105	21516	4.02	ug/L	97
109) p-isopropyltoluene	16.030	119	18768	3.90	ug/l	98
110) benzyl chloride	16.244	91	10717	3.97	ug/L	95
111) 1,3-dichlorobenzene	16.061	146	10674	4.06	ug/L	99
112) 1,4-dichlorobenzene	16.156	146	11005	4.10	ug/L	96
113) 1,2-dichlorobenzene	16.537	146	10429	4.05	ug/L	97
114) n-butylbenzene	16.448	92	9980	3.99	ug/L	99
115) hexachloroethane	16.856	201	3672	4.01	ug/L	95
116) 1,2-dibromo-3-chloropr...	17.322	157	1323	3.70	ug/L	94
117) nitrobenzene	17.521	77	403	3.28	ug/L #	49
118) 1,3,5-trichlorobenzene	17.542	180	10294	3.94	ug/L	93
119) 1,2,4-trichlorobenzene	18.201	180	9335	3.97	ug/L	98
120) 2-ethylhexyl acrylate	18.227	55	1548	0.81	ug/L	94
121) hexachlorobutadiene	18.326	225	6284	4.20	ug/L	96
122) naphthalene	18.488	128	18133	3.99	ug/L	97
123) 1,2,3-trichlorobenzene	18.708	180	9247	4.12	ug/L	94
124) 2-methylnaphthalene	19.587	142	3360	1.86	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223178.D  
 Acq On : 27 Nov 2018 7:51 pm  
 Operator : thienn  
 Sample : IC8986-4  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 28 13:31:17 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223179.D  
 Acq On : 27 Nov 2018 8:21 pm  
 Operator : thienn  
 Sample : IC8986-8  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 28 12:54:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.374	65	57167	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	177523	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	226737	50.00	ug/L	0.00
73) chlorobenzene-d5	13.786	117	188963	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	109400	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	70072	50.23	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.46%
52) 1,2-dichloroethane-d4 (s)	10.162	65	72263	51.08	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	102.16%
74) toluene-d8 (s)	12.280	98	241205	49.79	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.58%
97) 4-bromofluorobenzene (s)	14.947	95	84595	50.72	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	101.44%
Target Compounds						
					Qvalue	
2) tertiary butyl alcohol	7.494	59	4938	41.52	ug/L	95
3) 1,4-dioxane	11.307	88	2896	217.37	ug/L	93
5) dichlorodifluoromethane	3.891	85	12278	8.09	ug/L	98
6) chlorodifluoromethane	3.922	51	11960	8.51	ug/L	97
7) chloromethane	4.283	50	10548	7.35	ug/L	97
8) vinyl chloride	4.529	62	9571	7.92	ug/L	95
9) 1,3-butadiene	4.618	54	6813	8.55	ug/L	94
10) bromomethane	5.198	94	6613	8.22	ug/L	91
11) chloroethane	5.402	64	5935	8.48	ug/L	97
12) vinyl bromide	5.747	106	7369	8.41	ug/L	95
13) trichlorofluoromethane	5.873	101	14953	8.08	ug/L	97
14) ethyl ether	6.317	74	4326	8.62	ug/L	98
15) 2-chloropropane	6.511	63	3588	8.88	ug/L #	82
16) acrolein	6.532	56	1017	6.45	ug/L	86
17) freon 113	6.731	151	7945	8.76	ug/L	93
18) 1,1-dichloroethene	6.725	61	13985	8.83	ug/L	92
19) acetone	6.720	43	9957	34.12	ug/L	99
20) iodomethane	6.976	142	6495	5.43	ug/L	99
21) carbon disulfide	7.133	76	29142	7.79	ug/L	98
22) acetonitrile	7.118	41	12419	83.26	ug/L	97
23) methyl acetate	7.222	74	1138	9.23	ug/L #	45
24) methylene chloride	7.447	84	9752	8.04	ug/L	95
25) acrylonitrile	7.730	53	2519	7.61	ug/L	91
26) methyl tert butyl ether	7.824	73	23303	8.36	ug/L	98
27) trans-1,2-dichloroethene	7.860	61	13077	8.69	ug/L	96
28) hexane	8.247	57	15412	8.12	ug/L	96
29) 1,1-dichloroethane	8.436	63	17089	8.84	ug/L	96
30) vinyl acetate	8.389	86	1298	7.24	ug/L #	22
31) di-isopropyl ether	8.446	45	29622	8.58	ug/L	95
32) chloroprene	8.551	53	14599	8.97	ug/L	97
33) ethyl tert-butyl ether	8.912	59	28041	8.41	ug/L	98
34) 2-butanone	9.089	72	3576	31.90	ug/L	94

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223179.D  
 Acq On : 27 Nov 2018 8:21 pm  
 Operator : thienn  
 Sample : IC8986-8  
 Misc : MS30885,VI8986,5.0,,,,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 28 12:54:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) 2,2-dichloropropane	9.189	77	14913	8.55	ug/L	98
36) ethyl acetate	9.121	45	953	6.63	ug/L #	77
37) cis-1,2-dichloroethene	9.157	96	10944	8.74	ug/L	97
38) propionitrile	9.142	54	13778	83.83	ug/L	93
39) methyl acrylate	9.205	85	994	6.79	ug/L #	75
40) methacrylonitrile	9.351	67	3176	8.13	ug/L	97
41) bromochloromethane	9.456	128	4948	9.16	ug/L	94
42) tetrahydrofuran	9.497	71	1059	8.20	ug/L	86
43) chloroform	9.550	83	17415	8.70	ug/L	96
44) carbon tetrachloride	10.026	117	14463	8.82	ug/L	98
45) 1,1-dichloropropene	9.994	75	12924	8.67	ug/L	97
48) 1,1,1-trichloroethane	9.811	97	16146	9.02	ug/L	96
49) cyclohexane	9.942	84	13156	8.05	ug/L	96
50) tert-amyl alcohol	10.094	55	1692	40.55	ug/L	84
53) isopropyl acetate	10.156	87	1638	7.97	ug/L #	58
54) 1,2-dichloroethane	10.256	62	12400	8.32	ug/L	91
55) benzene	10.240	78	38197	8.62	ug/L	99
56) 2,2,4-trimethylpentane	10.350	57	39687	8.75	ug/L	97
57) tert-amyl methyl ether	10.324	87	6544	8.66	ug/L #	83
58) heptane	10.523	57	8295	9.15	ug/L	96
59) n-butyl alcohol	10.690	56	14176	401.15	ug/L	98
60) trichloroethene	10.972	95	10146	8.94	ug/L	90
61) ethyl acrylate	10.957	55	10143	8.34	ug/L	97
62) methylcyclohexane	11.281	83	16451	8.45	ug/L	94
63) 1,2-dichloropropane	11.250	63	9387	8.61	ug/L	92
64) methyl methacrylate	11.218	100	2002	7.83	ug/L	95
65) dibromomethane	11.354	93	5573	8.44	ug/L	98
66) bromodichloromethane	11.511	83	13342	8.83	ug/L	96
67) 2-nitropropane	11.689	41	2054	7.87	ug/L	92
68) 2-chloroethyl vinyl ether	11.746	63	27553	43.26	ug/L	97
69) epichlorohydrin	11.820	57	4510	40.78	ug/L	91
70) cis-1,3-dichloropropene	11.966	75	15109	8.52	ug/L	95
71) 4-methyl-2-pentanone	12.060	58	12035	36.00	ug/L	95
72) 3-methyl-1-butanol	12.060	70	4973	168.96	ug/L	97
75) toluene	12.358	92	22761	8.70	ug/L	95
76) trans-1,3-dichloropropene	12.531	75	13646	8.67	ug/L	98
77) ethyl methacrylate	12.526	69	10126	8.97	ug/L	92
78) 1,1,2-trichloroethane	12.745	83	6458	9.13	ug/L	98
79) 1,3-dichloropropane	12.928	76	12230	8.76	ug/L	96
80) tetrachloroethene	12.918	166	11344	8.64	ug/L	96
81) 2-hexanone	12.913	58	11762	35.85	ug/L	89
82) butyl acetate	13.002	56	4930	8.62	ug/L	99
83) n-butyl ether	13.791	57	36936	8.55	ug/L	97
84) dibromochloromethane	13.180	129	9932	8.59	ug/L	96
85) 1,2-dibromoethane	13.331	107	8785	8.65	ug/L	100
86) chlorobenzene	13.818	112	24105	8.65	ug/L	98
87) 1,1,1,2-tetrachloroethane	13.880	131	9408	8.98	ug/L	92
88) ethylbenzene	13.880	91	41922	8.60	ug/L	100
89) m,p-xylene	14.001	106	32874	17.16	ug/L	98
90) o-xylene	14.403	106	15947	8.71	ug/L	97



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223179.D  
 Acq On : 27 Nov 2018 8:21 pm  
 Operator : thienn  
 Sample : IC8986-8  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 28 12:54:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) styrene	14.414	104	27074	8.72	ug/L	99
92) butyl acrylate	14.231	55	14603	8.33	ug/L	99
93) cis-1,4-dichloro-2-butene	14.770	88	3954	8.42	ug/L	94
94) bromoform	14.634	173	6780	8.45	ug/L	98
95) isopropylbenzene	14.754	105	41159	8.57	ug/L	99
98) 1,1,2,2-tetrachloroethane	15.015	83	9707	8.82	ug/L	97
99) trans-1,4-dichloro-2-b...	15.047	53	2565	9.31	ug/L	91
100) 1,2,3-trichloropropane	15.099	110	2584	8.87	ug/L	91
101) bromobenzene	15.130	156	11885	8.80	ug/L	96
102) n-propylbenzene	15.167	91	49243	8.78	ug/L	98
103) 2-chlorotoluene	15.298	126	10390	8.82	ug/L	95
104) 4-chlorotoluene	15.408	91	28928	8.63	ug/L	97
105) 1,3,5-trimethylbenzene	15.329	105	37155	8.81	ug/L	96
106) tert-butylbenzene	15.669	134	6855	8.98	ug/L	95
107) 1,2,4-trimethylbenzene	15.721	105	36736	8.50	ug/L	99
108) sec-butylbenzene	15.894	105	45123	8.60	ug/L	98
109) p-isopropyltoluene	16.030	119	39972	8.47	ug/l	98
110) benzyl chloride	16.244	91	22222	8.39	ug/L	95
111) 1,3-dichlorobenzene	16.061	146	21514	8.35	ug/L	95
112) 1,4-dichlorobenzene	16.156	146	22113	8.40	ug/L	96
113) 1,2-dichlorobenzene	16.537	146	21629	8.57	ug/L	99
114) n-butylbenzene	16.448	92	21121	8.60	ug/L	96
115) hexachloroethane	16.856	201	7837	8.73	ug/L	97
116) 1,2-dibromo-3-chloropr...	17.327	157	2959	8.43	ug/L	85
117) nitrobenzene	17.515	77	890	7.38	ug/L	98
118) 1,3,5-trichlorobenzene	17.542	180	21999	8.59	ug/L	98
119) 1,2,4-trichlorobenzene	18.201	180	19496	8.46	ug/L	99
120) 2-ethylhexyl acrylate	18.227	55	3118	1.66	ug/L	98
121) hexachlorobutadiene	18.326	225	12855	8.76	ug/L	97
122) naphthalene	18.488	128	37654	8.45	ug/L	98
123) 1,2,3-trichlorobenzene	18.708	180	19464	8.84	ug/L	99
124) 2-methylnaphthalene	19.587	142	6525	3.69	ug/L	94

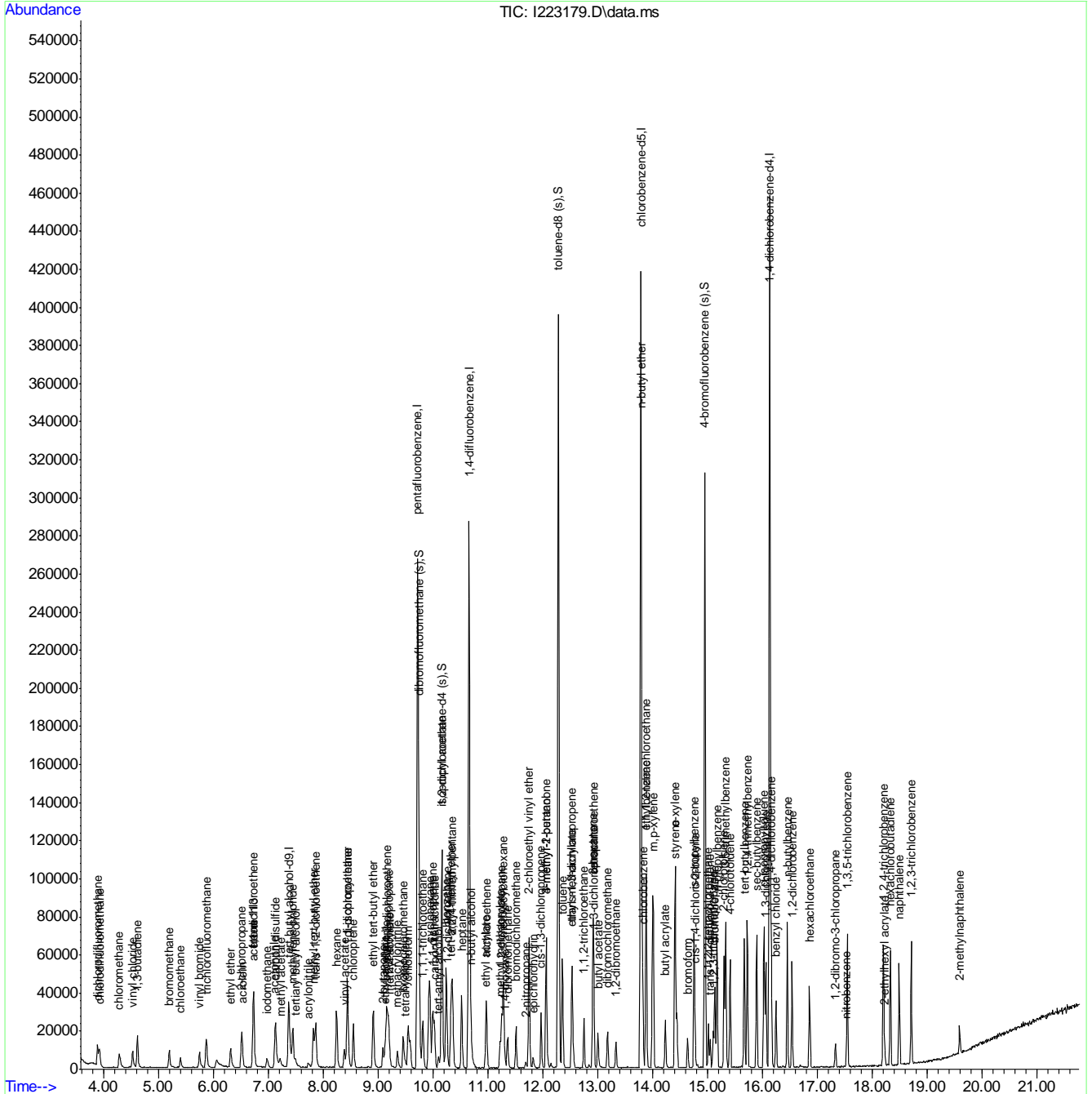
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
Data File : I223179.D  
Acq On : 27 Nov 2018 8:21 pm  
Operator : thienn  
Sample : IC8986-8  
Misc : MS30885,VI8986,5.0,,,,,1  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 28 12:54:22 2018  
Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Wed Nov 28 12:53:10 2018  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223180.D  
 Acq On : 27 Nov 2018 8:51 pm  
 Operator : thienn  
 Sample : IC8986-20  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 28 12:53:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.374	65	60757	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	178537	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	231620	50.00	ug/L	0.00
73) chlorobenzene-d5	13.781	117	192374	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	115697	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	70783	50.45	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.90%
52) 1,2-dichloroethane-d4 (s)	10.162	65	73197	50.64	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	101.28%
74) toluene-d8 (s)	12.280	98	249239	50.54	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	101.08%
97) 4-bromofluorobenzene (s)	14.947	95	87552	49.64	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	99.28%
Target Compounds						
						Qvalue
2) tertiary butyl alcohol	7.494	59	12593	99.62	ug/L	94
3) 1,4-dioxane	11.302	88	7334	517.94	ug/L	94
5) dichlorodifluoromethane	3.890	85	32106	21.03	ug/L	99
6) chlorodifluoromethane	3.922	51	29986	21.21	ug/L	99
7) chloromethane	4.283	50	26635	18.44	ug/L	99
8) vinyl chloride	4.529	62	24948	20.52	ug/L	95
9) 1,3-butadiene	4.617	54	17316	21.61	ug/L	95
10) bromomethane	5.193	94	15986	19.75	ug/L	95
11) chloroethane	5.397	64	15576	22.14	ug/L	99
12) vinyl bromide	5.747	106	19632	22.29	ug/L	98
13) trichlorofluoromethane	5.873	101	38133	20.49	ug/L	96
14) ethyl ether	6.312	74	11049	21.88	ug/L	94
15) 2-chloropropane	6.516	63	9402	23.13	ug/L	98
16) acrolein	6.516	56	3141	19.80	ug/L	94
17) freon 113	6.730	151	19068	20.91	ug/L	97
18) 1,1-dichloroethene	6.730	61	34307	21.54	ug/L	97
19) acetone	6.715	43	24864	84.71	ug/L	98
20) iodomethane	6.976	142	21998	18.17	ug/L	94
21) carbon disulfide	7.128	76	69460	18.46	ug/L	99
22) acetonitrile	7.123	41	31184	207.87	ug/L	91
23) methyl acetate	7.212	74	3028	19.27	ug/L	94
24) methylene chloride	7.447	84	23654	19.38	ug/L	96
25) acrylonitrile	7.719	53	6886	20.68	ug/L	95
26) methyl tert butyl ether	7.824	73	60125	21.45	ug/L	99
27) trans-1,2-dichloroethene	7.860	61	32787	21.66	ug/L	97
28) hexane	8.242	57	39016	20.44	ug/L	98
29) 1,1-dichloroethane	8.436	63	41243	21.21	ug/L	98
30) vinyl acetate	8.383	86	3660	20.30	ug/L #	95
31) di-isopropyl ether	8.446	45	73396	21.14	ug/L	96
32) chloroprene	8.551	53	36442	22.27	ug/L	99
33) ethyl tert-butyl ether	8.911	59	70796	21.12	ug/L	99
34) 2-butanone	9.084	72	9429	83.62	ug/L #	80

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223180.D  
 Acq On : 27 Nov 2018 8:51 pm  
 Operator : thienn  
 Sample : IC8986-20  
 Misc : MS30885,VI8986,5.0,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 28 12:53:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) 2,2-dichloropropane	9.189	77	36440	20.78	ug/L	96
36) ethyl acetate	9.115	45	3029	20.94	ug/L #	85
37) cis-1,2-dichloroethene	9.157	96	26335	20.90	ug/L	96
38) propionitrile	9.142	54	34122	206.43	ug/L	97
39) methyl acrylate	9.204	85	2951	20.05	ug/L	95
40) methacrylonitrile	9.351	67	8240	20.97	ug/L #	84
41) bromochloromethane	9.455	128	12346	22.72	ug/L	90
42) tetrahydrofuran	9.487	71	2571	19.79	ug/L	95
43) chloroform	9.544	83	43044	21.38	ug/L	99
44) carbon tetrachloride	10.026	117	35816	21.72	ug/L	98
45) 1,1-dichloropropene	9.994	75	31941	21.31	ug/L	96
48) 1,1,1-trichloroethane	9.816	97	38625	21.46	ug/L	98
49) cyclohexane	9.942	84	33831	20.57	ug/L	97
50) tert-amyl alcohol	10.099	55	4282	102.05	ug/L	92
53) isopropyl acetate	10.151	87	4201	20.02	ug/L #	91
54) 1,2-dichloroethane	10.250	62	30514	20.05	ug/L	95
55) benzene	10.235	78	94269	20.83	ug/L	99
56) 2,2,4-trimethylpentane	10.355	57	97151	20.97	ug/L	99
57) tert-amyl methyl ether	10.329	87	16375	21.20	ug/L	97
58) heptane	10.522	57	20464	22.10	ug/L	97
59) n-butyl alcohol	10.685	56	40458	1120.74	ug/L	93
60) trichloroethene	10.972	95	24857	21.43	ug/L	97
61) ethyl acrylate	10.951	55	25658	20.66	ug/L	99
62) methylcyclohexane	11.281	83	42109	21.18	ug/L	98
63) 1,2-dichloropropane	11.249	63	23215	20.85	ug/L	97
64) methyl methacrylate	11.218	100	5362	20.54	ug/L	95
65) dibromomethane	11.354	93	13934	20.65	ug/L	95
66) bromodichloromethane	11.506	83	32780	21.23	ug/L	95
67) 2-nitropropane	11.689	41	5485	20.58	ug/L	99
68) 2-chloroethyl vinyl ether	11.746	63	70174	107.87	ug/L	100
69) epichlorohydrin	11.820	57	11247	99.55	ug/L	98
70) cis-1,3-dichloropropene	11.966	75	38343	21.16	ug/L	93
71) 4-methyl-2-pentanone	12.060	58	29969	87.76	ug/L	97
72) 3-methyl-1-butanol	12.055	70	12205	405.93	ug/L	93
75) toluene	12.353	92	55539	20.86	ug/L	97
76) trans-1,3-dichloropropene	12.531	75	33741	21.06	ug/L	99
77) ethyl methacrylate	12.531	69	25725	22.38	ug/L	99
78) 1,1,2-trichloroethane	12.745	83	16074	22.32	ug/L	97
79) 1,3-dichloropropane	12.928	76	30585	21.51	ug/L	98
80) tetrachloroethene	12.918	166	28015	20.95	ug/L	95
81) 2-hexanone	12.907	58	28960	86.71	ug/L	99
82) butyl acetate	13.002	56	12738	21.88	ug/L	96
83) n-butyl ether	13.791	57	89919	20.45	ug/L	99
84) dibromochloromethane	13.174	129	25290	21.48	ug/L	99
85) 1,2-dibromoethane	13.331	107	22074	21.36	ug/L	98
86) chlorobenzene	13.817	112	59344	20.92	ug/L	99
87) 1,1,1,2-tetrachloroethane	13.880	131	22847	21.42	ug/L	96
88) ethylbenzene	13.880	91	102489	20.66	ug/L	98
89) m,p-xylene	14.006	106	81162	41.60	ug/L	95
90) o-xylene	14.403	106	38989	20.91	ug/L	94

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223180.D  
 Acq On : 27 Nov 2018 8:51 pm  
 Operator : thienn  
 Sample : IC8986-20  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 28 12:53:22 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:53:10 2018  
 Response via : Initial Calibration

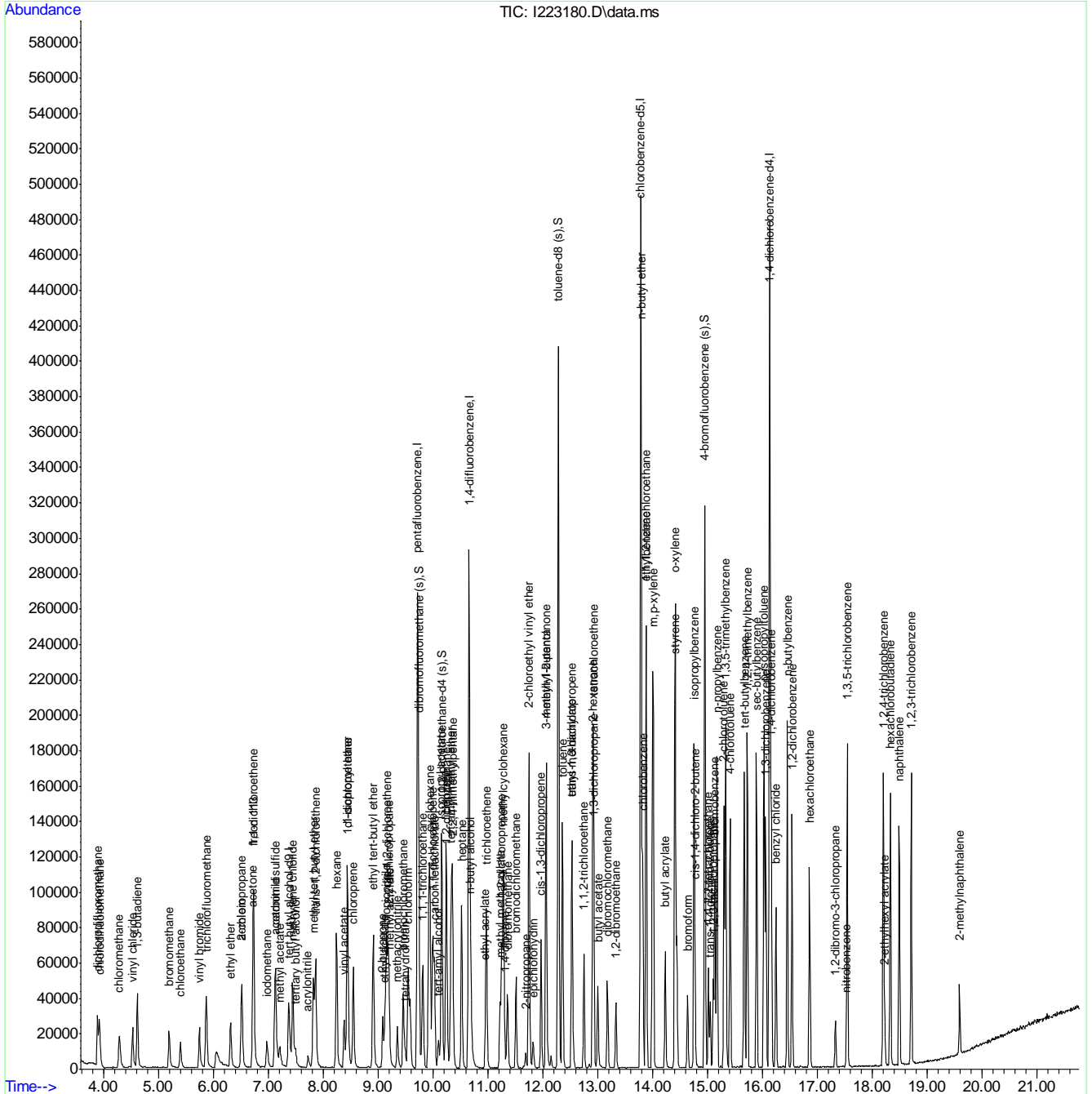
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) styrene	14.414	104	66528	21.04	ug/L	98
92) butyl acrylate	14.231	55	38824	21.75	ug/L	99
93) cis-1,4-dichloro-2-butene	14.769	88	10054	21.03	ug/L	97
94) bromoform	14.633	173	17668	21.64	ug/L	98
95) isopropylbenzene	14.754	105	103238	21.12	ug/L	99
98) 1,1,2,2-tetrachloroethane	15.015	83	24199	20.80	ug/L	100
99) trans-1,4-dichloro-2-b...	15.047	53	6126	21.03	ug/L	94
100) 1,2,3-trichloropropane	15.099	110	6423	20.84	ug/L	95
101) bromobenzene	15.130	156	29145	20.40	ug/L	94
102) n-propylbenzene	15.167	91	121831	20.55	ug/L	99
103) 2-chlorotoluene	15.298	126	25087	20.14	ug/L	99
104) 4-chlorotoluene	15.407	91	73277	20.67	ug/L	99
105) 1,3,5-trimethylbenzene	15.329	105	93027	20.85	ug/L	99
106) tert-butylbenzene	15.669	134	17215	21.32	ug/L	91
107) 1,2,4-trimethylbenzene	15.721	105	93166	20.38	ug/L	99
108) sec-butylbenzene	15.894	105	116356	20.97	ug/L	98
109) p-isopropyltoluene	16.025	119	103616	20.76	ug/l	98
110) benzyl chloride	16.244	91	57589	20.57	ug/L	100
111) 1,3-dichlorobenzene	16.061	146	56399	20.69	ug/L	99
112) 1,4-dichlorobenzene	16.155	146	57261	20.57	ug/L	100
113) 1,2-dichlorobenzene	16.537	146	55735	20.89	ug/L	98
114) n-butylbenzene	16.448	92	53936	20.77	ug/L	98
115) hexachloroethane	16.856	201	20274	21.36	ug/L	98
116) 1,2-dibromo-3-chloropr...	17.327	157	7256	19.55	ug/L	95
117) nitrobenzene	17.520	77	2497	19.58	ug/L	100
118) 1,3,5-trichlorobenzene	17.541	180	56685	20.92	ug/L	99
119) 1,2,4-trichlorobenzene	18.200	180	52254	21.44	ug/L	98
120) 2-ethylhexyl acrylate	18.221	55	8371	4.22	ug/L	96
121) hexachlorobutadiene	18.326	225	32109	20.70	ug/L	98
122) naphthalene	18.488	128	96578	20.50	ug/L	98
123) 1,2,3-trichlorobenzene	18.708	180	49571	21.28	ug/L	97
124) 2-methylnaphthalene	19.586	142	16725	8.94	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
Data File : I223180.D  
Acq On : 27 Nov 2018 8:51 pm  
Operator : thienn  
Sample : IC8986-20  
Misc : MS30885,VI8986,5.0,,,,,1  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 28 12:53:22 2018  
Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Wed Nov 28 12:53:10 2018  
Response via : Initial Calibration



7.7.6

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223181.D  
 Acq On : 27 Nov 2018 9:20 pm  
 Operator : thienn  
 Sample : ICC8986-50  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 28 12:50:39 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.374	65	65148	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	183720	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	241012	50.00	ug/L	0.00
73) chlorobenzene-d5	13.786	117	199224	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	122046	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	72211	50.02	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.04%
52) 1,2-dichloroethane-d4 (s)	10.162	65	75307	50.07	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	100.14%
74) toluene-d8 (s)	12.280	98	255884	50.10	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.20%
97) 4-bromofluorobenzene (s)	14.947	95	92076	49.49	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	98.98%
Target Compounds						
						Qvalue
2) tertiary butyl alcohol	7.494	59	34280	252.91	ug/L	98
3) 1,4-dioxane	11.302	88	18969	1249.34	ug/L	100
5) dichlorodifluoromethane	3.890	85	82853	52.75	ug/L	100
6) chlorodifluoromethane	3.922	51	77914	53.54	ug/L	100
7) chloromethane	4.283	50	69250	46.60	ug/L	100
8) vinyl chloride	4.529	62	64684	51.69	ug/L	100
9) 1,3-butadiene	4.617	54	45024	54.60	ug/L	100
10) bromomethane	5.193	94	40805	48.98	ug/L	100
11) chloroethane	5.397	64	38247	52.83	ug/L	100
12) vinyl bromide	5.747	106	50347	55.54	ug/L	100
13) trichlorofluoromethane	5.868	101	100710	52.58	ug/L	100
14) ethyl ether	6.312	74	28730	55.30	ug/L	100
15) 2-chloropropane	6.516	63	23431	56.01	ug/L	100
16) acrolein	6.516	56	8859	54.27	ug/L	100
17) freon 113	6.731	151	49395	52.64	ug/L	100
18) 1,1-dichloroethene	6.725	61	86853	52.99	ug/L	100
19) acetone	6.715	43	63698	210.89	ug/L	100
20) iodomethane	6.976	142	66995	53.67	ug/L	100
21) carbon disulfide	7.128	76	176684	45.64	ug/L	100
22) acetonitrile	7.118	41	79332	513.90	ug/L	100
23) methyl acetate	7.206	74	8566	47.49	ug/L	100
24) methylene chloride	7.442	84	60413	48.11	ug/L	100
25) acrylonitrile	7.724	53	18124	52.90	ug/L	100
26) methyl tert butyl ether	7.824	73	155389	53.88	ug/L	100
27) trans-1,2-dichloroethene	7.860	61	83571	53.66	ug/L	100
28) hexane	8.242	57	98027	49.90	ug/L	100
29) 1,1-dichloroethane	8.436	63	102884	51.42	ug/L	100
30) vinyl acetate	8.383	86	9922	53.47	ug/L	100
31) di-isopropyl ether	8.446	45	190053	53.20	ug/L	100
32) chloroprene	8.545	53	92917	55.18	ug/L	100
33) ethyl tert-butyl ether	8.912	59	184714	53.54	ug/L	100
34) 2-butanone	9.079	72	25416	219.05	ug/L	100

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223181.D  
 Acq On : 27 Nov 2018 9:20 pm  
 Operator : thienn  
 Sample : ICC8986-50  
 Misc : MS30885,VI8986,5.0,,,,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 28 12:50:39 2018

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M

Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um

QLast Update : Wed Nov 28 12:50:11 2018

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) 2,2-dichloropropane	9.189	77	90897	50.37	ug/L	100
36) ethyl acetate	9.121	45	8039	54.01	ug/L	100
37) cis-1,2-dichloroethene	9.157	96	67177	51.81	ug/L	100
38) propionitrile	9.136	54	87315	513.33	ug/L	100
39) methyl acrylate	9.199	85	8450	55.80	ug/L	100
40) methacrylonitrile	9.351	67	22466	55.56	ug/L	100
41) bromochloromethane	9.455	128	30983	55.40	ug/L	100
42) tetrahydrofuran	9.492	71	6656	49.78	ug/L	100
43) chloroform	9.544	83	109285	52.76	ug/L	100
44) carbon tetrachloride	10.026	117	90565	53.38	ug/L	100
45) 1,1-dichloropropene	9.994	75	84007	54.47	ug/L	100
48) 1,1,1-trichloroethane	9.816	97	97406	52.58	ug/L	100
49) cyclohexane	9.942	84	84523	49.94	ug/L	100
50) tert-amyl alcohol	10.099	55	11866	274.81	ug/L	100
53) isopropyl acetate	10.151	87	11857	54.30	ug/L	100
54) 1,2-dichloroethane	10.250	62	78466	49.56	ug/L	100
55) benzene	10.240	78	241521	51.30	ug/L	100
56) 2,2,4-trimethylpentane	10.355	57	243178	50.45	ug/L	100
57) tert-amyl methyl ether	10.329	87	42313	52.65	ug/L	100
58) heptane	10.522	57	50398	52.30	ug/L	100
59) n-butyl alcohol	10.685	56	102871	2738.62	ug/L	100
60) trichloroethene	10.972	95	63521	52.64	ug/L	100
61) ethyl acrylate	10.951	55	69289	53.60	ug/L	100
62) methylcyclohexane	11.281	83	107265	51.85	ug/L	100
63) 1,2-dichloropropane	11.249	63	60142	51.91	ug/L	100
64) methyl methacrylate	11.218	100	14863	54.72	ug/L	100
65) dibromomethane	11.354	93	35998	51.26	ug/L	100
66) bromodichloromethane	11.511	83	84631	52.67	ug/L	100
67) 2-nitropropane	11.689	41	14807	53.40	ug/L	100
68) 2-chloroethyl vinyl ether	11.746	63	183023	270.36	ug/L	100
69) epichlorohydrin	11.820	57	29222	248.58	ug/L	100
70) cis-1,3-dichloropropene	11.966	75	97561	51.75	ug/L	100
71) 4-methyl-2-pentanone	12.060	58	76900	216.43	ug/L	100
72) 3-methyl-1-butanol	12.055	70	33344	1065.77	ug/L	100
75) toluene	12.358	92	140631	51.00	ug/L	100
76) trans-1,3-dichloropropene	12.531	75	86461	52.10	ug/L	100
77) ethyl methacrylate	12.531	69	64346	54.06	ug/L	100
78) 1,1,2-trichloroethane	12.751	83	42156	56.53	ug/L	100
79) 1,3-dichloropropane	12.928	76	76864	52.20	ug/L	100
80) tetrachloroethene	12.918	166	71605	51.72	ug/L	100
81) 2-hexanone	12.907	58	75911	219.48	ug/L	100
82) butyl acetate	13.002	56	32690	54.22	ug/L	100
83) n-butyl ether	13.791	57	228731	50.23	ug/L	100
84) dibromochloromethane	13.179	129	65396	53.65	ug/L	100
85) 1,2-dibromoethane	13.331	107	58082	54.27	ug/L	100
86) chlorobenzene	13.817	112	150447	51.21	ug/L	100
87) 1,1,1,2-tetrachloroethane	13.880	131	59902	54.22	ug/L	100
88) ethylbenzene	13.880	91	260298	50.67	ug/L	100
89) m,p-xylene	14.006	106	205051	101.50	ug/L	100
90) o-xylene	14.403	106	101602	52.63	ug/L	100



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223181.D  
 Acq On : 27 Nov 2018 9:20 pm  
 Operator : thienn  
 Sample : ICC8986-50  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 28 12:50:39 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) styrene	14.408	104	172884	52.80	ug/L	100
92) butyl acrylate	14.231	55	100199	54.20	ug/L	100
93) cis-1,4-dichloro-2-butene	14.769	88	25823	52.16	ug/L	100
94) bromoform	14.633	173	47214	55.83	ug/L	100
95) isopropylbenzene	14.754	105	263065	51.96	ug/L	100
98) 1,1,2,2-tetrachloroethane	15.015	83	64444	52.51	ug/L	100
99) trans-1,4-dichloro-2-b...	15.047	53	16492	53.68	ug/L	100
100) 1,2,3-trichloropropane	15.099	110	16683	51.31	ug/L	100
101) bromobenzene	15.130	156	75742	50.27	ug/L	100
102) n-propylbenzene	15.167	91	315832	50.49	ug/L	100
103) 2-chlorotoluene	15.298	126	65757	50.04	ug/L	100
104) 4-chlorotoluene	15.407	91	184609	49.37	ug/L	100
105) 1,3,5-trimethylbenzene	15.329	105	236332	50.21	ug/L	100
106) tert-butylbenzene	15.669	134	44702	52.48	ug/L	100
107) 1,2,4-trimethylbenzene	15.721	105	241376	50.05	ug/L	100
108) sec-butylbenzene	15.894	105	300121	51.27	ug/L	100
109) p-isopropyltoluene	16.030	119	268049	50.91	ug/l	100
110) benzyl chloride	16.244	91	147385	49.90	ug/L	100
111) 1,3-dichlorobenzene	16.061	146	144176	50.15	ug/L	100
112) 1,4-dichlorobenzene	16.155	146	144866	49.33	ug/L	100
113) 1,2-dichlorobenzene	16.537	146	143303	50.92	ug/L	100
114) n-butylbenzene	16.448	92	141015	51.49	ug/L	100
115) hexachloroethane	16.856	201	54930	54.85	ug/L	100
116) 1,2-dibromo-3-chloropr...	17.327	157	20444	52.23	ug/L	100
117) nitrobenzene	17.515	77	7001	52.05	ug/L	100
118) 1,3,5-trichlorobenzene	17.541	180	143456	50.19	ug/L	100
119) 1,2,4-trichlorobenzene	18.200	180	129710	50.46	ug/L	100
120) 2-ethylhexyl acrylate	18.221	55	21424	10.23	ug/L	100
121) hexachlorobutadiene	18.326	225	84700	51.76	ug/L	100
122) naphthalene	18.488	128	258072	51.93	ug/L	100
123) 1,2,3-trichlorobenzene	18.708	180	127357	51.83	ug/L	100
124) 2-methylnaphthalene	19.586	142	43391	21.98	ug/L	100

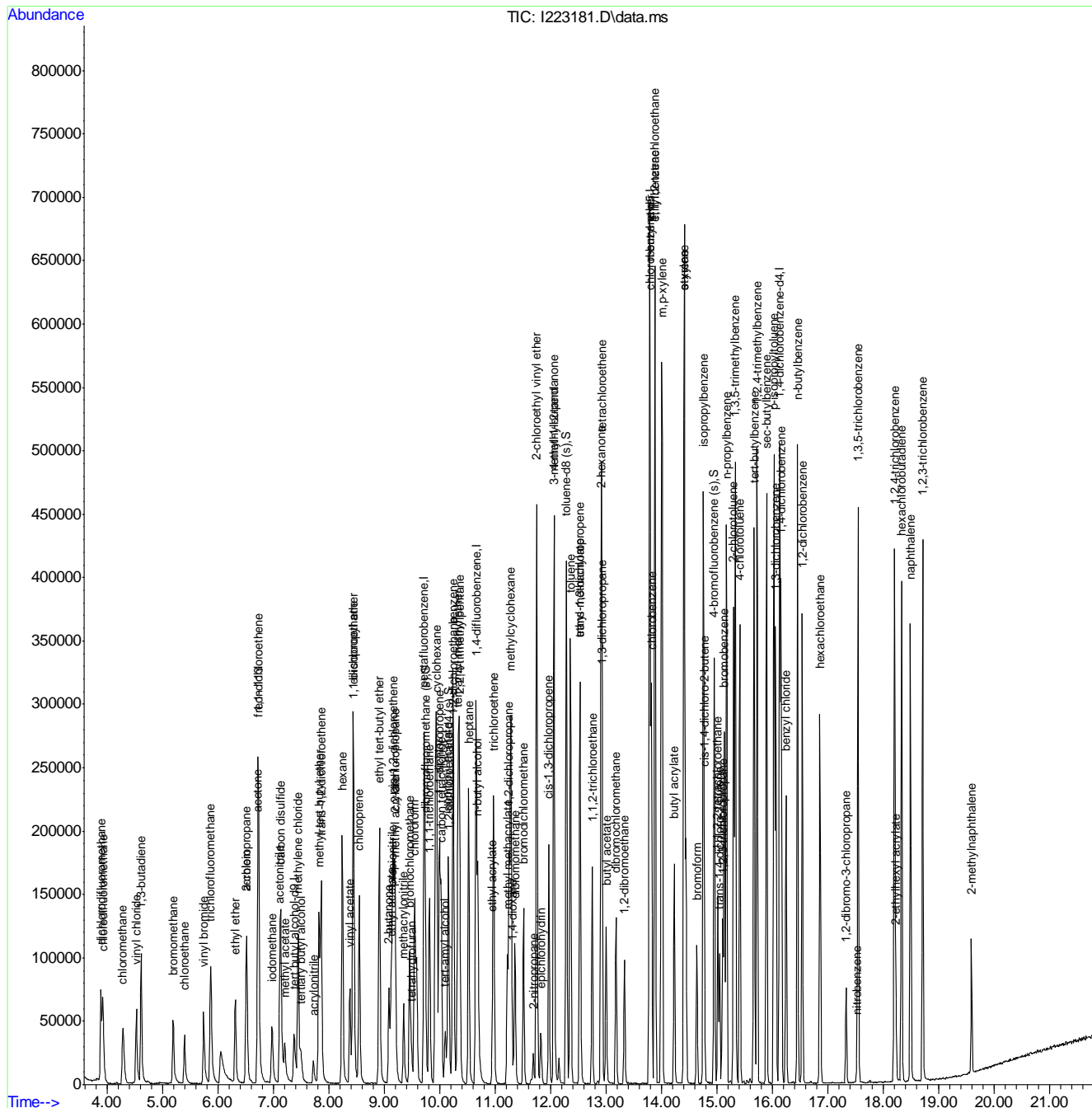
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
Data File : I223181.D  
Acq On : 27 Nov 2018 9:20 pm  
Operator : thienn  
Sample : ICC8986-50  
Misc : MS30885,VI8986,5.0,,,,,1  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 28 12:50:39 2018  
Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Wed Nov 28 12:50:11 2018  
Response via : Initial Calibration



7.7.7

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223182.D  
 Acq On : 27 Nov 2018 9:50 pm  
 Operator : thienn  
 Sample : IC8986-100  
 Misc : MS30885,VI8986,5.0,,,,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 28 12:50:51 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) tert butyl alcohol-d9	7.379	65	69203	500.00	ug/L	0.00	
4) pentafluorobenzene	9.717	168	189280	50.00	ug/L	0.00	
51) 1,4-difluorobenzene	10.653	114	248700	50.00	ug/L	0.00	
73) chlorobenzene-d5	13.781	117	212816	50.00	ug/L	0.00	
96) 1,4-dichlorobenzene-d4	16.129	152	134038	50.00	ug/L	0.00	
System Monitoring Compounds							
47) dibromofluoromethane (s)	9.738	113	74258	49.93	ug/L	0.00	
Spiked Amount	50.000	Range	75 - 127	Recovery	=	99.86%	
52) 1,2-dichloroethane-d4 (s)	10.162	65	74937	48.29	ug/L	0.00	
Spiked Amount	50.000	Range	75 - 130	Recovery	=	96.58%	
74) toluene-d8 (s)	12.280	98	268266	49.17	ug/L	0.00	
Spiked Amount	50.000	Range	80 - 120	Recovery	=	98.34%	
97) 4-bromofluorobenzene (s)	14.947	95	97420	47.68	ug/L	0.00	
Spiked Amount	50.000	Range	79 - 127	Recovery	=	95.36%	
Target Compounds							
							Qvalue
2) tertiary butyl alcohol	7.499	59	78146	542.75	ug/L		98
3) 1,4-dioxane	11.302	88	40972	2540.39	ug/L		99
5) dichlorodifluoromethane	3.891	85	176184	108.87	ug/L		99
6) chlorodifluoromethane	3.922	51	166700	111.19	ug/L		98
7) chloromethane	4.283	50	157470	102.84	ug/L		100
8) vinyl chloride	4.529	62	142534	110.56	ug/L		98
9) 1,3-butadiene	4.618	54	100081	117.81	ug/L		97
10) bromomethane	5.188	94	90734	105.72	ug/L		97
11) chloroethane	5.397	64	85541	114.68	ug/L		97
12) vinyl bromide	5.742	106	108860	116.56	ug/L		99
13) trichlorofluoromethane	5.868	101	217016	109.97	ug/L		99
14) ethyl ether	6.312	74	63564	118.75	ug/L		95
15) 2-chloropropane	6.516	63	45556	105.69	ug/L		94
16) acrolein	6.511	56	20678	122.94	ug/L		96
17) freon 113	6.731	151	103178	106.72	ug/L		99
18) 1,1-dichloroethene	6.725	61	186233	110.28	ug/L		99
19) acetone	6.715	43	142067	456.53	ug/L		99
20) iodomethane	6.976	142	141775	110.20	ug/L		99
21) carbon disulfide	7.128	76	374173	93.82	ug/L		99
22) acetonitrile	7.112	41	174769	1098.87	ug/L		97
23) methyl acetate	7.201	74	19528	101.29	ug/L	#	91
24) methylene chloride	7.442	84	132291	102.26	ug/L		98
25) acrylonitrile	7.719	53	39765	112.65	ug/L		96
26) methyl tert butyl ether	7.824	73	334574	112.61	ug/L		99
27) trans-1,2-dichloroethene	7.860	61	176412	109.95	ug/L		97
28) hexane	8.242	57	208329	102.93	ug/L		98
29) 1,1-dichloroethane	8.436	63	222186	107.77	ug/L		98
30) vinyl acetate	8.378	86	22276	116.53	ug/L	#	91
31) di-isopropyl ether	8.446	45	410783	111.61	ug/L		99
32) chloroprene	8.545	53	197074	113.59	ug/L		99
33) ethyl tert-butyl ether	8.912	59	402408	113.22	ug/L		99
34) 2-butanone	9.079	72	57321	479.51	ug/L		91

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223182.D  
 Acq On : 27 Nov 2018 9:50 pm  
 Operator : thienn  
 Sample : IC8986-100  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 28 12:50:51 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) 2,2-dichloropropane	9.189	77	191102	102.79	ug/L	98
36) ethyl acetate	9.121	45	18847	122.89	ug/L	96
37) cis-1,2-dichloroethene	9.157	96	140883	105.47	ug/L	98
38) propionitrile	9.136	54	193755	1105.64	ug/L	99
39) methyl acrylate	9.199	85	19285	123.61	ug/L #	82
40) methacrylonitrile	9.351	67	49677	119.26	ug/L	91
41) bromochloromethane	9.455	128	68281	118.50	ug/L	99
42) tetrahydrofuran	9.487	71	15584	113.14	ug/L	94
43) chloroform	9.544	83	230111	107.82	ug/L	100
44) carbon tetrachloride	10.020	117	184881	105.77	ug/L	99
45) 1,1-dichloropropene	9.994	75	175553	110.49	ug/L	97
48) 1,1,1-trichloroethane	9.816	97	207824	108.89	ug/L	98
49) cyclohexane	9.942	84	180226	103.37	ug/L	99
50) tert-amyl alcohol	10.099	55	26521	596.18	ug/L	95
53) isopropyl acetate	10.146	87	25575	113.49	ug/L #	95
54) 1,2-dichloroethane	10.250	62	163545	100.10	ug/L	98
55) benzene	10.240	78	518978	106.82	ug/L	100
56) 2,2,4-trimethylpentane	10.355	57	501686	100.86	ug/L	100
57) tert-amyl methyl ether	10.324	87	91588	110.44	ug/L	96
58) heptane	10.517	57	105555	106.15	ug/L	98
59) n-butyl alcohol	10.690	56	231177	5964.13	ug/L	98
60) trichloroethene	10.972	95	136990	110.01	ug/L	99
61) ethyl acrylate	10.951	55	153061	114.75	ug/L	98
62) methylcyclohexane	11.281	83	225785	105.77	ug/L	99
63) 1,2-dichloropropane	11.249	63	130133	108.85	ug/L	100
64) methyl methacrylate	11.218	100	32974	117.65	ug/L	95
65) dibromomethane	11.354	93	77688	107.21	ug/L	98
66) bromodichloromethane	11.511	83	182382	110.00	ug/L	97
67) 2-nitropropane	11.684	41	31530	110.18	ug/L	94
68) 2-chloroethyl vinyl ether	11.746	63	400889	573.89	ug/L	99
69) epichlorohydrin	11.820	57	65278	538.13	ug/L	97
70) cis-1,3-dichloropropene	11.966	75	214687	110.35	ug/L	96
71) 4-methyl-2-pentanone	12.060	58	174503	475.93	ug/L	98
72) 3-methyl-1-butanol	12.055	70	77975	2415.27	ug/L	99
75) toluene	12.353	92	309889	105.20	ug/L	99
76) trans-1,3-dichloropropene	12.526	75	186378	105.15	ug/L	98
77) ethyl methacrylate	12.526	69	141493	111.29	ug/L	99
78) 1,1,2-trichloroethane	12.745	83	94005	118.01	ug/L	99
79) 1,3-dichloropropane	12.928	76	168130	106.89	ug/L	100
80) tetrachloroethene	12.918	166	153746	103.95	ug/L	98
81) 2-hexanone	12.907	58	171225	463.43	ug/L	97
82) butyl acetate	12.996	56	73400	113.97	ug/L	93
83) n-butyl ether	13.786	57	516377	106.15	ug/L	99
84) dibromochloromethane	13.174	129	144764	111.17	ug/L	99
85) 1,2-dibromoethane	13.331	107	130212	113.89	ug/L	98
86) chlorobenzene	13.818	112	332404	105.92	ug/L	98
87) 1,1,1,2-tetrachloroethane	13.880	131	131149	111.13	ug/L	98
88) ethylbenzene	13.880	91	572276	104.28	ug/L	100
89) m,p-xylene	14.006	106	450170	208.60	ug/L	100
90) o-xylene	14.403	106	221612	107.46	ug/L	95

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223182.D  
 Acq On : 27 Nov 2018 9:50 pm  
 Operator : thienn  
 Sample : IC8986-100  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 28 12:50:51 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration

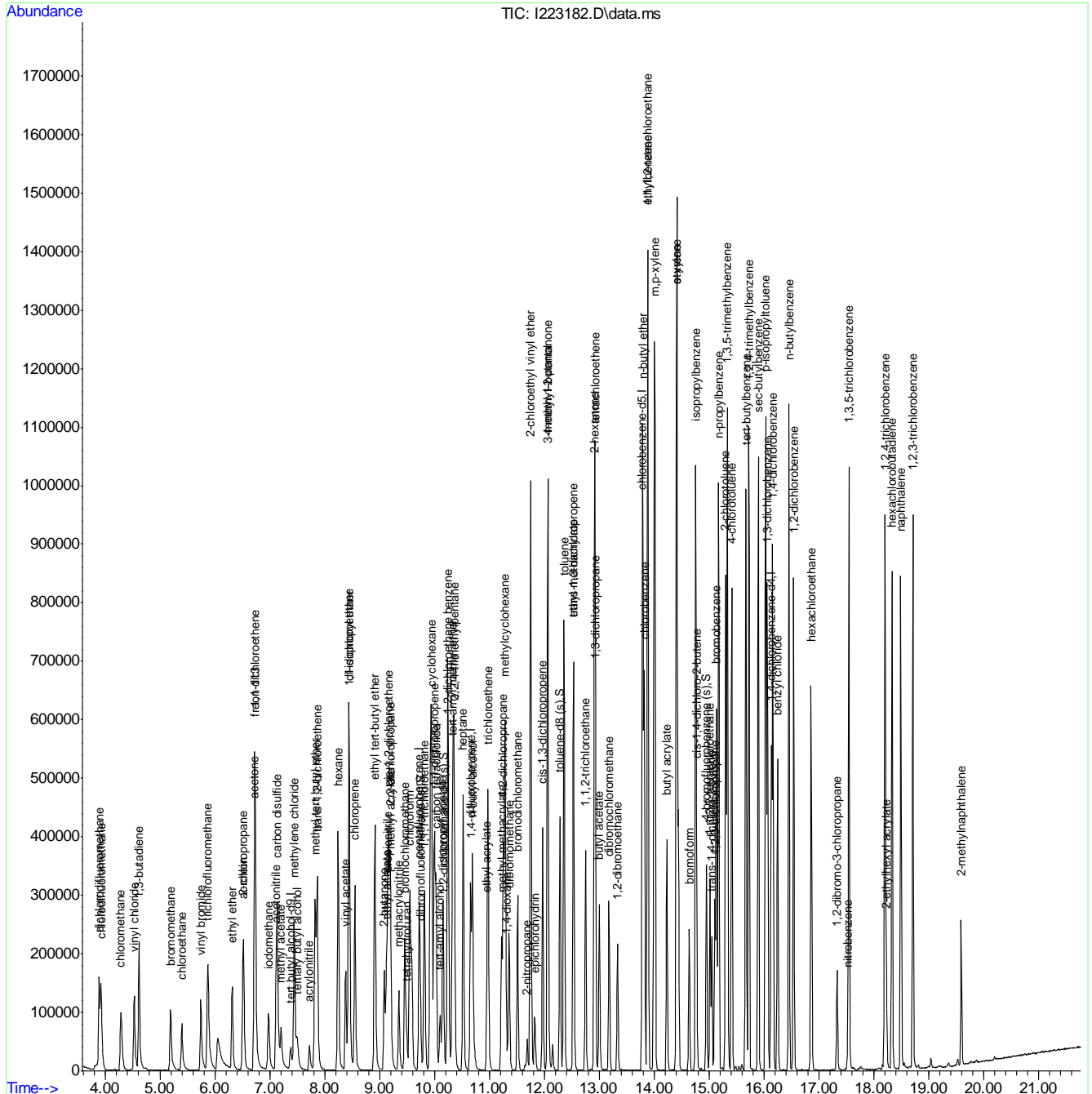
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) styrene	14.409	104	382352	109.31	ug/L	98
92) butyl acrylate	14.231	55	226172	114.54	ug/L	98
93) cis-1,4-dichloro-2-butene	14.769	88	57787	109.27	ug/L	96
94) bromoform	14.633	173	103444	114.50	ug/L	99
95) isopropylbenzene	14.754	105	578201	106.92	ug/L	100
98) 1,1,2,2-tetrachloroethane	15.015	83	144881	107.48	ug/L	99
99) trans-1,4-dichloro-2-b...	15.047	53	37249	110.39	ug/L	92
100) 1,2,3-trichloropropane	15.099	110	38087	106.67	ug/L	94
101) bromobenzene	15.130	156	169161	102.22	ug/L	95
102) n-propylbenzene	15.167	91	705177	102.65	ug/L	100
103) 2-chlorotoluene	15.298	126	147983	102.55	ug/L	100
104) 4-chlorotoluene	15.408	91	420336	102.35	ug/L	99
105) 1,3,5-trimethylbenzene	15.329	105	532314	102.97	ug/L	99
106) tert-butylbenzene	15.669	134	100081	106.99	ug/L	98
107) 1,2,4-trimethylbenzene	15.721	105	545454	102.98	ug/L	99
108) sec-butylbenzene	15.894	105	679243	105.66	ug/L	99
109) p-isopropyltoluene	16.030	119	612311	105.89	ug/l	100
110) benzyl chloride	16.244	91	344761	106.28	ug/L	100
111) 1,3-dichlorobenzene	16.061	146	330619	104.71	ug/L	99
112) 1,4-dichlorobenzene	16.155	146	337570	104.67	ug/L	99
113) 1,2-dichlorobenzene	16.537	146	331695	107.33	ug/L	99
114) n-butylbenzene	16.448	92	317398	105.52	ug/L	98
115) hexachloroethane	16.856	201	123211	112.03	ug/L	98
116) 1,2-dibromo-3-chloropr...	17.327	157	47518	110.53	ug/L	98
117) nitrobenzene	17.521	77	17131	115.98	ug/L	88
118) 1,3,5-trichlorobenzene	17.541	180	323287	102.99	ug/L	99
119) 1,2,4-trichlorobenzene	18.200	180	292442	103.59	ug/L	99
120) 2-ethylhexyl acrylate	18.221	55	46071	20.04	ug/L	95
121) hexachlorobutadiene	18.326	225	185278	103.10	ug/L	100
122) naphthalene	18.488	128	603754	110.62	ug/L	99
123) 1,2,3-trichlorobenzene	18.708	180	284115	105.29	ug/L	99
124) 2-methylnaphthalene	19.586	142	102398	47.22	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
Data File : I223182.D  
Acq On : 27 Nov 2018 9:50 pm  
Operator : thienn  
Sample : IC8986-100  
Misc : MS30885,VI8986,5.0,,,,,1  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 28 12:50:51 2018  
Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
QLast Update : Wed Nov 28 12:50:11 2018  
Response via : Initial Calibration



7.7.8  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223183.D  
 Acq On : 27 Nov 2018 10:20 pm  
 Operator : thienn  
 Sample : IC8986-200  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 28 12:51:35 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.379	65	80301	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	215517	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	290620	50.00	ug/L	0.00
73) chlorobenzene-d5	13.786	117	249804	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	157477	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	83941	49.57	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	99.14%
52) 1,2-dichloroethane-d4 (s)	10.162	65	85112	46.93	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	93.86%
74) toluene-d8 (s)	12.280	98	312894	48.86	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	97.72%
97) 4-bromofluorobenzene (s)	14.953	95	117844	49.09	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	98.18%
Target Compounds						
						Qvalue
2) tertiary butyl alcohol	7.505	59	175497	1050.43	ug/L	98
3) 1,4-dioxane	11.302	88	87551	4678.20	ug/L	95
5) dichlorodifluoromethane	3.891	85	375056	203.55	ug/L	98
6) chlorodifluoromethane	3.922	51	366508	214.71	ug/L	97
7) chloromethane	4.288	50	369957	212.20	ug/L	99
8) vinyl chloride	4.529	62	324334	220.94	ug/L	99
9) 1,3-butadiene	4.618	54	226188	233.83	ug/L	97
10) bromomethane	5.183	94	200309	204.97	ug/L	99
11) chloroethane	5.397	64	191609	225.61	ug/L	97
12) vinyl bromide	5.742	106	243673	229.14	ug/L	98
13) trichlorofluoromethane	5.868	101	477873	212.68	ug/L	100
14) ethyl ether	6.312	74	145655	238.98	ug/L	94
15) 2-chloropropane	6.516	63	94139	191.82	ug/L	99
16) acrolein	6.511	56	49971	260.93	ug/L	99
17) freon 113	6.731	151	227090	206.29	ug/L	99
18) 1,1-dichloroethene	6.726	61	417694	217.24	ug/L	99
19) acetone	6.715	43	306680	865.54	ug/L	98
20) iodomethane	6.977	142	284760	194.36	ug/L	99
21) carbon disulfide	7.128	76	837937	184.52	ug/L	99
22) acetonitrile	7.113	41	383515	2117.82	ug/L	95
23) methyl acetate	7.207	74	44590	199.99	ug/L #	89
24) methylene chloride	7.442	84	300410	203.94	ug/L	97
25) acrylonitrile	7.719	53	91967	228.81	ug/L	97
26) methyl tert butyl ether	7.824	73	754631	223.07	ug/L	99
27) trans-1,2-dichloroethene	7.860	61	389402	213.15	ug/L	100
28) hexane	8.242	57	472229	204.91	ug/L	99
29) 1,1-dichloroethane	8.436	63	489620	208.58	ug/L	98
30) vinyl acetate	8.378	86	51592	237.02	ug/L #	81
31) di-isopropyl ether	8.446	45	922197	220.05	ug/L	99
32) chloroprene	8.546	53	429184	217.25	ug/L	99
33) ethyl tert-butyl ether	8.912	59	900394	222.49	ug/L	99
34) 2-butanone	9.084	72	129219	949.37	ug/L #	88



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223183.D  
 Acq On : 27 Nov 2018 10:20 pm  
 Operator : thienn  
 Sample : IC8986-200  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 28 12:51:35 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) 2,2-dichloropropane	9.189	77	416394	196.70	ug/L	99
36) ethyl acetate	9.121	45	42114	241.18	ug/L #	86
37) cis-1,2-dichloroethene	9.158	96	315912	207.71	ug/L	98
38) propionitrile	9.142	54	433186	2170.99	ug/L	99
39) methyl acrylate	9.199	85	43433	244.49	ug/L #	76
40) methacrylonitrile	9.351	67	111682	235.47	ug/L	93
41) bromochloromethane	9.456	128	148944	227.02	ug/L	95
42) tetrahydrofuran	9.487	71	34806	221.93	ug/L	92
43) chloroform	9.550	83	503070	207.03	ug/L	99
44) carbon tetrachloride	10.026	117	400619	201.30	ug/L	99
45) 1,1-dichloropropene	9.994	75	388889	214.97	ug/L	97
48) 1,1,1-trichloroethane	9.817	97	444595	204.59	ug/L	97
49) cyclohexane	9.942	84	403176	203.08	ug/L	94
50) tert-amyl alcohol	10.104	55	57571	1136.62	ug/L	96
53) isopropyl acetate	10.146	87	58906	223.70	ug/L	99
54) 1,2-dichloroethane	10.251	62	360721	188.93	ug/L	98
55) benzene	10.240	78	1169633	206.01	ug/L	99
56) 2,2,4-trimethylpentane	10.355	57	1175124	202.17	ug/L	100
57) tert-amyl methyl ether	10.329	87	207313	213.93	ug/L	97
58) heptane	10.523	57	244771	210.65	ug/L	98
59) n-butyl alcohol	10.690	56	512441	11313.49	ug/L	98
60) trichloroethene	10.972	95	298082	204.84	ug/L	99
61) ethyl acrylate	10.952	55	346987	222.62	ug/L	98
62) methylcyclohexane	11.281	83	518630	207.91	ug/L	98
63) 1,2-dichloropropane	11.250	63	292151	209.12	ug/L	98
64) methyl methacrylate	11.218	100	74866	228.59	ug/L	97
65) dibromomethane	11.354	93	173143	204.47	ug/L	98
66) bromodichloromethane	11.511	83	401396	207.18	ug/L	97
67) 2-nitropropane	11.689	41	68700	205.45	ug/L	96
68) 2-chloroethyl vinyl ether	11.747	63	896818	1098.66	ug/L	99
69) epichlorohydrin	11.820	57	146825	1035.78	ug/L	98
70) cis-1,3-dichloropropene	11.966	75	475587	209.19	ug/L	96
71) 4-methyl-2-pentanone	12.060	58	389352	908.73	ug/L	99
72) 3-methyl-1-butanol	12.060	70	176133	4668.76	ug/L	98
75) toluene	12.358	92	697159	201.63	ug/L	100
76) trans-1,3-dichloropropene	12.526	75	417558	200.69	ug/L	99
77) ethyl methacrylate	12.531	69	325102	217.84	ug/L	98
78) 1,1,2-trichloroethane	12.751	83	211103	225.77	ug/L	99
79) 1,3-dichloropropane	12.929	76	382489	207.16	ug/L	100
80) tetrachloroethene	12.918	166	340610	196.20	ug/L	99
81) 2-hexanone	12.908	58	382826	882.73	ug/L	96
82) butyl acetate	12.997	56	166560	220.32	ug/L	94
83) n-butyl ether	13.792	57	1202068	210.51	ug/L	99
84) dibromochloromethane	13.180	129	323192	211.44	ug/L	100
85) 1,2-dibromoethane	13.331	107	289004	215.35	ug/L	97
86) chlorobenzene	13.818	112	766299	208.02	ug/L	99
87) 1,1,1,2-tetrachloroethane	13.880	131	301494	217.64	ug/L	99
88) ethylbenzene	13.880	91	1318470	204.67	ug/L	99
89) m,p-xylene	14.006	106	1036588	409.20	ug/L	100
90) o-xylene	14.403	106	514832	212.68	ug/L	97

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223183.D  
 Acq On : 27 Nov 2018 10:20 pm  
 Operator : thienn  
 Sample : IC8986-200  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 28 12:51:35 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) styrene	14.414	104	895966	218.22	ug/L	99
92) butyl acrylate	14.231	55	540635	233.25	ug/L	98
93) cis-1,4-dichloro-2-butene	14.770	88	132493	213.44	ug/L	95
94) bromoform	14.634	173	242477	228.66	ug/L	100
95) isopropylbenzene	14.754	105	1355411	213.53	ug/L	99
98) 1,1,2,2-tetrachloroethane	15.015	83	341793	215.83	ug/L	100
99) trans-1,4-dichloro-2-b...	15.047	53	84689	213.63	ug/L	90
100) 1,2,3-trichloropropane	15.104	110	86501	206.20	ug/L	98
101) bromobenzene	15.130	156	391000	201.11	ug/L	95
102) n-propylbenzene	15.172	91	1628828	201.82	ug/L	98
103) 2-chlorotoluene	15.298	126	344609	203.26	ug/L	97
104) 4-chlorotoluene	15.413	91	976268	202.33	ug/L	98
105) 1,3,5-trimethylbenzene	15.329	105	1232897	202.98	ug/L	100
106) tert-butylbenzene	15.669	134	235167	213.97	ug/L	98
107) 1,2,4-trimethylbenzene	15.722	105	1236957	198.78	ug/L	99
108) sec-butylbenzene	15.894	105	1582482	209.52	ug/L	99
109) p-isopropyltoluene	16.030	119	1375296	202.45	ug/l	99
110) benzyl chloride	16.245	91	774742	203.28	ug/L	99
111) 1,3-dichlorobenzene	16.061	146	758085	204.35	ug/L	100
112) 1,4-dichlorobenzene	16.156	146	771469	203.61	ug/L	98
113) 1,2-dichlorobenzene	16.537	146	761290	209.67	ug/L	98
114) n-butylbenzene	16.448	92	714096	202.07	ug/L	99
115) hexachloroethane	16.856	201	288682	223.41	ug/L	99
116) 1,2-dibromo-3-chloropr...	17.327	157	105085	208.05	ug/L	98
117) nitrobenzene	17.521	77	37402	215.52	ug/L	87
118) 1,3,5-trichlorobenzene	17.542	180	706301	191.51	ug/L	99
119) 1,2,4-trichlorobenzene	18.201	180	636181	191.81	ug/L	98
120) 2-ethylhexyl acrylate	18.222	55	96958	35.90	ug/L	99
121) hexachlorobutadiene	18.326	225	402594	190.69	ug/L	100
122) naphthalene	18.488	128	1280487	199.69	ug/L	100
123) 1,2,3-trichlorobenzene	18.708	180	610534	192.58	ug/L	99
124) 2-methylnaphthalene	19.587	142	208098	81.68	ug/L	96

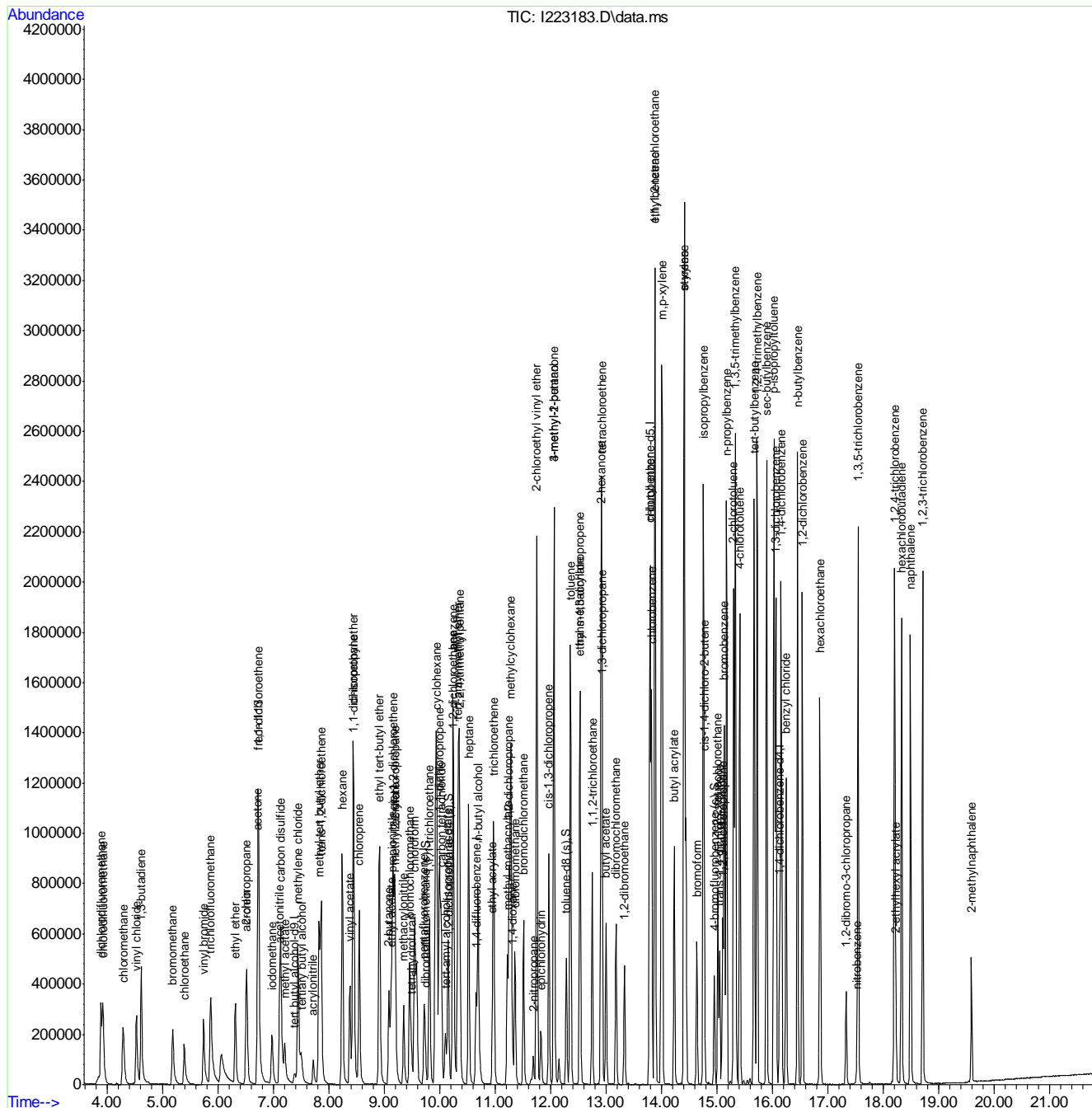
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223183.D  
 Acq On : 27 Nov 2018 10:20 pm  
 Operator : thienn  
 Sample : IC8986-200  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 28 12:51:35 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 12:50:11 2018  
 Response via : Initial Calibration



7.7.9  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223186.D  
 Acq On : 27 Nov 2018 11:48 pm  
 Operator : thienn  
 Sample : ICV8986-50  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 28 14:07:05 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 13:32:54 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.374	65	69539	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	194929	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	259550	50.00	ug/L	0.00
73) chlorobenzene-d5	13.786	117	212734	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	127433	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	77737	50.75	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	101.50%
52) 1,2-dichloroethane-d4 (s)	10.162	65	78844	48.67	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	97.34%
74) toluene-d8 (s)	12.280	98	274637	50.36	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.72%
97) 4-bromofluorobenzene (s)	14.947	95	97906	50.38	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	100.76%
Target Compounds						
						Qvalue
2) tertiary butyl alcohol	7.494	59	37883	263.21	ug/L	98
3) 1,4-dioxane	11.302	88	20696	1283.03	ug/L	87
5) dichlorodifluoromethane	3.891	85	93875	55.13	ug/L	97
6) chlorodifluoromethane	3.922	51	84039	52.27	ug/L	97
7) chloromethane	4.283	50	81186	51.49	ug/L	99
8) vinyl chloride	4.529	62	69070	52.01	ug/L	99
9) 1,3-butadiene	4.618	54	55309	59.63	ug/L	98
10) bromomethane	5.193	94	48097	54.36	ug/L	100
11) chloroethane	5.397	64	38659	48.13	ug/L	97
12) vinyl bromide	5.747	106	56399	54.95	ug/L	99
13) trichlorofluoromethane	5.873	101	102637	50.50	ug/L	98
14) ethyl ether	6.312	74	30681	53.29	ug/L	97
15) 2-chloropropane	6.516	63	23652	50.40	ug/L	96
16) acrolein	6.516	56	9584	51.09	ug/L	95
17) freon 113	6.731	151	53795	54.03	ug/L	99
18) 1,1-dichloroethene	6.725	61	84257	46.44	ug/L	98
19) acetone	6.715	43	68872	209.69	ug/L	100
20) iodomethane	6.976	142	73015	54.76	ug/L	98
21) carbon disulfide	7.128	76	199616	51.08	ug/L	99
22) acetonitrile	7.112	41	79045	481.93	ug/L	97
23) methyl acetate	7.212	74	8906	46.41	ug/L	97
24) methylene chloride	7.442	84	64208	47.79	ug/L	96
25) acrylonitrile	7.724	53	19514	50.51	ug/L	98
26) methyl tert butyl ether	7.824	73	335934	105.50	ug/L	100
27) trans-1,2-dichloroethene	7.860	61	85478	49.42	ug/L	99
28) hexane	8.242	57	84532	40.53	ug/L	99
29) 1,1-dichloroethane	8.436	63	109615	49.64	ug/L	99
30) vinyl acetate	8.378	86	10093	48.01	ug/L #	86
31) di-isopropyl ether	8.446	45	195607	49.97	ug/L	100
32) chloroprene	8.545	53	98669	52.96	ug/L	97
33) ethyl tert-butyl ether	8.912	59	190299	50.37	ug/L	99
34) 2-butanone	9.084	72	27686	224.89	ug/L #	87

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223186.D  
 Acq On : 27 Nov 2018 11:48 pm  
 Operator : thienn  
 Sample : ICV8986-50  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 28 14:07:05 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 13:32:54 2018  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) 2,2-dichloropropane	9.189	77	95310	49.78	ug/L	99
36) ethyl acetate	9.121	45	8820	48.20	ug/L #	83
37) cis-1,2-dichloroethene	9.157	96	72033	50.63	ug/L	99
38) propionitrile	9.136	54	96951	536.96	ug/L	99
39) methyl acrylate	9.204	85	9259	49.18	ug/L	99
40) methacrylonitrile	9.351	67	24916	54.67	ug/L	97
41) bromochloromethane	9.455	128	33565	52.46	ug/L	99
42) tetrahydrofuran	9.487	71	7502	52.89	ug/L	98
43) chloroform	9.550	83	115864	50.71	ug/L	99
44) carbon tetrachloride	10.026	117	91482	49.02	ug/L	100
45) 1,1-dichloropropene	9.994	75	87483	50.86	ug/L	98
48) 1,1,1-trichloroethane	9.816	97	100405	49.24	ug/L	98
49) cyclohexane	9.942	84	94392	52.57	ug/L	97
50) tert-amyl alcohol	10.099	55	12716	246.82	ug/L	97
53) isopropyl acetate	10.146	87	12067	51.31	ug/L	95
54) 1,2-dichloroethane	10.250	62	81716	47.92	ug/L	98
55) benzene	10.235	78	257840	50.84	ug/L	99
56) 2,2,4-trimethylpentane	10.355	57	254360	49.00	ug/L	100
57) tert-amyl methyl ether	10.329	87	42548	49.16	ug/L	98
58) heptane	10.522	57	60458	55.79	ug/L	98
59) n-butyl alcohol	10.685	56	114896	2712.27	ug/L	99
60) trichloroethene	10.972	95	67426	49.64	ug/L	98
61) ethyl acrylate	10.951	55	76668	53.40	ug/L	99
62) methylcyclohexane	11.281	83	110450	48.01	ug/L	99
63) 1,2-dichloropropane	11.249	63	63075	48.59	ug/L	99
64) methyl methacrylate	11.218	100	16067	52.60	ug/L #	68
65) dibromomethane	11.354	93	39380	52.07	ug/L	97
66) bromodichloromethane	11.511	83	88835	49.40	ug/L	95
67) 2-nitropropane	11.684	41	16633	53.42	ug/L	97
68) 2-chloroethyl vinyl ether	11.746	63	204380	269.09	ug/L	99
69) epichlorohydrin	11.820	57	31827	250.89	ug/L	97
70) cis-1,3-dichloropropene	11.966	75	105534	51.98	ug/L	96
71) 4-methyl-2-pentanone	12.060	58	85135	210.79	ug/L	98
72) 3-methyl-1-butanol	12.055	70	37725	1075.30	ug/L	96
75) toluene	12.358	92	152787	51.89	ug/L	100
76) trans-1,3-dichloropropene	12.526	75	87220	49.23	ug/L	99
77) ethyl methacrylate	12.531	69	66038	49.45	ug/L	97
78) 1,1,2-trichloroethane	12.751	83	44888	51.96	ug/L	98
79) 1,3-dichloropropane	12.928	76	83889	53.36	ug/L	99
80) tetrachloroethene	12.918	166	84530	57.18	ug/L	98
81) 2-hexanone	12.907	58	82193	212.93	ug/L	96
82) butyl acetate	12.996	56	35044	52.18	ug/L	93
83) n-butyl ether	13.791	57	242651	49.90	ug/L	99
84) dibromochloromethane	13.174	129	71293	52.81	ug/L	98
85) 1,2-dibromoethane	13.331	107	63243	53.82	ug/L	97
86) chlorobenzene	13.818	112	162297	51.74	ug/L	99
87) 1,1,1,2-tetrachloroethane	13.880	131	64797	52.03	ug/L	99
88) ethylbenzene	13.880	91	281004	51.23	ug/L	98
89) m,p-xylene	14.006	106	221638	102.75	ug/L	99
90) o-xylene	14.403	106	109006	50.75	ug/L	99

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223186.D  
 Acq On : 27 Nov 2018 11:48 pm  
 Operator : thienn  
 Sample : ICV8986-50  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 28 14:07:05 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 13:32:54 2018  
 Response via : Initial Calibration

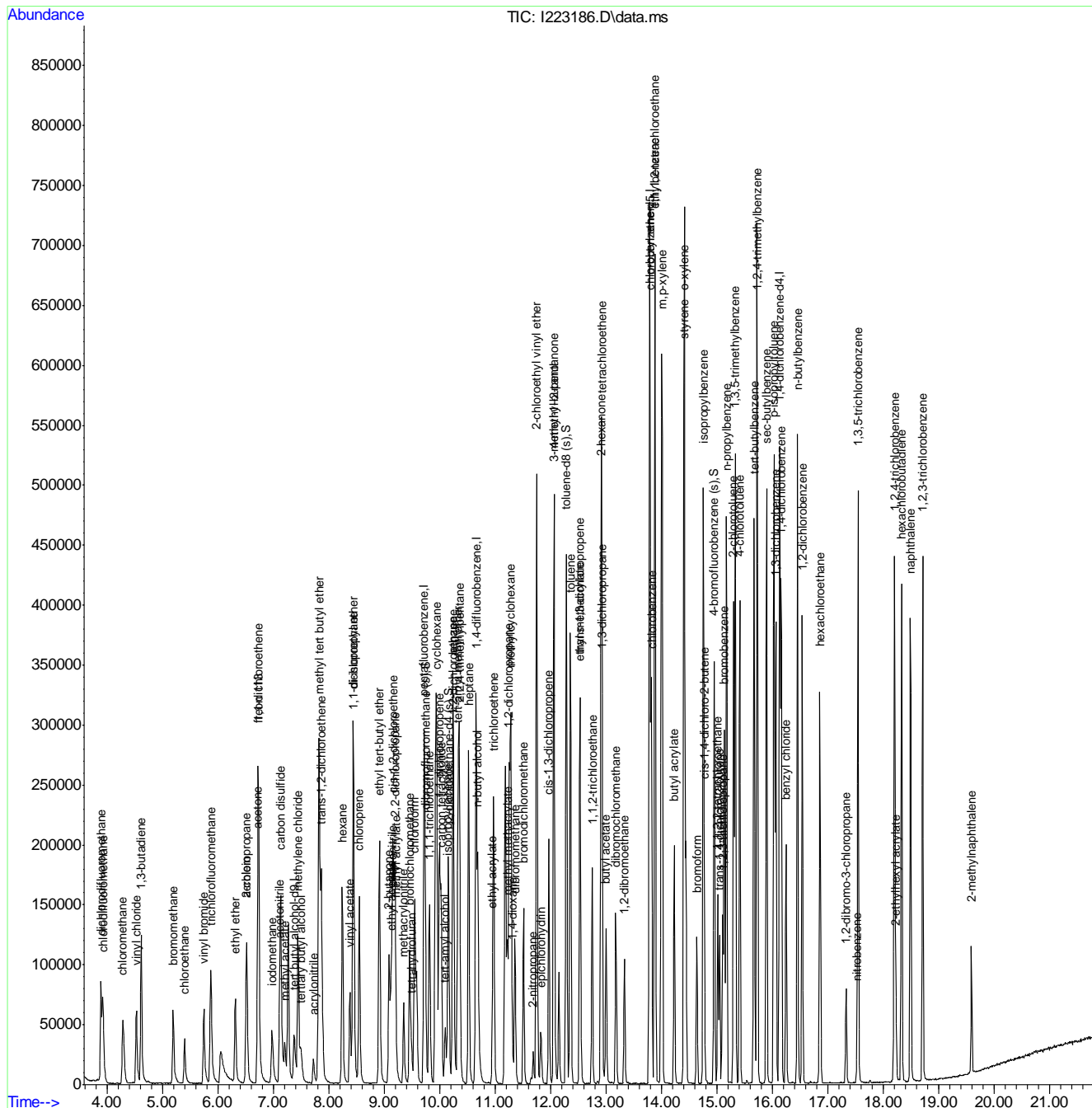
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) styrene	14.414	104	186774	51.79	ug/L	99
92) butyl acrylate	14.231	55	110983	53.94	ug/L	99
93) cis-1,4-dichloro-2-butene	14.769	88	25935	49.06	ug/L	96
94) bromoform	14.633	173	51862	54.70	ug/L	99
95) isopropylbenzene	14.754	105	282968	52.34	ug/L	100
98) 1,1,2,2-tetrachloroethane	15.015	83	67367	51.12	ug/L	99
99) trans-1,4-dichloro-2-b...	15.047	53	20205	58.83	ug/L	94
100) 1,2,3-trichloropropane	15.099	110	17970	52.93	ug/L	97
101) bromobenzene	15.130	156	80721	51.31	ug/L	98
102) n-propylbenzene	15.167	91	334318	51.19	ug/L	100
103) 2-chlorotoluene	15.298	126	70108	51.10	ug/L	96
104) 4-chlorotoluene	15.408	91	202836	51.95	ug/L	100
105) 1,3,5-trimethylbenzene	15.329	105	249455	50.75	ug/L	100
106) tert-butylbenzene	15.669	134	47992	52.71	ug/L	94
107) 1,2,4-trimethylbenzene	15.721	105	260796	51.79	ug/L	95
108) sec-butylbenzene	15.894	105	325587	51.40	ug/L	99
109) p-isopropyltoluene	16.030	119	287328	52.26	ug/l	99
110) benzyl chloride	16.244	91	129132	41.87	ug/L	99
111) 1,3-dichlorobenzene	16.061	146	153761	51.22	ug/L	100
112) 1,4-dichlorobenzene	16.155	146	155923	50.85	ug/L	98
113) 1,2-dichlorobenzene	16.537	146	152569	51.93	ug/L	99
114) n-butylbenzene	16.448	92	148138	51.80	ug/L	97
115) hexachloroethane	16.856	201	60144	54.86	ug/L	95
116) 1,2-dibromo-3-chloropr...	17.327	157	21224	51.93	ug/L	96
117) nitrobenzene	17.521	77	7476	53.24	ug/L	95
118) 1,3,5-trichlorobenzene	17.541	180	154455	51.75	ug/L	99
119) 1,2,4-trichlorobenzene	18.200	180	134228	50.00	ug/L	99
120) 2-ethylhexyl acrylate	18.221	55	23923	10.93	ug/L	98
121) hexachlorobutadiene	18.326	225	88466	50.06	ug/L	100
122) naphthalene	18.488	128	274425	52.87	ug/L	99
123) 1,2,3-trichlorobenzene	18.708	180	131768	49.89	ug/L	99
124) 2-methylnaphthalene	19.586	142	44610	24.10	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223186.D  
 Acq On : 27 Nov 2018 11:48 pm  
 Operator : thienn  
 Sample : ICV8986-50  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 28 14:07:05 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 13:32:54 2018  
 Response via : Initial Calibration



7.7.10  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223187.D  
 Acq On : 28 Nov 2018 12:18 am  
 Operator : thienn  
 Sample : ICV8986-50  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 28 14:08:42 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 13:32:54 2018  
 Response via : Initial Calibration

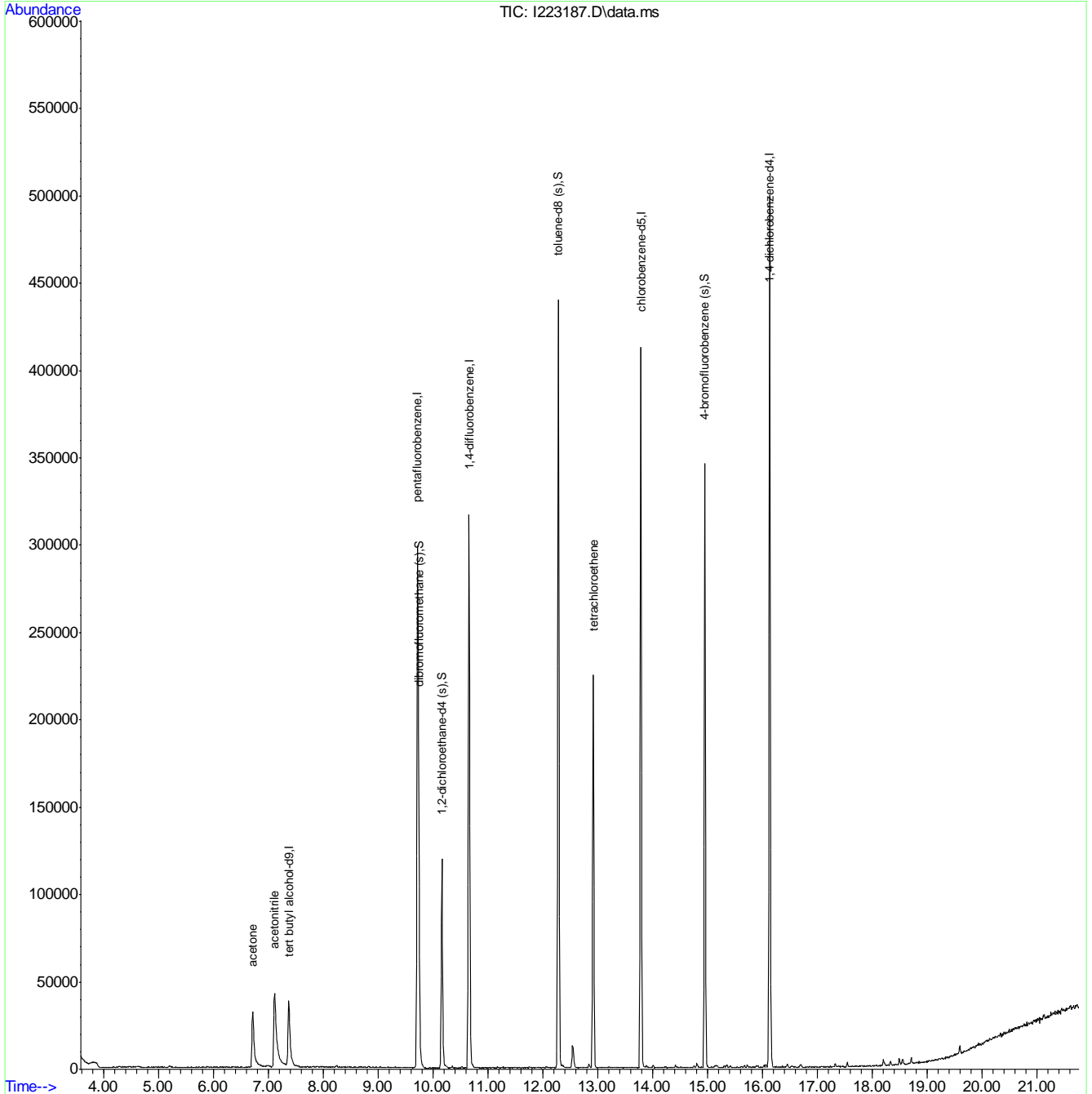
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.374	65	65690	500.00	ug/L	0.00
4) pentafluorobenzene	9.717	168	199145	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.653	114	255513	50.00	ug/L	0.00
73) chlorobenzene-d5	13.786	117	213159	50.00	ug/L	0.00
96) 1,4-dichlorobenzene-d4	16.129	152	119395	50.00	ug/L	0.00
System Monitoring Compounds						
47) dibromofluoromethane (s)	9.738	113	78482	50.15	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.30%
52) 1,2-dichloroethane-d4 (s)	10.162	65	78642	49.31	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	98.62%
74) toluene-d8 (s)	12.280	98	275367	50.39	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.78%
97) 4-bromofluorobenzene (s)	14.947	95	94502	51.90	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	103.80%
Target Compounds						
19) acetone	6.715	43	63003	187.76	ug/L	99
22) acetonitrile	7.118	41	86699	517.40	ug/L	97
80) tetrachloroethene	12.918	166	66283	44.75	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI8986\  
 Data File : I223187.D  
 Acq On : 28 Nov 2018 12:18 am  
 Operator : thienn  
 Sample : ICV8986-50  
 Misc : MS30885,VI8986,5.0,,,,,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 28 14:08:42 2018  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Wed Nov 28 13:32:54 2018  
 Response via : Initial Calibration



7.7.11  
7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225474.d  
 Acq On : 17 Apr 2019 7:43 am  
 Operator : thienn  
 Sample : CC8986-50 Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:47:47 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) tert butyl alcohol-d9	7.353	65	66317	500.00	ug/L	-0.03
4) pentafluorobenzene	9.696	168	172039	50.00	ug/L	-0.02
51) 1,4-difluorobenzene	10.633	114	233404	50.00	ug/L	-0.02
73) chlorobenzene-d5	13.765	117	195369	50.00	ug/L	-0.02
96) 1,4-dichlorobenzene-d4	16.109	152	119472	50.00	ug/L	-0.02
<b>System Monitoring Compounds</b>						
47) dibromofluoromethane (s)	9.717	113	71351	52.78	ug/L	-0.02
Spiked Amount	50.000	Range	75 - 127	Recovery	=	105.56%
52) 1,2-dichloroethane-d4 (s)	10.136	65	82629	56.72	ug/L	-0.03
Spiked Amount	50.000	Range	75 - 130	Recovery	=	113.44%
74) toluene-d8 (s)	12.264	98	249846	49.88	ug/L	-0.02
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.76%
97) 4-bromofluorobenzene (s)	14.932	95	93155	51.13	ug/L	-0.02
Spiked Amount	50.000	Range	79 - 127	Recovery	=	102.26%
<b>Target Compounds</b>						
2) tertiary butyl alcohol	7.473	59	36830	268.33	ug/L	94
3) 1,4-dioxane	11.281	88	19369	1259.10	ug/L	90
5) dichlorodifluoromethane	3.886	85	117327	78.06	ug/L	99
6) chlorodifluoromethane	3.922	51	80060	56.42	ug/L	94
7) chloromethane	4.283	50	82500	59.28	ug/L	99
8) vinyl chloride	4.524	62	76769	65.50	ug/L	99
9) 1,3-butadiene	4.607	54	45234	55.25	ug/L	95
10) bromomethane	5.183	94	46677	59.77	ug/L	97
11) chloroethane	5.387	64	41329	58.30	ug/L	98
12) vinyl bromide	5.732	106	42302	46.69	ug/L	98
13) trichlorofluoromethane	5.857	101	110476	61.59	ug/L	98
14) ethyl ether	6.297	74	26999	53.14	ug/L	87
15) 2-chloropropane	6.495	63	21544	52.01	ug/L	88
16) acrolein	6.501	56	6973	42.12	ug/L	97
17) freon 113	6.715	151	47016	53.50	ug/L	97
18) 1,1-dichloroethene	6.710	61	85954	53.68	ug/L	97
19) acetone	6.694	43	64620	222.93	ug/L	90
20) iodomethane	6.961	142	56027	47.54	ug/L	97
21) carbon disulfide	7.113	76	160704	46.60	ug/L	99
22) acetonitrile	7.086	41	70577	487.55	ug/L	91
23) methyl acetate	7.186	74	7646	45.21	ug/L #	85
24) methylene chloride	7.426	84	57032	48.10	ug/L	94
25) acrylonitrile	7.698	53	16545	48.52	ug/L	98
26) methyl tert butyl ether	7.808	73	156763	55.78	ug/L	96
27) trans-1,2-dichloroethene	7.845	61	80762	52.91	ug/L	97
28) hexane	8.227	57	83851	45.55	ug/L	99
29) 1,1-dichloroethane	8.415	63	99590	51.10	ug/L	97
30) vinyl acetate	8.357	86	9505	51.22	ug/L #	91
31) di-isopropyl ether	8.425	45	168567	48.80	ug/L	96
32) chloroprene	8.530	53	95176	57.88	ug/L	95
33) ethyl tert-butyl ether	8.896	59	176340	52.89	ug/L	99
34) 2-butanone	9.058	72	23033	211.99	ug/L	92
35) 2,2-dichloropropane	9.168	77	101496	60.06	ug/L	97
36) ethyl acetate	9.100	45	7078	44.04	ug/L	97
37) cis-1,2-dichloroethene	9.137	96	62809	50.02	ug/L	92
38) propionitrile	9.111	54	84046	527.42	ug/L	98
39) methyl acrylate	9.178	85	8248	49.61	ug/L	98
40) methacrylonitrile	9.325	67	20524	51.02	ug/L	95
41) bromochloromethane	9.435	128	29807	52.79	ug/L	93

7.7.12  
7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225474.d  
 Acq On : 17 Apr 2019 7:43 am  
 Operator : thienn  
 Sample : CC8986-50 Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:47:47 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) tetrahydrofuran	9.466	71	7110	56.79	ug/L	83
43) chloroform	9.524	83	110112	54.61	ug/L	98
44) carbon tetrachloride	10.005	117	94582	57.43	ug/L	98
45) 1,1-dichloropropene	9.973	75	81451	53.66	ug/L	99
48) 1,1,1-trichloroethane	9.796	97	104787	58.22	ug/L	98
49) cyclohexane	9.926	84	82641	52.15	ug/L	91
50) tert-amyl alcohol	10.078	55	13054	286.04	ug/L	85
53) isopropyl acetate	10.130	87	10930	51.68	ug/L	98
54) 1,2-dichloroethane	10.230	62	86375	56.33	ug/L	98
55) benzene	10.219	78	228279	50.06	ug/L	97
56) 2,2,4-trimethylpentane	10.334	57	207989	44.55	ug/L	93
57) tert-amyl methyl ether	10.308	87	40585	52.15	ug/L #	92
58) heptane	10.502	57	43337	44.47	ug/L	97
59) n-butyl alcohol	10.664	56	103371	2713.56	ug/L	94
60) trichloroethene	10.952	95	62289	51.00	ug/L	94
61) ethyl acrylate	10.931	55	64090	49.64	ug/L	97
62) methylcyclohexane	11.265	83	97606	47.18	ug/L	98
63) 1,2-dichloropropane	11.229	63	53829	46.11	ug/L	83
64) methyl methacrylate	11.197	100	13804	50.25	ug/L #	79
65) dibromomethane	11.333	93	34674	50.98	ug/L	98
66) bromodichloromethane	11.485	83	85494	52.86	ug/L	96
67) 2-nitropropane	11.663	41	17409	62.18	ug/L	98
68) 2-chloroethyl vinyl ether	11.726	63	170713	249.94	ug/L	98
69) epichlorohydrin	11.799	57	30918	271.03	ug/L	98
70) cis-1,3-dichloropropene	11.945	75	94971	52.01	ug/L	93
71) 4-methyl-2-pentanone	12.039	58	75859	208.86	ug/L	99
72) 3-methyl-1-butanol	12.039	70	32477	1029.41	ug/L	92
75) toluene	12.338	92	137036	50.68	ug/L	98
76) trans-1,3-dichloropropene	12.505	75	89364	54.92	ug/L	97
77) ethyl methacrylate	12.510	69	59937	48.87	ug/L	96
78) 1,1,2-trichloroethane	12.725	83	39285	49.52	ug/L	96
79) 1,3-dichloropropane	12.908	76	74701	51.74	ug/L	98
80) tetrachloroethene	12.897	166	70291	51.77	ug/L	98
81) 2-hexanone	12.887	58	73816	208.23	ug/L	99
82) butyl acetate	12.981	56	30064	48.74	ug/L	91
83) n-butyl ether	13.771	57	190754	42.72	ug/L	93
84) dibromochloromethane	13.153	129	64545	52.07	ug/L	99
85) 1,2-dibromoethane	13.310	107	66278	61.41	ug/L	99
86) chlorobenzene	13.797	112	149822	52.01	ug/L	97
87) 1,1,1,2-tetrachloroethane	13.860	131	59924	52.39	ug/L	97
88) ethylbenzene	13.865	91	259456	51.50	ug/L	100
89) m,p-xylene	13.985	106	201484	101.71	ug/L	94
90) o-xylene	14.383	106	97297	49.33	ug/L	93
91) styrene	14.393	104	167388	50.54	ug/L	96
92) butyl acrylate	14.210	55	96679	51.17	ug/L	98
93) cis-1,4-dichloro-2-butene	14.749	88	29390	60.54	ug/L	94
94) bromoform	14.613	173	46097	52.94	ug/L	100
95) isopropylbenzene	14.733	105	260007	52.37	ug/L	98
98) 1,1,2,2-tetrachloroethane	14.995	83	61000	49.37	ug/L	99
99) trans-1,4-dichloro-2-b...	15.026	53	18973	58.92	ug/L	94
100) 1,2,3-trichloropropane	15.078	110	16722	52.54	ug/L	99
101) bromobenzene	15.110	156	73754	50.00	ug/L	98
102) n-propylbenzene	15.151	91	309347	50.52	ug/L	98
103) 2-chlorotoluene	15.277	126	64035	49.78	ug/L	89
104) 4-chlorotoluene	15.392	91	192502	52.59	ug/L	100
105) 1,3,5-trimethylbenzene	15.308	105	233632	50.70	ug/L	98
106) tert-butylbenzene	15.648	134	41919	49.10	ug/L #	93

7.7.12  
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## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225474.d  
 Acq On : 17 Apr 2019 7:43 am  
 Operator : thienn  
 Sample : CC8986-50 Inst : GCMSI  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:47:47 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
107) 1,2,4-trimethylbenzene	15.701	105	238689	50.56	ug/L	98
108) sec-butylbenzene	15.873	105	291537	49.09	ug/L	98
109) p-isopropyltoluene	16.009	119	268290	52.05	ug/l	97
110) benzyl chloride	16.224	91	160343	55.45	ug/L	97
111) 1,3-dichlorobenzene	16.041	146	145875	51.83	ug/L	98
112) 1,4-dichlorobenzene	16.135	146	147267	51.23	ug/L	99
113) 1,2-dichlorobenzene	16.517	146	140862	51.14	ug/L	97
114) n-butylbenzene	16.433	92	142148	53.02	ug/L	96
115) hexachloroethane	16.841	201	53685	52.23	ug/L	91
116) 1,2-dibromo-3-chloropr...	17.306	157	18675	48.74	ug/L	94
117) nitrobenzene	17.495	77	7891	59.94	ug/L	77
118) 1,3,5-trichlorobenzene	17.521	180	147080	52.56	ug/L	99
119) 1,2,4-trichlorobenzene	18.180	180	130440	51.82	ug/L	99
120) 2-ethylhexyl acrylate	18.201	55	22179	10.81	ug/L	94
121) hexachlorobutadiene	18.305	225	84264	50.86	ug/L	98
122) naphthalene	18.467	128	267650	55.00	ug/L	99
123) 1,2,3-trichlorobenzene	18.687	180	122724	49.56	ug/L	97
124) 2-methylnaphthalene	19.566	142	66208	38.16	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.12

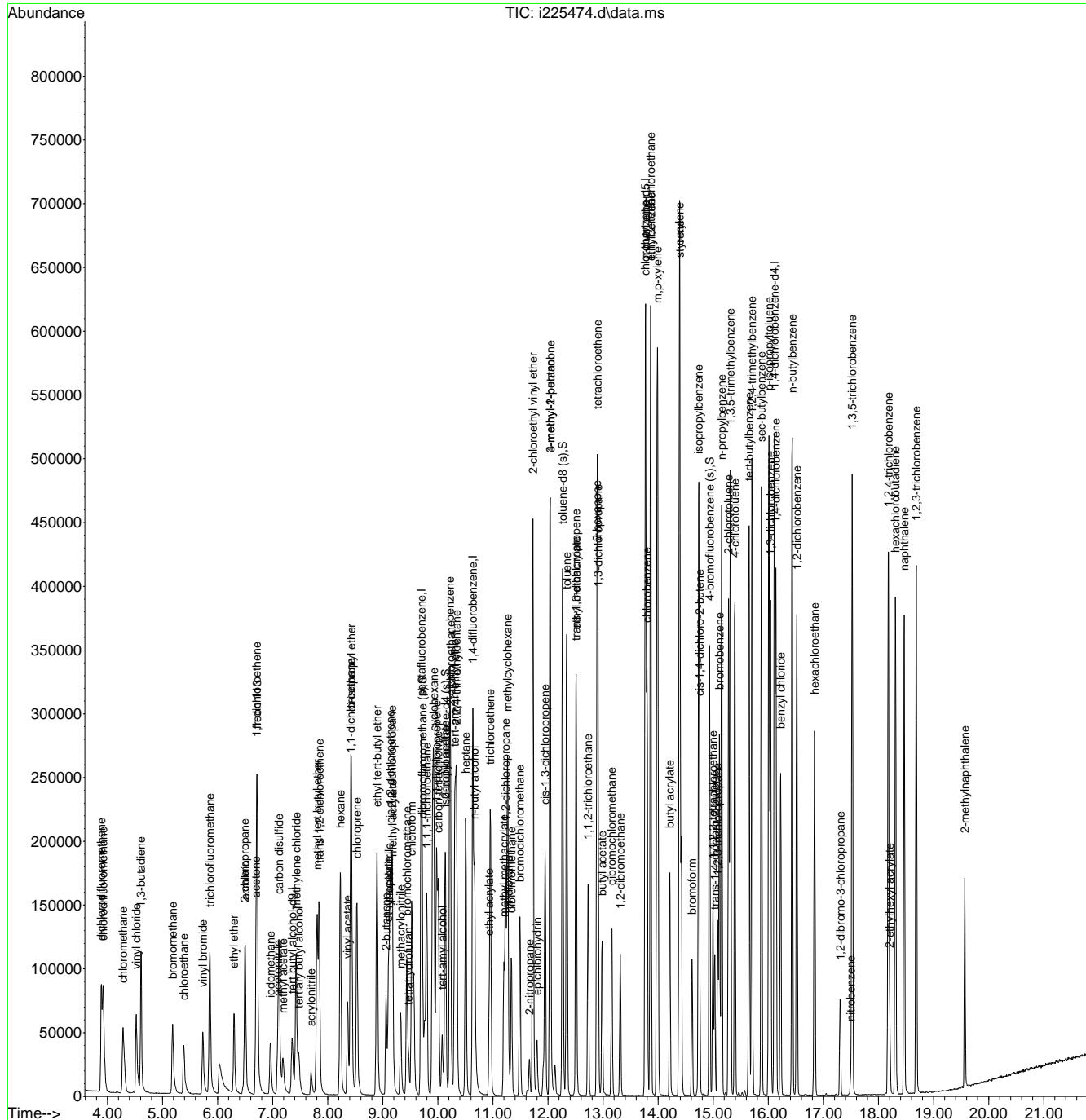
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\kenrickb\vi9085\  
 Data File : i225474.d  
 Acq On : 17 Apr 2019 7:43 am  
 Operator : thienn  
 Sample : CC8986-50  
 Misc : MS34003,VI9085,5,,100,5,1  
 ALS Vial : 3 Sample Multiplier: 1

Inst : GCMSI

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Results File: MI8986.RES  
 Quant Time: Apr 18 04:47:47 2019  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration



7.7.12  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI9086\  
 Data File : I225506.D  
 Acq On : 18 Apr 2019 8:29 am  
 Operator : thienn  
 Sample : cc8986-20  
 Misc : MS31989,VI9086,5,,100,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 12:03:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) tert butyl alcohol-d9	7.348	65	61876	500.00	ug/L	-0.03	
4) pentafluorobenzene	9.696	168	172106	50.00	ug/L	-0.02	
51) 1,4-difluorobenzene	10.632	114	230773	50.00	ug/L	-0.02	
73) chlorobenzene-d5	13.765	117	191353	50.00	ug/L	-0.02	
96) 1,4-dichlorobenzene-d4	16.108	152	109897	50.00	ug/L	-0.02	
System Monitoring Compounds							
47) dibromofluoromethane (s)	9.717	113	69446	51.35	ug/L	-0.02	
Spiked Amount	50.000	Range	75 - 127	Recovery	=	102.70%	
52) 1,2-dichloroethane-d4 (s)	10.141	65	80986	56.22	ug/L	-0.02	
Spiked Amount	50.000	Range	75 - 130	Recovery	=	112.44%	
74) toluene-d8 (s)	12.264	98	242066	49.34	ug/L	-0.02	
Spiked Amount	50.000	Range	80 - 120	Recovery	=	98.68%	
97) 4-bromofluorobenzene (s)	14.932	95	88089	52.56	ug/L	-0.02	
Spiked Amount	50.000	Range	79 - 127	Recovery	=	105.12%	
Target Compounds							
							Qvalue
2) tertiary butyl alcohol	7.473	59	13367	104.37	ug/L		91
3) 1,4-dioxane	11.281	88	7045	490.84	ug/L		97
5) dichlorodifluoromethane	3.891	85	41186	27.39	ug/L		99
6) chlorodifluoromethane	3.917	51	29548	20.81	ug/L		97
7) chloromethane	4.278	50	31948	22.95	ug/L		95
8) vinyl chloride	4.523	62	28073	23.94	ug/L		99
9) 1,3-butadiene	4.607	54	17376	21.22	ug/L		96
10) bromomethane	5.188	94	17763	22.74	ug/L		97
11) chloroethane	5.386	64	15692	22.13	ug/L		94
12) vinyl bromide	5.737	106	15526	17.13	ug/L		96
13) trichlorofluoromethane	5.857	101	37842	21.09	ug/L		98
14) ethyl ether	6.296	74	10146	19.96	ug/L		86
15) 2-chloropropane	6.500	63	8145	19.66	ug/L		95
16) acrolein	6.511	56	2932	17.70	ug/L		75
17) freon 113	6.720	151	17140	19.50	ug/L		98
18) 1,1-dichloroethene	6.710	61	30756	19.20	ug/L		97
19) acetone	6.699	43	25952	89.49	ug/L		91
20) iodomethane	6.955	142	18700	15.49	ug/L		95
21) carbon disulfide	7.112	76	59872	17.35	ug/L		99
22) acetonitrile	7.097	41	28656	197.88	ug/L		96
23) methyl acetate	7.191	74	2752	17.83	ug/L #		88
24) methylene chloride	7.426	84	22321	18.82	ug/L		97
25) acrylonitrile	7.703	53	6135	17.99	ug/L		97
26) methyl tert butyl ether	7.808	73	59257	21.08	ug/L		94
27) trans-1,2-dichloroethene	7.845	61	29879	19.57	ug/L		98
28) hexane	8.232	57	29122	15.81	ug/L		98
29) 1,1-dichloroethane	8.415	63	37469	19.22	ug/L		98
30) vinyl acetate	8.368	86	3534	19.04	ug/L		99
31) di-isopropyl ether	8.425	45	62948	18.21	ug/L		95
32) chloroprene	8.530	53	33535	20.39	ug/L		97
33) ethyl tert-butyl ether	8.896	59	65340	19.59	ug/L		98
34) 2-butanone	9.063	72	8898	81.86	ug/L		98

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI9086\  
 Data File : I225506.D  
 Acq On : 18 Apr 2019 8:29 am  
 Operator : thienn  
 Sample : cc8986-20  
 Misc : MS31989,VI9086,5,,100,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 12:03:55 2019

Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M

Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um

QLast Update : Fri Jan 25 14:07:54 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) 2,2-dichloropropane	9.168	77	37117	21.96	ug/L	99
36) ethyl acetate	9.100	45	2816	18.92	ug/L #	87
37) cis-1,2-dichloroethene	9.136	96	23097	18.39	ug/L	95
38) propionitrile	9.110	54	32899	206.37	ug/L	92
39) methyl acrylate	9.184	85	3008	19.66	ug/L #	79
40) methacrylonitrile	9.330	67	7930	19.71	ug/L	90
41) bromochloromethane	9.440	128	10946	19.38	ug/L	92
42) tetrahydrofuran	9.471	71	2868	22.90	ug/L	78
43) chloroform	9.529	83	41593	20.62	ug/L	99
44) carbon tetrachloride	10.005	117	33523	20.35	ug/L	97
45) 1,1-dichloropropene	9.973	75	29476	19.41	ug/L	98
48) 1,1,1-trichloroethane	9.795	97	37940	21.07	ug/L	95
49) cyclohexane	9.926	84	28696	18.10	ug/L	88
50) tert-amyl alcohol	10.078	55	4748	108.14	ug/L	89
53) isopropyl acetate	10.130	87	4019	19.22	ug/L #	84
54) 1,2-dichloroethane	10.230	62	32957	21.74	ug/L	96
55) benzene	10.219	78	84752	18.80	ug/L	98
56) 2,2,4-trimethylpentane	10.334	57	71526	15.50	ug/L	94
57) tert-amyl methyl ether	10.308	87	15307	19.89	ug/L	98
58) heptane	10.507	57	14664	15.22	ug/L	98
59) n-butyl alcohol	10.664	56	40578	1077.34	ug/L	93
60) trichloroethene	10.951	95	22396	18.54	ug/L	93
61) ethyl acrylate	10.936	55	23298	18.25	ug/L	98
62) methylcyclohexane	11.260	83	32941	16.11	ug/L	95
63) 1,2-dichloropropane	11.229	63	19643	17.02	ug/L	88
64) methyl methacrylate	11.202	100	4932	18.16	ug/L #	80
65) dibromomethane	11.333	93	13337	19.83	ug/L	94
66) bromodichloromethane	11.490	83	31919	19.96	ug/L	98
67) 2-nitropropane	11.663	41	6555	23.68	ug/L	88
68) 2-chloroethyl vinyl ether	11.725	63	64471	95.47	ug/L	99
69) epichlorohydrin	11.799	57	11408	101.14	ug/L	96
70) cis-1,3-dichloropropene	11.945	75	34727	19.24	ug/L	90
71) 4-methyl-2-pentanone	12.039	58	27627	76.93	ug/L	92
72) 3-methyl-1-butanol	12.034	70	11928	382.39	ug/L	92
75) toluene	12.337	92	50373	19.02	ug/L	100
76) trans-1,3-dichloropropene	12.510	75	32561	20.43	ug/L	99
77) ethyl methacrylate	12.510	69	21638	18.01	ug/L	96
78) 1,1,2-trichloroethane	12.730	83	14027	18.05	ug/L	97
79) 1,3-dichloropropane	12.907	76	27448	19.41	ug/L	99
80) tetrachloroethene	12.897	166	25244	18.98	ug/L	97
81) 2-hexanone	12.887	58	26234	75.56	ug/L	89
82) butyl acetate	12.981	56	10761	17.81	ug/L	92
83) n-butyl ether	13.770	57	68221	15.60	ug/L	92
84) dibromochloromethane	13.159	129	23713	19.53	ug/L	98
85) 1,2-dibromoethane	13.310	107	24405	23.09	ug/L	98
86) chlorobenzene	13.797	112	54101	19.17	ug/L	99
87) 1,1,1,2-tetrachloroethane	13.859	131	21580	19.26	ug/L	94
88) ethylbenzene	13.865	91	93328	18.91	ug/L	97
89) m,p-xylene	13.985	106	72739	37.49	ug/L	94
90) o-xylene	14.382	106	35100	18.17	ug/L	97

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI9086\  
 Data File : I225506.D  
 Acq On : 18 Apr 2019 8:29 am  
 Operator : thienn  
 Sample : cc8986-20  
 Misc : MS31989,VI9086,5,,100,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 12:03:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration

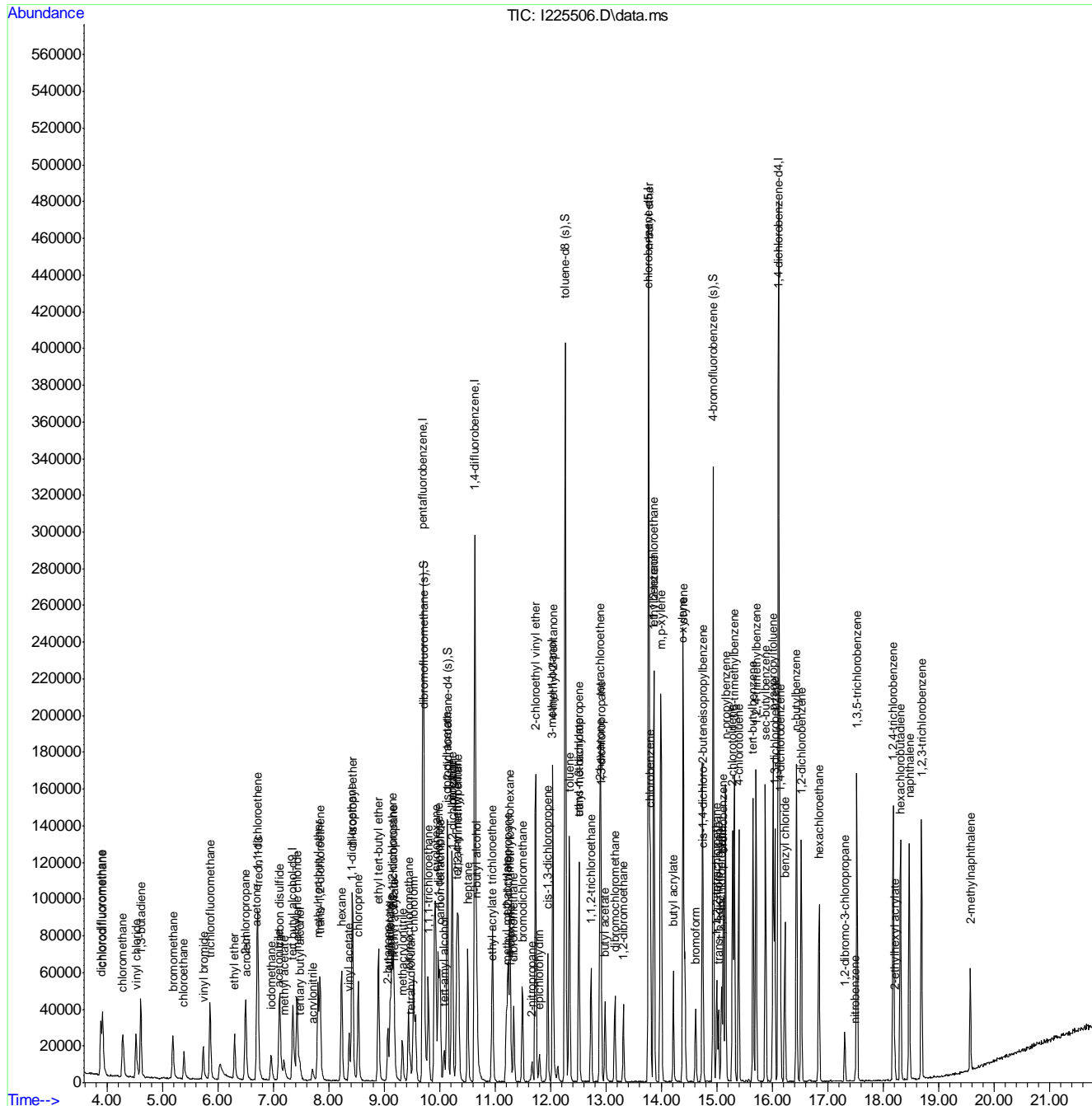
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) styrene	14.393	104	59168	18.24	ug/L	96
92) butyl acrylate	14.210	55	33865	18.30	ug/L	97
93) cis-1,4-dichloro-2-butene	14.749	88	10809	22.73	ug/L	95
94) bromoform	14.613	173	17147	20.11	ug/L	98
95) isopropylbenzene	14.738	105	90407	18.59	ug/L	96
98) 1,1,2,2-tetrachloroethane	14.994	83	22521	19.82	ug/L	96
99) trans-1,4-dichloro-2-b...	15.026	53	6955	23.48	ug/L	96
100) 1,2,3-trichloropropane	15.078	110	6417	21.92	ug/L	96
101) bromobenzene	15.109	156	26208	19.32	ug/L	97
102) n-propylbenzene	15.151	91	108048	19.18	ug/L	99
103) 2-chlorotoluene	15.277	126	22641	19.14	ug/L	98
104) 4-chlorotoluene	15.392	91	68199	20.25	ug/L	98
105) 1,3,5-trimethylbenzene	15.308	105	80280	18.94	ug/L	96
106) tert-butylbenzene	15.648	134	14537	18.51	ug/L #	83
107) 1,2,4-trimethylbenzene	15.700	105	82561	19.01	ug/L	95
108) sec-butylbenzene	15.873	105	98188	17.97	ug/L	97
109) p-isopropyltoluene	16.009	119	89773	18.93	ug/l	97
110) benzyl chloride	16.223	91	56785	21.35	ug/L	96
111) 1,3-dichlorobenzene	16.040	146	51196	19.78	ug/L	98
112) 1,4-dichlorobenzene	16.140	146	51471	19.47	ug/L	98
113) 1,2-dichlorobenzene	16.516	146	49793	19.65	ug/L	97
114) n-butylbenzene	16.427	92	47728	19.35	ug/L	97
115) hexachloroethane	16.841	201	18114	19.16	ug/L	88
116) 1,2-dibromo-3-chloropr...	17.301	157	6788	19.26	ug/L	87
117) nitrobenzene	17.494	77	2726	22.51	ug/L	97
118) 1,3,5-trichlorobenzene	17.521	180	49719	19.32	ug/L	97
119) 1,2,4-trichlorobenzene	18.180	180	44487	19.21	ug/L	98
120) 2-ethylhexyl acrylate	18.200	55	6835	3.62	ug/L	94
121) hexachlorobutadiene	18.310	225	27638	18.13	ug/L	96
122) naphthalene	18.467	128	92307	20.62	ug/L	99
123) 1,2,3-trichlorobenzene	18.687	180	41771	18.34	ug/L	97
124) 2-methylnaphthalene	19.566	142	22095	13.84	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\VI9086\  
 Data File : I225506.D  
 Acq On : 18 Apr 2019 8:29 am  
 Operator : thienn  
 Sample : cc8986-20  
 Misc : MS31989,VI9086,5,,100,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 12:03:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MI8986.M  
 Quant Title : Method SW846 8260C, Rxi-624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Jan 25 14:07:54 2019  
 Response via : Initial Calibration



7.7.13  
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Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184473.D  
 Acq On : 11 Apr 2019 11:20 am  
 Operator : Prashans  
 Sample : IC8003-0.5  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 08:02:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	59977	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	162473	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	227226	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	224034	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	126825	50.00	ug/L	0.00

System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	71570	49.03	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	98.06%
53) 1,2-dichloroethane-d4 (s)	10.44	65	62575	51.60	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	103.20%
75) toluene-d8 (s)	12.51	98	270417	48.71	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	97.42%
98) 4-bromofluorobenzene (s)	15.13	95	110015	49.78	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	99.56%

Target Compounds

						Qvalue
6) chlorodifluoromethane	4.38	51	1669	0.63	ug/L	64
7) dichlorodifluoromethane	4.37	85	1482	0.48	ug/L #	50
8) chloromethane	4.73	50	2232	0.67	ug/L	77
9) vinyl chloride	4.98	62	1519	0.53	ug/L	80
14) trichlorofluoromethane	6.28	101	1782	0.58	ug/L	72
19) 1,1-dichloroethene	7.07	61	1406	0.50	ug/L	86
22) iodomethane	7.33	142	1838	0.57	ug/L	86
23) carbon disulfide	7.46	76	3227	0.57	ug/L #	11
26) methyl tert butyl ether	8.14	73	2854	0.54	ug/L	66
27) trans-1,2-dichloroethene	8.16	61	1265	0.49	ug/L	90
29) di-isopropyl ether	8.72	45	3643	0.55	ug/L	99
30) ethyl tert-butyl ether	9.18	59	3154	0.51	ug/L	77
32) 1,1-dichloroethane	8.74	63	1669	0.53	ug/L	86
33) chloroprene	8.83	53	1409	0.56	ug/L	82
47) 1,1,1-trichloroethane	10.09	97	1807	0.62	ug/L	80
48) cyclohexane	10.20	84	1301	0.48	ug/L	91
49) 1,1-dichloropropene	10.25	75	1010	0.48	ug/L #	80
51) carbon tetrachloride	10.29	117	1220	0.50	ug/L #	82
54) 2,2,4-trimethylpentane	10.59	57	3613	0.51	ug/L	88
55) tert-amyl methyl ether	10.58	73	3163	0.58	ug/L	93
57) benzene	10.50	78	4077	0.61	ug/L	97
61) trichloroethene	11.22	130	980	0.57	ug/L	76
64) 2-chloroethyl vinyl ether	11.99	63	2283	2.78	ug/L	87
66) 1,2-dichloropropane	11.50	63	801	0.47	ug/L	84
67) methylcyclohexane	11.52	83	1600	0.53	ug/L	84
68) dibromomethane	11.62	93	508	0.53	ug/L	89
69) bromodichloromethane	11.76	83	1258	0.54	ug/L	81
71) cis-1,3-dichloropropene	12.20	75	1321	0.49	ug/L	82
72) 4-methyl-2-pentanone	12.31	58	1117	2.31	ug/L #	61
76) toluene	12.58	92	2550	0.61	ug/L	94
77) trans-1,3-dichloropropene	12.76	75	1280	0.55	ug/L	82
78) ethyl methacrylate	12.75	69	920	0.51	ug/L	87
79) 1,1,2-trichloroethane	12.98	83	632	0.56	ug/L #	76

7.7.14  
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## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184473.D  
 Acq On : 11 Apr 2019 11:20 am  
 Operator : Prashans  
 Sample : IC8003-0.5  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 08:02:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration

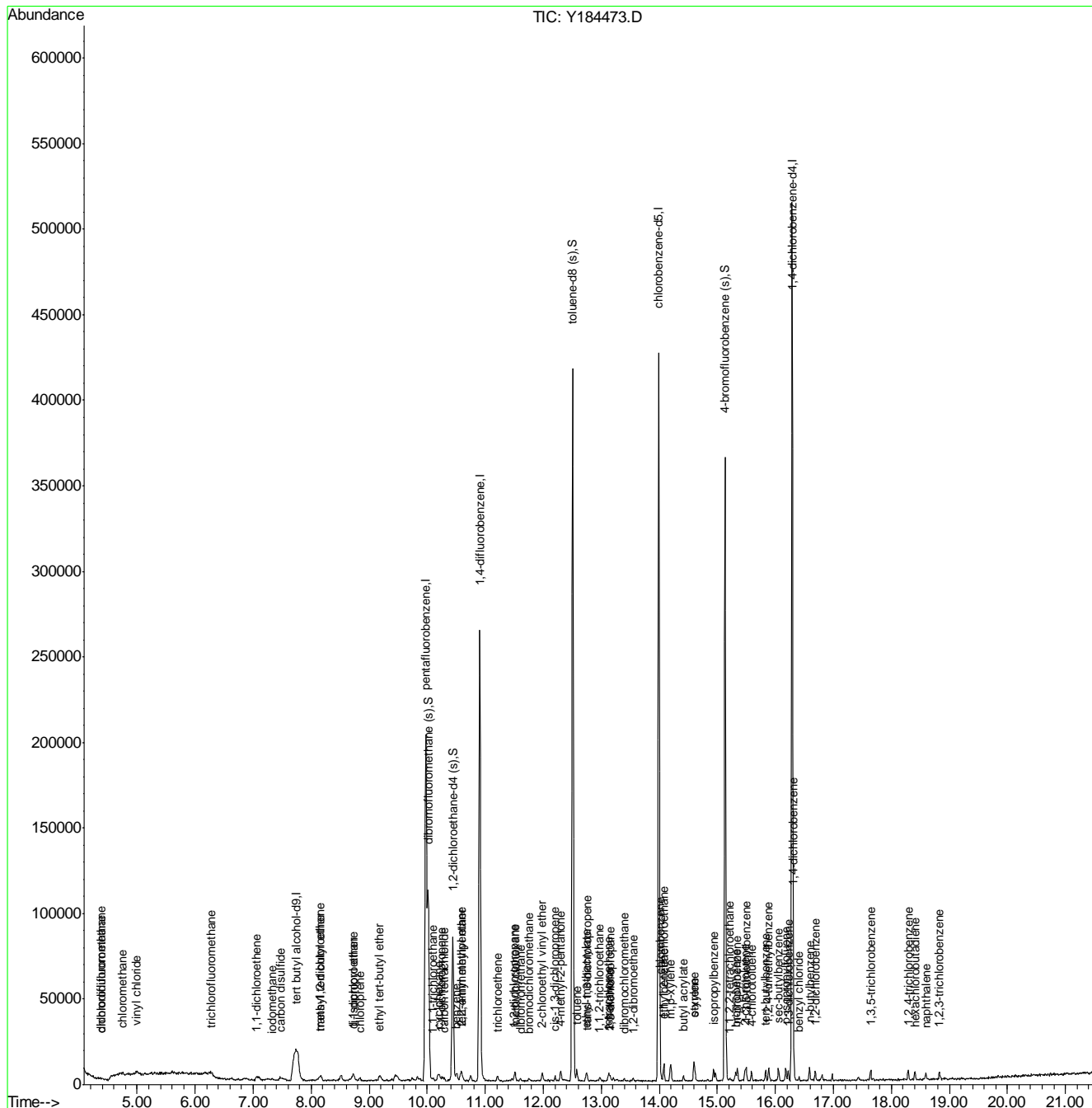
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) 2-hexanone	13.14	58	1164	2.48	ug/L #	52
81) tetrachloroethene	13.12	166	986	0.54	ug/L	95
82) 1,3-dichloropropane	13.15	76	1035	0.49	ug/L	90
84) dibromochloromethane	13.40	129	791	0.46	ug/L	96
85) 1,2-dibromoethane	13.56	107	1037	0.57	ug/L	72
87) chlorobenzene	14.02	112	2740	0.57	ug/L	96
88) 1,1,1,2-tetrachloroethane	14.08	131	858	0.46	ug/L	89
89) ethylbenzene	14.08	91	4363	0.54	ug/L	98
90) m,p-xylene	14.19	106	3494	1.12	ug/L	90
91) o-xylene	14.59	91	3874	0.57	ug/L	99
92) styrene	14.60	104	2904	0.53	ug/L	98
94) butyl acrylate	14.41	55	1767	0.56	ug/L	97
95) isopropylbenzene	14.94	105	4551	0.55	ug/L	87
99) bromobenzene	15.31	156	1343	0.57	ug/L #	74
100) 1,1,2,2-tetrachloroethane	15.21	83	942	0.51	ug/L	77
103) n-propylbenzene	15.34	91	5504	0.57	ug/L	99
104) 2-chlorotoluene	15.48	126	1184	0.56	ug/L #	67
105) 4-chlorotoluene	15.59	91	3238	0.54	ug/L	91
106) 1,3,5-trimethylbenzene	15.50	105	4099	0.57	ug/L	97
107) tert-butylbenzene	15.83	134	663	0.51	ug/L #	86
108) 1,2,4-trimethylbenzene	15.89	105	4529	0.61	ug/L	96
109) sec-butylbenzene	16.05	105	5243	0.57	ug/L	98
110) 1,3-dichlorobenzene	16.22	146	2607	0.59	ug/L	84
111) p-isopropyltoluene	16.18	119	4366	0.54	ug/L	93
112) 1,4-dichlorobenzene	16.31	146	2464	0.55	ug/L	82
113) 1,2-dichlorobenzene	16.69	146	2402	0.54	ug/L	92
114) n-butylbenzene	16.59	92	2302	0.53	ug/L	92
116) 1,3,5-trichlorobenzene	17.64	180	2381	0.54	ug/L	89
117) 1,2,4-trichlorobenzene	18.29	180	1850	0.49	ug/L	98
118) hexachlorobutadiene	18.41	225	1277	0.56	ug/L	88
119) naphthalene	18.59	128	3072	0.47	ug/L	95
120) 1,2,3-trichlorobenzene	18.82	180	1669	0.50	ug/L #	65
122) benzyl chloride	16.41	91	1790	0.52	ug/L	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184473.D  
 Acq On : 11 Apr 2019 11:20 am  
 Operator : Prashans  
 Sample : IC8003-0.5  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 15 08:02:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration



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## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184474.D  
 Acq On : 11 Apr 2019 11:48 am  
 Operator : Prashans  
 Sample : IC8003-1  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 07:48:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.73	65	62641	500.00	ug/L	-0.01
5) pentafluorobenzene	9.97	168	186593	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	265820	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	258613	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	147272	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.01	113	82613	49.28	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	98.56%
53) 1,2-dichloroethane-d4 (s)	10.43	65	72175	50.88	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	101.76%
75) toluene-d8 (s)	12.51	98	313587	48.94	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	97.88%
98) 4-bromofluorobenzene (s)	15.13	95	129076	50.29	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	100.58%

## Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
6) chlorodifluoromethane	4.38	51	3430	1.13	ug/L	84
7) dichlorodifluoromethane	4.34	85	2717	0.76	ug/L #	50
8) chloromethane	4.74	50	4364	1.14	ug/L	91
9) vinyl chloride	4.98	62	3090	0.94	ug/L	80
10) 1,3-butadiene	5.00	54	2289	1.08	ug/L	93
11) bromomethane	5.64	94	2889	1.19	ug/L	80
12) chloroethane	5.78	64	2377	1.31	ug/L #	44
13) vinyl bromide	6.15	106	1738	0.99	ug/L	82
14) trichlorofluoromethane	6.27	101	3330	0.94	ug/L	86
15) ethyl ether	6.62	74	892	0.86	ug/L	88
18) freon 113	7.09	151	1597	0.90	ug/L #	82
19) 1,1-dichloroethene	7.06	61	3212	1.00	ug/L	92
22) iodomethane	7.32	142	3817	1.04	ug/L	82
23) carbon disulfide	7.48	76	6880	1.07	ug/L	90
26) methyl tert butyl ether	8.13	73	6038	1.00	ug/L	90
27) trans-1,2-dichloroethene	8.15	61	2914	0.99	ug/L	97
29) di-isopropyl ether	8.73	45	7853	1.04	ug/L	90
30) ethyl tert-butyl ether	9.19	59	6546	0.92	ug/L	96
32) 1,1-dichloroethane	8.73	63	3613	1.00	ug/L	94
33) chloroprene	8.83	53	2871	1.00	ug/L	92
37) 2,2-dichloropropane	9.48	77	3238	1.01	ug/L	95
38) cis-1,2-dichloroethene	9.45	96	2340	0.97	ug/L	78
39) propionitrile	9.46	54	1742	8.49	ug/L	83
40) bromochloromethane	9.74	130	1338	0.92	ug/L	93
42) chloroform	9.83	83	3934	1.06	ug/L	95
47) 1,1,1-trichloroethane	10.09	97	3155	0.94	ug/L	87
48) cyclohexane	10.20	84	3081	1.00	ug/L	83
49) 1,1-dichloropropene	10.26	75	2532	1.05	ug/L	93
51) carbon tetrachloride	10.28	117	2593	0.92	ug/L	93
54) 2,2,4-trimethylpentane	10.59	57	7287	0.88	ug/L	87
55) tert-amyl methyl ether	10.58	73	5976	0.93	ug/L	98
57) benzene	10.50	78	7559	0.97	ug/L	89
58) heptane	10.74	57	1425	0.98	ug/L	80

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184474.D  
 Acq On : 11 Apr 2019 11:48 am  
 Operator : Prashans  
 Sample : IC8003-1  
 Misc : MS31717,VY8003,5.0,,,,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 07:48:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
60) 1,2-dichloroethane	10.53	62	2648	1.13	ug/L	93
61) trichloroethene	11.21	130	2088	1.03	ug/L	87
62) ethyl acrylate	11.20	55	1749	0.99	ug/L	83
64) 2-chloroethyl vinyl ether	11.98	63	4892	5.08	ug/L	97
66) 1,2-dichloropropane	11.50	63	1945	0.97	ug/L	95
67) methylcyclohexane	11.51	83	3495	0.99	ug/L	97
68) dibromomethane	11.61	93	1045	0.93	ug/L	92
69) bromodichloromethane	11.76	83	2454	0.91	ug/L	91
71) cis-1,3-dichloropropene	12.20	75	3012	0.96	ug/L	91
72) 4-methyl-2-pentanone	12.31	58	2276	4.02	ug/L	96
76) toluene	12.57	92	4767	1.00	ug/L	89
77) trans-1,3-dichloropropene	12.76	75	2533	0.95	ug/L	93
78) ethyl methacrylate	12.75	69	2060	0.99	ug/L	95
79) 1,1,2-trichloroethane	12.98	83	1232	0.95	ug/L	90
80) 2-hexanone	13.14	58	2076	3.84	ug/L	95
81) tetrachloroethene	13.12	166	2120	1.00	ug/L	84
82) 1,3-dichloropropane	13.15	76	2500	1.02	ug/L	84
83) butyl acetate	13.20	56	1012	0.97	ug/L #	70
84) dibromochloromethane	13.39	129	1853	0.93	ug/L	92
85) 1,2-dibromoethane	13.55	107	1911	0.91	ug/L	91
86) n-butyl ether	13.97	57	8820	1.02	ug/L	82
87) chlorobenzene	14.02	112	5526	0.99	ug/L	93
88) 1,1,1,2-tetrachloroethane	14.09	131	1965	0.92	ug/L	90
89) ethylbenzene	14.07	91	9432	1.01	ug/L	88
90) m,p-xylene	14.19	106	7587	2.11	ug/L	91
91) o-xylene	14.59	91	7812	0.99	ug/L	98
92) styrene	14.60	104	6319	1.00	ug/L	96
93) bromoform	14.83	173	978	0.76	ug/L	78
94) butyl acrylate	14.41	55	3508	0.96	ug/L	91
95) isopropylbenzene	14.93	105	9634	1.01	ug/L	95
99) bromobenzene	15.32	156	2644	0.97	ug/L	93
100) 1,1,2,2-tetrachloroethane	15.20	83	2035	0.96	ug/L	96
102) 1,2,3-trichloropropane	15.29	110	531	1.02	ug/L	96
103) n-propylbenzene	15.35	91	11480	1.02	ug/L	96
104) 2-chlorotoluene	15.48	126	2436	0.99	ug/L	92
105) 4-chlorotoluene	15.59	91	7285	1.04	ug/L	96
106) 1,3,5-trimethylbenzene	15.50	105	8449	1.01	ug/L	99
107) tert-butylbenzene	15.83	134	1337	0.89	ug/L #	90
108) 1,2,4-trimethylbenzene	15.88	105	8667	1.01	ug/L	97
109) sec-butylbenzene	16.05	105	10565	0.99	ug/L	98
110) 1,3-dichlorobenzene	16.22	146	5290	1.02	ug/L	93
111) p-isopropyltoluene	16.18	119	9260	0.99	ug/L	94
112) 1,4-dichlorobenzene	16.31	146	4950	0.95	ug/L	94
113) 1,2-dichlorobenzene	16.68	146	4867	0.94	ug/L	97
114) n-butylbenzene	16.59	92	4681	0.93	ug/L	97
116) 1,3,5-trichlorobenzene	17.64	180	4659	0.92	ug/L	91
117) 1,2,4-trichlorobenzene	18.29	180	3846	0.88	ug/L	95
118) hexachlorobutadiene	18.41	225	2520	0.94	ug/L	87
119) naphthalene	18.59	128	6222	0.83	ug/L	96
120) 1,2,3-trichlorobenzene	18.83	180	3266	0.85	ug/L	80

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184474.D  
 Acq On : 11 Apr 2019 11:48 am  
 Operator : Prashans  
 Sample : IC8003-1  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 07:48:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration

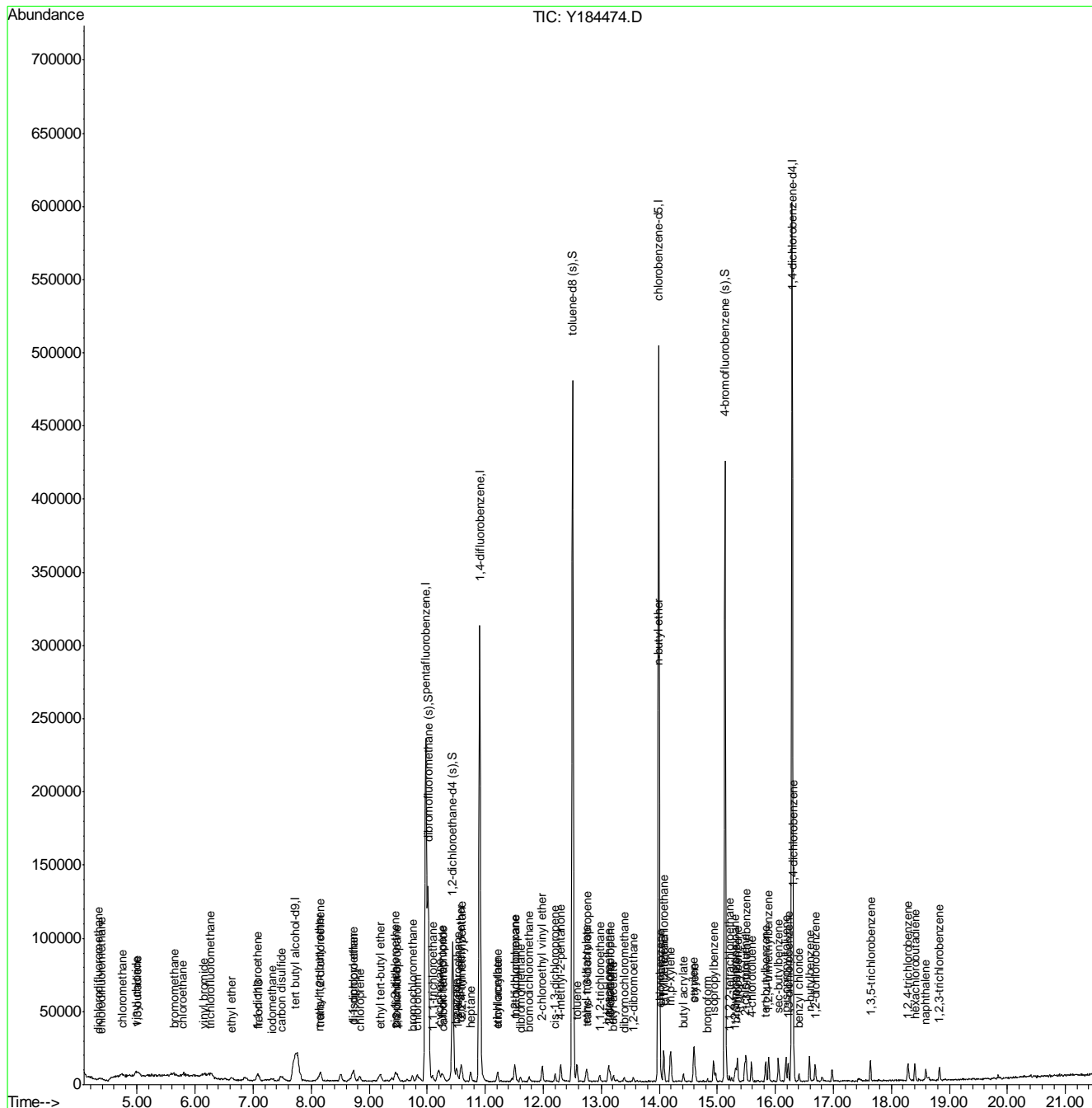
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
122) benzyl chloride	16.41	91	3700	0.92	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184474.D  
 Acq On : 11 Apr 2019 11:48 am  
 Operator : Prashans  
 Sample : IC8003-1  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 15 07:48:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration



7.7.15  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184475.D  
 Acq On : 11 Apr 2019 12:27 pm  
 Operator : Prashans  
 Sample : IC8003-2  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 07:52:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.75	65	59987	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	170792	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	239250	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	213846	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	127326	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	75426	49.15	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	98.30%
53) 1,2-dichloroethane-d4 (s)	10.44	65	66853	52.36	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	104.72%
75) toluene-d8 (s)	12.51	98	271659	51.27	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	102.54%
98) 4-bromofluorobenzene (s)	15.13	95	108786	49.03	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	98.06%

## Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.84	59	1721	9.03	ug/L	69
4) 1,4-dioxane	11.56	88	869	49.54	ug/L	85
6) chlorodifluoromethane	4.37	51	6701	2.41	ug/L	92
7) dichlorodifluoromethane	4.34	85	6852	2.09	ug/L	81
8) chloromethane	4.74	50	8751	2.49	ug/L	89
9) vinyl chloride	5.00	62	6765	2.25	ug/L	94
10) 1,3-butadiene	5.01	54	4609	2.38	ug/L	97
11) bromomethane	5.62	94	5840	2.64	ug/L	82
12) chloroethane	5.81	64	4354	2.62	ug/L	81
13) vinyl bromide	6.16	106	3352	2.09	ug/L	90
14) trichlorofluoromethane	6.27	101	7221	2.23	ug/L	93
15) ethyl ether	6.64	74	1735	1.83	ug/L #	74
16) 2-chloropropane	6.86	63	1567	1.99	ug/L #	16
17) acrolein	6.87	56	475	1.80	ug/L #	17
18) freon 113	7.10	151	3145	1.93	ug/L #	85
19) 1,1-dichloroethene	7.09	61	6455	2.19	ug/L	89
20) acetone	7.07	43	5004	11.68	ug/L	88
22) iodomethane	7.33	142	7193	2.14	ug/L	92
23) carbon disulfide	7.48	76	13355	2.26	ug/L	97
26) methyl tert butyl ether	8.15	73	11489	2.08	ug/L	98
27) trans-1,2-dichloroethene	8.16	61	5813	2.16	ug/L	93
28) hexane	8.51	57	5695	2.20	ug/L	96
29) di-isopropyl ether	8.72	45	14409	2.08	ug/L	96
30) ethyl tert-butyl ether	9.18	59	12985	1.99	ug/L	93
31) 2-butanone	9.38	72	989	6.89	ug/L #	48
32) 1,1-dichloroethane	8.74	63	7430	2.25	ug/L	95
33) chloroprene	8.84	53	5744	2.18	ug/L	95
37) 2,2-dichloropropane	9.48	77	6562	2.25	ug/L	96
38) cis-1,2-dichloroethene	9.45	96	4754	2.15	ug/L	94
39) propionitrile	9.47	54	3721	19.81	ug/L	69
40) bromochloromethane	9.74	130	2804	2.11	ug/L	94
42) chloroform	9.83	83	7754	2.29	ug/L	96
43) tert-butyl formate	9.87	59	2961	2.01	ug/L	91

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184475.D  
 Acq On : 11 Apr 2019 12:27 pm  
 Operator : Prashans  
 Sample : IC8003-2  
 Misc : MS31717,VY8003,5.0,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 07:52:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) methacrylonitrile	9.65	67	999	1.93	ug/L #	84
47) 1,1,1-trichloroethane	10.09	97	6749	2.19	ug/L	98
48) cyclohexane	10.21	84	6077m	2.15	ug/L	
49) 1,1-dichloropropene	10.26	75	4969	2.25	ug/L	92
51) carbon tetrachloride	10.29	117	5680	2.20	ug/L	89
54) 2,2,4-trimethylpentane	10.59	57	14985	2.01	ug/L	98
55) tert-amyl methyl ether	10.58	73	12153	2.11	ug/L	99
56) n-butyl alcohol	10.96	41	3215	102.44	ug/L	80
57) benzene	10.50	78	15436	2.20	ug/L	100
58) heptane	10.75	57	2716	2.07	ug/L	94
60) 1,2-dichloroethane	10.53	62	4829	2.29	ug/L	93
61) trichloroethene	11.21	130	3748	2.06	ug/L	95
62) ethyl acrylate	11.20	55	3278	2.06	ug/L	92
64) 2-chloroethyl vinyl ether	11.98	63	8531	9.85	ug/L	85
66) 1,2-dichloropropane	11.51	63	3650	2.01	ug/L	89
67) methylcyclohexane	11.52	83	6796	2.14	ug/L	92
68) dibromomethane	11.61	93	2104	2.07	ug/L	87
69) bromodichloromethane	11.75	83	4737	1.94	ug/L	92
70) epichlorohydrin	12.07	57	1409	11.23	ug/L #	58
71) cis-1,3-dichloropropene	12.20	75	5581	1.97	ug/L	92
72) 4-methyl-2-pentanone	12.30	58	3916	7.69	ug/L	90
73) 3-methyl-1-butanol	12.30	70	1561	39.79	ug/L	81
76) toluene	12.58	92	8813	2.22	ug/L #	84
77) trans-1,3-dichloropropene	12.75	75	4464	2.02	ug/L	90
78) ethyl methacrylate	12.74	69	3461	2.02	ug/L	95
79) 1,1,2-trichloroethane	12.98	83	2398	2.23	ug/L #	82
80) 2-hexanone	13.13	58	3654	8.17	ug/L	95
81) tetrachloroethene	13.12	166	3967	2.27	ug/L	95
82) 1,3-dichloropropane	13.15	76	4305	2.13	ug/L	98
83) butyl acetate	13.21	56	1863	2.16	ug/L	99
84) dibromochloromethane	13.39	129	3137	1.90	ug/L	95
85) 1,2-dibromoethane	13.55	107	3601	2.08	ug/L	96
86) n-butyl ether	13.97	57	15435	2.17	ug/L	90
87) chlorobenzene	14.02	112	9822	2.13	ug/L	94
88) 1,1,1,2-tetrachloroethane	14.09	131	3998	2.25	ug/L	87
89) ethylbenzene	14.08	91	17095	2.22	ug/L	97
90) m,p-xylene	14.20	106	13056	4.39	ug/L	96
91) o-xylene	14.59	91	14328	2.20	ug/L	94
92) styrene	14.60	104	10951	2.09	ug/L	97
93) bromoform	14.83	173	1911	1.80	ug/L	94
94) butyl acrylate	14.42	55	6492	2.15	ug/L	97
95) isopropylbenzene	14.93	105	17109	2.17	ug/L	97
99) bromobenzene	15.31	156	4845	2.06	ug/L	89
100) 1,1,2,2-tetrachloroethane	15.20	83	3859	2.10	ug/L	87
102) 1,2,3-trichloropropane	15.30	110	923	2.06	ug/L	64
103) n-propylbenzene	15.35	91	20883	2.15	ug/L	94
104) 2-chlorotoluene	15.48	126	4401	2.06	ug/L	94
105) 4-chlorotoluene	15.59	91	12853	2.12	ug/L	99
106) 1,3,5-trimethylbenzene	15.50	105	15410	2.13	ug/L	95
107) tert-butylbenzene	15.84	134	2669	2.05	ug/L #	75



## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184475.D  
 Acq On : 11 Apr 2019 12:27 pm  
 Operator : Prashans  
 Sample : IC8003-2  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 07:52:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration

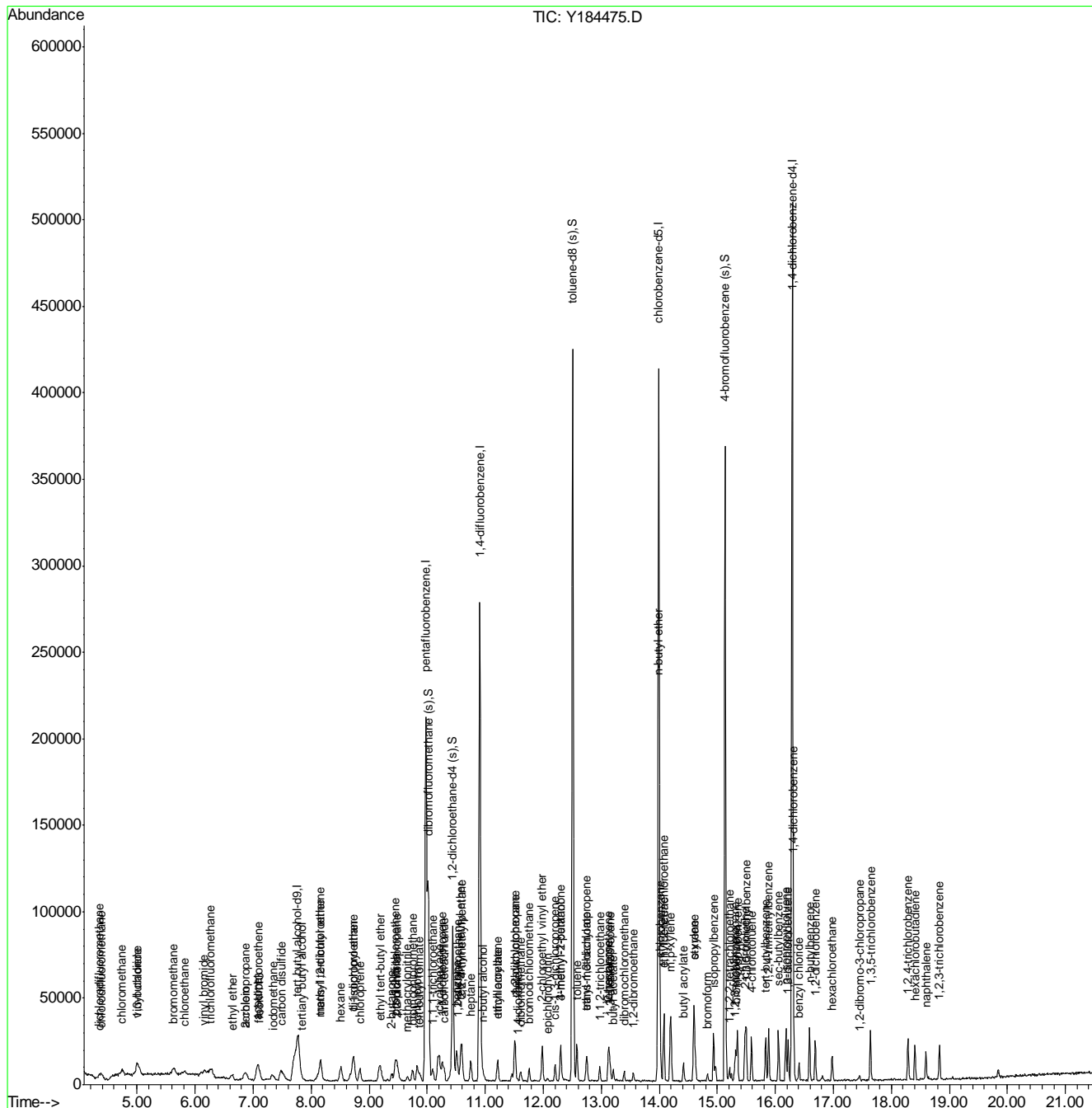
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) 1,2,4-trimethylbenzene	15.88	105	15303	2.06	ug/L	97
109) sec-butylbenzene	16.05	105	19076	2.07	ug/L	97
110) 1,3-dichlorobenzene	16.22	146	9761	2.19	ug/L	96
111) p-isopropyltoluene	16.18	119	16462	2.03	ug/L	98
112) 1,4-dichlorobenzene	16.31	146	9512	2.12	ug/L	95
113) 1,2-dichlorobenzene	16.69	146	9415	2.11	ug/L	94
114) n-butylbenzene	16.59	92	8581	1.96	ug/L	97
115) 1,2-dibromo-3-chloropropan	17.45	157	845	1.98	ug/L	85
116) 1,3,5-trichlorobenzene	17.64	180	9022	2.06	ug/L	97
117) 1,2,4-trichlorobenzene	18.29	180	7002	1.85	ug/L	97
118) hexachlorobutadiene	18.41	225	4491	1.95	ug/L	97
119) naphthalene	18.59	128	12122	1.86	ug/L	96
120) 1,2,3-trichlorobenzene	18.83	180	6482	1.94	ug/L	85
121) hexachloroethane	16.98	201	2203	1.67	ug/L	88
122) benzyl chloride	16.41	91	7066	2.04	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184475.D  
 Acq On : 11 Apr 2019 12:27 pm  
 Operator : Prashans  
 Sample : IC8003-2  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 15 07:52:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Fri Apr 12 08:39:42 2019  
 Response via : Initial Calibration



7.7.16  
7

# Manual Integration Approval Summary

Sample Number: VY8003-IC8003      Method: SW846 8260C  
Lab FileID: Y184475.D      Analyst approved: 04/15/19 08:29 Robert Szot  
Injection Time: 04/11/19 12:27      Supervisor approved: 04/15/19 14:44 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Cyclohexane	110-82-7		10.21	Overlapping peak

7.7.16.1

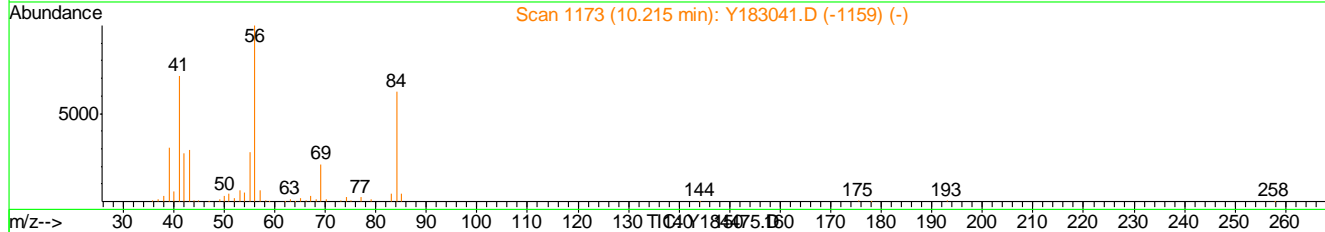
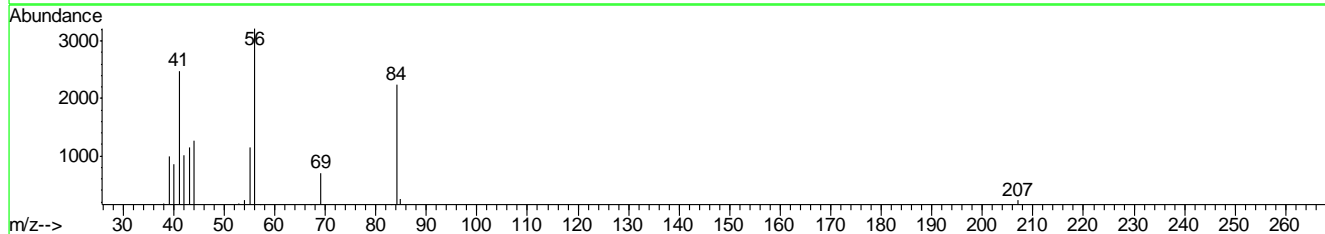
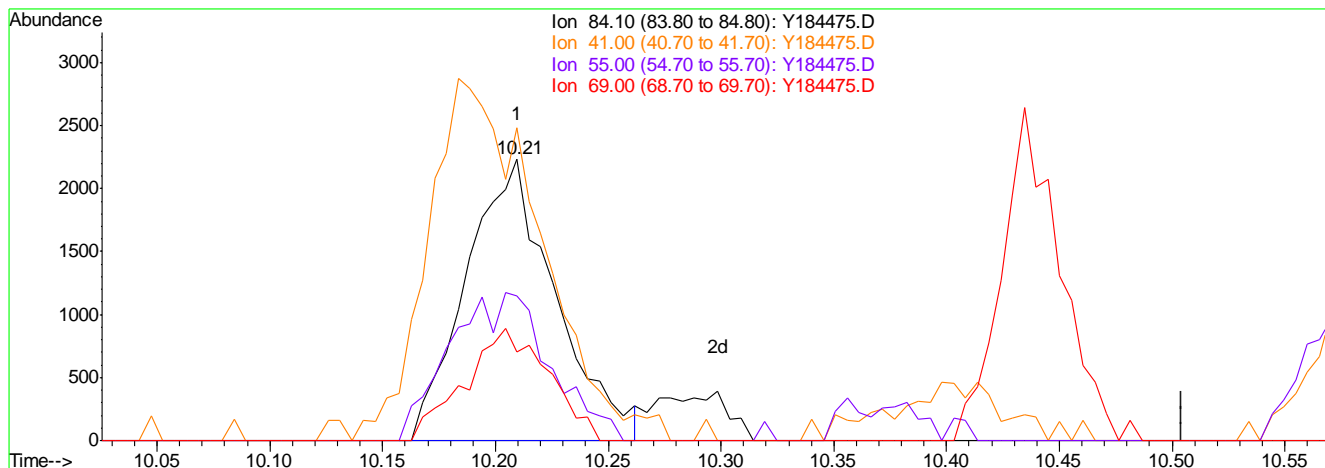
7

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\VY8003\Y184475.D Vial: 4  
 Acq On : 11 Apr 2019 12:27 pm Operator: Prashans  
 Sample : IC8003-2 Inst : MSY  
 Misc : MS31717,VY8003,5.0,,,,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Quant Time: Apr 15 07:50:09 2019 Results File: MYS8003.RES

Method : C:\MSDCHEM\1\METHODS\MYS8003.M (RTE Integrator)  
 Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 Last Update : Fri Apr 12 08:48:16 2019  
 Response via : Multiple Level Calibration



(48) cyclohexane  
 10.21min 2.18ug/L  
 response 6164

Ion	Exp%	Act%
84.10	100	100
41.00	114.40	101.66
55.00	52.20	51.57
69.00	36.30	31.33

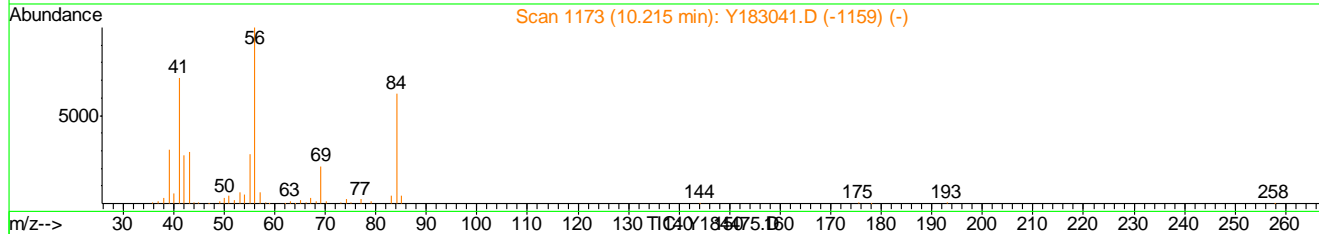
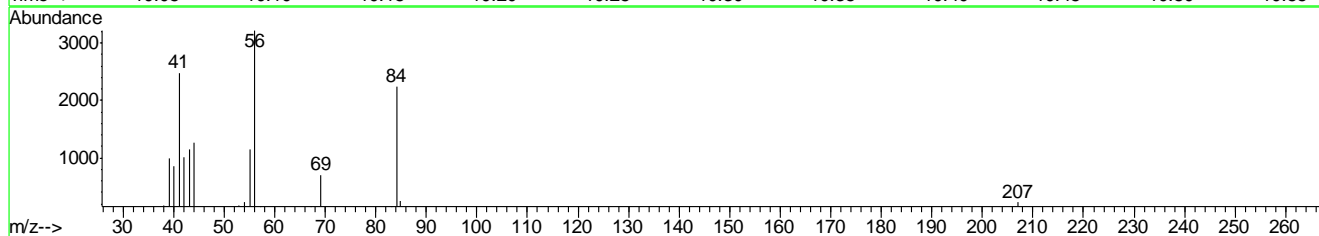
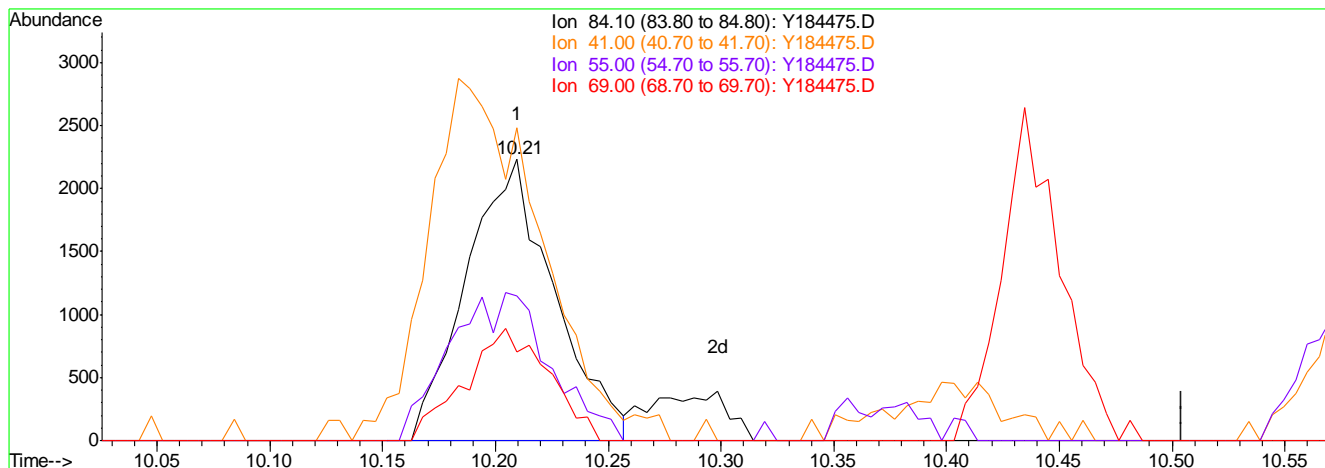
7.7.16.2  
7

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\VY8003\Y184475.D Vial: 4  
 Acq On : 11 Apr 2019 12:27 pm Operator: Prashans  
 Sample : IC8003-2 Inst : MSY  
 Misc : MS31717,VY8003,5.0,,,,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Quant Time: Apr 15 07:50:09 2019 Results File: MYS8003.RES

Method : C:\MSDCHEM\1\METHODS\MYS8003.M (RTE Integrator)  
 Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 Last Update : Fri Apr 12 08:48:16 2019  
 Response via : Multiple Level Calibration



(48) cyclohexane

10.21min 2.15ug/L m

response 6077

Ion	Exp%	Act%
84.10	100	100
41.00	114.40	111.01
55.00	52.20	51.57
69.00	36.30	31.33

7.7.16.3  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184476.D  
 Acq On : 11 Apr 2019 12:56 pm  
 Operator : Prashans  
 Sample : IC8003-4  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 08:11:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	58205	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	178282	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	253062	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	247878	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	140580	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	79150	49.73	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	99.46%
53) 1,2-dichloroethane-d4 (s)	10.43	65	70542	51.08	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	102.16%
75) toluene-d8 (s)	12.51	98	299338	48.34	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	96.68%
98) 4-bromofluorobenzene (s)	15.13	95	123677	51.30	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	102.60%

## Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.86	59	3698	19.94	ug/L	90
4) 1,4-dioxane	11.55	88	1756	102.68	ug/L	85
6) chlorodifluoromethane	4.38	51	12918	4.05	ug/L	96
7) dichlorodifluoromethane	4.36	85	13693	4.11	ug/L	99
8) chloromethane	4.73	50	16253	3.93	ug/L	95
9) vinyl chloride	4.99	62	13404	4.13	ug/L	96
10) 1,3-butadiene	5.01	54	8504	3.98	ug/L	95
11) bromomethane	5.63	94	10756	4.17	ug/L	89
12) chloroethane	5.81	64	7891	3.97	ug/L	95
13) vinyl bromide	6.15	106	7432	4.26	ug/L	92
14) trichlorofluoromethane	6.28	101	14294	4.03	ug/L	84
15) ethyl ether	6.63	74	3880	3.99	ug/L	74
16) 2-chloropropane	6.86	63	3473	4.10	ug/L	88
17) acrolein	6.87	56	1044	3.82	ug/L	73
18) freon 113	7.10	151	6845	4.08	ug/L #	87
19) 1,1-dichloroethene	7.07	61	13206	4.17	ug/L	94
20) acetone	7.08	43	8930	17.43	ug/L	88
21) acetonitrile	7.51	41	9151	41.44	ug/L	97
22) iodomethane	7.32	142	14910	4.03	ug/L	99
23) carbon disulfide	7.47	76	26038	4.00	ug/L	89
24) methylene chloride	7.77	84	14132	5.14	ug/L	89
25) methyl acetate	7.53	43	5008	4.51	ug/L	88
26) methyl tert butyl ether	8.15	73	23146	3.89	ug/L	93
27) trans-1,2-dichloroethene	8.16	61	12004	4.16	ug/L	98
28) hexane	8.50	57	11846	4.26	ug/L	96
29) di-isopropyl ether	8.72	45	29186	3.88	ug/L	98
30) ethyl tert-butyl ether	9.18	59	27115	3.92	ug/L	96
31) 2-butanone	9.38	72	2141	14.72	ug/L #	74
32) 1,1-dichloroethane	8.74	63	14669	4.06	ug/L	95
33) chloroprene	8.83	53	11606	4.07	ug/L	96
35) vinyl acetate	8.67	86	977	3.39	ug/L #	74
36) ethyl acetate	9.40	45	776	3.85	ug/L	87
37) 2,2-dichloropropane	9.49	77	13272	4.03	ug/L	96

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184476.D  
 Acq On : 11 Apr 2019 12:56 pm  
 Operator : Prashans  
 Sample : IC8003-4  
 Misc : MS31717,VY8003,5.0,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 08:11:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) cis-1,2-dichloroethene	9.45	96	9258	3.94	ug/L	91
39) propionitrile	9.46	54	7814	40.19	ug/L	89
40) bromochloromethane	9.74	130	5484	4.01	ug/L	93
42) chloroform	9.83	83	15502	4.13	ug/L	93
43) tert-butyl formate	9.86	59	5849	3.76	ug/L	98
46) methacrylonitrile	9.66	67	2013	3.70	ug/L #	74
47) 1,1,1-trichloroethane	10.10	97	13830	4.09	ug/L	96
48) cyclohexane	10.20	84	13206	4.32	ug/L	95
49) 1,1-dichloropropene	10.25	75	10119	4.19	ug/L	97
50) tert-amyl alcohol	10.37	55	1450	21.79	ug/L #	74
51) carbon tetrachloride	10.29	117	11275	4.09	ug/L	90
54) 2,2,4-trimethylpentane	10.60	57	31258	4.02	ug/L	96
55) tert-amyl methyl ether	10.59	73	24622	3.89	ug/L	98
56) n-butyl alcohol	10.95	41	6471	189.73	ug/L	84
57) benzene	10.50	78	30827	3.93	ug/L	97
58) heptane	10.75	57	6070	4.31	ug/L	98
59) isopropyl acetate	10.41	87	1163	3.76	ug/L #	48
60) 1,2-dichloroethane	10.52	62	9315	3.86	ug/L	88
61) trichloroethene	11.22	130	7866	3.95	ug/L	93
62) ethyl acrylate	11.20	55	6582	3.96	ug/L	95
63) 2-nitropropane	11.95	41	2312	4.57	ug/L #	26
64) 2-chloroethyl vinyl ether	11.98	63	18429	19.95	ug/L	95
65) methyl methacrylate	11.45	100	1368	3.71	ug/L #	66
66) 1,2-dichloropropane	11.50	63	7941	4.13	ug/L	97
67) methylcyclohexane	11.51	83	14038	4.09	ug/L	98
68) dibromomethane	11.61	93	4379	4.03	ug/L	95
69) bromodichloromethane	11.76	83	10227	3.93	ug/L	99
70) epichlorohydrin	12.07	57	2834	20.12	ug/L	85
71) cis-1,3-dichloropropene	12.20	75	12144	4.06	ug/L	97
72) 4-methyl-2-pentanone	12.30	58	8705	15.89	ug/L	92
73) 3-methyl-1-butanol	12.30	70	3124	74.27	ug/L	95
76) toluene	12.57	92	18697	3.80	ug/L	96
77) trans-1,3-dichloropropene	12.76	75	9783	3.71	ug/L	97
78) ethyl methacrylate	12.74	69	7820	3.86	ug/L	94
79) 1,1,2-trichloroethane	12.98	83	5019	3.85	ug/L	92
80) 2-hexanone	13.13	58	7986	14.77	ug/L	91
81) tetrachloroethene	13.12	166	8355	3.90	ug/L	98
82) 1,3-dichloropropane	13.15	76	9311	3.87	ug/L	97
83) butyl acetate	13.20	56	3831	3.78	ug/L	84
84) dibromochloromethane	13.39	129	7354	3.88	ug/L	87
85) 1,2-dibromoethane	13.55	107	7669	3.74	ug/L	89
86) n-butyl ether	13.97	57	34716	3.95	ug/L	97
87) chlorobenzene	14.02	112	22204	3.98	ug/L	94
88) 1,1,1,2-tetrachloroethane	14.08	131	8395	3.91	ug/L	92
89) ethylbenzene	14.08	91	37178	3.97	ug/L	98
90) m,p-xylene	14.19	106	29341	8.01	ug/L	91
91) o-xylene	14.59	91	31403	3.94	ug/L	96
92) styrene	14.60	104	25559	4.05	ug/L	98
93) bromoform	14.83	173	4416	3.75	ug/L	96
94) butyl acrylate	14.41	55	13782	3.80	ug/L	94

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184476.D  
 Acq On : 11 Apr 2019 12:56 pm  
 Operator : Prashans  
 Sample : IC8003-4  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 08:11:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) isopropylbenzene	14.93	105	37676	3.90	ug/L	98
96) cis-1,4-dichloro-2-butene	14.97	88	2643	3.83	ug/L	88
99) bromobenzene	15.31	156	10699	4.02	ug/L	94
100) 1,1,2,2-tetrachloroethane	15.21	83	8198	4.01	ug/L	96
101) trans-1,4-dichloro-2-buten	15.24	53	2060	4.32	ug/L #	71
102) 1,2,3-trichloropropane	15.29	110	1863	3.76	ug/L	95
103) n-propylbenzene	15.35	91	46167	4.13	ug/L	99
104) 2-chlorotoluene	15.48	126	9942	4.10	ug/L	98
105) 4-chlorotoluene	15.59	91	28680	4.14	ug/L	99
106) 1,3,5-trimethylbenzene	15.50	105	33792	4.05	ug/L	98
107) tert-butylbenzene	15.84	134	5864	4.00	ug/L #	74
108) 1,2,4-trimethylbenzene	15.88	105	35511	4.11	ug/L	96
109) sec-butylbenzene	16.05	105	41991	3.98	ug/L	98
110) 1,3-dichlorobenzene	16.22	146	20943	4.02	ug/L	99
111) p-isopropyltoluene	16.18	119	37734	4.12	ug/L	97
112) 1,4-dichlorobenzene	16.32	146	21371	4.15	ug/L	97
113) 1,2-dichlorobenzene	16.68	146	19990	3.97	ug/L	97
114) n-butylbenzene	16.59	92	20003	4.12	ug/L	94
115) 1,2-dibromo-3-chloropropan	17.45	157	1893	3.91	ug/L	93
116) 1,3,5-trichlorobenzene	17.64	180	19611	3.95	ug/L	95
117) 1,2,4-trichlorobenzene	18.29	180	15760	3.83	ug/L	91
118) hexachlorobutadiene	18.41	225	10159	3.96	ug/L	97
119) naphthalene	18.59	128	25186	3.62	ug/L	97
120) 1,2,3-trichlorobenzene	18.83	180	13275	3.64	ug/L	95
121) hexachloroethane	16.98	201	5003	3.48	ug/L	87
122) benzyl chloride	16.41	91	14714	3.81	ug/L	96

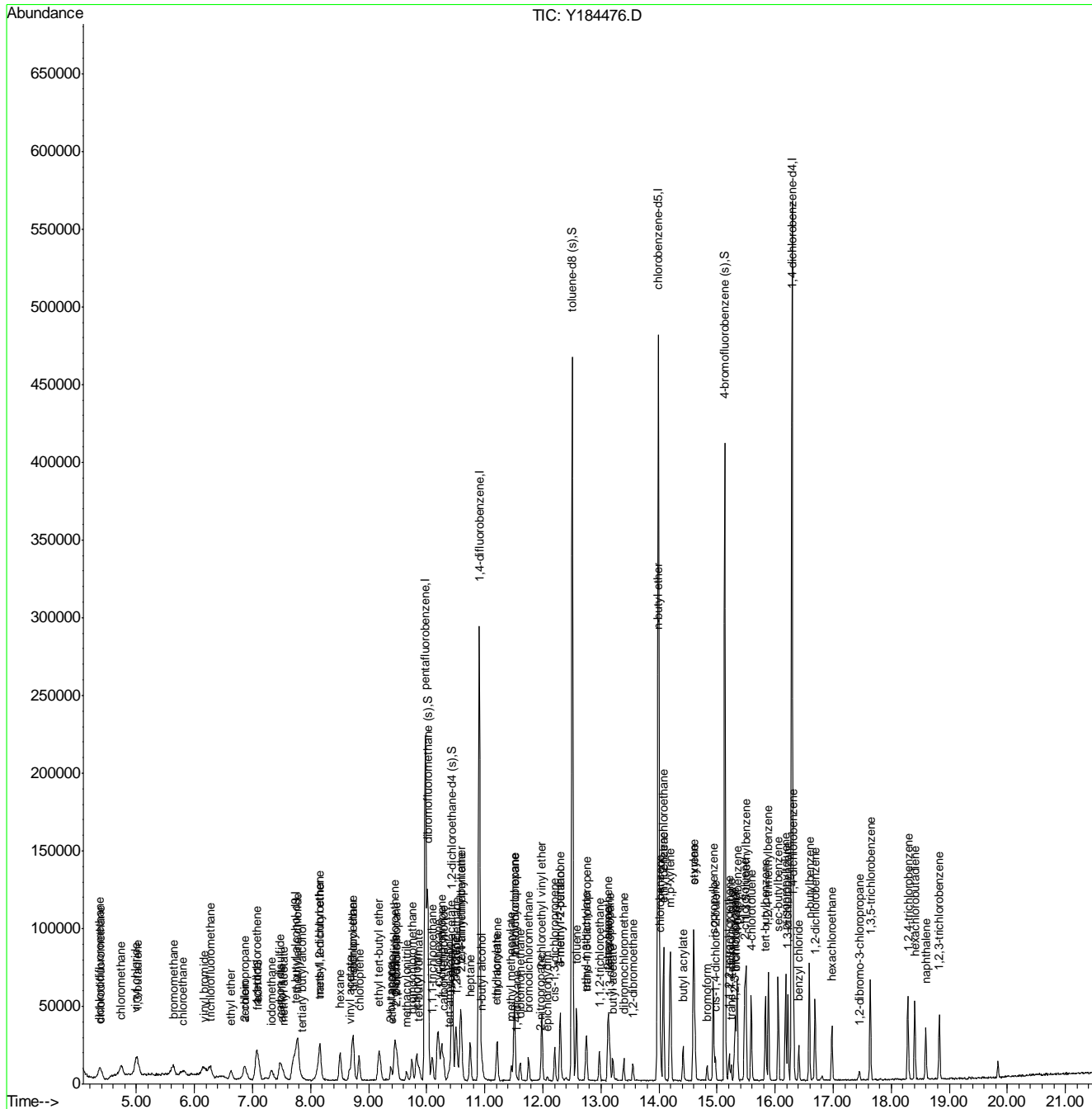
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
Data File : Y184476.D  
Acq On : 11 Apr 2019 12:56 pm  
Operator : Prashans  
Sample : IC8003-4  
Misc : MS31717,VY8003,5.0,,,,,1  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 15 08:11:48 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
QLast Update : Mon Apr 15 07:54:33 2019  
Response via : Initial Calibration



7.7.17  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184477.D  
 Acq On : 11 Apr 2019 1:24 pm  
 Operator : Prashans  
 Sample : IC8003-8  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 07:55:58 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	57940	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	176993	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	252000	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	233720	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	138156	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	78264	49.53	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	99.06%
53) 1,2-dichloroethane-d4 (s)	10.43	65	68576	49.87	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	99.74%
75) toluene-d8 (s)	12.51	98	291858	49.99	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.98%
98) 4-bromofluorobenzene (s)	15.13	95	118087	49.84	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	99.68%

## Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.85	59	7480	40.51	ug/L	90
4) 1,4-dioxane	11.55	88	3497	205.42	ug/L	92
6) chlorodifluoromethane	4.38	51	24570	7.76	ug/L	96
7) dichlorodifluoromethane	4.35	85	27781	8.40	ug/L	97
8) chloromethane	4.73	50	32455	7.90	ug/L	97
9) vinyl chloride	4.99	62	27174	8.44	ug/L	94
10) 1,3-butadiene	5.02	54	16790	7.91	ug/L	95
11) bromomethane	5.63	94	20994	8.19	ug/L	89
12) chloroethane	5.80	64	15617	7.91	ug/L	99
13) vinyl bromide	6.15	106	14722	8.50	ug/L	94
14) trichlorofluoromethane	6.28	101	29222	8.29	ug/L	96
15) ethyl ether	6.64	74	8179	8.46	ug/L	86
16) 2-chloropropane	6.86	63	6777	8.05	ug/L #	82
17) acrolein	6.87	56	2205	8.12	ug/L	91
18) freon 113	7.09	151	13759	8.26	ug/L	98
19) 1,1-dichloroethene	7.07	61	24989	7.95	ug/L	97
20) acetone	7.07	43	15977	31.40	ug/L	91
21) acetonitrile	7.50	41	17927	81.77	ug/L	85
22) iodomethane	7.34	142	29473	8.02	ug/L	96
23) carbon disulfide	7.47	76	49942	7.73	ug/L	98
24) methylene chloride	7.78	84	24128	8.84	ug/L	99
25) methyl acetate	7.53	43	9479	8.60	ug/L	93
26) methyl tert butyl ether	8.14	73	47152	7.99	ug/L	96
27) trans-1,2-dichloroethene	8.16	61	23326	8.13	ug/L	94
28) hexane	8.51	57	22278	8.07	ug/L	95
29) di-isopropyl ether	8.72	45	59765	8.01	ug/L	97
30) ethyl tert-butyl ether	9.18	59	55785	8.13	ug/L	97
31) 2-butanone	9.37	72	4480	31.03	ug/L #	60
32) 1,1-dichloroethane	8.73	63	28788	8.03	ug/L	96
33) chloroprene	8.83	53	22118	7.81	ug/L	96
34) acrylonitrile	8.08	53	4020	7.47	ug/L	92
35) vinyl acetate	8.67	86	2433	8.50	ug/L #	91
36) ethyl acetate	9.38	45	1690	8.44	ug/L	93

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184477.D  
 Acq On : 11 Apr 2019 1:24 pm  
 Operator : Prashans  
 Sample : IC8003-8  
 Misc : MS31717,VY8003,5.0,,,,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 07:55:58 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	9.49	77	26390	8.08	ug/L	97
38) cis-1,2-dichloroethene	9.44	96	19255	8.24	ug/L	89
39) propionitrile	9.46	54	15993	82.86	ug/L	98
40) bromochloromethane	9.74	130	10969	8.08	ug/L	95
41) tetrahydrofuran	9.77	72	1221	6.64	ug/L	82
42) chloroform	9.82	83	29803	8.01	ug/L	100
43) tert-butyl formate	9.87	59	11797	7.64	ug/L	97
46) methacrylonitrile	9.65	67	4327	8.02	ug/L	92
47) 1,1,1-trichloroethane	10.09	97	25840	7.69	ug/L	96
48) cyclohexane	10.20	84	25424	8.38	ug/L	95
49) 1,1-dichloropropene	10.26	75	19297	8.04	ug/L	99
50) tert-amyl alcohol	10.38	55	2630	39.81	ug/L	91
51) carbon tetrachloride	10.29	117	21966	8.03	ug/L	98
54) 2,2,4-trimethylpentane	10.59	57	61093	7.88	ug/L	97
55) tert-amyl methyl ether	10.58	73	50027	7.95	ug/L	98
56) n-butyl alcohol	10.95	41	13463	396.39	ug/L	95
57) benzene	10.50	78	62931	8.06	ug/L	98
58) heptane	10.75	57	11177	7.97	ug/L	96
59) isopropyl acetate	10.41	87	2344	7.60	ug/L	78
60) 1,2-dichloroethane	10.52	62	18791	7.83	ug/L	98
61) trichloroethene	11.21	130	15537	7.83	ug/L	98
62) ethyl acrylate	11.19	55	13486	8.14	ug/L	96
63) 2-nitropropane	11.96	41	4084	8.10	ug/L #	76
64) 2-chloroethyl vinyl ether	11.98	63	36274	39.44	ug/L	99
65) methyl methacrylate	11.45	100	2996	8.16	ug/L #	73
66) 1,2-dichloropropane	11.50	63	15992	8.34	ug/L	95
67) methylcyclohexane	11.51	83	27095	7.92	ug/L	93
68) dibromomethane	11.61	93	8702	8.04	ug/L	98
69) bromodichloromethane	11.76	83	21259	8.20	ug/L	99
70) epichlorohydrin	12.08	57	5706	40.68	ug/L	94
71) cis-1,3-dichloropropene	12.20	75	23988	8.06	ug/L	97
72) 4-methyl-2-pentanone	12.30	58	17074	31.29	ug/L	97
73) 3-methyl-1-butanol	12.30	70	6529	155.88	ug/L	95
76) toluene	12.58	92	37545	8.09	ug/L	100
77) trans-1,3-dichloropropene	12.76	75	19487	7.84	ug/L	96
78) ethyl methacrylate	12.74	69	15474	8.10	ug/L	96
79) 1,1,2-trichloroethane	12.98	83	9917	8.06	ug/L	95
80) 2-hexanone	13.13	58	16442	32.24	ug/L	99
81) tetrachloroethene	13.12	166	15855	7.86	ug/L	95
82) 1,3-dichloropropane	13.15	76	18530	8.17	ug/L	95
83) butyl acetate	13.20	56	7846	8.21	ug/L	99
84) dibromochloromethane	13.39	129	14032	7.86	ug/L	97
85) 1,2-dibromoethane	13.55	107	15429	7.97	ug/L	99
86) n-butyl ether	13.97	57	67932	8.21	ug/L	97
87) chlorobenzene	14.02	112	42756	8.12	ug/L	95
88) 1,1,1,2-tetrachloroethane	14.08	131	16868	8.33	ug/L	95
89) ethylbenzene	14.07	91	71917	8.15	ug/L	99
90) m,p-xylene	14.19	106	56516	16.37	ug/L	94
91) o-xylene	14.59	91	60288	8.01	ug/L	100
92) styrene	14.60	104	49566	8.33	ug/L	98

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184477.D  
 Acq On : 11 Apr 2019 1:24 pm  
 Operator : Prashans  
 Sample : IC8003-8  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 07:55:58 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

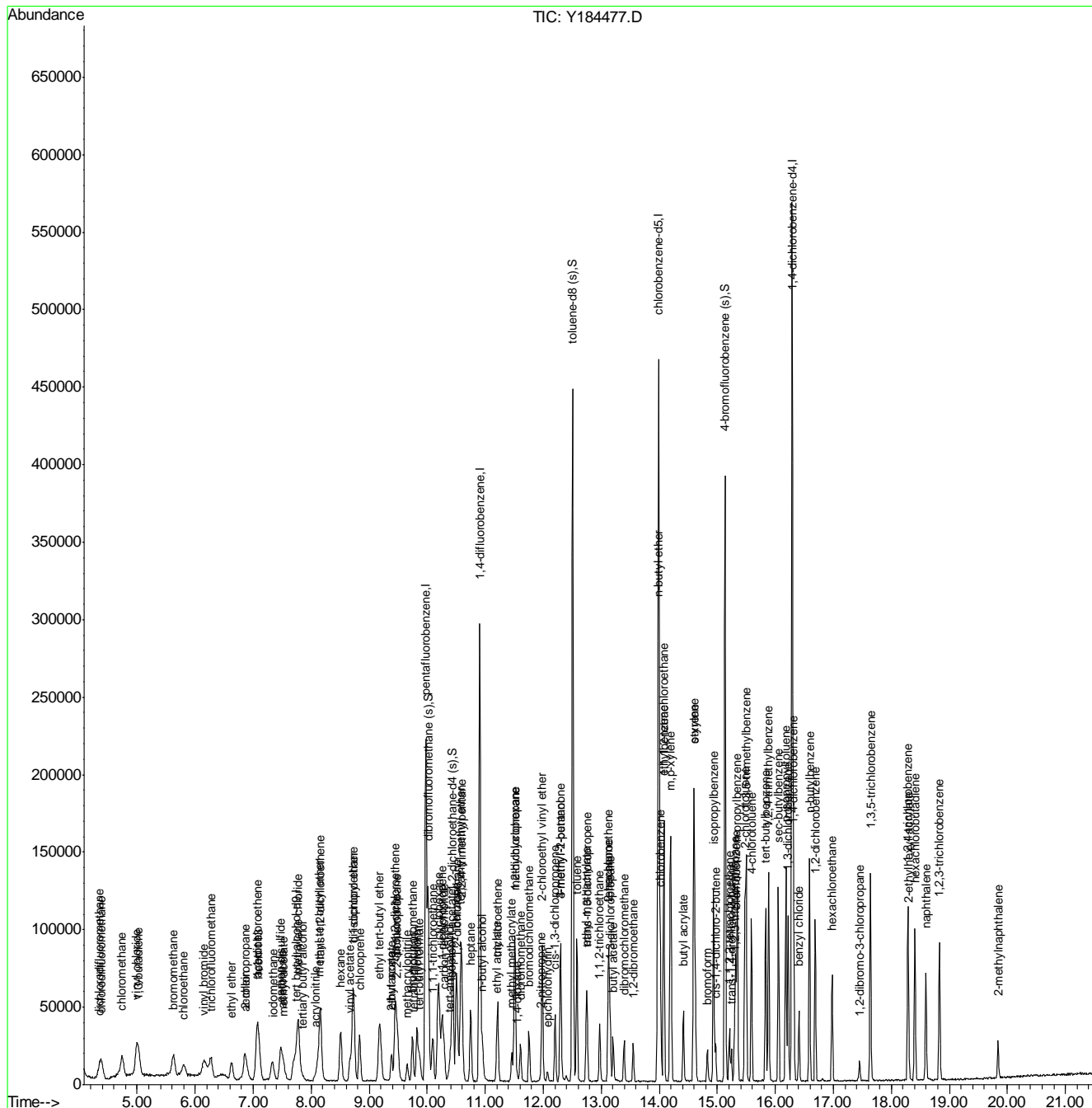
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) bromoform	14.83	173	8781	7.91	ug/L	92
94) butyl acrylate	14.41	55	27861	8.15	ug/L	97
95) isopropylbenzene	14.93	105	74269	8.16	ug/L	99
96) cis-1,4-dichloro-2-butene	14.97	88	5233	8.04	ug/L	98
99) bromobenzene	15.32	156	21399	8.18	ug/L	86
100) 1,1,2,2-tetrachloroethane	15.21	83	16174	8.06	ug/L	94
101) trans-1,4-dichloro-2-buten	15.24	53	3693	7.88	ug/L #	72
102) 1,2,3-trichloropropane	15.30	110	4107	8.43	ug/L	88
103) n-propylbenzene	15.35	91	89034	8.11	ug/L	98
104) 2-chlorotoluene	15.48	126	19135	8.03	ug/L	93
105) 4-chlorotoluene	15.59	91	55108	8.09	ug/L	98
106) 1,3,5-trimethylbenzene	15.50	105	66700	8.14	ug/L	99
107) tert-butylbenzene	15.83	134	11764	8.17	ug/L #	89
108) 1,2,4-trimethylbenzene	15.88	105	68557	8.08	ug/L	97
109) sec-butylbenzene	16.05	105	82749	7.99	ug/L	98
110) 1,3-dichlorobenzene	16.22	146	42064	8.21	ug/L	99
111) p-isopropyltoluene	16.18	119	72608	8.06	ug/L	99
112) 1,4-dichlorobenzene	16.32	146	41810	8.26	ug/L	97
113) 1,2-dichlorobenzene	16.68	146	40926	8.26	ug/L	100
114) n-butylbenzene	16.59	92	38968	8.16	ug/L	97
115) 1,2-dibromo-3-chloropropan	17.45	157	3660	7.69	ug/L	97
116) 1,3,5-trichlorobenzene	17.64	180	39962	8.19	ug/L	99
117) 1,2,4-trichlorobenzene	18.29	180	32605	8.07	ug/L	96
118) hexachlorobutadiene	18.41	225	20059	7.96	ug/L	91
119) naphthalene	18.59	128	53975	7.90	ug/L	98
120) 1,2,3-trichlorobenzene	18.83	180	28962	8.09	ug/L	95
121) hexachloroethane	16.98	201	10412	7.37	ug/L	96
122) benzyl chloride	16.41	91	30273	7.97	ug/L	95
123) 2-ethylhexyl acrylate	18.30	70	3299	1.87	ug/L	90
124) 2-methylnaphthalene	19.84	142	11736	3.28	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
Data File : Y184477.D  
Acq On : 11 Apr 2019 1:24 pm  
Operator : Prashans  
Sample : IC8003-8  
Misc : MS31717,VY8003,5.0,,,,,1  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 15 07:55:58 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
QLast Update : Mon Apr 15 07:54:33 2019  
Response via : Initial Calibration



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## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184478.D  
 Acq On : 11 Apr 2019 1:53 pm  
 Operator : Prashans  
 Sample : IC8003-20  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 08:12:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.73	65	58490	500.00	ug/L	-0.02
5) pentafluorobenzene	9.97	168	173836	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	247950	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	224708	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	133490	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	76638	49.38	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	98.76%
53) 1,2-dichloroethane-d4 (s)	10.43	65	66953	49.48	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	98.96%
75) toluene-d8 (s)	12.51	98	285518	50.86	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	101.72%
98) 4-bromofluorobenzene (s)	15.13	95	113247	49.47	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	98.94%

## Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.84	59	18417	98.80	ug/L	99
4) 1,4-dioxane	11.55	88	8673	504.69	ug/L	99
6) chlorodifluoromethane	4.38	51	61025	19.63	ug/L	97
7) dichlorodifluoromethane	4.35	85	68289	21.02	ug/L	93
8) chloromethane	4.73	50	78115	19.36	ug/L	98
9) vinyl chloride	4.98	62	68316	21.60	ug/L	97
10) 1,3-butadiene	5.01	54	42188	20.24	ug/L	93
11) bromomethane	5.63	94	50280	19.98	ug/L	91
12) chloroethane	5.80	64	37163	19.17	ug/L	95
13) vinyl bromide	6.15	106	35322	20.75	ug/L	93
14) trichlorofluoromethane	6.27	101	71356	20.62	ug/L	97
15) ethyl ether	6.63	74	19721	20.78	ug/L	93
16) 2-chloropropane	6.87	63	17686	21.39	ug/L #	71
17) acrolein	6.87	56	5807	21.78	ug/L	69
18) freon 113	7.09	151	34701	21.22	ug/L	95
19) 1,1-dichloroethene	7.07	61	63265	20.48	ug/L	99
20) acetone	7.07	43	39003	78.06	ug/L	95
21) acetonitrile	7.50	41	44720	207.69	ug/L	95
22) iodomethane	7.32	142	71706	19.86	ug/L	96
23) carbon disulfide	7.47	76	125992	19.85	ug/L	98
24) methylene chloride	7.78	84	51399	19.18	ug/L	98
25) methyl acetate	7.52	43	20876	19.29	ug/L	99
26) methyl tert butyl ether	8.14	73	117007	20.18	ug/L	98
27) trans-1,2-dichloroethene	8.16	61	58161	20.65	ug/L	96
28) hexane	8.50	57	53292	19.65	ug/L	98
29) di-isopropyl ether	8.72	45	147926	20.17	ug/L	99
30) ethyl tert-butyl ether	9.18	59	138077	20.49	ug/L	96
31) 2-butanone	9.38	72	11911	84.00	ug/L #	87
32) 1,1-dichloroethane	8.73	63	72102	20.48	ug/L	99
33) chloroprene	8.83	53	56279	20.22	ug/L	98
34) acrylonitrile	8.07	53	11194	21.16	ug/L	94
35) vinyl acetate	8.67	86	5641	20.07	ug/L #	72
36) ethyl acetate	9.38	45	3942	20.05	ug/L	91

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184478.D  
 Acq On : 11 Apr 2019 1:53 pm  
 Operator : Prashans  
 Sample : IC8003-20  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 08:12:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	9.49	77	62457	19.46	ug/L	97
38) cis-1,2-dichloroethene	9.45	96	47241	20.59	ug/L	95
39) propionitrile	9.46	54	38770	204.52	ug/L	80
40) bromochloromethane	9.74	130	27926	20.93	ug/L	97
41) tetrahydrofuran	9.76	72	4161	23.04	ug/L	89
42) chloroform	9.82	83	73537	20.11	ug/L	97
43) tert-butyl formate	9.86	59	30627	20.19	ug/L	96
46) methacrylonitrile	9.65	67	10987	20.73	ug/L	97
47) 1,1,1-trichloroethane	10.09	97	66599	20.18	ug/L	98
48) cyclohexane	10.20	84	61959	20.79	ug/L	95
49) 1,1-dichloropropene	10.26	75	48609	20.63	ug/L	98
50) tert-amyl alcohol	10.37	55	6415	98.86	ug/L	96
51) carbon tetrachloride	10.29	117	55812	20.78	ug/L	97
54) 2,2,4-trimethylpentane	10.59	57	150690	19.76	ug/L	96
55) tert-amyl methyl ether	10.58	73	123410	19.92	ug/L	96
56) n-butyl alcohol	10.95	41	34808	1041.60	ug/L	96
57) benzene	10.50	78	155152	20.20	ug/L	100
58) heptane	10.74	57	27102	19.65	ug/L	94
59) isopropyl acetate	10.40	87	6431	21.20	ug/L	93
60) 1,2-dichloroethane	10.52	62	45933	19.44	ug/L	99
61) trichloroethene	11.21	130	40183	20.58	ug/L	97
62) ethyl acrylate	11.19	55	33392	20.50	ug/L	97
63) 2-nitropropane	11.96	41	9882	19.92	ug/L #	19
64) 2-chloroethyl vinyl ether	11.98	63	90478	99.98	ug/L	99
65) methyl methacrylate	11.45	100	7309	20.24	ug/L	95
66) 1,2-dichloropropane	11.50	63	39503	20.95	ug/L	100
67) methylcyclohexane	11.51	83	67874	20.17	ug/L	99
68) dibromomethane	11.61	93	21472	20.17	ug/L	97
69) bromodichloromethane	11.75	83	51978	20.38	ug/L	98
70) epichlorohydrin	12.07	57	13303	96.39	ug/L	98
71) cis-1,3-dichloropropene	12.20	75	59891	20.45	ug/L	99
72) 4-methyl-2-pentanone	12.30	58	44062	82.08	ug/L	94
73) 3-methyl-1-butanol	12.29	70	17228	418.04	ug/L	94
76) toluene	12.57	92	90483	20.27	ug/L	98
77) trans-1,3-dichloropropene	12.76	75	50934	21.31	ug/L	97
78) ethyl methacrylate	12.74	69	37577	20.47	ug/L	100
79) 1,1,2-trichloroethane	12.98	83	23835	20.14	ug/L	99
80) 2-hexanone	13.13	58	41429	84.50	ug/L	99
81) tetrachloroethene	13.12	166	40624	20.94	ug/L	96
82) 1,3-dichloropropane	13.15	76	44848	20.58	ug/L	99
83) butyl acetate	13.21	56	19632	21.37	ug/L	96
84) dibromochloromethane	13.39	129	35069	20.43	ug/L	98
85) 1,2-dibromoethane	13.55	107	37999	20.42	ug/L	96
86) n-butyl ether	13.97	57	162818	20.46	ug/L	99
87) chlorobenzene	14.02	112	102514	20.26	ug/L	99
88) 1,1,1,2-tetrachloroethane	14.08	131	40569	20.85	ug/L	97
89) ethylbenzene	14.07	91	175804	20.72	ug/L	99
90) m,p-xylene	14.20	106	134871	40.63	ug/L	99
91) o-xylene	14.59	91	149173	20.63	ug/L	99
92) styrene	14.60	104	118169	20.66	ug/L	96



## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184478.D  
 Acq On : 11 Apr 2019 1:53 pm  
 Operator : Prashans  
 Sample : IC8003-20  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 08:12:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) bromoform	14.83	173	22176	20.78	ug/L	96
94) butyl acrylate	14.41	55	67691	20.61	ug/L	98
95) isopropylbenzene	14.93	105	181504	20.73	ug/L	99
96) cis-1,4-dichloro-2-butene	14.97	88	12336	19.71	ug/L	94
99) bromobenzene	15.32	156	51115	20.21	ug/L	91
100) 1,1,2,2-tetrachloroethane	15.20	83	38953	20.08	ug/L	96
101) trans-1,4-dichloro-2-buten	15.24	53	9125	20.15	ug/L	83
102) 1,2,3-trichloropropane	15.30	110	9717	20.64	ug/L	99
103) n-propylbenzene	15.35	91	214714	20.23	ug/L	98
104) 2-chlorotoluene	15.48	126	46958	20.39	ug/L	96
105) 4-chlorotoluene	15.59	91	134244	20.41	ug/L	100
106) 1,3,5-trimethylbenzene	15.50	105	159993	20.21	ug/L	99
107) tert-butylbenzene	15.84	134	28880	20.76	ug/L	92
108) 1,2,4-trimethylbenzene	15.88	105	165014	20.12	ug/L	99
109) sec-butylbenzene	16.05	105	203506	20.33	ug/L	99
110) 1,3-dichlorobenzene	16.22	146	99891	20.18	ug/L	98
111) p-isopropyltoluene	16.18	119	177280	20.36	ug/L	99
112) 1,4-dichlorobenzene	16.31	146	98740	20.19	ug/L	98
113) 1,2-dichlorobenzene	16.68	146	97690	20.41	ug/L	96
114) n-butylbenzene	16.59	92	95959	20.79	ug/L	96
115) 1,2-dibromo-3-chloropropan	17.45	157	9146	19.89	ug/L	95
116) 1,3,5-trichlorobenzene	17.64	180	96752	20.52	ug/L	100
117) 1,2,4-trichlorobenzene	18.29	180	80420	20.60	ug/L	98
118) hexachlorobutadiene	18.41	225	49791	20.44	ug/L	95
119) naphthalene	18.59	128	136164	20.63	ug/L	99
120) 1,2,3-trichlorobenzene	18.83	180	70655	20.41	ug/L	99
121) hexachloroethane	16.98	201	27934	20.46	ug/L	98
122) benzyl chloride	16.41	91	75374	20.55	ug/L	98
123) 2-ethylhexyl acrylate	18.30	70	9459	3.74	ug/L	95
124) 2-methylnaphthalene	19.84	142	29637	8.58	ug/L	96

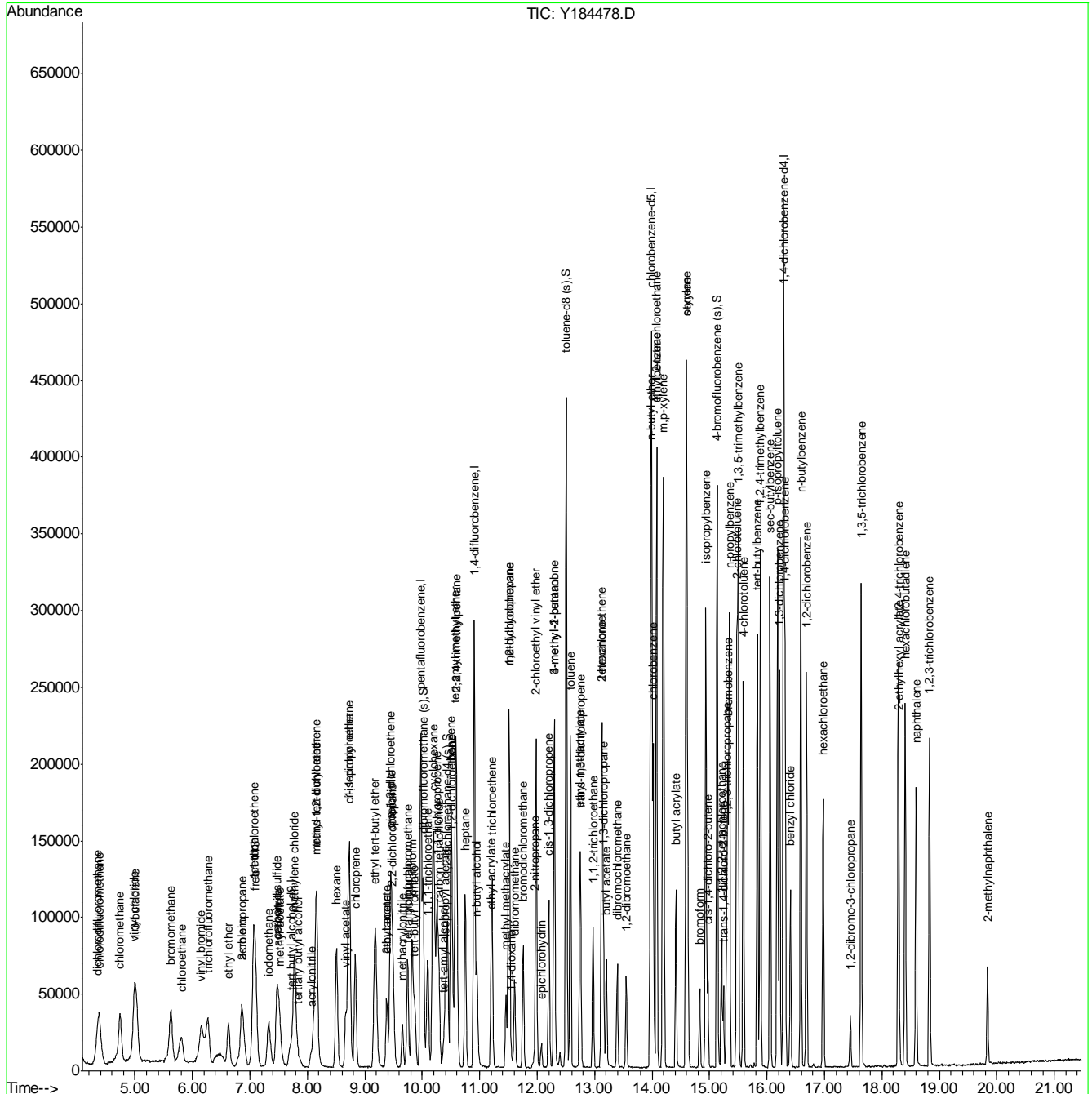
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184478.D  
 Acq On : 11 Apr 2019 1:53 pm  
 Operator : Prashans  
 Sample : IC8003-20  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 15 08:12:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184479.D  
 Acq On : 11 Apr 2019 2:21 pm  
 Operator : Prashans  
 Sample : ICC8003-50  
 Misc : MS31717,VY8003,5.0,,,,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 07:58:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	61725	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	184298	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	263661	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	252489	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	144413	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	82790	50.32	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.64%
53) 1,2-dichloroethane-d4 (s)	10.43	65	70352	48.90	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	97.80%
75) toluene-d8 (s)	12.51	98	312810	49.59	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.18%
98) 4-bromofluorobenzene (s)	15.13	95	125829	50.81	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	101.62%

## Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.86	59	49015	249.16	ug/L	100
4) 1,4-dioxane	11.54	88	22564	1244.20	ug/L	100
6) chlorodifluoromethane	4.38	51	150315	45.60	ug/L	100
7) dichlorodifluoromethane	4.34	85	176702	51.30	ug/L	100
8) chloromethane	4.74	50	189636	44.33	ug/L	100
9) vinyl chloride	4.99	62	163261	48.69	ug/L	100
10) 1,3-butadiene	5.03	54	104505	47.29	ug/L	100
11) bromomethane	5.63	94	119468	44.77	ug/L	100
12) chloroethane	5.80	64	89674	43.63	ug/L	100
13) vinyl bromide	6.15	106	86447	47.91	ug/L	100
14) trichlorofluoromethane	6.27	101	174883	47.67	ug/L	100
15) ethyl ether	6.63	74	51076	50.76	ug/L	100
16) 2-chloropropane	6.86	63	42450	48.43	ug/L	100
17) acrolein	6.87	56	14245	50.39	ug/L	100
18) freon 113	7.10	151	87888	50.70	ug/L	100
19) 1,1-dichloroethene	7.07	61	159141	48.60	ug/L	100
20) acetone	7.07	43	92424	174.47	ug/L	100
21) acetonitrile	7.51	41	108976	477.37	ug/L	100
22) iodomethane	7.33	142	181582	47.45	ug/L	100
23) carbon disulfide	7.47	76	318456	47.32	ug/L	100
24) methylene chloride	7.78	84	126075	44.37	ug/L	100
25) methyl acetate	7.52	43	53733	46.82	ug/L	100
26) methyl tert butyl ether	8.14	73	297558	48.41	ug/L	100
27) trans-1,2-dichloroethene	8.16	61	145483	48.71	ug/L	100
28) hexane	8.50	57	139842	48.63	ug/L	100
29) di-isopropyl ether	8.72	45	374078	48.12	ug/L	100
30) ethyl tert-butyl ether	9.18	59	352645	49.35	ug/L	100
31) 2-butanone	9.38	72	30963	205.97	ug/L	100
32) 1,1-dichloroethane	8.73	63	178535	47.82	ug/L	100
33) chloroprene	8.83	53	142141	48.17	ug/L	100
34) acrylonitrile	8.07	53	28417	50.68	ug/L	100
35) vinyl acetate	8.66	86	15342	51.49	ug/L	100
36) ethyl acetate	9.38	45	10413	49.95	ug/L	100

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184479.D  
 Acq On : 11 Apr 2019 2:21 pm  
 Operator : Prashans  
 Sample : ICC8003-50  
 Misc : MS31717,VY8003,5.0,,,,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 07:58:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	9.49	77	157596	46.31	ug/L	100
38) cis-1,2-dichloroethene	9.45	96	119430	49.11	ug/L	100
39) propionitrile	9.46	54	101322	504.15	ug/L	100
40) bromochloromethane	9.74	130	71622	50.64	ug/L	100
41) tetrahydrofuran	9.75	72	8768	45.79	ug/L	100
42) chloroform	9.82	83	182514	47.08	ug/L	100
43) tert-butyl formate	9.87	59	79571	49.47	ug/L	100
46) methacrylonitrile	9.66	67	27899	49.65	ug/L	100
47) 1,1,1-trichloroethane	10.09	97	165962	47.43	ug/L	100
48) cyclohexane	10.20	84	151222	47.86	ug/L	100
49) 1,1-dichloropropene	10.26	75	119352	47.78	ug/L	100
50) tert-amyl alcohol	10.37	55	16088	233.84	ug/L	100
51) carbon tetrachloride	10.29	117	139157	48.87	ug/L	100
54) 2,2,4-trimethylpentane	10.60	57	410740	50.65	ug/L	100
55) tert-amyl methyl ether	10.58	73	317573	48.21	ug/L	100
56) n-butyl alcohol	10.95	41	86469	2433.32	ug/L	100
57) benzene	10.50	78	386405	47.32	ug/L	100
58) heptane	10.74	57	72276	49.28	ug/L	100
59) isopropyl acetate	10.40	87	15900	49.30	ug/L	100
60) 1,2-dichloroethane	10.53	62	116299	46.29	ug/L	100
61) trichloroethene	11.21	130	100466	48.38	ug/L	100
62) ethyl acrylate	11.19	55	87518	50.52	ug/L	100
63) 2-nitropropane	11.96	41	25193	47.75	ug/L	100
64) 2-chloroethyl vinyl ether	11.98	63	238570	247.92	ug/L	100
65) methyl methacrylate	11.45	100	19324	50.32	ug/L	100
66) 1,2-dichloropropane	11.50	63	99858	49.80	ug/L	100
67) methylcyclohexane	11.51	83	174782	48.84	ug/L	100
68) dibromomethane	11.61	93	55961	49.43	ug/L	100
69) bromodichloromethane	11.75	83	134306	49.53	ug/L	100
70) epichlorohydrin	12.07	57	34559	235.49	ug/L	100
71) cis-1,3-dichloropropene	12.20	75	155748	50.02	ug/L	100
72) 4-methyl-2-pentanone	12.30	58	112266	196.67	ug/L	100
73) 3-methyl-1-butanol	12.29	70	43236	986.62	ug/L	100
76) toluene	12.58	92	233861	46.63	ug/L	100
77) trans-1,3-dichloropropene	12.76	75	130530	48.59	ug/L	100
78) ethyl methacrylate	12.74	69	101398	49.15	ug/L	100
79) 1,1,2-trichloroethane	12.97	83	63473	47.74	ug/L	100
80) 2-hexanone	13.13	58	105669	191.82	ug/L	100
81) tetrachloroethene	13.12	166	103090	47.30	ug/L	100
82) 1,3-dichloropropane	13.15	76	119267	48.70	ug/L	100
83) butyl acetate	13.20	56	50877	49.28	ug/L	100
84) dibromochloromethane	13.40	129	97486	50.55	ug/L	100
85) 1,2-dibromoethane	13.55	107	102083	48.81	ug/L	100
86) n-butyl ether	13.97	57	420235	47.00	ug/L	100
87) chlorobenzene	14.02	112	272787	47.97	ug/L	100
88) 1,1,1,2-tetrachloroethane	14.08	131	104728	47.90	ug/L	100
89) ethylbenzene	14.07	91	454370	47.65	ug/L	100
90) m,p-xylene	14.20	106	350763	94.05	ug/L	100
91) o-xylene	14.59	91	384731	47.34	ug/L	100
92) styrene	14.60	104	309206	48.11	ug/L	100

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184479.D  
 Acq On : 11 Apr 2019 2:21 pm  
 Operator : Prashans  
 Sample : ICC8003-50  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 07:58:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

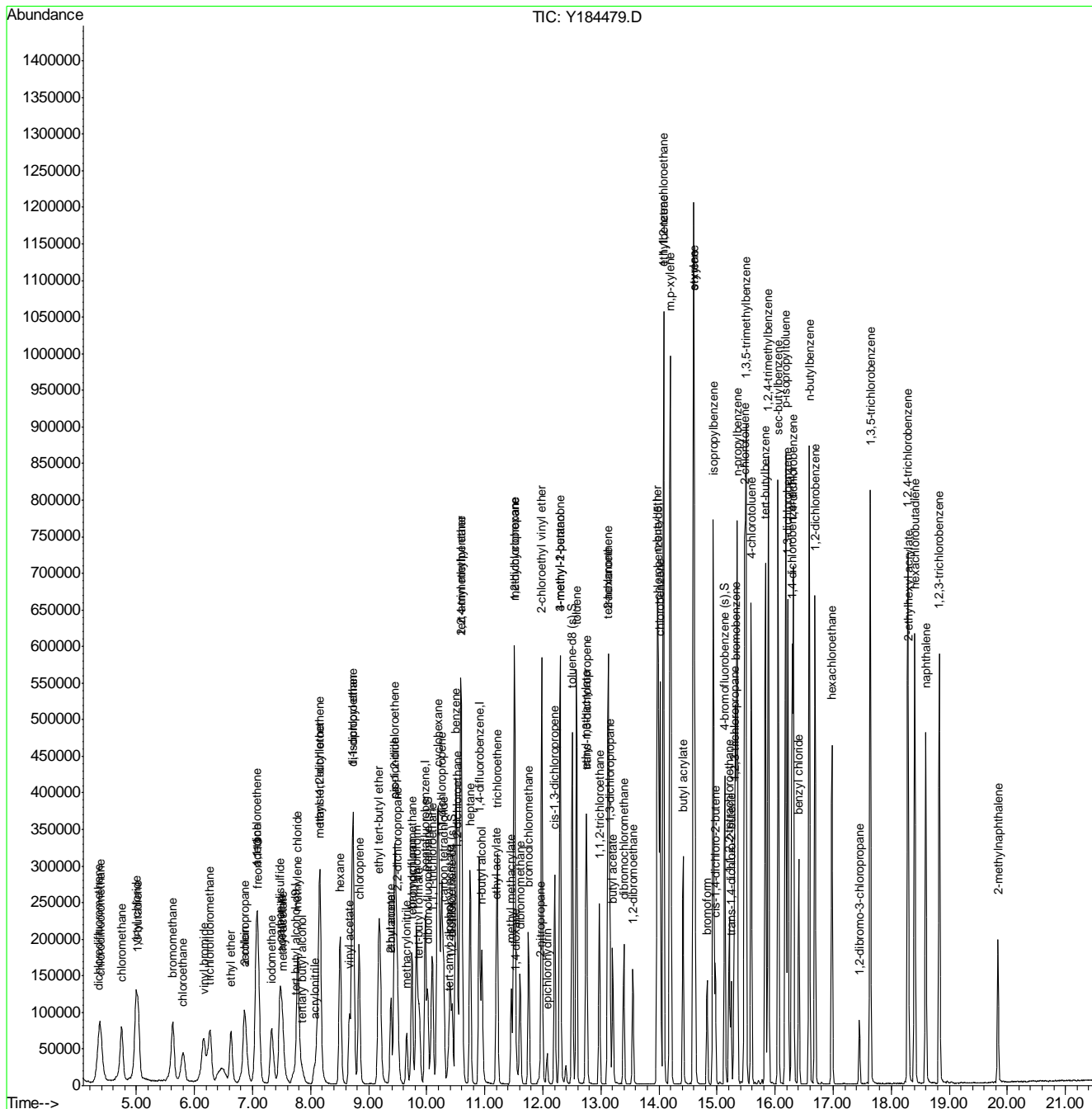
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) bromoform	14.83	173	62741	52.32	ug/L	100
94) butyl acrylate	14.41	55	178220	48.29	ug/L	100
95) isopropylbenzene	14.93	105	465014	47.27	ug/L	100
96) cis-1,4-dichloro-2-butene	14.97	88	34283	48.76	ug/L	100
99) bromobenzene	15.31	156	133673	48.86	ug/L	100
100) 1,1,2,2-tetrachloroethane	15.21	83	104215	49.66	ug/L	100
101) trans-1,4-dichloro-2-buten	15.24	53	23721	48.42	ug/L	100
102) 1,2,3-trichloropropane	15.30	110	25451	49.96	ug/L	100
103) n-propylbenzene	15.35	91	551911	48.07	ug/L	100
104) 2-chlorotoluene	15.48	126	120962	48.55	ug/L	100
105) 4-chlorotoluene	15.59	91	344490	48.41	ug/L	100
106) 1,3,5-trimethylbenzene	15.50	105	410703	47.95	ug/L	100
107) tert-butylbenzene	15.84	134	73697	48.97	ug/L	100
108) 1,2,4-trimethylbenzene	15.88	105	422116	47.57	ug/L	100
109) sec-butylbenzene	16.05	105	523648	48.35	ug/L	100
110) 1,3-dichlorobenzene	16.22	146	253249	47.28	ug/L	100
111) p-isopropyltoluene	16.18	119	460827	48.93	ug/L	100
112) 1,4-dichlorobenzene	16.31	146	254807	48.15	ug/L	100
113) 1,2-dichlorobenzene	16.68	146	253266	48.90	ug/L	100
114) n-butylbenzene	16.59	92	247676	49.61	ug/L	100
115) 1,2-dibromo-3-chloropropan	17.45	157	24166	48.58	ug/L	100
116) 1,3,5-trichlorobenzene	17.64	180	248919	48.79	ug/L	100
117) 1,2,4-trichlorobenzene	18.29	180	215066	50.93	ug/L	100
118) hexachlorobutadiene	18.41	225	130784	49.64	ug/L	100
119) naphthalene	18.59	128	369122	51.70	ug/L	100
120) 1,2,3-trichlorobenzene	18.83	180	189117	50.51	ug/L	100
121) hexachloroethane	16.98	201	74990	50.77	ug/L	100
122) benzyl chloride	16.41	91	196669	49.56	ug/L	100
123) 2-ethylhexyl acrylate	18.30	70	29629	9.08	ug/L	100
124) 2-methylnaphthalene	19.84	142	92980	24.89	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
Data File : Y184479.D  
Acq On : 11 Apr 2019 2:21 pm  
Operator : Prashans  
Sample : ICC8003-50  
Misc : MS31717,VY8003,5.0,,,,,1  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 15 07:58:11 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
QLast Update : Mon Apr 15 07:54:33 2019  
Response via : Initial Calibration



7.7.20  
7

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184480.D  
 Acq On : 11 Apr 2019 2:50 pm  
 Operator : Prashans  
 Sample : IC8003-100  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 08:12:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	64685	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	185715	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	266814	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	234916	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	143134	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	84660	51.06	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	102.12%
53) 1,2-dichloroethane-d4 (s)	10.43	65	72681	49.92	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	99.84%
75) toluene-d8 (s)	12.51	98	304838	51.95	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	103.90%
98) 4-bromofluorobenzene (s)	15.13	95	118264	48.18	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	96.36%

## Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.85	59	102743	498.38	ug/L	95
4) 1,4-dioxane	11.54	88	46345	2438.56	ug/L	90
6) chlorodifluoromethane	4.37	51	305421	91.94	ug/L	98
7) dichlorodifluoromethane	4.35	85	348966	100.53	ug/L	99
8) chloromethane	4.74	50	374543	86.89	ug/L	98
9) vinyl chloride	4.98	62	329605	97.55	ug/L	96
10) 1,3-butadiene	5.03	54	211055	94.78	ug/L	100
11) bromomethane	5.62	94	238981	88.87	ug/L	99
12) chloroethane	5.81	64	180862	87.32	ug/L	97
13) vinyl bromide	6.15	106	172478	94.86	ug/L	98
14) trichlorofluoromethane	6.27	101	349292	94.49	ug/L	97
15) ethyl ether	6.63	74	105124	103.68	ug/L	97
16) 2-chloropropane	6.86	63	86214	97.62	ug/L	93
17) acrolein	6.87	56	28413	99.74	ug/L	99
18) freon 113	7.10	151	171280	98.05	ug/L	92
19) 1,1-dichloroethene	7.07	61	321332	97.39	ug/L	98
20) acetone	7.07	43	192485	360.58	ug/L	99
21) acetonitrile	7.50	41	222862	968.80	ug/L	99
22) iodomethane	7.33	142	371458	96.32	ug/L	99
23) carbon disulfide	7.47	76	646045	95.26	ug/L	100
24) methylene chloride	7.78	84	248466	86.79	ug/L	98
25) methyl acetate	7.52	43	109990	95.11	ug/L	99
26) methyl tert butyl ether	8.14	73	613632	99.07	ug/L	100
27) trans-1,2-dichloroethene	8.16	61	293093	97.39	ug/L	100
28) hexane	8.50	57	277060	95.61	ug/L	100
29) di-isopropyl ether	8.72	45	774675	98.90	ug/L	99
30) ethyl tert-butyl ether	9.18	59	741606	103.00	ug/L	98
31) 2-butanone	9.38	72	65646	433.36	ug/L	91
32) 1,1-dichloroethane	8.73	63	366027	97.30	ug/L	98
33) chloroprene	8.83	53	286949	96.51	ug/L	98
34) acrylonitrile	8.07	53	60164	106.48	ug/L	95
35) vinyl acetate	8.66	86	30602	101.92	ug/L #	91
36) ethyl acetate	9.39	45	22729	108.20	ug/L	94



## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184480.D  
 Acq On : 11 Apr 2019 2:50 pm  
 Operator : Prashans  
 Sample : IC8003-100  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 08:12:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	9.49	77	318466	92.87	ug/L	97
38) cis-1,2-dichloroethene	9.45	96	239306	97.65	ug/L	98
39) propionitrile	9.46	54	209173	1032.84	ug/L	97
40) bromochloromethane	9.74	130	147267	103.33	ug/L	97
41) tetrahydrofuran	9.75	72	20234	104.86	ug/L	99
42) chloroform	9.82	83	376308	96.34	ug/L	100
43) tert-butyl formate	9.87	59	168505	103.97	ug/L	98
46) methacrylonitrile	9.66	67	58565	103.42	ug/L	98
47) 1,1,1-trichloroethane	10.09	97	342500	97.13	ug/L	99
48) cyclohexane	10.20	84	307712	96.65	ug/L	99
49) 1,1-dichloropropene	10.26	75	247668	98.40	ug/L	99
50) tert-amyl alcohol	10.38	55	34701	500.54	ug/L #	82
51) carbon tetrachloride	10.29	117	284549	99.16	ug/L	100
54) 2,2,4-trimethylpentane	10.60	57	840165	102.38	ug/L	99
55) tert-amyl methyl ether	10.58	73	669553	100.44	ug/L	98
56) n-butyl alcohol	10.95	41	186146	5176.42	ug/L	97
57) benzene	10.50	78	800530	96.87	ug/L	99
58) heptane	10.74	57	144416	97.31	ug/L	99
59) isopropyl acetate	10.40	87	33703	103.27	ug/L	92
60) 1,2-dichloroethane	10.53	62	238064	93.63	ug/L	97
61) trichloroethene	11.21	130	205569	97.82	ug/L	99
62) ethyl acrylate	11.19	55	179544	102.42	ug/L	97
63) 2-nitropropane	11.96	41	50773	95.10	ug/L	90
64) 2-chloroethyl vinyl ether	11.98	63	478231	491.10	ug/L	99
65) methyl methacrylate	11.45	100	39651	102.03	ug/L #	84
66) 1,2-dichloropropane	11.50	63	202617	99.85	ug/L	97
67) methylcyclohexane	11.51	83	350701	96.85	ug/L	99
68) dibromomethane	11.61	93	114284	99.75	ug/L	99
69) bromodichloromethane	11.75	83	279762	101.96	ug/L	100
70) epichlorohydrin	12.07	57	71997	484.80	ug/L	97
71) cis-1,3-dichloropropene	12.20	75	319060	101.26	ug/L	99
72) 4-methyl-2-pentanone	12.30	58	227005	392.97	ug/L	97
73) 3-methyl-1-butanol	12.29	70	92301	2081.36	ug/L	98
76) toluene	12.58	92	469361	100.59	ug/L	99
77) trans-1,3-dichloropropene	12.76	75	263767	105.54	ug/L	99
78) ethyl methacrylate	12.74	69	200404	104.40	ug/L	99
79) 1,1,2-trichloroethane	12.98	83	126821	102.53	ug/L	96
80) 2-hexanone	13.13	58	207237	404.33	ug/L	99
81) tetrachloroethene	13.12	166	204342	100.76	ug/L	99
82) 1,3-dichloropropane	13.15	76	233149	102.32	ug/L	99
83) butyl acetate	13.20	56	98097	102.12	ug/L	94
84) dibromochloromethane	13.39	129	197152	109.88	ug/L	95
85) 1,2-dibromoethane	13.55	107	201624	103.62	ug/L	98
86) n-butyl ether	13.97	57	816106	98.10	ug/L	99
87) chlorobenzene	14.02	112	522413	98.74	ug/L	100
88) 1,1,1,2-tetrachloroethane	14.08	131	218243	107.28	ug/L	96
89) ethylbenzene	14.07	91	875241	98.66	ug/L	100
90) m,p-xylene	14.20	106	676569	194.98	ug/L	97
91) o-xylene	14.59	91	753842	99.71	ug/L	97
92) styrene	14.60	104	594872	99.49	ug/L	98

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184480.D  
 Acq On : 11 Apr 2019 2:50 pm  
 Operator : Prashans  
 Sample : IC8003-100  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 08:12:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) bromoform	14.83	173	125060	112.09	ug/L	100
94) butyl acrylate	14.41	55	353886	103.05	ug/L	100
95) isopropylbenzene	14.93	105	921919	100.72	ug/L	99
96) cis-1,4-dichloro-2-butene	14.97	88	69883	106.82	ug/L	98
99) bromobenzene	15.31	156	259162	95.57	ug/L	99
100) 1,1,2,2-tetrachloroethane	15.20	83	204359	98.25	ug/L	100
101) trans-1,4-dichloro-2-buten	15.24	53	47976	98.81	ug/L	94
102) 1,2,3-trichloropropane	15.29	110	50121	99.27	ug/L	95
103) n-propylbenzene	15.35	91	1063277	93.43	ug/L	99
104) 2-chlorotoluene	15.48	126	238981	96.78	ug/L	99
105) 4-chlorotoluene	15.59	91	667775	94.67	ug/L	99
106) 1,3,5-trimethylbenzene	15.50	105	800327	94.28	ug/L	99
107) tert-butylbenzene	15.83	134	151143	101.33	ug/L	96
108) 1,2,4-trimethylbenzene	15.88	105	827948	94.15	ug/L	100
109) sec-butylbenzene	16.05	105	1039828	96.87	ug/L	99
110) 1,3-dichlorobenzene	16.22	146	505286	95.18	ug/L	99
111) p-isopropyltoluene	16.18	119	898890	96.29	ug/L	100
112) 1,4-dichlorobenzene	16.31	146	514568	98.11	ug/L	99
113) 1,2-dichlorobenzene	16.68	146	502434	97.88	ug/L	99
114) n-butylbenzene	16.59	92	486755	98.37	ug/L	100
115) 1,2-dibromo-3-chloropropan	17.45	157	51898	105.26	ug/L	95
116) 1,3,5-trichlorobenzene	17.64	180	502056	99.29	ug/L	99
117) 1,2,4-trichlorobenzene	18.29	180	435592	104.06	ug/L	99
118) hexachlorobutadiene	18.41	225	253056	96.90	ug/L	98
119) naphthalene	18.59	128	768002	108.53	ug/L	99
120) 1,2,3-trichlorobenzene	18.83	180	394403	106.27	ug/L	97
121) hexachloroethane	16.98	201	163355	111.59	ug/L	99
122) benzyl chloride	16.41	91	408246	103.80	ug/L	99
123) 2-ethylhexyl acrylate	18.30	70	63207	18.49	ug/L	99
124) 2-methylnaphthalene	19.84	142	203872	55.06	ug/L	100

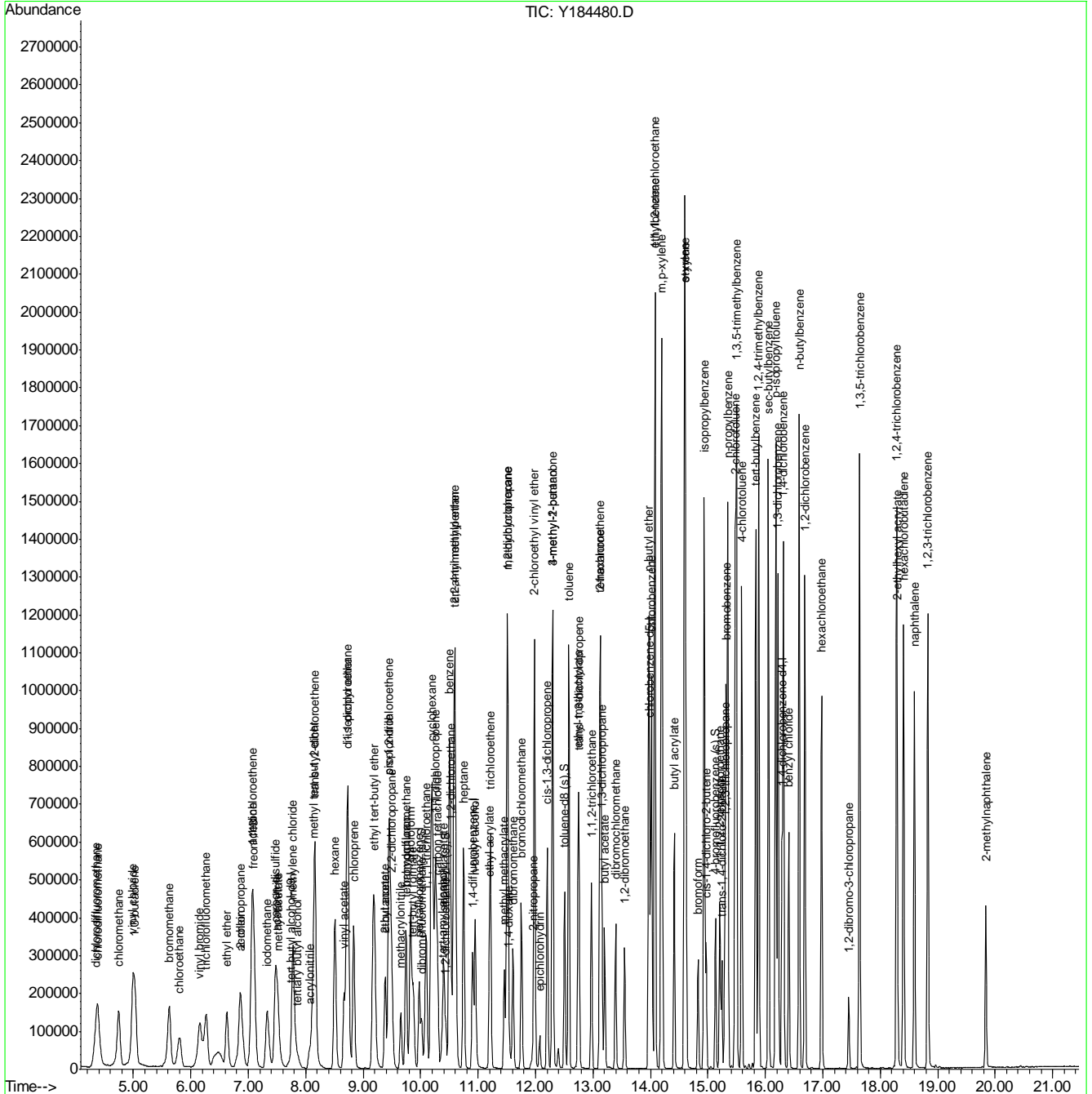
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
Data File : Y184480.D  
Acq On : 11 Apr 2019 2:50 pm  
Operator : Prashans  
Sample : IC8003-100  
Misc : MS31717,VY8003,5.0,,,,,1  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 15 08:12:54 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
QLast Update : Mon Apr 15 07:54:33 2019  
Response via : Initial Calibration



7.7.21  
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184481.D  
 Acq On : 11 Apr 2019 3:18 pm  
 Operator : Prashans  
 Sample : IC8003-200  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 15 08:00:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.75	65	65544	500.00	ug/L	0.01
5) pentafluorobenzene	9.98	168	181920	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	263930	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	238485	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	140148	50.00	ug/L	0.00

System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	83763	51.57	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	103.14%
53) 1,2-dichloroethane-d4 (s)	10.44	65	71247	49.47	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	98.94%
75) toluene-d8 (s)	12.51	98	307014	51.53	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	103.06%
98) 4-bromofluorobenzene (s)	15.13	95	117547	48.91	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	97.82%

Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.85	59	231659	1108.99	ug/L	89
4) 1,4-dioxane	11.55	88	92691	4813.25	ug/L	98
6) chlorodifluoromethane	4.38	51	606359	186.34	ug/L	99
7) dichlorodifluoromethane	4.35	85	688645	202.53	ug/L	97
8) chloromethane	4.75	50	854525	202.38	ug/L	98
9) vinyl chloride	4.99	62	657460	198.64	ug/L	97
10) 1,3-butadiene	5.03	54	420041	192.56	ug/L	99
11) bromomethane	5.62	94	474730	180.23	ug/L	97
12) chloroethane	5.80	64	356558	175.73	ug/L	99
13) vinyl bromide	6.15	106	347560	195.13	ug/L	98
14) trichlorofluoromethane	6.27	101	699373	193.15	ug/L	98
15) ethyl ether	6.63	74	208241	209.67	ug/L	98
16) 2-chloropropane	6.86	63	171355	198.07	ug/L	96
17) acrolein	6.87	56	57459	205.92	ug/L	95
18) freon 113	7.10	151	342997	200.44	ug/L	94
19) 1,1-dichloroethene	7.07	61	638132	197.44	ug/L	99
20) acetone	7.07	43	378953	724.70	ug/L	97
21) acetonitrile	7.50	41	443074	1966.25	ug/L	98
22) iodomethane	7.33	142	753069	199.35	ug/L	99
23) carbon disulfide	7.47	76	1295354	194.98	ug/L	99
24) methylene chloride	7.78	84	501909	178.97	ug/L	99
25) methyl acetate	7.52	43	214144	189.04	ug/L	99
26) methyl tert butyl ether	8.15	73	1247537	205.62	ug/L	99
27) trans-1,2-dichloroethene	8.16	61	583297	197.86	ug/L	100
28) hexane	8.51	57	537851	189.48	ug/L	99
29) di-isopropyl ether	8.72	45	1546454	201.54	ug/L	100
30) ethyl tert-butyl ether	9.19	59	1516057	214.95	ug/L	99
31) 2-butanone	9.38	72	125757	847.50	ug/L	98
32) 1,1-dichloroethane	8.74	63	724766	196.68	ug/L	99
33) chloroprene	8.83	53	566924	194.65	ug/L	98
34) acrylonitrile	8.07	53	119234	215.42	ug/L	93
35) vinyl acetate	8.67	86	61027	207.48	ug/L #	87
36) ethyl acetate	9.39	45	40528	196.95	ug/L	92

7.7.22  
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## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184481.D  
 Acq On : 11 Apr 2019 3:18 pm  
 Operator : Prashans  
 Sample : IC8003-200  
 Misc : MS31717,VY8003,5.0,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 15 08:00:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	9.49	77	630402	187.68	ug/L	98
38) cis-1,2-dichloroethene	9.45	96	476488	198.48	ug/L	99
39) propionitrile	9.46	54	412911	2081.37	ug/L	89
40) bromochloromethane	9.74	130	293474	210.21	ug/L	98
41) tetrahydrofuran	9.76	72	39831	210.73	ug/L	99
42) chloroform	9.83	83	745007	194.70	ug/L	99
43) tert-butyl formate	9.87	59	340873	214.71	ug/L	97
46) methacrylonitrile	9.66	67	116403	209.85	ug/L	97
47) 1,1,1-trichloroethane	10.09	97	681391	197.26	ug/L	99
48) cyclohexane	10.20	84	604759	193.90	ug/L	99
49) 1,1-dichloropropene	10.26	75	485480	196.90	ug/L	99
50) tert-amyl alcohol	10.38	55	67266	990.51	ug/L #	72
51) carbon tetrachloride	10.29	117	572032	203.50	ug/L	99
54) 2,2,4-trimethylpentane	10.60	57	1692802	208.53	ug/L	99
55) tert-amyl methyl ether	10.59	73	1369065	207.61	ug/L	99
56) n-butyl alcohol	10.95	41	360941	10146.87	ug/L	97
57) benzene	10.50	78	1578787	193.13	ug/L	99
58) heptane	10.75	57	277127	188.78	ug/L	97
59) isopropyl acetate	10.40	87	66577	206.23	ug/L #	88
60) 1,2-dichloroethane	10.53	62	469166	186.54	ug/L	98
61) trichloroethene	11.21	130	404791	194.72	ug/L	99
62) ethyl acrylate	11.19	55	345687	199.34	ug/L	97
63) 2-nitropropane	11.96	41	99766	188.90	ug/L	99
64) 2-chloroethyl vinyl ether	11.98	63	927586	962.95	ug/L	99
65) methyl methacrylate	11.45	100	77887	202.62	ug/L #	88
66) 1,2-dichloropropane	11.50	63	397895	198.23	ug/L	98
67) methylcyclohexane	11.51	83	702792	196.20	ug/L	99
68) dibromomethane	11.61	93	229429	202.44	ug/L	97
69) bromodichloromethane	11.75	83	556936	205.18	ug/L	98
70) epichlorohydrin	12.07	57	139845	951.94	ug/L	97
71) cis-1,3-dichloropropene	12.20	75	629247	201.88	ug/L	98
72) 4-methyl-2-pentanone	12.30	58	442683	774.70	ug/L	100
73) 3-methyl-1-butanol	12.29	70	183105	4174.09	ug/L	96
76) toluene	12.58	92	924206	195.11	ug/L	99
77) trans-1,3-dichloropropene	12.76	75	519801	204.87	ug/L	99
78) ethyl methacrylate	12.74	69	390147	200.21	ug/L	100
79) 1,1,2-trichloroethane	12.98	83	251747	200.48	ug/L	97
80) 2-hexanone	13.13	58	397338	763.62	ug/L	96
81) tetrachloroethene	13.12	166	410503	199.39	ug/L	99
82) 1,3-dichloropropane	13.15	76	461405	199.45	ug/L	100
83) butyl acetate	13.20	56	187356	192.13	ug/L	97
84) dibromochloromethane	13.39	129	397768	218.37	ug/L	99
85) 1,2-dibromoethane	13.55	107	399087	202.03	ug/L	99
86) n-butyl ether	13.97	57	1588224	188.05	ug/L	99
87) chlorobenzene	14.02	112	1047898	195.11	ug/L	100
88) 1,1,1,2-tetrachloroethane	14.08	131	440239	213.16	ug/L	98
89) ethylbenzene	14.07	91	1723585	191.38	ug/L	100
90) m,p-xylene	14.20	106	1354922	384.63	ug/L	97
91) o-xylene	14.59	91	1511292	196.90	ug/L	99
92) styrene	14.60	104	1178591	194.16	ug/L	100

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184481.D  
 Acq On : 11 Apr 2019 3:18 pm  
 Operator : Prashans  
 Sample : IC8003-200  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 15 08:00:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 07:54:33 2019  
 Response via : Initial Calibration

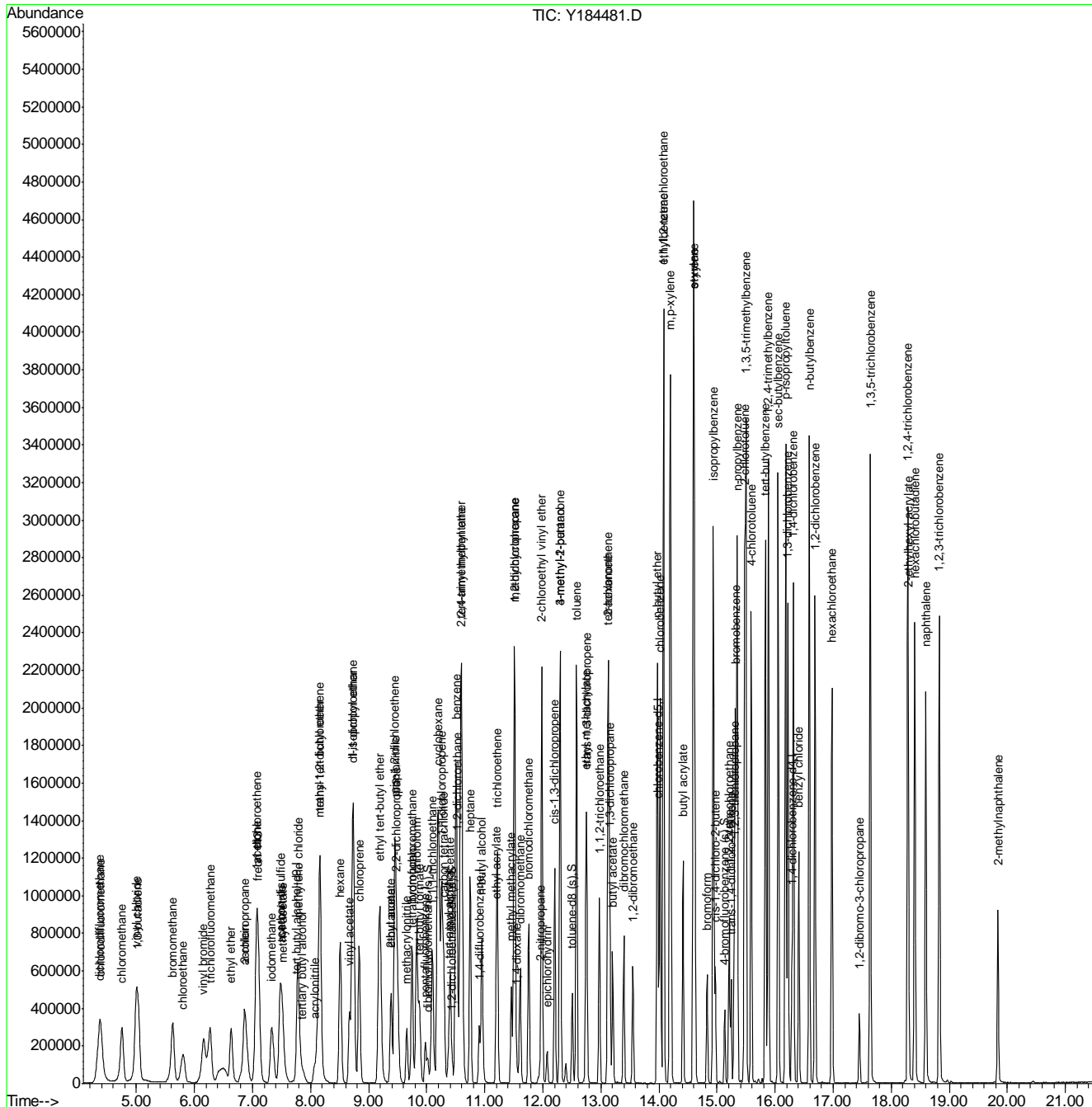
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) bromoform	14.83	173	255979	225.99	ug/L	98
94) butyl acrylate	14.41	55	668959	191.88	ug/L	100
95) isopropylbenzene	14.93	105	1840909	198.11	ug/L	100
96) cis-1,4-dichloro-2-butene	14.97	88	133955	201.70	ug/L	97
99) bromobenzene	15.31	156	510014	192.09	ug/L	99
100) 1,1,2,2-tetrachloroethane	15.21	83	404866	198.80	ug/L	99
101) trans-1,4-dichloro-2-buten	15.24	53	92430	194.42	ug/L	92
102) 1,2,3-trichloropropane	15.29	110	98351	198.95	ug/L	92
103) n-propylbenzene	15.35	91	2102617	188.70	ug/L	99
104) 2-chlorotoluene	15.48	126	469403	194.14	ug/L	97
105) 4-chlorotoluene	15.59	91	1317803	190.80	ug/L	100
106) 1,3,5-trimethylbenzene	15.50	105	1628117	195.89	ug/L	99
107) tert-butylbenzene	15.84	134	311693	213.42	ug/L	99
108) 1,2,4-trimethylbenzene	15.88	105	1660179	192.81	ug/L	100
109) sec-butylbenzene	16.05	105	2094300	199.25	ug/L	100
110) 1,3-dichlorobenzene	16.22	146	991062	190.66	ug/L	98
111) p-isopropyltoluene	16.18	119	1815656	198.64	ug/L	100
112) 1,4-dichlorobenzene	16.31	146	1006903	196.06	ug/L	99
113) 1,2-dichlorobenzene	16.69	146	995207	198.02	ug/L	99
114) n-butylbenzene	16.59	92	960439	198.24	ug/L	100
115) 1,2-dibromo-3-chloropropan	17.45	157	104219	215.88	ug/L	97
116) 1,3,5-trichlorobenzene	17.64	180	1023620	206.74	ug/L	99
117) 1,2,4-trichlorobenzene	18.29	180	912151	222.56	ug/L	99
118) hexachlorobutadiene	18.41	225	523161	204.60	ug/L	98
119) naphthalene	18.59	128	1604766	231.61	ug/L	99
120) 1,2,3-trichlorobenzene	18.83	180	823453	226.61	ug/L	98
121) hexachloroethane	16.98	201	346479	241.73	ug/L	97
122) benzyl chloride	16.41	91	803853	208.74	ug/L	99
123) 2-ethylhexyl acrylate	18.30	70	146196	42.41	ug/L	98
124) 2-methylnaphthalene	19.84	142	443840	122.42	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
Data File : Y184481.D  
Acq On : 11 Apr 2019 3:18 pm  
Operator : Prashans  
Sample : IC8003-200  
Misc : MS31717,VY8003,5.0,,,,,1  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 15 08:00:10 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
QLast Update : Mon Apr 15 07:54:33 2019  
Response via : Initial Calibration



7.7.22  
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## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184484.D  
 Acq On : 11 Apr 2019 4:44 pm  
 Operator : Prashans  
 Sample : ICV8003-50  
 Misc : MS31717,VY8003,5.0,,,,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 08:13:56 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:11:10 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.74	65	68370	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	182489	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	260489	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	244579	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	141767	50.00	ug/L	0.00

## System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	82738	50.79	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	101.58%
53) 1,2-dichloroethane-d4 (s)	10.44	65	71632	50.38	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	100.76%
75) toluene-d8 (s)	12.51	98	304665	49.87	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.74%
98) 4-bromofluorobenzene (s)	15.13	95	122805	50.51	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	101.02%

## Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.84	59	55008	252.45	ug/L	97
4) 1,4-dioxane	11.54	88	24442	1219.75	ug/L	99
6) chlorodifluoromethane	4.38	51	167337	51.26	ug/L	99
7) dichlorodifluoromethane	4.35	85	181873	53.32	ug/L	95
8) chloromethane	4.74	50	225308	53.19	ug/L	98
9) vinyl chloride	4.99	62	168732	50.06	ug/L	98
10) 1,3-butadiene	5.03	54	127425	58.23	ug/L	97
11) bromomethane	5.63	94	126633	47.93	ug/L	93
12) chloroethane	5.81	64	94505	47.33	ug/L	97
13) vinyl bromide	6.15	106	93812	52.50	ug/L	99
14) trichlorofluoromethane	6.27	101	176750	48.66	ug/L	97
15) ethyl ether	6.63	74	54113	54.31	ug/L	97
16) 2-chloropropane	6.86	63	46521	53.61	ug/L	93
17) acrolein	6.87	56	18145	64.82	ug/L	98
18) freon 113	7.09	151	100948	58.81	ug/L	94
19) 1,1-dichloroethene	7.07	61	153987	47.50	ug/L	97
20) acetone	7.07	43	103876	198.03	ug/L	96
22) iodomethane	7.33	142	215829	56.95	ug/L	96
23) carbon disulfide	7.47	76	373538	56.05	ug/L	99
24) methylene chloride	7.78	84	125299	44.54	ug/L	97
25) methyl acetate	7.52	43	56970	50.14	ug/L	97
26) methyl tert butyl ether	8.14	73	624019	102.53	ug/L	97
27) trans-1,2-dichloroethene	8.15	61	148042	50.06	ug/L	98
28) hexane	8.50	57	140087	49.20	ug/L	98
29) di-isopropyl ether	8.72	45	376335	48.89	ug/L	99
30) ethyl tert-butyl ether	9.18	59	358321	50.65	ug/L	99
31) 2-butanone	9.37	72	33597	225.71	ug/L #	87
32) 1,1-dichloroethane	8.73	63	188081	50.88	ug/L	98
33) chloroprene	8.83	53	148099	50.69	ug/L	98
34) acrylonitrile	8.06	53	36126	63.21	ug/L	93
35) vinyl acetate	8.66	86	14967	50.73	ug/L #	80
36) ethyl acetate	9.39	45	11348	54.20	ug/L	97
37) 2,2-dichloropropane	9.49	77	160612	49.12	ug/L	97



## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184484.D  
 Acq On : 11 Apr 2019 4:44 pm  
 Operator : Prashans  
 Sample : ICV8003-50  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 08:13:56 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:11:10 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) cis-1,2-dichloroethene	9.45	96	118176	49.07	ug/L	95
39) propionitrile	9.46	54	112784	566.74	ug/L	97
40) bromochloromethane	9.74	130	75382	52.78	ug/L	95
41) tetrahydrofuran	9.76	72	10409	54.90	ug/L	96
42) chloroform	9.82	83	188673	49.15	ug/L	97
43) tert-butyl formate	9.86	59	75972	47.70	ug/L	99
46) methacrylonitrile	9.66	67	29649	53.28	ug/L	96
47) 1,1,1-trichloroethane	10.09	97	166646	48.09	ug/L	99
48) cyclohexane	10.20	84	158165	50.58	ug/L	98
49) 1,1-dichloropropene	10.25	75	125480	50.73	ug/L	97
50) tert-amyl alcohol	10.38	55	19103	280.42	ug/L	89
51) carbon tetrachloride	10.29	117	143450	50.87	ug/L	99
54) 2,2,4-trimethylpentane	10.60	57	419988	52.42	ug/L	99
55) tert-amyl methyl ether	10.58	73	326049	50.10	ug/L	99
56) n-butyl alcohol	10.95	41	97430	2774.54	ug/L	97
57) benzene	10.50	78	402614	49.90	ug/L	100
58) heptane	10.75	57	85417	59.37	ug/L	98
59) isopropyl acetate	10.40	87	16715	52.46	ug/L #	83
60) 1,2-dichloroethane	10.53	62	118305	48.79	ug/L	95
61) trichloroethene	11.21	130	104937	51.15	ug/L	98
62) ethyl acrylate	11.19	55	96413	55.58	ug/L	96
63) 2-nitropropane	11.96	41	27952	53.62	ug/L	86
64) 2-chloroethyl vinyl ether	11.98	63	260881	274.19	ug/L	99
65) methyl methacrylate	11.45	100	20960	55.25	ug/L #	50
66) 1,2-dichloropropane	11.50	63	103332	52.16	ug/L	99
67) methylcyclohexane	11.51	83	176723	49.99	ug/L	97
68) dibromomethane	11.61	93	57876	51.74	ug/L	98
69) bromodichloromethane	11.75	83	138068	51.54	ug/L	99
70) epichlorohydrin	12.07	57	39103	273.27	ug/L	96
71) cis-1,3-dichloropropene	12.20	75	163320	53.09	ug/L	98
72) 4-methyl-2-pentanone	12.30	58	121727	215.84	ug/L	96
73) 3-methyl-1-butanol	12.29	70	50227	1160.11	ug/L	97
76) toluene	12.58	92	236550	48.70	ug/L	97
77) trans-1,3-dichloropropene	12.76	75	139273	53.53	ug/L	99
78) ethyl methacrylate	12.74	69	108670	54.38	ug/L	99
79) 1,1,2-trichloroethane	12.98	83	66209	51.41	ug/L	95
80) 2-hexanone	13.13	58	115265	215.99	ug/L	99
82) 1,3-dichloropropane	13.15	76	123390	52.01	ug/L	99
83) butyl acetate	13.20	56	54270	54.07	ug/L	97
84) dibromochloromethane	13.39	129	102598	54.92	ug/L	95
85) 1,2-dibromoethane	13.55	107	105516	52.09	ug/L	99
86) n-butyl ether	13.97	57	448578	52.57	ug/L	100
87) chlorobenzene	14.02	112	279046	50.66	ug/L	99
88) 1,1,1,2-tetrachloroethane	14.08	131	109644	51.77	ug/L	97
89) ethylbenzene	14.07	91	460143	49.82	ug/L	99
90) m,p-xylene	14.20	106	359317	99.46	ug/L	96
91) o-xylene	14.59	91	393053	49.93	ug/L	100
92) styrene	14.60	104	315692	50.71	ug/L	99
93) bromoform	14.83	173	69045	59.44	ug/L	97
94) butyl acrylate	14.41	55	184637	51.63	ug/L	99

## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184484.D  
 Acq On : 11 Apr 2019 4:44 pm  
 Operator : Prashans  
 Sample : ICV8003-50  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 08:13:56 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:11:10 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) isopropylbenzene	14.93	105	474438	49.79	ug/L	99
96) cis-1,4-dichloro-2-butene	14.97	88	35911	52.73	ug/L	96
99) bromobenzene	15.31	156	134578	50.11	ug/L	99
100) 1,1,2,2-tetrachloroethane	15.21	83	109112	52.96	ug/L	100
101) trans-1,4-dichloro-2-buten	15.24	53	28267	58.77	ug/L	93
102) 1,2,3-trichloropropane	15.29	110	26545	52.68	ug/L	97
103) n-propylbenzene	15.35	91	562900	49.94	ug/L	100
104) 2-chlorotoluene	15.48	126	120996	49.47	ug/L	97
105) 4-chlorotoluene	15.59	91	357630	51.19	ug/L	99
106) 1,3,5-trimethylbenzene	15.50	105	412961	49.12	ug/L	99
107) tert-butylbenzene	15.84	134	75257	50.94	ug/L	100
108) 1,2,4-trimethylbenzene	15.88	105	437267	50.21	ug/L	98
109) sec-butylbenzene	16.05	105	534119	50.24	ug/L	99
110) 1,3-dichlorobenzene	16.22	146	263655	50.14	ug/L	100
111) p-isopropyltoluene	16.18	119	476057	51.49	ug/L	100
112) 1,4-dichlorobenzene	16.31	146	263459	50.71	ug/L	100
113) 1,2-dichlorobenzene	16.68	146	261030	51.34	ug/L	99
114) n-butylbenzene	16.59	92	249086	50.82	ug/L	99
115) 1,2-dibromo-3-chloropropan	17.45	157	25540	52.30	ug/L	94
116) 1,3,5-trichlorobenzene	17.64	180	258308	51.58	ug/L	99
117) 1,2,4-trichlorobenzene	18.29	180	218783	52.77	ug/L	100
118) hexachlorobutadiene	18.41	225	127571	49.32	ug/L	97
119) naphthalene	18.59	128	397004	56.64	ug/L	99
120) 1,2,3-trichlorobenzene	18.83	180	197417	53.71	ug/L	99
121) hexachloroethane	16.98	201	79917	55.12	ug/L	96
122) benzyl chloride	16.41	91	279743	71.81	ug/L	100
123) 2-ethylhexyl acrylate	18.30	70	30823	9.57	ug/L	96
124) 2-methylnaphthalene	19.84	142	95272	25.98	ug/L	98

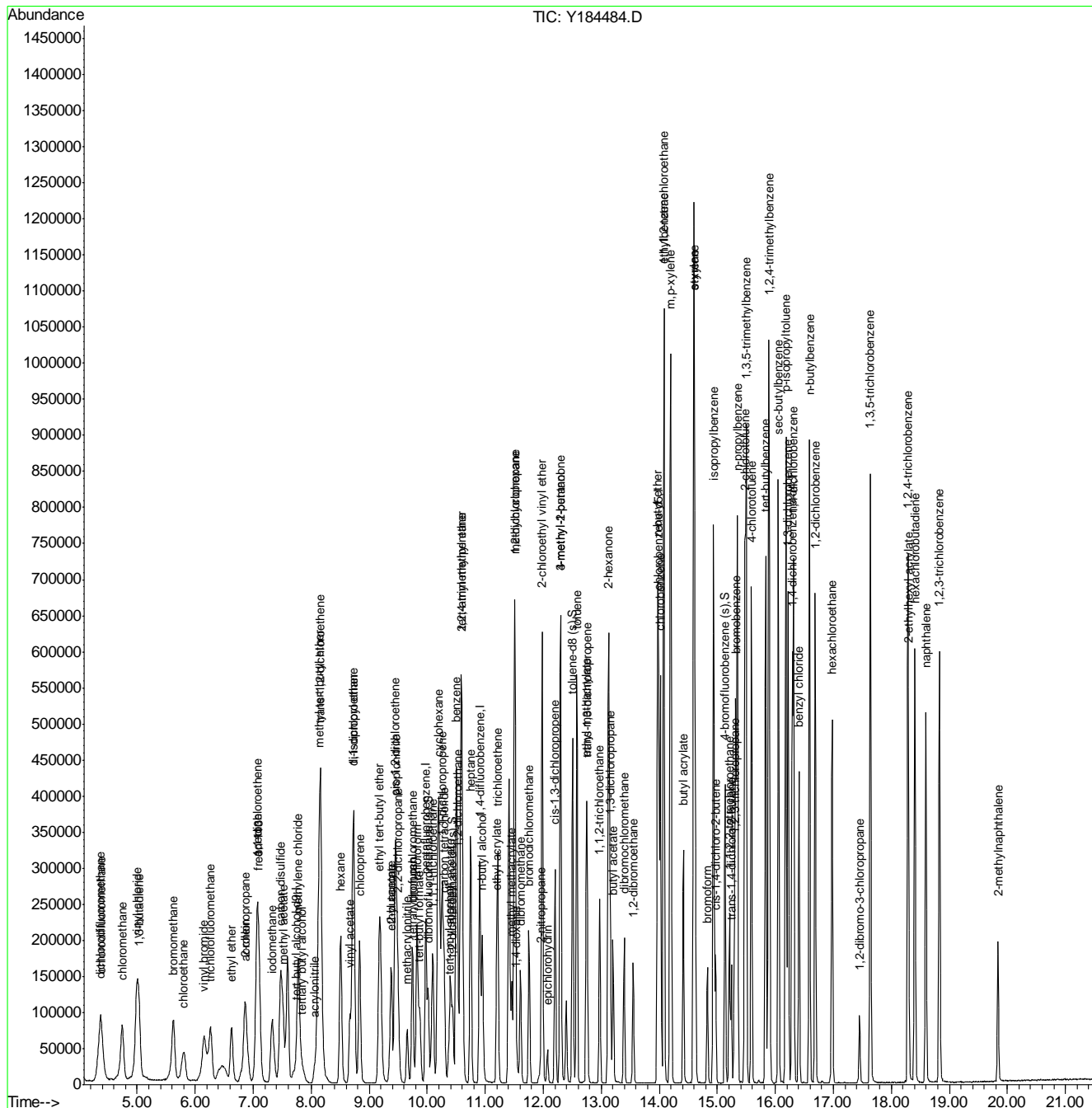
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184484.D  
 Acq On : 11 Apr 2019 4:44 pm  
 Operator : Prashans  
 Sample : ICV8003-50  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 15 08:13:56 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:11:10 2019  
 Response via : Initial Calibration



7.7.23  
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Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184485.D  
 Acq On : 11 Apr 2019 5:13 pm  
 Operator : Prashans  
 Sample : ICV8003-50  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 15 08:13:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:12:27 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.73	65	67444	500.00	ug/L	-0.01
5) pentafluorobenzene	9.97	168	189256	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	268961	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	259447	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	148569	50.00	ug/L	0.00

System Monitoring Compounds						
45) dibromofluoromethane (s)	10.02	113	85318	50.50	ug/L	0.00
Spiked Amount	50.000	Range 75 - 127	Recovery	=	101.00%	
53) 1,2-dichloroethane-d4 (s)	10.43	65	74816	50.96	ug/L	0.00
Spiked Amount	50.000	Range 75 - 130	Recovery	=	101.92%	
75) toluene-d8 (s)	12.51	98	312689	48.25	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	96.50%	
98) 4-bromofluorobenzene (s)	15.13	95	128613	50.48	ug/L	0.00
Spiked Amount	50.000	Range 79 - 127	Recovery	=	100.96%	

Target Compounds					Qvalue
21) acetonitrile	7.50	41	117632	501.52	ug/L 95
81) tetrachloroethene	13.12	166	103078	46.02	ug/L 96

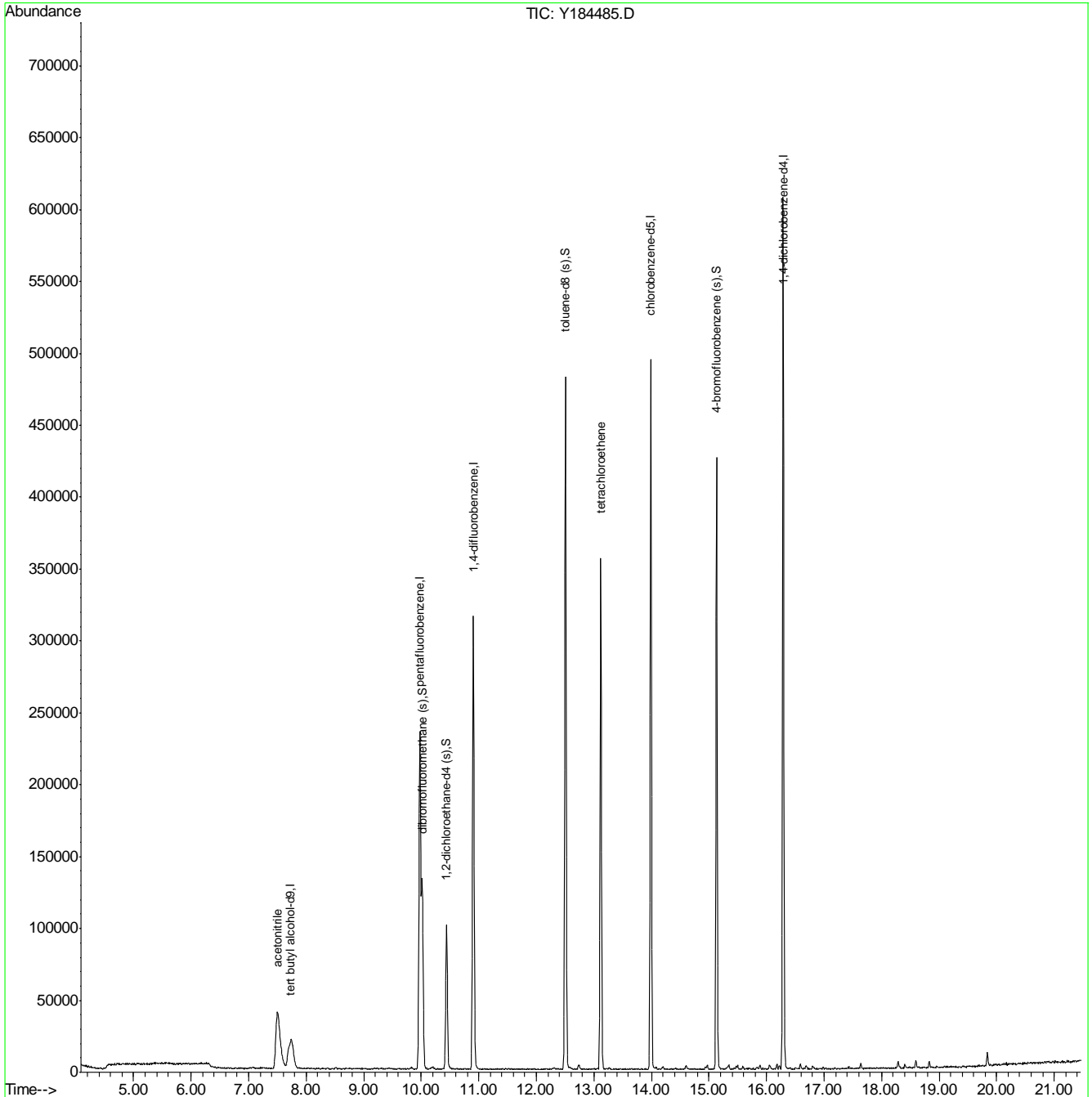
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.24  
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8003\  
 Data File : Y184485.D  
 Acq On : 11 Apr 2019 5:13 pm  
 Operator : Prashans  
 Sample : ICV8003-50  
 Misc : MS31717,VY8003,5.0,,,,,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 15 08:13:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:12:27 2019  
 Response via : Initial Calibration



7.7.24  
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184539.D  
 Acq On : 17 Apr 2019 8:52 am  
 Operator : Prashans  
 Sample : cc8003-50  
 Misc : MS33788,VY8006,5.0,,,,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 10:15:42 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.75	65	65419	500.00	ug/L	0.00
5) pentafluorobenzene	9.97	168	192899	50.00	ug/L	0.00
52) 1,4-difluorobenzene	10.91	114	278380	50.00	ug/L	0.00
74) chlorobenzene-d5	13.99	117	269991	50.00	ug/L	0.00
97) 1,4-dichlorobenzene-d4	16.29	152	151102	50.00	ug/L	0.00

System Monitoring Compounds

45) dibromofluoromethane (s)	10.02	113	86531	50.25	ug/L	0.00
Spiked Amount	50.000	Range	75 - 127	Recovery	=	100.50%
53) 1,2-dichloroethane-d4 (s)	10.44	65	75770	49.86	ug/L	0.00
Spiked Amount	50.000	Range	75 - 130	Recovery	=	99.72%
75) toluene-d8 (s)	12.51	98	324578	48.13	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	96.26%
98) 4-bromofluorobenzene (s)	15.14	95	130294	50.28	ug/L	0.00
Spiked Amount	50.000	Range	79 - 127	Recovery	=	100.56%

Target Compounds

						Qvalue
3) tertiary butyl alcohol	7.84	59	52078	249.78	ug/L	98
4) 1,4-dioxane	11.55	88	24464	1275.92	ug/L	99
6) chlorodifluoromethane	4.38	51	175294	50.80	ug/L	98
7) dichlorodifluoromethane	4.34	85	241019	66.85	ug/L	96
8) chloromethane	4.74	50	253127	56.54	ug/L	98
9) vinyl chloride	4.99	62	201544	56.57	ug/L	98
10) 1,3-butadiene	5.02	54	127517	55.13	ug/L	99
11) bromomethane	5.62	94	149568	53.55	ug/L	94
12) chloroethane	5.81	64	106007	50.22	ug/L	96
13) vinyl bromide	6.15	106	96297	50.99	ug/L	97
14) trichlorofluoromethane	6.27	101	211838	55.17	ug/L	99
15) ethyl ether	6.63	74	52782	50.12	ug/L	96
16) 2-chloropropane	6.86	63	46236	50.40	ug/L	90
17) acrolein	6.88	56	17147	57.95	ug/L	79
18) freon 113	7.10	151	102975	56.75	ug/L	93
19) 1,1-dichloroethene	7.07	61	174061	50.79	ug/L	96
20) acetone	7.07	43	95449	172.14	ug/L	98
21) acetonitrile	7.51	41	119587	500.23	ug/L	99
22) iodomethane	7.33	142	194795	48.63	ug/L	98
23) carbon disulfide	7.47	76	351514	49.90	ug/L	99
24) methylene chloride	7.78	84	127765	42.96	ug/L	98
25) methyl acetate	7.52	43	55513	46.22	ug/L	95
26) methyl tert butyl ether	8.13	73	314309	48.86	ug/L	97
27) trans-1,2-dichloroethene	8.16	61	153843	49.22	ug/L	97
28) hexane	8.51	57	148798	49.44	ug/L	98
29) di-isopropyl ether	8.72	45	392411	48.23	ug/L	99
30) ethyl tert-butyl ether	9.18	59	367928	49.20	ug/L	99
31) 2-butanone	9.38	72	33181	210.88	ug/L #	78
32) 1,1-dichloroethane	8.73	63	187481	47.98	ug/L	98
33) chloroprene	8.83	53	150313	48.67	ug/L	98
34) acrylonitrile	8.07	53	30826	51.03	ug/L	93
35) vinyl acetate	8.67	86	15388	49.34	ug/L #	81
36) ethyl acetate	9.39	45	10465	47.29	ug/L	97

7.7.25  
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Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184539.D  
 Acq On : 17 Apr 2019 8:52 am  
 Operator : Prashans  
 Sample : cc8003-50  
 Misc : MS33788,VY8006,5.0,,,,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 10:15:42 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) 2,2-dichloropropane	9.49	77	173189	50.10	ug/L	96
38) cis-1,2-dichloroethene	9.45	96	122142	47.98	ug/L	98
39) propionitrile	9.46	54	110144	523.61	ug/L	89
40) bromochloromethane	9.74	130	74775	49.53	ug/L	95
41) tetrahydrofuran	9.77	72	9504	47.42	ug/L	85
42) chloroform	9.83	83	189268	46.65	ug/L	99
43) tert-butyl formate	9.87	59	79798	47.40	ug/L	98
46) methacrylonitrile	9.66	67	28867	49.08	ug/L	98
47) 1,1,1-trichloroethane	10.09	97	181377	49.52	ug/L	100
48) cyclohexane	10.21	84	181457	54.90	ug/L	88
49) 1,1-dichloropropene	10.26	75	128601	49.19	ug/L	96
50) tert-amyl alcohol	10.38	55	17799	247.18	ug/L	98
51) carbon tetrachloride	10.29	117	155528	52.18	ug/L	99
54) 2,2,4-trimethylpentane	10.60	57	448751	52.41	ug/L	99
55) tert-amyl methyl ether	10.58	73	330692	47.55	ug/L	99
56) n-butyl alcohol	10.95	41	94100	2507.49	ug/L	97
57) benzene	10.50	78	404118	46.87	ug/L	99
58) heptane	10.75	57	77951	50.70	ug/L	98
59) isopropyl acetate	10.40	87	16922	49.70	ug/L	88
60) 1,2-dichloroethane	10.53	62	118131	45.59	ug/L	97
61) trichloroethene	11.21	130	106858	48.73	ug/L	96
62) ethyl acrylate	11.19	55	91350	49.28	ug/L	98
63) 2-nitropropane	11.96	41	27404	49.19	ug/L	93
64) 2-chloroethyl vinyl ether	11.98	63	249268	245.15	ug/L	99
65) methyl methacrylate	11.45	100	19678	48.53	ug/L #	92
66) 1,2-dichloropropane	11.50	63	101965	48.16	ug/L	98
67) methylcyclohexane	11.51	83	196448	52.00	ug/L	96
68) dibromomethane	11.61	93	59237	49.55	ug/L	96
69) bromodichloromethane	11.76	83	141377	49.38	ug/L	98
70) epichlorohydrin	12.07	57	38105	249.18	ug/L	98
71) cis-1,3-dichloropropene	12.20	75	159444	48.50	ug/L	98
72) 4-methyl-2-pentanone	12.30	58	123266	204.52	ug/L	97
73) 3-methyl-1-butanol	12.30	70	46960	1014.94	ug/L	95
76) toluene	12.58	92	244359	45.57	ug/L	98
77) trans-1,3-dichloropropene	12.76	75	137607	47.91	ug/L	97
78) ethyl methacrylate	12.74	69	104280	47.27	ug/L	95
79) 1,1,2-trichloroethane	12.98	83	67155	47.24	ug/L	95
80) 2-hexanone	13.13	58	112310	190.64	ug/L	99
81) tetrachloroethene	13.12	166	115111	49.39	ug/L	97
82) 1,3-dichloropropane	13.15	76	125235	47.82	ug/L	99
83) butyl acetate	13.21	56	53121	47.94	ug/L	99
84) dibromochloromethane	13.39	129	101515	49.23	ug/L	95
85) 1,2-dibromoethane	13.55	107	109692	49.05	ug/L	99
86) n-butyl ether	13.97	57	442817	47.01	ug/L	99
87) chlorobenzene	14.02	112	283868	46.69	ug/L	97
88) 1,1,1,2-tetrachloroethane	14.08	131	112330	48.04	ug/L	97
89) ethylbenzene	14.07	91	479950	47.08	ug/L	99
90) m,p-xylene	14.20	106	373547	93.67	ug/L	99
91) o-xylene	14.59	91	406601	46.79	ug/L	97
92) styrene	14.60	104	321219	46.74	ug/L	99

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## Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184539.D  
 Acq On : 17 Apr 2019 8:52 am  
 Operator : Prashans  
 Sample : cc8003-50  
 Misc : MS33788,VY8006,5.0,,,,,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 10:15:42 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration

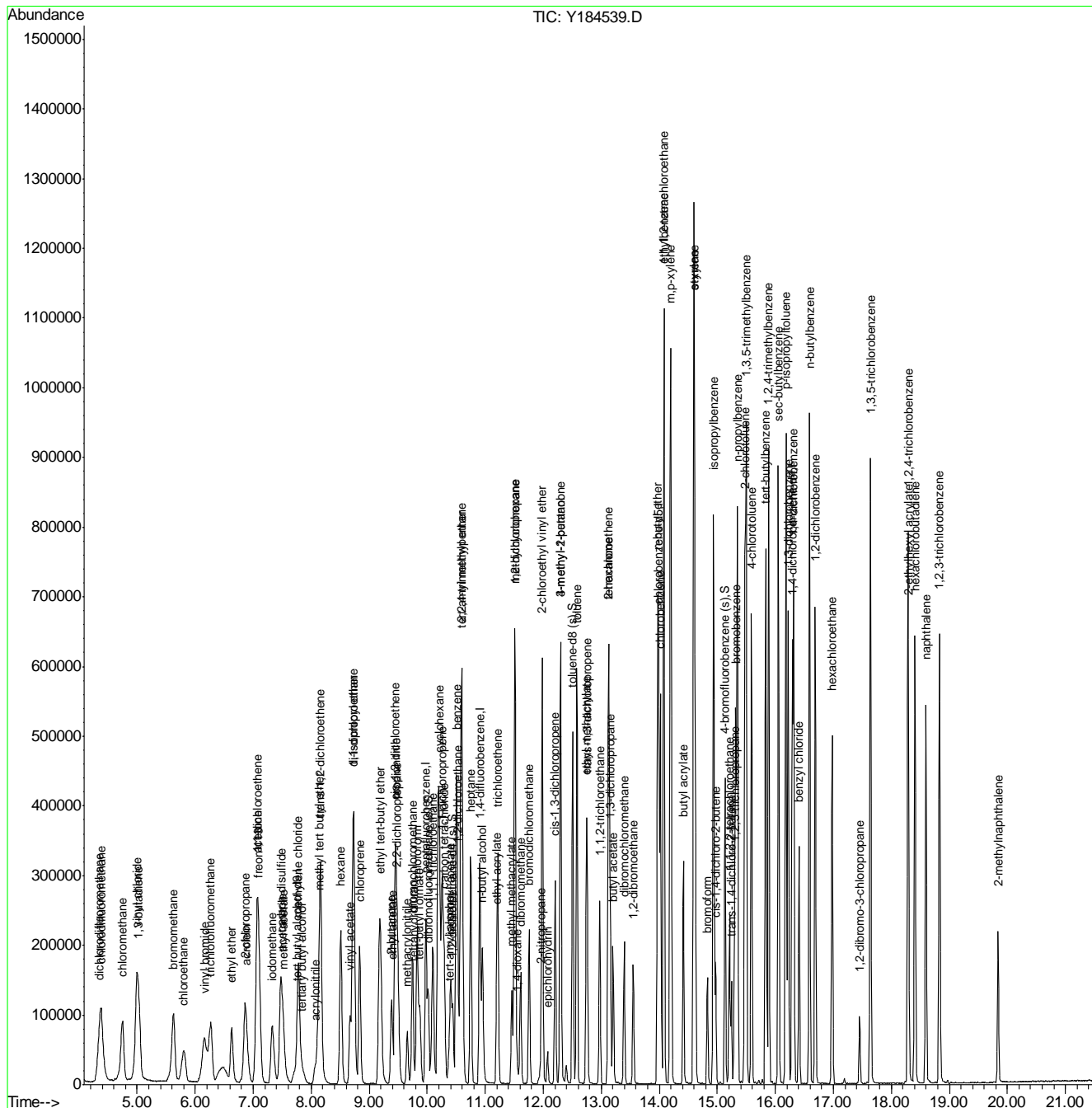
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) bromoform	14.83	173	68029	53.05	ug/L	99
94) butyl acrylate	14.41	55	182376	46.20	ug/L	98
95) isopropylbenzene	14.93	105	502463	47.76	ug/L	99
96) cis-1,4-dichloro-2-butene	14.97	88	35883	47.73	ug/L	98
99) bromobenzene	15.32	156	137668	48.09	ug/L	94
100) 1,1,2,2-tetrachloroethane	15.20	83	110680	50.41	ug/L	97
101) trans-1,4-dichloro-2-buten	15.24	53	25533	49.80	ug/L	96
102) 1,2,3-trichloropropane	15.29	110	27859	51.87	ug/L	99
103) n-propylbenzene	15.35	91	589149	49.04	ug/L	99
104) 2-chlorotoluene	15.48	126	128803	49.41	ug/L	96
105) 4-chlorotoluene	15.59	91	360891	48.47	ug/L	100
106) 1,3,5-trimethylbenzene	15.50	105	432982	48.32	ug/L	99
107) tert-butylbenzene	15.84	134	80764	51.29	ug/L	90
108) 1,2,4-trimethylbenzene	15.88	105	444656	47.90	ug/L	100
109) sec-butylbenzene	16.05	105	568284	50.15	ug/L	99
110) 1,3-dichlorobenzene	16.22	146	268754	47.95	ug/L	97
111) p-isopropyltoluene	16.18	119	495890	50.32	ug/L	99
112) 1,4-dichlorobenzene	16.32	146	267019	48.22	ug/L	100
113) 1,2-dichlorobenzene	16.69	146	267076	49.29	ug/L	99
114) n-butylbenzene	16.59	92	265111	50.75	ug/L	98
115) 1,2-dibromo-3-chloropropan	17.45	157	26543	51.00	ug/L	96
116) 1,3,5-trichlorobenzene	17.64	180	271656	50.89	ug/L	99
117) 1,2,4-trichlorobenzene	18.29	180	237069	53.65	ug/L	99
118) hexachlorobutadiene	18.41	225	136553	49.53	ug/L	98
119) naphthalene	18.59	128	410212	54.91	ug/L	100
120) 1,2,3-trichlorobenzene	18.83	180	210926	53.84	ug/L	97
121) hexachloroethane	16.98	201	79651	51.54	ug/L	99
122) benzyl chloride	16.41	91	221434	53.33	ug/L	99
123) 2-ethylhexyl acrylate	18.30	70	29051	8.57	ug/L	98
124) 2-methylnaphthalene	19.84	142	101106	25.87	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\VY8006\  
 Data File : Y184539.D  
 Acq On : 17 Apr 2019 8:52 am  
 Operator : Prashans  
 Sample : cc8003-50  
 Misc : MS33788,VY8006,5.0,,,,,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 10:15:42 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MYS8003.M  
 Quant Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um  
 QLast Update : Mon Apr 15 08:30:42 2019  
 Response via : Initial Calibration



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# GCMS Volatile Run Log

Standard / Reagents		Lot #									
Standard	ABK: V018-2629-137.36	EC: V018-2645-01.8	Acrolein: V018-2629-145.9								
Concentration	100-10000 PPM	100 PPM	100 PPM								
Ext. Standard	Ext.ABK: V018-2645-05.3	Ext.EC: V018-2629-142.7	Ext.Acrolein: V018-2629-136.3								
Concentration	100-10000 PPM	100 PPM	100 PPM								
Ext. Standard	3rd Source Acetone: V018-2629-128.2										
Concentration	400 PPM										
Internal/Surr	V018-2629-130										
Concentration	50/500 PPM										
Method	V8260C										
Init Calib Quant Method	MI8986										
Standard / Reagents											
GCMSI	Instrument ID:	Sequence loaded by									
Analysis Date	11/27/2018	Prashant B. Shukla									
Column	RX1624(60mx0.25mmx1.4um)	Data processed by	Dongmei								
Method	V8260C	Batch ID	VI8986								
Init Calib Date	11/27/2018	Matrix	SO								
Init Calib Quant Method	MI8986	Approved By:	KANYAV								
DI Purge Volume	5	Approved Date:	12/3/2018 1:18:01 PM								
Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	Purge (uL)	ALS #	Status	Comments
I 223174	BFB		NA		Tune	5.0	5	5	1	OK	5:41 PM
I 223175	IC8986-0.5		NA		IC8260	5.0	5	5	2	OK	1uL Std.A/B/K,EC,Acrolein in 200mL DI H2O
I 223176	IC8986-1		NA		IC8260	5.0	5	5	3	OK	1uL Std.A/B/K,EC,Acrolein in 100mL DI H2O
I 223177	IC8986-2		NA		IC8260	5.0	5	5	4	OK	2uL Std.A/B/K,EC,Acrolein in 100mL DI H2O
I 223178	IC8986-4		NA		IC8260	5.0	5	5	5	OK	2uL Std.A/B/K,EC,Acrolein in 50mL DI H2O
I 223179	IC8986-8		NA		IC8260	5.0	5	5	6	OK	4uL Std.A/B/K,EC,Acrolein in 50mL DI H2O





Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	MeOH/ Purge (uL)	ALS #	Status	Comments
I 223180	IC8986-20		NA		IC8260	5.0	5		7	OK	10uL Std.A/B/K,EC,Acrolein in 50mL DI H2O
I 223181	IC8986-50		NA		IC8260	5.0	5		8	OK	25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O
I 223182	IC8986-100		NA		IC8260	5.0	5		9	OK	50uL Std.A/B/K,EC,Acrolein in 50mL DI H2O
I 223183	IC8986-200		NA		IC8260	5.0	5		10	OK	100uL Std.A/B/K,EC,Acrolein in 50mL DI H2O
I 223184	IB		NA			5.0	5		11	OK	
I 223185	IB		NA			5.0	5		12	OK	
I 223186	ICV8986-50		NA		ICV8260	5.0	5		13	OK	25uL Ext.A/B/K,EC,Acrolein in 50mL DI H2O
I 223187	ICV8986-50		NA		ICV8260	5.0	5		14	OK	25uL Ext.PA,Acetone 3rd source in 50mL DI H2O, 12:18 AM
I 223188	IB		NA			5.0	5		15	OK	

# GCMS Volatile Run Log

Standard / Reagents		Lot #									
Standards	ABK: V019-2645-40.23	EC: V019-2648-71.1	MeOH LOT# 187026, Fisher Chemical								
Standard Concentration	100-10,000ppm	100ppm									
Internal Surrogate	V019-2648-64										
I/S Concentration	50/500ppm										
Method	v8260c										
Init Calib Quant Method	mi8986										
Standard / Reagents											
GCMSI	Instrument ID:	Sequence loaded by	THENN								
Analysis Date	4/17/2019	Data processed by	kenrickb								
Column	Rxi-624(60mx0.25mmx1.4um)	Batch ID	V19085								
		Matrix	SO								
		Approved By:	MOHUI								
		Approved Date:	4/18/2019 11:54:09 AM								
DI Purge Volume	5										
Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	Purge (uL)	ALS #	Status	Comments
I 225472	IB		NA				5		1	ok	
I 225473	IB		NA				5	100	2	ok	
I 225474	BFB/CC8986-50		NA				5	100	3	ok/ok	7.43AM,ABK, EC, ACROLEIN, 25ul/50ml DI water
I 225475	BS		NA				5	100	4	ok	ABK, EC, ACROLEIN, 25ul/50ml DI water
I 225476	IB		NA				5	100	5	ok	
I 225477	MB/JC80308D-17A		NA	MS31989	V8260SL	5	5	100	6	ok/ok	Daily blank disp #55 MeOH lot # 178026, Fisher Chemical

OR049-01

Rev Date: 12/18/2017

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Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/DI FV (ml)	Purge (uL)	ALS #	Status	Comments
I 225478	JC80308D-17B		NA	MS31989	V8260SL	5	5	100	7	ok	Daily blank disp #54 MeOH lot # 178026, Fisher Chemical
I 225479	JC86190-3	17	NA	MS34003	V8260TCL20+	10	10	100	8	ok	Dilution due to non targets high., confirmed by Robert.
I 225480	JC86190-6	6	NA	MS34003	V8260TCL20+	10	10	100	9	ok	Dilution due to non targets high., confirmed by Robert.
I 225481	JC86190-4	8	NA	MS34003	V8260TCL20+	1	11.2	100	10	no need	rr 10x. Sample is soluble in MeOH, D=0.84g/mL. Total volume is 11.2mL
I 225482	JC86190-5	7	NA	MS34003	V8260TCL20+	1	11.2	100	11	no need	Sample is soluble in MeOH, D=0.84g/mL. Total volume is 11.2mL
I 225483	JC86190-3MS	17	NA	MS34003	V8260TCL20+	10	10	100	12	ok	ABK, EC, ACROLEIN, 25ul/50ml sample
I 225484	JC86190-3MSD	17	NA	MS34003	V8260TCL20+	10	10	100	13	ok	ABK, EC, ACROLEIN, 25ul/50ml sample
I 225485	IB		NA				5		14	ok	
I 225486	JC86190-4	8	NA	MS34003	V8260TCL20+	1	11.2	100	15	ok	Sample is soluble in MeOH, D=0.84g/mL. Total volume is 11.2mL
I 225487	JC86190-5	7	NA	MS34003	V8260TCL20+	1	11.2	100	16	ok	Sample is soluble in MeOH, D=0.84g/mL. Total volume is 11.2mL
I 225488	PURGE WRONG VAIL		NA				5		17	NG	
I 225489	PURGE WRONG VAIL		NA				5		18	NG	
I 225490	IB		NA				5		19	ok	
I 225491	JC86222-2	3	NA	MS33911	V8260PPTCL20+	5.7	5	100	20	ok/DL	+3C, rrr f/d 10x
I 225492	JC86192-2	3	NA	MS33934	V8260CP51G	10.55	10	5	21	ok	+
I 225493	JC86182-4	4	NA	MS33935	V8260BTXMIT	5.2	5	50	22	ok	Dilution due to non targets high
I 225494	IB		NA				5		23	ok	
I 225495	JC86428-3	3	NA	MS34038	V8260TCL20	10.79	10	100	24	ok	
I 225496	JC86337-2	4	NA	MS33992	V8260TCL20	4.57	10	100	25	ok	
I 225497	JC86337-5	3	NA	MS33992	V8260TCL20	5.75	10	100	26	rr	2x surr-out. 17-Apr-2019 07:02 pm

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	MeOH/ Purge (uL)	ALS #	Status	Comments
I 225498	IB		NA				5		27	ok	
I 225499	IB		NA				5		28	ok	
I 225500	IB		NA				5		29	ok	
I 225501	IB		NA				5		30	ok	
I 225502	IB		NA				5		31	ok	

# GCMS Volatile Run Log

Standard / Reagents		Lot #	
Standards	ABK: V019-2645-72.5	EC: V019-2648-71.8	MeOH LOT# 187026, Fisher Chemical
Standard Concentration	100-10,000ppm	100ppm	100ppm
Internal Surrogate	V019-2648-64		
I/S Concentration	50/500ppm		
Method	v6260c		
Init Calib Quant Method	mi8986		
Standard / Reagents			
GCMSI	Instrument ID:	Sequence loaded by	THIENN
Analysis Date	4/18/2019	Data processed by	marianing
Column	Rxi-624(60mx0.25mmx1.4um)	Batch ID	V19086
		Matrix	SO
		Approved By:	MEI
		Approved Date:	4/23/2019 11:20:20 AM
DJ Purge Volume	5		

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	Purge (uL)	ALS #	Status	Comments
I 225503	IB		NA				5		1	OK	
I 225504	IB		NA				5		2	OK	
I 225505	CC8986-20		NA				5		3	NG	ABK,EC,ACROLEIN, 10UL/50ML DI WATER
I 225506	BFB/CC8986-20		NA				5		4	ok/ok	ABK,EC,ACROLEIN, 10UL/50ML DI WATER, 8.29AM
I 225507	BS		NA				5		5	ok	ABK,EC,ACROLEIN, 25UL/50ML DI WATER
I 225508	IB		NA				5		6	OK	

OR049-01

Rev Date: 12/18/2017

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Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	Purge (uL)	ALS #	Status	Comments
I 225509	MB		NA			5	5	100	7	ok	MEOH LOT # 178026 FISHER CHEMICAL
I 225510	JC86222-2	3	NA	MS33911	V8260PPTCL20+	5.7	5	10	8	ok	+
I 225511	JC86337-5CFS	3	NA	MS33992	V8260TCL20	5.75	10	50	9	ok	+
I 225512	JC86210-1	2	NA	MS33939	V8260PADFTMBMTBE	5.4	10	5	10	ok	+
I 225513	JC86210-1	2	NA	MS33939	V8260PADFTMBMTBE	5.4	10	100	11	ok	+
I 225514	IB		NA				5		12	OK	
I 225515	JC86448-1	3	NA	MS34048	V8260TCL20+	6.5	5	100	13	ok/DL	
I 225516	JC86448-2	3	NA	MS34048	V8260TCL20+	6.4	5	100	14	ok/DL	
I 225517	JC86448-3	3	NA	MS34048	V8260TCL20+	6.4	5	100	15	ok/DL	
I 225518	JC86046-1	4	NA	MS33882	V8260TCL20+	5.8	5	100	16	RR	RR LL
I 225519	JC86116-4	4	NA	MS33882	V8260TCL20+	5.2	5	100	17	ok	
I 225520	JC86116-8	4	NA	MS33882	V8260TCL20+	6	5	100	18	ok	
I 225521	JC86116-9	4	NA	MS33882	V8260TCL20+	5.9	5	100	19	ok	
I 225522	JC86103-3	4	NA	MS33876	V8260TCL20+,TBA	6	5	100	20	ok	
I 225523	JC86103-11	4	NA	MS33876	V8260TCL20+,TBA	6.3	5	100	21	ok	
I 225524	JC86103-12	4	NA	MS33876	V8260TCL20+,TBA	4.9	5	100	22	ok	
I 225525	JC86210-1MS	2	NA	MS33939	V8260PADFTMBMTBE	5.4	10	100	23	ok	ABK,EC,ACROLEIN, 25UL/50ML sample
I 225526	JC86210-1MSD	2	NA	MS33939	V8260PADFTMBMTBE	5.4	10	100	24	ok	ABK,EC,ACROLEIN, 25UL/50ML sample
I 225527	IB		NA				5		25	ok	
I 225528	JC86092-2	4	NA	MS33914	V8260MDVO	6.4	5	100	26	ok	

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	MeOH/ Purge (uL)	ALS #	Status	Comments
I 225529	JC86159-1	5	NA	MS33914	V8260MDVO	4.8	5	100	27	ok	08:16pm
I 225530	IB		NA				5		28	ok	
I 225531	IB		NA				5		29	ok	
I 225532	IB		NA				5		30	ok	
I 225533	IB		NA				5		31	ok	
I 225534	IB		NA				5		32	ok	

# GCMS Volatile Run Log

Standard / Reagents		Lot #	
Standard	ABK: V019-2648-40.62	EC: V019-2648-62.9	Acrolein: V019-2648-54.27
Concentration	100-10,000 PPM	100 PPM	100 PPM
Ext.Standard	Ext.ABK: V019-2648-52.2	Ext.EC: V019-2648-60.1	Ext.PA: V019-2648-22.96
Concentration	100-10,000 PPM	100 PPM	100/1000 PPM
Concentration			
Internal Surrogate	V019-2648-30		
Concentration	250/2500 PPM		
Rough reviewed by	Prashant B. Shukla		

Standard / Reagents	
GCMSY	Sequence loaded by Robert Szot
Analysis Date	Data processed by Robert Szot
Column	Batch ID VY8003
Method	Matrix SO
Init Calib Date	Approved By: MEI
Init Calib Quant Method	Approved Date: 4/23/2019 11:24:50 AM
DJ Purge Volume	5

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	Purge (uL)	ALS #	Status	Comments
Y 184472	BFB		NA			5	5		1	ok	
Y 184473	IC8003-0.5		NA		8260 initial calibration	5	5		2	ok	2.5 uL ABK, EC, Acrolein / 500 mL DI H2O
Y 184474	IC8003-1		NA		8260 initial calibration	5	5		3	ok	5 uL ABK, EC, Acrolein / 500 mL DI H2O
Y 184475	IC8003-2		NA		8260 initial calibration	5	5		4	ok	4 uL ABK, EC, Acrolein / 200 mL DI H2O
Y 184476	IC8003-4		NA		8260 initial calibration	5	5		5	ok	8 uL ABK, EC, Acrolein / 200 mL DI H2O
Y 184477	IC8003-8		NA		8260 initial calibration	5	5		6	ok	16 uL ABK, EC, Acrolein / 200 mL DI H2O



Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/DI FV (ml)	MeOH/Purge (uL)	ALS #	Status	Comments
Y 184478	IC8003-20		NA		8260 initial calibration	5	5		7	ok	20 uL ABK, EC, Acrolein / 100 mL DI H2O
Y 184479	ICC8003-50		NA		8260 initial calibration	5	5		8	ok	50 uL ABK, EC, Acrolein / 100 mL DI H2O
Y 184480	IC8003-100		NA		8260 initial calibration	5	5		9	ok	100 uL ABK, EC, Acrolein / 100 mL DI H2O
Y 184481	IC8003-200		NA		8260 initial calibration	5	5		10	ok	200 uL ABK, EC, Acrolein / 100 mL DI H2O
Y 184482	IB		NA			5	5		11	ok	
Y 184483	IB		NA			5	5		12	ok	
Y 184484	ICV8003-50		NA		8260 initial calibration	5	5		13	ok	50 uL Ext ABK, Ext EC, Ext Acrolein / 100 mL DI H2O
Y 184485	ICV8003-50		NA		8260 initial calibration	5	5		14	ok	50 uL Ext PA / 100 mL DI H2O

# GCMS Volatile Run Log

Standard / Reagents		Lot #	
Standard	ABK: V019-2648-40.62	EC: V019-2648-71.4	Acrolein: V019-2648-54.27
Concentration	100-10,000 PPM	100 PPM	100 PPM
Concentration			
Concentration			
Internal Surrogate	V019-2648-63		
Concentration	250/2500 PPM		
Rough reviewed by	Prashant B. Shukla		

Standard / Reagents			
GCMSY	Instrument ID:	Sequence loaded by	
Analysis Date	4/17/2019	Data processed by	
Column	Rxi-624(60mx0.25mmx1.4um)	Batch ID	VY8006
Method	V8260C	Matrix	SO
Init Calib Date	12/5/2018	Approved By:	MEI
Init Calib Quant Method	MYS8003	Approved Date:	4/23/2019 11:32:36 AM
DI Purge Volume	5		

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/		ALS #	Status	Comments
							DI FV (ml)	Purge (uL)			
Y 184539	BFB/CC8003-50		NA			5.0	5	5	1	ok/ok	25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O, # 7 high, 8:52 AM
Y 184540	BS		NA			5.0	5	5	2	ok	25uL Std.A/B/K,EC,Acrolein in 50mL DI H2O
Y 184541	IB		NA			5.0	5	5	3	OK	
Y 184542	MB		NA			5.0	5	5	4	ok	
Y 184543	JC86337-1	6	NA	MS33992	V8260TCL20	3.09	5	5	5	ok	
Y 184544	JC86337-3	4	NA	MS33992	V8260TCL20	5.63	5	5	6	ok	

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	MeOH/ Purge (uL)	ALS #	Status	Comments
Y 184545	JC86337-4	4	NA	MS33992	V8260TCL20	3.71	5		7	ok	
Y 184546	JC86337-6	4	NA	MS33992	V8260TCL20	5.32	5		8	ok	
Y 184547	JC86229-1	5	NA	MS33911	V8260TCL20+	5.3	5		9	ok	
Y 184548	JC86337-1MS	5	NA	MS33992	V8260TCL20	2.03	5		10	ok	2.5uL Std.A/B/K,EC,Acrolein in sample
Y 184549	IB		NA			5.0	5		11	OK	
Y 184550	JC86337-3DUP	5	NA	MS33992	V8260TCL20	7.61	5		12	ok	
Y 184551	JC86229-4	5	NA	MS33911	V8260TCL20+	6.2	5		13	ok	
Y 184552	JC86229-5	6	NA	MS33911	V8260TCL20+	6.5	5		14	ok	
Y 184553	JC86383-1	5	NA	MS34014	V8260TCL20+, TBA	5.9	5		15	ok	
Y 184554	JC86383-2	5	NA	MS34014	V8260TCL20+, TBA	6.1	5		16	ok	
Y 184555	JC86383-3	5	NA	MS34014	V8260TCL20+, TBA	6.5	5		17	ok	
Y 184556	JC86383-4	5	NA	MS34014	V8260TCL20+, TBA	6.5	5		18	ok	
Y 184557	JC86384-1	4	NA	MS34014	V8260TCL20	6.64	5		19	ok	
Y 184558	JC86384-2	4	NA	MS34014	V8260TCL20	6.95	5		20	ok	
Y 184559	JC86386-1	3	NA	MS34014	V8260CP51G	5.2	5		21	ok	
Y 184560	JC85910-4	7	NA	MS33788	V8260MDVO	5.31	5		22	ok	
Y 184561	JC85857-2	6	NA	MS33786	V8260TCL20+, TBA	6.7	5		23	ok	
Y 184562	JC86271-1	5	NA	MS33957	V8260RCP	6.33	5		24	ok	
Y 184563	IB		NA			5.0	5		25	OK	
Y 184564	IB		NA			5.0	5		26	OK	4_18_2019

Data File	Sample ID	Bot #	Dil	Workgroup #	Test	Smpl Amt (g)	MeOH/ DI FV (ml)	MeOH/ Purge (uL)	ALS #	Status	Comments
Y 184565	IB		NA			5.0	5		27	OK	

## MS Semi-volatiles

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### QC Data Summaries

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#### 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: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MB1	5P58575.D	1	04/17/19	CS	04/16/19	OP19786	E5P2775

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

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	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	22	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	
98-86-2	Acetophenone	ND	170	7.2	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
1912-24-9	Atrazine	ND	67	14	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	
92-52-4	1,1'-Biphenyl	ND	67	4.6	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.3	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	
105-60-2	Caprolactam	ND	67	13	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	

## Method Blank Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MB1	5P58575.D	1	04/17/19	CS	04/16/19	OP19786	E5P2775

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Compound	Result	RL	MDL	Units	Q
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	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
123-91-1	1,4-Dioxane	ND	33	22	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	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.5	ug/kg	

# Method Blank Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MB1	5P58575.D	1	04/17/19	CS	04/16/19	OP19786	E5P2775

The QC reported here applies to the following samples: Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	72% 23-115%
4165-62-2	Phenol-d5	66% 27-114%
118-79-6	2,4,6-Tribromophenol	66% 19-152%
4165-60-0	Nitrobenzene-d5	67% 26-134%
321-60-8	2-Fluorobiphenyl	70% 39-124%
1718-51-0	Terphenyl-d14	64% 36-134%

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

8.1.1  
8



## Method Blank Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MB1	P129127.D	1	04/17/19	CB	04/16/19	OP19786	EP5843

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

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	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	22	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	
98-86-2	Acetophenone	ND	170	7.2	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
1912-24-9	Atrazine	ND	67	14	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	
92-52-4	1,1'-Biphenyl	ND	67	4.6	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.3	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	
105-60-2	Caprolactam	ND	67	13	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	

## Method Blank Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MB1	P129127.D	1	04/17/19	CB	04/16/19	OP19786	EP5843

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Compound	Result	RL	MDL	Units	Q
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	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
123-91-1	1,4-Dioxane	ND	33	22	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	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.5	ug/kg	

# Method Blank Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MB1	P129127.D	1	04/17/19	CB	04/16/19	OP19786	EP5843

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	67% 23-115%
4165-62-2	Phenol-d5	71% 27-114%
118-79-6	2,4,6-Tribromophenol	72% 19-152%
4165-60-0	Nitrobenzene-d5	87% 26-134%
321-60-8	2-Fluorobiphenyl	81% 39-124%
1718-51-0	Terphenyl-d14	76% 36-134%

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

8.1.2  
8

**Blank Spike Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-BS1	5P58576.D	1	04/17/19	CS	04/16/19	OP19786	E5P2775

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-57-8	2-Chlorophenol	1670	1290	77	44-122
59-50-7	4-Chloro-3-methyl phenol	1670	1460	88	50-123
120-83-2	2,4-Dichlorophenol	1670	1430	86	48-122
105-67-9	2,4-Dimethylphenol	1670	1620	97	48-124
51-28-5	2,4-Dinitrophenol	3330	2770	83	34-146
534-52-1	4,6-Dinitro-o-cresol	1670	1530	92	49-140
95-48-7	2-Methylphenol	1670	1360	82	40-126
	3&4-Methylphenol	1670	1380	83	40-127
88-75-5	2-Nitrophenol	1670	1490	89	44-133
100-02-7	4-Nitrophenol	1670	1420	85	35-153
87-86-5	Pentachlorophenol	1670	1620	97	15-149
108-95-2	Phenol	1670	1280	77	50-109
58-90-2	2,3,4,6-Tetrachlorophenol	1670	1450	87	44-132
95-95-4	2,4,5-Trichlorophenol	1670	1540	92	45-124
88-06-2	2,4,6-Trichlorophenol	1670	1520	91	57-122
83-32-9	Acenaphthene	1670	1380	83	53-119
208-96-8	Acenaphthylene	1670	1400	84	41-125
98-86-2	Acetophenone	1670	1260	76	52-112
120-12-7	Anthracene	1670	1390	83	51-120
1912-24-9	Atrazine	1670	1570	94	49-139
56-55-3	Benzo(a)anthracene	1670	1270	76	54-118
50-32-8	Benzo(a)pyrene	1670	1420	85	55-121
205-99-2	Benzo(b)fluoranthene	1670	1340	80	57-116
191-24-2	Benzo(g,h,i)perylene	1670	1350	81	40-124
207-08-9	Benzo(k)fluoranthene	1670	1360	82	59-116
101-55-3	4-Bromophenyl phenyl ether	1670	1410	85	60-122
85-68-7	Butyl benzyl phthalate	1670	1360	82	51-134
92-52-4	1,1'-Biphenyl	1670	1340	80	46-122
100-52-7	Benzaldehyde	1670	1030	62	14-139
91-58-7	2-Chloronaphthalene	1670	1320	79	49-120
106-47-8	4-Chloroaniline	1670	873	52	10-115
86-74-8	Carbazole	1670	1480	89	52-124
105-60-2	Caprolactam	1670	1380	83	16-139
218-01-9	Chrysene	1670	1220	73	51-115
111-91-1	bis(2-Chloroethoxy)methane	1670	1390	83	36-131
111-44-4	bis(2-Chloroethyl)ether	1670	1240	74	41-131

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-BS1	5P58576.D	1	04/17/19	CS	04/16/19	OP19786	E5P2775

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
108-60-1	2,2'-Oxybis(1-chloropropane)	1670	1380	83	22-134
7005-72-3	4-Chlorophenyl phenyl ether	1670	1350	81	56-118
121-14-2	2,4-Dinitrotoluene	1670	1470	88	57-131
606-20-2	2,6-Dinitrotoluene	1670	1520	91	57-132
91-94-1	3,3'-Dichlorobenzidine	3330	1820	55	10-129
123-91-1	1,4-Dioxane	1670	746	45	10-110
53-70-3	Dibenzo(a,h)anthracene	1670	1290	77	48-121
132-64-9	Dibenzofuran	1670	1410	85	51-119
84-74-2	Di-n-butyl phthalate	1670	1420	85	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	1430	86	56-116
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1390	83	53-133
206-44-0	Fluoranthene	1670	1390	83	58-117
86-73-7	Fluorene	1670	1430	86	56-114
118-74-1	Hexachlorobenzene	1670	1380	83	50-128
87-68-3	Hexachlorobutadiene	1670	1300	78	43-129
77-47-4	Hexachlorocyclopentadiene	3330	2730	82	15-140
67-72-1	Hexachloroethane	1670	1140	68	43-123
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1350	81	49-124
78-59-1	Isophorone	1670	1380	83	38-128
91-57-6	2-Methylnaphthalene	1670	1370	82	37-124
88-74-4	2-Nitroaniline	1670	1520	91	45-144
99-09-2	3-Nitroaniline	1670	1130	68	10-134
100-01-6	4-Nitroaniline	1670	1600	96	41-130
91-20-3	Naphthalene	1670	1360	82	44-116
98-95-3	Nitrobenzene	1670	1450	87	36-132
621-64-7	N-Nitroso-di-n-propylamine	1670	1200	72	38-125
86-30-6	N-Nitrosodiphenylamine	1670	1400	84	51-122
85-01-8	Phenanthrene	1670	1360	82	53-119
129-00-0	Pyrene	1670	1310	79	54-124
95-94-3	1,2,4,5-Tetrachlorobenzene	1670	1260	76	45-128

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-BS1	5P58576.D	1	04/17/19	CS	04/16/19	OP19786	E5P2775

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	81%	23-115%
4165-62-2	Phenol-d5	77%	27-114%
118-79-6	2,4,6-Tribromophenol	89%	19-152%
4165-60-0	Nitrobenzene-d5	89%	26-134%
321-60-8	2-Fluorobiphenyl	80%	39-124%
1718-51-0	Terphenyl-d14	89%	36-134%

8.2.1  
8

\* = Outside of Control Limits.

## Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MS	5P58614.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
OP19786-MSD	5P58615.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
JC86337-1	5P58616.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
JC86337-1	5P58655.D	10	04/19/19	CB	04/16/19	OP19786	E5P2777

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Compound	JC86337-1 ug/kg	Spike Q	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD	
95-57-8	2-Chlorophenol	ND		1970	1080	55	1990	963	48	11	10-137/34
59-50-7	4-Chloro-3-methyl phenol	ND		1970	1260	64	1990	1120	56	12	11-147/35
120-83-2	2,4-Dichlorophenol	ND		1970	1260	64	1990	1130	57	11	15-140/34
105-67-9	2,4-Dimethylphenol	ND		1970	632	32	1990	549	28	14	10-151/34
51-28-5	2,4-Dinitrophenol	ND		3940	1350	34	3980	1280	32	5	10-148/49
534-52-1	4,6-Dinitro-o-cresol	ND		1970	792	40	1990	632	32	22	10-150/48
95-48-7	2-Methylphenol	ND		1970	864	44	1990	739	37	16	10-138/33
	3&4-Methylphenol	ND		1970	802	41	1990	707	36	13	10-143/33
88-75-5	2-Nitrophenol	ND		1970	1290	65	1990	1160	58	11	10-150/39
100-02-7	4-Nitrophenol	ND		1970	1220	62	1990	1060	53	14	10-163/38
87-86-5	Pentachlorophenol	ND		1970	1320	67	1990	1130	57	16	10-148/39
108-95-2	Phenol	ND		1970	1030	52	1990	991	50	4	24-114/32
58-90-2	2,3,4,6-Tetrachlorophenol	ND		1970	1230	62	1990	1120	56	9	14-140/38
95-95-4	2,4,5-Trichlorophenol	ND		1970	1420	72	1990	1230	62	14	10-146/36
88-06-2	2,4,6-Trichlorophenol	ND		1970	1370	69	1990	1220	61	12	16-148/36
83-32-9	Acenaphthene	234		1970	1460	62	1990	1280	53	13	21-136/34
208-96-8	Acenaphthylene	2900		1970	4340	73	1990	3130	12	32	10-143/36
98-86-2	Acetophenone	ND		1970	1140	58	1990	1170	59	3	24-127/31
120-12-7	Anthracene	5810 <sup>b</sup>		1970	4960	6* <sup>a</sup>	1990	4330	-26* <sup>a</sup>	14	10-147/39
1912-24-9	Atrazine	ND		1970	1400	71	1990	1430	72	2	10-161/38
56-55-3	Benzo(a)anthracene	8240 <sup>b</sup>		1970	9800	90	1990	6400	-82* <sup>a</sup>	42* <sup>c</sup>	10-151/41
50-32-8	Benzo(a)pyrene	8360 <sup>b</sup>		1970	9360	105	1990	6620	-34* <sup>a</sup>	34	10-149/40
205-99-2	Benzo(b)fluoranthene	10400 <sup>b</sup>		1970	12100	110	1990	8360	-79* <sup>a</sup>	37	10-147/42
191-24-2	Benzo(g,h,i)perylene	5360 <sup>b</sup>		1970	7160	109	1990	5150	7* <sup>a</sup>	33	10-150/41
207-08-9	Benzo(k)fluoranthene	4160 <sup>b</sup>		1970	3710	59	1990	2770	12	29	12-142/41
101-55-3	4-Bromophenyl phenyl ether	ND		1970	1290	65	1990	1150	58	11	26-138/37
85-68-7	Butyl benzyl phthalate	ND		1970	1320	67	1990	1110	56	17	24-143/36
92-52-4	1,1'-Biphenyl	211		1970	1530	67	1990	1500	65	2	18-138/32
100-52-7	Benzaldehyde	ND		1970	976	50	1990	1040	52	6	10-149/37
91-58-7	2-Chloronaphthalene	ND		1970	1310	66	1990	1160	58	12	24-130/31
106-47-8	4-Chloroaniline	ND		1970	782	40	1990	695	35	12	10-111/52
86-74-8	Carbazole	1590		1970	2420	42	1990	2550	48	5	12-146/39
105-60-2	Caprolactam	ND		1970	1410	72	1990	1410	71	0	10-147/40
218-01-9	Chrysene	8310 <sup>b</sup>		1970	9220	98	1990	6060	-62* <sup>a</sup>	41	10-151/41
111-91-1	bis(2-Chloroethoxy)methane	ND		1970	1280	65	1990	1180	59	8	10-144/35
111-44-4	bis(2-Chloroethyl)ether	ND		1970	1060	54	1990	1060	53	0	12-142/35

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MS	5P58614.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
OP19786-MSD	5P58615.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
JC86337-1	5P58616.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
JC86337-1	5P58655.D	10	04/19/19	CB	04/16/19	OP19786	E5P2777

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Compound	JC86337-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
108-60-1	2,2'-Oxybis(1-chloropropane)	ND	1970	1280	65	1990	1130	57	12	10-137/33
7005-72-3	4-Chlorophenyl phenyl ether	ND	1970	1270	64	1990	1150	58	10	21-136/35
121-14-2	2,4-Dinitrotoluene	ND	1970	1430	73	1990	1220	61	16	14-148/41
606-20-2	2,6-Dinitrotoluene	ND	1970	1410	72	1990	1280	64	10	14-152/40
91-94-1	3,3'-Dichlorobenzidine	ND	3940	680	17	3980	533	13	24	10-137/47
123-91-1	1,4-Dioxane	ND	1970	645	33	1990	737	37	13	10-110/40
53-70-3	Dibenzo(a,h)anthracene	1660	1970	3000	68	1990	2310	33	26	10-152/38
132-64-9	Dibenzofuran	1390	1970	2270	45	1990	2170	39	5	17-141/36
84-74-2	Di-n-butyl phthalate	ND	1970	1180	60	1990	1020	51	15	26-137/35
117-84-0	Di-n-octyl phthalate	ND	1970	1200	61	1990	1060	53	12	23-145/36
84-66-2	Diethyl phthalate	ND	1970	1350	68	1990	1200	60	12	25-133/35
131-11-3	Dimethyl phthalate	ND	1970	1340	68	1990	1210	61	10	21-134/36
117-81-7	bis(2-Ethylhexyl)phthalate	149	1970	1430	65	1990	1180	52	19	26-144/39
206-44-0	Fluoranthene	17300 <sup>b</sup>	1970	16600	137	1990	10700	-161* <sup>a</sup>	43	10-151/44
86-73-7	Fluorene	2790	1970	3200	21	1990	2720	-4* <sup>a</sup>	16	19-133/36
118-74-1	Hexachlorobenzene	ND	1970	1260	64	1990	1120	56	12	18-142/37
87-68-3	Hexachlorobutadiene	ND	1970	1200	61	1990	1130	57	6	16-137/32
77-47-4	Hexachlorocyclopentadiene	ND	3940	1690	43	3980	1430	36	17	10-150/50
67-72-1	Hexachloroethane	ND	1970	956	48	1990	904	45	6	10-131/38
193-39-5	Indeno(1,2,3-cd)pyrene	5970 <sup>b</sup>	1970	7740	113	1990	5560	3* <sup>a</sup>	33	10-148/41
78-59-1	Isophorone	ND	1970	1270	64	1990	1180	59	7	11-142/33
91-57-6	2-Methylnaphthalene	502	1970	1640	58	1990	1710	61	4	10-141/35
88-74-4	2-Nitroaniline	ND	1970	1560	79	1990	1590	80	2	14-156/38
99-09-2	3-Nitroaniline	ND	1970	1110	56	1990	1150	58	4	10-144/45
100-01-6	4-Nitroaniline	ND	1970	1230	62	1990	1340	67	9	10-156/44
91-20-3	Naphthalene	643	1970	1590	48	1990	1470	42	8	10-136/36
98-95-3	Nitrobenzene	ND	1970	1190	60	1990	1090	55	9	10-142/34
621-64-7	N-Nitroso-di-n-propylamine	ND	1970	1080	55	1990	956	48	12	10-142/31
86-30-6	N-Nitrosodiphenylamine	ND	1970	1360	69	1990	1200	60	13	10-156/37
85-01-8	Phenanthrene	15000 <sup>b</sup>	1970	12300	66	1990	8410	-130* <sup>a</sup>	38	11-145/45
129-00-0	Pyrene	14600 <sup>b</sup>	1970	13700	137	1990	8590	-121* <sup>a</sup>	46* <sup>c</sup>	11-155/44
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	1970	1300	66	1990	1190	60	9	23-136/32

\* = Outside of Control Limits.



# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19786-MS	5P58614.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
OP19786-MSD	5P58615.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
JC86337-1	5P58616.D	1	04/18/19	CC	04/16/19	OP19786	E5P2776
JC86337-1	5P58655.D	10	04/19/19	CB	04/16/19	OP19786	E5P2777

The QC reported here applies to the following samples:

Method: SW846 8270D

JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

CAS No.	Surrogate Recoveries	MS	MSD	JC86337-1	JC86337-1	Limits
367-12-4	2-Fluorophenol	63%	71%	44%	46%	23-115%
4165-62-2	Phenol-d5	66%	72%	49%	48%	27-114%
118-79-6	2,4,6-Tribromophenol	78%	79%	55%	61%	19-152%
4165-60-0	Nitrobenzene-d5	67%	72%	53%	55%	26-134%
321-60-8	2-Fluorobiphenyl	74%	75%	61%	66%	39-124%
1718-51-0	Terphenyl-d14	80%	77%	61%	65%	36-134%

- (a) Outside control limits due to high level in sample relative to spike amount.
- (b) Result is from Run #2.
- (c) Outside of in house control limits.

\* = Outside of Control Limits.

## Instrument Performance Check (DFTPP)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2761-DFTPP	Injection Date:	04/08/19
Lab File ID:	5P58248.D	Injection Time:	23:58
Instrument ID:	GCMS5P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	23529	35.4	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) <sup>a</sup>	Pass
69	Mass 69 relative abundance	31106	46.8	Pass
70	Less than 2.0% of mass 69	262	0.39 (0.84) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	30894	46.5	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	66418	100.0	Pass
199	5.0 - 9.0% of mass 198	4395	6.62	Pass
275	10.0 - 30.0% of mass 198	16668	25.1	Pass
365	1.0 - 100.0% of mass 198	1813	2.73	Pass
441	Present, but less than mass 443	7217	10.9 (77.5) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	50432	75.9	Pass
443	17.0 - 23.0% of mass 442	9310	14.0 (18.5) <sup>c</sup>	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
E5P2761-IC2761	5P58249A.D	04/09/19	00:29	00:31	Initial cal 100
E5P2761-IC2761	5P58250.D	04/09/19	00:54	00:56	Initial cal 80
E5P2761-ICC2761	5P58251.D	04/09/19	01:20	01:22	Initial cal 50
E5P2761-IC2761	5P58252.D	04/09/19	01:45	01:47	Initial cal 25
E5P2761-IC2761	5P58253.D	04/09/19	02:10	02:12	Initial cal 10
E5P2761-IC2761	5P58254.D	04/09/19	02:34	02:36	Initial cal 5
E5P2761-IC2761	5P58255.D	04/09/19	02:59	03:01	Initial cal 2
E5P2761-IC2761	5P58256.D	04/09/19	03:24	03:26	Initial cal 1
E5P2761-ICV2761	5P58257.D	04/09/19	03:50	03:52	Initial cal verification 50
E5P2761-ICV2761	5P58259.D	04/09/19	04:39	04:41	Initial cal verification 50
E5P2761-ICV2761	5P58260.D	04/09/19	05:04	05:06	Initial cal verification 50
E5P2761-ICV2761	5P58261.D	04/09/19	05:29	05:31	Initial cal verification 50
E5P2761-ICV2761	5P58262.D	04/09/19	05:55	05:57	Initial cal verification 50

**Instrument Performance Check (DFTPP)**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2762-DFTPP	Injection Date:	04/09/19
Lab File ID:	5P58263.D	Injection Time:	06:15
Instrument ID:	GCMS5P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	33747	41.8	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) <sup>a</sup>	Pass
69	Mass 69 relative abundance	41796	51.8	Pass
70	Less than 2.0% of mass 69	186	0.23 (0.45) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	41473	51.4	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	80698	100.0	Pass
199	5.0 - 9.0% of mass 198	5419	6.72	Pass
275	10.0 - 30.0% of mass 198	20801	25.8	Pass
365	1.0 - 100.0% of mass 198	2339	2.90	Pass
441	Present, but less than mass 443	9063	11.2 (80.1) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	60528	75.0	Pass
443	17.0 - 23.0% of mass 442	11319	14.0 (18.7) <sup>c</sup>	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
E5P2762-IC2762	5P58264.D	04/09/19	06:28	00:13	Initial cal 100
E5P2762-IC2762	5P58265.D	04/09/19	06:53	00:38	Initial cal 80
E5P2762-ICC2762	5P58266.D	04/09/19	07:18	01:03	Initial cal 50
E5P2762-IC2762	5P58267.D	04/09/19	07:43	01:28	Initial cal 25
E5P2762-IC2762	5P58268.D	04/09/19	08:08	01:53	Initial cal 10
E5P2762-IC2762	5P58269.D	04/09/19	08:32	02:17	Initial cal 5
E5P2762-IC2762	5P58270.D	04/09/19	08:57	02:42	Initial cal 2
E5P2762-IC2762	5P58271.D	04/09/19	09:37	03:22	Initial cal 1
E5P2762-ICV2762	5P58272.D	04/09/19	10:02	03:47	Initial cal verification 50
E5P2762-ICV2762	5P58273.D	04/09/19	10:27	04:12	Initial cal verification 50

**Instrument Performance Check (DFTPP)**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2763-DFTPP	Injection Date:	04/09/19
Lab File ID:	5P58274.D	Injection Time:	10:54
Instrument ID:	GCMS5P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	36653	42.2	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) <sup>a</sup>	Pass
69	Mass 69 relative abundance	46813	53.9	Pass
70	Less than 2.0% of mass 69	168	0.19 (0.36) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	45240	52.1	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	86840	100.0	Pass
199	5.0 - 9.0% of mass 198	5619	6.47	Pass
275	10.0 - 30.0% of mass 198	20259	23.3	Pass
365	1.0 - 100.0% of mass 198	1987	2.29	Pass
441	Present, but less than mass 443	8952	10.3 (82.4) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	58045	66.8	Pass
443	17.0 - 23.0% of mass 442	10863	12.5 (18.7) <sup>c</sup>	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
E5P2763-IC2763	5P58275.D	04/09/19	11:07	00:13	Initial cal 100
E5P2763-IC2763	5P58276.D	04/09/19	11:31	00:37	Initial cal 80
E5P2763-ICC2763	5P58277.D	04/09/19	11:56	01:02	Initial cal 50
E5P2763-IC2763	5P58278.D	04/09/19	12:21	01:27	Initial cal 25
E5P2763-IC2763	5P58279.D	04/09/19	12:46	01:52	Initial cal 10
E5P2763-IC2763	5P58280.D	04/09/19	13:11	02:17	Initial cal 5
E5P2763-IC2763	5P58281.D	04/09/19	13:36	02:42	Initial cal 2
E5P2763-IC2763	5P58282.D	04/09/19	14:01	03:07	Initial cal 1
E5P2763-ICV2763	5P58283.D	04/09/19	14:26	03:32	Initial cal verification 50
E5P2763-ICV2761	5P58284.D	04/09/19	15:10	04:16	Initial cal verification 50

## Instrument Performance Check (DFTPP)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2775-DFTPP	Injection Date:	04/17/19
Lab File ID:	5P58569.D	Injection Time:	19:50
Instrument ID:	GCMS5P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	33049	40.7	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) <sup>a</sup>	Pass
69	Mass 69 relative abundance	41869	51.5	Pass
70	Less than 2.0% of mass 69	171	0.21 (0.41) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	43130	53.1	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	81250	100.0	Pass
199	5.0 - 9.0% of mass 198	5689	7.00	Pass
275	10.0 - 30.0% of mass 198	20853	25.7	Pass
365	1.0 - 100.0% of mass 198	1936	2.38	Pass
441	Present, but less than mass 443	8383	10.3 (82.4) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	53778	66.2	Pass
443	17.0 - 23.0% of mass 442	10178	12.5 (18.9) <sup>c</sup>	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
E5P2775-CC2761	5P58570.D	04/17/19	20:15	00:25	Continuing cal 50
E5P2775-CC2762	5P58571.D	04/17/19	20:39	00:49	Continuing cal 50
E5P2775-CC2763	5P58572.D	04/17/19	21:04	01:14	Continuing cal 50
OP19787-MB1	5P58573.D	04/17/19	21:29	01:39	Method Blank
OP19787-BS1	5P58574.D	04/17/19	21:53	02:03	Blank Spike
OP19786-MB1	5P58575.D	04/17/19	22:18	02:28	Method Blank
OP19786-BS1	5P58576.D	04/17/19	22:42	02:52	Blank Spike
ZZZZZZ	5P58577.D	04/17/19	23:07	03:17	(unrelated sample)
ZZZZZZ	5P58578.D	04/17/19	23:32	03:42	(unrelated sample)
ZZZZZZ	5P58579.D	04/17/19	23:56	04:06	(unrelated sample)
JC86337-3	5P58580.D	04/18/19	00:21	04:31	PCTP-02R(4-6)
JC86337-5	5P58581.D	04/18/19	00:45	04:55	PCSB-01R (14-16)
JC86337-6	5P58582.D	04/18/19	01:10	05:20	PCSB-01R (18-20)
ZZZZZZ	5P58583.D	04/18/19	01:34	05:44	(unrelated sample)
ZZZZZZ	5P58584.D	04/18/19	01:59	06:09	(unrelated sample)
ZZZZZZ	5P58585.D	04/18/19	02:24	06:34	(unrelated sample)
ZZZZZZ	5P58586.D	04/18/19	02:48	06:58	(unrelated sample)
ZZZZZZ	5P58587.D	04/18/19	03:13	07:23	(unrelated sample)
ZZZZZZ	5P58588.D	04/18/19	03:38	07:48	(unrelated sample)

# Instrument Performance Check (DFTPP)

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2775-DFTPP	Injection Date:	04/17/19
Lab File ID:	5P58569.D	Injection Time:	19:50
Instrument ID:	GCMS5P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	5P58589.D	04/18/19	04:02	08:12	(unrelated sample)
ZZZZZZ	5P58590.D	04/18/19	04:27	08:37	(unrelated sample)
ZZZZZZ	5P58591.D	04/18/19	04:52	09:02	(unrelated sample)
ZZZZZZ	5P58592.D	04/18/19	05:16	09:26	(unrelated sample)
ZZZZZZ	5P58593.D	04/18/19	05:41	09:51	(unrelated sample)
ZZZZZZ	5P58594.D	04/18/19	06:06	10:16	(unrelated sample)
ZZZZZZ	5P58596.D	04/18/19	06:55	11:05	(unrelated sample)
ZZZZZZ	5P58597.D	04/18/19	07:19	11:29	(unrelated sample)

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## Instrument Performance Check (DFTPP)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2776-DFTPP	Injection Date:	04/18/19
Lab File ID:	5P58600.D	Injection Time:	09:16
Instrument ID:	GCMS5P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	20600	30.9	Pass
68	Less than 2.0% of mass 69	72	0.11 (0.25) <sup>a</sup>	Pass
69	Mass 69 relative abundance	28675	43.0	Pass
70	Less than 2.0% of mass 69	120	0.18 (0.42) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	30609	45.9	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	66701	100.0	Pass
199	5.0 - 9.0% of mass 198	4324	6.48	Pass
275	10.0 - 30.0% of mass 198	16837	25.2	Pass
365	1.0 - 100.0% of mass 198	1929	2.89	Pass
441	Present, but less than mass 443	7456	11.2 (81.4) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	47912	71.8	Pass
443	17.0 - 23.0% of mass 442	9158	13.7 (19.1) <sup>c</sup>	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
E5P2776-CC2761	5P58601.D	04/18/19	09:31	00:15	Continuing cal 25
E5P2776-CC2762	5P58602.D	04/18/19	09:56	00:40	Continuing cal 25
OP19696A-MB1	5P58603.D	04/18/19	10:20	01:04	Method Blank
OP19696A-BS1	5P58604.D	04/18/19	10:45	01:29	Blank Spike
OP19696A-BSD	5P58605.D	04/18/19	11:10	01:54	Blank Spike Duplicate
OP19683A-MB1	5P58606.D	04/18/19	11:34	02:18	Method Blank
OP19683A-BS1	5P58607.D	04/18/19	11:59	02:43	Blank Spike
OP19683A-BSD	5P58608.D	04/18/19	12:24	03:08	Blank Spike Duplicate
ZZZZZZ	5P58609.D	04/18/19	12:49	03:33	(unrelated sample)
OP19787-MS	5P58610.D	04/18/19	13:14	03:58	Matrix Spike
OP19787-MSD	5P58611.D	04/18/19	13:39	04:23	Matrix Spike Duplicate
JC86300-5	5P58612.D	04/18/19	14:04	04:48	(used for QC only; not part of job JC86337)
ZZZZZZ	5P58625.D	04/18/19	14:29	05:13	(unrelated sample)
ZZZZZZ	5P58613.D	04/18/19	14:53	05:37	(unrelated sample)
OP19786-MS	5P58614.D	04/18/19	15:18	06:02	Matrix Spike
OP19786-MSD	5P58615.D	04/18/19	15:43	06:27	Matrix Spike Duplicate
JC86337-1	5P58616.D	04/18/19	16:08	06:52	PCTP-66R-HC (0-2)
JC86337-2	5P58617.D	04/18/19	16:33	07:17	PCTP-66R-HC (2-4)
JC86337-4	5P58618.D	04/18/19	16:58	07:42	PCTP-01R(5-7)

# Instrument Performance Check (DFTPP)

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2776-DFTPP	Injection Date:	04/18/19
Lab File ID:	5P58600.D	Injection Time:	09:16
Instrument ID:	GCMS5P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
<i>ZZZZZZ</i>	5P58619.D	04/18/19	17:22	08:06	(unrelated sample)
<i>ZZZZZZ</i>	5P58620.D	04/18/19	17:47	08:31	(unrelated sample)
<i>ZZZZZZ</i>	5P58621.D	04/18/19	18:12	08:56	(unrelated sample)
<i>ZZZZZZ</i>	5P58622.D	04/18/19	18:37	09:21	(unrelated sample)
<i>ZZZZZZ</i>	5P58623.D	04/18/19	19:02	09:46	(unrelated sample)
<i>ZZZZZZ</i>	5P58624.D	04/18/19	19:27	10:11	(unrelated sample)

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## Instrument Performance Check (DFTPP)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2777-DFTPP	Injection Date:	04/19/19
Lab File ID:	5P58632.D	Injection Time:	00:11
Instrument ID:	GCMS5P		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	30895	38.3	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) <sup>a</sup>	Pass
69	Mass 69 relative abundance	40252	49.9	Pass
70	Less than 2.0% of mass 69	285	0.35 (0.71) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	39253	48.7	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	80602	100.0	Pass
199	5.0 - 9.0% of mass 198	5364	6.65	Pass
275	10.0 - 30.0% of mass 198	18672	23.2	Pass
365	1.0 - 100.0% of mass 198	2345	2.91	Pass
441	Present, but less than mass 443	8436	10.5 (79.2) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	55954	69.4	Pass
443	17.0 - 23.0% of mass 442	10649	13.2 (19.0) <sup>c</sup>	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
E5P2777-CC2761	5P58633.D	04/19/19	00:37	00:26	Continuing cal 50
E5P2777-CC2762	5P58634.D	04/19/19	01:02	00:51	Continuing cal 50
E5P2777-CC2763	5P58635.D	04/19/19	01:34	01:23	Continuing cal 50
OP19849-MB1	5P58636.D	04/19/19	01:59	01:48	Method Blank
OP19849-BS1	5P58637.D	04/19/19	02:23	02:12	Blank Spike
OP19849-BSD	5P58638.D	04/19/19	02:48	02:37	Blank Spike Duplicate
ZZZZZZ	5P58639.D	04/19/19	03:13	03:02	(unrelated sample)
ZZZZZZ	5P58640.D	04/19/19	03:37	03:26	(unrelated sample)
ZZZZZZ	5P58641.D	04/19/19	04:02	03:51	(unrelated sample)
ZZZZZZ	5P58642.D	04/19/19	04:27	04:16	(unrelated sample)
ZZZZZZ	5P58643.D	04/19/19	04:52	04:41	(unrelated sample)
ZZZZZZ	5P58644.D	04/19/19	05:16	05:05	(unrelated sample)
ZZZZZZ	5P58645.D	04/19/19	05:41	05:30	(unrelated sample)
ZZZZZZ	5P58646.D	04/19/19	06:06	05:55	(unrelated sample)
ZZZZZZ	5P58647.D	04/19/19	06:31	06:20	(unrelated sample)
ZZZZZZ	5P58648.D	04/19/19	06:55	06:44	(unrelated sample)
ZZZZZZ	5P58649.D	04/19/19	07:20	07:09	(unrelated sample)
ZZZZZZ	5P58650.D	04/19/19	07:45	07:34	(unrelated sample)
ZZZZZZ	5P58651.D	04/19/19	08:10	07:59	(unrelated sample)

# Instrument Performance Check (DFTPP)

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	E5P2777-DFTPP	Injection Date:	04/19/19
Lab File ID:	5P58632.D	Injection Time:	00:11
Instrument ID:	GCMS5P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
<u>ZZZZZZ</u>	5P58652.D	04/19/19	08:34	08:23	(unrelated sample)
<u>ZZZZZZ</u>	5P58653.D	04/19/19	08:59	08:48	(unrelated sample)
<u>ZZZZZZ</u>	5P58654.D	04/19/19	09:24	09:13	(unrelated sample)
JC86337-1	5P58655.D	04/19/19	09:52	09:41	PCTP-66R-HC (0-2)
JC86337-2	5P58656.D	04/19/19	10:17	10:06	PCTP-66R-HC (2-4)
JC86337-4	5P58657.D	04/19/19	10:42	10:31	PCTP-01R(5-7)

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## Instrument Performance Check (DFTPP)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	EP5819-DFTPP	Injection Date:	03/25/19
Lab File ID:	P128675.D	Injection Time:	09:46
Instrument ID:	GCMSP		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	17177	35.5	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) <sup>a</sup>	Pass
69	Mass 69 relative abundance	21850	45.2	Pass
70	Less than 2.0% of mass 69	297	0.61 (1.36) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	23356	48.3	Pass
197	Less than 1.0% of mass 198	244	0.50	Pass
198	Base peak, 100% relative abundance	48338	100.0	Pass
199	5.0 - 9.0% of mass 198	3559	7.36	Pass
275	10.0 - 30.0% of mass 198	10614	22.0	Pass
365	1.0 - 100.0% of mass 198	1383	2.86	Pass
441	Present, but less than mass 443	3804	7.87 (68.9) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	27494	56.9	Pass
443	17.0 - 23.0% of mass 442	5523	11.4 (20.1) <sup>c</sup>	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
EP5819-IC5819	P128676.D	03/25/19	10:18	00:32	Initial cal 100
EP5819-IC5819	P128677.D	03/25/19	10:45	00:59	Initial cal 80
EP5819-ICC5819	P128678.D	03/25/19	11:12	01:26	Initial cal 50
EP5819-IC5819	P128679.D	03/25/19	11:39	01:53	Initial cal 25
EP5819-IC5819	P128680.D	03/25/19	12:06	02:20	Initial cal 10
EP5819-IC5819	P128681.D	03/25/19	12:33	02:47	Initial cal 5
EP5819-IC5819	P128682.D	03/25/19	13:00	03:14	Initial cal 2
EP5819-IC5819	P128683.D	03/25/19	13:27	03:41	Initial cal 1
EP5819-ICV5819	P128684.D	03/25/19	13:54	04:08	Initial cal verification 50
EP5819-ICV5819	P128685.D	03/25/19	14:21	04:35	Initial cal verification 50
EP5819-ICV5819	P128686.D	03/25/19	14:48	05:02	Initial cal verification 50
EP5819-ICV5819	P128687.D	03/25/19	15:15	05:29	Initial cal verification 50
EP5819-ICV5819	P128688.D	03/25/19	15:42	05:56	Initial cal verification 50
EP5819-ICV5819	P128689.D	03/25/19	16:09	06:23	Initial cal verification 50

**Instrument Performance Check (DFTPP)**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	EP5821-DFTPP	Injection Date:	03/26/19
Lab File ID:	P128702.D	Injection Time:	15:16
Instrument ID:	GCMSP		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	20856	30.9	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) <sup>a</sup>	Pass
69	Mass 69 relative abundance	26144	38.7	Pass
70	Less than 2.0% of mass 69	281	0.42 (1.07) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	30640	45.4	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	67501	100.0	Pass
199	5.0 - 9.0% of mass 198	4503	6.67	Pass
275	10.0 - 30.0% of mass 198	16360	24.2	Pass
365	1.0 - 100.0% of mass 198	2627	3.89	Pass
441	Present, but less than mass 443	7547	11.2 (75.4) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	49224	72.9	Pass
443	17.0 - 23.0% of mass 442	10013	14.8 (20.3) <sup>c</sup>	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
EP5821-IC5821	P128703B.D	03/26/19	17:16	02:00	Initial cal 100
EP5821-IC5821	P128704B.D	03/26/19	17:43	02:27	Initial cal 80
EP5821-ICC5821	P128705B.D	03/26/19	18:10	02:54	Initial cal 50
EP5821-IC5821	P128706.D	03/26/19	18:37	03:21	Initial cal 25
EP5821-IC5821	P128707.D	03/26/19	19:03	03:47	Initial cal 10
EP5821-IC5821	P128708.D	03/26/19	19:30	04:14	Initial cal 5
EP5821-IC5821	P128709.D	03/26/19	19:57	04:41	Initial cal 2
EP5821-IC5821	P128710.D	03/26/19	20:23	05:07	Initial cal 1
EP5821-ICV5821	P128711.D	03/26/19	20:50	05:34	Initial cal verification 50
EP5821-ICV5821	P128712.D	03/26/19	21:17	06:01	Initial cal verification 50

**Instrument Performance Check (DFTPP)**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	EP5823-DFTPP	Injection Date:	03/27/19
Lab File ID:	P128723.D	Injection Time:	14:25
Instrument ID:	GCMSP		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	17092	35.1	Pass
68	Less than 2.0% of mass 69	0	0.00 (0.00) <sup>a</sup>	Pass
69	Mass 69 relative abundance	22330	45.9	Pass
70	Less than 2.0% of mass 69	303	0.62 (1.36) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	23525	48.3	Pass
197	Less than 1.0% of mass 198	224	0.46	Pass
198	Base peak, 100% relative abundance	48682	100.0	Pass
199	5.0 - 9.0% of mass 198	3447	7.08	Pass
275	10.0 - 30.0% of mass 198	11097	22.8	Pass
365	1.0 - 100.0% of mass 198	1430	2.94	Pass
441	Present, but less than mass 443	3846	7.90 (64.6) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	29188	60.0	Pass
443	17.0 - 23.0% of mass 442	5955	12.2 (20.4) <sup>c</sup>	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
EP5823-ICV5819	P128724.D	03/27/19	15:31	01:06	Initial cal verification 50

## Instrument Performance Check (DFTPP)

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	EP5843-DFTPP	Injection Date:	04/17/19
Lab File ID:	P129123.D	Injection Time:	20:55
Instrument ID:	GCMSP		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	30.0 - 60.0% of mass 198	31197	39.4	Pass
68	Less than 2.0% of mass 69	327	0.41 (0.85) <sup>a</sup>	Pass
69	Mass 69 relative abundance	38635	48.7	Pass
70	Less than 2.0% of mass 69	253	0.32 (0.65) <sup>a</sup>	Pass
127	40.0 - 60.0% of mass 198	42912	54.1	Pass
197	Less than 1.0% of mass 198	0	0.00	Pass
198	Base peak, 100% relative abundance	79277	100.0	Pass
199	5.0 - 9.0% of mass 198	5712	7.21	Pass
275	10.0 - 30.0% of mass 198	18912	23.9	Pass
365	1.0 - 100.0% of mass 198	3186	4.02	Pass
441	Present, but less than mass 443	4959	6.26 (80.5) <sup>b</sup>	Pass
442	40.0 - 100.0% of mass 198	33364	42.1	Pass
443	17.0 - 23.0% of mass 442	6164	7.78 (18.5) <sup>c</sup>	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
EP5843-CC5819	P129124.D	04/17/19	21:06	00:11	Continuing cal 50
EP5843-CC5821	P129125.D	04/17/19	21:33	00:38	Continuing cal 50
OP19787-MB1	P129126.D	04/17/19	22:00	01:05	Method Blank
OP19786-MB1	P129127.D	04/17/19	22:27	01:32	Method Blank
ZZZZZZ	P129128.D	04/17/19	22:54	01:59	(unrelated sample)
ZZZZZZ	P129130.D	04/17/19	23:48	02:53	(unrelated sample)
ZZZZZZ	P129134.D	04/18/19	01:35	04:40	(unrelated sample)
ZZZZZZ	P129135.D	04/18/19	02:02	05:07	(unrelated sample)
ZZZZZZ	P129136.D	04/18/19	02:29	05:34	(unrelated sample)
ZZZZZZ	P129137.D	04/18/19	02:56	06:01	(unrelated sample)

# Internal Standard Area Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	E5P2775-CC2761	Injection Date:	04/17/19
Lab File ID:	5P58570.D	Injection Time:	20:15
Instrument ID:	GCMS5P	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	134057	3.92	518548	5.11	303009	6.80	502639	8.22	464527	11.46	544127	13.43
Upper Limit <sup>a</sup>	268114	4.42	1037096	5.61	606018	7.30	1005278	8.72	929054	11.96	1088254	13.93
Lower Limit <sup>b</sup>	67029	3.42	259274	4.61	151505	6.30	251320	7.72	232264	10.96	272064	12.93

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP19787-MB1	163534	3.92	593592	5.11	310484	6.79	550507	8.22	527209	11.45	493956	13.42
OP19787-BS1	188299	3.93	658757	5.11	333735	6.79	556953	8.22	515399	11.46	525281	13.42
OP19786-MB1	219583	3.93	815101	5.11	429951	6.79	751960	8.22	705328	11.45	645730	13.42
OP19786-BS1	193693	3.93	618783	5.11	336258	6.79	566593	8.22	527474	11.46	524571	13.42
ZZZZZZ	195274	3.92	640674	5.11	340220	6.79	604139	8.22	568801	11.45	532226	13.42
ZZZZZZ	180841	3.92	662662	5.11	344128	6.79	602246	8.22	558530	11.45	524592	13.42
ZZZZZZ	215092	3.92	784705	5.11	365721	6.79	634948	8.22	594352	11.45	547712	13.42
JC86337-3	189730	3.92	635769	5.11	327056	6.79	576566	8.22	539107	11.44	500824	13.42
JC86337-5	169691	3.93	634003	5.12	372383	6.79	675650	8.22	642356	11.45	607493	13.42
JC86337-6	185943	3.92	687099	5.11	360535	6.79	634184	8.22	599294	11.44	549615	13.41
ZZZZZZ	186224	3.92	633586	5.11	334247	6.79	573620	8.22	521399	11.44	487446	13.41
ZZZZZZ	209802	3.92	688009	5.11	347852	6.79	613424	8.22	566253	11.44	521472	13.41
ZZZZZZ	189627	3.92	666951	5.11	345142	6.79	603479	8.22	556423	11.44	520379	13.41
ZZZZZZ	200767	3.92	739002	5.11	378142	6.79	650777	8.22	618223	11.44	589701	13.41
ZZZZZZ	188478	3.92	638068	5.11	326882	6.79	560367	8.22	516576	11.44	480927	13.41
ZZZZZZ	198350	3.92	675888	5.11	350266	6.79	606386	8.22	520475	11.44	487532	13.42
ZZZZZZ	200480	3.92	719967	5.11	336244	6.79	597439	8.22	544419	11.44	488425	13.41
ZZZZZZ	207744	3.92	711535	5.11	356049	6.79	592593	8.22	546988	11.45	541296	13.42
ZZZZZZ	190085	3.92	691417	5.11	352614	6.79	573493	8.22	507772	11.46	576398	13.43
ZZZZZZ	216921	3.92	767433	5.11	381932	6.79	657021	8.22	572214	11.45	567359	13.42
ZZZZZZ	224382	3.93	760167	5.11	327414	6.79	518981	8.22	501679	11.48	577554	13.44
ZZZZZZ	223520	3.93	685149	5.11	347267	6.79	593496	8.22	529143	11.45	515268	13.42
ZZZZZZ	179604	3.93	583792	5.11	282602	6.80	500220	8.22	517833	11.46	519617	13.43
ZZZZZZ	189615	3.93	598311	5.11	254086	6.80	436792	8.24	526928	11.49	556177	13.44

- 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.

8.5.1  
8

# Internal Standard Area Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	E5P2776-CC2761	Injection Date:	04/18/19
Lab File ID:	5P58601.D	Injection Time:	09:31
Instrument ID:	GCMS5P	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	145493	3.92	556255	5.10	323099	6.79	537467	8.21	494316	11.44	547192	13.41
Upper Limit <sup>a</sup>	290986	4.42	1112510	5.60	646198	7.29	1074934	8.71	988632	11.94	1094384	13.91
Lower Limit <sup>b</sup>	72747	3.42	278128	4.60	161550	6.29	268734	7.71	247158	10.94	273596	12.91

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP19696A-MB1	168071	3.92	616487	5.10	332085	6.78	595637	8.21	572817	11.43	517731	13.40
OP19696A-BS1	155760	3.92	572222	5.10	299839	6.78	515742	8.21	500453	11.44	499897	13.40
OP19696A-BSD	160810	3.92	603492	5.10	309703	6.78	531293	8.21	517960	11.43	513978	13.40
OP19683A-MB1	162147	3.92	612362	5.10	308905	6.78	569088	8.21	546655	11.43	503885	13.39
OP19683A-BS1	172318	3.92	641274	5.10	322178	6.78	555485	8.21	524489	11.43	528305	13.40
OP19683A-BSD	196240	3.92	686566	5.10	343932	6.78	573063	8.20	544251	11.43	543231	13.40
ZZZZZZ	159996	3.92	558577	5.10	299814	6.78	556294	8.20	572134	11.43	547703	13.39
OP19787-MS	174354	3.92	585751	5.10	314306	6.78	546420	8.21	544949	11.43	557924	13.39
OP19787-MSD	176270	3.92	604770	5.10	320438	6.78	570948	8.21	552997	11.43	578205	13.40
JC86300-5	190938	3.92	683826	5.10	317584	6.78	563897	8.21	548579	11.43	514993	13.39
ZZZZZZ	178245	3.92	619847	5.10	327537	6.78	572281	8.21	541666	11.43	526465	13.40
ZZZZZZ	195243	3.92	688165	5.10	354845	6.78	589331	8.21	545821	11.46	638949	13.42
OP19786-MS	183278	3.92	586208	5.10	310722	6.78	529445	8.21	481967	11.48	588491	13.44
OP19786-MSD	183844	3.92	612583	5.10	325623	6.79	554840	8.21	519220	11.47	598500	13.44
JC86337-1	188734	3.92	614376	5.10	311926	6.78	541159	8.21	489161	11.47	572965	13.44
JC86337-2	174989	3.92	614630	5.10	309126	6.79	506135	8.22	491747	11.49	600561	13.46
JC86337-4	176646	3.92	578274	5.10	304257	6.79	537756	8.21	498874	11.47	536333	13.45
ZZZZZZ	175488	3.92	614116	5.10	332903	6.79	591158	8.21	526607	11.45	531105	13.42
ZZZZZZ	181528	3.92	628029	5.10	334112	6.79	564989	8.21	559979	11.46	566946	13.42
ZZZZZZ	169415	3.92	602610	5.10	283243	6.79	476561	8.22	562199	11.46	550868	13.42
ZZZZZZ	167688	3.92	598855	5.10	310810	6.79	564629	8.21	541223	11.44	516839	13.41
ZZZZZZ	140165	3.92	440093	5.11	282317	6.81	541296	8.23	710919	11.44	674472	13.41
ZZZZZZ	158700	3.92	605790	5.10	328865	6.79	505459	8.21	457082	11.47	513633	13.46

- 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.

8.5.2  
8



# Internal Standard Area Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	E5P2777-CC2761	Injection Date:	04/19/19
Lab File ID:	5P58633.D	Injection Time:	00:37
Instrument ID:	GCMS5P	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	152958	3.92	577904	5.10	329092	6.79	546524	8.21	463344	11.45	538716	13.42
Upper Limit <sup>a</sup>	305916	4.42	1155808	5.60	658184	7.29	1093048	8.71	926688	11.95	1077432	13.92
Lower Limit <sup>b</sup>	76479	3.42	288952	4.60	164546	6.29	273262	7.71	231672	10.95	269358	12.92

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP19849-MB1	171413	3.92	608180	5.10	318598	6.78	573840	8.21	545217	11.43	510183	13.41
OP19849-BS1	174997	3.92	597560	5.10	314589	6.78	533710	8.21	489769	11.44	496108	13.41
OP19849-BSD	173491	3.92	612635	5.10	327691	6.78	552417	8.21	504255	11.44	509225	13.40
ZZZZZZ	184077	3.92	673485	5.10	359444	6.78	619411	8.21	591082	11.43	540384	13.40
ZZZZZZ	170284	3.92	619132	5.10	319141	6.78	554362	8.21	515092	11.43	472400	13.40
ZZZZZZ	193156	3.92	690482	5.10	361857	6.78	635062	8.21	543764	11.43	513455	13.41
ZZZZZZ	176434	3.92	630727	5.10	334402	6.78	582139	8.21	550989	11.43	521363	13.40
ZZZZZZ	171482	3.92	611900	5.10	317002	6.78	573408	8.21	535453	11.43	506818	13.40
ZZZZZZ	173548	3.92	599292	5.10	308740	6.78	548691	8.21	538681	11.43	518081	13.40
ZZZZZZ	190966	3.92	692772	5.10	324307	6.78	565774	8.21	536723	11.43	503398	13.40
ZZZZZZ	174458	3.91	600706	5.10	305428	6.78	529144	8.21	539816	11.43	519289	13.40
ZZZZZZ	186498	3.92	625461	5.10	335458	6.78	576014	8.21	533625	11.43	514923	13.40
ZZZZZZ	193822	3.92	649090	5.10	342153	6.78	605422	8.21	587839	11.43	557590	13.40
ZZZZZZ	198780	3.91	722012	5.10	372555	6.78	653570	8.21	553108	11.43	524842	13.39
ZZZZZZ	179385	3.91	615958	5.10	308743	6.78	542682	8.21	536095	11.43	528631	13.40
ZZZZZZ	177411	3.91	571627	5.10	302887	6.78	513605	8.20	479741	11.43	465890	13.39
ZZZZZZ	173895	3.91	633443	5.10	327216	6.78	583583	8.20	547080	11.43	528063	13.39
ZZZZZZ	156100	3.91	525004	5.10	268652	6.78	476436	8.21	539892	11.44	553721	13.40
ZZZZZZ	164017	3.92	529710	5.11	302855	6.78	526673	8.21	550221	11.49	553902	13.50
JC86337-1	207535	3.92	711918	5.10	369249	6.79	615279	8.21	531787	11.45	557765	13.42
JC86337-2	204331	3.92	762068	5.10	382522	6.79	650803	8.21	566054	11.45	487019	13.42
JC86337-4	214243	3.92	741395	5.10	377879	6.79	658329	8.21	584552	11.44	593089	13.42

- 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.

8.5.3  
8

# Internal Standard Area Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	EP5843-CC5819	Injection Date:	04/17/19
Lab File ID:	P129124.D	Injection Time:	21:06
Instrument ID:	GCMSP	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	128083	4.19	480410	5.13	312012	6.44	524076	8.10	516660	13.11	580985	16.12
Upper Limit <sup>a</sup>	256166	4.69	960820	5.63	624024	6.94	1048152	8.60	1033320	13.61	1161970	16.62
Lower Limit <sup>b</sup>	64042	3.69	240205	4.63	156006	5.94	262038	7.60	258330	12.61	290493	15.62

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP19787-MB1	157089	4.19	575077	5.13	317295	6.44	574984	8.09	544427	13.10	539325	16.11
OP19786-MB1	157448	4.19	561344	5.13	311364	6.44	572710	8.09	535565	13.10	544920	16.11
ZZZZZZ	131669	4.19	523317	5.13	304635	6.44	533682	8.09	556213	13.10	583944	16.12
ZZZZZZ	150336	4.19	534217	5.13	282832	6.44	516724	8.09	508023	13.11	523126	16.12
ZZZZZZ	153886	4.19	580732	5.13	310636	6.44	574455	8.10	577154	13.15	630680	16.19
ZZZZZZ	176582	4.20	639604	5.14	346055	6.45	622631	8.11	589365	13.16	630551	16.20
ZZZZZZ	188017	4.20	735207	5.14	431403	6.45	802135	8.12	691180	13.17	642784	16.19
ZZZZZZ	206299	4.20	772255	5.14	433610	6.45	784912	8.11	654326	13.15	618654	16.17

- 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.

8.5.4  
8

# Surrogate Recovery Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Method: SW846 8270D	Matrix: SO
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JC86337-1	5P58655.D	46	48	61	55	66	65
JC86337-1	5P58616.D	44	49	55	53	61	61
JC86337-2	5P58656.D	60	56	72	63	77	72
JC86337-2	5P58617.D	63	65	71	65	74	73
JC86337-3	5P58580.D	63	66	65	70	72	65
JC86337-4	5P58657.D	64	67	49	74	84	74
JC86337-4	5P58618.D	68	74	50	73	77	69
JC86337-5	5P58581.D	67	64	63	75	72	67
JC86337-6	5P58582.D	78	69	70	73	73	70
OP19786-BS1	5P58576.D	81	77	89	89	80	89
OP19786-MB1	P129127.D	67	71	72	87	81	76
OP19786-MB1	5P58575.D	72	66	66	67	70	64
OP19786-MS	5P58614.D	63	66	78	67	74	80
OP19786-MSD	5P58615.D	71	72	79	72	75	77

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%

8.6.1  
8

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICC2761  
 Lab FileID: 5P58251.D

## Response Factor Report MS5P

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration

### Calibration Files

2 =5p58255.D 5 =5p58254.D 25 =5p58252.D 80 =5p58250.D  
 100 =5p58249a.D 50 =5p58251.D 1 =5p58256.D 10 =5p58253.D

Compound	2	5	25	80	100	50	1	10	Avg	%RSD
-----										
1) I 1,4-Dichlorobenzene-d	-----ISTD-----									
2) 1,4-Dioxane	0.714	0.847	0.853	0.875	0.881	0.885	0.838	0.844	0.842	6.53
3) Pyridine	1.703	1.850	2.151	2.155	2.076	2.171	1.290	2.128	1.940	16.12
4) N-Nitrosodim	1.047	1.092	1.218	1.236	1.218	1.218	0.927	1.093	1.131	9.75
5) 2-Fluorophen	1.414	1.431	1.646	1.658	1.630	1.706	1.419	1.559	1.558	7.70
6) Indene	2.529	2.427	2.473	2.385	2.318	2.490	2.356	2.511	2.436	3.17
7) Cumene	3.869	3.932	4.005	3.739	3.638	4.007	3.903	4.006	3.887	3.50
8) Phenol-d5	1.942	1.942	2.005	1.984	1.919	2.056	1.828	2.010	1.961	3.56
9) Phenol	2.050	2.206	2.209	2.059	1.978	2.206	2.215	2.248	2.146	4.70
10) Aniline	2.464	2.399	2.288	2.066	1.944	2.174	2.472	2.435	2.280	8.76
11) bis(2-Chloro	1.516	1.613	1.498	1.419	1.360	1.484	1.577	1.551	1.502	5.51
12) 2-Chlorophen	1.436	1.427	1.478	1.393	1.376	1.476	1.485	1.507	1.447	3.24
13) Decane	1.431	1.331	1.274	1.117	1.056	1.233	1.503	1.369	1.289	11.76
14) 1,3-Dichloro	1.654	1.641	1.632	1.541	1.515	1.619	1.477	1.691	1.596	4.75
15) 1,4-Dichloro	1.681	1.550	1.584	1.507	1.459	1.566	1.627	1.587	1.570	4.36
16) Benzyl alcoh	0.892	0.915	0.943	0.905	0.901	0.971	0.870	0.939	0.917	3.51
17) 1,2-Dichloro	1.630	1.516	1.569	1.533	1.492	1.596	1.624	1.592	1.569	3.23
18) Acetophenone	2.206	2.175	2.175	2.097	2.074	2.202	2.217	2.197	2.168	2.46
19) 2-Methylphen	1.292	1.313	1.441	1.363	1.293	1.389	1.334	1.408	1.354	4.08
20) 2,2'-oxybis(	1.686	1.566	1.525	1.439	1.354	1.517	1.681	1.561	1.541	7.26
21) 3&4-Methylph	1.442	1.337	1.506	1.488	1.411	1.546	1.399	1.500	1.453	4.73
22) n-Nitroso-di	1.214	1.222	1.171	1.087	1.052	1.144	1.196	1.201	1.161	5.34
23) Hexachloroet	0.562	0.570	0.574	0.524	0.517	0.559	0.590	0.572	0.558	4.51
-----										
24) I Naphthalene-d8	-----ISTD-----									
25) Nitrobenzene	0.448	0.456	0.485	0.463	0.446	0.476	0.457	0.478	0.464	3.14
26) Nitrobenzene	0.464	0.470	0.475	0.435	0.416	0.453	0.455	0.463	0.454	4.28
27) Quinoline	0.678	0.723	0.781	0.777	0.759	0.790	0.662	0.758	0.741	6.56
28) Isophorone	0.842	0.871	0.876	0.820	0.774	0.847	0.855	0.879	0.845	4.12
29) 2-Nitropheno	0.187	0.194	0.221	0.214	0.206	0.218	0.179	0.217	0.204	7.75
30) 2,4-Dimethyl	0.285	0.313	0.390	0.398	0.389	0.405		0.350	0.361	12.92
31) Benzoic acid		0.268	0.366	0.327	0.313	0.371		0.315	0.327	11.62
32) bis(2-Chloro	0.482	0.480	0.507	0.495	0.469	0.504	0.499	0.517	0.494	3.24
33) 2,4-Dichloro	0.305	0.318	0.331	0.327	0.319	0.332	0.272	0.328	0.317	6.29
34) 2,6-Dichloro	0.292	0.294	0.317	0.306	0.299	0.312	0.299	0.313	0.304	3.07
35) 1,3,5-Trichl	0.365	0.364	0.366	0.334	0.322	0.355	0.349	0.363	0.352	4.67
36) 1,2,4-Trichl	0.332	0.344	0.345	0.322	0.310	0.338	0.361	0.354	0.338	4.92
37) 1,2,3-Trichl	0.330	0.327	0.329	0.301	0.292	0.322	0.331	0.343	0.322	5.20
38) Naphthalene	1.018	1.017	1.028	0.967	0.939	1.017	1.039	1.040	1.008	3.56
39) 4-Chloroanil	0.412	0.445	0.441	0.409	0.382	0.428	0.442	0.446	0.426	5.33
40) 2,3-Dichloro	0.406	0.407	0.420	0.413	0.402	0.416	0.399	0.417	0.410	1.87
41) Caprolactam	0.174	0.182	0.196	0.202	0.193	0.202	0.141	0.192	0.185	10.90
42) Hexachlorobu	0.207	0.191	0.202	0.192	0.187	0.199	0.183	0.204	0.196	4.38
43) 4-Chloro-3-m	0.307	0.364	0.395	0.381	0.379	0.397	0.310	0.388	0.365	10.00
44) 2-Methylnaph	0.571	0.593	0.613	0.565	0.555	0.595	0.623	0.616	0.591	4.31
45) 1-Methylnaph	0.673	0.663	0.671	0.633	0.610	0.653	0.670	0.687	0.657	3.79

87.1  
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# Initial Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICC2761  
Lab FileID: 5P58251.D

46)	Dimethylnaph	0.627	0.643	0.653	0.604	0.592	0.639	0.630	0.667	0.632	3.91
47)	I Acenaphthene-d10	-----ISTD-----									
48)	Hexachlorocy	0.110	0.170	0.264	0.298	0.293	0.296		0.218	0.236	31.06
	----- Quadratic regression -----	Coefficient = 0.9995									
	Response Ratio =	-0.03649 + 0.31179 *A + -0.00188 *A^2									
49)	2,4,6-Trichl	0.399	0.405	0.402	0.387	0.378	0.403	0.342	0.407	0.390	5.65
50)	2,4,5-Trichl	0.383	0.432	0.424	0.427	0.420	0.443	0.357	0.423	0.414	6.98
51)	2-Fluorobiph	1.508	1.455	1.400	1.252	1.209	1.353	1.485	1.460	1.390	7.94
52)	2-Chloronaph	1.223	1.218	1.170	1.074	1.009	1.126	1.285	1.236	1.168	7.90
53)	Biphenyl	1.576	1.541	1.534	1.400	1.321	1.509	1.549	1.544	1.497	5.93
54)	2-Nitroanili	0.417	0.446	0.469	0.447	0.422	0.468	0.389	0.460	0.440	6.39
55)	Dimethylphth	1.413	1.404	1.428	1.414	1.336	1.471	1.460	1.455	1.423	3.02
56)	Acenaphthyle	1.933	1.957	1.913	1.722	1.661	1.821	1.905	1.937	1.856	5.96
57)	2,6-Dinitrot	0.263	0.292	0.322	0.315	0.309	0.330	0.264	0.324	0.302	8.75
58)	3-Nitroanili	0.278	0.320	0.362	0.357	0.347	0.362	0.240	0.357	0.328	13.93
59)	Acenaphthene	1.186	1.194	1.165	1.101	1.065	1.163	1.186	1.176	1.155	4.03
60)	2,4-Dinitrop	0.035	0.088	0.173	0.203	0.198	0.194		0.111	0.143	46.06
	----- Quadratic regression -----	Coefficient = 0.9991									
	Response Ratio =	-0.03254 + 0.20712 *A + -0.00005 *A^2									
61)	4-Nitropheno	0.149	0.159	0.199	0.189	0.185	0.195		0.180	0.180	10.41
62)	Dibenzofuran	1.780	1.784	1.763	1.665	1.618	1.775	1.732	1.783	1.738	3.62
63)	2,4-Dinitrot	0.346	0.413	0.435	0.407	0.393	0.424	0.310	0.427	0.394	11.17
64)	2,3,4,6-Tetr	0.343	0.354	0.392	0.395	0.395	0.405	0.313	0.376	0.372	8.65
65)	Diethylphtha	1.354	1.396	1.419	1.349	1.283	1.399	1.334	1.406	1.367	3.37
66)	Fluorene	1.354	1.393	1.399	1.342	1.270	1.408	1.385	1.431	1.373	3.67
67)	4-Chlorophen	0.696	0.661	0.636	0.594	0.570	0.620	0.613	0.671	0.633	6.62
68)	4-Nitroanili	0.292	0.333	0.339	0.340	0.333	0.348	0.262	0.323	0.321	9.13
69)	I Phenanthrene-d10	-----ISTD-----									
70)	4,6-Dinitro-	0.112	0.154	0.162	0.163	0.166		0.139	0.149	13.88	
71)	n-Nitrosodip	0.588	0.605	0.592	0.568	0.548	0.590	0.618	0.607	0.589	3.79
72)	1,2-Diphenyl	0.989	1.018	0.955	0.846	0.793	0.902	0.985	0.999	0.936	8.67
73)	2,4,6-Tribro	0.089	0.112	0.123	0.129	0.127	0.129	0.095	0.119	0.115	13.50
74)	4-Bromopheny	0.248	0.246	0.260	0.255	0.250	0.269	0.229	0.262	0.252	4.90
75)	Hexachlorobe	0.248	0.260	0.253	0.248	0.247	0.258	0.246	0.256	0.252	2.15
76)	Pentachlorop	0.105	0.139	0.173	0.182	0.178	0.183		0.158	0.160	18.02
77)	Phenanthrene	1.137	1.113	1.087	1.050	1.010	1.076	1.096	1.080	1.081	3.57
78)	Anthracene	1.183	1.185	1.145	1.080	1.047	1.132	1.144	1.161	1.135	4.28
79)	Carbazole	1.127	1.196	1.182	1.124	1.089	1.166	1.155	1.163	1.150	3.03
80)	Di-n-butylph	1.388	1.447	1.495	1.409	1.372	1.474	1.359	1.496	1.430	3.86
81)	Fluoranthene	1.290	1.355	1.400	1.328	1.280	1.410	1.295	1.386	1.343	3.88
82)	Octadecane	0.624	0.634	0.583	0.513	0.485	0.557	0.598	0.621	0.577	9.45
83)	I Chrysene-d12	-----ISTD-----									
84)	Pyrene	1.504	1.542	1.556	1.516	1.494	1.515	1.492	1.543	1.520	1.59
85)	Terphenyl-d1	1.002	0.997	1.015	1.049	1.040	1.047	0.967	1.025	1.018	2.78
86)	Butylbenzylp	0.647	0.677	0.728	0.747	0.730	0.747	0.581	0.705	0.695	8.32
87)	Benzo[a]anth	1.373	1.351	1.406	1.439	1.431	1.455	1.344	1.377	1.397	3.00
88)	3,3'-Dichlor	0.418	0.446	0.492	0.494	0.480	0.491	0.345	0.476	0.455	11.40
89)	Chrysene	1.309	1.260	1.276	1.298	1.296	1.298	1.315	1.266	1.290	1.55
90)	bis(2-Ethylh	0.832	0.901	0.962	0.980	0.973	0.973	0.790	0.960	0.921	7.95
91)	I Perylene-d12	-----ISTD-----									
92)	Di-n-octylph	1.273	1.459	1.543	1.478	1.389	1.514	1.195	1.548	1.425	9.11
93)	Benzo[b]fluo	1.238	1.263	1.250	1.194	1.135	1.242	1.196	1.252	1.221	3.55
94)	Benzo[k]fluo	1.121	1.247	1.089	1.042	0.995	1.100	1.112	1.237	1.118	7.80
95)	Benzo[a]pyre	1.024	1.101	1.116	1.106	1.043	1.122	1.056	1.134	1.088	3.75

# Initial Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICC2761  
Lab FileID: 5P58251.D

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96)	Indeno[1,2,3	0.927	0.959	1.007	1.001	1.009	1.042	0.889	0.951	0.973	5.17
97)	Dibenz(a,h)a	0.869	0.941	0.971	0.957	0.927	0.987	0.799	0.950	0.925	6.71
98)	Dibenz[a,h]a	0.946	1.035	1.047	1.004	0.960	1.036	0.999	1.024	1.006	3.68
99)	7,12-Dimethy	0.398	0.415	0.522	0.518	0.499	0.536	0.332	0.488	0.463	15.81
100)	Benzo[g,h,i]	0.914	0.985	1.019	1.013	0.980	1.031	0.916	1.000	0.982	4.57

-----  
(#) = Out of Range ### Number of calibration levels exceeded format ###

M5P2761.M

Tue Apr 09 13:55:33 2019

RPT1

8.7.1

8

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICV2761  
 Lab FileID: 5P58257.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58257.D Vial: 10  
 Acq On : 9 Apr 2019 3:50 am Operator: chriss2  
 Sample : icv2761-50 Inst : MS5P  
 Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 13:37:16 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	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	111	0.00	4.10
4 t	N-Nitrosodimethylamine	1.131	1.189	-5.1	108	0.00	1.78
11 t	bis(2-Chloroethyl)ether	1.502	1.591	-5.9	119	0.00	3.88
14 t	1,3-Dichlorobenzene	1.596	1.530	4.1	104	0.00	4.05
15 t	1,4-Dichlorobenzene	1.570	1.476	6.0	104	0.00	4.12
17 t	1,2-Dichlorobenzene	1.569	1.416	9.8	98	0.00	4.25
20 t	2,2'-oxybis(1-Chloropropa	1.541	1.767	-14.7	129	0.00	4.37
22 t	n-Nitroso-di-n-propylamin	1.161	1.167	-0.5	113	0.00	4.50
23 t	Hexachloroethane	0.558	0.530	5.0	105	0.00	4.56
24 I	Naphthalene-d8	1.000	1.000	0.0	104	0.00	5.29
26 t	Nitrobenzene	0.454	0.440	3.1	101	0.00	4.63
28 t	Isophorone	0.845	0.832	1.5	103	0.00	4.86
32 t	bis(2-Chloroethoxy)methan	0.494	0.505	-2.2	105	0.00	5.09
36 t	1,2,4-Trichlorobenzene	0.338	0.324	4.1	100	0.00	5.24
38 t	Naphthalene	1.008	0.981	2.7	101	0.00	5.31
42 t	Hexachlorobutadiene	0.196	0.194	1.0	102	0.00	5.45
47 I	Acenaphthene-d10	1.000	1.000	0.0	100	0.00	6.97
48 t	Hexachlorocyclopentadiene	50.000	43.433	13.1	87	0.00	6.14
		True	Calc.	% Drift			
52 t	2-Chloronaphthalene	1.168	1.175	-0.6	105	0.00	6.44
55 t	Dimethylphthalate	1.423	1.329	6.6	90	0.00	6.75
56 t	Acenaphthylene	1.856	1.691	8.9	93	0.00	6.83
57 t	2,6-Dinitrotoluene	0.302	0.280	7.3	85	0.00	6.80
59 t	Acenaphthene	1.155	1.017	11.9	88	0.00	7.01
63 t	2,4-Dinitrotoluene	0.394	0.378	4.1	89	0.00	7.19
65 t	Diethylphthalate	1.367	1.282	6.2	92	0.00	7.44
66 t	Fluorene	1.373	1.261	8.2	90	0.00	7.51
67 t	4-Chlorophenyl-phenylethe	0.633	0.562	11.2	91	0.00	7.52
69 I	Phenanthrene-d10	1.000	1.000	0.0	102	0.00	8.42
71 t	n-Nitrosodiphenylamine	0.589	0.516	12.4	90	0.00	7.65
72 t	1,2-Diphenylhydrazine	0.936	0.837	10.6	95	0.00	7.67
74 t	4-Bromophenyl-phenylether	0.252	0.221	12.3	84	0.00	7.99
75 t	Hexachlorobenzene	0.252	0.204	19.0	81	0.00	8.05

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICV2761  
Lab FileID: 5P58257.D

77	t	Phenanthrene	1.081	0.936	13.4	89	0.00	8.44
78	t	Anthracene	1.135	0.966	14.9	87	0.00	8.49
80	t	Di-n-butylphthalate	1.430	1.257	12.1	87	0.00	9.11
81	t	Fluoranthene	1.343	1.150	14.4	84	0.00	9.78
83	I	Chrysene-d12	1.000	1.000	0.0	85	0.01	11.73
84	t	Pyrene	1.520	1.478	2.8	83	0.00	10.06
86	t	Butylbenzylphthalate	0.695	0.713	-2.6	81	0.00	11.03
87	t	Benzo[a]anthracene	1.397	1.338	4.2	78	0.00	11.71
89	t	Chrysene	1.290	1.195	7.4	78	0.02	11.77
90	t	bis(2-Ethylhexyl)phthalat	0.921	0.937	-1.7	82	0.00	11.92
91	I	Perylene-d12	1.000	1.000	0.0	81	0.00	13.71
92	t	Di-n-octylphthalate	1.425	1.487	-4.4	79	0.00	12.86
93	t	Benzo[b]fluoranthene	1.221	1.095	10.3	71	0.01	13.21
94	t	Benzo[k]fluoranthene	1.118	1.124	-0.5	82	0.01	13.25
95	t	Benzo[a]pyrene	1.088	1.082	0.6	78	0.00	13.63
96	t	Indeno[1,2,3-cd]pyrene	0.973	0.976	-0.3	75	0.00	15.00
98	t	Dibenz[a,h]anthracene	1.006	0.937	6.9	73	0.01	15.04
100	t	Benzo[g,h,i]perylene	0.982	0.986	-0.4	77	0.02	15.33

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(#) = Out of Range  
5p58251.D M5P2761.M

SPCC's out = 0 CCC's out = 0  
Tue Apr 09 13:56:04 2019 RPT1

8.7.2  
8



## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICV2761  
 Lab FileID: 5P58259.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58259.D Vial: 12  
 Acq On : 9 Apr 2019 4:39 am Operator: chriss2  
 Sample : icv2761-50 Inst : MS5P  
 Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 13:37:16 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	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	4.10
3 t	Pyridine	1.940	2.102	-8.4	100	0.07	1.91
10	Aniline	2.280	2.687	-17.9	127	0.00	3.82
16 t	Benzyl alcohol	0.917	1.099	-19.8	117	0.00	4.26
24 I	Naphthalene-d8	1.000	1.000	0.0	113	0.00	5.29
39 t	4-Chloroaniline	0.426	0.361	15.3	95	0.00	5.38
44 t	2-Methylnaphthalene	0.591	0.534	9.6	101	0.00	5.97
47 I	Acenaphthene-d10	1.000	1.000	0.0	100	0.00	6.97
54 t	2-Nitroaniline	0.440	0.466	-5.9	100	0.00	6.56
58 t	3-Nitroaniline	0.328	0.339	-3.4	94	0.00	6.96
62 t	Dibenzofuran	1.738	1.712	1.5	97	0.00	7.18
68 t	4-Nitroaniline	0.321	0.331	-3.1	95	0.00	7.56
69 I	Phenanthrene-d10	1.000	1.000	0.0	102	0.00	8.42
79 t	Carbazole	1.150	1.055	8.3	93	0.00	8.68

(#) = Out of Range  
 5p58251.D M5P2761.M

SPCC's out = 0 CCC's out = 0  
 Tue Apr 09 13:56:08 2019 RPT1

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICV2761  
 Lab FileID: 5P58260.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58260.D Vial: 13  
 Acq On : 9 Apr 2019 5:04 am Operator: chriss2  
 Sample : icv2761-50 Inst : MS5P  
 Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 13:37:16 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	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	4.10
9 t	Phenol	2.146	2.337	-8.9	105	0.00	3.86
12 t	2-Chlorophenol	1.447	1.527	-5.5	103	0.00	3.92
19 t	2-Methylphenol	1.354	1.542	-13.9	110	0.00	4.39
21 t	3&4-Methylphenol	1.453	1.618	-11.4	104	0.00	4.54
24 I	Naphthalene-d8	1.000	1.000	0.0	94	0.00	5.29
29 t	2-Nitrophenol	0.204	0.224	-9.8	96	0.00	4.94
30 t	2,4-Dimethylphenol	0.361	0.440	-21.9	102	0.00	5.02
31 t	Benzoic acid	0.327	0.337	-3.1	85	0.07	5.19
33 t	2,4-Dichlorophenol	0.317	0.312	1.6	88	0.00	5.18
34 t	2,6-Dichlorophenol	0.304	0.331	-8.9	99	0.00	5.39
43 t	4-Chloro-3-methylphenol	0.365	0.393	-7.7	93	0.00	5.89
		AvgRF	CCRF	% Dev			
49 t	2,4,6-Trichlorophenol	0.390	0.428	-9.7	98	0.00	6.27
50 t	2,4,5-Trichlorophenol	0.414	0.430	-3.9	90	0.00	6.31
		True	Calc.	% Drift			
60 t	2,4-Dinitrophenol	50.000	42.934	14.1	77	-0.02	7.06
		AvgRF	CCRF	% Dev			
61 t	4-Nitrophenol	0.180	0.201	-11.7	95	-0.01	7.20
64	2,3,4,6-Tetrachlorophenol	0.372	0.350	5.9	80	0.00	7.32
69 I	Phenanthrene-d10	1.000	1.000	0.0	87	0.00	8.41
70 t	4,6-Dinitro-2-methylpheno	0.149	0.156	-4.7	82	0.00	7.58
76 t	Pentachlorophenol	0.160	0.190	-18.8	92	0.00	8.25

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58251.D M5P2761.M Tue Apr 09 13:56:10 2019 RPT1

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICV2761  
 Lab FileID: 5P58261.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58261.D Vial: 14  
 Acq On : 9 Apr 2019 5:29 am Operator: chriss2  
 Sample : icv2761-50 Inst : MS5P  
 Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 13:37:16 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	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	109	0.00	4.09
5 S	2-Fluorophenol	1.558	1.485	4.7	95	0.00	2.99
8 S	Phenol-d5	1.961	1.833	6.5	97	0.00	3.84
24 I	Naphthalene-d8	1.000	1.000	0.0	105	0.00	5.29
25 S	Nitrobenzene-d5	0.464	0.462	0.4	102	0.00	4.61
47 I	Acenaphthene-d10	1.000	1.000	0.0	96	0.00	6.97
51 S	2-Fluorobiphenyl	1.390	1.315	5.4	94	0.00	6.34
69 I	Phenanthrene-d10	1.000	1.000	0.0	89	0.00	8.41
73 S	2,4,6-Tribromophenol	0.115	0.109	5.2	76	0.00	7.74
83 I	Chrysene-d12	1.000	1.000	0.0	83	0.00	11.72
85 S	Terphenyl-d14	1.018	0.973	4.4	78	0.00	10.31

(#) = Out of Range  
 5p58251.D M5P2761.M

SPCC's out = 0 CCC's out = 0  
 Tue Apr 09 13:56:12 2019 RPT1

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2761-ICV2761  
 Lab FileID: 5P58262.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2761\5p58262.D Vial: 15  
 Acq On : 9 Apr 2019 5:55 am Operator: chriss2  
 Sample : icv2761-50 Inst : MS5P  
 Misc : op12947,e5p2761,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 13:37:16 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.
83 I Chrysene-d12	1.000	1.000	0.0	147	0.00	11.72
88 t 3,3'-Dichlorobenzidine	0.455	0.444	2.4	133	0.00	11.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58251.D M5P2761.M Tue Apr 09 13:56:14 2019 RPT1

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2762-ICC2762  
 Lab FileID: 5P58266.D

Response Factor Report MS5P

Method : C:\MSDCHEM\1\METHODS\M5P2762.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 15:26:27 2019  
 Response via : Initial Calibration

Calibration Files

2 =5p58270.D 5 =5p58269.D 25 =5p58267.D 80 =5p58265.D  
 100 =5p58264.D 50 =5p58266.D 1 =5p58271.D 10 =5p58268.D

Compound	2	5	25	80	100	50	1	10	Avg %RSD
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101)	1,4-Dichlorobenzene-d	-----ISTD-----									
102)	Benzaldehyde	1.232	1.324	1.355	1.276	1.201	1.289	1.478	1.359	1.314	6.59
103)	Acenaphthene-d10a	-----ISTD-----									
104)	1,2,4,5-Tetr	0.616	0.597	0.569	0.517	0.506	0.548	0.648	0.591	0.574	8.47
105)	Chrysene-d12a	-----ISTD-----									
106)	1-chloroocta	0.442	0.452	0.423	0.367	0.344	0.397	0.448	0.460	0.417	10.35
107)	Phenanthrene-d10a	-----ISTD-----									
108)	o-terphenyl	0.634	0.630	0.623	0.558	0.530	0.591	0.684	0.646	0.612	8.14
109)	Atrazine	0.104	0.115	0.116	0.107	0.105	0.114	0.109	0.115	0.111	4.53
110)	Pentachloron	0.041	0.040	0.045	0.042	0.041	0.043	0.046	0.043	0.043	5.17
111)	I Naphthalene-d8a	-----ISTD-----									
112)	Hydroquinone			0.327	0.368	0.362	0.351		0.260	0.334	13.21

(#) = Out of Range ### Number of calibration levels exceeded format ###

M5P2761.M Tue Apr 09 15:29:55 2019 RPT1

8.7.7

8

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2762-ICV2762  
 Lab FileID: 5P58272.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2762\5p58272.D Vial: 24  
 Acq On : 9 Apr 2019 10:02 am Operator: chriss2  
 Sample : icv2762-50 Inst : MS5P  
 Misc : op12947,e5p2762,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 15:26:27 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.
101	1,4-Dichlorobenzene-d4b	1.000	1.000	0.0	64	0.00	4.09
102	Benzaldehyde	1.314	1.337	-1.8	66	0.00	3.70
103	Acenaphthene-d10a	1.000	1.000	0.0	65	0.00	6.97
104	1,2,4,5-Tetrachlorobenzen	0.574	0.551	4.0	66	0.00	6.14
107	Phenanthrene-d10a	1.000	1.000	0.0	65	0.00	8.41
109	Atrazine	0.111	0.117	-5.4	66	0.00	8.19
110	Pentachloronitrobenzene	0.043	0.042	2.3	63	0.00	8.26

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58266a.D M5P2761.M Tue Apr 09 15:32:58 2019 RPT1

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2762-ICV2762  
 Lab FileID: 5P58273.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2762\5p58273.D Vial: 25  
 Acq On : 9 Apr 2019 10:27 am Operator: chriss2  
 Sample : icv2762-50 Inst : MS5P  
 Misc : op12947,e5p2762,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 15:26:27 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.
111 I Naphthalene-d8a	1.000	1.000	0.0	75	0.00	5.29
112 Hydroquinone	0.334	0.353	-5.7	75	0.00	5.78

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58266a.D M5P2761.M Tue Apr 09 15:33:00 2019 RPT1

8.7.9

8

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2763-ICC2763  
 Lab FileID: 5P58277.D

Response Factor Report MS5P

Method : C:\MSDCHEM\1\METHODS\M5P2763.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 15:57:26 2019  
 Response via : Initial Calibration

Calibration Files

2 =5p58281.D 5 =5p58280.D 25 =5p58278.D 80 =5p58276.D  
 100 =5p58275.D 50 =5p58277.D 1 =5p58282.D 10 =5p58279.D

Compound	2	5	25	80	100	50	1	10	Avg %RSD
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117) Chrysene-d12c									
118) Benzidine	0.655	0.943	0.993	0.938	0.960		0.798	0.881	14.71

(#) = Out of Range ### Number of calibration levels exceeded format ###

M5P2761.M Tue Apr 09 16:01:27 2019 RPT1

8.7.10

8



# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2763-ICV2763  
 Lab FileID: 5P58283.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2763\5p58283.D Vial: 34  
 Acq On : 9 Apr 2019 2:26 pm Operator: yujiac  
 Sample : icv2763-50 Inst : MS5P  
 Misc : op12947,e5p2763,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 15:57:26 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.
117 Chrysene-d12c	1.000	1.000	0.0	141	0.00	11.72
118 Benzidine	0.881	0.794	9.9	117	0.00	9.99

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58277a.D M5P2761.M Tue Apr 09 16:00:58 2019 RPT1

8.7.11  
8

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2763-ICV2761  
 Lab FileID: 5P58284.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2763\5p58284.D Vial: 35  
 Acq On : 9 Apr 2019 3:10 pm Operator: yujiac  
 Sample : icv2761-50 Inst : MS5P  
 Misc : op12947,e5p2763,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Tue Apr 09 15:57:26 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	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	92	0.00	4.09
2 t	1,4-Dioxane	0.842	0.824	2.1	86	0.00	1.54
6 t	Indene	2.436	2.659	-9.2	98	0.00	4.33
7 t	Cumene	3.887	3.858	0.7	89	0.00	3.38
13 t	Decane	1.289	1.250	3.0	93	0.00	3.98
18 t	Acetophenone	2.168	2.120	2.2	89	0.00	4.47
24 I	Naphthalene-d8	1.000	1.000	0.0	95	0.00	5.28
27 t	Quinoline	0.741	0.659	11.1	80	0.00	5.62
40 t	2,3-Dichloroaniline	0.410	0.308	24.9	71	0.00	6.26
41 t	Caprolactam	0.185	0.150	18.9	71	0.01	5.70
45 t	1-Methylnaphthalene	0.657	0.542	17.5	79	0.00	6.07
46 t	Dimethylnaphthalene	0.632	0.524	17.1	78	0.00	6.58
47 I	Acenaphthene-d10	1.000	1.000	0.0	87	0.00	6.97
53 t	Biphenyl	1.497	1.389	7.2	80	0.00	6.43
69 I	Phenanthrene-d10	1.000	1.000	0.0	77	0.00	8.41
82 t	Octadecane	0.577	0.591	-2.4	81	0.00	8.38
91 I	Perylene-d12	1.000	1.000	0.0	66	0.00	13.70
99 t	7,12-Dimethylbenz(a)anthr	0.463	0.520	-12.3	64	0.00	13.21

(#) = Out of Range  
 5p58277a.D M5P2761.M

SPCC's out = 0 CCC's out = 0  
 Tue Apr 09 16:01:13 2019 RPT1

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2775-CC2761  
 Lab FileID: 5P58570.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2775\5p58570.D Vial: 2  
 Acq On : 17 Apr 2019 8:15 pm Operator: chriss2  
 Sample : cc2761-50 Inst : MS5P  
 Misc : op12947,e5p2775,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Thu Apr 18 16:00:26 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	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	-0.05	3.92
2 t	1,4-Dioxane	0.842	0.837	0.6	84	-0.09	1.36
3 t	Pyridine	1.940	2.258	-16.4	93	-0.16	1.61
4 t	N-Nitrosodimethylamine	1.131	1.242	-9.8	91	-0.14	1.59
5 S	2-Fluorophenol	1.558	1.842	-18.2	96	-0.10	2.80
6 t	Indene	2.436	2.433	0.1	87	-0.04	4.16
7 t	Cumene	3.887	4.238	-9.0	94	-0.08	3.20
8 S	Phenol-d5	1.961	2.106	-7.4	91	-0.06	3.67
9 t	Phenol	2.146	2.260	-5.3	91	-0.06	3.68
10	Aniline	2.280	2.635	-15.6	108	-0.06	3.63
11 t	bis(2-Chloroethyl)ether	1.502	1.497	0.3	90	-0.05	3.70
12 t	2-Chlorophenol	1.447	1.463	-1.1	88	-0.05	3.75
13 t	Decane	1.289	1.240	3.8	89	-0.04	3.82
14 t	1,3-Dichlorobenzene	1.596	1.528	4.3	84	-0.06	3.87
15 t	1,4-Dichlorobenzene	1.570	1.517	3.4	86	-0.05	3.94
16 t	Benzyl alcohol	0.917	0.950	-3.6	87	-0.04	4.08
17 t	1,2-Dichlorobenzene	1.569	1.526	2.7	85	-0.04	4.08
18 t	Acetophenone	2.168	2.173	-0.2	88	-0.03	4.31
19 t	2-Methylphenol	1.354	1.404	-3.7	90	-0.03	4.22
20 t	2,2'-oxybis(1-Chloropropa	1.541	1.443	6.4	85	-0.03	4.21
21 t	3&4-Methylphenol	1.453	1.505	-3.6	87	-0.03	4.37
22 t	n-Nitroso-di-n-propylamin	1.161	1.123	3.3	87	-0.03	4.33
23 t	Hexachloroethane	0.558	0.509	8.8	81	-0.04	4.38
24 I	Naphthalene-d8	1.000	1.000	0.0	88	-0.04	5.11
25 S	Nitrobenzene-d5	0.464	0.466	-0.4	87	-0.06	4.45
26 t	Nitrobenzene	0.454	0.441	2.9	86	-0.06	4.46
27 t	Quinoline	0.741	0.763	-3.0	85	-0.02	5.47
28 t	Isophorone	0.845	0.830	1.8	87	-0.05	4.70
29 t	2-Nitrophenol	0.204	0.216	-5.9	88	-0.05	4.77
30 t	2,4-Dimethylphenol	0.361	0.403	-11.6	88	-0.04	4.86
31 t	Benzoic acid	0.327	0.362	-10.7	86	0.04	5.03
32 t	bis(2-Chloroethoxy)methan	0.494	0.493	0.2	87	-0.04	4.92
33 t	2,4-Dichlorophenol	0.317	0.321	-1.3	86	-0.05	5.02
34 t	2,6-Dichlorophenol	0.304	0.303	0.3	86	-0.04	5.22
35	1,3,5-Trichlorobenzene	0.352	0.336	4.5	84	-0.05	4.78
36 t	1,2,4-Trichlorobenzene	0.338	0.323	4.4	85	-0.04	5.07
37	1,2,3-Trichlorobenzene	0.322	0.302	6.2	83	-0.04	5.28
38 t	Naphthalene	1.008	0.989	1.9	86	-0.04	5.14
39 t	4-Chloroaniline	0.426	0.435	-2.1	90	-0.04	5.22
40 t	2,3-Dichloroaniline	0.410	0.393	4.1	84	-0.02	6.08
41 t	Caprolactam	0.185	0.194	-4.9	85	0.02	5.57

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2775-CC2761  
 Lab FileID: 5P58570.D

42 t	Hexachlorobutadiene	0.196	0.178	9.2	79	-0.04	5.27
43 t	4-Chloro-3-methylphenol	0.365	0.390	-6.8	87	-0.02	5.73
44 t	2-Methylnaphthalene	0.591	0.565	4.4	84	-0.03	5.80
45 t	1-Methylnaphthalene	0.657	0.634	3.5	86	-0.02	5.89
46 t	Dimethylnaphthalene	0.632	0.586	7.3	81	-0.01	6.41
47 I	Acenaphthene-d10	1.000	1.000	0.0	88	-0.05	6.80
	----- True	Calc.	% Drift	-----			
48 t	Hexachlorocyclopentadiene	100.000	99.290	0.7	86	-0.06	5.96
	----- AvgRF	CCRF	% Dev	-----			
49 t	2,4,6-Trichlorophenol	0.390	0.385	1.3	84	-0.06	6.10
50 t	2,4,5-Trichlorophenol	0.414	0.420	-1.4	83	-0.06	6.14
51 S	2-Fluorobiphenyl	1.390	1.290	7.2	84	-0.05	6.17
52 t	2-Chloronaphthalene	1.168	1.100	5.8	86	-0.06	6.26
53 t	Biphenyl	1.497	1.402	6.3	81	-0.06	6.26
54 t	2-Nitroaniline	0.440	0.423	3.9	79	-0.05	6.39
55 t	Dimethylphthalate	1.423	1.413	0.7	84	-0.04	6.58
56 t	Acenaphthylene	1.856	1.795	3.3	86	-0.05	6.66
57 t	2,6-Dinitrotoluene	0.302	0.315	-4.3	84	-0.04	6.63
58 t	3-Nitroaniline	0.328	0.371	-13.1	90	-0.04	6.79
59 t	Acenaphthene	1.155	1.130	2.2	85	-0.05	6.82
	----- True	Calc.	% Drift	-----			
60 t	2,4-Dinitrophenol	100.000	94.585	5.4	82	-0.05	6.90
	----- AvgRF	CCRF	% Dev	-----			
61 t	4-Nitrophenol	0.180	0.194	-7.8	87	-0.05	7.03
62 t	Dibenzofuran	1.738	1.712	1.5	85	-0.04	6.99
63 t	2,4-Dinitrotoluene	0.394	0.418	-6.1	87	-0.04	7.02
64	2,3,4,6-Tetrachlorophenol	0.372	0.370	0.5	80	-0.04	7.14
65 t	Diethylphthalate	1.367	1.372	-0.4	86	-0.03	7.27
66 t	Fluorene	1.373	1.375	-0.1	86	-0.04	7.33
67 t	4-Chlorophenyl-phenylethe	0.633	0.612	3.3	87	-0.04	7.34
68 t	4-Nitroaniline	0.321	0.366	-14.0	92	-0.03	7.38
69 I	Phenanthrene-d10	1.000	1.000	0.0	85	-0.05	8.22
70 t	4,6-Dinitro-2-methylpheno	0.149	0.168	-12.8	86	-0.05	7.42
71 t	n-Nitrosodiphenylamine	0.589	0.592	-0.5	85	-0.05	7.47
72 t	1,2-Diphenylhydrazine	0.936	0.928	0.9	87	-0.05	7.50
73 S	2,4,6-Tribromophenol	0.115	0.123	-7.0	81	-0.05	7.57
74 t	4-Bromophenyl-phenylether	0.252	0.250	0.8	79	-0.04	7.81
75 t	Hexachlorobenzene	0.252	0.252	0.0	83	-0.04	7.87
76 t	Pentachlorophenol	0.160	0.176	-10.0	82	-0.04	8.07
77 t	Phenanthrene	1.081	1.075	0.6	85	-0.05	8.24
78 t	Anthracene	1.135	1.167	-2.8	88	-0.05	8.30
79 t	Carbazole	1.150	1.213	-5.5	88	-0.05	8.48
80 t	Di-n-butylphthalate	1.430	1.502	-5.0	87	-0.05	8.91
81 t	Fluoranthene	1.343	1.409	-4.9	85	-0.06	9.55
82 t	Octadecane	0.577	0.560	2.9	85	-0.04	8.20
83 I	Chrysene-d12	1.000	1.000	0.0	86	-0.08	11.46
84 t	Pyrene	1.520	1.495	1.6	85	-0.02	9.82
85 S	Terphenyl-d14	1.018	1.031	-1.3	85	-0.20	10.07
86 t	Butylbenzylphthalate	0.695	0.758	-9.1	87	-0.21	10.79
87 t	Benzo[a]anthracene	1.397	1.438	-2.9	85	-0.02	11.44
88 t	3,3'-Dichlorobenzidine	0.455	0.509	-11.9	89	-0.22	11.47
89 t	Chrysene	1.290	1.299	-0.7	86	-0.06	11.50
90 t	bis(2-Ethylhexyl)phthalat	0.921	1.013	-10.0	90	-0.21	11.67

8.7.13

8

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2775-CC2761  
Lab FileID: 5P58570.D

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91	I	Perylene-d12	1.000	1.000	0.0	86	-0.09	13.43
92	t	Di-n-octylphthalate	1.425	1.471	-3.2	84	-0.02	12.60
93	t	Benzo[b]fluoranthene	1.221	1.196	2.0	83	-0.02	12.94
94	t	Benzo[k]fluoranthene	1.118	1.071	4.2	84	-0.08	12.98
95	t	Benzo[a]pyrene	1.088	1.123	-3.2	87	0.03	13.35
96	t	Indeno[1,2,3-cd]pyrene	0.973	1.005	-3.3	83	0.03	14.71
97	t	Dibenz(a,h)acridine	0.925	0.940	-1.6	82	-0.19	14.47
98	t	Dibenz[a,h]anthracene	1.006	1.030	-2.4	86	-0.19	14.75
99	t	7,12-Dimethylbenz(a)anthr	0.463	0.538	-16.2	87	-0.17	12.95
100	t	Benzo[g,h,i]perylene	0.982	0.996	-1.4	83	-0.21	15.01

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(#) = Out of Range  
5p58277a.D M5P2761.M

SPCC's out = 0 CCC's out = 0  
Thu Apr 18 16:05:39 2019 RPT1

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2775-CC2762  
 Lab FileID: 5P58571.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2775\5p58571.D Vial: 3  
 Acq On : 17 Apr 2019 8:39 pm Operator: chriss2  
 Sample : cc2762-50 Inst : MS5P  
 Misc : op12947,e5p2775,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Thu Apr 18 16:00:26 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.
101	1,4-Dichlorobenzene-d4b	1.000	1.000	0.0	79	-0.05	3.92
102	Benzaldehyde	1.314	1.290	1.8	79	-0.06	3.53
103	Acenaphthene-d10a	1.000	1.000	0.0	80	-0.05	6.79
104	1,2,4,5-Tetrachlorobenzen	0.574	0.562	2.1	82	-0.06	5.97
105	Chrysene-d12a	1.000	1.000	0.0	77	-0.09	11.45
106 s	1-chlorooctadecane	0.417	0.416	0.2	81	-0.19	9.52
107	Phenanthrene-d10a	1.000	1.000	0.0	79	-0.06	8.22
108 s	o-terphenyl	0.612	0.620	-1.3	83	-0.20	8.65
109	Atrazine	0.111	0.123	-10.8	85	-0.18	8.01
110	Pentachloronitrobenzene	0.043	0.046	-7.0	84	-0.18	8.07
111 I	Naphthalene-d8a	1.000	1.000	0.0	81	-0.05	5.11
112	Hydroquinone	0.334	0.446	-33.5#	103	-0.02	5.61

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58277a.D M5P2761.M Thu Apr 18 16:05:41 2019 RPT1

**Continuing Calibration Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2775-CC2763  
 Lab FileID: 5P58572.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2775\5p58572.D Vial: 4  
 Acq On : 17 Apr 2019 9:04 pm Operator: chriss2  
 Sample : cc2763-50 Inst : MS5P  
 Misc : op12947,e5p2775,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Thu Apr 18 16:00:26 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.
117	Chrysene-d12c	1.000	1.000	0.0	108	-0.09	11.45
118	Benzidine	0.881	0.943	-7.0	106	-0.11	9.75

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58277a.D M5P2761.M Thu Apr 18 16:05:43 2019 RPT1

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2776-CC2761  
 Lab FileID: 5P58601.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2776\5p58601.D Vial: 2  
 Acq On : 18 Apr 2019 9:31 am Operator: christc2  
 Sample : cc2761-25 Inst : MS5P  
 Misc : op12947,e5p2776,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Wed Apr 17 11:42:18 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	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	-0.05	3.92
2 t	1,4-Dioxane	0.842	0.820	2.6	86	-0.10	1.35
3 t	Pyridine	1.940	1.937	0.2	81	-0.16	1.62
4 t	N-Nitrosodimethylamine	1.131	1.146	-1.3	84	-0.14	1.59
5 S	2-Fluorophenol	1.558	1.588	-1.9	86	-0.10	2.80
6 t	Indene	2.436	2.559	-5.0	93	-0.05	4.15
7 t	Cumene	3.887	3.853	0.9	86	-0.09	3.19
8 S	Phenol-d5	1.961	1.972	-0.6	88	-0.07	3.67
9 t	Phenol	2.146	2.201	-2.6	89	-0.07	3.68
10	Aniline	2.280	2.505	-9.9	98	-0.07	3.63
11 t	bis(2-Chloroethyl)ether	1.502	1.459	2.9	87	-0.06	3.70
12 t	2-Chlorophenol	1.447	1.501	-3.7	91	-0.06	3.74
13 t	Decane	1.289	1.274	1.2	89	-0.05	3.81
14 t	1,3-Dichlorobenzene	1.596	1.647	-3.2	90	-0.06	3.86
15 t	1,4-Dichlorobenzene	1.570	1.629	-3.8	92	-0.05	3.93
16 t	Benzyl alcohol	0.917	0.986	-7.5	93	-0.05	4.07
17 t	1,2-Dichlorobenzene	1.569	1.598	-1.8	91	-0.05	4.07
18 t	Acetophenone	2.168	2.235	-3.1	92	-0.04	4.30
19 t	2-Methylphenol	1.354	1.509	-11.4	94	-0.04	4.21
20 t	2,2'-oxybis(1-Chloropropa	1.541	1.525	1.0	89	-0.05	4.20
21 t	3&4-Methylphenol	1.453	1.528	-5.2	91	-0.04	4.36
22 t	n-Nitroso-di-n-propylamin	1.161	1.154	0.6	88	-0.04	4.32
23 t	Hexachloroethane	0.558	0.576	-3.2	90	-0.04	4.38
24 I	Naphthalene-d8	1.000	1.000	0.0	91	-0.05	5.10
25 S	Nitrobenzene-d5	0.464	0.471	-1.5	88	-0.07	4.44
26 t	Nitrobenzene	0.454	0.458	-0.9	87	-0.07	4.45
27 t	Quinoline	0.741	0.806	-8.8	93	-0.04	5.45
28 t	Isophorone	0.845	0.868	-2.7	90	-0.06	4.69
29 t	2-Nitrophenol	0.204	0.222	-8.8	91	-0.06	4.76
30 t	2,4-Dimethylphenol	0.361	0.410	-13.6	95	-0.05	4.85
31 t	Benzoic acid	0.327	0.378	-15.6	93	0.00	5.00
32 t	bis(2-Chloroethoxy)methan	0.494	0.505	-2.2	90	-0.05	4.92
33 t	2,4-Dichlorophenol	0.317	0.338	-6.6	92	-0.06	5.01
34 t	2,6-Dichlorophenol	0.304	0.328	-7.9	93	-0.05	5.21
35	1,3,5-Trichlorobenzene	0.352	0.367	-4.3	91	-0.06	4.77
36 t	1,2,4-Trichlorobenzene	0.338	0.352	-4.1	92	-0.05	5.06
37	1,2,3-Trichlorobenzene	0.322	0.334	-3.7	92	-0.05	5.27
38 t	Naphthalene	1.008	1.058	-5.0	93	-0.05	5.12
39 t	4-Chloroaniline	0.426	0.460	-8.0	94	-0.05	5.20
40 t	2,3-Dichloroaniline	0.410	0.418	-2.0	90	-0.04	6.07
41 t	Caprolactam	0.185	0.200	-8.1	92	-0.01	5.54



# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2776-CC2761  
 Lab FileID: 5P58601.D

42 t	Hexachlorobutadiene	0.196	0.197	-0.5	89	-0.05	5.26
43 t	4-Chloro-3-methylphenol	0.365	0.402	-10.1	92	-0.03	5.72
44 t	2-Methylnaphthalene	0.591	0.606	-2.5	89	-0.04	5.79
45 t	1-Methylnaphthalene	0.657	0.675	-2.7	91	-0.04	5.88
46 t	Dimethylnaphthalene	0.632	0.631	0.2	87	-0.02	6.40
47 I	Acenaphthene-d10	1.000	1.000	0.0	89	-0.06	6.79
		----- True	Calc.	% Drift	-----		
48 t	Hexachlorocyclopentadiene	50.000	53.126	-6.3	101	-0.07	5.95
		----- AvgRF	CCRF	% Dev	-----		
49 t	2,4,6-Trichlorophenol	0.390	0.416	-6.7	92	-0.07	6.09
50 t	2,4,5-Trichlorophenol	0.414	0.448	-8.2	94	-0.07	6.13
51 S	2-Fluorobiphenyl	1.390	1.415	-1.8	90	-0.07	6.16
52 t	2-Chloronaphthalene	1.168	1.195	-2.3	91	-0.07	6.25
53 t	Biphenyl	1.497	1.541	-2.9	90	-0.07	6.25
54 t	2-Nitroaniline	0.440	0.448	-1.8	85	-0.07	6.37
55 t	Dimethylphthalate	1.423	1.471	-3.4	92	-0.06	6.57
56 t	Acenaphthylene	1.856	1.956	-5.4	91	-0.07	6.64
57 t	2,6-Dinitrotoluene	0.302	0.332	-9.9	92	-0.06	6.62
58 t	3-Nitroaniline	0.328	0.376	-14.6	93	-0.06	6.78
59 t	Acenaphthene	1.155	1.202	-4.1	92	-0.06	6.81
		----- True	Calc.	% Drift	-----		
60 t	2,4-Dinitrophenol	50.000	52.618	-5.2	99	-0.06	6.89
		----- AvgRF	CCRF	% Dev	-----		
61 t	4-Nitrophenol	0.180	0.205	-13.9	92	-0.06	7.02
62 t	Dibenzofuran	1.738	1.836	-5.6	93	-0.06	6.98
63 t	2,4-Dinitrotoluene	0.394	0.450	-14.2	92	-0.05	7.01
64	2,3,4,6-Tetrachlorophenol	0.372	0.397	-6.7	90	-0.05	7.13
65 t	Diethylphthalate	1.367	1.413	-3.4	89	-0.04	7.26
66 t	Fluorene	1.373	1.466	-6.8	94	-0.05	7.31
67 t	4-Chlorophenyl-phenylethe	0.633	0.655	-3.5	92	-0.05	7.33
68 t	4-Nitroaniline	0.321	0.352	-9.7	93	-0.04	7.37
69 I	Phenanthrene-d10	1.000	1.000	0.0	87	-0.06	8.21
70 t	4,6-Dinitro-2-methylpheno	0.149	0.176	-18.1	99	-0.06	7.41
71 t	n-Nitrosodiphenylamine	0.589	0.616	-4.6	90	-0.06	7.45
72 t	1,2-Diphenylhydrazine	0.936	0.960	-2.6	87	-0.07	7.48
73 S	2,4,6-Tribromophenol	0.115	0.122	-6.1	86	-0.06	7.55
74 t	4-Bromophenyl-phenylether	0.252	0.257	-2.0	86	-0.06	7.80
75 t	Hexachlorobenzene	0.252	0.271	-7.5	93	-0.06	7.85
76 t	Pentachlorophenol	0.160	0.177	-10.6	89	-0.06	8.06
77 t	Phenanthrene	1.081	1.127	-4.3	90	-0.06	8.23
78 t	Anthracene	1.135	1.236	-8.9	94	-0.06	8.28
79 t	Carbazole	1.150	1.239	-7.7	91	-0.07	8.47
80 t	Di-n-butylphthalate	1.430	1.558	-9.0	91	-0.07	8.89
81 t	Fluoranthene	1.343	1.444	-7.5	90	-0.08	9.53
82 t	Octadecane	0.577	0.593	-2.8	88	-0.05	8.19
83 I	Chrysene-d12	1.000	1.000	0.0	86	-0.10	11.44
84 t	Pyrene	1.520	1.595	-4.9	88	-0.04	9.80
85 S	Terphenyl-d14	1.018	1.054	-3.5	89	-0.22	10.06
86 t	Butylbenzylphthalate	0.695	0.761	-9.5	90	-0.23	10.77
87 t	Benzo[a]anthracene	1.397	1.448	-3.7	88	-0.04	11.43
88 t	3,3'-Dichlorobenzidine	0.455	0.501	-10.1	87	-0.24	11.44
89 t	Chrysene	1.290	1.331	-3.2	90	-0.08	11.48
90 t	bis(2-Ethylhexyl)phthalat	0.921	1.006	-9.2	90	-0.23	11.65

8.7.16  
8

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2776-CC2761  
Lab FileID: 5P58601.D

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91	I	Perylene-d12	1.000	1.000	0.0	85	-0.11	13.41
92	t	Di-n-octylphthalate	1.425	1.556	-9.2	86	-0.04	12.58
93	t	Benzo[b]fluoranthene	1.221	1.265	-3.6	86	-0.05	12.91
94	t	Benzo[k]fluoranthene	1.118	1.184	-5.9	92	-0.10	12.95
95	t	Benzo[a]pyrene	1.088	1.168	-7.4	89	-0.03	13.33
96	t	Indeno[1,2,3-cd]pyrene	0.973	1.055	-8.4	89	-0.05	14.69
97	t	Dibenz(a,h)acridine	0.925	0.967	-4.5	84	-0.21	14.44
98	t	Dibenz[a,h]anthracene	1.006	1.074	-6.8	87	-0.21	14.72
99	t	7,12-Dimethylbenz(a)anthr	0.463	0.578	-24.8#	94	-0.20	12.92
100	t	Benzo[g,h,i]perylene	0.982	1.004	-2.2	84	-0.23	14.98

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(#) = Out of Range  
5p58278a.D M5P2761.M

SPCC's out = 0 CCC's out = 0  
Thu Apr 18 14:47:13 2019 RPT1

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2776-CC2762  
 Lab FileID: 5P58602.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2776\5p58602.D Vial: 3  
 Acq On : 18 Apr 2019 9:56 am Operator: christc2  
 Sample : cc2762-25 Inst : MS5P  
 Misc : op12947,e5p2776,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Wed Apr 17 11:42:18 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.
101	1,4-Dichlorobenzene-d4b	1.000	1.000	0.0	67	-0.05	3.92
102	Benzaldehyde	1.314	1.369	-4.2	67	-0.07	3.52
103	Acenaphthene-d10a	1.000	1.000	0.0	66	-0.06	6.78
104	1,2,4,5-Tetrachlorobenzen	0.574	0.604	-5.2	71	-0.07	5.96
105	Chrysene-d12a	1.000	1.000	0.0	66	-0.11	11.43
106 s	1-chlorooctadecane	0.417	0.430	-3.1	67	-0.20	9.50
107	Phenanthrene-d10a	1.000	1.000	0.0	67	-0.07	8.21
108 s	o-terphenyl	0.612	0.659	-7.7	71	-0.21	8.63
109	Atrazine	0.111	0.123	-10.8	71	-0.19	8.00
110	Pentachloronitrobenzene	0.043	0.047	-9.3	70	-0.19	8.06
111 I	Naphthalene-d8a	1.000	1.000	0.0	66	-0.05	5.10
112	Hydroquinone	0.334	0.461	-38.0#	93	-0.03	5.59

(#) = Out of Range  
 5p58278a.D M5P2761.M

SPCC's out = 0 CCC's out = 0  
 Thu Apr 18 14:47:15 2019 RPT1

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2777-CC2761  
 Lab FileID: 5P58633.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2777\5p58633.D Vial: 2  
 Acq On : 19 Apr 2019 12:37 am Operator: carolb  
 Sample : cc2761-50 Inst : MS5P  
 Misc : op12947,e5p2777,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Thu Apr 18 14:54:49 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	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	102	-0.05	3.92
2 t	1,4-Dioxane	0.842	0.837	0.6	96	-0.11	1.35
3 t	Pyridine	1.940	2.048	-5.6	96	-0.17	1.61
4 t	N-Nitrosodimethylamine	1.131	1.175	-3.9	98	-0.15	1.58
5 S	2-Fluorophenol	1.558	1.679	-7.8	100	-0.10	2.80
6 t	Indene	2.436	2.466	-1.2	101	-0.05	4.15
7 t	Cumene	3.887	3.921	-0.9	99	-0.09	3.19
8 S	Phenol-d5	1.961	1.963	-0.1	97	-0.07	3.67
9 t	Phenol	2.146	2.101	2.1	97	-0.06	3.68
10	Aniline	2.280	2.548	-11.8	119	-0.07	3.63
11 t	bis(2-Chloroethyl)ether	1.502	1.426	5.1	98	-0.06	3.70
12 t	2-Chlorophenol	1.447	1.455	-0.6	100	-0.06	3.74
13 t	Decane	1.289	1.189	7.8	98	-0.05	3.81
14 t	1,3-Dichlorobenzene	1.596	1.612	-1.0	101	-0.06	3.86
15 t	1,4-Dichlorobenzene	1.570	1.553	1.1	101	-0.05	3.93
16 t	Benzyl alcohol	0.917	0.932	-1.6	97	-0.05	4.08
17 t	1,2-Dichlorobenzene	1.569	1.590	-1.3	101	-0.05	4.07
18 t	Acetophenone	2.168	2.169	-0.0	100	-0.04	4.31
19 t	2-Methylphenol	1.354	1.411	-4.2	103	-0.04	4.22
20 t	2,2'-oxybis(1-Chloropropa	1.541	1.424	7.6	95	-0.05	4.20
21 t	3&4-Methylphenol	1.453	1.481	-1.9	97	-0.03	4.37
22 t	n-Nitroso-di-n-propylamin	1.161	1.071	7.8	95	-0.04	4.32
23 t	Hexachloroethane	0.558	0.539	3.4	98	-0.04	4.38
24 I	Naphthalene-d8	1.000	1.000	0.0	99	-0.05	5.10
25 S	Nitrobenzene-d5	0.464	0.466	-0.4	96	-0.06	4.44
26 t	Nitrobenzene	0.454	0.441	2.9	96	-0.06	4.46
27 t	Quinoline	0.741	0.770	-3.9	96	-0.03	5.46
28 t	Isophorone	0.845	0.824	2.5	96	-0.05	4.69
29 t	2-Nitrophenol	0.204	0.220	-7.8	100	-0.06	4.76
30 t	2,4-Dimethylphenol	0.361	0.410	-13.6	100	-0.05	4.85
31 t	Benzoic acid	0.327	0.354	-8.3	94	0.04	5.03
32 t	bis(2-Chloroethoxy)methan	0.494	0.478	3.2	93	-0.05	4.92
33 t	2,4-Dichlorophenol	0.317	0.328	-3.5	97	-0.05	5.01
34 t	2,6-Dichlorophenol	0.304	0.313	-3.0	99	-0.05	5.22
35	1,3,5-Trichlorobenzene	0.352	0.351	0.3	97	-0.06	4.77
36 t	1,2,4-Trichlorobenzene	0.338	0.333	1.5	97	-0.05	5.06
37	1,2,3-Trichlorobenzene	0.322	0.315	2.2	97	-0.05	5.27
38 t	Naphthalene	1.008	1.019	-1.1	99	-0.05	5.12
39 t	4-Chloroaniline	0.426	0.444	-4.2	102	-0.04	5.21
40 t	2,3-Dichloroaniline	0.410	0.408	0.5	97	-0.03	6.08
41 t	Caprolactam	0.185	0.183	1.1	89	0.02	5.57

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2777-CC2761  
 Lab FileID: 5P58633.D

42 t	Hexachlorobutadiene	0.196	0.190	3.1	94	-0.05	5.26
43 t	4-Chloro-3-methylphenol	0.365	0.389	-6.6	97	-0.03	5.73
44 t	2-Methylnaphthalene	0.591	0.588	0.5	97	-0.04	5.79
45 t	1-Methylnaphthalene	0.657	0.641	2.4	97	-0.03	5.88
46 t	Dimethylnaphthalene	0.632	0.599	5.2	92	-0.02	6.40
47 I	Acenaphthene-d10	1.000	1.000	0.0	95	-0.06	6.79
	----- True	Calc.	% Drift	-----			
48 t	Hexachlorocyclopentadiene	100.000	102.533	-2.5	97	-0.07	5.95
	----- AvgRF	CCRF	% Dev	-----			
49 t	2,4,6-Trichlorophenol	0.390	0.403	-3.3	95	-0.06	6.10
50 t	2,4,5-Trichlorophenol	0.414	0.441	-6.5	95	-0.06	6.14
51 S	2-Fluorobiphenyl	1.390	1.378	0.9	97	-0.07	6.16
52 t	2-Chloronaphthalene	1.168	1.146	1.9	97	-0.06	6.26
53 t	Biphenyl	1.497	1.466	2.1	93	-0.07	6.25
54 t	2-Nitroaniline	0.440	0.420	4.5	85	-0.06	6.38
55 t	Dimethylphthalate	1.423	1.410	0.9	91	-0.05	6.57
56 t	Acenaphthylene	1.856	1.878	-1.2	98	-0.06	6.65
57 t	2,6-Dinitrotoluene	0.302	0.332	-9.9	96	-0.05	6.63
58 t	3-Nitroaniline	0.328	0.356	-8.5	94	-0.05	6.78
59 t	Acenaphthene	1.155	1.148	0.6	94	-0.06	6.82
	----- True	Calc.	% Drift	-----			
60 t	2,4-Dinitrophenol	100.000	97.591	2.4	93	-0.06	6.89
	----- AvgRF	CCRF	% Dev	-----			
61 t	4-Nitrophenol	0.180	0.186	-3.3	91	-0.05	7.02
62 t	Dibenzofuran	1.738	1.768	-1.7	95	-0.05	6.99
63 t	2,4-Dinitrotoluene	0.394	0.431	-9.4	97	-0.04	7.02
64	2,3,4,6-Tetrachlorophenol	0.372	0.388	-4.3	91	-0.05	7.13
65 t	Diethylphthalate	1.367	1.371	-0.3	93	-0.03	7.26
66 t	Fluorene	1.373	1.394	-1.5	94	-0.05	7.31
67 t	4-Chlorophenyl-phenylethe	0.633	0.630	0.5	97	-0.05	7.34
68 t	4-Nitroaniline	0.321	0.352	-9.7	96	-0.04	7.37
69 I	Phenanthrene-d10	1.000	1.000	0.0	92	-0.06	8.21
70 t	4,6-Dinitro-2-methylpheno	0.149	0.171	-14.8	95	-0.05	7.42
71 t	n-Nitrosodiphenylamine	0.589	0.602	-2.2	94	-0.06	7.46
72 t	1,2-Diphenylhydrazine	0.936	0.919	1.8	94	-0.06	7.49
73 S	2,4,6-Tribromophenol	0.115	0.126	-9.6	90	-0.06	7.56
74 t	4-Bromophenyl-phenylether	0.252	0.260	-3.2	89	-0.06	7.80
75 t	Hexachlorobenzene	0.252	0.250	0.8	90	-0.05	7.85
76 t	Pentachlorophenol	0.160	0.172	-7.5	87	-0.05	8.07
77 t	Phenanthrene	1.081	1.088	-0.6	93	-0.06	8.24
78 t	Anthracene	1.135	1.164	-2.6	95	-0.06	8.29
79 t	Carbazole	1.150	1.181	-2.7	94	-0.06	8.47
80 t	Di-n-butylphthalate	1.430	1.465	-2.4	92	-0.06	8.90
81 t	Fluoranthene	1.343	1.370	-2.0	90	-0.07	9.54
82 t	Octadecane	0.577	0.555	3.8	92	-0.05	8.19
83 I	Chrysene-d12	1.000	1.000	0.0	86	-0.09	11.45
84 t	Pyrene	1.520	1.591	-4.7	90	-0.03	9.80
85 S	Terphenyl-d14	1.018	1.083	-6.4	89	-0.21	10.06
86 t	Butylbenzylphthalate	0.695	0.778	-11.9	89	-0.22	10.77
87 t	Benzo[a]anthracene	1.397	1.466	-4.9	86	-0.04	11.43
88 t	3,3'-Dichlorobenzidine	0.455	0.500	-9.9	87	-0.23	11.46
89 t	Chrysene	1.290	1.337	-3.6	88	-0.07	11.49
90 t	bis(2-Ethylhexyl)phthalat	0.921	1.028	-11.6	91	-0.22	11.65

8.7.18

8

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2777-CC2761  
Lab FileID: 5P58633.D

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91	I	Perylene-d12	1.000	1.000	0.0	86	-0.10	13.42
92	t	Di-n-octylphthalate	1.425	1.531	-7.4	87	-0.04	12.58
93	t	Benzo[b]fluoranthene	1.221	1.176	3.7	81	-0.03	12.93
94	t	Benzo[k]fluoranthene	1.118	1.067	4.6	83	-0.09	12.97
95	t	Benzo[a]pyrene	1.088	1.133	-4.1	86	0.02	13.34
96	t	Indeno[1,2,3-cd]pyrene	0.973	1.024	-5.2	84	0.02	14.70
97	t	Dibenz(a,h)acridine	0.925	0.892	3.6	77	-0.20	14.45
98	t	Dibenz[a,h]anthracene	1.006	1.010	-0.4	83	-0.20	14.74
99	t	7,12-Dimethylbenz(a)anthr	0.463	0.555	-19.9	89	-0.19	12.93
100	t	Benzo[g,h,i]perylene	0.982	0.986	-0.4	82	-0.22	14.99

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(#) = Out of Range  
5p58277a.D M5P2761.M

SPCC's out = 0 CCC's out = 0  
Fri Apr 19 08:03:15 2019 RPT1

8.7.18

8

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2777-CC2762  
 Lab FileID: 5P58634.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2777\5p58634.D Vial: 3  
 Acq On : 19 Apr 2019 1:02 am Operator: carolb  
 Sample : cc2762-50 Inst : MS5P  
 Misc : op12947,e5p2777,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Thu Apr 18 14:54:49 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.
101	1,4-Dichlorobenzene-d4b	1.000	1.000	0.0	77	-0.05	3.92
102	Benzaldehyde	1.314	1.287	2.1	77	-0.07	3.52
103	Acenaphthene-d10a	1.000	1.000	0.0	73	-0.06	6.78
104	1,2,4,5-Tetrachlorobenzen	0.574	0.598	-4.2	79	-0.07	5.96
105	Chrysene-d12a	1.000	1.000	0.0	63	-0.10	11.44
106 s	1-chlorooctadecane	0.417	0.433	-3.8	69	-0.20	9.51
107	Phenanthrene-d10a	1.000	1.000	0.0	70	-0.07	8.21
108 s	o-terphenyl	0.612	0.606	1.0	72	-0.21	8.63
109	Atrazine	0.111	0.117	-5.4	72	-0.18	8.00
110	Pentachloronitrobenzene	0.043	0.045	-4.7	73	-0.19	8.06
111 I	Naphthalene-d8a	1.000	1.000	0.0	74	-0.05	5.10
112	Hydroquinone	0.334	0.410	-22.8#	86	-0.02	5.60

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58277a.D M5P2761.M Fri Apr 19 08:01:43 2019 RPT1

**Continuing Calibration Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: E5P2777-CC2763  
 Lab FileID: 5P58635.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E5P2777\5p58635.D Vial: 4  
 Acq On : 19 Apr 2019 1:34 am Operator: carolb  
 Sample : cc2763-50 Inst : MS5P  
 Misc : op12947,e5p2777,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P2761.M (RTE Integrator)  
 Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 Last Update : Thu Apr 18 14:54:49 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.
117	Chrysene-d12c	1.000	1.000	0.0	109	-0.10	11.44
118	Benzidine	0.881	0.897	-1.8	102	-0.12	9.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 5p58277a.D M5P2761.M Fri Apr 19 08:01:45 2019 RPT1



# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICC5819  
 Lab FileID: P128678.D

## Response Factor Report MSVOAMSP

Method : C:\msdchem\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Mon Mar 25 16:40:12 2019  
 Response via : Initial Calibration

### Calibration Files

2 =p128682.D 5 =p128681.D 25 =p128679.D 80 =p128677.D  
 100 =p128676.D 50 =p128678.D 10 =p128680.D 1 =p128683.D

Compound	2	5	25	80	100	50	10	1	Avg	%RSD
-----										
1) I 1,4-Dichlorobenzene-d	-----ISTD-----									
2) 1,4-Dioxane	0.674	0.679	0.746	0.775	0.816	0.782	0.721	0.607	0.725	9.47
3) Pyridine	1.608	1.715	1.893	1.972	2.010	2.014	1.807	1.618	1.830	9.21
4) N-Nitrosodim	0.959	0.977	1.034	1.060	1.104	1.082	0.992	0.821	1.004	8.94
5) 2-Fluorophen	1.352	1.383	1.554	1.595	1.615	1.632	1.489	1.367	1.498	7.83
6) Indene	2.448	2.456	2.395	2.444	2.429	2.414	2.501	2.690	2.472	3.78
7) Cumene	4.017	4.045	4.176	4.182	4.144	4.305	4.249	4.229	4.168	2.36
8) Phenol-d5	1.964	1.980	1.996	2.043	2.038	2.062	2.072	1.913	2.008	2.72
9) Phenol	2.285	2.176	2.161	2.144	2.095	2.158	2.269	2.199	2.186	2.91
10) Aniline	2.393	2.468	2.394	2.245	2.235	2.363	2.484	2.380	2.370	3.83
11) bis(2-Chloro	1.728	1.722	1.588	1.592	1.551	1.571	1.738	1.785	1.660	5.56
12) 2-Chlorophen	1.440	1.466	1.456	1.445	1.461	1.441	1.541	1.530	1.472	2.71
13) Decane	2.026	2.055	1.686	1.263	1.153	1.496	1.947	2.141	1.721	22.14
---- Quadratic regression ---- Coefficient = 0.9996										
Response Ratio = 0.02745 + 1.79923 *A + -0.26608 *A^2										
14) 1,3-Dichloro	1.613	1.657	1.646	1.645	1.637	1.662	1.722	1.798	1.673	3.55
15) 1,4-Dichloro	1.627	1.601	1.554	1.664	1.668	1.632	1.608	1.801	1.644	4.44
16) Benzyl alcohol	0.949	1.011	0.981	0.996	0.977	1.024	1.038	0.926	0.988	3.80
17) 1,2-Dichloro	1.546	1.598	1.547	1.724	1.724	1.678	1.591	1.685	1.637	4.57
18) Acetophenone	2.400	2.420	2.303	2.315	2.261	2.305	2.403	2.487	2.362	3.25
19) 2-Methylphen	1.472	1.455	1.394	1.346	1.352	1.366	1.493	1.527	1.426	4.90
20) 2,2'-oxybis(	0.433	0.423	0.418	0.392	0.376	0.400	0.444	0.412	0.412	5.37
21) 3&4-Methylph	1.476	1.576	1.499	1.514	1.556	1.484	1.630	1.571	1.538	3.48
22) n-Nitroso-di	1.306	1.335	1.195	1.121	1.076	1.159	1.310	1.386	1.236	9.13
23) Hexachloroet	0.560	0.571	0.565	0.614	0.638	0.578	0.582	0.591	0.587	4.51
-----										
24) I Naphthalene-d8	-----ISTD-----									
25) Nitrobenzene	0.545	0.534	0.520	0.507	0.507	0.522	0.533	0.511	0.522	2.66
26) Nitrobenzene	0.581	0.568	0.532	0.491	0.495	0.523	0.555	0.645	0.549	9.24
27) Quinoline	0.806	0.772	0.791	0.779	0.780	0.800	0.790	0.781	0.787	1.47
28) Isophorone	0.978	0.947	0.928	0.913	0.922	0.941	0.943	0.973	0.943	2.45
29) 2-Nitropheno	0.206	0.205	0.208	0.242	0.243	0.232	0.209	0.206	0.219	7.71
30) 2,4-Dimethyl		0.408	0.417	0.452	0.458	0.440	0.403		0.430	5.43
31) Benzoic acid	0.313	0.349	0.365	0.340	0.351	0.326	0.371	0.319	0.342	6.14
32) bis(2-Chloro	0.524	0.517	0.484	0.478	0.485	0.489	0.512	0.534	0.503	4.26
33) 2,4-Dichloro	0.338	0.330	0.328	0.368	0.391	0.349	0.331	0.328	0.345	6.69
34) 2,6-Dichloro	0.316	0.298	0.308	0.359	0.371	0.346	0.303	0.305	0.326	8.73
35) 1,3,5-Trichl	0.369	0.360	0.369	0.431	0.428	0.413	0.366	0.359	0.387	8.10
36) 1,2,4-Trichl	0.346	0.344	0.344	0.385	0.394	0.358	0.336	0.340	0.356	6.10
37) 1,2,3-Trichl	0.326	0.319	0.325	0.370	0.384	0.348	0.334	0.341	0.343	6.77
38) Naphthalene	1.054	1.010	0.998	1.097	1.124	1.062	1.017	1.097	1.057	4.37
39) 4-Chloroanil	0.433	0.431	0.420	0.474	0.480	0.458	0.439	0.402	0.442	6.09
40) 2,3-Dichloro	0.430	0.429	0.407	0.459	0.465	0.436	0.408	0.431	0.433	4.80
41) Caprolactam	0.272	0.247	0.244	0.252	0.249	0.254	0.252	0.282	0.257	5.20
42) Hexachlorobu	0.207	0.197	0.216	0.256	0.262	0.243	0.204	0.201	0.223	11.78

8.7.21

8

# Initial Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICC5819  
Lab FileID: P128678.D

43)	4-Chloro-3-m	0.395	0.415	0.424	0.417	0.422	0.426	0.424	0.392	0.414	3.27
44)	2-Methylnaph	0.622	0.609	0.601	0.652	0.658	0.642	0.610	0.615	0.626	3.42
45)	1-Methylnaph	0.806	0.793	0.755	0.834	0.844	0.804	0.772	0.841	0.806	4.04
46)	Dimethylnaph	0.707	0.689	0.664	0.777	0.809	0.736	0.682	0.716	0.722	6.83
47)	I Acenaphthene-d10	-----ISTD-----									
48)	Hexachlorocy	0.113	0.158	0.278	0.385	0.387	0.362	0.208		0.270	41.74
		---- Quadratic regression ---- Coefficient = 0.9985									
		Response Ratio = -0.05482 + 0.34823 *A + 0.01074 *A^2									
49)	2,4,6-Trichl	0.397	0.373	0.389	0.431	0.429	0.420	0.395	0.368	0.400	6.05
50)	2,4,5-Trichl	0.390	0.413	0.443	0.493	0.467	0.518	0.409	0.376	0.439	11.51
51)	2-Fluorobiph	1.441	1.350	1.386	1.513	1.438	1.552	1.353	1.391	1.428	5.13
52)	2-Chloronaph	1.218	1.143	1.128	1.197	1.185	1.169	1.146	1.211	1.175	2.84
53)	Biphenyl	1.669	1.529	1.493	1.710	1.624	1.662	1.496	1.577	1.595	5.24
54)	2-Nitroanili	0.567	0.561	0.540	0.465	0.418	0.531	0.559	0.565	0.526	10.42
55)	Dimethylphth	1.533	1.432	1.474	1.486	1.432	1.519	1.464	1.459	1.475	2.49
56)	Acenaphthyle	2.062	1.905	1.879	1.933	1.892	1.960	1.910	2.037	1.947	3.50
57)	2,6-Dinitrot	0.326	0.303	0.321	0.308	0.296	0.326	0.316	0.313	0.314	3.40
58)	3-Nitroanili	0.345	0.338	0.350	0.347	0.340	0.359	0.347	0.316	0.343	3.64
59)	Acenaphthene	1.187	1.113	1.153	1.232	1.207	1.241	1.138	1.172	1.180	3.84
60)	2,4-Dinitrop	0.046	0.067	0.138	0.168	0.164	0.161	0.106		0.121	40.84
		---- Quadratic regression ---- Coefficient = 0.9989									
		Response Ratio = -0.02543 + 0.16983 *A + 0.00015 *A^2									
61)	4-Nitropheno	0.269	0.277	0.296	0.286	0.269	0.303	0.295	0.230	0.278	8.37
62)	Dibenzofuran	1.726	1.654	1.656	1.862	1.813	1.881	1.632	1.673	1.737	5.80
63)	2,4-Dinitrot	0.443	0.429	0.455	0.496	0.462	0.508	0.442	0.396	0.454	7.93
64)	2,3,4,6-Tetr	0.300	0.303	0.344	0.393	0.399	0.381	0.338	0.293	0.344	12.56
65)	Diethylphtha	1.585	1.537	1.580	1.574	1.506	1.642	1.579	1.548	1.569	2.55
66)	Fluorene	1.443	1.402	1.459	1.540	1.462	1.576	1.420	1.399	1.463	4.39
67)	4-Chlorophen	0.676	0.650	0.726	0.856	0.822	0.864	0.660	0.644	0.737	12.92
68)	4-Nitroanili	0.309	0.341	0.327	0.314	0.297	0.332	0.335	0.288	0.318	5.94
69)	I Phenanthrene-d10	-----ISTD-----									
70)	4,6-Dinitro-	0.098	0.130	0.139	0.139	0.138	0.117		0.127	12.94	
71)	n-Nitrosodip	0.572	0.563	0.540	0.559	0.569	0.551	0.550	0.547	0.556	2.05
72)	1,2-Diphenyl	1.165	1.100	1.039	0.925	0.978	0.998	1.104	1.160	1.059	8.29
73)	2,4,6-Tribo	0.100	0.098	0.108	0.126	0.130	0.117	0.103	0.104	0.111	10.90
74)	4-Bromopheny	0.226	0.210	0.235	0.258	0.260	0.244	0.228	0.209	0.234	8.42
75)	Hexachlorobe	0.224	0.223	0.240	0.264	0.271	0.253	0.231	0.228	0.242	7.70
76)	Pentachlorop	0.073	0.092	0.128	0.163	0.173	0.151	0.111		0.127	29.37
		---- Quadratic regression ---- Coefficient = 0.9998									
		Response Ratio = -0.00995 + 0.13006 *A + 0.00905 *A^2									
77)	Phenanthrene	1.121	1.080	1.089	1.154	1.152	1.132	1.088	1.067	1.110	3.05
78)	Anthracene	1.204	1.182	1.164	1.200	1.200	1.176	1.179	1.153	1.182	1.55
79)	Carbazole	1.148	1.124	1.078	1.090	1.065	1.090	1.110	1.059	1.096	2.77
80)	Di-n-butylph	1.634	1.626	1.641	1.639	1.578	1.645	1.642	1.559	1.621	2.03
81)	Fluoranthene	1.276	1.338	1.370	1.396	1.357	1.387	1.348	1.251	1.340	3.85
82)	Octadecane	0.707	0.683	0.624	0.529	0.502	0.584	0.676	0.738	0.631	13.58
83)	I Chrysene-d12	-----ISTD-----									
84)	Pyrene	1.510	1.454	1.500	1.500	1.520	1.542	1.440	1.496	1.495	2.24
85)	Terphenyl-d1	0.939	0.953	0.984	1.050	1.057	1.041	0.942	0.939	0.988	5.35
86)	Butylbenzylp	0.815	0.789	0.829	0.792	0.763	0.820	0.808	0.821	0.805	2.73
87)	Benzo[a]anth	1.409	1.329	1.371	1.380	1.353	1.405	1.319	1.446	1.377	3.10
88)	3,3'-Dichlor	0.387	0.392	0.443	0.506	0.502	0.480	0.415	0.349	0.434	13.35
89)	Chrysene	1.218	1.218	1.195	1.263	1.230	1.230	1.188	1.218	1.220	1.89
90)	bis(2-Ethylh	1.118	1.117	1.119	1.094	1.058	1.124	1.122	1.115	1.108	2.02

8.7.21

8

# Initial Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICC5819  
Lab FileID: P128678.D

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	-----ISTD-----									
91) I Perylene-d12										
92) Di-n-octylph	1.857	1.908	1.960	1.960	1.830	1.953	1.963	1.797	1.904	3.51
93) Benzo[b]fluo	1.245	1.253	1.325	1.483	1.442	1.357	1.283	1.239	1.328	6.99
94) Benzo[k]fluo	1.182	1.182	1.116	1.048	1.051	1.112	1.166	1.166	1.128	4.92
95) Benzo[a]pyre	1.096	1.096	1.112	1.135	1.125	1.129	1.132	1.122	1.118	1.39
96) Indeno[1,2,3	0.940	0.966	0.997	1.068	1.096	1.056	1.004	0.979	1.013	5.39
97) Dibenz(a,h)a	0.889	0.913	0.962	1.012	1.025	0.978	0.955	0.873	0.951	5.84
98) Dibenz[a,h)a	1.003	1.003	1.023	1.089	1.138	1.057	1.002	0.960	1.034	5.53
99) 7,12-Dimethy	0.498	0.493	0.558	0.630	0.613	0.603	0.512	0.461	0.546	11.67
100) Benzo[g,h,i]	0.956	0.944	0.972	1.016	1.049	1.005	0.979	0.943	0.983	3.83

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(#) = Out of Range ### Number of calibration levels exceeded format ###

MP5819.M

Mon Mar 25 17:10:39 2019

ACLIMS

8.7.21

8

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICV5819  
 Lab FileID: P128684.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5819\p128684.D Vial: 10  
 Acq On : 25 Mar 2019 1:54 pm Operator: christc2  
 Sample : icv5819-50 Inst : MSVOAMSP  
 Misc : op13894,ep5819,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Mon Mar 25 14:35:38 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	93	0.00	4.39
4 t	N-Nitrosodimethylamine	1.004	1.042	-3.8	90	0.00	2.18
11 t	bis(2-Chloroethyl)ether	1.660	1.606	3.3	96	0.00	4.19
	----- AvgRF	CCRF	% Dev	-----			
14 t	1,3-Dichlorobenzene	1.673	1.605	4.1	90	0.00	4.34
15 t	1,4-Dichlorobenzene	1.644	1.550	5.7	89	0.00	4.40
17 t	1,2-Dichlorobenzene	1.637	1.462	10.7	81	0.00	4.51
20 t	2,2'-oxybis(1-Chloropropa	0.412	0.446	-8.3	104	0.00	4.59
22	n-Nitroso-di-n-propylamin	1.236	1.214	1.8	98	0.00	4.69
23 t	Hexachloroethane	0.587	0.559	4.8	90	0.00	4.76
24 I	Naphthalene-d8	1.000	1.000	0.0	87	0.00	5.33
26 t	Nitrobenzene	0.549	0.535	2.6	89	0.00	4.82
28 t	Isophorone	0.943	0.886	6.0	82	0.00	4.99
32 t	bis(2-Chloroethoxy)methan	0.503	0.503	0.0	89	0.00	5.15
36 t	1,2,4-Trichlorobenzene	0.356	0.351	1.4	85	0.00	5.28
38 t	Naphthalene	1.057	1.023	3.2	84	0.00	5.34
42 t	Hexachlorobutadiene	0.223	0.229	-2.7	82	0.00	5.43
47 I	Acenaphthene-d10	1.000	1.000	0.0	81	0.00	6.68
	----- True	Calc.	% Drift	-----			
48 t	Hexachlorocyclopentadiene	50.000	45.189	9.6	71	0.00	5.96
52 t	2-Chloronaphthalene	1.175	1.180	-0.4	82	0.00	6.20
55 t	Dimethylphthalate	1.475	1.299	11.9	69	0.01	6.44

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICV5819  
 Lab FileID: P128684.D

56 t	Acenaphthylene	1.947	1.764	9.4	73	0.00	6.55
57 t	2,6-Dinitrotoluene	0.314	0.271	13.7	67	0.00	6.50
59 t	Acenaphthene	1.180	1.062	10.0	69	0.00	6.71
63 t	2,4-Dinitrotoluene	0.454	0.368	18.9	59	0.00	6.87
65 t	Diethylphthalate	1.569	1.379	12.1	68	0.01	7.11
66 t	Fluorene	1.463	1.369	6.4	70	0.00	7.23
67 t	4-Chlorophenyl-phenylethe	0.737	0.691	6.2	65	0.00	7.23
69 I	Phenanthrene-d10	1.000	1.000	0.0	76	0.00	8.43
71 t	n-Nitrosodiphenylamine	0.556	0.491	11.7	67	0.00	7.37
72 t	1,2-Diphenylhydrazine	1.059	1.014	4.2	77	0.01	7.41
74 t	4-Bromophenyl-phenylether	0.234	0.214	8.5	66	0.00	7.82
75 t	Hexachlorobenzene	0.242	0.211	12.8	63	0.00	7.91
	----- AvgRF		CCRF	% Dev	-----		
77 t	Phenanthrene	1.110	1.024	7.7	68	0.00	8.47
78 t	Anthracene	1.182	1.046	11.5	67	0.01	8.55
80 t	Di-n-butylphthalate	1.621	1.357	16.3	62	0.00	9.49
81 t	Fluoranthene	1.340	1.156	13.7	63	0.01	10.53
83 I	Chrysene-d12	1.000	1.000	0.0	66	0.00	13.58
84 t	Pyrene	1.495	1.431	4.3	61	0.02	10.97
86 t	Butylbenzylphthalate	0.805	0.744	7.6	60	0.02	12.55
87 t	Benzo[a]anthracene	1.377	1.268	7.9	59	0.01	13.56
89 t	Chrysene	1.220	1.144	6.2	61	0.02	13.64
90 t	bis(2-Ethylhexyl)phthalat	1.108	0.979	11.6	57	0.01	13.95
91 I	Perylene-d12	1.000	1.000	0.0	69	0.00	16.61
92 t	Di-n-octylphthalate	1.904	1.605	15.7	56	0.01	15.38
93 t	Benzo[b]fluoranthene	1.328	1.079	18.8	55	0.02	15.87
94 t	Benzo[k]fluoranthene	1.128	1.058	6.2	65	0.00	15.92
95 t	Benzo[a]pyrene	1.118	1.028	8.1	63	0.02	16.50
96 t	Indeno[1,2,3-cd]pyrene	1.013	1.032	-1.9	67	0.02	18.56
98 t	Dibenz[a,h]anthracene	1.034	1.015	1.8	66	0.03	18.62
100 t	Benzo[g,h,i]perylene	0.983	1.045	-6.3	71	0.03	18.99

(#) = Out of Range  
 p128678.D MP5819.M

SPCC's out = 0 CCC's out = 0  
 Mon Mar 25 14:40:39 2019 ACLIMS

8.7.22

8

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICV5819  
 Lab FileID: P128685.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5819\p128685.D Vial: 11  
 Acq On : 25 Mar 2019 2:21 pm Operator: chricstc2  
 Sample : icv5819-50 Inst : MSVOAMSP  
 Misc : op13894,ep5819,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Thu Mar 28 14:47:31 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	121	0.00	4.38
2 t	1,4-Dioxane	0.725	0.576	20.6	90	0.03	1.87
6 t	Indene	2.472	2.583	-4.5	130	0.00	4.58
7 t	Cumene	4.168	3.869	7.2	109	0.01	3.78
		----- True	Calc.	% Drift	-----		
13 t	Decane	50.000	44.259	11.5	110	0.00	4.27
69 I	Phenanthrene-d10	1.000	1.000	0.0	95	0.00	8.43-
82 t	Octadecane	0.631	0.578	8.4	94	0.00	8.34

(#) = Out of Range  
 p128716b.D MP5819.M

SPCC's out = 0 CCC's out = 0  
 Thu Mar 28 18:12:50 2019 ACLIMS

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICV5819  
 Lab FileID: P128686.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5819\p128686.D Vial: 12  
 Acq On : 25 Mar 2019 2:48 pm Operator: christc2  
 Sample : icv5819-50 Inst : MSVOAMSP  
 Misc : op13894,ep5819,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Mon Mar 25 16:40:12 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	91	0.00	4.38
3 t	Pyridine	1.830	1.867	-2.0	85	0.18	2.38
10 t	Aniline	2.370	2.704	-14.1	104	0.00	4.16
16 t	Benzyl alcohol	0.988	1.074	-8.7	96	0.00	4.52
24 I	Naphthalene-d8	1.000	1.000	0.0	99	0.00	5.32
39 t	4-Chloroaniline	0.442	0.388	12.2	84	0.00	5.39
44 t	2-Methylnaphthalene	0.626	0.575	8.1	89	0.00	5.84
47 I	Acenaphthene-d10	1.000	1.000	0.0	80	0.00	6.68
54 t	2-Nitroaniline	0.526	0.533	-1.3	80	0.00	6.30
58 t	3-Nitroaniline	0.343	0.332	3.2	74	0.01	6.66
62 t	Dibenzofuran	1.737	1.715	1.3	73	0.00	6.87
68 t	4-Nitroaniline	0.318	0.339	-6.6	81	0.00	7.28
69 I	Phenanthrene-d10	1.000	1.000	0.0	84	0.00	8.43
79 t	Carbazole	1.096	1.040	5.1	80	0.01	8.84

(#) = Out of Range  
 p128678.D MP5819.M

SPCC's out = 0 CCC's out = 0  
 Mon Mar 25 17:10:11 2019 ACLIMS

8.7.24

8

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICV5819  
 Lab FileID: P128687.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5819\p128687.D Vial: 13  
 Acq On : 25 Mar 2019 3:15 pm Operator: christc2  
 Sample : icv5819-50 Inst : MSVOAMSP  
 Misc : op13894,ep5819,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Mon Mar 25 16:40:12 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	125	0.00	4.38
5 S	2-Fluorophenol	1.498	1.405	6.2	108	0.00	3.44
8 S	Phenol-d5	2.008	1.853	7.7	112	0.00	4.19
24 I	Naphthalene-d8	1.000	1.000	0.0	127	0.00	5.33
25 S	Nitrobenzene-d5	0.522	0.521	0.2	127	0.00	4.80
47 I	Acenaphthene-d10	1.000	1.000	0.0	110	0.00	6.68
51 S	2-Fluorobiphenyl	1.428	1.473	-3.2	104	0.00	6.11
69 I	Phenanthrene-d10	1.000	1.000	0.0	99	0.00	8.43
73 S	2,4,6-Tribromophenol	0.111	0.103	7.2	87	0.00	7.52
83 I	Chrysene-d12	1.000	1.000	0.0	94	0.00	13.57
85 S	Terphenyl-d14	0.988	0.952	3.6	86	0.02	11.39
91 I	Perylene-d12	1.000	1.000	0.0	89	0.00	16.61

(#) = Out of Range  
 p128678.D MP5819.M

SPCC's out = 0 CCC's out = 0  
 Mon Mar 25 17:10:13 2019 ACLIMS

8.7.25

8



## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICV5819  
 Lab FileID: P128688.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5819\p128688.D Vial: 14  
 Acq On : 25 Mar 2019 3:42 pm Operator: christc2  
 Sample : icv5819-50 Inst : MSVOAMSP  
 Misc : opl3894,ep5819,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Thu Mar 28 14:47:31 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	83	0.00	4.38
9 t	Phenol	2.186	2.199	-0.6	85	0.00	4.19
12 t	2-Chlorophenol	1.472	1.467	0.3	85	0.00	4.25
19 t	2-Methylphenol	1.426	1.504	-5.5	92	0.00	4.62
21 t	3&4-Methylphenol	1.538	1.547	-0.6	87	0.00	4.74
24 I	Naphthalene-d8	1.000	1.000	0.0	76	0.00	5.32
29 t	2-Nitrophenol	0.219	0.217	0.9	71	0.00	5.05
30 t	2,4-Dimethylphenol	0.430	0.510	-18.6	88	0.00	5.11
31 t	Benzoic acid	0.342	0.319	6.7	75	0.05	5.25
33 t	2,4-Dichlorophenol	0.345	0.327	5.2	71	0.00	5.24
34	2,6-Dichlorophenol	0.326	0.330	-1.2	73	0.00	5.39
43 t	4-Chloro-3-methylphenol	0.414	0.417	-0.7	75	0.00	5.76
47 I	Acenaphthene-d10	1.000	1.000	0.0	75	0.00	6.68
49 t	2,4,6-Trichlorophenol	0.400	0.425	-6.2	75	0.00	6.06
50 t	2,4,5-Trichlorophenol	0.439	0.421	4.1	61	0.00	6.10
	----- True Calc. % Drift -----						
60 t	2,4-Dinitrophenol	50.000	40.745	18.5	56	-0.01	6.75
	----- AvgRF CCRF % Dev -----						
61 t	4-Nitrophenol	0.278	0.266	4.3	65	-0.02	6.87
64	2,3,4,6-Tetrachlorophenol	0.344	0.307	10.8	60	0.00	7.01
69 I	Phenanthrene-d10	1.000	1.000	0.0	67	0.00	8.43
70 t	4,6-Dinitro-2-methylpheno	0.127	0.127	0.0	62	0.00	7.31
	----- True Calc. % Drift -----						
76 t	Pentachlorophenol	50.000	48.669	2.7	60	0.00	8.19

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 p128716b.D MP5819.M Thu Mar 28 18:05:31 2019 ACLIMS

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5819-ICV5819  
 Lab FileID: P128689.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5819\p128689.D Vial: 15  
 Acq On : 25 Mar 2019 4:09 pm Operator: christc2  
 Sample : icv5819-50 Inst : MSVOAMSP  
 Misc : op13894,ep5819,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Mon Mar 25 16:40:12 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	163	0.00	13.58
88 t 3,3'-Dichlorobenzidine	0.434	0.418	3.7	142	0.03	13.63

(#) = Out of Range SPCC's out = 0 CCC's out = 0  
 p128678.D MP5819.M Mon Mar 25 17:10:17 2019 ACLIMS

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5821-ICC5821  
 Lab FileID: P128705B.D

Response Factor Report MSVOAMSP

Method : C:\MSDCHEM\1\METHODS\MP5821.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Wed Mar 27 09:13:41 2019  
 Response via : Initial Calibration

Calibration Files

2 =p128709.D 5 =p128708.D 25 =p128706.D 80 =p128704b.D  
 100 =p128703b.D 50 =p128705b.D 10 =p128707.D 1 =p128710.D

Compound	2	5	25	80	100	50	10	1	Avg %RSD
----------	---	---	----	----	-----	----	----	---	----------

157) I	1,4-Dichlorobenzene-d	-----ISTD-----									
158)	Benzaldehyde	1.287	1.333	1.248	1.225	1.264	1.267	1.368	1.269	1.283	3.64
159) I	Phenanthrene-d10b	-----ISTD-----									
160)	Atrazine	0.200	0.233	0.242	0.246	0.240	0.245	0.239	0.193	0.230	9.15
163) I	Naphthalene-d8b	-----ISTD-----									
164)	Hydroquinone	0.206	0.330	0.359	0.343	0.350	0.277		0.311		18.93
165) I	Acenaphthene-d10b	-----ISTD-----									
166)	1,2,4,5-Tetr	0.532	0.532	0.521	0.609	0.643	0.591	0.566	0.525	0.565	8.06

(#) = Out of Range ### Number of calibration levels exceeded format ###

MP5819.M Wed Mar 27 09:15:26 2019 ACLIMS

8.7.28

8

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5821-ICV5821  
 Lab FileID: P128711.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5821\p128711.D Vial: 10  
 Acq On : 26 Mar 2019 8:50 pm Operator: christc2  
 Sample : icv5821-50 Inst : MSVOAMSP  
 Misc : op13894,ep5821,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Sun Apr 07 07:31:56 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	164	0.00	4.38
102 Benzaldehyde	1.283	1.202	6.3	155	0.00	4.06
103 I Phenanthrene-d10b	1.000	1.000	0.0	164	0.02	8.44
104 Atrazine	0.230	0.232	-0.9	155	0.04	8.09
1						
109 I Acenaphthene-d10b	1.000	1.000	0.0	154	0.00	6.67
110 1,2,4,5-Tetrachlorobenzen	0.565	0.649	-14.9	169	0.00	5.96

(#) = Out of Range  
 p128716b.D MP5819.M

SPCC's out = 0 CCC's out = 0  
 Mon Apr 08 10:08:44 2019 ACLIMS

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5821-ICV5821  
 Lab FileID: P128712.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5821\p128712.D Vial: 11  
 Acq On : 26 Mar 2019 9:17 pm Operator: christc2  
 Sample : icv5821-50 Inst : MSVOAMSP  
 Misc : op13894,ep5821,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Sun Apr 07 07:31:56 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.
107 I Naphthalene-d8b	1.000	1.000	0.0	75	0.00	5.31
108 Hydroquinone	0.311	0.339	-9.0	72	-0.04	5.67

(#) = Out of Range  
 p128716b.D MP5819.M

SPCC's out = 0 CCC's out = 0  
 Mon Apr 08 10:08:46 2019 ACLIMS

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5823-ICV5819  
 Lab FileID: P128724.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5823\p128724.D Vial: 2  
 Acq On : 27 Mar 2019 3:31 pm Operator: christc2  
 Sample : icv5819-50 Inst : MSVOAMSP  
 Misc : op13894,ep5823,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Wed Mar 27 10:04:47 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	67	-0.02	4.36
18 t	Acetophenone	2.362	2.743	-16.1	79	-0.02	4.66
24 I	Naphthalene-d8	1.000	1.000	0.0	69	-0.02	5.30
27 t	Quinoline	0.787	0.891	-13.2	76	-0.02	5.56
40 t	2,3-Dichloroaniline	0.433	0.406	6.2	64	-0.02	6.03
41 t	Caprolactam	0.257	0.285	-10.9	77	0.00	5.62
45 t	1-Methylnaphthalene	0.806	0.826	-2.5	70	-0.02	5.89
46 t	Dimethylnaphthalene	0.722	0.757	-4.8	71	-0.01	6.29
47 I	Acenaphthene-d10	1.000	1.000	0.0	63	-0.02	6.65
53 t	Biphenyl	1.595	1.814	-13.7	69	-0.02	6.17
91 I	Perylene-d12	1.000	1.000	0.0	65	-0.07	16.55
99 t	7,12-Dimethylbenz(a)anthr	0.546	0.669	-22.5	72	-0.03	15.82

(#) = Out of Range  
 p128716b.D MP5819.M

SPCC's out = 0 CCC's out = 0  
 Wed Mar 27 19:15:58 2019 ACLIMS

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5843-CC5819  
 Lab FileID: P129124.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5843\p129124.D Vial: 2  
 Acq On : 17 Apr 2019 9:06 pm Operator: carolb  
 Sample : cc5819-50 Inst : MSVOAMSP  
 Misc : op13894,ep5843,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Thu Apr 18 11:16:02 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	72	0.00	4.19
2 t	1,4-Dioxane	0.725	0.767	-5.8	71	-0.16	1.60
3 t	Pyridine			-----NA-----			
4 t	N-Nitrosodimethylamine	1.004	1.153	-14.8	77	-0.20	1.89
5 S	2-Fluorophenol	1.498	1.490	0.5	66	-0.05	3.24
6 t	Indene	2.472	2.419	2.1	72	0.00	4.39
7 t	Cumene	4.168	4.376	-5.0	73	-0.03	3.57
8 S	Phenol-d5	2.008	1.965	2.1	69	0.00	4.01
9 t	Phenol	2.186	2.128	2.7	71	0.00	4.02
10 t	Aniline			-----NA-----			
11 t	bis(2-Chloroethyl)ether	1.660	1.667	-0.4	76	0.00	4.01
12 t	2-Chlorophenol	1.472	1.428	3.0	71	0.00	4.07
	----- True	Calc.	% Drift	-----			
13 t	Decane	50.000	58.902	-17.8	81	0.00	4.09
	----- AvgRF	CCRF	% Dev	-----			
14 t	1,3-Dichlorobenzene	1.673	1.647	1.6	71	0.00	4.15
15 t	1,4-Dichlorobenzene	1.644	1.628	1.0	72	0.00	4.20
16 t	Benzyl alcohol	0.988	0.232	76.5#	16#	0.02	4.34
17 t	1,2-Dichlorobenzene	1.637	1.603	2.1	69	0.00	4.32
18 t	Acetophenone	2.362	2.304	2.5	72	0.02	4.50
19 t	2-Methylphenol	1.426	1.413	0.9	75	0.02	4.44
20 t	2,2'-oxybis(1-Chloropropa	0.412	0.408	1.0	73	0.01	4.41
21 t	3&4-Methylphenol	1.538	1.387	9.8	67	0.03	4.56
22	n-Nitroso-di-n-propylamin	1.236	1.251	-1.2	78	0.03	4.52
23 t	Hexachloroethane	0.587	0.611	-4.1	76	0.02	4.57
24 I	Naphthalene-d8	1.000	1.000	0.0	69	0.00	5.13
25 S	Nitrobenzene-d5	0.522	0.564	-8.0	75	-0.01	4.62
26 t	Nitrobenzene	0.549	0.572	-4.2	76	0.00	4.63
27 t	Quinoline	0.787	0.807	-2.5	70	0.14	5.52
28 t	Isophorone	0.943	0.983	-4.2	73	0.00	4.81
29 t	2-Nitrophenol	0.219	0.219	0.0	66	0.00	4.87
30 t	2,4-Dimethylphenol	0.430	0.463	-7.7	73	0.00	4.93
31 t	Benzoic acid	0.342	0.266	22.2#	57	0.07	5.08
32 t	bis(2-Chloroethoxy)methan	0.503	0.505	-0.4	72	0.00	4.97
33 t	2,4-Dichlorophenol	0.345	0.335	2.9	67	0.00	5.06
34	2,6-Dichlorophenol	0.326	0.332	-1.8	67	0.00	5.21
35	1,3,5-Trichlorobenzene	0.387	0.407	-5.2	68	0.00	4.87
36 t	1,2,4-Trichlorobenzene	0.356	0.360	-1.1	70	0.00	5.10
37	1,2,3-Trichlorobenzene	0.343	0.345	-0.6	69	0.00	5.26

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5843-CC5819  
 Lab FileID: P129124.D

38 t	Naphthalene	1.057	1.070	-1.2	70	0.00	5.15
39 t	4-Chloroaniline			-----NA-----			
40 t	2,3-Dichloroaniline	0.433	0.397	8.3	63	0.03	5.86
41 t	Caprolactam	0.257	0.229	10.9	62	0.09	5.51
42 t	Hexachlorobutadiene	0.223	0.246	-10.3	70	0.01	5.25
43 t	4-Chloro-3-methylphenol	0.414	0.382	7.7	62	0.05	5.61
44 t	2-Methylnaphthalene	0.626	0.612	2.2	66	0.02	5.65
45 t	1-Methylnaphthalene	0.806	0.774	4.0	67	0.02	5.72
46 t	Dimethylnaphthalene	0.722	0.684	5.3	65	0.02	6.11
47 I	Acenaphthene-d10	1.000	1.000	0.0	72	0.00	6.44
		----- True	Calc.	% Drift	-----		
48 t	Hexachlorocyclopentadiene	100.000	103.348	-3.3	73	0.02	5.76
		----- AvgRF	CCRF	% Dev	-----		
49 t	2,4,6-Trichlorophenol	0.400	0.385	3.8	66	0.02	5.87
50 t	2,4,5-Trichlorophenol	0.439	0.354	19.4	49#	0.00	5.93
51 S	2-Fluorobiphenyl	1.428	1.359	4.8	63	0.00	5.91
52 t	2-Chloronaphthalene	1.175	1.101	6.3	68	0.02	6.00
53 t	Biphenyl	1.595	1.505	5.6	65	0.02	5.99
54 t	2-Nitroaniline	0.526	0.510	3.0	69	0.02	6.10
55 t	Dimethylphthalate	1.475	1.408	4.5	67	0.02	6.23
56 t	Acenaphthylene	1.947	1.846	5.2	68	0.00	6.32
57 t	2,6-Dinitrotoluene	0.314	0.296	5.7	65	0.02	6.28
58 t	3-Nitroaniline	0.343	0.190	44.6#	38#	0.03	6.44
59 t	Acenaphthene	1.180	1.167	1.1	68	0.00	6.47
		----- True	Calc.	% Drift	-----		
60 t	2,4-Dinitrophenol	100.000	110.006	-10.0	79	0.00	6.52
		----- AvgRF	CCRF	% Dev	-----		
61 t	4-Nitrophenol	0.278	0.286	-2.9	68	0.00	6.65
62 t	Dibenzofuran	1.737	1.677	3.5	64	0.00	6.63
63 t	2,4-Dinitrotoluene	0.454	0.431	5.1	61	0.00	6.63
64	2,3,4,6-Tetrachlorophenol	0.344	0.336	2.3	64	0.00	6.76
65 t	Diethylphthalate	1.569	1.526	2.7	67	0.00	6.86
66 t	Fluorene	1.463	1.468	-0.3	67	-0.01	6.96
67 t	4-Chlorophenyl-phenylethe	0.737	0.732	0.7	61	0.00	6.97
68 t	4-Nitroaniline	0.318	0.235	26.1#	51	0.00	7.02
69 I	Phenanthrene-d10	1.000	1.000	0.0	65	0.00	8.10
70 t	4,6-Dinitro-2-methylpheno	0.127	0.152	-19.7	72	0.03	7.05
71 t	n-Nitrosodiphenylamine	0.556	0.553	0.5	65	0.03	7.10
72 t	1,2-Diphenylhydrazine	1.059	1.146	-8.2	75	0.14	7.14
73 S	2,4,6-Tribromophenol	0.111	0.113	-1.8	63	0.02	7.23
74 t	4-Bromophenyl-phenylether	0.234	0.239	-2.1	64	0.02	7.52
75 t	Hexachlorobenzene	0.242	0.249	-2.9	64	0.02	7.60
		----- True	Calc.	% Drift	-----		
76 t	Pentachlorophenol	100.000	101.710	-1.7	65	0.01	7.88
		----- AvgRF	CCRF	% Dev	-----		
77 t	Phenanthrene	1.110	1.164	-4.9	67	0.00	8.13
78 t	Anthracene	1.182	1.232	-4.2	68	0.00	8.21
79 t	Carbazole	1.096	1.178	-7.5	70	0.01	8.48
80 t	Di-n-butylphthalate	1.621	1.707	-5.3	68	0.03	9.12
81 t	Fluoranthene	1.340	1.417	-5.7	66	0.02	10.12
82 t	Octadecane	0.631	0.665	-5.4	74	0.03	8.03

8.7.32

8



# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5843-CC5819  
Lab FileID: P129124.D

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83	I	Chrysene-d12	1.000	1.000	0.0	70	0.00	13.11
84	t	Pyrene	1.495	1.513	-1.2	69	-0.04	10.53
85	S	Terphenyl-d14	0.988	0.958	3.0	64	-0.02	10.96
86	t	Butylbenzylphthalate	0.805	0.822	-2.1	70	0.01	12.12
87	t	Benzo[a]anthracene	1.377	1.397	-1.5	70	0.00	13.09
88	t	3,3'-Dichlorobenzidine	0.434	0.352	18.9	51	0.02	13.16
89	t	Chrysene	1.220	1.273	-4.3	73	0.02	13.17
90	t	bis(2-Ethylhexyl)phthalat	1.108	1.133	-2.3	71	0.00	13.52
<hr/>								
91	I	Perylene-d12	1.000	1.000	0.0	76	0.00	16.12
92	t	Di-n-octylphthalate	1.904	1.800	5.5	70	0.00	14.95
93	t	Benzo[b]fluoranthene	1.328	1.312	1.2	74	0.02	15.40
94	t	Benzo[k]fluoranthene	1.128	1.111	1.5	76	0.02	15.45
95	t	Benzo[a]pyrene	1.118	1.168	-4.5	79	0.00	16.01
96	t	Indeno[1,2,3-cd]pyrene	1.013	1.142	-12.7	82	0.04	18.07
97	t	Dibenz(a,h)acridine	0.951	1.059	-11.4	83	0.03	17.71
98	t	Dibenz[a,h]anthracene	1.034	1.159	-12.1	84	-0.09	18.13
99	t	7,12-Dimethylbenz(a)anthr	0.546	0.584	-7.0	74	0.09	15.40
100	t	Benzo[g,h,i]perylene	0.983	1.142	-16.2	87	0.00	18.49

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(#) = Out of Range  
p128716b.D MP5819.M

SPCC's out = 0 CCC's out = 0  
Fri Apr 19 13:23:17 2019 ACLIMS

8.7.32  
8

**Continuing Calibration Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: EP5843-CC5821  
 Lab FileID: P129125.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EP5843\p129125.D Vial: 3  
 Acq On : 17 Apr 2019 9:33 pm Operator: carolb  
 Sample : cc5821-50 Inst : MSVOAMSP  
 Misc : op13894,ep5843,1000,,,1,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP5819.M (RTE Integrator)  
 Title : Semi Volatile Extractables by GC/MS  
 Last Update : Thu Apr 18 10:57:31 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	118	0.00	4.19
102 Benzaldehyde	1.283	1.114	13.2	104	0.00	3.86
103 I Phenanthrene-d10b	1.000	1.000	0.0	123	0.00	8.10
104 Atrazine	0.230	0.222	3.5	111	0.02	7.79
107 I Naphthalene-d8b	1.000	1.000	0.0	118	0.00	5.13
108 Hydroquinone	0.311	0.228	26.7#	76	0.03	5.51
109 I Acenaphthene-d10b	1.000	1.000	0.0	123	0.00	6.44
110 1,2,4,5-Tetrachlorobenzen	0.565	0.585	-3.5	122	0.02	5.77

(#) = Out of Range  
 p128716b.D MP5819.M

SPCC's out = 0 CCC's out = 0  
 Thu Apr 18 10:58:33 2019 ACLIMS

**MS Semi-volatiles**

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**Raw Data**

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## Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58616.D  
 Acq On : 18 Apr 2019 4:08 pm  
 Operator : christc2  
 Sample : jc86337-1  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 19 12:44:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) 1,4-Dichlorobenzene-d4	3.917	152	188734	40.00	ppm	-0.05	
24) Naphthalene-d8	5.103	136	614376	40.00	ppm	-0.05	
47) Acenaphthene-d10	6.781	164	311926	40.00	ppm	-0.06	
69) Phenanthrene-d10	8.212	188	541159	40.00	ppm	-0.06	
83) Chrysene-d12	11.471	240	489161	40.00	ppm	-0.07	
91) Perylene-d12	13.437	264	572965	40.00	ppm	-0.08	
101) 1,4-Dichlorobenzene-d4b	3.917	152	188734	40.00	ppm	-0.05	
103) Acenaphthene-d10a	6.781	164	311926	40.00	ppm	-0.06	
105) Chrysene-d12a	11.471	240	489161	40.00	ppm	-0.07	
107) Phenanthrene-d10a	8.212	188	541159	40.00	ppm	-0.06	
111) Naphthalene-d8a	5.103	136	614376	40.00	ppm	-0.05	
113) Chrysene-d12b	11.471	240	489161	40.00	ppm	-0.07	
115) 1,4-Dichlorobenzene-d4c	3.917	152	188734	40.00	ppm	-0.05	
117) Chrysene-d12c	11.471	240	489161	40.00	ppm	-0.07	
119) Chrysene-d12d	11.471	240	489161	40.00	ppm	-0.07	
System Monitoring Compounds							
5) 2-Fluorophenol	2.801	112	161825	22.02	ppm	-0.10	
Spiked Amount	50.000		Recovery	=	44.04%		
8) Phenol-d5	3.666	99	224814	24.30	ppm	-0.07	
Spiked Amount	50.000		Recovery	=	48.60%		
25) Nitrobenzene-d5	4.435	82	190457	26.74	ppm	-0.07	
Spiked Amount	50.000		Recovery	=	53.48%		
51) 2-Fluorobiphenyl	6.156	172	332380	30.66	ppm	-0.07	
Spiked Amount	50.000		Recovery	=	61.32%		
73) 2,4,6-Tribromophenol	7.550	330	43165	27.67	ppm	-0.06	
Spiked Amount	50.000		Recovery	=	55.34%		
85) Terphenyl-d14	10.061	244	377656	30.34	ppm	-0.21	
Spiked Amount	50.000		Recovery	=	60.68%		
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm		
Spiked Amount	50.000		Recovery	=	0.00%		
108) o-terphenyl	0.000	230	0	0.00	ppm		
Spiked Amount	50.000		Recovery	=	0.00%		
Target Compounds							
38) Naphthalene	5.119	128	250717	16.19	ppm		Qvalue 100
44) 2-Methylnaphthalene	5.787	141	114943	12.65	ppm		95
53) Biphenyl	6.246	154	62048	5.32	ppm		100
56) Acenaphthylene	6.647	152	1057117	73.04	ppm		100
59) Acenaphthene	6.813	153	53143	5.90	ppm		96
62) Dibenzofuran	6.984	168	475044	35.06	ppm		99
66) Fluorene	7.315	166	753372	70.38	ppm		96
77) Phenanthrene	8.250	178	4039782	276.17	ppm		97
78) Anthracene	8.292	178	1870361	121.85	ppm		99
79) Carbazole	8.474	167	622904	40.03	ppm		99
81) Fluoranthene	9.569	202	6346308	349.29	ppm		95
84) Pyrene	9.836	202	5172242m	278.25	ppm		
87) Benzo[a]anthracene	11.460	228	3456637	202.32	ppm		98
89) Chrysene	11.514	228	2898025	183.73	ppm		96

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
Data File : 5p58616.D  
Acq On : 18 Apr 2019 4:08 pm  
Operator : christc2  
Sample : jc86337-1  
Misc : op19786,e5p2776,30.1,,,1,1  
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 19 12:44:11 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Thu Apr 18 14:54:49 2019  
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
90) bis(2-Ethylhexyl)phtha...	11.658	149	42351m	3.76	ppm	
93) Benzo[b]fluoranthene	12.972	252	4374491m	250.05	ppm	
94) Benzo[k]fluoranthene	12.999	252	1026646m	64.11	ppm	
95) Benzo[a]pyrene	13.384	252	2862995	183.73	ppm	99
96) Indeno[1,2,3-cd]pyrene	14.746	276	1936509	138.93	ppm	94
98) Dibenz[a,h]anthracene	14.757	278	602341	41.79	ppm	95
100) Benzo[g,h,i]perylene	15.045	276	1778457	126.39	ppm	99

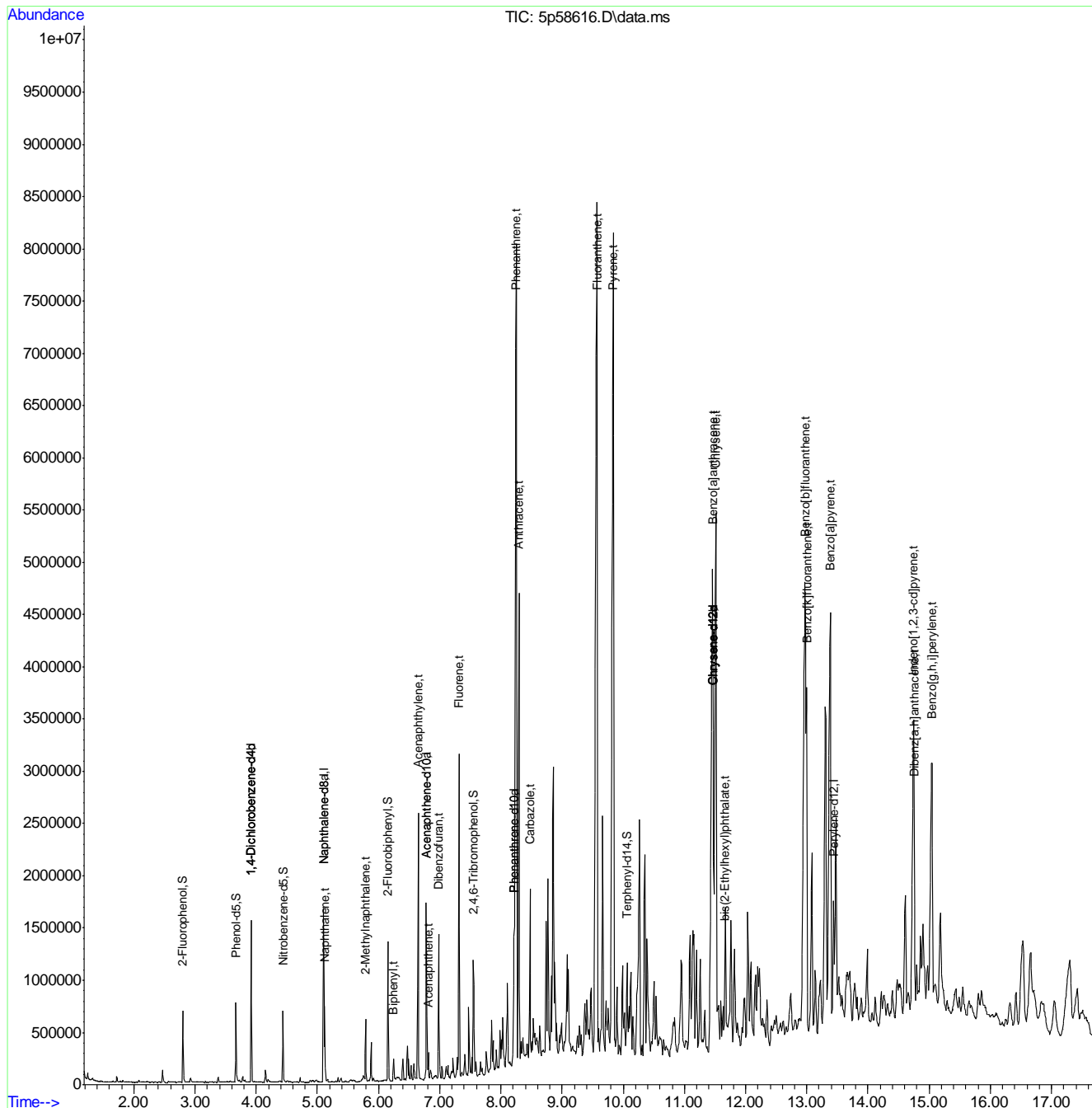
(#) = qualifier out of range (m) = manual integration (+) = signals summed

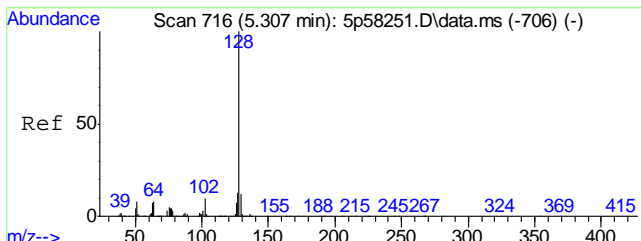
9.1.1  
9

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58616.D  
 Acq On : 18 Apr 2019 4:08 pm  
 Operator : christc2  
 Sample : jc86337-1  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 17 Sample Multiplier: 1

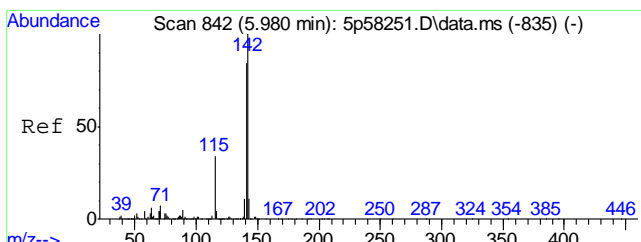
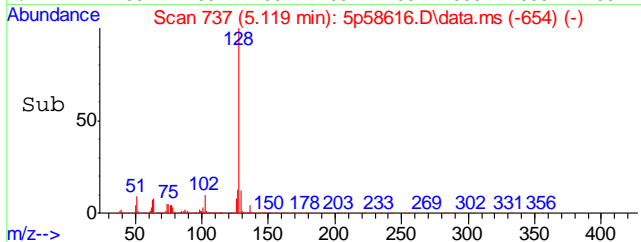
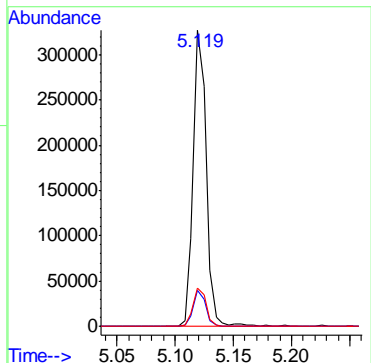
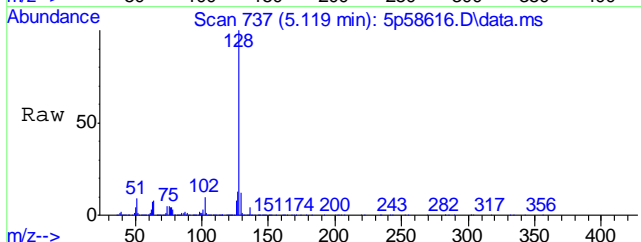
Quant Time: Apr 19 12:44:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration





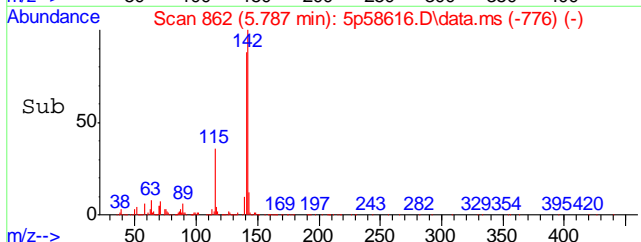
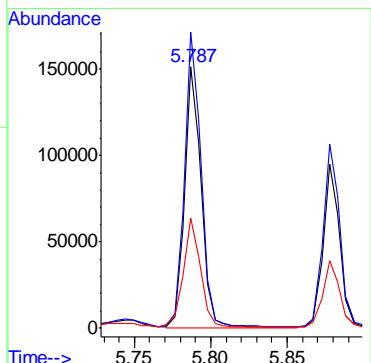
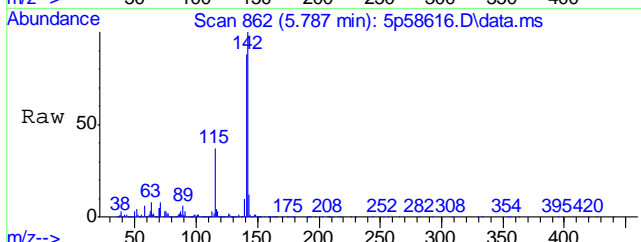
#38  
Naphthalene  
Concen: 16.19 ppm  
RT: 5.119 min Scan# 737  
Delta R.T. -0.058 min  
Lab File: 5p58616.D  
Acq: 18 Apr 19 4:08 pm

Tgt Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	41.7
127	13.0	0.0	43.1

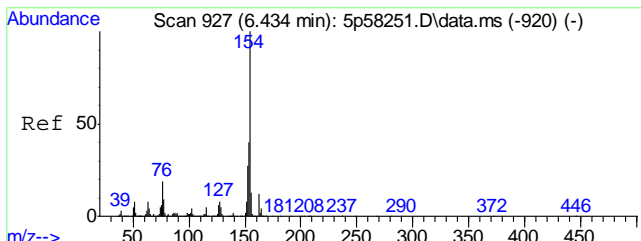


#44  
2-Methylnaphthalene  
Concen: 12.65 ppm  
RT: 5.787 min Scan# 862  
Delta R.T. -0.042 min  
Lab File: 5p58616.D  
Acq: 18 Apr 19 4:08 pm

Tgt Ion	Ratio	Lower	Upper
141	100		
142	113.3	89.9	149.9
115	41.3	10.7	70.7

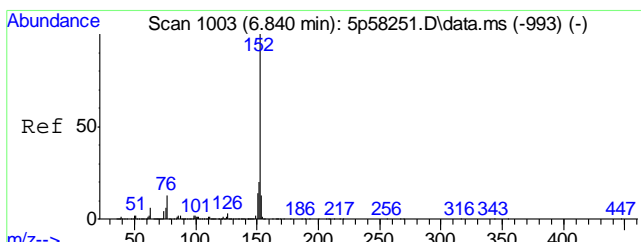
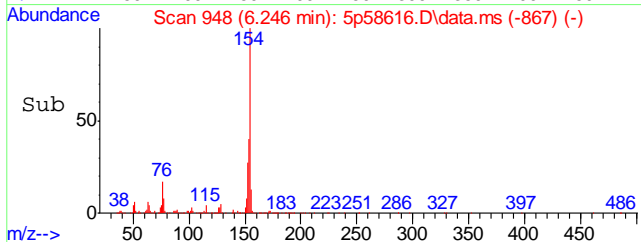
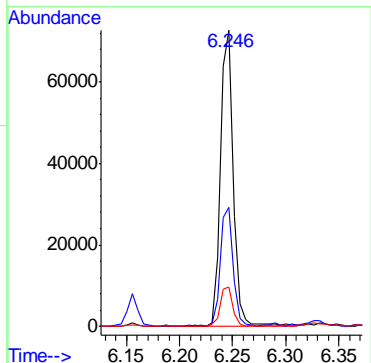
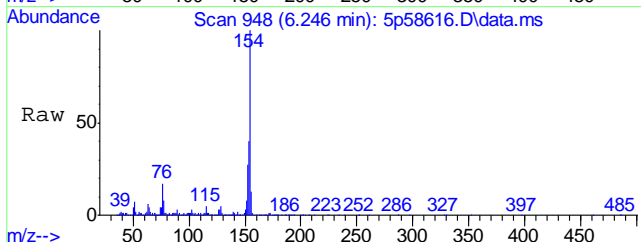


9.1.1  
9



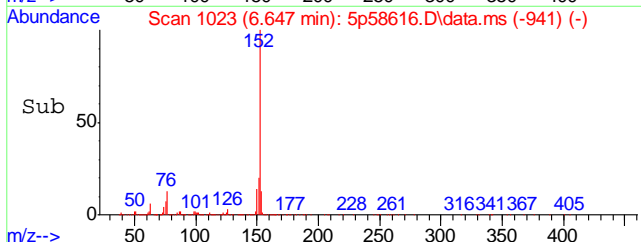
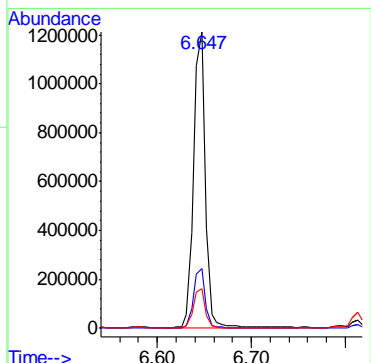
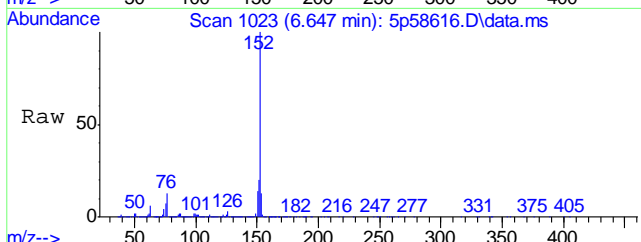
#53  
 Biphenyl  
 Concen: 5.32 ppm  
 RT: 6.246 min Scan# 948  
 Delta R.T. -0.069 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
154	62048		
153	40.0	10.2	70.2
155	13.0	0.0	43.4

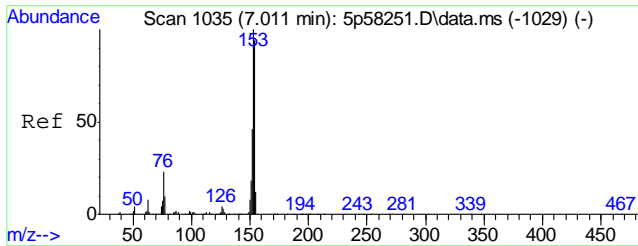


#56  
 Acenaphthylene  
 Concen: 73.04 ppm  
 RT: 6.647 min Scan# 1023  
 Delta R.T. -0.062 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
152	1057117		
151	20.2	0.0	50.5
153	13.4	0.0	43.4

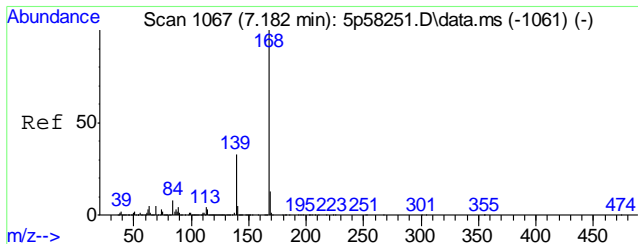
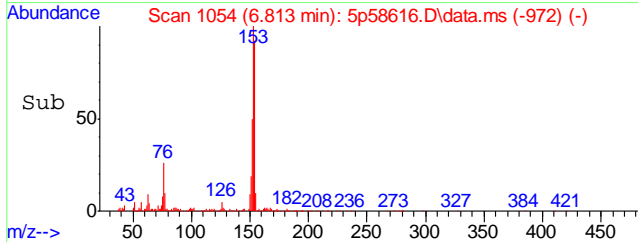
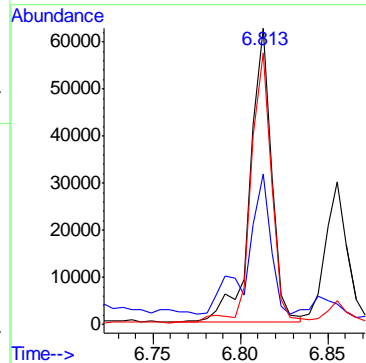
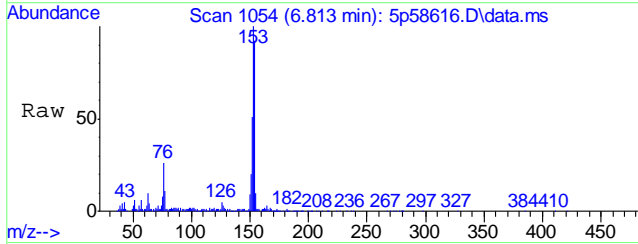






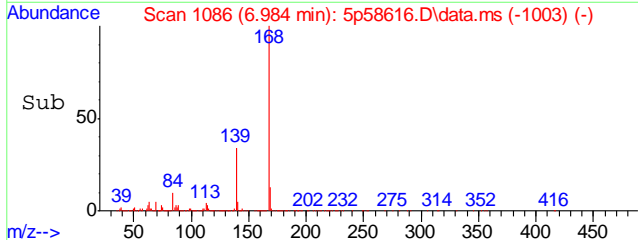
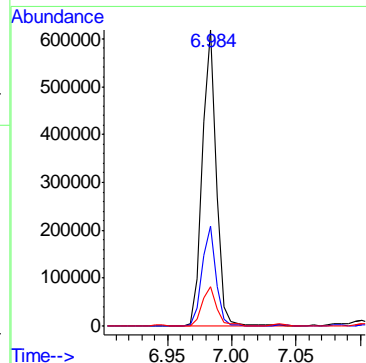
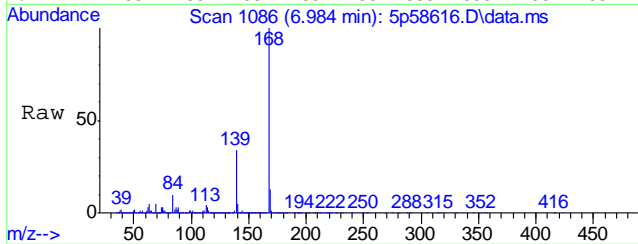
#59  
 Acenaphthene  
 Concen: 5.90 ppm  
 RT: 6.813 min Scan# 1054  
 Delta R.T. -0.064 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
153	53143		
152	46.6	15.9	75.9
154	91.8	56.1	116.1

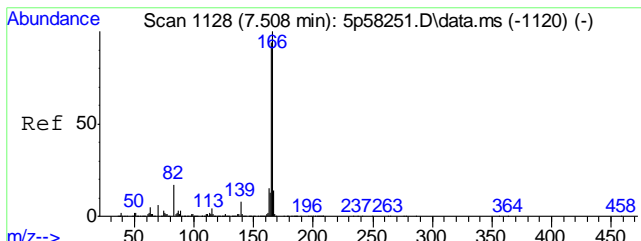


#62  
 Dibenzofuran  
 Concen: 35.06 ppm  
 RT: 6.984 min Scan# 1086  
 Delta R.T. -0.055 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
168	475044		
139	33.8	3.2	63.2
169	13.2	0.0	42.9

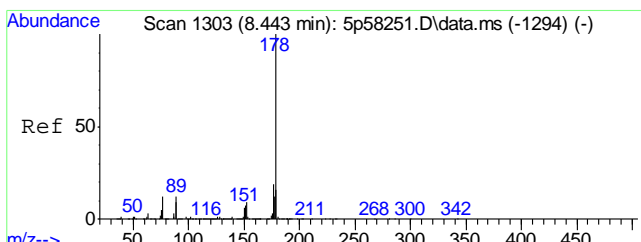
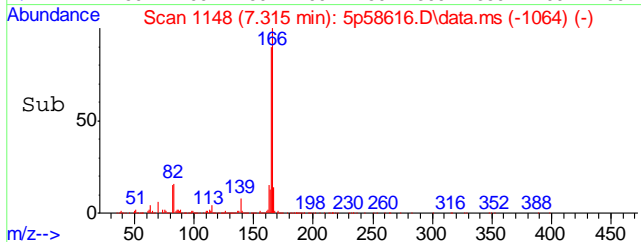
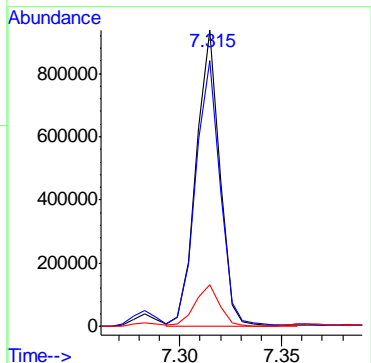
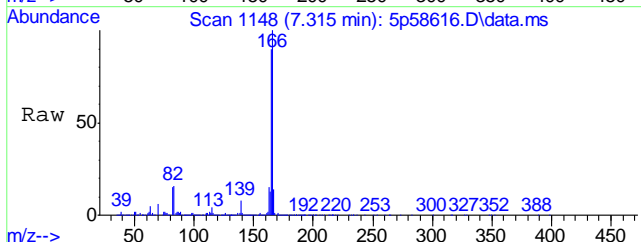


9.1.1  
 9



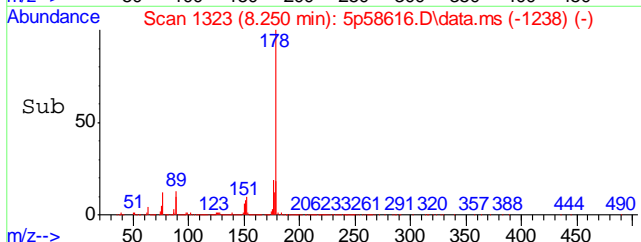
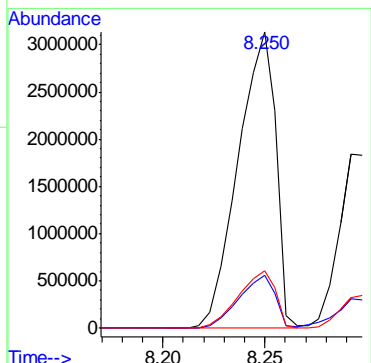
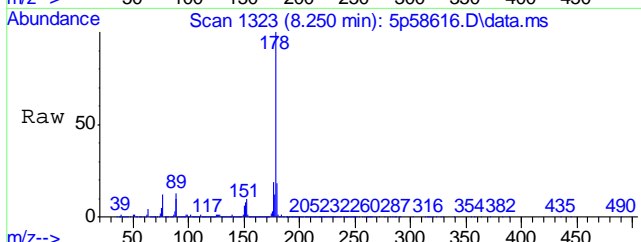
#66  
 Fluorene  
 Concen: 70.38 ppm  
 RT: 7.315 min Scan# 1148  
 Delta R.T. -0.049 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
166	100		
165	89.8	64.3	124.3
167	13.7	0.0	43.8

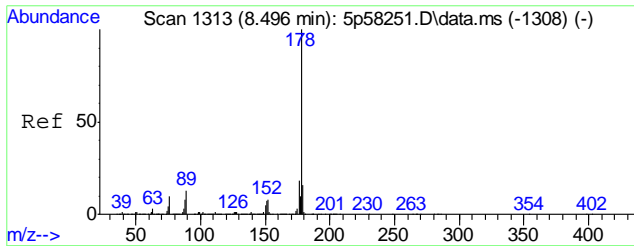


#77  
 Phenanthrene  
 Concen: 276.17 ppm  
 RT: 8.250 min Scan# 1323  
 Delta R.T. -0.048 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
178	100		
179	17.5	0.0	45.8
176	19.3	0.0	48.5

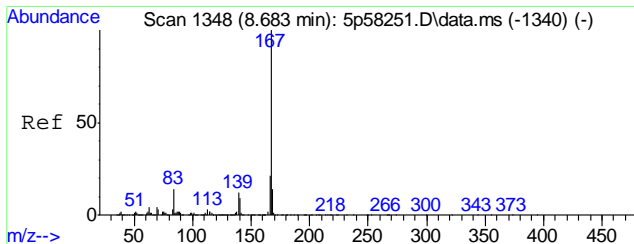
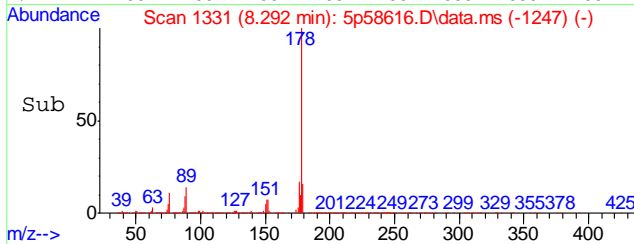
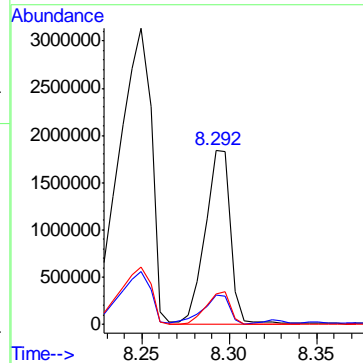
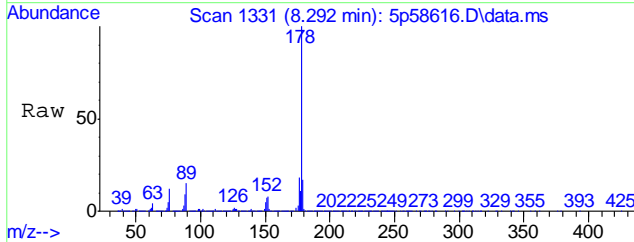


9.1.1  
 9



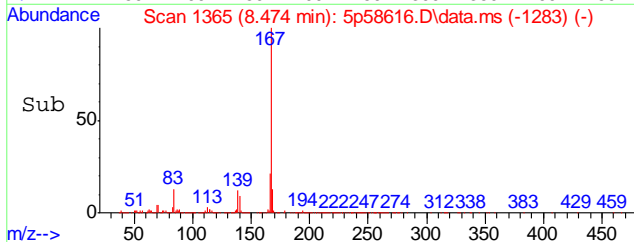
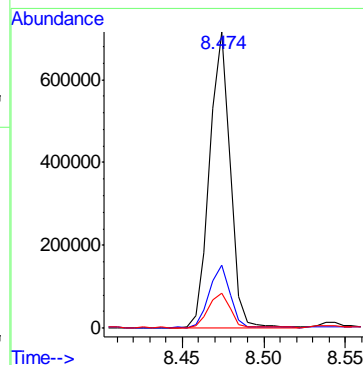
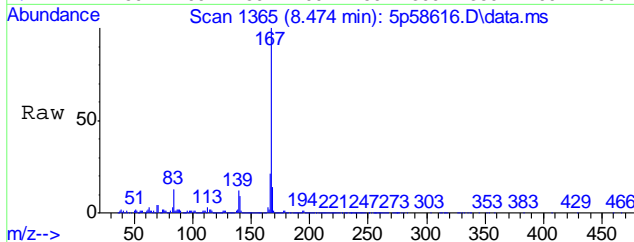
#78  
 Anthracene  
 Concen: 121.85 ppm  
 RT: 8.292 min Scan# 1331  
 Delta R.T. -0.053 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
178	100		
179	16.2	0.0	45.6
176	17.6	0.0	48.3

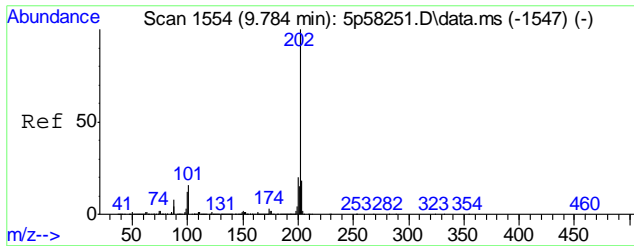


#79  
 Carbazole  
 Concen: 40.03 ppm  
 RT: 8.474 min Scan# 1365  
 Delta R.T. -0.060 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
167	100		
166	21.0	0.0	50.7
139	11.7	0.0	42.4

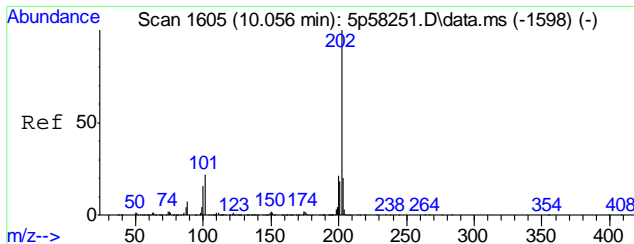
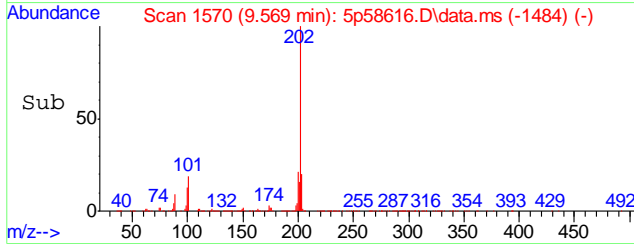
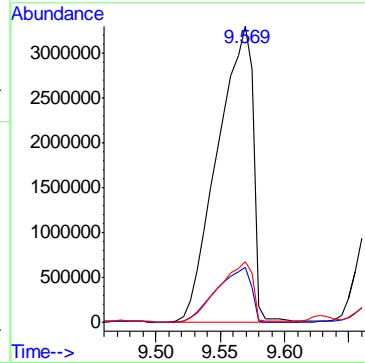
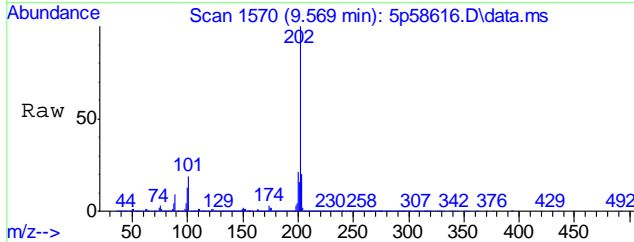


9.11  
 9



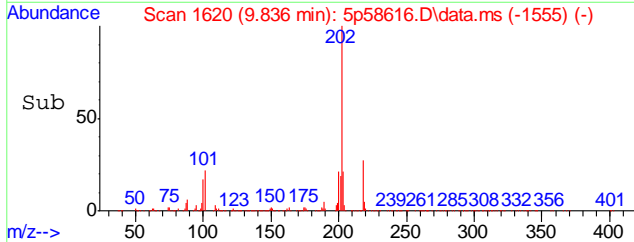
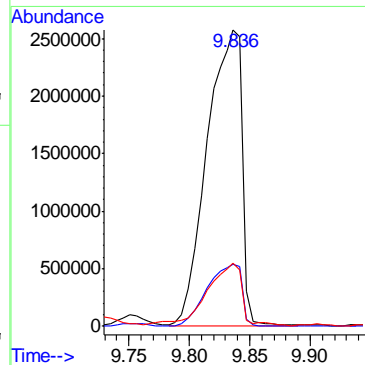
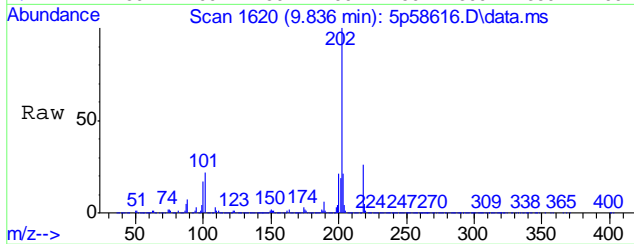
#81  
 Fluoranthene  
 Concen: 349.29 ppm  
 RT: 9.569 min Scan# 1570  
 Delta R.T. -0.042 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

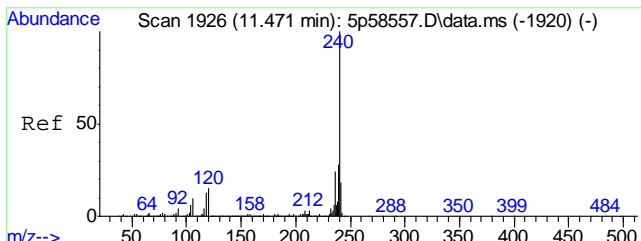
Tgt Ion	Resp	Lower	Upper
202	100		
101	18.7	0.0	46.5
203	20.2	0.0	47.7



#84  
 Pyrene  
 Concen: 278.25 ppm m  
 RT: 9.836 min Scan# 1620  
 Delta R.T. -0.154 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

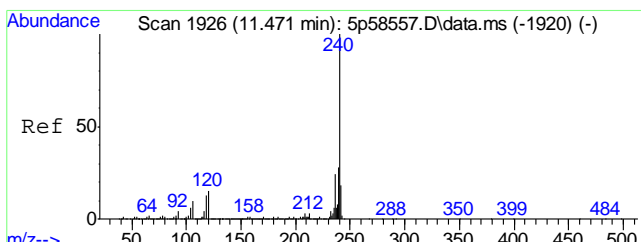
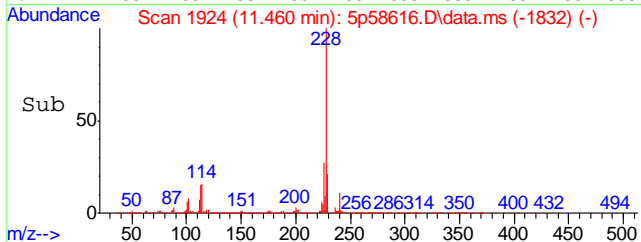
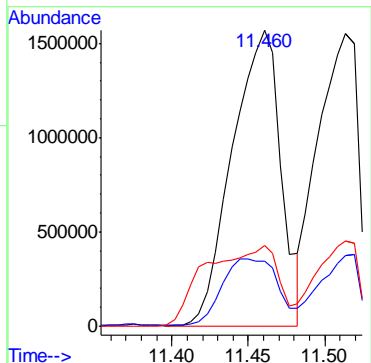
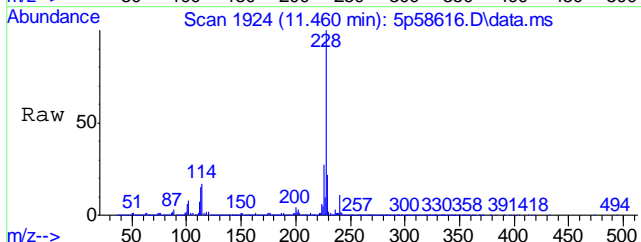
Tgt Ion	Resp	Lower	Upper
202	100		
200	20.9	0.0	50.6
203	21.4	0.0	49.5





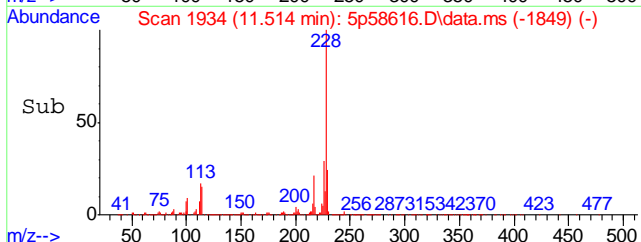
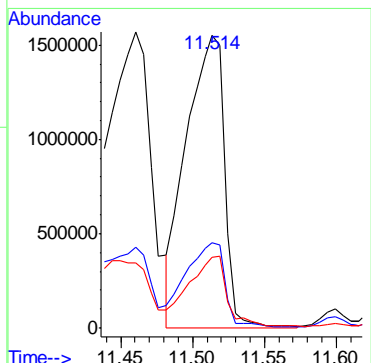
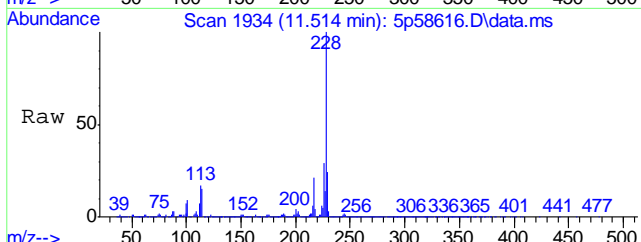
#87  
 Benzo[a]anthracene  
 Concen: 202.32 ppm  
 RT: 11.460 min Scan# 1924  
 Delta R.T. -0.009 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
228	3456637		
228	100		
229	21.3	0.0	49.3
226	26.5	0.0	56.3

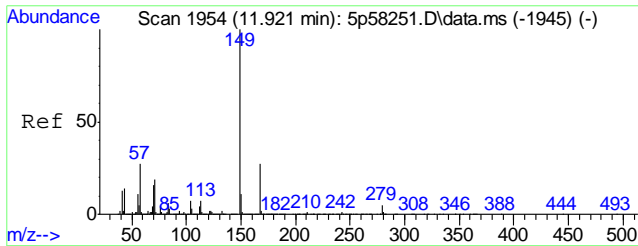


#89  
 Chrysene  
 Concen: 183.73 ppm  
 RT: 11.514 min Scan# 1934  
 Delta R.T. -0.045 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
228	2898025		
228	100		
226	28.6	0.0	58.6
229	23.8	0.0	49.0

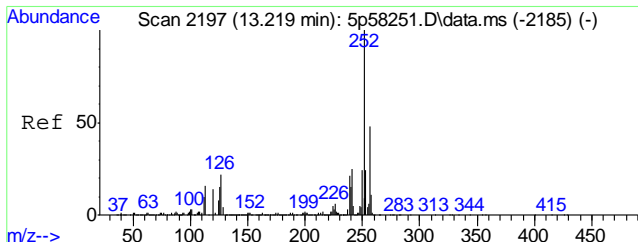
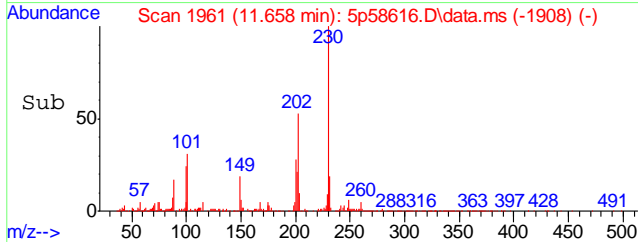
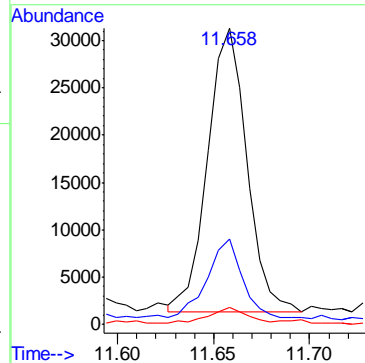
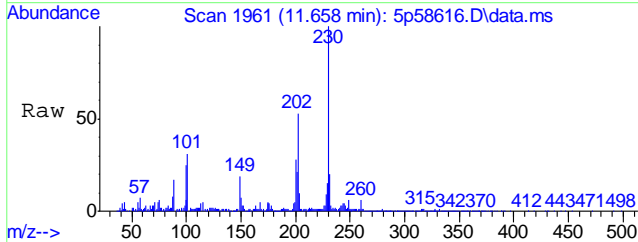


9.11  
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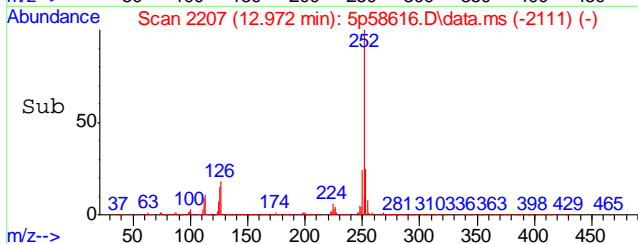
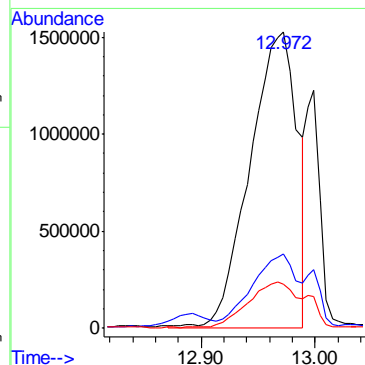
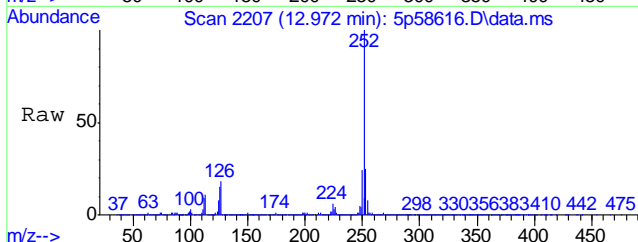
#90  
 bis(2-Ethylhexyl)phthalate  
 Concen: 3.76 ppm m  
 RT: 11.658 min Scan# 1961  
 Delta R.T. -0.219 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Ratio	Lower	Upper
149	100		
167	28.8	0.0	56.7
279	5.6	0.0	35.0

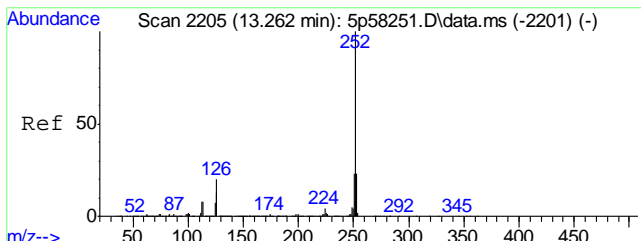


#93  
 Benzo[b]fluoranthene  
 Concen: 250.05 ppm m  
 RT: 12.972 min Scan# 2207  
 Delta R.T. 0.010 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Ratio	Lower	Upper
252	100		
253	24.9	0.0	54.7
125	14.9	0.0	45.6

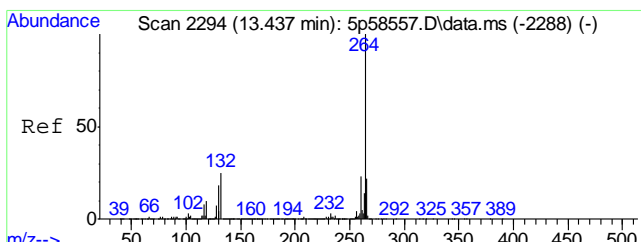
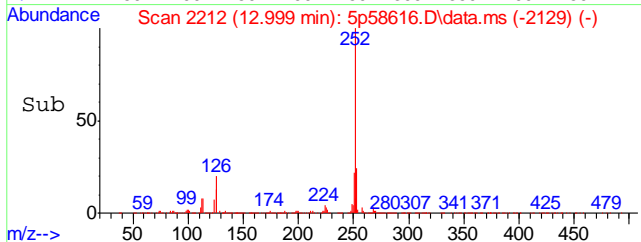
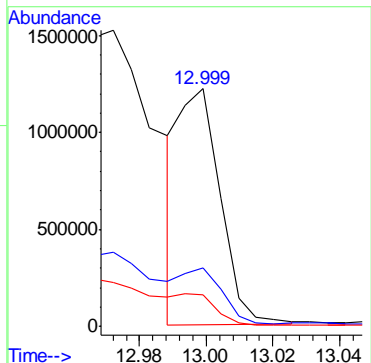
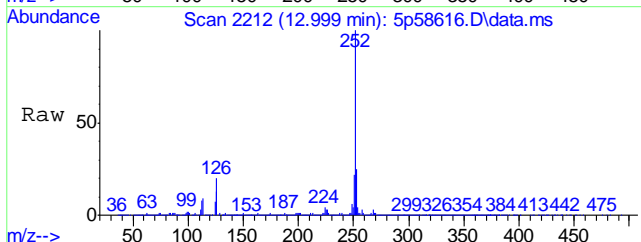


9.1.1  
 9



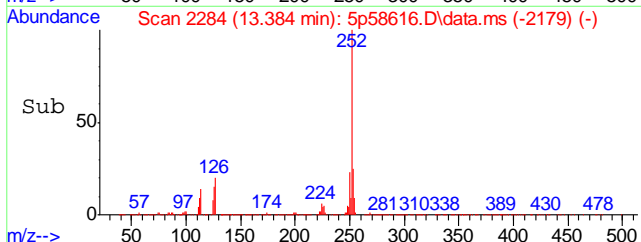
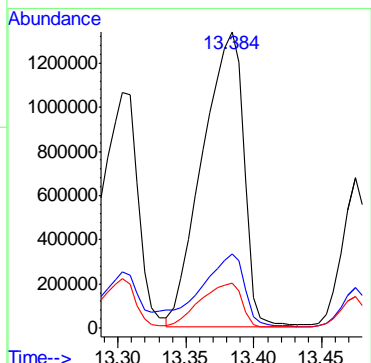
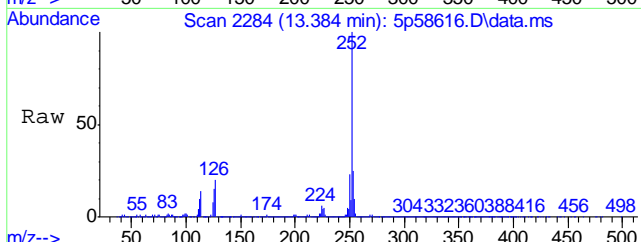
#94  
 Benzo[k]fluoranthene  
 Concen: 64.11 ppm  
 RT: 12.999 min Scan# 2212  
 Delta R.T. -0.055 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
252	1026646		
253	24.8	0.0	52.6
125	13.2	0.0	43.1

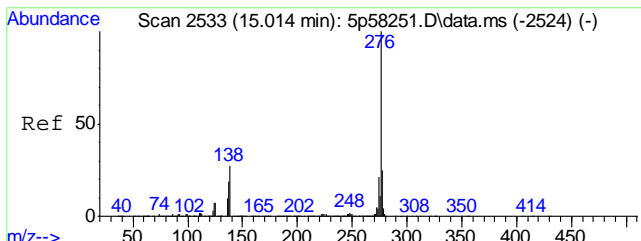


#95  
 Benzo[a]pyrene  
 Concen: 183.73 ppm  
 RT: 13.384 min Scan# 2284  
 Delta R.T. 0.064 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
252	2862995		
253	22.4	0.0	52.1
125	15.0	0.0	44.8

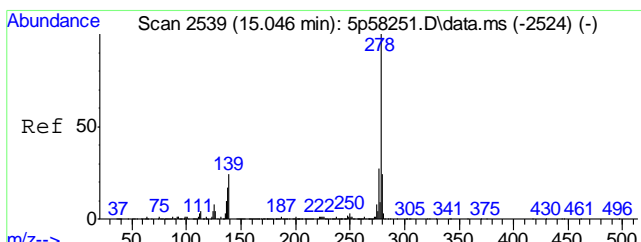
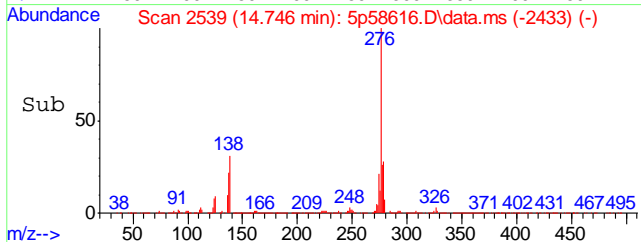
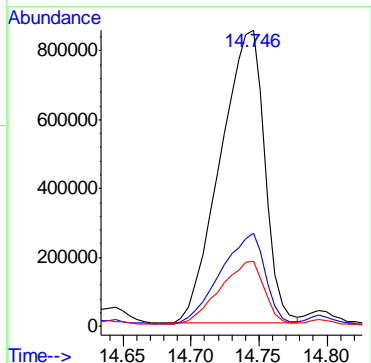
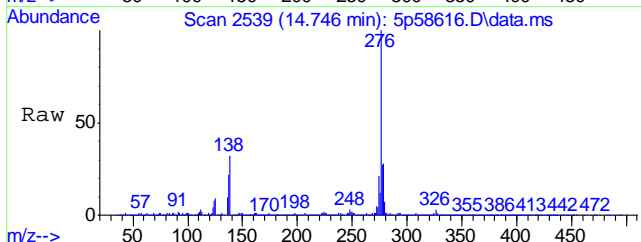


9.1.1  
 9



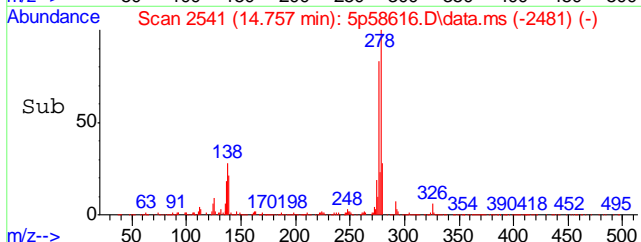
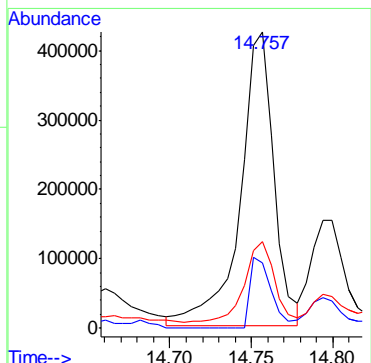
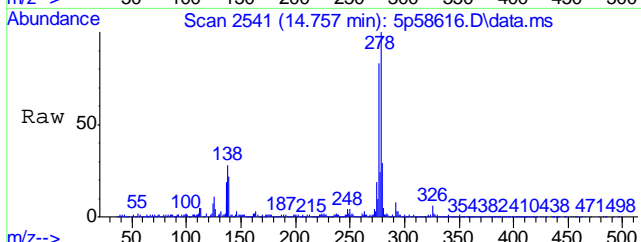
#96  
 Indeno[1,2,3-cd]pyrene  
 Concen: 138.93 ppm  
 RT: 14.746 min Scan# 2539  
 Delta R.T. 0.066 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
276	1936509		
276	100		
138	31.0	0.0	56.9
137	21.4	0.0	49.4



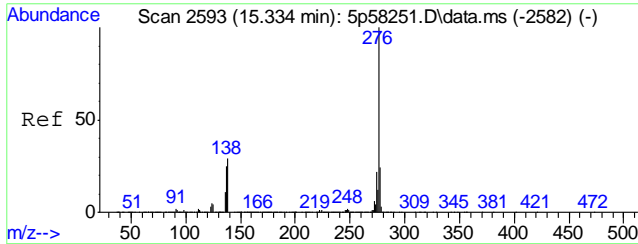
#98  
 Dibenz[a,h]anthracene  
 Concen: 41.79 ppm  
 RT: 14.757 min Scan# 2541  
 Delta R.T. -0.178 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
278	602341		
278	100		
139	21.9	0.0	53.6
279	27.9	0.0	54.4



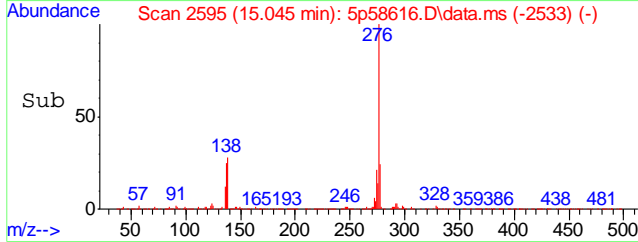
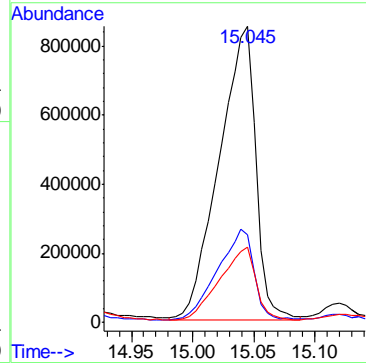
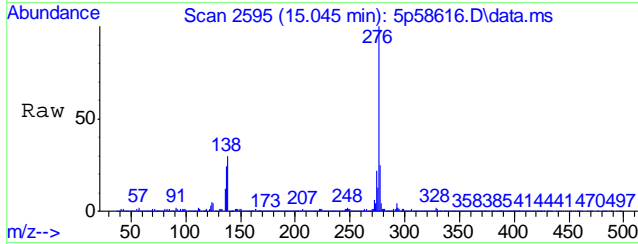
9.1.1  
 9





#100  
 Benzo[g,h,i]perylene  
 Concen: 126.39 ppm  
 RT: 15.045 min Scan# 2595  
 Delta R.T. -0.171 min  
 Lab File: 5p58616.D  
 Acq: 18 Apr 19 4:08 pm

Tgt Ion	Resp	Lower	Upper
276	100		
138	29.1	0.0	59.0
277	24.9	0.0	53.7



9.1.1  
 9

# Manual Integration Approval Summary

Sample Number: JC86337-1                      Method: SW846 8270D  
Lab FileID: 5P58616.D                      Analyst approved: 04/19/19 12:46 Kristi Schollenberger  
Injection Time: 04/18/19 16:08                      Supervisor approved: 04/19/19 13:04 Kristi Schollenberger

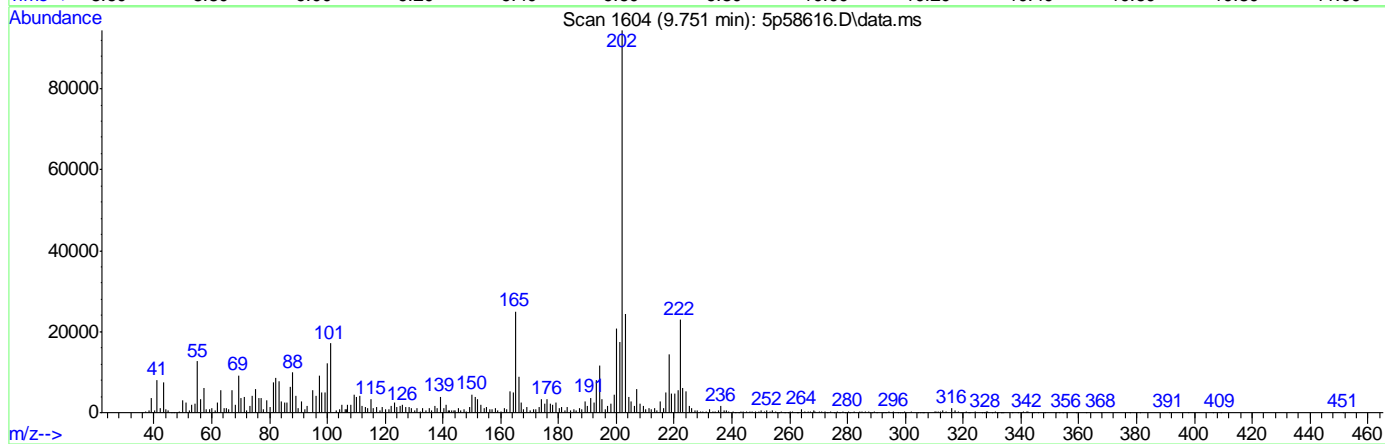
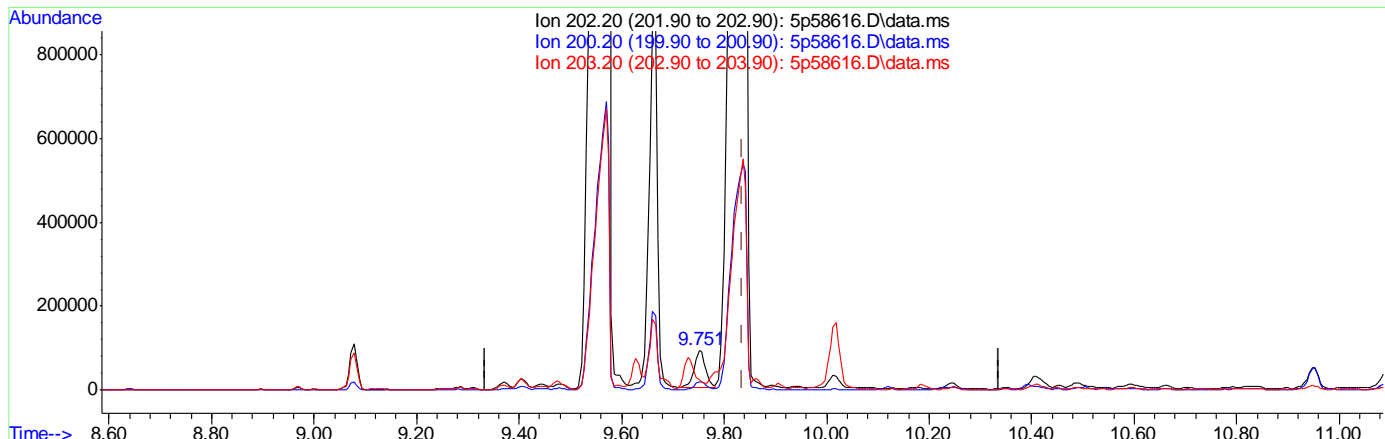
Parameter	CAS	Sig#	R.T. (min.)	Reason
Pyrene	129-00-0		9.84	Poor instrument integration
bis(2-Ethylhexyl)phthalate	117-81-7		11.66	Poor instrument integration
Benzo(b)fluoranthene	205-99-2		12.97	Poor instrument integration
Benzo(k)fluoranthene	207-08-9		13.00	Poor instrument integration

9.1.1.1  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58616.D  
 Acq On : 18 Apr 2019 4:08 pm  
 Operator : christc2  
 Sample : jc86337-1  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 18 16:26:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(84) Pyrene (t)  
 9.751min (-0.085) 7.38ppm  
 response 137142

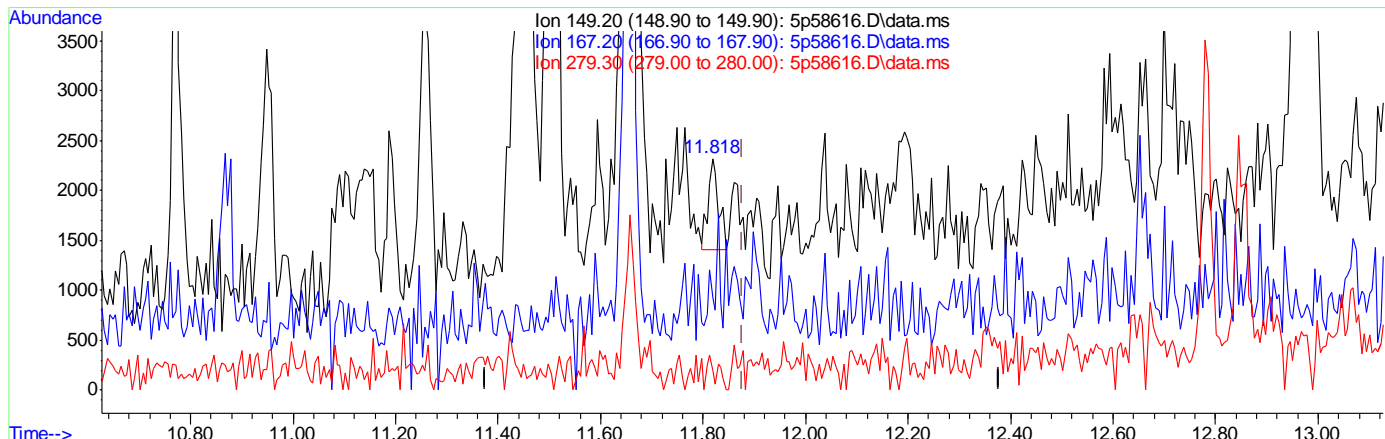
Ion	Exp%	Act%
202.20	100	100
200.20	20.60	21.76
203.20	19.50	0.28
0.00	0.00	0.00

9.1.1.2  
**9**

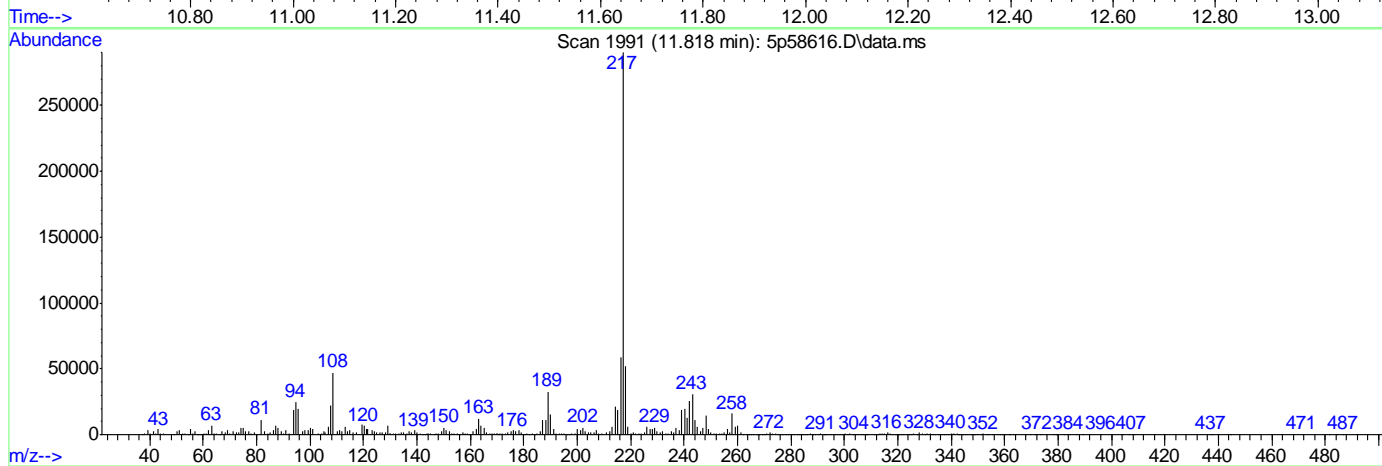
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58616.D  
 Acq On : 18 Apr 2019 4:08 pm  
 Operator : christc2  
 Sample : jc86337-1  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 18 16:26:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



9.1.1.3  
9



TIC: 5p58616.D\data.ms

(90) bis(2-Ethylhexyl)phthalate (t)

11.818min (-0.059) 0.12ppm

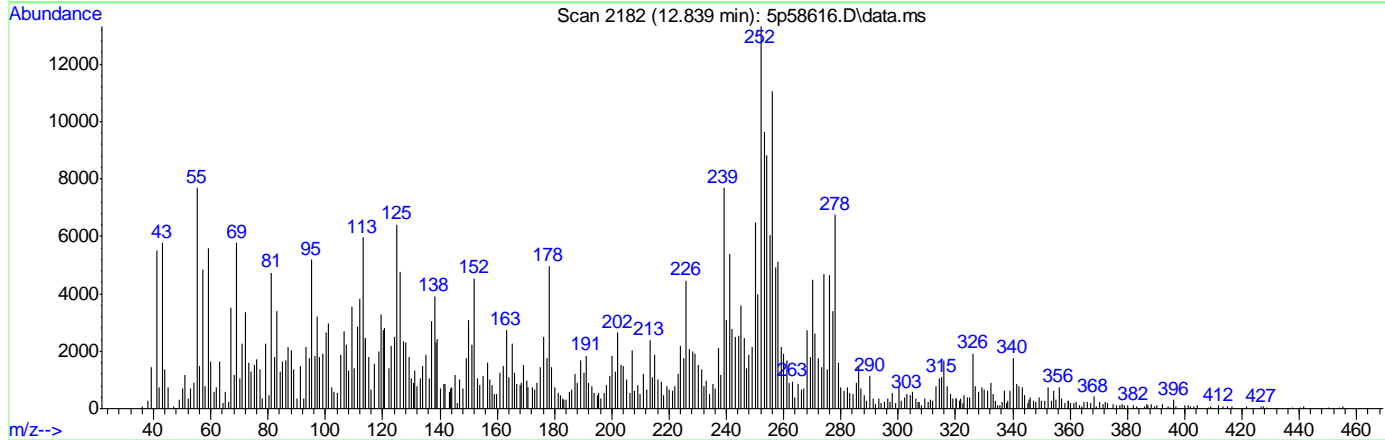
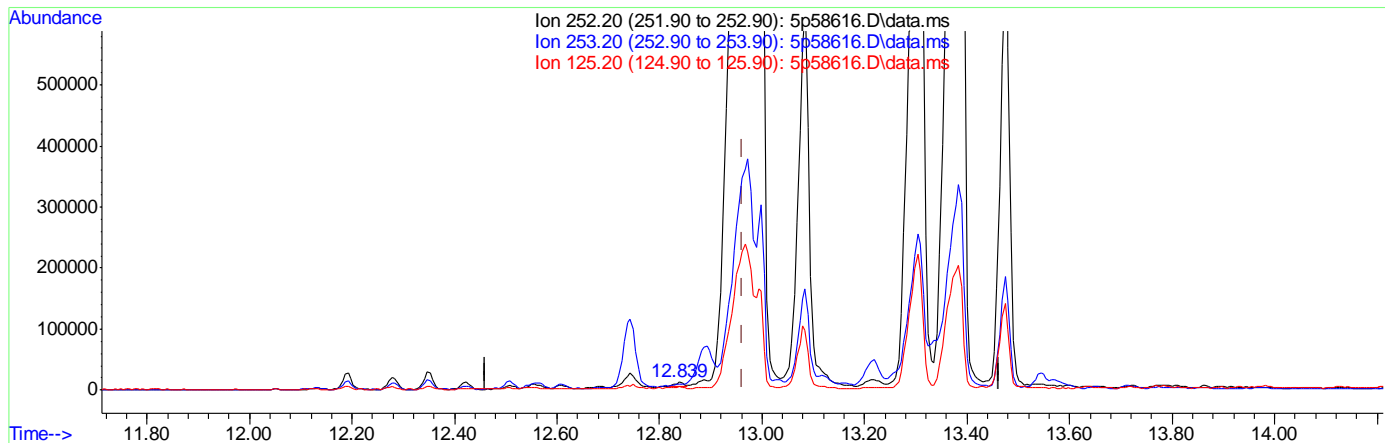
response 1298

Ion	Exp%	Act%
149.20	100	100
167.20	26.70	0.00
279.30	5.00	3.68
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58616.D  
 Acq On : 18 Apr 2019 4:08 pm  
 Operator : christc2  
 Sample : jc86337-1  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 18 16:26:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58616.D\data.ms

(93) Benzo[b]fluoranthene (t)  
 12.839min (-0.123) 0.55ppm  
 response 9704

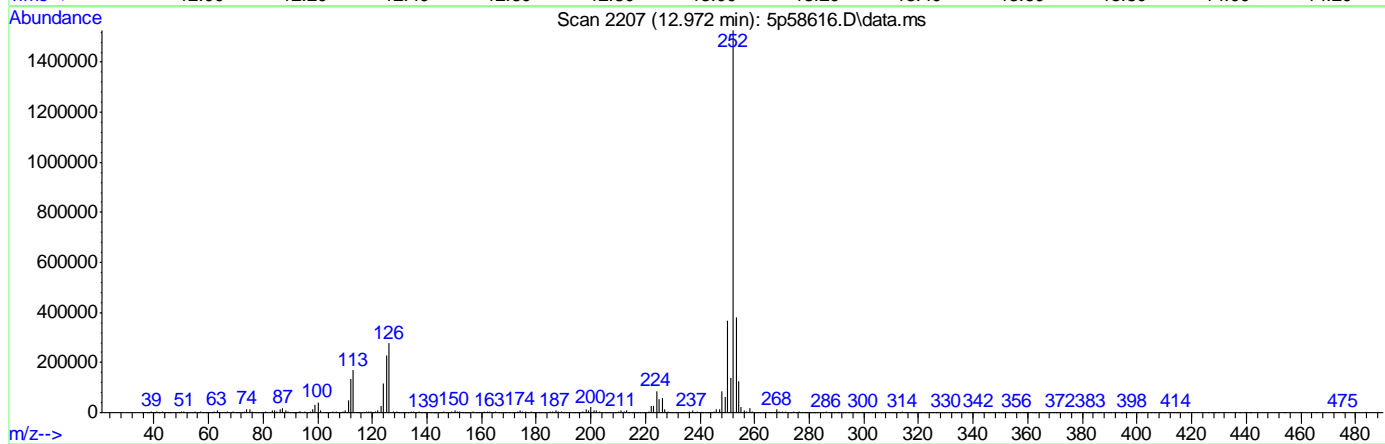
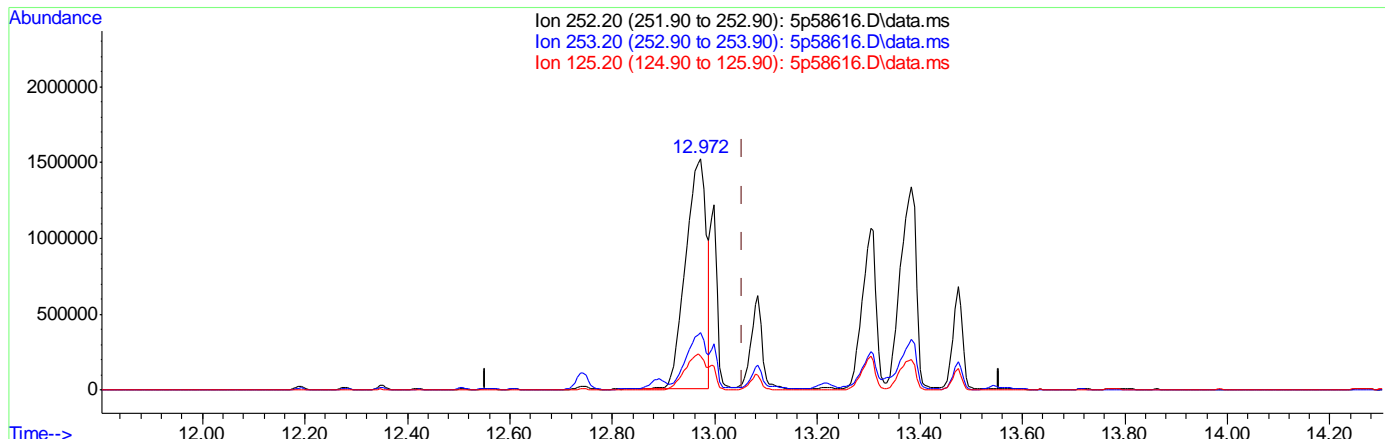
Ion	Exp%	Act%
252.20	100	100
253.20	24.70	4.98
125.20	15.60	41.38
0.00	0.00	0.00

9.1.1.4  
 9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58616.D  
 Acq On : 18 Apr 2019 4:08 pm  
 Operator : christc2  
 Sample : jc86337-1  
 Misc : op19786,e5p2776,30.1,,1,1  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 18 16:26:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(94) Benzo[k]fluoranthene (t)  
 12.972min (-0.082) 270.12ppm  
 response 4325683

Ion	Exp%	Act%
252.20	100	100
253.20	22.60	24.90
125.20	13.10	14.53
0.00	0.00	0.00

9.1.1.5  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58655.D  
 Acq On : 19 Apr 2019 9:52 am  
 Operator : carolb  
 Sample : jc86337-1  
 Misc : op19786,e5p2777,30.1,,,1,10  
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 19 10:20:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) 1,4-Dichlorobenzene-d4	3.917	152	207535	40.00	ppm	-0.05	
24) Naphthalene-d8	5.103	136	711918	40.00	ppm	-0.05	
47) Acenaphthene-d10	6.786	164	369249	40.00	ppm	-0.06	
69) Phenanthrene-d10	8.213	188	615279	40.00	ppm	-0.06	
83) Chrysene-d12	11.450	240	531787	40.00	ppm	-0.09	
91) Perylene-d12	13.416	264	557765	40.00	ppm	-0.10	
101) 1,4-Dichlorobenzene-d4b	3.917	152	207535	40.00	ppm	-0.05	
103) Acenaphthene-d10a	6.786	164	369249	40.00	ppm	-0.06	
105) Chrysene-d12a	11.450	240	531787	40.00	ppm	-0.09	
107) Phenanthrene-d10a	8.213	188	615279	40.00	ppm	-0.06	
111) Naphthalene-d8a	5.103	136	711918	40.00	ppm	-0.05	
113) Chrysene-d12b	11.450	240	531100	40.00	ppm	-0.09	
115) 1,4-Dichlorobenzene-d4c	3.917	152	207535	40.00	ppm	-0.05	
117) Chrysene-d12c	11.450	240	531787	40.00	ppm	-0.09	
119) Chrysene-d12d	11.450	240	531100	40.00	ppm	-0.09	
System Monitoring Compounds							
5) 2-Fluorophenol	2.801	112	18434	2.28	ppm	-0.10	
Spiked Amount	50.000		Recovery	=	4.56%		
8) Phenol-d5	3.672	99	24478	2.41	ppm	-0.06	
Spiked Amount	50.000		Recovery	=	4.82%		
25) Nitrobenzene-d5	4.441	82	22842	2.77	ppm	-0.06	
Spiked Amount	50.000		Recovery	=	5.54%		
51) 2-Fluorobiphenyl	6.156	172	42359	3.30	ppm	-0.07	
Spiked Amount	50.000		Recovery	=	6.60%		
73) 2,4,6-Tribromophenol	7.555	330	5447	3.07	ppm	-0.06	
Spiked Amount	50.000		Recovery	=	6.14%		
85) Terphenyl-d14	10.061	244	43902	3.24	ppm	-0.21	
Spiked Amount	50.000		Recovery	=	6.48%		
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm		
Spiked Amount	50.000		Recovery	=	0.00%		
108) o-terphenyl	0.000	230	0	0.00	ppm		
Spiked Amount	50.000		Recovery	=	0.00%		
Target Compounds							
							Qvalue
38) Naphthalene	5.125	128	32707	1.82	ppm		98
44) 2-Methylnaphthalene	5.792	141	14582	1.39	ppm		97
53) Biphenyl	6.247	154	7651	0.55	ppm		93
56) Acenaphthylene	6.642	152	133383	7.79	ppm		98
59) Acenaphthene	6.813	153	5725m	0.54	ppm		
62) Dibenzofuran	6.984	168	60356	3.76	ppm		94
66) Fluorene	7.315	166	97879	7.72	ppm		100
77) Phenanthrene	8.239	178	628785	37.81	ppm		99
78) Anthracene	8.287	178	255326	14.63	ppm		98
79) Carbazole	8.469	167	75766	4.28	ppm		98
81) Fluoranthene	9.543	202	898786	43.51	ppm		99
84) Pyrene	9.810	202	742474	36.74	ppm		98
87) Benzo[a]anthracene	11.434	228	385453m	20.75	ppm		
89) Chrysene	11.482	228	359155	20.95	ppm		98

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58655.D  
 Acq On : 19 Apr 2019 9:52 am  
 Operator : carolb  
 Sample : jc86337-1  
 Misc : op19786,e5p2777,30.1,,,1,10  
 ALS Vial : 24 Sample Multiplier: 1

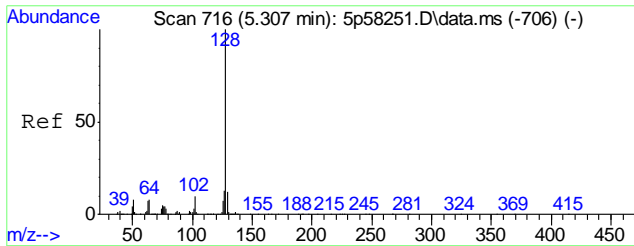
Quant Time: Apr 19 10:20:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) Benzo[b]fluoranthene	12.924	252	447270	26.26	ppm	96
94) Benzo[k]fluoranthene	12.956	252	163507	10.49	ppm	97
95) Benzo[a]pyrene	13.336	252	319430	21.06	ppm	99
96) Indeno[1,2,3-cd]pyrene	14.698	276	204262	15.05	ppm	99
98) Dibenz[a,h]anthracene	14.725	278	44744m	3.19	ppm	
100) Benzo[g,h,i]perylene	14.986	276	184821	13.49	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

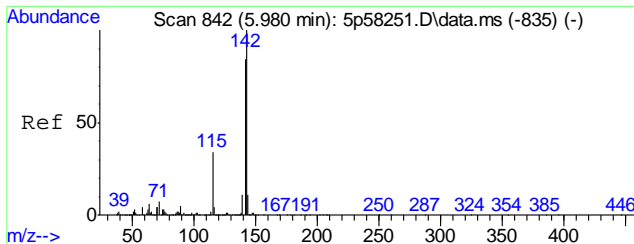
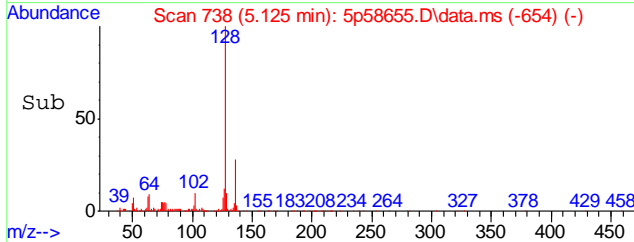
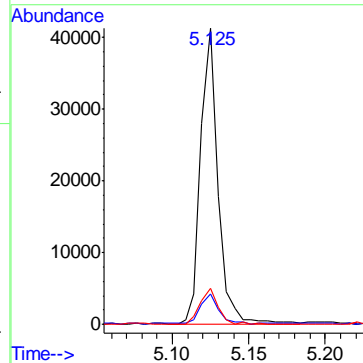
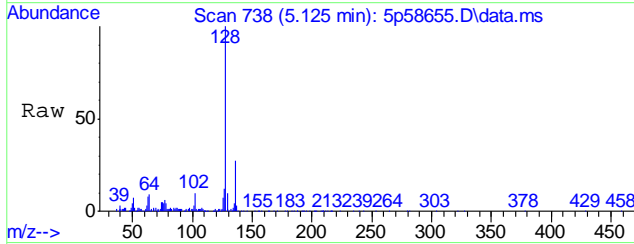






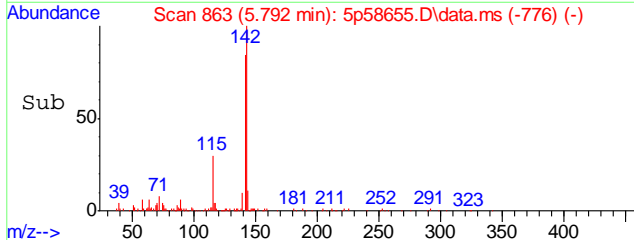
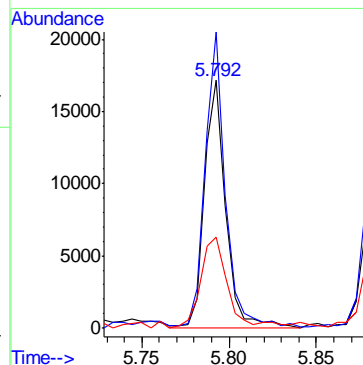
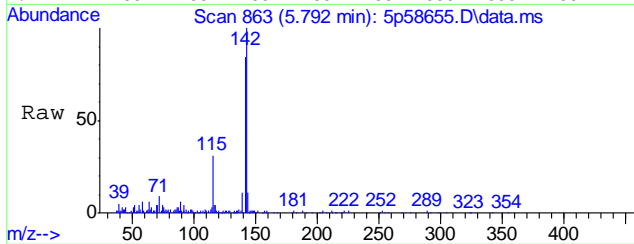
#38  
 Naphthalene  
 Concen: 1.82 ppm  
 RT: 5.125 min Scan# 738  
 Delta R.T. -0.053 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
128	32707	100	
129	10.7	0.0	41.7
127	12.3	0.0	43.1

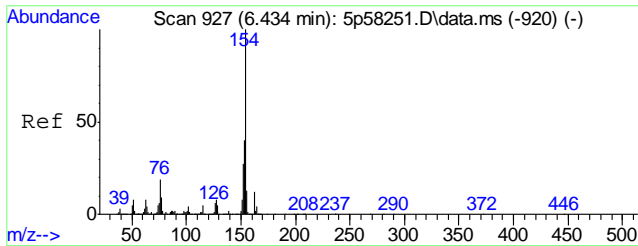


#44  
 2-Methylnaphthalene  
 Concen: 1.39 ppm  
 RT: 5.792 min Scan# 863  
 Delta R.T. -0.037 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
141	14582	100	
142	119.1	89.9	149.9
115	35.7	10.7	70.7

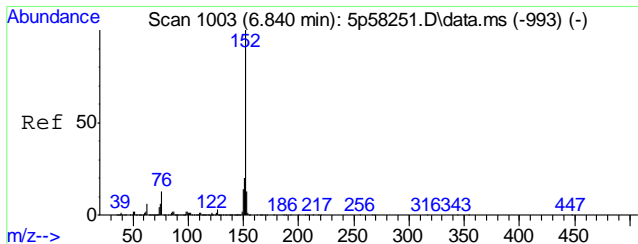
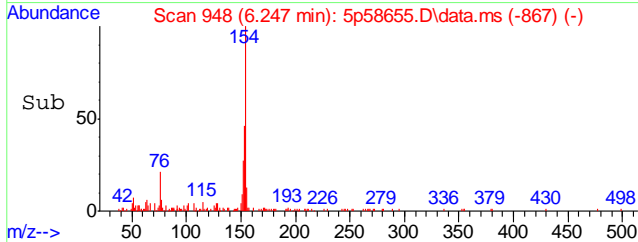
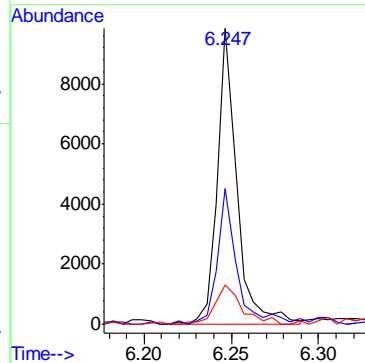
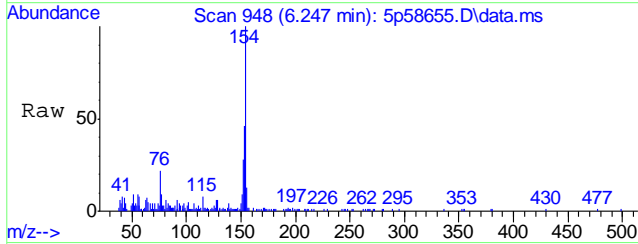


9.12  
 9



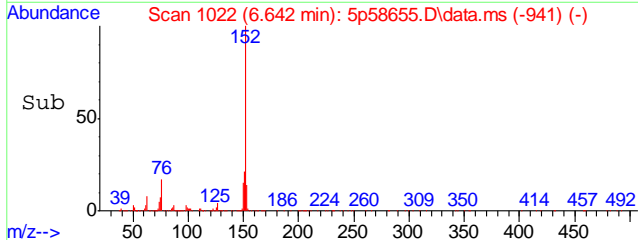
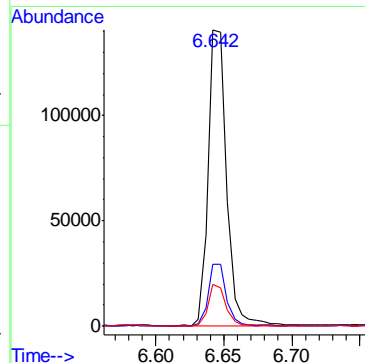
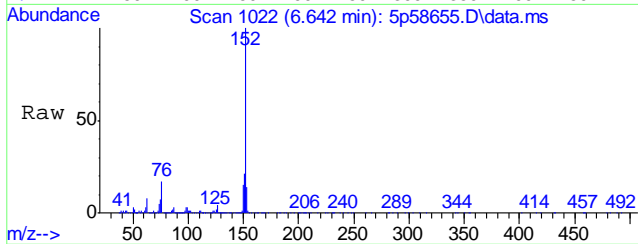
#53  
 Biphenyl  
 Concen: 0.55 ppm  
 RT: 6.247 min Scan# 948  
 Delta R.T. -0.069 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
154	100		
153	45.3	10.2	70.2
155	12.7	0.0	43.4

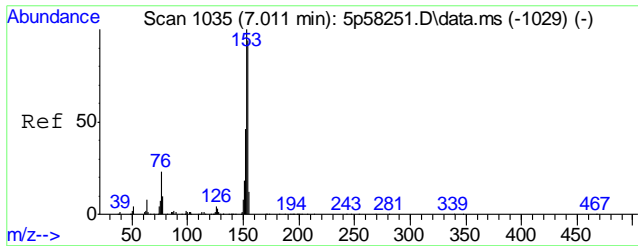


#56  
 Acenaphthylene  
 Concen: 7.79 ppm  
 RT: 6.642 min Scan# 1022  
 Delta R.T. -0.067 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
152	100		
151	20.8	0.0	50.5
153	14.6	0.0	43.4

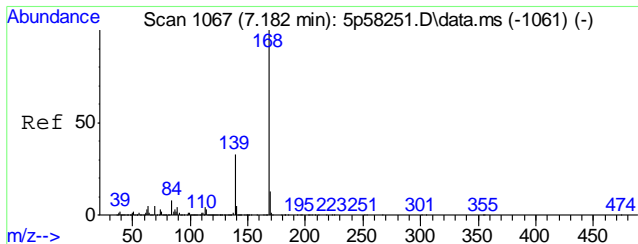
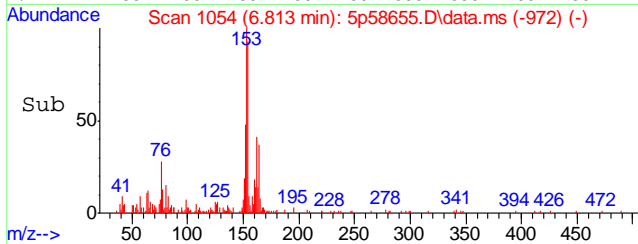
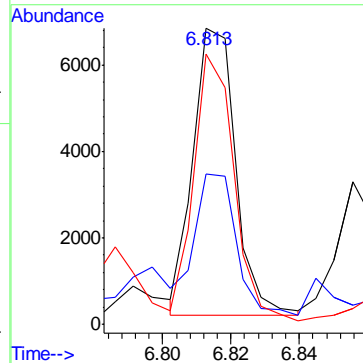
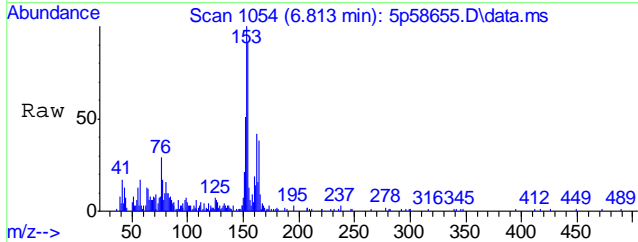


9.12  
 9



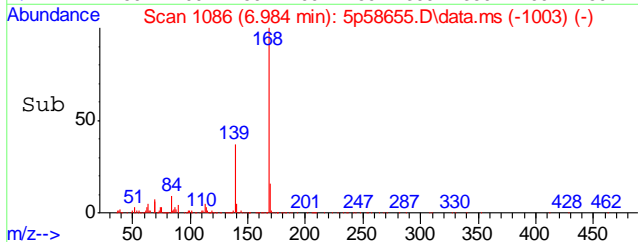
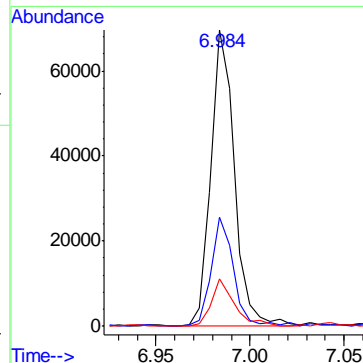
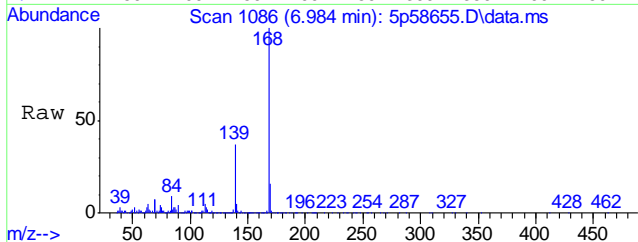
#59  
 Acenaphthene  
 Concen: 0.54 ppm  
 RT: 6.813 min Scan# 1054  
 Delta R.T. -0.064 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
153	100		
152	50.7	15.9	75.9
154	91.2	56.1	116.1

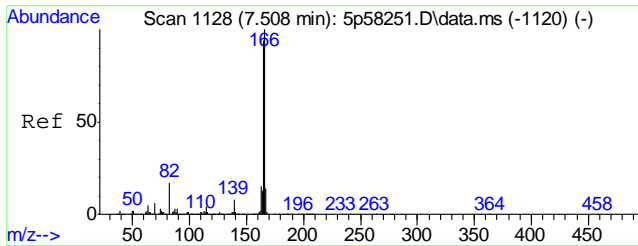


#62  
 Dibenzofuran  
 Concen: 3.76 ppm  
 RT: 6.984 min Scan# 1086  
 Delta R.T. -0.055 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
168	100		
139	36.7	3.2	63.2
169	15.7	0.0	42.9

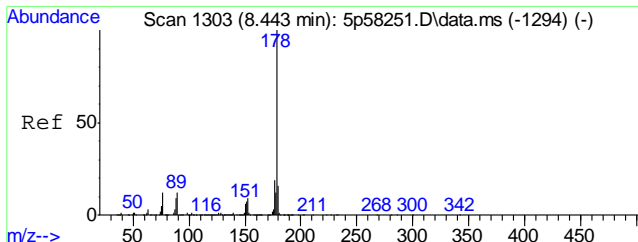
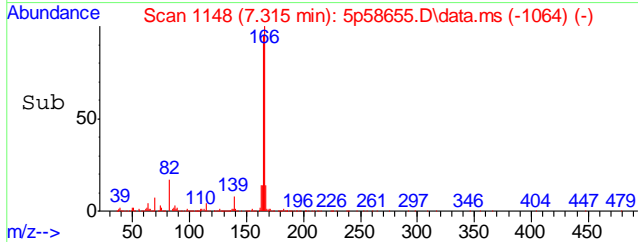
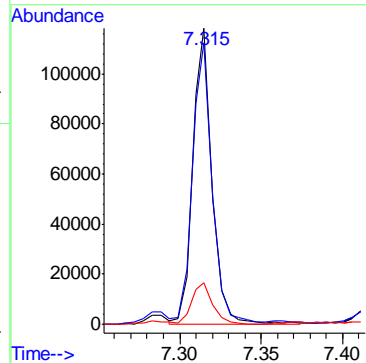
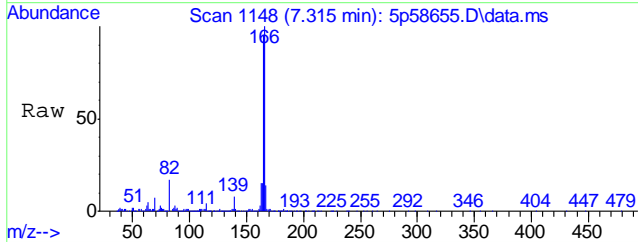


9.12  
 9



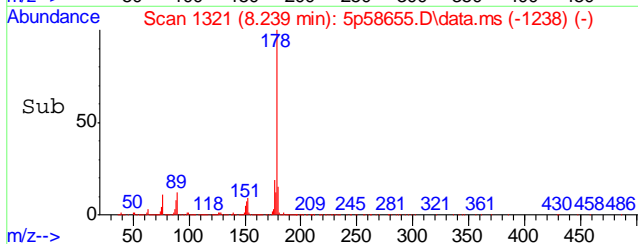
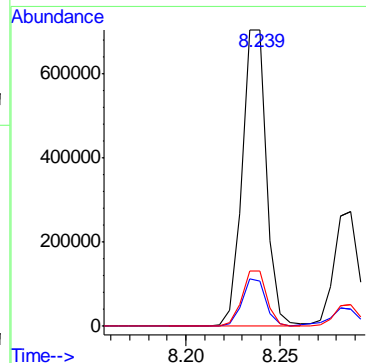
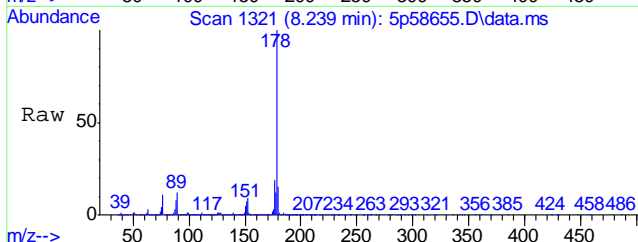
#66  
 Fluorene  
 Concen: 7.72 ppm  
 RT: 7.315 min Scan# 1148  
 Delta R.T. -0.049 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
166	100		
165	94.6	64.3	124.3
167	13.4	0.0	43.8

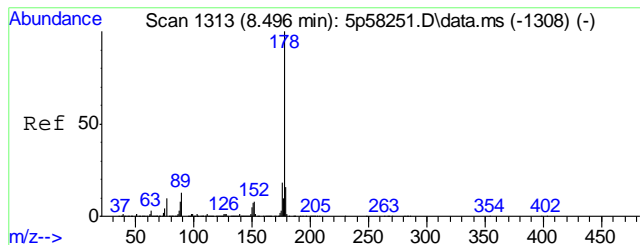


#77  
 Phenanthrene  
 Concen: 37.81 ppm  
 RT: 8.239 min Scan# 1321  
 Delta R.T. -0.058 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
178	100		
179	15.0	0.0	45.8
176	18.7	0.0	48.5

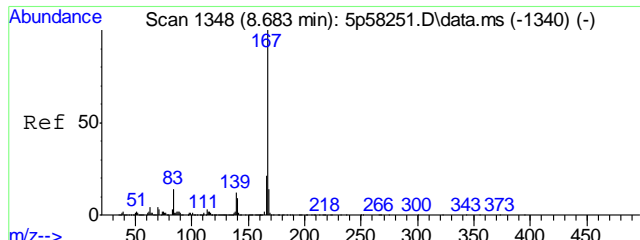
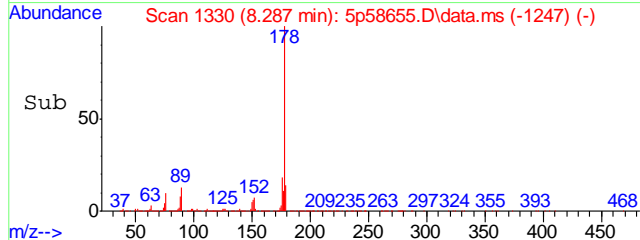
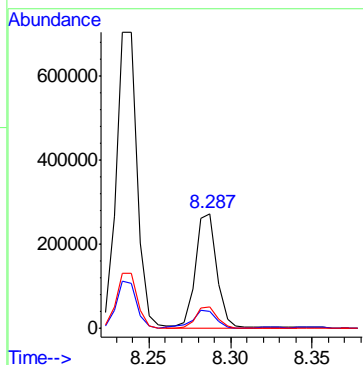
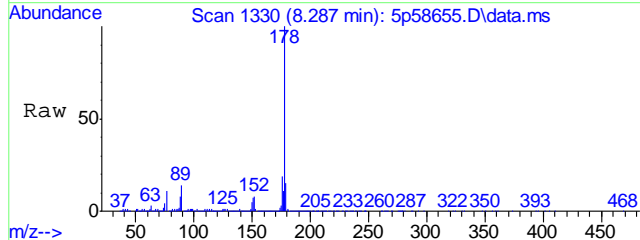


9.12  
 9



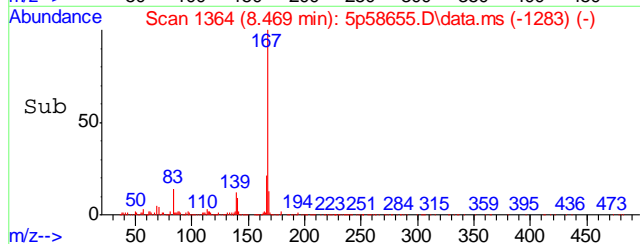
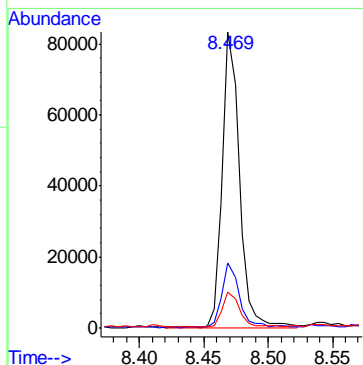
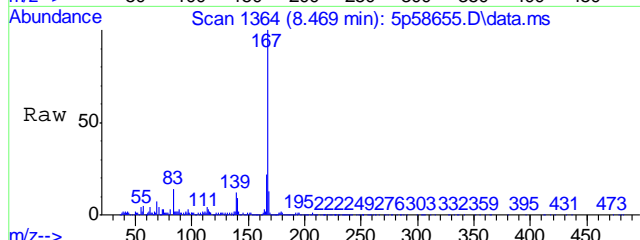
#78  
 Anthracene  
 Concen: 14.63 ppm  
 RT: 8.287 min Scan# 1330  
 Delta R.T. -0.058 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
178	100		
179	14.4	0.0	45.6
176	18.6	0.0	48.3

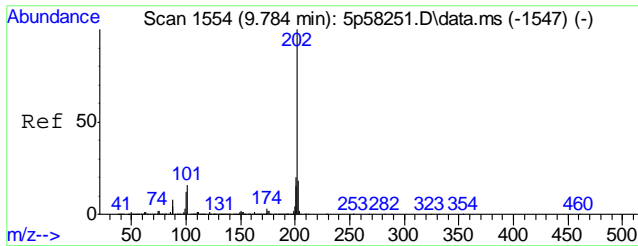


#79  
 Carbazole  
 Concen: 4.28 ppm  
 RT: 8.469 min Scan# 1364  
 Delta R.T. -0.065 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
167	100		
166	21.5	0.0	50.7
139	11.5	0.0	42.4

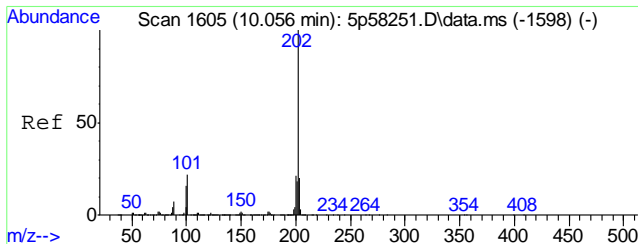
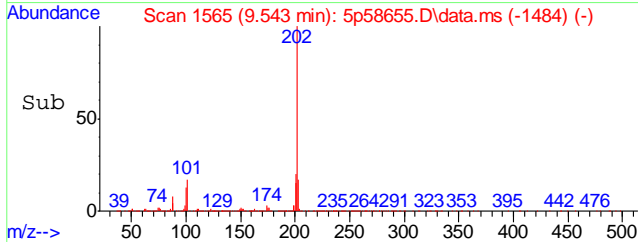
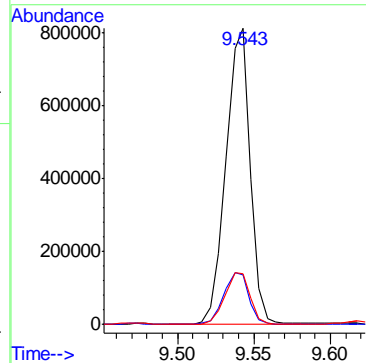
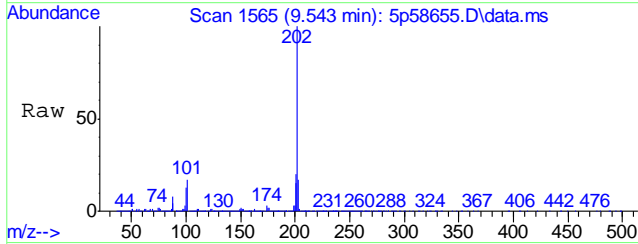


9.12  
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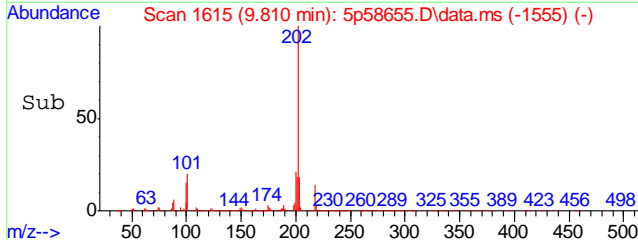
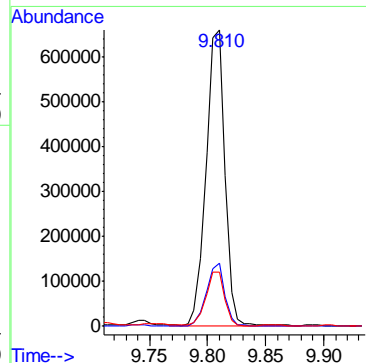
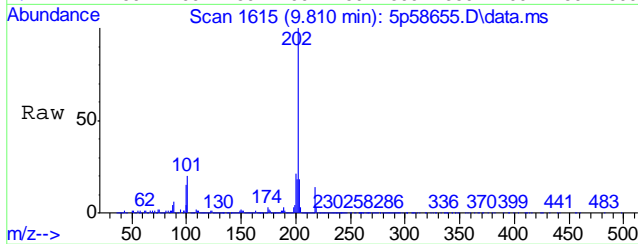
#81  
 Fluoranthene  
 Concen: 43.51 ppm  
 RT: 9.543 min Scan# 1565  
 Delta R.T. -0.068 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

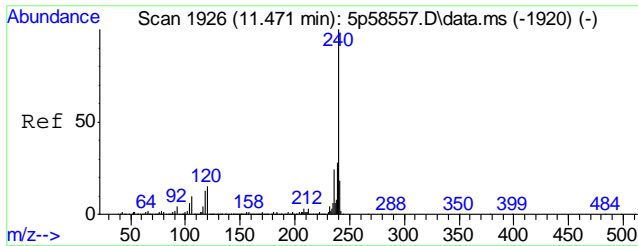
Tgt Ion	Resp	Lower	Upper
202	100		
101	16.7	0.0	46.5
203	17.1	0.0	47.7



#84  
 Pyrene  
 Concen: 36.74 ppm  
 RT: 9.810 min Scan# 1615  
 Delta R.T. -0.180 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

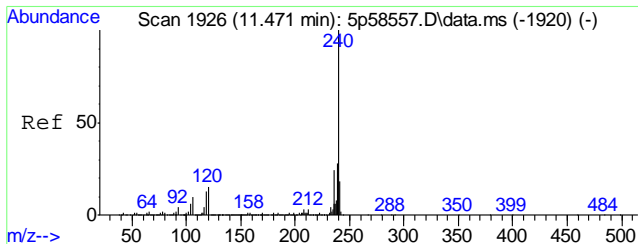
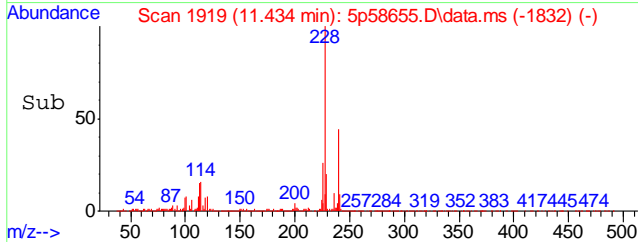
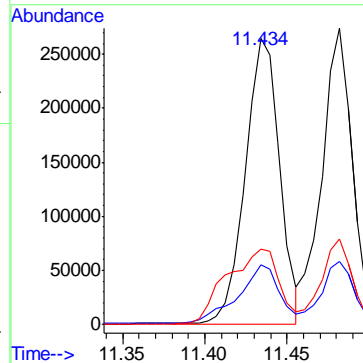
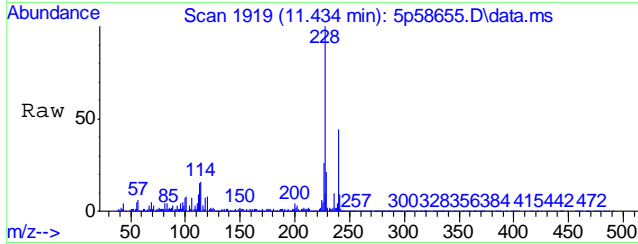
Tgt Ion	Resp	Lower	Upper
202	100		
200	21.1	0.0	50.6
203	18.0	0.0	49.5





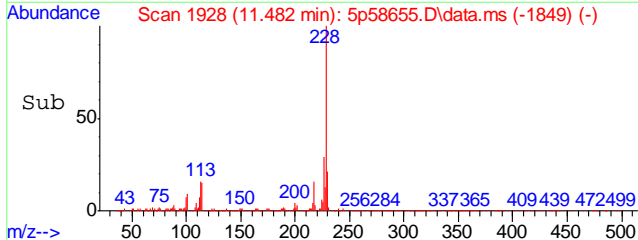
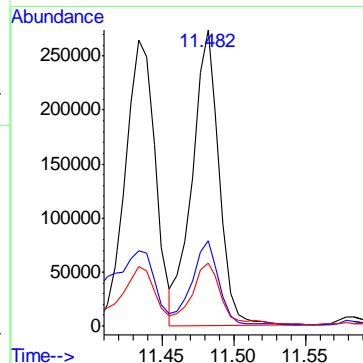
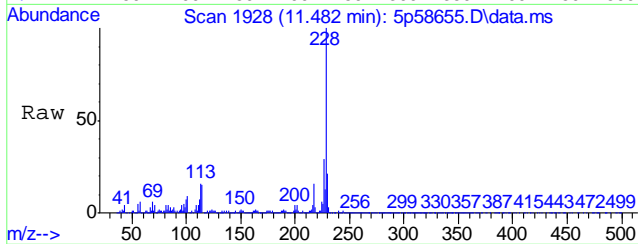
#87  
 Benzo[a]anthracene  
 Concen: 20.75 ppm m  
 RT: 11.434 min Scan# 1919  
 Delta R.T. -0.035 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Ratio	Lower	Upper
228	100		
229	20.6	0.0	49.3
226	26.3	0.0	56.3



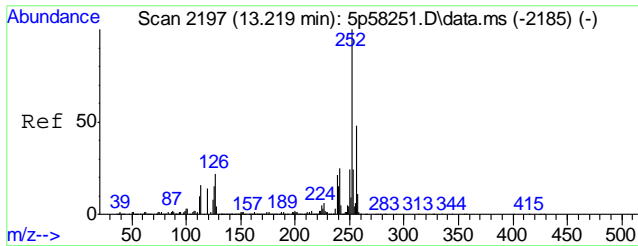
#89  
 Chrysene  
 Concen: 20.95 ppm  
 RT: 11.482 min Scan# 1928  
 Delta R.T. -0.077 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Ratio	Lower	Upper
228	100		
226	28.4	0.0	58.6
229	20.8	0.0	49.0



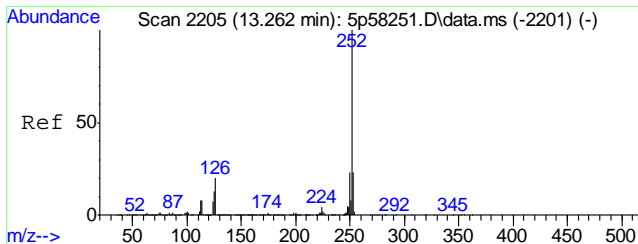
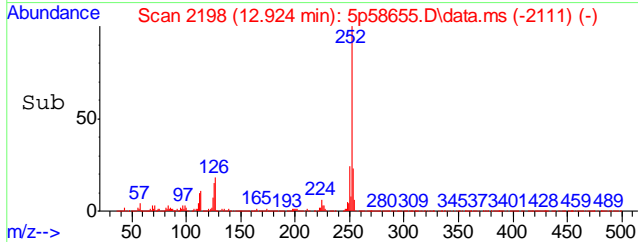
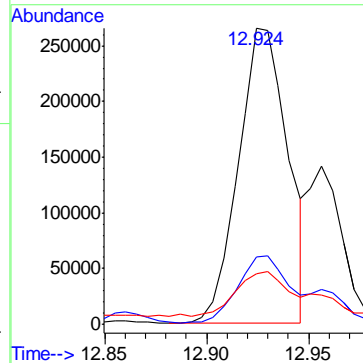
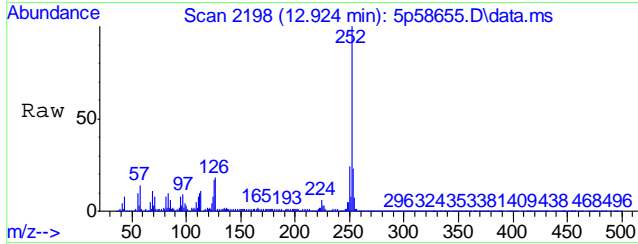
9.12  
 9





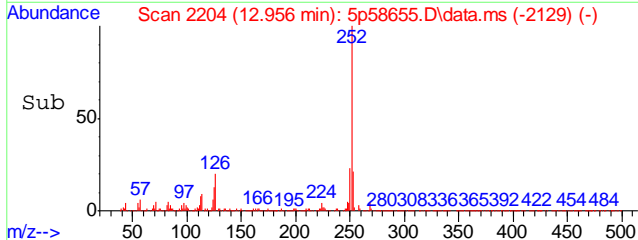
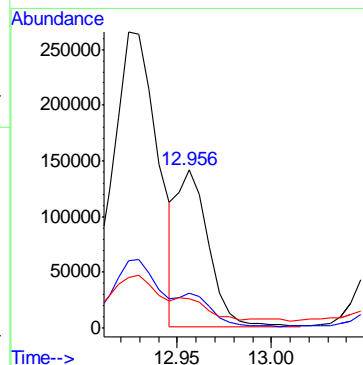
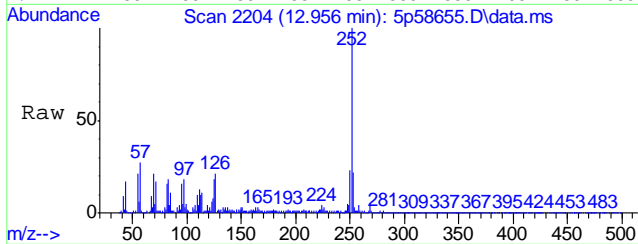
#93  
 Benzo[b]fluoranthene  
 Concen: 26.26 ppm  
 RT: 12.924 min Scan# 2198  
 Delta R.T. -0.038 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
252	100		
253	22.4	0.0	54.7
125	14.3	0.0	45.6

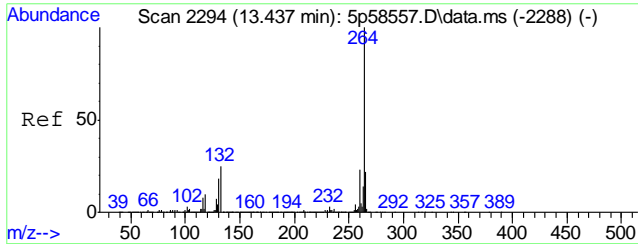


#94  
 Benzo[k]fluoranthene  
 Concen: 10.49 ppm  
 RT: 12.956 min Scan# 2204  
 Delta R.T. -0.098 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
252	100		
253	21.0	0.0	52.6
125	12.0	0.0	43.1

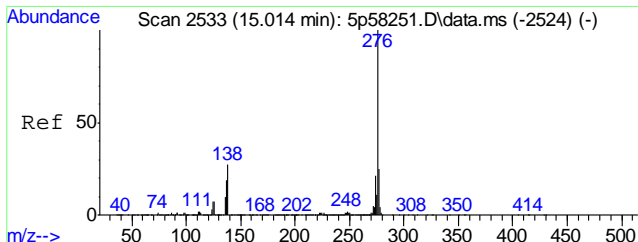
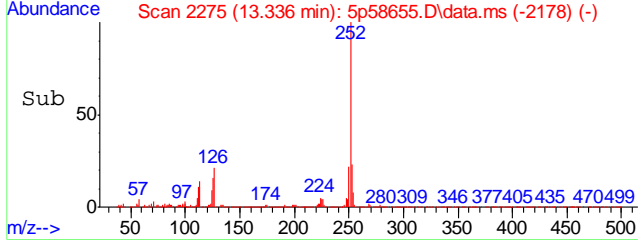
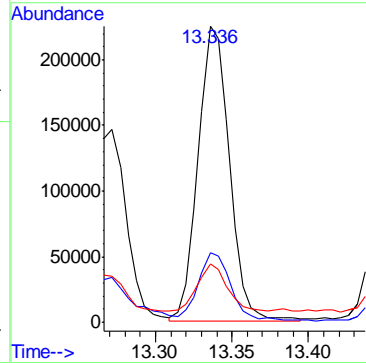
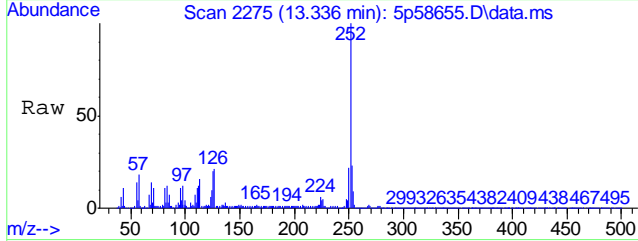


9.1.2  
9



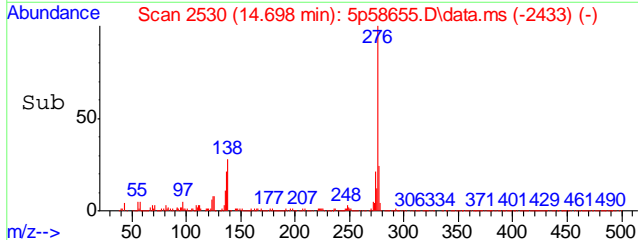
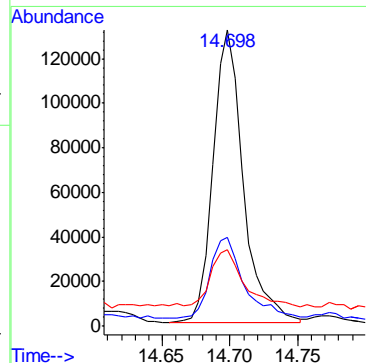
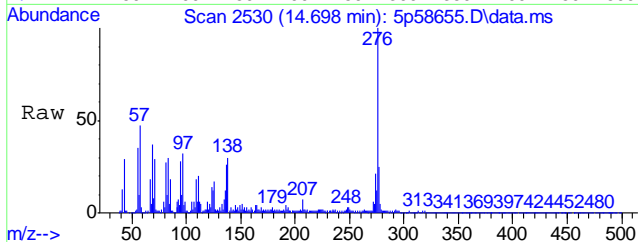
#95  
 Benzo[a]pyrene  
 Concen: 21.06 ppm  
 RT: 13.336 min Scan# 2275  
 Delta R.T. 0.016 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
252	319430		
252	100		
253	22.1	0.0	52.1
125	16.2	0.0	44.8

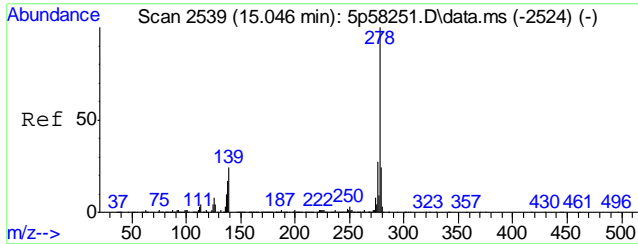


#96  
 Indeno[1,2,3-cd]pyrene  
 Concen: 15.05 ppm  
 RT: 14.698 min Scan# 2530  
 Delta R.T. 0.018 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
276	204262		
276	100		
138	27.7	0.0	56.9
137	19.5	0.0	49.4

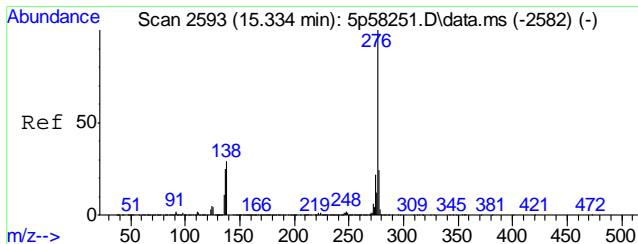
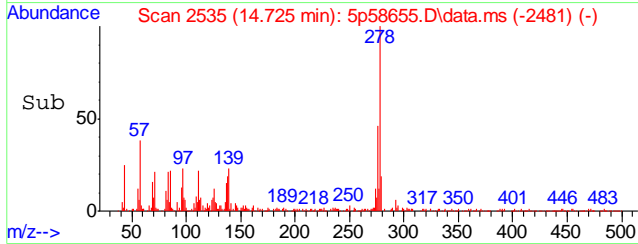
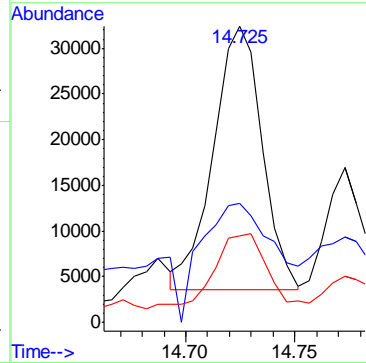
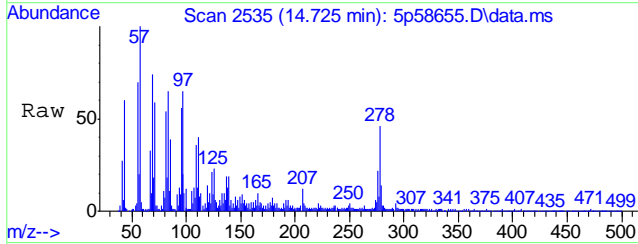


9.12  
9



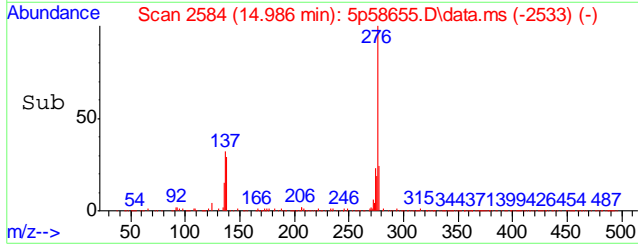
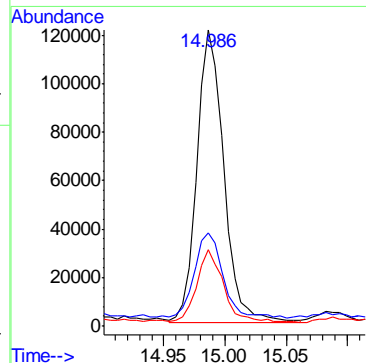
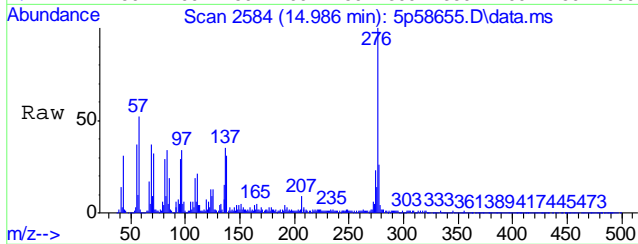
#98  
 Dibenz[a,h]anthracene  
 Concen: 3.19 ppm  
 RT: 14.725 min Scan# 2535  
 Delta R.T. -0.210 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
278	44744		
139	40.0	0.0	53.6
279	29.2	0.0	54.4



#100  
 Benzo[g,h,i]perylene  
 Concen: 13.49 ppm  
 RT: 14.986 min Scan# 2584  
 Delta R.T. -0.230 min  
 Lab File: 5p58655.D  
 Acq: 19 Apr 19 9:52 am

Tgt Ion	Resp	Lower	Upper
276	184821		
138	28.6	0.0	59.0
277	24.8	0.0	53.7



9.12  
**9**

# Manual Integration Approval Summary

Sample Number: JC86337-1                      Method: SW846 8270D  
Lab FileID: 5P58655.D                      Analyst approved: 04/19/19 10:21 Ying Li  
Injection Time: 04/19/19 09:52                      Supervisor approved: 04/19/19 13:04 Kristi Schollenberger

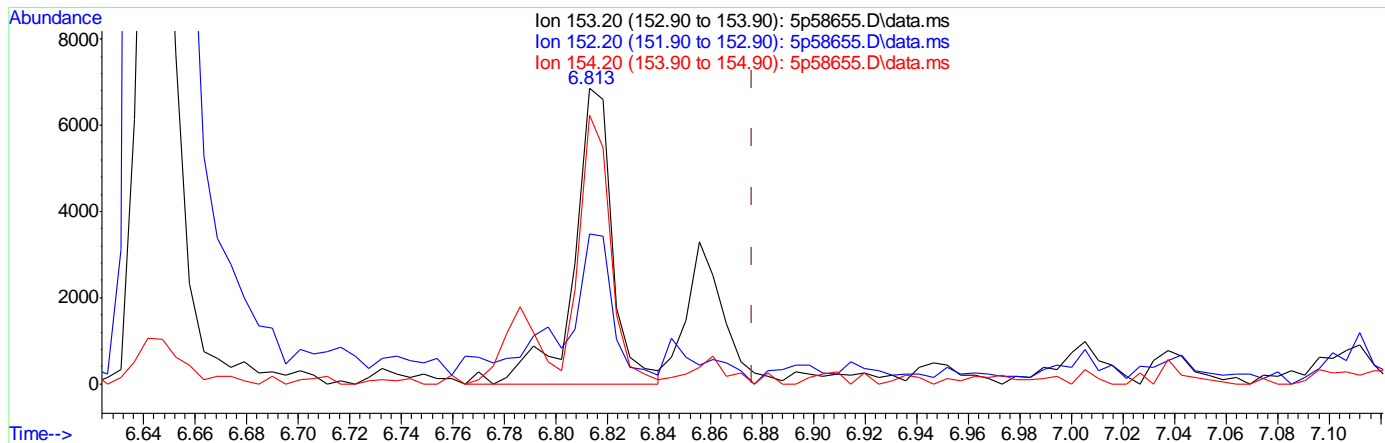
Parameter	CAS	Sig#	R.T. (min.)	Reason
Acenaphthene	83-32-9		6.81	Poor instrument integration
Benzo(a)anthracene	56-55-3		11.43	Poor instrument integration
Dibenzo(a,h)anthracene	53-70-3		14.72	Poor instrument integration

9.1.2.1  
9

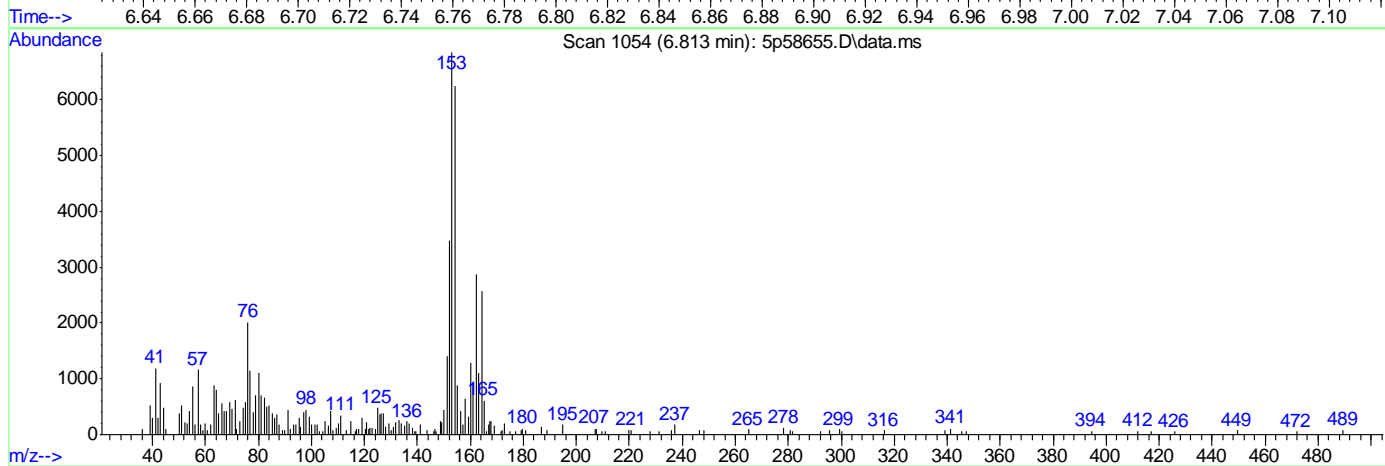
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58655.D  
 Acq On : 19 Apr 2019 9:52 am  
 Operator : carolb  
 Sample : jc86337-1  
 Misc : op19786,e5p2777,30.1,,,1,10  
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 19 10:10:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



9.1.22  
9



TIC: 5p58655.D\data.ms

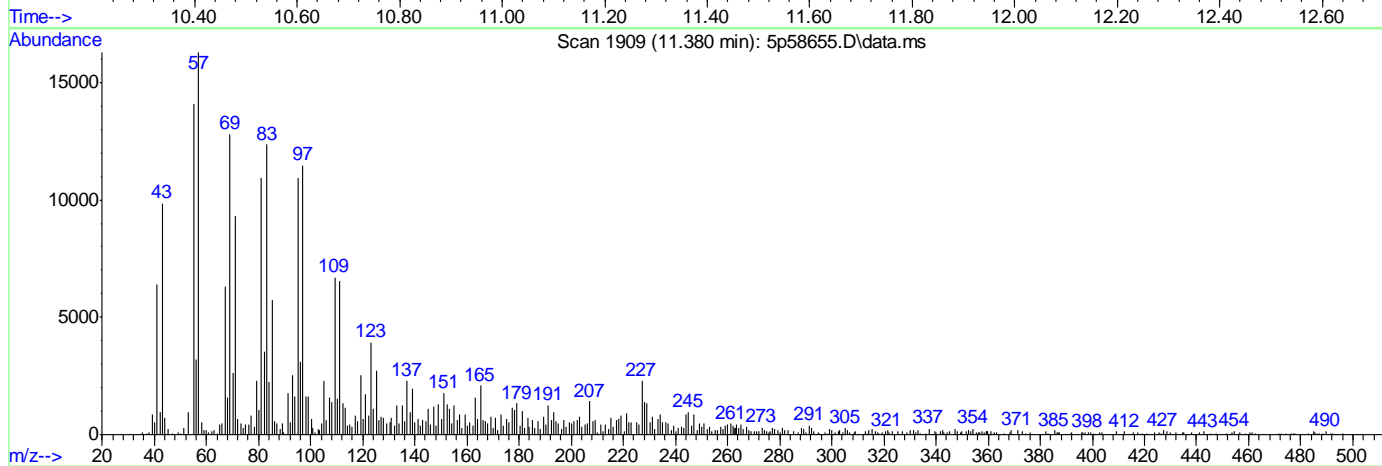
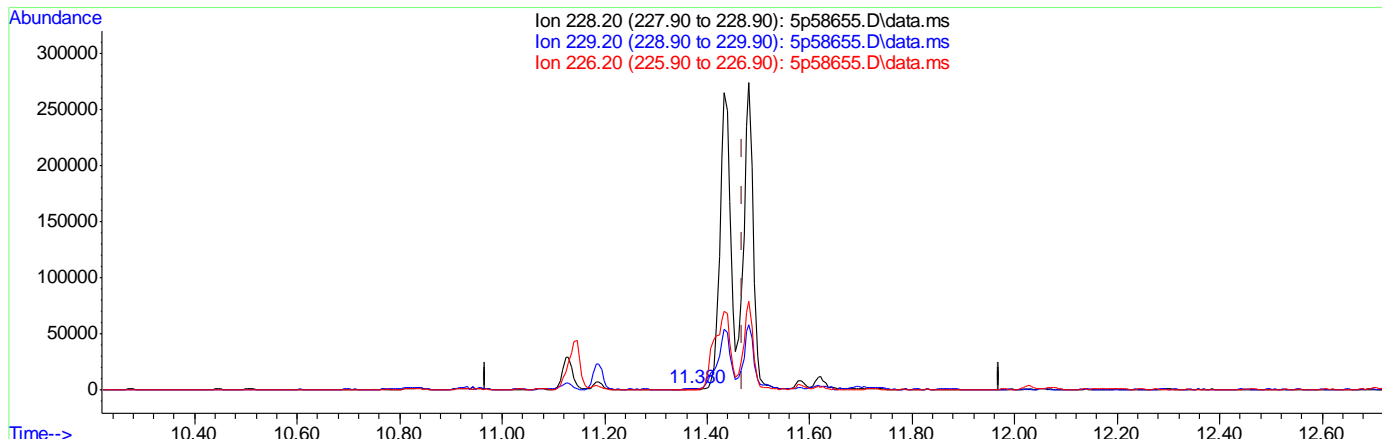
(59) Acenaphthene (t)  
 6.813min (-0.064) 0.67ppm  
 response 7160

Ion	Exp%	Act%
153.20	100	100
152.20	45.90	45.46
154.20	86.10	90.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58655.D  
 Acq On : 19 Apr 2019 9:52 am  
 Operator : carolb  
 Sample : jc86337-1  
 Misc : op19786,e5p2777,30.1,,,1,10  
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 19 10:10:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



(87) Benzo[a]anthracene (t)

11.380min (-0.089) 0.10ppm

response 1870

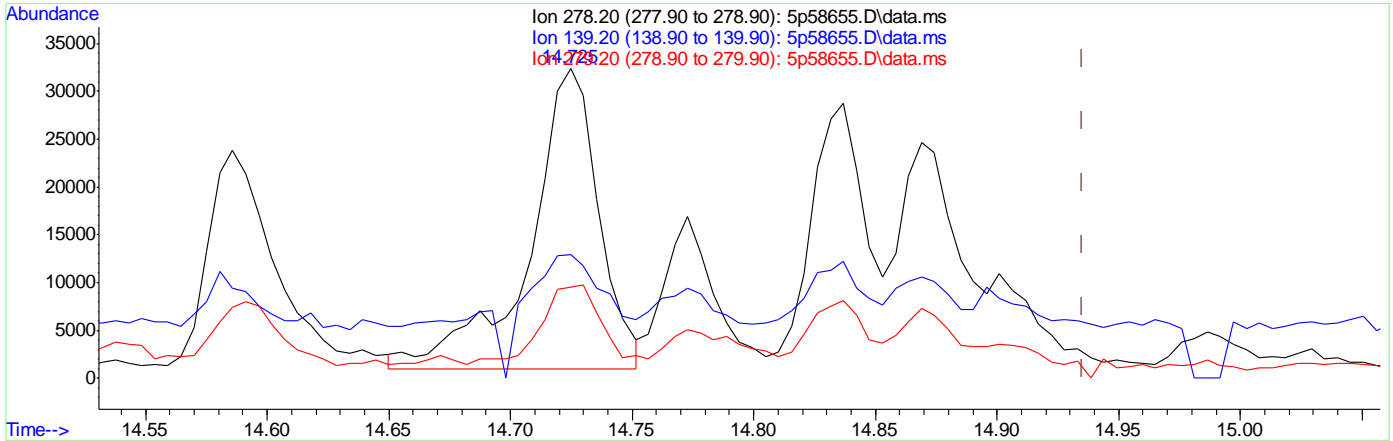
Ion	Exp%	Act%
228.20	100	100
229.20	19.30	40.85
226.20	26.30	0.00
0.00	0.00	0.00

9.1.2.3  
9

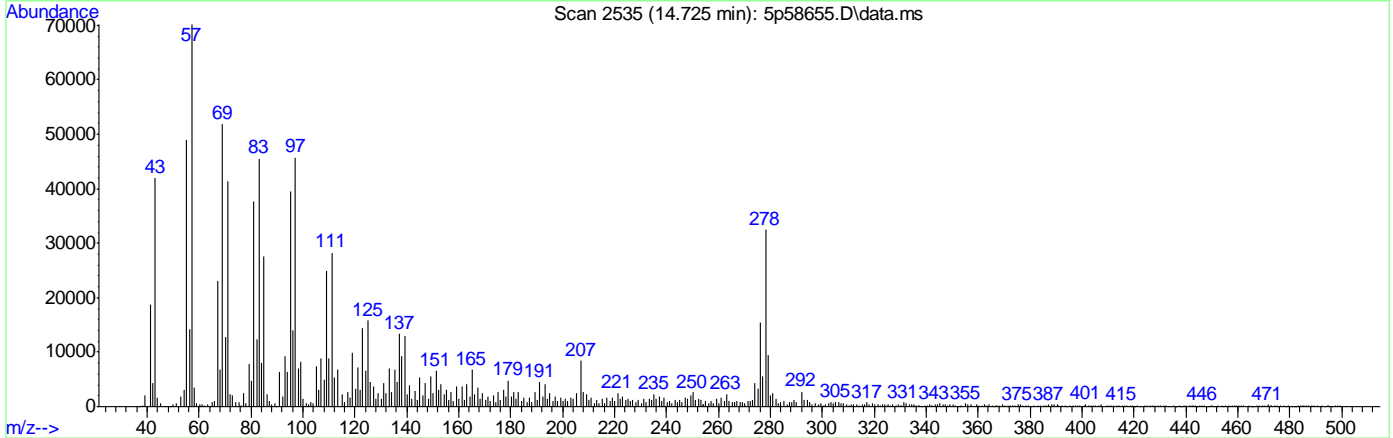
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58655.D  
 Acq On : 19 Apr 2019 9:52 am  
 Operator : carolb  
 Sample : jc86337-1  
 Misc : op19786,e5p2777,30.1,,,1,10  
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 19 10:10:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



9.1.24  
9



TIC: 5p58655.D\data.ms

(98) Dibenz[a,h]anthracene (t)		
14.725min (-0.210) 4.45ppm		
response 62477		
Ion	Exp%	Act%
278.20	100	100
139.20	23.60	24.73
279.20	24.40	25.80
0.00	0.00	0.00

## Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58617.D  
 Acq On : 18 Apr 2019 4:33 pm  
 Operator : christc2  
 Sample : jc86337-2  
 Misc : op19786,e5p2776,30.6,,,1,1  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 19 12:26:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.917	152	174989	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	614630	40.00	ppm	-0.05
47) Acenaphthene-d10	6.786	164	309126	40.00	ppm	-0.06
69) Phenanthrene-d10	8.223	188	506135	40.00	ppm	-0.05
83) Chrysene-d12	11.493	240	491747	40.00	ppm	-0.05
91) Perylene-d12	13.464	264	600561	40.00	ppm	-0.05
101) 1,4-Dichlorobenzene-d4b	3.917	152	174989	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.786	164	309126	40.00	ppm	-0.06
105) Chrysene-d12a	11.493	240	491747	40.00	ppm	-0.05
107) Phenanthrene-d10a	8.223	188	506135	40.00	ppm	-0.05
111) Naphthalene-d8a	5.103	136	614630	40.00	ppm	-0.05
113) Chrysene-d12b	11.493	240	491747	40.00	ppm	-0.05
115) 1,4-Dichlorobenzene-d4c	3.917	152	174989	40.00	ppm	-0.05
117) Chrysene-d12c	11.493	240	491747	40.00	ppm	-0.05
119) Chrysene-d12d	11.493	240	491747	40.00	ppm	-0.05
System Monitoring Compounds						
5) 2-Fluorophenol	2.801	112	213168	31.28	ppm	-0.10
Spiked Amount	50.000		Recovery	=	62.56%	
8) Phenol-d5	3.666	99	278267	32.44	ppm	-0.07
Spiked Amount	50.000		Recovery	=	64.88%	
25) Nitrobenzene-d5	4.435	82	231214	32.45	ppm	-0.07
Spiked Amount	50.000		Recovery	=	64.90%	
51) 2-Fluorobiphenyl	6.156	172	399463	37.18	ppm	-0.07
Spiked Amount	50.000		Recovery	=	74.36%	
73) 2,4,6-Tribromophenol	7.555	330	51920	35.59	ppm	-0.06
Spiked Amount	50.000		Recovery	=	71.18%	
85) Terphenyl-d14	10.072	244	458310	36.63	ppm	-0.20
Spiked Amount	50.000		Recovery	=	73.26%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
38) Naphthalene	5.125	128	790559	51.04	ppm	98
44) 2-Methylnaphthalene	5.792	141	518737	57.08	ppm	98
53) Biphenyl	6.246	154	227762	19.69	ppm	99
56) Acenaphthylene	6.652	152	2487105	173.40	ppm	99
59) Acenaphthene	6.813	153	159876	17.92	ppm	95
62) Dibenzofuran	6.989	168	1785882	133.00	ppm	98
66) Fluorene	7.326	166	2220107	209.28	ppm	94
77) Phenanthrene	8.271	178	8457288	618.17	ppm	95
78) Anthracene	8.309	178	3212589	223.77	ppm	98
79) Carbazole	8.480	167	1019940	70.08	ppm	99
81) Fluoranthene	9.596	202	11293516	664.58	ppm	95
84) Pyrene	9.863	202	9392232m	502.62	ppm	
87) Benzo[a]anthracene	11.477	228	5793620	337.32	ppm	89
89) Chrysene	11.541	228	4625027	291.68	ppm	92



## Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58617.D  
 Acq On : 18 Apr 2019 4:33 pm  
 Operator : christc2  
 Sample : jc86337-2  
 Misc : op19786,e5p2776,30.6,,,1,1  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 19 12:26:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration

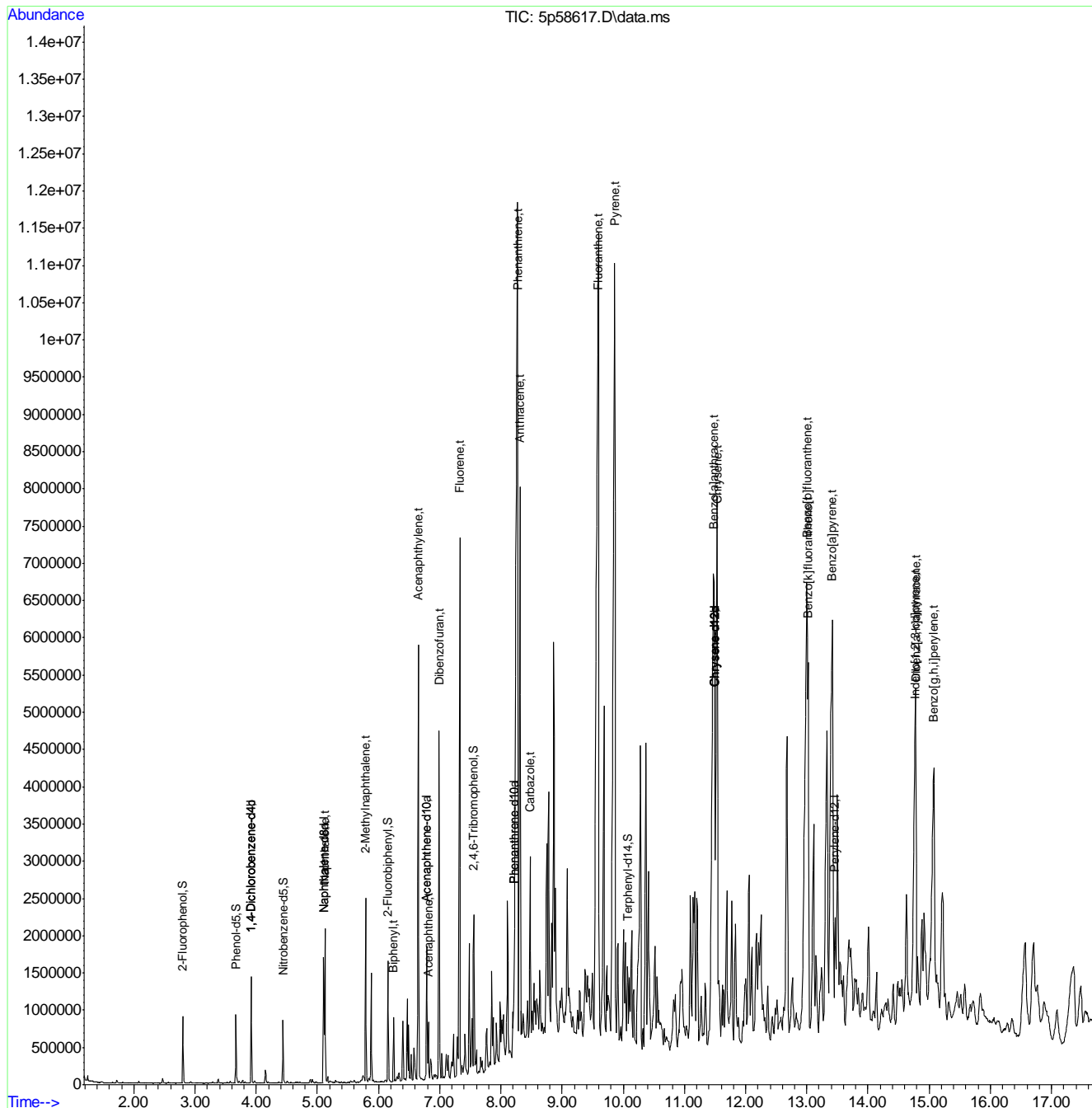
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) Benzo[b]fluoranthene	12.999	252	7356537m	401.19	ppm	
94) Benzo[k]fluoranthene	13.026	252	1583117m	94.32	ppm	
95) Benzo[a]pyrene	13.416	252	5052448	309.34	ppm	98
96) Indeno[1,2,3-cd]pyrene	14.767	276	3324705	227.56	ppm	95
98) Dibenz[a,h]anthracene	14.783	278	984700	65.18	ppm	91
100) Benzo[g,h,i]perylene	15.077	276	3232166	219.15	ppm	98

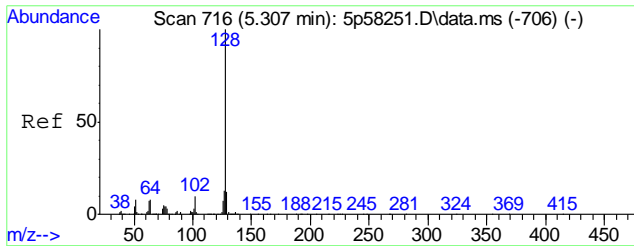
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58617.D  
 Acq On : 18 Apr 2019 4:33 pm  
 Operator : christc2  
 Sample : jc86337-2  
 Misc : op19786,e5p2776,30.6,,,1,1  
 ALS Vial : 18 Sample Multiplier: 1

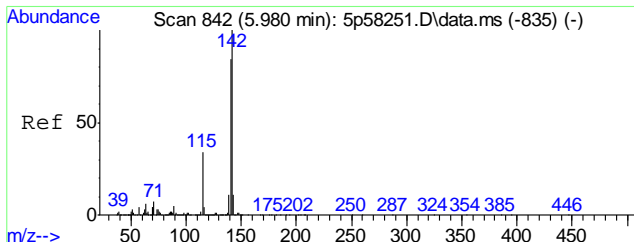
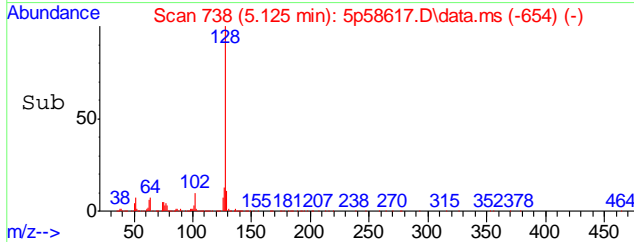
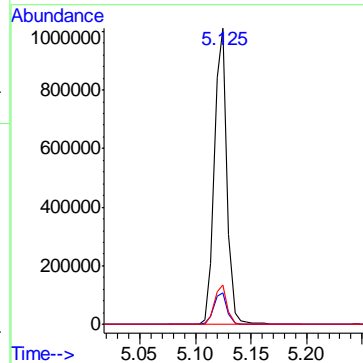
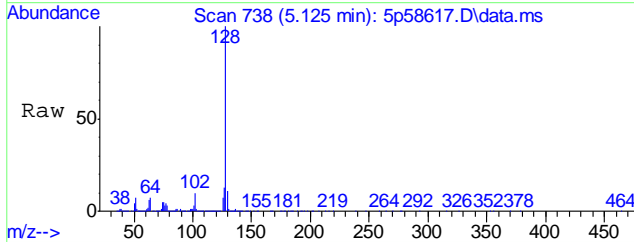
Quant Time: Apr 19 12:26:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration





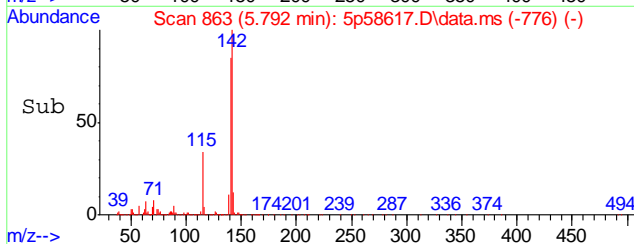
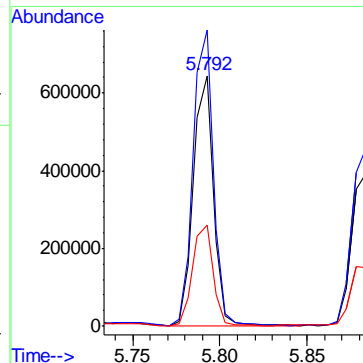
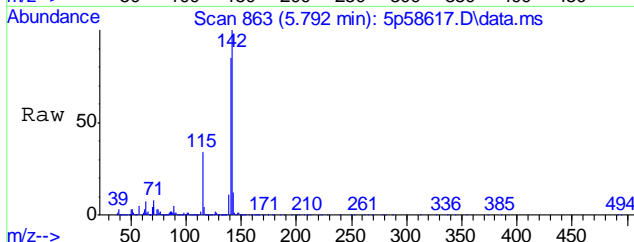
#38  
 Naphthalene  
 Concen: 51.04 ppm  
 RT: 5.125 min Scan# 738  
 Delta R.T. -0.053 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Ratio	Lower	Upper
128	100		
129	10.7	0.0	41.7
127	13.4	0.0	43.1

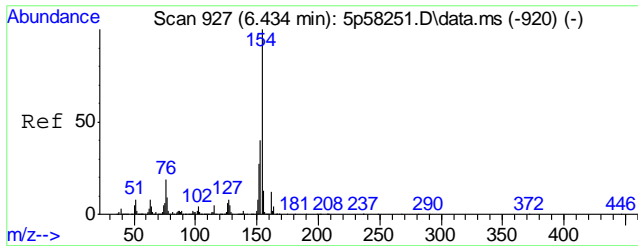


#44  
 2-Methylnaphthalene  
 Concen: 57.08 ppm  
 RT: 5.792 min Scan# 863  
 Delta R.T. -0.037 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Ratio	Lower	Upper
141	100		
142	118.0	89.9	149.9
115	40.1	10.7	70.7

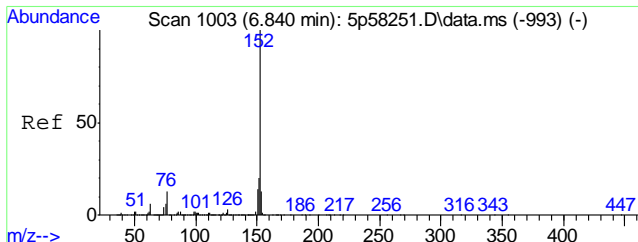
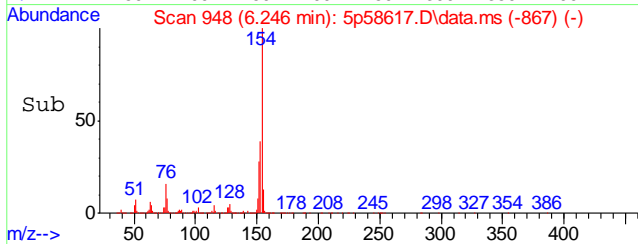
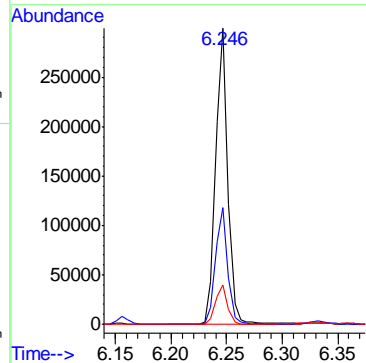
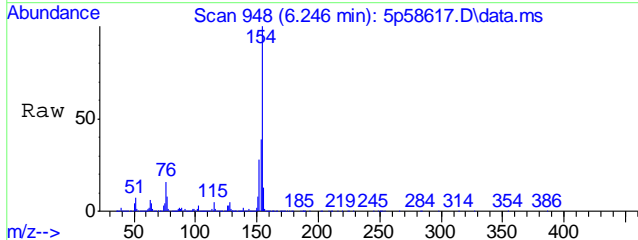


9.1.3  
9



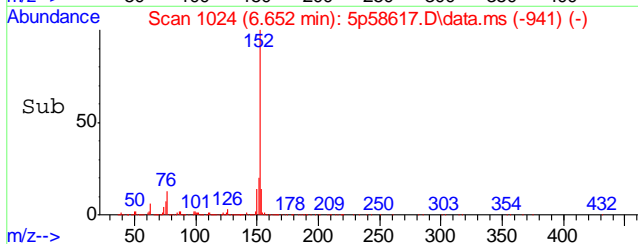
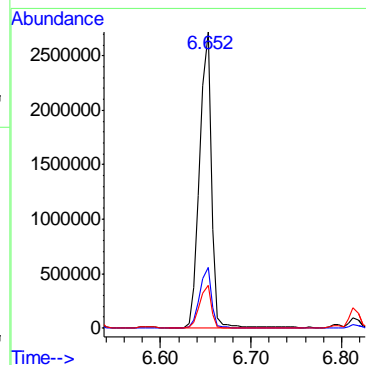
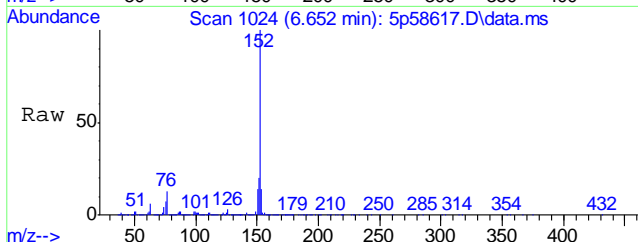
#53  
 Biphenyl  
 Concen: 19.69 ppm  
 RT: 6.246 min Scan# 948  
 Delta R.T. -0.069 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
154	227762	100	
153	39.3	10.2	70.2
155	13.1	0.0	43.4

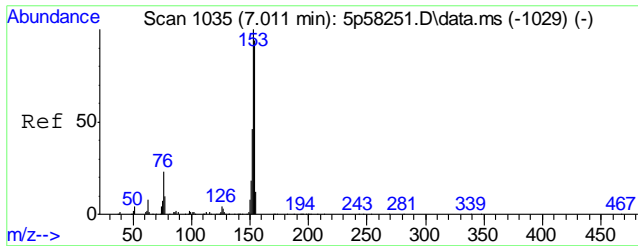


#56  
 Acenaphthylene  
 Concen: 173.40 ppm  
 RT: 6.652 min Scan# 1024  
 Delta R.T. -0.056 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
152	2487105	100	
151	20.3	0.0	50.5
153	14.4	0.0	43.4

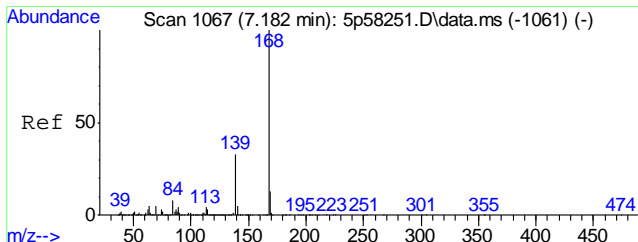
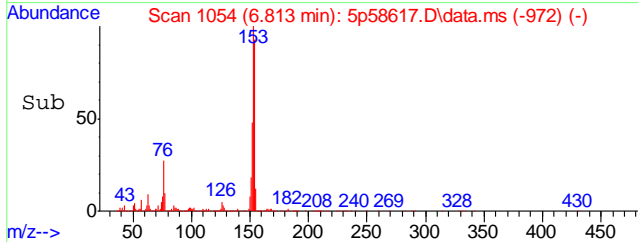
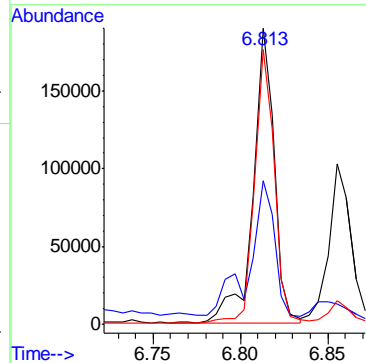
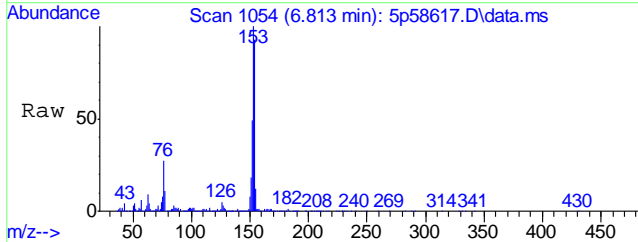


9.1.3  
 9



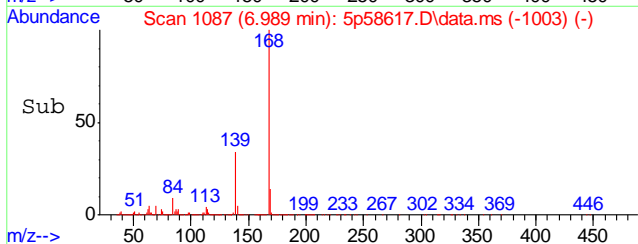
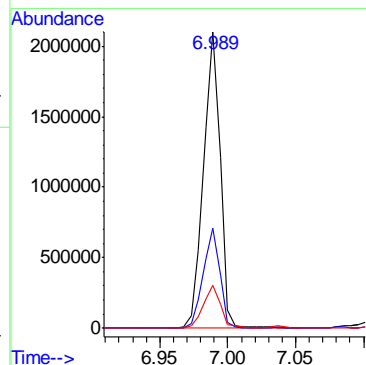
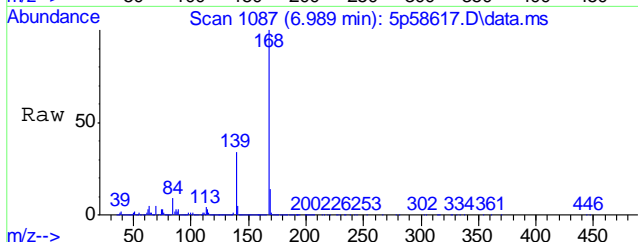
#59  
 Acenaphthene  
 Concen: 17.92 ppm  
 RT: 6.813 min Scan# 1054  
 Delta R.T. -0.064 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
153	159876		
152	46.3	15.9	75.9
154	93.1	56.1	116.1

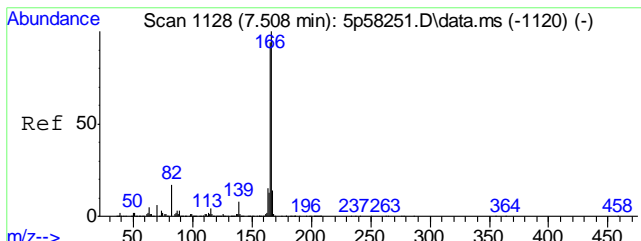


#62  
 Dibenzofuran  
 Concen: 133.00 ppm  
 RT: 6.989 min Scan# 1087  
 Delta R.T. -0.050 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
168	1785882		
168	100		
139	33.8	3.2	63.2
169	14.3	0.0	42.9

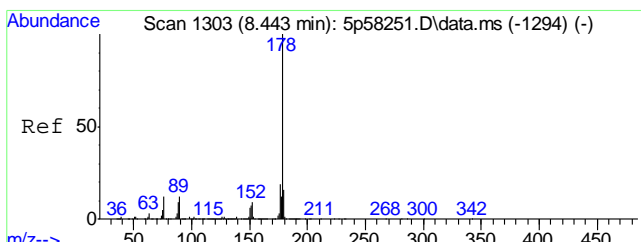
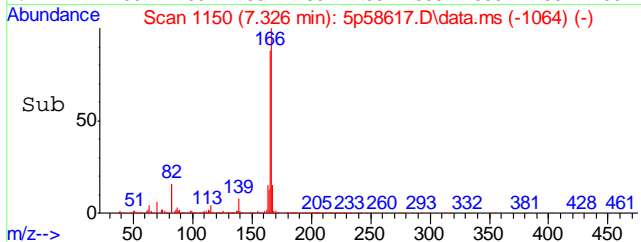
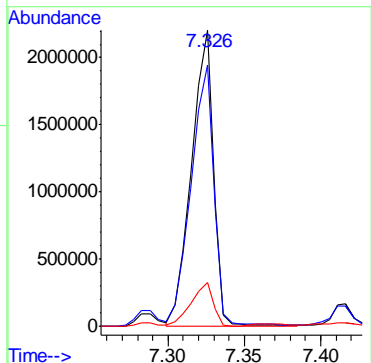
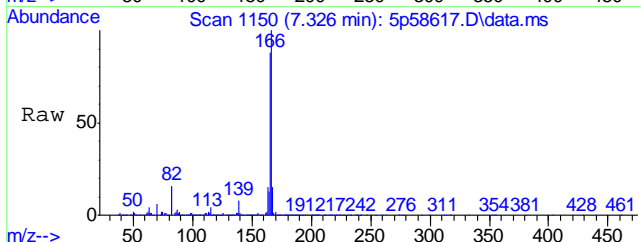


9.13  
 9



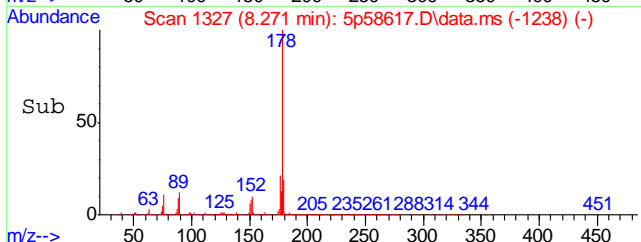
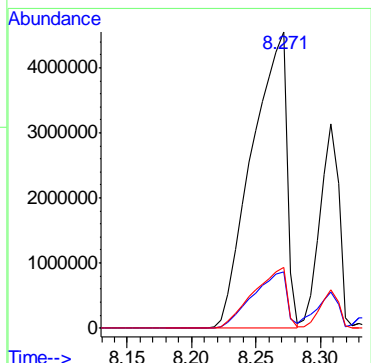
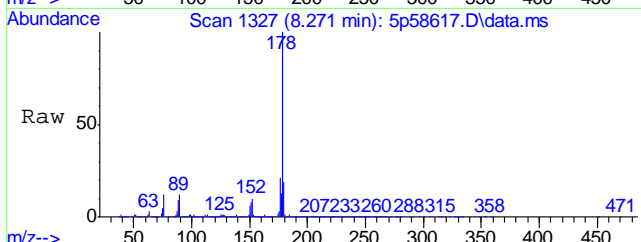
#66  
 Fluorene  
 Concen: 209.28 ppm  
 RT: 7.326 min Scan# 1150  
 Delta R.T. -0.038 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

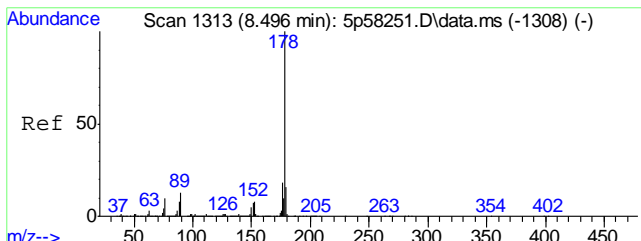
Tgt Ion	Resp	Lower	Upper
166	100		
165	88.0	64.3	124.3
167	14.6	0.0	43.8



#77  
 Phenanthrene  
 Concen: 618.17 ppm  
 RT: 8.271 min Scan# 1327  
 Delta R.T. -0.027 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

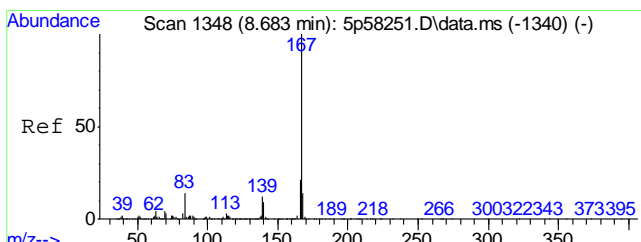
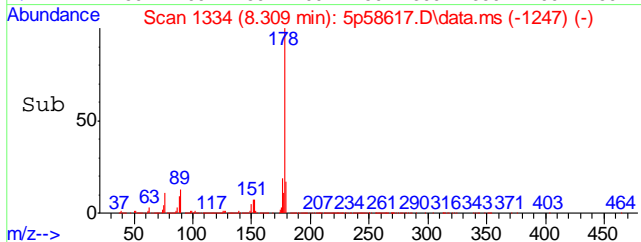
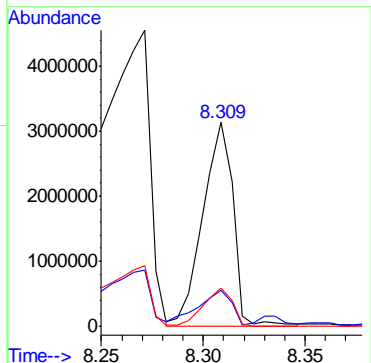
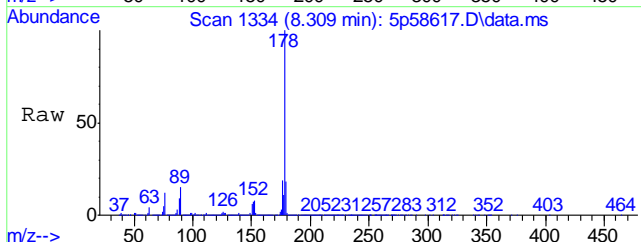
Tgt Ion	Resp	Lower	Upper
178	100		
179	18.3	0.0	45.8
176	20.7	0.0	48.5





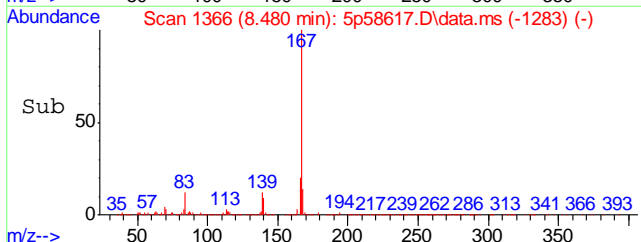
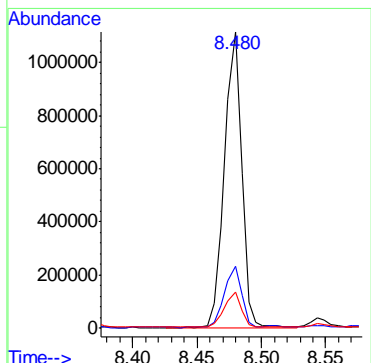
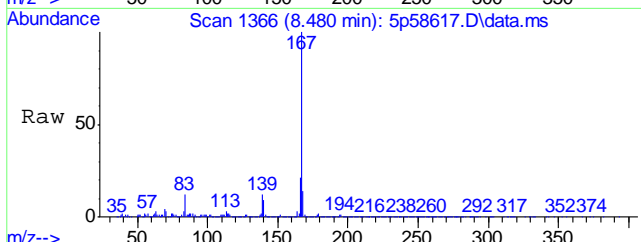
#78  
 Anthracene  
 Concen: 223.77 ppm  
 RT: 8.309 min Scan# 1334  
 Delta R.T. -0.036 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

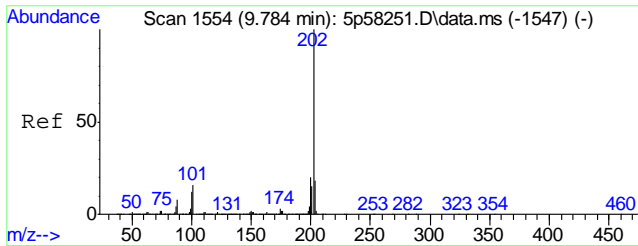
Tgt Ion	Resp	Lower	Upper
178	3212589		
179	16.2	0.0	45.6
176	19.0	0.0	48.3



#79  
 Carbazole  
 Concen: 70.08 ppm  
 RT: 8.480 min Scan# 1366  
 Delta R.T. -0.055 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

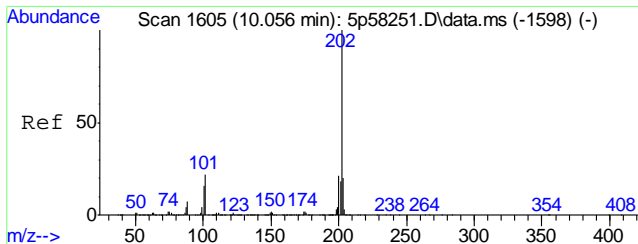
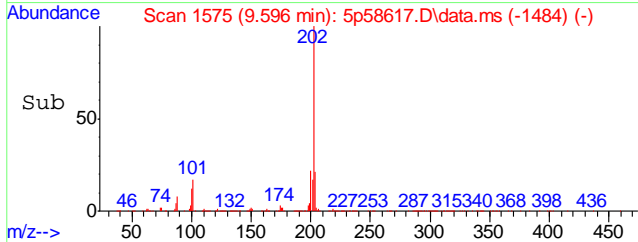
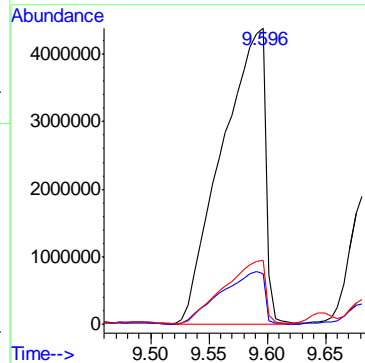
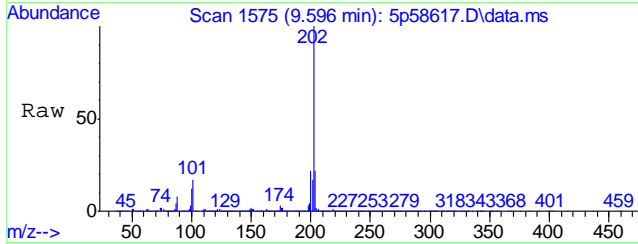
Tgt Ion	Resp	Lower	Upper
167	1019940		
166	20.7	0.0	50.7
139	11.8	0.0	42.4





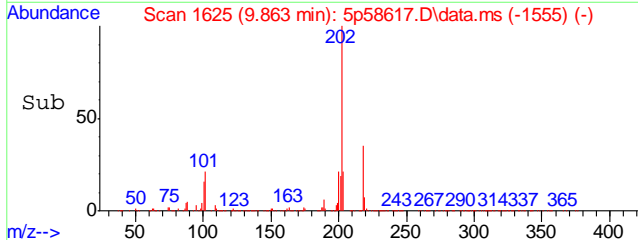
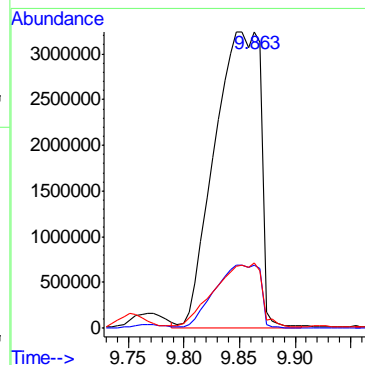
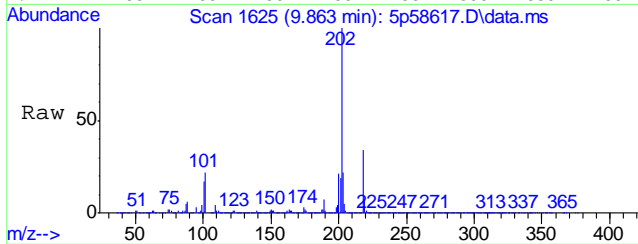
#81  
 Fluoranthene  
 Concen: 664.58 ppm  
 RT: 9.596 min Scan# 1575  
 Delta R.T. -0.015 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
202	11293516		
101	17.1	0.0	46.5
203	21.2	0.0	47.7

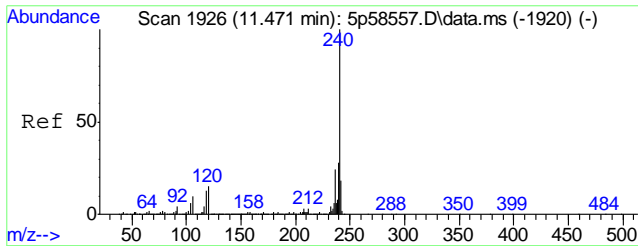


#84  
 Pyrene  
 Concen: 502.62 ppm m  
 RT: 9.863 min Scan# 1625  
 Delta R.T. -0.127 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
202	9392232		
200	21.4	0.0	50.6
203	22.2	0.0	49.5

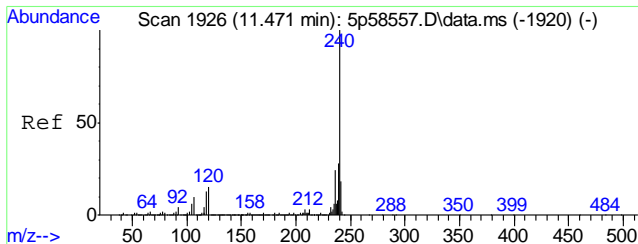
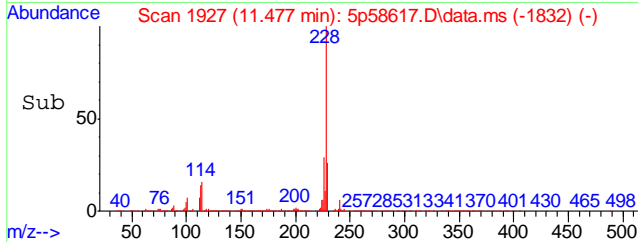
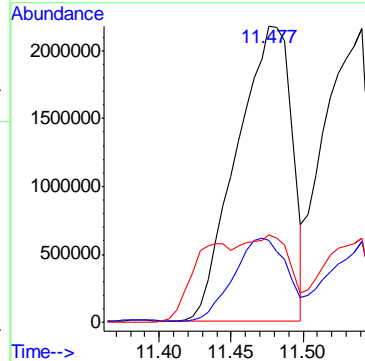
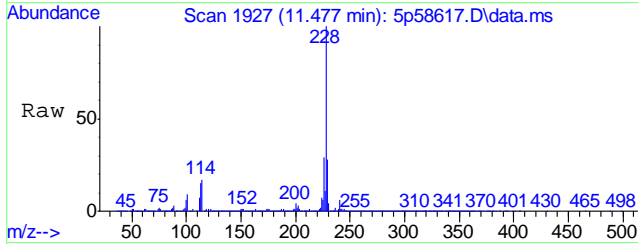






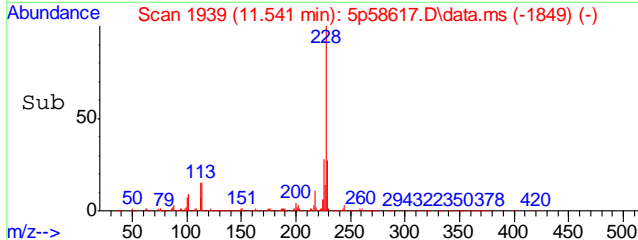
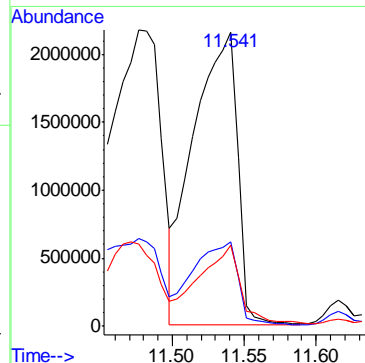
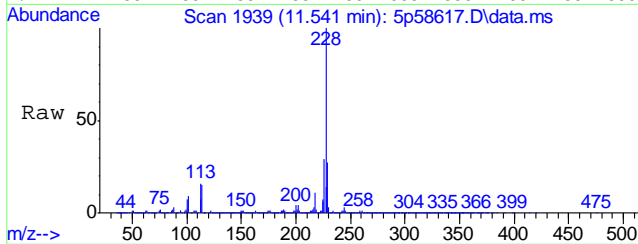
#87  
 Benzo[a]anthracene  
 Concen: 337.32 ppm  
 RT: 11.477 min Scan# 1927  
 Delta R.T. 0.008 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Ratio	Lower	Upper
228	100		
229	28.1	0.0	49.3
226	28.7	0.0	56.3

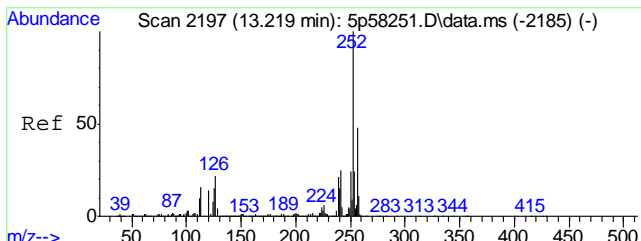


#89  
 Chrysene  
 Concen: 291.68 ppm  
 RT: 11.541 min Scan# 1939  
 Delta R.T. -0.018 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Ratio	Lower	Upper
228	100		
226	28.3	0.0	58.6
229	27.1	0.0	49.0

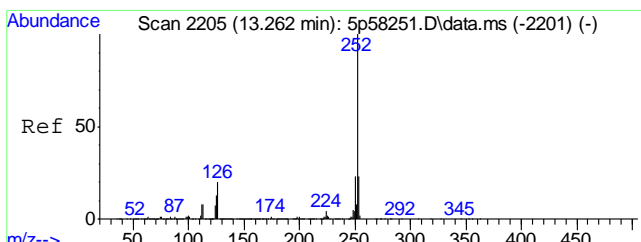
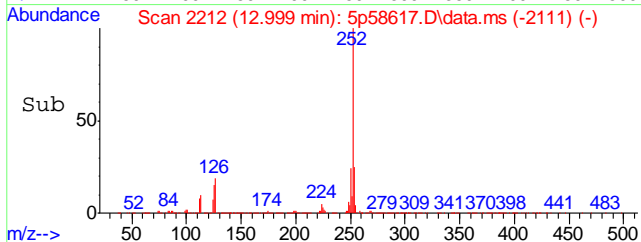
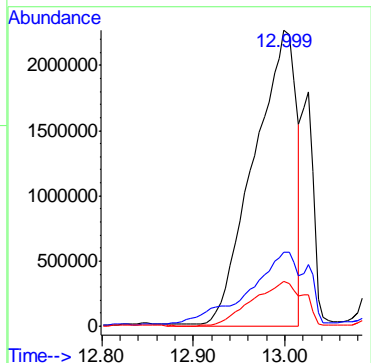
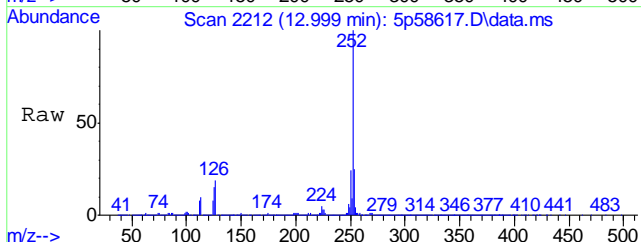


9.1.3  
 9



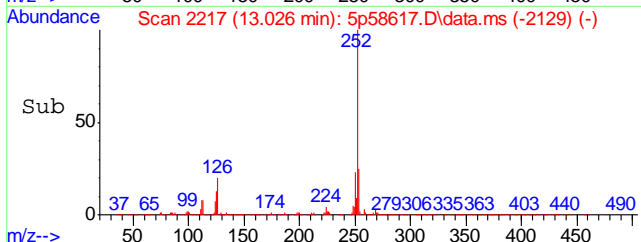
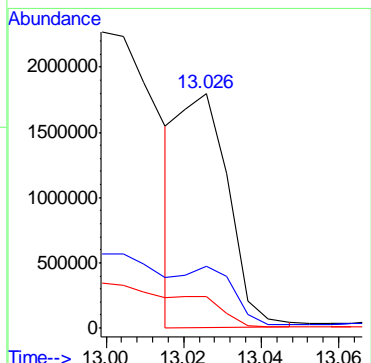
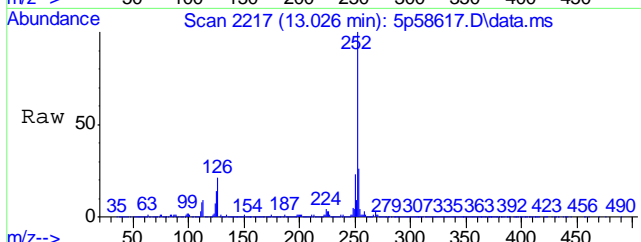
#93  
 Benzo[b]fluoranthene  
 Concen: 401.19 ppm m  
 RT: 12.999 min Scan# 2212  
 Delta R.T. 0.037 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	25.1	0.0	54.7
125	15.1	0.0	45.6

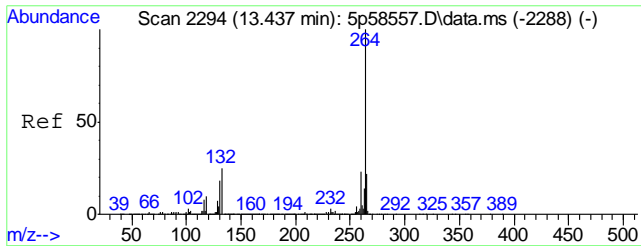


#94  
 Benzo[k]fluoranthene  
 Concen: 94.32 ppm m  
 RT: 13.026 min Scan# 2217  
 Delta R.T. -0.028 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	26.2	0.0	52.6
125	13.5	0.0	43.1

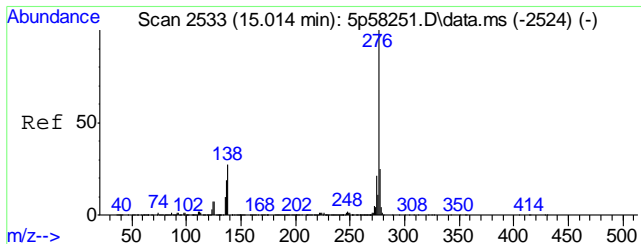
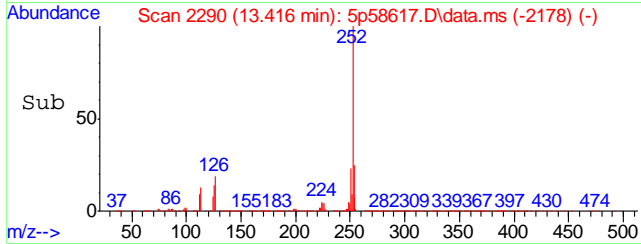
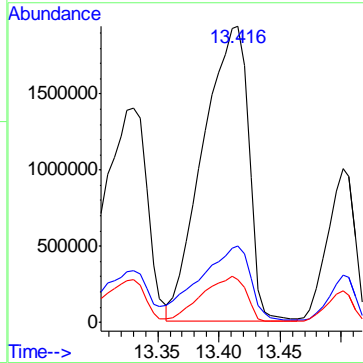
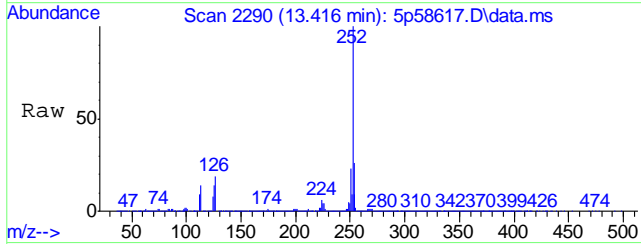


9.1.3  
 9



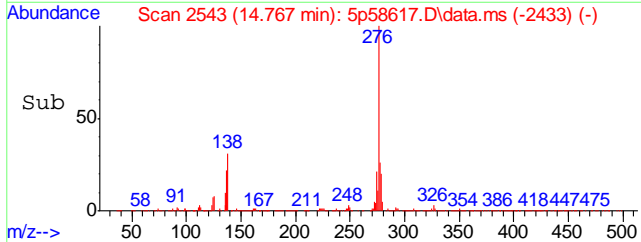
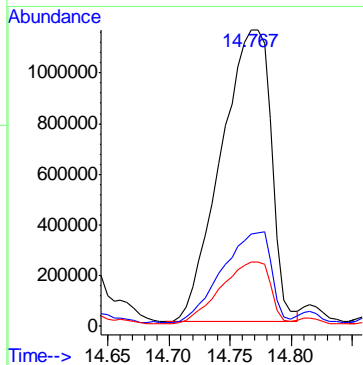
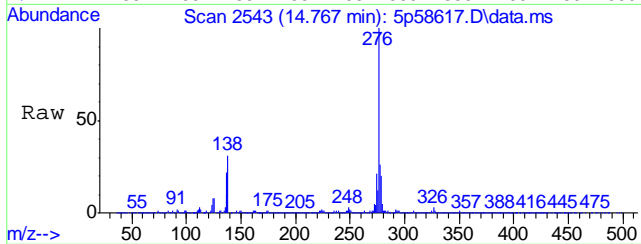
#95  
 Benzo[a]pyrene  
 Concen: 309.34 ppm  
 RT: 13.416 min Scan# 2290  
 Delta R.T. 0.096 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	23.2	0.0	52.1
125	14.2	0.0	44.8

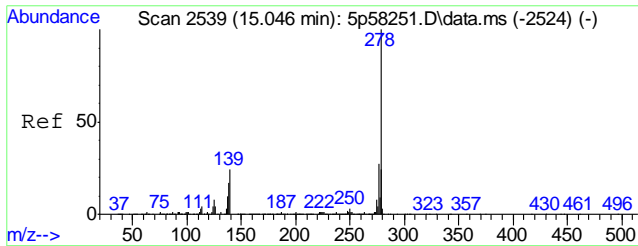


#96  
 Indeno[1,2,3-cd]pyrene  
 Concen: 227.56 ppm  
 RT: 14.767 min Scan# 2543  
 Delta R.T. 0.087 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
276	100		
138	30.0	0.0	56.9
137	21.0	0.0	49.4

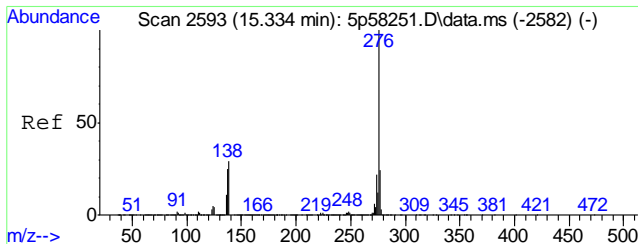
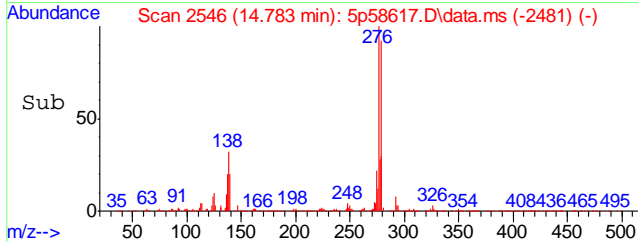
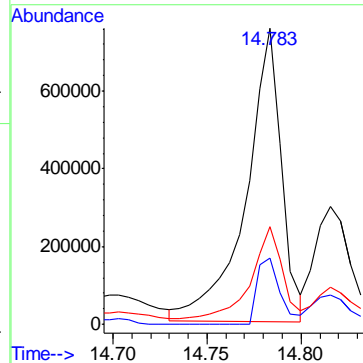
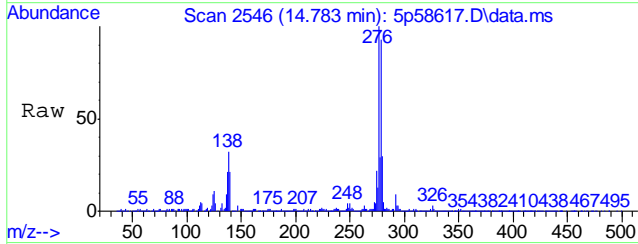


9.1.3  
 9



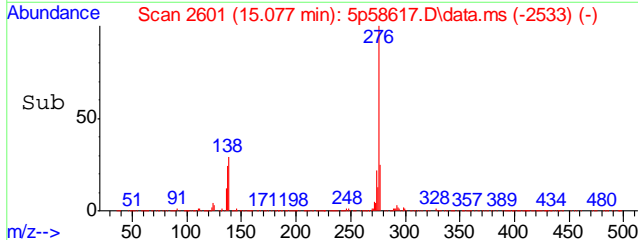
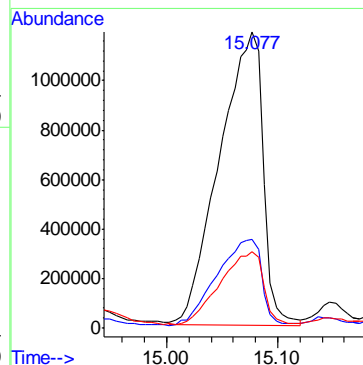
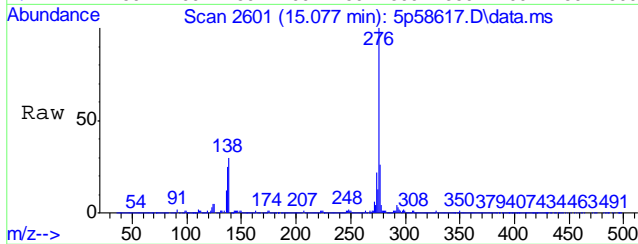
#98  
 Dibenz[a,h]anthracene  
 Concen: 65.18 ppm  
 RT: 14.783 min Scan# 2546  
 Delta R.T. -0.152 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
278	100		
139	22.6	0.0	53.6
279	31.9	0.0	54.4



#100  
 Benzo[g,h,i]perylene  
 Concen: 219.15 ppm  
 RT: 15.077 min Scan# 2601  
 Delta R.T. -0.139 min  
 Lab File: 5p58617.D  
 Acq: 18 Apr 19 4:33 pm

Tgt Ion	Resp	Lower	Upper
276	100		
138	29.5	0.0	59.0
277	24.8	0.0	53.7



9.1.3  
 9

# Manual Integration Approval Summary

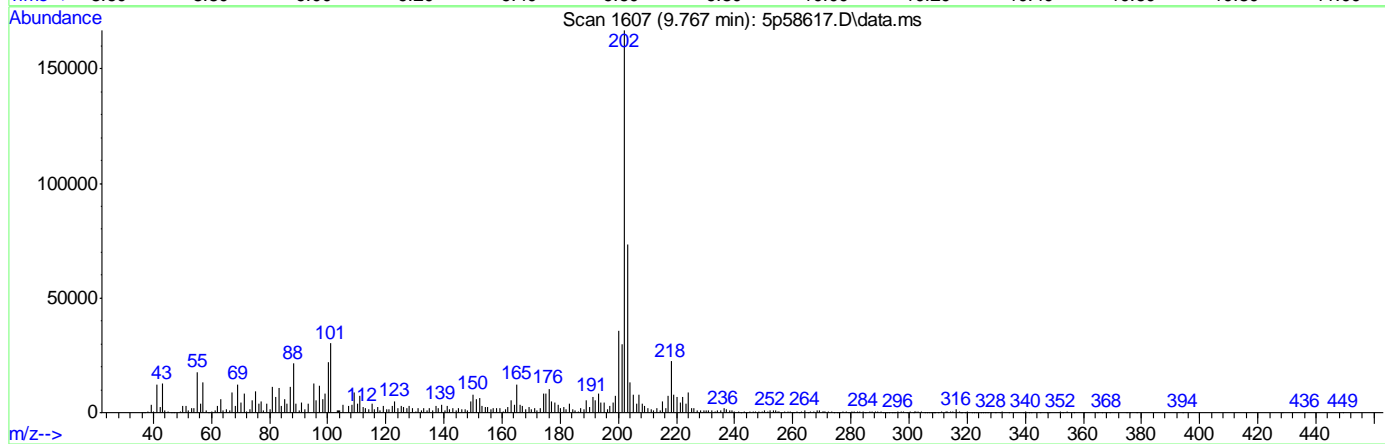
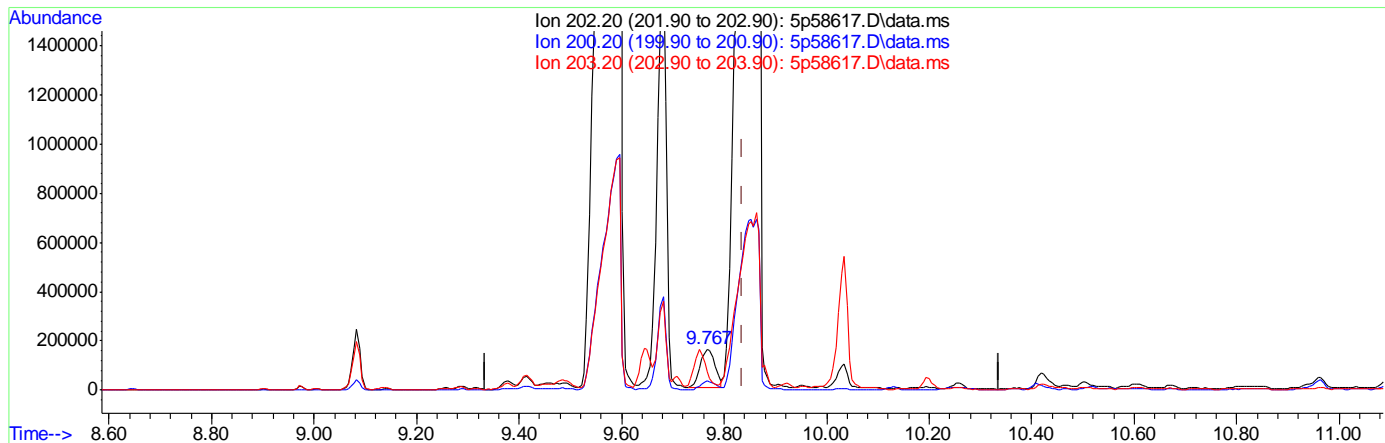
Sample Number: JC86337-2                      Method: SW846 8270D  
Lab FileID: 5P58617.D                      Analyst approved: 04/19/19 12:41 Kristi Schollenberger  
Injection Time: 04/18/19 16:33                      Supervisor approved: 04/19/19 13:04 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Pyrene	129-00-0		9.86	Poor instrument integration
Benzo(b)fluoranthene	205-99-2		13.00	Poor instrument integration
Benzo(k)fluoranthene	207-08-9		13.03	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58617.D  
 Acq On : 18 Apr 2019 4:33 pm  
 Operator : christc2  
 Sample : jc86337-2  
 Misc : op19786,e5p2776,30.6,,,1,1  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 18 17:24:45 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration



(84) Pyrene (t)  
 9.767min (-0.069) 17.14ppm  
 response 320251

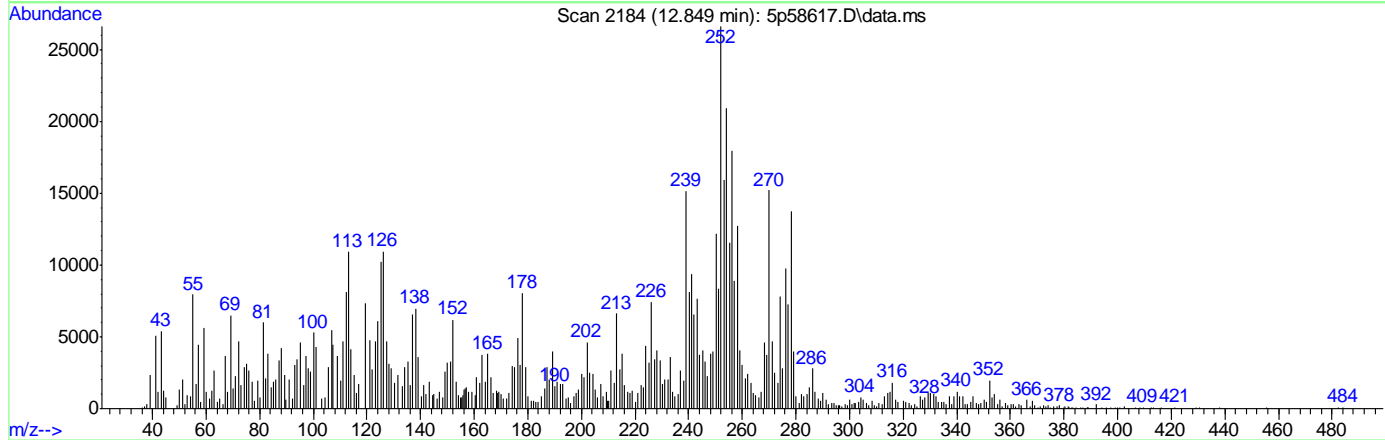
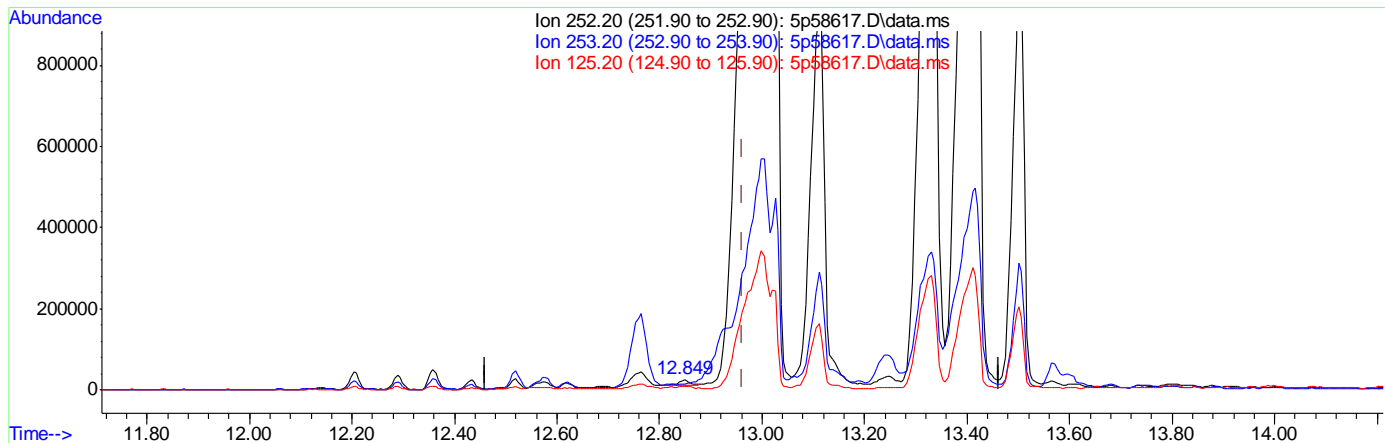
Ion	Exp%	Act%
202.20	100	100
200.20	20.60	20.52
203.20	19.50	34.51
0.00	0.00	0.00

9.1.3.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58617.D  
 Acq On : 18 Apr 2019 4:33 pm  
 Operator : christc2  
 Sample : jc86337-2  
 Misc : op19786,e5p2776,30.6,,,1,1  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 18 17:24:45 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration



(93) Benzo[b]fluoranthene (t)

12.849min (-0.113) 1.49ppm

response 27262

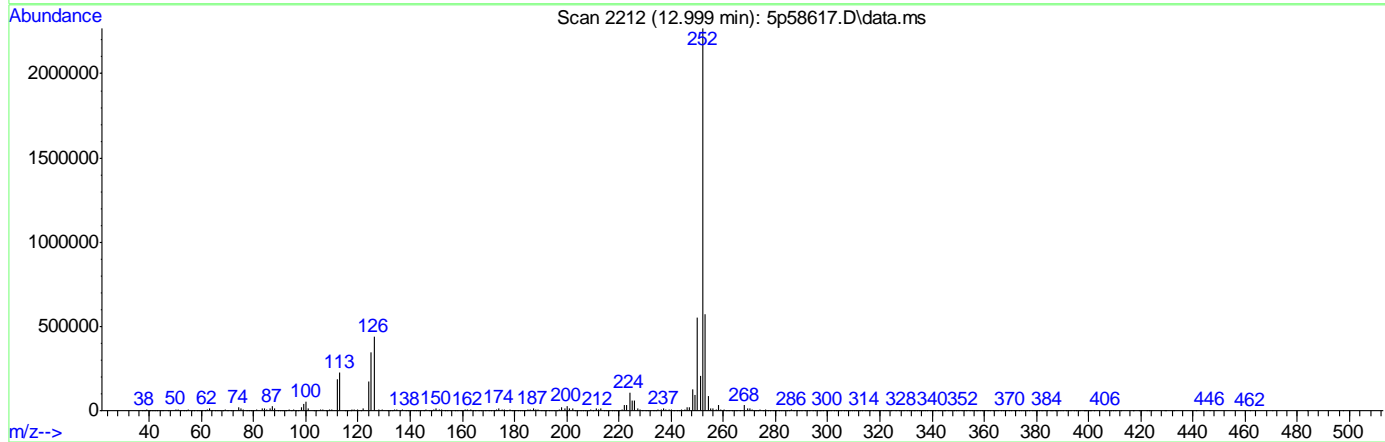
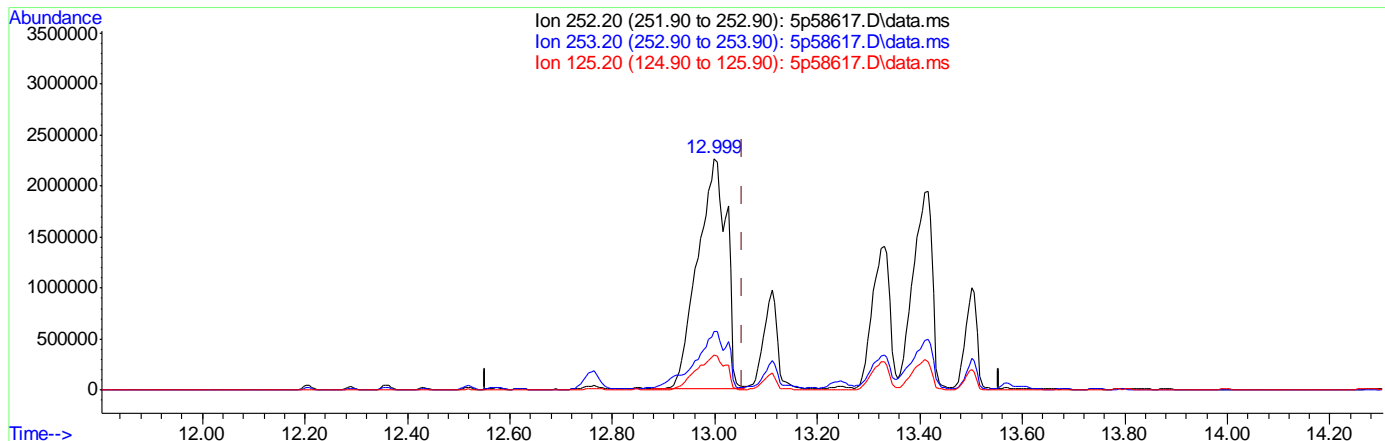
Ion	Exp%	Act%
252.20	100	100
253.20	24.70	0.00
125.20	15.60	36.29
0.00	0.00	0.00

9.1.3.3  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58617.D  
 Acq On : 18 Apr 2019 4:33 pm  
 Operator : christc2  
 Sample : jc86337-2  
 Misc : op19786,e5p2776,30.6,,,1,1  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 18 17:24:45 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration



(94) Benzo[k]fluoranthene (t)  
 12.999min (-0.055) 526.14ppm  
 response 8831389

Ion	Exp%	Act%
252.20	100	100
253.20	22.60	24.13
125.20	13.10	15.01
0.00	0.00	0.00

9.1.3.4  
 9



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 12:24:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) 1,4-Dichlorobenzene-d4	3.917	152	204331	40.00	ppm	-0.05	
24) Naphthalene-d8	5.103	136	762068	40.00	ppm	-0.05	
47) Acenaphthene-d10	6.786	164	382522	40.00	ppm	-0.06	
69) Phenanthrene-d10	8.212	188	650803	40.00	ppm	-0.06	
83) Chrysene-d12	11.450	240	566054	40.00	ppm	-0.09	
91) Perylene-d12	13.416	264	487019	40.00	ppm	-0.10	
101) 1,4-Dichlorobenzene-d4b	3.917	152	204331	40.00	ppm	-0.05	
103) Acenaphthene-d10a	6.786	164	382522	40.00	ppm	-0.06	
105) Chrysene-d12a	11.450	240	566054	40.00	ppm	-0.09	
107) Phenanthrene-d10a	8.212	188	650803	40.00	ppm	-0.06	
111) Naphthalene-d8a	5.103	136	762068	40.00	ppm	-0.05	
113) Chrysene-d12b	11.450	240	566000	40.00	ppm	-0.09	
115) 1,4-Dichlorobenzene-d4c	3.917	152	204331	40.00	ppm	-0.05	
117) Chrysene-d12c	11.450	240	566054	40.00	ppm	-0.09	
119) Chrysene-d12d	11.450	240	566000	40.00	ppm	-0.09	
System Monitoring Compounds							
5) 2-Fluorophenol	2.801	112	23706	2.98	ppm	-0.10	
Spiked Amount	50.000		Recovery	=	5.96%		
8) Phenol-d5	3.666	99	27878	2.78	ppm	-0.07	
Spiked Amount	50.000		Recovery	=	5.56%		
25) Nitrobenzene-d5	4.441	82	27925	3.16	ppm	-0.06	
Spiked Amount	50.000		Recovery	=	6.32%		
51) 2-Fluorobiphenyl	6.156	172	51359	3.86	ppm	-0.07	
Spiked Amount	50.000		Recovery	=	7.72%		
73) 2,4,6-Tribromophenol	7.555	330	6744	3.60	ppm	-0.06	
Spiked Amount	50.000		Recovery	=	7.20%		
85) Terphenyl-d14	10.056	244	52048	3.61	ppm	-0.22	
Spiked Amount	50.000		Recovery	=	7.22%		
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm		
Spiked Amount	50.000		Recovery	=	0.00%		
108) o-terphenyl	0.000	230	0	0.00	ppm		
Spiked Amount	50.000		Recovery	=	0.00%		
Target Compounds							
38) Naphthalene	5.125	128	99087	5.16	ppm		Qvalue 98
44) 2-Methylnaphthalene	5.792	141	67668	6.01	ppm		99
53) Biphenyl	6.247	154	28629	2.00	ppm		98
56) Acenaphthylene	6.642	152	363107	20.46	ppm		100
59) Acenaphthene	6.813	153	16558m	1.50	ppm		
62) Dibenzofuran	6.984	168	255245	15.36	ppm		98
66) Fluorene	7.315	166	350593	26.71	ppm		99
77) Phenanthrene	8.239	178	1517897	86.28	ppm		99
78) Anthracene	8.287	178	438414	23.75	ppm		98
79) Carbazole	8.469	167	129340	6.91	ppm		99
81) Fluoranthene	9.543	202	1833171	83.90	ppm		97
84) Pyrene	9.810	202	1409415m	65.52	ppm		
87) Benzo[a]anthracene	11.434	228	748265m	37.85	ppm		
89) Chrysene	11.482	228	600802m	32.92	ppm		

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 12:24:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration

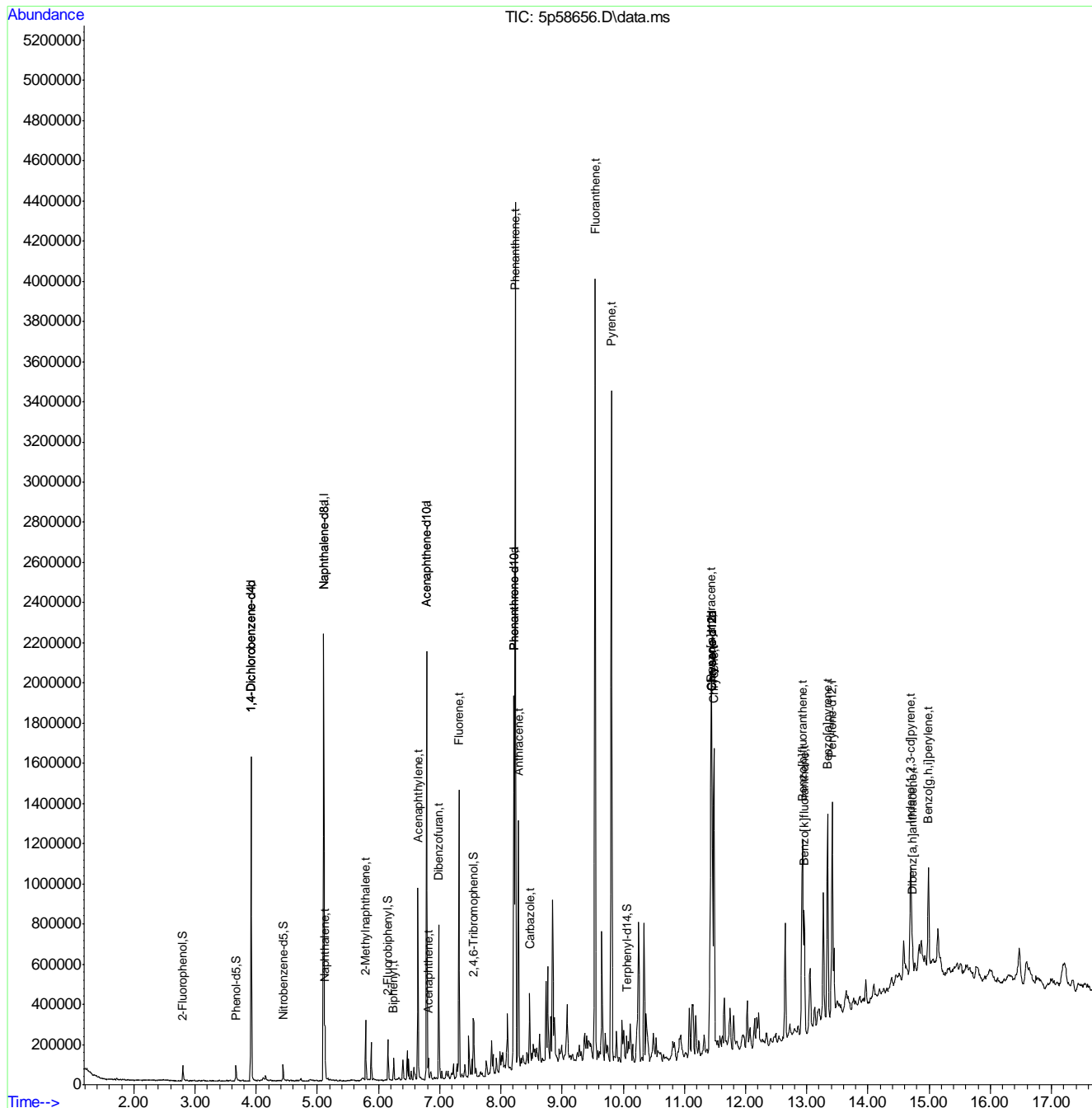
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) Benzo[b]fluoranthene	12.924	252	663177m	44.60	ppm	
94) Benzo[k]fluoranthene	12.956	252	250010m	18.37	ppm	
95) Benzo[a]pyrene	13.341	252	480839	36.30	ppm	100
96) Indeno[1,2,3-cd]pyrene	14.698	276	295513	24.94	ppm	98
98) Dibenz[a,h]anthracene	14.725	278	76104m	6.21	ppm	
100) Benzo[g,h,i]perylene	14.986	276	286555	23.96	ppm	96

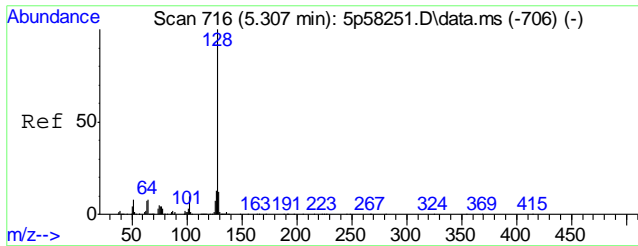
(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

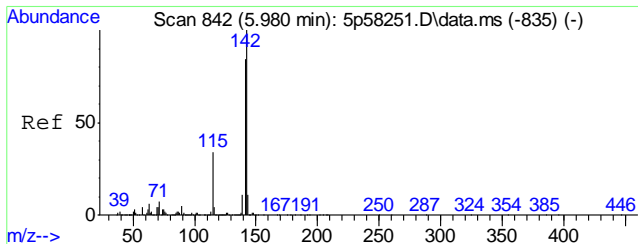
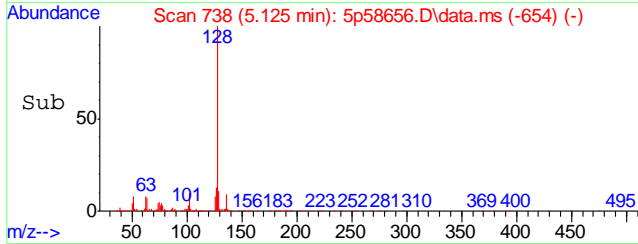
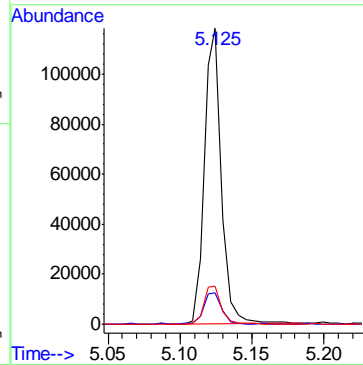
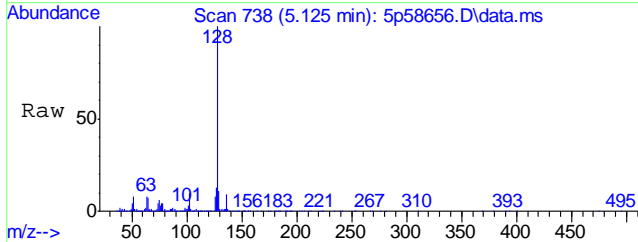
Quant Time: Apr 19 12:24:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration





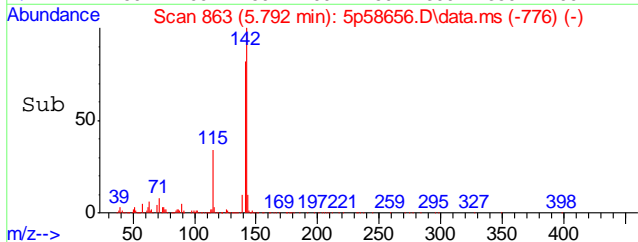
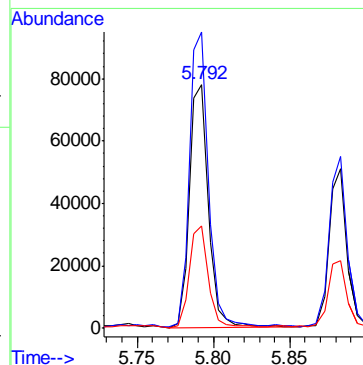
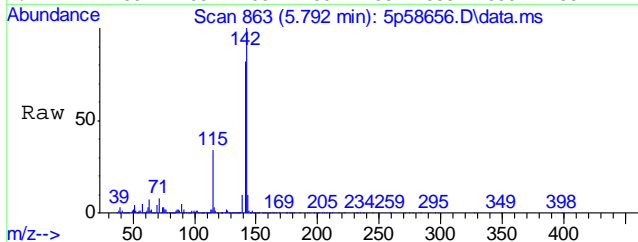
#38  
Naphthalene  
Concen: 5.16 ppm  
RT: 5.125 min Scan# 738  
Delta R.T. -0.053 min  
Lab File: 5p58656.D  
Acq: 19 Apr 19 10:17 am

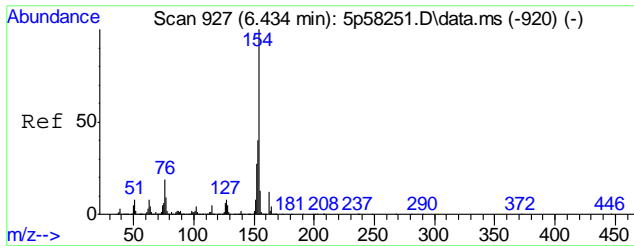
Tgt Ion	Resp	Lower	Upper
128	99087	100	
129	10.4	0.0	41.7
127	12.8	0.0	43.1



#44  
2-Methylnaphthalene  
Concen: 6.01 ppm  
RT: 5.792 min Scan# 863  
Delta R.T. -0.037 min  
Lab File: 5p58656.D  
Acq: 19 Apr 19 10:17 am

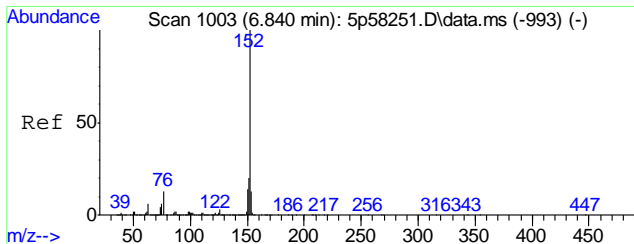
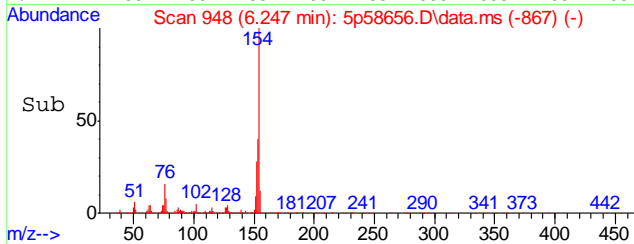
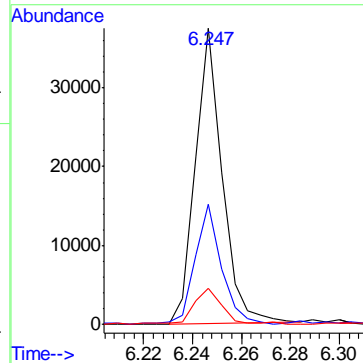
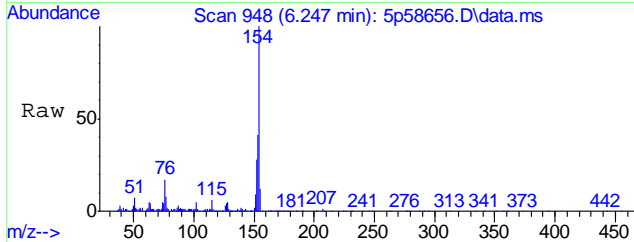
Tgt Ion	Resp	Lower	Upper
141	67668	100	
142	121.5	89.9	149.9
115	41.4	10.7	70.7





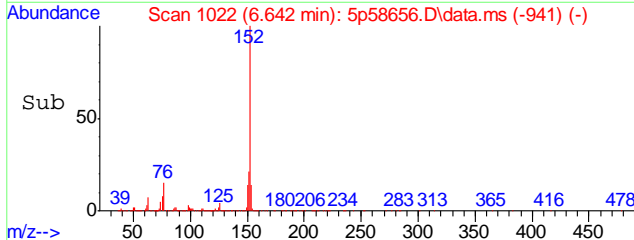
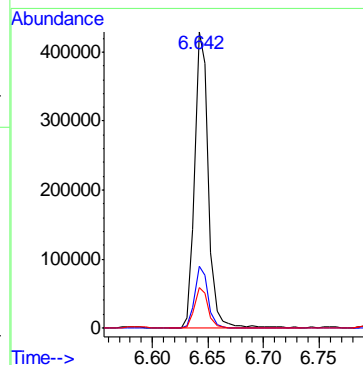
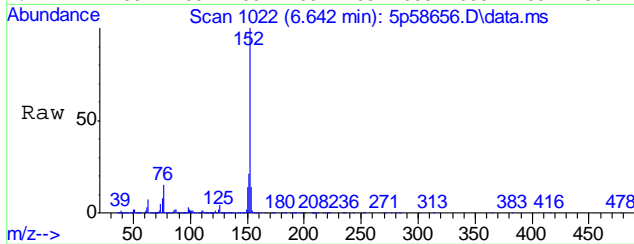
#53  
 Biphenyl  
 Concen: 2.00 ppm  
 RT: 6.247 min Scan# 948  
 Delta R.T. -0.069 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
154	100		
153	39.9	10.2	70.2
155	11.4	0.0	43.4

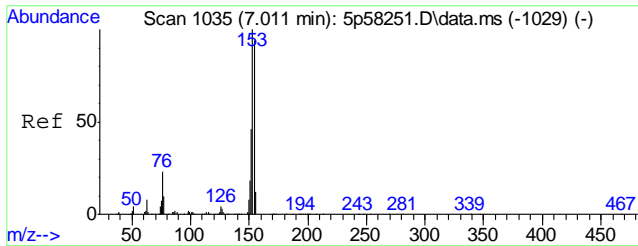


#56  
 Acenaphthylene  
 Concen: 20.46 ppm  
 RT: 6.642 min Scan# 1022  
 Delta R.T. -0.067 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
152	100		
151	20.7	0.0	50.5
153	13.5	0.0	43.4

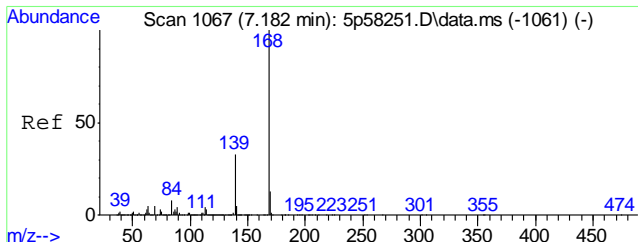
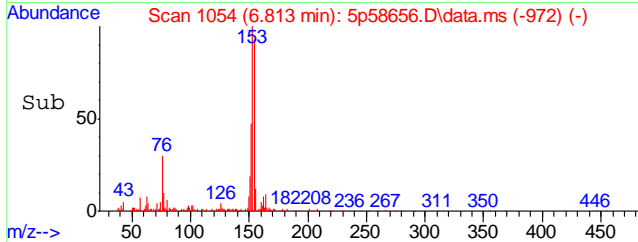
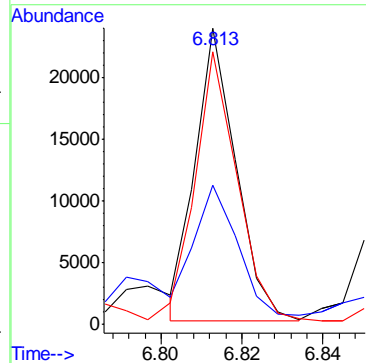
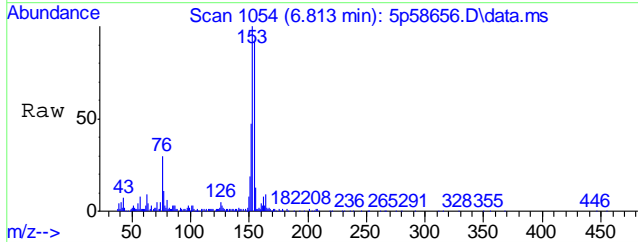


9.14  
 9



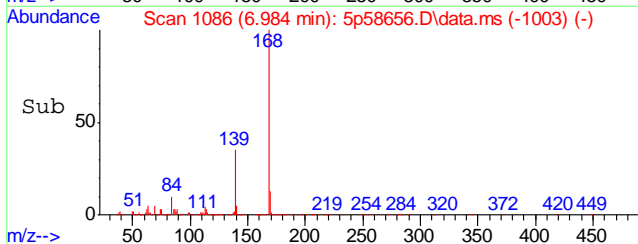
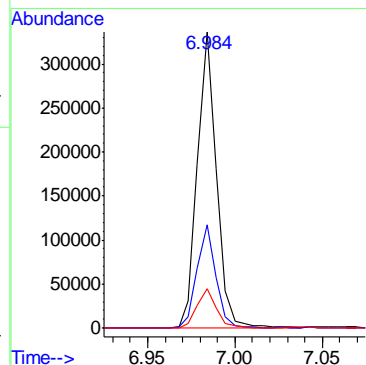
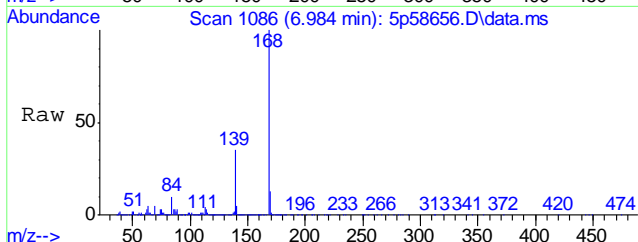
#59  
 Acenaphthene  
 Concen: 1.50 ppm  
 RT: 6.813 min Scan# 1054  
 Delta R.T. -0.064 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
153	16558		
152	47.1	15.9	75.9
154	92.1	56.1	116.1

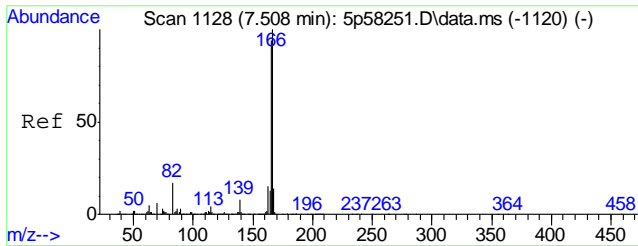


#62  
 Dibenzofuran  
 Concen: 15.36 ppm  
 RT: 6.984 min Scan# 1086  
 Delta R.T. -0.055 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
168	255245		
139	34.7	3.2	63.2
169	13.0	0.0	42.9

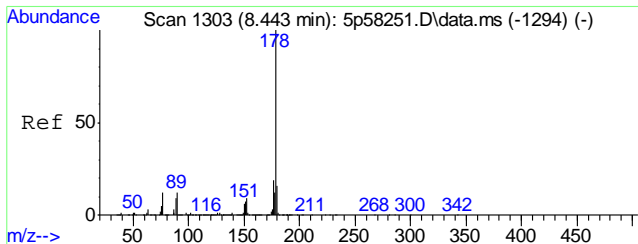
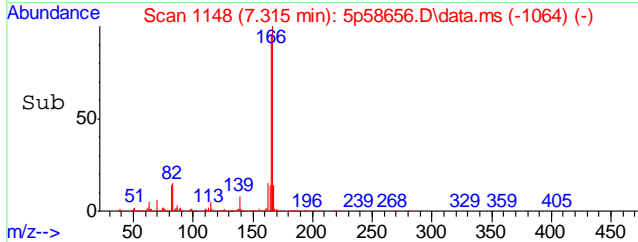
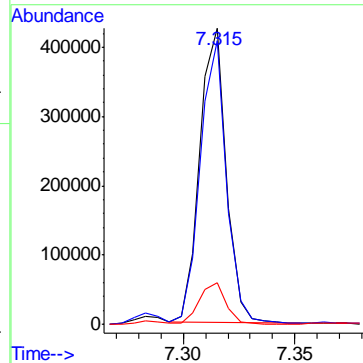
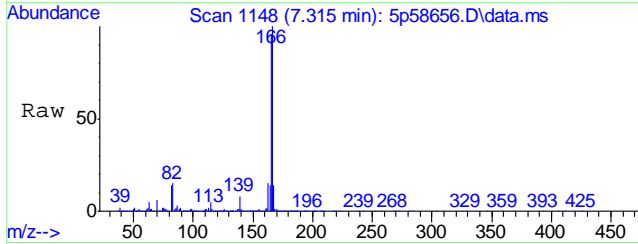


9.14  
 9



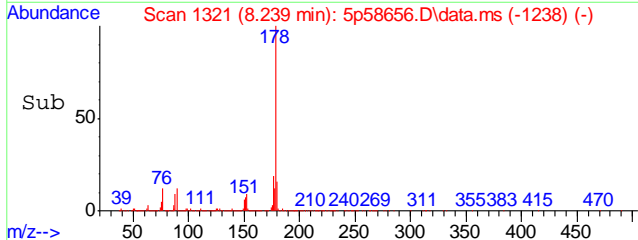
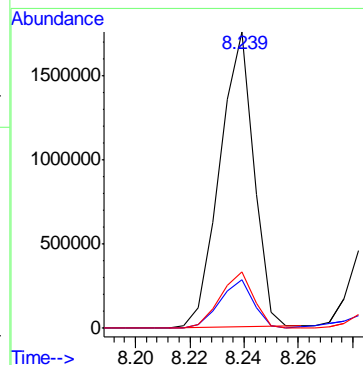
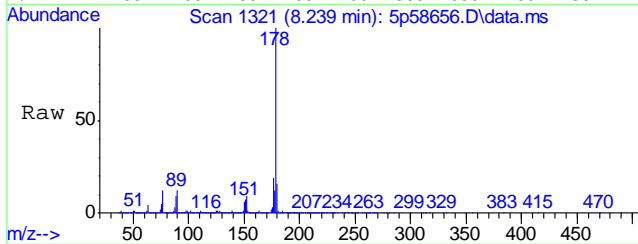
#66  
 Fluorene  
 Concen: 26.71 ppm  
 RT: 7.315 min Scan# 1148  
 Delta R.T. -0.049 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
166	100		
165	95.7	64.3	124.3
167	13.8	0.0	43.8

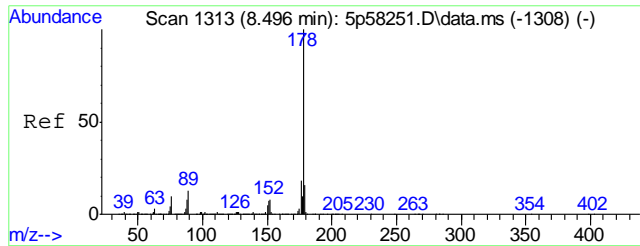


#77  
 Phenanthrene  
 Concen: 86.28 ppm  
 RT: 8.239 min Scan# 1321  
 Delta R.T. -0.059 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
178	100		
179	16.4	0.0	45.8
176	18.9	0.0	48.5

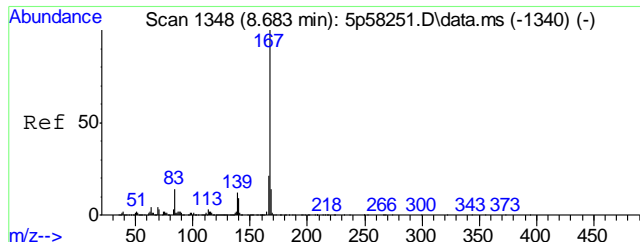
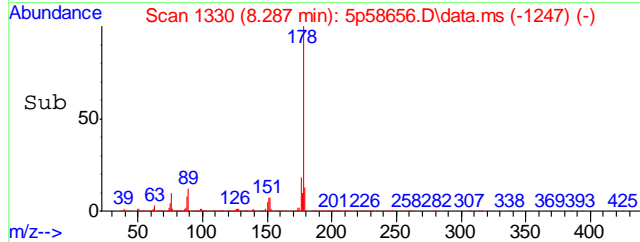
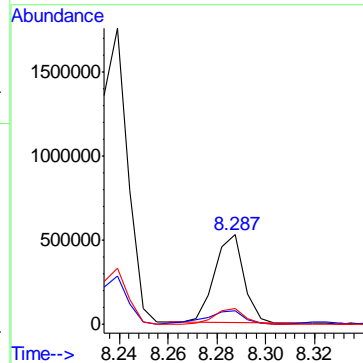
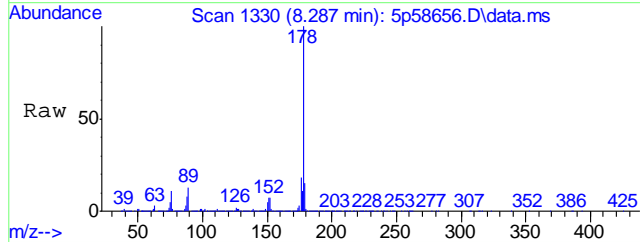


9.14  
 9



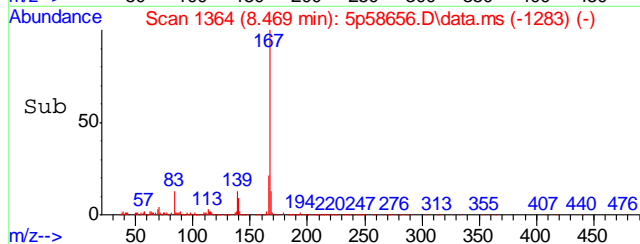
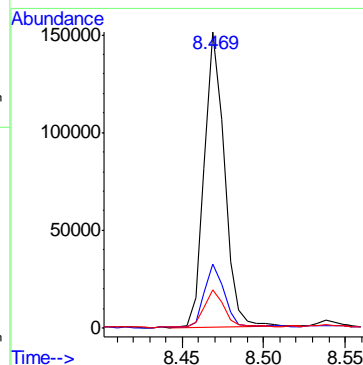
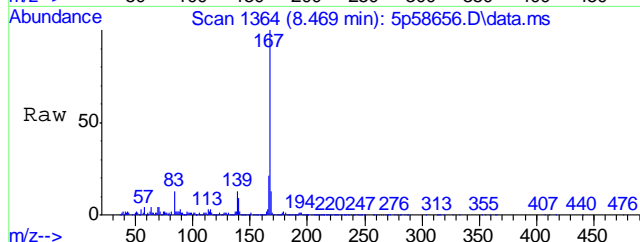
#78  
 Anthracene  
 Concen: 23.75 ppm  
 RT: 8.287 min Scan# 1330  
 Delta R.T. -0.058 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
178	438414	100	
179	14.1	0.0	45.6
176	18.0	0.0	48.3



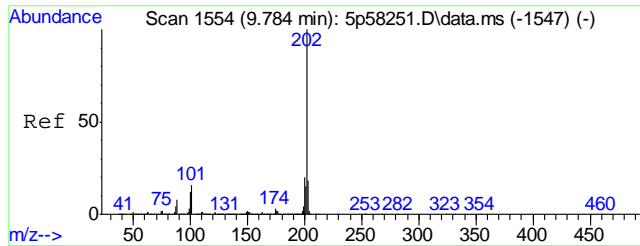
#79  
 Carbazole  
 Concen: 6.91 ppm  
 RT: 8.469 min Scan# 1364  
 Delta R.T. -0.065 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
167	129340	100	
166	21.0	0.0	50.7
139	12.7	0.0	42.4



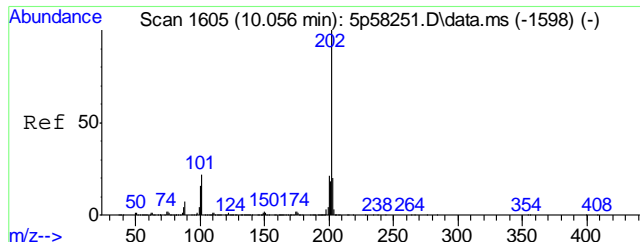
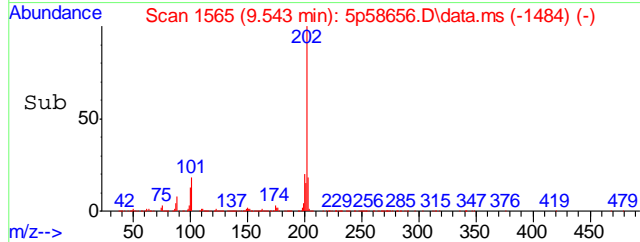
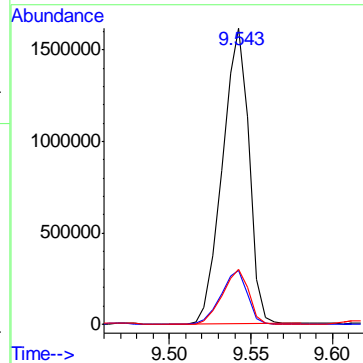
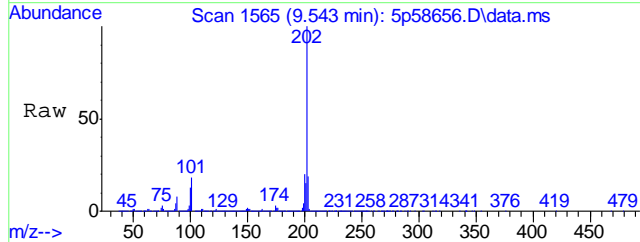
9.14  
 9





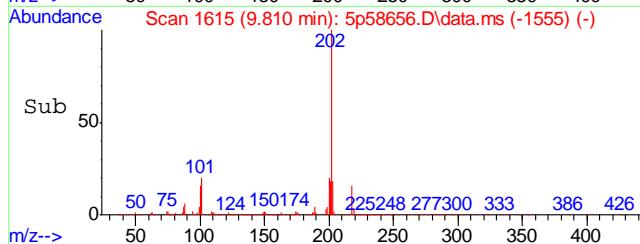
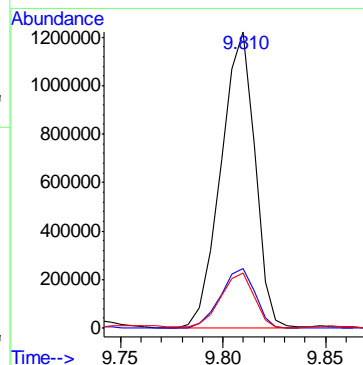
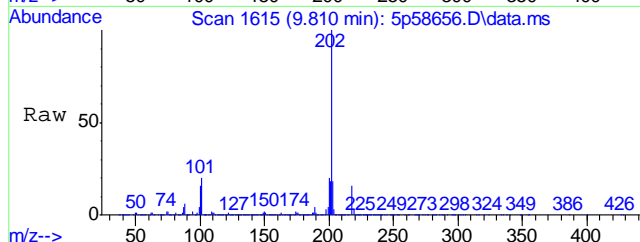
#81  
 Fluoranthene  
 Concen: 83.90 ppm  
 RT: 9.543 min Scan# 1565  
 Delta R.T. -0.068 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

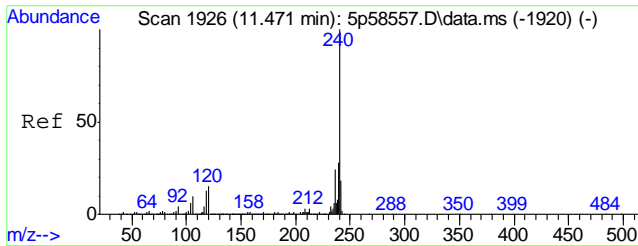
Tgt Ion	Resp	Lower	Upper
202	1833171		
101	18.1	0.0	46.5
203	18.5	0.0	47.7



#84  
 Pyrene  
 Concen: 65.52 ppm m  
 RT: 9.810 min Scan# 1615  
 Delta R.T. -0.180 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

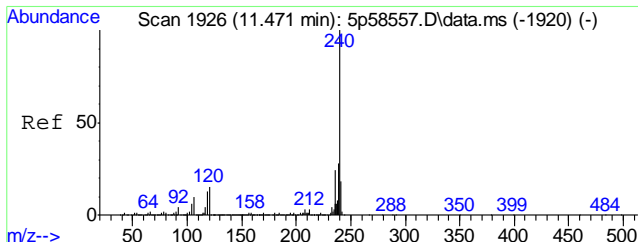
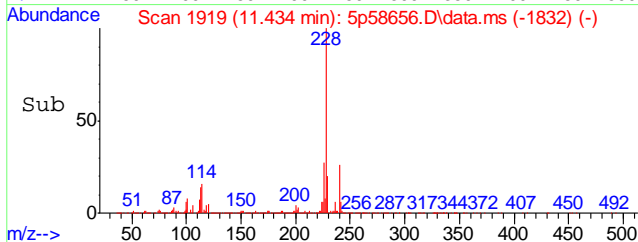
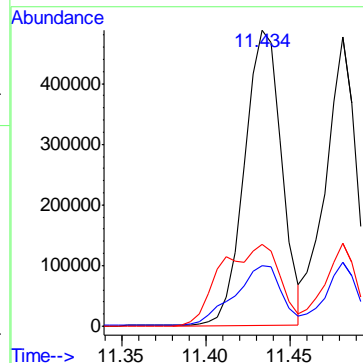
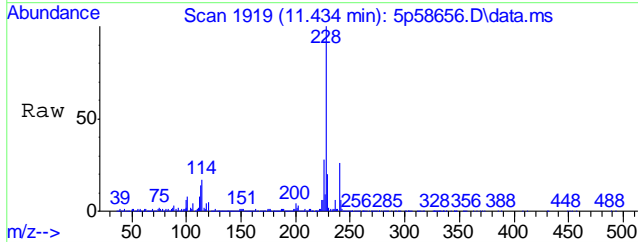
Tgt Ion	Resp	Lower	Upper
202	1409415		
200	20.3	0.0	50.6
203	18.5	0.0	49.5





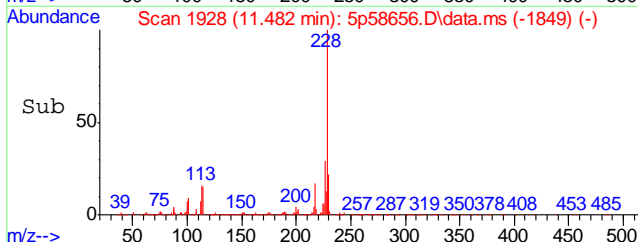
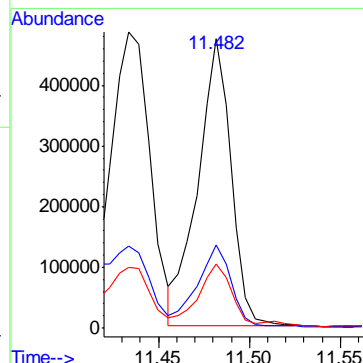
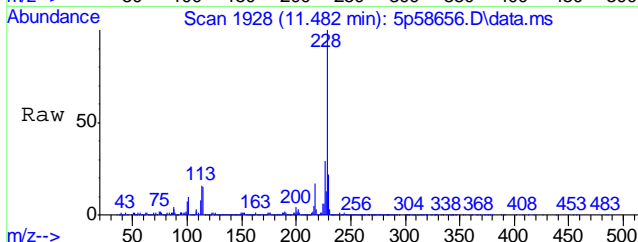
#87  
 Benzo[a]anthracene  
 Concen: 37.85 ppm m  
 RT: 11.434 min Scan# 1919  
 Delta R.T. -0.035 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Ratio	Lower	Upper
228	100		
229	20.3	0.0	49.3
226	27.6	0.0	56.3

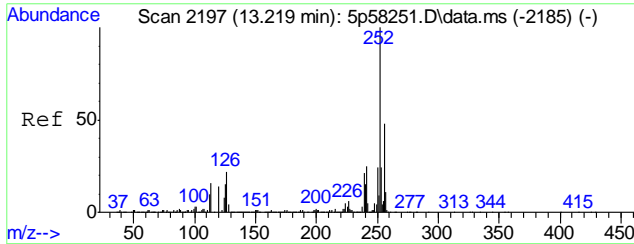


#89  
 Chrysene  
 Concen: 32.92 ppm m  
 RT: 11.482 min Scan# 1928  
 Delta R.T. -0.077 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Ratio	Lower	Upper
228	100		
226	28.9	0.0	58.6
229	22.2	0.0	49.0

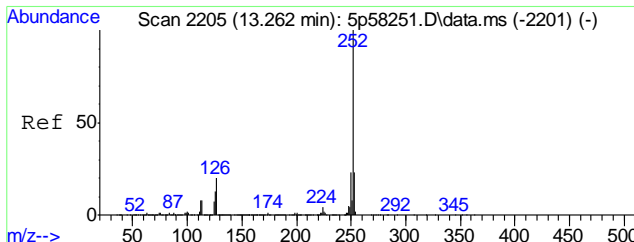
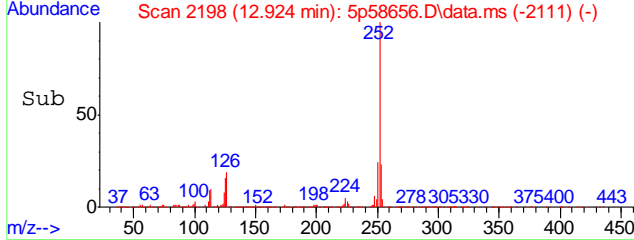
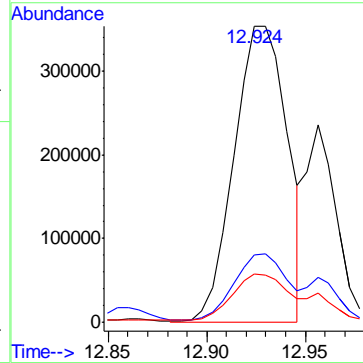
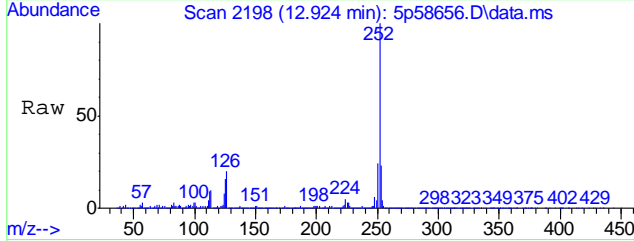


9.14  
 9



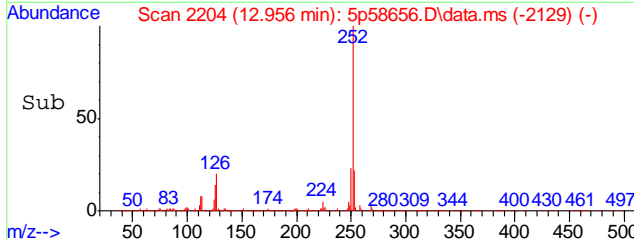
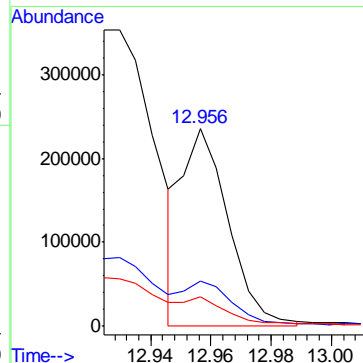
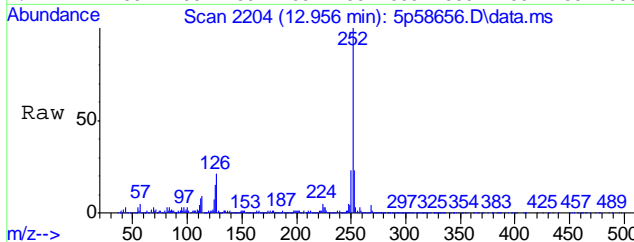
#93  
 Benzo[b]fluoranthene  
 Concen: 44.60 ppm m  
 RT: 12.924 min Scan# 2198  
 Delta R.T. -0.038 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

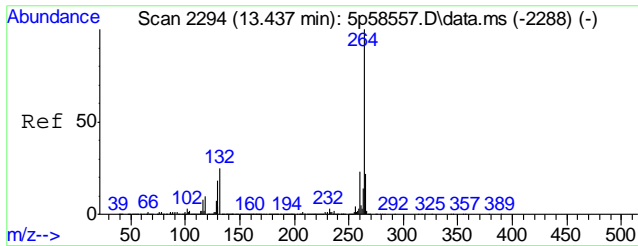
Tgt Ion	Resp	Lower	Upper
252	100		
253	22.9	0.0	54.7
125	16.4	0.0	45.6



#94  
 Benzo[k]fluoranthene  
 Concen: 18.37 ppm m  
 RT: 12.956 min Scan# 2204  
 Delta R.T. -0.098 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

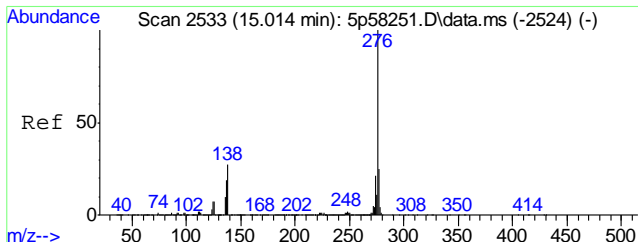
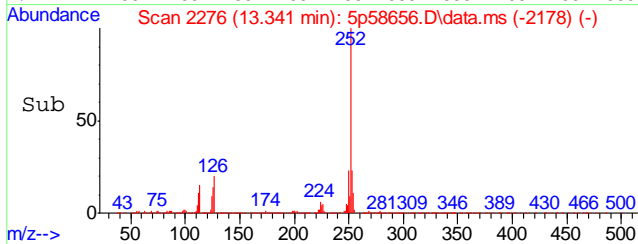
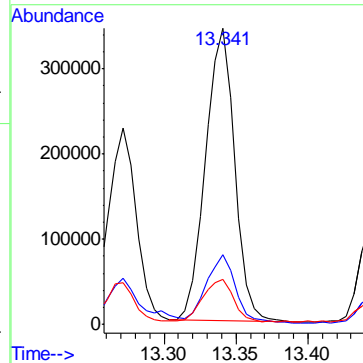
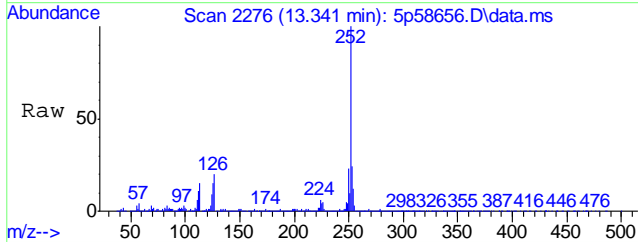
Tgt Ion	Resp	Lower	Upper
252	100		
253	22.7	0.0	52.6
125	14.9	0.0	43.1





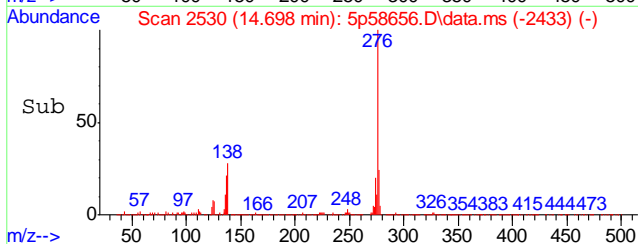
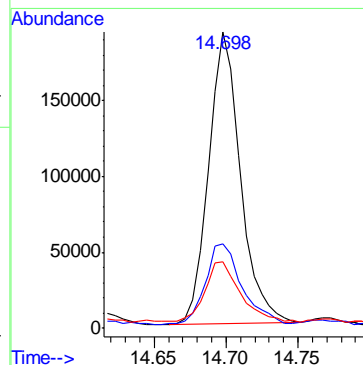
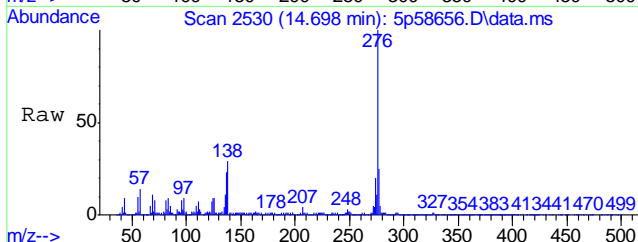
#95  
 Benzo[a]pyrene  
 Concen: 36.30 ppm  
 RT: 13.341 min Scan# 2276  
 Delta R.T. 0.021 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

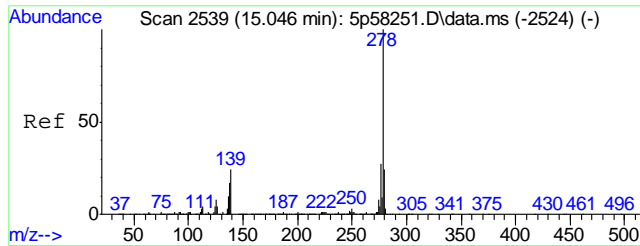
Tgt Ion	Resp	Lower	Upper
252	100		
253	22.1	0.0	52.1
125	14.5	0.0	44.8



#96  
 Indeno[1,2,3-cd]pyrene  
 Concen: 24.94 ppm  
 RT: 14.698 min Scan# 2530  
 Delta R.T. 0.018 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

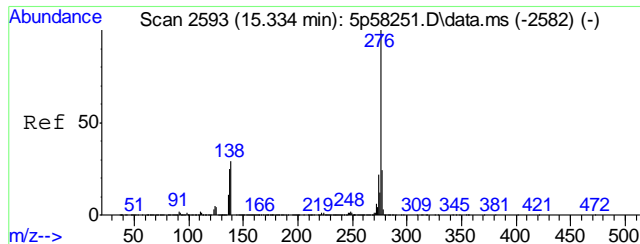
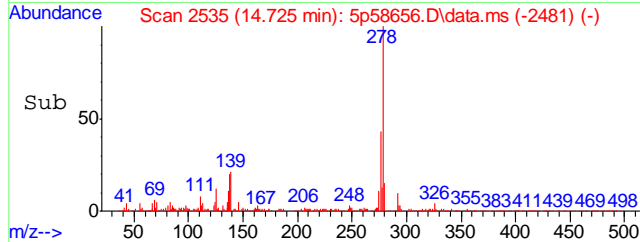
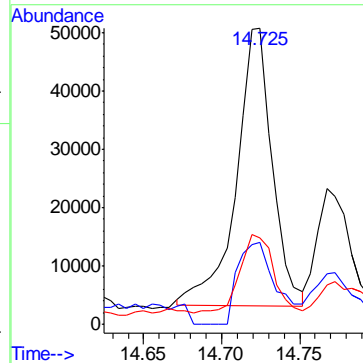
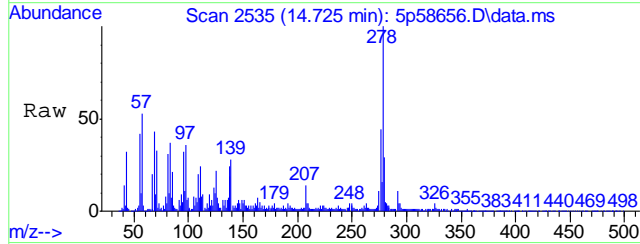
Tgt Ion	Resp	Lower	Upper
276	100		
138	27.3	0.0	56.9
137	20.8	0.0	49.4





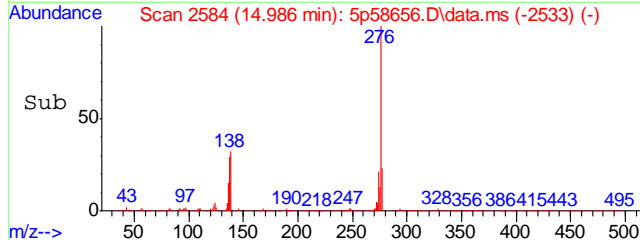
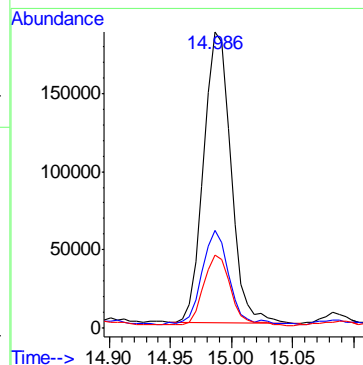
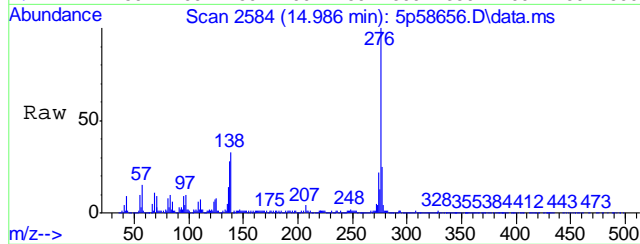
#98  
 Dibenz[a,h]anthracene  
 Concen: 6.21 ppm  
 RT: 14.725 min Scan# 2535  
 Delta R.T. -0.210 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
278	76104		
139	27.7	0.0	53.6
279	29.1	0.0	54.4



#100  
 Benzo[g,h,i]perylene  
 Concen: 23.96 ppm  
 RT: 14.986 min Scan# 2584  
 Delta R.T. -0.230 min  
 Lab File: 5p58656.D  
 Acq: 19 Apr 19 10:17 am

Tgt Ion	Resp	Lower	Upper
276	286555		
138	32.1	0.0	59.0
277	24.1	0.0	53.7



9.14  
 9

# Manual Integration Approval Summary

Sample Number: JC86337-2                      Method: SW846 8270D  
Lab FileID: 5P58656.D                      Analyst approved: 04/19/19 12:41 Kristi Schollenberger  
Injection Time: 04/19/19 10:17                      Supervisor approved: 04/19/19 13:04 Kristi Schollenberger

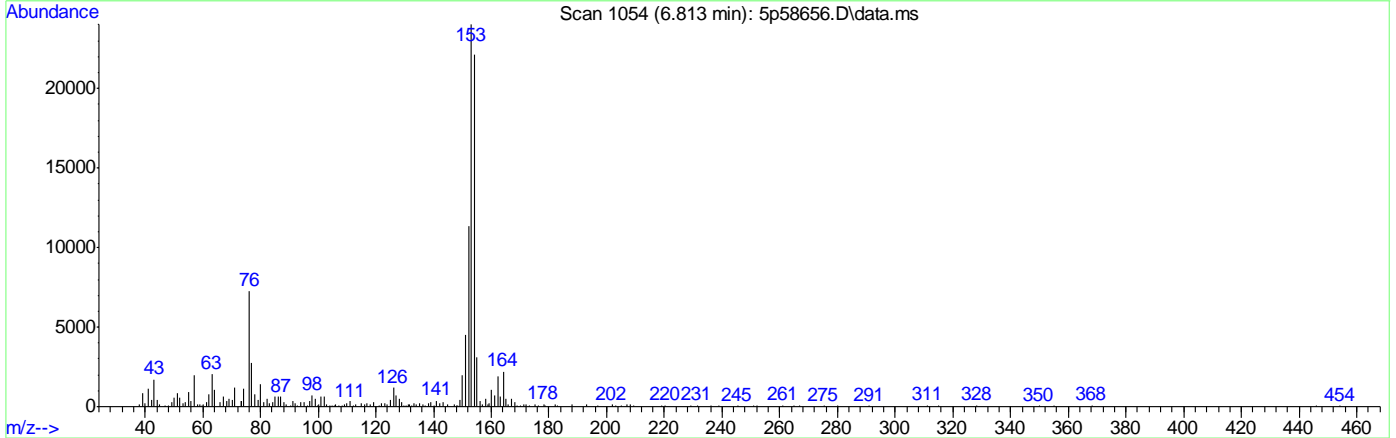
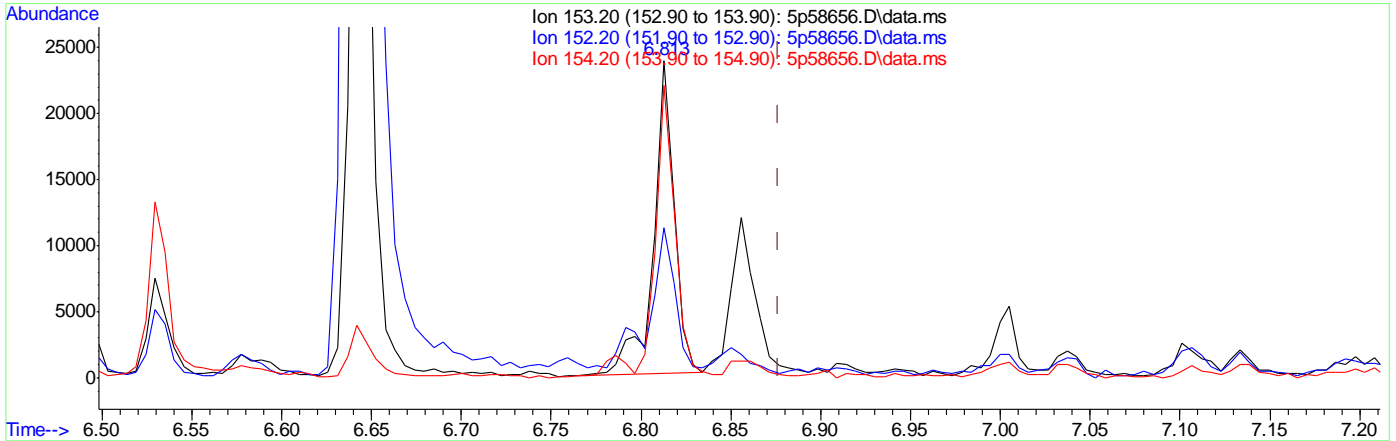
Parameter	CAS	Sig#	R.T. (min.)	Reason
Acenaphthene	83-32-9		6.81	Poor instrument integration
Pyrene	129-00-0		9.81	Poor instrument integration
Benzo(a)anthracene	56-55-3		11.43	Poor instrument integration
Chrysene	218-01-9		11.48	Poor instrument integration
Benzo(b)fluoranthene	205-99-2		12.92	Poor instrument integration
Benzo(k)fluoranthene	207-08-9		12.96	Poor instrument integration
Dibenzo(a,h)anthracene	53-70-3		14.72	Poor instrument integration

9.1.4.1  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 10:35:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



TIC: 5p58656.D\data.ms

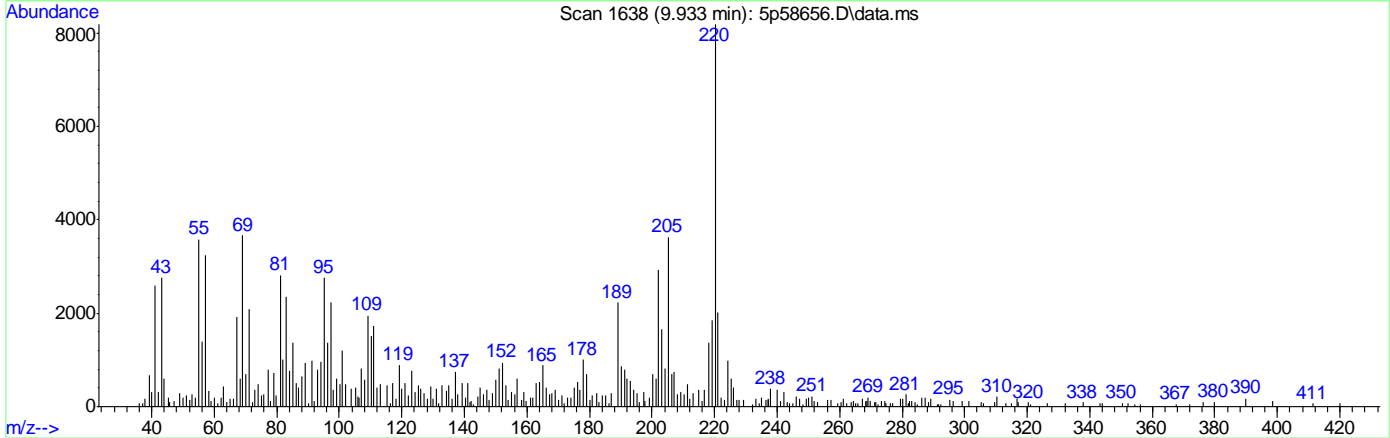
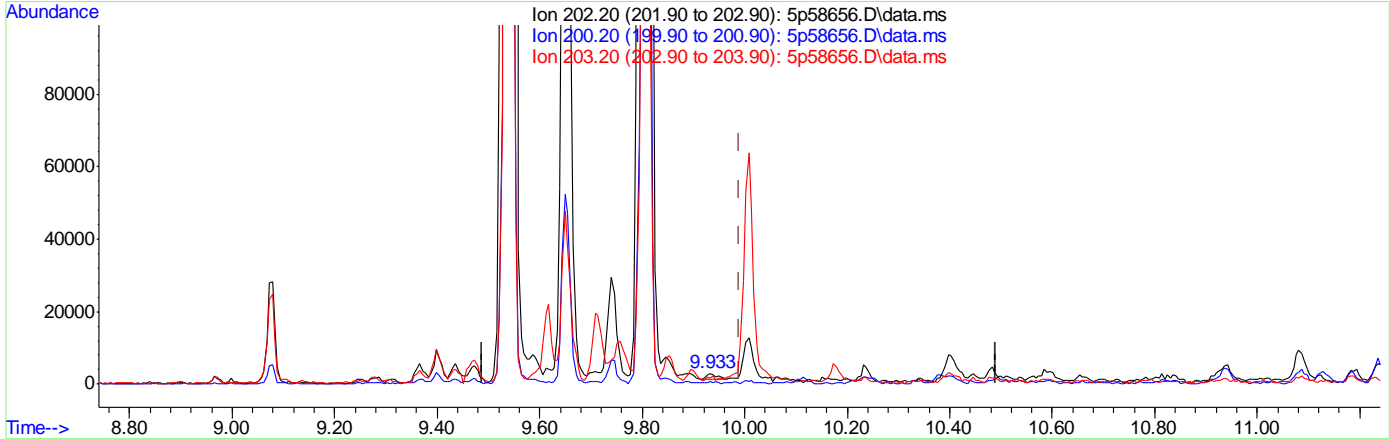
(59) Acenaphthene (t)		
6.813min (-0.064) 1.75ppm		
response 19342		
Ion	Exp%	Act%
153.20	100	100
152.20	45.90	43.49
154.20	86.10	91.61
0.00	0.00	0.00

9.1.4.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 10:35:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



(84) Pyrene (t)  
 9.933min (-0.057) 0.11ppm  
 response 2353

Ion	Exp%	Act%
202.20	100	100
200.20	20.60	15.24
203.20	19.50	8.85
0.00	0.00	0.00

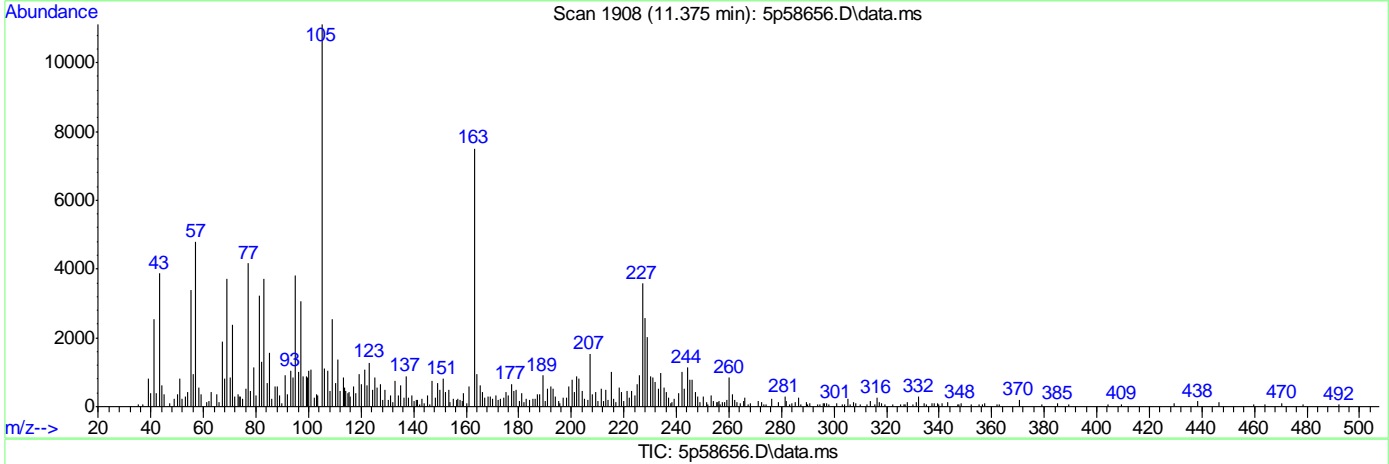
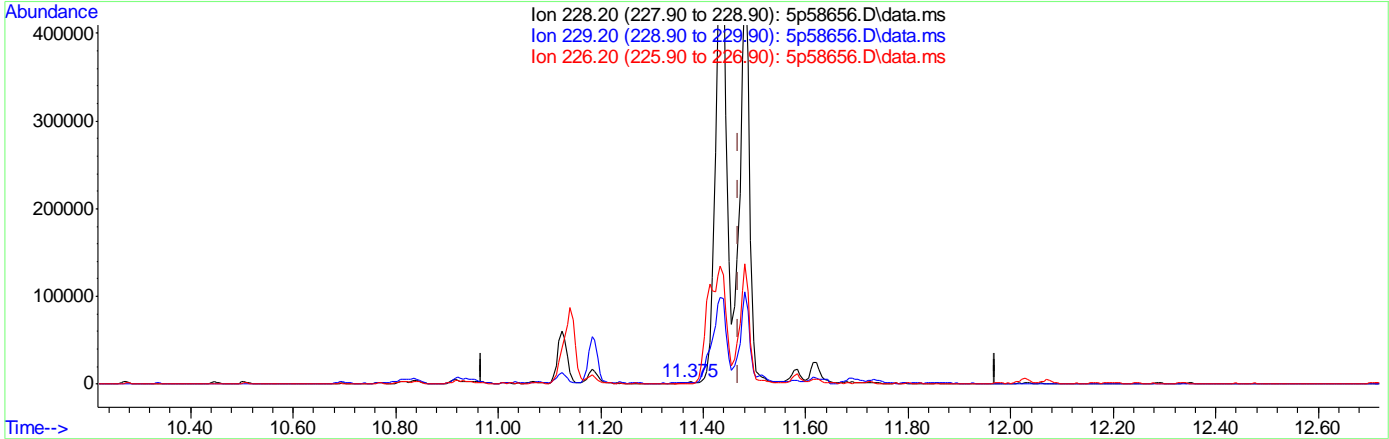
9.1.4.3  
**9**



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 10:35:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



(87) Benzo[a]anthracene (t)  
 11.375min (-0.094) 0.10ppm  
 response 2015

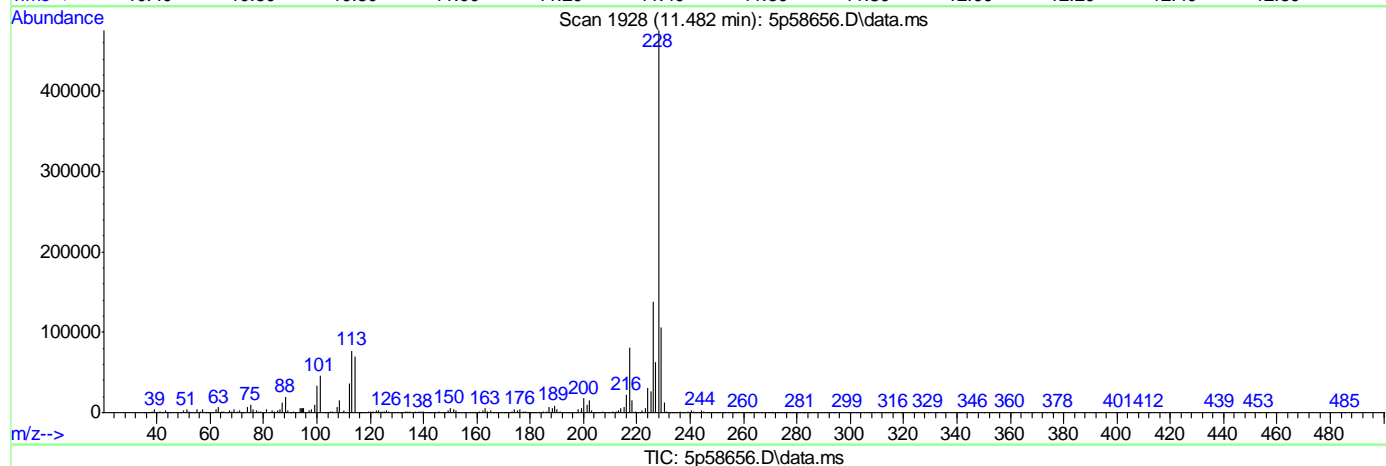
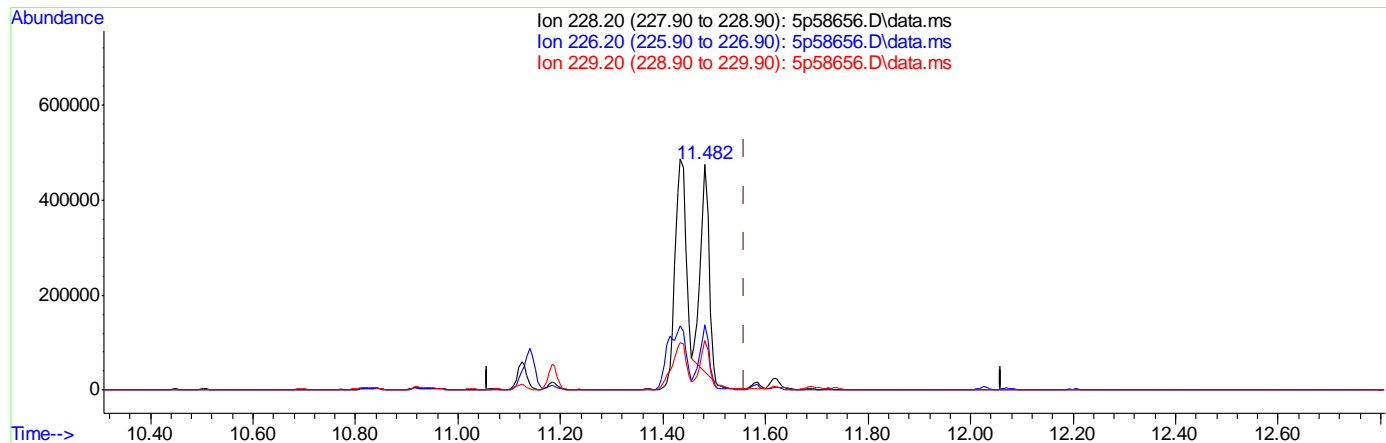
Ion	Exp%	Act%
228.20	100	100
229.20	19.30	16.21
226.20	26.30	0.00
0.00	0.00	0.00

9.1.4.4  
**9**

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 10:50:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



(89) Chrysene (t)

11.482min (-0.077) 26.70ppm

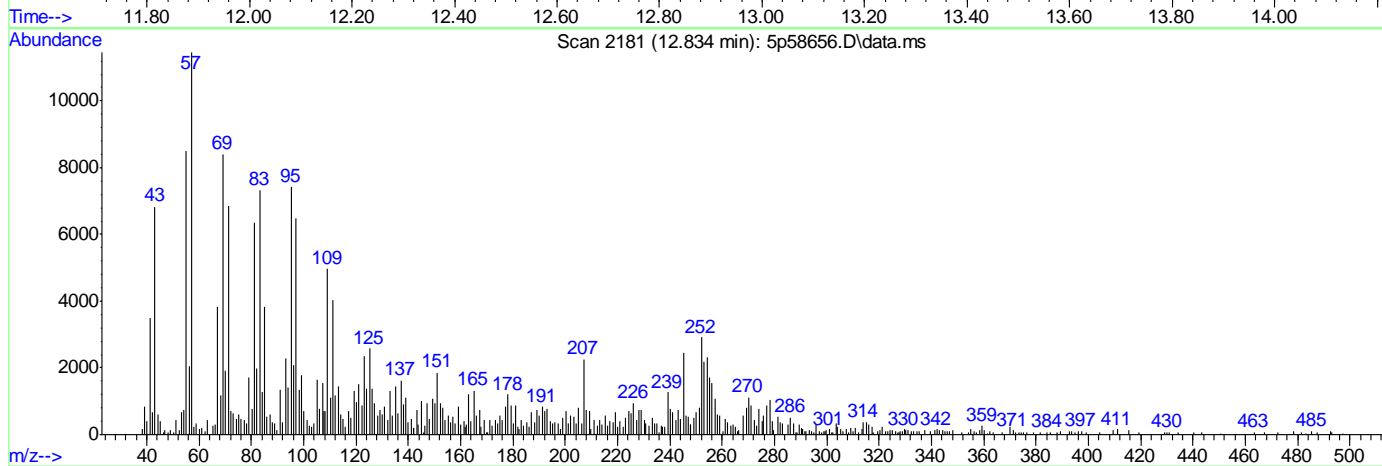
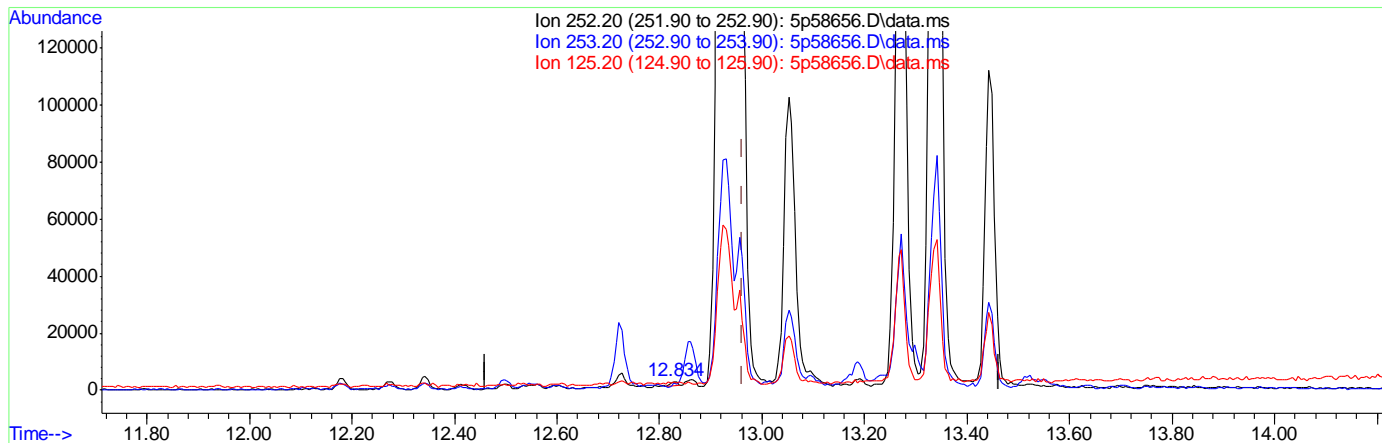
response 487360

Ion	Exp%	Act%
228.20	100	100
226.20	28.60	28.64
229.20	19.00	21.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 10:50:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



(93) Benzo[b]fluoranthene (t)

12.834min (-0.128) 0.09ppm

response 1387

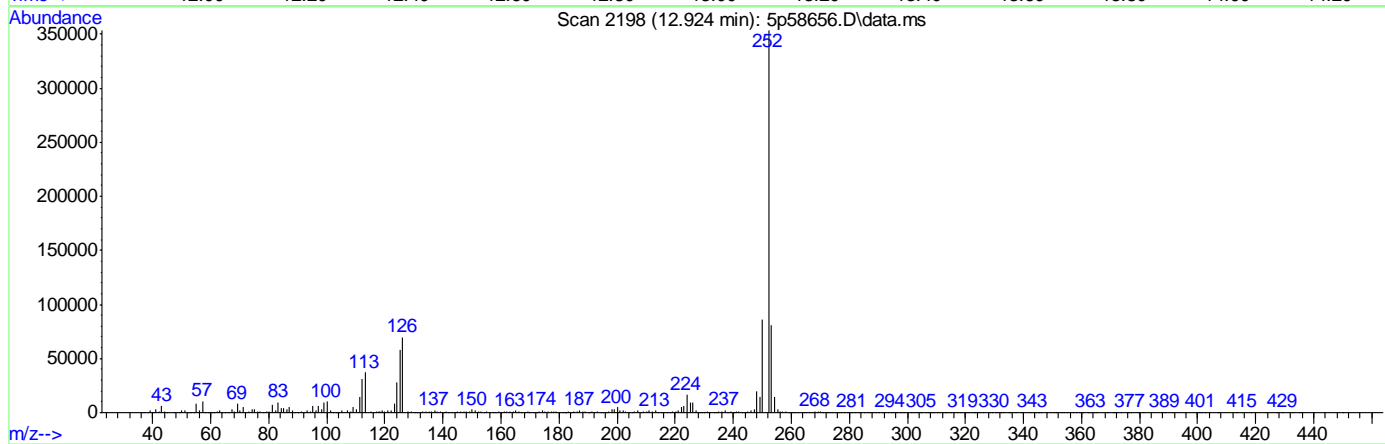
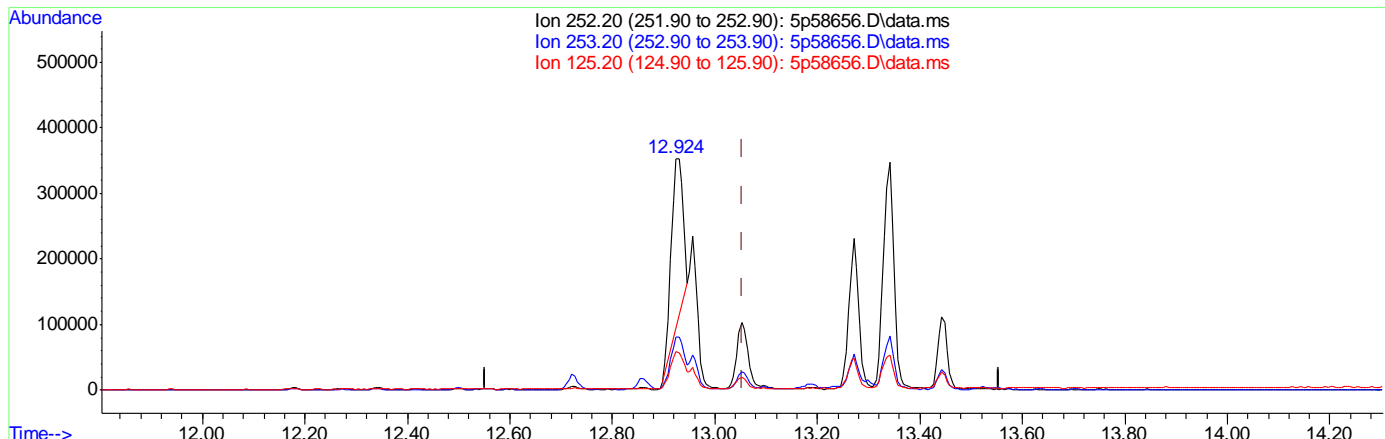
Ion	Exp%	Act%
252.20	100	100
253.20	24.70	0.00
125.20	15.60	2.57
0.00	0.00	0.00

9.1.4.6  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 10:50:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



(94) Benzo[k]fluoranthene (t)

12.924min (-0.130) 29.90ppm

response 406963

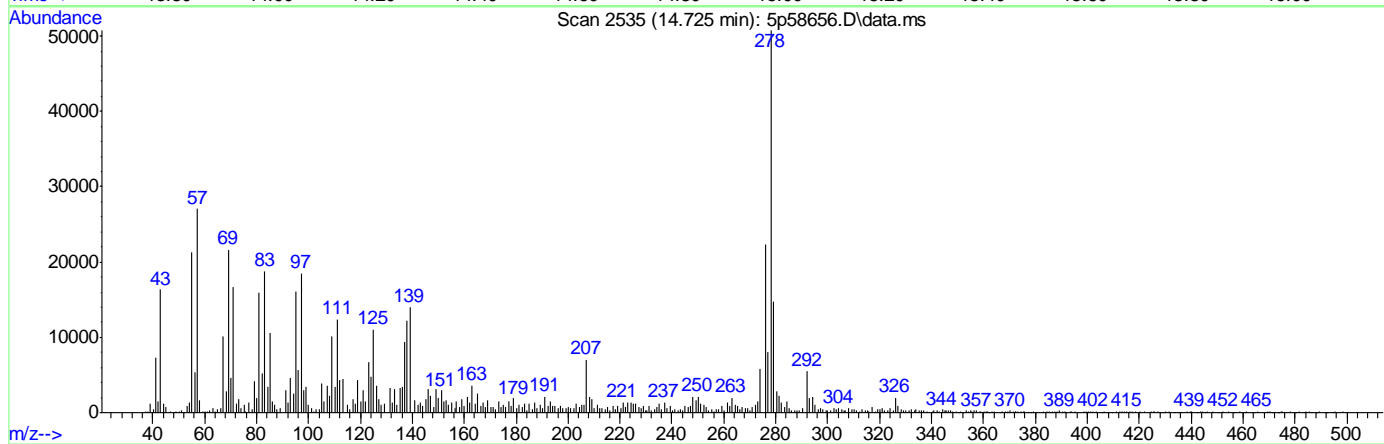
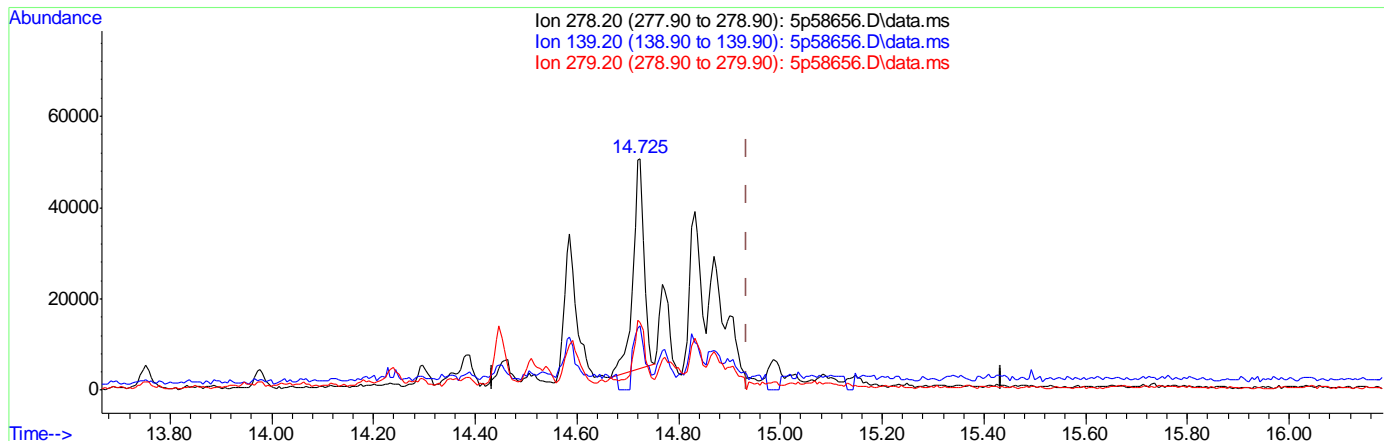
Ion	Exp%	Act%
252.20	100	100
253.20	22.60	22.34
125.20	13.10	15.74
0.00	0.00	0.00

9.1.4.7  
9

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58656.D  
 Acq On : 19 Apr 2019 10:17 am  
 Operator : carolb  
 Sample : jc86337-2  
 Misc : op19786,e5p2777,30.6,,,1,10  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 19 10:50:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



TIC: 5p58656.D\data.ms

(98) Dibenz[a,h]anthracene (t)

14.725min (-0.210) 5.77ppm

response 70679

Ion	Exp%	Act%
278.20	100	100
139.20	23.60	23.78
279.20	24.40	26.25
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58580.D  
 Acq On : 18 Apr 2019 12:21 am  
 Operator : chriss2  
 Sample : jc86337-3  
 Misc : op19786,e5p2775,30.5,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 18 16:26:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.923	152	189730	40.00	ppm	-0.05
24) Naphthalene-d8	5.109	136	635769	40.00	ppm	-0.05
47) Acenaphthene-d10	6.791	164	327056	40.00	ppm	-0.05
69) Phenanthrene-d10	8.218	188	576566	40.00	ppm	-0.06
83) Chrysene-d12	11.444	240	539107	40.00	ppm	-0.10
91) Perylene-d12	13.416	264	500824	40.00	ppm	-0.10
101) 1,4-Dichlorobenzene-d4b	3.923	152	189730	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.791	164	327056	40.00	ppm	-0.05
105) Chrysene-d12a	11.444	240	539107	40.00	ppm	-0.10
107) Phenanthrene-d10a	8.218	188	576566	40.00	ppm	-0.06
111) Naphthalene-d8a	5.109	136	635769	40.00	ppm	-0.05
113) Chrysene-d12b	11.444	240	539057	40.00	ppm	-0.10
115) 1,4-Dichlorobenzene-d4c	3.923	152	189730	40.00	ppm	-0.05
117) Chrysene-d12c	11.444	240	539107	40.00	ppm	-0.10
119) Chrysene-d12d	11.444	240	539057	40.00	ppm	-0.10
System Monitoring Compounds						
5) 2-Fluorophenol	2.806	112	230982	31.26	ppm	-0.09
Spiked Amount	50.000		Recovery	=	62.52%	
8) Phenol-d5	3.666	99	306239	32.93	ppm	-0.07
Spiked Amount	50.000		Recovery	=	65.86%	
25) Nitrobenzene-d5	4.441	82	256679	34.83	ppm	-0.06
Spiked Amount	50.000		Recovery	=	69.66%	
51) 2-Fluorobiphenyl	6.166	172	408312	35.92	ppm	-0.06
Spiked Amount	50.000		Recovery	=	71.84%	
73) 2,4,6-Tribromophenol	7.561	330	54304	32.68	ppm	-0.05
Spiked Amount	50.000		Recovery	=	65.36%	
85) Terphenyl-d14	10.066	244	446488	32.55	ppm	-0.21
Spiked Amount	50.000		Recovery	=	65.10%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	

Target Compounds Qvalue

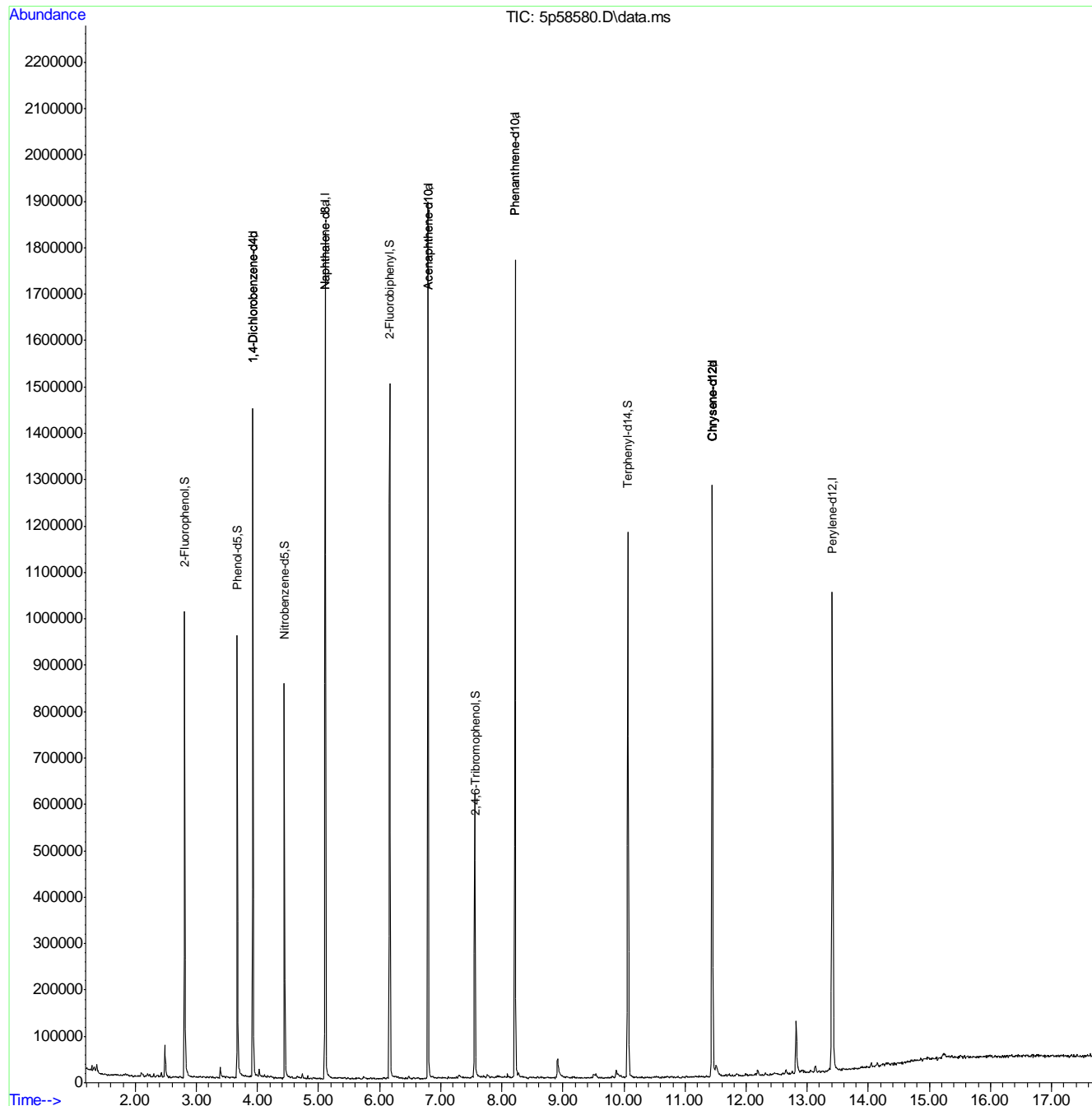
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.15  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58580.D  
 Acq On : 18 Apr 2019 12:21 am  
 Operator : chriss2  
 Sample : jc86337-3  
 Misc : op19786,e5p2775,30.5,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 18 16:26:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



## Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58618.D  
 Acq On : 18 Apr 2019 4:58 pm  
 Operator : christc2  
 Sample : jc86337-4  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 19 12:27:22 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.917	152	176646	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	578274	40.00	ppm	-0.05
47) Acenaphthene-d10	6.786	164	304257	40.00	ppm	-0.06
69) Phenanthrene-d10	8.212	188	537756	40.00	ppm	-0.06
83) Chrysene-d12	11.466	240	498874	40.00	ppm	-0.07
91) Perylene-d12	13.453	264	536333	40.00	ppm	-0.06
101) 1,4-Dichlorobenzene-d4b	3.917	152	176646	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.786	164	304257	40.00	ppm	-0.06
105) Chrysene-d12a	11.466	240	498874	40.00	ppm	-0.07
107) Phenanthrene-d10a	8.212	188	537756	40.00	ppm	-0.06
111) Naphthalene-d8a	5.103	136	578274	40.00	ppm	-0.05
113) Chrysene-d12b	11.466	240	498874	40.00	ppm	-0.07
115) 1,4-Dichlorobenzene-d4c	3.917	152	176646	40.00	ppm	-0.05
117) Chrysene-d12c	11.466	240	498874	40.00	ppm	-0.07
119) Chrysene-d12d	11.466	240	498874	40.00	ppm	-0.07
System Monitoring Compounds						
5) 2-Fluorophenol	2.811	112	233810	33.99	ppm	-0.09
Spiked Amount	50.000		Recovery	=	67.98%	
8) Phenol-d5	3.677	99	318936	36.84	ppm	-0.06
Spiked Amount	50.000		Recovery	=	73.68%	
25) Nitrobenzene-d5	4.436	82	243988	36.40	ppm	-0.07
Spiked Amount	50.000		Recovery	=	72.80%	
51) 2-Fluorobiphenyl	6.156	172	407820	38.57	ppm	-0.07
Spiked Amount	50.000		Recovery	=	77.14%	
73) 2,4,6-Tribromophenol	7.555	330	38942	25.12	ppm	-0.06
Spiked Amount	50.000		Recovery	=	50.24%	
85) Terphenyl-d14	10.066	244	437180	34.44	ppm	-0.21
Spiked Amount	50.000		Recovery	=	68.88%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
38) Naphthalene	5.119	128	99022	6.79	ppm	97
41) Caprolactam	5.536	55	8572	3.20	ppm	85
44) 2-Methylnaphthalene	5.787	141	31022	3.63	ppm	97
53) Biphenyl	6.247	154	15314	1.35	ppm	98
55) Dimethylphthalate	6.567	163	5696	0.53	ppm	95
56) Acenaphthylene	6.647	152	31535	2.23	ppm	99
59) Acenaphthene	6.818	153	367630	41.86	ppm	95
62) Dibenzofuran	6.984	168	165455	12.52	ppm	100
66) Fluorene	7.315	166	272198	26.07	ppm	99
77) Phenanthrene	8.245	178	2078851	143.01	ppm	99
78) Anthracene	8.287	178	676434	44.35	ppm	99
79) Carbazole	8.474	167	380707	24.62	ppm	99
81) Fluoranthene	9.559	202	3375334	186.95	ppm	97
84) Pyrene	9.826	202	2885927m	152.23	ppm	



## Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58618.D  
 Acq On : 18 Apr 2019 4:58 pm  
 Operator : christc2  
 Sample : jc86337-4  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 19 12:27:22 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

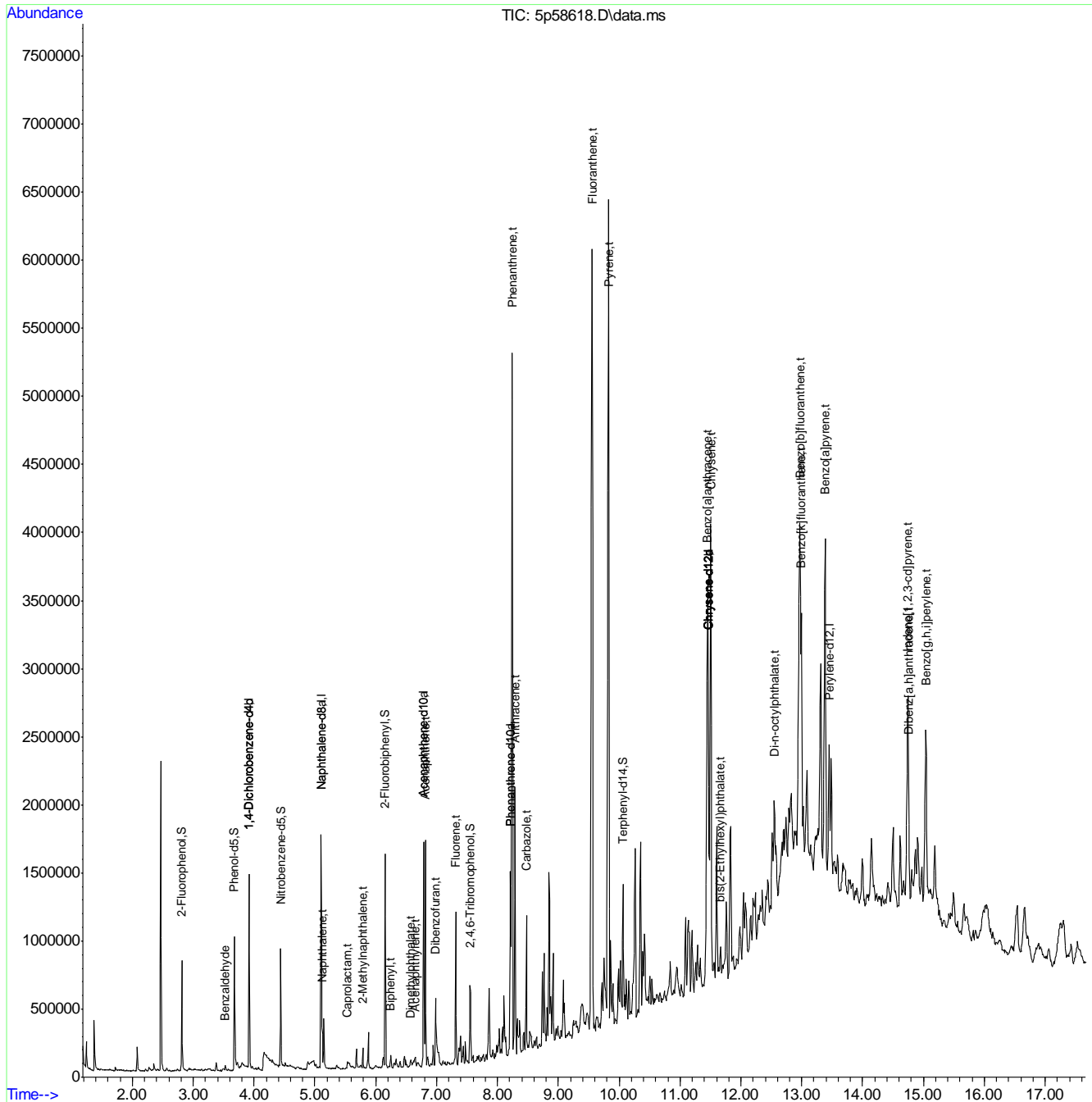
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
87) Benzo[a]anthracene	11.455	228	1808100	103.77	ppm	97
89) Chrysene	11.509	228	1622507	100.86	ppm	96
90) bis(2-Ethylhexyl)phtha...	11.664	149	54449m	4.74	ppm	
92) Di-n-octylphthalate	12.550	149	161170m	8.44	ppm	
93) Benzo[b]fluoranthene	12.967	252	2285598m	139.57	ppm	
94) Benzo[k]fluoranthene	12.994	252	534538m	35.66	ppm	
95) Benzo[a]pyrene	13.389	252	1591229	109.09	ppm	97
96) Indeno[1,2,3-cd]pyrene	14.746	276	990049	75.88	ppm	98
98) Dibenz[a,h]anthracene	14.757	278	269316	19.96	ppm	96
100) Benzo[g,h,i]perylene	15.040	276	895142	67.96	ppm	99
102) Benzaldehyde	3.527	105	6023m	1.04	ppm	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

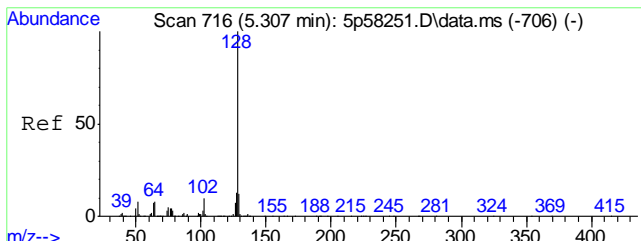
Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
Data File : 5p58618.D  
Acq On : 18 Apr 2019 4:58 pm  
Operator : christc2  
Sample : jc86337-4  
Misc : op19786,e5p2776,30.1,,,1,1  
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 19 12:27:22 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Thu Apr 18 14:54:49 2019  
Response via : Initial Calibration

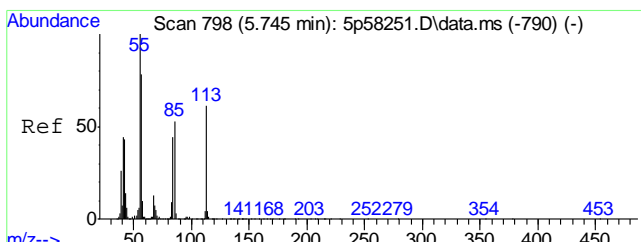
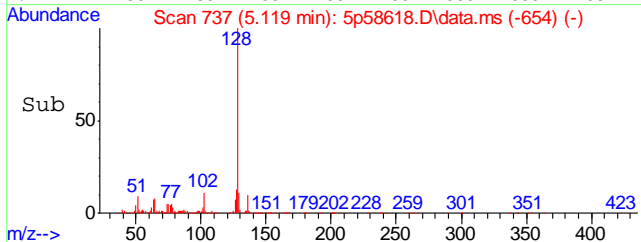
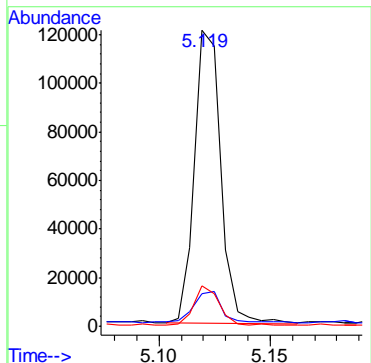
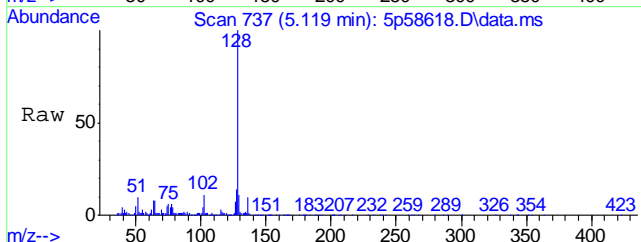


9.16  
9



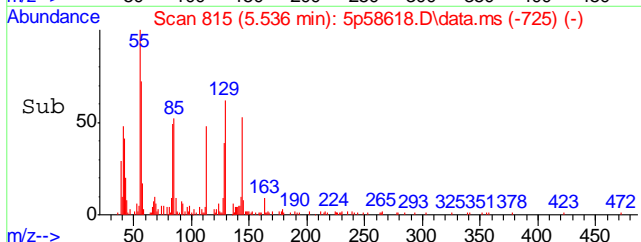
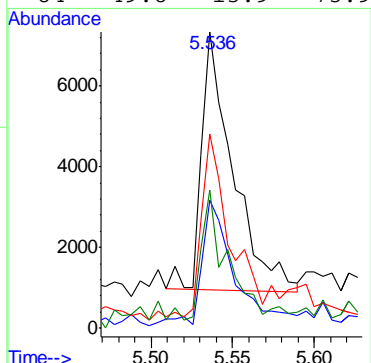
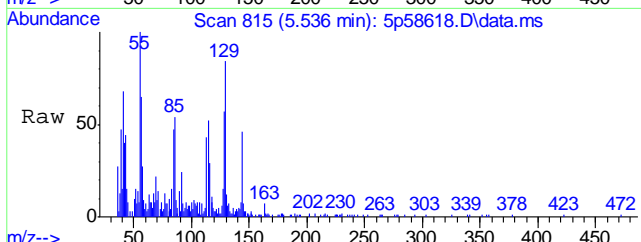
#38  
 Naphthalene  
 Concen: 6.79 ppm  
 RT: 5.119 min Scan# 737  
 Delta R.T. -0.058 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
128	99022	100	
129	9.8	0.0	41.7
127	13.3	0.0	43.1

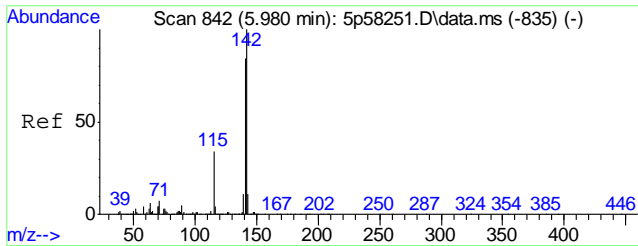


#41  
 Caprolactam  
 Concen: 3.20 ppm  
 RT: 5.536 min Scan# 815  
 Delta R.T. -0.017 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
55	8572	100	
113	46.0	31.4	91.4
56	66.2	48.5	108.5
84	49.8	13.9	73.9

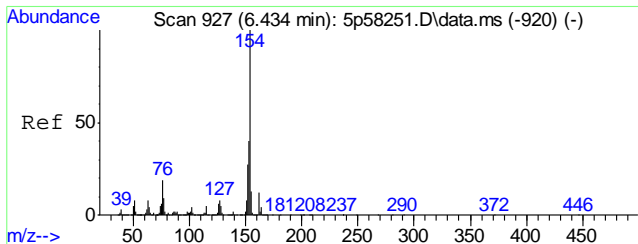
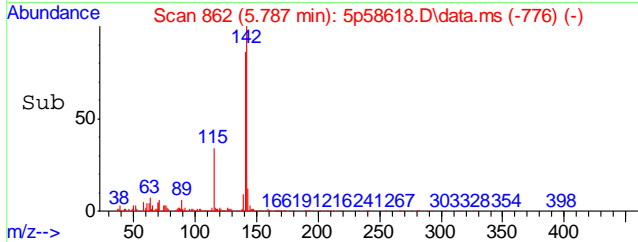
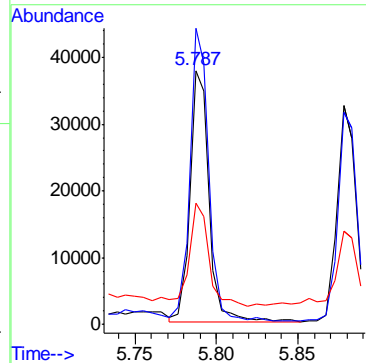
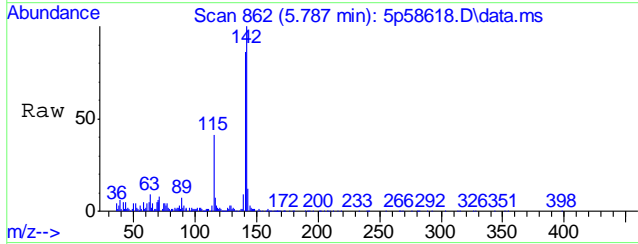


9.1.6  
 9



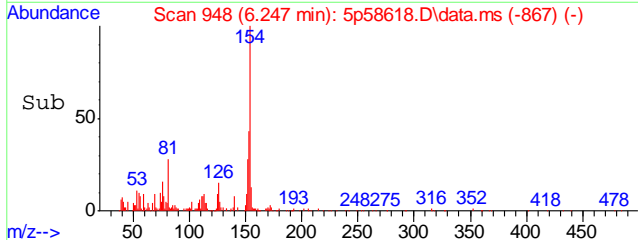
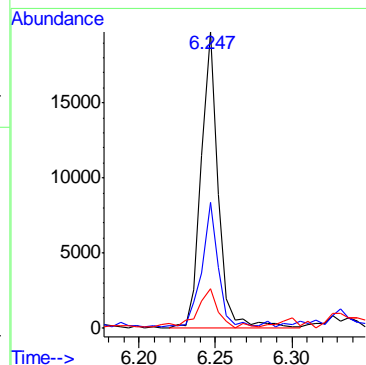
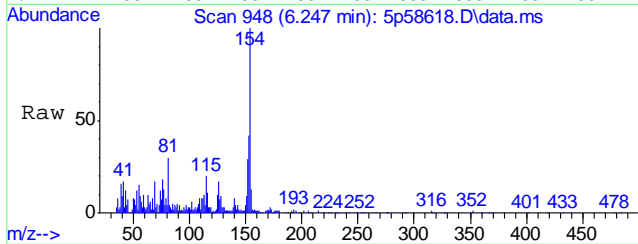
#44  
 2-Methylnaphthalene  
 Concen: 3.63 ppm  
 RT: 5.787 min Scan# 862  
 Delta R.T. -0.042 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

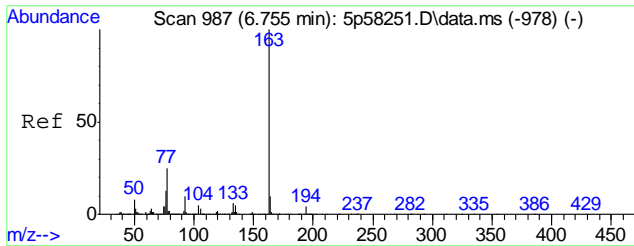
Tgt Ion	Ratio	Lower	Upper
141	100		
142	116.8	89.9	149.9
115	39.3	10.7	70.7



#53  
 Biphenyl  
 Concen: 1.35 ppm  
 RT: 6.247 min Scan# 948  
 Delta R.T. -0.069 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

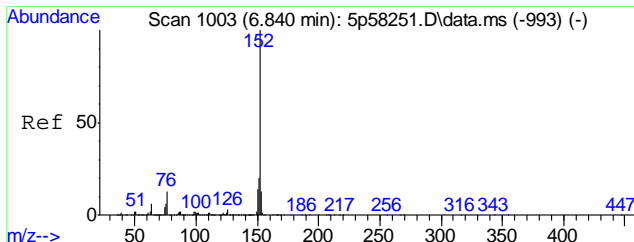
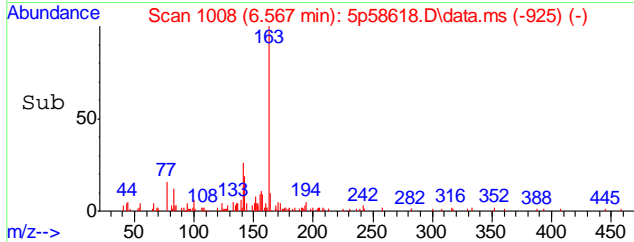
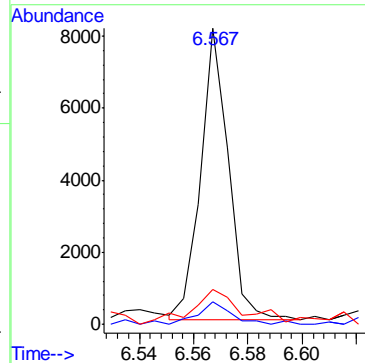
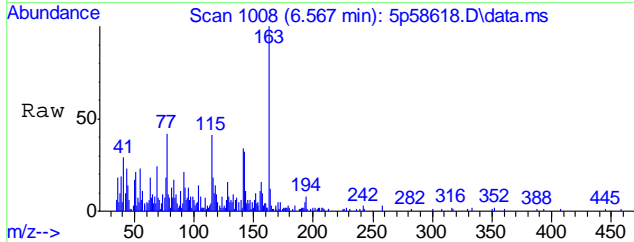
Tgt Ion	Ratio	Lower	Upper
154	100		
153	40.8	10.2	70.2
155	12.1	0.0	43.4





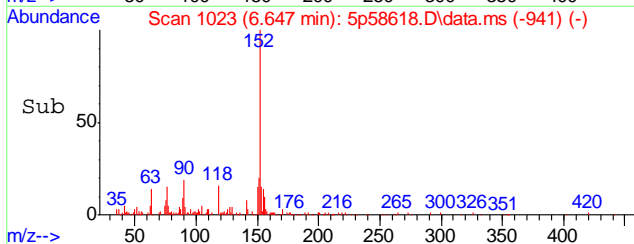
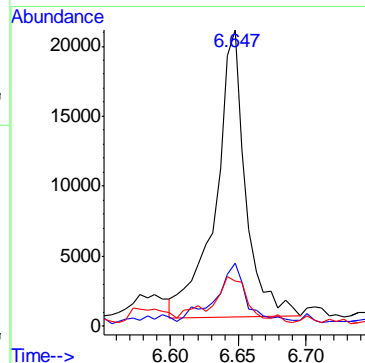
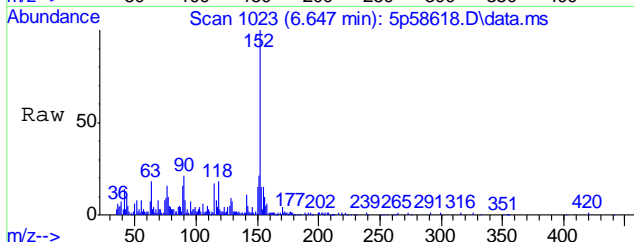
#55  
 Dimethylphthalate  
 Concen: 0.53 ppm  
 RT: 6.567 min Scan# 1008  
 Delta R.T. -0.058 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
163	5696	100	
194	7.7	0.0	34.3
164	9.1	0.0	40.3

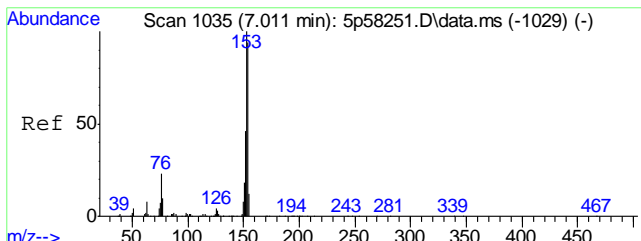


#56  
 Acenaphthylene  
 Concen: 2.23 ppm  
 RT: 6.647 min Scan# 1023  
 Delta R.T. -0.061 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
152	31535	100	
151	19.8	0.0	50.5
153	12.9	0.0	43.4

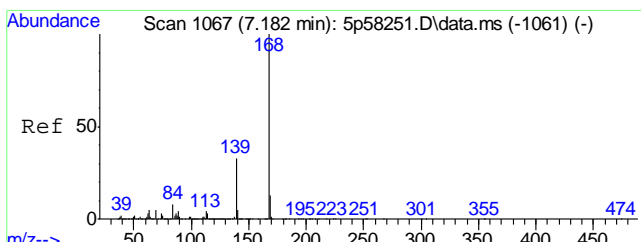
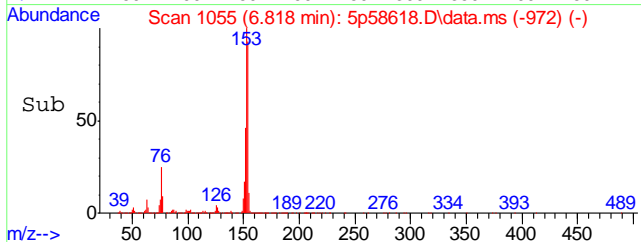
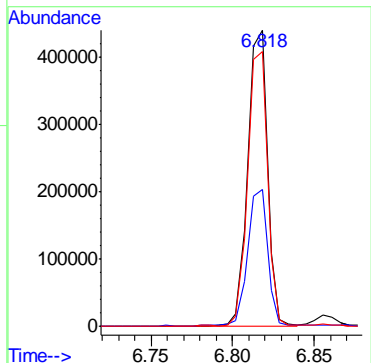
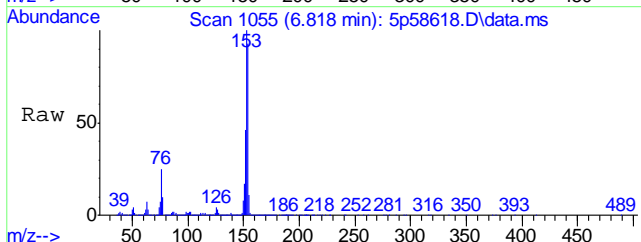


9.1.6  
 9



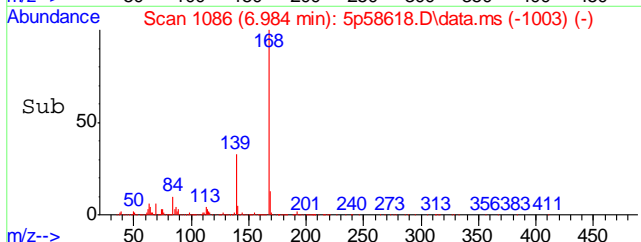
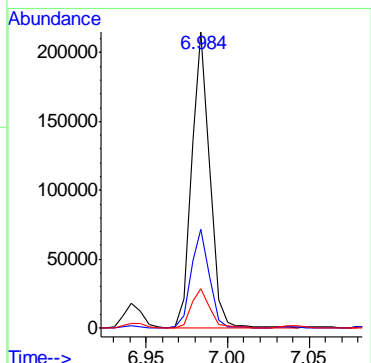
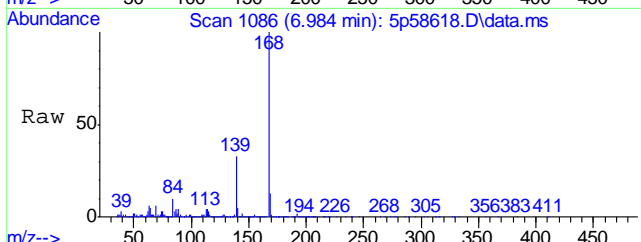
#59  
 Acenaphthene  
 Concen: 41.86 ppm  
 RT: 6.818 min Scan# 1055  
 Delta R.T. -0.058 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
153	367630	100	
152	46.2	15.9	75.9
154	92.9	56.1	116.1

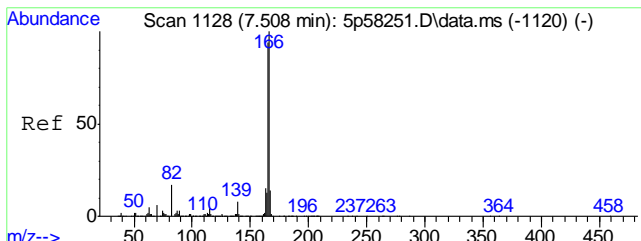


#62  
 Dibenzofuran  
 Concen: 12.52 ppm  
 RT: 6.984 min Scan# 1086  
 Delta R.T. -0.055 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
168	165455	100	
139	33.1	3.2	63.2
169	12.8	0.0	42.9

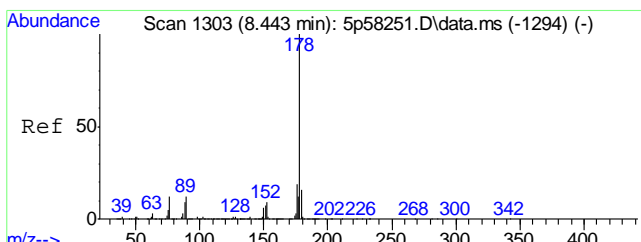
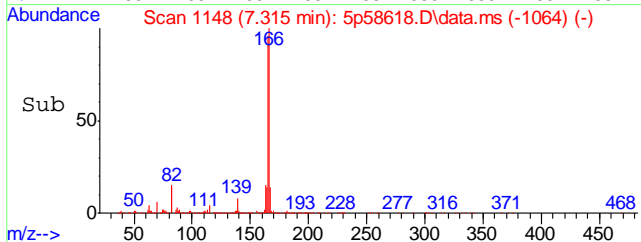
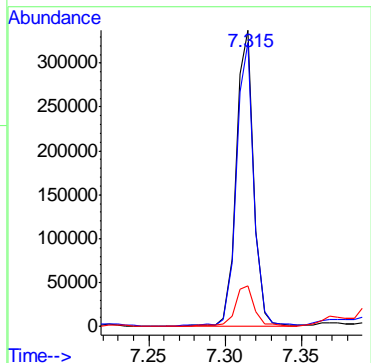
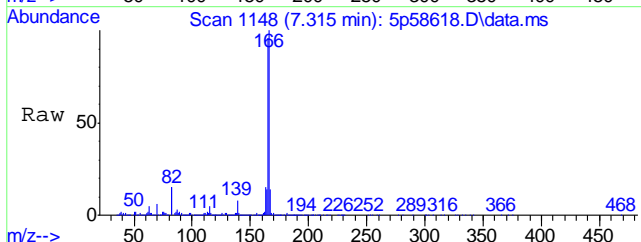


9.1.6  
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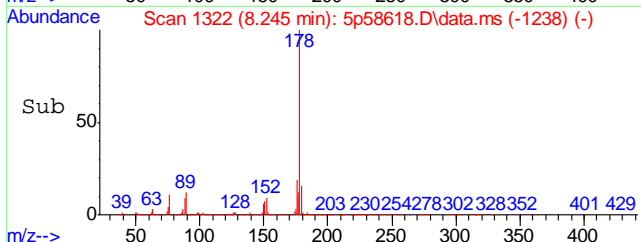
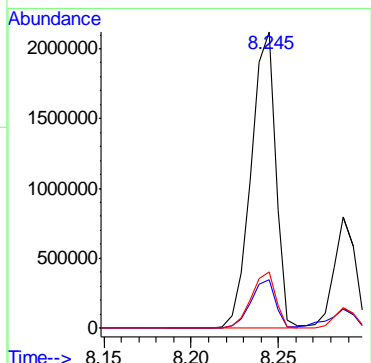
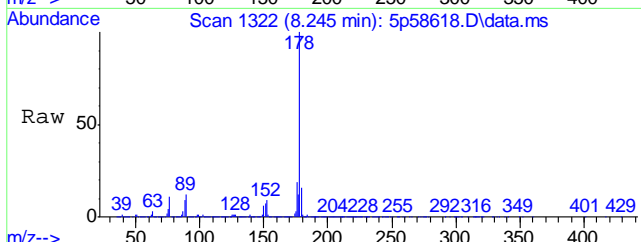
#66  
 Fluorene  
 Concen: 26.07 ppm  
 RT: 7.315 min Scan# 1148  
 Delta R.T. -0.049 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
166	100		
165	95.7	64.3	124.3
167	13.8	0.0	43.8

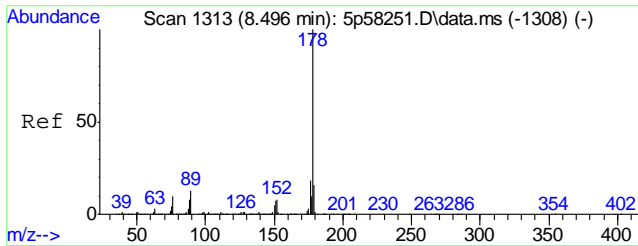


#77  
 Phenanthrene  
 Concen: 143.01 ppm  
 RT: 8.245 min Scan# 1322  
 Delta R.T. -0.053 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
178	100		
179	16.4	0.0	45.8
176	19.1	0.0	48.5

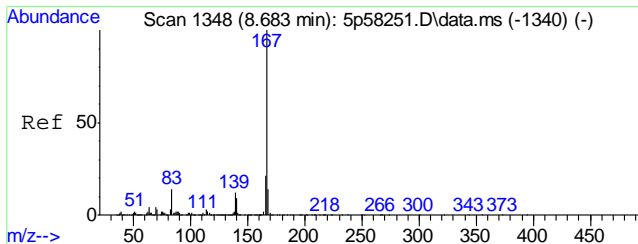
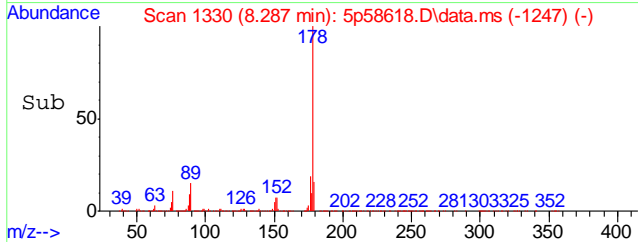
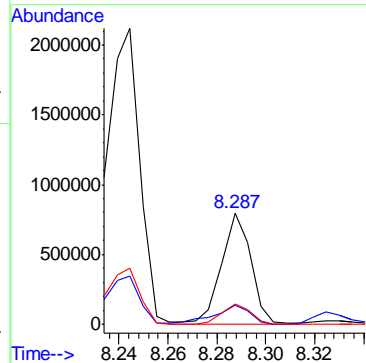
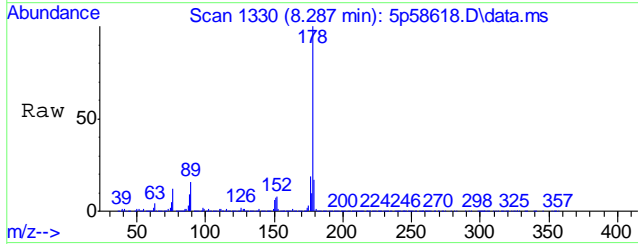


9.1.6  
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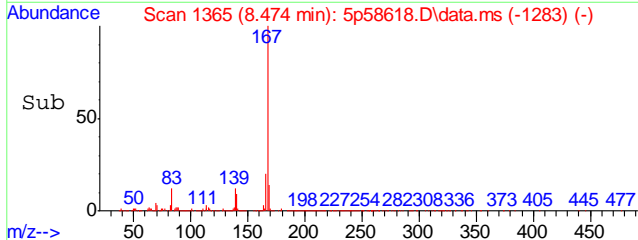
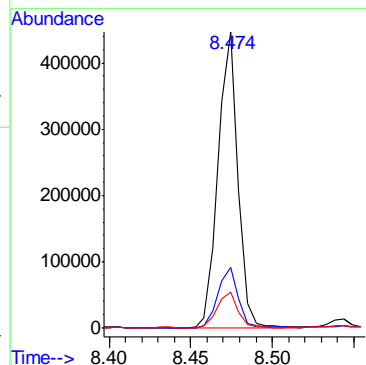
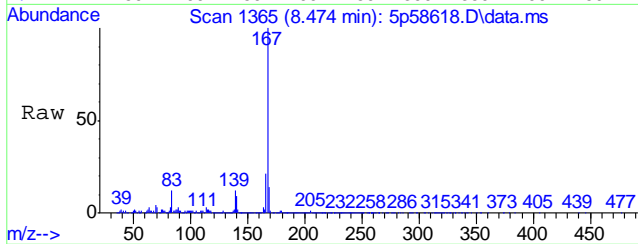
#78  
 Anthracene  
 Concen: 44.35 ppm  
 RT: 8.287 min Scan# 1330  
 Delta R.T. -0.058 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
178	676434		
179	16.3	0.0	45.6
176	18.8	0.0	48.3

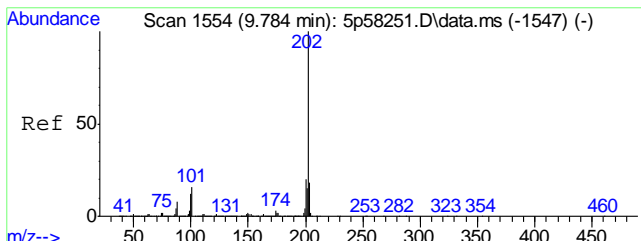


#79  
 Carbazole  
 Concen: 24.62 ppm  
 RT: 8.474 min Scan# 1365  
 Delta R.T. -0.060 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
167	380707		
166	20.4	0.0	50.7
139	12.0	0.0	42.4

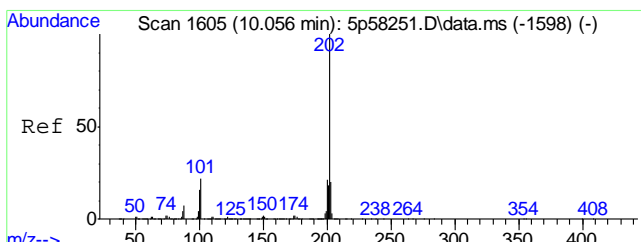
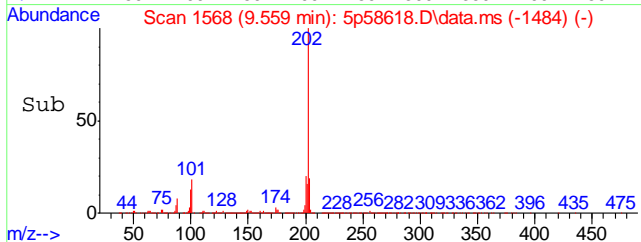
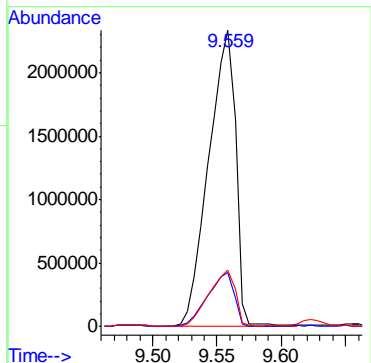
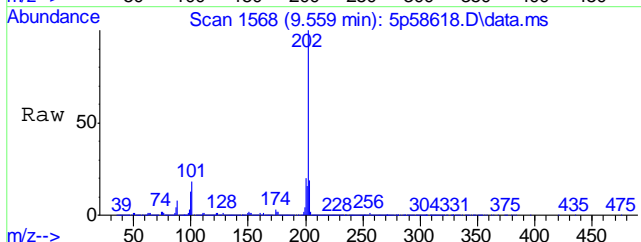






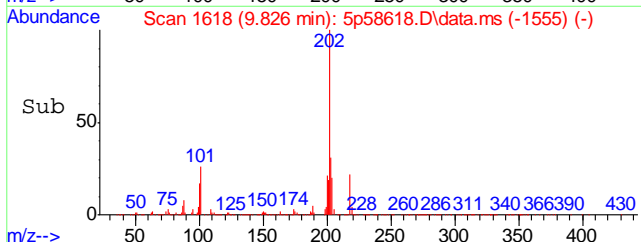
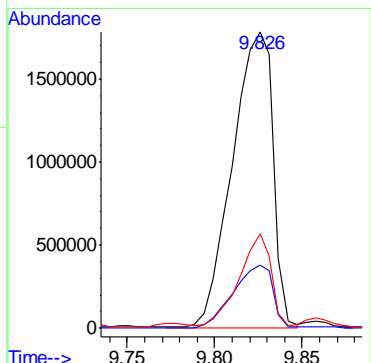
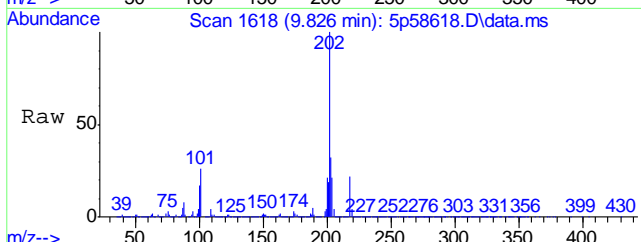
#81  
 Fluoranthene  
 Concen: 186.95 ppm  
 RT: 9.559 min Scan# 1568  
 Delta R.T. -0.052 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
202	3375334		
101	18.1	0.0	46.5
203	18.6	0.0	47.7

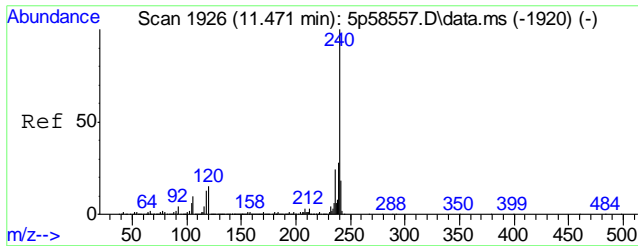


#84  
 Pyrene  
 Concen: 152.23 ppm m  
 RT: 9.826 min Scan# 1618  
 Delta R.T. -0.164 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
202	2885927		
200	21.1	0.0	50.6
203	31.8	0.0	49.5

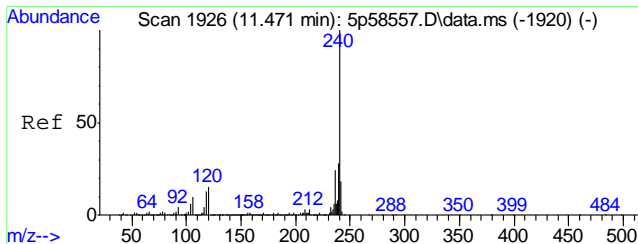
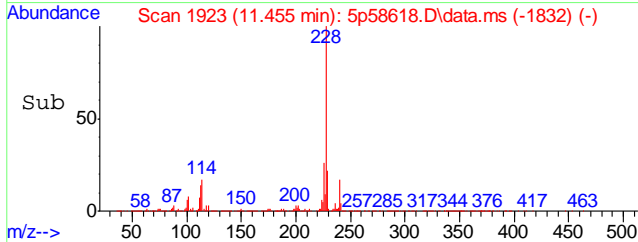
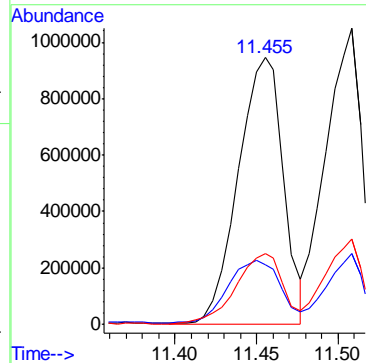
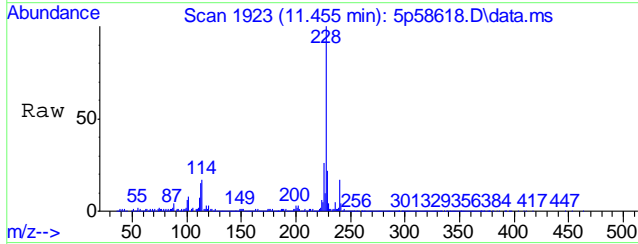


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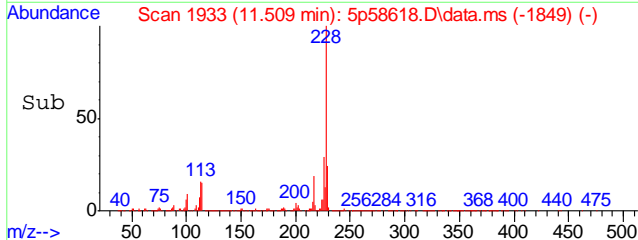
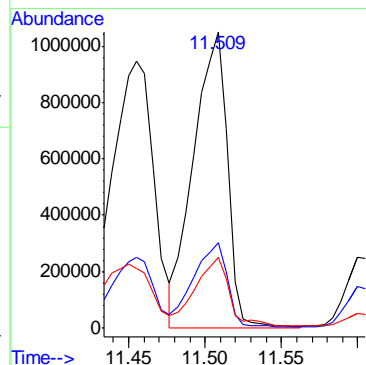
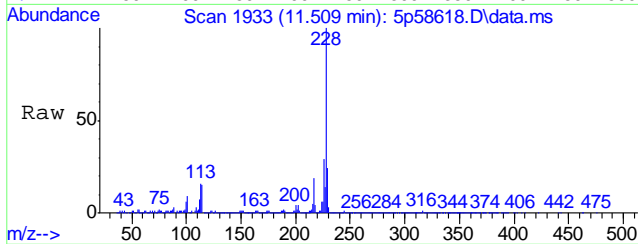
#87  
 Benzo[a]anthracene  
 Concen: 103.77 ppm  
 RT: 11.455 min Scan# 1923  
 Delta R.T. -0.014 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

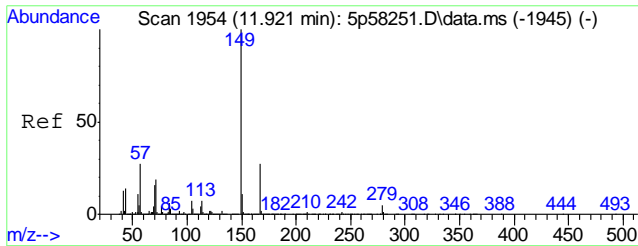
Tgt Ion	Resp	Lower	Upper
228	100		
229	21.8	0.0	49.3
226	26.0	0.0	56.3



#89  
 Chrysene  
 Concen: 100.86 ppm  
 RT: 11.509 min Scan# 1933  
 Delta R.T. -0.050 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

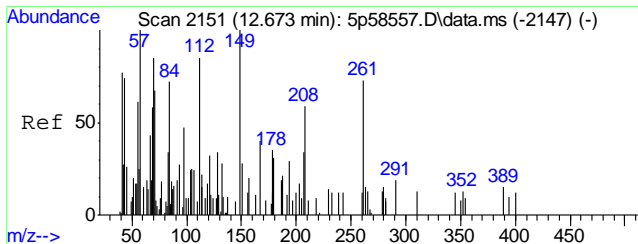
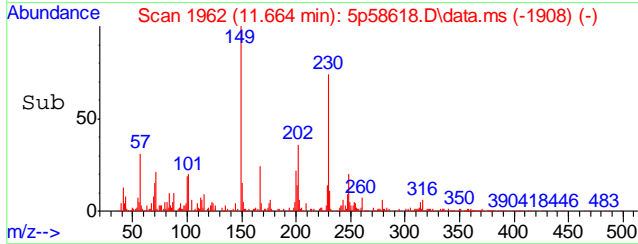
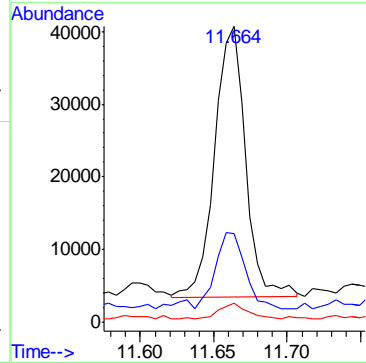
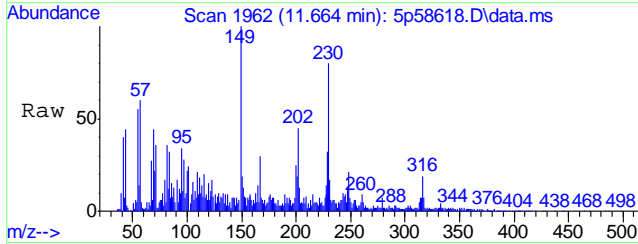
Tgt Ion	Resp	Lower	Upper
228	100		
226	28.7	0.0	58.6
229	23.3	0.0	49.0





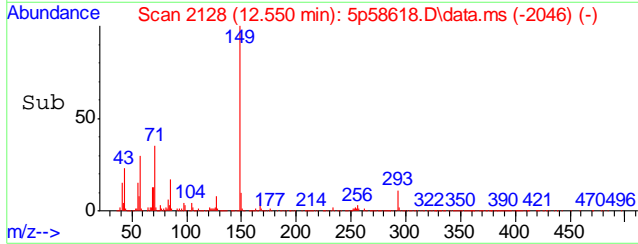
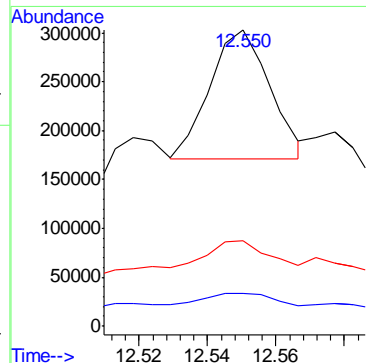
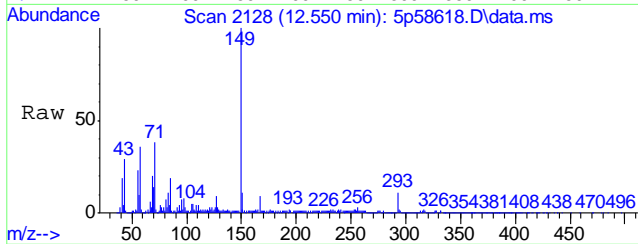
#90  
 bis(2-Ethylhexyl)phthalate  
 Concen: 4.74 ppm m  
 RT: 11.664 min Scan# 1962  
 Delta R.T. -0.213 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
149	100		
167	29.9	0.0	56.7
279	6.6	0.0	35.0

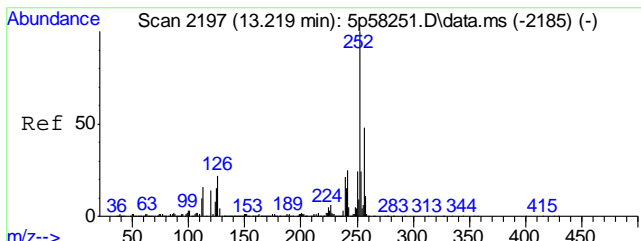


#92  
 Di-n-octylphthalate  
 Concen: 8.44 ppm m  
 RT: 12.550 min Scan# 2128  
 Delta R.T. -0.064 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
149	100		
150	11.0	0.0	39.8
43	28.7	0.0	38.6

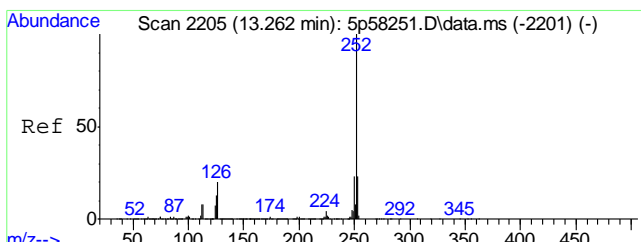
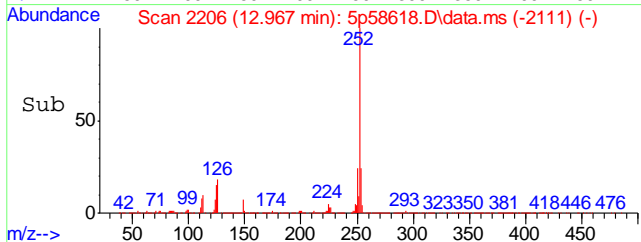
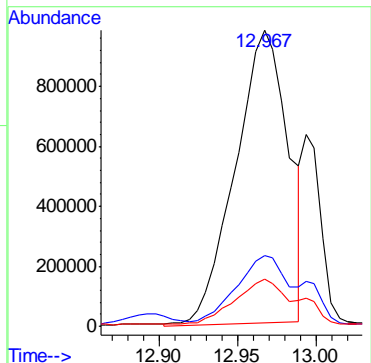
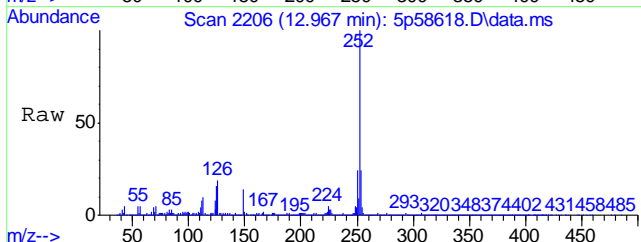


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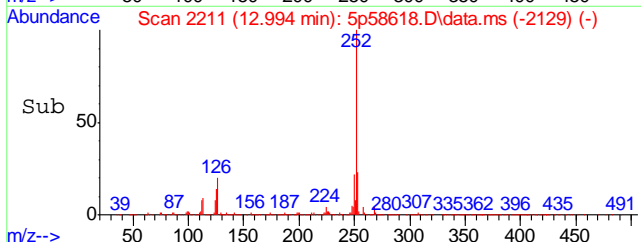
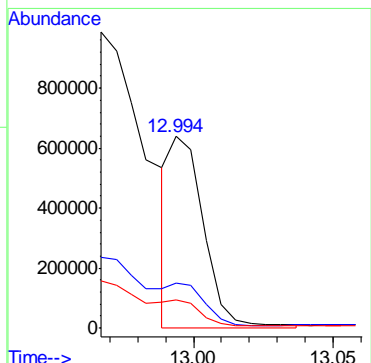
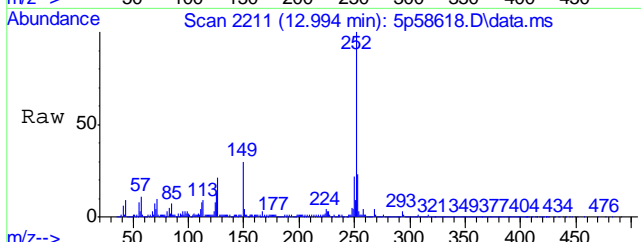
#93  
 Benzo[b]fluoranthene  
 Concen: 139.57 ppm m  
 RT: 12.967 min Scan# 2206  
 Delta R.T. 0.005 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	23.9	0.0	54.7
125	16.0	0.0	45.6

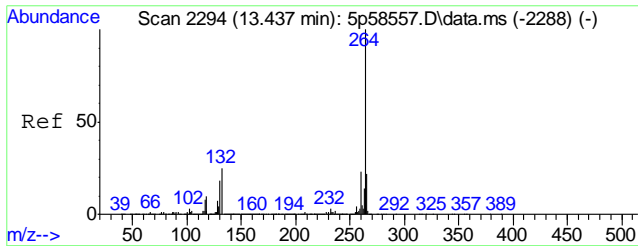


#94  
 Benzo[k]fluoranthene  
 Concen: 35.66 ppm m  
 RT: 12.994 min Scan# 2211  
 Delta R.T. -0.060 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Resp	Lower	Upper
252	100		
253	23.5	0.0	52.6
125	14.4	0.0	43.1

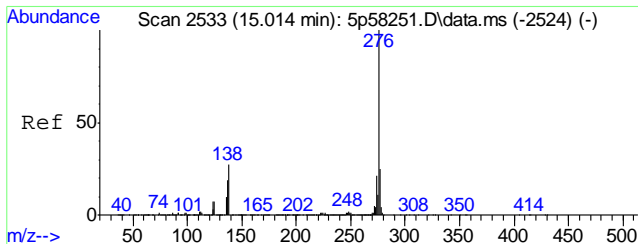
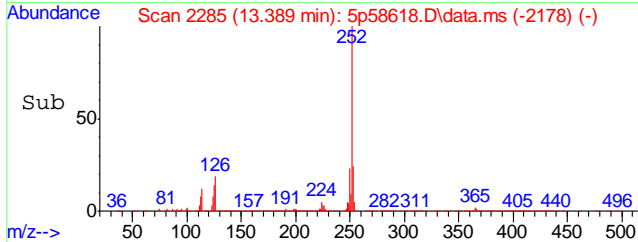
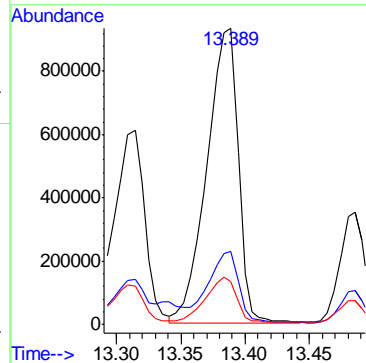
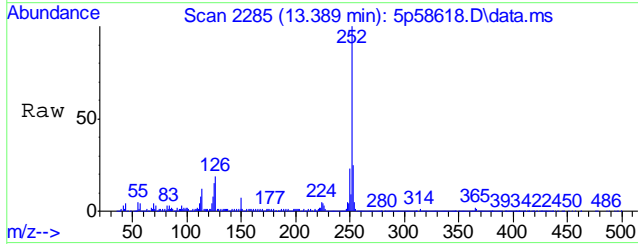


9.1.6  
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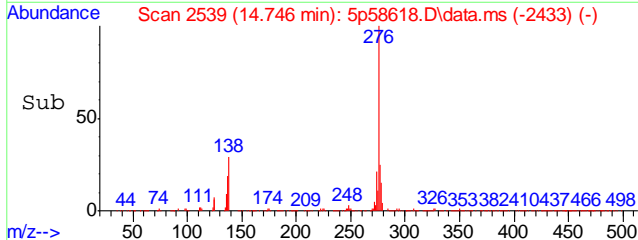
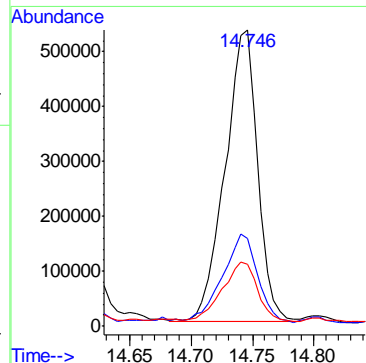
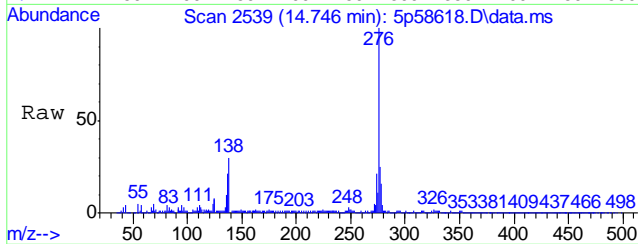
#95  
 Benzo[a]pyrene  
 Concen: 109.09 ppm  
 RT: 13.389 min Scan# 2285  
 Delta R.T. 0.069 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

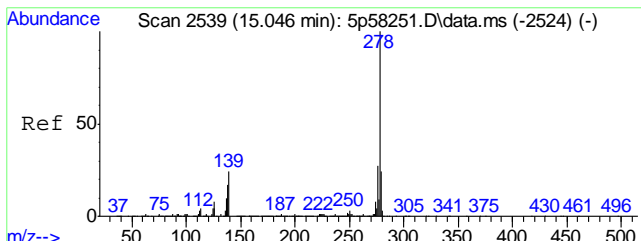
Tgt Ion	Resp	Lower	Upper
252	1591229		
252	100		
253	20.8	0.0	52.1
125	13.8	0.0	44.8



#96  
 Indeno[1,2,3-cd]pyrene  
 Concen: 75.88 ppm  
 RT: 14.746 min Scan# 2539  
 Delta R.T. 0.066 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

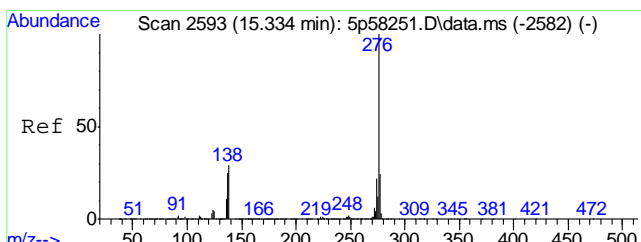
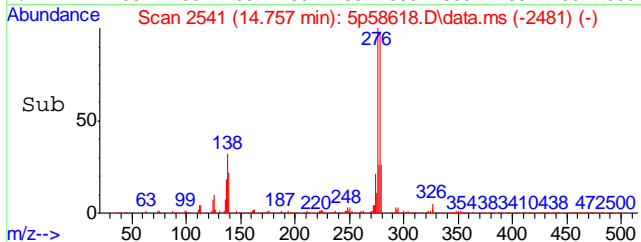
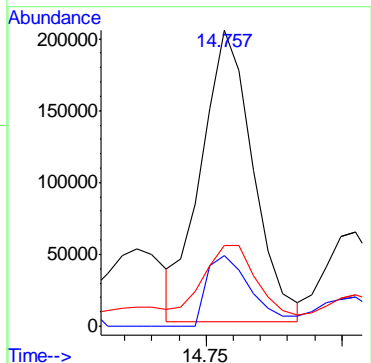
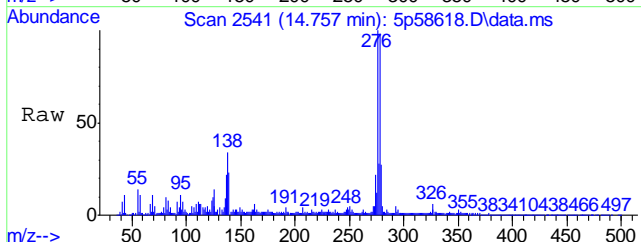
Tgt Ion	Resp	Lower	Upper
276	990049		
276	100		
138	28.2	0.0	56.9
137	19.2	0.0	49.4





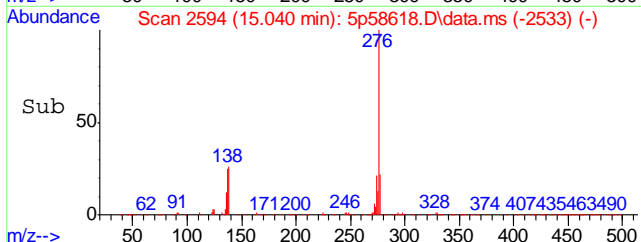
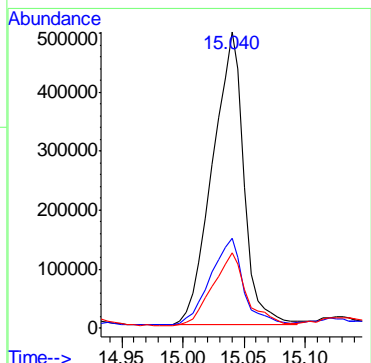
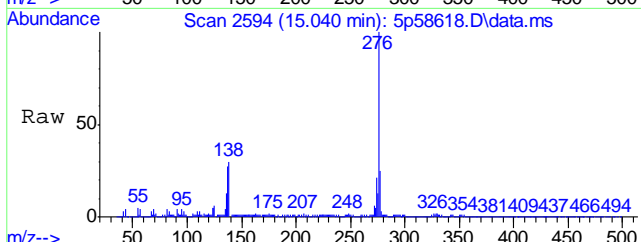
#98  
 Dibenz[a,h]anthracene  
 Concen: 19.96 ppm  
 RT: 14.757 min Scan# 2541  
 Delta R.T. -0.178 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

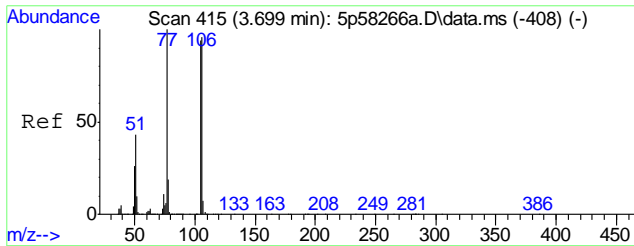
Tgt Ion	Resp	Lower	Upper
278	269316		
139	25.5	0.0	53.6
279	26.4	0.0	54.4



#100  
 Benzo[g,h,i]perylene  
 Concen: 67.96 ppm  
 RT: 15.040 min Scan# 2594  
 Delta R.T. -0.176 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

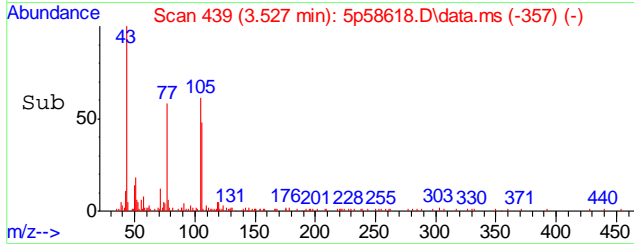
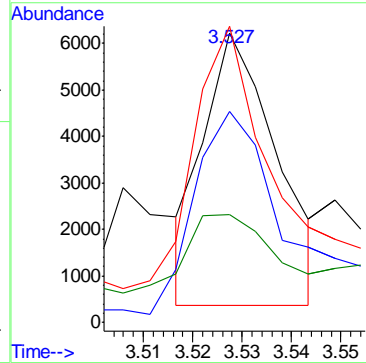
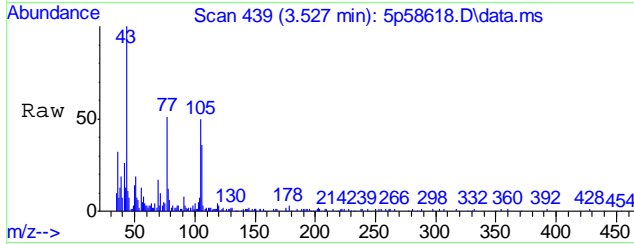
Tgt Ion	Resp	Lower	Upper
276	895142		
138	29.3	0.0	59.0
277	24.6	0.0	53.7





#102  
 Benzaldehyde  
 Concen: 1.04 ppm m  
 RT: 3.527 min Scan# 439  
 Delta R.T. -0.060 min  
 Lab File: 5p58618.D  
 Acq: 18 Apr 19 4:58 pm

Tgt Ion	Ratio	Lower	Upper
105	100		
106	72.7	71.5	131.5
77	102.2	75.9	135.9
51	37.3	15.0	75.0



9.1.6  
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# Manual Integration Approval Summary

Sample Number: JC86337-4                      Method: SW846 8270D  
Lab FileID: 5P58618.D                      Analyst approved: 04/19/19 12:41 Kristi Schollenberger  
Injection Time: 04/18/19 16:58                      Supervisor approved: 04/19/19 13:04 Kristi Schollenberger

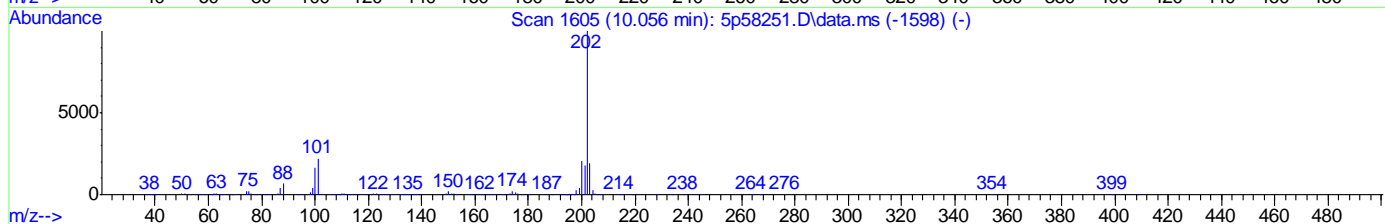
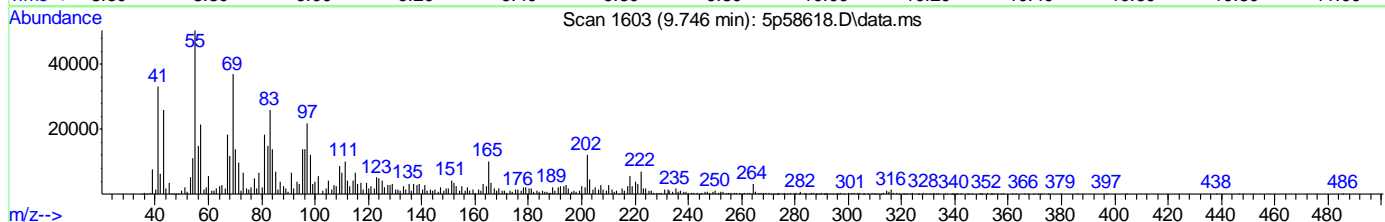
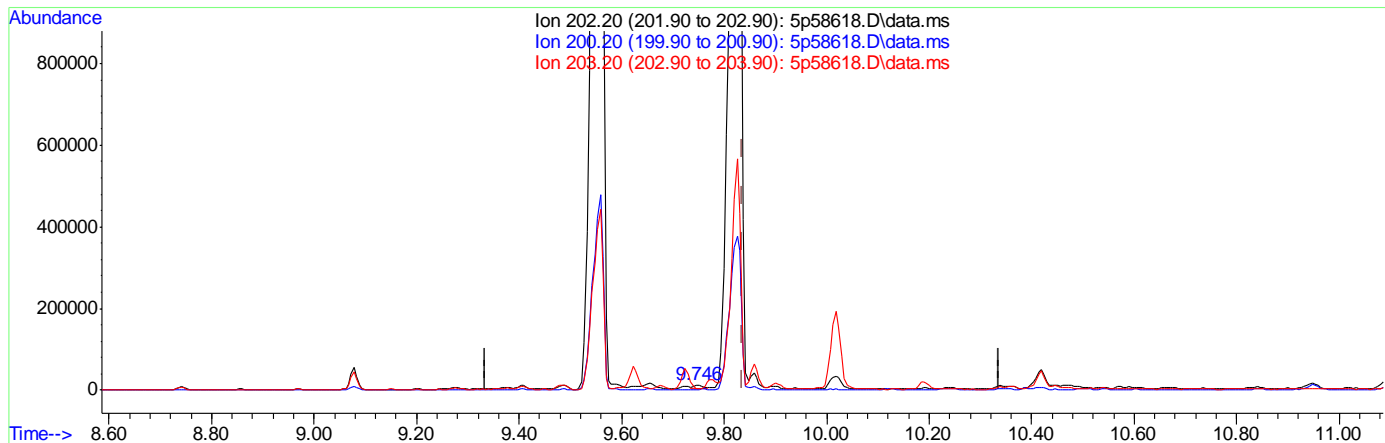
Parameter	CAS	Sig#	R.T. (min.)	Reason
Benzaldehyde	100-52-7		3.53	Poor instrument integration
Pyrene	129-00-0		9.83	Poor instrument integration
bis(2-Ethylhexyl)phthalate	117-81-7		11.66	Poor instrument integration
Di-n-octyl phthalate	117-84-0		12.55	Poor instrument integration
Benzo(b)fluoranthene	205-99-2		12.97	Poor instrument integration
Benzo(k)fluoranthene	207-08-9		12.99	Poor instrument integration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58618.D  
 Acq On : 18 Apr 2019 4:58 pm  
 Operator : christc2  
 Sample : jc86337-4  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 18 17:15:49 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58618.D\data.ms

(84) Pyrene (t)  
 9.746min (-0.090) 0.44ppm  
 response 8259

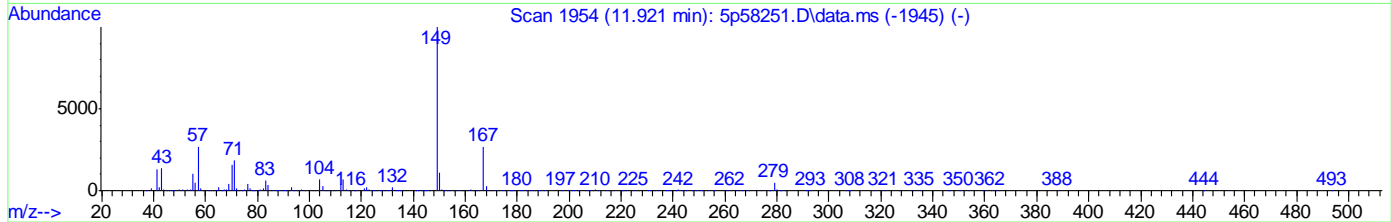
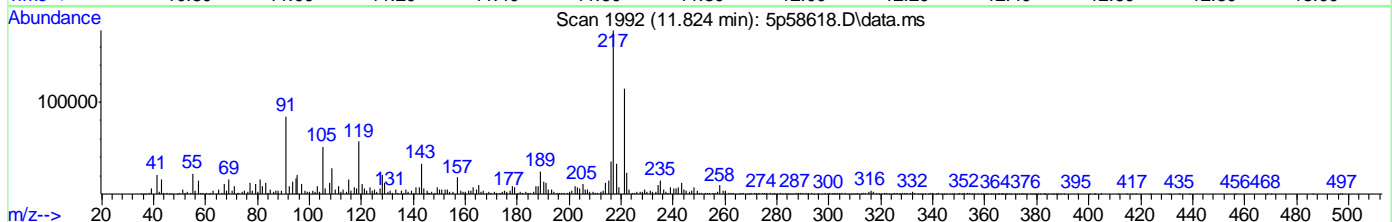
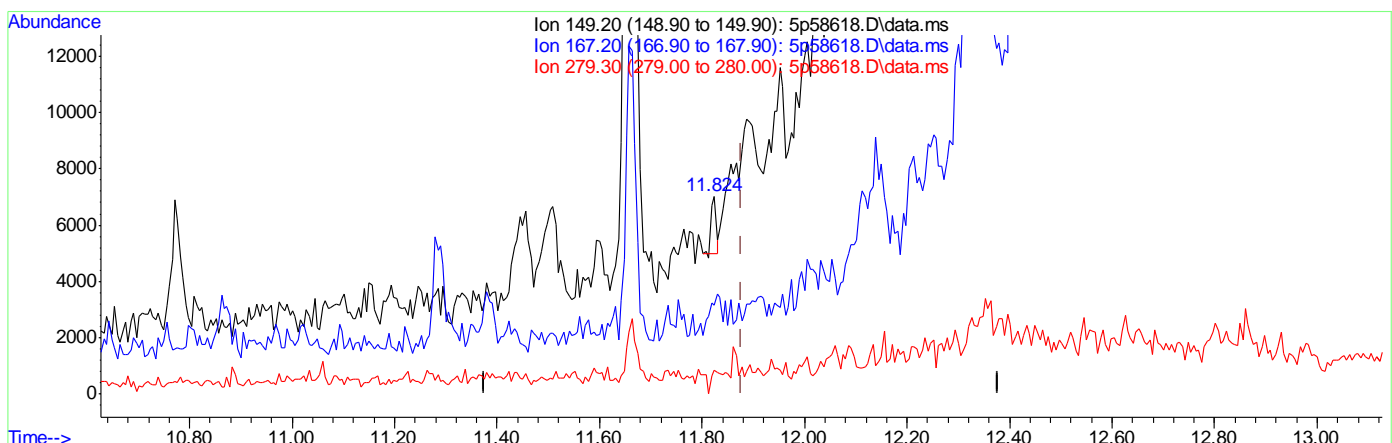
Ion	Exp%	Act%
202.20	100	100
200.20	20.60	14.64
203.20	19.50	0.00
0.00	0.00	0.00

9.1.6.2  
**9**

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
Data File : 5p58618.D  
Acq On : 18 Apr 2019 4:58 pm  
Operator : christc2  
Sample : jc86337-4  
Misc : op19786,e5p2776,30.1,,,1,1  
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 18 17:15:49 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Thu Apr 18 14:54:49 2019  
Response via : Initial Calibration



TIC: 5p58618.D\data.ms

(90) bis(2-Ethylhexyl)phthalate (t)  
11.824min (-0.053) 0.12ppm  
response 1324

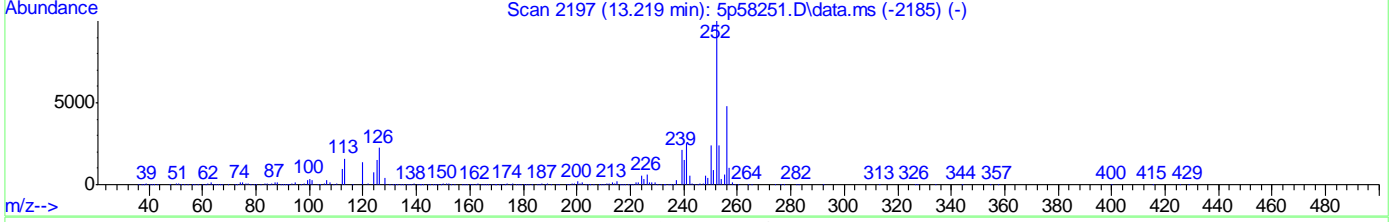
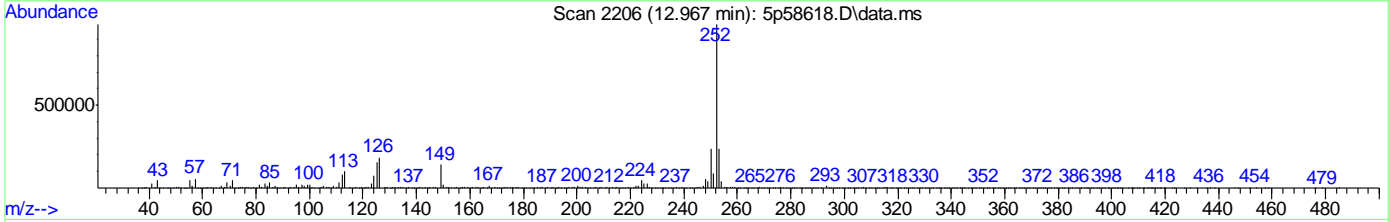
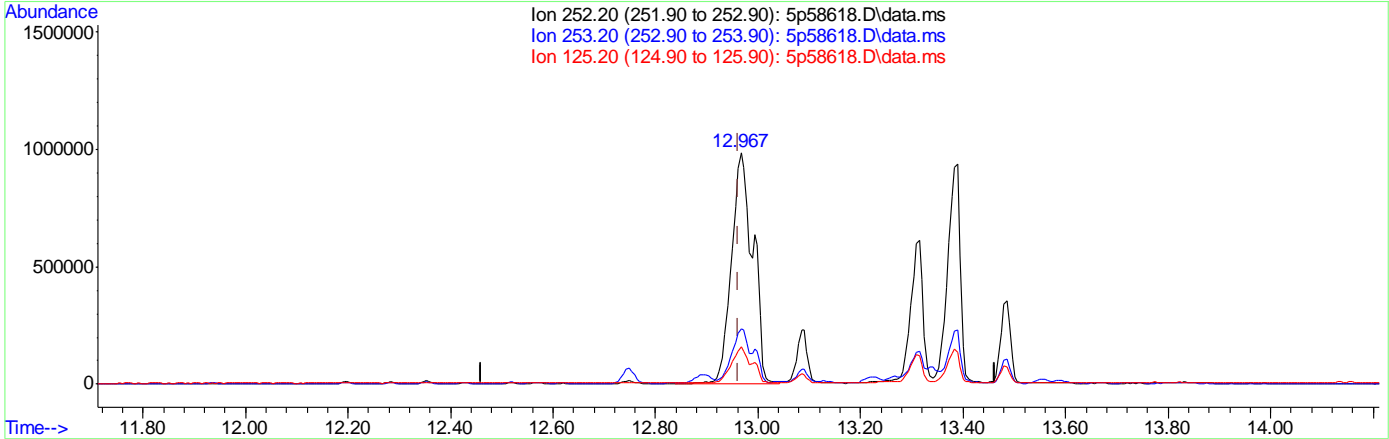
Ion	Exp%	Act%
149.20	100	100
167.20	26.70	18.81
279.30	5.00	13.56
0.00	0.00	0.00

9.1.6.3  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58618.D  
 Acq On : 18 Apr 2019 4:58 pm  
 Operator : christc2  
 Sample : jc86337-4  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 18 17:15:49 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58618.D\data.ms

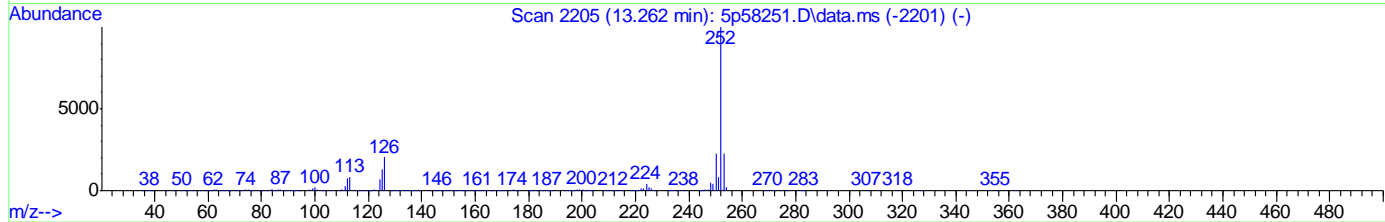
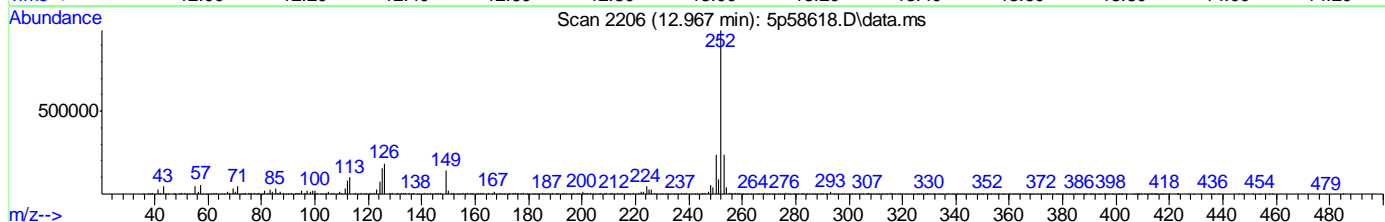
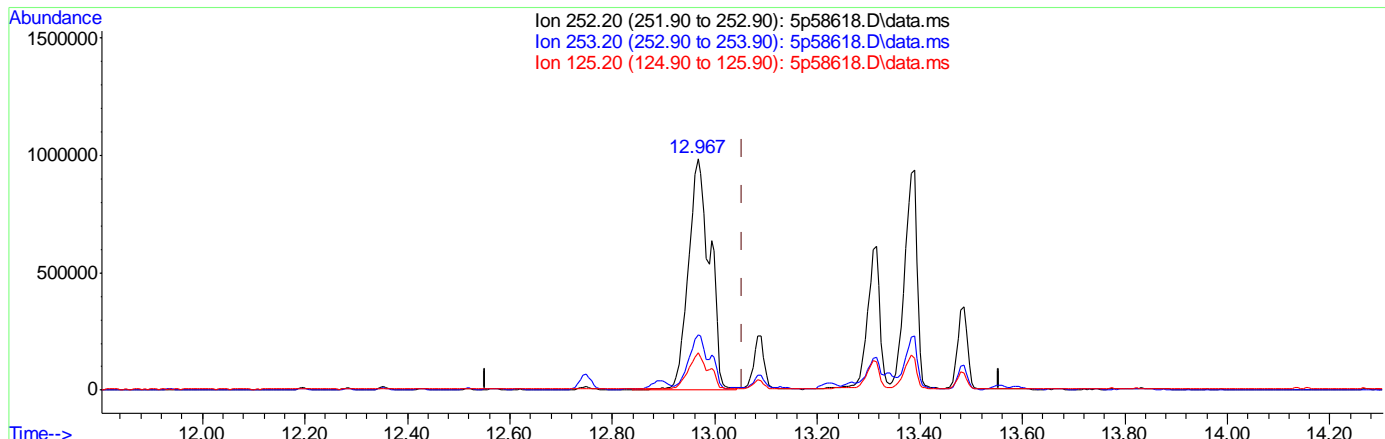
(93) Benzo[b]fluoranthene (t)		
12.967min (+0.005) 174.35ppm		
response 2855180		
Ion	Exp%	Act%
252.20	100	100
253.20	24.70	23.09
125.20	15.60	15.33
0.00	0.00	0.00

9.1.6.4  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58618.D  
 Acq On : 18 Apr 2019 4:58 pm  
 Operator : christc2  
 Sample : jc86337-4  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 18 17:15:49 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58618.D\data.ms

(94) Benzo[k]fluoranthene (t)  
 12.967min (-0.087) 190.47ppm  
 response 2855180

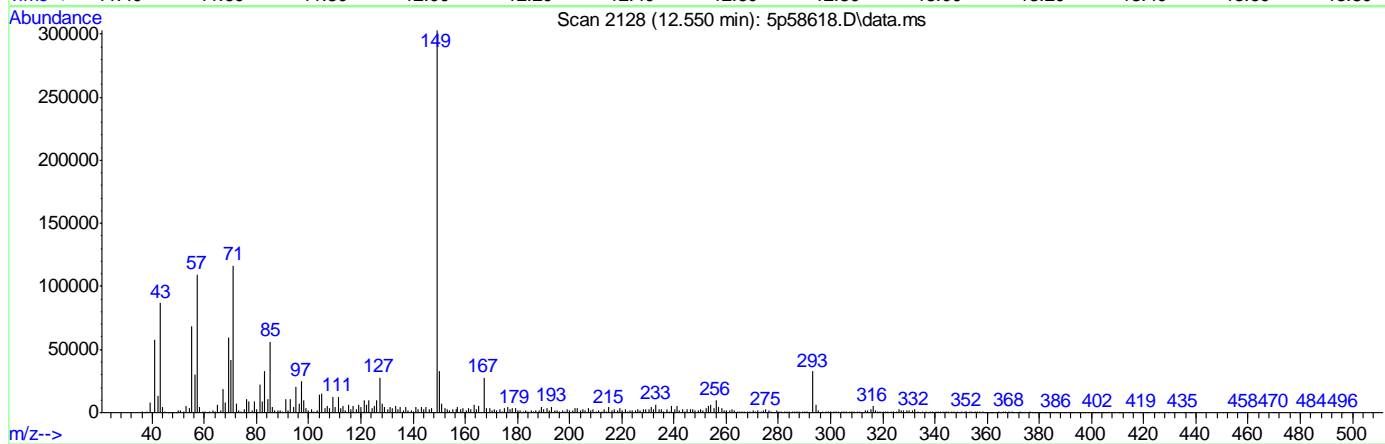
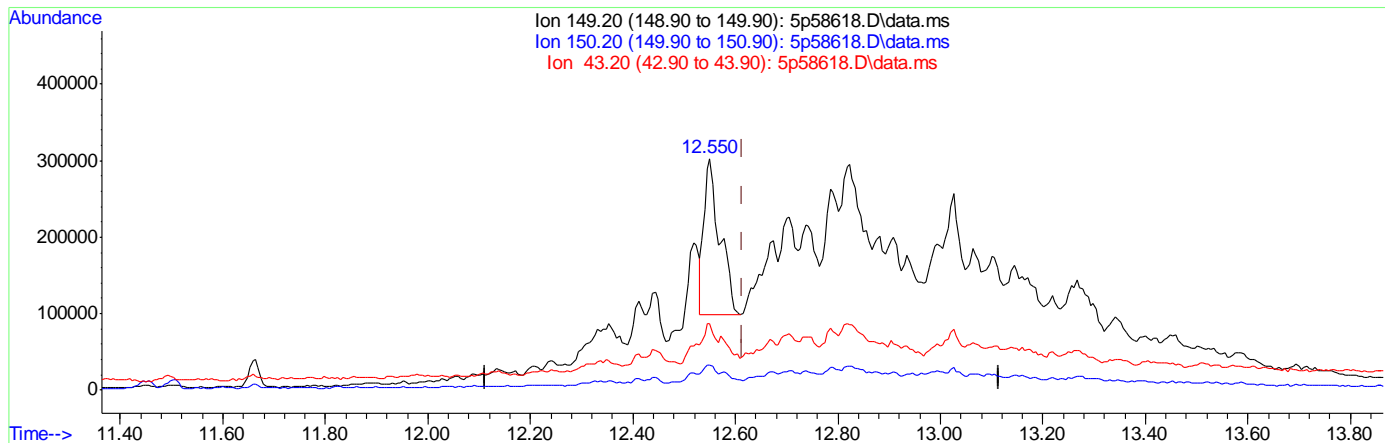
Ion	Exp%	Act%
252.20	100	100
253.20	22.60	23.09
125.20	13.10	15.33
0.00	0.00	0.00

9.1.6.5  
**9**

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58618.D  
 Acq On : 18 Apr 2019 4:58 pm  
 Operator : christc2  
 Sample : jc86337-4  
 Misc : op19786,e5p2776,30.1,,1,1  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 18 17:38:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(92) Di-n-octylphthalate (t)  
 12.550min (-0.064) 23.20ppm  
 response 443303

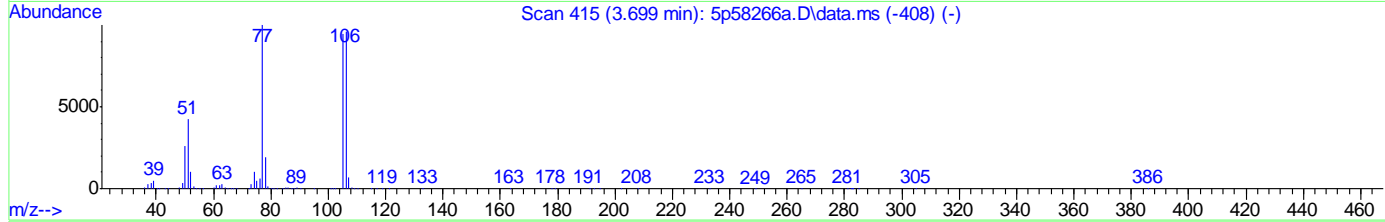
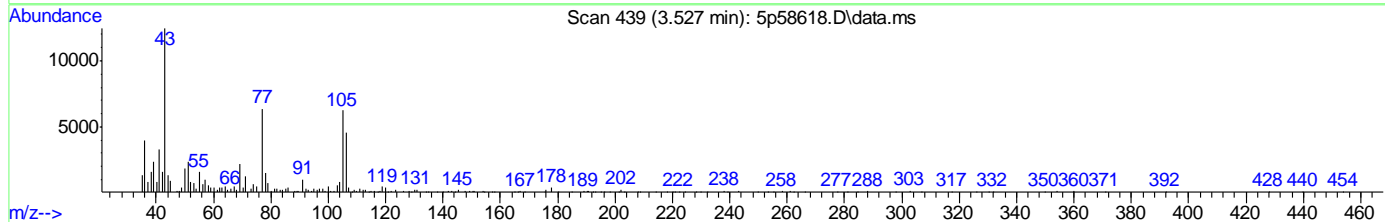
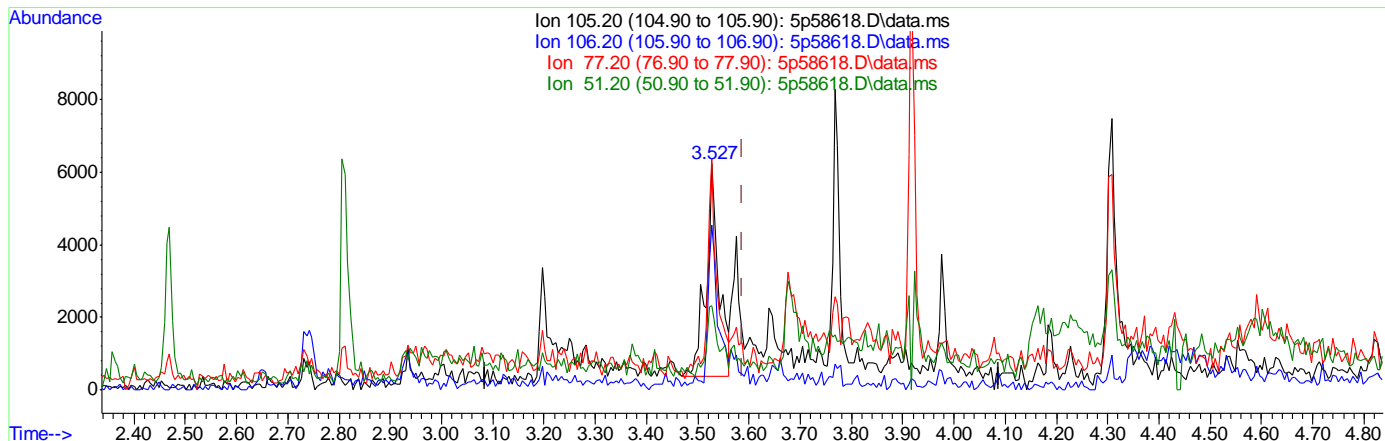
Ion	Exp%	Act%
149.20	100	100
150.20	9.80	9.28
43.20	8.60	21.41
0.00	0.00	0.00

9.1.6.6  
 9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58618.D  
 Acq On : 18 Apr 2019 4:58 pm  
 Operator : christc2  
 Sample : jc86337-4  
 Misc : op19786,e5p2776,30.1,,,1,1  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 18 17:38:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58618.D\data.ms

(102) Benzaldehyde		
3.527min (-0.060) 1.77ppm		
response 10287		
Ion	Exp%	Act%
105.20	100	100
106.20	101.50	77.88
77.20	105.90	103.68
51.20	45.00	32.70

9.1.6.7  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58657.D  
 Acq On : 19 Apr 2019 10:42 am  
 Operator : carolb  
 Sample : jc86337-4  
 Misc : op19786,e5p2777,30.1,,,1,5  
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 19 12:25:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.917	152	214243	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	741395	40.00	ppm	-0.05
47) Acenaphthene-d10	6.786	164	377879	40.00	ppm	-0.06
69) Phenanthrene-d10	8.212	188	658329	40.00	ppm	-0.06
83) Chrysene-d12	11.444	240	584552	40.00	ppm	-0.10
91) Perylene-d12	13.416	264	593089	40.00	ppm	-0.10
101) 1,4-Dichlorobenzene-d4b	3.917	152	214243	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.786	164	377879	40.00	ppm	-0.06
105) Chrysene-d12a	11.444	240	584552	40.00	ppm	-0.10
107) Phenanthrene-d10a	8.212	188	658329	40.00	ppm	-0.06
111) Naphthalene-d8a	5.103	136	741395	40.00	ppm	-0.05
113) Chrysene-d12b	11.444	240	584552	40.00	ppm	-0.10
115) 1,4-Dichlorobenzene-d4c	3.917	152	214243	40.00	ppm	-0.05
117) Chrysene-d12c	11.444	240	584552	40.00	ppm	-0.10
119) Chrysene-d12d	11.444	240	584552	40.00	ppm	-0.10
System Monitoring Compounds						
5) 2-Fluorophenol	2.801	112	53197	6.38	ppm	-0.10
Spiked Amount	50.000		Recovery	=	12.76%	
8) Phenol-d5	3.666	99	70124	6.68	ppm	-0.07
Spiked Amount	50.000		Recovery	=	13.36%	
25) Nitrobenzene-d5	4.435	82	63281	7.36	ppm	-0.07
Spiked Amount	50.000		Recovery	=	14.72%	
51) 2-Fluorobiphenyl	6.156	172	110818	8.44	ppm	-0.07
Spiked Amount	50.000		Recovery	=	16.88%	
73) 2,4,6-Tribromophenol	7.550	330	9384	4.95	ppm	-0.06
Spiked Amount	50.000		Recovery	=	9.90%	
85) Terphenyl-d14	10.055	244	109880	7.39	ppm	-0.22
Spiked Amount	50.000		Recovery	=	14.78%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
38) Naphthalene	5.125	128	25378m	1.36	ppm	Qvalue
44) 2-Methylnaphthalene	5.792	141	6798	0.62	ppm	92
53) Biphenyl	6.246	154	4377	0.31	ppm	97
56) Acenaphthylene	6.647	152	5250	0.30	ppm	89
59) Acenaphthene	6.813	153	97999	8.99	ppm	94
62) Dibenzofuran	6.984	168	41292	2.52	ppm	98
66) Fluorene	7.310	166	69620	5.37	ppm	99
77) Phenanthrene	8.234	178	590783	33.20	ppm	99
78) Anthracene	8.282	178	174664	9.35	ppm	98
79) Carbazole	8.469	167	94800	5.01	ppm	99
81) Fluoranthene	9.537	202	995870	45.06	ppm	97
84) Pyrene	9.804	202	823964	37.09	ppm	94
87) Benzo[a]anthracene	11.434	228	459004m	22.48	ppm	
89) Chrysene	11.482	228	412020	21.86	ppm	96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58657.D  
 Acq On : 19 Apr 2019 10:42 am  
 Operator : carolb  
 Sample : jc86337-4  
 Misc : op19786,e5p2777,30.1,,,1,5  
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 19 12:25:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
92) Di-n-octylphthalate	12.529	149	37367m	1.77	ppm	
93) Benzo[b]fluoranthene	12.924	252	517748	28.59	ppm	97
94) Benzo[k]fluoranthene	12.956	252	181902	10.97	ppm	95
95) Benzo[a]pyrene	13.341	252	380725	23.60	ppm	99
96) Indeno[1,2,3-cd]pyrene	14.698	276	228264	15.82	ppm	97
98) Dibenz[a,h]anthracene	14.725	278	60608	4.06	ppm	93
100) Benzo[g,h,i]perylene	14.986	276	208310	14.30	ppm	97

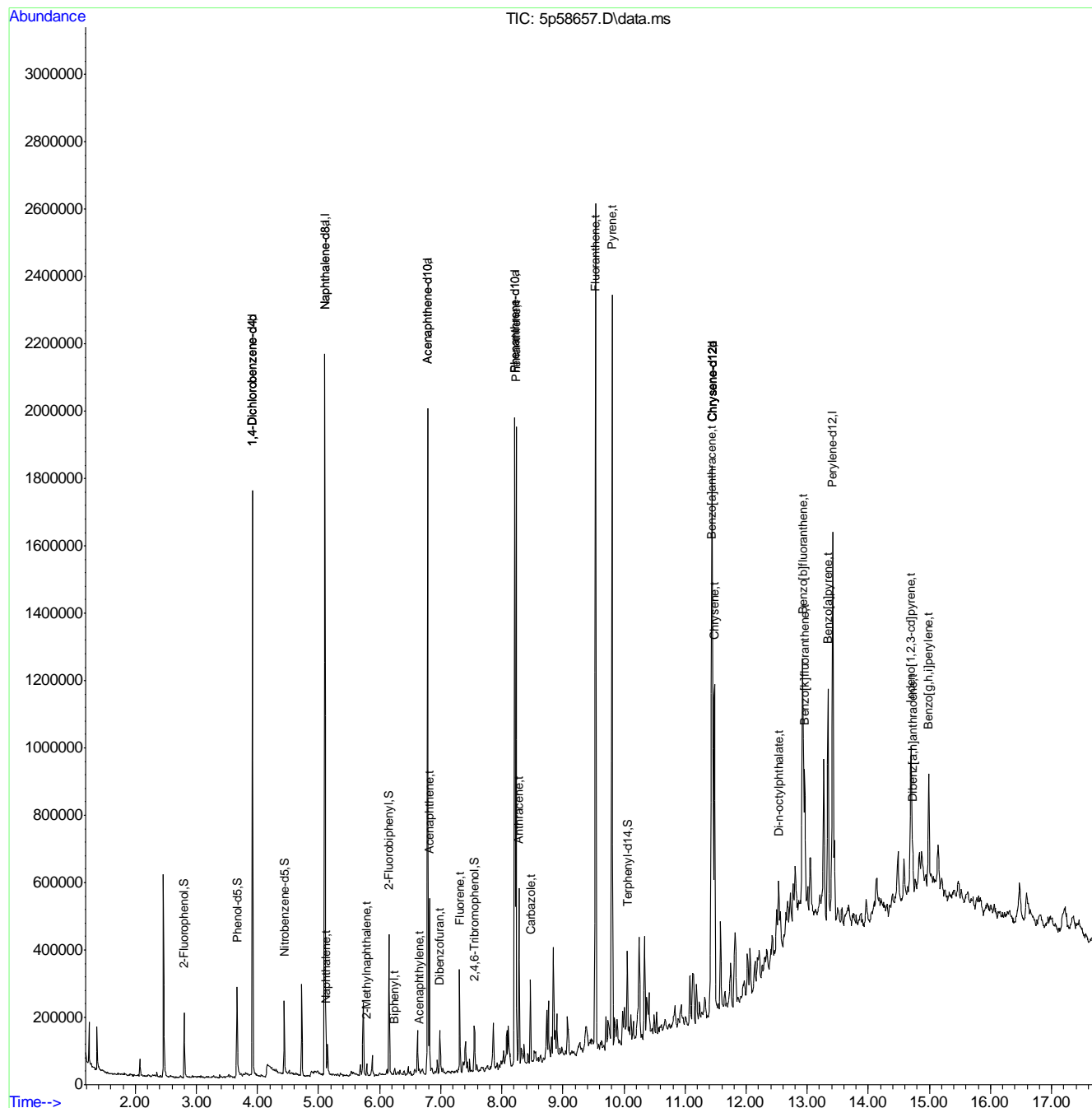
(#) = qualifier out of range (m) = manual integration (+) = signals summed

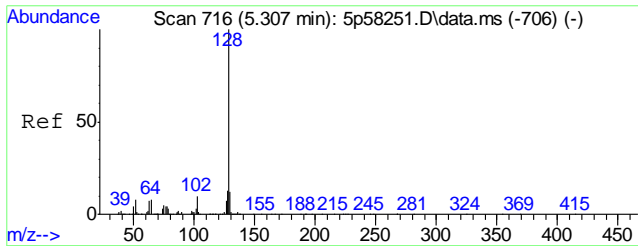


## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58657.D  
 Acq On : 19 Apr 2019 10:42 am  
 Operator : carolb  
 Sample : jc86337-4  
 Misc : op19786,e5p2777,30.1,,,1,5  
 ALS Vial : 26 Sample Multiplier: 1

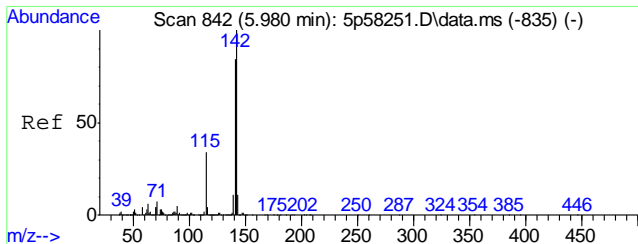
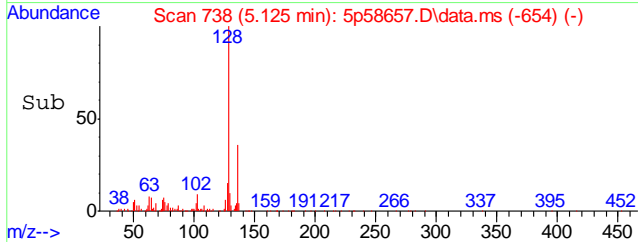
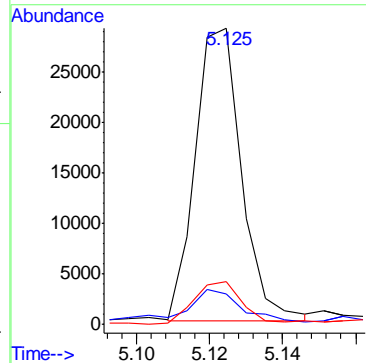
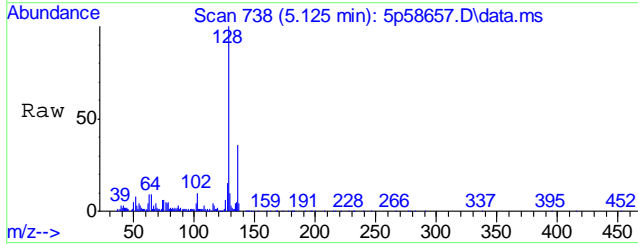
Quant Time: Apr 19 12:25:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration





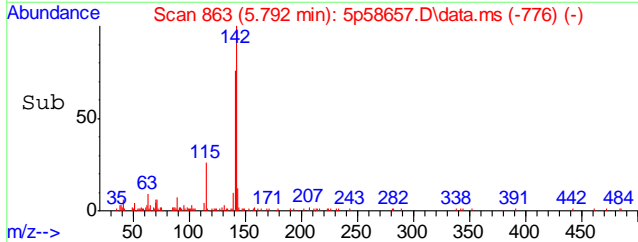
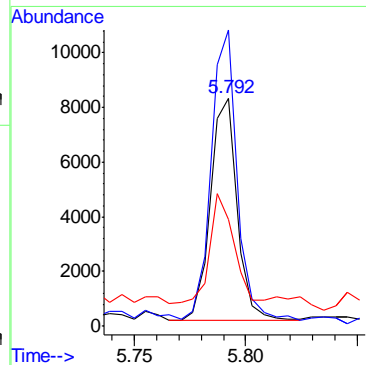
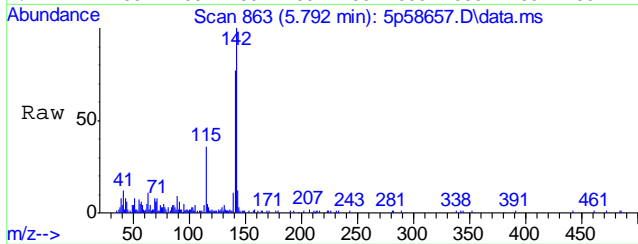
#38  
 Naphthalene  
 Concen: 1.36 ppm  
 RT: 5.125 min Scan# 738  
 Delta R.T. -0.053 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Ratio	Lower	Upper
128	100		
129	10.3	0.0	41.7
127	14.6	0.0	43.1

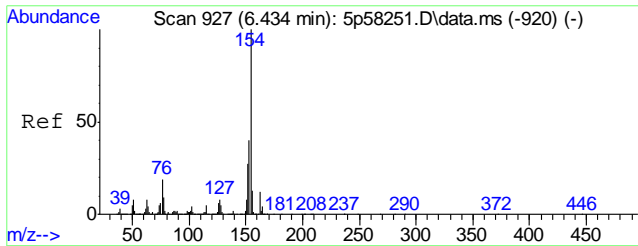


#44  
 2-Methylnaphthalene  
 Concen: 0.62 ppm  
 RT: 5.792 min Scan# 863  
 Delta R.T. -0.037 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Ratio	Lower	Upper
141	100		
142	129.6	89.9	149.9
115	35.9	10.7	70.7

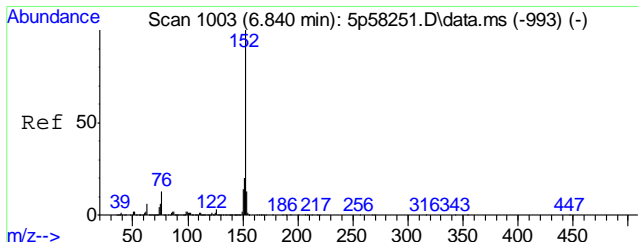
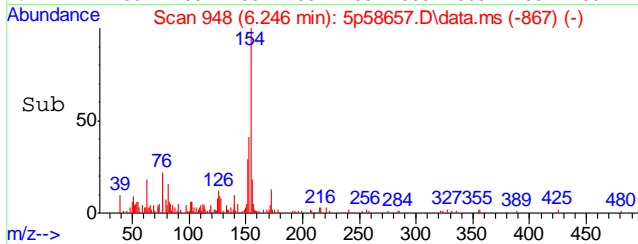
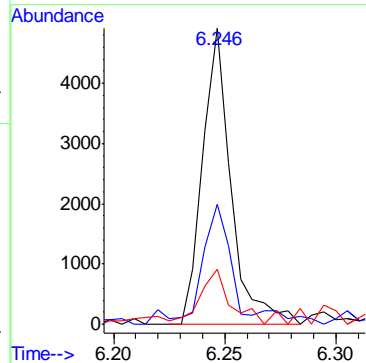
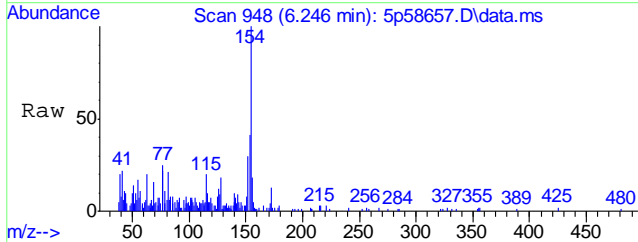


9.1.7  
 9



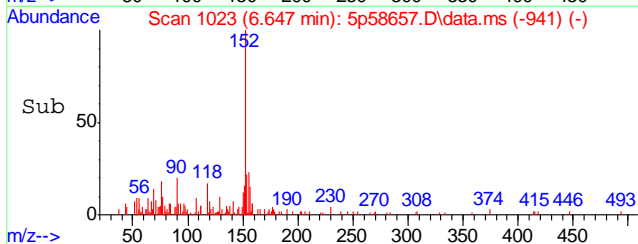
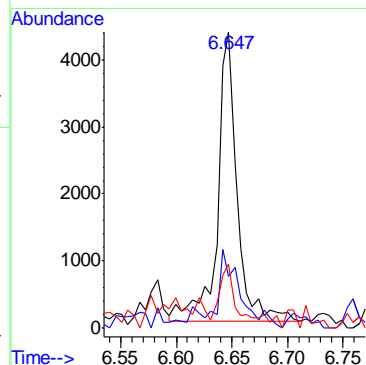
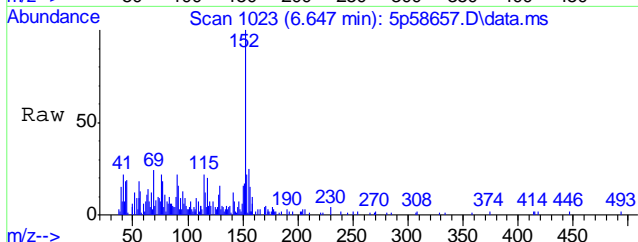
#53  
 Biphenyl  
 Concen: 0.31 ppm  
 RT: 6.246 min Scan# 948  
 Delta R.T. -0.069 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
154	4377	100	
153	38.4	10.2	70.2
155	15.2	0.0	43.4

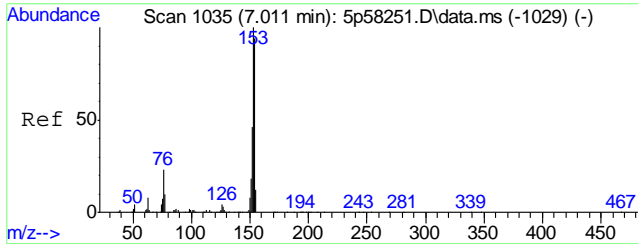


#56  
 Acenaphthylene  
 Concen: 0.30 ppm  
 RT: 6.647 min Scan# 1023  
 Delta R.T. -0.062 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
152	5250	100	
151	15.0	0.0	50.5
153	17.0	0.0	43.4

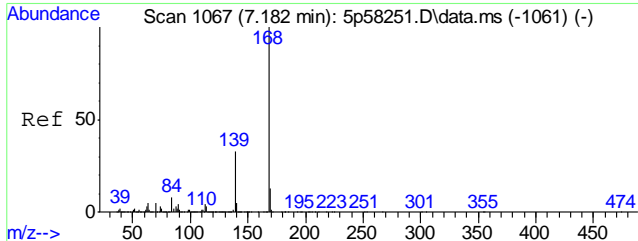
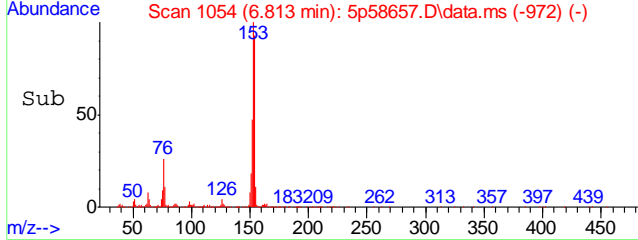
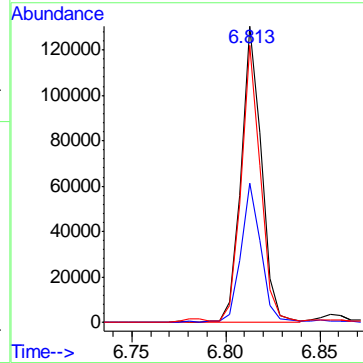
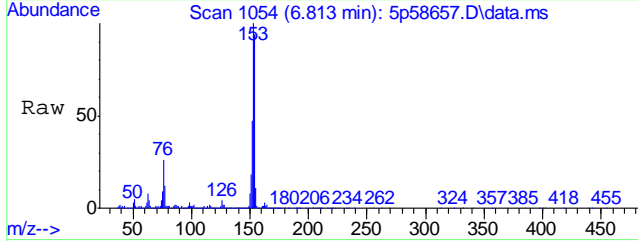


9.17  
 9



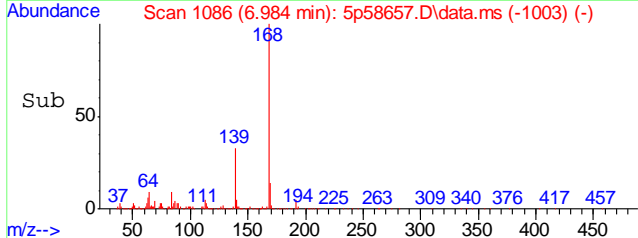
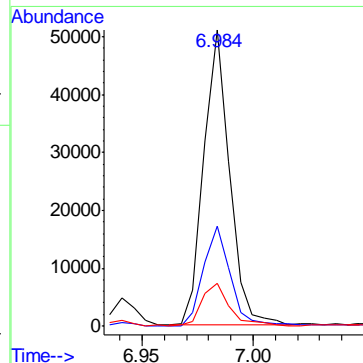
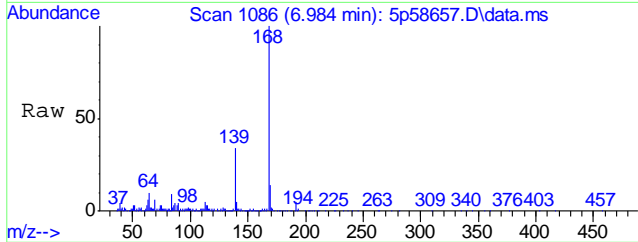
#59  
 Acenaphthene  
 Concen: 8.99 ppm  
 RT: 6.813 min Scan# 1054  
 Delta R.T. -0.064 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
153	97999	100	
152	46.7	15.9	75.9
154	93.5	56.1	116.1

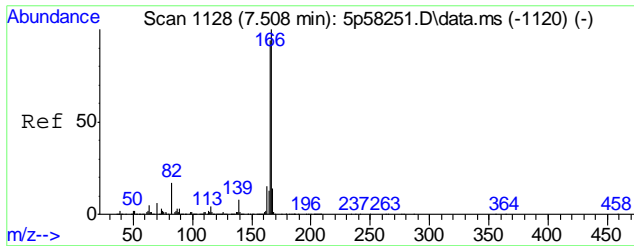


#62  
 Dibenzofuran  
 Concen: 2.52 ppm  
 RT: 6.984 min Scan# 1086  
 Delta R.T. -0.055 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
168	41292	100	
139	33.6	3.2	63.2
169	14.5	0.0	42.9

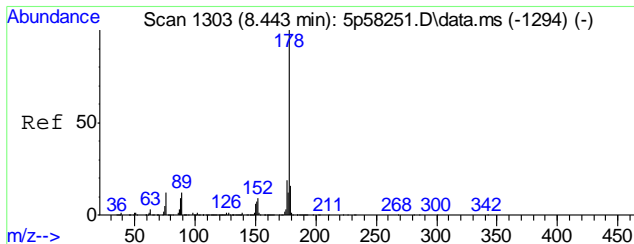
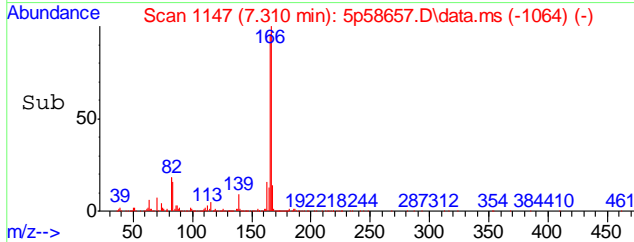
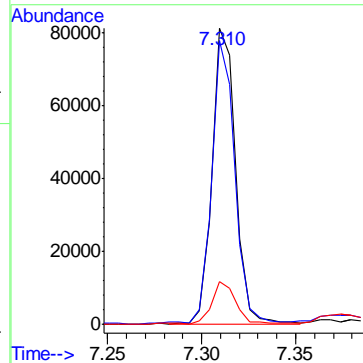
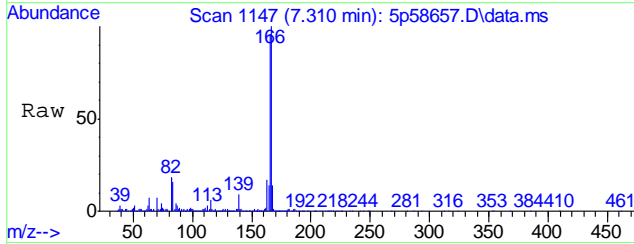


9.1.7  
 9



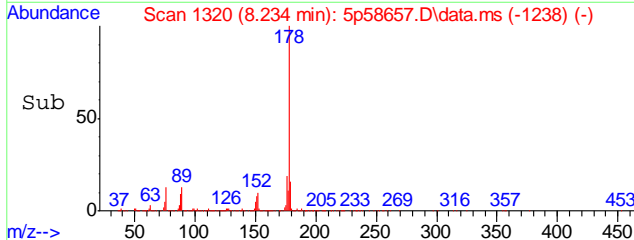
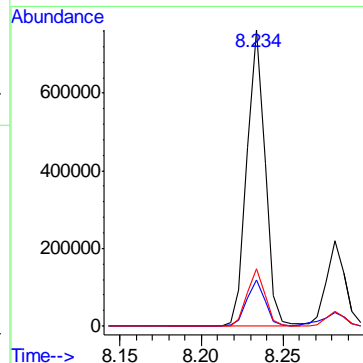
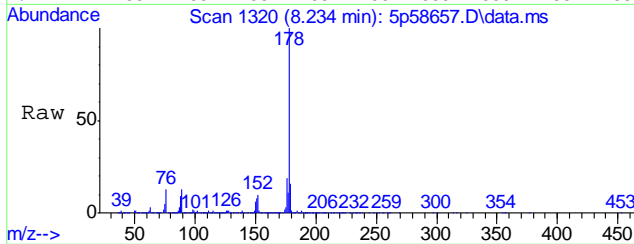
#66  
 Fluorene  
 Concen: 5.37 ppm  
 RT: 7.310 min Scan# 1147  
 Delta R.T. -0.055 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
166	100		
165	95.4	64.3	124.3
167	14.1	0.0	43.8

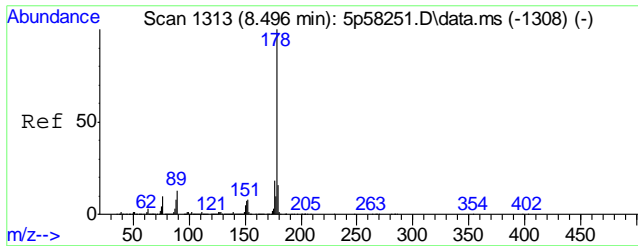


#77  
 Phenanthrene  
 Concen: 33.20 ppm  
 RT: 8.234 min Scan# 1320  
 Delta R.T. -0.064 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
178	100		
179	15.5	0.0	45.8
176	19.3	0.0	48.5

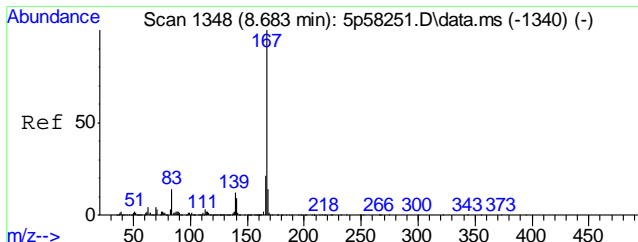
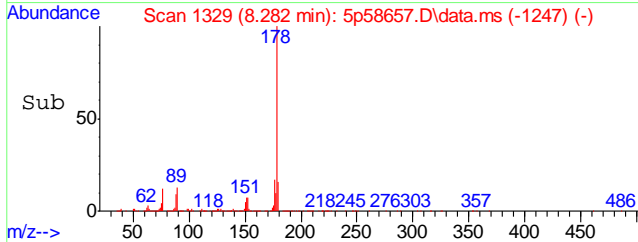
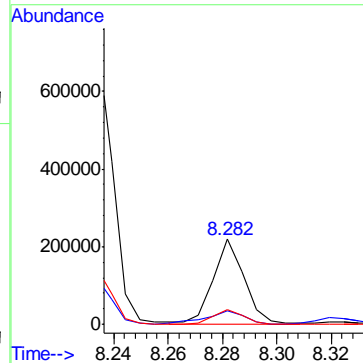
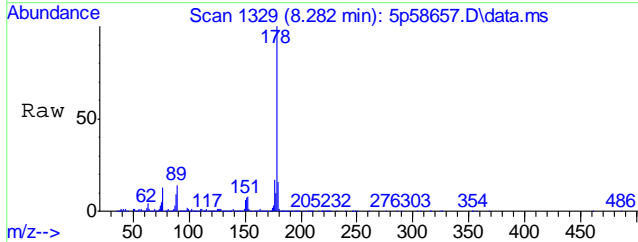


9.1.7  
 9



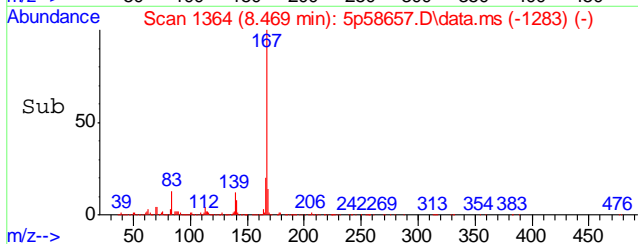
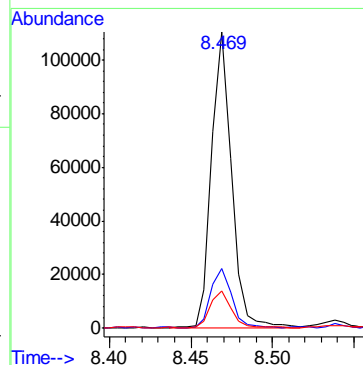
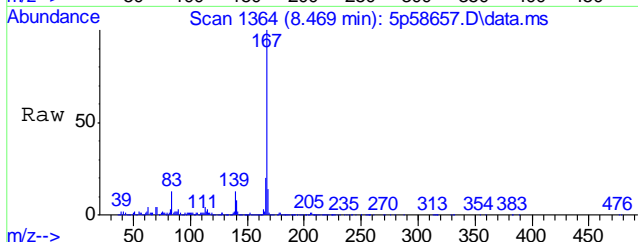
#78  
 Anthracene  
 Concen: 9.35 ppm  
 RT: 8.282 min Scan# 1329  
 Delta R.T. -0.063 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
178	174664		
179	15.1	0.0	45.6
176	17.4	0.0	48.3

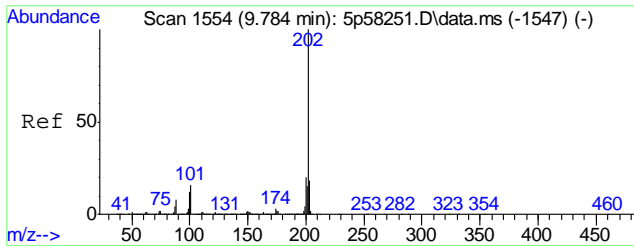


#79  
 Carbazole  
 Concen: 5.01 ppm  
 RT: 8.469 min Scan# 1364  
 Delta R.T. -0.065 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
167	94800		
166	19.9	0.0	50.7
139	12.3	0.0	42.4

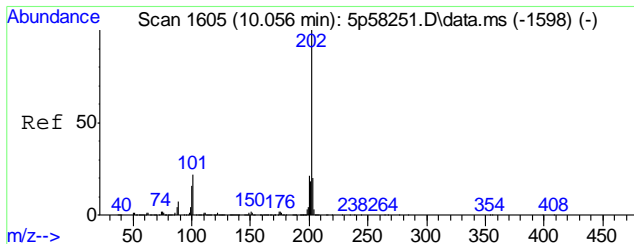
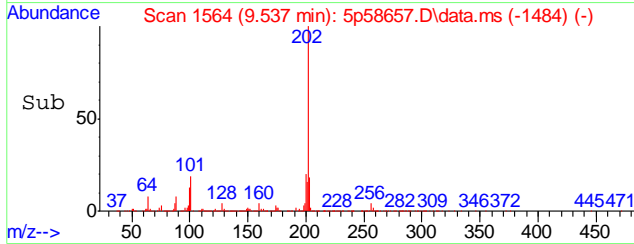
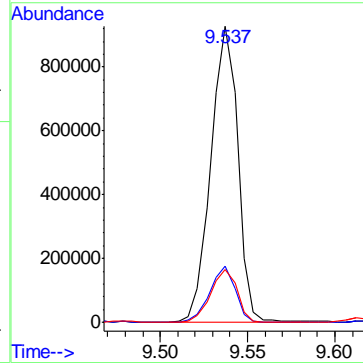
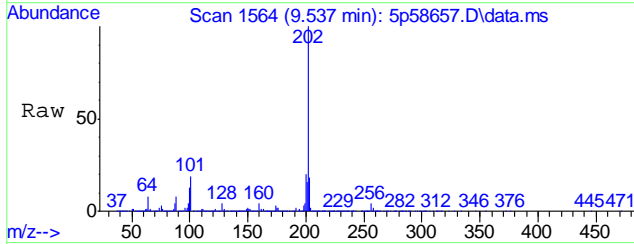


9.17  
 9



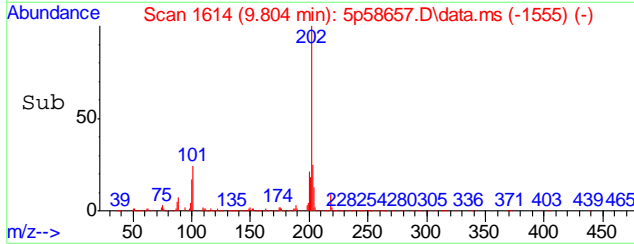
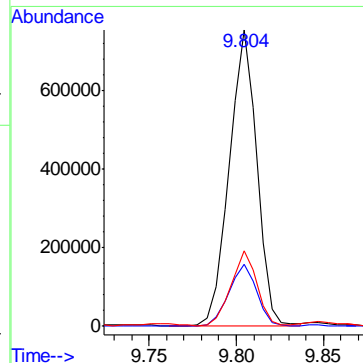
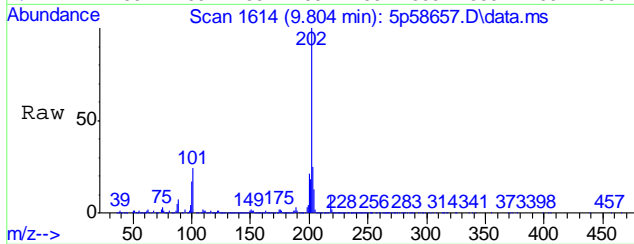
#81  
 Fluoranthene  
 Concen: 45.06 ppm  
 RT: 9.537 min Scan# 1564  
 Delta R.T. -0.074 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

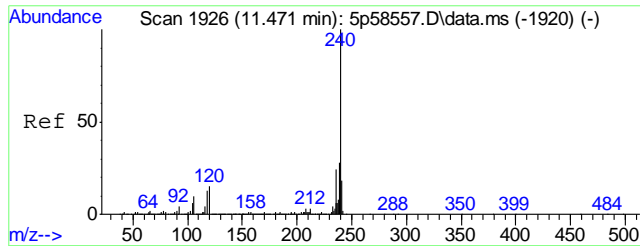
Tgt Ion	Resp	Lower	Upper
202	100		
101	18.7	0.0	46.5
203	17.8	0.0	47.7



#84  
 Pyrene  
 Concen: 37.09 ppm  
 RT: 9.804 min Scan# 1614  
 Delta R.T. -0.186 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

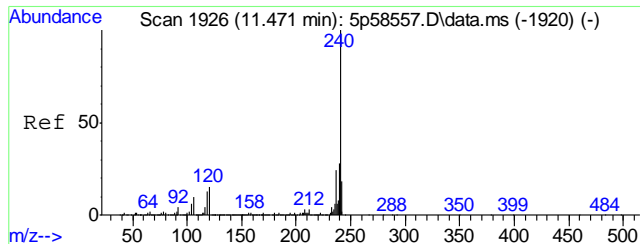
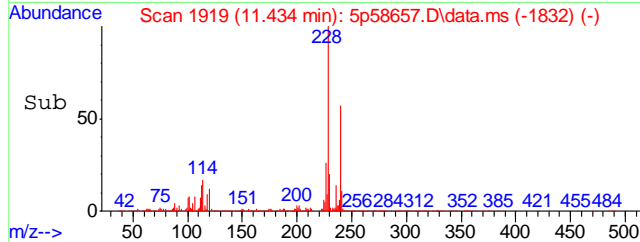
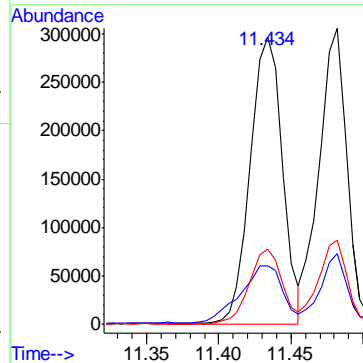
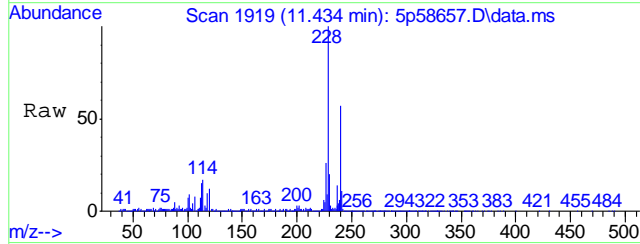
Tgt Ion	Resp	Lower	Upper
202	100		
200	20.9	0.0	50.6
203	24.6	0.0	49.5





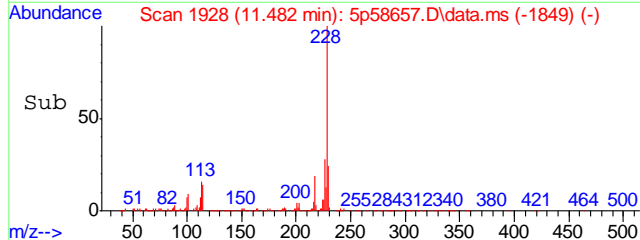
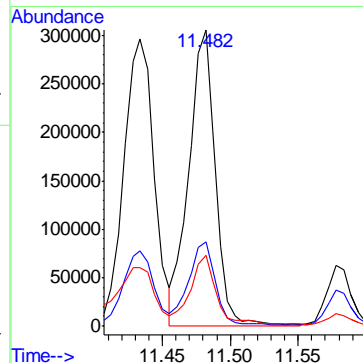
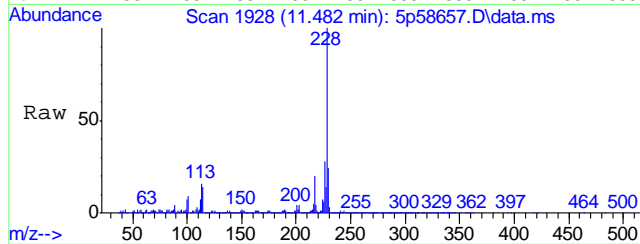
#87  
 Benzo[a]anthracene  
 Concen: 22.48 ppm  
 RT: 11.434 min Scan# 1919  
 Delta R.T. -0.035 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Ratio	Lower	Upper
228	100		
229	20.4	0.0	49.3
226	26.4	0.0	56.3



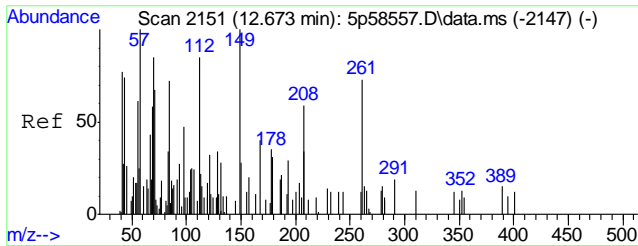
#89  
 Chrysene  
 Concen: 21.86 ppm  
 RT: 11.482 min Scan# 1928  
 Delta R.T. -0.077 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Ratio	Lower	Upper
228	100		
226	28.0	0.0	58.6
229	23.3	0.0	49.0



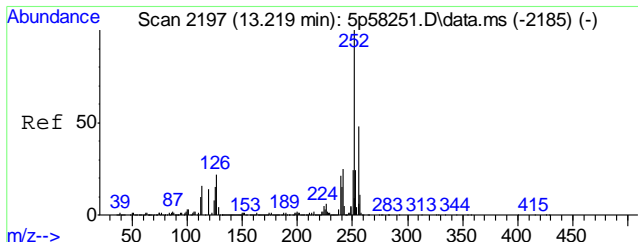
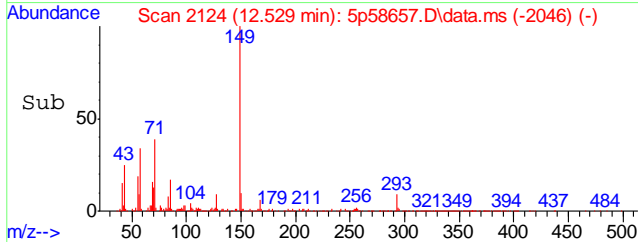
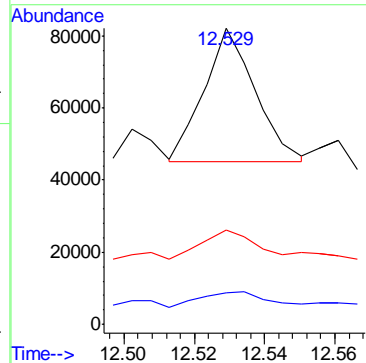
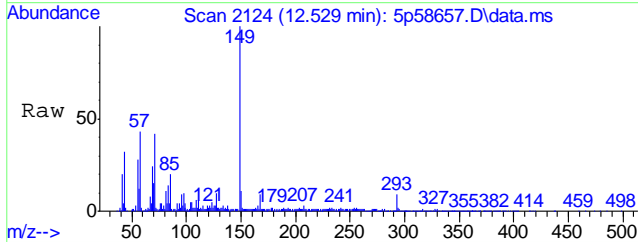
9.17  
 9





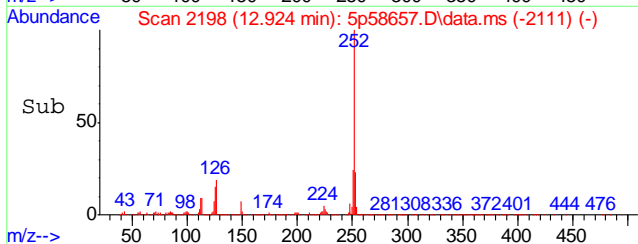
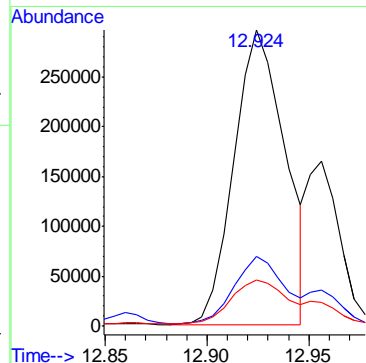
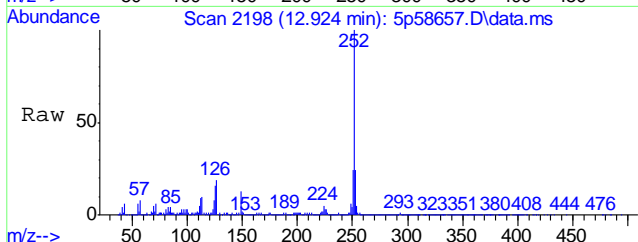
#92  
 Di-n-octylphthalate  
 Concen: 1.77 ppm m  
 RT: 12.529 min Scan# 2124  
 Delta R.T. -0.085 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
149	100		
150	10.5	0.0	39.8
43	32.0	0.0	38.6

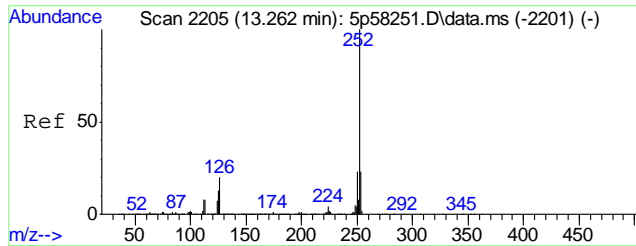


#93  
 Benzo[b]fluoranthene  
 Concen: 28.59 ppm  
 RT: 12.924 min Scan# 2198  
 Delta R.T. -0.038 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
252	100		
253	23.2	0.0	54.7
125	14.4	0.0	45.6

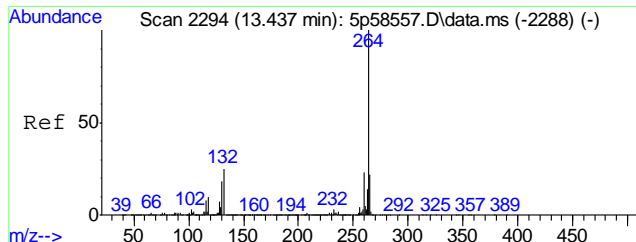
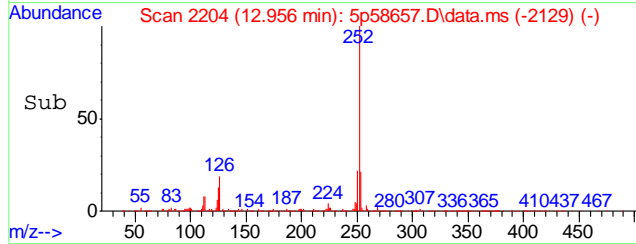
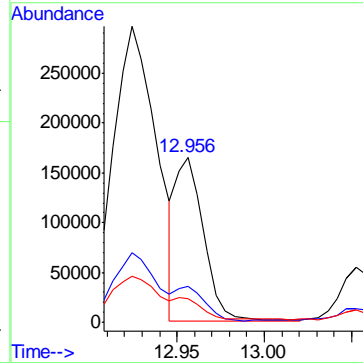
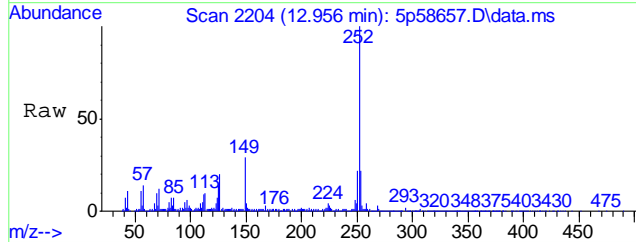


9.1.7  
**9**



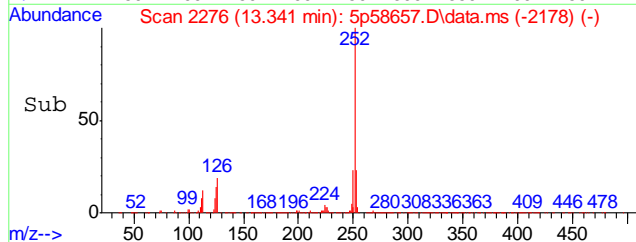
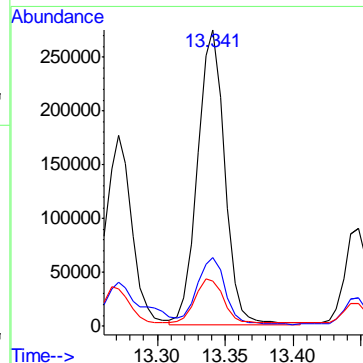
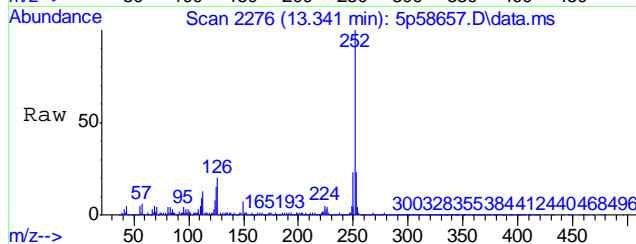
#94  
 Benzo[k]fluoranthene  
 Concen: 10.97 ppm  
 RT: 12.956 min Scan# 2204  
 Delta R.T. -0.098 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
252	181902		
253	20.3	0.0	52.6
125	11.1	0.0	43.1

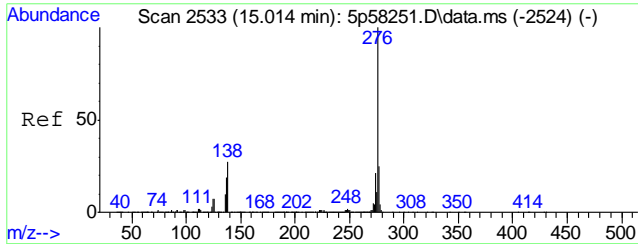


#95  
 Benzo[a]pyrene  
 Concen: 23.60 ppm  
 RT: 13.341 min Scan# 2276  
 Delta R.T. 0.021 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
252	380725		
253	21.7	0.0	52.1
125	14.4	0.0	44.8

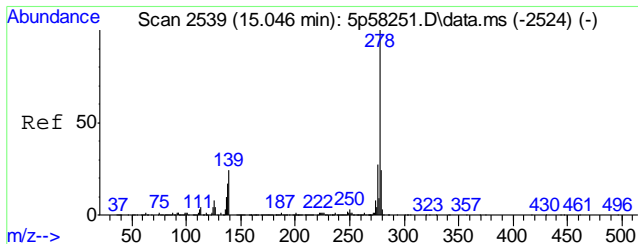
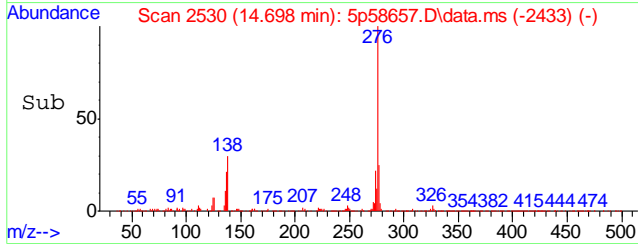
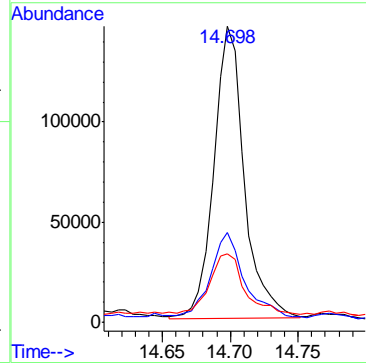
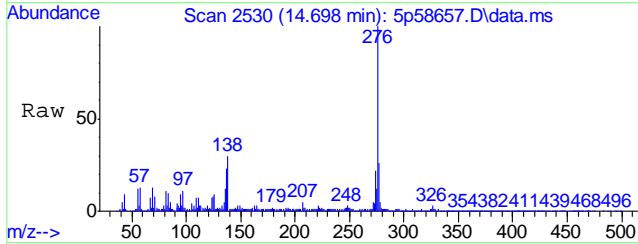


9.17  
 9



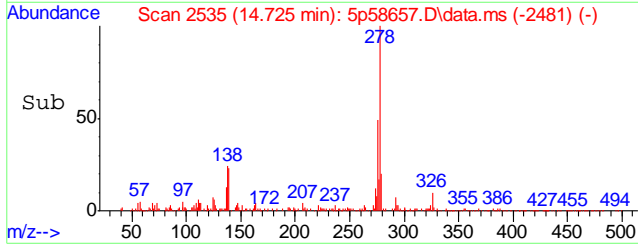
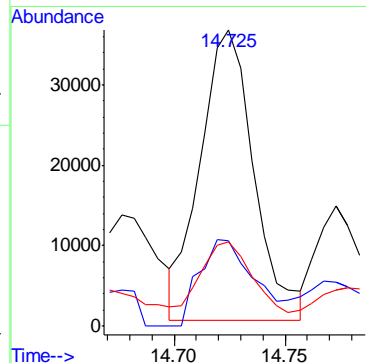
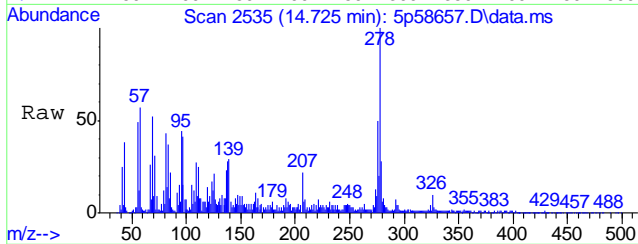
#96  
 Indeno[1,2,3-cd]pyrene  
 Concen: 15.82 ppm  
 RT: 14.698 min Scan# 2530  
 Delta R.T. 0.018 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Ratio	Lower	Upper
276	100		
138	28.7	0.0	56.9
137	20.5	0.0	49.4

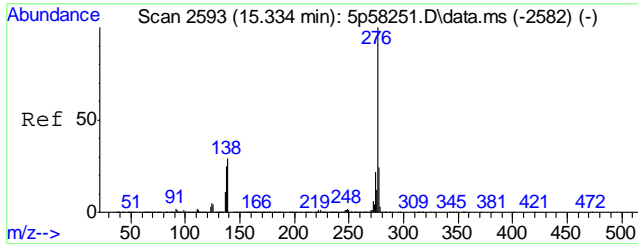


#98  
 Dibenz[a,h]anthracene  
 Concen: 4.06 ppm  
 RT: 14.725 min Scan# 2535  
 Delta R.T. -0.210 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Ratio	Lower	Upper
278	100		
139	28.4	0.0	53.6
279	26.6	0.0	54.4

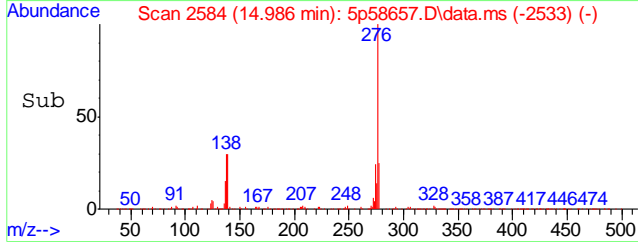
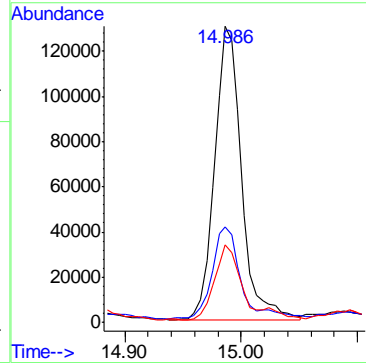
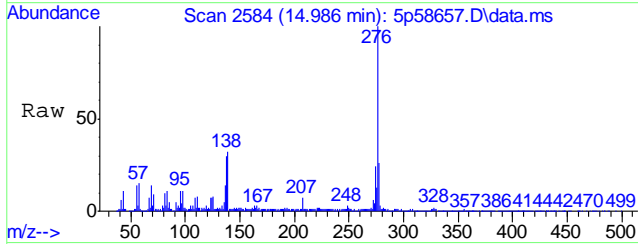


9.17  
**9**



#100  
 Benzo[g,h,i]perylene  
 Concen: 14.30 ppm  
 RT: 14.986 min Scan# 2584  
 Delta R.T. -0.230 min  
 Lab File: 5p58657.D  
 Acq: 19 Apr 19 10:42 am

Tgt Ion	Resp	Lower	Upper
276	100		
138	30.8	0.0	59.0
277	25.1	0.0	53.7



# Manual Integration Approval Summary

Sample Number: JC86337-4                      Method: SW846 8270D  
Lab FileID: 5P58657.D                      Analyst approved: 04/19/19 12:41 Kristi Schollenberger  
Injection Time: 04/19/19 10:42                      Supervisor approved: 04/19/19 13:04 Kristi Schollenberger

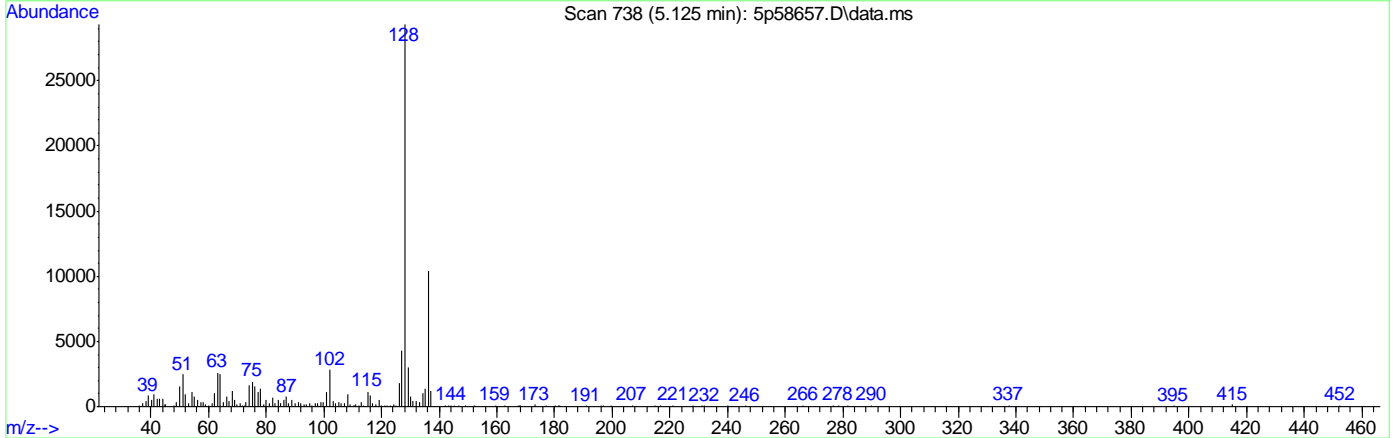
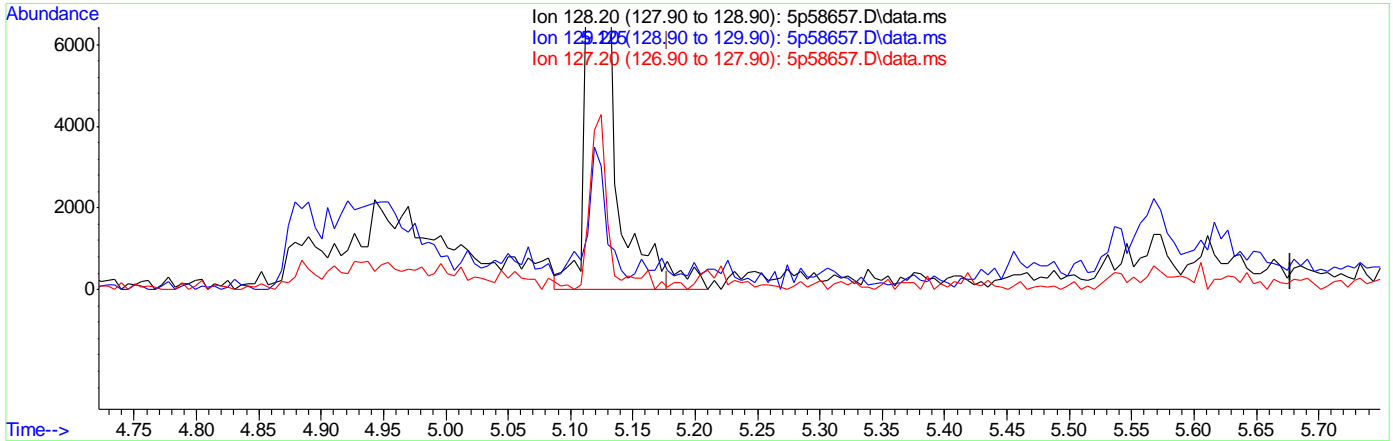
Parameter	CAS	Sig#	R.T. (min.)	Reason
Naphthalene	91-20-3		5.12	Poor instrument integration
Benzo(a)anthracene	56-55-3		11.43	Poor instrument integration
Di-n-octyl phthalate	117-84-0		12.53	Poor instrument integration

9.1.7.1  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58657.D  
 Acq On : 19 Apr 2019 10:42 am  
 Operator : carolb  
 Sample : jc86337-4  
 Misc : op19786,e5p2777,30.1,,,1,5  
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 19 11:00:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



TIC: 5p58657.D\data.ms

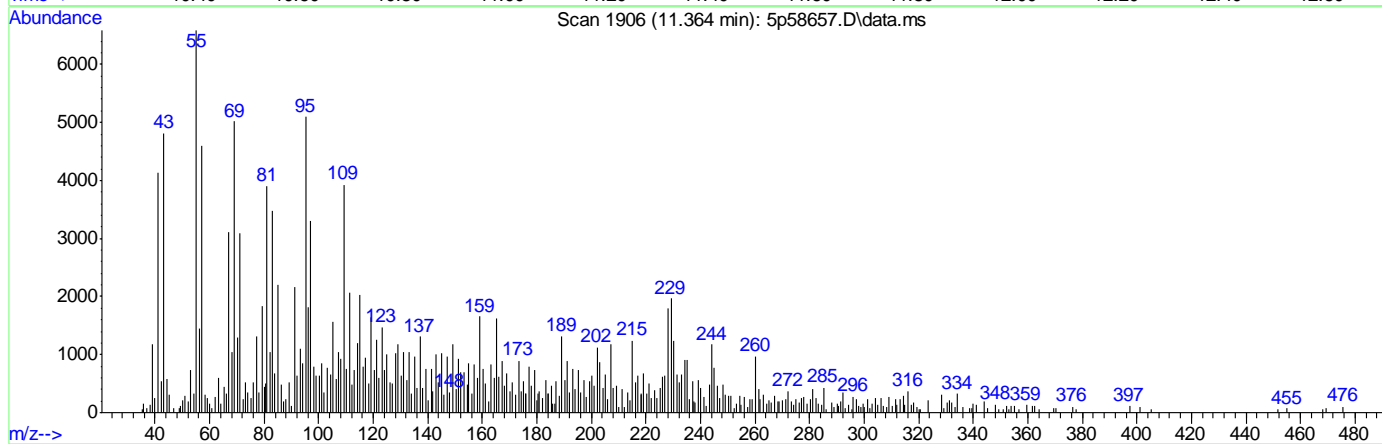
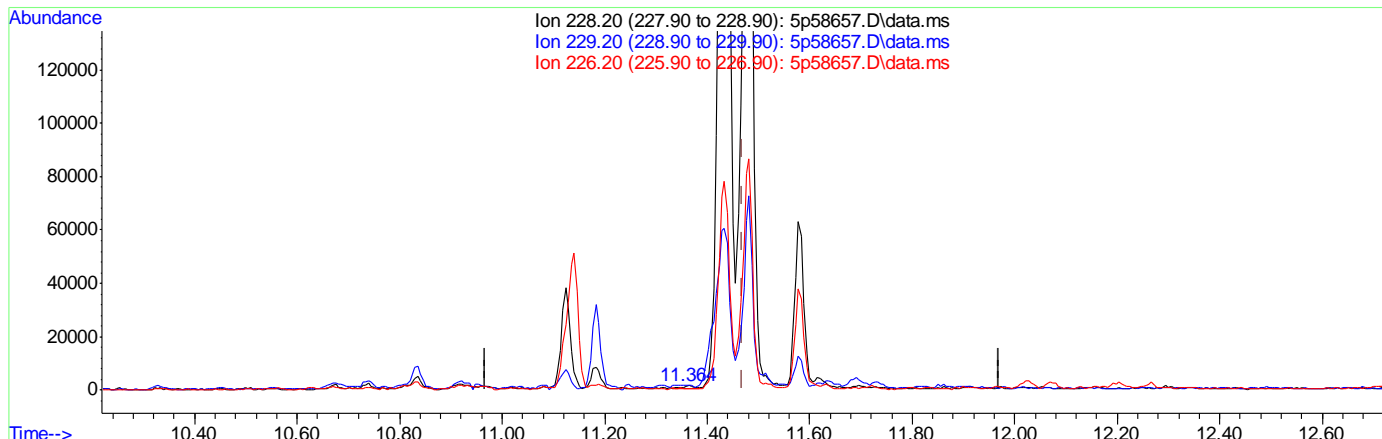
(38) Naphthalene (t)		
5.125min (-0.053) 1.57ppm		
response 29300		
Ion	Exp%	Act%
128.20	100	100
129.20	11.70	8.94
127.20	13.10	13.53
0.00	0.00	0.00

9.1.7.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58657.D  
 Acq On : 19 Apr 2019 10:42 am  
 Operator : carolb  
 Sample : jc86337-4  
 Misc : op19786,e5p2777,30.1,,,1,5  
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 19 11:00:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



(87) Benzo[a]anthracene (t)

11.364min (-0.105) 0.09ppm

response 1779

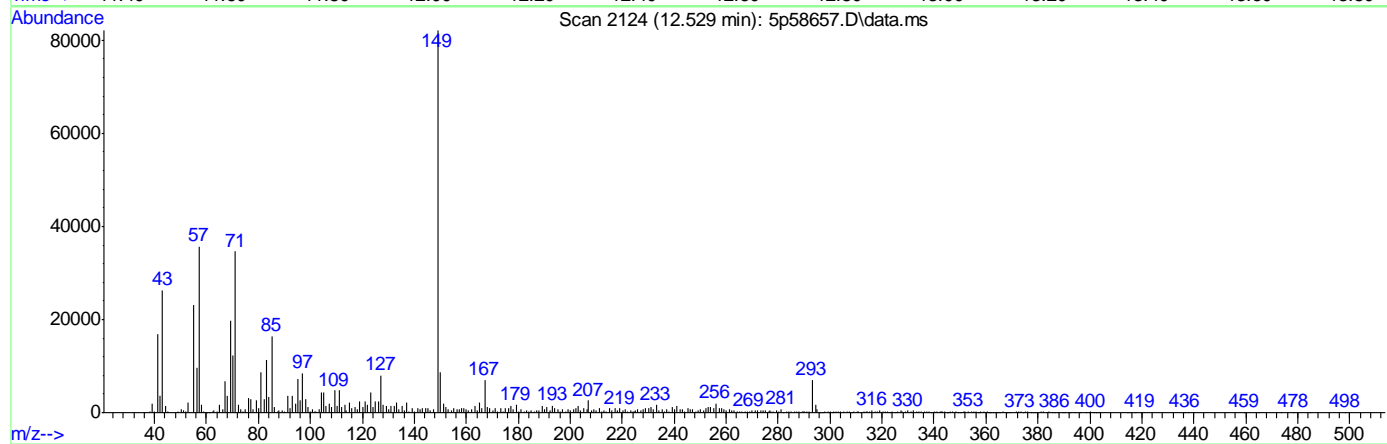
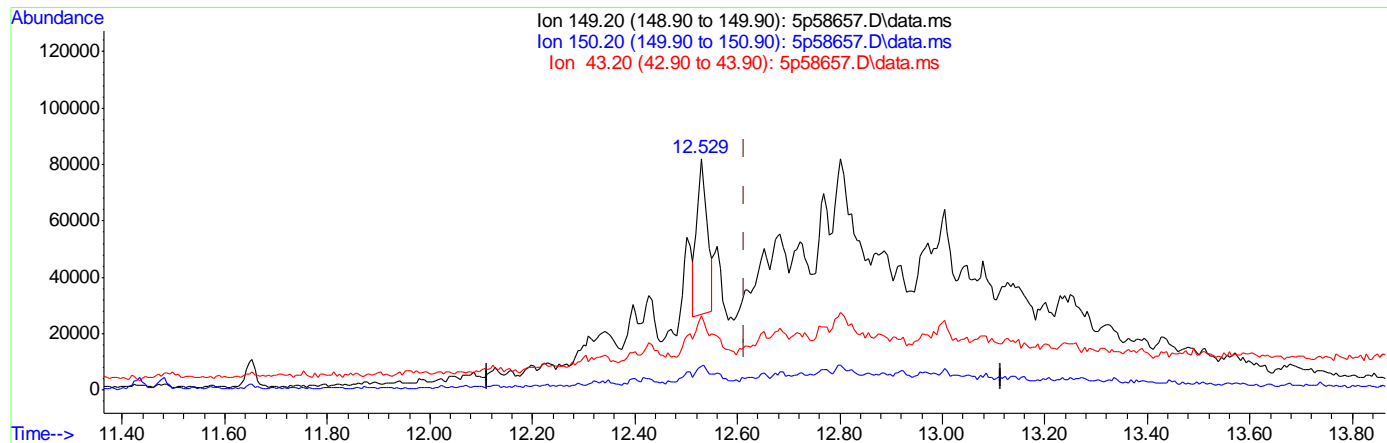
Ion	Exp%	Act%
228.20	100	100
229.20	19.30	8.08
226.20	26.30	0.00
0.00	0.00	0.00

9.1.7.3  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58657.D  
 Acq On : 19 Apr 2019 10:42 am  
 Operator : carolb  
 Sample : jc86337-4  
 Misc : op19786,e5p2777,30.1,,,1,5  
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 19 11:00:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Fri Apr 19 08:14:33 2019  
 Response via : Initial Calibration



(92) Di-n-octylphthalate (t)  
 12.529min (-0.085) 3.70ppm  
 response 78259

Ion	Exp%	Act%
149.20	100	100
150.20	9.80	10.02
43.20	8.60	20.53
0.00	0.00	0.00

9.1.7.4  
 9



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58581.D  
 Acq On : 18 Apr 2019 12:45 am  
 Operator : chriss2  
 Sample : jc86337-5  
 Misc : op19786,e5p2775,31.4,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 17:57:36 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.928	152	169691	40.00	ppm	-0.04
24) Naphthalene-d8	5.119	136	634003	40.00	ppm	-0.04
47) Acenaphthene-d10	6.791	164	372383	40.00	ppm	-0.05
69) Phenanthrene-d10	8.218	188	675650	40.00	ppm	-0.06
83) Chrysene-d12	11.450	240	642356	40.00	ppm	-0.09
91) Perylene-d12	13.416	264	607493	40.00	ppm	-0.10
101) 1,4-Dichlorobenzene-d4b	3.928	152	169691	40.00	ppm	-0.04
103) Acenaphthene-d10a	6.791	164	372383	40.00	ppm	-0.05
105) Chrysene-d12a	11.450	240	642356	40.00	ppm	-0.09
107) Phenanthrene-d10a	8.218	188	675650	40.00	ppm	-0.06
111) Naphthalene-d8a	5.119	136	634003	40.00	ppm	-0.04
113) Chrysene-d12b	11.450	240	642253	40.00	ppm	-0.09
115) 1,4-Dichlorobenzene-d4c	3.928	152	169691	40.00	ppm	-0.04
117) Chrysene-d12c	11.450	240	642356	40.00	ppm	-0.09
119) Chrysene-d12d	11.450	240	642253	40.00	ppm	-0.09
System Monitoring Compounds						
5) 2-Fluorophenol	2.806	112	222153	33.62	ppm	-0.09
Spiked Amount	50.000		Recovery	=	67.24%	
8) Phenol-d5	3.672	99	264893	31.85	ppm	-0.06
Spiked Amount	50.000		Recovery	=	63.70%	
25) Nitrobenzene-d5	4.446	82	276792	37.66	ppm	-0.06
Spiked Amount	50.000		Recovery	=	75.32%	
51) 2-Fluorobiphenyl	6.166	172	467000	36.08	ppm	-0.06
Spiked Amount	50.000		Recovery	=	72.16%	
73) 2,4,6-Tribromophenol	7.561	330	60921	31.28	ppm	-0.05
Spiked Amount	50.000		Recovery	=	62.56%	
85) Terphenyl-d14	10.066	244	547335	33.49	ppm	-0.21
Spiked Amount	50.000		Recovery	=	66.98%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
56) Acenaphthylene	6.653	152	5798	0.34	ppm	99
62) Dibenzofuran	6.989	168	10281	0.64	ppm	81
66) Fluorene	7.320	166	7302m	0.57	ppm	
77) Phenanthrene	8.239	178	101226	5.54	ppm	98
78) Anthracene	8.287	178	20959	1.09	ppm	96
79) Carbazole	8.474	167	8329	0.43	ppm	91
81) Fluoranthene	9.548	202	93330	4.11	ppm	96
84) Pyrene	9.804	202	84001	3.44	ppm	97
87) Benzo[a]anthracene	11.434	228	35798	1.60	ppm	97
89) Chrysene	11.482	228	32391	1.56	ppm	93
93) Benzo[b]fluoranthene	12.919	252	34844	1.88	ppm	88
94) Benzo[k]fluoranthene	12.956	252	11791	0.69	ppm	83
95) Benzo[a]pyrene	13.336	252	21737m	1.32	ppm	
96) Indeno[1,2,3-cd]pyrene	14.693	276	12114m	0.82	ppm	

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
Data File : 5p58581.D  
Acq On : 18 Apr 2019 12:45 am  
Operator : chriss2  
Sample : jc86337-5  
Misc : op19786,e5p2775,31.4,,,1,1  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 17:57:36 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Wed Apr 17 11:42:18 2019  
Response via : Initial Calibration

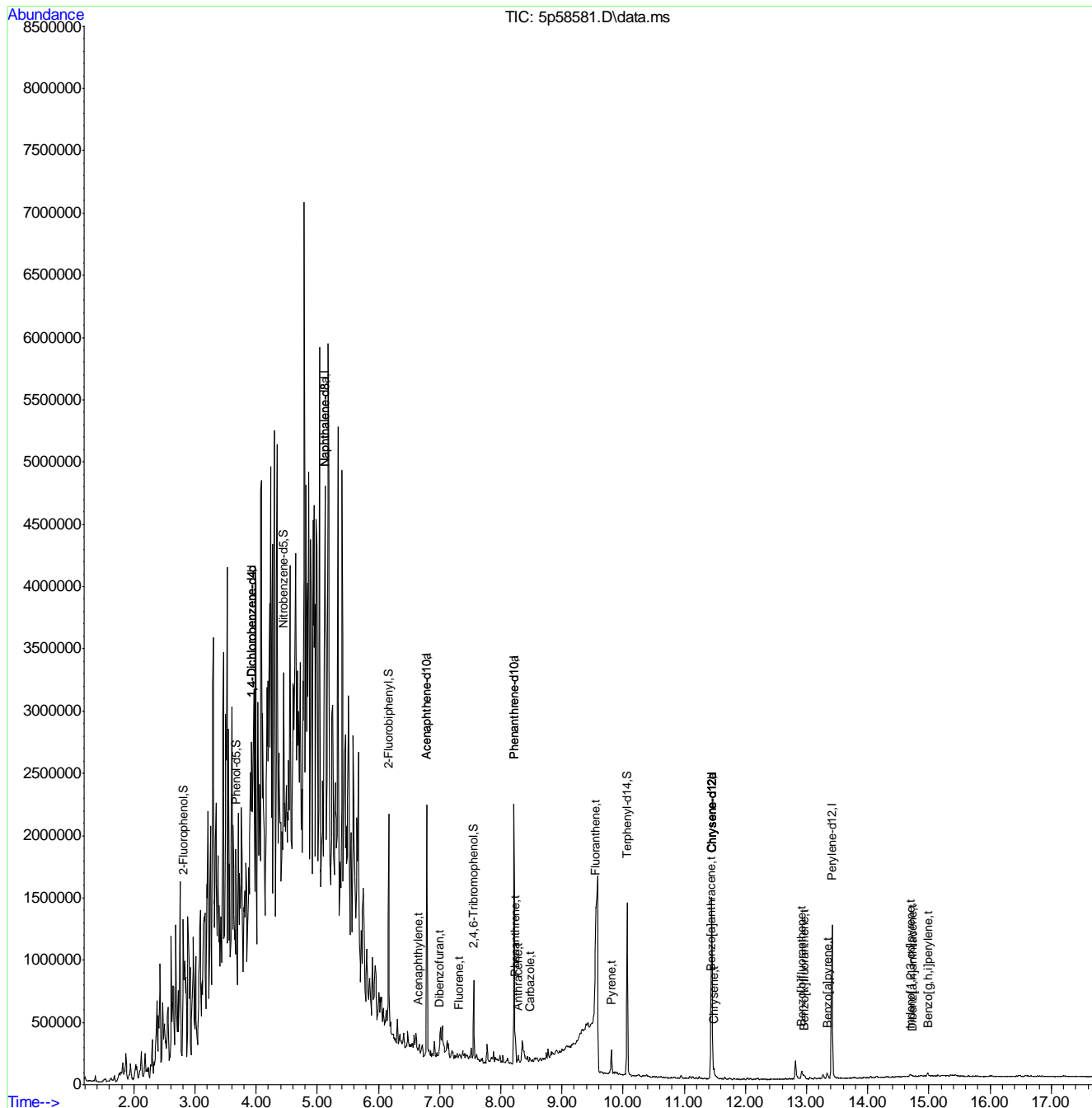
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
98) Dibenz[a,h]anthracene	14.730	278	2859m	0.19	ppm	
100) Benzo[g,h,i]perylene	14.986	276	12045	0.81	ppm	97

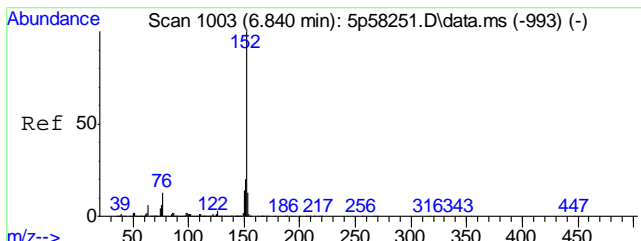
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58581.D  
 Acq On : 18 Apr 2019 12:45 am  
 Operator : chriss2  
 Sample : jc86337-5  
 Misc : op19786,e5p2775,31.4,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

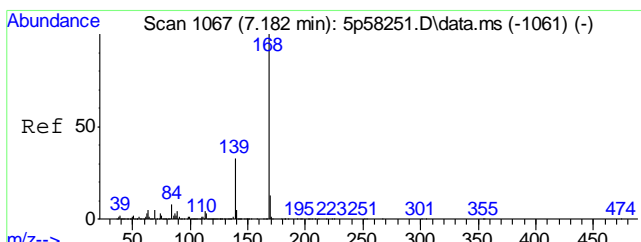
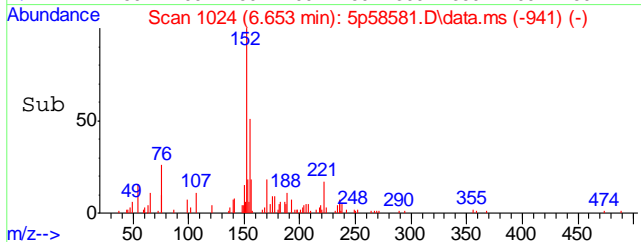
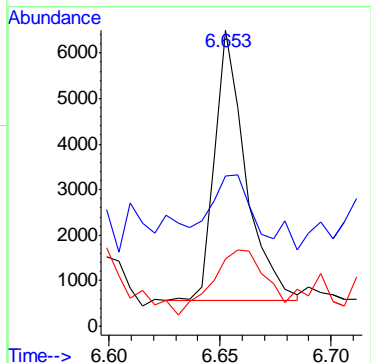
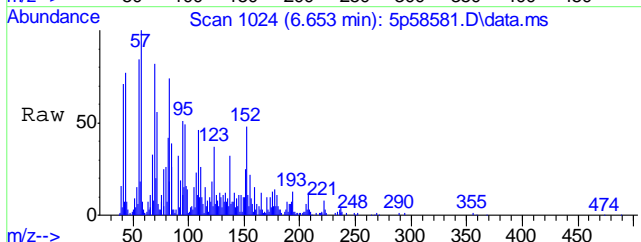
Quant Time: Apr 18 17:57:36 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration





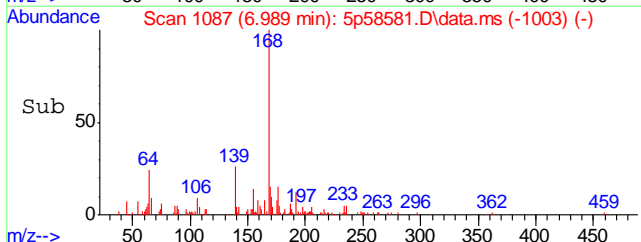
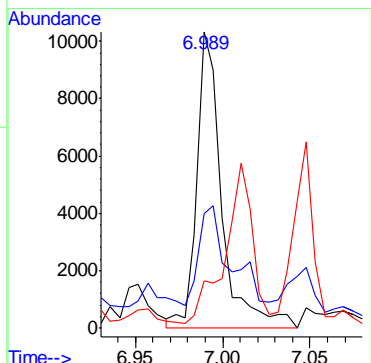
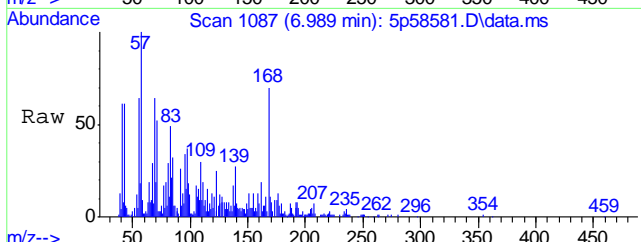
#56  
 Acenaphthylene  
 Concen: 0.34 ppm  
 RT: 6.653 min Scan# 1024  
 Delta R.T. -0.056 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

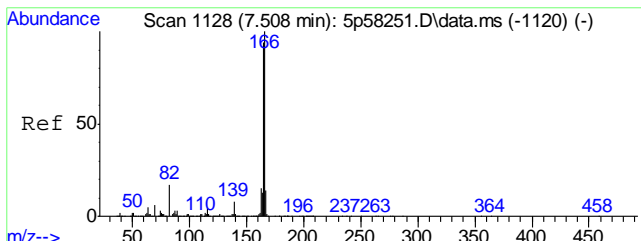
Tgt Ion	Resp	Lower	Upper
152	5798	100	
151	20.9	0.0	50.5
153	13.6	0.0	43.4



#62  
 Dibenzofuran  
 Concen: 0.64 ppm  
 RT: 6.989 min Scan# 1087  
 Delta R.T. -0.050 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

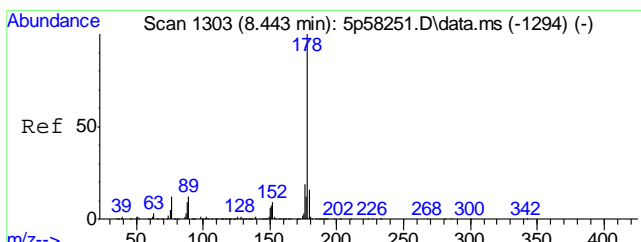
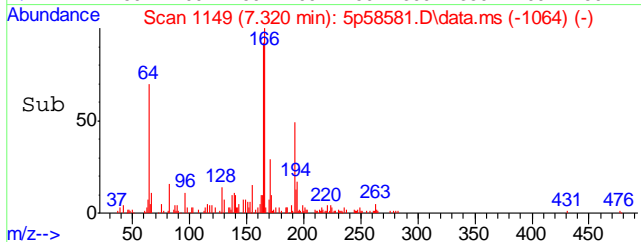
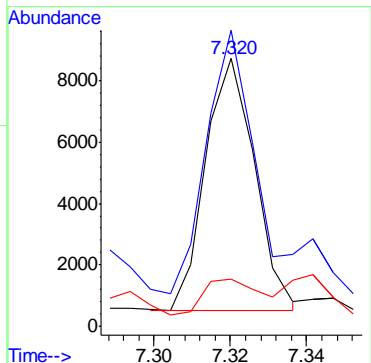
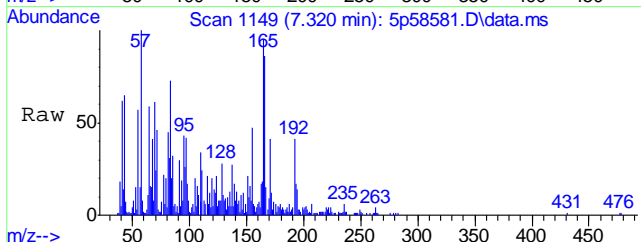
Tgt Ion	Resp	Lower	Upper
168	10281	100	
139	25.3	3.2	63.2
169	0.0	0.0	42.9





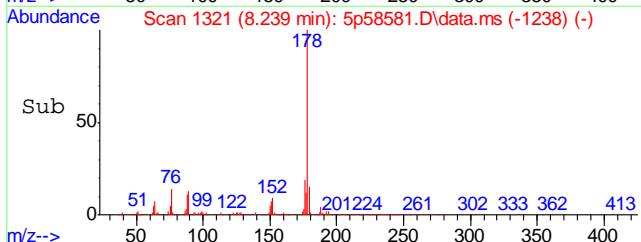
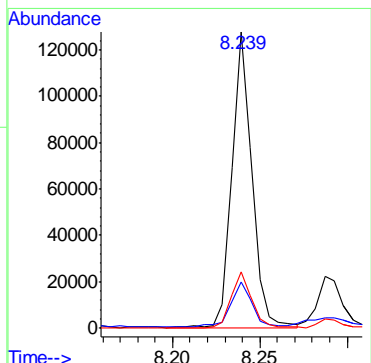
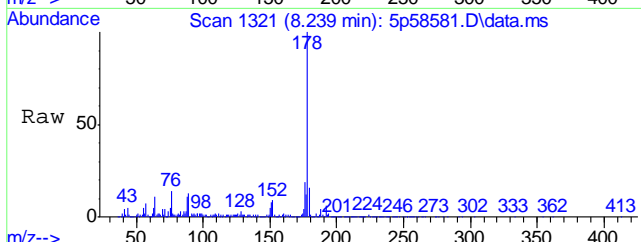
#66  
 Fluorene  
 Concen: 0.57 ppm  
 RT: 7.320 min Scan# 1149  
 Delta R.T. -0.044 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

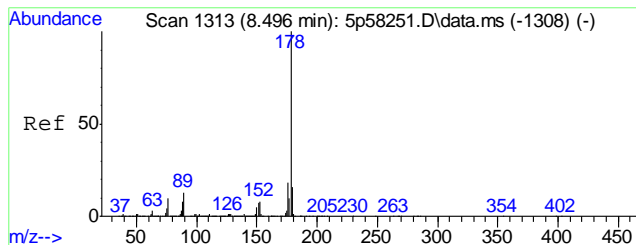
Tgt Ion	Resp	Lower	Upper
166	7302		
165	110.5	64.3	124.3
167	17.6	0.0	43.8



#77  
 Phenanthrene  
 Concen: 5.54 ppm  
 RT: 8.239 min Scan# 1321  
 Delta R.T. -0.059 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

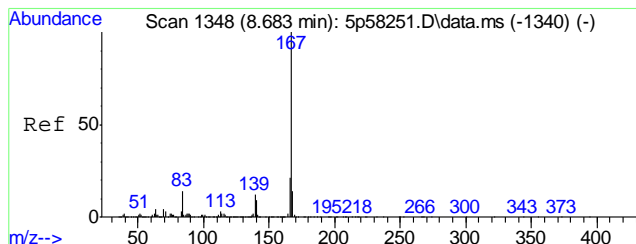
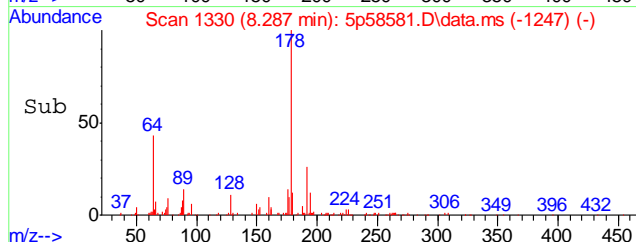
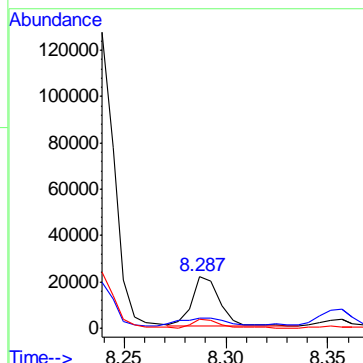
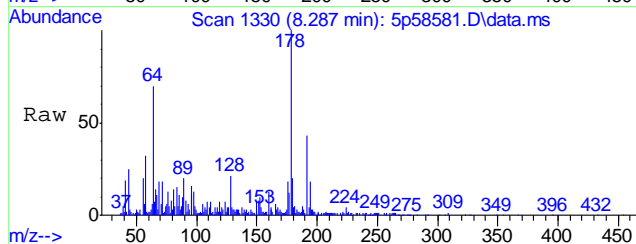
Tgt Ion	Resp	Lower	Upper
178	101226		
179	14.6	0.0	45.8
176	18.8	0.0	48.5





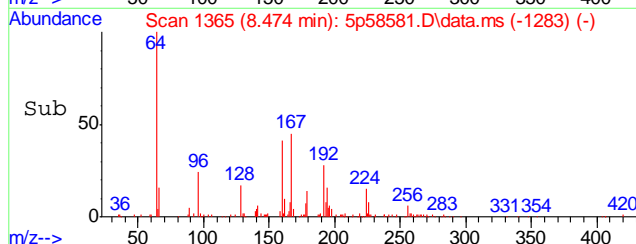
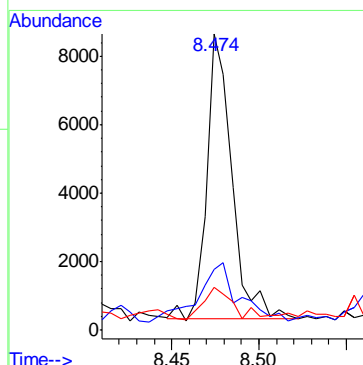
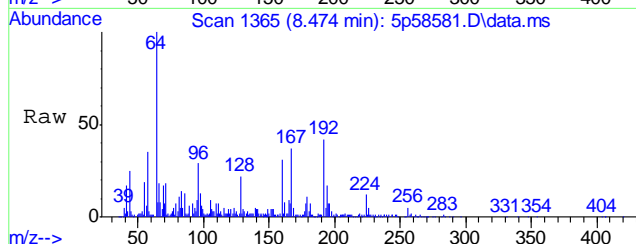
#78  
 Anthracene  
 Concen: 1.09 ppm  
 RT: 8.287 min Scan# 1330  
 Delta R.T. -0.058 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

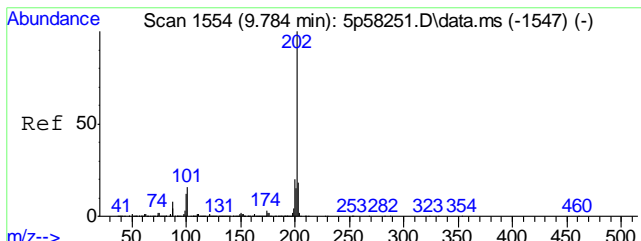
Tgt Ion	Resp	Lower	Upper
178	20959	100	
179	13.6	0.0	45.6
176	16.9	0.0	48.3



#79  
 Carbazole  
 Concen: 0.43 ppm  
 RT: 8.474 min Scan# 1365  
 Delta R.T. -0.060 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

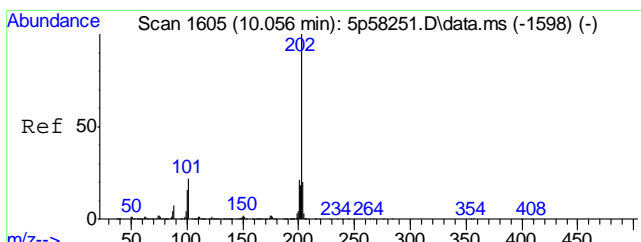
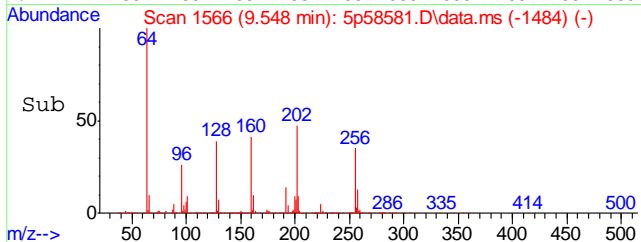
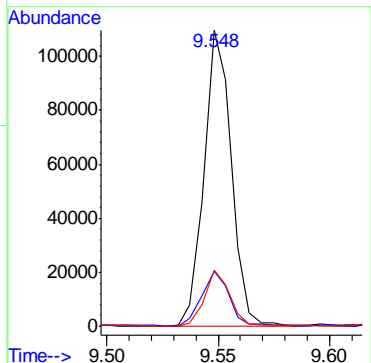
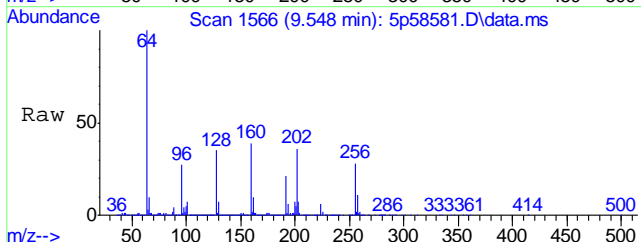
Tgt Ion	Resp	Lower	Upper
167	8329	100	
166	15.8	0.0	50.7
139	9.9	0.0	42.4





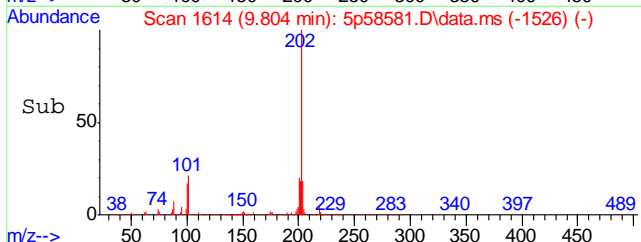
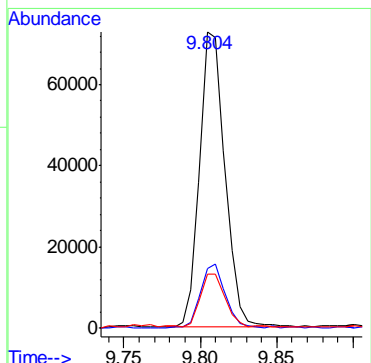
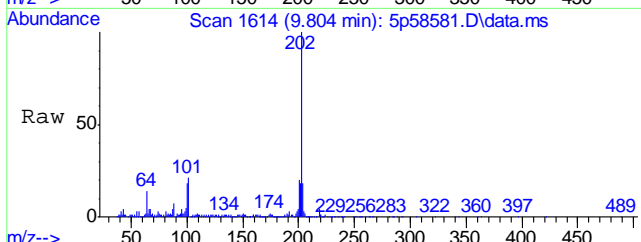
#81  
 Fluoranthene  
 Concen: 4.11 ppm  
 RT: 9.548 min Scan# 1566  
 Delta R.T. -0.063 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

Tgt Ion	Resp	Lower	Upper
202	93330	100	
101	18.5	0.0	46.5
203	19.0	0.0	47.7

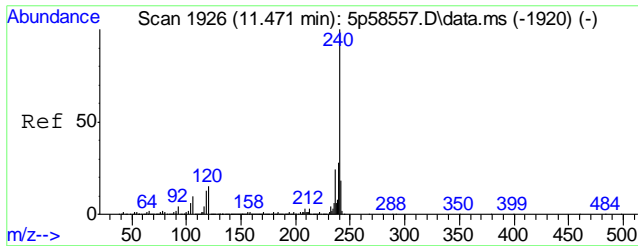


#84  
 Pyrene  
 Concen: 3.44 ppm  
 RT: 9.804 min Scan# 1614  
 Delta R.T. -0.032 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

Tgt Ion	Resp	Lower	Upper
202	84001	100	
200	19.9	0.0	50.6
203	17.6	0.0	49.5

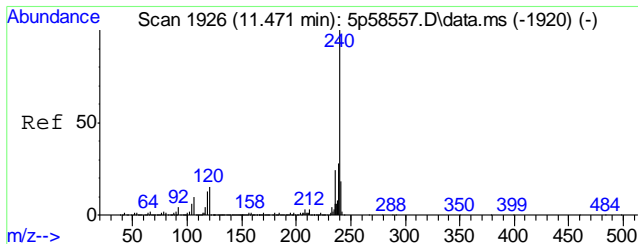
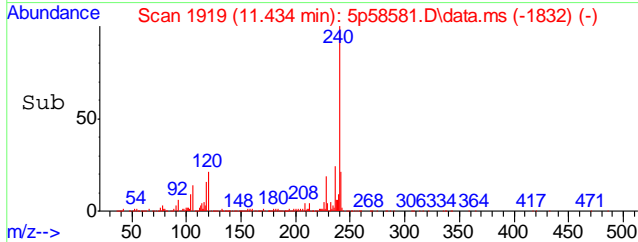
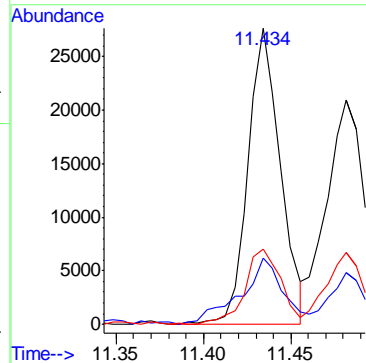
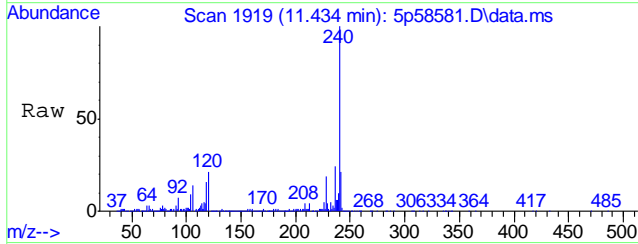


9.18  
 9



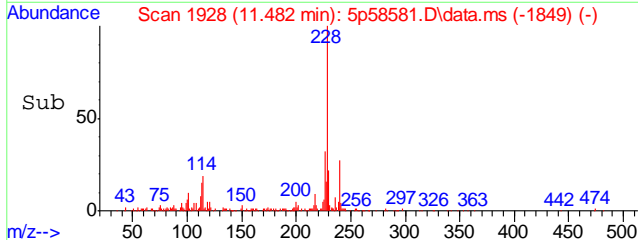
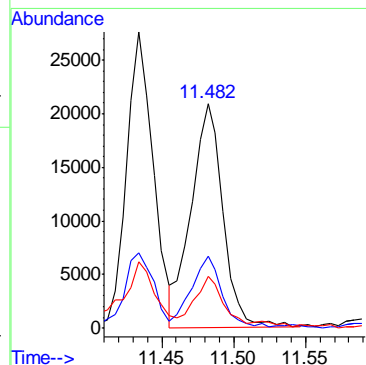
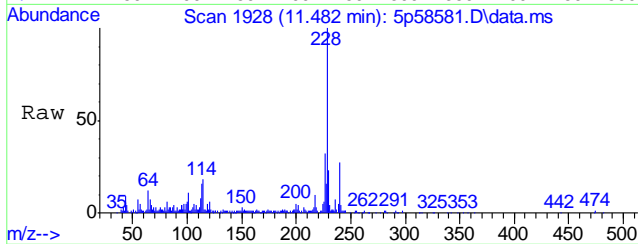
#87  
 Benzo[a]anthracene  
 Concen: 1.60 ppm  
 RT: 11.434 min Scan# 1919  
 Delta R.T. -0.035 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

Tgt Ion	Ratio	Lower	Upper
228	100		
229	21.6	0.0	49.3
226	25.9	0.0	56.3



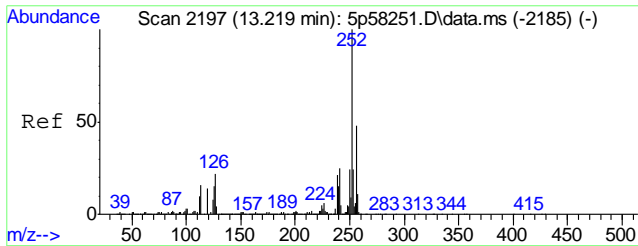
#89  
 Chrysene  
 Concen: 1.56 ppm  
 RT: 11.482 min Scan# 1928  
 Delta R.T. -0.077 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

Tgt Ion	Ratio	Lower	Upper
228	100		
226	33.0	0.0	58.6
229	21.7	0.0	49.0



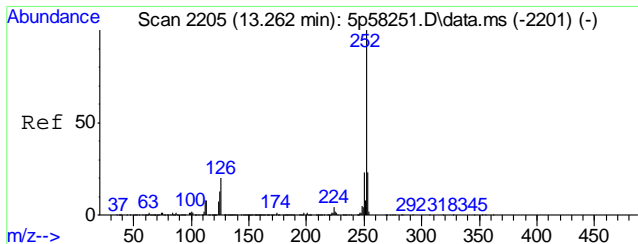
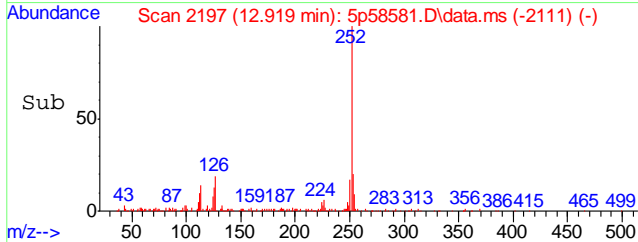
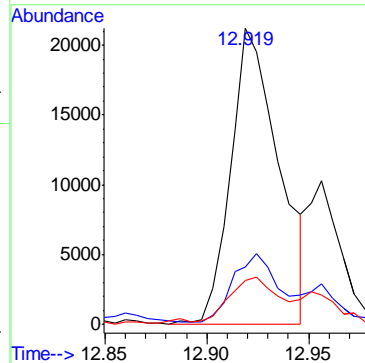
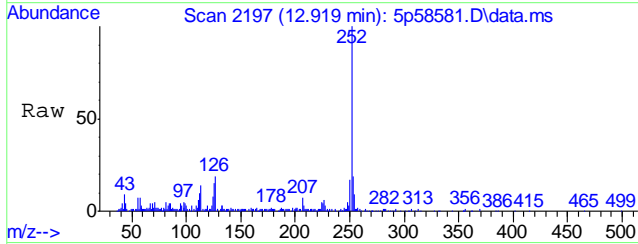
9.1.8  
 9





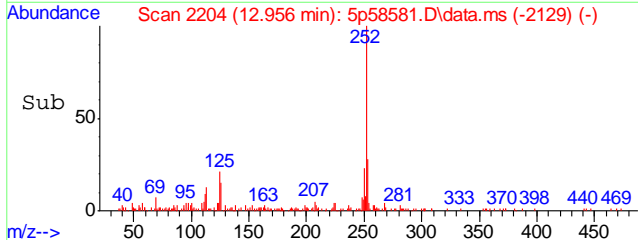
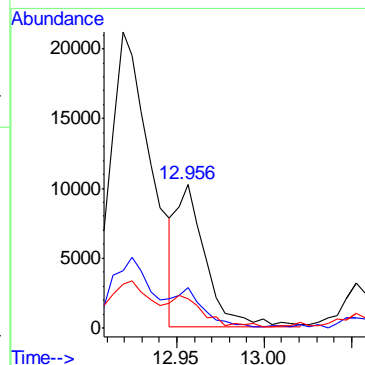
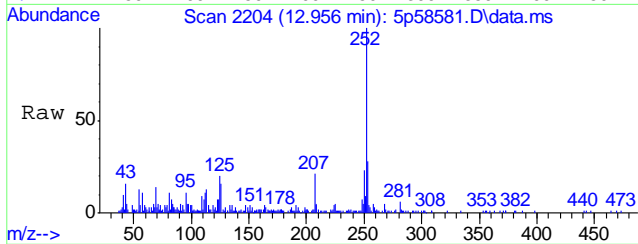
#93  
 Benzo[b]fluoranthene  
 Concen: 1.88 ppm  
 RT: 12.919 min Scan# 2197  
 Delta R.T. -0.043 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

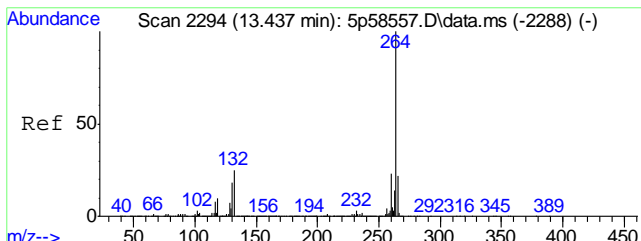
Tgt Ion	Resp	Lower	Upper
252	34844	100	
253	17.1	0.0	54.7
125	12.2	0.0	45.6



#94  
 Benzo[k]fluoranthene  
 Concen: 0.69 ppm  
 RT: 12.956 min Scan# 2204  
 Delta R.T. -0.098 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

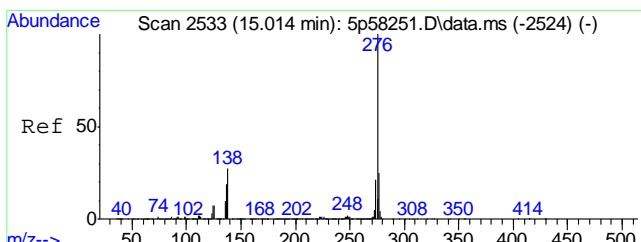
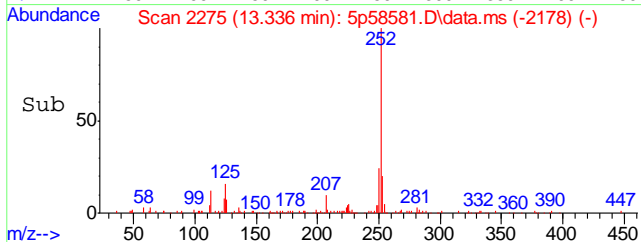
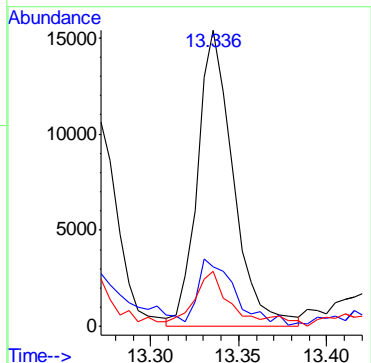
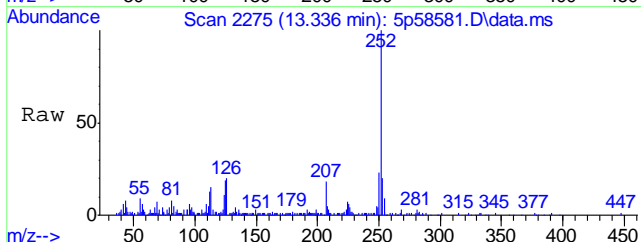
Tgt Ion	Resp	Lower	Upper
252	11791	100	
253	33.3	0.0	52.6
125	16.1	0.0	43.1





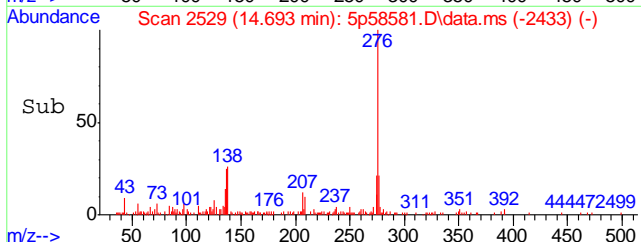
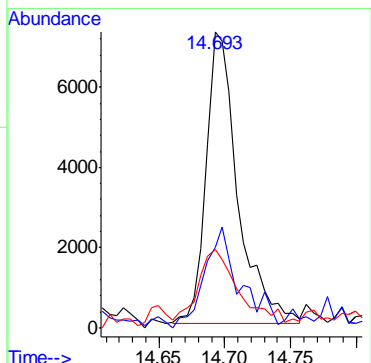
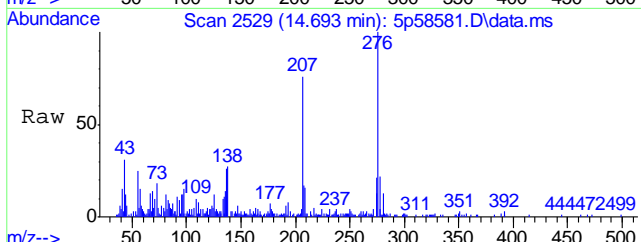
#95  
 Benzo[a]pyrene  
 Concen: 1.32 ppm m  
 RT: 13.336 min Scan# 2275  
 Delta R.T. 0.016 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

Tgt Ion	Resp	Lower	Upper
252	21737		
252	100		
253	20.3	0.0	52.1
125	18.6	0.0	44.8

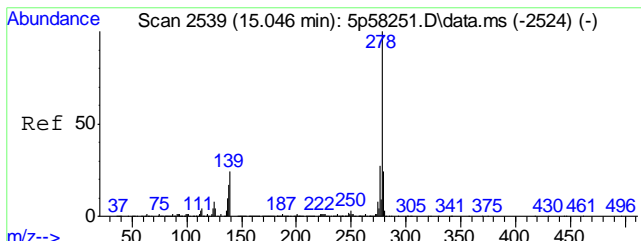


#96  
 Indeno[1,2,3-cd]pyrene  
 Concen: 0.82 ppm m  
 RT: 14.693 min Scan# 2529  
 Delta R.T. 0.013 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

Tgt Ion	Resp	Lower	Upper
276	12114		
276	100		
138	27.4	0.0	56.9
137	26.4	0.0	49.4

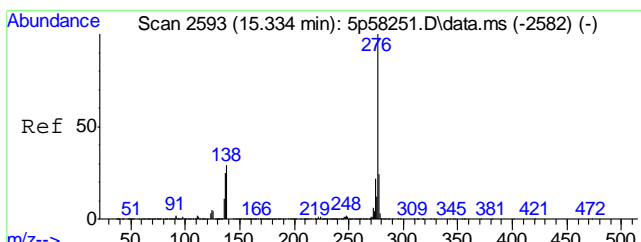
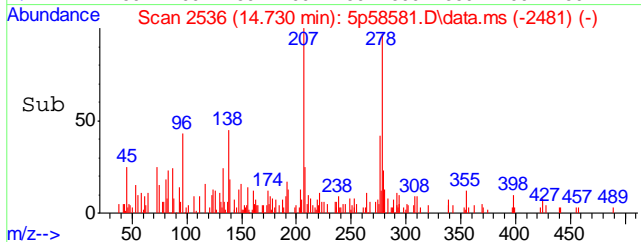
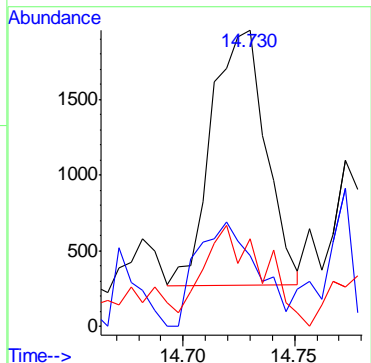
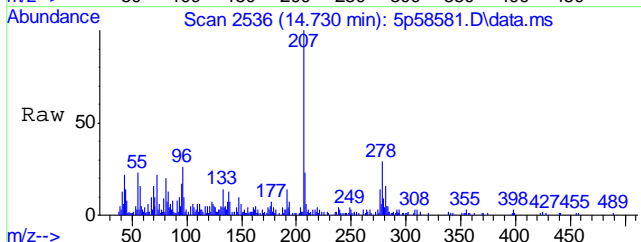


9.18  
9



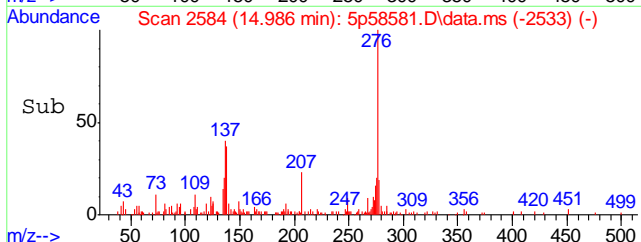
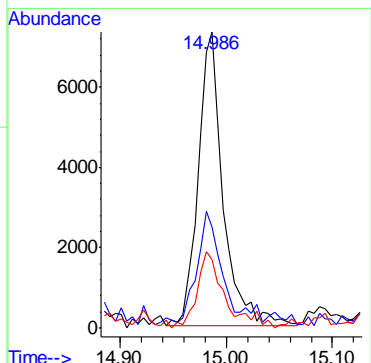
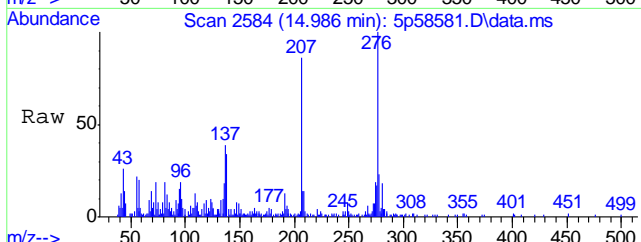
#98  
 Dibenz[a,h]anthracene  
 Concen: 0.19 ppm  
 RT: 14.730 min Scan# 2536  
 Delta R.T. -0.205 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

Tgt Ion	Resp	Lower	Upper
278	2859	100	
139	23.8	0.0	53.6
279	29.7	0.0	54.4



#100  
 Benzo[g,h,i]perylene  
 Concen: 0.81 ppm  
 RT: 14.986 min Scan# 2584  
 Delta R.T. -0.230 min  
 Lab File: 5p58581.D  
 Acq: 18 Apr 19 12:45 am

Tgt Ion	Resp	Lower	Upper
276	12045	100	
138	29.8	0.0	59.0
277	21.2	0.0	53.7



9.18  
 9

# Manual Integration Approval Summary

Sample Number: JC86337-5                      Method: SW846 8270D  
Lab FileID: 5P58581.D                      Analyst approved: 04/18/19 18:04 Kristi Schollenberger  
Injection Time: 04/18/19 00:45                      Supervisor approved: 04/18/19 18:08 Kristi Schollenberger

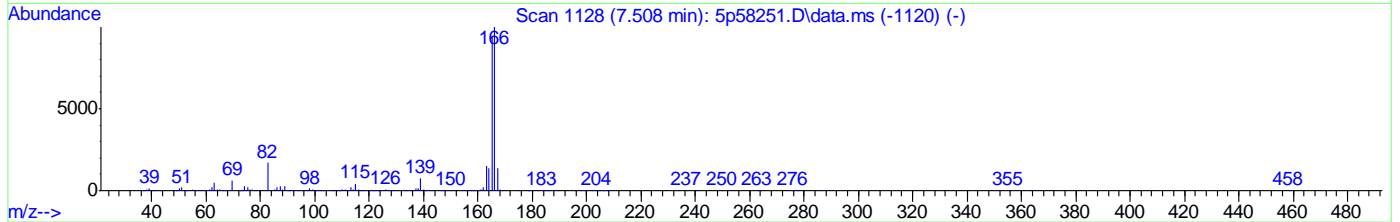
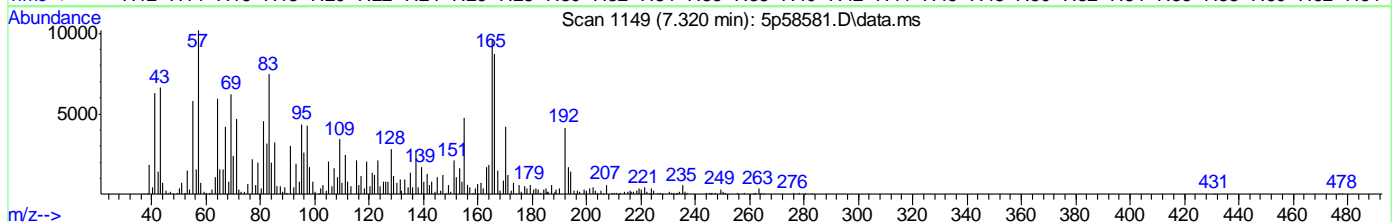
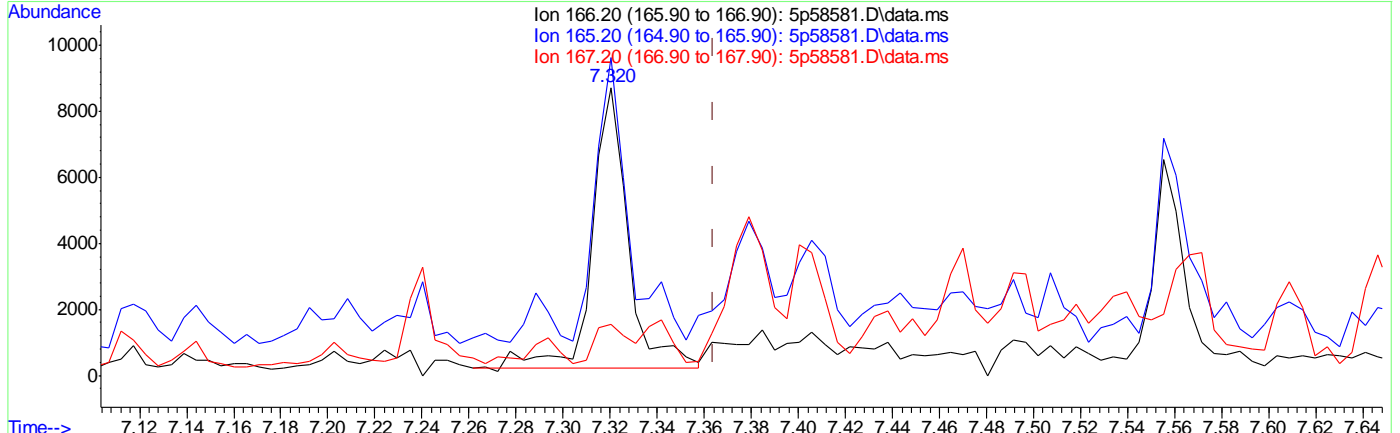
Parameter	CAS	Sig#	R.T. (min.)	Reason
Fluorene	86-73-7		7.32	Poor instrument integration
Benzo(a)pyrene	50-32-8		13.34	Poor instrument integration
Indeno(1,2,3-cd)pyrene	193-39-5		14.69	Poor instrument integration
Dibenzo(a,h)anthracene	53-70-3		14.73	Poor instrument integration

9.1.8.1  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
Data File : 5p58581.D  
Acq On : 18 Apr 2019 12:45 am  
Operator : chriss2  
Sample : jc86337-5  
Misc : op19786,e5p2775,31.4,,,1,1  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 16:28:28 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Wed Apr 17 11:42:18 2019  
Response via : Initial Calibration



TIC: 5p58581.D\data.ms

(66) Fluorene (t)  
7.320min (-0.044) 0.71ppm  
response 9044

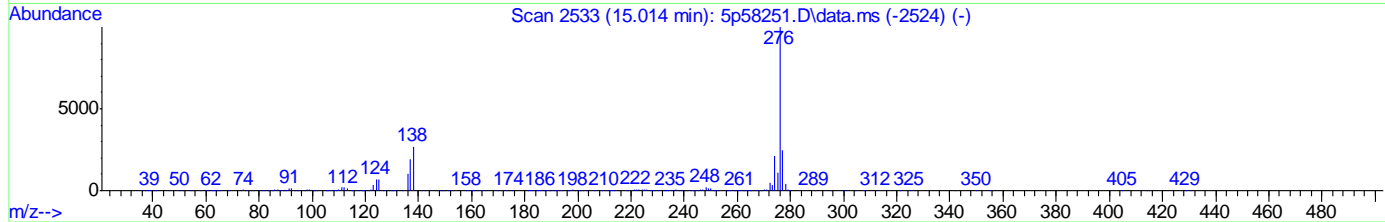
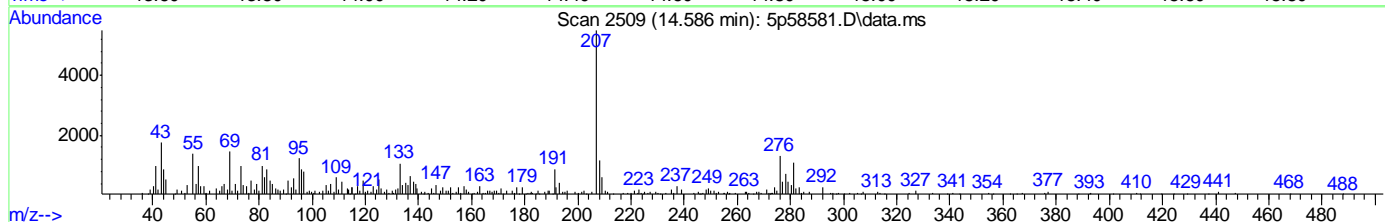
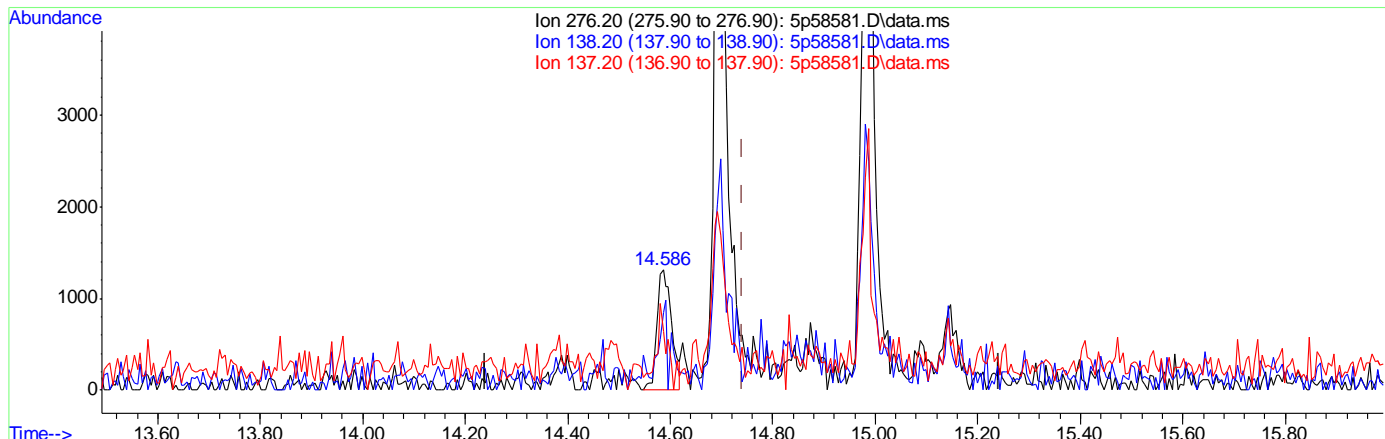
Ion	Exp%	Act%
166.20	100	100
165.20	94.30	96.99
167.20	13.80	12.56
0.00	0.00	0.00

9.1.8.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58581.D  
 Acq On : 18 Apr 2019 12:45 am  
 Operator : chriss2  
 Sample : jc86337-5  
 Misc : op19786,e5p2775,31.4,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 16:28:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



TIC: 5p58581.D\data.ms

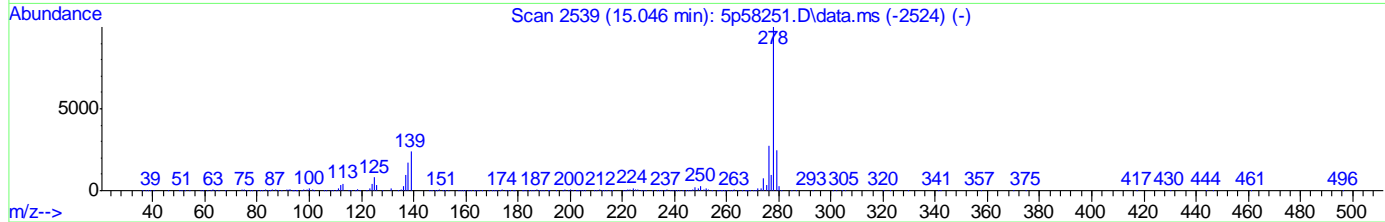
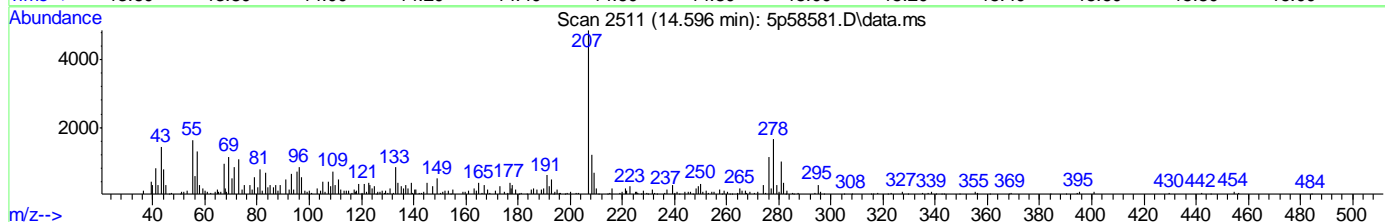
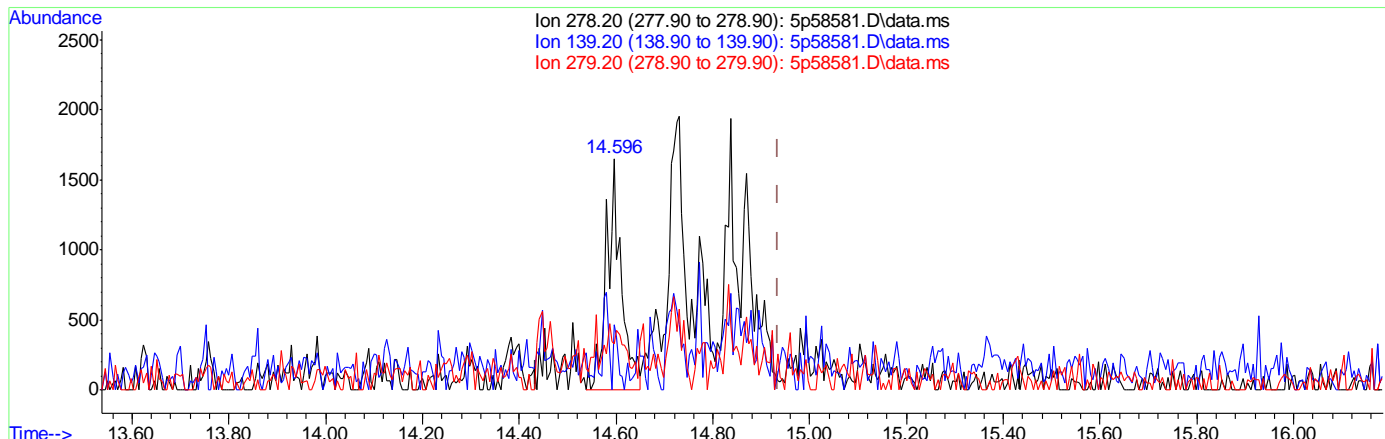
(96) Indeno[1,2,3-cd]pyrene (t)		
14.586min (-0.155) 0.18ppm		
response 2637		
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	48.68
137.20	19.40	32.34
0.00	0.00	0.00

9.1.8.3  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58581.D  
 Acq On : 18 Apr 2019 12:45 am  
 Operator : chriss2  
 Sample : jc86337-5  
 Misc : op19786,e5p2775,31.4,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 16:28:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



TIC: 5p58581.D\data.ms

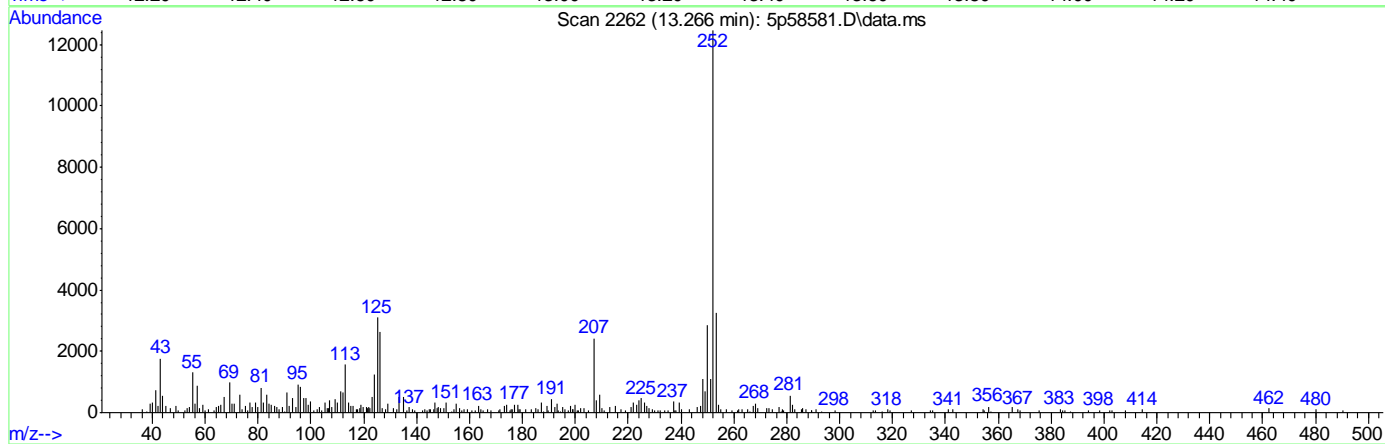
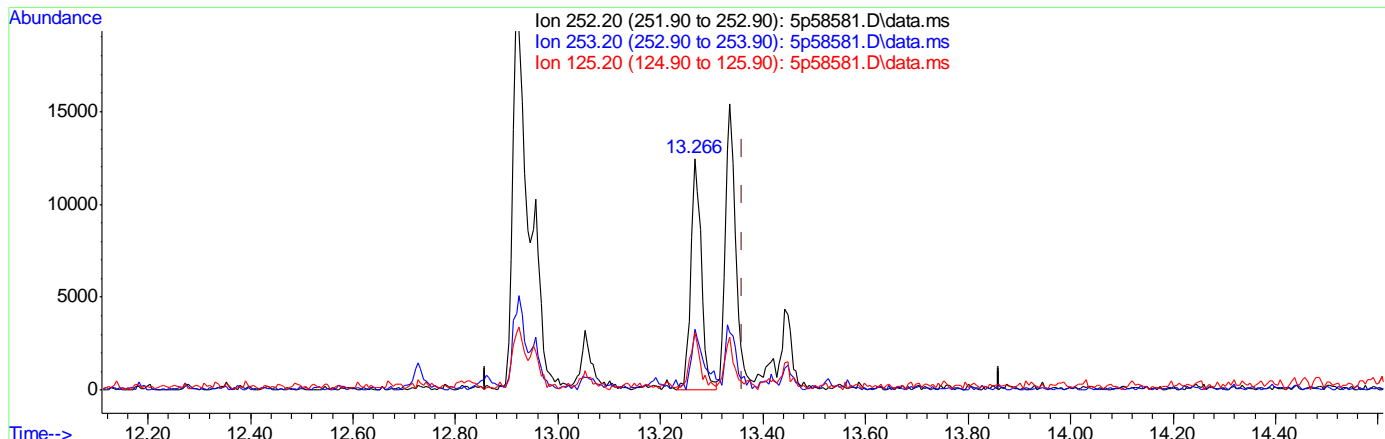
(98) Dibenz[a,h]anthracene (t)		
14.596min	(-0.339)	0.23ppm
response	3539	
Ion	Exp%	Act%
278.20	100	100
139.20	23.60	13.18
279.20	24.40	4.94
0.00	0.00	0.00

9.1.8.4  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58581.D  
 Acq On : 18 Apr 2019 12:45 am  
 Operator : chriss2  
 Sample : jc86337-5  
 Misc : op19786,e5p2775,31.4,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 18 16:32:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(95) Benzo[a]pyrene (t)  
 13.266min (-0.094) 1.08ppm  
 response 17788

Ion	Exp%	Act%
252.20	100	100
253.20	22.10	22.02
125.20	14.80	23.62
0.00	0.00	0.00

9.1.8.5  
**9**



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58582.D  
 Acq On : 18 Apr 2019 1:10 am  
 Operator : chriss2  
 Sample : jc86337-6  
 Misc : op19786,e5p2775,30.6,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 18 16:34:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.922	152	185943	40.00	ppm	-0.05
24) Naphthalene-d8	5.108	136	687099	40.00	ppm	-0.05
47) Acenaphthene-d10	6.791	164	360535	40.00	ppm	-0.05
69) Phenanthrene-d10	8.218	188	634184	40.00	ppm	-0.06
83) Chrysene-d12	11.444	240	599294	40.00	ppm	-0.10
91) Perylene-d12	13.410	264	549615	40.00	ppm	-0.11
101) 1,4-Dichlorobenzene-d4b	3.922	152	185943	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.791	164	360535	40.00	ppm	-0.05
105) Chrysene-d12a	11.444	240	599294	40.00	ppm	-0.10
107) Phenanthrene-d10a	8.218	188	634184	40.00	ppm	-0.06
111) Naphthalene-d8a	5.108	136	687099	40.00	ppm	-0.05
113) Chrysene-d12b	11.444	240	599294	40.00	ppm	-0.10
115) 1,4-Dichlorobenzene-d4c	3.922	152	185943	40.00	ppm	-0.05
117) Chrysene-d12c	11.444	240	599294	40.00	ppm	-0.10
119) Chrysene-d12d	11.444	240	599294	40.00	ppm	-0.10
System Monitoring Compounds						
5) 2-Fluorophenol	2.806	112	281206	38.83	ppm	-0.09
Spiked Amount	50.000		Recovery	=	77.66%	
8) Phenol-d5	3.666	99	313389	34.39	ppm	-0.07
Spiked Amount	50.000		Recovery	=	68.78%	
25) Nitrobenzene-d5	4.441	82	291293	36.57	ppm	-0.06
Spiked Amount	50.000		Recovery	=	73.14%	
51) 2-Fluorobiphenyl	6.166	172	457383	36.50	ppm	-0.06
Spiked Amount	50.000		Recovery	=	73.00%	
73) 2,4,6-Tribromophenol	7.555	330	64095	35.06	ppm	-0.06
Spiked Amount	50.000		Recovery	=	70.12%	
85) Terphenyl-d14	10.066	244	536110	35.16	ppm	-0.21
Spiked Amount	50.000		Recovery	=	70.32%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	

Target Compounds Qvalue

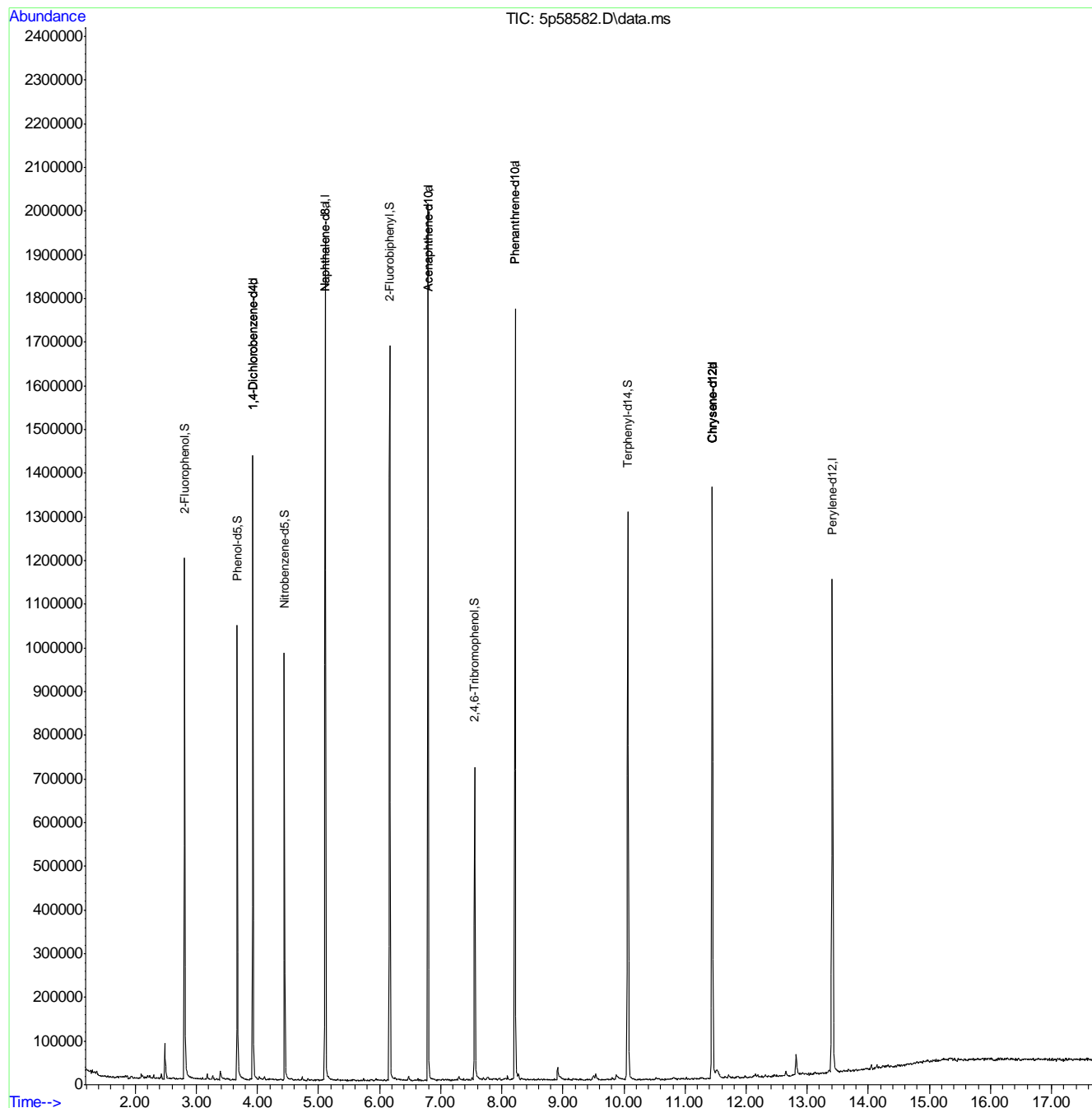
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.19  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58582.D  
 Acq On : 18 Apr 2019 1:10 am  
 Operator : chriss2  
 Sample : jc86337-6  
 Misc : op19786,e5p2775,30.6,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 18 16:34:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58575.D  
 Acq On : 17 Apr 2019 10:18 pm  
 Operator : chriss2  
 Sample : op19786-mb1  
 Misc : op19786,e5p2775,30.0,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 18 16:12:06 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.928	152	219583	40.00	ppm	-0.04
24) Naphthalene-d8	5.109	136	815101	40.00	ppm	-0.05
47) Acenaphthene-d10	6.792	164	429951	40.00	ppm	-0.05
69) Phenanthrene-d10	8.218	188	751960	40.00	ppm	-0.06
83) Chrysene-d12	11.450	240	705328	40.00	ppm	-0.09
91) Perylene-d12	13.416	264	645730	40.00	ppm	-0.10
101) 1,4-Dichlorobenzene-d4b	3.928	152	219583	40.00	ppm	-0.04
103) Acenaphthene-d10a	6.792	164	429951	40.00	ppm	-0.05
105) Chrysene-d12a	11.450	240	705328	40.00	ppm	-0.09
107) Phenanthrene-d10a	8.218	188	751960	40.00	ppm	-0.06
111) Naphthalene-d8a	5.109	136	815101	40.00	ppm	-0.05
113) Chrysene-d12b	11.450	240	705328	40.00	ppm	-0.09
115) 1,4-Dichlorobenzene-d4c	3.928	152	219583	40.00	ppm	-0.04
117) Chrysene-d12c	11.450	240	705328	40.00	ppm	-0.09
119) Chrysene-d12d	11.450	240	705328	40.00	ppm	-0.09
System Monitoring Compounds						
5) 2-Fluorophenol	2.806	112	308052	36.02	ppm	-0.09
Spiked Amount	50.000		Recovery	=	72.04%	
8) Phenol-d5	3.672	99	355377	33.02	ppm	-0.06
Spiked Amount	50.000		Recovery	=	66.04%	
25) Nitrobenzene-d5	4.441	82	316210	33.46	ppm	-0.06
Spiked Amount	50.000		Recovery	=	66.92%	
51) 2-Fluorobiphenyl	6.166	172	520142	34.81	ppm	-0.06
Spiked Amount	50.000		Recovery	=	69.62%	
73) 2,4,6-Tribromophenol	7.561	330	71493	32.98	ppm	-0.05
Spiked Amount	50.000		Recovery	=	65.96%	
85) Terphenyl-d14	10.066	244	572935	31.93	ppm	-0.21
Spiked Amount	50.000		Recovery	=	63.86%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	

Target Compounds Qvalue

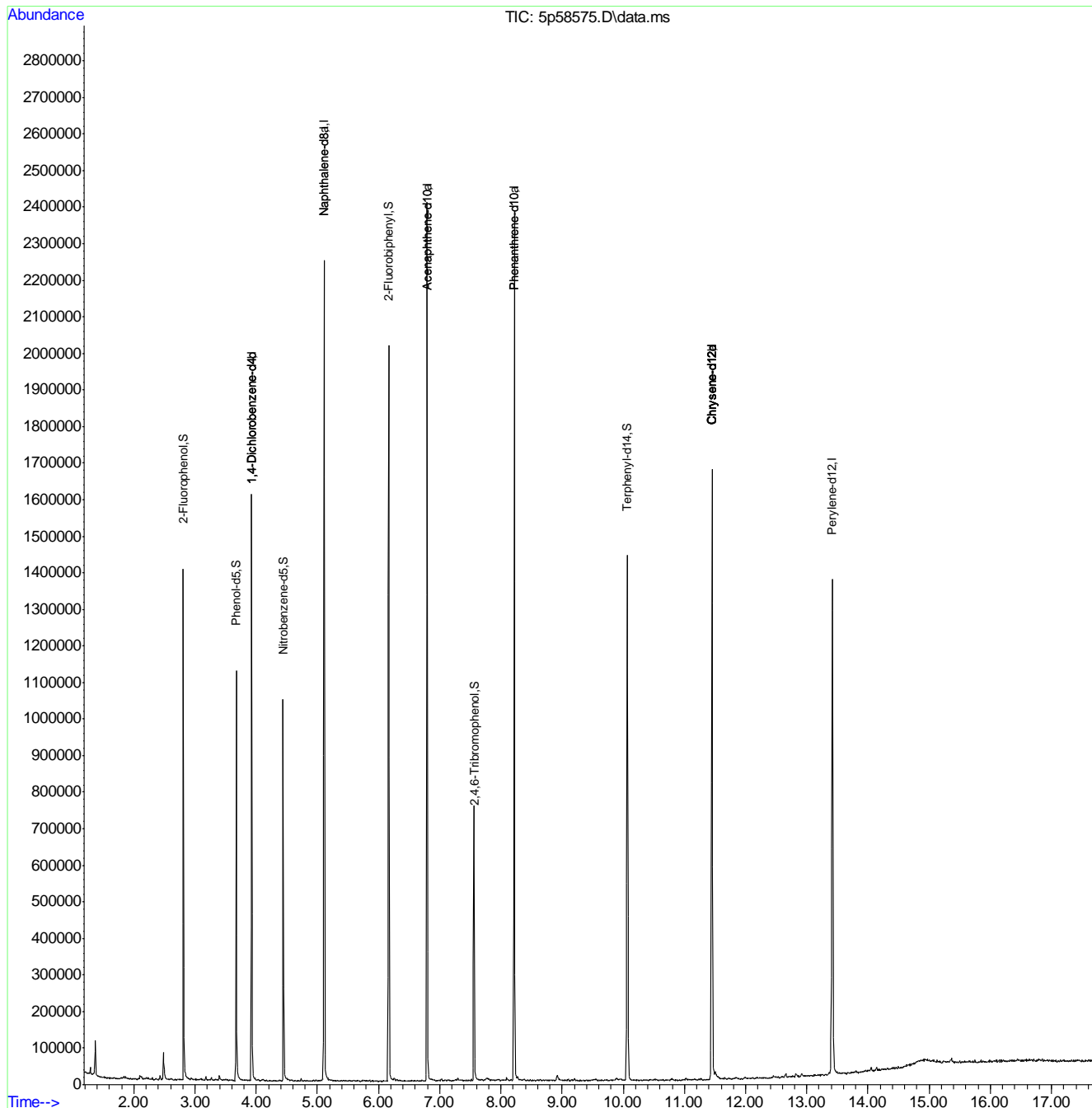
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.2.1  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58575.D  
 Acq On : 17 Apr 2019 10:18 pm  
 Operator : chriss2  
 Sample : op19786-mb1  
 Misc : op19786,e5p2775,30.0,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 18 16:12:06 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129127.D  
 Acq On : 17 Apr 2019 10:27 pm  
 Operator : carolb  
 Sample : op19786-mb1  
 Misc : op19786,ep5843,30,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 18 11:15:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Apr 17 21:28:46 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.193	152	157448	40.00	ppm	-0.08
24) Naphthalene-d8	5.128	136	561344	40.00	ppm	-0.09
47) Acenaphthene-d10	6.442	164	311364	40.00	ppm	-0.10
69) Phenanthrene-d10	8.093	188	572710	40.00	ppm	-0.14
83) Chrysene-d12	13.099	240	535565	40.00	ppm	-0.21
91) Perylene-d12	16.112	264	544920	40.00	ppm	-0.22
101) 1,4-Dichlorobenzene-d4b	4.193	152	157448	40.00	ppm	-0.07
103) Phenanthrene-d10b	8.093	188	572710	40.00	ppm	-0.13
105) Chrysene-d12b	13.099	240	535565	40.00	ppm	-0.19
107) Naphthalene-d8b	5.128	136	561344	40.00	ppm	-0.07
109) Acenaphthene-d10b	6.442	164	311364	40.00	ppm	-0.10
System Monitoring Compounds						
5) 2-Fluorophenol	3.226	112	198326	33.63	ppm	-0.13
Spiked Amount	50.000		Recovery	=	67.26%	
8) Phenol-d5	3.990	99	281389	35.59	ppm	-0.10
Spiked Amount	50.000		Recovery	=	71.18%	
25) Nitrobenzene-d5	4.610	82	320370	43.71	ppm	-0.10
Spiked Amount	50.000		Recovery	=	87.42%	
51) 2-Fluorobiphenyl	5.914	172	452416	40.70	ppm	-0.07
Spiked Amount	50.000		Recovery	=	81.40%	
73) 2,4,6-Tribromophenol	7.228	330	57310	36.10	ppm	-0.10
Spiked Amount	50.000		Recovery	=	72.20%	
85) Terphenyl-d14	10.957	244	499640	37.77	ppm	-0.19
Spiked Amount	50.000		Recovery	=	75.54%	
Target Compounds						
53) Biphenyl	5.983	154	1046	0.08	ppm	Qvalue 94

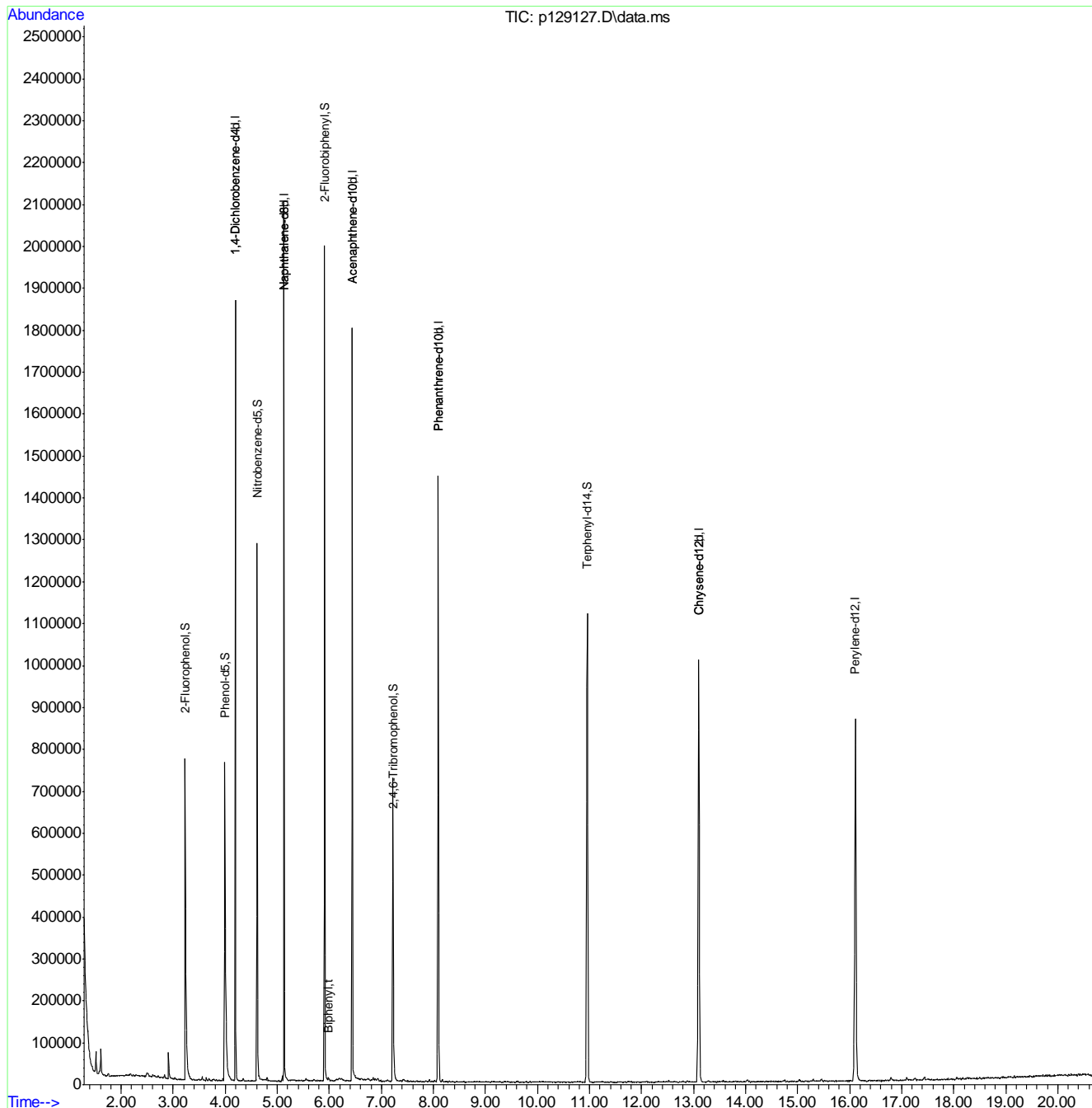
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.2.2  
9

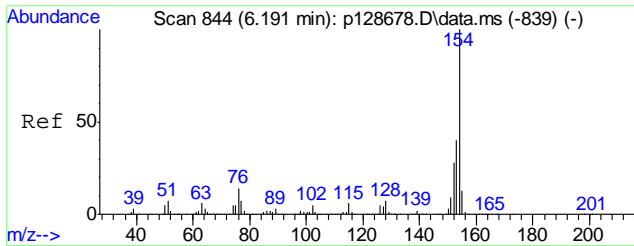
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129127.D  
 Acq On : 17 Apr 2019 10:27 pm  
 Operator : carolb  
 Sample : op19786-mb1  
 Misc : op19786,ep5843,30,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 18 11:15:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Apr 17 21:28:46 2019  
 Response via : Initial Calibration

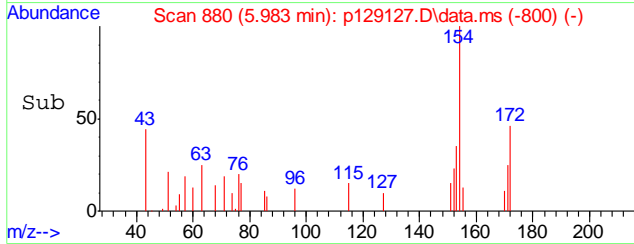
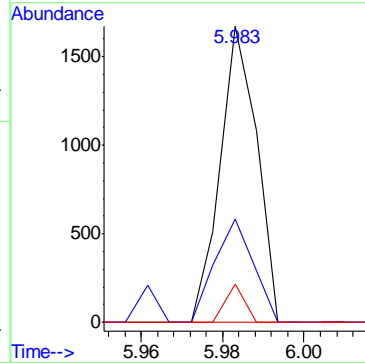
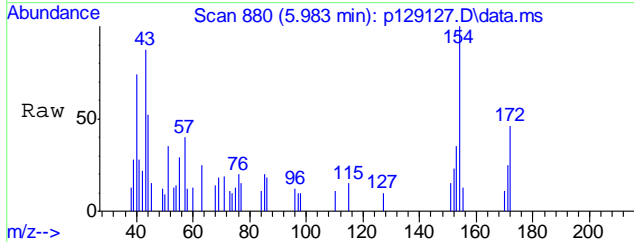


9.2.2  
9



#53  
 Biphenyl  
 Concen: 0.08 ppm  
 RT: 5.983 min Scan# 880  
 Delta R.T. -0.074 min  
 Lab File: p129127.D  
 Acq: 17 Apr 2019 10:27 pm

Tgt Ion	Resp	Lower	Upper
154	1046		
153	35.0	9.5	69.5
155	13.0	0.0	43.2



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58576.D  
 Acq On : 17 Apr 2019 10:42 pm  
 Operator : chriss2  
 Sample : op19786-bs1  
 Misc : op19786,e5p2775,30.0,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 18 17:03:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) 1,4-Dichlorobenzene-d4	3.928	152	193693	40.00	ppm	-0.04
24) Naphthalene-d8	5.114	136	618783	40.00	ppm	-0.04
47) Acenaphthene-d10	6.792	164	336258	40.00	ppm	-0.05
69) Phenanthrene-d10	8.218	188	566593	40.00	ppm	-0.06
83) Chrysene-d12	11.455	240	527474	40.00	ppm	-0.09
91) Perylene-d12	13.416	264	524571	40.00	ppm	-0.10
101) 1,4-Dichlorobenzene-d4b	3.928	152	193693	40.00	ppm	-0.04
103) Acenaphthene-d10a	6.792	164	336258	40.00	ppm	-0.05
105) Chrysene-d12a	11.455	240	527474	40.00	ppm	-0.09
107) Phenanthrene-d10a	8.218	188	566593	40.00	ppm	-0.06
111) Naphthalene-d8a	5.114	136	618783	40.00	ppm	-0.04
113) Chrysene-d12b	11.455	240	527487	40.00	ppm	-0.09
115) 1,4-Dichlorobenzene-d4c	3.928	152	193693	40.00	ppm	-0.04
117) Chrysene-d12c	11.455	240	527474	40.00	ppm	-0.09
119) Chrysene-d12d	11.455	240	527487	40.00	ppm	-0.09
<b>System Monitoring Compounds</b>						
5) 2-Fluorophenol	2.806	112	305803	40.54	ppm	-0.09
Spiked Amount	50.000		Recovery	=	81.08%	
8) Phenol-d5	3.672	99	366353	38.59	ppm	-0.06
Spiked Amount	50.000		Recovery	=	77.18%	
25) Nitrobenzene-d5	4.446	82	318032	44.33	ppm	-0.06
Spiked Amount	50.000		Recovery	=	88.66%	
51) 2-Fluorobiphenyl	6.166	172	470092	40.22	ppm	-0.06
Spiked Amount	50.000		Recovery	=	80.44%	
73) 2,4,6-Tribromophenol	7.561	330	72535	44.41	ppm	-0.05
Spiked Amount	50.000		Recovery	=	88.82%	
85) Terphenyl-d14	10.066	244	597665	44.53	ppm	-0.21
Spiked Amount	50.000		Recovery	=	89.06%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
<b>Target Compounds</b>						
2) 1,4-Dioxane	1.380	88	91299	22.39	ppm	99
3) Pyridine	1.636	79	304207	32.38	ppm	100
4) N-Nitrosodimethylamine	1.610	74	192645	35.17	ppm	96
6) Indene	4.158	116	474865	40.25	ppm	99
7) Cumene	3.207	105	644498	34.24	ppm	99
9) Phenol	3.682	94	397646	38.26	ppm	96
10) Aniline	3.640	93	358503	32.47	ppm	63
11) bis(2-Chloroethyl)ether	3.709	93	270867	37.23	ppm	88
12) 2-Chlorophenol	3.752	128	271586	38.75	ppm	100
13) Decane	3.816	43	196688	31.50	ppm	99
14) 1,3-Dichlorobenzene	3.875	146	266539	34.48	ppm	100
15) 1,4-Dichlorobenzene	3.944	146	268072	35.26	ppm	100
16) Benzyl alcohol	4.083	108	192814	43.42	ppm	98
17) 1,2-Dichlorobenzene	4.078	146	272525	35.87	ppm	99

9.3.1  
**9**



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58576.D  
 Acq On : 17 Apr 2019 10:42 pm  
 Operator : chriss2  
 Sample : op19786-bs1  
 Misc : op19786,e5p2775,30.0,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 18 17:03:14 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Thu Apr 18 16:00:26 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.313	105	397517	37.87	ppm	100
19) 2-Methylphenol	4.222	108	267507	40.80	ppm	96
20) 2,2'-oxybis(1-Chloropr...	4.206	45	309171	41.43	ppm	98
21) 3&4-Methylphenol	4.371	108	290585	41.29	ppm	99
22) n-Nitroso-di-n-propyla...	4.329	70	202999	36.11	ppm	99
23) Hexachloroethane	4.387	201	92737	34.29	ppm	88
26) Nitrobenzene	4.462	77	305402	43.48	ppm	93
27) Quinoline	5.461	129	499134	43.54	ppm	98
28) Isophorone	4.697	82	539820	41.27	ppm	99
29) 2-Nitrophenol	4.767	139	140958	44.60	ppm	86
30) 2,4-Dimethylphenol	4.858	107	272036	48.65	ppm	97
31) Benzoic acid	5.029	105	192320	38.05	ppm	96
32) bis(2-Chloroethoxy)met...	4.922	93	318567	41.66	ppm	98
33) 2,4-Dichlorophenol	5.013	162	210471	42.98	ppm	96
34) 2,6-Dichlorophenol	5.221	162	198240	42.12	ppm	99
36) 1,2,4-Trichlorobenzene	5.071	180	198991	38.04	ppm	99
38) Naphthalene	5.130	128	634025	40.66	ppm	99
39) 4-Chloroaniline	5.216	127	172501	26.20	ppm	96
40) 2,3-Dichloroaniline	6.081	161	228768	36.07	ppm	98
41) Caprolactam	5.568	55	118471	41.31	ppm	96
42) Hexachlorobutadiene	5.274	225	118134	39.05	ppm	99
43) 4-Chloro-3-methylphenol	5.734	107	246995	43.74	ppm	98
44) 2-Methylnaphthalene	5.798	141	376487	41.15	ppm	97
45) 1-Methylnaphthalene	5.889	141	382113	37.58	ppm	98
46) Dimethylnaphthalene	6.407	156	370903	37.95	ppm	100
48) Hexachlorocyclopentadiene	5.963	237	199544	81.82	ppm	97
49) 2,4,6-Trichlorophenol	6.102	196	149397	45.51	ppm	99
50) 2,4,5-Trichlorophenol	6.145	196	160286	46.10	ppm	99
52) 2-Chloronaphthalene	6.263	162	387930	39.53	ppm	99
53) Biphenyl	6.257	154	505341	40.16	ppm	99
54) 2-Nitroaniline	6.385	65	168435	45.56	ppm	97
55) Dimethylphthalate	6.578	163	512453	42.85	ppm	99
56) Acenaphthylene	6.653	152	656147	42.05	ppm	98
57) 2,6-Dinitrotoluene	6.626	165	115558	45.46	ppm	94
58) 3-Nitroaniline	6.786	138	93000	33.76	ppm	93
59) Acenaphthene	6.824	153	402049	41.43	ppm	99
60) 2,4-Dinitrophenol	6.898	184	133735	83.13	ppm	86
61) 4-Nitrophenol	7.021	109	64201	42.54	ppm	92
62) Dibenzofuran	6.995	168	617372	42.27	ppm	98
63) 2,4-Dinitrotoluene	7.016	165	146013	44.05	ppm	87
64) 2,3,4,6-Tetrachlorophenol	7.139	232	135717	43.45	ppm	97
65) Diethylphthalate	7.267	149	488079	42.46	ppm	99
66) Fluorene	7.320	166	494327	42.84	ppm	97
67) 4-Chlorophenyl-phenyle...	7.342	204	215984	40.62	ppm	98
68) 4-Nitroaniline	7.379	138	129879	48.08	ppm	98
70) 4,6-Dinitro-2-methylph...	7.417	198	96953	45.88	ppm	87
71) n-Nitrosodiphenylamine	7.465	169	349680	41.88	ppm	98
72) 1,2-Diphenylhydrazine	7.491	77	563617	42.52	ppm	95
74) 4-Bromophenyl-phenylether	7.807	248	151654	42.43	ppm	98
75) Hexachlorobenzene	7.860	284	148294	41.55	ppm	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58576.D  
 Acq On : 17 Apr 2019 10:42 pm  
 Operator : chriss2  
 Sample : op19786-bs1  
 Misc : op19786,e5p2775,30.0,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 18 17:03:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
76) Pentachlorophenol	8.068	266	109830	48.56	ppm	100
77) Phenanthrene	8.245	178	622928	40.67	ppm	98
78) Anthracene	8.293	178	668139	41.57	ppm	100
79) Carbazole	8.480	167	721240	44.27	ppm	100
80) Di-n-butylphthalate	8.902	149	862707	42.59	ppm	100
81) Fluoranthene	9.543	202	794304	41.75	ppm	98
82) Octadecane	8.202	57	328507	40.20	ppm	99
84) Pyrene	9.810	202	785373	39.18	ppm	98
86) Butylbenzylphthalate	10.782	149	373575	40.75	ppm	98
87) Benzo[a]anthracene	11.439	228	699401	37.96	ppm	98
88) 3,3'-Dichlorobenzidine	11.461	252	328584	54.74	ppm	97
89) Chrysene	11.493	228	620308	36.47	ppm	100
90) bis(2-Ethylhexyl)phtha...	11.664	149	505028	41.56	ppm	100
92) Di-n-octylphthalate	12.593	149	875584	46.86	ppm	99
93) Benzo[b]fluoranthene	12.930	252	644210	40.22	ppm	99
94) Benzo[k]fluoranthene	12.967	252	597835	40.78	ppm	98
95) Benzo[a]pyrene	13.341	252	606064	42.48	ppm	99
96) Indeno[1,2,3-cd]pyrene	14.703	276	518653m	40.64	ppm	
98) Dibenz[a,h]anthracene	14.735	278	509441	38.61	ppm	99
99) 7,12-Dimethylbenz(a)an...	12.935	256	293409	48.28	ppm	98
100) Benzo[g,h,i]perylene	14.992	276	523137	40.61	ppm	95
102) Benzaldehyde	3.527	105	196865	30.94	ppm	96
104) 1,2,4,5-Tetrachloroben...	5.969	216	182817	37.88	ppm	97
109) Atrazine	8.010	215	73609	47.02	ppm	97
110) Pentachloronitrobenzene	8.074	295	25327	41.99	ppm	94
118) Benzidine	9.751	184	344153	29.62	ppm	99

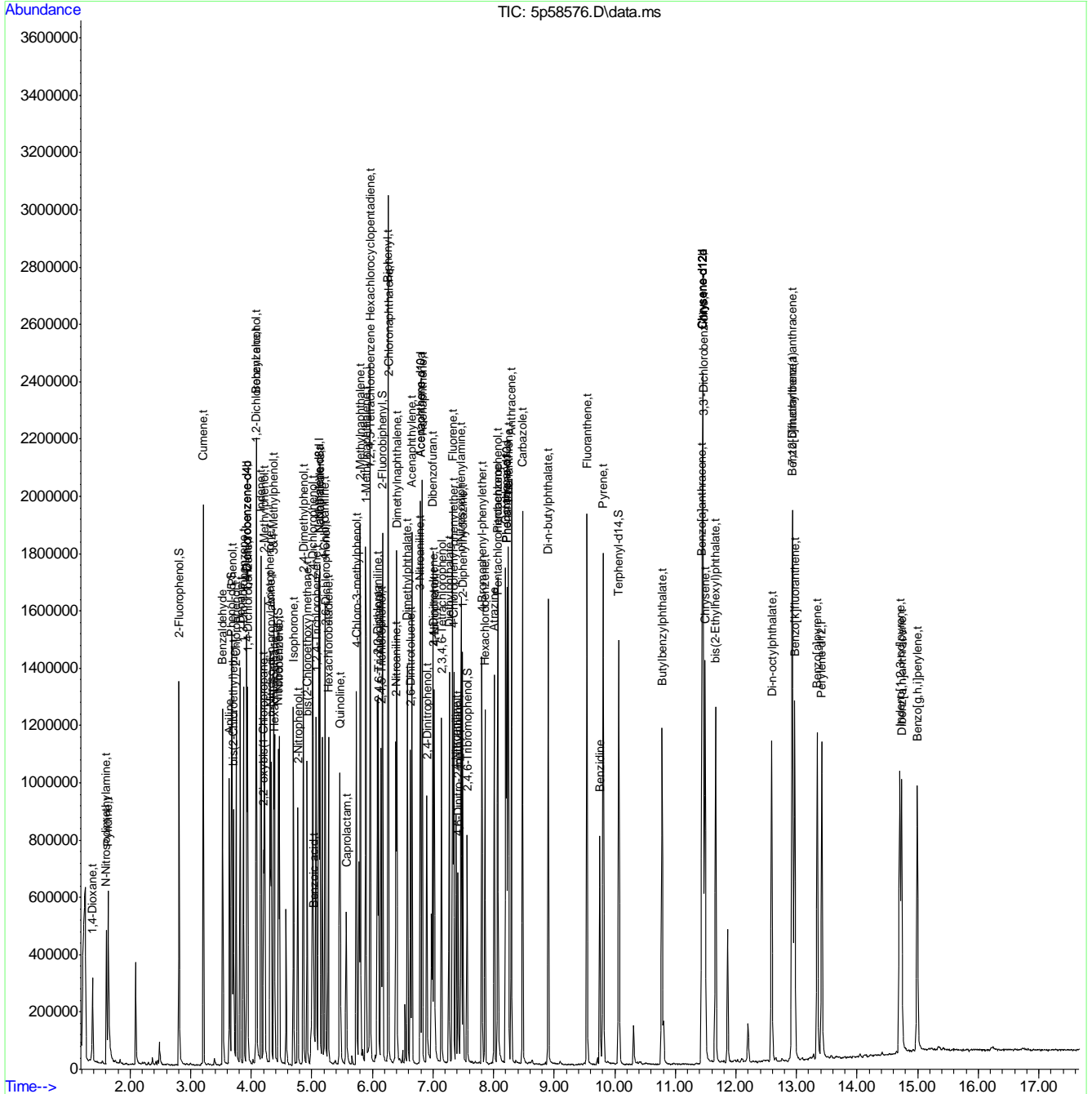
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.3.1  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
Data File : 5p58576.D  
Acq On : 17 Apr 2019 10:42 pm  
Operator : chriss2  
Sample : op19786-bs1  
Misc : op19786,e5p2775,30.0,,,1,1  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 18 17:03:14 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Thu Apr 18 16:00:26 2019  
Response via : Initial Calibration



9.3.1 9

# Manual Integration Approval Summary

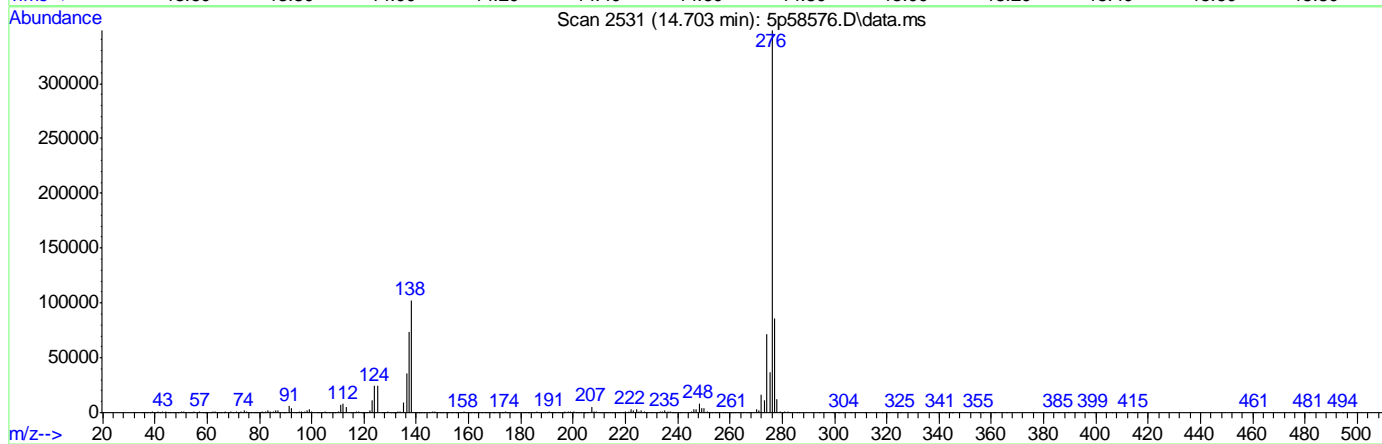
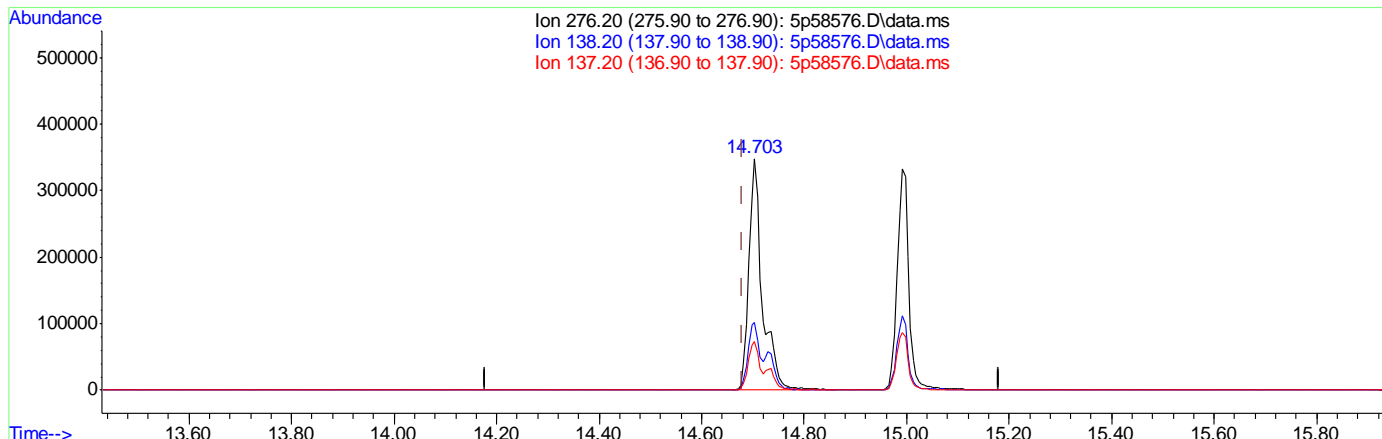
Sample Number: OP19786-BS1      Method: SW846 8270D  
Lab FileID: 5P58576.D      Analyst approved: 04/18/19 17:00 Ying Li  
Injection Time: 04/17/19 22:42      Supervisor approved: 04/18/19 17:34 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		14.70	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58576.D  
 Acq On : 17 Apr 2019 10:42 pm  
 Operator : chriss2  
 Sample : op19786-bs1  
 Misc : op19786,e5p2775,30.0,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 18 16:12:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.703min (+0.023) 49.64ppm

response 633436

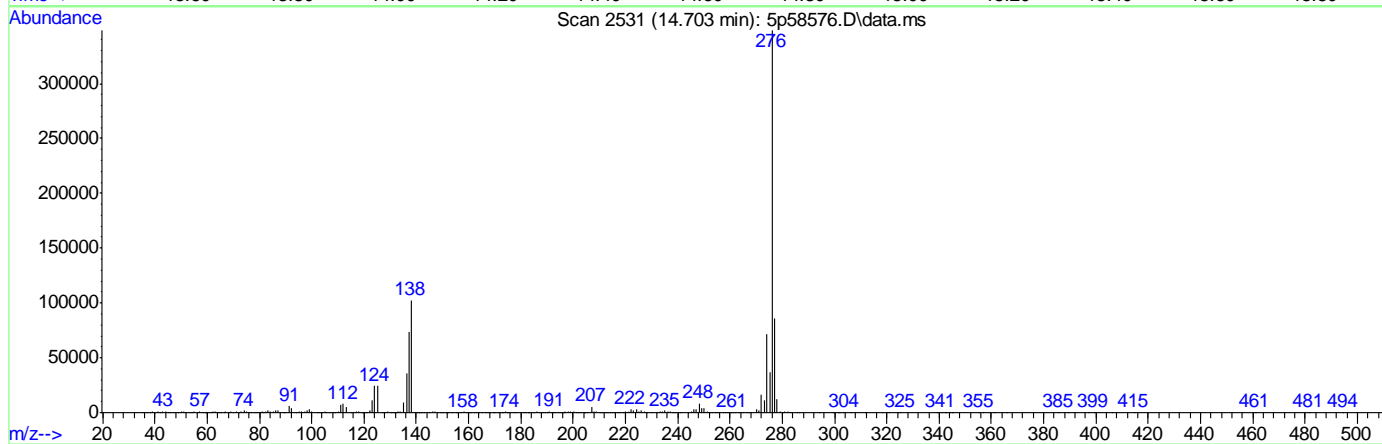
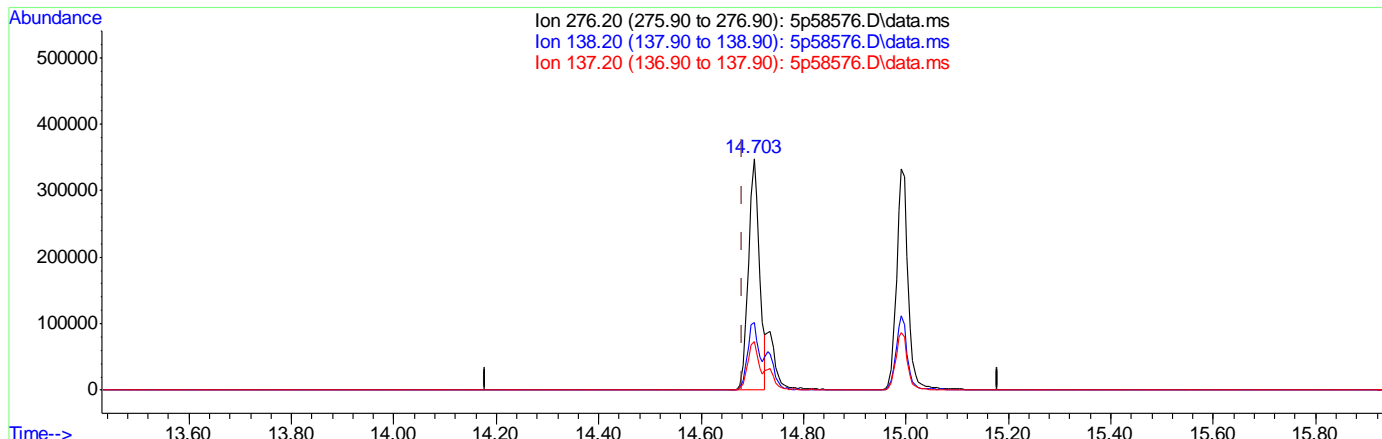
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	29.36
137.20	19.40	20.94
0.00	0.00	0.00

9.3.12  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58576.D  
 Acq On : 17 Apr 2019 10:42 pm  
 Operator : chriss2  
 Sample : op19786-bs1  
 Misc : op19786,e5p2775,30.0,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 18 16:12:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.703min (+0.023) 40.64ppm m

response 518653

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	29.42
137.20	19.40	20.99
0.00	0.00	0.00

9.3.1.3  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 17:12:29 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) 1,4-Dichlorobenzene-d4	3.917	152	183278	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	586208	40.00	ppm	-0.05
47) Acenaphthene-d10	6.781	164	310722	40.00	ppm	-0.06
69) Phenanthrene-d10	8.213	188	529445	40.00	ppm	-0.06
83) Chrysene-d12	11.477	240	481967	40.00	ppm	-0.06
91) Perylene-d12	13.443	264	588491	40.00	ppm	-0.07
101) 1,4-Dichlorobenzene-d4b	3.917	152	183278	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.781	164	310722	40.00	ppm	-0.06
105) Chrysene-d12a	11.477	240	481967	40.00	ppm	-0.06
107) Phenanthrene-d10a	8.213	188	529445	40.00	ppm	-0.06
111) Naphthalene-d8a	5.103	136	586208	40.00	ppm	-0.05
113) Chrysene-d12b	11.477	240	479643	40.00	ppm	-0.06
115) 1,4-Dichlorobenzene-d4c	3.917	152	183278	40.00	ppm	-0.05
117) Chrysene-d12c	11.477	240	479643	40.00	ppm	-0.06
119) Chrysene-d12d	11.477	240	481967	40.00	ppm	-0.06
<b>System Monitoring Compounds</b>						
5) 2-Fluorophenol	2.796	112	224562	31.46	ppm	-0.10
Spiked Amount	50.000		Recovery	=	62.92%	
8) Phenol-d5	3.666	99	296118	32.96	ppm	-0.07
Spiked Amount	50.000		Recovery	=	65.92%	
25) Nitrobenzene-d5	4.436	82	228697	33.65	ppm	-0.07
Spiked Amount	50.000		Recovery	=	67.30%	
51) 2-Fluorobiphenyl	6.156	172	398015	36.86	ppm	-0.07
Spiked Amount	50.000		Recovery	=	73.72%	
73) 2,4,6-Tribromophenol	7.550	330	59344	38.89	ppm	-0.06
Spiked Amount	50.000		Recovery	=	77.78%	
85) Terphenyl-d14	10.061	244	489113	39.89	ppm	-0.21
Spiked Amount	50.000		Recovery	=	79.78%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
<b>Target Compounds</b>						
2) 1,4-Dioxane	1.364	88	63135	16.36	ppm	Qvalue 100
3) Pyridine	1.620	79	208697	23.47	ppm	97
4) N-Nitrosodimethylamine	1.593	74	127105	24.52	ppm	99
6) Indene	4.152	116	365133	32.71	ppm	98
7) Cumene	3.196	105	443910	24.92	ppm	99
9) Phenol	3.677	94	257820	26.22	ppm	95
10) Aniline	3.629	93	138674	13.27	ppm	# 47
11) bis(2-Chloroethyl)ether	3.698	93	184990	26.87	ppm	93
12) 2-Chlorophenol	3.741	128	181396	27.35	ppm	94
13) Decane	3.805	43	148274	25.10	ppm	96
14) 1,3-Dichlorobenzene	3.864	146	188220	25.74	ppm	99
15) 1,4-Dichlorobenzene	3.933	146	185672	25.81	ppm	99
16) Benzyl alcohol	4.078	108	154655	36.81	ppm	96
17) 1,2-Dichlorobenzene	4.072	146	181813	25.29	ppm	99

9.4.1  
**9**

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : opl9786-ms  
 Misc : opl9786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 17:12:29 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.302	105	288373	29.03	ppm	99
19) 2-Methylphenol	4.217	108	135976	21.92	ppm	96
20) 2,2'-oxybis(1-Chloropr...	4.195	45	228968	32.43	ppm	98
21) 3&4-Methylphenol	4.361	108	135487	20.34	ppm	99
22) n-Nitroso-di-n-propyla...	4.318	70	145672	27.39	ppm	96
23) Hexachloroethane	4.377	201	62019	24.24	ppm	91
26) Nitrobenzene	4.452	77	201097	30.22	ppm	92
27) Quinoline	5.451	129	381378	35.11	ppm	99
28) Isophorone	4.687	82	399844	32.27	ppm	99
29) 2-Nitrophenol	4.756	139	98300	32.83	ppm	89
30) 2,4-Dimethylphenol	4.847	107	84937	16.03	ppm	98
31) Benzoic acid	5.007	105	176874	36.94	ppm	97
32) bis(2-Chloroethoxy)met...	4.911	93	234843	32.42	ppm	98
33) 2,4-Dichlorophenol	5.007	162	147744	31.85	ppm	91
34) 2,6-Dichlorophenol	5.210	162	132328	29.68	ppm	96
36) 1,2,4-Trichlorobenzene	5.061	180	150833	30.43	ppm	99
38) Naphthalene	5.119	128	595880	40.33	ppm	99
39) 4-Chloroaniline	5.205	127	123727	19.84	ppm	99
40) 2,3-Dichloroaniline	6.070	161	192890	32.10	ppm	98
41) Caprolactam	5.552	55	96881	35.66	ppm	98
42) Hexachlorobutadiene	5.264	225	87104	30.39	ppm	99
43) 4-Chloro-3-methylphenol	5.723	107	170294	31.83	ppm	99
44) 2-Methylnaphthalene	5.787	141	359398	41.47	ppm	99
45) 1-Methylnaphthalene	5.878	141	346018	35.92	ppm	97
46) Dimethylnaphthalene	6.391	156	345677	37.34	ppm	98
48) Hexachlorocyclopentadiene	5.953	237	91566	42.76	ppm	100
49) 2,4,6-Trichlorophenol	6.092	196	105628	34.82	ppm	99
50) 2,4,5-Trichlorophenol	6.134	196	115776	36.03	ppm	95
52) 2-Chloronaphthalene	6.252	162	300624	33.15	ppm	98
53) Biphenyl	6.247	154	449795	38.69	ppm	99
54) 2-Nitroaniline	6.375	65	134819	39.47	ppm	97
55) Dimethylphthalate	6.567	163	375474	33.98	ppm	100
56) Acenaphthylene	6.647	152	1585176	109.95	ppm	99
57) 2,6-Dinitrotoluene	6.621	165	84226	35.86	ppm	96
58) 3-Nitroaniline	6.775	138	71529	28.10	ppm	92
59) Acenaphthene	6.813	153	332396	37.06	ppm	93
60) 2,4-Dinitrophenol	6.893	184	44948	34.23	ppm	86
61) 4-Nitrophenol	7.016	109	43131	30.93	ppm	93
62) Dibenzofuran	6.984	168	777842	57.63	ppm	99
63) 2,4-Dinitrotoluene	7.011	165	111304	36.34	ppm	94
64) 2,3,4,6-Tetrachlorophenol	7.128	232	89671	31.07	ppm	96
65) Diethylphthalate	7.256	149	362897	34.16	ppm	98
66) Fluorene	7.315	166	866378	81.25	ppm	98
67) 4-Chlorophenyl-phenyle...	7.331	204	157987	32.15	ppm	95
68) 4-Nitroaniline	7.368	138	77564	31.07	ppm	97
70) 4,6-Dinitro-2-methylph...	7.417	198	39678	20.09	ppm	91
71) n-Nitrosodiphenylamine	7.454	169	268856	34.46	ppm	95
72) 1,2-Diphenylhydrazine	7.481	77	399211	32.23	ppm	79
74) 4-Bromophenyl-phenylether	7.796	248	109013	32.64	ppm	97
75) Hexachlorobenzene	7.855	284	106619	31.97	ppm	98



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 17:12:29 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

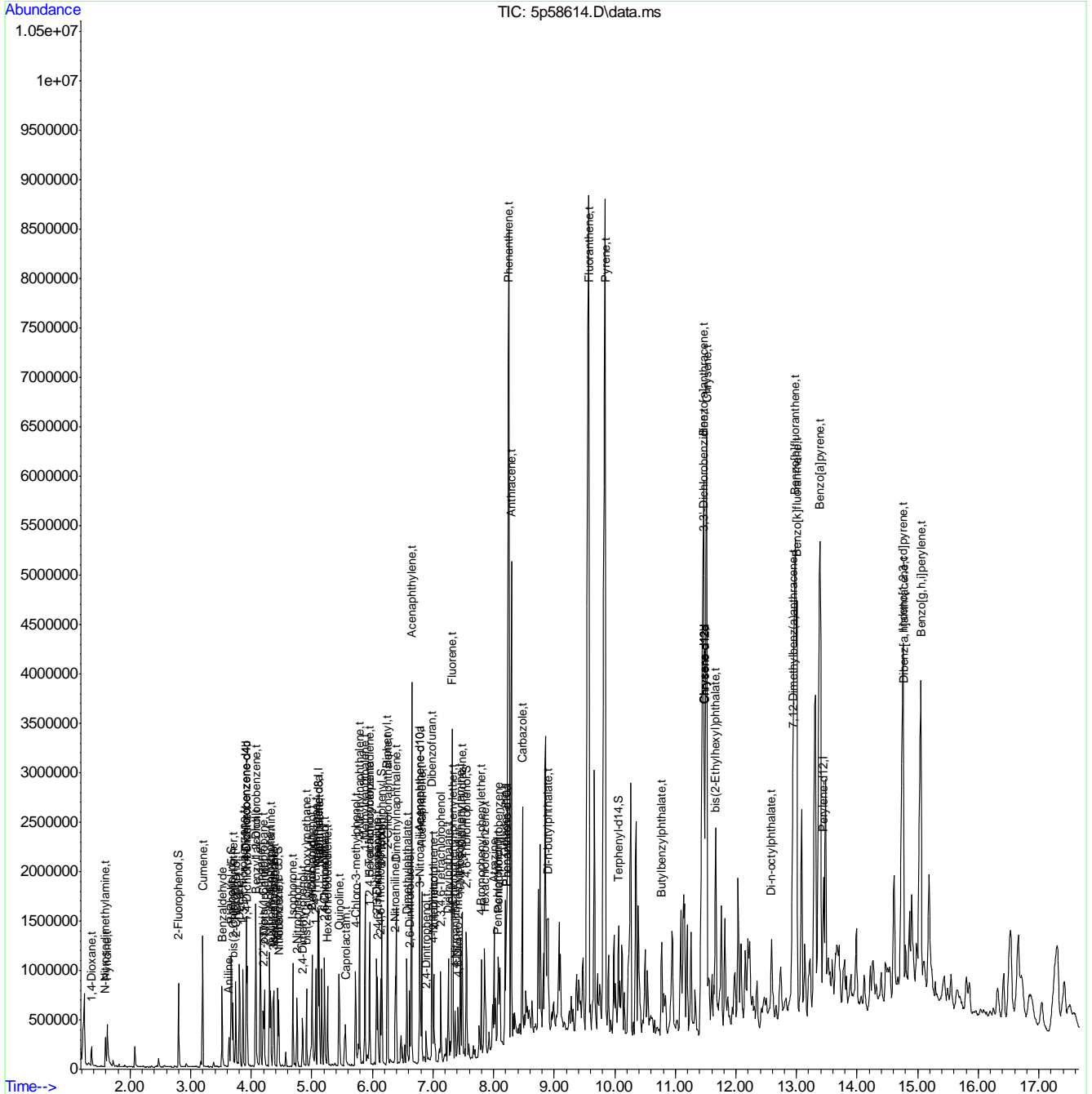
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
76) Pentachlorophenol	8.068	266	70615	33.41	ppm	98
77) Phenanthrene	8.250	178	4464269	311.94	ppm	97
78) Anthracene	8.293	178	1888628	125.76	ppm	99
79) Carbazole	8.474	167	935731	61.46	ppm	100
80) Di-n-butylphthalate	8.896	149	565093	29.85	ppm	99
81) Fluoranthene	9.569	202	7505718	422.24	ppm	95
82) Octadecane	8.191	57	274574	35.96	ppm	98
84) Pyrene	9.842	202	6372534m	347.94	ppm	
86) Butylbenzylphthalate	10.771	149	280714	33.51	ppm	98
87) Benzo[a]anthracene	11.466	228	4182948	248.48	ppm	97
88) 3,3'-Dichlorobenzidine	11.471	252	94581	17.24	ppm	100
89) Chrysene	11.519	228	3632017	233.71	ppm	95
90) bis(2-Ethylhexyl)phtha...	11.658	149	402951m	36.30	ppm	
92) Di-n-octylphthalate	12.588	149	638966	30.48	ppm	99
93) Benzo[b]fluoranthene	12.978	252	5502388m	306.23	ppm	
94) Benzo[k]fluoranthene	13.005	252	1545792m	93.98	ppm	
95) Benzo[a]pyrene	13.384	252	3800582m	237.47	ppm	
96) Indeno[1,2,3-cd]pyrene	14.751	276	2811872m	196.40	ppm	
98) Dibenz[a,h]anthracene	14.767	278	1126957	76.13	ppm	94
99) 7,12-Dimethylbenz(a)an...	12.940	256	180300	26.45	ppm	92
100) Benzo[g,h,i]perylene	15.051	276	2626005	181.70	ppm	97
102) Benzaldehyde	3.517	105	149022	24.75	ppm	95
104) 1,2,4,5-Tetrachloroben...	5.958	216	146971	32.95	ppm	99
109) Atrazine	8.010	215	52032	35.57	ppm	91
110) Pentachloronitrobenzene	8.079	295	19858	35.23	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
Data File : 5p58614.D  
Acq On : 18 Apr 2019 3:18 pm  
Operator : christc2  
Sample : op19786-ms  
Misc : op19786,e5p2776,30.3,,1,1  
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 17:12:29 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Wed Apr 17 11:42:18 2019  
Response via : Initial Calibration



# Manual Integration Approval Summary

Sample Number: OP19786-MS                      Method: SW846 8270D  
Lab FileID: 5P58614.D                      Analyst approved: 04/18/19 17:46 Ying Li  
Injection Time: 04/18/19 15:18                      Supervisor approved: 04/19/19 13:17 Kristi Schollenberger

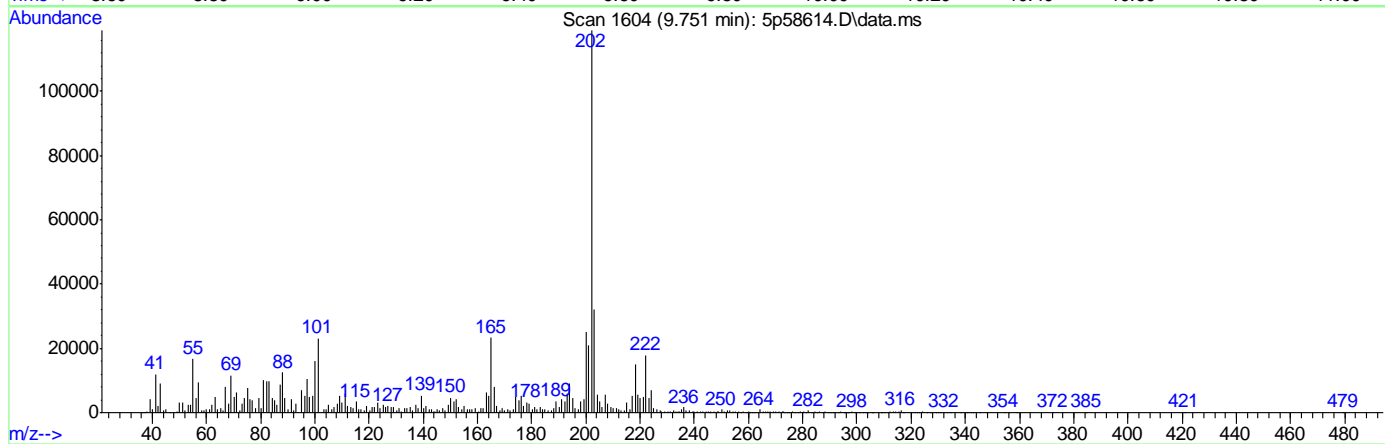
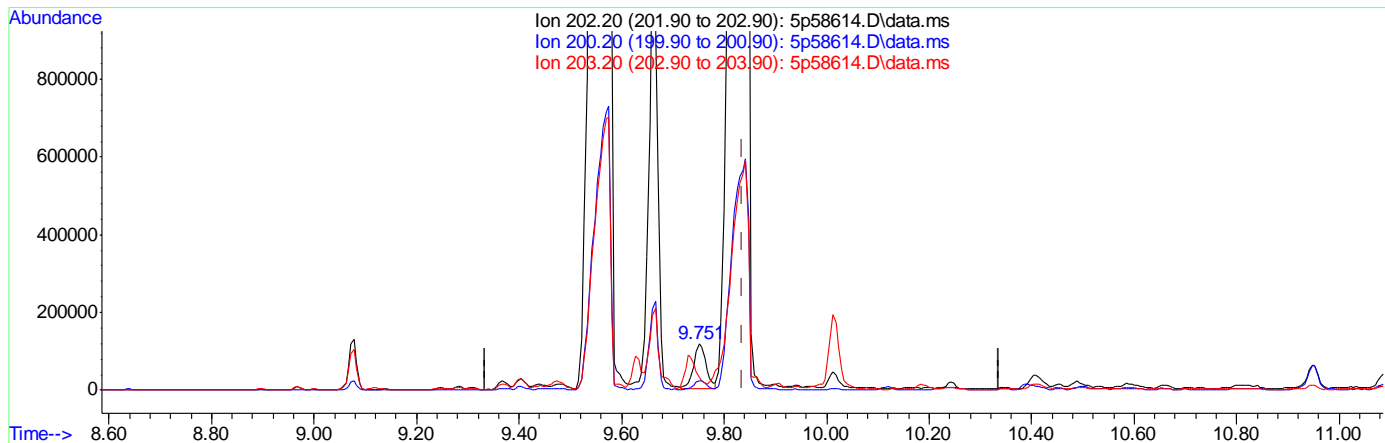
Parameter	CAS	Sig#	R.T. (min.)	Reason
Pyrene	129-00-0		9.84	Poor instrument integration
bis(2-Ethylhexyl)phthalate	117-81-7		11.66	Poor instrument integration
Benzo(b)fluoranthene	205-99-2		12.98	Poor instrument integration
Benzo(k)fluoranthene	207-08-9		13.00	Poor instrument integration
Benzo(a)pyrene	50-32-8		13.38	Poor instrument integration
Indeno(1,2,3-cd)pyrene	193-39-5		14.75	Poor instrument integration

9.4.1.1  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(84) Pyrene (t)

9.751min (-0.085) 10.81ppm

response 198045

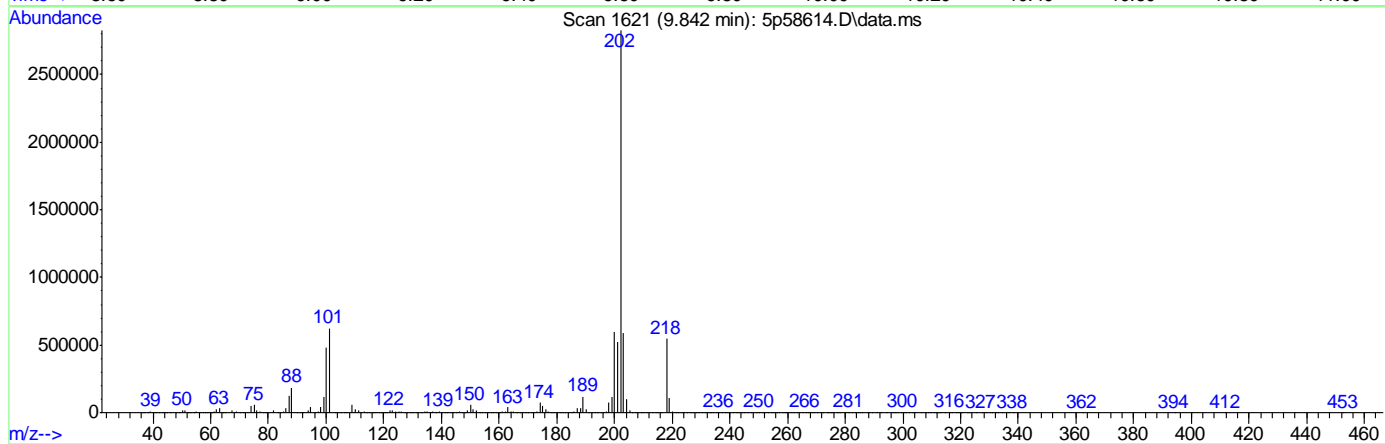
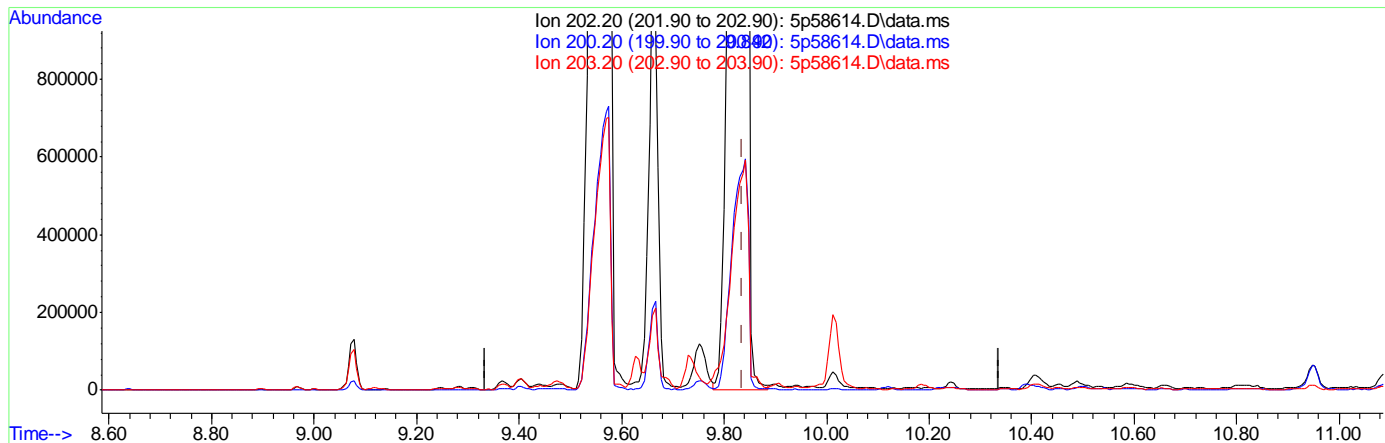
Ion	Exp%	Act%
202.20	100	100
200.20	20.60	20.79
203.20	19.50	1.13
0.00	0.00	0.00

9.4.1.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



TIC: 5p58614.D\data.ms

(84) Pyrene (t)  
 9.842min (+0.006) 347.94ppm m  
 response 6372534

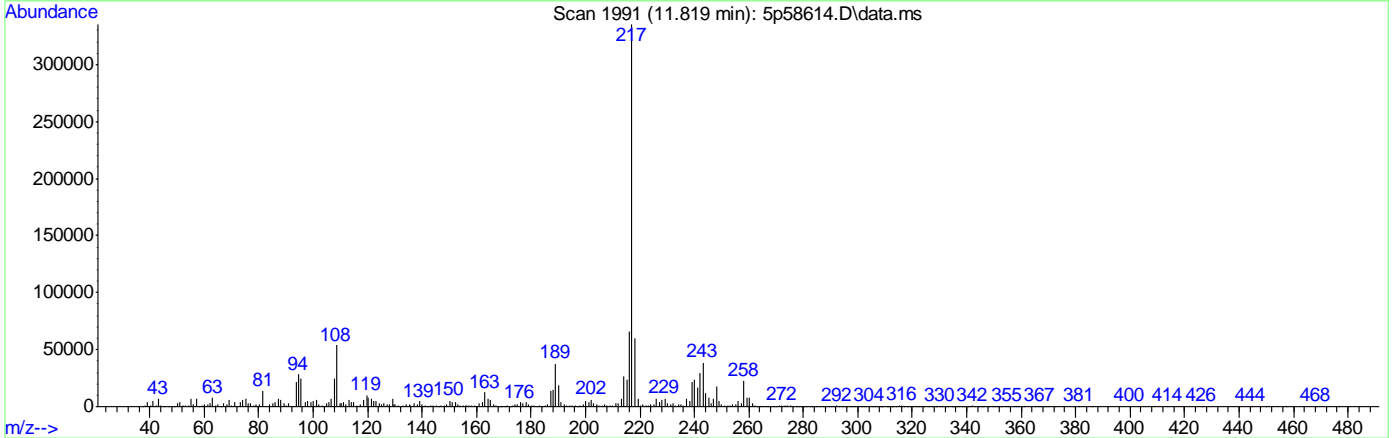
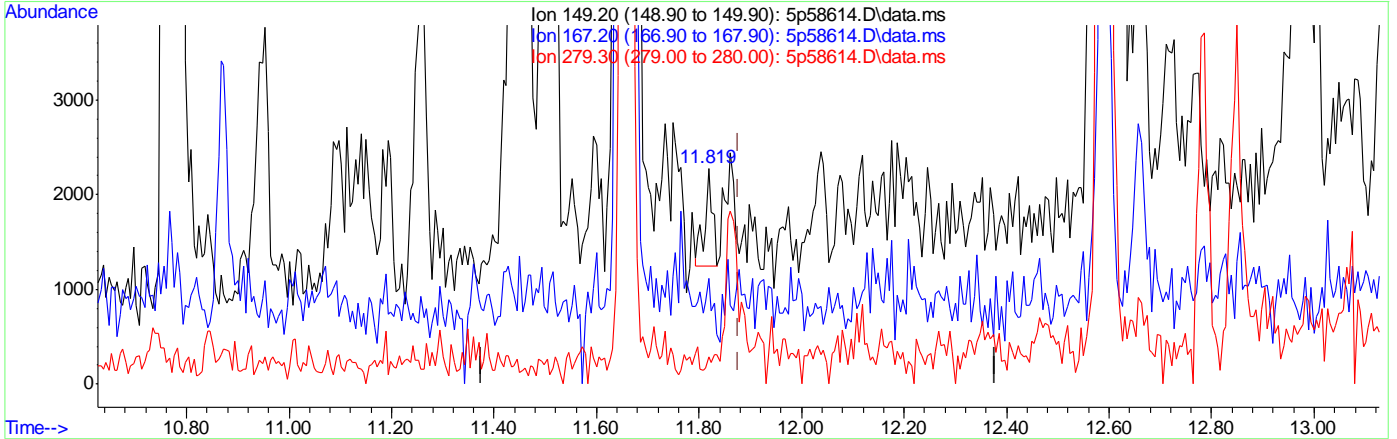
Ion	Exp%	Act%
202.20	100	100
200.20	20.60	21.10
203.20	19.50	20.95
0.00	0.00	0.00

9.4.1.3  
 9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



TIC: 5p58614.D\data.ms

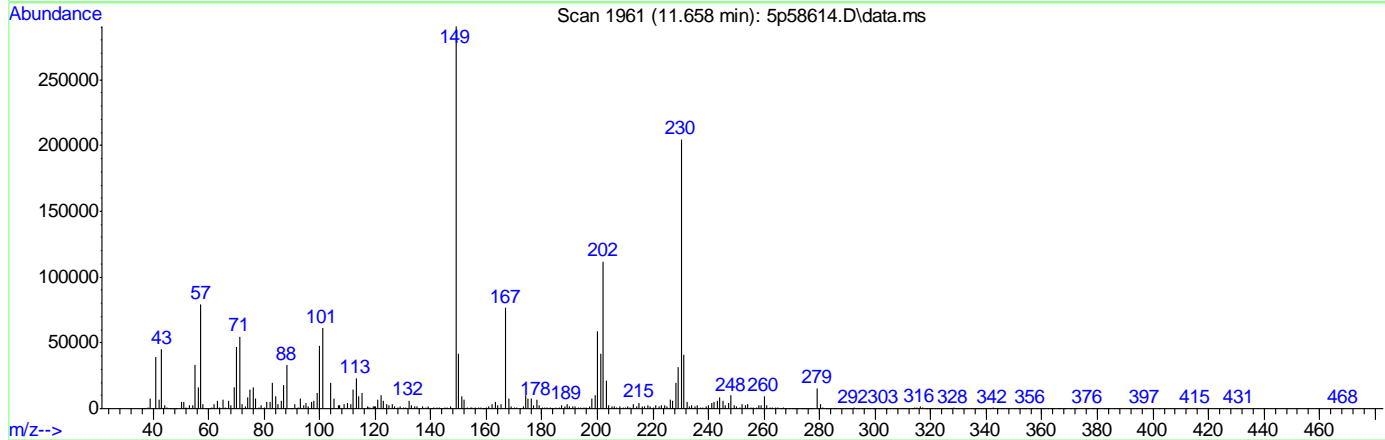
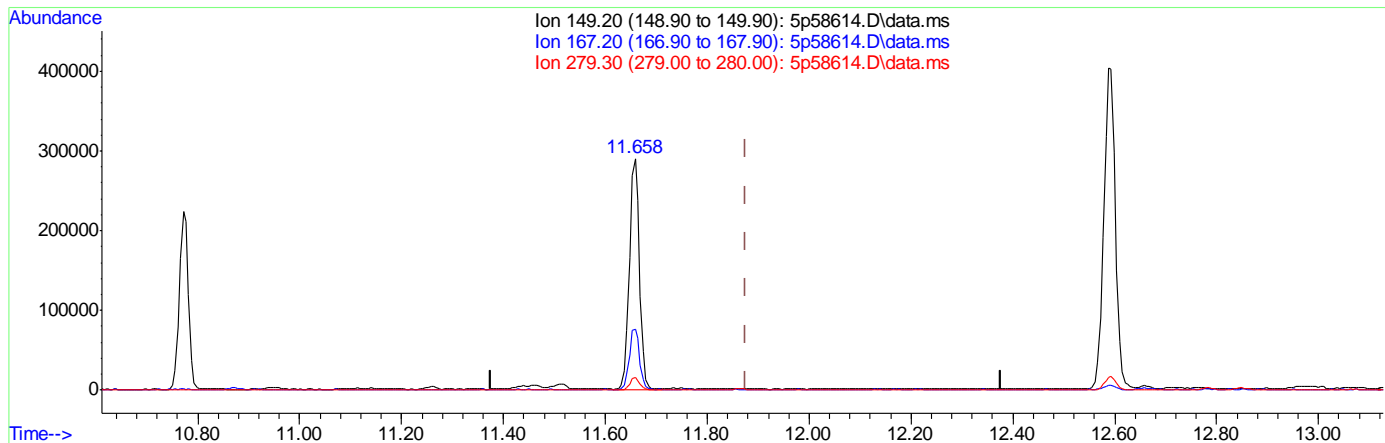
(90) bis(2-Ethylhexyl)phthalate (t)		
11.819min (-0.059) 0.10ppm		
response 1098		
Ion	Exp%	Act%
149.20	100	100
167.20	26.70	44.69
279.30	5.00	0.00
0.00	0.00	0.00

9.4.1.4  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



TIC: 5p58614.D\data.ms

(90) bis(2-Ethylhexyl)phthalate (t)  
 11.658min (-0.219) 36.30ppm m  
 response 402951

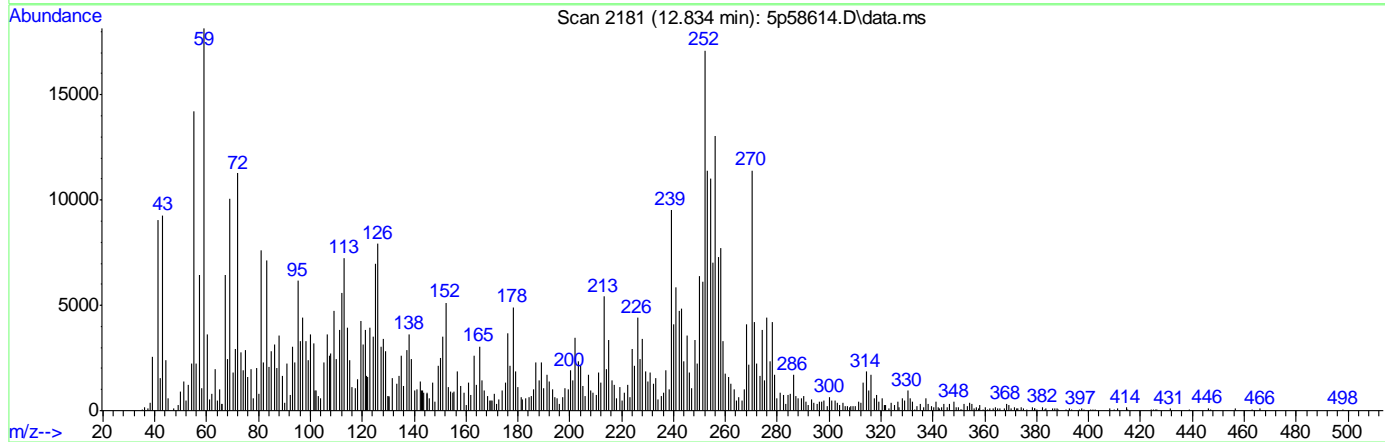
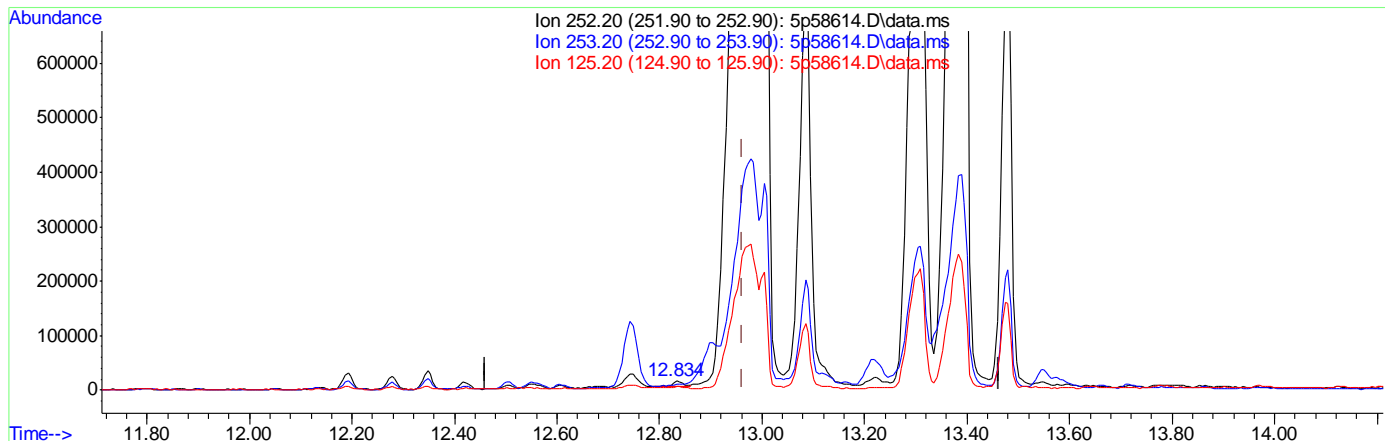
Ion	Exp%	Act%
149.20	100	100
167.20	26.70	26.36
279.30	5.00	5.34
0.00	0.00	0.00

9.4.1.5  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(93) Benzo[b]fluoranthene (t)

12.834min (-0.128) 0.86ppm

response 15490

Ion	Exp%	Act%
252.20	100	100
253.20	24.70	2.84
125.20	15.60	34.53
0.00	0.00	0.00

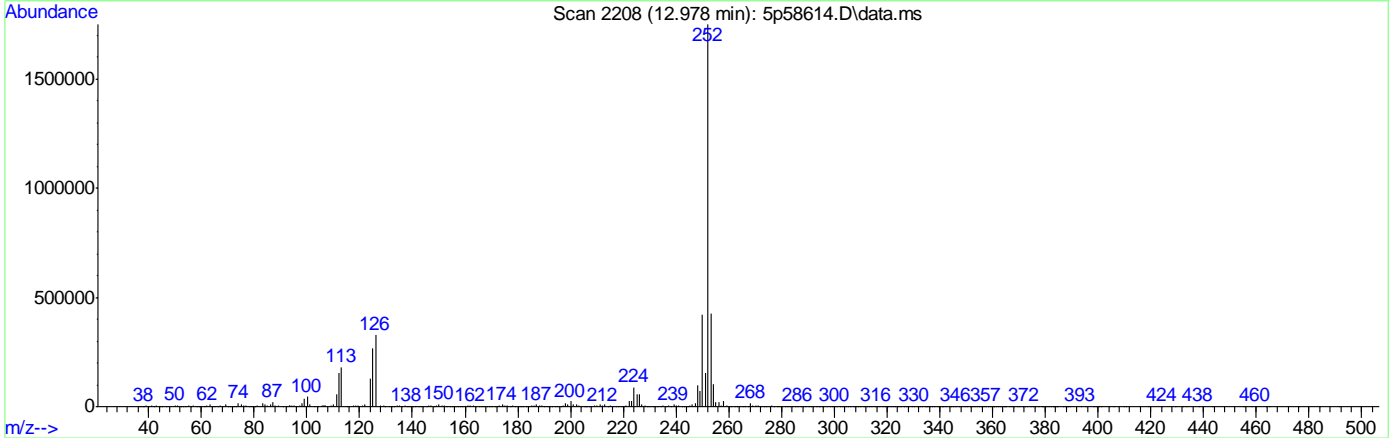
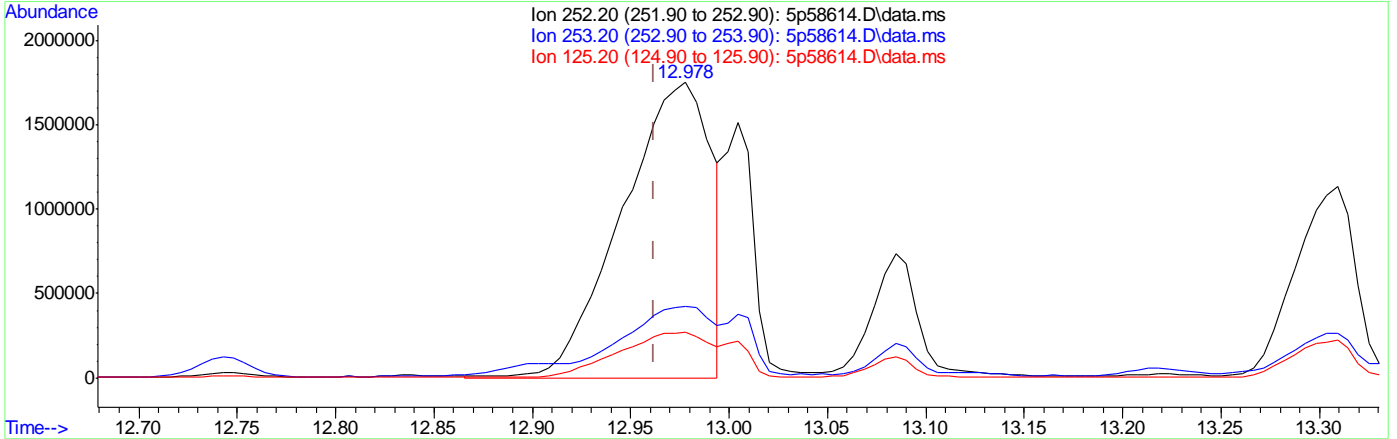
9.4.1.6  
9



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



TIC: 5p58614.D\data.ms

(93) Benzo[b]fluoranthene (t)  
 12.978min (+0.016) 306.23ppm m  
 response 5502388

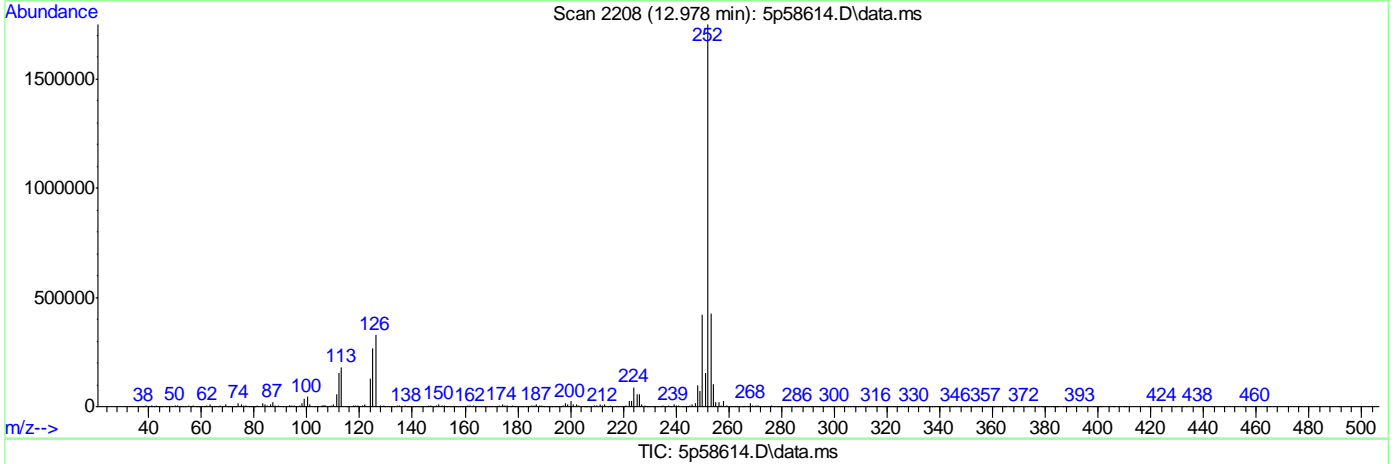
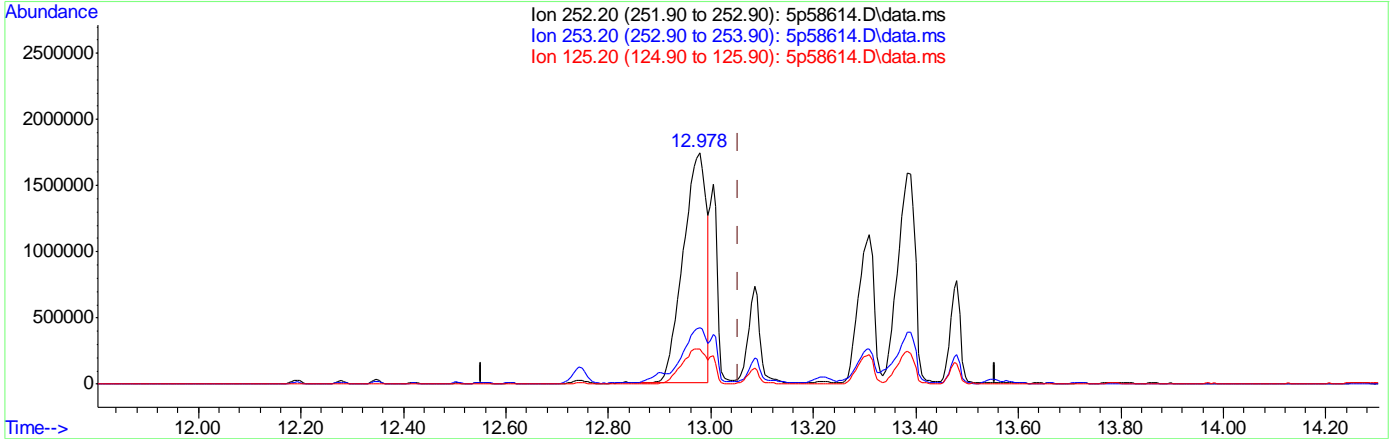
Ion	Exp%	Act%
252.20	100	100
253.20	24.70	24.29
125.20	15.60	15.28
0.00	0.00	0.00

9.4.1.7  
**9**

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(94) Benzo[k]fluoranthene (t)  
 12.978min (-0.076) 330.77ppm  
 response 5440401

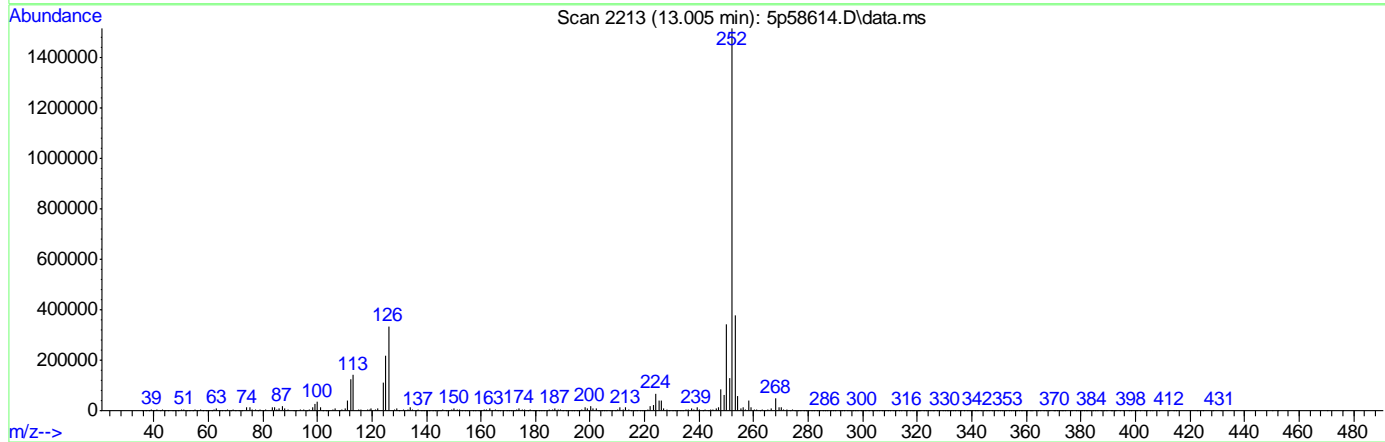
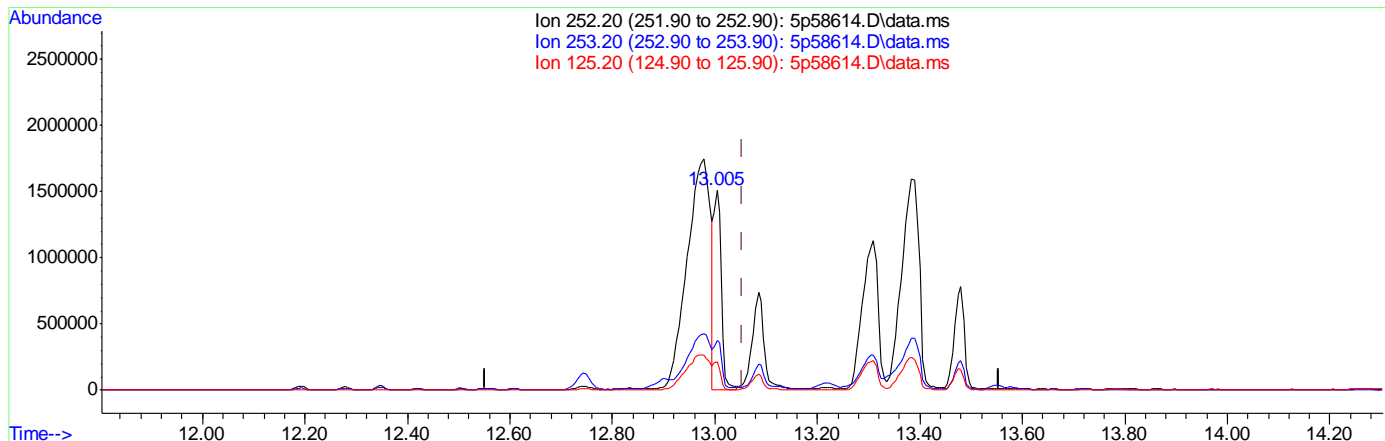
Ion	Exp%	Act%
252.20	100	100
253.20	22.60	23.66
125.20	13.10	15.68
0.00	0.00	0.00

9.4.1.8  
**9**

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(94) Benzo[k]fluoranthene (t)  
 13.005min (-0.049) 93.98ppm m  
 response 1545792

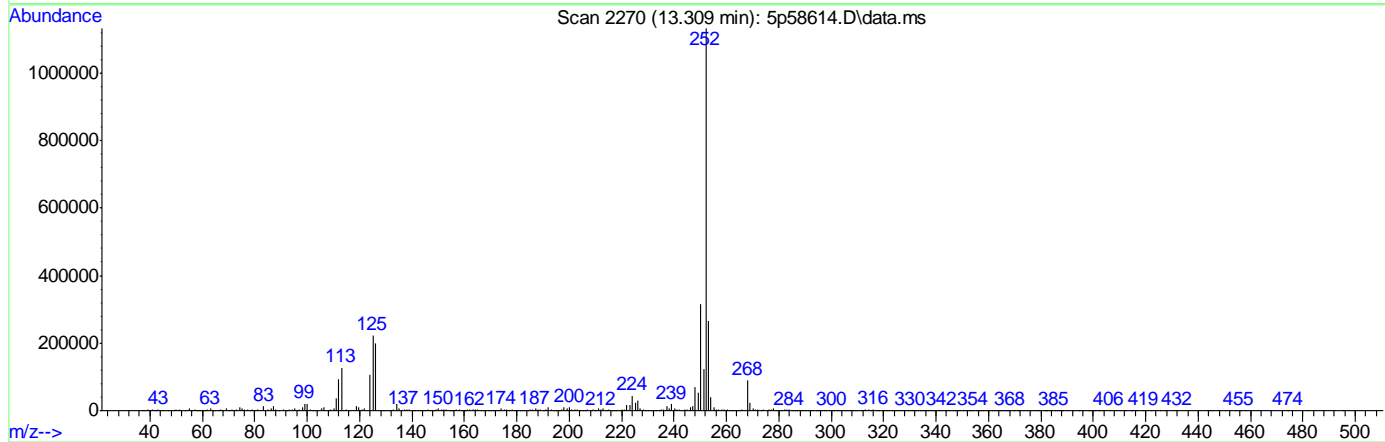
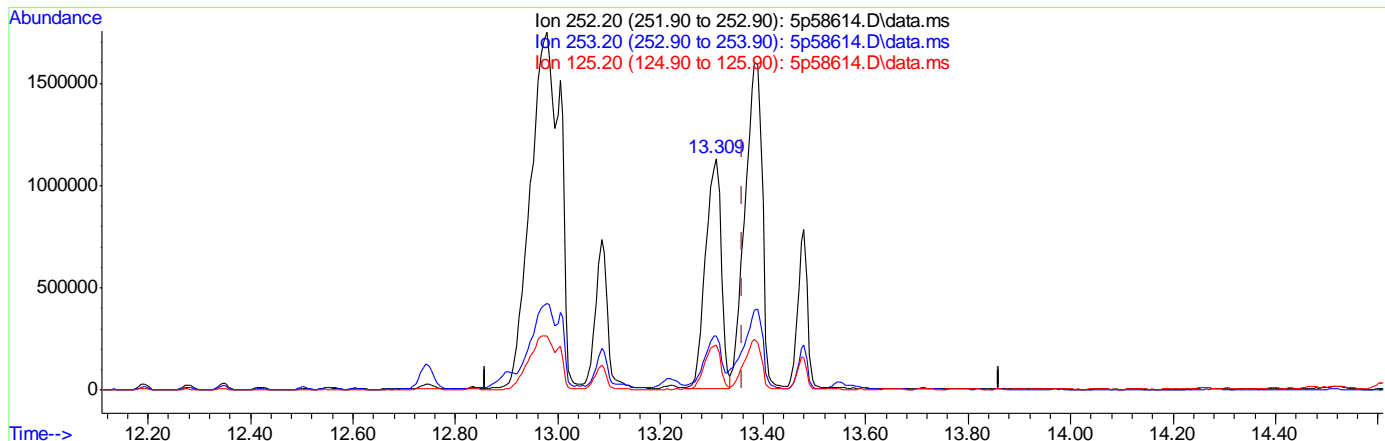
Ion	Exp%	Act%
252.20	100	100
253.20	22.60	25.05
125.20	13.10	14.34
0.00	0.00	0.00

9.4.1.9  
 9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



TIC: 5p58614.D\data.ms

(95) Benzo[a]pyrene (t)  
 13.309min (-0.051) 149.18ppm  
 response 2387525

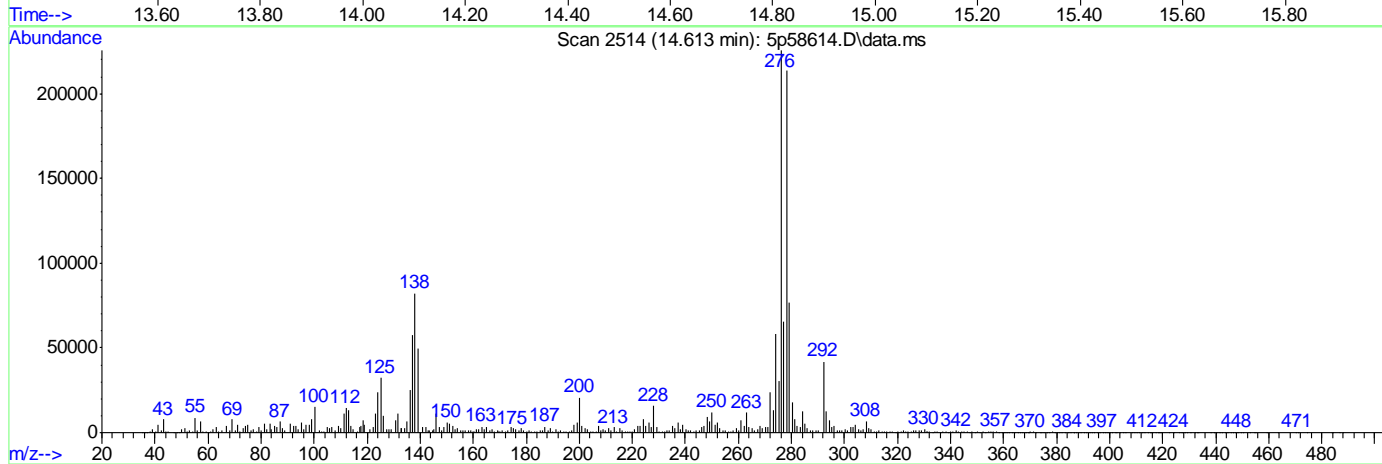
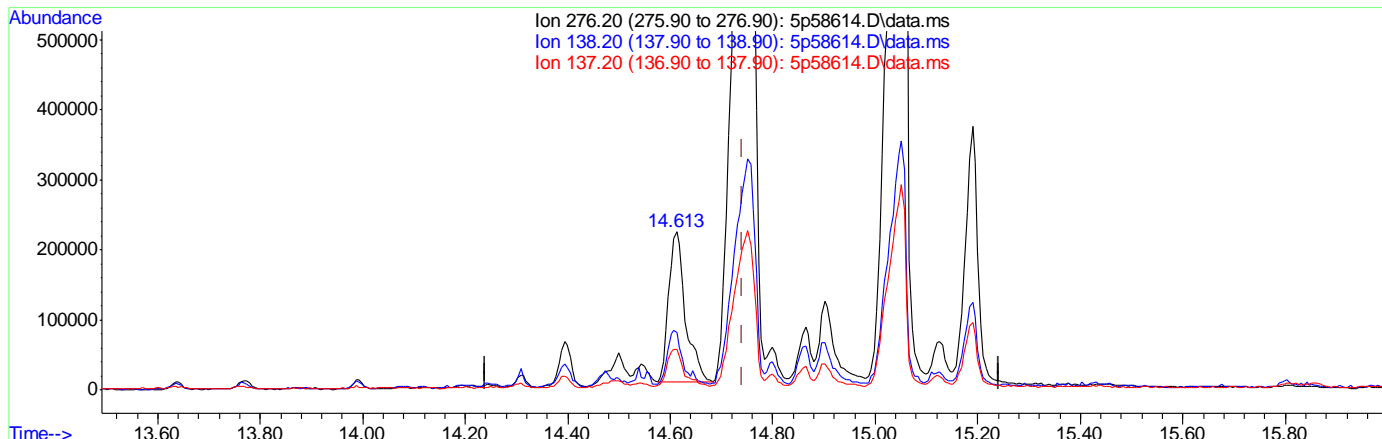
Ion	Exp%	Act%
252.20	100	100
253.20	22.10	18.42
125.20	14.80	19.58
0.00	0.00	0.00

9.4.1.10  
 9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



TIC: 5p58614.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.613min (-0.128) 33.72ppm

response 482736

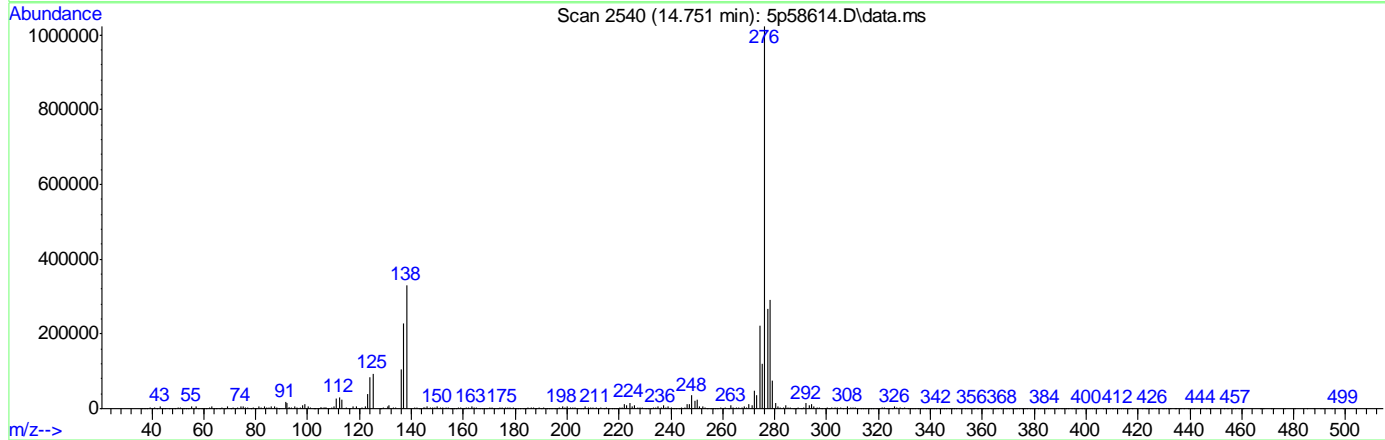
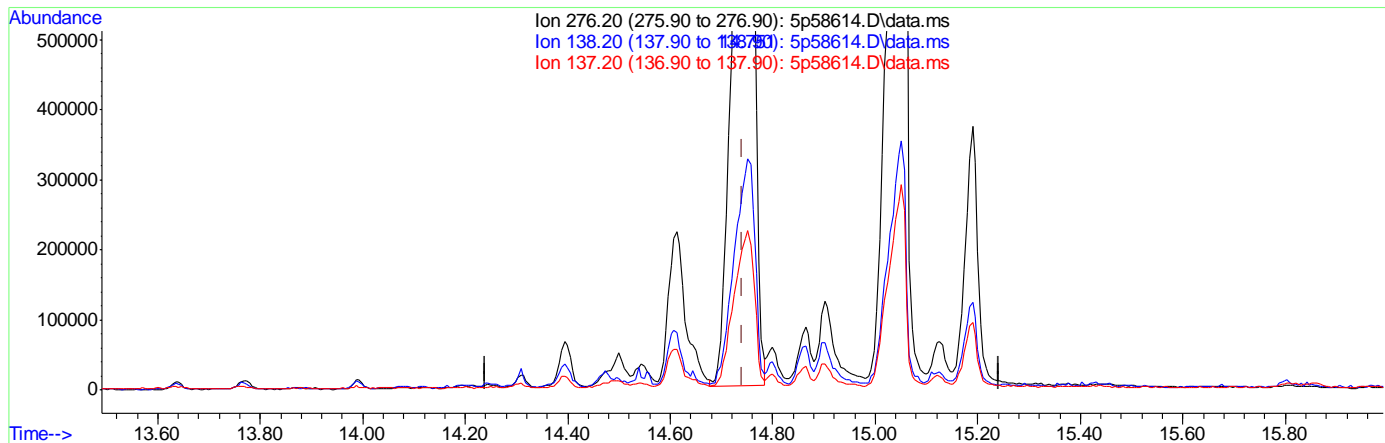
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	34.13
137.20	19.40	24.07
0.00	0.00	0.00

9.4.1.11  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 15:36:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.751min (+0.010) 196.40ppm m

response 2811872

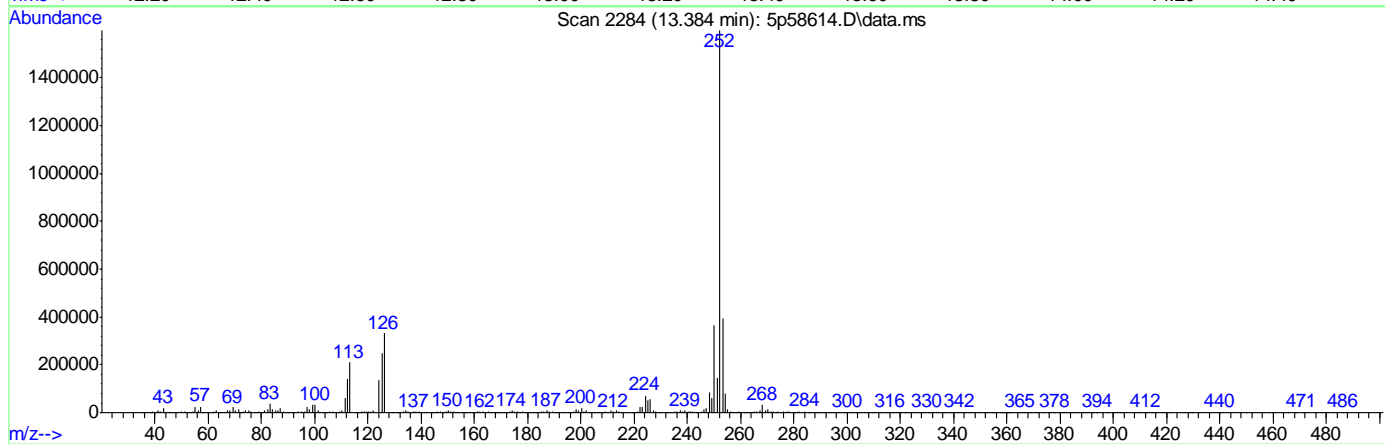
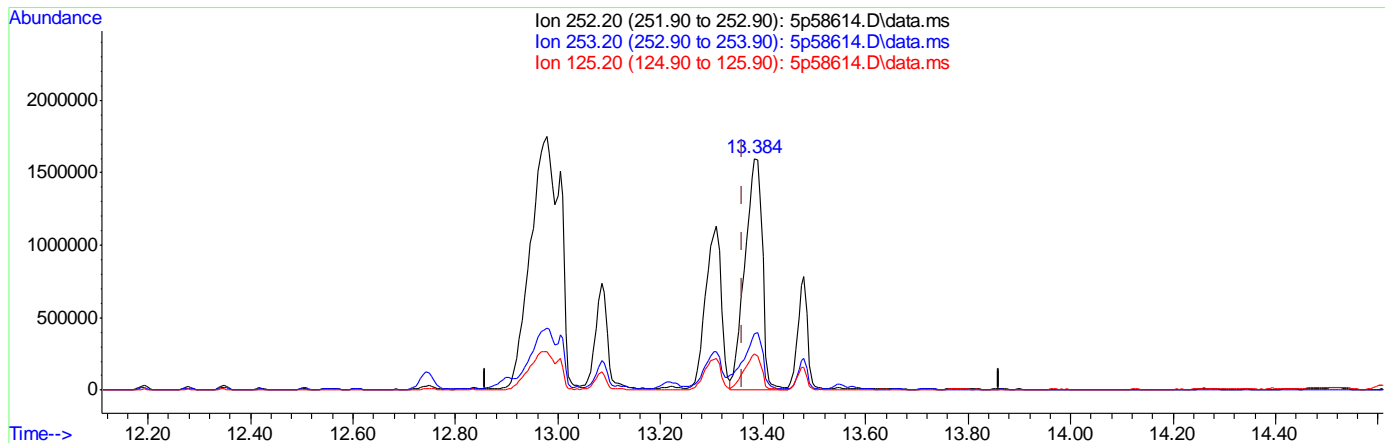
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	32.32
137.20	19.40	22.20
0.00	0.00	0.00

9.4.1.12  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58614.D  
 Acq On : 18 Apr 2019 3:18 pm  
 Operator : christc2  
 Sample : op19786-ms  
 Misc : op19786,e5p2776,30.3,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 18 17:12:29 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(95) Benzo[a]pyrene (t)

13.384min (+0.024) 237.47ppm m

response 3800582

Ion	Exp%	Act%
252.20	100	100
253.20	22.10	24.59
125.20	14.80	15.67
0.00	0.00	0.00

9.4.1.13  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 17:16:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.917	152	183844	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	612583	40.00	ppm	-0.05
47) Acenaphthene-d10	6.786	164	325623	40.00	ppm	-0.06
69) Phenanthrene-d10	8.212	188	554840	40.00	ppm	-0.06
83) Chrysene-d12	11.466	240	519220	40.00	ppm	-0.08
91) Perylene-d12	13.437	264	598500	40.00	ppm	-0.08
101) 1,4-Dichlorobenzene-d4b	3.917	152	183844	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.786	164	325623	40.00	ppm	-0.06
105) Chrysene-d12a	11.466	240	519220	40.00	ppm	-0.08
107) Phenanthrene-d10a	8.212	188	554840	40.00	ppm	-0.06
111) Naphthalene-d8a	5.103	136	612583	40.00	ppm	-0.05
113) Chrysene-d12b	11.466	240	519220	40.00	ppm	-0.08
115) 1,4-Dichlorobenzene-d4c	3.917	152	183844	40.00	ppm	-0.05
117) Chrysene-d12c	11.466	240	519220	40.00	ppm	-0.08
119) Chrysene-d12d	11.466	240	519220	40.00	ppm	-0.08
System Monitoring Compounds						
5) 2-Fluorophenol	2.801	112	255233	35.65	ppm	-0.10
Spiked Amount	50.000		Recovery	=	71.30%	
8) Phenol-d5	3.666	99	325962	36.17	ppm	-0.07
Spiked Amount	50.000		Recovery	=	72.34%	
25) Nitrobenzene-d5	4.435	82	255844	36.03	ppm	-0.07
Spiked Amount	50.000		Recovery	=	72.06%	
51) 2-Fluorobiphenyl	6.156	172	425965	37.64	ppm	-0.07
Spiked Amount	50.000		Recovery	=	75.28%	
73) 2,4,6-Tribromophenol	7.555	330	62842	39.29	ppm	-0.06
Spiked Amount	50.000		Recovery	=	78.58%	
85) Terphenyl-d14	10.061	244	510469	38.64	ppm	-0.21
Spiked Amount	50.000		Recovery	=	77.28%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
2) 1,4-Dioxane	1.364	88	71588	18.50	ppm	98
3) Pyridine	1.625	79	260746	29.24	ppm	98
4) N-Nitrosodimethylamine	1.593	74	132199	25.43	ppm	95
6) Indene	4.152	116	363113	32.43	ppm	98
7) Cumene	3.196	105	493801	27.64	ppm	99
9) Phenol	3.682	94	245391	24.88	ppm	96
10) Aniline	3.629	93	120027	11.45	ppm	77
11) bis(2-Chloroethyl)ether	3.698	93	184290	26.69	ppm	99
12) 2-Chlorophenol	3.741	128	160801	24.17	ppm	92
13) Decane	3.805	43	160249	27.04	ppm	93
14) 1,3-Dichlorobenzene	3.864	146	177125	24.14	ppm	98
15) 1,4-Dichlorobenzene	3.933	146	171179	23.72	ppm	98
16) Benzyl alcohol	4.077	108	157275	37.32	ppm	98
17) 1,2-Dichlorobenzene	4.072	146	167528	23.23	ppm	97



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : opl9786-msd  
 Misc : opl9786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 17:16:12 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Thu Apr 18 14:54:49 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.302	105	293876	29.49	ppm	99
19) 2-Methylphenol	4.216	108	115404	18.55	ppm	96
20) 2,2'-oxybis(1-Chloropr...	4.200	45	201600	28.46	ppm	99
21) 3&4-Methylphenol	4.366	108	118629	17.76	ppm	98
22) n-Nitroso-di-n-propyla...	4.318	70	128069	24.00	ppm	95
23) Hexachloroethane	4.377	201	58297	22.71	ppm	92
26) Nitrobenzene	4.457	77	190240	27.36	ppm	99
27) Quinoline	5.450	129	387553	34.15	ppm	100
28) Isophorone	4.686	82	383996	29.66	ppm	99
29) 2-Nitrophenol	4.756	139	91104	29.12	ppm	93
30) 2,4-Dimethylphenol	4.847	107	76284	13.78	ppm	98
31) Benzoic acid	5.012	105	195295	39.03	ppm	99
32) bis(2-Chloroethoxy)met...	4.916	93	224265	29.63	ppm	99
33) 2,4-Dichlorophenol	5.007	162	137371	28.34	ppm	95
34) 2,6-Dichlorophenol	5.210	162	122452	26.28	ppm	98
36) 1,2,4-Trichlorobenzene	5.060	180	139970	27.03	ppm	98
38) Naphthalene	5.125	128	570365	36.94	ppm	99
39) 4-Chloroaniline	5.205	127	113711	17.45	ppm	100
40) 2,3-Dichloroaniline	6.070	161	192002	30.58	ppm	97
41) Caprolactam	5.557	55	100727	35.48	ppm	97
42) Hexachlorobutadiene	5.263	225	85328	28.49	ppm	100
43) 4-Chloro-3-methylphenol	5.723	107	157062	28.09	ppm	92
44) 2-Methylnaphthalene	5.787	141	389871	43.05	ppm	100
45) 1-Methylnaphthalene	5.883	141	350274	34.80	ppm	98
46) Dimethylnaphthalene	6.396	156	341102	35.26	ppm	99
48) Hexachlorocyclopentadiene	5.953	237	78730	35.90	ppm	99
49) 2,4,6-Trichlorophenol	6.091	196	97678	30.73	ppm	98
50) 2,4,5-Trichlorophenol	6.140	196	104011	30.89	ppm	99
52) 2-Chloronaphthalene	6.252	162	277373	29.18	ppm	98
53) Biphenyl	6.246	154	457515	37.55	ppm	99
54) 2-Nitroaniline	6.380	65	142823	39.90	ppm	92
55) Dimethylphthalate	6.567	163	350836	30.29	ppm	100
56) Acenaphthylene	6.647	152	1188096	78.64	ppm	99
57) 2,6-Dinitrotoluene	6.620	165	79066	32.12	ppm	95
58) 3-Nitroaniline	6.775	138	76848	28.81	ppm	94
59) Acenaphthene	6.813	153	302886	32.23	ppm	95
60) 2,4-Dinitrophenol	6.893	184	43653	32.18	ppm #	55
61) 4-Nitrophenol	7.021	109	39059	26.73	ppm	91
62) Dibenzofuran	6.984	168	771944	54.58	ppm	98
63) 2,4-Dinitrotoluene	7.010	165	98385	30.65	ppm	93
64) 2,3,4,6-Tetrachlorophenol	7.133	232	85082	28.13	ppm	95
65) Diethylphthalate	7.256	149	334564	30.05	ppm	99
66) Fluorene	7.315	166	762777	68.26	ppm	97
67) 4-Chlorophenyl-phenyle...	7.331	204	148790	28.90	ppm	99
68) 4-Nitroaniline	7.368	138	87697	33.53	ppm	95
70) 4,6-Dinitro-2-methylph...	7.411	198	32816	15.86	ppm	91
71) n-Nitrosodiphenylamine	7.454	169	245888	30.07	ppm	98
72) 1,2-Diphenylhydrazine	7.480	77	372932	28.73	ppm	82
74) 4-Bromophenyl-phenylether	7.796	248	101122	28.89	ppm	93
75) Hexachlorobenzene	7.854	284	98431	28.16	ppm	94

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 17:16:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

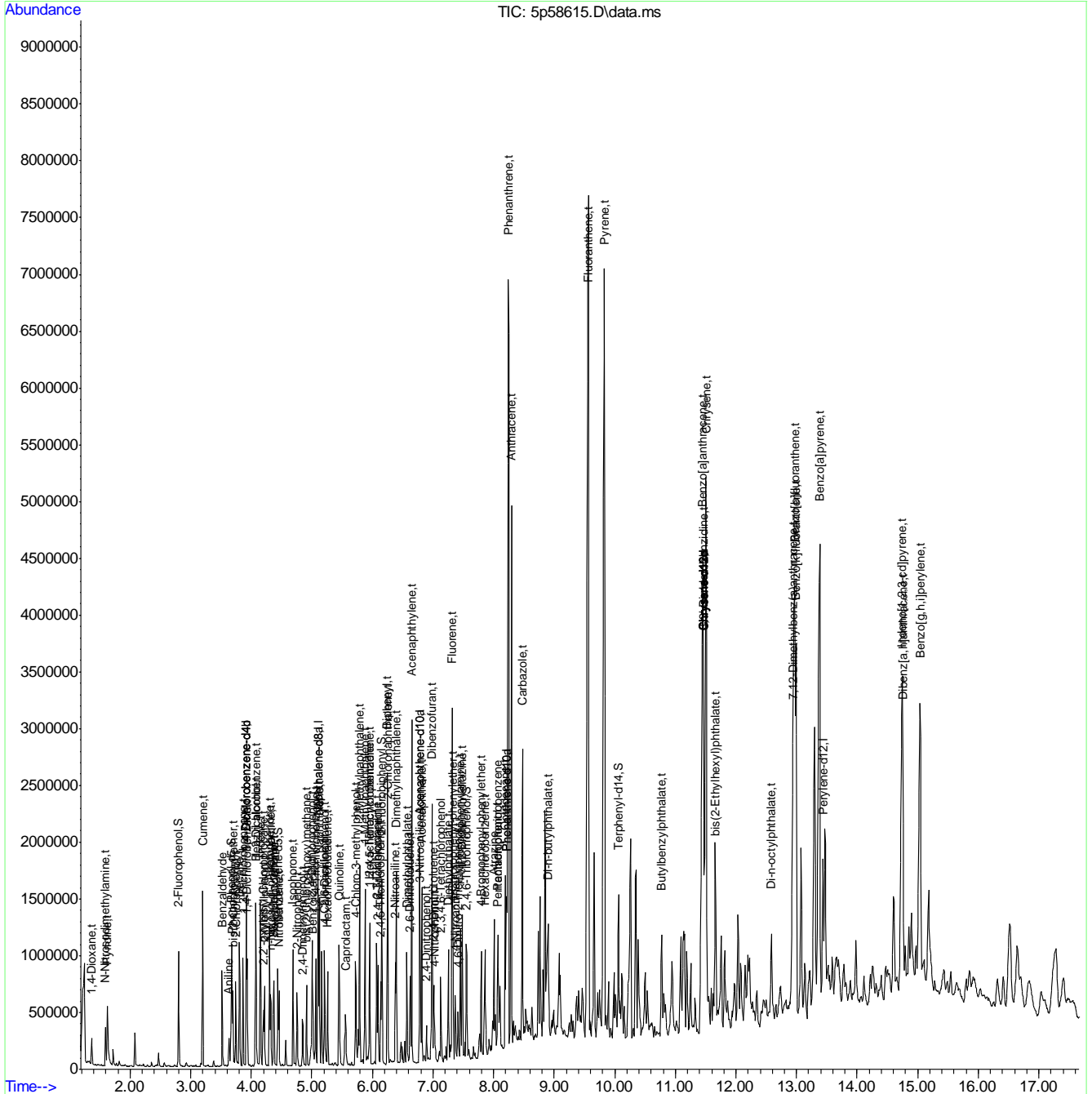
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
76) Pentachlorophenol	8.068	266	62676	28.30	ppm	97
77) Phenanthrene	8.244	178	3167462	211.19	ppm	97
78) Anthracene	8.292	178	1710128	108.66	ppm	99
79) Carbazole	8.474	167	1021182	64.01	ppm	99
80) Di-n-butylphthalate	8.896	149	506598	25.54	ppm	100
81) Fluoranthene	9.564	202	5013427	269.12	ppm	96
82) Octadecane	8.191	57	289831	36.22	ppm	97
84) Pyrene	9.831	202	4257391m	215.78	ppm	
86) Butylbenzylphthalate	10.771	149	252362m	27.96	ppm	
87) Benzo[a]anthracene	11.455	228	2916116	160.80	ppm	98
88) 3,3'-Dichlorobenzidine	11.466	252	79017	13.37	ppm	97
89) Chrysene	11.508	228	2547773	152.18	ppm	96
90) bis(2-Ethylhexyl)phtha...	11.653	149	353322m	29.54	ppm	
92) Di-n-octylphthalate	12.588	149	565099	26.51	ppm	98
93) Benzo[b]fluoranthene	12.967	252	3836803m	209.96	ppm	
94) Benzo[k]fluoranthene	12.994	252	1162151m	69.47	ppm	
95) Benzo[a]pyrene	13.378	252	2704355	166.15	ppm	99
96) Indeno[1,2,3-cd]pyrene	14.741	276	2033253	139.64	ppm	95
98) Dibenz[a,h]anthracene	14.757	278	872277	57.94	ppm	97
99) 7,12-Dimethylbenz(a)an...	12.940	256	143349	20.67	ppm	94
100) Benzo[g,h,i]perylene	15.040	276	1901441	129.37	ppm	97
102) Benzaldehyde	3.522	105	158323	26.21	ppm	98
104) 1,2,4,5-Tetrachloroben...	5.958	216	139673	29.88	ppm	100
109) Atrazine	8.009	215	55155	35.98	ppm	91
110) Pentachloronitrobenzene	8.073	295	20652	34.96	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
Data File : 5p58615.D  
Acq On : 18 Apr 2019 3:43 pm  
Operator : christc2  
Sample : op19786-msd  
Misc : op19786,e5p2776,30.0,,,1,1  
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 17:16:12 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Thu Apr 18 14:54:49 2019  
Response via : Initial Calibration



# Manual Integration Approval Summary

Sample Number: OP19786-MSD      Method: SW846 8270D  
Lab FileID: 5P58615.D      Analyst approved: 04/18/19 17:46 Ying Li  
Injection Time: 04/18/19 15:43      Supervisor approved: 04/19/19 13:17 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Pyrene	129-00-0		9.83	Poor instrument integration
Butyl benzyl phthalate	85-68-7		10.77	Poor instrument integration
bis(2-Ethylhexyl)phthalate	117-81-7		11.65	Poor instrument integration
Benzo(b)fluoranthene	205-99-2		12.97	Poor instrument integration
Benzo(k)fluoranthene	207-08-9		12.99	Poor instrument integration

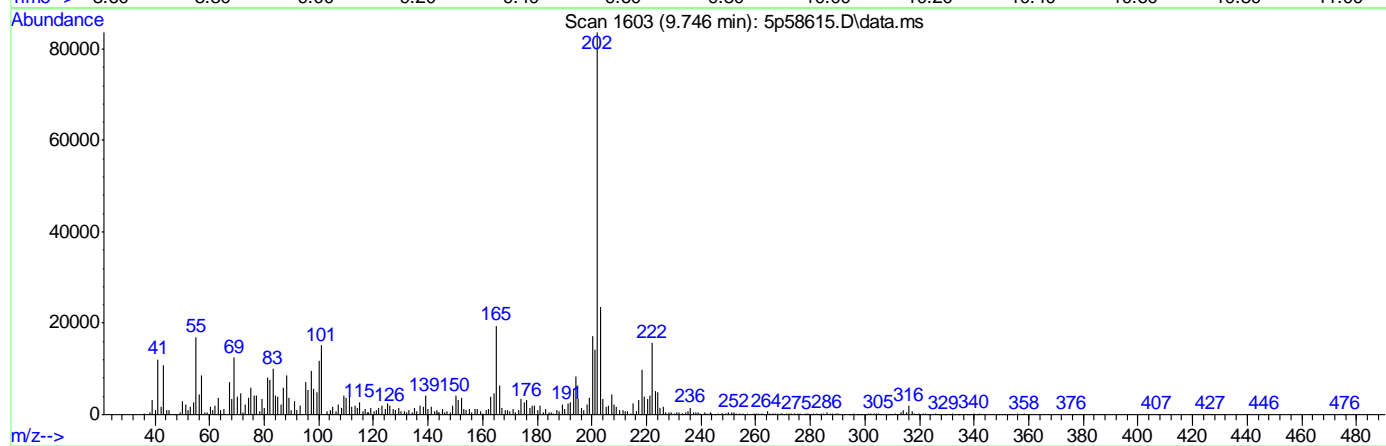
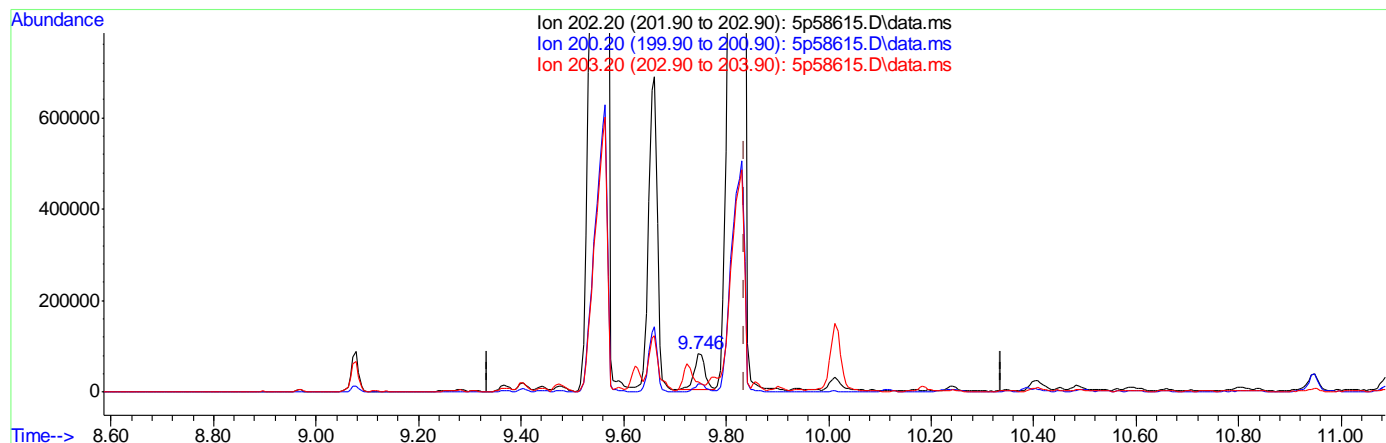
9.4.2.1

9

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58615.D\data.ms

(84) Pyrene (t)

9.746min (-0.090) 6.06ppm

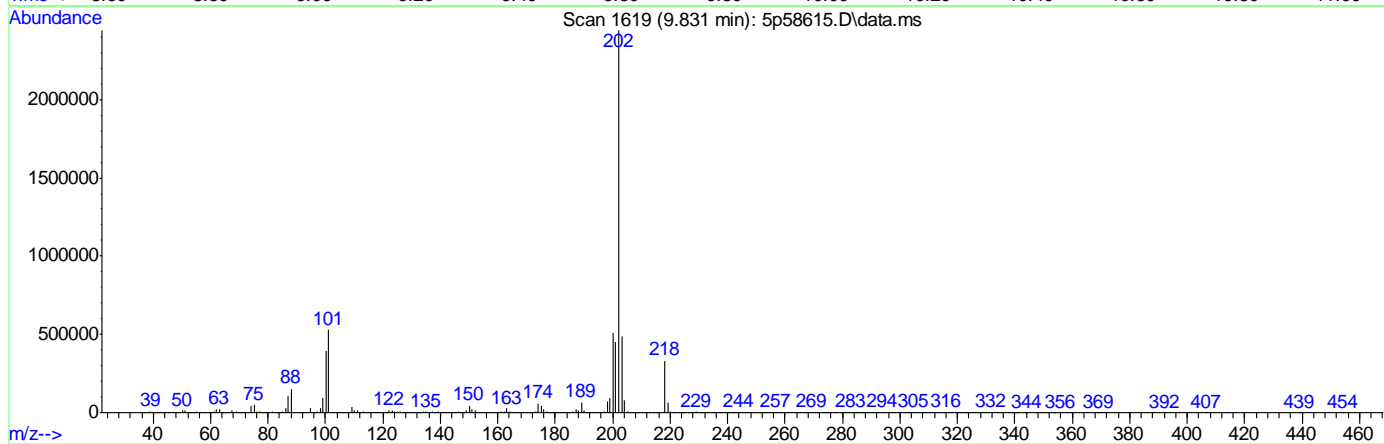
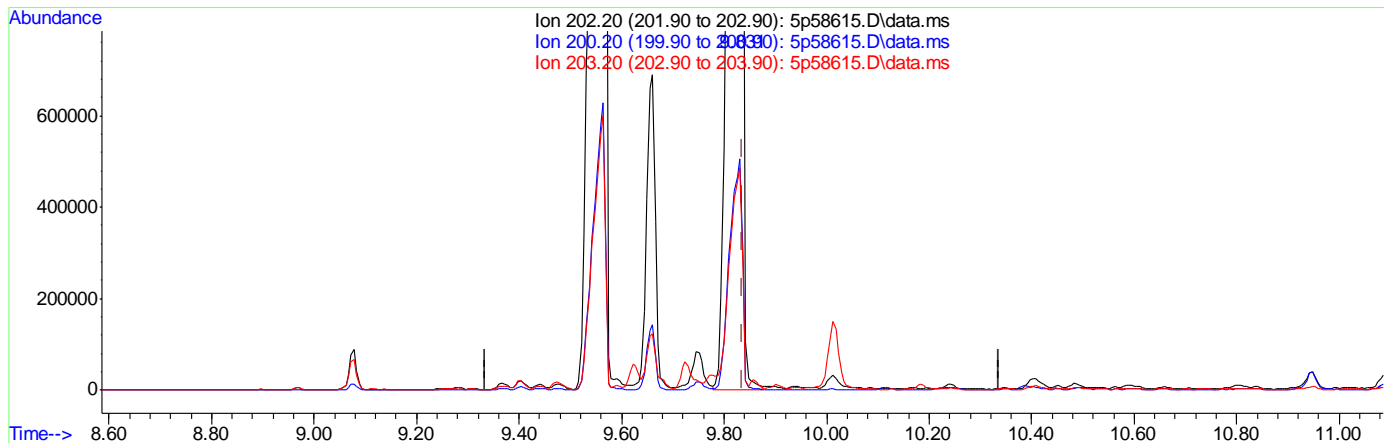
response 119497

Ion	Exp%	Act%
202.20	100	100
200.20	20.60	19.92
203.20	19.50	3.80
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58615.D\data.ms

(84) Pyrene (t)

9.831min (-0.005) 215.78ppm m

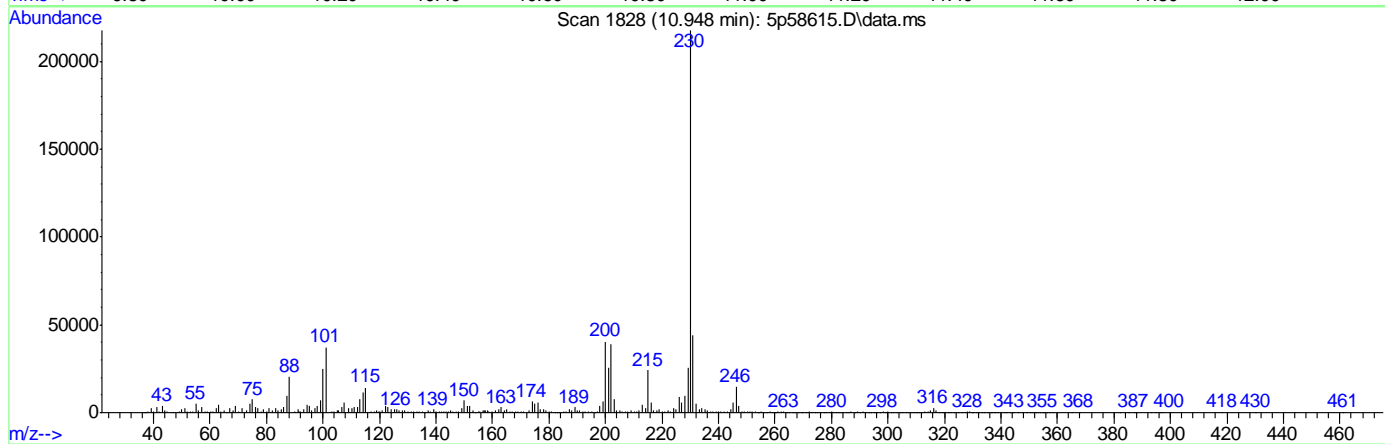
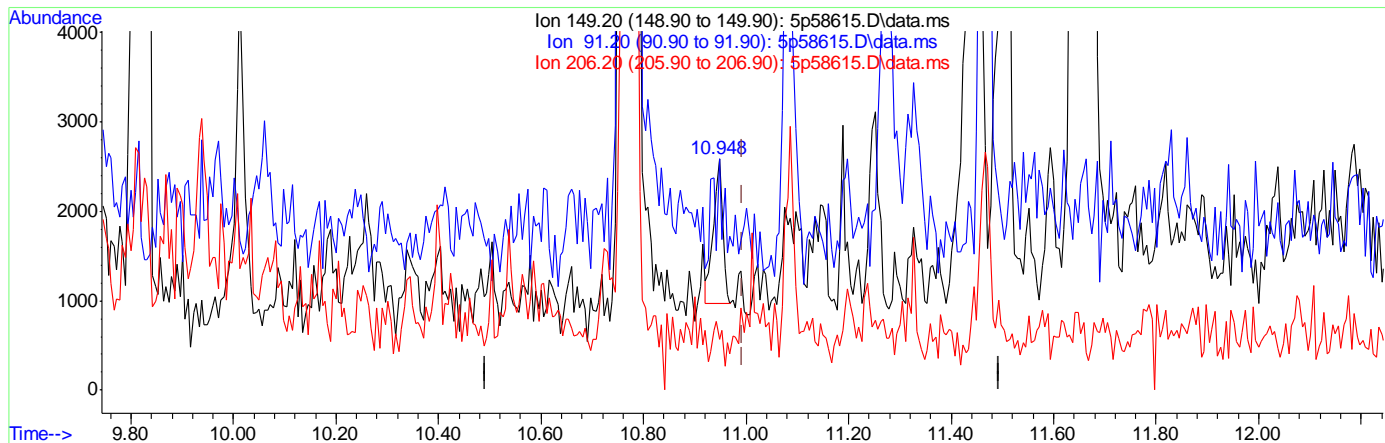
response 4257391

Ion	Exp%	Act%
202.20	100	100
200.20	20.60	20.75
203.20	19.50	19.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(86) Butylbenzylphthalate (t)

10.948min (-0.046) 0.22ppm

response 2003

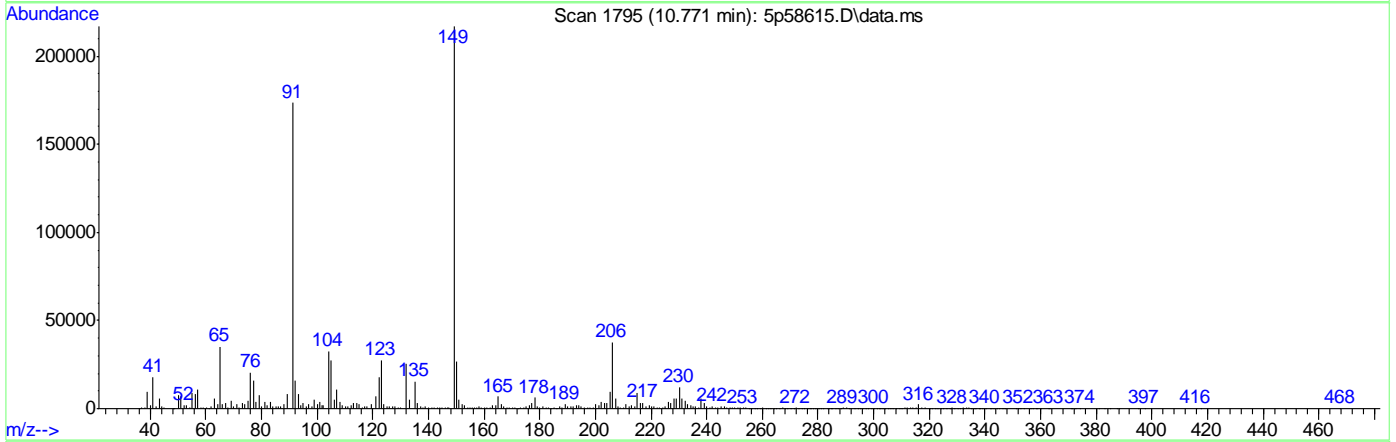
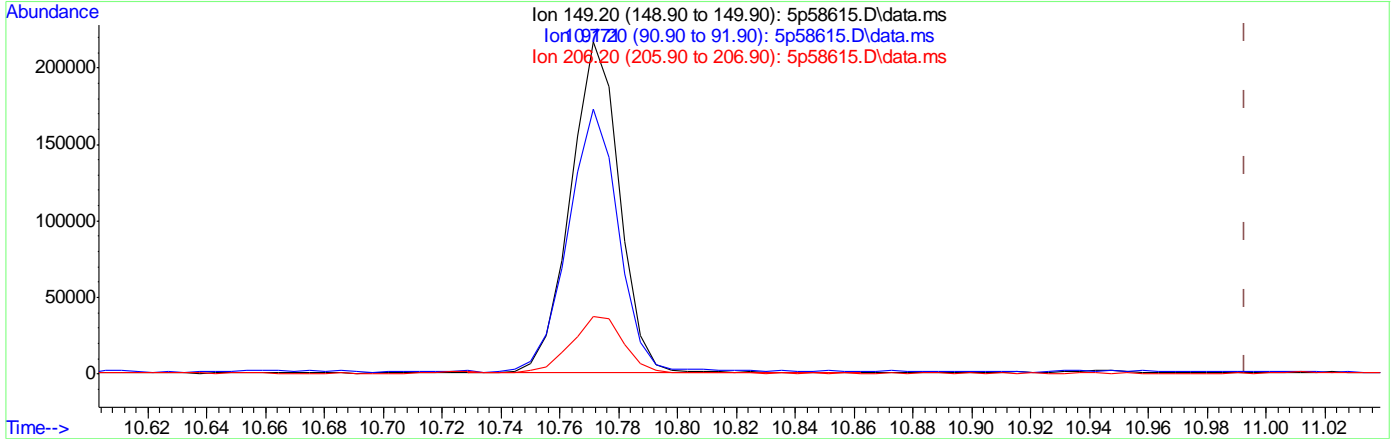
Ion	Exp%	Act%
149.20	100	100
91.20	79.30	70.71
206.20	18.40	2.66
0.00	0.00	0.00

9.4.2.4  
9

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58615.D\data.ms

(86) Butylbenzylphthalate (t)

10.771min (-0.222) 27.96ppm m

response 252362

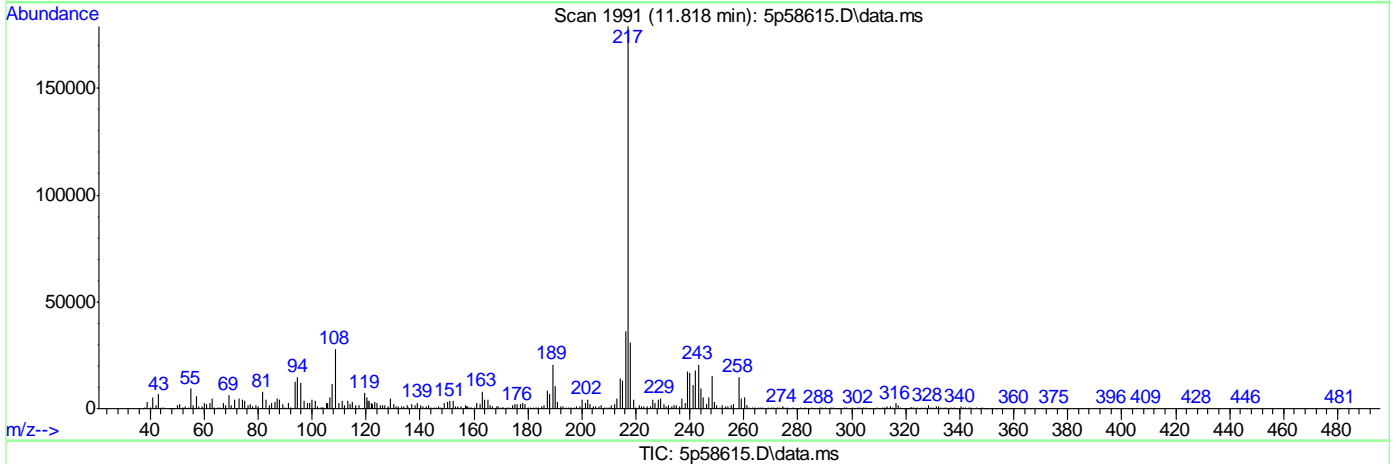
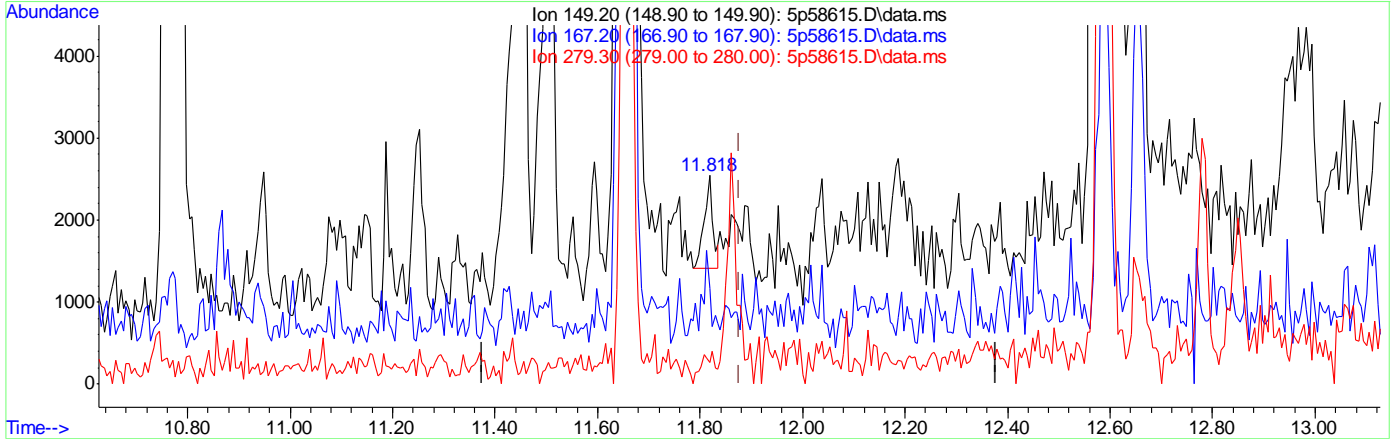
Ion	Exp%	Act%
149.20	100	100
91.20	79.30	79.94
206.20	18.40	17.43
0.00	0.00	0.00



## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(90) bis(2-Ethylhexyl)phthalate (t)

11.818min (-0.059) 0.11ppm

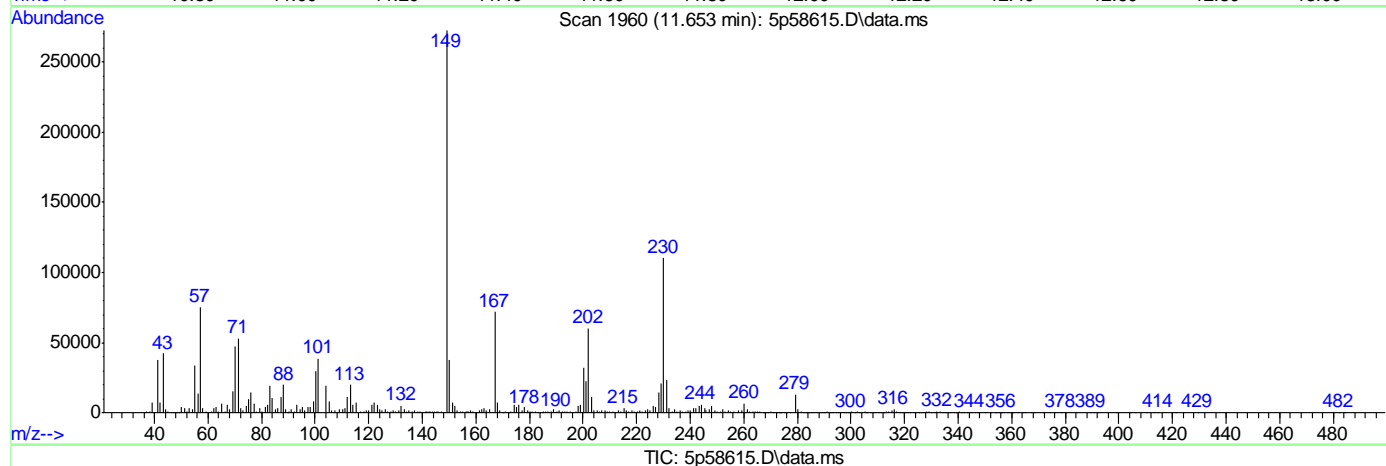
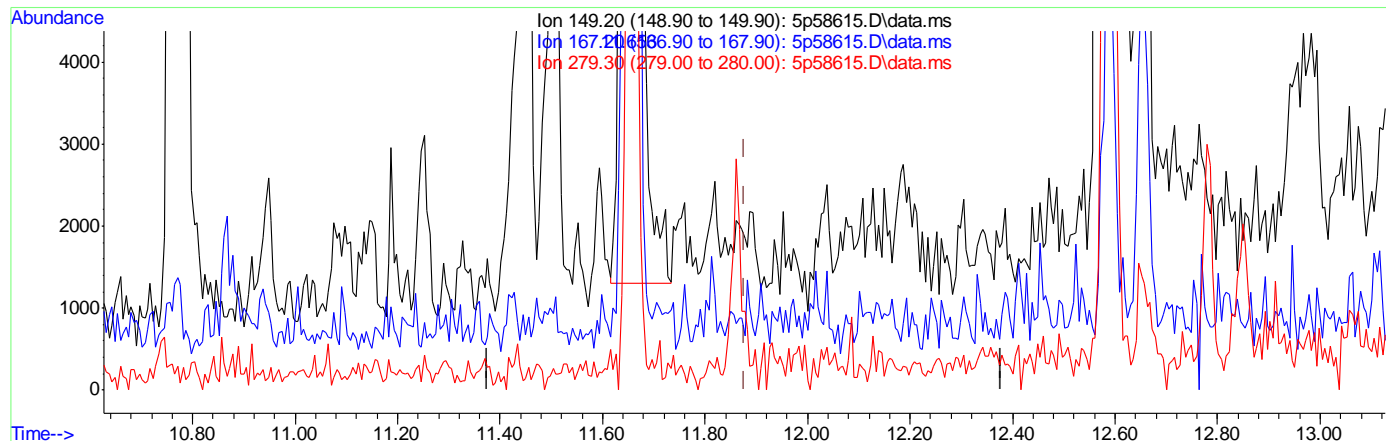
response 1320

Ion	Exp%	Act%
149.20	100	100
167.20	26.70	40.69
279.30	5.00	18.16
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(90) bis(2-Ethylhexyl)phthalate (t)

11.653min (-0.224) 29.54ppm m

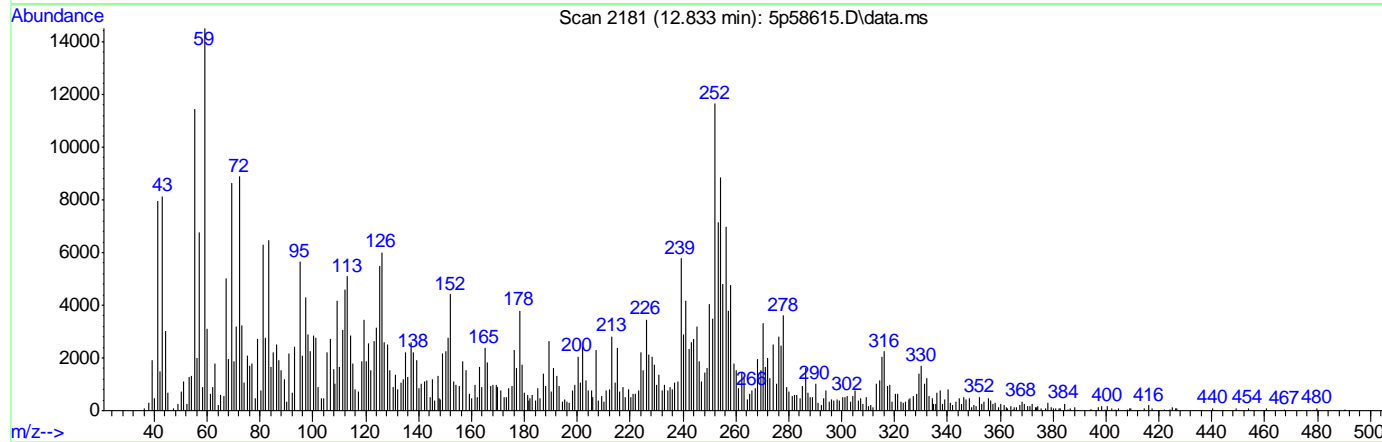
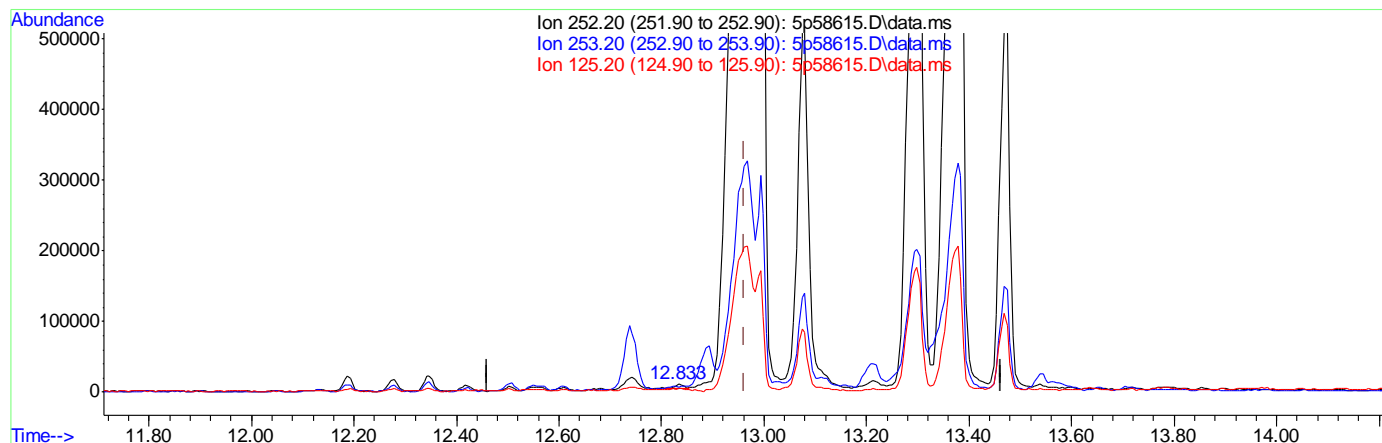
response 353322

Ion	Exp%	Act%
149.20	100	100
167.20	26.70	26.34
279.30	5.00	4.71
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58615.D\data.ms

(93) Benzo[b]fluoranthene (t)

12.833min (-0.129) 0.43ppm

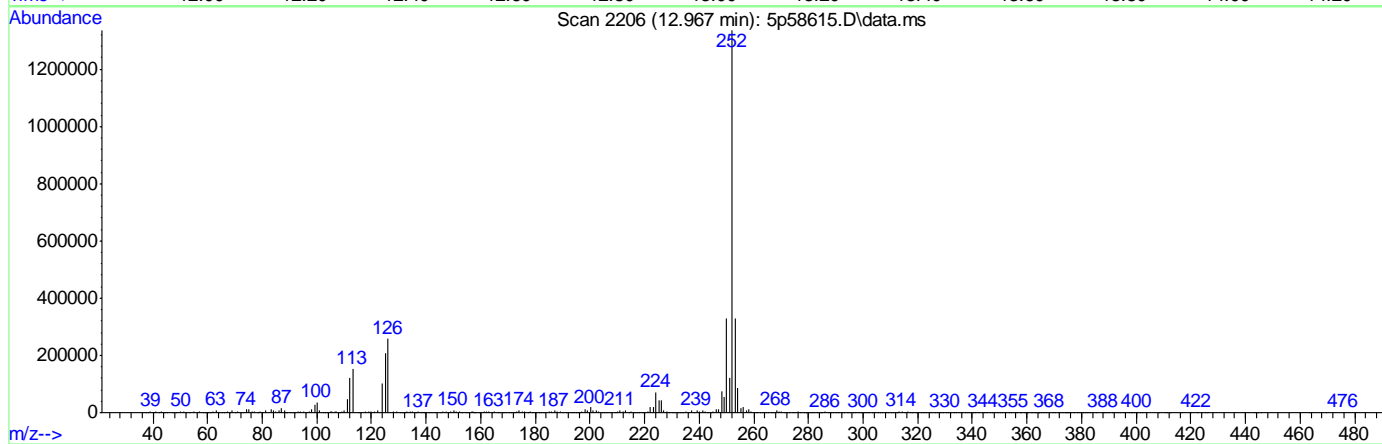
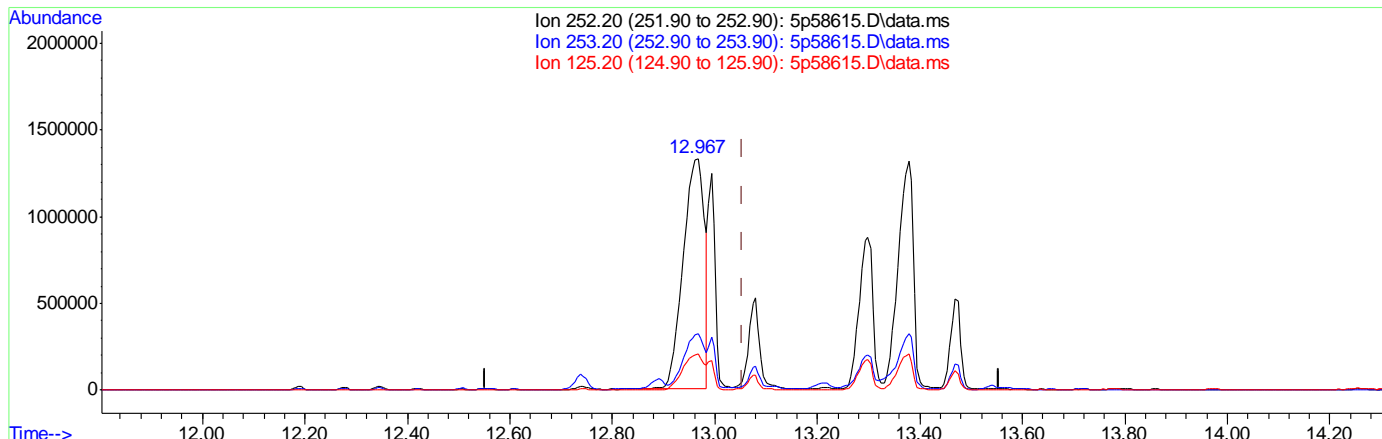
response 7830

Ion	Exp%	Act%
252.20	100	100
253.20	24.70	0.00
125.20	15.60	36.32
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(94) Benzo[k]fluoranthene (t)  
 12.967min (-0.087) 227.78ppm  
 response 3810273

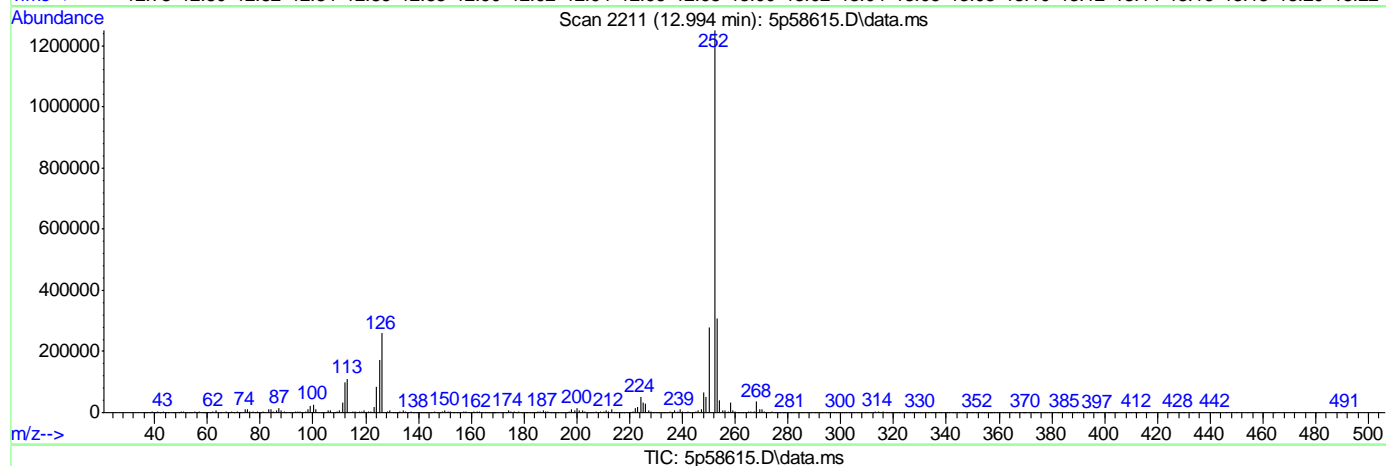
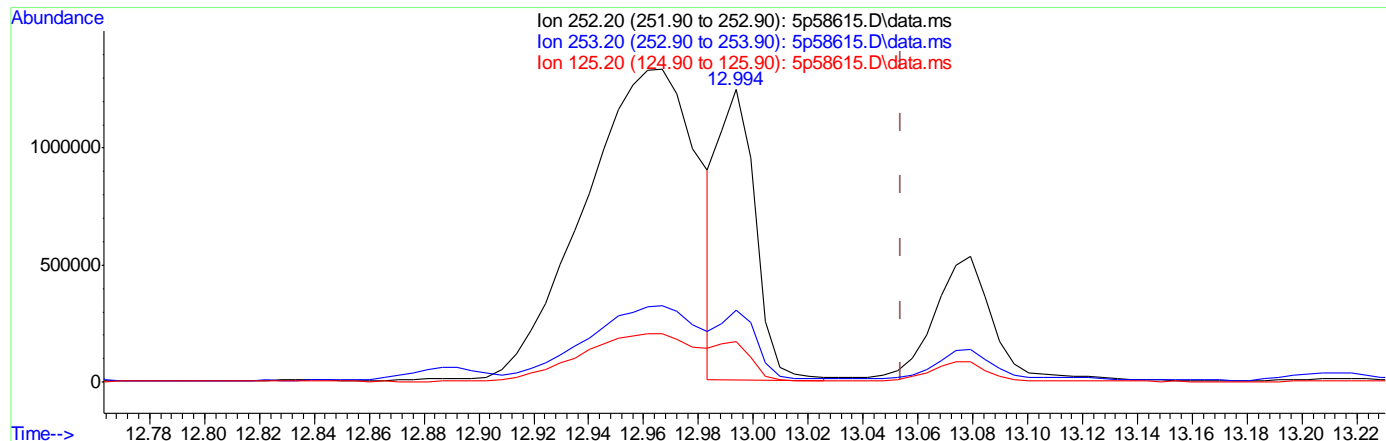
Ion	Exp%	Act%
252.20	100	100
253.20	22.60	24.58
125.20	13.10	15.22
0.00	0.00	0.00

9.4.2.9  
9

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 16:01:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(94) Benzo[k]fluoranthene (t)

12.994min (-0.060) 69.47ppm m

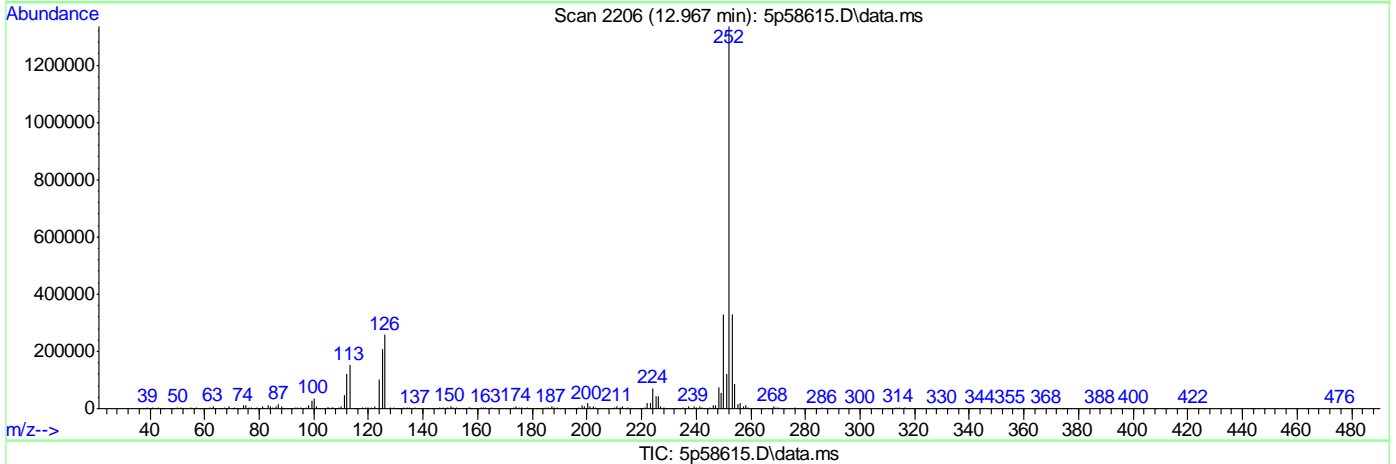
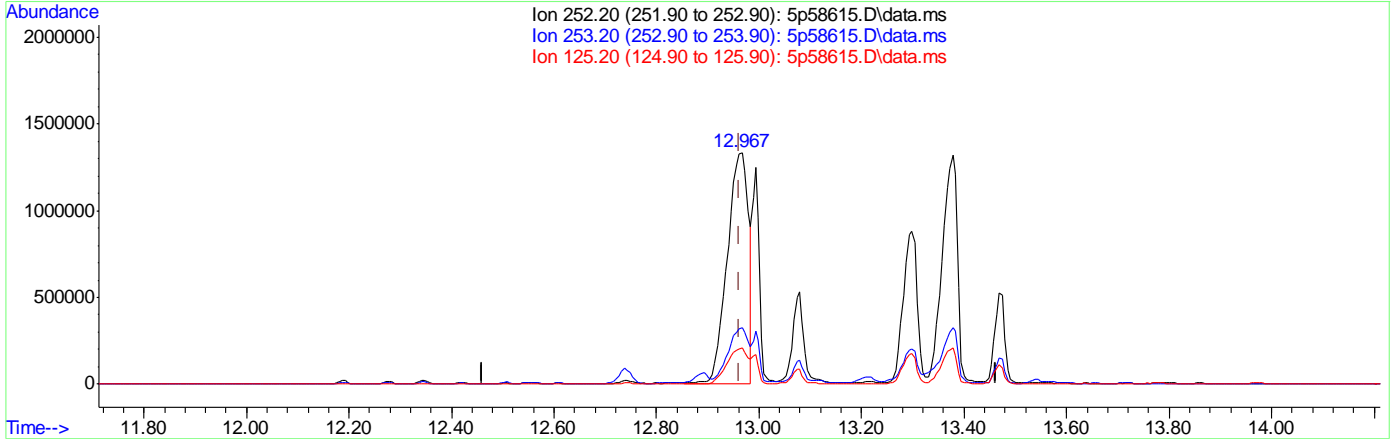
response 1162151

Ion	Exp%	Act%
252.20	100	100
253.20	22.60	24.54
125.20	13.10	13.78
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58615.D  
 Acq On : 18 Apr 2019 3:43 pm  
 Operator : christc2  
 Sample : op19786-msd  
 Misc : op19786,e5p2776,30.0,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 18 17:16:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



(93) Benzo[b]fluoranthene (t)

12.967min (+0.005) 209.96ppm m

response 3836803

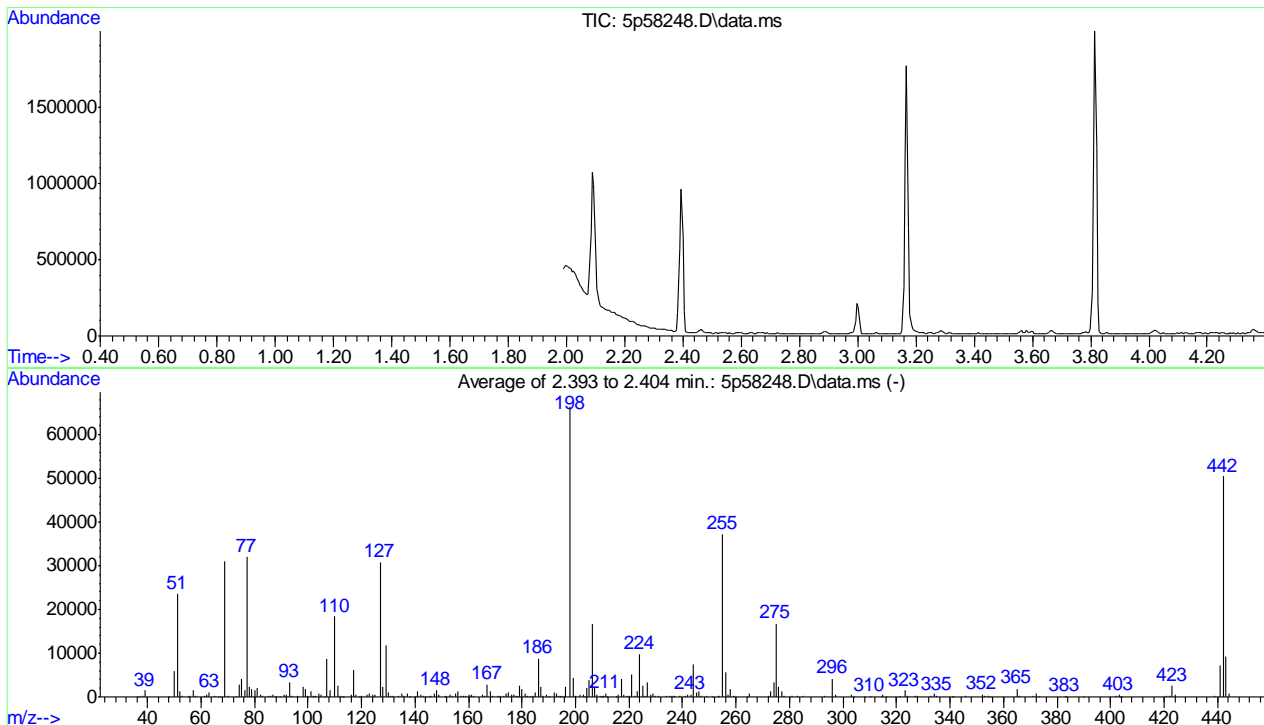
Ion	Exp%	Act%
252.20	100	100
253.20	24.70	24.55
125.20	15.60	15.47
0.00	0.00	0.00

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58248.D  
 Acq On : 8 Apr 2019 11:58 pm  
 Operator : chriss2  
 Sample : dftpp  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 Last Update : Wed Feb 13 11:39:00 2019



AutoFind: Scans 77, 78, 79; Background Corrected with Scan 72

AUTOFIND via AUTOINTEGRATE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	35.4	23529	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	46.8	31106	PASS
70	69	0.00	2	0.8	262	PASS
127	198	40	60	46.5	30894	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	66418	PASS
199	198	5	9	6.6	4395	PASS
275	198	10	30	25.1	16668	PASS
365	198	1	100	2.7	1813	PASS
441	443	0.10	100	77.5	7217	PASS
442	198	40	100	75.9	50432	PASS
443	442	17	23	18.5	9310	PASS

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	83	57.10	1562	74.10	2813	85.95	296
37.20	75	57.90	194	75.10	4149	87.05	398
38.10	324	61.10	338	76.20	1567	87.80	93
39.10	1475	62.15	407	77.10	31959	88.00	102
47.90	71	63.05	1039	78.05	2238	89.20	66
50.05	5878	65.00	355	79.10	1765	91.05	482
51.10	23529	66.20	72	80.05	1544	92.05	490
52.10	1213	67.00	26	81.00	2187	93.00	3351
53.05	250	69.00	31106	82.05	596	94.00	261
55.10	50	70.10	262	83.00	327	96.05	141
56.05	296	73.10	69	85.00	272	98.05	2254

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
99.05	1688	110.00	18387	123.10	801	136.00	347
99.95	198	111.00	2557	124.10	398	137.10	721
101.05	1278	112.00	360	125.05	404	138.00	84
101.80	69	112.80	87	127.00	30894	140.10	139
102.10	168	113.10	82	128.05	2363	141.00	1228
102.95	346	116.00	452	129.00	11931	142.10	544
104.00	763	117.00	6262	130.05	1065	143.05	373
105.00	568	117.95	540	131.00	224	144.00	84
106.00	95	119.10	80	131.90	172	144.90	84
107.00	8848	120.10	184	133.90	303	145.90	281
108.10	1562	122.00	585	134.95	789	147.00	843

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
148.00	1594	160.00	636	174.10	697	183.95	167
149.05	466	161.05	478	175.05	1075	185.05	1065
151.30	111	162.05	193	176.05	457	186.05	8853
151.60	186	165.05	409	177.00	632	187.05	2203
153.00	470	166.05	239	177.80	148	188.00	380
154.10	362	167.00	2860	178.20	100	189.10	508
155.00	840	167.95	1295	179.00	2578	190.00	101
156.00	1347	169.00	246	180.00	1733	192.00	933
157.05	289	171.05	179	181.00	758	193.05	834
157.95	338	172.00	336	182.00	157	193.90	163
159.00	192	173.05	338	183.00	87	194.10	70

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
195.05	259	206.10	16718	216.10	409	227.00	3467
195.70	97	207.05	1968	217.00	4234	228.05	519
196.05	2402	208.10	639	217.95	439	229.00	852
198.00	66418	209.05	323	219.10	151	229.95	200
199.00	4395	209.60	68	220.00	147	231.05	371
200.05	315	210.10	127	221.10	5032	234.05	213
201.65	473	210.40	265	222.10	197	235.00	238
203.00	473	210.60	202	223.00	1228	236.00	285
203.20	107	211.15	786	224.05	9820	236.70	73
204.05	2122	211.70	129	225.05	2633	237.05	247
205.05	3831	215.00	133	226.10	183	239.00	205

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
240.95	194	255.00	37263	276.00	2320	308.00	72
241.90	454	256.00	5598	277.00	1226	310.00	89
243.00	528	257.00	470	278.10	185	314.20	108
244.10	7394	258.00	1861	280.95	185	314.95	398



245.05	1029	259.00	287	282.95	160	316.00	101
246.00	1386	263.90	116	285.05	268	321.00	76
247.05	256	265.00	766	293.00	296	323.05	1509
249.00	190	272.05	171	296.00	4219	324.05	303
251.00	68	273.05	1278	297.00	605	327.05	279
253.10	116	274.05	3273	303.00	617	328.00	151
253.50	158	275.00	16668	304.00	137	333.00	192

Average of 2.393 to 2.404 min.: 5p58248.D\data.ms  
dftpp

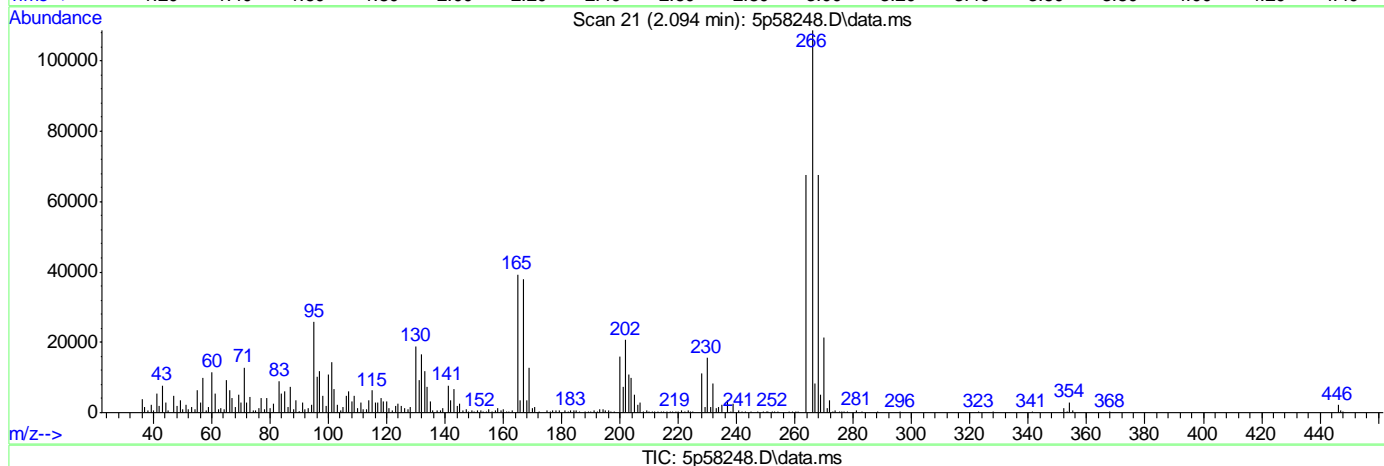
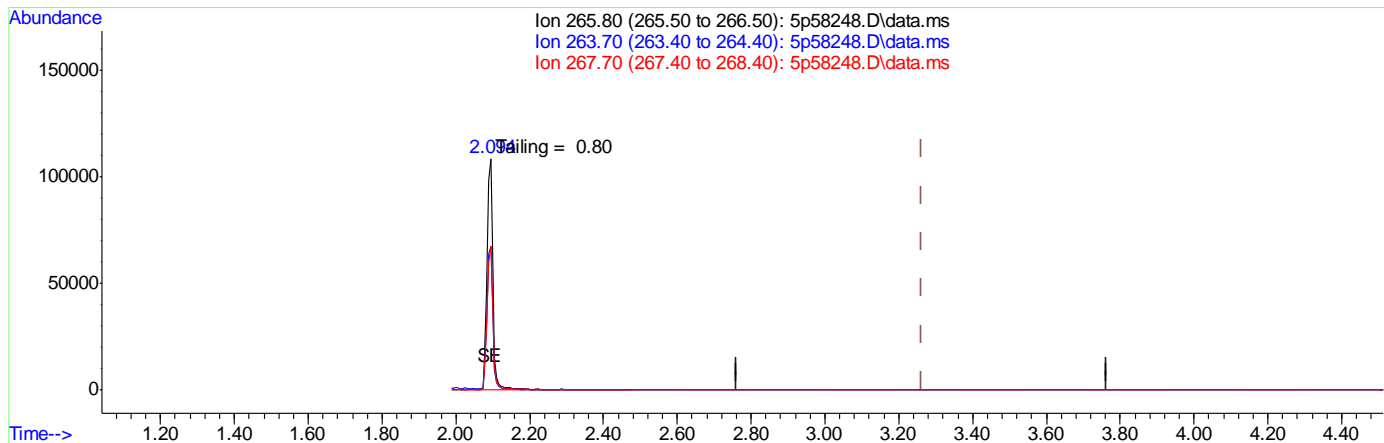
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
334.00	889	371.10	141	421.95	269		
335.10	301	372.00	767	423.00	2525		
340.90	99	373.00	70	424.10	634		
341.10	68	382.90	93	438.80	142		
346.00	345	383.20	79	441.05	7217		
352.05	562	390.00	89	442.00	50432		
353.10	253	402.05	267	443.00	9310		
354.00	328	403.05	419	444.10	906		
355.00	110	403.80	93				
365.00	1813	404.10	102				
365.95	173	421.00	271				

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58248.D  
 Acq On : 8 Apr 2019 11:58 pm  
 Operator : chriss2  
 Sample : dftpp  
 Misc : opl2947,e5p2761,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 00:03:59 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



(1) Pentachlorophenol (MC)

2.094min (-1.168) 69.45ng m

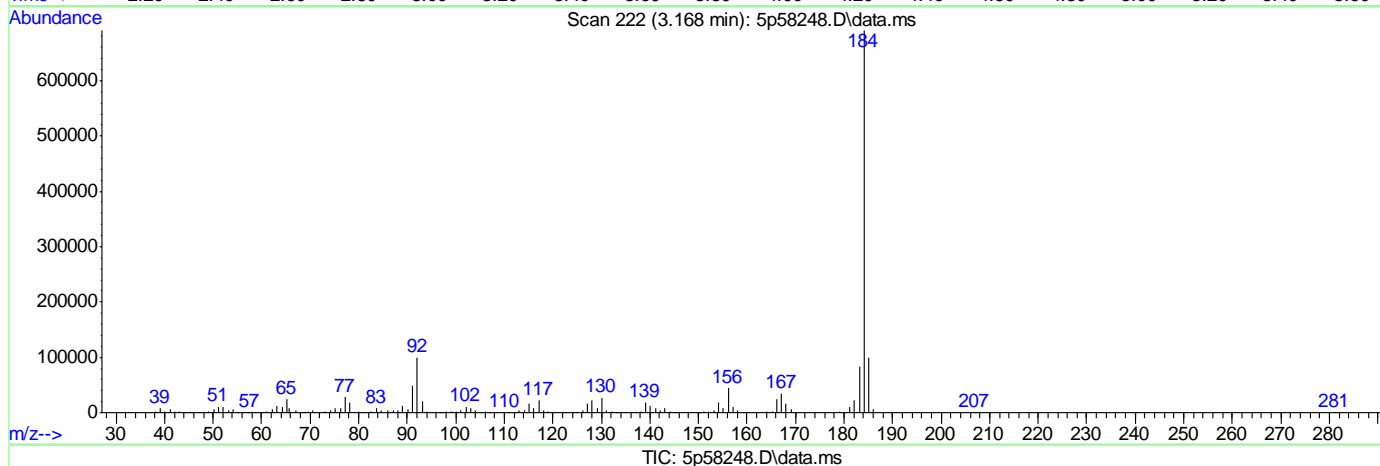
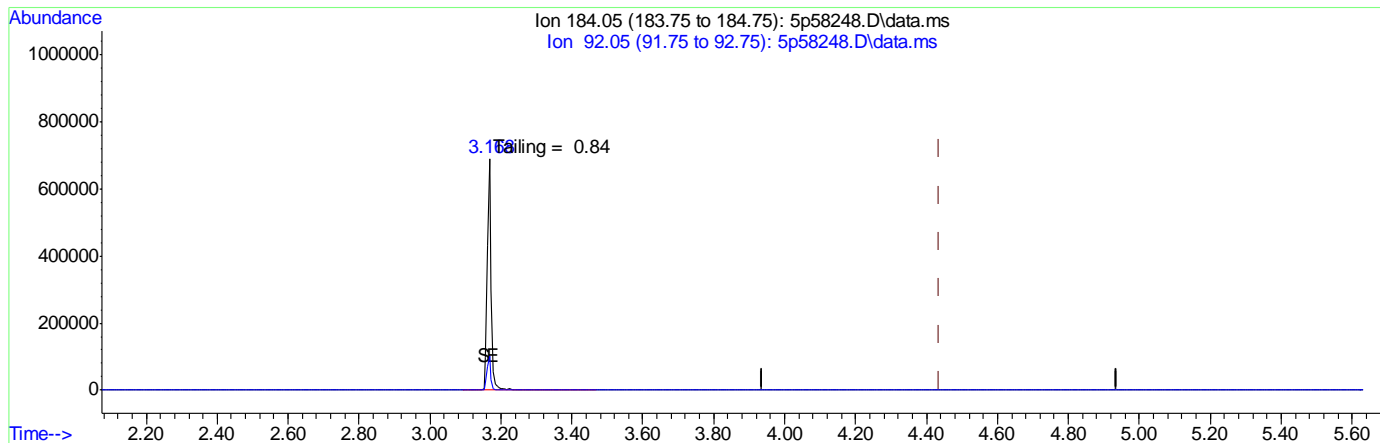
response 115798

Ion	Exp%	Act%
265.80	100	100
263.70	62.60	62.31
267.70	64.20	62.05
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58248.D  
 Acq On : 8 Apr 2019 11:58 pm  
 Operator : chriss2  
 Sample : dftpp  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 00:03:59 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



(2) Benzidine (M)

3.168min (-1.270) 106.50ng m

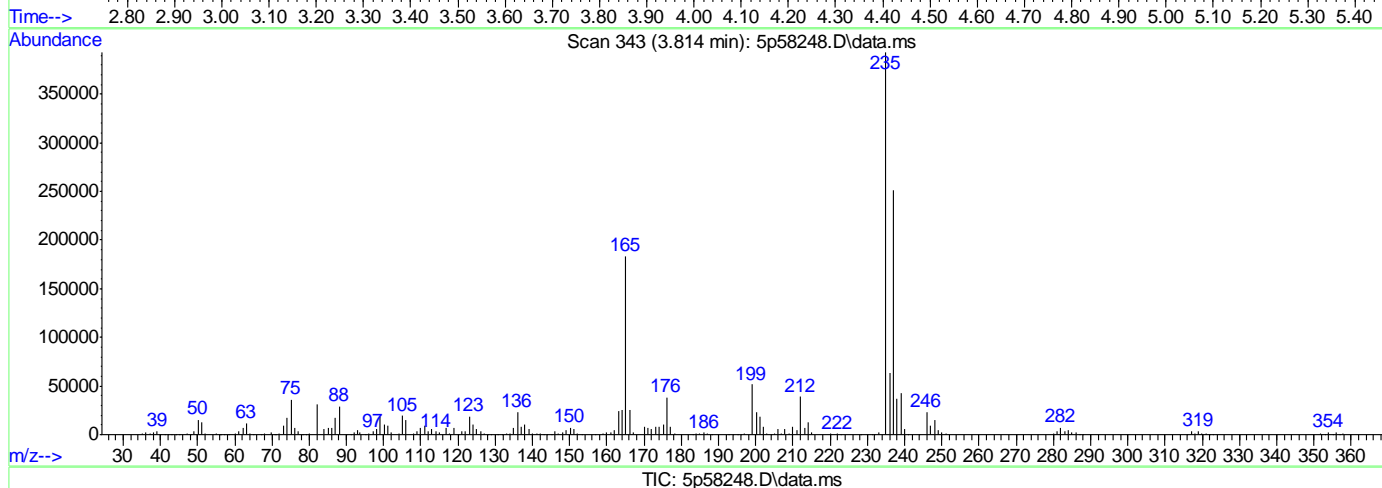
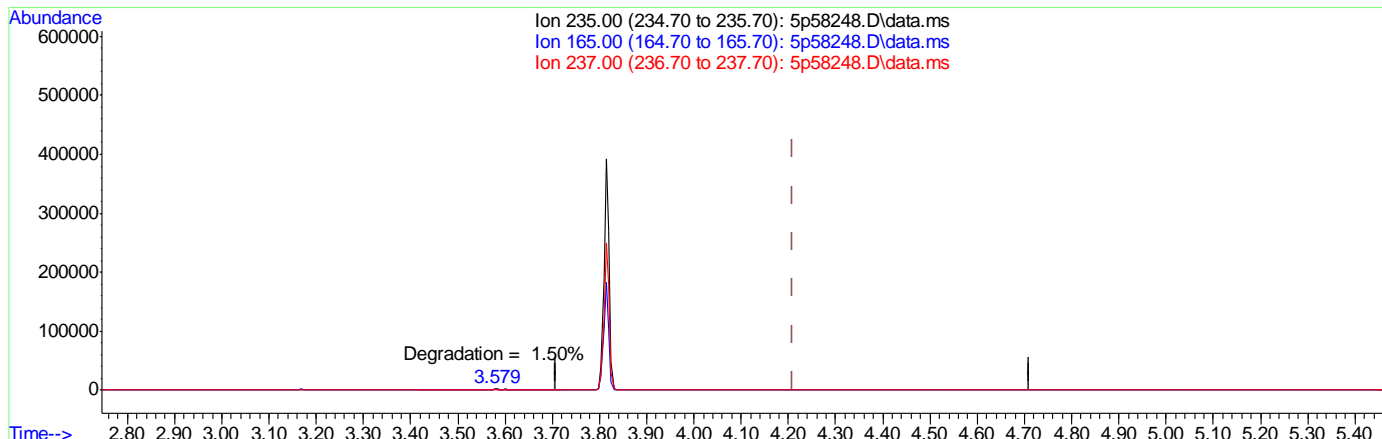
response 539055

Ion	Exp%	Act%
184.05	100	100
92.05	10.80	14.51#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58248.D  
 Acq On : 8 Apr 2019 11:58 pm  
 Operator : chriss2  
 Sample : dftpp  
 Misc : opl2947,e5p2761,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 00:03:59 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



(3) PP-DDT (MC)  
 3.814min (-0.396) 155.95ng m  
 response 306032

Ion	Exp%	Act%
235.00	100	100
165.00	57.30	46.63
237.00	65.20	63.79
0.00	0.00	0.00

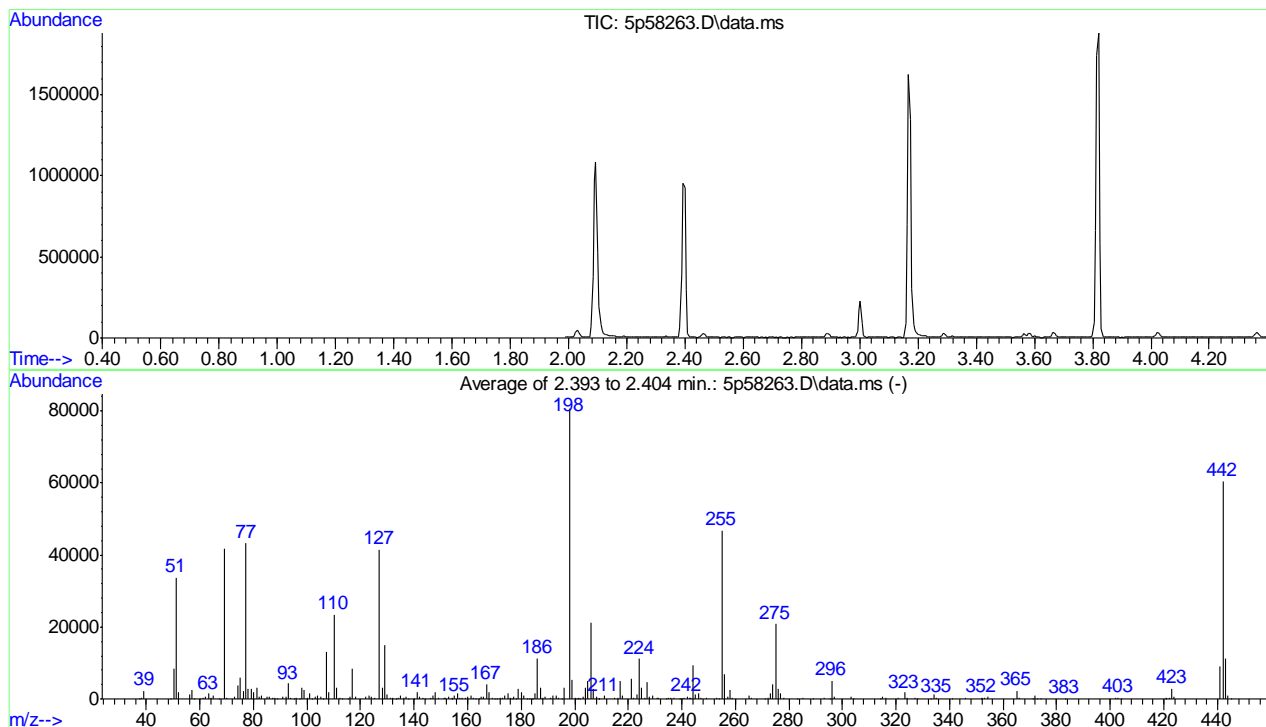
9.5.1.3  
9

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58263.D  
 Acq On : 9 Apr 2019 6:15 am  
 Operator : chriss2  
 Sample : dftpp  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 Last Update : Wed Feb 13 11:39:00 2019



AutoFind: Scans 77, 78, 79; Background Corrected with Scan 63

AUTOFIND via AUTOINTEGRATE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.8	33747	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.8	41796	PASS
70	69	0.00	2	0.4	186	PASS
127	198	40	60	51.4	41473	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	80698	PASS
199	198	5	9	6.7	5419	PASS
275	198	10	30	25.8	20801	PASS
365	198	1	100	2.9	2339	PASS
441	443	0.10	100	80.1	9063	PASS
442	198	40	100	75.0	60528	PASS
443	442	17	23	18.7	11319	PASS

9.5.2  
9

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	86	61.10	439	76.10	2259	88.05	220
38.10	395	62.15	505	77.10	43414	89.00	67
39.10	2193	63.10	1492	78.10	2940	91.05	777
49.05	118	64.10	170	79.05	2800	92.00	700
50.10	8279	65.10	792	80.00	1912	93.00	4279
51.10	33747	67.10	71	81.10	3052	93.95	292
52.10	1816	69.00	41796	82.10	700	95.10	148
56.05	1235	70.10	186	83.10	830	96.05	249
57.10	2584	73.10	518	85.05	586	97.10	79
58.00	117	74.10	3672	86.00	576	98.05	3146
60.10	71	75.10	5874	87.10	269	99.00	2436

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
100.05	216	112.15	336	128.00	3277	139.90	88
100.95	1454	113.10	69	129.05	14947	141.00	1945
101.90	84	115.00	81	130.00	1370	142.05	684
103.05	550	116.05	725	131.05	199	143.05	397
104.00	998	117.00	8283	132.10	185	144.00	69
105.00	667	118.00	638	133.20	89	146.05	225
106.00	87	122.00	750	134.00	244	147.05	993
107.05	12990	123.00	1027	135.00	1036	148.00	1807
108.00	1888	124.00	519	136.05	378	149.05	372
110.00	23520	125.05	475	137.05	544	151.00	256
111.00	3208	127.10	41473	137.95	158	151.75	201

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
152.95	695	163.00	73	174.00	796	183.10	113
154.00	384	164.00	94	175.10	1437	183.90	151
154.20	76	165.00	523	175.80	76	184.10	98
155.10	799	166.00	489	176.05	446	185.10	1474
156.10	1595	167.05	4083	176.70	95	186.10	11261
157.05	328	168.05	1734	177.00	741	187.05	3141
157.90	269	169.05	420	177.90	118	188.05	296
159.00	219	170.00	84	179.00	2777	189.00	639
160.10	605	170.95	151	180.10	1976	190.95	398
161.10	904	171.95	272	181.00	1049	192.00	817
162.10	316	173.00	435	182.10	92	193.05	888

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
194.00	237	204.00	3186	217.95	798	231.10	319
195.10	104	205.00	4983	221.05	5494	233.90	87
196.00	3165	206.10	21141	222.10	471	235.00	349
198.00	80698	207.05	2769	223.05	1288	235.95	251
199.00	5419	208.00	700	224.10	11214	237.05	310
200.05	404	208.90	70	225.05	3073	239.20	79
200.30	81	209.10	148	225.95	224	239.70	78
201.20	93	211.00	911	227.00	4786	240.10	69
201.50	375	215.00	204	228.00	565	240.95	432
201.90	148	216.00	436	229.00	876	242.05	759
202.95	571	217.00	5073	230.90	174	242.95	411

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
243.20	407	258.05	2348	278.00	216	315.00	627
244.10	9342	259.00	386	283.05	166	316.10	317
245.05	1184	265.00	900	285.00	241	320.95	171
246.05	1636	265.95	335	289.00	72	323.10	1849

247.05	410	271.00	79	293.00	375	324.00	302
249.00	280	272.00	196	295.10	138	326.95	271
253.00	275	273.00	1566	296.05	5115	327.90	68
253.90	121	274.05	4001	297.00	622	333.10	95
255.00	46794	275.00	20801	303.05	731	334.05	1135
256.00	6779	276.10	2863	304.00	103	335.05	336
257.05	588	277.00	1622	314.00	76	341.00	97

Average of 2.393 to 2.404 min.: 5p58263.D\data.ms  
dftpp

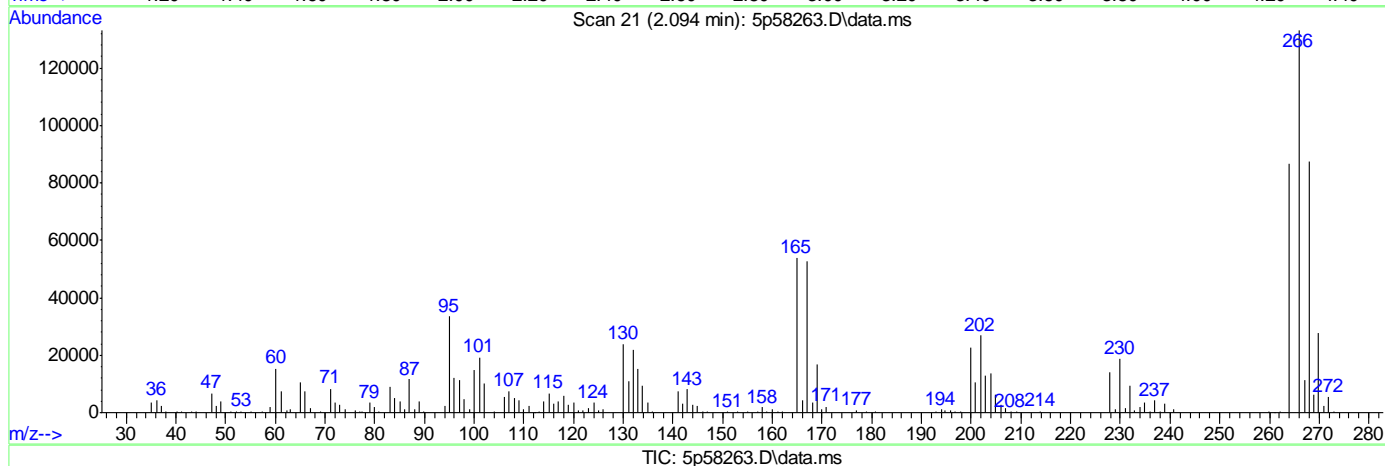
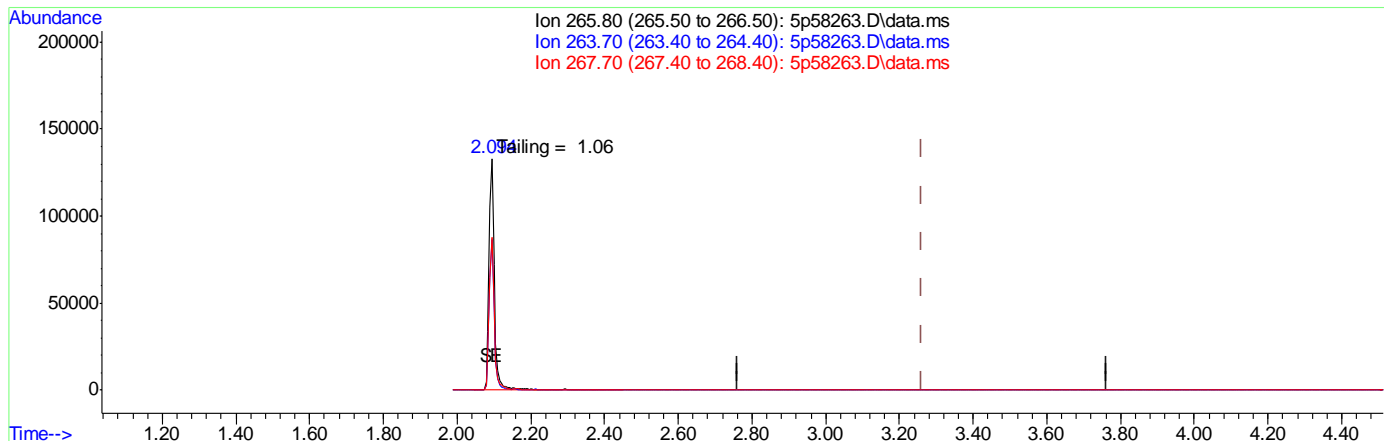
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
345.95	323	383.00	114	443.05	11319		
351.80	102	402.00	362	444.05	1016		
352.10	454	403.05	421	445.00	87		
353.05	411	404.00	115				
354.10	591	420.70	122				
365.00	2339	421.05	288				
366.05	259	421.95	279				
371.00	67	423.05	2879				
372.05	810	423.90	688				
372.80	85	441.10	9063				
373.80	85	442.10	60528				

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58263.D  
 Acq On : 9 Apr 2019 6:15 am  
 Operator : chriss2  
 Sample : dftpp  
 Misc : opl2947,e5p2762,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 06:21:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



(1) Pentachlorophenol (MC)

2.094min (-1.168) 79.99ng m

response 133370

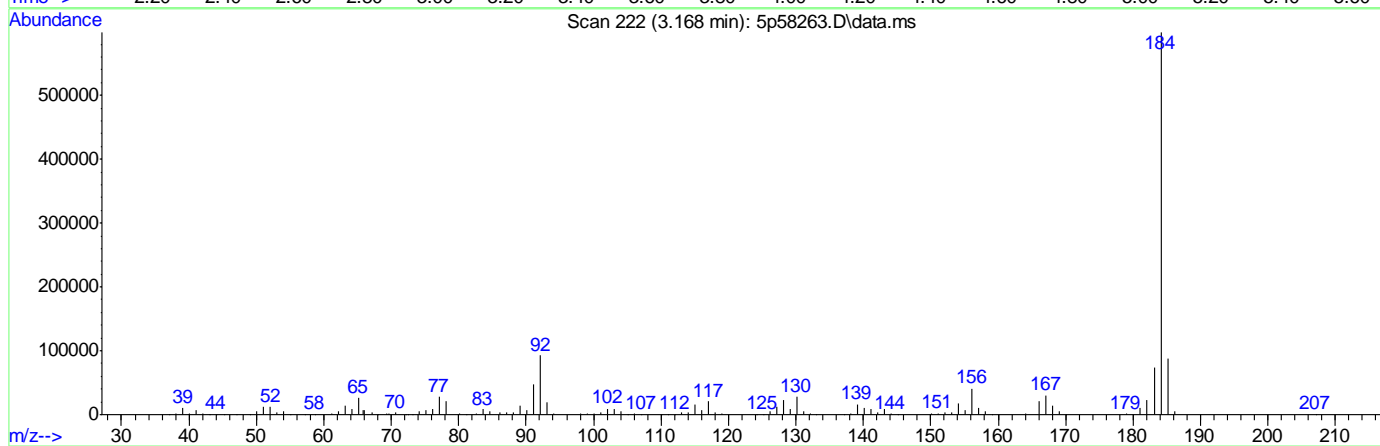
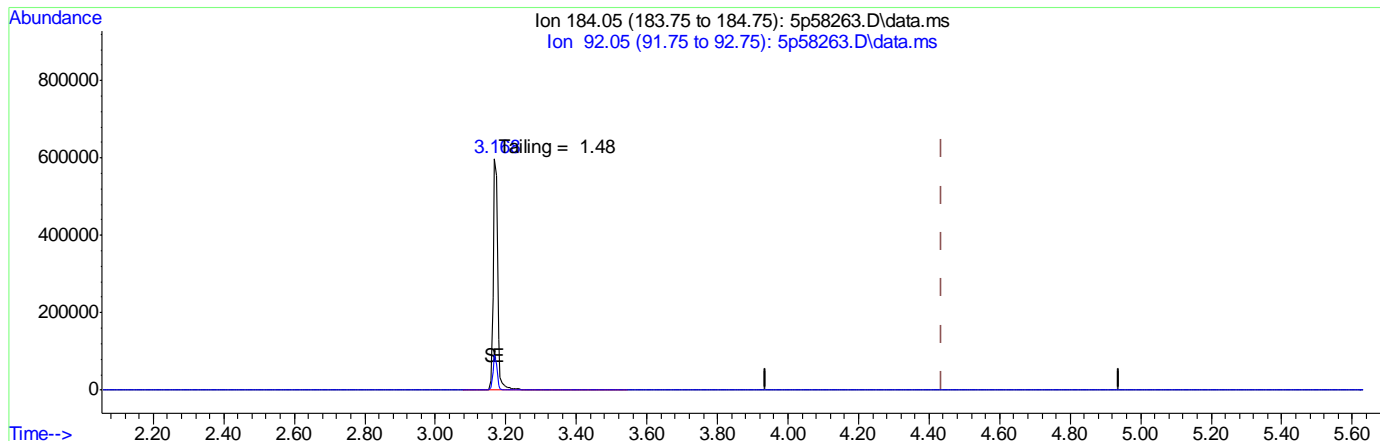
Ion	Exp%	Act%
265.80	100	100
263.70	62.60	65.00
267.70	64.20	65.77
0.00	0.00	0.00



## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58263.D  
 Acq On : 9 Apr 2019 6:15 am  
 Operator : chriss2  
 Sample : dftpp  
 Misc : opl2947,e5p2762,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 06:21:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



TIC: 5p58263.D\data.ms

(2) Benzidine (M)

3.168min (-1.270) 107.28ng m

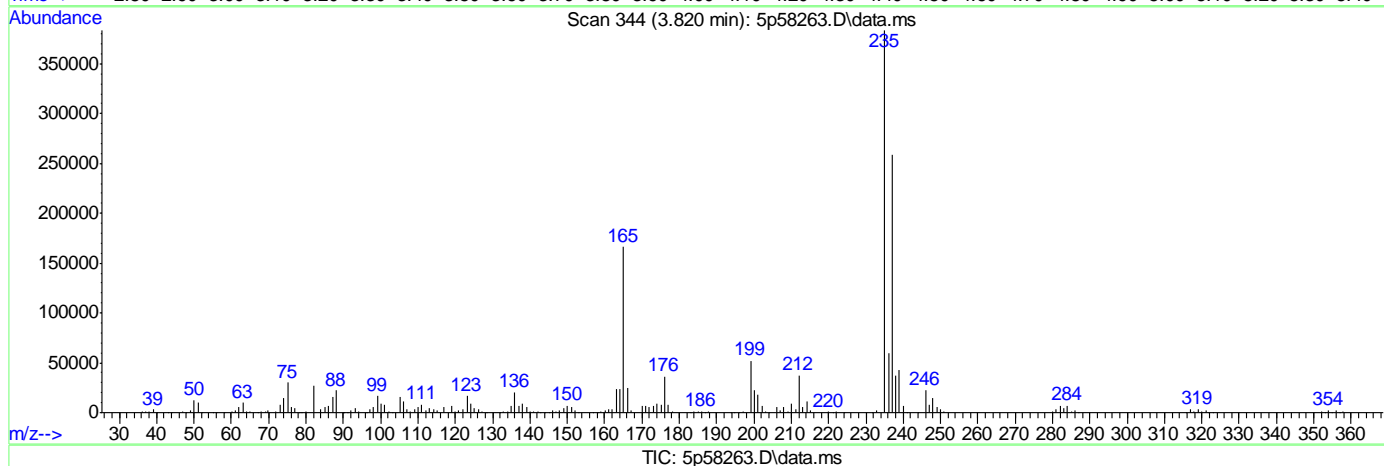
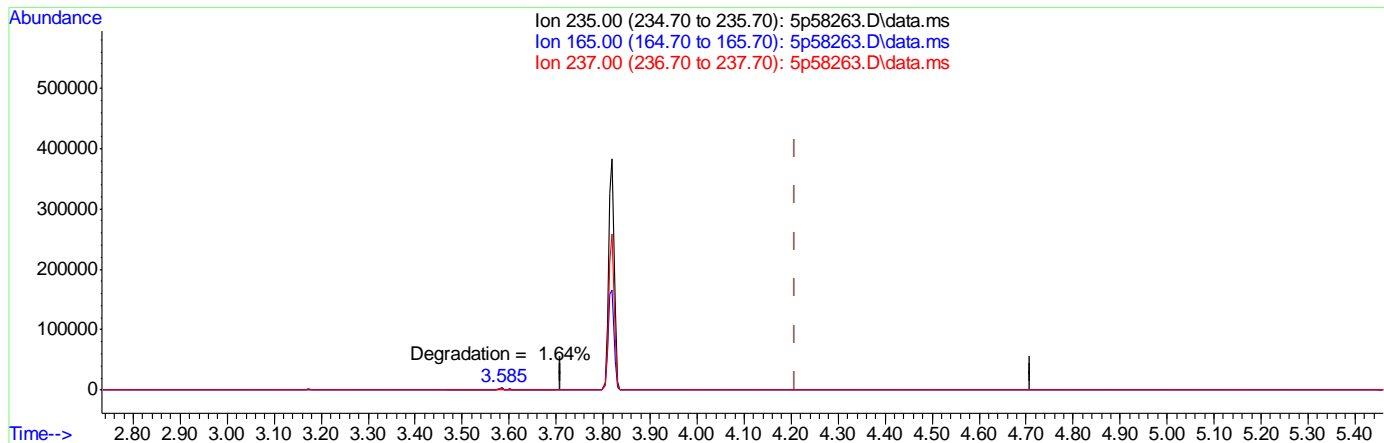
response 543009

Ion	Exp%	Act%
184.05	100	100
92.05	10.80	15.42#
0.00	0.00	0.00
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58263.D  
 Acq On : 9 Apr 2019 6:15 am  
 Operator : chriss2  
 Sample : dftpp  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 06:21:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



(3) PP-DDT (MC)

3.820min (-0.390) 160.86ng m

response 315679

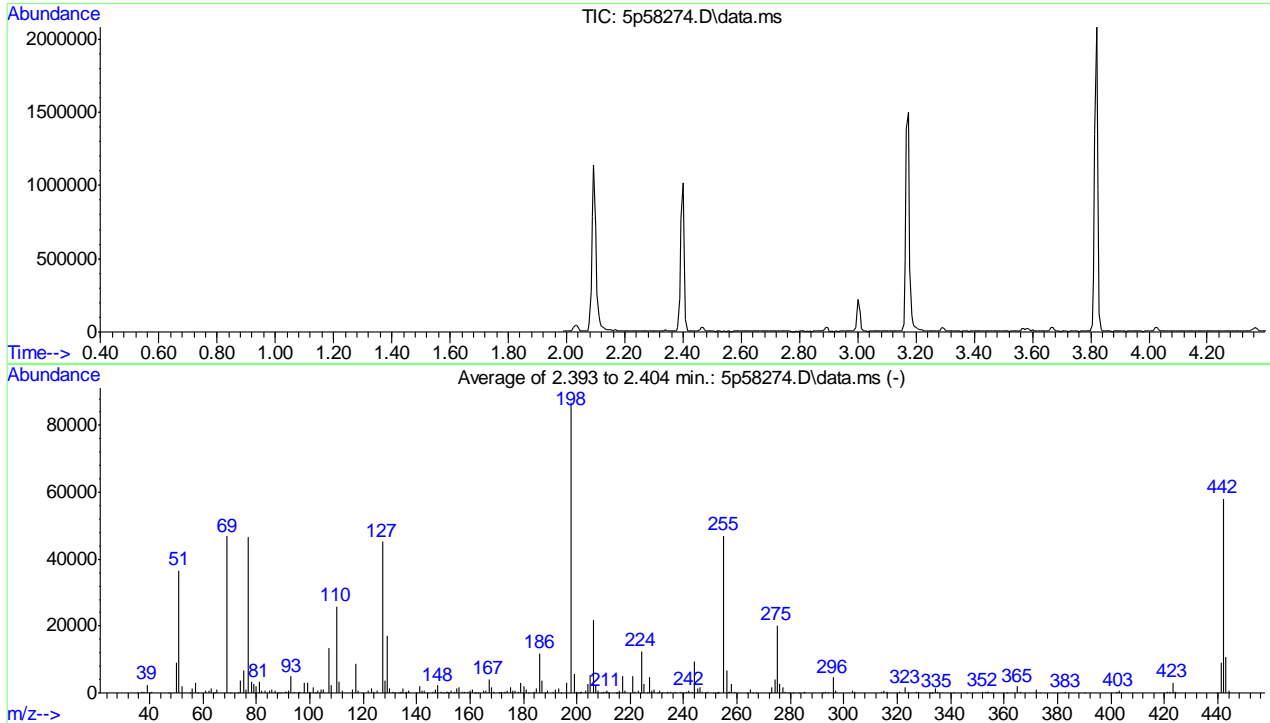
Ion	Exp%	Act%
235.00	100	100
165.00	57.30	43.38
237.00	65.20	67.38
0.00	0.00	0.00

## DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58274.D  
 Acq On : 9 Apr 2019 10:54 am  
 Operator : yujiac  
 Sample : dftpp  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 Last Update : Wed Feb 13 11:39:00 2019



AutoFind: Scans 77, 78, 79; Background Corrected with Scan 72

AUTOFIND via AUTOINTEGRATE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.2	36653	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	53.9	46813	PASS
70	69	0.00	2	0.4	168	PASS
127	198	40	60	52.1	45240	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	86840	PASS
199	198	5	9	6.5	5619	PASS
275	198	10	30	23.3	20259	PASS
365	198	1	100	2.3	1987	PASS
441	443	0.10	100	82.4	8952	PASS
442	198	40	100	66.8	58045	PASS
443	442	17	23	18.7	10863	PASS

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.20	79	56.05	1246	73.05	164	85.00	553
37.05	284	57.10	2884	74.10	3644	85.95	891
38.10	440	58.00	69	75.10	6806	87.05	548
39.10	2497	61.10	550	76.10	919	87.90	127
39.95	163	62.05	657	77.10	46720	88.10	86
41.05	229	63.10	1391	78.10	3342	89.00	79
47.00	83	64.00	90	79.05	2718	90.90	227
50.10	8963	64.20	96	80.05	2081	91.10	485
51.05	36653	65.10	1006	81.05	3246	92.05	773
52.10	2114	69.00	46813	82.00	793	93.05	4999
55.05	60	70.10	168	83.10	851	94.05	406

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.20	77	107.05	13362	124.00	484	135.00	1231
95.80	85	108.10	2310	125.05	617	135.80	87
96.10	315	110.05	25937	127.10	45240	136.05	384
98.10	3039	111.10	3459	128.10	3708	137.10	718
99.05	3108	112.05	598	129.00	17068	140.00	116
100.05	377	116.10	991	130.00	1232	141.05	1929
101.10	1579	117.05	8887	131.10	332	142.05	580
102.10	100	118.05	598	132.10	161	143.00	540
103.00	799	119.90	77	133.00	73	144.00	93
104.05	1057	122.00	832	133.90	122	146.00	355
105.05	967	123.05	1241	134.05	389	147.00	1091

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
148.00	2206	158.05	472	169.00	339	180.00	1938
148.95	411	159.05	205	170.80	77	181.05	940
150.00	94	160.05	575	171.00	79	182.00	70
151.05	334	161.05	874	172.00	257	184.10	286
151.60	242	161.90	167	173.00	487	185.00	1355
152.20	75	162.10	101	174.10	768	186.10	11888
153.00	603	163.10	107	175.05	1774	187.10	3666
154.05	404	164.95	608	176.10	724	188.00	82
155.05	1342	166.10	551	177.00	803	188.20	68
156.00	1725	167.05	4133	177.90	204	189.00	652
157.05	464	168.05	1797	179.00	3073	191.05	446

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
192.00	1096	203.10	634	214.80	71	227.00	4568
193.05	1304	204.05	2810	215.00	108	228.00	714
194.00	171	205.10	5441	216.05	626	229.00	1106
196.05	3098	206.10	21884	217.00	5026	230.00	128
198.00	86840	207.05	2480	218.05	561	230.90	518
199.00	5619	208.00	768	221.10	4962	231.90	110
200.00	514	209.05	29	221.70	501	233.80	89
200.20	91	210.20	344	223.15	840	234.05	238
201.20	147	210.80	274	224.10	12405	235.05	389
201.40	224	211.05	659	225.00	2848	237.00	427
201.70	345	211.60	104	226.20	107	239.00	228

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
240.00	79	252.50	82	265.85	57	282.95	150
241.00	334	252.90	112	266.90	68	285.00	119
242.05	676	253.10	180	272.10	116	285.15	197
243.10	316	255.00	46933	273.05	1673	292.10	72

244.10	9469	256.05	6623	274.05	4037	293.00	380
245.05	1307	256.90	230	275.00	20259	293.90	77
246.05	1730	257.10	259	276.05	2573	296.00	4641
247.00	329	258.05	2554	277.00	1575	296.95	688
248.10	73	258.90	311	277.95	206	303.00	728
249.00	273	263.90	83	279.10	71	304.00	202
251.00	81	264.95	1100	281.00	77	313.90	275

Average of 2.393 to 2.404 min.: 5p58274.D\data.ms  
dftpp

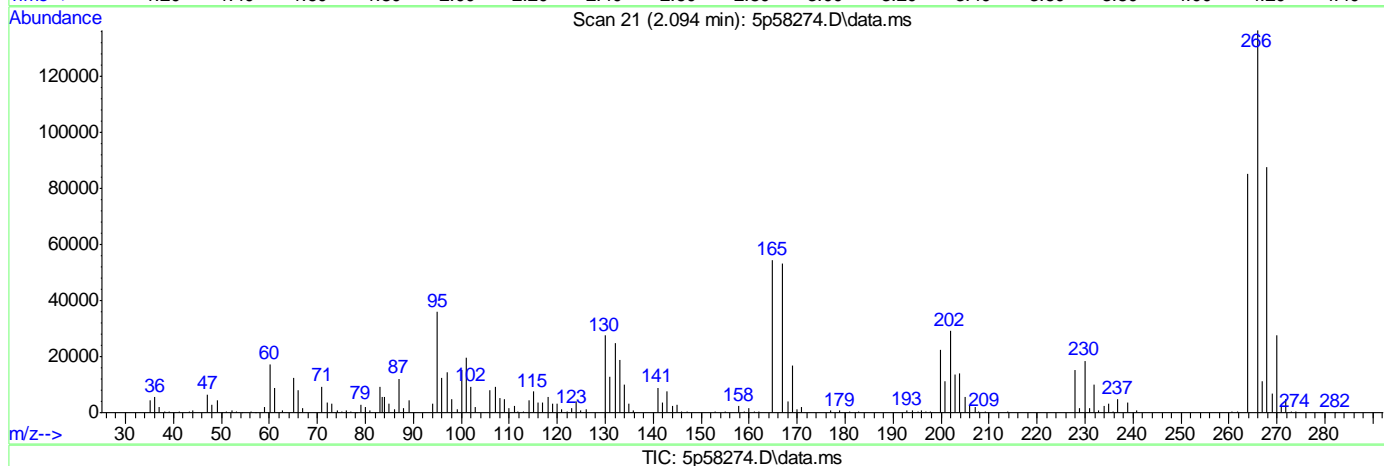
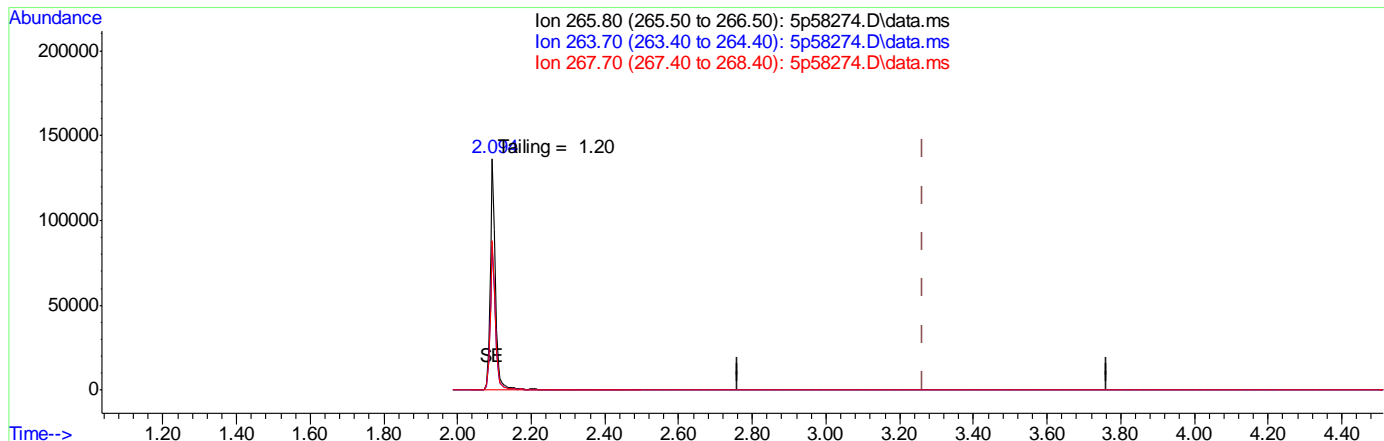
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
315.05	626	335.05	200	372.05	1097	424.10	458
316.05	340	340.80	138	373.10	147	439.60	79
320.95	203	346.00	95	383.05	197	441.10	8952
323.05	1563	352.05	487	390.05	157	442.10	58045
324.05	394	353.05	429	402.10	348	443.05	10863
326.95	365	353.90	184	403.05	566	444.05	827
328.05	200	354.05	464	404.10	71		
332.05	163	355.10	82	421.10	336		
332.90	68	360.90	69	422.00	444		
333.10	77	365.00	1987	423.05	3116		
334.05	1234	365.95	352	423.90	87		

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58274.D  
 Acq On : 9 Apr 2019 10:54 am  
 Operator : yujiac  
 Sample : dftpp  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 11:00:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



(1) Pentachlorophenol (MC)

2.094min (-1.168) 81.42ng m

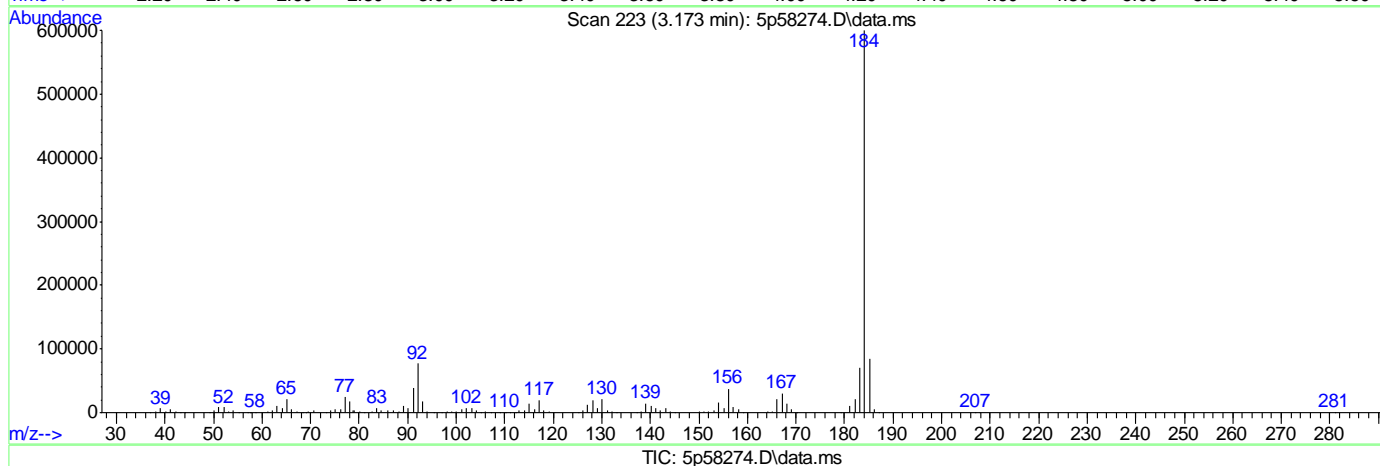
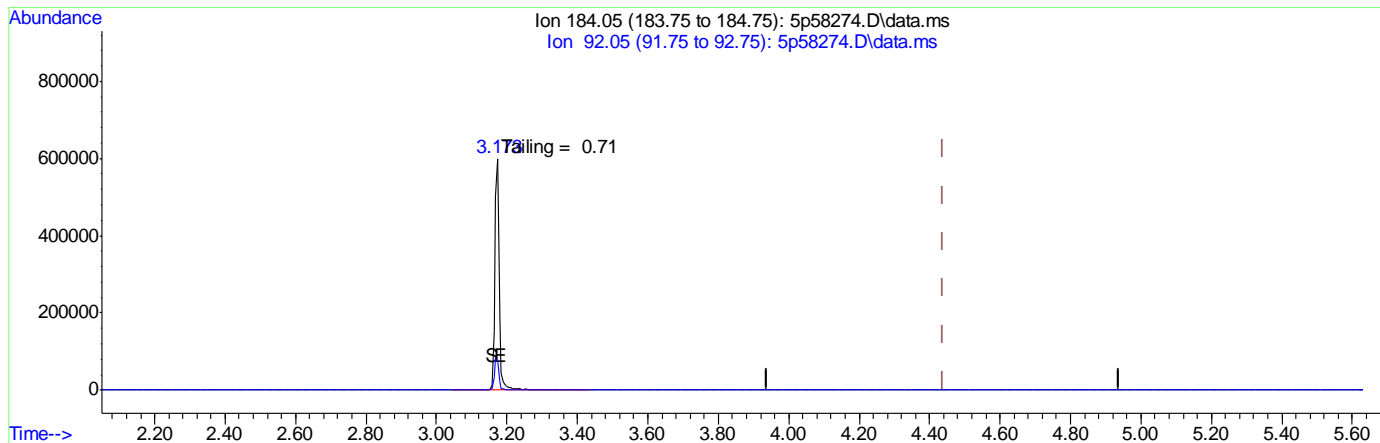
response 135744

Ion	Exp%	Act%
265.80	100	100
263.70	62.60	62.34
267.70	64.20	64.38
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58274.D  
 Acq On : 9 Apr 2019 10:54 am  
 Operator : yujiac  
 Sample : dftpp  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 11:00:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



(2) Benzidine (M)

3.173min (-1.264) 102.99ng m

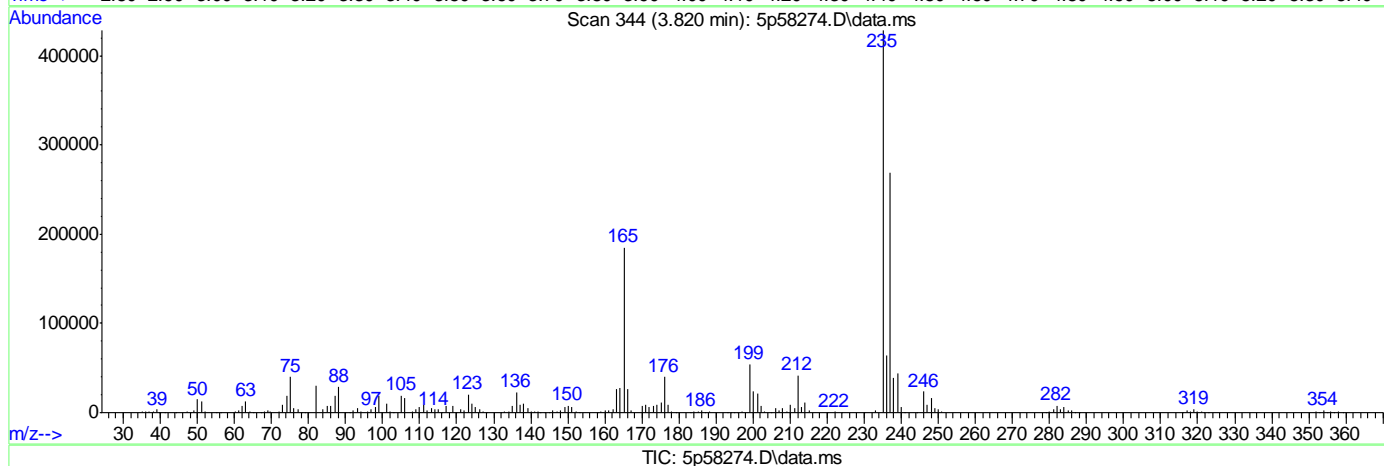
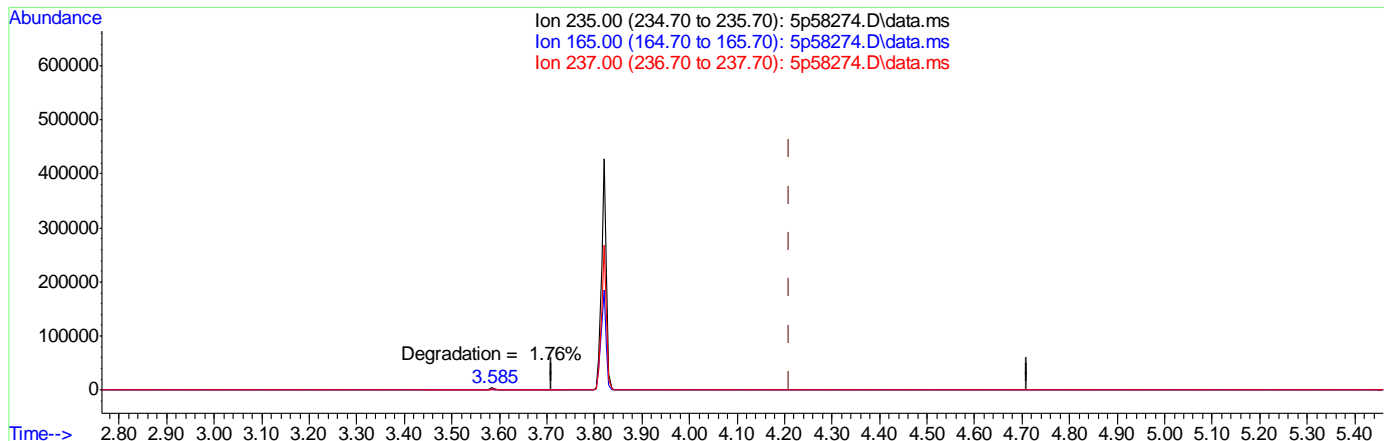
response 521290

Ion	Exp%	Act%
184.05	100	100
92.05	10.80	12.79
0.00	0.00	0.00
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58274.D  
 Acq On : 9 Apr 2019 10:54 am  
 Operator : yujiac  
 Sample : dftpp  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 09 11:00:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Wed Feb 13 11:39:00 2019  
 QLast Update : Wed Feb 13 11:39:00 2019  
 Response via : Initial Calibration



(3) PP-DDT (MC)

3.820min (-0.390) 159.61ng m

response 313214

Ion	Exp%	Act%
235.00	100	100
165.00	57.30	43.17
237.00	65.20	62.78
0.00	0.00	0.00

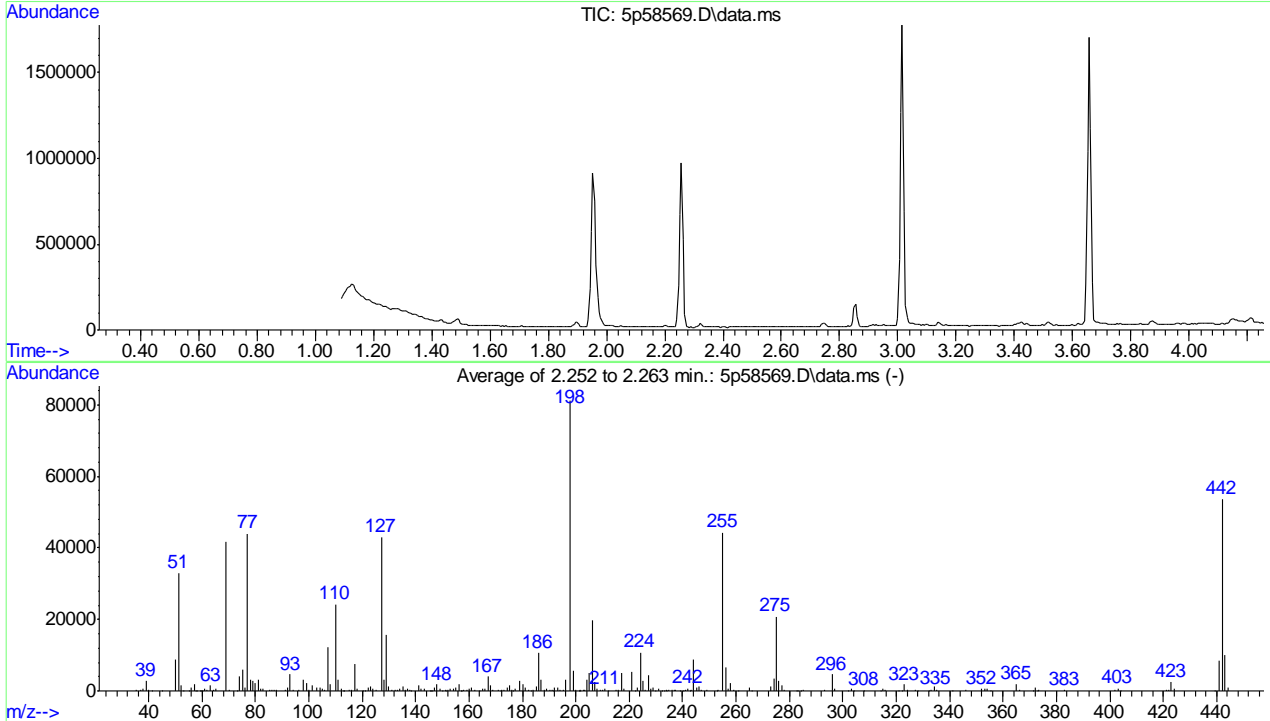


## DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58569.D  
 Acq On : 17 Apr 2019 7:50 pm  
 Operator : chriss2  
 Sample : dftpp  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 Last Update : Sun Apr 14 16:00:36 2019



AutoFind: Scans 219, 220, 221; Background Corrected with Scan 215

AUTOFIND via AUTOINTEGRATE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.7	33049	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.5	41869	PASS
70	69	0.00	2	0.4	171	PASS
127	198	40	60	53.1	43130	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	81250	PASS
199	198	5	9	7.0	5689	PASS
275	198	10	30	25.7	20853	PASS
365	198	1	100	2.4	1936	PASS
441	443	0.10	100	82.4	8383	PASS
442	198	40	100	66.2	53778	PASS
443	442	17	23	18.9	10178	PASS

Average of 2.252 to 2.263 min.: 5p58569.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.15	171	54.90	119	64.15	249	80.05	2230
37.05	259	56.00	955	65.05	719	81.00	3086
38.05	496	57.05	1873	69.00	41869	82.00	723
39.10	2705	57.80	72	70.10	171	82.95	504
40.10	424	58.10	67	73.10	165	85.15	436
41.10	122	59.10	67	74.10	3964	86.00	425
44.95	3	59.80	83	75.10	5868	87.10	368
50.10	8817	60.10	79	76.10	1067	88.00	172
51.10	33049	61.05	531	77.10	44005	91.00	302
52.10	1671	62.00	419	78.10	3142	92.05	863
53.10	89	63.10	1548	79.00	2739	93.00	4615

Average of 2.252 to 2.263 min.: 5p58569.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.05	377	108.00	1948	121.10	74	133.00	251
96.10	356	110.00	24152	122.05	836	134.05	488
98.00	3139	111.00	3059	123.00	1175	135.10	1161
99.05	2359	112.10	599	124.00	599	136.05	404
100.05	300	112.90	82	125.10	447	137.00	629
101.10	1659	113.20	82	127.10	43130	137.70	220
103.00	811	115.05	247	128.00	3092	138.20	115
104.00	926	116.05	432	129.00	15669	141.00	1724
105.05	552	117.00	7648	130.00	1309	142.05	709
106.05	275	118.05	539	131.05	283	143.05	541
107.05	12268	120.10	87	132.15	268	145.20	71

Average of 2.252 to 2.263 min.: 5p58569.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
145.90	92	155.05	964	166.10	573	176.20	148
146.10	68	156.10	1814	167.05	3975	177.05	713
147.10	953	156.90	137	168.00	1579	179.00	2803
148.00	1804	157.10	165	169.05	225	180.10	1867
149.05	500	158.00	377	171.05	316	181.00	829
150.00	84	159.05	268	171.80	103	182.15	222
151.10	185	160.00	681	172.00	187	183.10	70
151.30	110	161.00	1022	172.95	437	184.05	183
152.00	185	162.10	264	174.10	831	185.15	1354
153.00	589	163.90	154	175.10	1464	186.05	10625
154.00	502	165.00	701	176.00	318	187.10	3231

Average of 2.252 to 2.263 min.: 5p58569.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
188.05	280	199.00	5689	208.00	717	223.05	1060
189.05	548	200.00	461	209.10	311	224.10	10821
190.05	197	201.10	145	210.05	311	225.05	2759
191.00	268	201.40	407	210.95	621	226.05	262
191.40	131	201.70	85	212.10	79	227.00	4465
192.10	911	203.05	337	215.00	360	228.05	629
193.05	1087	203.30	244	216.05	384	228.95	876
194.15	203	204.10	3003	217.00	4960	229.70	77
195.10	221	205.10	5134	218.05	780	231.10	495
196.05	3028	206.10	19671	221.10	5434	232.10	70
198.00	81250	207.10	2565	222.10	114	233.10	79

Average of 2.252 to 2.263 min.: 5p58569.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
233.80	68	243.10	372	258.00	2322	282.80	123
234.05	213	244.10	8865	259.05	353	283.10	99
234.90	270	245.10	1084	260.90	83	284.10	68
235.95	192	246.05	1365	265.05	853	285.10	224

237.00	201	247.05	260	266.00	160	293.00	290
237.20	186	249.05	329	273.00	1333	296.00	4653
239.10	91	252.90	117	274.10	3422	297.05	783
240.10	99	253.15	214	275.05	20853	301.90	89
240.90	188	255.00	44232	276.05	2763	303.05	694
242.00	657	256.00	6688	277.05	1505	304.00	135
242.80	151	257.10	560	278.10	201	308.00	73

Average of 2.252 to 2.263 min.: 5p58569.D\data.ms  
dftpp

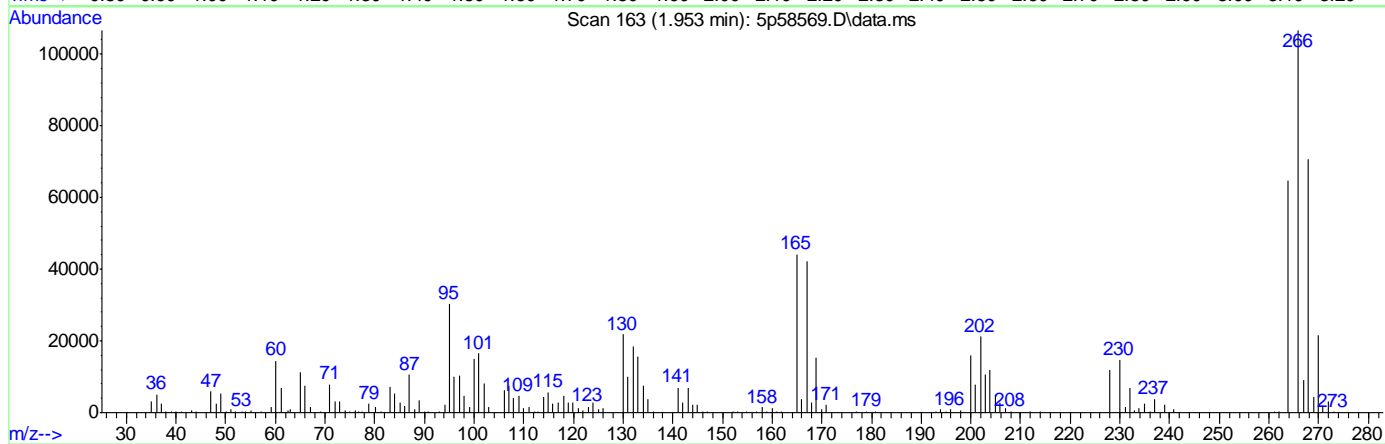
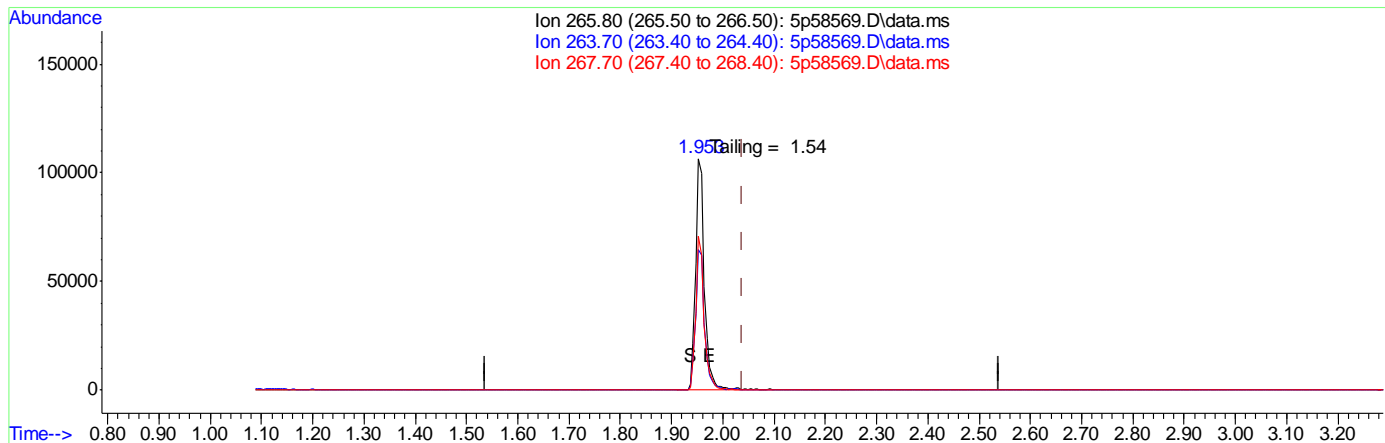
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
314.00	73	334.05	1150	372.10	970	439.10	89
315.00	501	335.05	348	372.80	88	441.05	8383
315.90	346	341.10	83	373.10	319	442.10	53778
321.00	86	346.00	447	383.00	253	443.05	10178
322.20	74	352.00	535	402.05	378	444.10	849
323.05	1865	353.05	487	403.05	632		
324.10	401	354.05	647	404.00	68		
327.00	235	355.05	136	421.05	277		
328.00	115	365.05	1936	422.00	390		
332.00	109	366.00	261	423.05	2469		
333.10	221	371.00	86	424.05	610		

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58569.D  
 Acq On : 17 Apr 2019 7:50 pm  
 Operator : chriss2  
 Sample : dftpp  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 17 19:55:45 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



TIC: 5p58569.D\data.ms

(1) Pentachlorophenol (MC)

1.953min (-0.086) 74.38ng

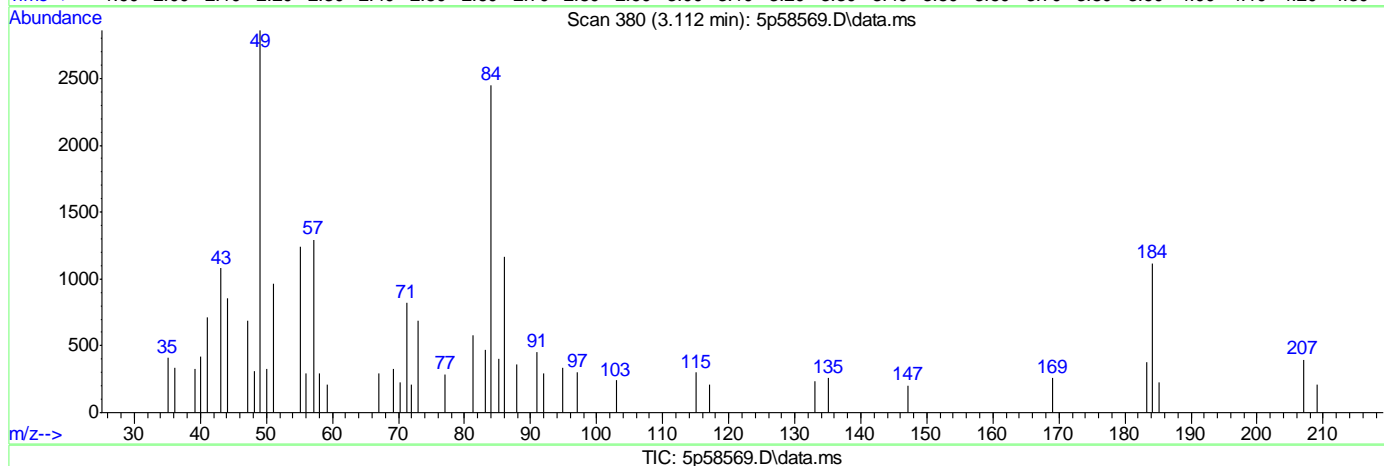
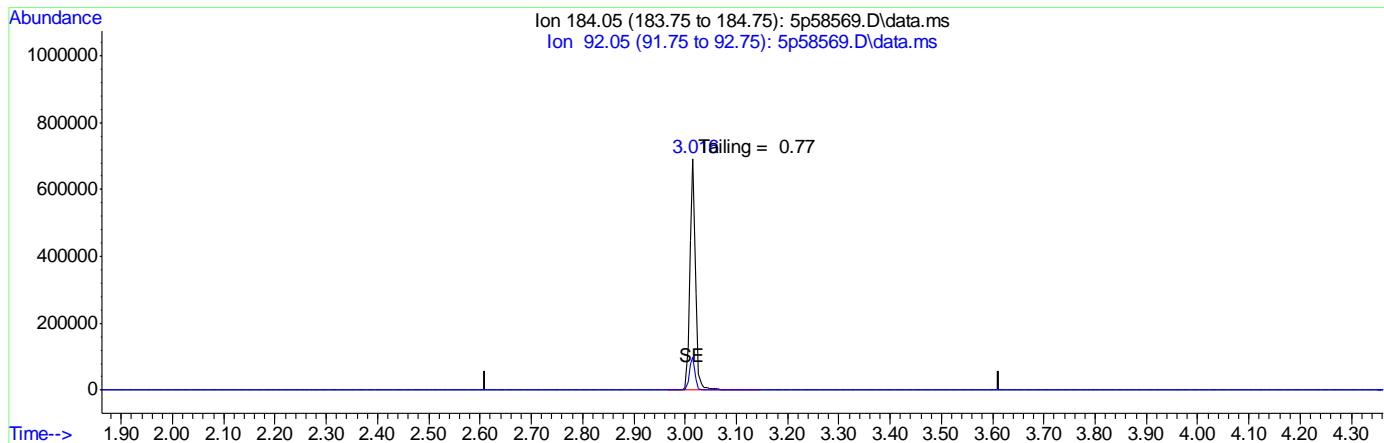
response 124017

Ion	Exp%	Act%
265.80	100	100
263.70	60.70	60.63
267.70	65.20	66.22
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58569.D  
 Acq On : 17 Apr 2019 7:50 pm  
 Operator : chriss2  
 Sample : dftpp  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 17 19:55:45 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



(2) Benzidine (M)

3.112min (-3.112) 0.00ng

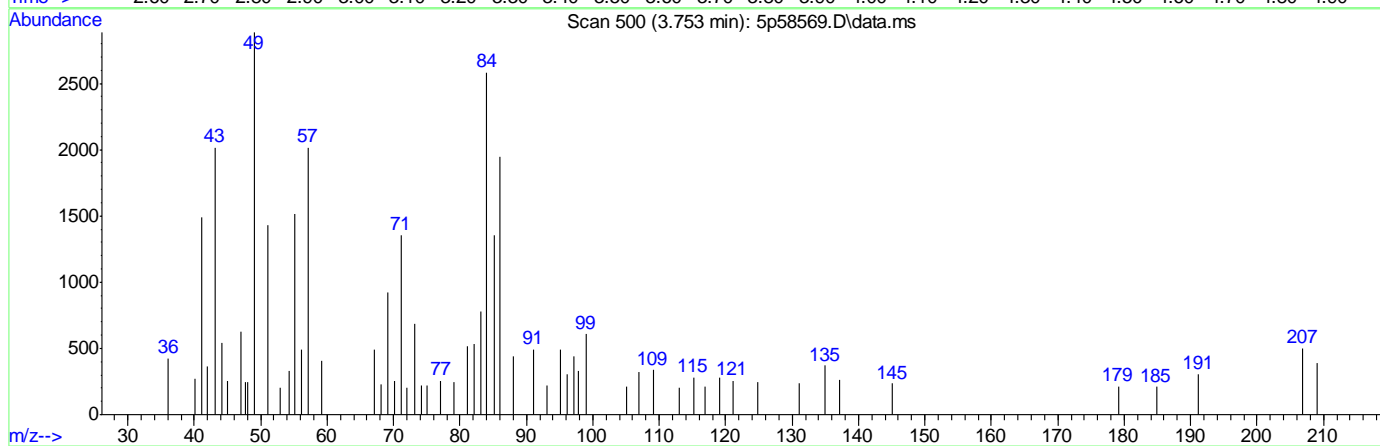
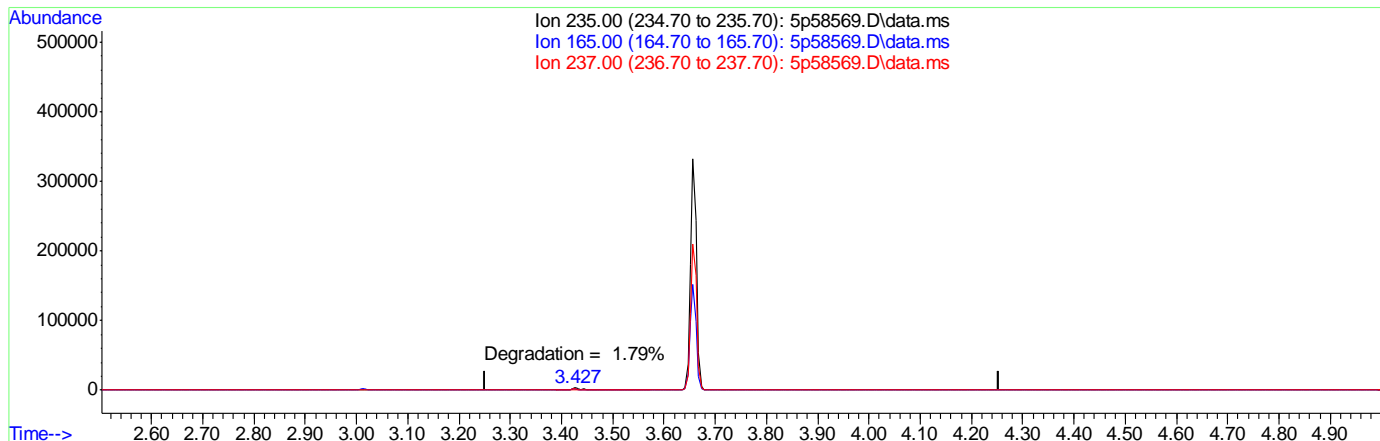
response 0

Ion	Exp%	Act%
184.05	100	0.00
92.05	12.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58569.D  
 Acq On : 17 Apr 2019 7:50 pm  
 Operator : chriss2  
 Sample : dftpp  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 17 19:55:45 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



TIC: 5p58569.D\data.ms

(3) PP-DDT (MC)

3.753min (-3.753) 0.00ng

response 0

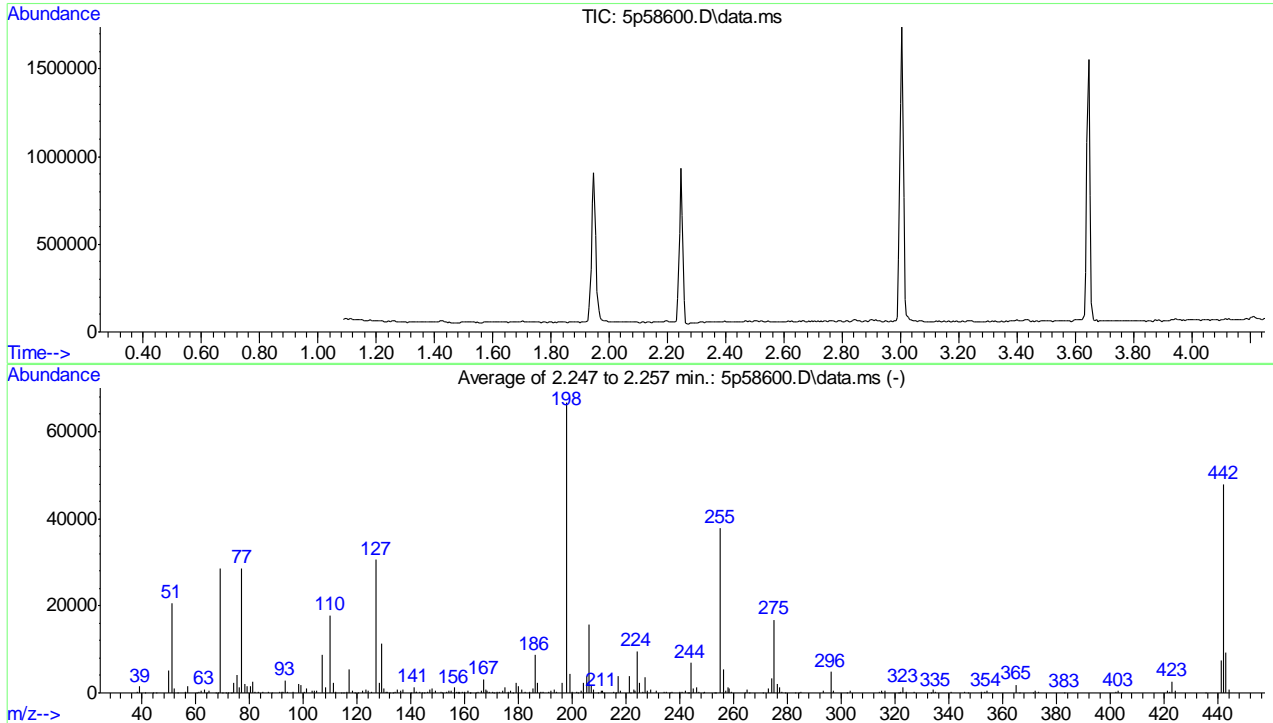
Ion	Exp%	Act%
235.00	100	0.00
165.00	48.20	0.00#
237.00	63.60	0.00#
0.00	0.00	0.00

## DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58600.D  
 Acq On : 18 Apr 2019 9:16 am  
 Operator : christc2  
 Sample : dftpp  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 Last Update : Sun Apr 14 16:00:36 2019



AutoFind: Scans 218, 219, 220; Background Corrected with Scan 205

AUTOFIND via AUTOINTEGRATE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.9	20600	PASS
68	69	0.00	2	0.3	72	PASS
69	198	0.00	100	43.0	28675	PASS
70	69	0.00	2	0.4	120	PASS
127	198	40	60	45.9	30609	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	66701	PASS
199	198	5	9	6.5	4324	PASS
275	198	10	30	25.2	16837	PASS
365	198	1	100	2.9	1929	PASS
441	443	0.10	100	81.4	7456	PASS
442	198	40	100	71.8	47912	PASS
443	442	17	23	19.1	9158	PASS

Average of 2.247 to 2.257 min.: 5p58600.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.00	204	60.10	68	72.10	73	83.00	285
39.10	1452	61.05	315	73.00	36	85.05	335
41.05	82	62.10	438	74.10	2433	87.05	256
44.05	126	63.10	812	75.10	4104	88.00	41
45.10	69	64.00	85	76.20	1178	91.00	244
50.05	5245	65.05	471	77.05	28710	92.00	304
51.05	20600	67.30	124	78.10	2145	92.20	168
52.10	1123	68.00	72	79.10	1618	93.05	2944
53.20	77	69.00	28675	80.10	1489	94.05	279
56.00	386	70.05	120	81.05	2583	95.95	295
57.10	1528	71.00	75	82.00	387	98.05	2186

Average of 2.247 to 2.257 min.: 5p58600.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
99.00	1801	114.20	69	127.10	30609	137.05	670
100.10	143	115.00	73	128.10	2348	140.00	108
101.00	1075	116.00	234	129.05	11462	141.00	1421
103.05	526	117.00	5538	130.00	1135	141.90	321
104.05	519	118.00	473	130.90	140	142.10	202
105.05	637	118.90	68	131.10	217	143.05	326
107.05	8638	120.20	86	131.90	135	144.10	86
108.10	1405	122.05	578	133.10	77	145.00	74
110.00	17827	123.05	823	133.90	346	146.00	293
111.05	2228	124.10	462	134.95	789	147.05	704
112.10	268	125.10	308	136.05	456	147.70	100

Average of 2.247 to 2.257 min.: 5p58600.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
148.00	1117	157.95	175	168.10	511	179.00	2385
149.10	396	158.95	255	169.05	310	180.00	1543
151.10	167	160.00	275	170.10	163	181.05	714
151.60	81	161.05	561	170.90	66	182.20	155
153.05	371	161.80	71	172.00	293	184.05	226
154.00	440	162.10	94	173.00	303	185.10	1078
155.05	562	164.00	93	174.10	570	186.00	8749
156.10	1180	164.90	363	175.00	1225	187.10	2288
157.05	183	166.05	543	176.00	377	188.10	193
157.40	138	167.05	3152	177.05	556	189.10	379
157.60	117	167.90	667	178.00	118	191.10	313

Average of 2.247 to 2.257 min.: 5p58600.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
192.00	648	205.10	3841	218.00	538	231.10	477
193.05	881	206.10	15718	221.05	3908	234.00	266
194.10	155	207.05	1880	221.60	124	234.95	310
196.05	2378	207.95	655	222.90	702	236.10	89
198.00	66701	209.60	75	223.10	438	237.00	368
198.95	4324	210.55	461	224.05	9639	239.95	198
200.00	353	211.10	515	225.05	2252	240.90	283
201.45	390	211.70	139	226.00	167	242.10	455
202.10	98	215.15	282	227.00	3626	242.70	78
203.10	528	216.10	132	227.95	544	243.20	89
204.05	2358	217.00	3960	229.00	831	244.05	6898

Average of 2.247 to 2.257 min.: 5p58600.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
245.05	1141	258.10	915	278.00	258	314.90	535
246.00	1323	259.00	275	279.10	79	315.10	82
246.95	200	264.00	79	283.00	70	316.00	398
248.60	72	264.95	763	284.00	72	321.00	97



249.05	330	265.70	76	285.05	240	321.50	84
252.90	112	270.80	68	293.10	448	322.05	173
253.30	97	273.00	1165	296.00	4784	323.00	1329
255.00	37901	274.05	3231	297.05	466	324.10	216
256.00	5384	275.00	16837	302.00	89	326.95	235
257.00	478	276.05	1976	303.05	431	333.10	81
257.90	1270	277.00	1280	314.05	212	334.00	853

Average of 2.247 to 2.257 min.: 5p58600.D\data.ms  
dftpp

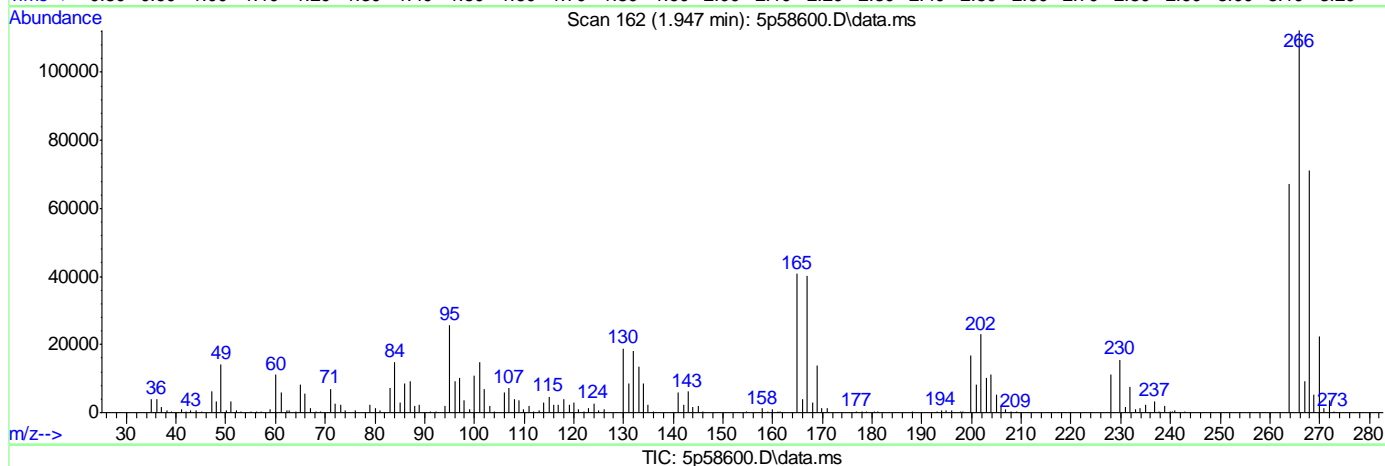
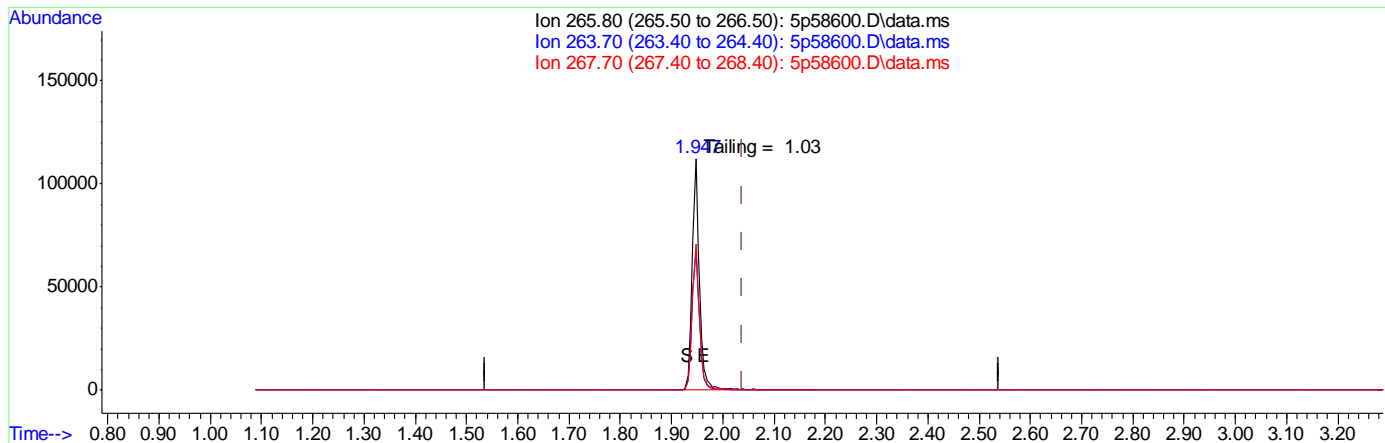
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
335.05	319	373.05	145	442.05	47912		
340.95	286	383.00	67	443.00	9158		
345.95	265	402.00	297	443.95	870		
347.00	84	402.95	474				
352.10	356	403.90	71				
353.05	222	421.05	420				
354.00	504	422.10	338				
365.00	1929	423.00	2647				
366.10	129	424.05	479				
371.00	67	435.40	71				
372.05	646	441.10	7456				

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58600.D  
 Acq On : 18 Apr 2019 9:16 am  
 Operator : christc2  
 Sample : dftpp  
 Misc : opl2947,e5p2776,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 09:22:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



(1) Pentachlorophenol (MC)

1.947min (-0.091) 65.46ng

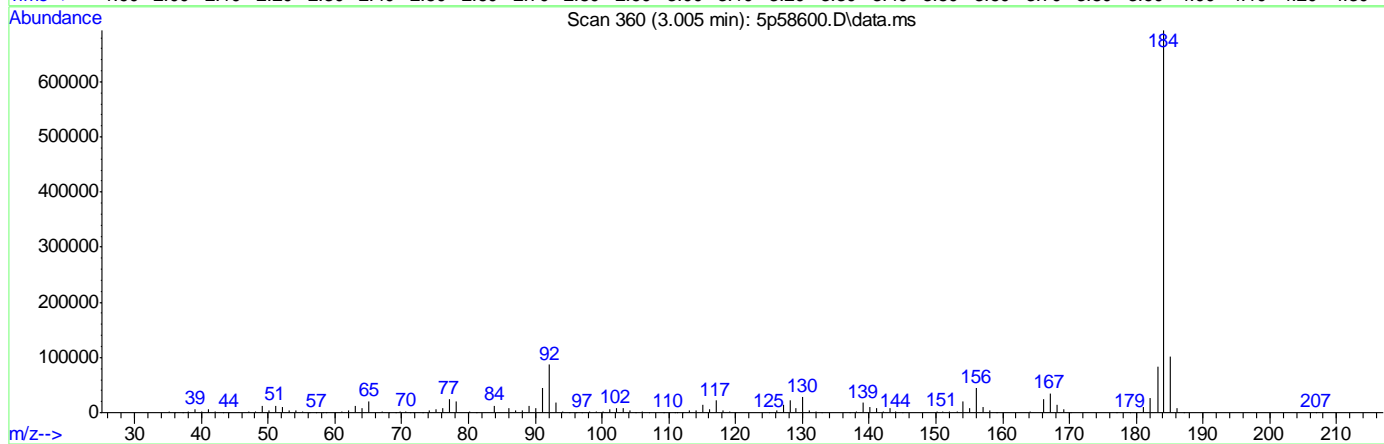
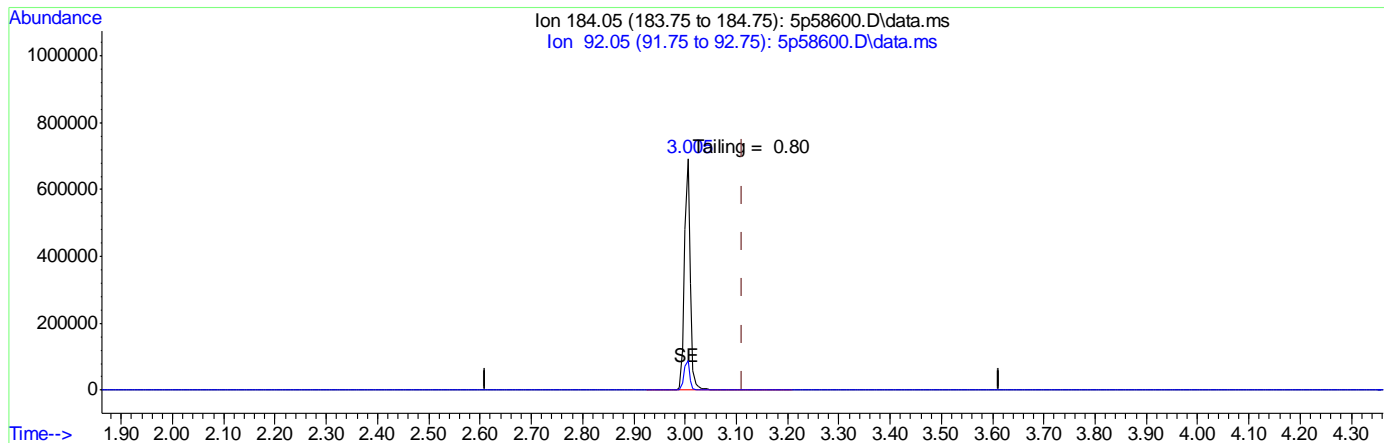
response 109144

Ion	Exp%	Act%
265.80	100	100
263.70	60.70	59.99
267.70	65.20	63.23
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58600.D  
 Acq On : 18 Apr 2019 9:16 am  
 Operator : christc2  
 Sample : dftpp  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 09:22:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



TIC: 5p58600.D\data.ms

(2) Benzidine (M)

3.005min (-0.107) 110.89ng m

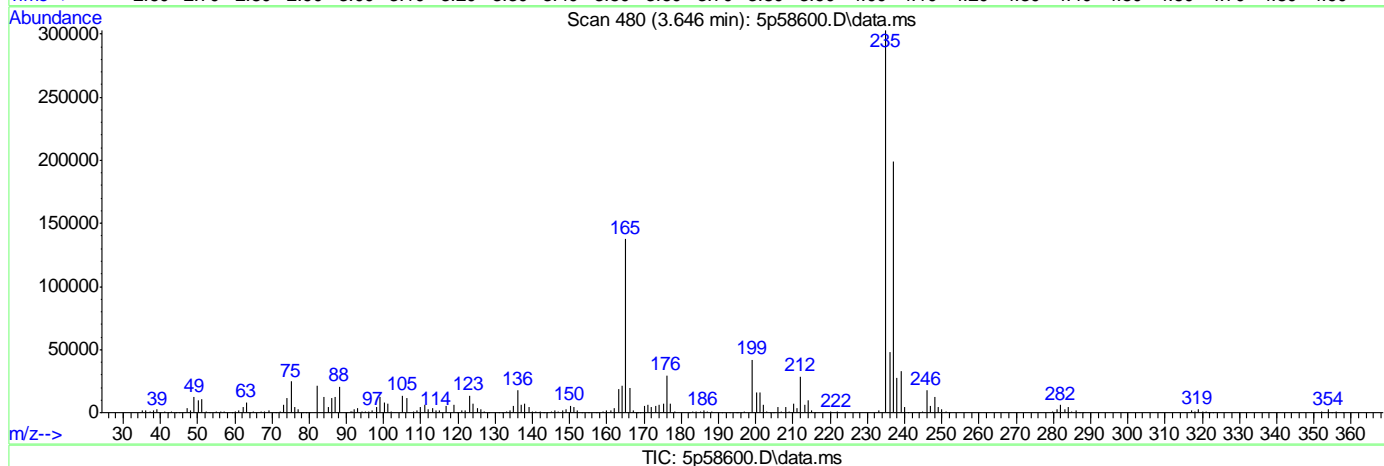
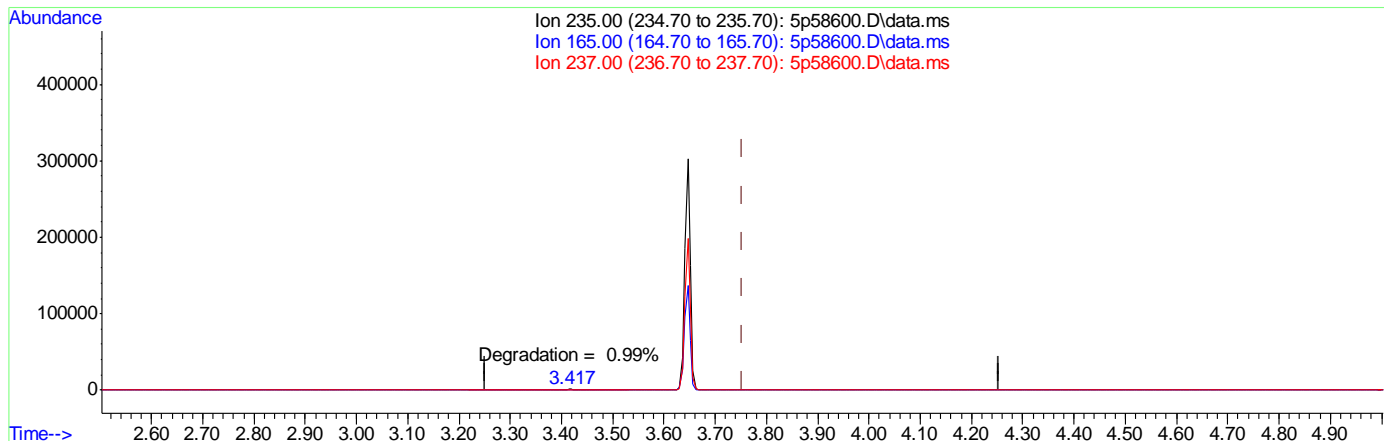
response 561259

Ion	Exp%	Act%
184.05	100	100
92.05	12.90	12.54
0.00	0.00	0.00
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58600.D  
 Acq On : 18 Apr 2019 9:16 am  
 Operator : christc2  
 Sample : dftpp  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 09:22:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



(3) PP-DDT (MC)

3.646min (-0.107) 119.79ng m

response 235076

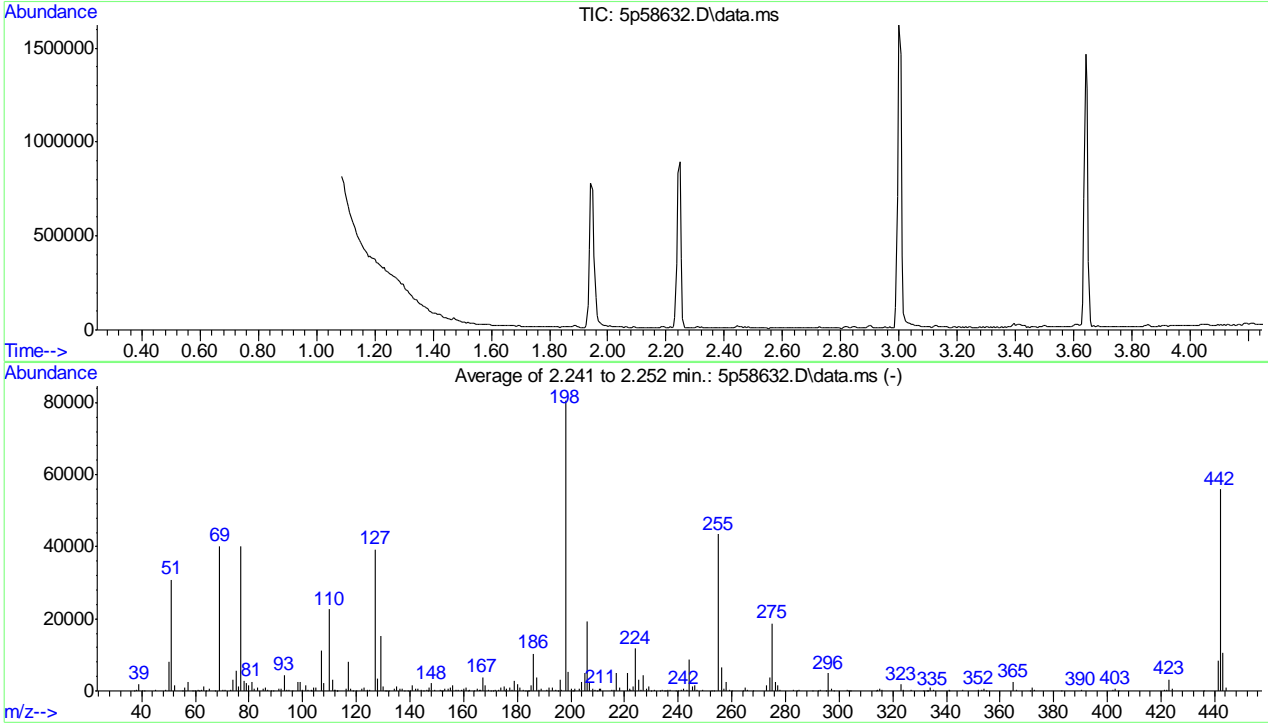
Ion	Exp%	Act%
235.00	100	100
165.00	48.20	45.34
237.00	63.60	65.60
0.00	0.00	0.00

DFTPPR

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58632.D  
 Acq On : 19 Apr 2019 12:11 am  
 Operator : carolb  
 Sample : dftpp  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 Last Update : Sun Apr 14 16:00:36 2019



AutoFind: Scans 217, 218, 219; Background Corrected with Scan 203

AUTOFIND via AUTOINTEGRATE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	38.3	30895	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	49.9	40252	PASS
70	69	0.00	2	0.7	285	PASS
127	198	40	60	48.7	39253	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	80602	PASS
199	198	5	9	6.7	5364	PASS
275	198	10	30	23.2	18672	PASS
365	198	1	100	2.9	2345	PASS
441	443	0.10	100	79.2	8436	PASS
442	198	40	100	69.4	55954	PASS
443	442	17	23	19.0	10649	PASS

Average of 2.241 to 2.252 min.: 5p58632.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.00	87	56.10	906	69.00	40252	81.00	2552
38.10	304	57.10	2444	70.10	285	82.10	599
39.05	1884	59.00	73	71.10	230	83.05	858
40.10	8	59.90	83	73.10	314	85.10	629
41.05	29	61.00	382	74.10	3192	86.00	896
45.15	256	61.30	84	75.10	5684	86.95	346
49.05	208	62.05	396	76.10	1260	88.10	69
50.10	8099	63.10	1255	77.05	40074	88.90	69
51.05	30895	64.00	73	78.10	2828	91.05	647
52.10	1467	65.10	655	79.05	2233	92.10	732
55.05	51	67.10	48	80.00	1654	93.05	4464

Average of 2.241 to 2.252 min.: 5p58632.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.05	459	105.05	971	118.00	492	130.90	74
95.00	201	107.05	11283	118.80	71	131.10	128
96.05	74	108.00	2045	120.00	92	132.10	97
98.00	2632	110.05	22663	122.00	659	134.10	655
99.00	2419	111.05	3188	123.00	1091	135.05	1152
99.95	260	111.90	209	124.00	414	136.05	500
101.00	1506	112.05	371	125.00	466	137.05	613
102.15	186	112.80	82	127.10	39253	137.70	107
103.10	399	113.00	124	128.05	3306	139.00	75
103.30	154	116.05	626	129.00	15321	140.00	153
104.10	985	117.00	8057	130.05	1203	141.00	1684

Average of 2.241 to 2.252 min.: 5p58632.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
142.05	524	152.00	102	162.15	180	173.05	354
143.00	497	153.00	493	163.90	81	174.00	814
144.00	189	154.00	509	165.00	681	175.10	1309
144.80	84	155.05	945	166.10	318	175.70	102
146.10	361	156.05	1414	166.30	448	176.05	628
146.70	100	157.05	393	167.05	3805	177.00	951
147.00	788	157.95	310	168.00	1509	178.05	244
148.00	2038	159.05	200	169.05	281	179.00	2759
149.05	364	160.05	599	170.00	146	180.05	1806
151.10	240	161.00	1011	171.10	76	181.05	992
151.60	128	161.90	74	171.95	317	182.00	202

Average of 2.241 to 2.252 min.: 5p58632.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
183.00	87	194.10	232	204.10	2557	217.00	4847
183.80	115	195.20	85	205.10	4934	218.00	810
184.20	87	196.00	3188	206.10	19160	221.10	4988
185.05	1557	196.60	461	207.00	2554	221.70	494
186.05	10410	198.00	80602	208.05	540	222.10	202
187.05	3610	199.00	5364	208.95	225	223.05	1386
188.10	355	200.00	608	209.80	83	224.10	11789
189.00	652	200.60	100	210.55	668	225.05	3084
190.95	413	200.80	76	211.10	770	226.10	333
192.00	908	201.55	682	215.05	253	227.00	4384
193.00	1015	203.05	671	216.05	325	227.95	610

Average of 2.241 to 2.252 min.: 5p58632.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
229.05	1131	240.95	296	256.00	6456	275.05	18672
229.95	162	242.00	586	257.00	532	276.05	2444
231.00	424	243.05	355	258.00	2633	277.00	1581
233.20	70	244.10	8751	259.10	281	278.00	305

234.05	330	245.10	1175	259.90	66	282.95	171
234.80	90	246.00	1446	263.90	69	284.00	71
235.10	160	247.05	381	265.00	848	285.05	258
236.05	185	249.05	410	265.95	215	290.10	69
236.95	373	252.60	83	268.00	71	292.20	83
239.00	152	253.30	112	273.05	1425	293.05	309
240.00	93	255.00	43469	274.05	3801	295.00	73

Average of 2.241 to 2.252 min.: 5p58632.D\data.ms  
dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
296.00	4955	323.05	1824	352.05	479	402.00	415
297.05	592	324.05	270	353.05	408	403.05	519
298.10	73	326.85	189	354.05	632	404.00	81
302.95	394	331.20	73	354.90	95	421.10	356
303.20	133	332.50	70	365.00	2345	422.00	337
303.80	71	333.00	112	365.90	181	423.05	3196
304.10	92	334.00	1095	371.10	92	424.00	662
313.80	78	335.05	293	371.95	1050	436.00	87
314.10	195	340.95	184	372.95	245	441.10	8436
314.95	592	341.20	74	382.90	102	442.05	55954
316.05	303	346.00	418	390.10	184	443.05	10649

Average of 2.241 to 2.252 min.: 5p58632.D\data.ms  
dftpp

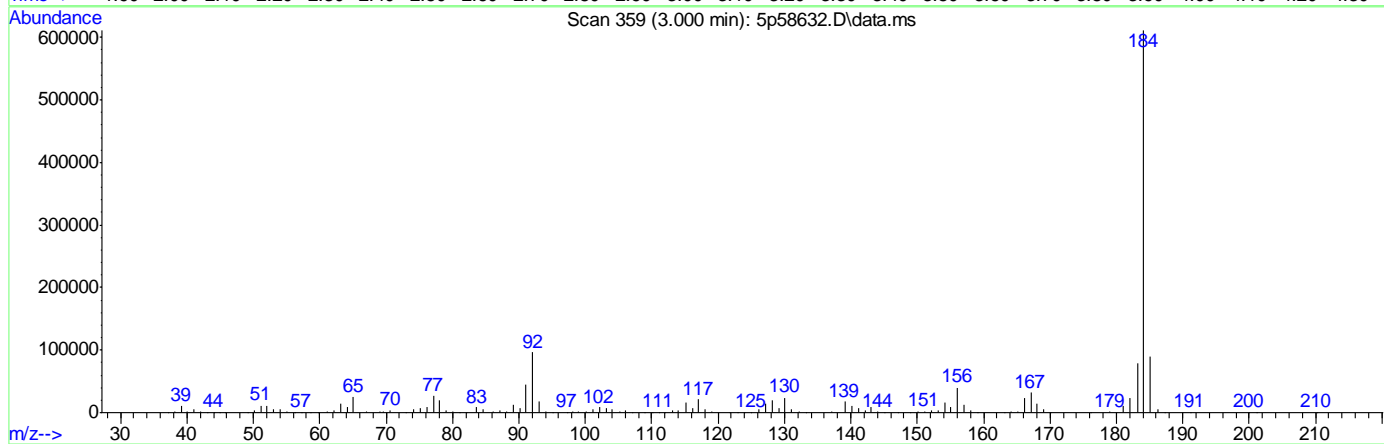
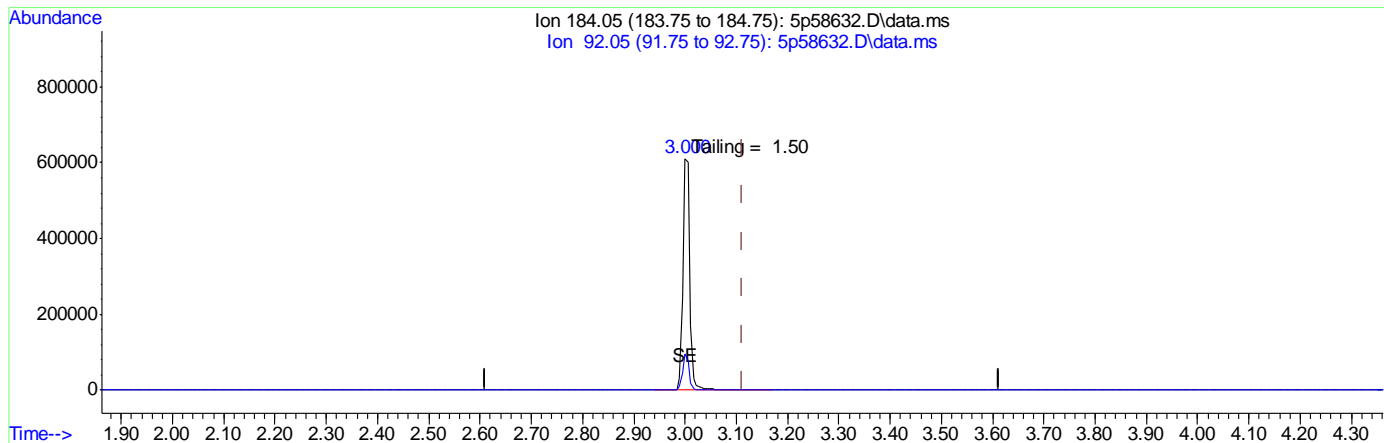
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
444.05	805						

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58632.D  
 Acq On : 19 Apr 2019 12:11 am  
 Operator : carolb  
 Sample : dftpp  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 19 00:16:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



TIC: 5p58632.D\data.ms

(2) Benzidine (M)

3.000min (-0.112) 111.55ng m

response 564638

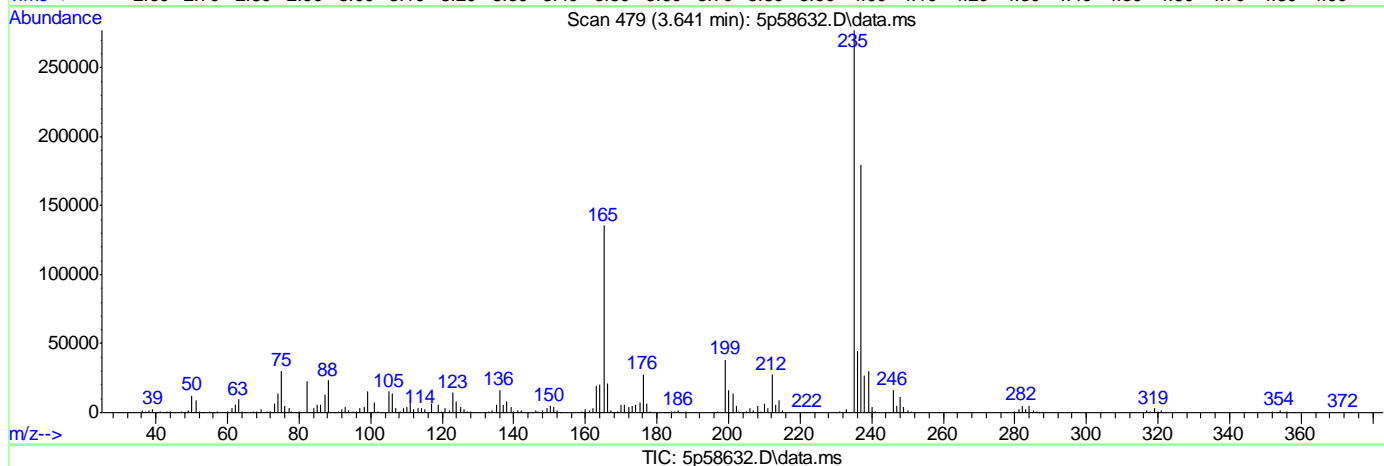
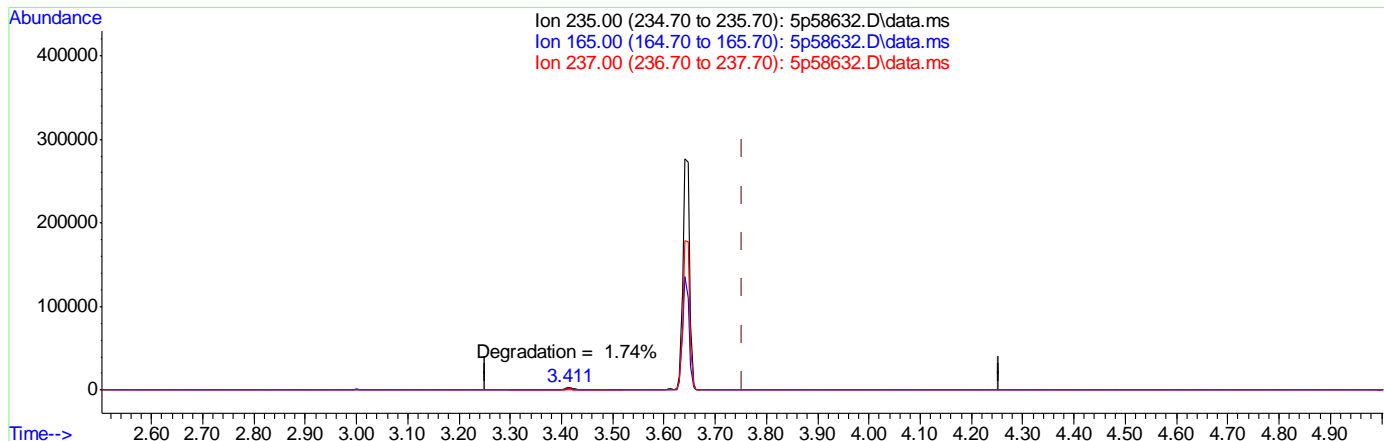
Ion	Exp%	Act%
184.05	100	100
92.05	12.90	15.71
0.00	0.00	0.00
0.00	0.00	0.00



## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58632.D  
 Acq On : 19 Apr 2019 12:11 am  
 Operator : carolb  
 Sample : dftpp  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 19 00:16:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



(3) PP-DDT (MC)

3.641min (-0.112) 126.67ng m

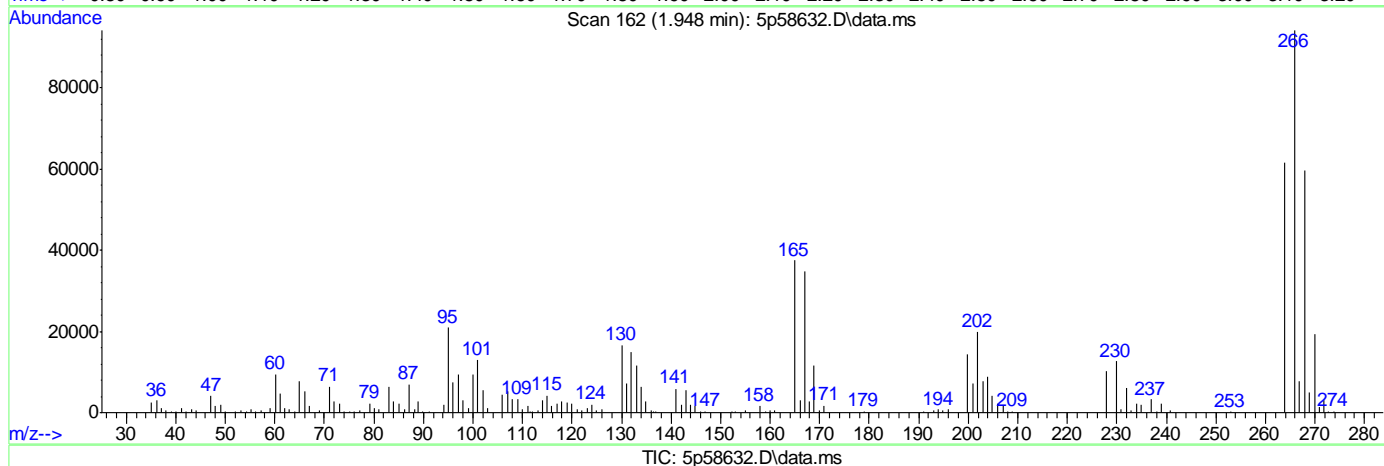
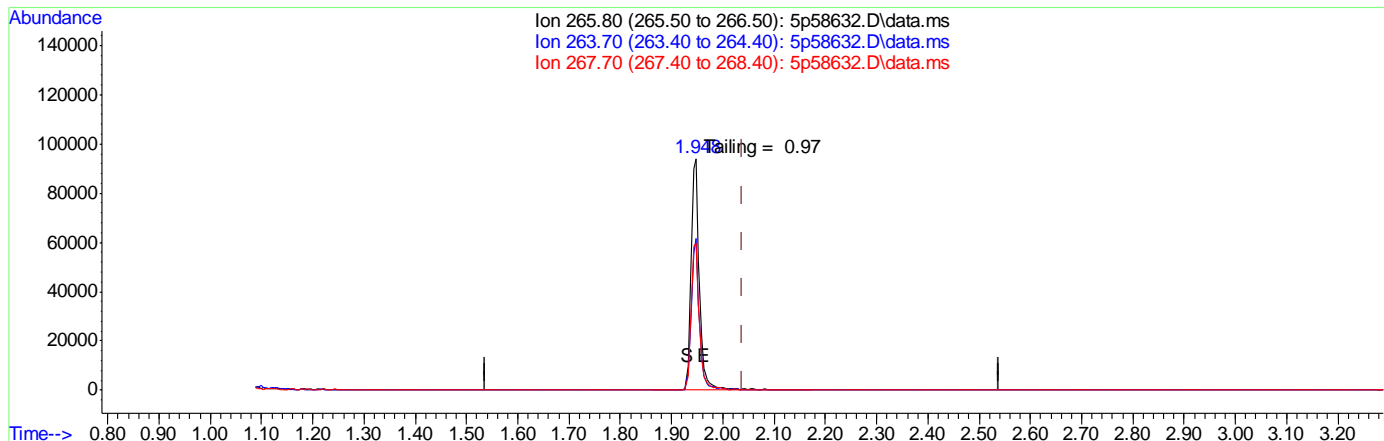
response 248581

Ion	Exp%	Act%
235.00	100	100
165.00	48.20	48.95
237.00	63.60	64.68
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58632.D  
 Acq On : 19 Apr 2019 12:11 am  
 Operator : carolb  
 Sample : dftpp  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 19 07:54:58 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\DFTPP5P.M  
 Quant Title : Semi Volatile Extractables by GC/MS zb-5msi 30mx0.Sun Apr 14 16:00:36 2019  
 QLast Update : Sun Apr 14 16:00:36 2019  
 Response via : Initial Calibration



(1) Pentachlorophenol (MC)

1.948min (-0.091) 64.61ng

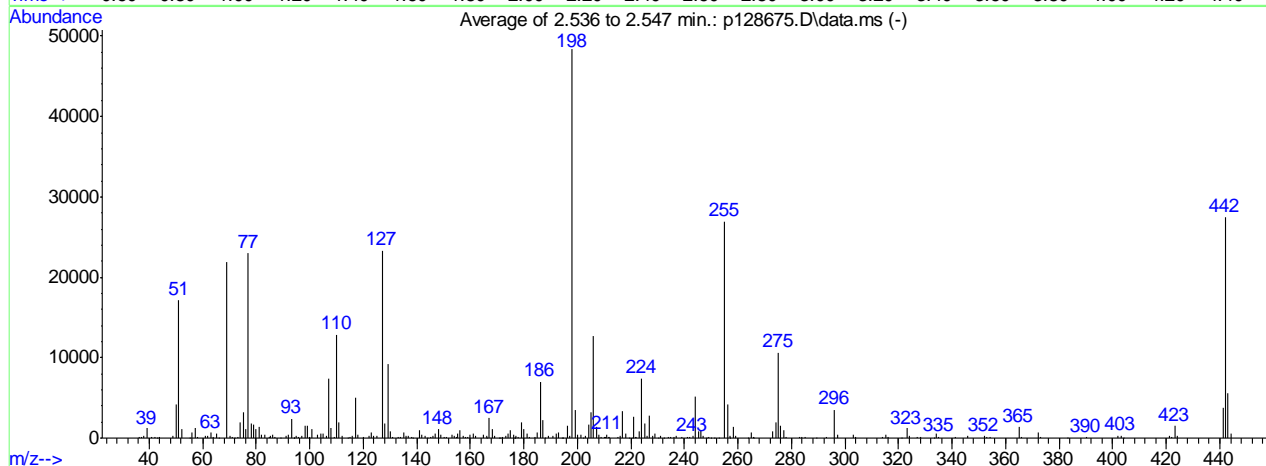
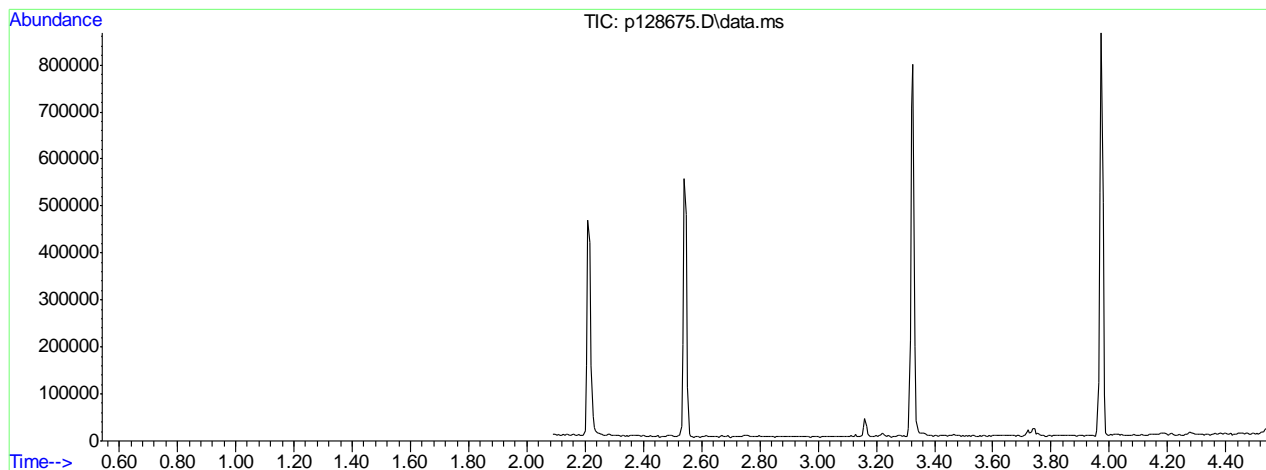
response 107725

Ion	Exp%	Act%
265.80	100	100
263.70	60.70	65.50
267.70	65.20	63.48
0.00	0.00	0.00

DFTPP

Data File : C:\msdchem\1\DATA\EP5819\p128675.D                      Vial: 1  
 Acq On : 25 Mar 2019 9:46 am                                              Operator: christc2  
 Sample : dftpp                                                                      Inst : MSVOAMSP  
 Misc : op13894,ep5819,1000,,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 85, 86, 87; Background Corrected with Scan 81

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result
51	198	30	60	35.5	17177	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.2	21850	PASS
70	69	0.00	2	1.4	297	PASS
127	198	40	60	48.3	23356	PASS
197	198	0.00	1	0.5	244	PASS
198	198	100	100	100.0	48338	PASS
199	198	5	9	7.4	3559	PASS
275	198	10	30	22.0	10614	PASS
365	198	1	100	2.9	1383	PASS
441	443	0.10	100	68.9	3804	PASS
442	198	40	100	56.9	27494	PASS
443	442	17	23	20.1	5523	PASS

Average of 2.536 to 2.547 min.: p128675.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	140	52.10	1060	69.00	21850	80.05	1103
37.10	107	55.10	46	70.05	297	81.10	1338
38.10	251	56.10	706	71.00	115	82.05	430
39.10	1250	57.10	1235	72.00	59	83.10	417
41.05	76	58.05	199	73.00	134	84.90	93
42.00	88	61.05	317	74.10	1895	85.15	320
43.10	64	62.05	240	75.10	3274	86.10	402
44.05	87	63.05	643	76.10	1096	87.10	149
49.05	297	64.10	79	77.10	23040	89.00	63
50.10	4145	65.15	543	78.10	1798	91.05	333
51.10	17177	66.00	51	79.10	1621	92.05	477

Average of 2.536 to 2.547 min.: p128675.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
93.10	2416	104.05	508	116.05	306	130.05	800
94.00	61	105.10	607	117.10	4972	131.05	133
94.20	73	106.05	234	118.05	430	133.05	127
95.05	222	107.10	7389	120.00	84	133.95	205
95.95	146	108.10	1270	122.05	344	135.05	707
97.05	285	109.00	92	123.05	653	136.10	306
98.10	1522	110.05	12895	124.00	330	137.00	301
99.05	1541	111.05	1967	125.05	343	138.00	127
100.10	158	112.15	254	127.10	23356	138.30	50
101.00	1091	114.00	52	128.10	1864	141.05	1028
103.05	402	115.05	114	129.10	9244	142.00	377

Average of 2.536 to 2.547 min.: p128675.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
143.00	269	154.90	127	166.30	61	176.40	51
144.10	57	155.10	613	167.05	2477	176.80	64
145.10	87	156.10	968	168.05	1092	177.05	316
145.95	260	157.15	215	169.05	236	178.05	153
147.05	603	158.05	167	170.70	56	179.00	1891
148.05	1121	159.05	170	171.10	55	180.10	1086
149.05	379	160.00	355	172.10	128	181.05	621
150.10	106	161.00	592	173.05	305	182.00	136
151.00	88	162.05	220	174.00	494	183.95	152
153.05	398	165.00	450	175.05	1005	185.05	671
154.05	255	166.05	218	176.00	356	186.10	7001

Average of 2.536 to 2.547 min.: p128675.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
187.05	2210	199.00	3559	209.95	132	221.10	2628
188.00	69	200.05	397	210.60	159	221.80	86
189.05	303	201.50	362	211.05	429	222.00	206
191.00	307	202.00	53	211.70	81	223.00	795
191.95	572	203.05	320	211.95	148	224.10	7407
193.05	736	204.05	1686	215.05	173	225.05	1749
194.00	67	205.10	3207	215.95	309	226.10	250
194.80	52	206.10	12748	217.00	3305	227.05	2861
196.10	1582	207.05	1380	218.10	559	228.05	330
197.00	244	208.05	452	219.10	55	229.10	606
198.00	48338	209.00	121	220.40	53	230.10	50

Average of 2.536 to 2.547 min.: p128675.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
231.05	255	245.10	807	257.05	259	277.00	1013
232.10	56	246.00	1047	258.05	1446	278.00	97
234.00	185	247.05	289	259.05	257	283.00	128
234.95	208	248.10	50	263.90	53	284.00	98

236.05	133	249.05	140	265.00	710	285.05	199
237.05	221	250.00	50	265.80	60	289.10	50
238.95	155	251.10	66	266.00	128	293.10	187
240.95	124	253.00	51	273.00	884	296.10	3488
242.00	179	255.10	26976	274.05	1948	297.10	432
243.10	234	256.05	4190	275.10	10614	303.10	382
244.10	5141	256.90	55	276.05	1495	304.05	133

Average of 2.536 to 2.547 min.: p128675.D\data.ms  
dftpp

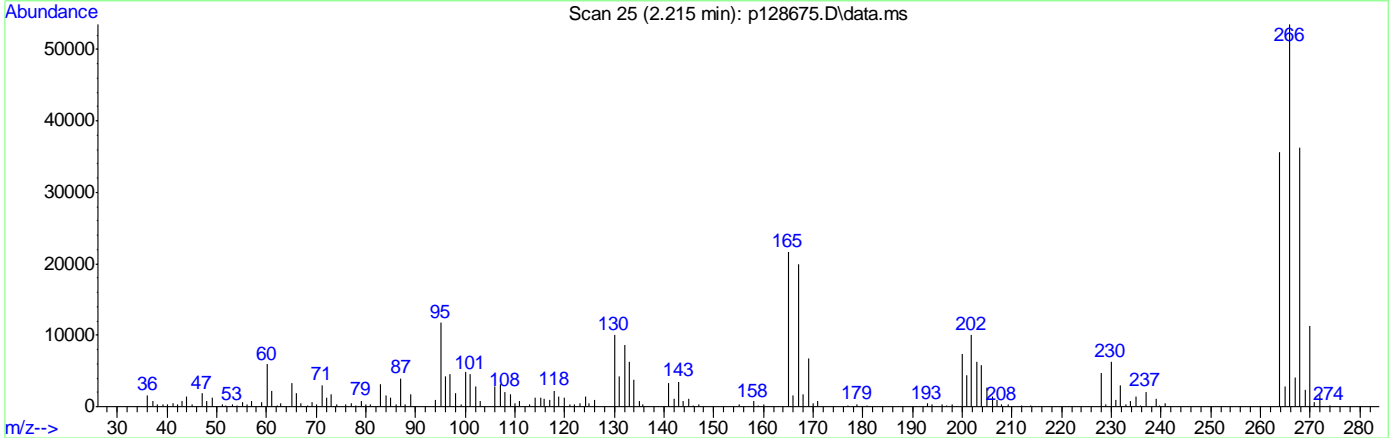
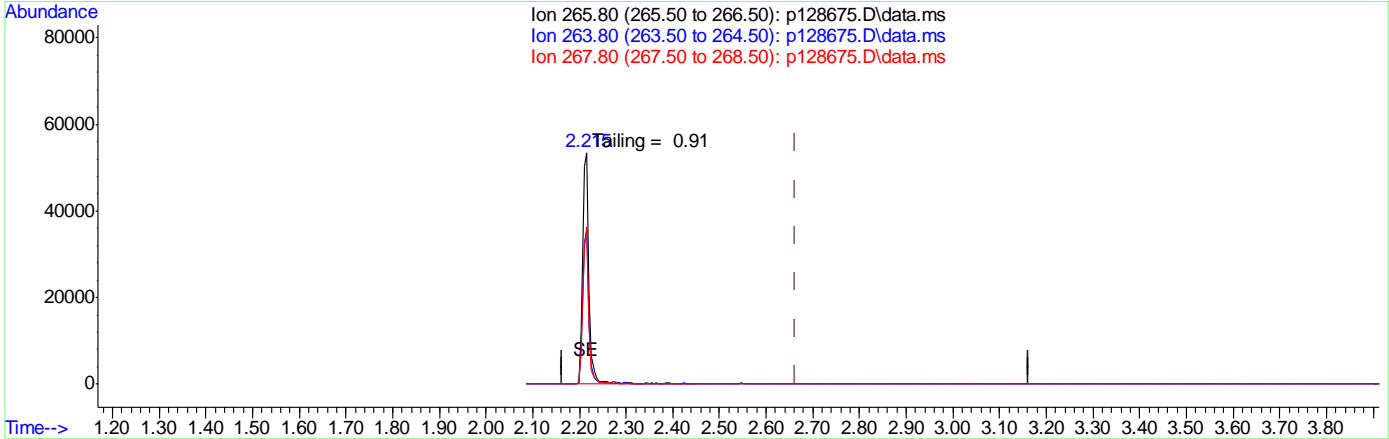
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
314.10	116	341.05	164	402.00	264		
315.00	358	345.95	242	403.00	307		
316.05	181	352.05	274	404.10	51		
321.10	54	353.10	180	421.10	264		
323.05	1242	354.05	211	422.00	111		
324.10	220	365.00	1383	423.10	1512		
326.95	163	366.00	161	424.10	306		
328.10	121	372.10	695	441.10	3804		
333.10	60	373.10	78	442.10	27494		
334.05	615	383.10	69	443.10	5523		
335.05	160	390.05	127	444.05	506		

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128675.D  
 Acq On : 25 Mar 2019 9:46 am  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 25 09:52:29 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: p128675.D\data.ms

(1) Pentachlorophenol (t)  
 2.215min (-0.448) 39.19ppb m  
 response 50141

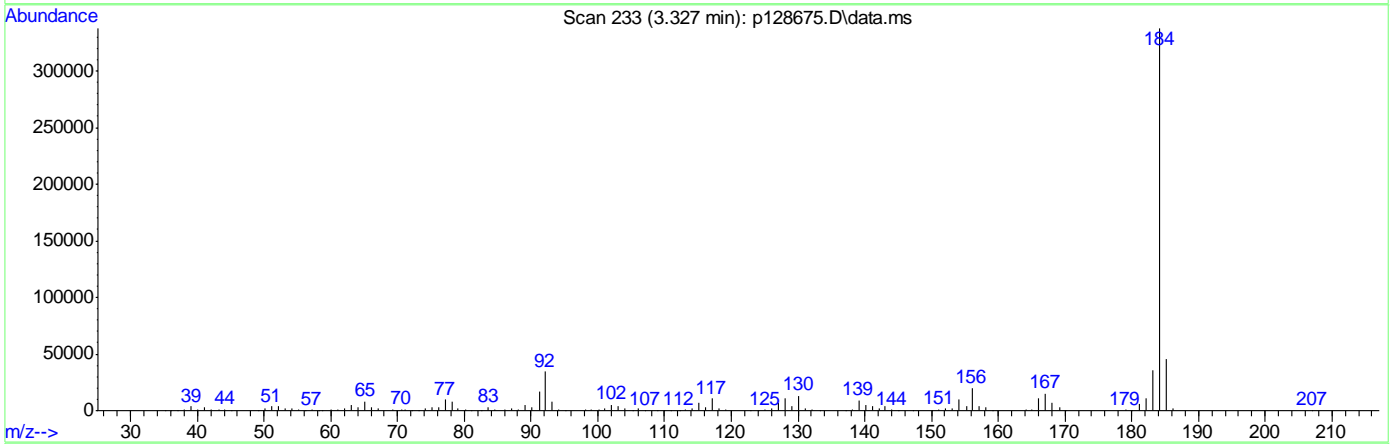
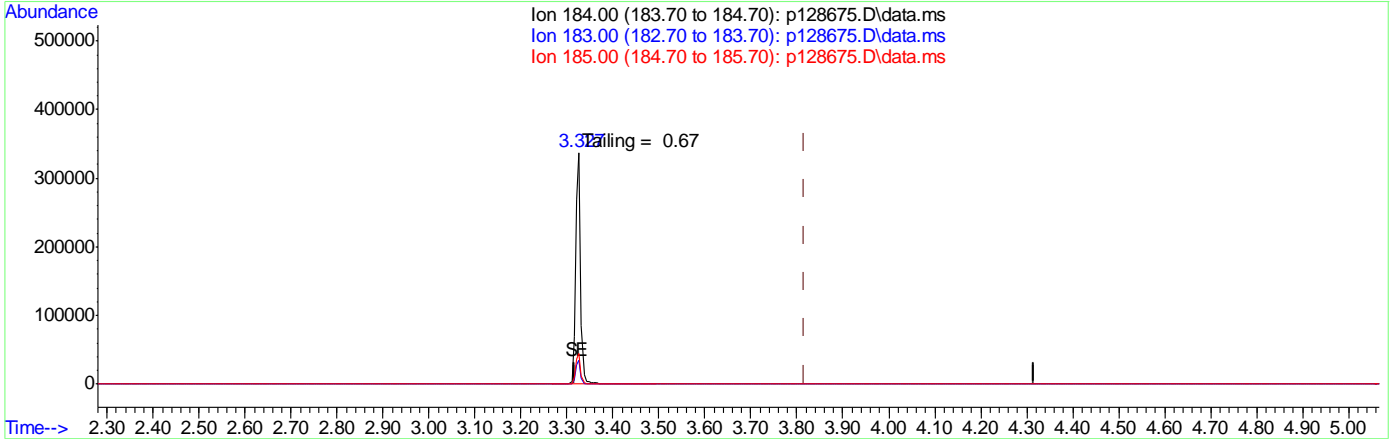
Ion	Exp%	Act%
265.80	100	100
263.80	63.90	66.52
267.80	66.90	67.78
0.00	0.00	0.00

9.5.7.1  
**9**

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128675.D  
 Acq On : 25 Mar 2019 9:46 am  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 25 09:52:29 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: p128675.D\data.ms

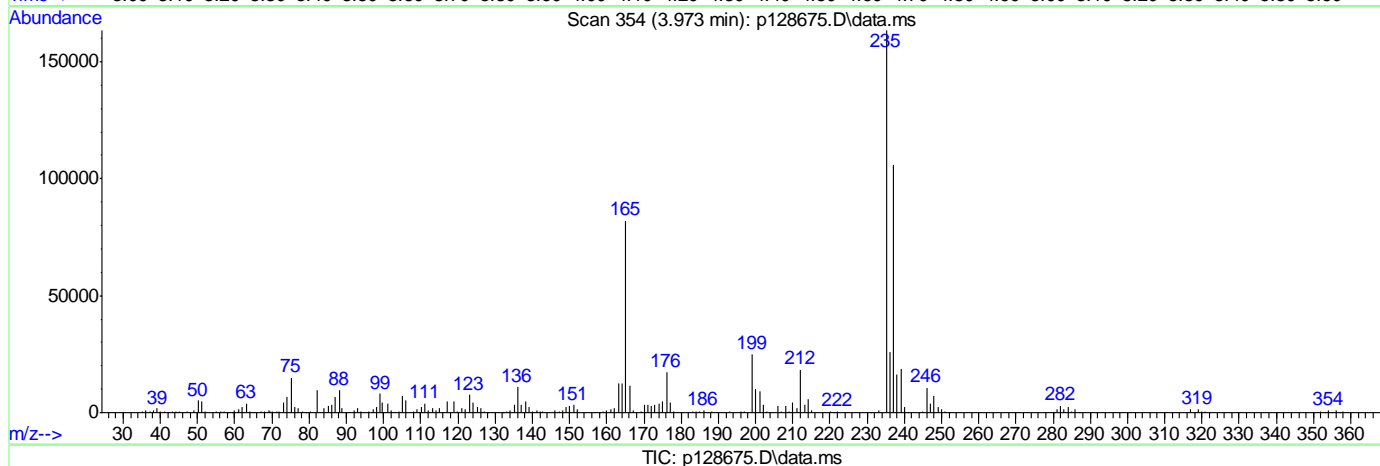
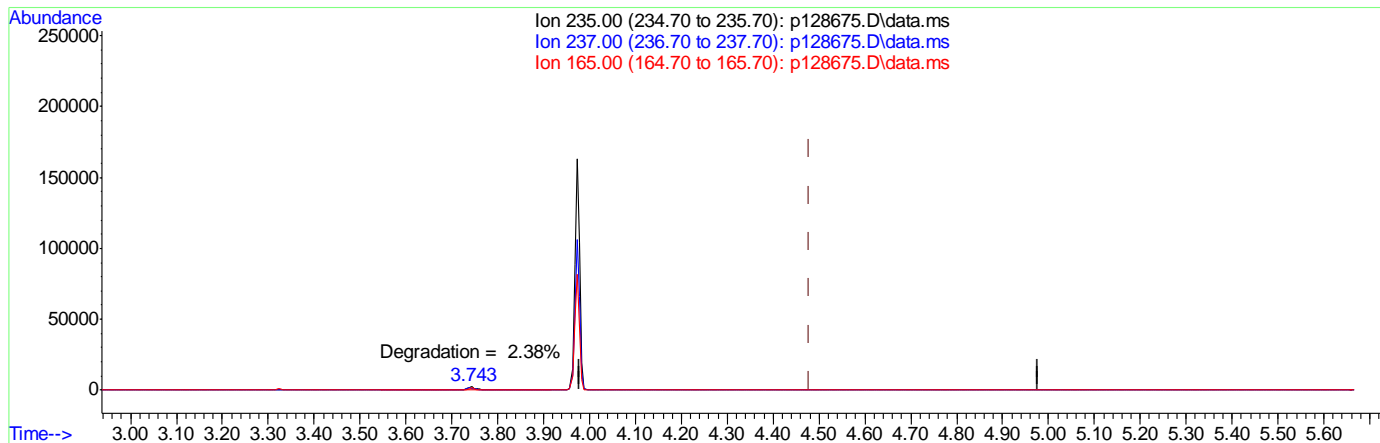
(2) Benzidine (t)  
 3.327min (-0.490) 15.53ppb m  
 response 256762

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\EP5819\  
 Data File : p128675.D  
 Acq On : 25 Mar 2019 9:46 am  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 25 09:52:29 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



(3) ddt

3.973min (-0.506) 17.00ppb m

response 126034

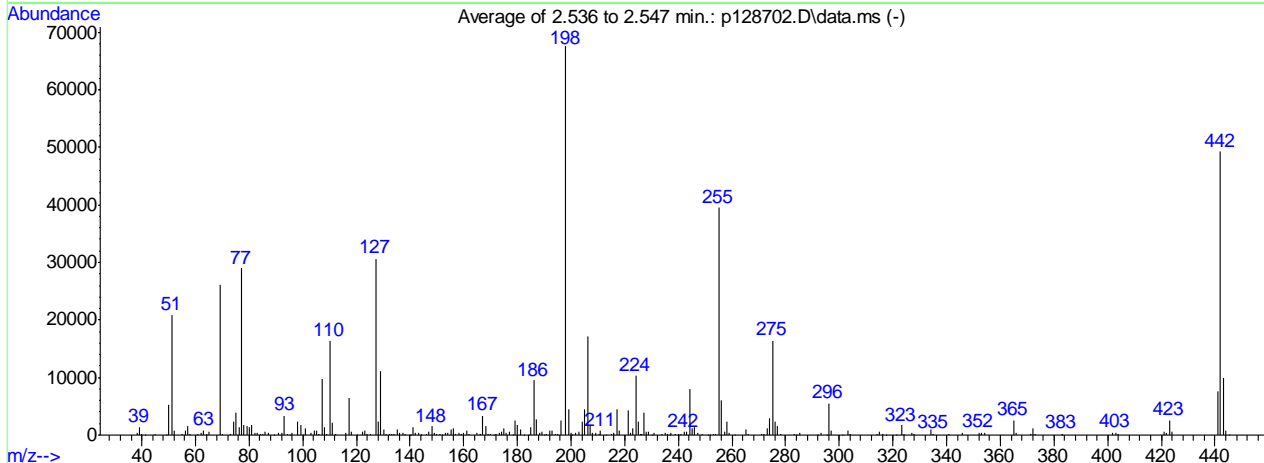
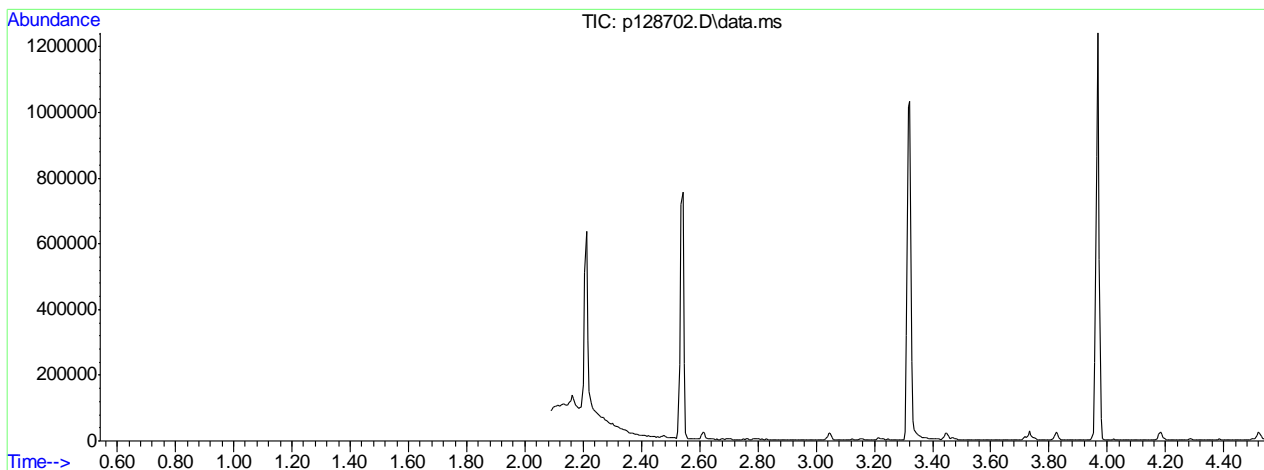
Ion	Exp%	Act%
235.00	100	100
237.00	64.10	0.00#
165.00	38.80	0.00#
0.00	0.00	0.00



DFTPP

Data File : C:\msdchem\1\DATA\EP5821\p128702.D Vial: 1  
 Acq On : 26 Mar 2019 3:16 pm Operator: christc2  
 Sample : dftpp Inst : MSVOMASP  
 Misc : op13894,ep5821,1000,,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 85, 86, 87; Background Corrected with Scan 80

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result
51	198	30	60	30.9	20856	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	38.7	26144	PASS
70	69	0.00	2	1.1	281	PASS
127	198	40	60	45.4	30640	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	67501	PASS
199	198	5	9	6.7	4503	PASS
275	198	10	30	24.2	16360	PASS
365	198	1	100	3.9	2627	PASS
441	443	0.10	100	75.4	7547	PASS
442	198	40	100	72.9	49224	PASS
443	442	17	23	20.3	10013	PASS

Average of 2.536 to 2.547 min.: p128702.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	300	57.10	1511	75.10	3885	86.05	585
39.05	1442	58.05	108	76.10	1304	87.05	330
40.10	147	61.00	214	77.10	28961	89.10	53
41.10	55	62.05	356	78.05	1843	91.05	379
45.15	111	63.10	864	79.10	1477	92.05	475
49.10	92	64.10	135	80.05	1392	93.10	3392
50.10	5209	65.10	508	81.10	1746	94.10	280
51.10	20856	69.10	26144	82.10	449	95.05	71
52.15	875	70.15	281	83.05	307	96.05	311
55.10	228	73.10	227	84.10	131	98.05	2363
56.05	743	74.10	2421	85.15	147	99.10	1836

Average of 2.536 to 2.547 min.: p128702.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
100.00	88	112.10	287	129.10	11106	140.10	99
101.05	1113	116.05	418	130.10	1053	141.05	1401
103.10	362	117.10	6342	131.10	219	142.10	421
104.10	688	118.10	546	132.10	128	143.00	399
105.05	688	120.10	86	133.05	141	144.00	78
106.00	232	122.10	577	134.00	275	144.20	58
107.10	9697	123.05	766	135.05	938	146.00	258
108.05	1404	124.00	268	136.15	312	147.05	628
109.10	160	125.00	285	137.10	426	148.05	1527
110.10	16288	127.10	30640	138.05	125	149.10	363
111.10	2088	128.10	2256	139.90	88	150.05	169

Average of 2.536 to 2.547 min.: p128702.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
151.15	292	162.15	261	174.10	557	186.10	9510
151.90	90	165.00	317	175.10	1124	187.10	2802
153.00	330	166.00	205	175.95	467	188.10	304
154.05	407	166.20	224	177.00	533	189.00	555
155.10	966	167.10	3387	178.10	69	190.00	50
156.10	1232	168.05	1593	179.00	2546	191.00	222
157.05	210	169.05	290	180.10	1730	192.05	708
158.00	356	170.00	148	181.10	884	193.00	865
159.10	183	171.10	71	182.50	55	194.05	223
160.00	339	171.95	248	184.00	74	195.00	120
161.05	764	173.05	371	185.10	1350	196.10	2499

Average of 2.536 to 2.547 min.: p128702.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
198.00	67501	209.00	404	224.10	10278	236.00	260
199.00	4503	210.40	164	225.10	2262	236.80	52
199.95	378	211.05	739	226.00	108	237.05	310
200.60	75	213.00	52	226.20	119	239.00	135
201.55	431	215.05	141	227.05	3959	240.15	114
203.00	499	216.00	415	228.00	603	241.05	202
204.10	2387	217.05	4580	229.00	666	242.05	573
205.10	4460	218.05	746	229.90	50	243.10	530
206.10	17182	221.10	4316	231.10	355	244.10	8019
207.10	1758	222.00	437	233.95	286	245.10	1085
208.10	438	223.10	1189	235.00	316	246.05	1286

Average of 2.536 to 2.547 min.: p128702.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
247.05	371	261.00	54	283.05	233	314.10	162
249.00	283	265.00	906	284.10	94	315.05	661
250.90	74	265.95	276	285.05	337	316.10	286
251.90	56	271.10	133	292.00	70	317.20	83

253.15	203	272.05	181	293.00	465	321.00	78
254.00	277	273.05	1180	295.10	55	323.10	1747
255.10	39520	274.10	2974	296.05	5517	324.05	254
256.10	6108	275.10	16360	297.05	734	327.00	373
257.05	555	276.10	2379	301.00	50	328.05	209
258.05	2280	277.05	1526	303.10	725	334.10	913
259.00	385	278.00	286	304.00	144	335.05	232

Average of 2.536 to 2.547 min.: p128702.D\data.ms  
dftpp

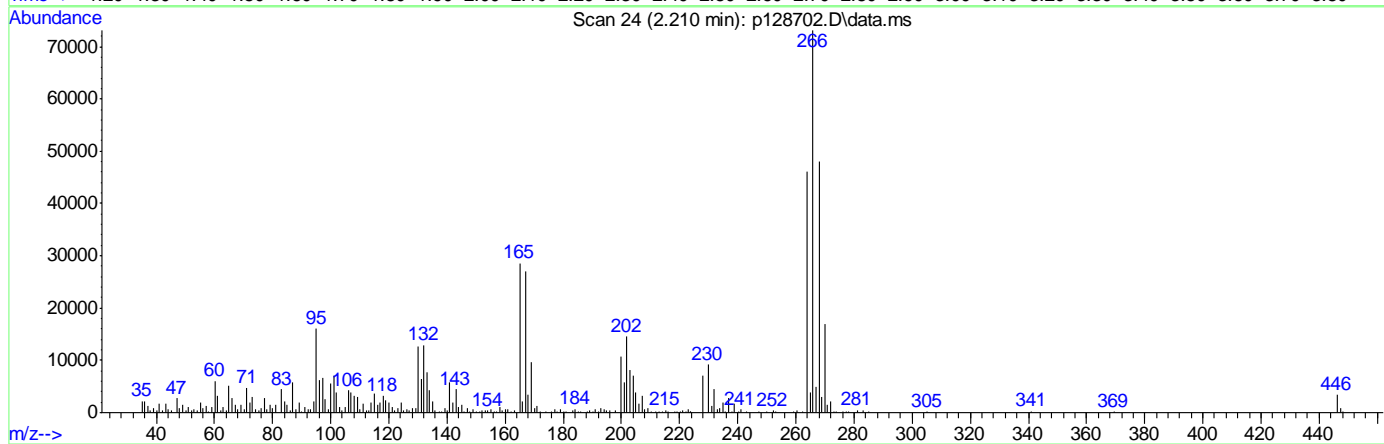
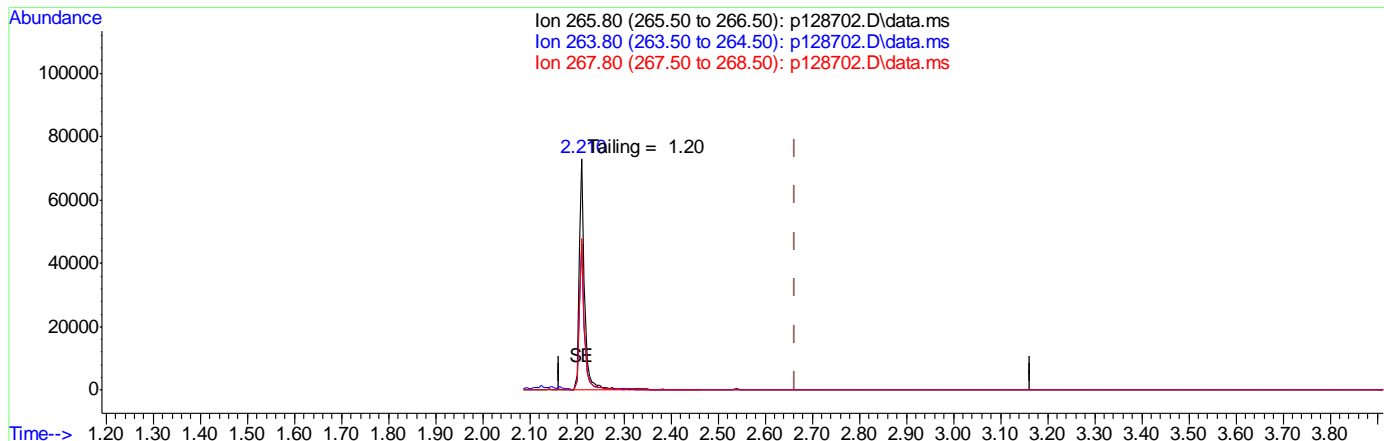
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
341.00	247	383.20	55	444.05	855		
346.00	431	401.95	387	445.10	59		
352.05	450	403.05	444				
353.05	411	403.90	219				
354.05	461	421.00	497				
365.05	2627	422.00	316				
366.00	353	423.05	2626				
371.10	185	424.05	589				
372.00	1126	441.05	7547				
373.05	237	442.10	49224				
383.00	217	443.10	10013				

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128702.D  
 Acq On : 26 Mar 2019 3:16 pm  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 26 15:22:00 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: p128702.D\data.ms

(1) Pentachlorophenol (t)

2.210min (-0.453) 47.55ppb m

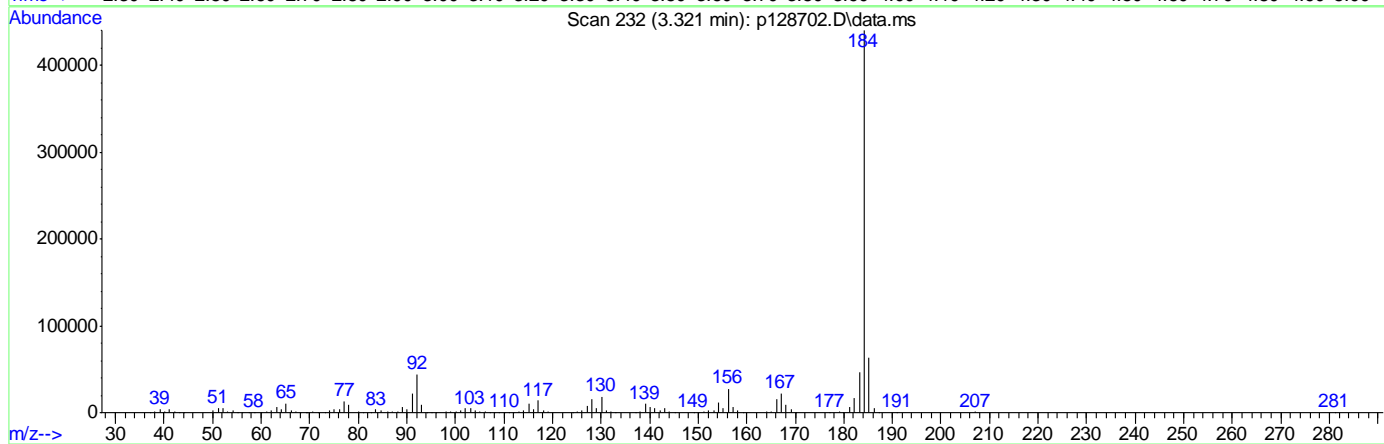
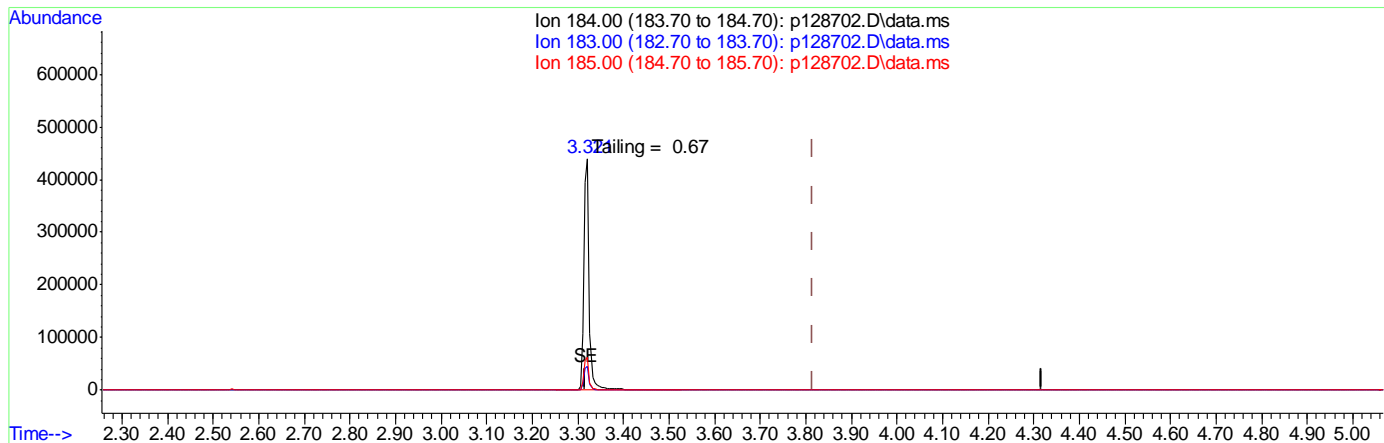
response 60841

Ion	Exp%	Act%
265.80	100	100
263.80	63.90	62.98
267.80	66.90	65.65
0.00	0.00	0.00

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128702.D  
 Acq On : 26 Mar 2019 3:16 pm  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 26 15:22:00 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: p128702.D\data.ms

(2) Benzidine (t)

3.321min (-0.495) 22.46ppb m

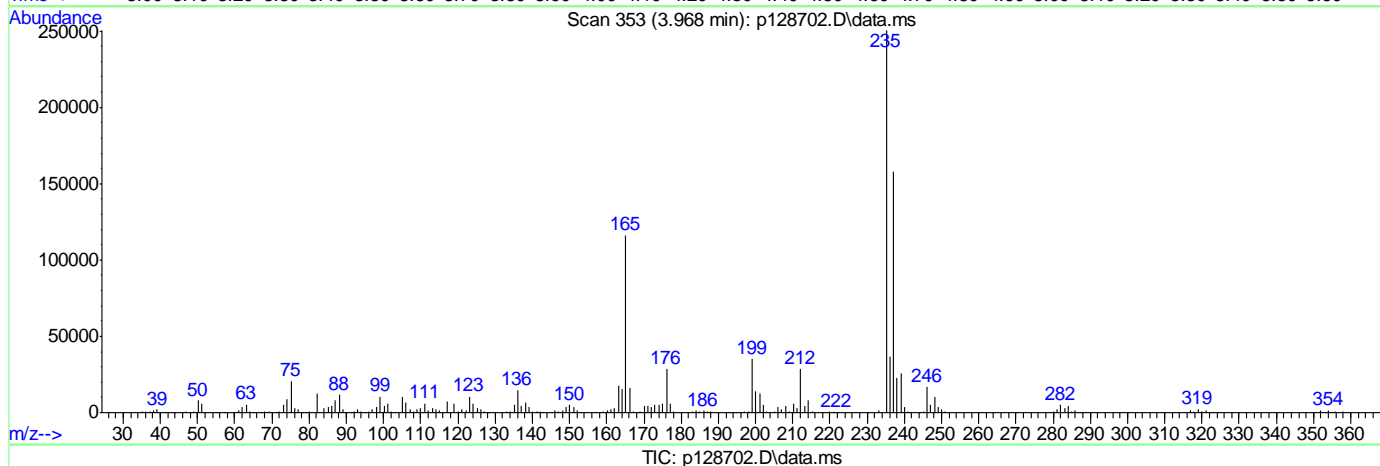
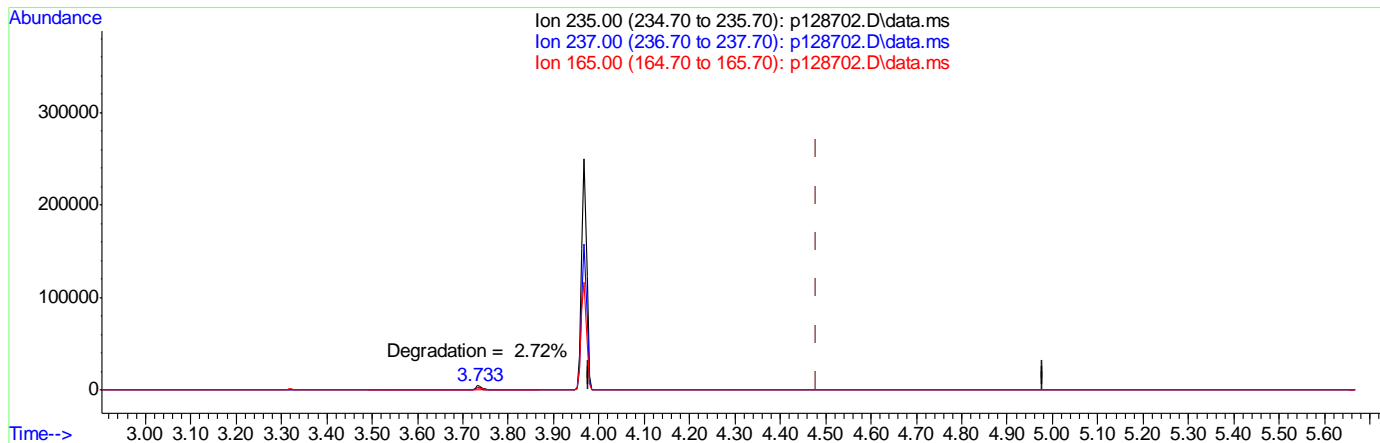
response 371368

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\EP5821\  
 Data File : p128702.D  
 Acq On : 26 Mar 2019 3:16 pm  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 26 15:22:00 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



(3) ddt

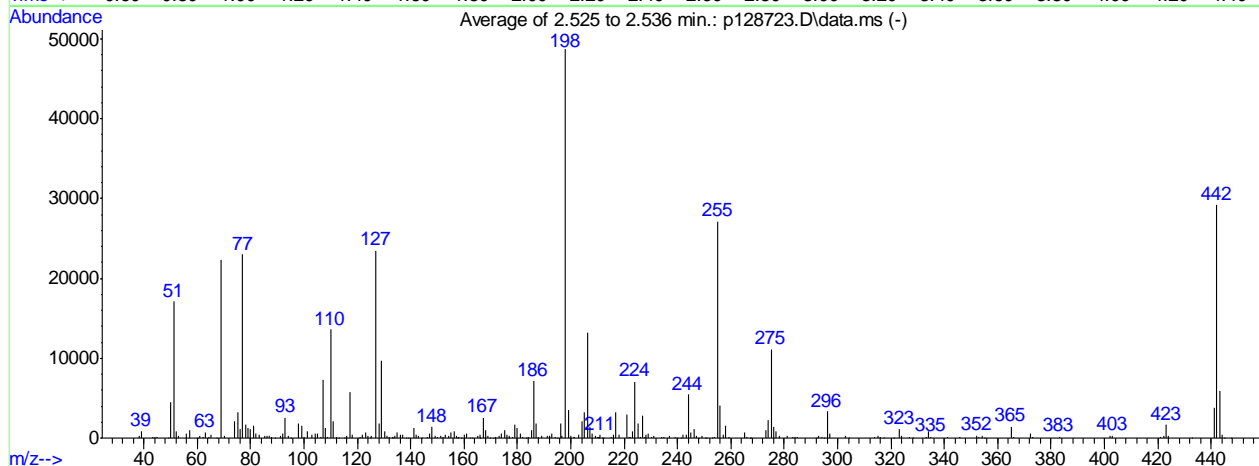
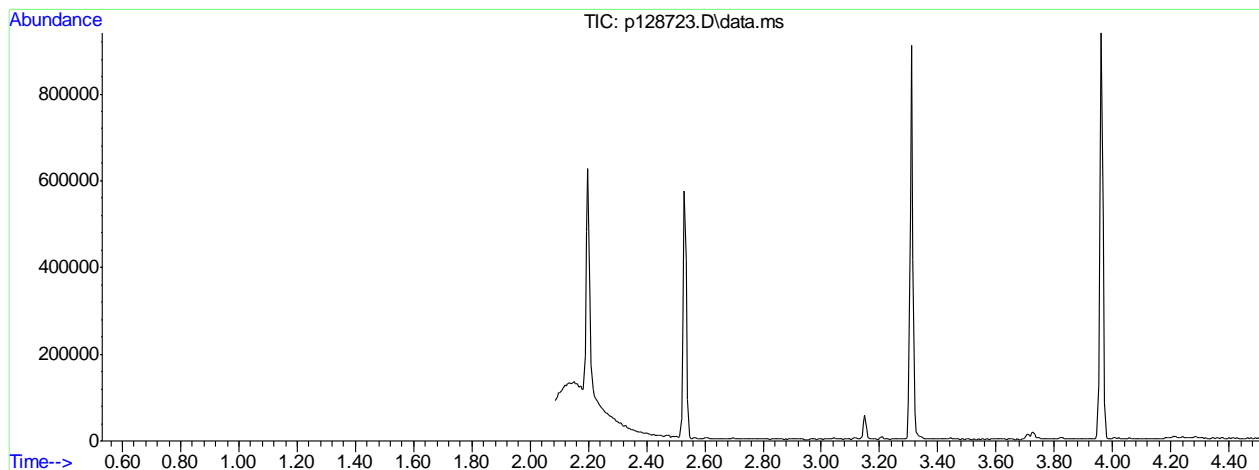
3.968min (-0.511) 25.18ppb m

response 186694

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\EP5823\p128723.D Vial: 1  
 Acq On : 27 Mar 2019 2:25 pm Operator: christc2  
 Sample : dftpp Inst : MSVOAMSP  
 Misc : op13894,ep5823,1000,,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 83, 84, 85; Background Corrected with Scan 79

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result
51	198	30	60	35.1	17092	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.9	22330	PASS
70	69	0.00	2	1.4	303	PASS
127	198	40	60	48.3	23525	PASS
197	198	0.00	1	0.5	224	PASS
198	198	100	100	100.0	48682	PASS
199	198	5	9	7.1	3447	PASS
275	198	10	30	22.8	11097	PASS
365	198	1	100	2.9	1430	PASS
441	443	0.10	100	64.6	3846	PASS
442	198	40	100	60.0	29188	PASS
443	442	17	23	20.4	5955	PASS

Average of 2.525 to 2.536 min.: p128723.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.05	271	57.10	1005	75.10	3243	87.10	259
39.10	912	60.10	58	76.10	1187	88.00	108
43.10	151	61.05	272	77.05	22990	89.20	61
44.05	138	62.15	146	78.05	1702	91.05	303
45.05	200	63.05	763	79.10	1307	92.10	555
49.10	55	64.10	89	80.05	1097	93.05	2540
50.10	4569	65.10	432	81.05	1518	94.10	251
51.10	17092	67.05	35	82.05	558	95.05	29
52.10	803	69.05	22330	83.05	386	98.00	1846
53.10	266	70.05	303	85.10	298	99.05	1561
56.10	543	74.05	2084	86.00	341	100.05	155

Average of 2.525 to 2.536 min.: p128723.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
101.10	860	113.10	72	125.10	233	136.05	363
103.10	393	115.10	22	127.10	23525	137.05	375
104.00	590	115.90	93	128.05	1781	138.20	72
105.05	549	116.15	253	129.05	9724	139.10	56
106.10	79	117.05	5801	130.10	797	141.10	1251
107.10	7343	118.10	459	131.10	243	142.10	406
108.10	1204	120.90	115	132.00	117	143.05	294
109.00	127	122.00	423	133.00	158	144.00	75
110.10	13598	123.05	662	133.20	67	146.05	173
111.05	2047	124.05	311	134.10	239	147.10	628
112.15	194	124.90	74	135.05	721	148.05	1378

Average of 2.525 to 2.536 min.: p128723.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
149.15	308	158.90	58	169.90	74	180.00	1292
150.10	139	160.05	455	171.10	60	181.05	521
151.10	270	161.05	626	172.00	121	182.10	78
152.10	160	162.10	75	173.05	343	183.00	51
153.00	425	162.90	50	174.05	498	184.05	163
154.05	326	165.05	292	175.05	1056	185.10	1013
155.05	706	165.90	64	176.05	394	186.10	7149
156.10	884	166.05	375	176.80	67	187.05	1769
157.05	240	167.10	2528	177.00	328	188.00	137
157.50	64	168.10	1053	178.05	211	189.05	260
158.00	135	169.00	273	179.05	1673	191.05	296

Average of 2.525 to 2.536 min.: p128723.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
192.00	279	201.45	187	211.05	411	224.10	7022
192.10	262	203.05	441	211.60	70	225.10	1864
193.00	554	204.10	2105	212.00	51	226.00	98
194.10	102	205.10	3232	215.00	80	227.05	2848
195.10	67	206.10	13243	216.05	377	227.90	78
196.05	1791	207.05	1424	217.00	3286	228.05	429
196.80	224	208.05	521	218.05	442	229.05	556
198.00	48682	209.05	251	221.00	3023	230.10	106
199.00	3447	210.00	155	221.80	91	231.10	301
200.05	307	210.30	52	222.10	163	234.00	99
201.30	82	210.60	125	223.05	877	235.05	166

Average of 2.525 to 2.536 min.: p128723.D\data.ms

dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
237.05	308	248.95	251	266.10	175	284.00	78
239.00	141	250.20	58	267.10	60	284.95	184
240.10	55	251.00	55	267.80	53	292.20	52
241.00	60	253.10	60	273.05	965	293.05	234



242.05	491	253.60	110	274.05	2215	294.00	108
243.10	419	255.05	27130	275.10	11097	295.00	56
244.10	5450	256.05	4058	276.05	1457	296.05	3341
245.05	657	257.00	399	277.05	895	297.05	602
246.00	1156	258.05	1619	278.10	228	303.05	289
247.00	226	259.05	201	281.05	265	304.10	63
247.90	50	265.05	683	283.00	85	314.00	198

Average of 2.525 to 2.536 min.: p128723.D\data.ms  
dftpp

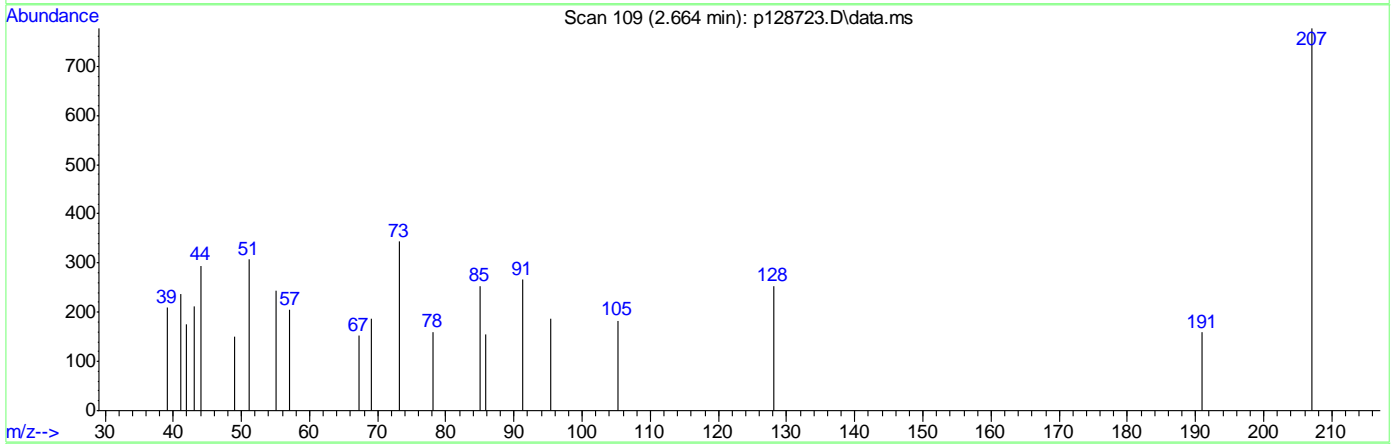
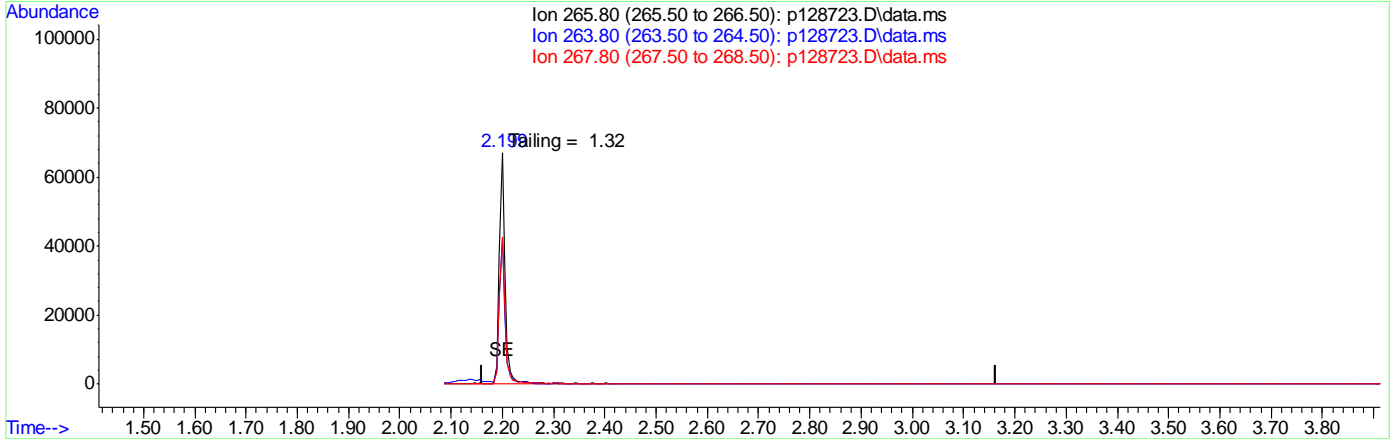
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
315.00	353	341.10	76	401.95	234	445.00	53
316.05	141	345.95	169	403.10	353	447.30	52
317.20	54	352.10	316	421.05	203		
321.00	65	353.10	77	422.10	221		
323.15	1143	354.05	332	423.10	1673		
324.05	310	355.00	64	424.10	219		
327.00	193	365.05	1430	432.80	51		
328.20	65	365.95	174	441.10	3846		
333.10	116	372.05	554	442.10	29188		
334.05	786	373.10	178	443.10	5955		
335.00	190	383.05	165	444.05	478		

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5823\  
 Data File : p128723.D  
 Acq On : 27 Mar 2019 2:25 pm  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5823,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 27 14:30:59 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: p128723.D\data.ms

(1) Pentachlorophenol (t)

2.663min (-2.663) 0.00ppb

response 0

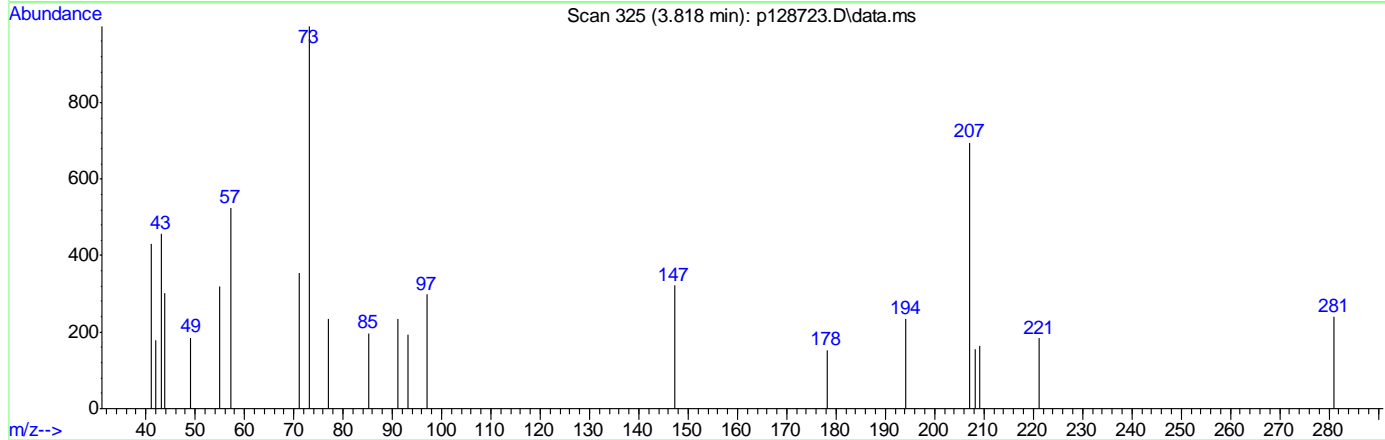
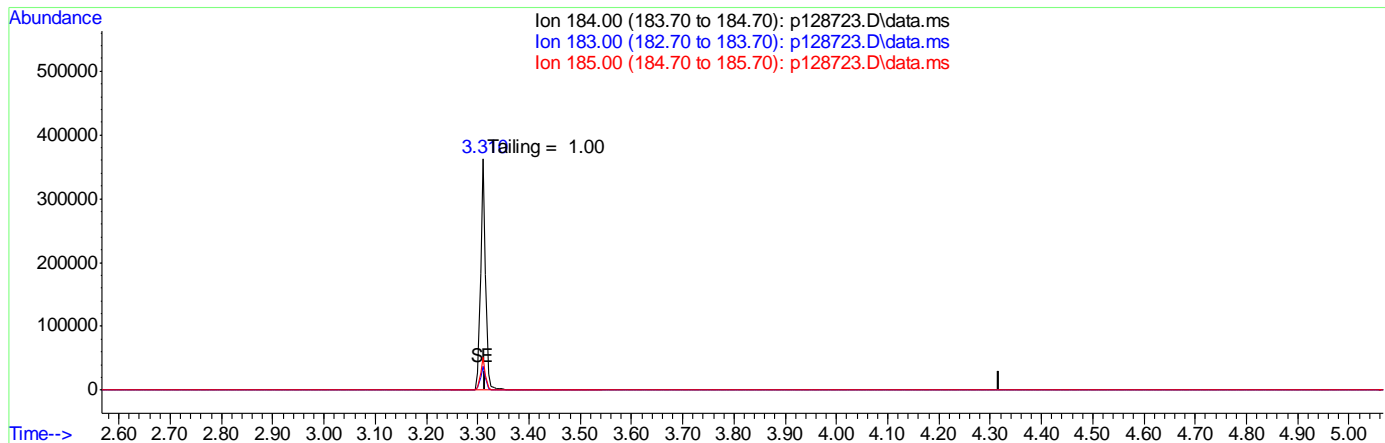
Ion	Exp%	Act%
265.80	100	0.00
263.80	63.90	0.00#
267.80	66.90	0.00#
0.00	0.00	0.00

9.5.9.1  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5823\  
 Data File : p128723.D  
 Acq On : 27 Mar 2019 2:25 pm  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5823,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 27 14:30:59 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: p128723.D\data.ms

(2) Benzidine (t)  
 3.817min (-3.817) 0.00ppb  
 response 0

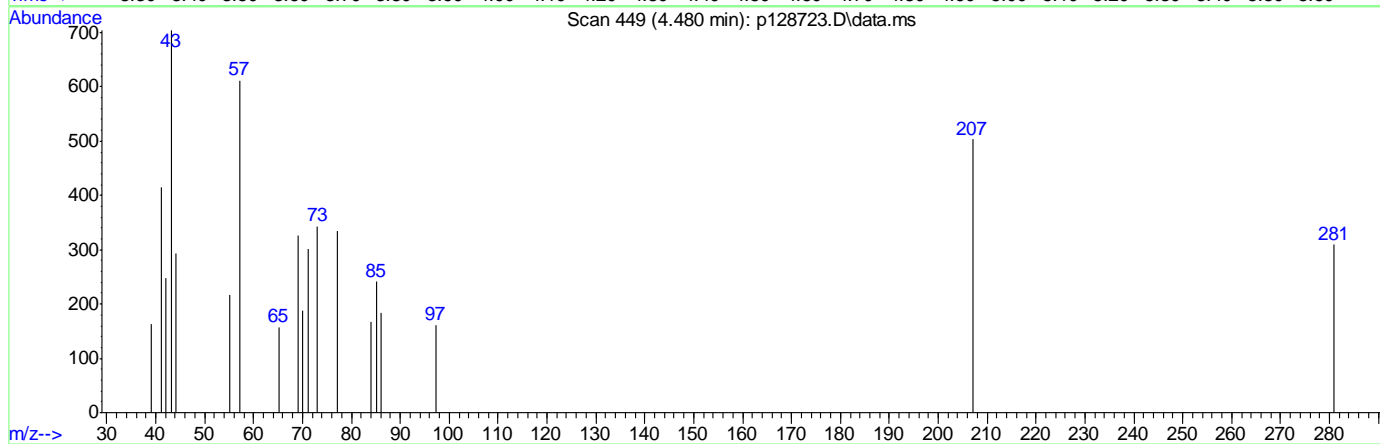
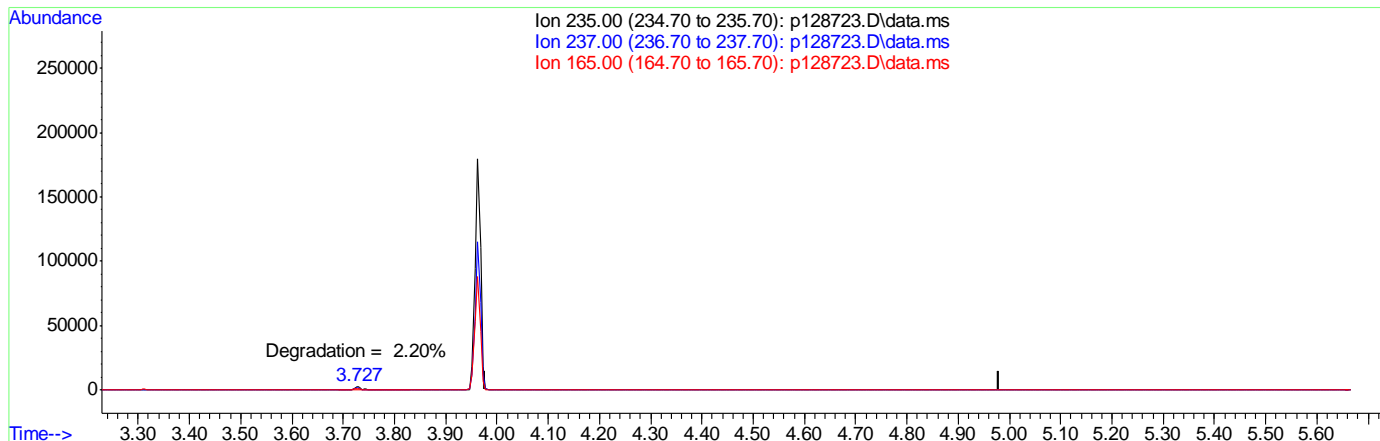
Ion	Exp%	Act%
184.00	100	0.00
183.00	11.70	0.00
185.00	14.30	0.00
0.00	0.00	0.00

9.5.9.2  
**9**

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5823\  
 Data File : p128723.D  
 Acq On : 27 Mar 2019 2:25 pm  
 Operator : christc2  
 Sample : dftpp  
 Misc : op13894,ep5823,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 27 14:30:59 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: p128723.D\data.ms

(3) ddt

4.479min (-4.479) 0.00ppb

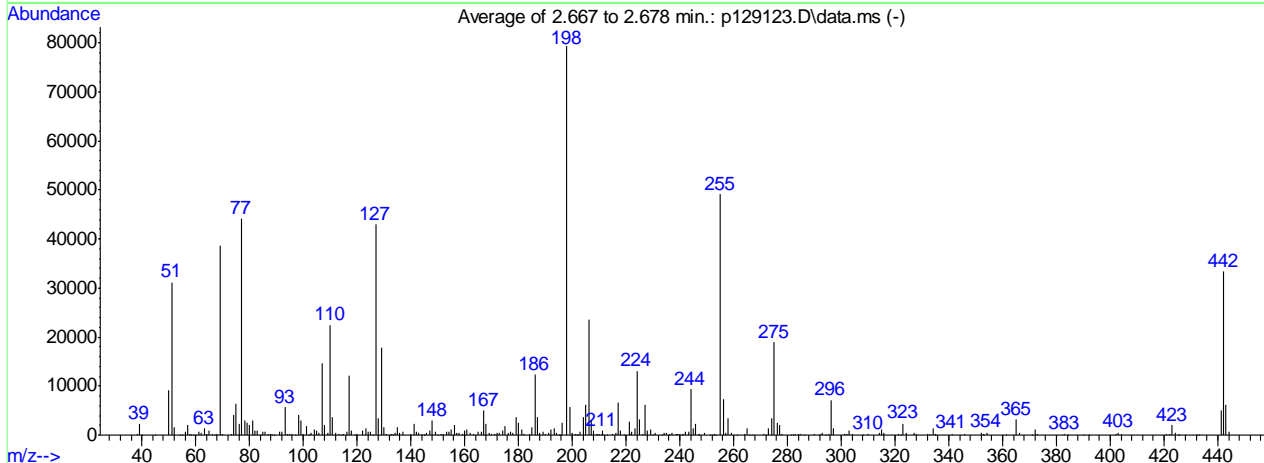
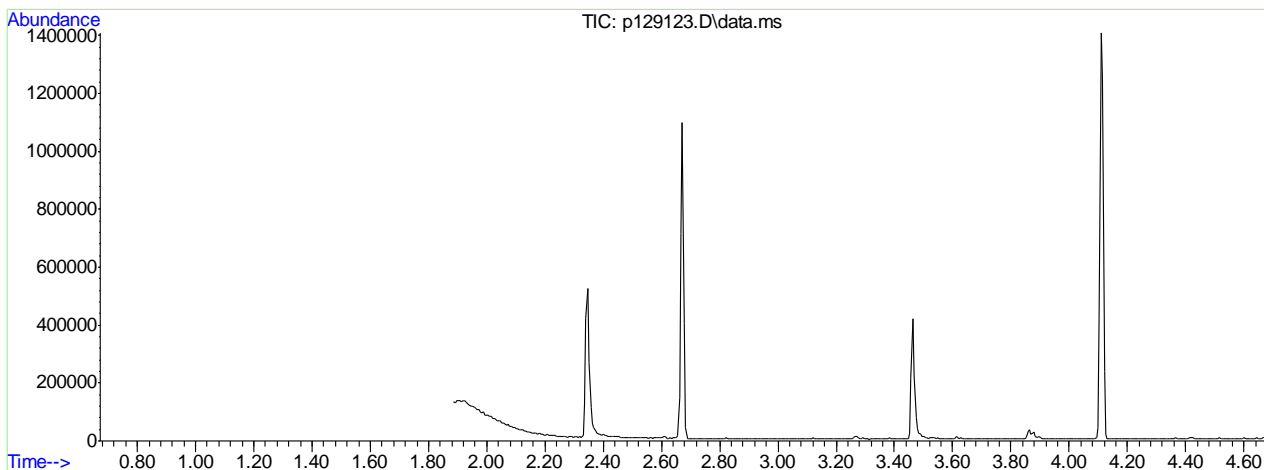
response 0

Ion	Exp%	Act%
235.00	100	0.00
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\EP5843\p129123.D Vial: 1  
 Acq On : 17 Apr 2019 8:55 pm Operator: carolb  
 Sample : dftpp Inst : MSVOAMSP  
 Misc : op13894,ep5843,1000,,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 147, 148, 149; Background Corrected with Scan 142

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result
51	198	30	60	39.4	31197	PASS
68	69	0.00	2	0.8	327	PASS
69	198	0.00	100	48.7	38635	PASS
70	69	0.00	2	0.7	253	PASS
127	198	40	60	54.1	42912	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	79277	PASS
199	198	5	9	7.2	5712	PASS
275	198	10	30	23.9	18912	PASS
365	198	1	100	4.0	3186	PASS
441	443	0.10	100	80.5	4959	PASS
442	198	40	100	42.1	33364	PASS
443	442	17	23	18.5	6164	PASS

Average of 2.667 to 2.678 min.: p129123.D\data.ms  
dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	339	57.90	126	68.00	327	81.10	2989
39.10	2183	58.10	64	69.00	38635	82.05	953
40.00	99	59.00	116	70.05	253	83.00	911
45.00	5	60.00	26	73.10	321	84.00	3
50.10	9112	61.05	585	74.10	4023	85.00	726
51.10	31197	62.10	395	75.05	6360	86.00	787
52.10	1672	63.10	1296	76.10	2306	87.05	281
54.10	74	64.10	312	77.05	44042	87.95	187
55.00	59	65.10	852	78.10	3035	88.20	53
56.05	719	66.05	199	79.10	2496	89.00	119
57.10	1980	67.15	107	80.05	2003	91.05	609

Average of 2.667 to 2.678 min.: p129123.D\data.ms  
dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
92.00	692	103.00	525	114.00	56	125.90	65
93.10	5634	104.05	1169	114.90	149	127.05	42912
94.05	314	105.00	1035	116.05	790	128.05	3476
95.05	278	106.00	377	117.05	12098	129.00	17892
96.00	260	107.00	14551	118.00	1010	129.95	1564
97.05	99	108.05	2043	119.00	53	131.00	291
98.10	4018	109.00	423	120.00	194	131.90	69
99.00	2978	110.00	22418	122.05	848	132.95	190
99.90	326	111.00	3725	123.10	1397	133.20	87
101.05	1749	112.05	493	124.05	633	134.05	399
102.00	56	113.10	229	125.00	755	135.10	1709

Average of 2.667 to 2.678 min.: p129123.D\data.ms  
dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
136.00	541	148.05	2879	159.05	326	171.05	147
137.10	672	149.00	666	160.00	822	172.00	506
140.10	235	150.00	73	161.00	1069	173.00	440
141.10	2282	151.05	275	162.05	358	174.05	1012
142.00	795	152.00	127	163.20	139	175.10	1780
143.05	520	153.10	674	164.95	790	176.10	541
143.95	132	154.05	586	166.05	695	177.00	800
144.90	52	155.05	1229	167.10	4977	178.05	397
145.10	57	156.05	2055	168.00	2238	179.00	3751
146.00	561	157.00	362	169.05	412	180.05	2419
147.10	971	158.00	414	170.00	191	181.10	1225

Average of 2.667 to 2.678 min.: p129123.D\data.ms  
dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
182.05	248	194.10	482	204.10	3752	213.00	101
184.10	265	194.90	89	205.10	6100	215.05	346
185.05	1536	195.30	88	206.10	23523	216.05	535
186.10	12347	196.05	2551	207.05	3013	217.00	6606
187.10	3612	198.00	79277	208.00	879	218.05	968
188.05	423	199.00	5712	209.00	259	219.00	97
189.05	743	200.05	555	209.20	60	221.05	2845
190.10	183	201.10	135	210.05	343	221.50	272
191.10	451	201.50	91	210.70	105	222.00	679
192.05	1169	202.00	78	211.10	845	223.10	1322
193.10	1411	203.00	693	211.80	90	224.10	13049

Average of 2.667 to 2.678 min.: p129123.D\data.ms  
dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
225.10	3179	237.00	393	246.90	101	259.00	467
226.05	244	238.90	174	247.10	345	261.10	54
227.00	6160	239.05	238	249.10	373	264.05	213
228.05	927	240.00	200	251.20	59	265.00	1396

229.00	1167	240.80	56	252.10	92	265.80	99
230.00	123	241.10	174	253.00	200	266.95	121
230.95	488	242.05	636	253.50	50	271.10	138
233.20	50	243.10	803	255.05	49106	272.10	103
234.05	368	244.10	9332	256.05	7354	273.05	1468
235.05	474	245.10	1405	257.05	497	274.00	3411
236.05	269	246.00	2202	258.05	3534	275.10	18912

Average of 2.667 to 2.678 min.: p129123.D\data.ms  
dftpp

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
276.10	2485	293.05	560	314.05	410	334.10	1379
277.05	2021	294.00	71	315.05	1095	334.80	62
278.00	239	295.20	143	316.00	470	335.00	200
281.10	50	296.05	7122	321.05	172	341.05	286
281.90	53	297.00	1375	322.10	91	345.95	287
283.05	312	301.10	137	323.05	2305	352.05	422
284.15	153	302.10	189	324.10	357	352.90	110
285.05	285	303.10	892	327.00	506	353.05	283
286.10	51	304.05	163	328.00	153	354.05	572
289.95	140	308.10	79	332.00	185	361.20	54
292.15	140	310.00	125	332.95	172	365.00	3186

Average of 2.667 to 2.678 min.: p129123.D\data.ms  
dftpp

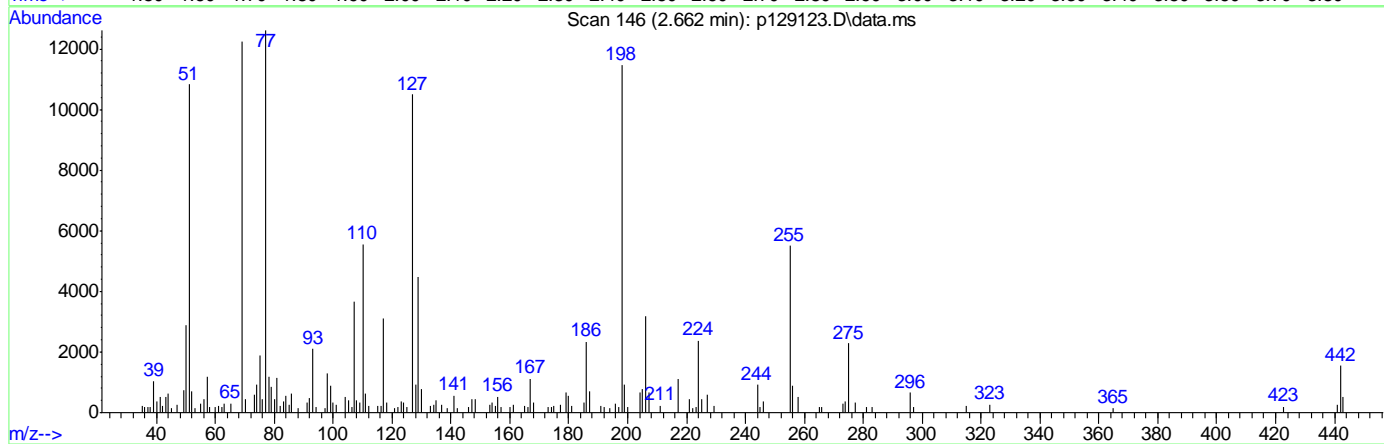
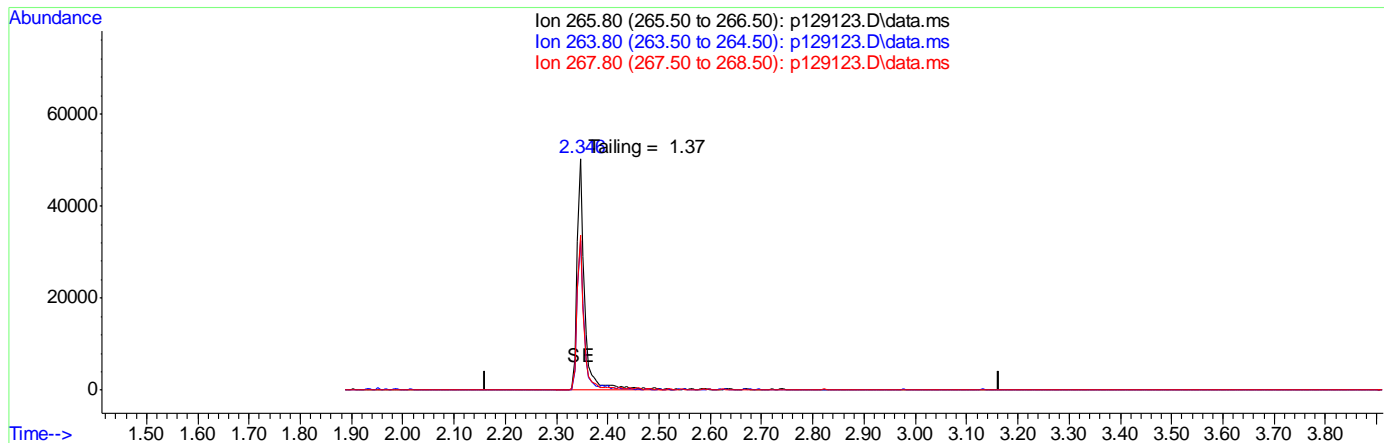
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
366.05	497	421.00	296	443.05	6164		
371.00	96	422.05	294	444.00	710		
372.00	1128	423.05	2042				
373.05	173	424.00	545				
383.05	219	425.20	62				
384.00	50	425.50	55				
390.10	59	428.10	57				
391.90	82	431.90	51				
402.05	302	433.10	51				
403.00	483	441.05	4959				
404.00	234	442.10	33364				

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129123.D  
 Acq On : 17 Apr 2019 8:55 pm  
 Operator : carolb  
 Sample : dftpp  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 17 21:01:28 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: p129123.D\data.ms

(1) Pentachlorophenol (t)

2.663min (-2.663) 0.00ppb

response 0

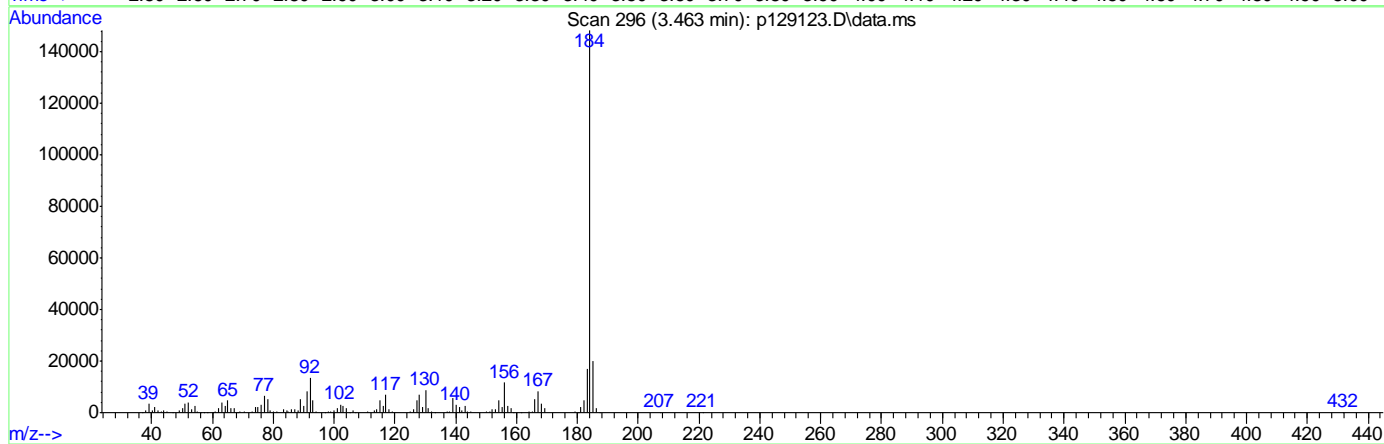
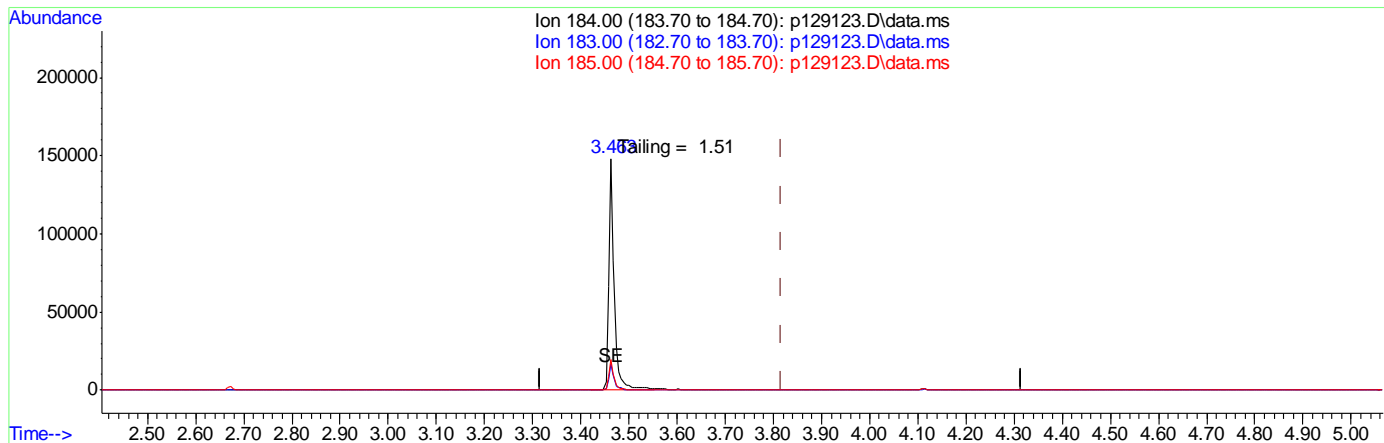
Ion	Exp%	Act%
265.80	100	0.00
263.80	63.90	0.00#
267.80	66.90	0.00#
0.00	0.00	0.00



## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129123.D  
 Acq On : 17 Apr 2019 8:55 pm  
 Operator : carolb  
 Sample : dftpp  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 17 21:01:28 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: p129123.D\data.ms

(2) Benzidine (t)

3.463min (-0.354) 7.37ppb m

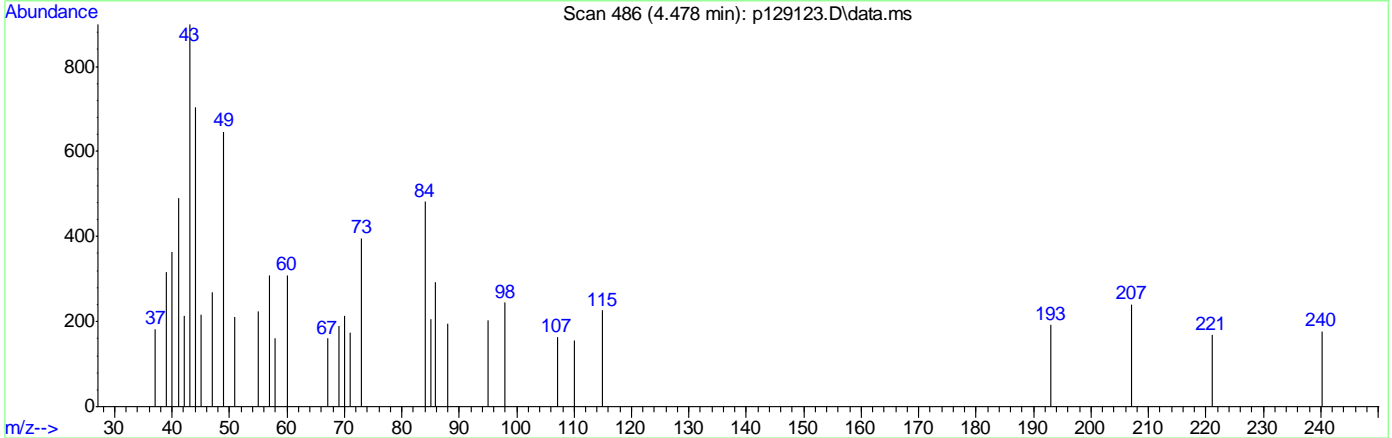
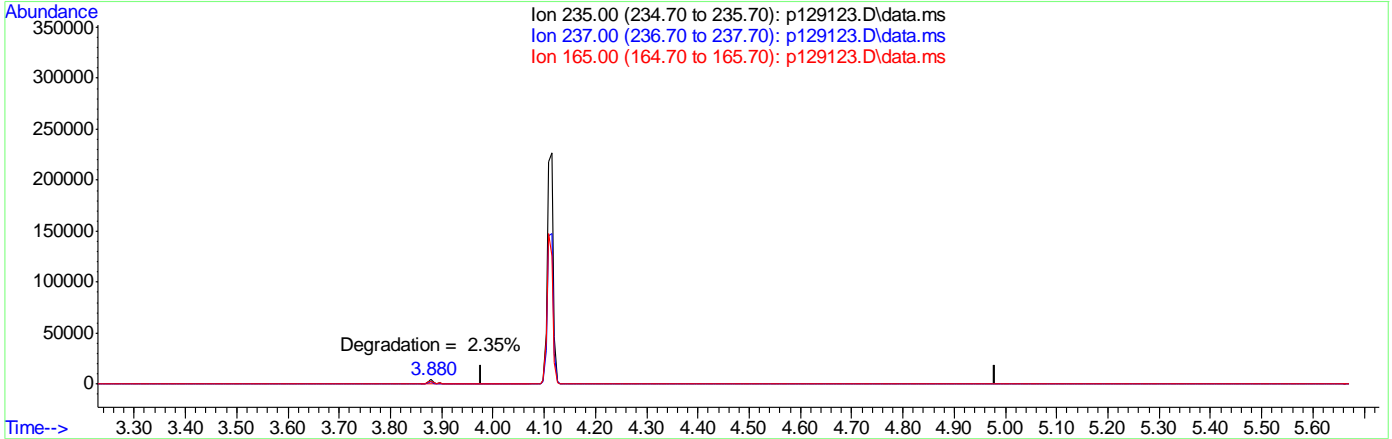
response 121795

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\EP5843\  
 Data File : p129123.D  
 Acq On : 17 Apr 2019 8:55 pm  
 Operator : carolb  
 Sample : dftpp  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 17 21:01:28 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: p129123.D\data.ms

(3) ddt

4.479min (-4.479) 0.00ppb

response 0

Ion	Exp%	Act%
235.00	100	0.00
237.00	64.10	0.00#
165.00	38.80	0.00#
0.00	0.00	0.00

9.5.10.3  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58249a.D  
 Acq On : 9 Apr 2019 12:29 am  
 Operator : chriss2  
 Sample : ic2761-100  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) 1,4-Dichlorobenzene-d4	4.100	152	143494	40.00	ppm	0.00
24) Naphthalene-d8	5.291	136	550417	40.00	ppm	0.00
47) Acenaphthene-d10	6.979	164	332584	40.00	ppm	0.00
69) Phenanthrene-d10	8.422	188	567841	40.00	ppm	0.00
83) Chrysene-d12	11.734	240	486830	40.00	ppm	0.00
91) Perylene-d12	13.716	264	608162	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.100	152	143494	40.00	ppm	0.00
103) Acenaphthene-d10a	6.979	164	332584	40.00	ppm	0.00
105) Chrysene-d12a	11.734	240	486830	40.00	ppm	0.00
107) Phenanthrene-d10a	8.422	188	567841	40.00	ppm	0.00
111) Naphthalene-d8a	5.291	136	550417	40.00	ppm	0.00
113) Chrysene-d12b	11.734	240	487695	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.100	152	143494	40.00	ppm	0.00
117) Chrysene-d12c	11.734	240	486830	40.00	ppm	0.00
119) Chrysene-d12d	11.734	240	487695	40.00	ppm	0.00
<b>System Monitoring Compounds</b>						
5) 2-Fluorophenol	2.988	112	584737	95.57	ppm	0.00
Spiked Amount	50.000		Recovery	=	191.14%	
8) Phenol-d5	3.859	99	688546	93.37	ppm	0.01
Spiked Amount	50.000		Recovery	=	186.74%	
25) Nitrobenzene-d5	4.623	82	613253	93.55	ppm	0.00
Spiked Amount	50.000		Recovery	=	187.10%	
51) 2-Fluorobiphenyl	6.349	172	1005193	89.38	ppm	0.00
Spiked Amount	50.000		Recovery	=	178.76%	
73) 2,4,6-Tribromophenol	7.754	330	179952	98.54	ppm	0.00
Spiked Amount	50.000		Recovery	=	197.08%	
85) Terphenyl-d14	10.318	244	1265825	99.37	ppm	0.00
Spiked Amount	50.000		Recovery	=	198.74%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
<b>Target Compounds</b>						
2) 1,4-Dioxane	1.519	88	316046	99.54	ppm	100
3) Pyridine	1.792	79	744621	95.63	ppm	99
4) N-Nitrosodimethylamine	1.765	74	436896	99.99	ppm	98
6) Indene	4.335	116	831579	93.08	ppm	98
7) Cumene	3.378	105	1304924	90.78	ppm	99
9) Phenol	3.870	94	709700	89.69	ppm	98
10) Aniline	3.811	93	697507	90.33	ppm	96
11) bis(2-Chloroethyl)ether	3.881	93	487946	91.67	ppm	97
12) 2-Chlorophenol	3.929	128	493588	93.19	ppm	98
13) Decane	3.982	43	378919	85.65	ppm	98
14) 1,3-Dichlorobenzene	4.046	146	543390	93.55	ppm	100
15) 1,4-Dichlorobenzene	4.116	146	523310	93.16	ppm	99
16) Benzyl alcohol	4.265	108	323290	92.84	ppm	92
17) 1,2-Dichlorobenzene	4.255	146	535271	93.49	ppm	99

9.6-1  
 9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58249a.D  
 Acq On : 9 Apr 2019 12:29 am  
 Operator : chriss2  
 Sample : ic2761-100  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.490	105	744031	94.18	ppm	99
19) 2-Methylphenol	4.399	108	463747	93.10	ppm	100
20) 2,2'-oxybis(1-Chloropr...	4.377	45	485715	89.27	ppm	96
21) 3&4-Methylphenol	4.548	108	506070	91.25	ppm	100
22) n-Nitroso-di-n-propyla...	4.506	70	377509	91.98	ppm	96
23) Hexachloroethane	4.564	201	185527	92.47	ppm	87
26) Nitrobenzene	4.645	77	572972	91.82	ppm	99
27) Quinoline	5.649	129	1044404	96.03	ppm	99
28) Isophorone	4.880	82	1065273	91.42	ppm	98
29) 2-Nitrophenol	4.944	139	282899	94.35	ppm	92
30) 2,4-Dimethylphenol	5.035	107	535201	95.98	ppm	97
31) Benzoic acid	5.232	105	430775	97.09	ppm	99
32) bis(2-Chloroethoxy)met...	5.099	93	645649	93.14	ppm	99
33) 2,4-Dichlorophenol	5.195	162	439156	96.23	ppm	96
34) 2,6-Dichlorophenol	5.398	162	411647	95.78	ppm	100
35) 1,3,5-Trichlorobenzene	4.954	180	442690	90.63	ppm	98
36) 1,2,4-Trichlorobenzene	5.248	180	426185	91.71	ppm	97
37) 1,2,3-Trichlorobenzene	5.457	180	402164	90.89	ppm	98
38) Naphthalene	5.312	128	1292564	92.35	ppm	100
39) 4-Chloroaniline	5.392	127	526268	89.36	ppm	99
40) 2,3-Dichloroaniline	6.263	161	552895	96.64	ppm	98
41) Caprolactam	5.777	55	265844m	95.69	ppm	
42) Hexachlorobutadiene	5.451	225	256904	93.78	ppm	97
43) 4-Chloro-3-methylphenol	5.916	107	521750	95.43	ppm	99
44) 2-Methylnaphthalene	5.980	141	763182	93.18	ppm	99
45) 1-Methylnaphthalene	6.076	141	839332	92.85	ppm	99
46) Dimethylnaphthalene	6.589	156	814255	92.58	ppm	100
48) Hexachlorocyclopentadiene	6.146	237	487629	198.05	ppm	99
49) 2,4,6-Trichlorophenol	6.285	196	314503	93.76	ppm	99
50) 2,4,5-Trichlorophenol	6.333	196	349242	94.71	ppm	99
52) 2-Chloronaphthalene	6.450	162	839078	89.64	ppm	99
53) Biphenyl	6.440	154	1098030	87.54	ppm	100
54) 2-Nitroaniline	6.573	65	351194	90.20	ppm	99
55) Dimethylphthalate	6.765	163	1110576	90.78	ppm	99
56) Acenaphthylene	6.840	152	1380832	91.20	ppm	99
57) 2,6-Dinitrotoluene	6.814	165	257335	93.92	ppm	99
58) 3-Nitroaniline	6.979	138	288136	95.79	ppm	91
59) Acenaphthene	7.016	153	885107	91.57	ppm	96
60) 2,4-Dinitrophenol	7.081	184	330080	204.13	ppm	96
61) 4-Nitrophenol	7.214	109	154014	94.84	ppm	95
62) Dibenzofuran	7.182	168	1344962	91.15	ppm	99
63) 2,4-Dinitrotoluene	7.203	165	326431	92.64	ppm	99
64) 2,3,4,6-Tetrachlorophenol	7.326	232	328016	97.46	ppm	98
65) Diethylphthalate	7.455	149	1066501	91.68	ppm	99
66) Fluorene	7.513	166	1055814	90.18	ppm	95
67) 4-Chlorophenyl-phenyle...	7.529	204	474062	91.92	ppm	97
68) 4-Nitroaniline	7.583	138	276957	95.61	ppm	97
70) 4,6-Dinitro-2-methylph...	7.604	198	231131	98.37	ppm	82
71) n-Nitrosodiphenylamine	7.658	169	778416	92.94	ppm	96
72) 1,2-Diphenylhydrazine	7.684	77	1125068	87.89	ppm	96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58249a.D  
 Acq On : 9 Apr 2019 12:29 am  
 Operator : chriss2  
 Sample : ic2761-100  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

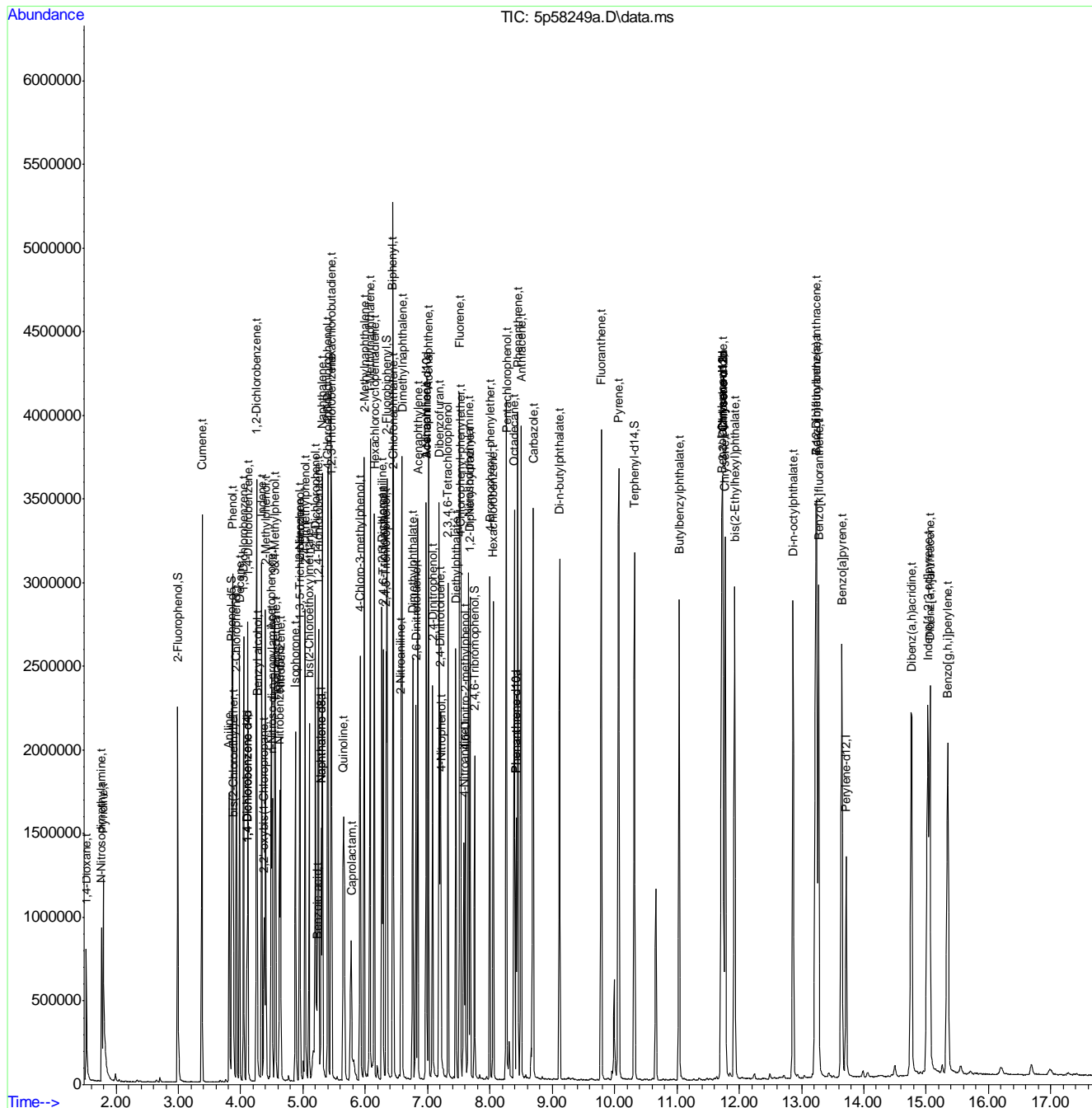
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	7.999	248	355400	93.03	ppm	97
75) Hexachlorobenzene	8.053	284	350385	95.68	ppm	97
76) Pentachlorophenol	8.267	266	506463	195.22	ppm	98
77) Phenanthrene	8.448	178	1433896	93.91	ppm	100
78) Anthracene	8.502	178	1485977	92.46	ppm	99
79) Carbazole	8.694	167	1546177	93.44	ppm	99
80) Di-n-butylphthalate	9.116	149	1948248	93.12	ppm	99
81) Fluoranthene	9.789	202	1817095	90.79	ppm	99
82) Octadecane	8.389	57	688043	87.03	ppm	98
84) Pyrene	10.067	202	1818048	98.63	ppm	100
86) Butylbenzylphthalate	11.039	149	889041	97.76	ppm	97
87) Benzo[a]anthracene	11.723	228	1742089	98.35	ppm	99
88) 3,3'-Dichlorobenzidine	11.739	252	584292	97.82	ppm	93
89) Chrysene	11.776	228	1577316	99.84	ppm	100
90) bis(2-Ethylhexyl)phtha...	11.926	149	1184818	100.07	ppm	96
92) Di-n-octylphthalate	12.866	149	2112255	91.76	ppm	99
93) Benzo[b]fluoranthene	13.240	252	1725000	91.32	ppm	99
94) Benzo[k]fluoranthene	13.278	252	1512370	90.41	ppm	99
95) Benzo[a]pyrene	13.652	252	1586400	92.99	ppm	99
96) Indeno[1,2,3-cd]pyrene	15.030	276	1533389	96.79	ppm	94
97) Dibenz(a,h)acridine	14.768	279	1408718	93.88	ppm	99
98) Dibenz[a,h]anthracene	15.062	278	1459161	92.67	ppm	99
99) 7,12-Dimethylbenz(a)an...	13.240	256	758625	93.08	ppm	99
100) Benzo[g,h,i]perylene	15.350	276	1490017	91.81	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58249a.D  
 Acq On : 9 Apr 2019 12:29 am  
 Operator : chriss2  
 Sample : ic2761-100  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



# Manual Integration Approval Summary

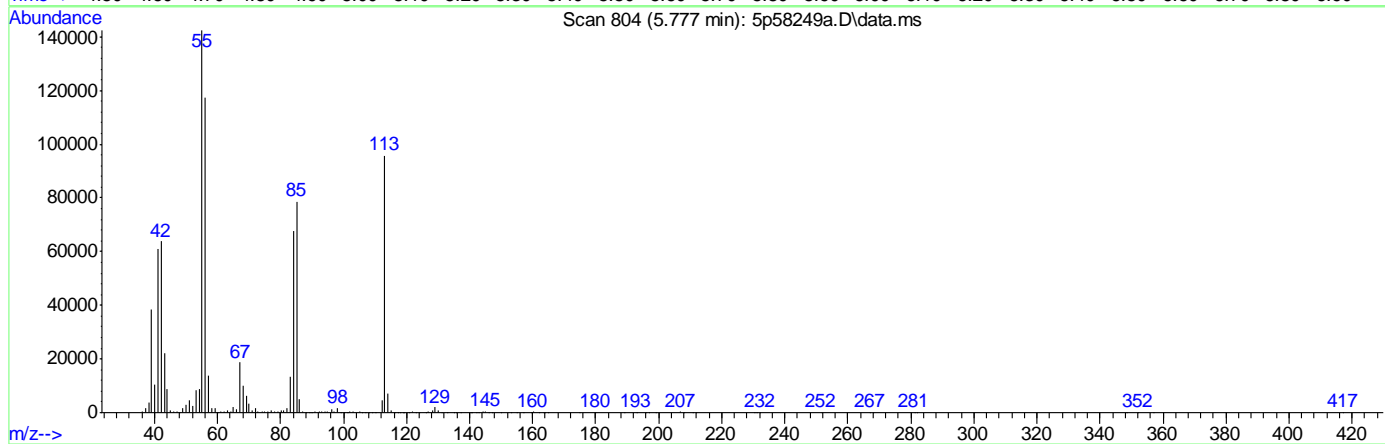
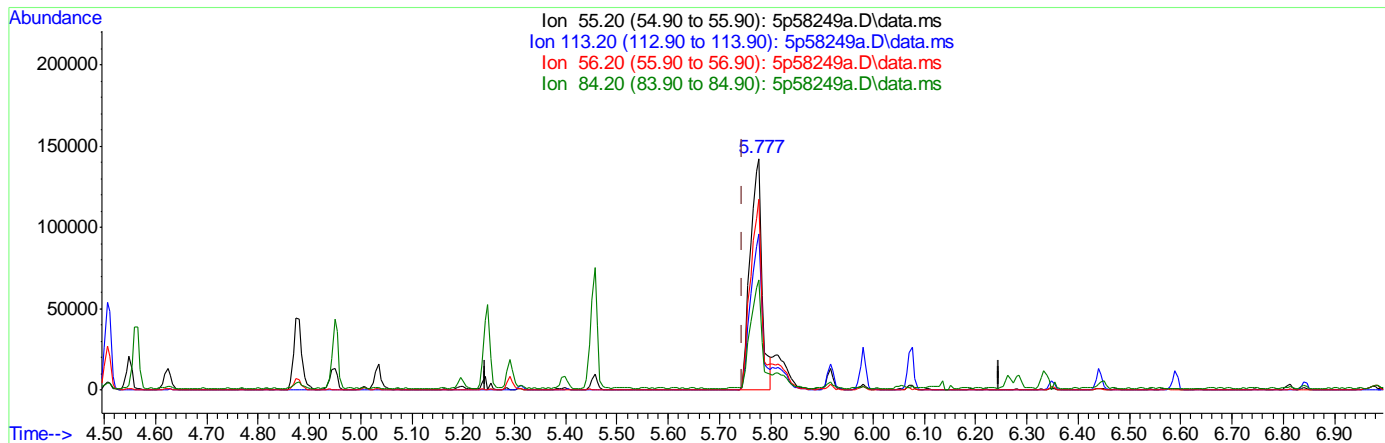
Sample Number: E5P2761-IC2761      Method: SW846 8270D  
Lab FileID: 5P58249A.D      Analyst approved: 04/09/19 14:54 Ying Li  
Injection Time: 04/09/19 00:29      Supervisor approved: 04/10/19 09:40 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
Caprolactam	105-60-2		5.78	Split peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58249a.D  
 Acq On : 9 Apr 2019 12:29 am  
 Operator : chriss2  
 Sample : ic2761-100  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:01:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



(41) Caprolactam (t)  
 5.777min (+0.032) 79.98ppm  
 response 222208

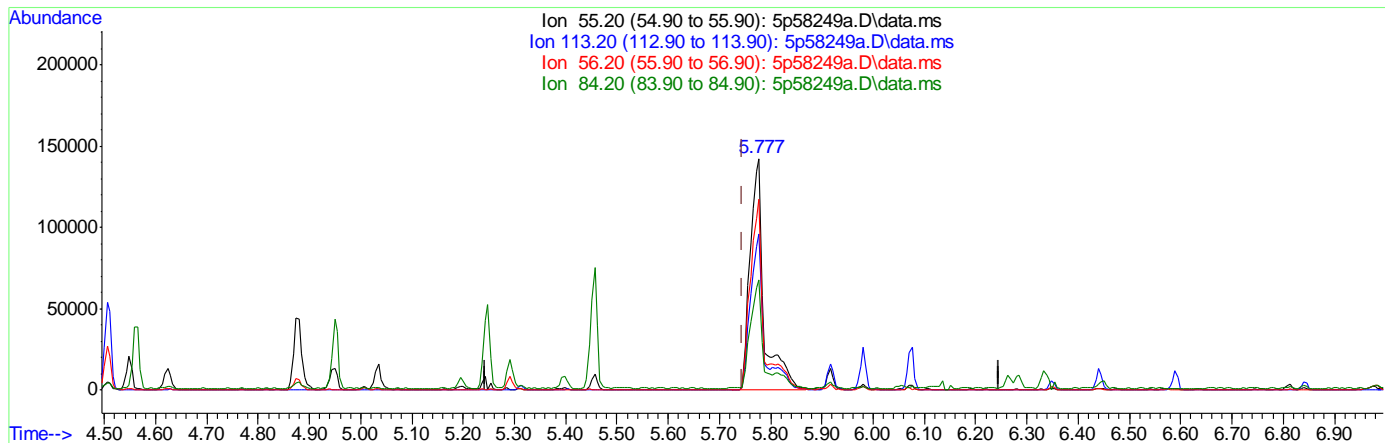
Ion	Exp%	Act%
55.20	100	100
113.20	61.40	67.53
56.20	78.50	82.62
84.20	43.90	46.72



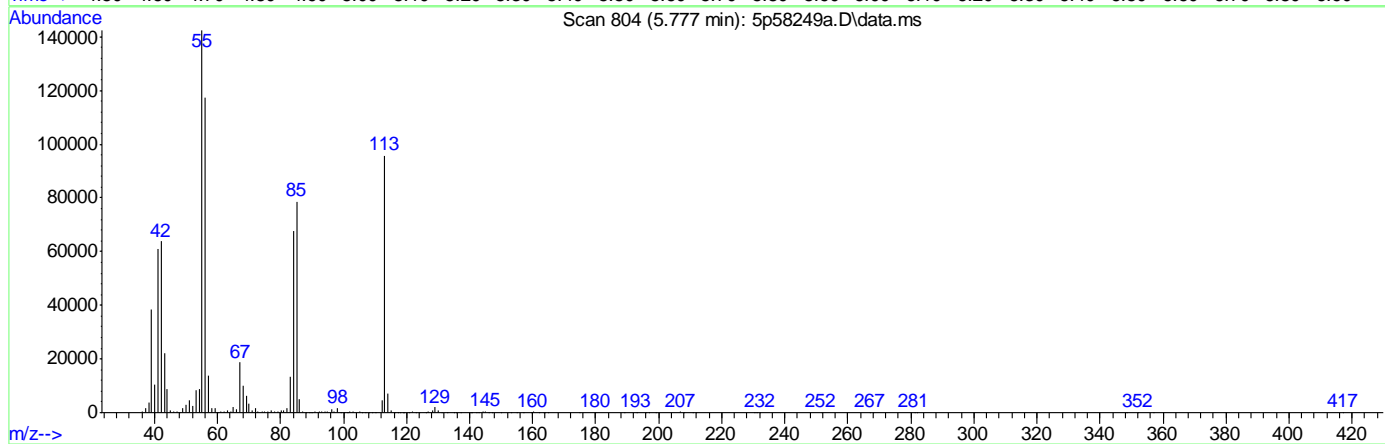
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58249a.D  
 Acq On : 9 Apr 2019 12:29 am  
 Operator : chriss2  
 Sample : ic2761-100  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 09 13:06:49 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



9.6.1.3  
9



(41) Caprolactam (t)

5.777min (+0.032) 95.69ppm m

response 265844

Ion	Exp%	Act%
55.20	100	100
113.20	61.40	67.24
56.20	78.50	82.47
84.20	43.90	47.44

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58250.D  
 Acq On : 9 Apr 2019 12:54 am  
 Operator : chriss2  
 Sample : ic2761-80  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.100	152	142519	40.00	ppm	0.00
24) Naphthalene-d8	5.291	136	544487	40.00	ppm	0.00
47) Acenaphthene-d10	6.979	164	325975	40.00	ppm	0.00
69) Phenanthrene-d10	8.422	188	558051	40.00	ppm	0.00
83) Chrysene-d12	11.734	240	486289	40.00	ppm	0.00
91) Perylene-d12	13.716	264	587496	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.100	152	142519	40.00	ppm	0.00
103) Acenaphthene-d10a	6.979	164	325975	40.00	ppm	0.00
105) Chrysene-d12a	11.734	240	486289	40.00	ppm	0.00
107) Phenanthrene-d10a	8.422	188	558051	40.00	ppm	0.00
111) Naphthalene-d8a	5.291	136	544487	40.00	ppm	0.00
113) Chrysene-d12b	11.734	240	486289	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.100	152	142519	40.00	ppm	0.00
117) Chrysene-d12c	11.734	240	486289	40.00	ppm	0.00
119) Chrysene-d12d	11.734	240	486289	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.989	112	472510	77.76	ppm	0.00
Spiked Amount	50.000		Recovery	=	155.52%	
8) Phenol-d5	3.854	99	565434	77.20	ppm	0.00
Spiked Amount	50.000		Recovery	=	154.40%	
25) Nitrobenzene-d5	4.623	82	504665	77.82	ppm	0.00
Spiked Amount	50.000		Recovery	=	155.64%	
51) 2-Fluorobiphenyl	6.349	172	816460	74.07	ppm	0.00
Spiked Amount	50.000		Recovery	=	148.14%	
73) 2,4,6-Tribromophenol	7.754	330	143746	80.10	ppm	0.00
Spiked Amount	50.000		Recovery	=	160.20%	
85) Terphenyl-d14	10.318	244	1020518	80.20	ppm	0.00
Spiked Amount	50.000		Recovery	=	160.40%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
2) 1,4-Dioxane	1.519	88	249509	79.12	ppm	Qvalue 95
3) Pyridine	1.787	79	614163	79.41	ppm	95
4) N-Nitrosodimethylamine	1.765	74	352273	81.17	ppm	100
6) Indene	4.335	116	679888	76.62	ppm	98
7) Cumene	3.378	105	1065694	74.64	ppm	99
9) Phenol	3.865	94	586836	74.67	ppm	99
10) Aniline	3.811	93	588832	76.78	ppm	94
11) bis(2-Chloroethyl)ether	3.875	93	404412	76.49	ppm	99
12) 2-Chlorophenol	3.929	128	397022	75.47	ppm	99
13) Decane	3.982	43	318513	72.49	ppm	99
14) 1,3-Dichlorobenzene	4.046	146	439168	76.12	ppm	99
15) 1,4-Dichlorobenzene	4.116	146	429657	77.01	ppm	99
16) Benzyl alcohol	4.260	108	258095	74.63	ppm	94
17) 1,2-Dichlorobenzene	4.255	146	437041	76.86	ppm	98

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58250.D  
 Acq On : 9 Apr 2019 12:54 am  
 Operator : chriss2  
 Sample : ic2761-80  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.490	105	597760	76.18	ppm	99
19) 2-Methylphenol	4.399	108	388441	78.51	ppm	97
20) 2,2'-oxybis(1-Chloropr...	4.372	45	410223	75.91	ppm	98
21) 3&4-Methylphenol	4.548	108	424189	77.01	ppm	100
22) n-Nitroso-di-n-propyla...	4.506	70	309919	76.03	ppm	97
23) Hexachloroethane	4.559	201	149360	74.95	ppm	98
26) Nitrobenzene	4.639	77	474015	76.79	ppm	96
27) Quinoline	5.649	129	846429	78.67	ppm	99
28) Isophorone	4.874	82	893258	77.49	ppm	99
29) 2-Nitrophenol	4.944	139	232845	78.50	ppm	86
30) 2,4-Dimethylphenol	5.029	107	433229	78.54	ppm	99
31) Benzoic acid	5.222	105	355862	81.08	ppm	95
32) bis(2-Chloroethoxy)met...	5.093	93	539112	78.62	ppm	100
33) 2,4-Dichlorophenol	5.195	162	355782	78.81	ppm	94
34) 2,6-Dichlorophenol	5.398	162	333477	78.44	ppm	99
35) 1,3,5-Trichlorobenzene	4.949	180	363584	75.24	ppm	99
36) 1,2,4-Trichlorobenzene	5.248	180	350650	76.28	ppm	98
37) 1,2,3-Trichlorobenzene	5.457	180	327805	74.89	ppm	98
38) Naphthalene	5.312	128	1053133	76.06	ppm	99
39) 4-Chloroaniline	5.393	127	444919	76.37	ppm	97
40) 2,3-Dichloroaniline	6.263	161	449928	79.50	ppm	97
41) Caprolactam	5.766	55	220093	80.08	ppm	97
42) Hexachlorobutadiene	5.446	225	209199	77.20	ppm	96
43) 4-Chloro-3-methylphenol	5.916	107	414464	76.63	ppm	# 63
44) 2-Methylnaphthalene	5.980	141	615553	75.97	ppm	100
45) 1-Methylnaphthalene	6.071	141	688945	77.05	ppm	99
46) Dimethylnaphthalene	6.589	156	657645	75.59	ppm	98
48) Hexachlorocyclopentadiene	6.146	237	389050	161.22	ppm	98
49) 2,4,6-Trichlorophenol	6.279	196	252562	76.82	ppm	99
50) 2,4,5-Trichlorophenol	6.333	196	278379	77.02	ppm	97
52) 2-Chloronaphthalene	6.445	162	700096	76.31	ppm	99
53) Biphenyl	6.440	154	912874	74.25	ppm	100
54) 2-Nitroaniline	6.573	65	291132	76.29	ppm	96
55) Dimethylphthalate	6.760	163	921965	76.89	ppm	100
56) Acenaphthylene	6.840	152	1122345	75.63	ppm	99
57) 2,6-Dinitrotoluene	6.814	165	205442	76.50	ppm	92
58) 3-Nitroaniline	6.974	138	232631	78.91	ppm	96
59) Acenaphthene	7.011	153	717861	75.77	ppm	97
60) 2,4-Dinitrophenol	7.081	184	264175	166.69	ppm	89
61) 4-Nitrophenol	7.209	109	123516	77.61	ppm	87
62) Dibenzofuran	7.182	168	1085672	75.07	ppm	99
63) 2,4-Dinitrotoluene	7.204	165	265201	76.79	ppm	97
64) 2,3,4,6-Tetrachlorophenol	7.326	232	257723	78.13	ppm	95
65) Diethylphthalate	7.449	149	879400	77.13	ppm	100
66) Fluorene	7.513	166	874874	76.24	ppm	96
67) 4-Chlorophenyl-phenyle...	7.529	204	387004	76.56	ppm	94
68) 4-Nitroaniline	7.577	138	221535	78.03	ppm	97
70) 4,6-Dinitro-2-methylph...	7.604	198	181044	78.40	ppm	86
71) n-Nitrosodiphenylamine	7.652	169	633922	77.02	ppm	100
72) 1,2-Diphenylhydrazine	7.679	77	944736	75.10	ppm	97

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58250.D  
 Acq On : 9 Apr 2019 12:54 am  
 Operator : chriss2  
 Sample : ic2761-80  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

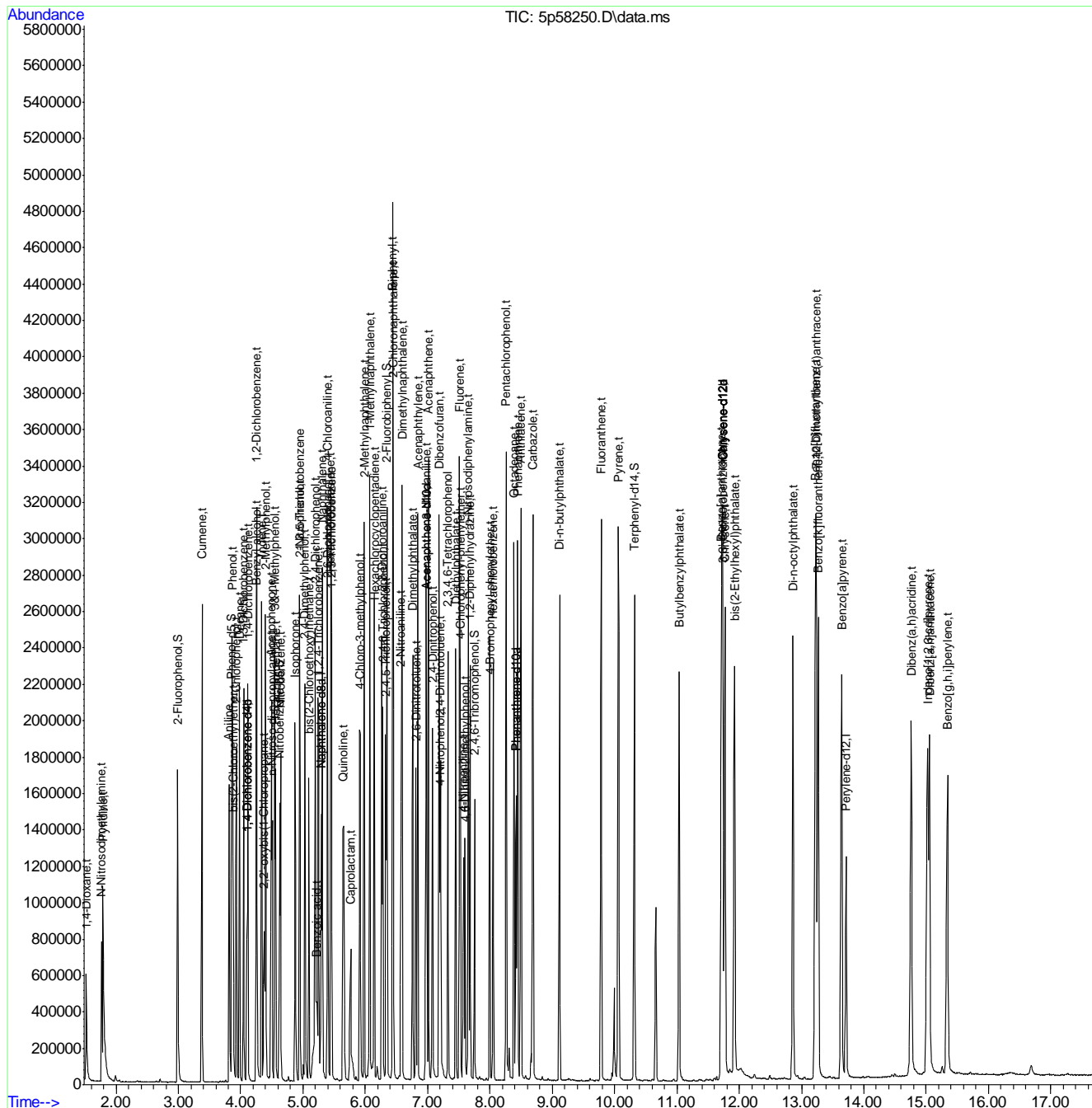
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	8.000	248	284353	75.74	ppm	89
75) Hexachlorobenzene	8.053	284	277340	77.06	ppm	95
76) Pentachlorophenol	8.261	266	407157	159.70	ppm	99
77) Phenanthrene	8.448	178	1172465	78.14	ppm	99
78) Anthracene	8.496	178	1204983	76.29	ppm	99
79) Carbazole	8.689	167	1254621	77.15	ppm	100
80) Di-n-butylphthalate	9.116	149	1572389	76.48	ppm	99
81) Fluoranthene	9.784	202	1482345	75.36	ppm	99
82) Octadecane	8.384	57	573079	73.76	ppm	99
84) Pyrene	10.062	202	1474167	80.06	ppm	100
86) Butylbenzylphthalate	11.039	149	726256	79.95	ppm	100
87) Benzo[a]anthracene	11.718	228	1399274	79.08	ppm	99
88) 3,3'-Dichlorobenzidine	11.739	252	480886	80.60	ppm	96
89) Chrysene	11.771	228	1262080	79.97	ppm	100
90) bis(2-Ethylhexyl)phtha...	11.926	149	953257	80.61	ppm	98
92) Di-n-octylphthalate	12.861	149	1736794	78.10	ppm	100
93) Benzo[b]fluoranthene	13.230	252	1402945	76.88	ppm	99
94) Benzo[k]fluoranthene	13.272	252	1224144	75.76	ppm	99
95) Benzo[a]pyrene	13.646	252	1299325	78.85	ppm	99
96) Indeno[1,2,3-cd]pyrene	15.025	276	1175945m	76.84	ppm	
97) Dibenz(a,h)acridine	14.763	279	1124536	77.58	ppm	99
98) Dibenz[a,h]anthracene	15.057	278	1179743	77.56	ppm	98
99) 7,12-Dimethylbenz(a)an...	13.235	256	608377	77.27	ppm	98
100) Benzo[g,h,i]perylene	15.345	276	1190488	75.93	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58250.D
Acq On : 9 Apr 2019 12:54 am
Operator : chriss2
Sample : ic2761-80
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary

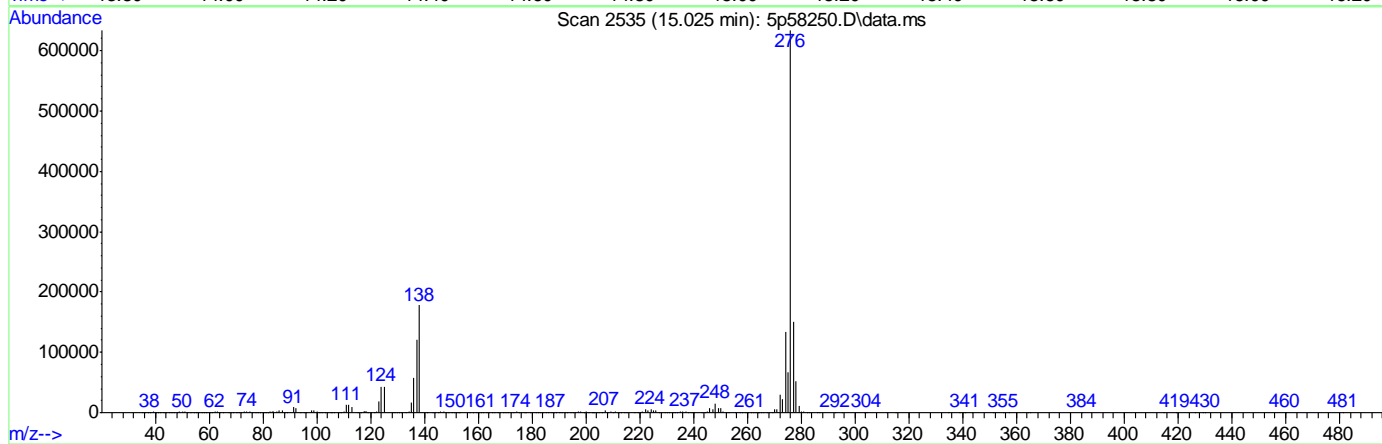
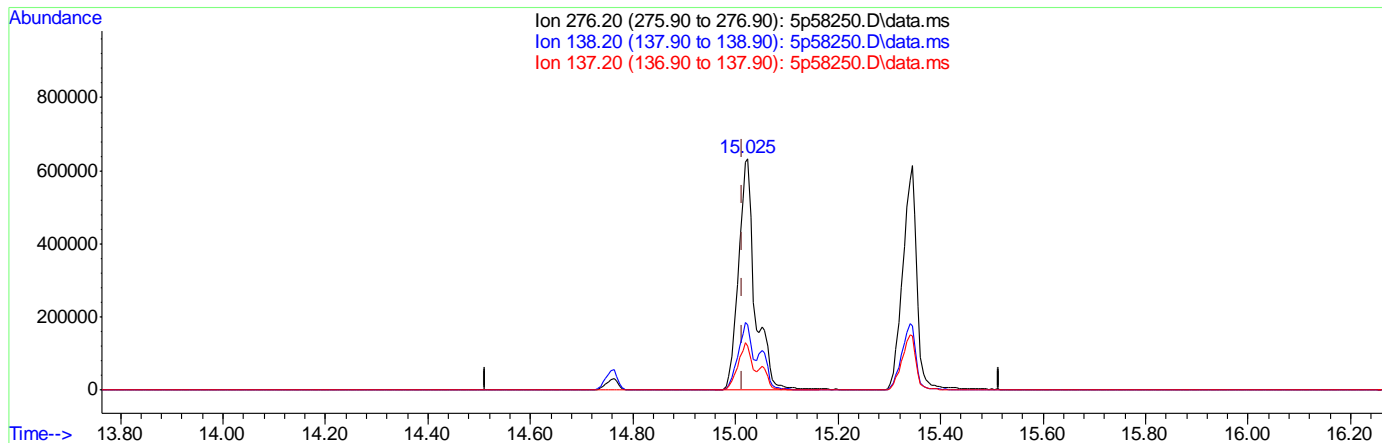
Sample Number: E5P2761-IC2761      Method: SW846 8270D  
Lab FileID: 5P58250.D      Analyst approved: 04/09/19 14:54 Ying Li  
Injection Time: 04/09/19 00:54      Supervisor approved: 04/10/19 09:40 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		15.02	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58250.D  
 Acq On : 9 Apr 2019 12:54 am  
 Operator : chriss2  
 Sample : ic2761-80  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:07:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

15.025min (+0.011) 94.02ppm

response 1438845

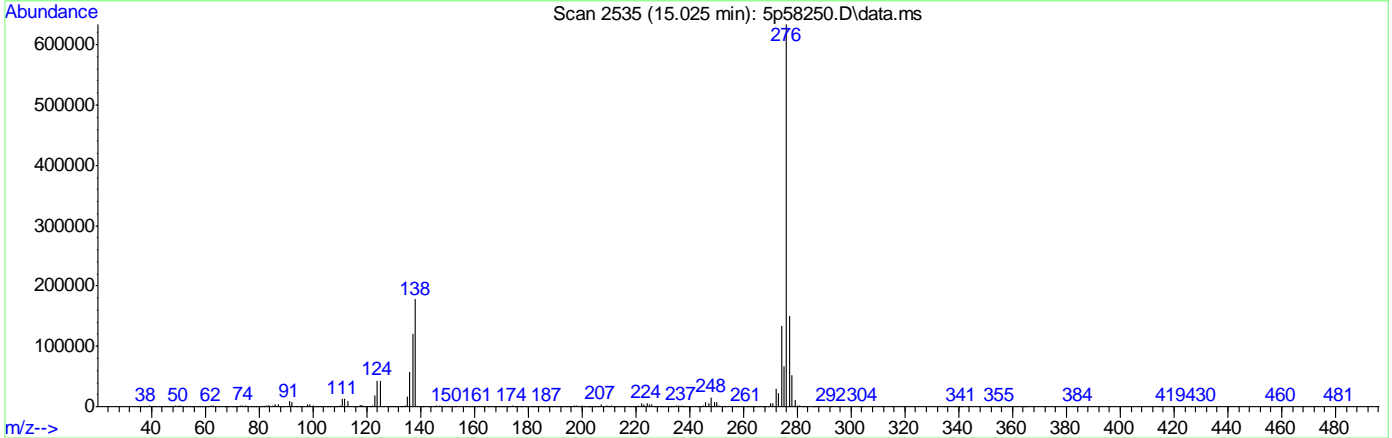
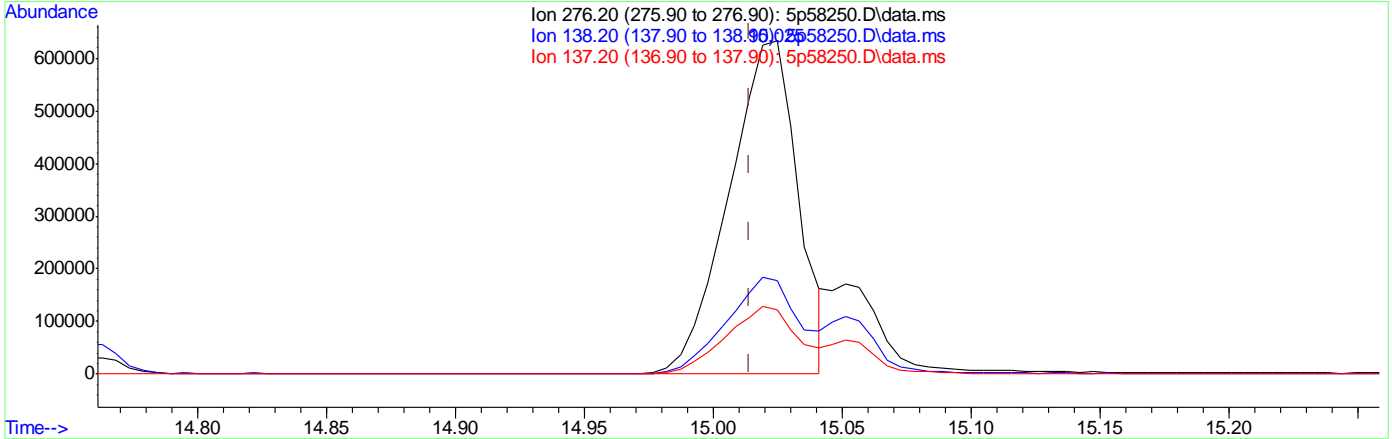
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	28.03
137.20	19.40	19.16
0.00	0.00	0.00

9.6.2.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58250.D  
 Acq On : 9 Apr 2019 12:54 am  
 Operator : chriss2  
 Sample : ic2761-80  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 09 13:09:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



TIC: 5p58250.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)  
 15.025min (+0.011) 76.84ppm m  
 response 1175945

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	28.13
137.20	19.40	19.21
0.00	0.00	0.00

9.6.2.3  
9



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58251.D  
 Acq On : 9 Apr 2019 1:20 am  
 Operator : chriss2  
 Sample : icc2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.100	152	150668	40.00	ppm	0.00
24) Naphthalene-d8	5.291	136	586035	40.00	ppm	0.00
47) Acenaphthene-d10	6.979	164	345488	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	591468	40.00	ppm	0.00
83) Chrysene-d12	11.728	240	540354	40.00	ppm	0.00
91) Perylene-d12	13.710	264	629464	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.100	152	150668	40.00	ppm	0.00
103) Acenaphthene-d10a	6.979	164	345488	40.00	ppm	0.00
105) Chrysene-d12a	11.728	240	540354	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	591468	40.00	ppm	0.00
111) Naphthalene-d8a	5.291	136	586035	40.00	ppm	0.00
113) Chrysene-d12b	11.728	240	540526	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.100	152	150668	40.00	ppm	0.00
117) Chrysene-d12c	11.728	240	540354	40.00	ppm	0.00
119) Chrysene-d12d	11.728	240	540526	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.988	112	321216	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
8) Phenol-d5	3.849	99	387146	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
25) Nitrobenzene-d5	4.618	82	348985	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
51) 2-Fluorobiphenyl	6.349	172	584134	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
73) 2,4,6-Tribromophenol	7.748	330	95108	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
85) Terphenyl-d14	10.313	244	706948	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
2) 1,4-Dioxane	1.525	88	166687	50.00	ppm	Qvalue 100
3) Pyridine	1.792	79	408793	50.00	ppm	100
4) N-Nitrosodimethylamine	1.765	74	229402	50.00	ppm	100
6) Indene	4.335	116	469026	50.00	ppm	100
7) Cumene	3.378	105	754683	50.00	ppm	100
9) Phenol	3.865	94	415412	50.00	ppm	100
10) Aniline	3.811	93	409350	50.49	ppm	97
11) bis(2-Chloroethyl)ether	3.875	93	279454	50.00	ppm	100
12) 2-Chlorophenol	3.929	128	278073	50.00	ppm	100
13) Decane	3.982	43	232251	50.00	ppm	100
14) 1,3-Dichlorobenzene	4.046	146	304946	50.00	ppm	100
15) 1,4-Dichlorobenzene	4.116	146	294895	50.00	ppm	100
16) Benzyl alcohol	4.255	108	182810	50.00	ppm	100
17) 1,2-Dichlorobenzene	4.249	146	300574	50.00	ppm	100

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58251.D  
 Acq On : 9 Apr 2019 1:20 am  
 Operator : chriss2  
 Sample : icc2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.484	105	414767	50.00	ppm	100
19) 2-Methylphenol	4.394	108	261521	50.00	ppm	100
20) 2,2'-oxybis(1-Chloropr...	4.372	45	285662	50.00	ppm	100
21) 3&4-Methylphenol	4.543	108	291150	50.00	ppm	100
22) n-Nitroso-di-n-propyla...	4.500	70	215474	50.00	ppm	100
23) Hexachloroethane	4.559	201	105330	50.00	ppm	100
26) Nitrobenzene	4.639	77	332203	50.00	ppm	100
27) Quinoline	5.638	129	578987	50.00	ppm	100
28) Isophorone	4.869	82	620321	50.00	ppm	100
29) 2-Nitrophenol	4.938	139	159616	50.00	ppm	100
30) 2,4-Dimethylphenol	5.029	107	296860	50.00	ppm	100
31) Benzoic acid	5.200	105	271551m	57.49	ppm	
32) bis(2-Chloroethoxy)met...	5.093	93	369045	50.00	ppm	100
33) 2,4-Dichlorophenol	5.189	162	242957	50.00	ppm	100
34) 2,6-Dichlorophenol	5.393	162	228799	50.00	ppm	100
35) 1,3,5-Trichlorobenzene	4.949	180	260046	50.00	ppm	100
36) 1,2,4-Trichlorobenzene	5.243	180	247391	50.00	ppm	100
37) 1,2,3-Trichlorobenzene	5.451	180	235559	50.00	ppm	100
38) Naphthalene	5.307	128	745137	50.00	ppm	100
39) 4-Chloroaniline	5.387	127	313505	50.00	ppm	100
40) 2,3-Dichloroaniline	6.263	161	304565	50.00	ppm	100
41) Caprolactam	5.745	55	147898	50.00	ppm	100
42) Hexachlorobutadiene	5.446	225	145830	50.00	ppm	100
43) 4-Chloro-3-methylphenol	5.911	107	291057	50.00	ppm	100
44) 2-Methylnaphthalene	5.980	141	436033	50.00	ppm	100
45) 1-Methylnaphthalene	6.071	141	478033	49.67	ppm	100
46) Dimethylnaphthalene	6.584	156	468203	50.00	ppm	100
48) Hexachlorocyclopentadiene	6.140	237	255762	100.00	ppm	100
49) 2,4,6-Trichlorophenol	6.279	196	174223	50.00	ppm	100
50) 2,4,5-Trichlorophenol	6.327	196	191529	50.00	ppm	100
52) 2-Chloronaphthalene	6.445	162	486194	50.00	ppm	100
53) Biphenyl	6.434	154	651510	50.00	ppm	100
54) 2-Nitroaniline	6.568	65	202221	50.00	ppm	100
55) Dimethylphthalate	6.755	163	635443	50.00	ppm	100
56) Acenaphthylene	6.840	152	786386	50.00	ppm	100
57) 2,6-Dinitrotoluene	6.808	165	142307	50.00	ppm	100
58) 3-Nitroaniline	6.968	138	156232	50.00	ppm	100
59) Acenaphthene	7.011	153	502046	50.00	ppm	100
60) 2,4-Dinitrophenol	7.075	184	167973	100.00	ppm	100
61) 4-Nitrophenol	7.209	109	84343	50.00	ppm	100
62) Dibenzofuran	7.182	168	766376	50.00	ppm	100
63) 2,4-Dinitrotoluene	7.198	165	183009	50.00	ppm	100
64) 2,3,4,6-Tetrachlorophenol	7.321	232	174806	50.00	ppm	100
65) Diethylphthalate	7.444	149	604204	50.00	ppm	100
66) Fluorene	7.508	166	608120	50.00	ppm	100
67) 4-Chlorophenyl-phenyle...	7.524	204	267882	50.00	ppm	100
68) 4-Nitroaniline	7.567	138	150452	50.00	ppm	100
70) 4,6-Dinitro-2-methylph...	7.593	198	122370	50.00	ppm	100
71) n-Nitrosodiphenylamine	7.647	169	436198	50.00	ppm	100
72) 1,2-Diphenylhydrazine	7.679	77	666687	50.00	ppm	100

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58251.D  
 Acq On : 9 Apr 2019 1:20 am  
 Operator : chriss2  
 Sample : icc2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

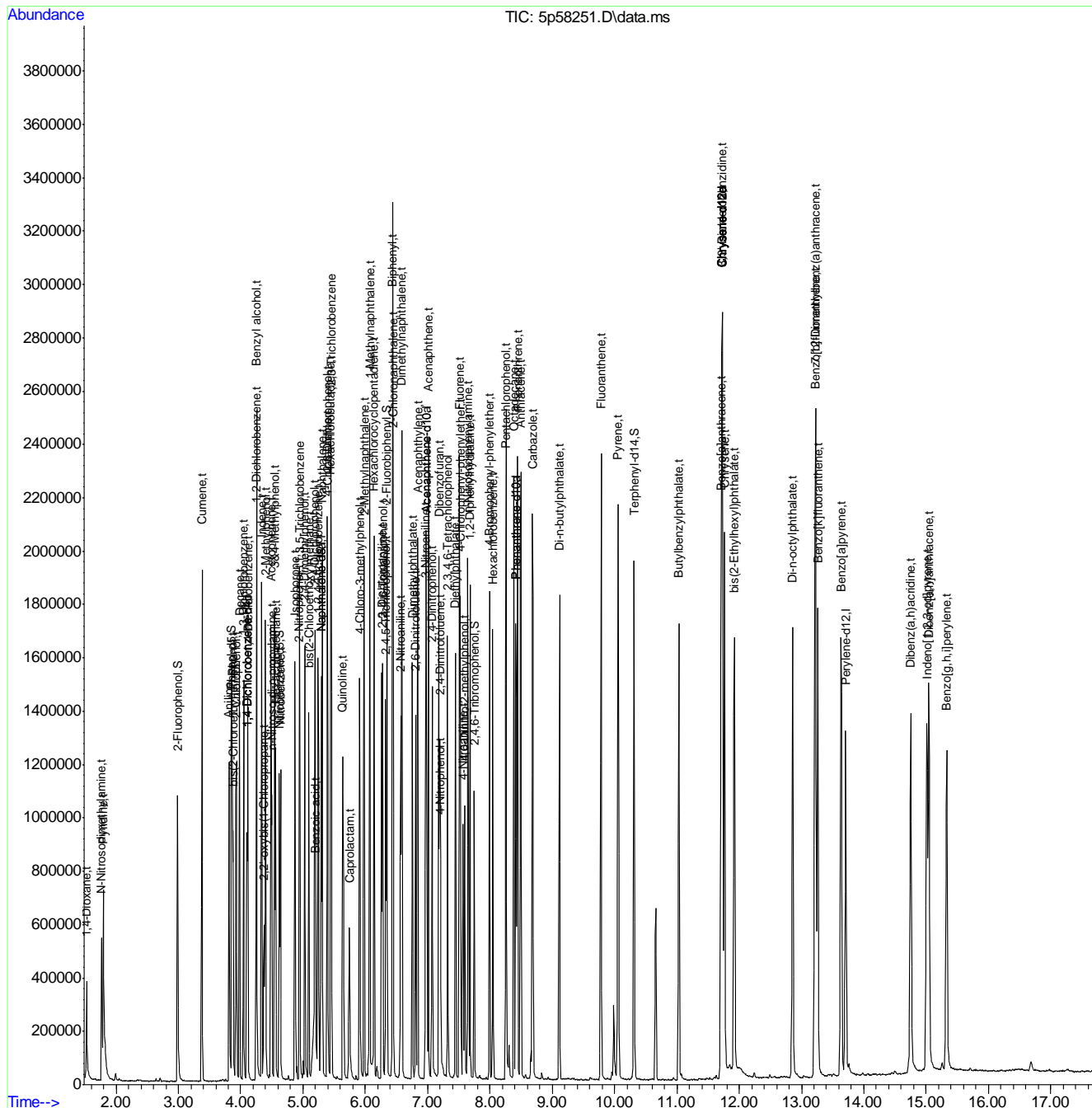
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	7.994	248	198958	50.00	ppm	100
75) Hexachlorobenzene	8.048	284	190727	50.00	ppm	100
76) Pentachlorophenol	8.261	266	270222	100.00	ppm	100
77) Phenanthrene	8.443	178	795179	50.00	ppm	100
78) Anthracene	8.496	178	837009	50.00	ppm	100
79) Carbazole	8.683	167	861794	50.00	ppm	100
80) Di-n-butylphthalate	9.116	149	1089592	50.00	ppm	100
81) Fluoranthene	9.784	202	1042344	50.00	ppm	100
82) Octadecane	8.384	57	411720	50.00	ppm	100
84) Pyrene	10.056	202	1023003	50.00	ppm	100
86) Butylbenzylphthalate	11.034	149	504676	50.00	ppm	100
87) Benzo[a]anthracene	11.712	228	983042	50.00	ppm	100
88) 3,3'-Dichlorobenzidine	11.728	252	331486	50.00	ppm	100
89) Chrysene	11.766	228	876782	50.00	ppm	100
90) bis(2-Ethylhexyl)phtha...	11.921	149	657054	50.00	ppm	100
92) Di-n-octylphthalate	12.856	149	1191287	50.00	ppm	100
93) Benzo[b]fluoranthene	13.219	252	977576	50.00	ppm	100
94) Benzo[k]fluoranthene	13.262	252	865672	50.00	ppm	100
95) Benzo[a]pyrene	13.636	252	882830	50.00	ppm	100
96) Indeno[1,2,3-cd]pyrene	15.014	276	819841m	50.00	ppm	100
97) Dibenz(a,h)acridine	14.757	279	776543	50.00	ppm	100
98) Dibenz[a,h]anthracene	15.046	278	814832	50.00	ppm	100
99) 7,12-Dimethylbenz(a)an...	13.224	256	421806	50.00	ppm	100
100) Benzo[g,h,i]perylene	15.334	276	810930	48.27	ppm	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58251.D
Acq On : 9 Apr 2019 1:20 am
Operator : chriss2
Sample : icc2761-50
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary

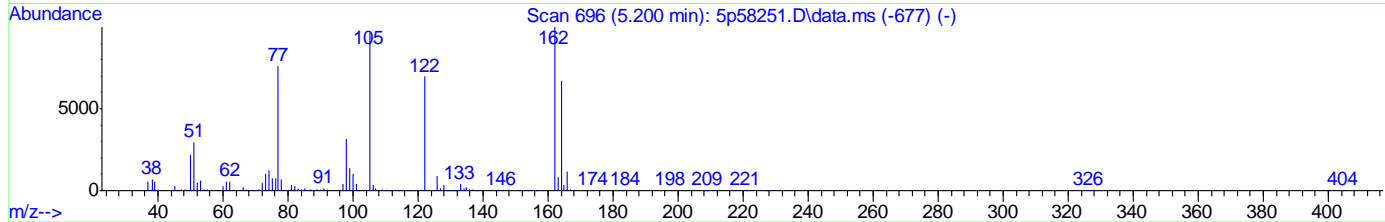
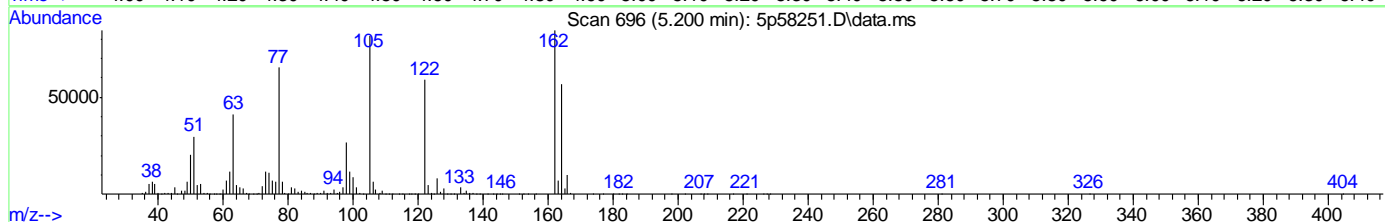
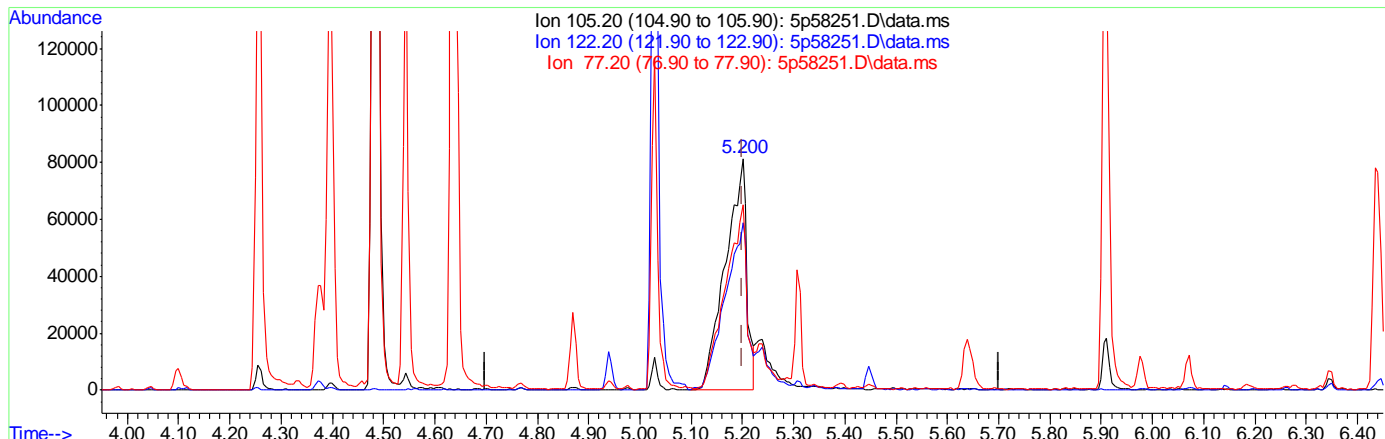
Sample Number: E5P2761-ICC2761      Method: SW846 8270D  
Lab FileID: 5P58251.D      Analyst approved: 04/09/19 14:54 Ying Li  
Injection Time: 04/09/19 01:20      Supervisor approved: 04/10/19 09:40 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
Benzoic acid	65-85-0		5.20	Split peak
Indeno(1,2,3-cd)pyrene	193-39-5		15.01	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58251.D  
 Acq On : 9 Apr 2019 1:20 am  
 Operator : chriss2  
 Sample : icc2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 12:58:08 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



TIC: 5p58251.D\data.ms

(31) Benzoic acid (t)  
 5.200min (0.000) 50.00ppm  
 response 236188

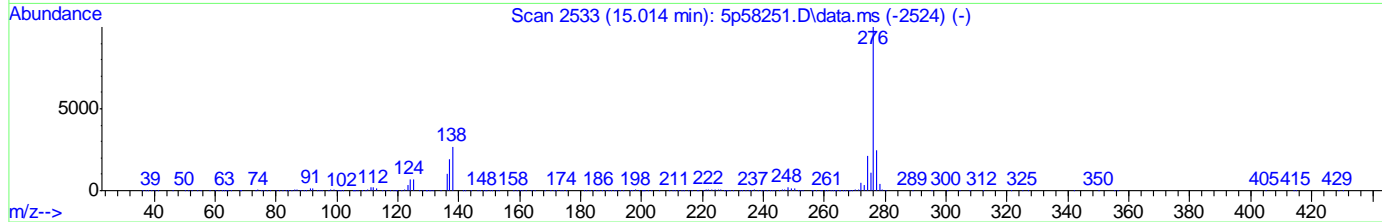
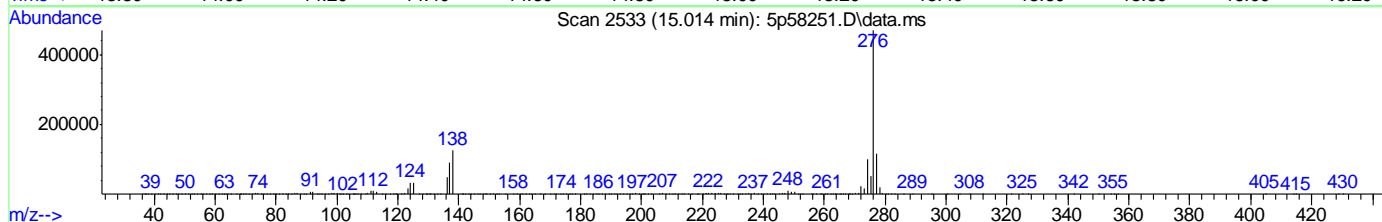
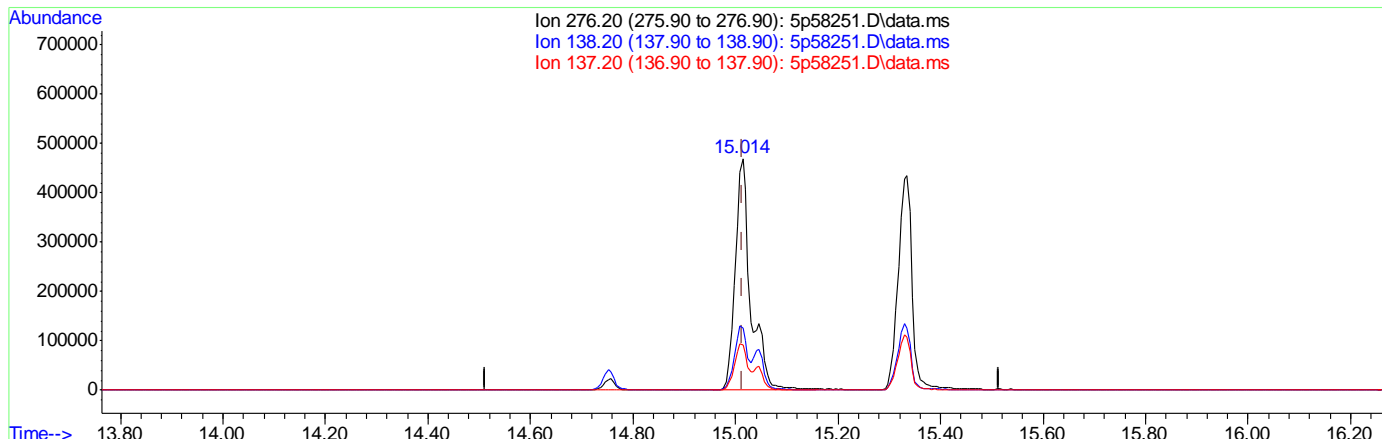
Ion	Exp%	Act%
105.20	100	100
122.20	72.10	72.06
77.20	79.20	79.16
0.00	0.00	0.00

9.6.3.2  
 9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58251.D  
 Acq On : 9 Apr 2019 1:20 am  
 Operator : chriss2  
 Sample : icc2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 12:58:08 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



TIC: 5p58251.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

15.014min (0.00) 60.94ppm

response 999242

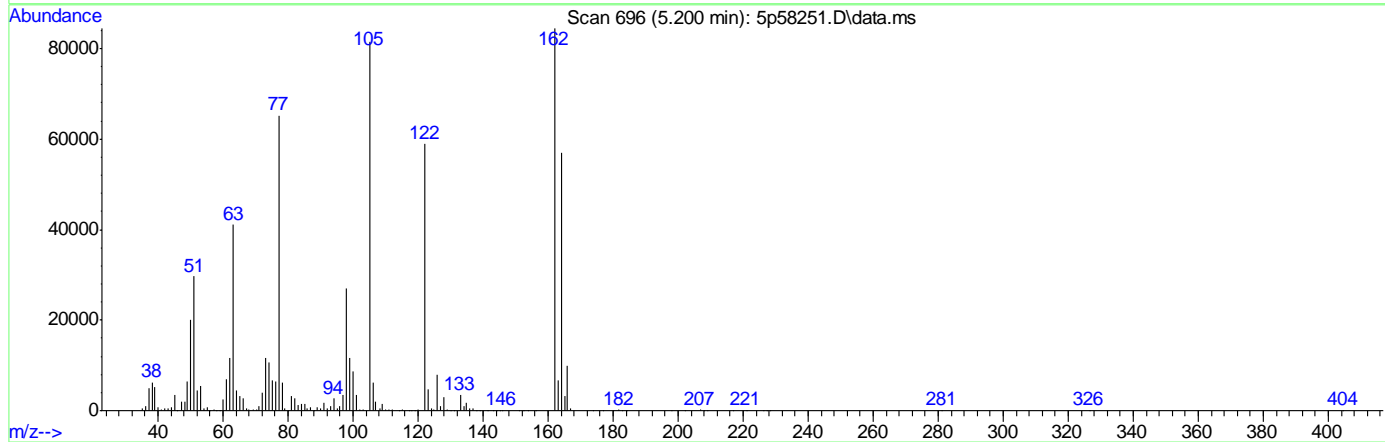
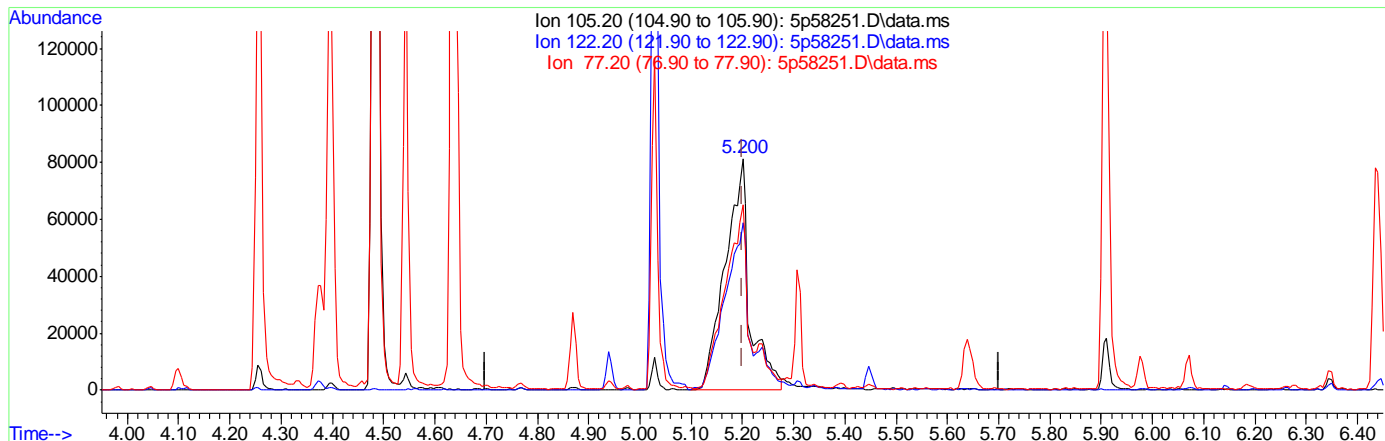
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	26.84
137.20	19.40	19.37
0.00	0.00	0.00

9.6.3.3  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58251.D  
 Acq On : 9 Apr 2019 1:20 am  
 Operator : chriss2  
 Sample : icc2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



TIC: 5p58251.D\data.ms

(31) Benzoic acid (t)  
 5.200min (0.000) 57.49ppm m  
 response 271551

Ion	Exp%	Act%
105.20	100	100
122.20	72.10	72.38
77.20	79.20	80.19
0.00	0.00	0.00

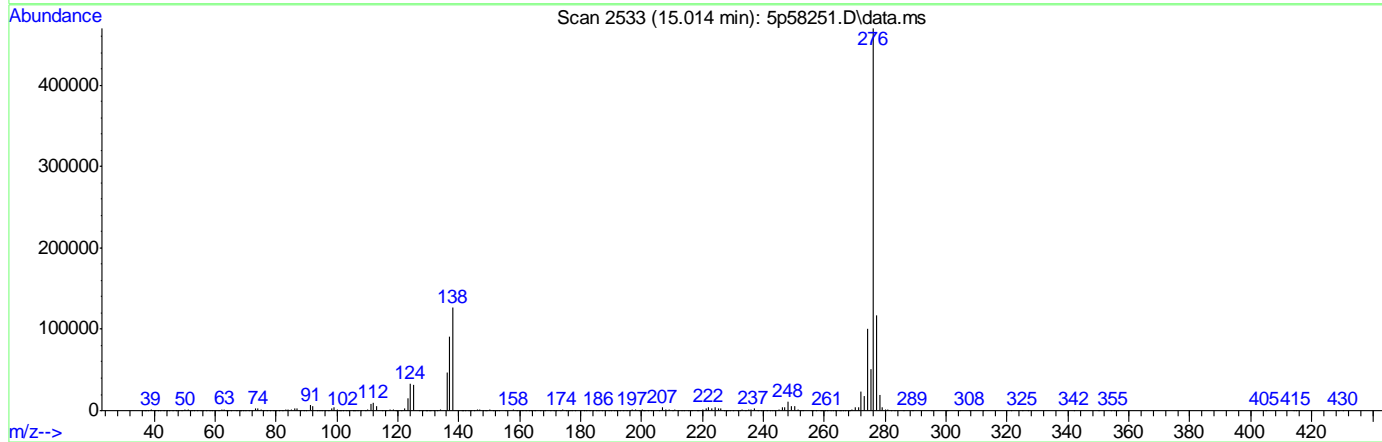
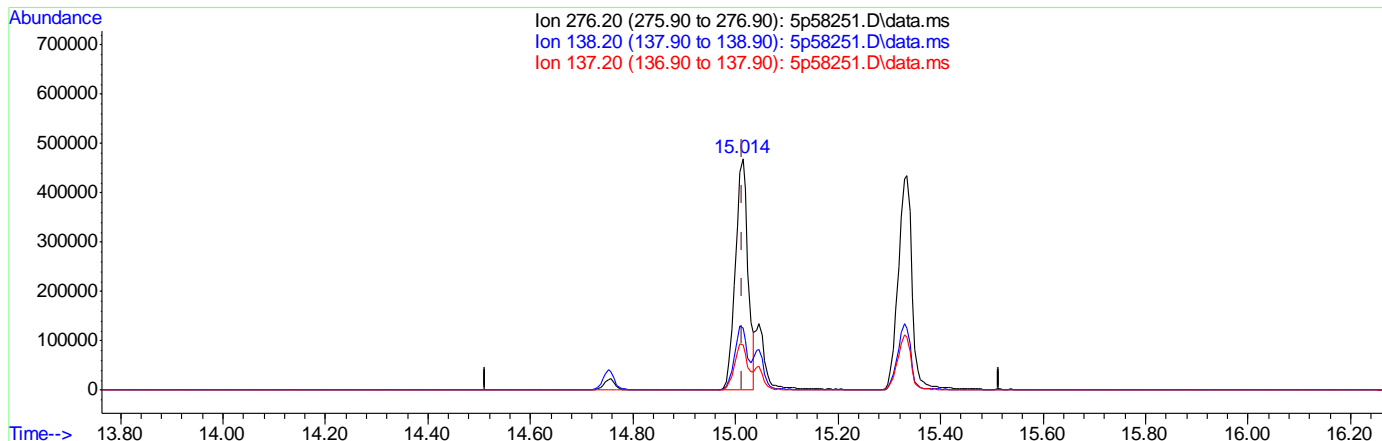
9.6.3.4  
 9



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58251.D  
 Acq On : 9 Apr 2019 1:20 am  
 Operator : chriss2  
 Sample : icc2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 09 13:00:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

15.014min (0.000) 50.00ppm m

response 819841

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	26.93
137.20	19.40	19.42
0.00	0.00	0.00

9.6.3.5  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58252.D  
 Acq On : 9 Apr 2019 1:45 am  
 Operator : chriss2  
 Sample : ic2761-25  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.100	152	162762	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	614580	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	361742	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	618140	40.00	ppm	0.00
83) Chrysene-d12	11.723	240	575360	40.00	ppm	0.00
91) Perylene-d12	13.711	264	645225	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.100	152	162762	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	361742	40.00	ppm	0.00
105) Chrysene-d12a	11.723	240	575360	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	618140	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	614580	40.00	ppm	0.00
113) Chrysene-d12b	11.723	240	575335	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.100	152	162762	40.00	ppm	0.00
117) Chrysene-d12c	11.723	240	575360	40.00	ppm	0.00
119) Chrysene-d12d	11.723	240	575335	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.983	112	167392	24.12	ppm	0.00
Spiked Amount	50.000		Recovery	=	48.24%	
8) Phenol-d5	3.849	99	203958	24.38	ppm	0.00
Spiked Amount	50.000		Recovery	=	48.76%	
25) Nitrobenzene-d5	4.618	82	186327	25.46	ppm	0.00
Spiked Amount	50.000		Recovery	=	50.92%	
51) 2-Fluorobiphenyl	6.344	172	316600	25.88	ppm	0.00
Spiked Amount	50.000		Recovery	=	51.76%	
73) 2,4,6-Tribromophenol	7.749	330	47692	23.99	ppm	0.00
Spiked Amount	50.000		Recovery	=	47.98%	
85) Terphenyl-d14	10.313	244	365047	24.25	ppm	0.00
Spiked Amount	50.000		Recovery	=	48.50%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
2) 1,4-Dioxane	1.525	88	86753	24.09	ppm	Qvalue 96
3) Pyridine	1.792	79	218790	24.77	ppm	97
4) N-Nitrosodimethylamine	1.771	74	123927	25.00	ppm	97
6) Indene	4.335	116	251536	24.82	ppm	95
7) Cumene	3.379	105	407463	24.99	ppm	99
9) Phenol	3.859	94	224717	25.04	ppm	97
10) Aniline	3.811	93	232758	26.58	ppm	75
11) bis(2-Chloroethyl)ether	3.875	93	152411	25.24	ppm	94
12) 2-Chlorophenol	3.924	128	150368	25.03	ppm	91
13) Decane	3.982	43	129570	25.82	ppm	98
14) 1,3-Dichlorobenzene	4.046	146	166041	25.20	ppm	98
15) 1,4-Dichlorobenzene	4.111	146	161172	25.30	ppm	96
16) Benzyl alcohol	4.255	108	95896	24.28	ppm	93
17) 1,2-Dichlorobenzene	4.249	146	159588	24.57	ppm	99

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58252.D  
 Acq On : 9 Apr 2019 1:45 am  
 Operator : chriss2  
 Sample : ic2761-25  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.479	105	221248	24.69	ppm	94
19) 2-Methylphenol	4.394	108	146539	25.93	ppm	99
20) 2,2'-oxybis(1-Chloropr...	4.372	45	155160	25.14	ppm	99
21) 3&4-Methylphenol	4.538	108	153156	24.35	ppm	98
22) n-Nitroso-di-n-propyla...	4.495	70	119149	25.59	ppm	99
23) Hexachloroethane	4.559	201	58342	25.64	ppm	96
26) Nitrobenzene	4.634	77	182409	26.18	ppm	95
27) Quinoline	5.633	129	300066	24.71	ppm	99
28) Isophorone	4.864	82	336361	25.85	ppm	99
29) 2-Nitrophenol	4.939	139	84773	25.32	ppm	96
30) 2,4-Dimethylphenol	5.024	107	149823	24.06	ppm	97
31) Benzoic acid	5.174	105	140641	28.39	ppm	99
32) bis(2-Chloroethoxy)met...	5.088	93	194789	25.17	ppm	99
33) 2,4-Dichlorophenol	5.190	162	127275	24.98	ppm	96
34) 2,6-Dichlorophenol	5.393	162	121941	25.41	ppm	98
35) 1,3,5-Trichlorobenzene	4.944	180	140677	25.79	ppm	97
36) 1,2,4-Trichlorobenzene	5.243	180	132572	25.55	ppm	97
37) 1,2,3-Trichlorobenzene	5.451	180	126183	25.54	ppm	99
38) Naphthalene	5.307	128	394919	25.27	ppm	99
39) 4-Chloroaniline	5.387	127	169373	25.76	ppm	98
40) 2,3-Dichloroaniline	6.258	161	161477	25.28	ppm	98
41) Caprolactam	5.724	55	75274	24.27	ppm	94
42) Hexachlorobutadiene	5.446	225	77469	25.33	ppm	97
43) 4-Chloro-3-methylphenol	5.900	107	151629	24.84	ppm	91
44) 2-Methylnaphthalene	5.975	141	235427	25.74	ppm	98
45) 1-Methylnaphthalene	6.066	141	257631	25.53	ppm	98
46) Dimethylnaphthalene	6.584	156	250961	25.56	ppm	99
48) Hexachlorocyclopentadiene	6.141	237	119336	44.56	ppm	98
49) 2,4,6-Trichlorophenol	6.274	196	90873	24.91	ppm	97
50) 2,4,5-Trichlorophenol	6.322	196	95782	23.88	ppm	99
52) 2-Chloronaphthalene	6.440	162	264524	25.98	ppm	98
53) Biphenyl	6.434	154	346845	25.42	ppm	99
54) 2-Nitroaniline	6.563	65	106040	25.04	ppm	92
55) Dimethylphthalate	6.755	163	322883	24.26	ppm	99
56) Acenaphthylene	6.835	152	432603	26.27	ppm	99
57) 2,6-Dinitrotoluene	6.803	165	72710	24.40	ppm	98
58) 3-Nitroaniline	6.963	138	81805	25.00	ppm	95
59) Acenaphthene	7.006	153	263479	25.06	ppm	99
60) 2,4-Dinitrophenol	7.070	184	78448	44.60	ppm	91
61) 4-Nitrophenol	7.204	109	44960	25.46	ppm	92
62) Dibenzofuran	7.177	168	398625	24.84	ppm	98
63) 2,4-Dinitrotoluene	7.193	165	98382	25.67	ppm	99
64) 2,3,4,6-Tetrachlorophenol	7.321	232	88663	24.22	ppm	97
65) Diethylphthalate	7.444	149	320851	25.36	ppm	99
66) Fluorene	7.508	166	316270	24.84	ppm	98
67) 4-Chlorophenyl-phenyle...	7.524	204	143741	25.62	ppm	96
68) 4-Nitroaniline	7.556	138	76729	24.35	ppm	95
70) 4,6-Dinitro-2-methylph...	7.588	198	59498	23.26	ppm	84
71) n-Nitrosodiphenylamine	7.647	169	228851	25.10	ppm	98
72) 1,2-Diphenylhydrazine	7.674	77	369095	26.49	ppm	96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58252.D  
 Acq On : 9 Apr 2019 1:45 am  
 Operator : chriss2  
 Sample : ic2761-25  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

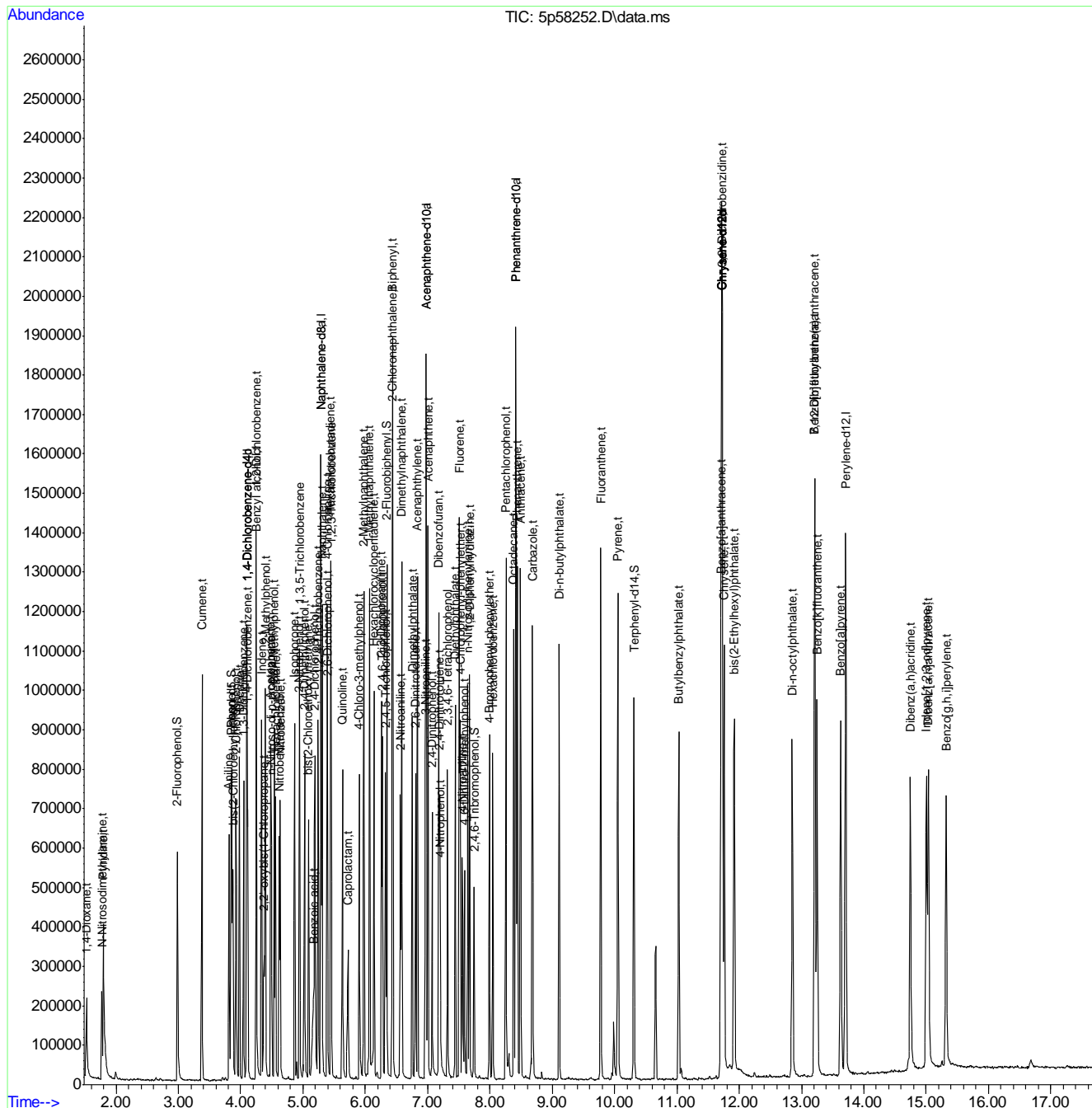
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	7.994	248	100511	24.17	ppm	98
75) Hexachlorobenzene	8.048	284	97643	24.49	ppm	96
76) Pentachlorophenol	8.256	266	133332	47.21	ppm	99
77) Phenanthrene	8.438	178	420079	25.27	ppm	99
78) Anthracene	8.491	178	442497	25.29	ppm	100
79) Carbazole	8.683	167	456602	25.35	ppm	99
80) Di-n-butylphthalate	9.111	149	577669	25.36	ppm	100
81) Fluoranthene	9.779	202	540800	24.82	ppm	99
82) Octadecane	8.379	57	225425	26.19	ppm	96
84) Pyrene	10.056	202	559492	25.68	ppm	98
86) Butylbenzylphthalate	11.034	149	261667	24.35	ppm	97
87) Benzo[a]anthracene	11.707	228	505558	24.15	ppm	99
88) 3,3'-Dichlorobenzidine	11.729	252	176991	25.07	ppm	98
89) Chrysene	11.761	228	458990	24.58	ppm	99
90) bis(2-Ethylhexyl)phtha...	11.921	149	345778	24.71	ppm	98
92) Di-n-octylphthalate	12.856	149	622042	25.47	ppm	99
93) Benzo[b]fluoranthene	13.214	252	504032	25.15	ppm	97
94) Benzo[k]fluoranthene	13.251	252	439254	24.75	ppm	98
95) Benzo[a]pyrene	13.630	252	450181	24.87	ppm	99
96) Indeno[1,2,3-cd]pyrene	15.003	276	406114m	24.16	ppm	
97) Dibenz(a,h)acridine	14.747	279	391619	24.60	ppm	99
98) Dibenz[a,h]anthracene	15.035	278	422129	25.27	ppm	99
99) 7,12-Dimethylbenz(a)an...	13.214	256	210597	24.35	ppm	100
100) Benzo[g,h,i]perylene	15.324	276	411087	23.87	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58252.D  
 Acq On : 9 Apr 2019 1:45 am  
 Operator : chriss2  
 Sample : ic2761-25  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



# Manual Integration Approval Summary

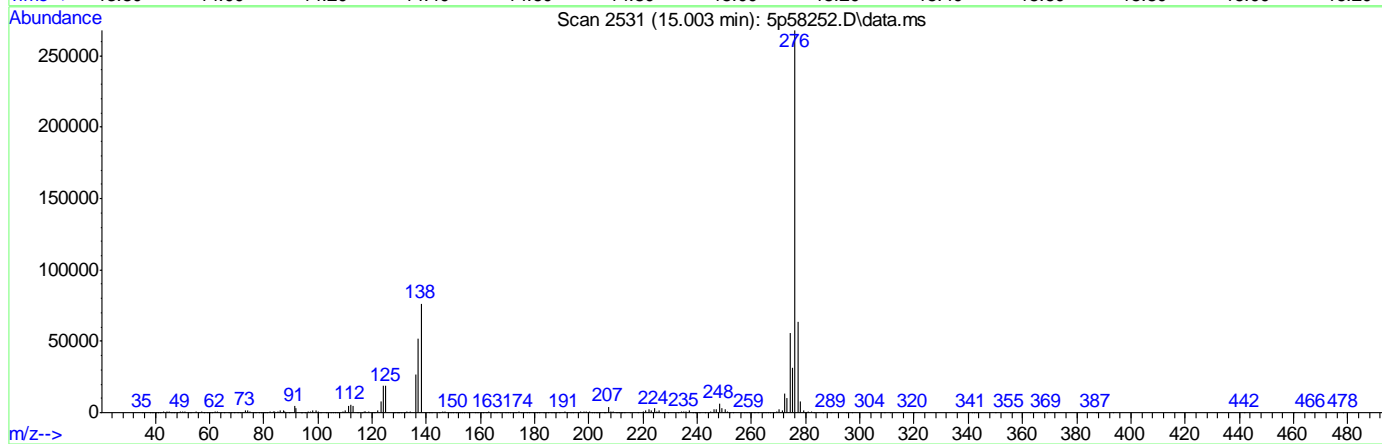
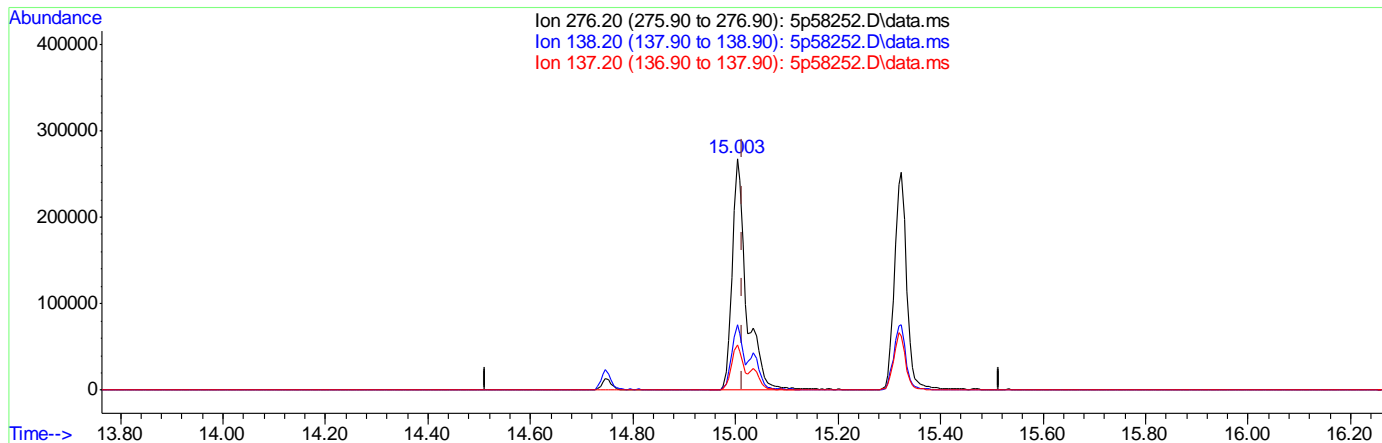
Sample Number: E5P2761-IC2761      Method: SW846 8270D  
Lab FileID: 5P58252.D      Analyst approved: 04/09/19 14:54 Ying Li  
Injection Time: 04/09/19 01:45      Supervisor approved: 04/10/19 09:40 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		15.00	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58252.D  
 Acq On : 9 Apr 2019 1:45 am  
 Operator : chriss2  
 Sample : ic2761-25  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:10:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

15.003min (-0.011) 30.55ppm

response 513405

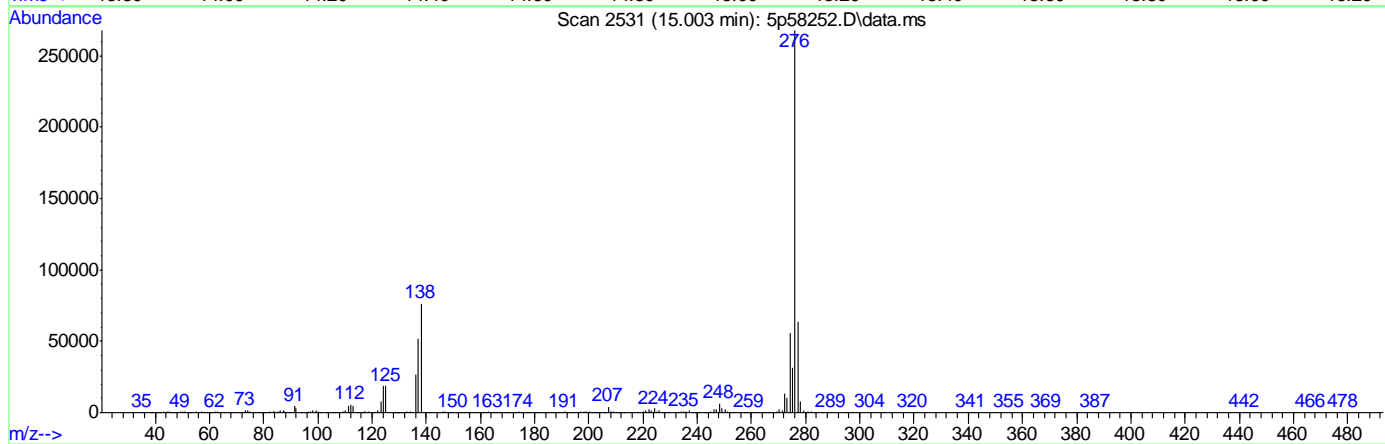
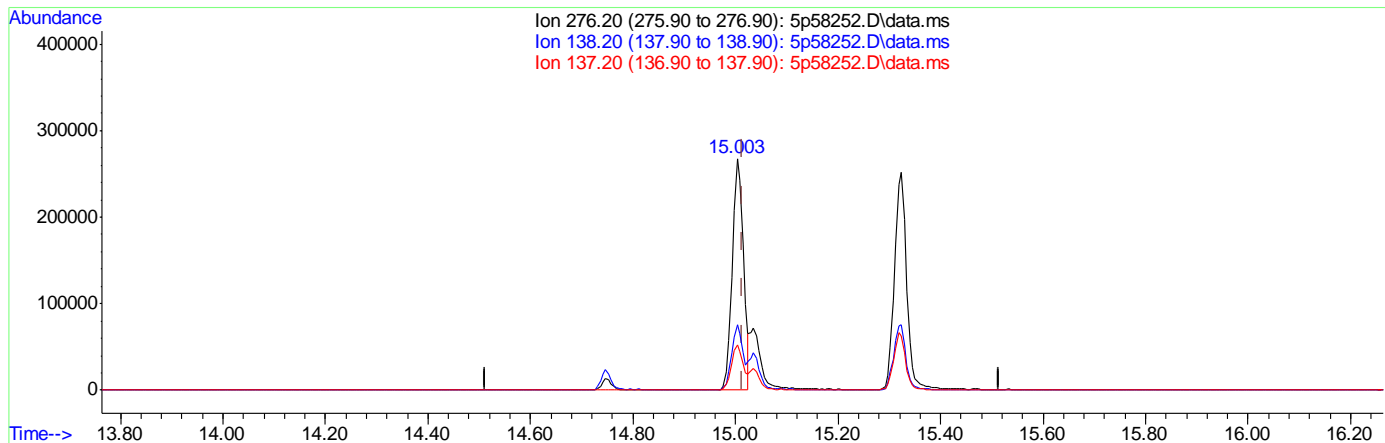
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	28.37
137.20	19.40	19.54
0.00	0.00	0.00

9.6.4.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58252.D  
 Acq On : 9 Apr 2019 1:45 am  
 Operator : chriss2  
 Sample : ic2761-25  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 09 13:12:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



TIC: 5p58252.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

15.003min (-0.011) 24.16ppm m

response 406114

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	28.46
137.20	19.40	19.51
0.00	0.00	0.00

9.6.4.3  
9



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58253.D  
 Acq On : 9 Apr 2019 2:10 am  
 Operator : chriss2  
 Sample : ic2761-10  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:14:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	178941	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	681647	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	395841	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	663427	40.00	ppm	0.00
83) Chrysene-d12	11.723	240	617875	40.00	ppm	0.00
91) Perylene-d12	13.710	264	665959	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	178941	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	395841	40.00	ppm	0.00
105) Chrysene-d12a	11.723	240	617875	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	663427	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	681647	40.00	ppm	0.00
113) Chrysene-d12b	11.723	240	617795	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	178941	40.00	ppm	0.00
117) Chrysene-d12c	11.723	240	617875	40.00	ppm	0.00
119) Chrysene-d12d	11.723	240	617795	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.988	112	69748	9.14	ppm	0.00
Spiked Amount	50.000		Recovery	=	18.28%	
8) Phenol-d5	3.849	99	89902	9.78	ppm	0.00
Spiked Amount	50.000		Recovery	=	19.56%	
25) Nitrobenzene-d5	4.613	82	81438	10.03	ppm	0.00
Spiked Amount	50.000		Recovery	=	20.06%	
51) 2-Fluorobiphenyl	6.343	172	144460	10.79	ppm	0.00
Spiked Amount	50.000		Recovery	=	21.58%	
73) 2,4,6-Tribromophenol	7.743	330	19680	9.22	ppm	0.00
Spiked Amount	50.000		Recovery	=	18.44%	
85) Terphenyl-d14	10.307	244	158306	9.79	ppm	0.00
Spiked Amount	50.000		Recovery	=	19.58%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
2) 1,4-Dioxane	1.525	88	37750	9.53	ppm	98
3) Pyridine	1.803	79	95200	9.80	ppm	90
4) N-Nitrosodimethylamine	1.770	74	48907	8.98	ppm	98
6) Indene	4.335	116	112344	10.08	ppm	96
7) Cumene	3.378	105	179214	10.00	ppm	97
9) Phenol	3.859	94	100567	10.19	ppm	96
10) Aniline	3.806	93	108933	11.31	ppm	76
11) bis(2-Chloroethyl)ether	3.875	93	69403	10.46	ppm	91
12) 2-Chlorophenol	3.923	128	67410	10.21	ppm	94
13) Decane	3.977	43	61247	11.10	ppm	91
14) 1,3-Dichlorobenzene	4.046	146	75639	10.44	ppm	93
15) 1,4-Dichlorobenzene	4.110	146	70997	10.14	ppm	99
16) Benzyl alcohol	4.249	108	42012	9.68	ppm	85
17) 1,2-Dichlorobenzene	4.249	146	71202	9.97	ppm	100

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58253.D  
 Acq On : 9 Apr 2019 2:10 am  
 Operator : chriss2  
 Sample : ic2761-10  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:14:19 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.479	105	98295	9.98	ppm	97
19) 2-Methylphenol	4.388	108	62974	10.14	ppm	96
20) 2,2'-oxybis(1-Chloropr...	4.372	45	69835	10.29	ppm	97
21) 3&4-Methylphenol	4.538	108	67084	9.70	ppm	98
22) n-Nitroso-di-n-propyla...	4.490	70	53706	10.49	ppm	95
23) Hexachloroethane	4.559	201	25605	10.23	ppm	98
26) Nitrobenzene	4.634	77	78967	10.22	ppm	99
27) Quinoline	5.628	129	129214	9.59	ppm	99
28) Isophorone	4.864	82	149819	10.38	ppm	99
29) 2-Nitrophenol	4.938	139	36943	9.95	ppm	88
30) 2,4-Dimethylphenol	5.024	107	59653	8.64	ppm	95
31) Benzoic acid	5.147	105	53728	9.78	ppm	99
32) bis(2-Chloroethoxy)met...	5.088	93	88174	10.27	ppm	97
33) 2,4-Dichlorophenol	5.189	162	55952	9.90	ppm	97
34) 2,6-Dichlorophenol	5.392	162	53315	10.02	ppm	99
35) 1,3,5-Trichlorobenzene	4.944	180	61876	10.23	ppm	96
36) 1,2,4-Trichlorobenzene	5.243	180	60314	10.48	ppm	99
37) 1,2,3-Trichlorobenzene	5.451	180	58370	10.65	ppm	98
38) Naphthalene	5.307	128	177157	10.22	ppm	98
39) 4-Chloroaniline	5.382	127	75941	10.41	ppm	96
40) 2,3-Dichloroaniline	6.258	161	71065	10.03	ppm	96
41) Caprolactam	5.702	55	32719	9.51	ppm	96
42) Hexachlorobutadiene	5.446	225	34790	10.26	ppm	98
43) 4-Chloro-3-methylphenol	5.900	107	66101	9.76	ppm	# 32
44) 2-Methylnaphthalene	5.975	141	105036	10.36	ppm	97
45) 1-Methylnaphthalene	6.066	141	117043	10.46	ppm	97
46) Dimethylnaphthalene	6.584	156	113609	10.43	ppm	99
48) Hexachlorocyclopentadiene	6.140	237	43147	14.72	ppm	97
49) 2,4,6-Trichlorophenol	6.274	196	40286	10.09	ppm	99
50) 2,4,5-Trichlorophenol	6.317	196	41847	9.53	ppm	96
52) 2-Chloronaphthalene	6.440	162	122294	10.98	ppm	99
53) Biphenyl	6.434	154	152749	10.23	ppm	98
54) 2-Nitroaniline	6.562	65	45489	9.82	ppm	98
55) Dimethylphthalate	6.749	163	143992	9.89	ppm	98
56) Acenaphthylene	6.835	152	191682	10.64	ppm	99
57) 2,6-Dinitrotoluene	6.803	165	32078	9.84	ppm	95
58) 3-Nitroaniline	6.963	138	35294	9.86	ppm	90
59) Acenaphthene	7.006	153	116343	10.11	ppm	95
60) 2,4-Dinitrophenol	7.070	184	21881	11.37	ppm	93
61) 4-Nitrophenol	7.198	109	17791	9.21	ppm	# 77
62) Dibenzofuran	7.177	168	176450	10.05	ppm	99
63) 2,4-Dinitrotoluene	7.193	165	42253	10.08	ppm	98
64) 2,3,4,6-Tetrachlorophenol	7.321	232	37217	9.29	ppm	95
65) Diethylphthalate	7.439	149	139162	10.05	ppm	98
66) Fluorene	7.508	166	141606	10.16	ppm	99
67) 4-Chlorophenyl-phenyle...	7.524	204	66415	10.82	ppm	96
68) 4-Nitroaniline	7.551	138	31974	9.27	ppm	97
70) 4,6-Dinitro-2-methylph...	7.588	198	22985	8.37	ppm	88
71) n-Nitrosodiphenylamine	7.642	169	100620	10.28	ppm	98
72) 1,2-Diphenylhydrazine	7.674	77	165750	11.08	ppm	98

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58253.D  
 Acq On : 9 Apr 2019 2:10 am  
 Operator : chriss2  
 Sample : ic2761-10  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:14:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

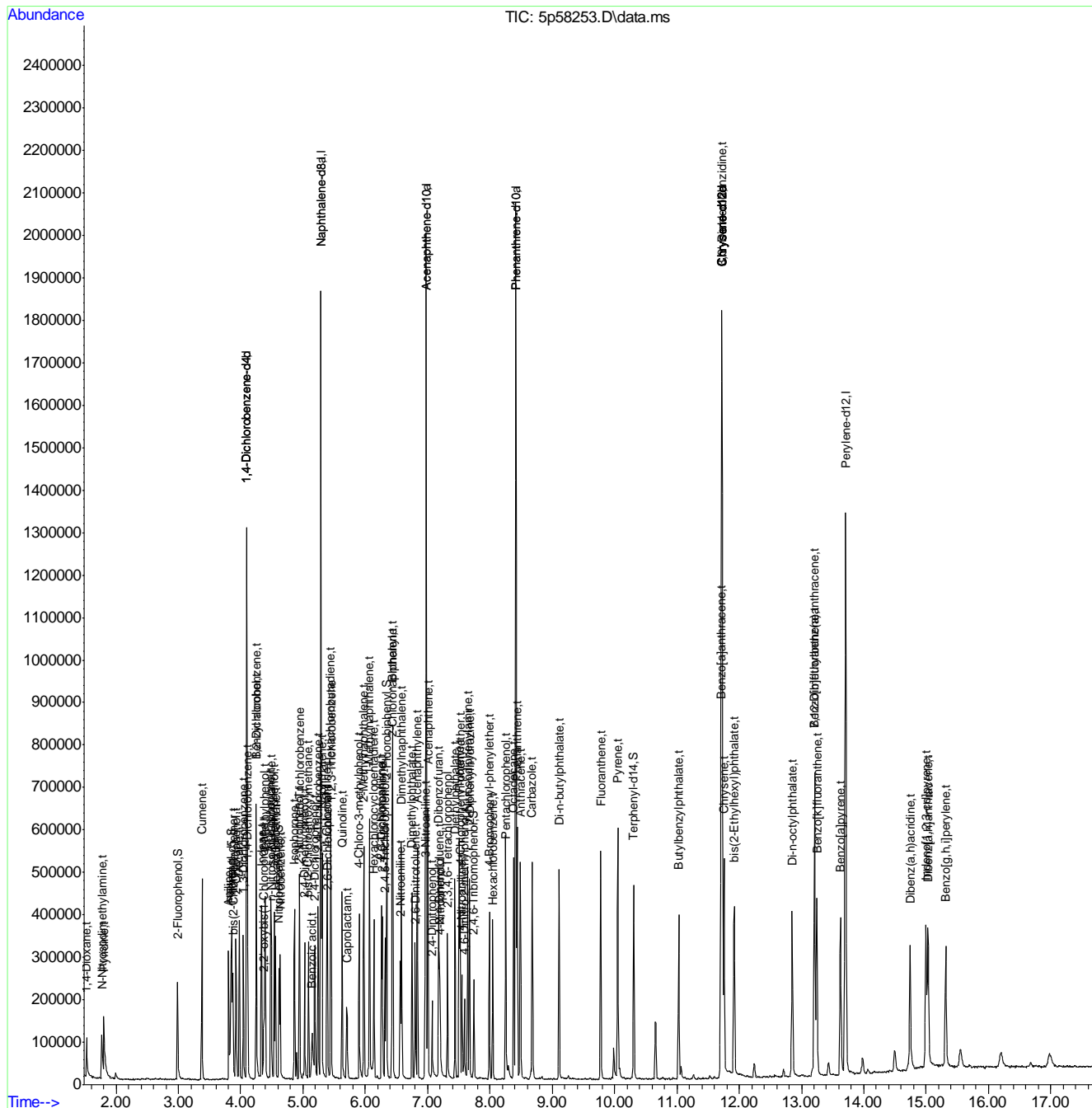
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	7.989	248	43453	9.74	ppm	91
75) Hexachlorobenzene	8.048	284	42387	9.91	ppm	91
76) Pentachlorophenol	8.256	266	52300	17.26	ppm	99
77) Phenanthrene	8.438	178	179185	10.04	ppm	100
78) Anthracene	8.491	178	192494	10.25	ppm	99
79) Carbazole	8.678	167	192931	9.98	ppm	98
80) Di-n-butylphthalate	9.111	149	248142	10.15	ppm	100
81) Fluoranthene	9.778	202	229937	9.83	ppm	99
82) Octadecane	8.379	57	103040	11.16	ppm	95
84) Pyrene	10.051	202	238333	10.19	ppm	98
86) Butylbenzylphthalate	11.029	149	108895	9.44	ppm	95
87) Benzo[a]anthracene	11.707	228	212748	9.46	ppm	98
88) 3,3'-Dichlorobenzidine	11.723	252	73506	9.70	ppm	93
89) Chrysene	11.755	228	195520	9.75	ppm	100
90) bis(2-Ethylhexyl)phtha...	11.921	149	148270	9.87	ppm	100
92) Di-n-octylphthalate	12.850	149	257783	10.23	ppm	98
93) Benzo[b]fluoranthene	13.208	252	208490	10.08	ppm	96
94) Benzo[k]fluoranthene	13.246	252	206001	11.25	ppm	99
95) Benzo[a]pyrene	13.625	252	188788	10.11	ppm	98
96) Indeno[1,2,3-cd]pyrene	14.998	276	158303m	9.13	ppm	
97) Dibenz(a,h)acridine	14.747	279	158181	9.63	ppm	99
98) Dibenz[a,h]anthracene	15.030	278	170503	9.89	ppm	98
99) 7,12-Dimethylbenz(a)an...	13.208	256	81214	9.10	ppm	98
100) Benzo[g,h,i]perylene	15.313	276	166561	9.37	ppm	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58253.D
Acq On : 9 Apr 2019 2:10 am
Operator : chriss2
Sample : ic2761-10
Misc : op12947,e5p2761,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:14:19 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



# Manual Integration Approval Summary

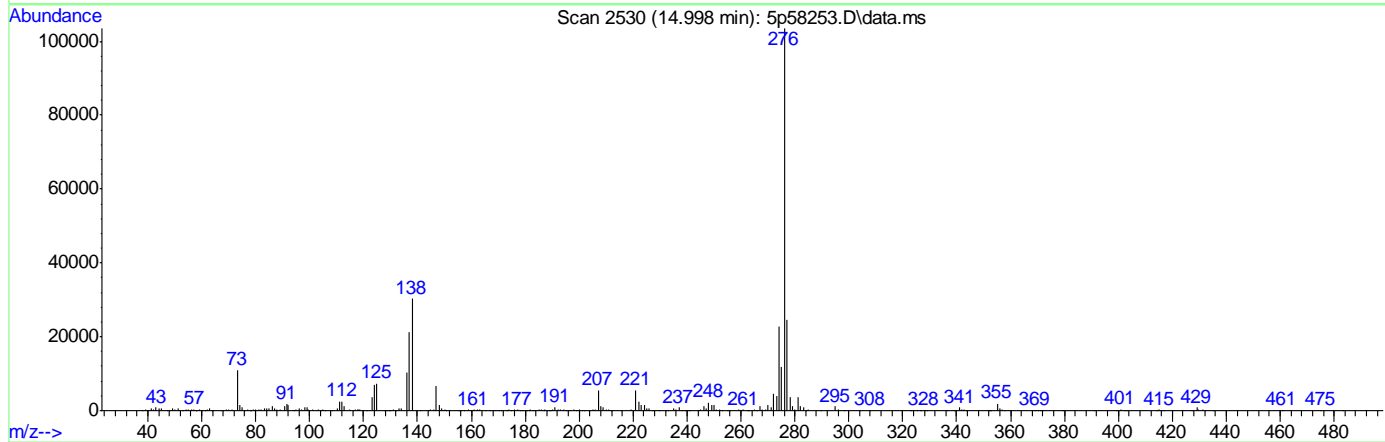
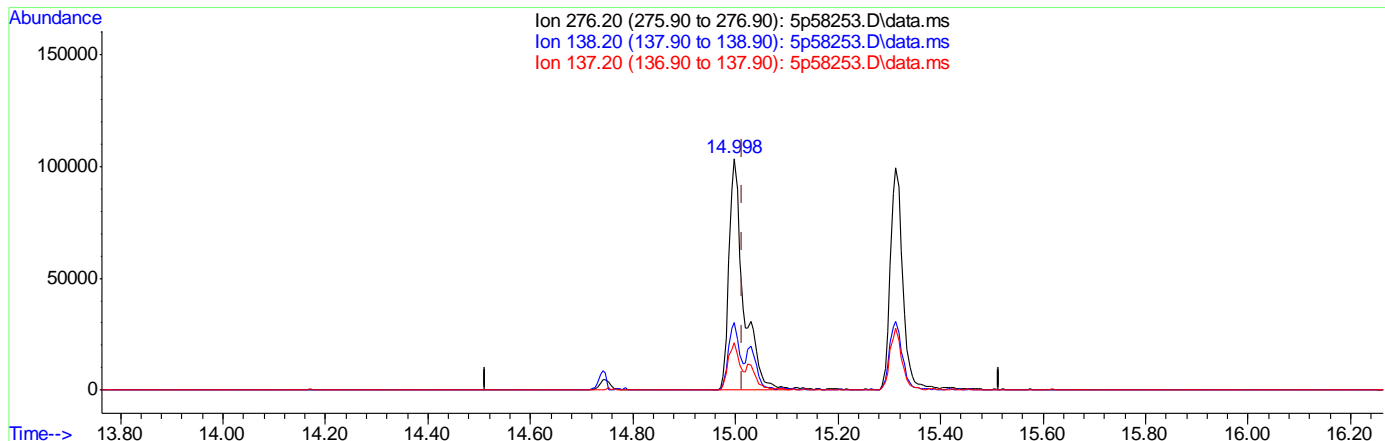
Sample Number: E5P2761-IC2761      Method: SW846 8270D  
Lab FileID: 5P58253.D      Analyst approved: 04/09/19 14:54 Ying Li  
Injection Time: 04/09/19 02:10      Supervisor approved: 04/10/19 09:40 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		15.00	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58253.D  
 Acq On : 9 Apr 2019 2:10 am  
 Operator : chriss2  
 Sample : ic2761-10  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:12:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



TIC: 5p58253.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)  
 14.998min (-0.016) 11.73ppm  
 response 203444

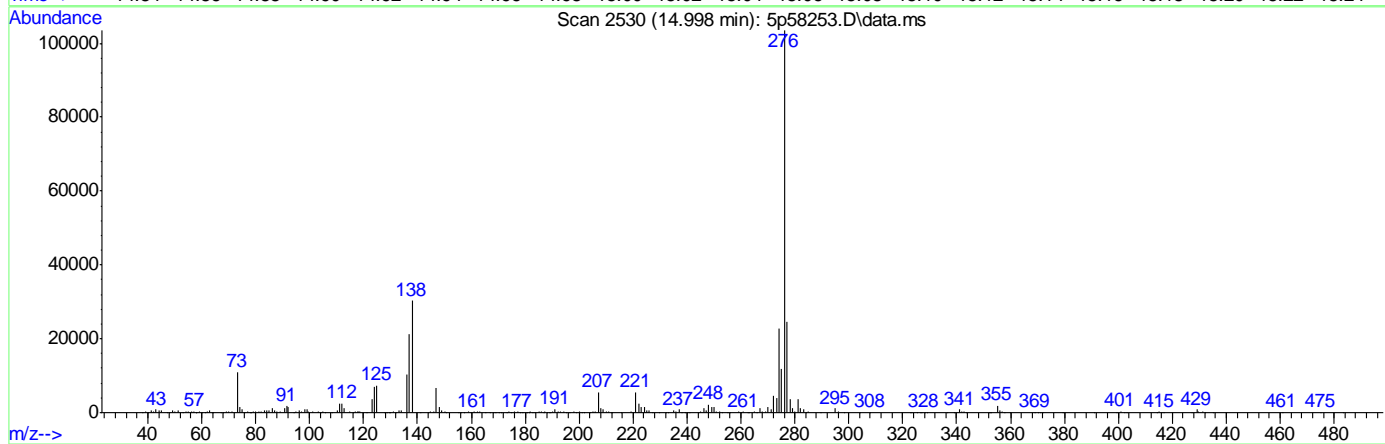
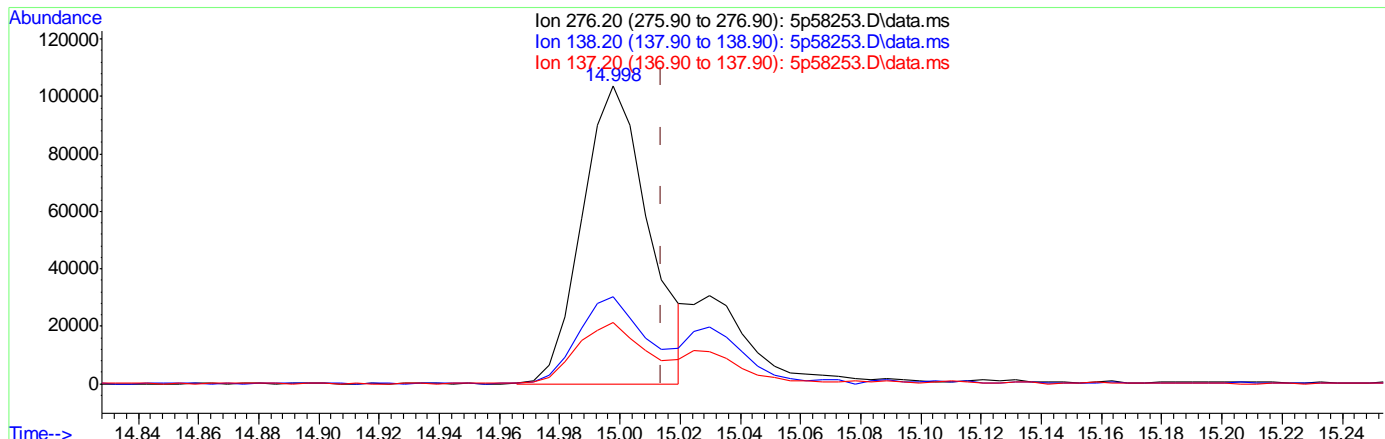
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	29.21
137.20	19.40	20.24
0.00	0.00	0.00

9.6.5.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58253.D  
 Acq On : 9 Apr 2019 2:10 am  
 Operator : chriss2  
 Sample : ic2761-10  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 09 13:12:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



TIC: 5p58253.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.998min (-0.016) 9.13ppm m

response 158303

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	29.31
137.20	19.40	20.55
0.00	0.00	0.00

9.6.5.3  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58254.D  
 Acq On : 9 Apr 2019 2:34 am  
 Operator : chriss2  
 Sample : ic2761-5  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:16:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	186855	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	705474	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	398046	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	660857	40.00	ppm	0.00
83) Chrysene-d12	11.723	240	619296	40.00	ppm	0.00
91) Perylene-d12	13.705	264	653691	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	186855	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	398046	40.00	ppm	0.00
105) Chrysene-d12a	11.723	240	619296	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	660857	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	705474	40.00	ppm	0.00
113) Chrysene-d12b	11.723	240	619237	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	186855	40.00	ppm	0.00
117) Chrysene-d12c	11.723	240	619296	40.00	ppm	0.00
119) Chrysene-d12d	11.723	240	619237	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.988	112	33417	4.19	ppm	0.00
Spiked Amount	50.000		Recovery	=	8.38%	
8) Phenol-d5	3.849	99	45349	4.72	ppm	0.00
Spiked Amount	50.000		Recovery	=	9.44%	
25) Nitrobenzene-d5	4.613	82	40232	4.79	ppm	0.00
Spiked Amount	50.000		Recovery	=	9.58%	
51) 2-Fluorobiphenyl	6.343	172	72403	5.38	ppm	0.00
Spiked Amount	50.000		Recovery	=	10.76%	
73) 2,4,6-Tribromophenol	7.743	330	9286	4.37	ppm	0.00
Spiked Amount	50.000		Recovery	=	8.74%	
85) Terphenyl-d14	10.307	244	77172	4.76	ppm	0.00
Spiked Amount	50.000		Recovery	=	9.52%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
						Qvalue
2) 1,4-Dioxane	1.530	88	19776	4.78	ppm	95
3) Pyridine	1.808	79	43217	4.26	ppm	96
4) N-Nitrosodimethylamine	1.776	74	25498	4.48	ppm	95
6) Indene	4.329	116	56687	4.87	ppm	96
7) Cumene	3.378	105	91838	4.91	ppm	99
9) Phenol	3.859	94	51529	5.00	ppm	98
10) Aniline	3.811	93	56028	5.57	ppm	90
11) bis(2-Chloroethyl)ether	3.875	93	37680	5.44	ppm	99
12) 2-Chlorophenol	3.923	128	33321	4.83	ppm	86
13) Decane	3.977	43	31086	5.40	ppm	95
14) 1,3-Dichlorobenzene	4.046	146	38335	5.07	ppm	96
15) 1,4-Dichlorobenzene	4.110	146	36192	4.95	ppm	97
16) Benzyl alcohol	4.249	108	21368	4.71	ppm	84
17) 1,2-Dichlorobenzene	4.249	146	35411	4.75	ppm	95



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58254.D  
 Acq On : 9 Apr 2019 2:34 am  
 Operator : chriss2  
 Sample : ic2761-5  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:16:17 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.479	105	50795	4.94	ppm	99
19) 2-Methylphenol	4.388	108	30663	4.73	ppm	99
20) 2,2'-oxybis(1-Chloropr...	4.372	45	36587	5.16	ppm	98
21) 3&4-Methylphenol	4.538	108	31234	4.33	ppm	97
22) n-Nitroso-di-n-propyla...	4.490	70	28544	5.34	ppm	98
23) Hexachloroethane	4.559	201	13318	5.10	ppm	94
26) Nitrobenzene	4.634	77	41464	5.18	ppm	96
27) Quinoline	5.628	129	63752	4.57	ppm	97
28) Isophorone	4.864	82	76782	5.14	ppm	99
29) 2-Nitrophenol	4.938	139	17100	4.45	ppm	89
30) 2,4-Dimethylphenol	5.024	107	27589	3.86	ppm	98
31) Benzoic acid	5.131	105	23665	4.16	ppm	98
32) bis(2-Chloroethoxy)met...	5.088	93	42310	4.76	ppm	95
33) 2,4-Dichlorophenol	5.189	162	28002	4.79	ppm	96
34) 2,6-Dichlorophenol	5.392	162	25944	4.71	ppm	93
35) 1,3,5-Trichlorobenzene	4.944	180	32088	5.13	ppm	95
36) 1,2,4-Trichlorobenzene	5.243	180	30325	5.09	ppm	95
37) 1,2,3-Trichlorobenzene	5.451	180	28828	5.08	ppm	97
38) Naphthalene	5.307	128	89674	5.00	ppm	97
39) 4-Chloroaniline	5.382	127	39202	5.19	ppm	97
40) 2,3-Dichloroaniline	6.258	161	35890	4.89	ppm	97
41) Caprolactam	5.697	55	16087	4.52	ppm	97
42) Hexachlorobutadiene	5.446	225	16830	4.79	ppm	96
43) 4-Chloro-3-methylphenol	5.900	107	32118	4.58	ppm	89
44) 2-Methylnaphthalene	5.975	141	52320	4.98	ppm	98
45) 1-Methylnaphthalene	6.066	141	58468	5.05	ppm	98
46) Dimethylnaphthalene	6.578	156	56709	5.03	ppm	94
48) Hexachlorocyclopentadiene	6.140	237	16926	5.74	ppm	95
49) 2,4,6-Trichlorophenol	6.274	196	20172	5.02	ppm	94
50) 2,4,5-Trichlorophenol	6.317	196	21514	4.87	ppm	96
52) 2-Chloronaphthalene	6.440	162	60590	5.41	ppm	98
53) Biphenyl	6.434	154	76675	5.11	ppm	97
54) 2-Nitroaniline	6.557	65	22193	4.76	ppm	83
55) Dimethylphthalate	6.749	163	69862	4.77	ppm	98
56) Acenaphthylene	6.835	152	97350	5.37	ppm	97
57) 2,6-Dinitrotoluene	6.798	165	14528	4.43	ppm	85
58) 3-Nitroaniline	6.963	138	15917	4.42	ppm	98
59) Acenaphthene	7.006	153	59430	5.14	ppm	96
60) 2,4-Dinitrophenol	7.070	184	8735	4.51	ppm	92
61) 4-Nitrophenol	7.204	109	7891	4.06	ppm #	69
62) Dibenzofuran	7.177	168	88773	5.03	ppm	99
63) 2,4-Dinitrotoluene	7.187	165	20551	4.87	ppm	81
64) 2,3,4,6-Tetrachlorophenol	7.316	232	17611	4.37	ppm	93
65) Diethylphthalate	7.439	149	69464	4.99	ppm	98
66) Fluorene	7.503	166	69286	4.94	ppm	98
67) 4-Chlorophenyl-phenyle...	7.524	204	32864	5.32	ppm	95
68) 4-Nitroaniline	7.551	138	16545	4.77	ppm	89
70) 4,6-Dinitro-2-methylph...	7.588	198	9248	3.38	ppm	84
71) n-Nitrosodiphenylamine	7.642	169	49984	5.13	ppm	98
72) 1,2-Diphenylhydrazine	7.674	77	84105	5.65	ppm	96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58254.D  
 Acq On : 9 Apr 2019 2:34 am  
 Operator : chriss2  
 Sample : ic2761-5  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:16:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

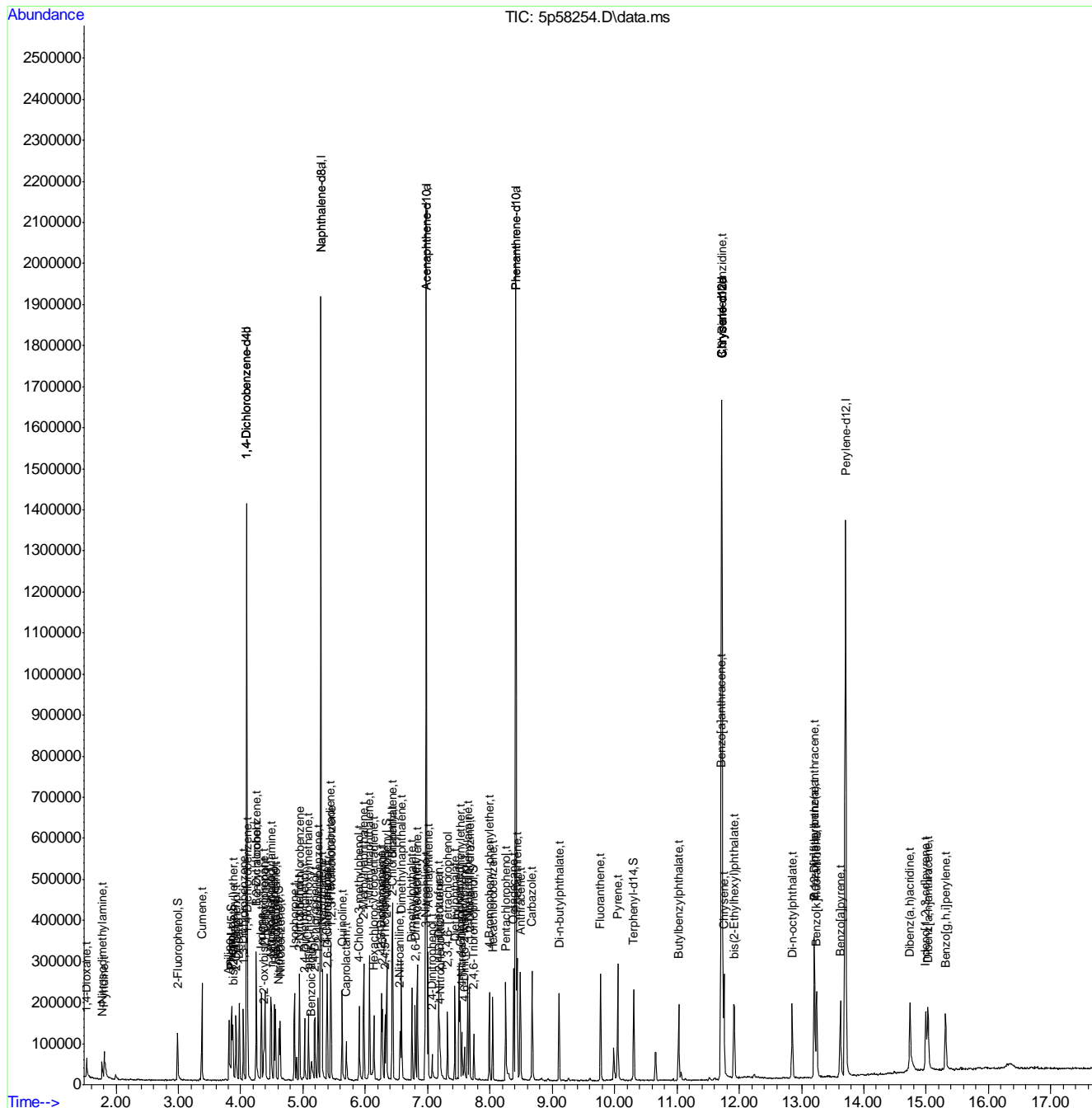
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	7.989	248	20344	4.58	ppm	93
75) Hexachlorobenzene	8.042	284	21493	5.04	ppm	99
76) Pentachlorophenol	8.256	266	22888	7.58	ppm	98
77) Phenanthrene	8.438	178	91915	5.17	ppm	99
78) Anthracene	8.491	178	97881	5.23	ppm	98
79) Carbazole	8.678	167	98816	5.13	ppm	99
80) Di-n-butylphthalate	9.111	149	119525	4.91	ppm	100
81) Fluoranthene	9.773	202	111911	4.80	ppm	96
82) Octadecane	8.379	57	52343	5.69	ppm	94
84) Pyrene	10.051	202	119347	5.09	ppm	97
86) Butylbenzylphthalate	11.029	149	52410	4.53	ppm	93
87) Benzo[a]anthracene	11.707	228	104585	4.64	ppm	95
88) 3,3'-Dichlorobenzidine	11.723	252	34514	4.54	ppm	98
89) Chrysene	11.755	228	97564	4.85	ppm	98
90) bis(2-Ethylhexyl)phtha...	11.915	149	69755	4.63	ppm	91
92) Di-n-octylphthalate	12.850	149	119179	4.82	ppm	99
93) Benzo[b]fluoranthene	13.208	252	103201	5.08	ppm	96
94) Benzo[k]fluoranthene	13.240	252	101927	5.67	ppm	96
95) Benzo[a]pyrene	13.625	252	89951	4.91	ppm	96
96) Indeno[1,2,3-cd]pyrene	14.993	276	78383m	4.60	ppm	
97) Dibenz(a,h)acridine	14.741	279	76861	4.77	ppm	98
98) Dibenz[a,h]anthracene	15.030	278	84608	5.00	ppm	96
99) 7,12-Dimethylbenz(a)an...	13.208	256	33925	3.87	ppm	87
100) Benzo[g,h,i]perylene	15.308	276	80514	4.62	ppm	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\
Data File : 5p58254.D
Acq On : 9 Apr 2019 2:34 am
Operator : chriss2
Sample : ic2761-5
Misc : op12947,e5p2761,1000,,1,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:16:17 2019
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Tue Apr 09 12:57:58 2019
Response via : Initial Calibration



6 9'9'6

# Manual Integration Approval Summary

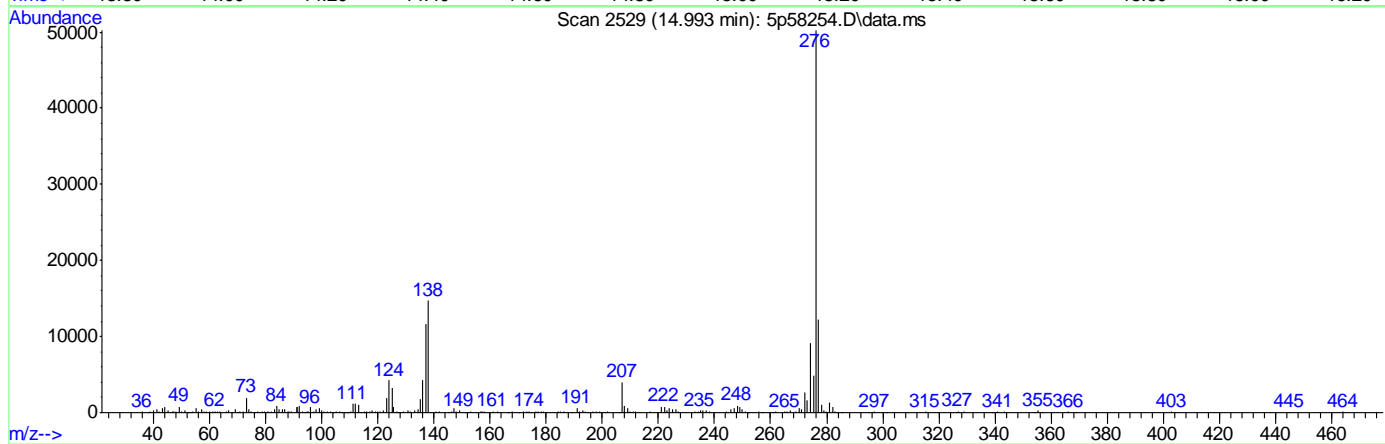
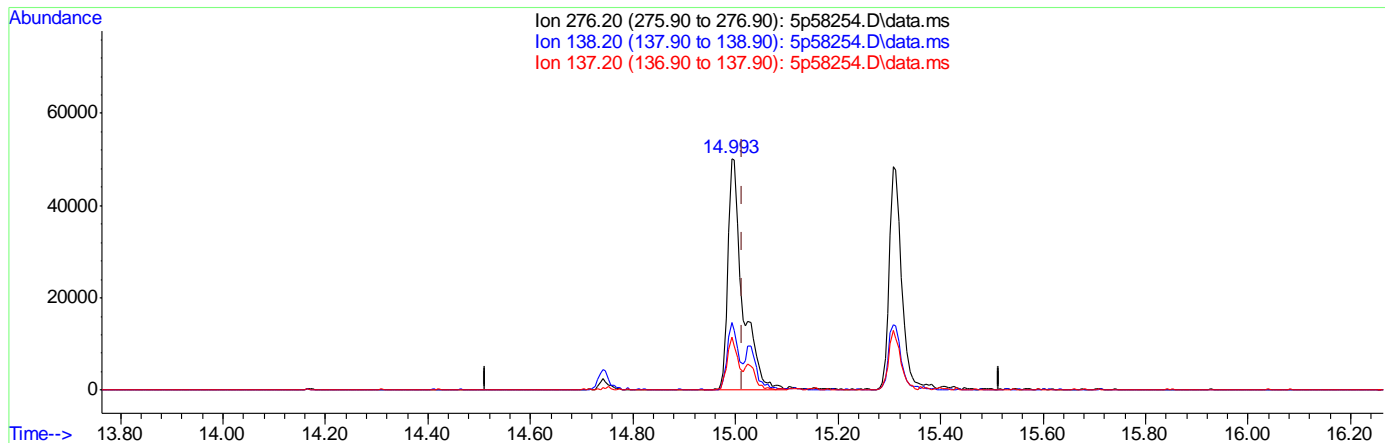
Sample Number: E5P2761-IC2761      Method: SW846 8270D  
Lab FileID: 5P58254.D      Analyst approved: 04/09/19 14:54 Ying Li  
Injection Time: 04/09/19 02:34      Supervisor approved: 04/10/19 09:40 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		14.99	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58254.D  
 Acq On : 9 Apr 2019 2:34 am  
 Operator : chriss2  
 Sample : ic2761-5  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:14:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.993min (-0.021) 5.85ppm

response 99567

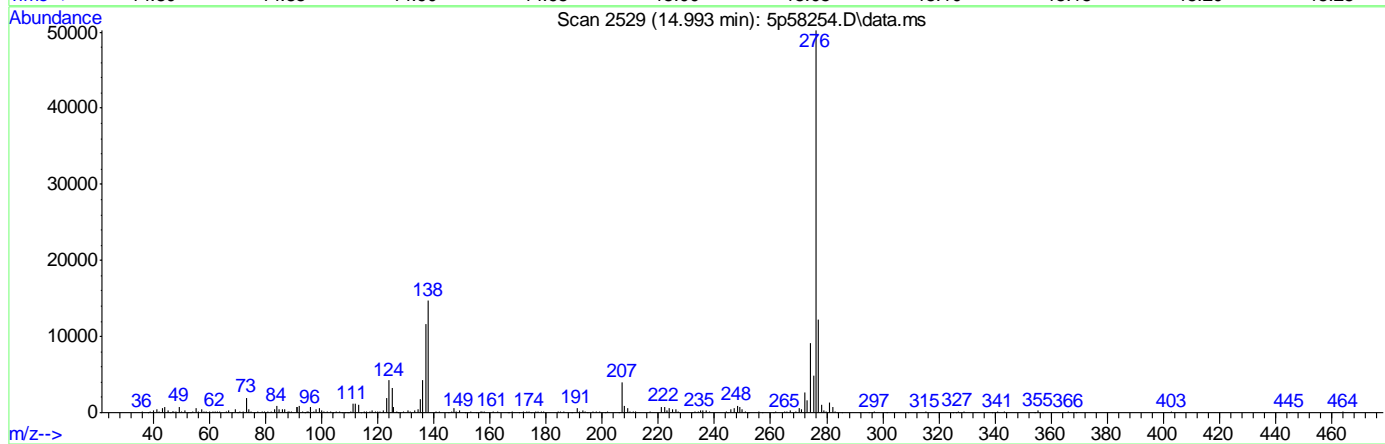
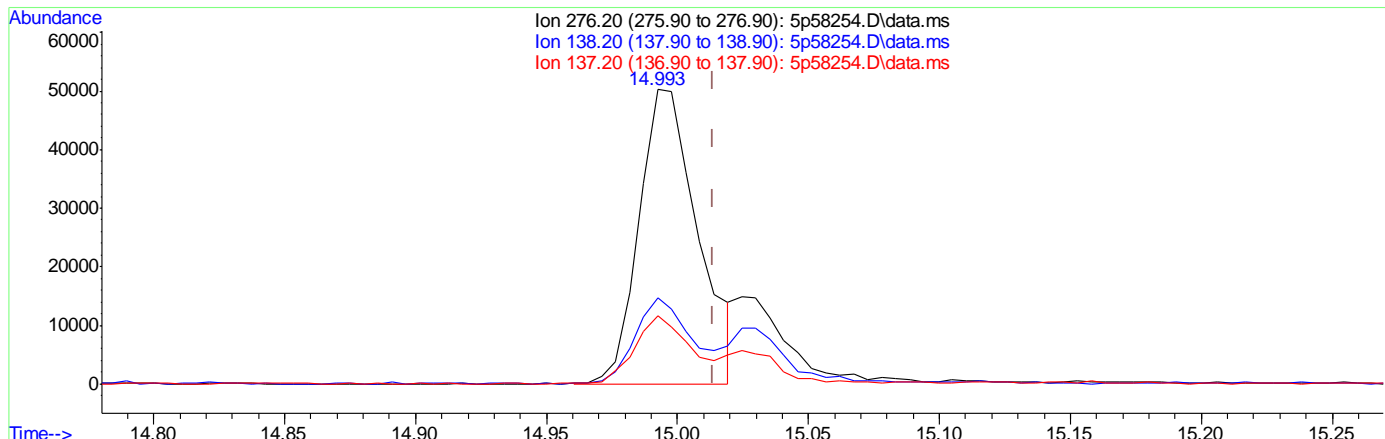
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	28.98
137.20	19.40	22.99
0.00	0.00	0.00

9.6.6.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58254.D  
 Acq On : 9 Apr 2019 2:34 am  
 Operator : chriss2  
 Sample : ic2761-5  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 09 13:14:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



TIC: 5p58254.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)  
 14.993min (-0.021) 4.60ppm m  
 response 78383

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	29.26
137.20	19.40	23.16
0.00	0.00	0.00

9.6.6.3  
 9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58255.D  
 Acq On : 9 Apr 2019 2:59 am  
 Operator : chriss2  
 Sample : ic2761-2  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:57:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	177732	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	692317	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	387319	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	651986	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	594657	40.00	ppm	-0.01
91) Perylene-d12	13.705	264	630764	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	177732	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	387319	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	594657	40.00	ppm	-0.01
107) Phenanthrene-d10a	8.416	188	651986	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	692317	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	594633	40.00	ppm	-0.01
115) 1,4-Dichlorobenzene-d4c	4.094	152	177732	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	594657	40.00	ppm	-0.01
119) Chrysene-d12d	11.718	240	594633	40.00	ppm	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	2.989	112	12566	1.66	ppm	0.00
Spiked Amount	50.000		Recovery	=	3.32%	
8) Phenol-d5	3.849	99	17256	1.89	ppm	0.00
Spiked Amount	50.000		Recovery	=	3.78%	
25) Nitrobenzene-d5	4.618	82	15519	1.88	ppm	0.00
Spiked Amount	50.000		Recovery	=	3.76%	
51) 2-Fluorobiphenyl	6.343	172	29195	2.23	ppm	0.00
Spiked Amount	50.000		Recovery	=	4.46%	
73) 2,4,6-Tribromophenol	7.743	330	2896	1.38	ppm	0.00
Spiked Amount	50.000		Recovery	=	2.76%	
85) Terphenyl-d14	10.307	244	29782	1.91	ppm	0.00
Spiked Amount	50.000		Recovery	=	3.82%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
						Qvalue
2) 1,4-Dioxane	1.530	88	6341	1.61	ppm	87
3) Pyridine	1.829	79	15132	1.57	ppm	94
4) N-Nitrosodimethylamine	1.781	74	9308	1.72	ppm	80
6) Indene	4.335	116	22475	2.03	ppm	98
7) Cumene	3.378	105	34382	1.93	ppm	95
9) Phenol	3.859	94	18216	1.86	ppm	86
10) Aniline	3.811	93	21901	2.29	ppm	93
11) bis(2-Chloroethyl)ether	3.875	93	13471	2.04	ppm	97
12) 2-Chlorophenol	3.923	128	12764	1.95	ppm	88
13) Decane	3.982	43	12716	2.32	ppm	90
14) 1,3-Dichlorobenzene	4.046	146	14699	2.04	ppm	97
15) 1,4-Dichlorobenzene	4.116	146	14938	2.15	ppm	95
16) Benzyl alcohol	4.255	108	7925	1.84	ppm	87
17) 1,2-Dichlorobenzene	4.249	146	14487	2.04	ppm	98

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58255.D  
 Acq On : 9 Apr 2019 2:59 am  
 Operator : chriss2  
 Sample : ic2761-2  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:57:51 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.479	105	19605	2.00	ppm	96
19) 2-Methylphenol	4.388	108	11484	1.86	ppm	97
20) 2,2'-oxybis(1-Chloropr...	4.372	45	14981	2.22	ppm	97
21) 3&4-Methylphenol	4.538	108	12813	1.87	ppm	98
22) n-Nitroso-di-n-propyla...	4.490	70	10787	2.12	ppm	99
23) Hexachloroethane	4.559	201	4991	2.01	ppm	96
26) Nitrobenzene	4.634	77	16055	2.05	ppm	89
27) Quinoline	5.628	129	23469	1.72	ppm	92
28) Isophorone	4.864	82	29153	1.99	ppm	98
29) 2-Nitrophenol	4.938	139	6459	1.71	ppm	86
30) 2,4-Dimethylphenol	5.024	107	9880	1.41	ppm	92
32) bis(2-Chloroethoxy)met...	5.088	93	16700	1.92	ppm	95
33) 2,4-Dichlorophenol	5.190	162	10572	1.84	ppm	95
34) 2,6-Dichlorophenol	5.393	162	10121	1.87	ppm	100
35) 1,3,5-Trichlorobenzene	4.944	180	12628	2.06	ppm	92
36) 1,2,4-Trichlorobenzene	5.243	180	11506	1.97	ppm	89
37) 1,2,3-Trichlorobenzene	5.451	180	11418	2.05	ppm	95
38) Naphthalene	5.307	128	35241	2.00	ppm	99
39) 4-Chloroaniline	5.382	127	14268	1.93	ppm	94
40) 2,3-Dichloroaniline	6.258	161	14059	1.95	ppm	91
41) Caprolactam	5.692	55	6038	1.73	ppm	98
42) Hexachlorobutadiene	5.446	225	7158	2.08	ppm	90
43) 4-Chloro-3-methylphenol	5.900	107	10611	1.54	ppm	97
44) 2-Methylnaphthalene	5.975	141	19760	1.92	ppm	94
45) 1-Methylnaphthalene	6.066	141	23280	2.05	ppm	96
46) Dimethylnaphthalene	6.579	156	21691	1.96	ppm	94
48) Hexachlorocyclopentadiene	6.140	237	4253	1.48	ppm	89
49) 2,4,6-Trichlorophenol	6.274	196	7719	1.98	ppm	91
50) 2,4,5-Trichlorophenol	6.317	196	7420	1.73	ppm	99
52) 2-Chloronaphthalene	6.440	162	23689	2.17	ppm	98
53) Biphenyl	6.434	154	30520	2.09	ppm	97
54) 2-Nitroaniline	6.562	65	8071	1.78	ppm	92
55) Dimethylphthalate	6.749	163	27358	1.92	ppm	97
56) Acenaphthylene	6.835	152	37435	2.12	ppm	97
57) 2,6-Dinitrotoluene	6.798	165	5094	1.60	ppm	83
58) 3-Nitroaniline	6.963	138	5387	1.54	ppm	80
59) Acenaphthene	7.006	153	22977	2.04	ppm	93
60) 2,4-Dinitrophenol	7.081	184	1337	0.71	ppm	82
61) 4-Nitrophenol	7.209	109	2895	1.53	ppm #	73
62) Dibenzofuran	7.177	168	34472	2.01	ppm	97
63) 2,4-Dinitrotoluene	7.193	165	6710	1.64	ppm	84
64) 2,3,4,6-Tetrachlorophenol	7.321	232	6643	1.69	ppm	92
65) Diethylphthalate	7.439	149	26212	1.93	ppm	94
66) Fluorene	7.503	166	26231	1.92	ppm	96
67) 4-Chlorophenyl-phenyle...	7.519	204	13483	2.24	ppm	95
68) 4-Nitroaniline	7.551	138	5663	1.68	ppm	98
71) n-Nitrosodiphenylamine	7.642	169	19160	1.99	ppm	96
72) 1,2-Diphenylhydrazine	7.674	77	32228	2.19	ppm	98
74) 4-Bromophenyl-phenylether	7.989	248	8074	1.84	ppm	92
75) Hexachlorobenzene	8.042	284	8084	1.92	ppm	79



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58255.D  
 Acq On : 9 Apr 2019 2:59 am  
 Operator : chriss2  
 Sample : ic2761-2  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:57:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

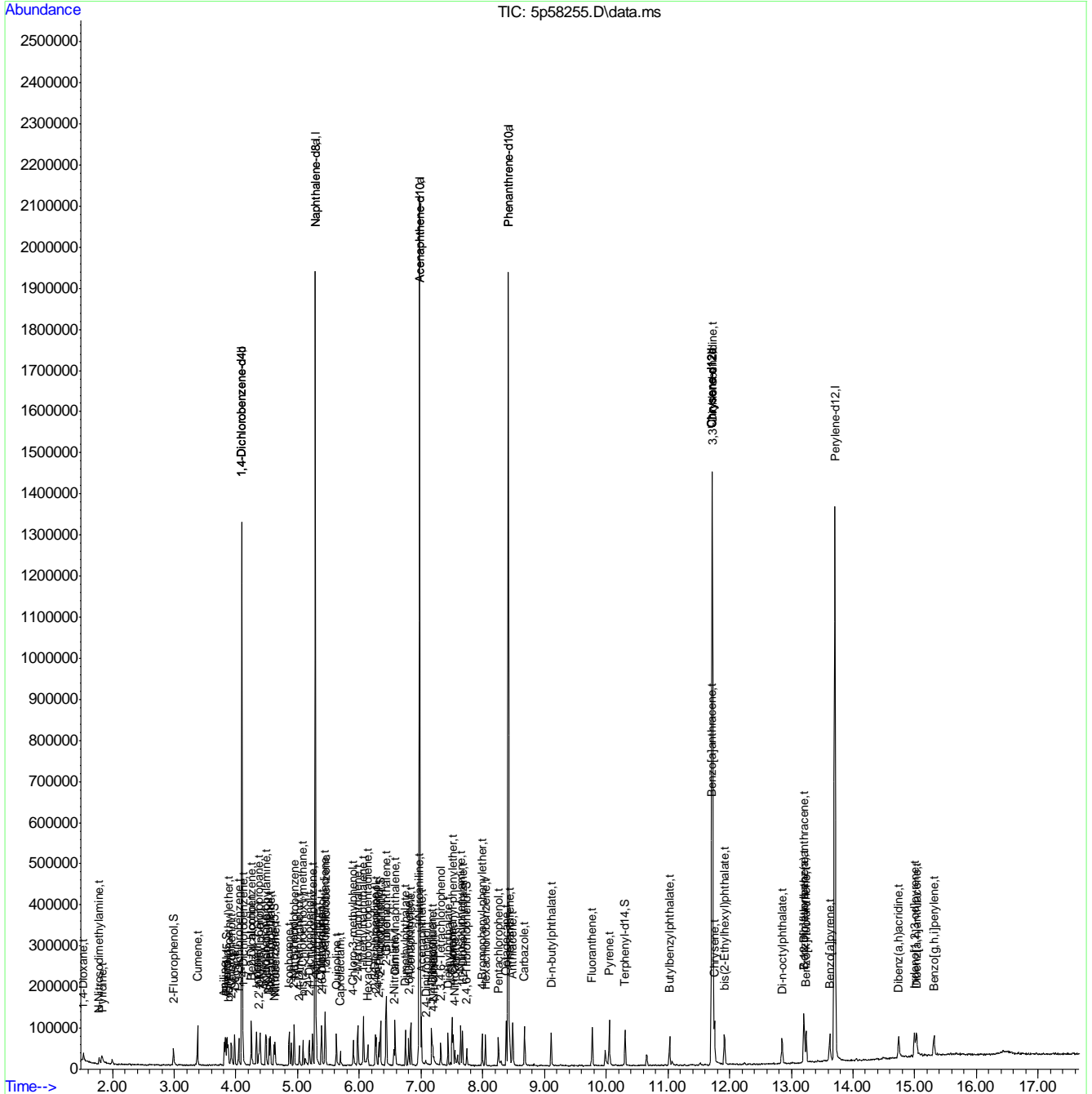
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
76) Pentachlorophenol	8.256	266	6870	2.31	ppm	93
77) Phenanthrene	8.438	178	37075	2.11	ppm	98
78) Anthracene	8.486	178	38580	2.09	ppm	99
79) Carbazole	8.678	167	36728	1.93	ppm	99
80) Di-n-butylphthalate	9.111	149	45261	1.88	ppm	98
81) Fluoranthene	9.773	202	42059	1.83	ppm	96
82) Octadecane	8.379	57	20328	2.24	ppm	96
84) Pyrene	10.051	202	44714	1.99	ppm	94
86) Butylbenzylphthalate	11.029	149	19248	1.73	ppm	85
87) Benzo[a]anthracene	11.707	228	40812	1.89	ppm	94
88) 3,3'-Dichlorobenzidine	11.723	252	12416	1.70	ppm	94
89) Chrysene	11.755	228	38926	2.02	ppm	98
90) bis(2-Ethylhexyl)phtha...	11.915	149	24745	1.71	ppm	99
92) Di-n-octylphthalate	12.850	149	40148	1.68	ppm	98
93) Benzo[b]fluoranthene	13.203	252	39055	1.99	ppm	93
94) Benzo[k]fluoranthene	13.240	252	35343	2.04	ppm	94
95) Benzo[a]pyrene	13.625	252	32297	1.83	ppm	96
96) Indeno[1,2,3-cd]pyrene	14.998	276	29245m	1.78	ppm	
97) Dibenz(a,h)acridine	14.741	279	27401	1.76	ppm	99
98) Dibenz[a,h]anthracene	15.030	278	29820	1.83	ppm	94
99) 7,12-Dimethylbenz(a)an...	13.203	256	12544	1.48	ppm	96
100) Benzo[g,h,i]perylene	15.308	276	28811	1.71	ppm	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58255.D  
 Acq On : 9 Apr 2019 2:59 am  
 Operator : chriss2  
 Sample : ic2761-2  
 Misc : op12947,e5p2761,1000,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:57:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



6 7:9'6

# Manual Integration Approval Summary

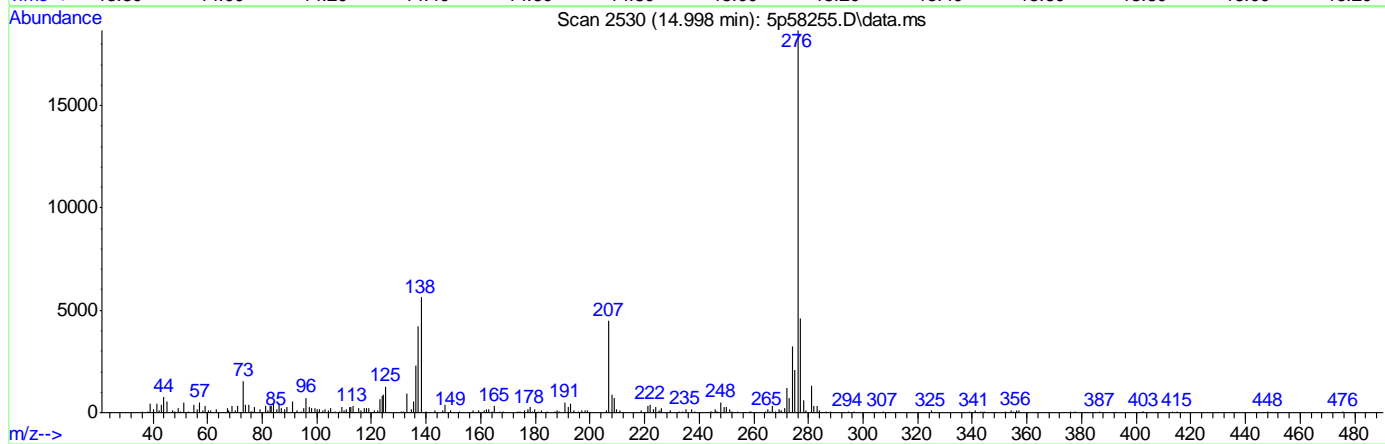
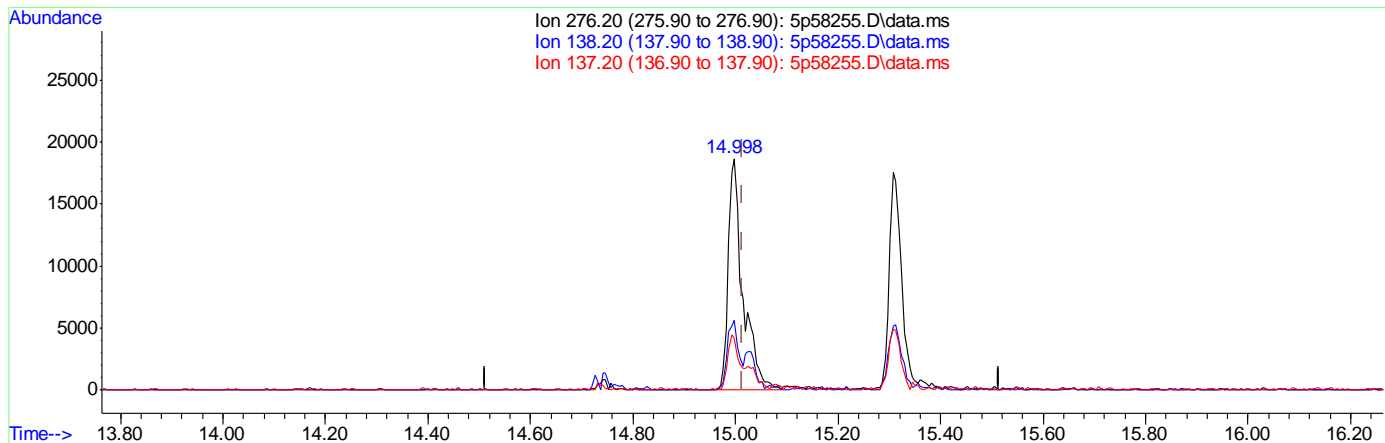
Sample Number: E5P2761-IC2761      Method: SW846 8270D  
Lab FileID: 5P58255.D      Analyst approved: 04/09/19 14:54 Ying Li  
Injection Time: 04/09/19 02:59      Supervisor approved: 04/10/19 09:40 Nina Pandya

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		15.00	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58255.D  
 Acq On : 9 Apr 2019 2:59 am  
 Operator : chriss2  
 Sample : ic2761-2  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:16:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.998min (-0.016) 2.24ppm

response 36811

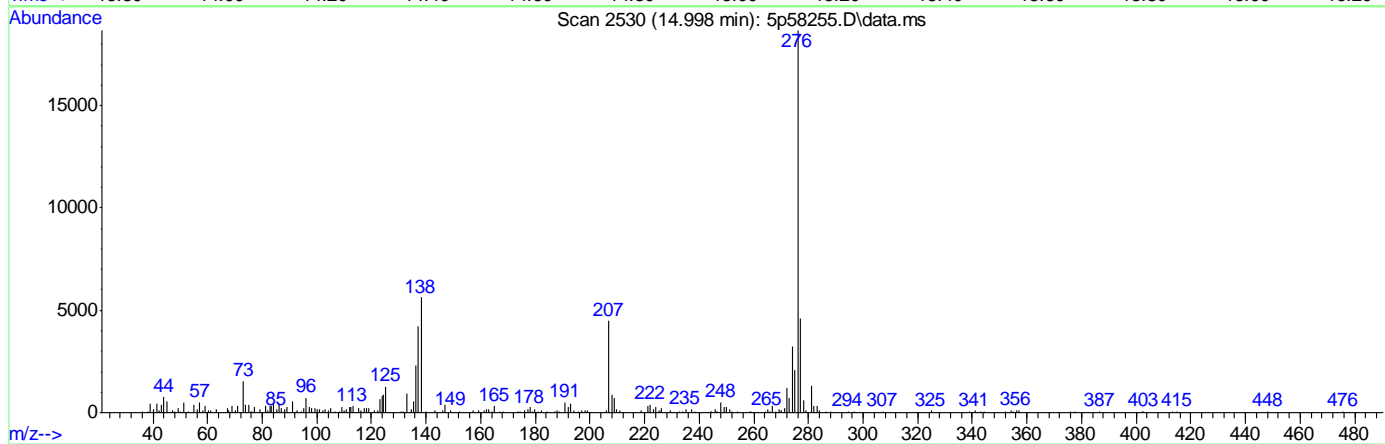
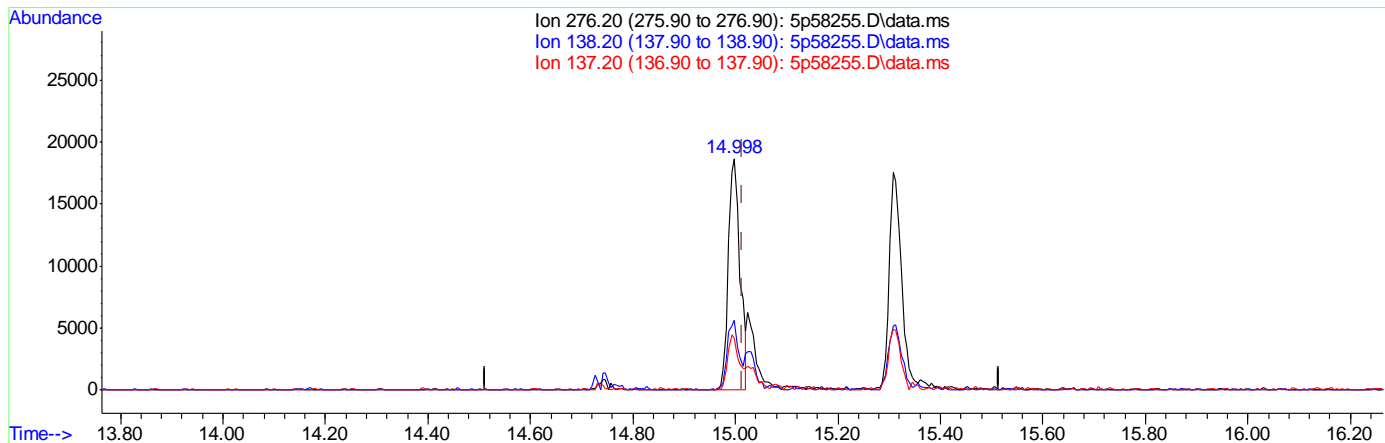
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	29.90
137.20	19.40	21.63
0.00	0.00	0.00

9.6.7.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58255.D  
 Acq On : 9 Apr 2019 2:59 am  
 Operator : chriss2  
 Sample : ic2761-2  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 09 13:16:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.998min (-0.016) 1.78ppm m

response 29245

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	30.13
137.20	19.40	22.50
0.00	0.00	0.00

9.6.7.3  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58256.D  
 Acq On : 9 Apr 2019 3:24 am  
 Operator : chriss2  
 Sample : ic2761-1  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 09 13:58:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	180492	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	701976	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	398229	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	656722	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	595948	40.00	ppm	-0.01
91) Perylene-d12	13.705	264	634372	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	180492	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	398229	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	595948	40.00	ppm	-0.01
107) Phenanthrene-d10a	8.416	188	656722	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	701976	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	595911	40.00	ppm	-0.01
115) 1,4-Dichlorobenzene-d4c	4.094	152	180492	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	595948	40.00	ppm	-0.01
119) Chrysene-d12d	11.718	240	595911	40.00	ppm	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	2.988	112	6403	0.83	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.66%	
8) Phenol-d5	3.849	99	8247	0.89	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.78%	
25) Nitrobenzene-d5	4.618	82	8015	0.96	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.92%	
51) 2-Fluorobiphenyl	6.343	172	14786	1.10	ppm	0.00
Spiked Amount	50.000		Recovery	=	2.20%	
73) 2,4,6-Tribromophenol	7.743	330	1557	0.74	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.48%	
85) Terphenyl-d14	10.307	244	14413	0.92	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.84%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
2) 1,4-Dioxane	1.535	88	3782	0.95	ppm	Qvalue 89
3) Pyridine	1.835	79	5820	0.59	ppm	83
4) N-Nitrosodimethylamine	1.786	74	4185	0.76	ppm	76
6) Indene	4.329	116	10629	0.95	ppm	96
7) Cumene	3.378	105	17611	0.97	ppm	95
9) Phenol	3.859	94	9994	1.00	ppm	93
10) Aniline	3.811	93	11156	1.15	ppm	84
11) bis(2-Chloroethyl)ether	3.875	93	7116	1.06	ppm	92
12) 2-Chlorophenol	3.923	128	6701	1.01	ppm	96
13) Decane	3.977	43	6781	1.22	ppm	88
14) 1,3-Dichlorobenzene	4.046	146	6663	0.91	ppm	88
15) 1,4-Dichlorobenzene	4.110	146	7341	1.04	ppm	86
16) Benzyl alcohol	4.255	108	3926	0.90	ppm	99
17) 1,2-Dichlorobenzene	4.249	146	7326	1.02	ppm	99

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58256.D  
 Acq On : 9 Apr 2019 3:24 am  
 Operator : chriss2  
 Sample : ic2761-1  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 09 13:58:24 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Tue Apr 09 12:57:58 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.479	105	10006	1.01	ppm	97
19) 2-Methylphenol	4.388	108	6019	0.96	ppm	90
20) 2,2'-oxybis(1-Chloropr...	4.372	45	7583	1.11	ppm	94
21) 3&4-Methylphenol	4.538	108	6311	0.90	ppm	99
22) n-Nitroso-di-n-propyla...	4.495	70	5396	1.05	ppm	96
23) Hexachloroethane	4.559	201	2661	1.05	ppm	94
26) Nitrobenzene	4.634	77	7978	1.00	ppm	92
27) Quinoline	5.628	129	11614	0.84	ppm	95
28) Isophorone	4.864	82	15002	1.01	ppm	98
29) 2-Nitrophenol	4.938	139	3145	0.82	ppm	80
30) 2,4-Dimethylphenol	5.024	107	4473	0.63	ppm	98
32) bis(2-Chloroethoxy)met...	5.088	93	8764	0.99	ppm	98
33) 2,4-Dichlorophenol	5.189	162	4779	0.82	ppm	83
34) 2,6-Dichlorophenol	5.392	162	5251	0.96	ppm	99
35) 1,3,5-Trichlorobenzene	4.944	180	6120	0.98	ppm	94
36) 1,2,4-Trichlorobenzene	5.243	180	6330	1.07	ppm	97
37) 1,2,3-Trichlorobenzene	5.451	180	5815	1.03	ppm	94
38) Naphthalene	5.307	128	18227	1.02	ppm	97
39) 4-Chloroaniline	5.382	127	7758	1.03	ppm	90
40) 2,3-Dichloroaniline	6.258	161	7003	0.96	ppm	91
41) Caprolactam	5.692	55	2476	0.70	ppm	89
42) Hexachlorobutadiene	5.446	225	3216	0.92	ppm	96
43) 4-Chloro-3-methylphenol	5.900	107	5442	0.78	ppm	# 79
44) 2-Methylnaphthalene	5.975	141	10927	1.05	ppm	95
45) 1-Methylnaphthalene	6.066	141	11761	1.02	ppm	97
46) Dimethylnaphthalene	6.578	156	11048	0.98	ppm	95
49) 2,4,6-Trichlorophenol	6.274	196	3401	0.85	ppm	93
50) 2,4,5-Trichlorophenol	6.317	196	3550	0.80	ppm	82
52) 2-Chloronaphthalene	6.440	162	12789	1.14	ppm	98
53) Biphenyl	6.434	154	15426	1.03	ppm	97
54) 2-Nitroaniline	6.562	65	3875	0.83	ppm	70
55) Dimethylphthalate	6.749	163	14534	0.99	ppm	99
56) Acenaphthylene	6.835	152	18963	1.05	ppm	97
57) 2,6-Dinitrotoluene	6.797	165	2631	0.80	ppm	# 66
58) 3-Nitroaniline	6.963	138	2388	0.66	ppm	# 83
59) Acenaphthene	7.006	153	11808	1.02	ppm	96
62) Dibenzofuran	7.171	168	17247	0.98	ppm	94
63) 2,4-Dinitrotoluene	7.193	165	3082	0.73	ppm	83
64) 2,3,4,6-Tetrachlorophenol	7.316	232	3113	0.77	ppm	94
65) Diethylphthalate	7.433	149	13282	0.95	ppm	97
66) Fluorene	7.503	166	13784	0.98	ppm	95
67) 4-Chlorophenyl-phenyle...	7.524	204	6100	0.99	ppm	91
68) 4-Nitroaniline	7.551	138	2608	0.75	ppm	88
71) n-Nitrosodiphenylamine	7.642	169	10141	1.05	ppm	96
72) 1,2-Diphenylhydrazine	7.674	77	16169	1.09	ppm	98
74) 4-Bromophenyl-phenylether	7.989	248	3752	0.85	ppm	81
75) Hexachlorobenzene	8.042	284	4042	0.95	ppm	81
77) Phenanthrene	8.438	178	17996	1.02	ppm	96
78) Anthracene	8.486	178	18783	1.01	ppm	98
79) Carbazole	8.678	167	18956	0.99	ppm	98

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58256.D  
 Acq On : 9 Apr 2019 3:24 am  
 Operator : chriss2  
 Sample : ic2761-1  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 09 13:58:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
80) Di-n-butylphthalate	9.111	149	22311	0.92	ppm	98
81) Fluoranthene	9.773	202	21259	0.92	ppm	98
82) Octadecane	8.379	57	9820	1.07	ppm	98
84) Pyrene	10.051	202	22224	0.98	ppm	97
86) Butylbenzylphthalate	11.029	149	8654	0.78	ppm	84
87) Benzo[a]anthracene	11.707	228	20031	0.92	ppm	95
88) 3,3'-Dichlorobenzidine	11.723	252	5142	0.70	ppm	84
89) Chrysene	11.750	228	19591	1.01	ppm	98
90) bis(2-Ethylhexyl)phtha...	11.915	149	11770	0.81	ppm	91
92) Di-n-octylphthalate	12.850	149	18957	0.79	ppm	96
93) Benzo[b]fluoranthene	13.203	252	18969	0.96	ppm	98
94) Benzo[k]fluoranthene	13.240	252	17642	1.01	ppm	90
95) Benzo[a]pyrene	13.625	252	16754	0.94	ppm	94
96) Indeno[1,2,3-cd]pyrene	14.998	276	14103	0.85	ppm	63
97) Dibenz(a,h)acridine	14.747	279	12666	0.81	ppm	93
98) Dibenz[a,h]anthracene	15.030	278	15837	0.96	ppm	94
99) 7,12-Dimethylbenz(a)an...	13.203	256	5258	0.62	ppm	88
100) Benzo[g,h,i]perylene	15.313	276	14528	0.86	ppm	96

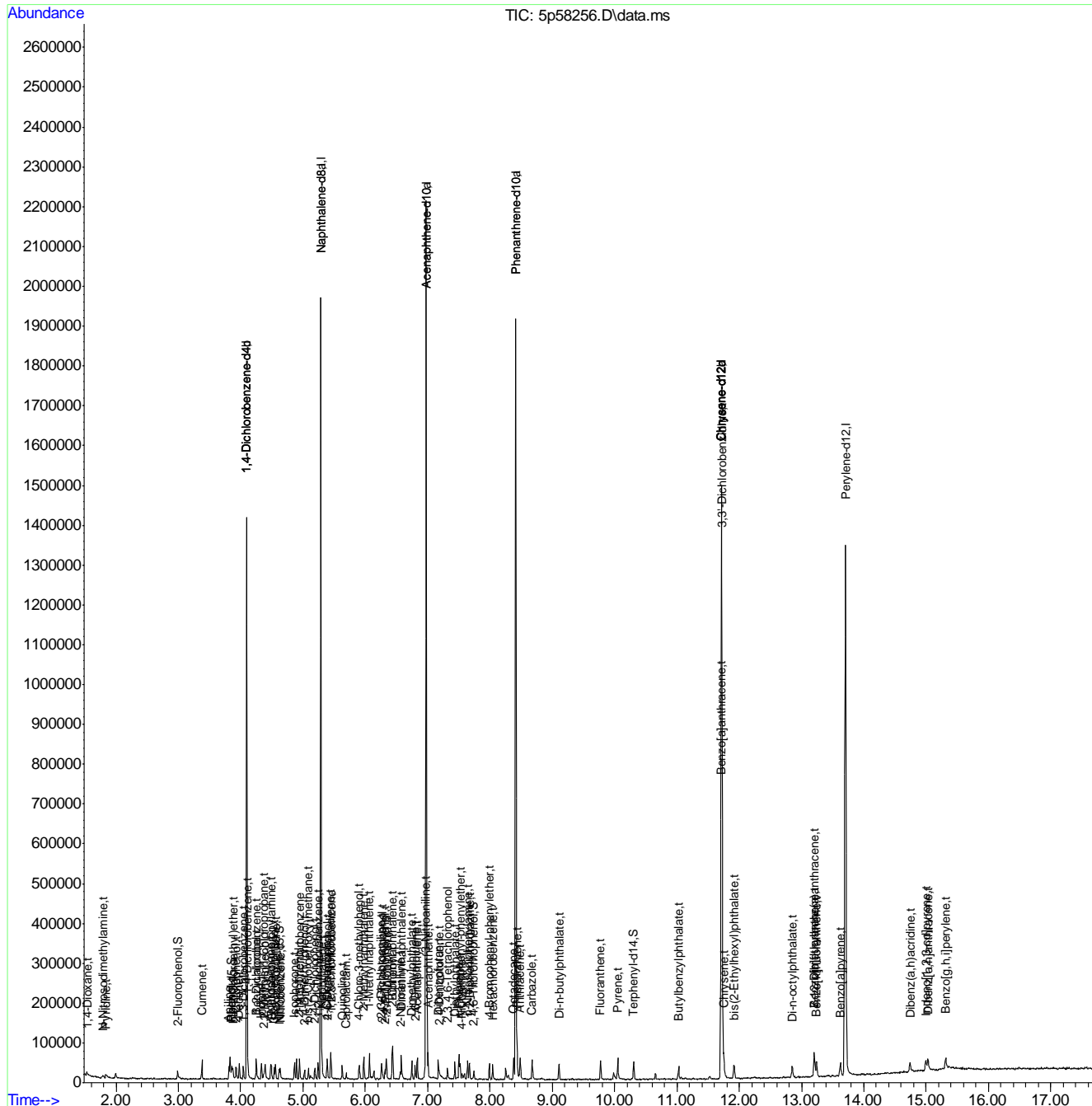
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58256.D  
 Acq On : 9 Apr 2019 3:24 am  
 Operator : chriss2  
 Sample : ic2761-1  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 09 13:58:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 12:57:58 2019  
 Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58257.D  
 Acq On : 9 Apr 2019 3:50 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 09 13:40:40 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.100	152	166555	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	611608	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	345969	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	605760	40.00	ppm	0.00
83) Chrysene-d12	11.728	240	457677	40.00	ppm	0.01
91) Perylene-d12	13.705	264	507060	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.100	152	166555	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	345969	40.00	ppm	0.00
105) Chrysene-d12a	11.728	240	457677	40.00	ppm	0.01
107) Phenanthrene-d10a	8.416	188	605760	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	611608	40.00	ppm	0.00
113) Chrysene-d12b	11.728	240	457677	40.00	ppm	0.01
115) 1,4-Dichlorobenzene-d4c	4.100	152	166555	40.00	ppm	0.00
117) Chrysene-d12c	11.728	240	457677	40.00	ppm	0.01
119) Chrysene-d12d	11.728	240	457677	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
4) N-Nitrosodimethylamine	1.781	74	247605	52.57	ppm	Qvalue 100
11) bis(2-Chloroethyl)ether	3.875	93	331299	52.96	ppm	96
14) 1,3-Dichlorobenzene	4.046	146	318492	47.92	ppm	100
15) 1,4-Dichlorobenzene	4.116	146	307338	47.01	ppm	99
17) 1,2-Dichlorobenzene	4.249	146	294738	45.12	ppm	98
20) 2,2'-oxybis(1-Chloropr...	4.372	45	367977	57.34	ppm	98
22) n-Nitroso-di-n-propyla...	4.495	70	243022	50.27	ppm	97
23) Hexachloroethane	4.559	201	110427	47.49	ppm	99
26) Nitrobenzene	4.634	77	336693	48.50	ppm	95
28) Isophorone	4.864	82	635861	49.19	ppm	99
32) bis(2-Chloroethoxy)met...	5.088	93	385968	51.07	ppm	99
36) 1,2,4-Trichlorobenzene	5.243	180	247747	47.91	ppm	99
38) Naphthalene	5.307	128	750149	48.67	ppm	99
42) Hexachlorobutadiene	5.446	225	148270	49.58	ppm	97

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58257.D  
 Acq On : 9 Apr 2019 3:50 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 09 13:40:40 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration

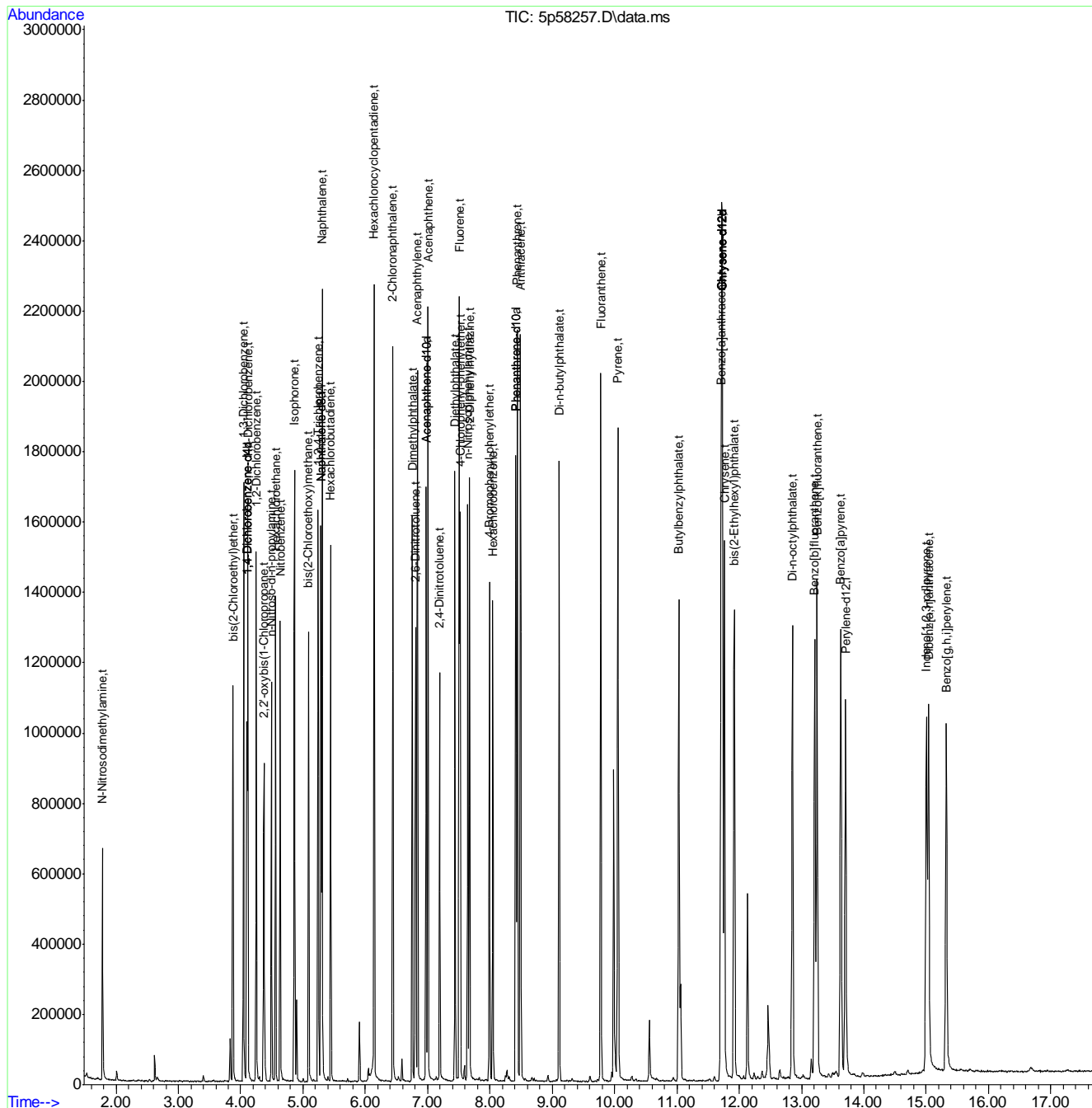
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) Hexachlorocyclopentadiene	6.140	237	103733	43.43	ppm	100
52) 2-Chloronaphthalene	6.440	162	508352	50.34	ppm	98
55) Dimethylphthalate	6.755	163	574610	46.70	ppm	100
56) Acenaphthylene	6.835	152	731141	45.55	ppm	99
57) 2,6-Dinitrotoluene	6.803	165	121271	46.37	ppm	93
59) Acenaphthene	7.006	153	439729	44.04	ppm	92
63) 2,4-Dinitrotoluene	7.193	165	163623	47.98	ppm	98
65) Diethylphthalate	7.439	149	554354	46.87	ppm	97
66) Fluorene	7.508	166	545184	45.92	ppm	98
67) 4-Chlorophenyl-phenyle...	7.524	204	243069	44.43	ppm	99
71) n-Nitrosodiphenylamine	7.647	169	390815	43.78	ppm	98
72) 1,2-Diphenylhydrazine	7.674	77	634096	44.74	ppm	95
74) 4-Bromophenyl-phenylether	7.994	248	167284	43.77	ppm	99
75) Hexachlorobenzene	8.048	284	154373	40.45	ppm	99
77) Phenanthrene	8.438	178	708549	43.27	ppm	100
78) Anthracene	8.491	178	731543	42.57	ppm	99
80) Di-n-butylphthalate	9.111	149	951539	43.94	ppm	99
81) Fluoranthene	9.778	202	870767	42.81	ppm	97
84) Pyrene	10.056	202	845835	48.63	ppm	97
86) Butylbenzylphthalate	11.034	149	407671	51.24	ppm	99
87) Benzo[a]anthracene	11.712	228	765749	47.90	ppm	99
89) Chrysene	11.766	228	683491	46.31	ppm	98
90) bis(2-Ethylhexyl)phtha...	11.921	149	536321	50.87	ppm	97
92) Di-n-octylphthalate	12.856	149	942640	52.19	ppm	100
93) Benzo[b]fluoranthene	13.214	252	693738	44.81	ppm	94
94) Benzo[k]fluoranthene	13.251	252	712370	50.27	ppm	100
95) Benzo[a]pyrene	13.630	252	686014	49.75	ppm	97
96) Indeno[1,2,3-cd]pyrene	15.003	276	618517	50.14	ppm	97
98) Dibenz[a,h]anthracene	15.041	278	593868	46.56	ppm	100
100) Benzo[g,h,i]perylene	15.329	276	624828	50.18	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58257.D  
 Acq On : 9 Apr 2019 3:50 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 09 13:40:40 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration



6 6'9'6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58259.D  
 Acq On : 9 Apr 2019 4:39 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 09 13:49:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration

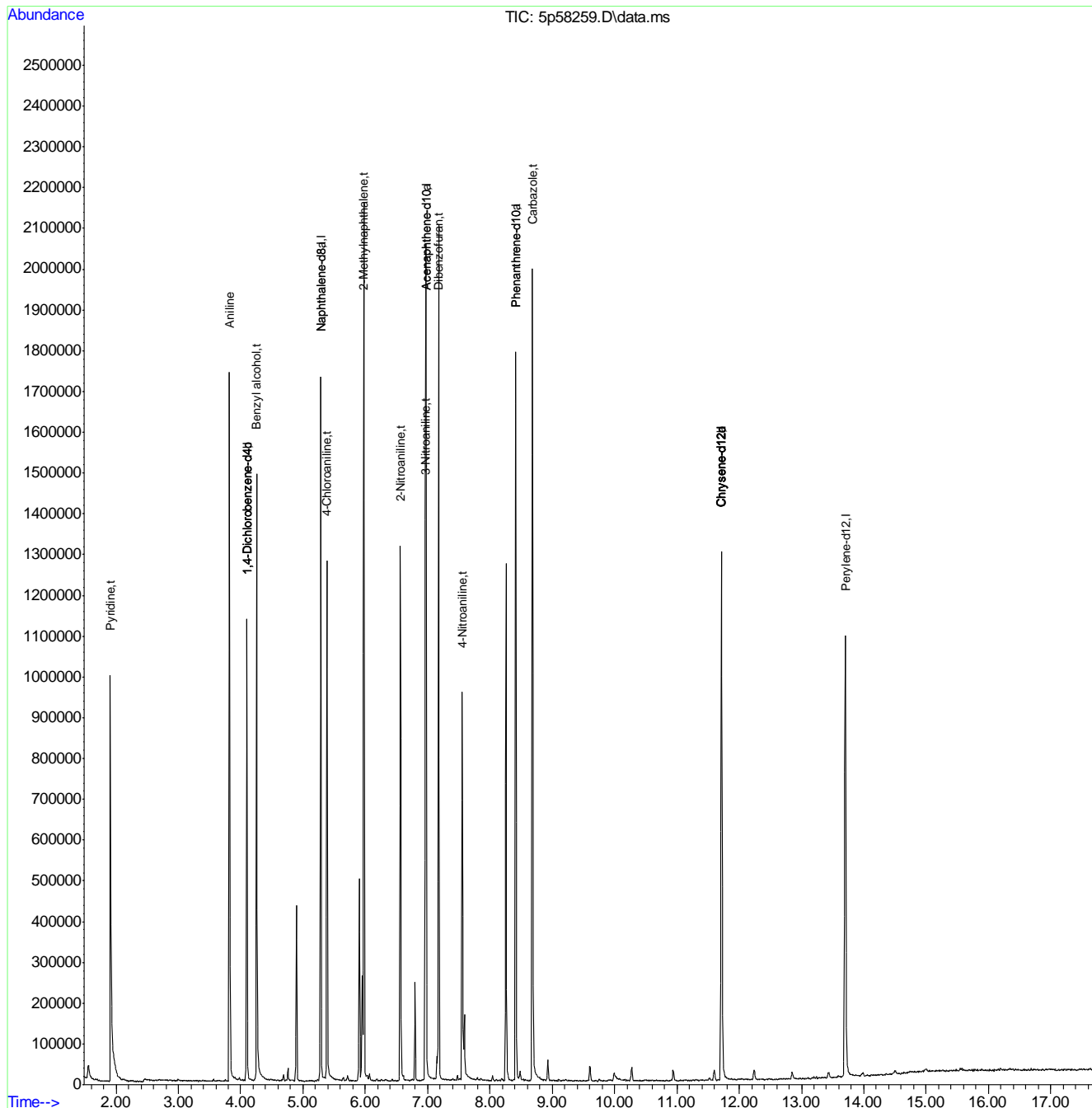
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.100	152	155377	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	661433	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	346219	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	604503	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	535522	40.00	ppm	0.00
91) Perylene-d12	13.705	264	526354	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.100	152	155377	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	346219	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	535522	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	604503	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	661433	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	533649	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.100	152	155377	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	535522	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	533649	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
3) Pyridine	1.909	79	408303	54.17	ppm	Qvalue 99
10) Aniline	3.817	93	521789	58.91	ppm	97
16) Benzyl alcohol	4.260	108	213447	59.92	ppm	97
39) 4-Chloroaniline	5.382	127	298412	42.41	ppm	96
44) 2-Methylnaphthalene	5.975	141	441588	45.16	ppm	98
54) 2-Nitroaniline	6.563	65	201667	52.98	ppm	94
58) 3-Nitroaniline	6.963	138	146665	51.71	ppm	96
62) Dibenzofuran	7.177	168	740936	49.27	ppm	99
68) 4-Nitroaniline	7.556	138	143300	51.52	ppm	93
79) Carbazole	8.683	167	797522	45.88	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58259.D  
 Acq On : 9 Apr 2019 4:39 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 09 13:49:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration



9.6-10  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58260.D  
 Acq On : 9 Apr 2019 5:04 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 09 13:51:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.100	152	149472	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	550611	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	320038	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	514830	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	466968	40.00	ppm	0.00
91) Perylene-d12	13.700	264	449419	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.100	152	149472	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	320038	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	466968	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	514830	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	550611	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	466968	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.100	152	149472	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	466968	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	466968	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
9) Phenol	3.859	94	436616	54.44	ppm	Qvalue 97
12) 2-Chlorophenol	3.923	128	285228	52.74	ppm	95
19) 2-Methylphenol	4.388	108	288106	56.95	ppm	96
21) 3&4-Methylphenol	4.538	108	302398	55.68	ppm	99
29) 2-Nitrophenol	4.938	139	153986	54.75	ppm	91
30) 2,4-Dimethylphenol	5.024	107	302732	60.84	ppm	99
31) Benzoic acid	5.189	105	231946	51.57	ppm	95
33) 2,4-Dichlorophenol	5.184	162	214833	49.30	ppm	96
34) 2,6-Dichlorophenol	5.387	162	227551	54.34	ppm	96
43) 4-Chloro-3-methylphenol	5.895	107	270467	53.82	ppm	96
49) 2,4,6-Trichlorophenol	6.274	196	171182	54.79	ppm	99
50) 2,4,5-Trichlorophenol	6.311	196	171839	51.92	ppm	98
60) 2,4-Dinitrophenol	7.065	184	60716	42.93	ppm	79
61) 4-Nitrophenol	7.198	109	80457	56.01	ppm	95

9.6.11  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58260.D  
 Acq On : 9 Apr 2019 5:04 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 09 13:51:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
64) 2,3,4,6-Tetrachlorophenol	7.316	232	139913	47.06	ppm	96
70) 4,6-Dinitro-2-methylph...	7.583	198	100265	52.22	ppm	80
76) Pentachlorophenol	8.251	266	122500	59.61	ppm	99

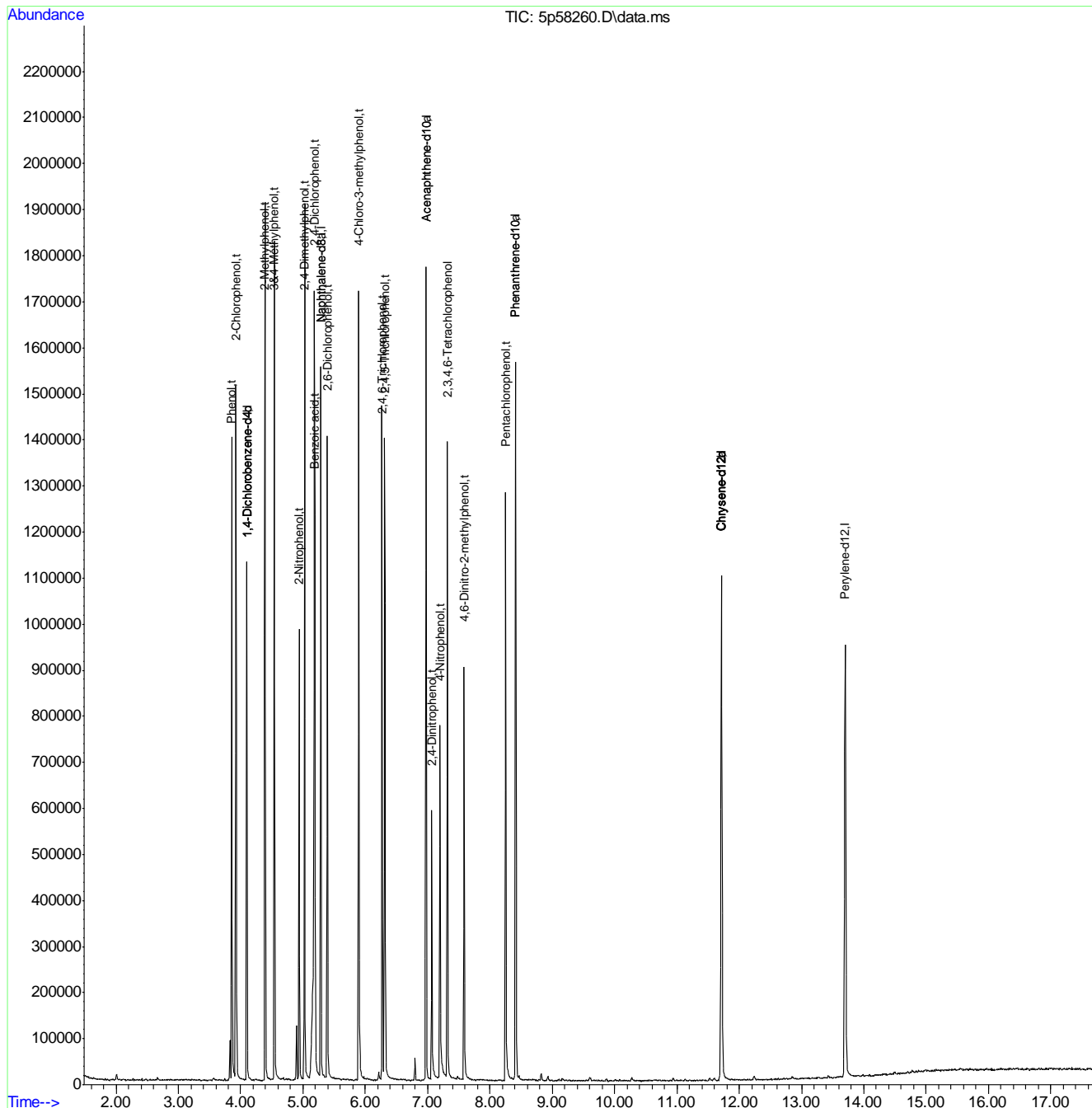
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58260.D  
 Acq On : 9 Apr 2019 5:04 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 09 13:51:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration



9.6.11  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58261.D  
 Acq On : 9 Apr 2019 5:29 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 09 13:52:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.095	152	163815	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	616087	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	332984	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	528786	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	451063	40.00	ppm	0.00
91) Perylene-d12	13.705	264	453361	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.095	152	163815	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	332984	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	451063	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	528786	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	616087	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	451063	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.095	152	163815	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	451063	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	451063	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.989	112	304128	47.67	ppm	0.00
Spiked Amount	50.000		Recovery	=	95.34%	
8) Phenol-d5	3.843	99	375407	46.76	ppm	0.00
Spiked Amount	50.000		Recovery	=	93.52%	
25) Nitrobenzene-d5	4.613	82	355739	49.81	ppm	0.00
Spiked Amount	50.000		Recovery	=	99.62%	
51) 2-Fluorobiphenyl	6.344	172	547343	47.29	ppm	0.00
Spiked Amount	50.000		Recovery	=	94.58%	
73) 2,4,6-Tribromophenol	7.743	330	72279	47.42	ppm	0.00
Spiked Amount	50.000		Recovery	=	94.84%	
85) Terphenyl-d14	10.308	244	548549	47.80	ppm	0.00
Spiked Amount	50.000		Recovery	=	95.60%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	

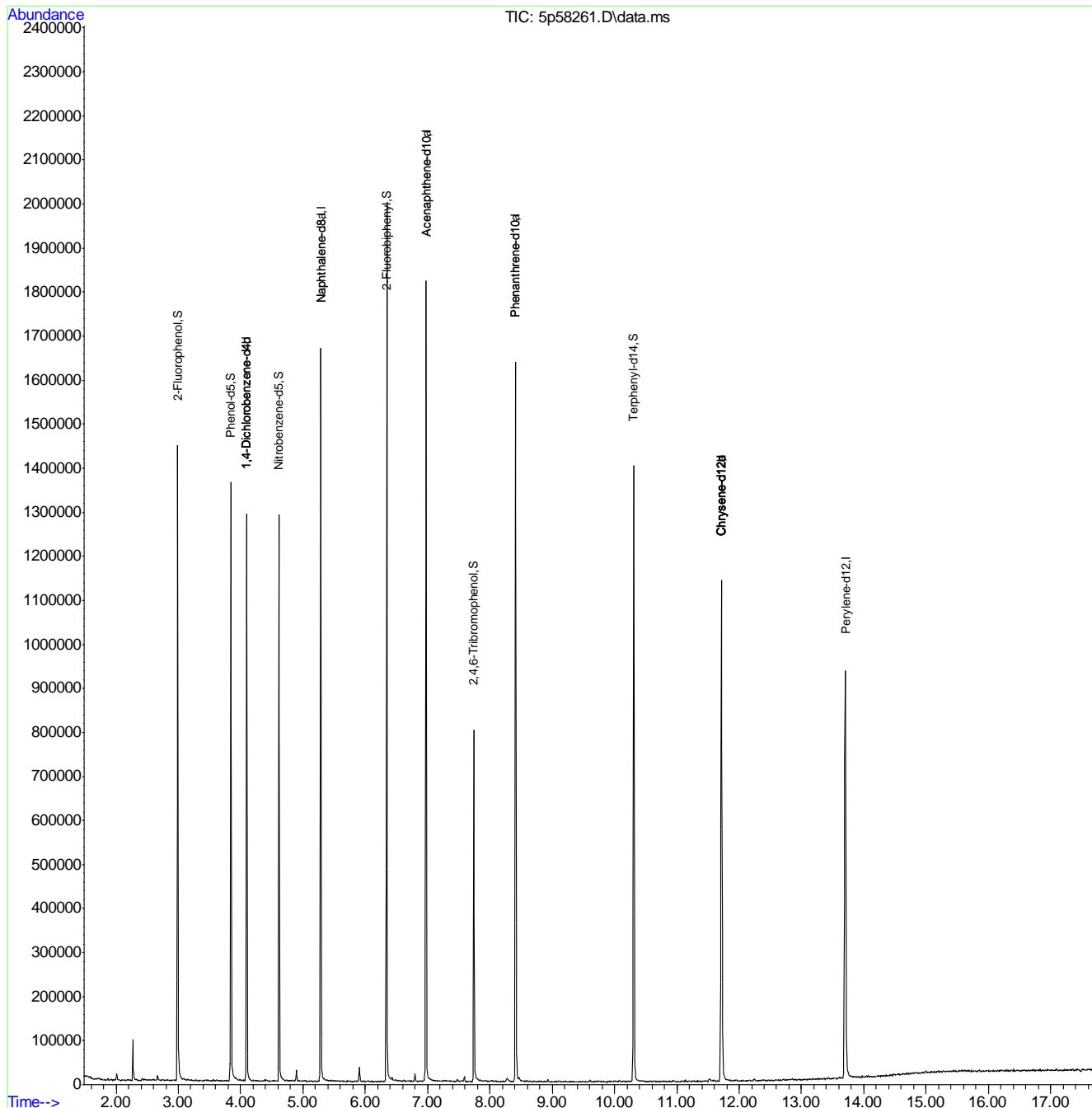
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58261.D  
 Acq On : 9 Apr 2019 5:29 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 09 13:52:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration



9.6.12  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58262.D  
 Acq On : 9 Apr 2019 5:55 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 09 13:54:34 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.095	152	214509	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	841092	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	460427	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	828209	40.00	ppm	0.00
83) Chrysene-d12	11.723	240	794847	40.00	ppm	0.00
91) Perylene-d12	13.711	264	813620	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.095	152	214509	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	460427	40.00	ppm	0.00
105) Chrysene-d12a	11.723	240	794847	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	828209	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	841092	40.00	ppm	0.00
113) Chrysene-d12b	11.723	240	794866	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.095	152	214509	40.00	ppm	0.00
117) Chrysene-d12c	11.723	240	794847	40.00	ppm	0.00
119) Chrysene-d12d	11.723	240	794866	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
88) 3,3'-Dichlorobenzidine	11.729	252	441562	48.81	ppm	97

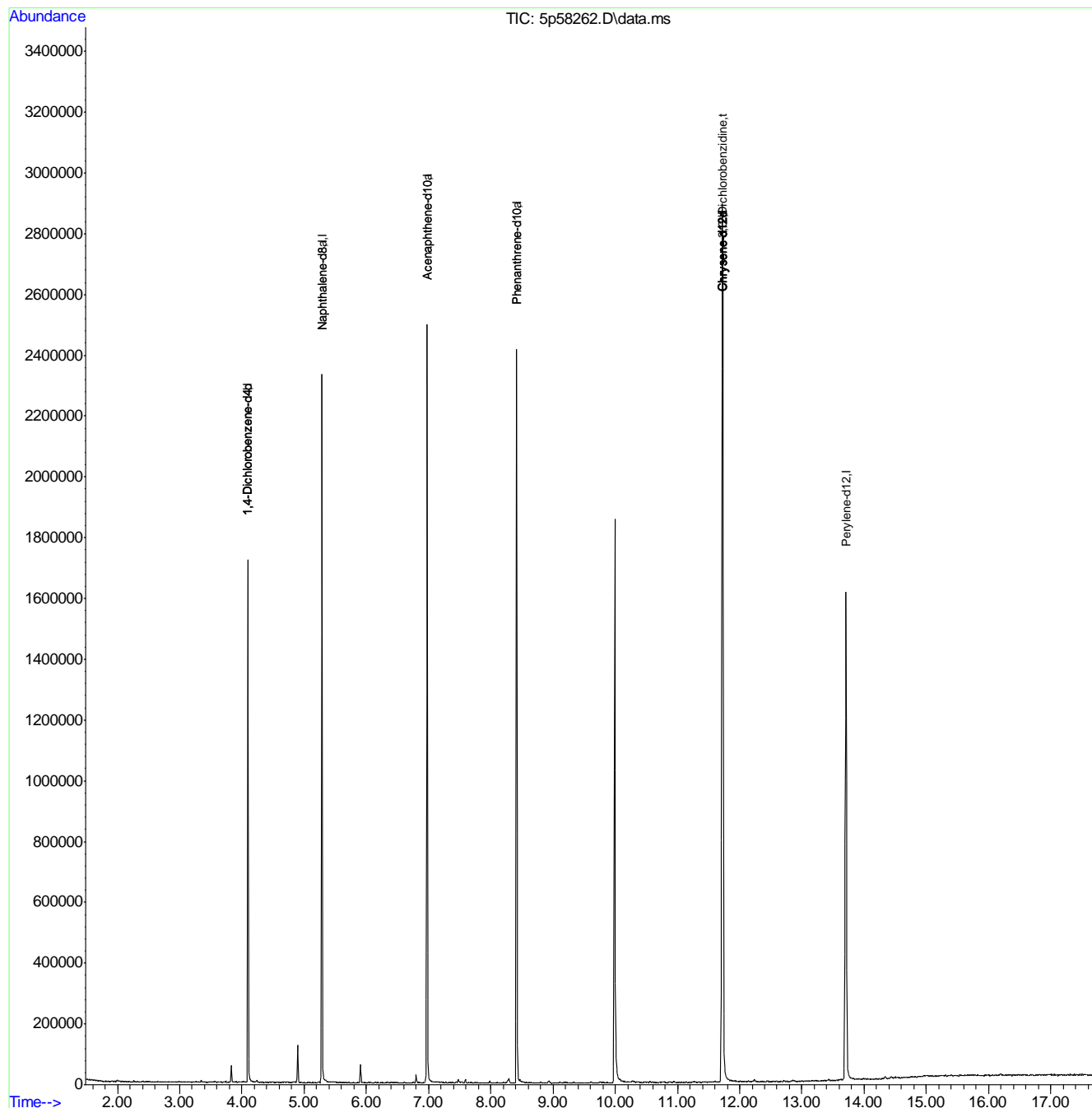
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.13  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2761\  
 Data File : 5p58262.D  
 Acq On : 9 Apr 2019 5:55 am  
 Operator : chriss2  
 Sample : icv2761-50  
 Misc : op12947,e5p2761,1000,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 09 13:54:34 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 13:37:16 2019  
 Response via : Initial Calibration



9.6.13  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58264.D  
 Acq On : 9 Apr 2019 6:28 am  
 Operator : chriss2  
 Sample : ic2762-100  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 09 15:09:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	168775	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	654653	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	363607	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	600453	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	578439	40.00	ppm	0.00
91) Perylene-d12	13.705	264	615385	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	168775	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	363607	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	578439	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	600453	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	654653	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	578439	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	168775	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	578439	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	578439	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	9.741	57	497029	86.67	ppm	0.00
Spiked Amount	50.000		Recovery	=	173.34%	
108) o-terphenyl	8.849	230	795481	89.68	ppm	0.00
Spiked Amount	50.000		Recovery	=	179.36%	
Target Compounds						
102) Benzaldehyde	3.699	105	506718	93.16	ppm	98
104) 1,2,4,5-Tetrachloroben...	6.146	216	460318	92.34	ppm	100
109) Atrazine	8.197	215	157150	91.61	ppm	94
110) Pentachloronitrobenzene	8.261	295	60860	93.99	ppm	94
112) Hydroquinone	5.799	110	593250	103.36	ppm	96

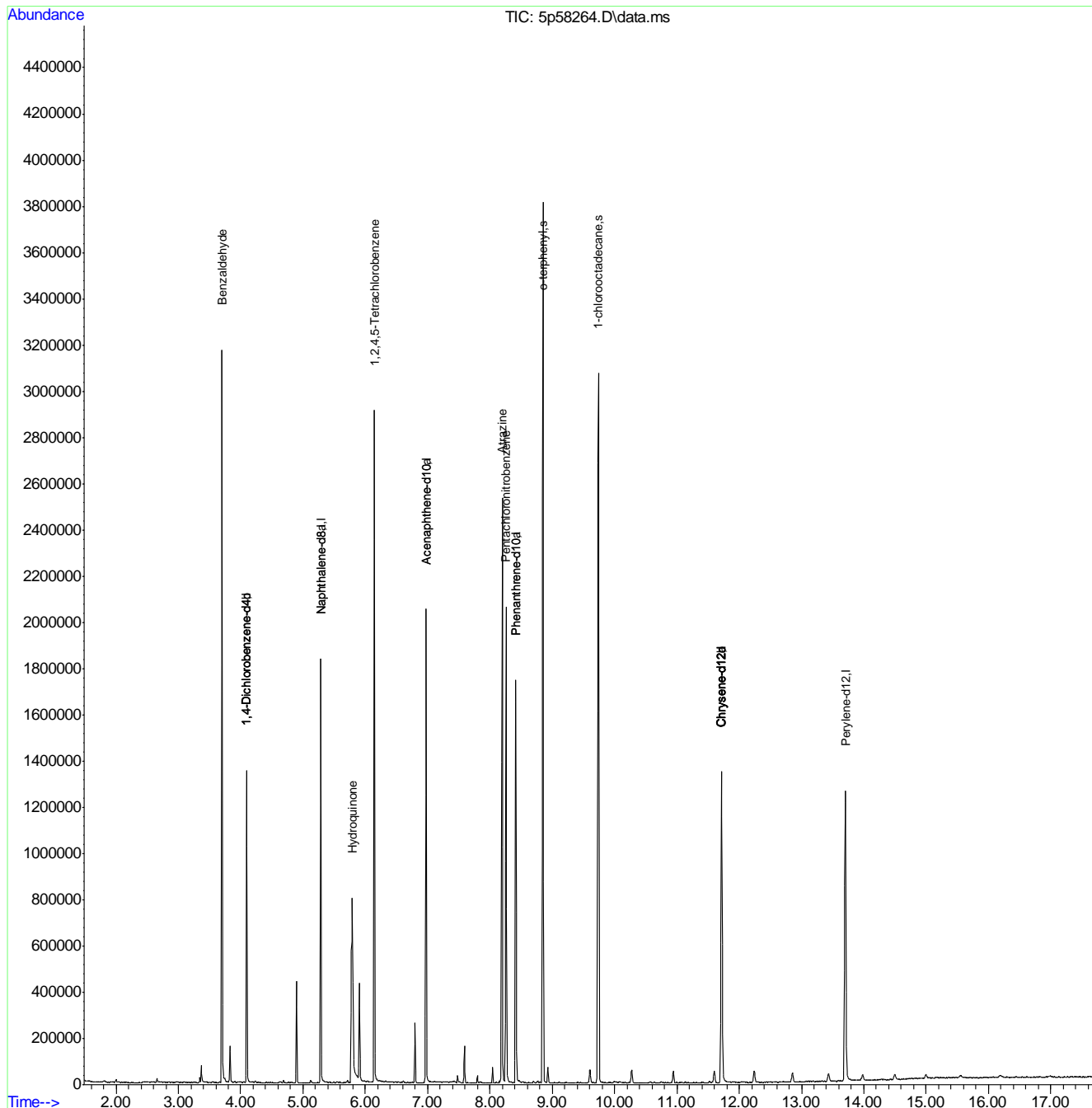
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.14  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58264.D  
 Acq On : 9 Apr 2019 6:28 am  
 Operator : chriss2  
 Sample : ic2762-100  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 09 15:09:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration



9.6.14  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58265.D  
 Acq On : 9 Apr 2019 6:53 am  
 Operator : chriss2  
 Sample : ic2762-80  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 09 15:11:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	164099	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	640562	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	360326	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	581278	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	563479	40.00	ppm	0.00
91) Perylene-d12	13.705	264	593934	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	164099	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	360326	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	563479	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	581278	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	640562	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	563609	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	164099	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	563479	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	563609	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	9.741	57	413315	73.98	ppm	0.00
Spiked Amount	50.000		Recovery	=	147.96%	
108) o-terphenyl	8.849	230	648602	75.53	ppm	0.00
Spiked Amount	50.000		Recovery	=	151.06%	
Target Compounds						
102) Benzaldehyde	3.699	105	418698	79.17	ppm	98
104) 1,2,4,5-Tetrachloroben...	6.146	216	372672	75.44	ppm	97
109) Atrazine	8.197	215	124500	74.97	ppm	90
110) Pentachloronitrobenzene	8.256	295	48542	77.44	ppm	91
112) Hydroquinone	5.793	110	470960	83.86	ppm	96

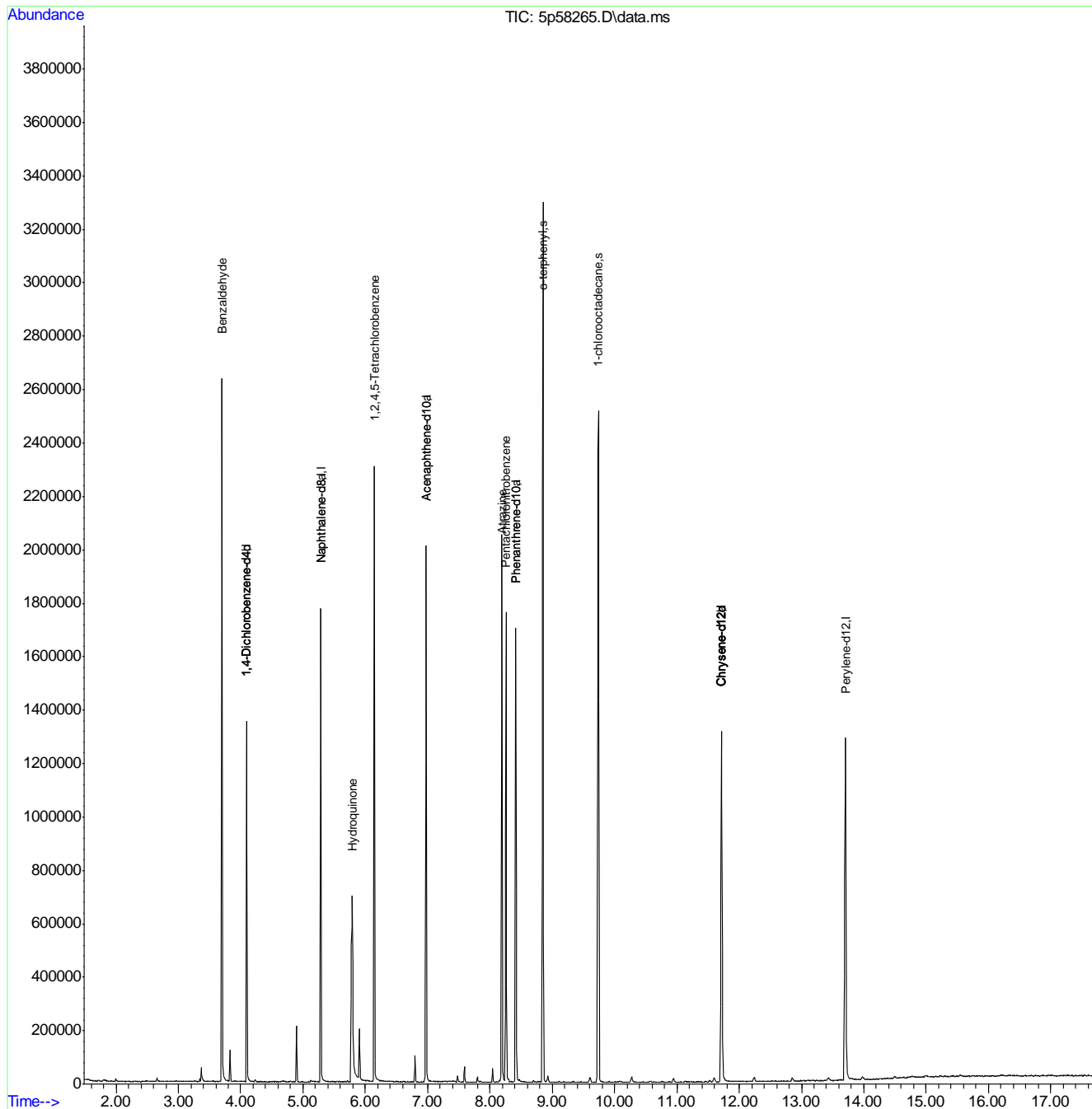
(#) = qualifier out of range (m) = manual integration (+) = signals summed



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
Data File : 5p58265.D  
Acq On : 9 Apr 2019 6:53 am  
Operator : chriss2  
Sample : ic2762-80  
Misc : op12947,e5p2762,1000,,,1,1  
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 09 15:11:14 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:05:25 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58266.D  
 Acq On : 9 Apr 2019 7:18 am  
 Operator : chriss2  
 Sample : icc2762-50  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 09 15:06:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration

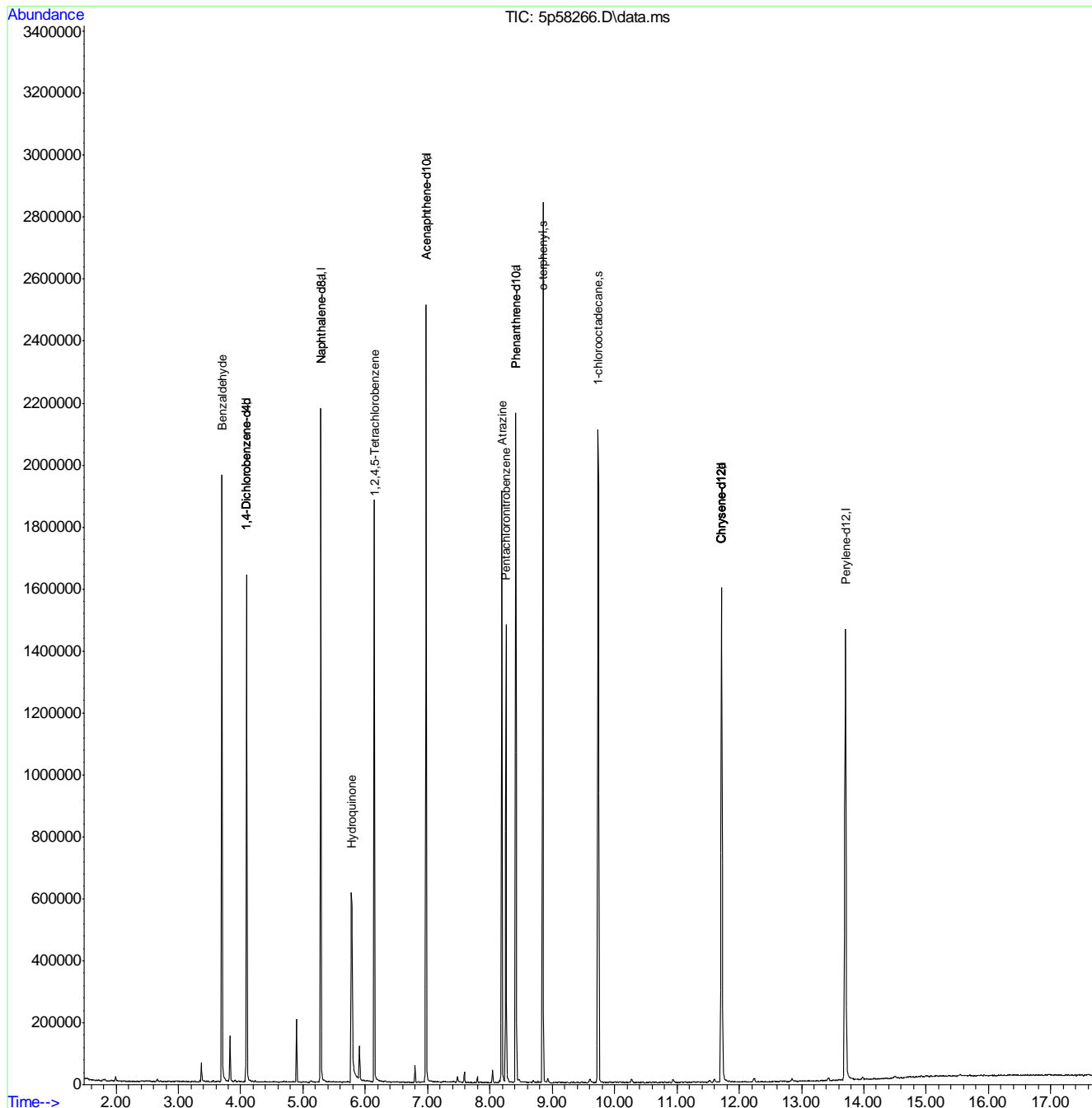
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	202843	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	783941	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	436839	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	707936	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	685138	40.00	ppm	0.00
91) Perylene-d12	13.705	264	728731	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	202843	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	436839	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	685138	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	707936	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	783941	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	685138	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	202843	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	685138	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	685138	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	9.736	57	339639	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
108) o-terphenyl	8.849	230	522894	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
Target Compounds						
102) Benzaldehyde	3.699	105	326875	50.00	ppm	Qvalue 100
104) 1,2,4,5-Tetrachloroben...	6.146	216	299451	50.00	ppm	100
109) Atrazine	8.192	215	101121	50.00	ppm	100
110) Pentachloronitrobenzene	8.256	295	38173	50.00	ppm	100
112) Hydroquinone	5.777	110	343647	50.00	ppm	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
Data File : 5p58266.D  
Acq On : 9 Apr 2019 7:18 am  
Operator : chriss2  
Sample : icc2762-50  
Misc : op12947,e5p2762,1000,,,1,1  
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 09 15:06:52 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:05:25 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58267.D  
 Acq On : 9 Apr 2019 7:43 am  
 Operator : chriss2  
 Sample : ic2762-25  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 09 15:13:02 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration

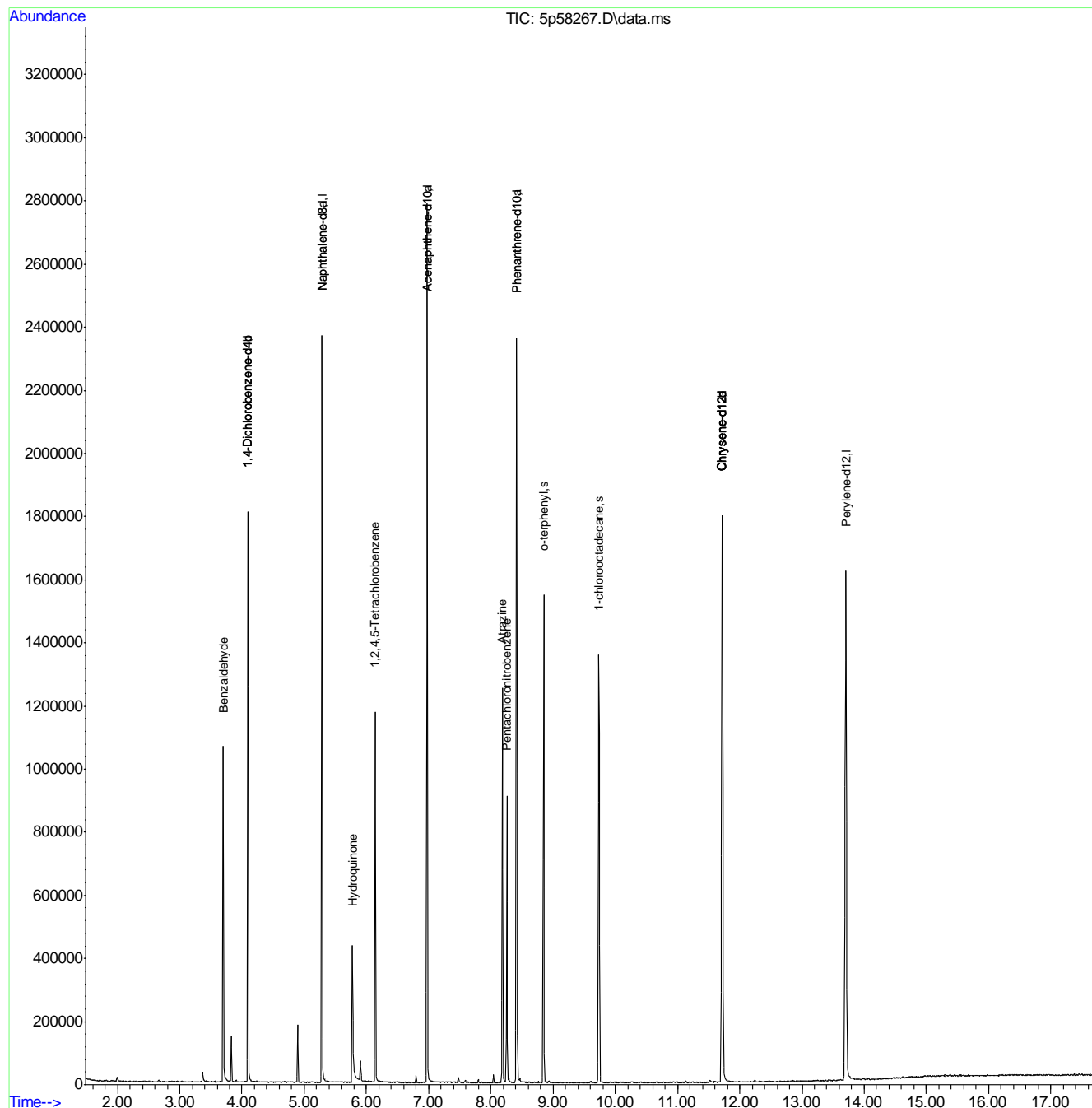
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	224582	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	867646	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	492809	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	805496	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	769503	40.00	ppm	0.00
91) Perylene-d12	13.705	264	829043	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	224582	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	492809	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	769503	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	805496	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	867646	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	769503	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	224582	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	769503	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	769503	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	9.736	57	203521	26.68	ppm	0.00
Spiked Amount	50.000		Recovery	=	53.36%	
108) o-terphenyl	8.849	230	313631	26.36	ppm	0.00
Spiked Amount	50.000		Recovery	=	52.72%	
Target Compounds						
102) Benzaldehyde	3.699	105	190179	26.27	ppm	Qvalue 97
104) 1,2,4,5-Tetrachloroben...	6.141	216	175194	25.93	ppm	100
109) Atrazine	8.187	215	58435	25.39	ppm	91
110) Pentachloronitrobenzene	8.256	295	22696	26.13	ppm	93
112) Hydroquinone	5.777	110	177386	23.32	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
Data File : 5p58267.D  
Acq On : 9 Apr 2019 7:43 am  
Operator : chriss2  
Sample : ic2762-25  
Misc : op12947,e5p2762,1000,,,1,1  
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 09 15:13:02 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:05:25 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58268.D  
 Acq On : 9 Apr 2019 8:08 am  
 Operator : chriss2  
 Sample : ic2762-10  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 09 15:13:50 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration

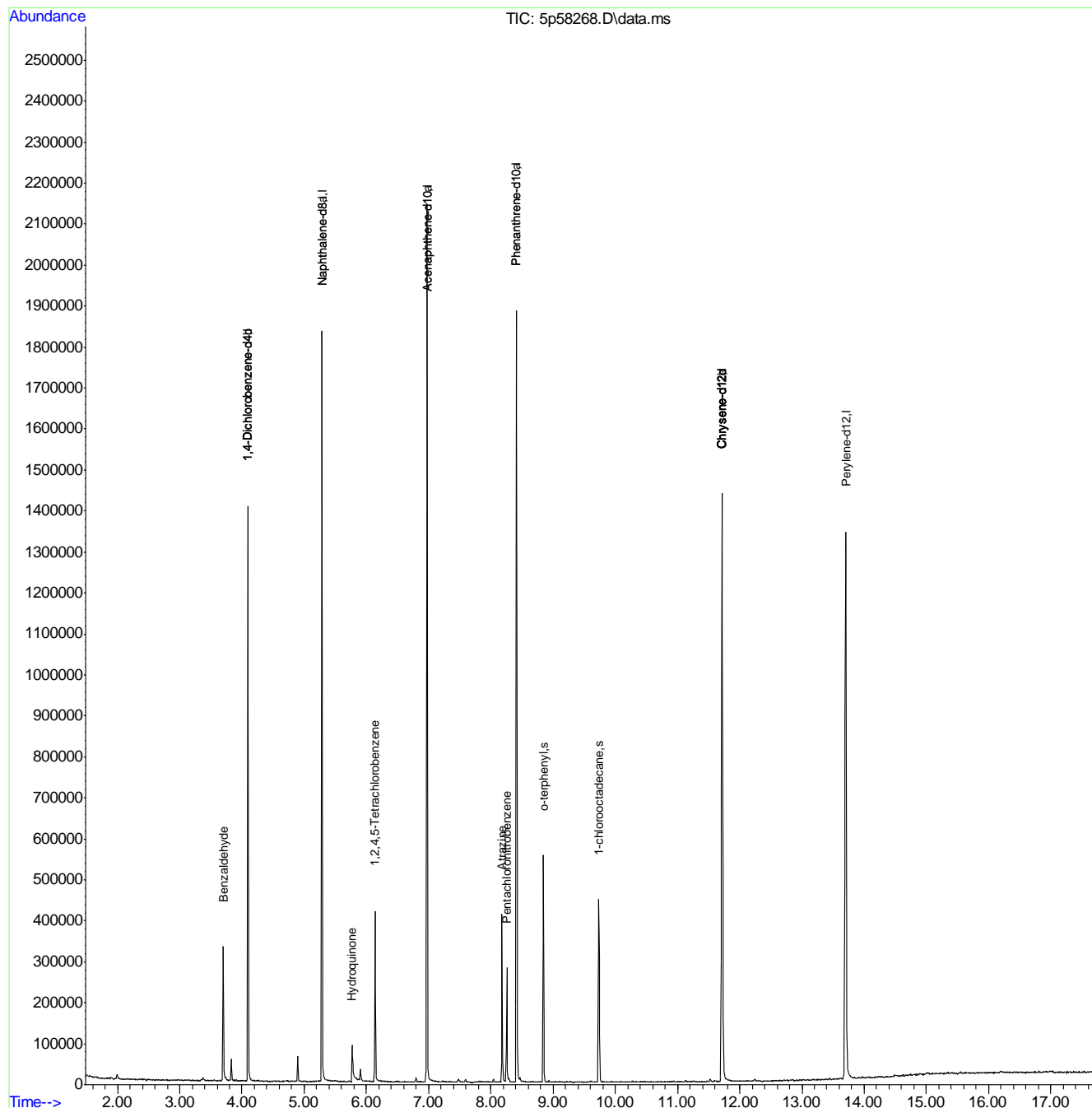
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	174213	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	680233	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	382879	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	627467	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	582803	40.00	ppm	0.00
91) Perylene-d12	13.705	264	628553	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	174213	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	382879	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	582803	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	627467	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	680233	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	582826	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	174213	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	582803	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	582826	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	9.736	57	67062	11.61	ppm	0.00
Spiked Amount	50.000		Recovery	=	23.22%	
108) o-terphenyl	8.844	230	101286	10.93	ppm	0.00
Spiked Amount	50.000		Recovery	=	21.86%	
Target Compounds						
102) Benzaldehyde	3.699	105	59187	10.54	ppm	98
104) 1,2,4,5-Tetrachloroben...	6.140	216	56596	10.78	ppm	96
109) Atrazine	8.181	215	18023	10.05	ppm	90
110) Pentachloronitrobenzene	8.256	295	6691	9.89	ppm	83
112) Hydroquinone	5.772	110	44186	7.41	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58268.D  
 Acq On : 9 Apr 2019 8:08 am  
 Operator : chriss2  
 Sample : ic2762-10  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 09 15:13:50 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration



9.6.18  
 9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58269.D  
 Acq On : 9 Apr 2019 8:32 am  
 Operator : chriss2  
 Sample : ic2762-5  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 09 15:14:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	180643	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	698883	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	387834	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	653181	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	597605	40.00	ppm	0.00
91) Perylene-d12	13.705	264	635086	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	180643	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	387834	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	597605	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	653181	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	698883	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	597492	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	180643	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	597605	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	597492	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	9.736	57	33729	5.69	ppm	0.00
Spiked Amount	50.000		Recovery	=	11.38%	
108) o-terphenyl	8.844	230	51458	5.33	ppm	0.00
Spiked Amount	50.000		Recovery	=	10.66%	
Target Compounds						
102) Benzaldehyde	3.699	105	29892	5.13	ppm	Qvalue 94
104) 1,2,4,5-Tetrachloroben...	6.140	216	28960	5.45	ppm	97
109) Atrazine	8.181	215	9349	5.01	ppm	93
110) Pentachloronitrobenzene	8.256	295	3259	4.63	ppm	94
112) Hydroquinone	5.777	110	18683	3.05	ppm	96

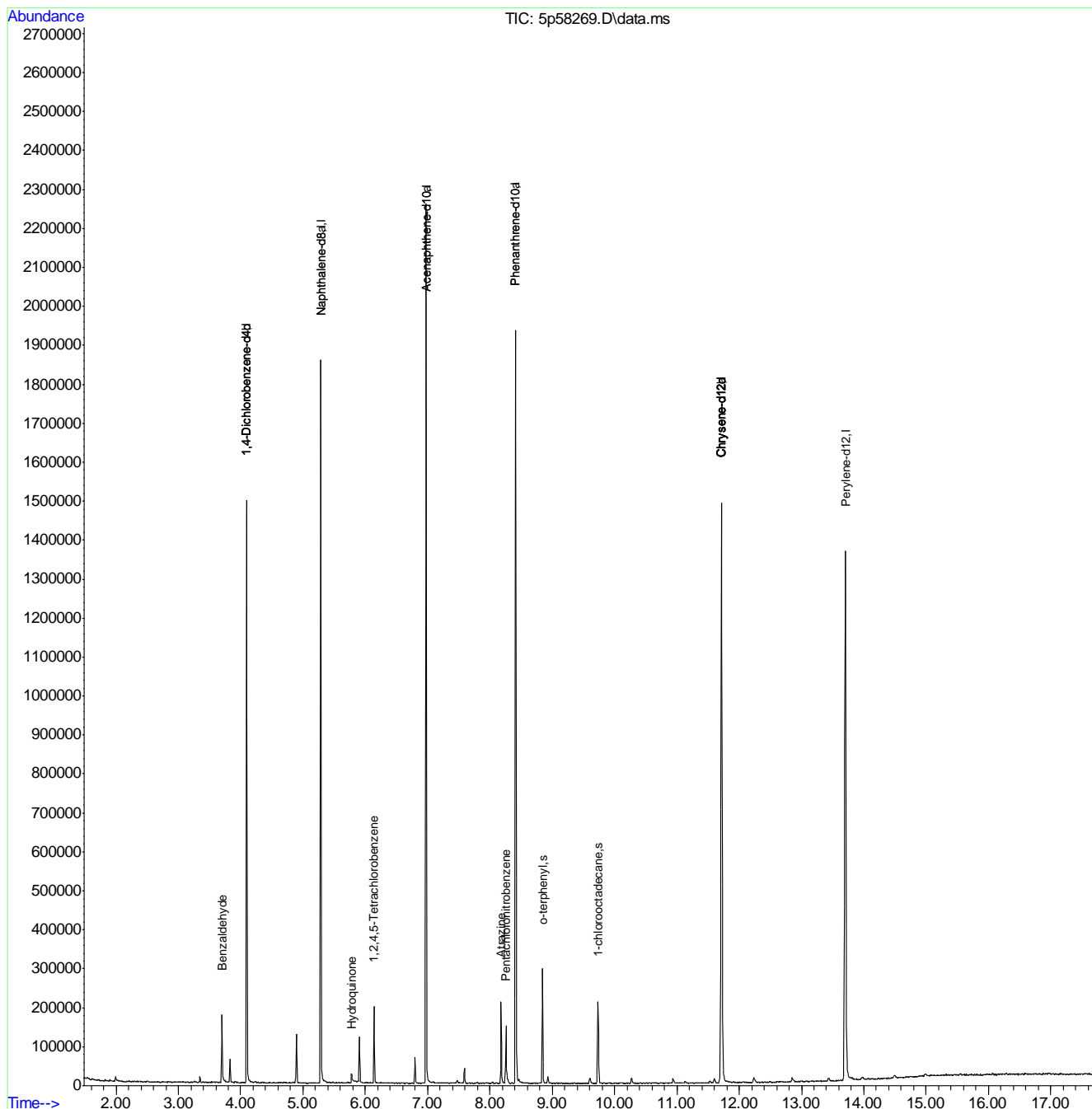
(#) = qualifier out of range (m) = manual integration (+) = signals summed



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
Data File : 5p58269.D  
Acq On : 9 Apr 2019 8:32 am  
Operator : chriss2  
Sample : ic2762-5  
Misc : op12947,e5p2762,1000,,,1,1  
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 09 15:14:54 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:05:25 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58270.D  
 Acq On : 9 Apr 2019 8:57 am  
 Operator : chriss2  
 Sample : ic2762-2  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 09 15:16:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration

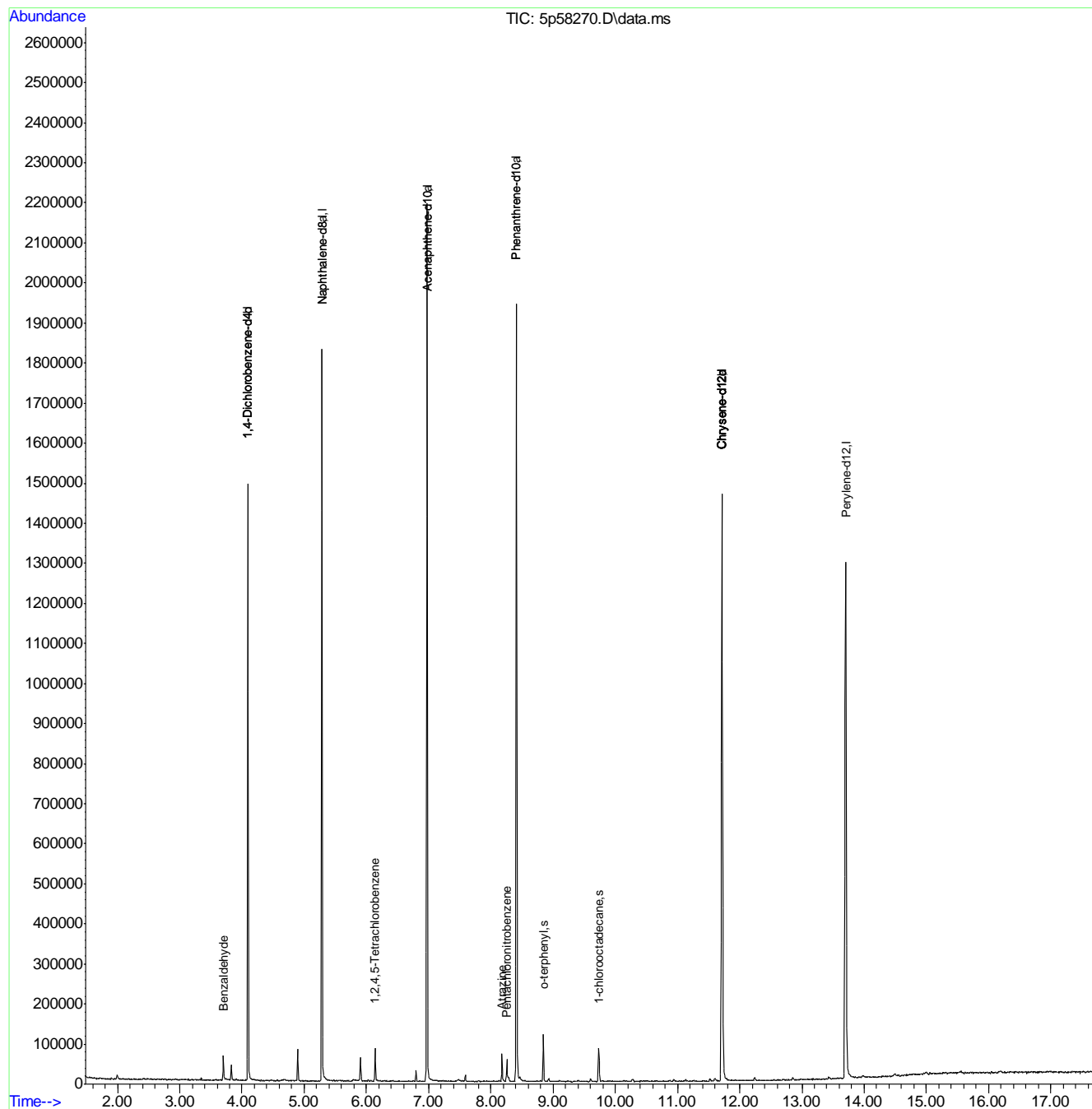
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	177189	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	681627	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	388324	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	649043	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	599372	40.00	ppm	0.00
91) Perylene-d12	13.705	264	631074	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	177189	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	388324	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	599372	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	649043	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	681627	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	599445	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	177189	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	599372	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	599445	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	9.736	57	13240	2.23	ppm	0.00
Spiked Amount	50.000		Recovery	=	4.46%	
108) o-terphenyl	8.844	230	20568	2.15	ppm	0.00
Spiked Amount	50.000		Recovery	=	4.30%	
Target Compounds						
102) Benzaldehyde	3.699	105	10912	1.91	ppm	Qvalue 83
104) 1,2,4,5-Tetrachloroben...	6.141	216	11961	2.25	ppm	92
109) Atrazine	8.181	215	3364	1.81	ppm	85
110) Pentachloronitrobenzene	8.251	295	1340	1.91	ppm	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
Data File : 5p58270.D  
Acq On : 9 Apr 2019 8:57 am  
Operator : chriss2  
Sample : ic2762-2  
Misc : op12947,e5p2762,1000,,,1,1  
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 09 15:16:13 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:05:25 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58271.D  
 Acq On : 9 Apr 2019 9:37 am  
 Operator : chriss2  
 Sample : ic2762-1  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 09 15:17:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration

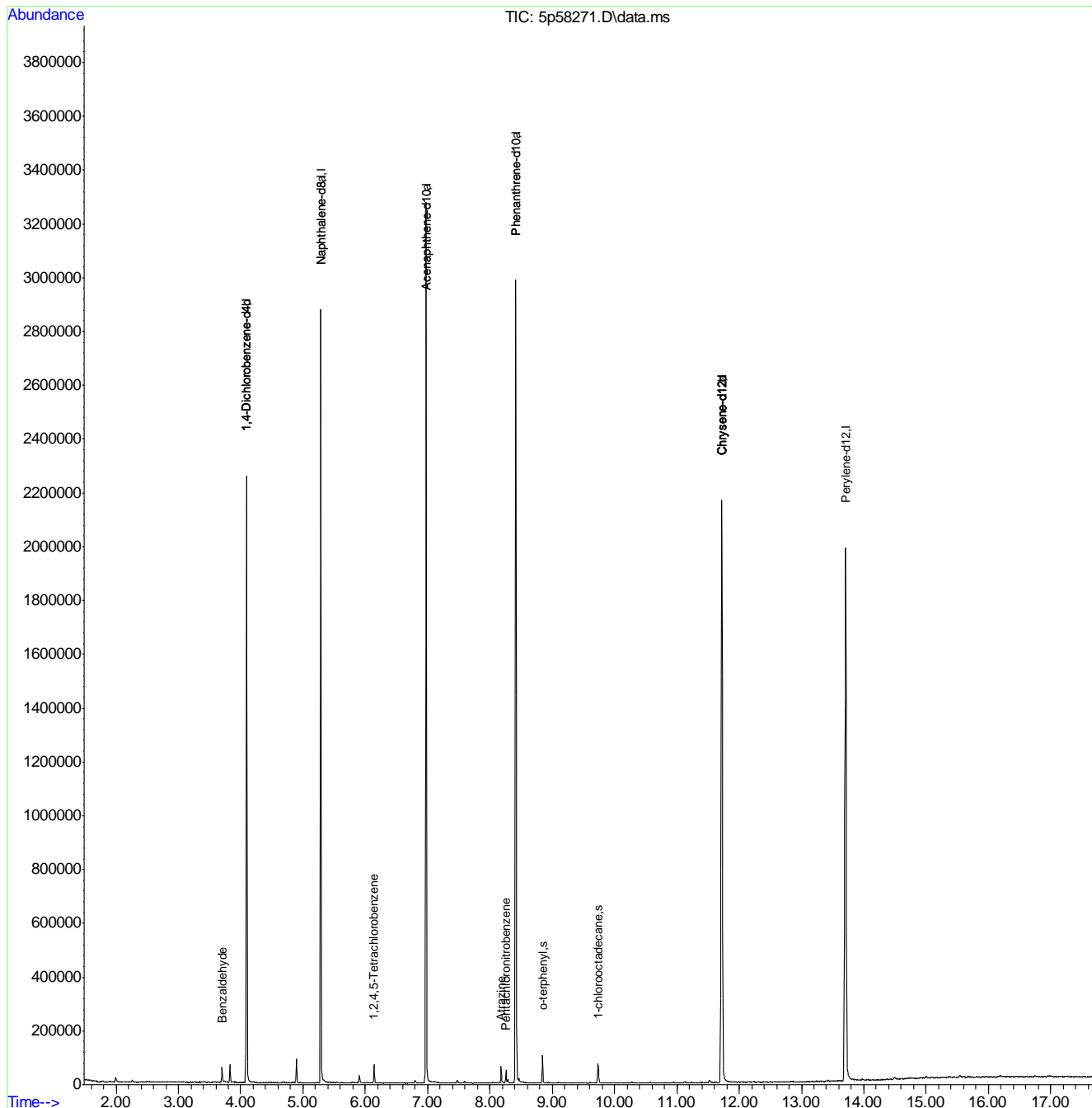
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	287898	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	1096881	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	615118	40.00	ppm	0.00
69) Phenanthrene-d10	8.416	188	1028294	40.00	ppm	0.00
83) Chrysene-d12	11.723	240	944331	40.00	ppm	0.00
91) Perylene-d12	13.710	264	1036081	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	287898	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	615118	40.00	ppm	0.00
105) Chrysene-d12a	11.723	240	944331	40.00	ppm	0.00
107) Phenanthrene-d10a	8.416	188	1028294	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	1096881	40.00	ppm	0.00
113) Chrysene-d12b	11.723	240	948444	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	287898	40.00	ppm	0.00
117) Chrysene-d12c	11.723	240	944331	40.00	ppm	0.00
119) Chrysene-d12d	11.723	240	948444	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	9.736	57	10582	1.13	ppm	0.00
Spiked Amount	50.000		Recovery	=	2.26%	
108) o-terphenyl	8.844	230	17584	1.16	ppm	0.00
Spiked Amount	50.000		Recovery	=	2.32%	
Target Compounds						
102) Benzaldehyde	3.699	105	10641	1.15	ppm	Qvalue 90
104) 1,2,4,5-Tetrachloroben...	6.140	216	9961	1.18	ppm	92
109) Atrazine	8.181	215	2801	0.95	ppm	82
110) Pentachloronitrobenzene	8.261	295	1190	1.07	ppm	# 68

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58271.D  
 Acq On : 9 Apr 2019 9:37 am  
 Operator : chriss2  
 Sample : ic2762-1  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 09 15:17:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:05:25 2019  
 Response via : Initial Calibration



9.6.21  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58272.D  
 Acq On : 9 Apr 2019 10:02 am  
 Operator : chriss2  
 Sample : icv2762-50  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 09 15:28:45 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:26:27 2019  
 Response via : Initial Calibration

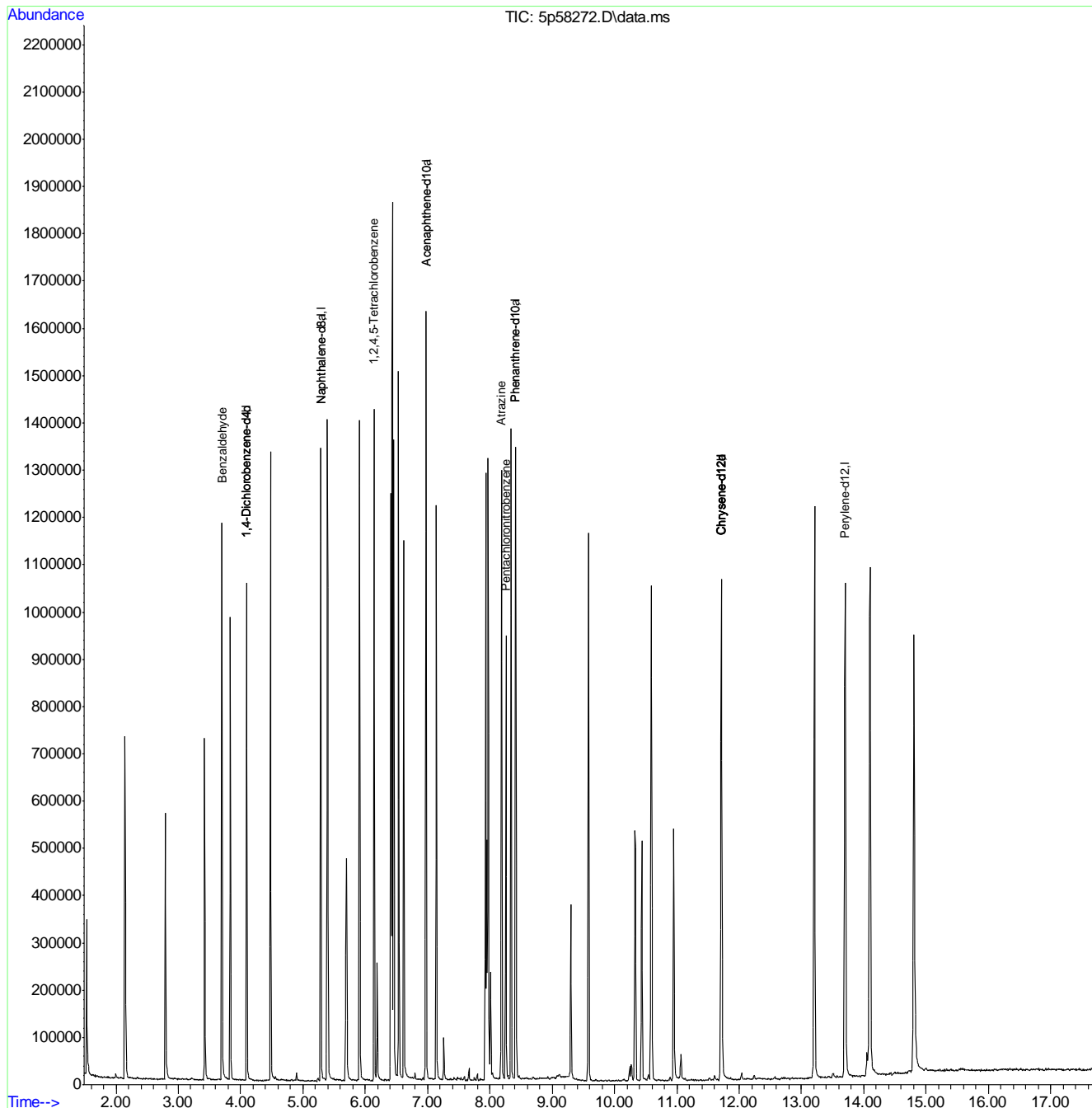
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.095	152	129214	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	519958	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	285162	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	456831	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	456343	40.00	ppm	0.00
91) Perylene-d12	13.700	264	470307	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.095	152	129214	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	285162	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	456343	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	456831	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	519958	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	456356	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.095	152	129214	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	456343	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	456356	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	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
106) 1-chlorooctadecane	0.000	57	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
102) Benzaldehyde	3.699	105	216029	50.89	ppm	99
104) 1,2,4,5-Tetrachloroben...	6.141	216	196251	47.95	ppm	99
109) Atrazine	8.187	215	66843	52.96	ppm	98
110) Pentachloronitrobenzene	8.256	295	24176	49.71	ppm	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58272.D  
 Acq On : 9 Apr 2019 10:02 am  
 Operator : chriss2  
 Sample : icv2762-50  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 09 15:28:45 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:26:27 2019  
 Response via : Initial Calibration



9.6.22  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58273.D  
 Acq On : 9 Apr 2019 10:27 am  
 Operator : chriss2  
 Sample : icv2762-50  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 09 15:27:20 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:26:27 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	149381	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	587807	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	301923	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	562774	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	543445	40.00	ppm	0.00
91) Perylene-d12	13.700	264	528146	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	149381	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	301923	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	543445	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	562774	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	587807	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	543427	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	149381	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	543445	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	543427	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
112) Hydroquinone	5.777	110	259392	52.92	ppm	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

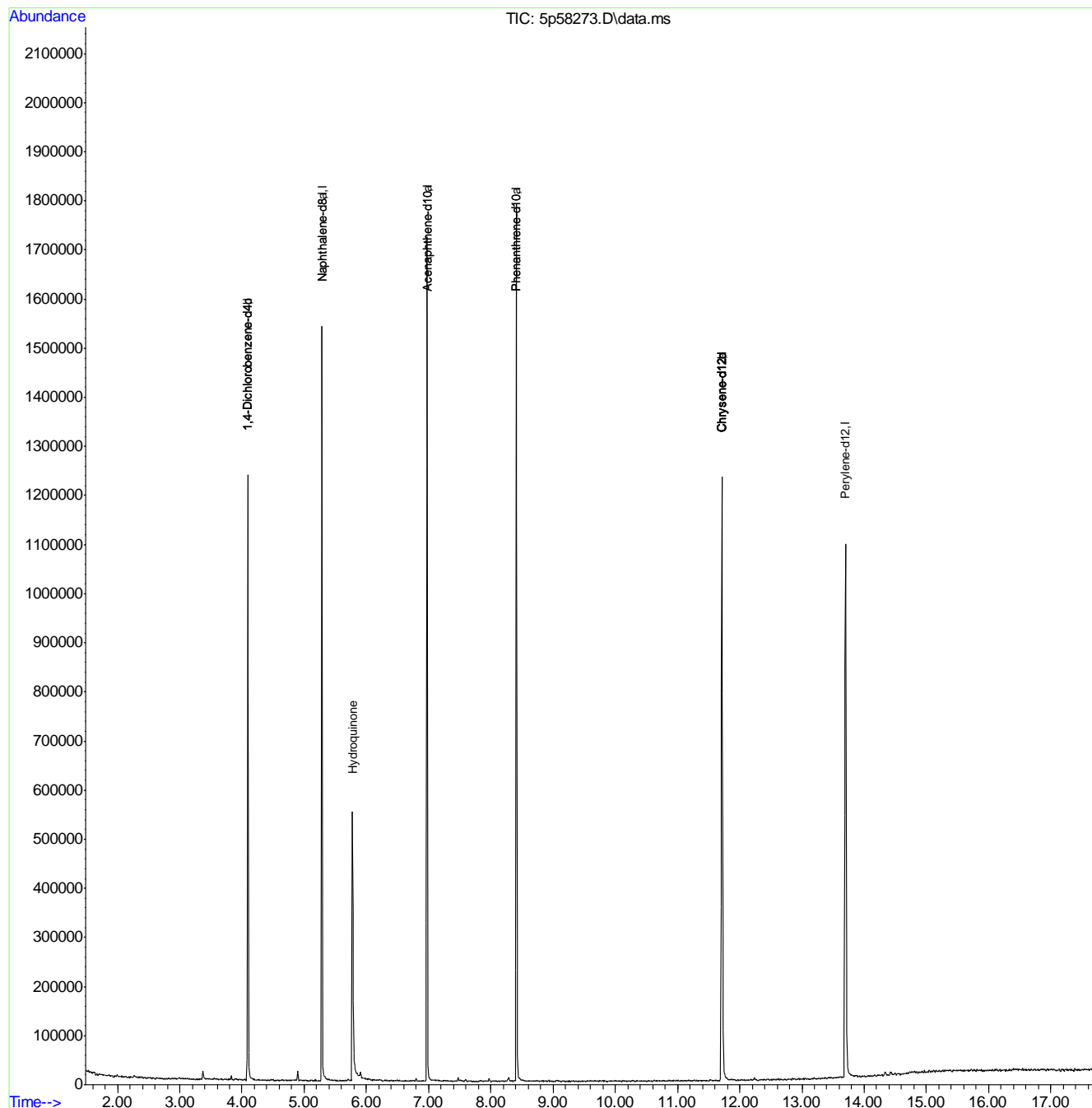
9.6.23  
9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2762\  
 Data File : 5p58273.D  
 Acq On : 9 Apr 2019 10:27 am  
 Operator : chriss2  
 Sample : icv2762-50  
 Misc : op12947,e5p2762,1000,,,1,1  
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Apr 09 15:27:20 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:26:27 2019  
 Response via : Initial Calibration



9.6.23  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58275.D  
 Acq On : 9 Apr 2019 11:07 am  
 Operator : yujiac  
 Sample : ic2763-100  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 09 15:41:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	153041	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	586516	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	325652	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	564582	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	492492	40.00	ppm	0.00
91) Perylene-d12	13.705	264	550644	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	153041	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	325652	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	492492	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	564582	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	586516	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	492492	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	153041	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	492492	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	492492	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.992	184	1154706	97.66	ppm	100

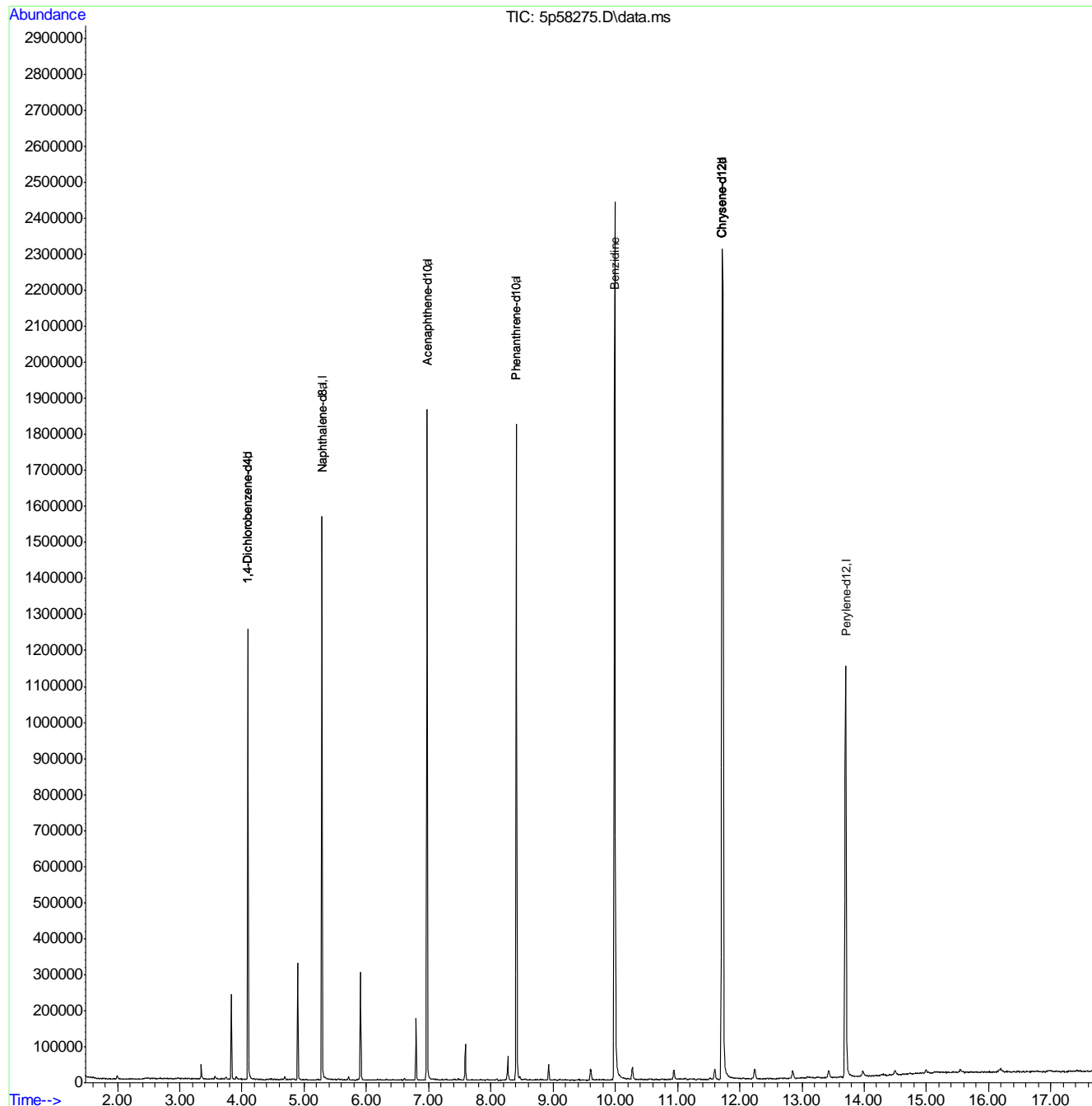
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.24  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58275.D  
 Acq On : 9 Apr 2019 11:07 am  
 Operator : yujiac  
 Sample : ic2763-100  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Apr 09 15:41:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration



9.6.24  
 9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58276.D  
 Acq On : 9 Apr 2019 11:31 am  
 Operator : yujiac  
 Sample : ic2763-80  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 27 Sample Multiplier: 1

Quant Time: Apr 09 15:42:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration

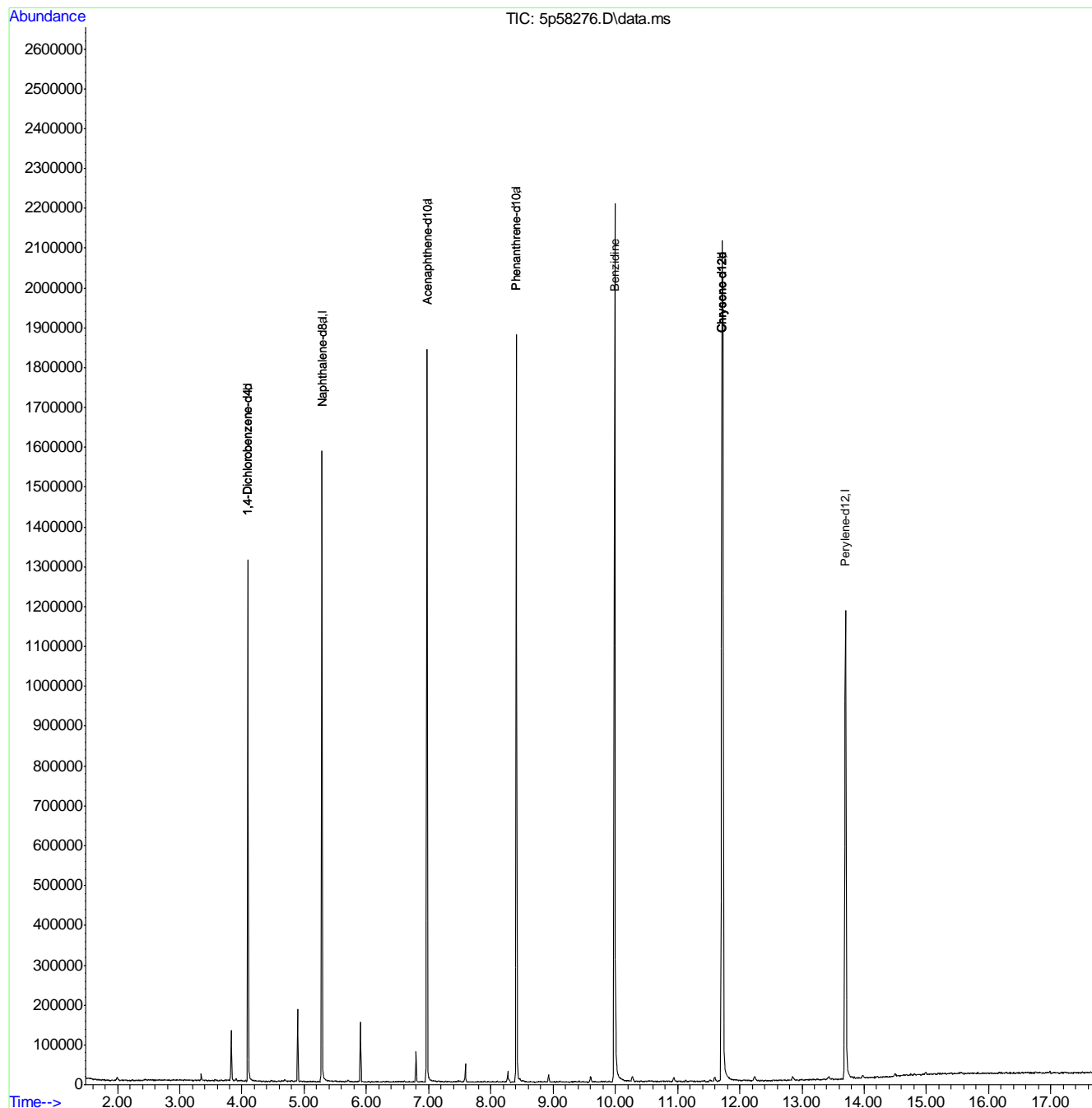
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	154752	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	600677	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	341749	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	570157	40.00	ppm	0.00
83) Chrysene-d12	11.712	240	496856	40.00	ppm	0.00
91) Perylene-d12	13.700	264	548816	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	154752	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	341749	40.00	ppm	0.00
105) Chrysene-d12a	11.712	240	496856	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	570157	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	600677	40.00	ppm	0.00
113) Chrysene-d12b	11.712	240	496803	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	154752	40.00	ppm	0.00
117) Chrysene-d12c	11.712	240	496856	40.00	ppm	0.00
119) Chrysene-d12d	11.712	240	496803	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.992	184	986521	82.71	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
Data File : 5p58276.D  
Acq On : 9 Apr 2019 11:31 am  
Operator : yujiac  
Sample : ic2763-80  
Misc : op12947,e5p2763,1000,,,1,1  
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Apr 09 15:42:52 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:40:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58277.D  
 Acq On : 9 Apr 2019 11:56 am  
 Operator : yujiac  
 Sample : icc2763-50  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Apr 09 15:40:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration

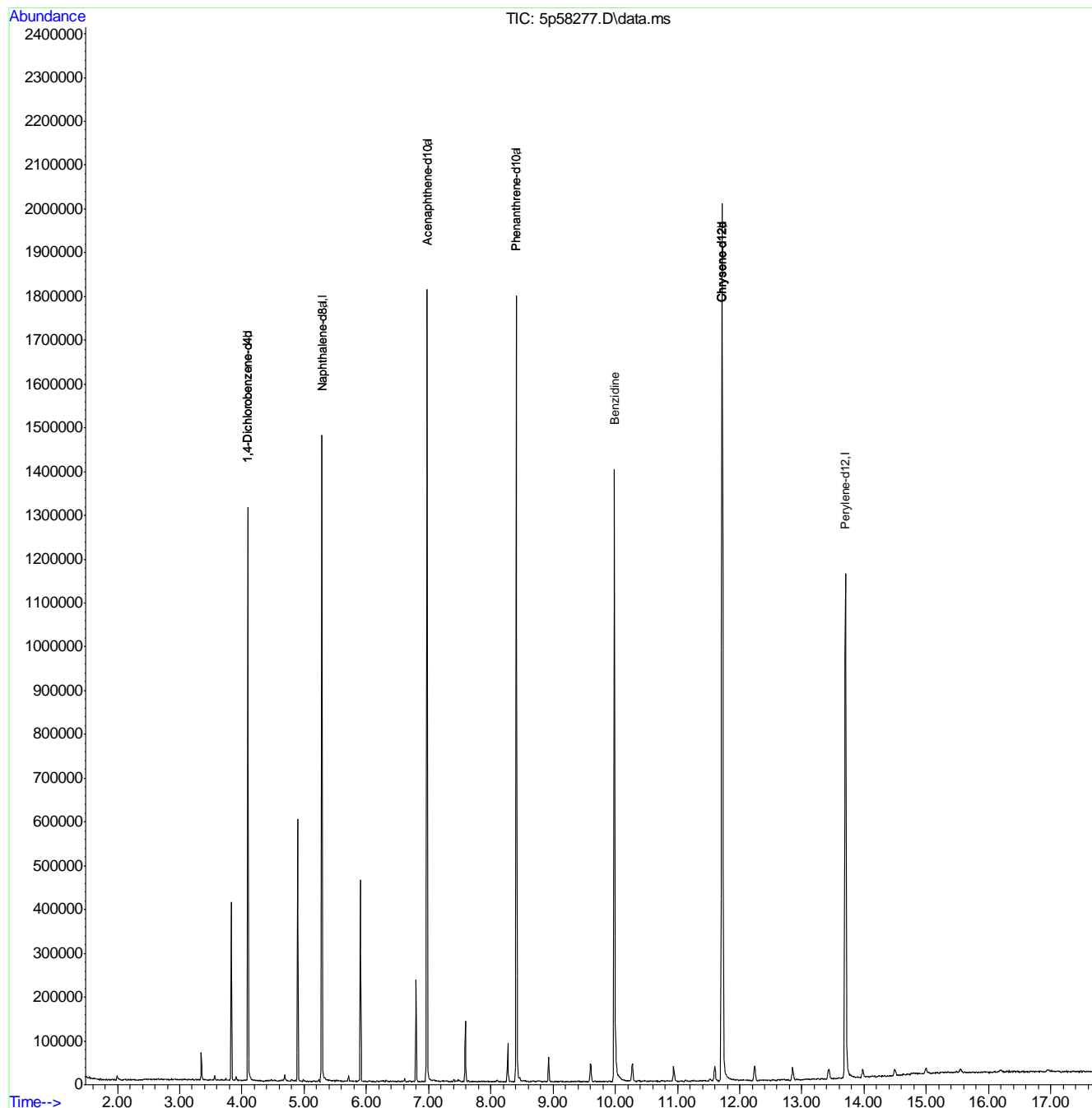
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.095	152	156969	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	604651	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	329339	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	555661	40.00	ppm	0.00
83) Chrysene-d12	11.713	240	494295	40.00	ppm	0.00
91) Perylene-d12	13.700	264	544334	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.095	152	156969	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	329339	40.00	ppm	0.00
105) Chrysene-d12a	11.713	240	494295	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	555661	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	604651	40.00	ppm	0.00
113) Chrysene-d12b	11.713	240	494295	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.095	152	156969	40.00	ppm	0.00
117) Chrysene-d12c	11.713	240	494295	40.00	ppm	0.00
119) Chrysene-d12d	11.713	240	494295	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.987	184	593322	50.00	ppm	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
Data File : 5p58277.D  
Acq On : 9 Apr 2019 11:56 am  
Operator : yujiac  
Sample : icc2763-50  
Misc : op12947,e5p2763,1000,,,1,1  
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Apr 09 15:40:55 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:40:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58278.D  
 Acq On : 9 Apr 2019 12:21 pm  
 Operator : yujiac  
 Sample : ic2763-25  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 09 15:43:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	153238	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	604412	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	337238	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	569553	40.00	ppm	0.00
83) Chrysene-d12	11.712	240	507330	40.00	ppm	0.00
91) Perylene-d12	13.700	264	538913	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	153238	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	337238	40.00	ppm	0.00
105) Chrysene-d12a	11.712	240	507330	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	569553	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	604412	40.00	ppm	0.00
113) Chrysene-d12b	11.712	240	507330	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	153238	40.00	ppm	0.00
117) Chrysene-d12c	11.712	240	507330	40.00	ppm	0.00
119) Chrysene-d12d	11.712	240	507330	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.981	184	298903	24.54	ppm	98

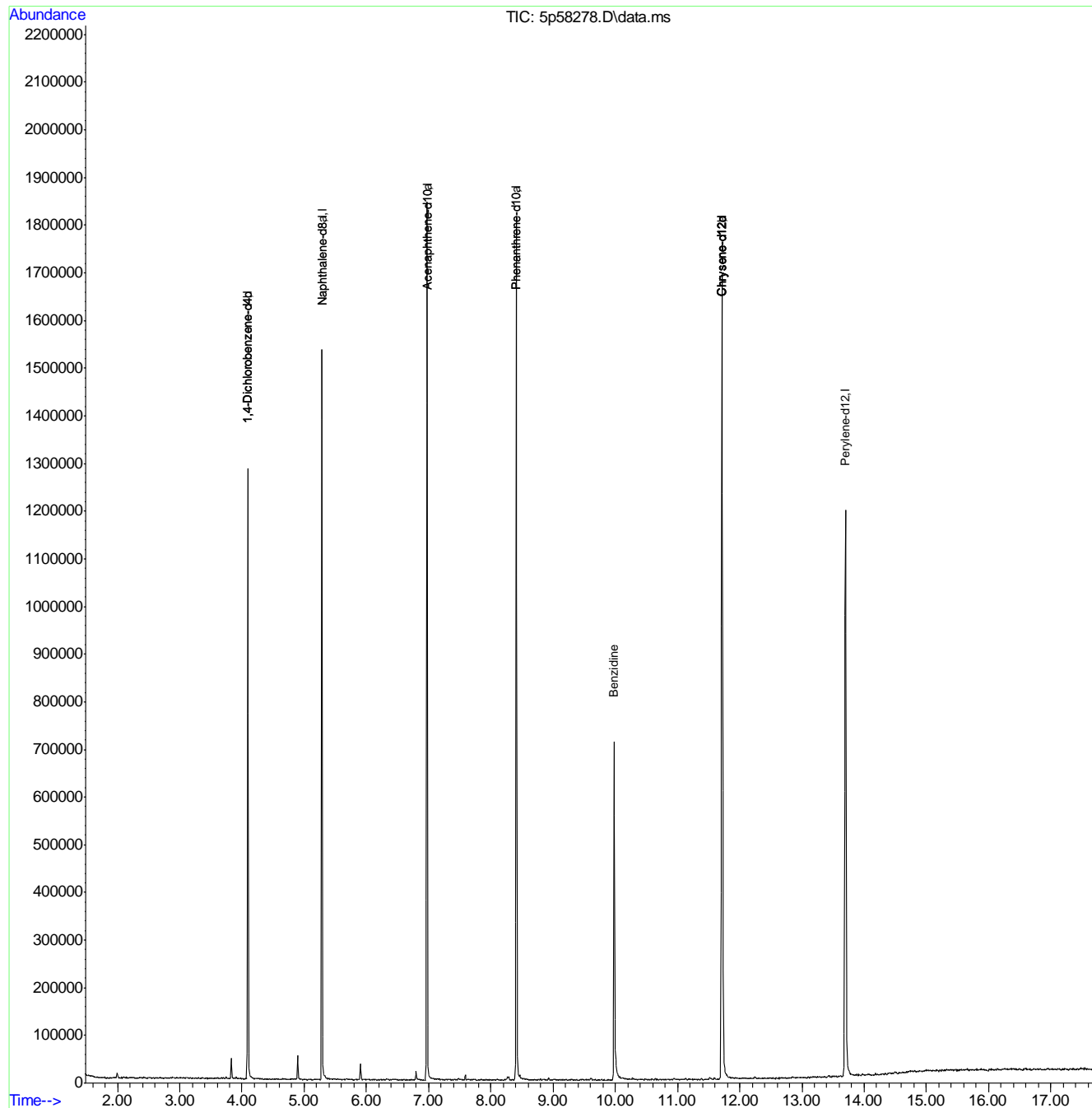
(#) = qualifier out of range (m) = manual integration (+) = signals summed



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
Data File : 5p58278.D  
Acq On : 9 Apr 2019 12:21 pm  
Operator : yujiac  
Sample : ic2763-25  
Misc : op12947,e5p2763,1000,,,1,1  
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 09 15:43:43 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:40:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58279.D  
 Acq On : 9 Apr 2019 12:46 pm  
 Operator : yujiac  
 Sample : ic2763-10  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 30 Sample Multiplier: 1

Quant Time: Apr 09 15:44:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration

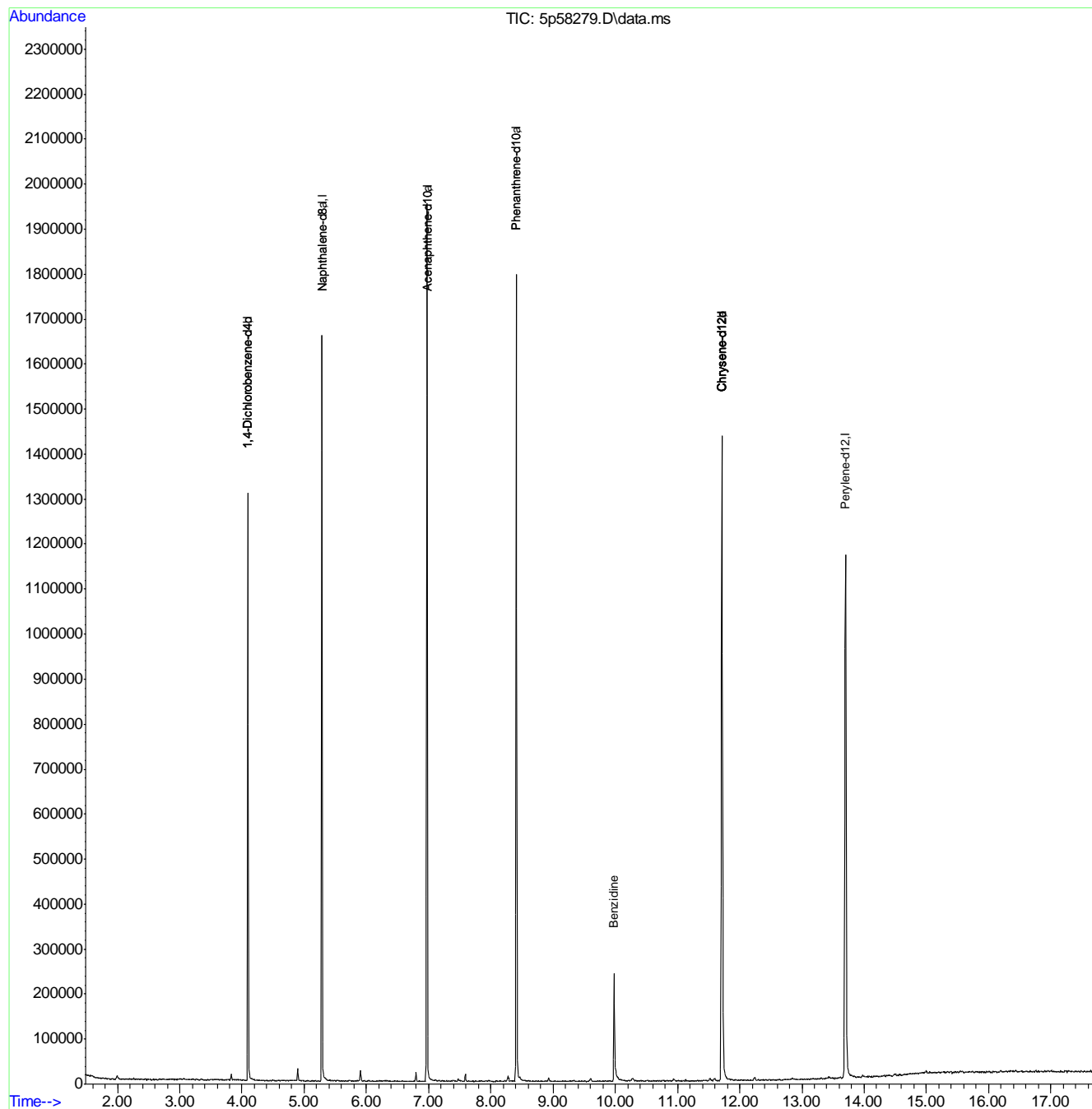
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	156802	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	625807	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	347086	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	571967	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	541895	40.00	ppm	0.00
91) Perylene-d12	13.700	264	565885	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	156802	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	347086	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	541895	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	571967	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	625807	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	540513	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	156802	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	541895	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	540513	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.982	184	108062	8.31	ppm	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
Data File : 5p58279.D  
Acq On : 9 Apr 2019 12:46 pm  
Operator : yujiac  
Sample : ic2763-10  
Misc : op12947,e5p2763,1000,,,1,1  
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Apr 09 15:44:32 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:40:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58280.D  
 Acq On : 9 Apr 2019 1:11 pm  
 Operator : yujiac  
 Sample : ic2763-5  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 31 Sample Multiplier: 1

Quant Time: Apr 09 15:45:29 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration

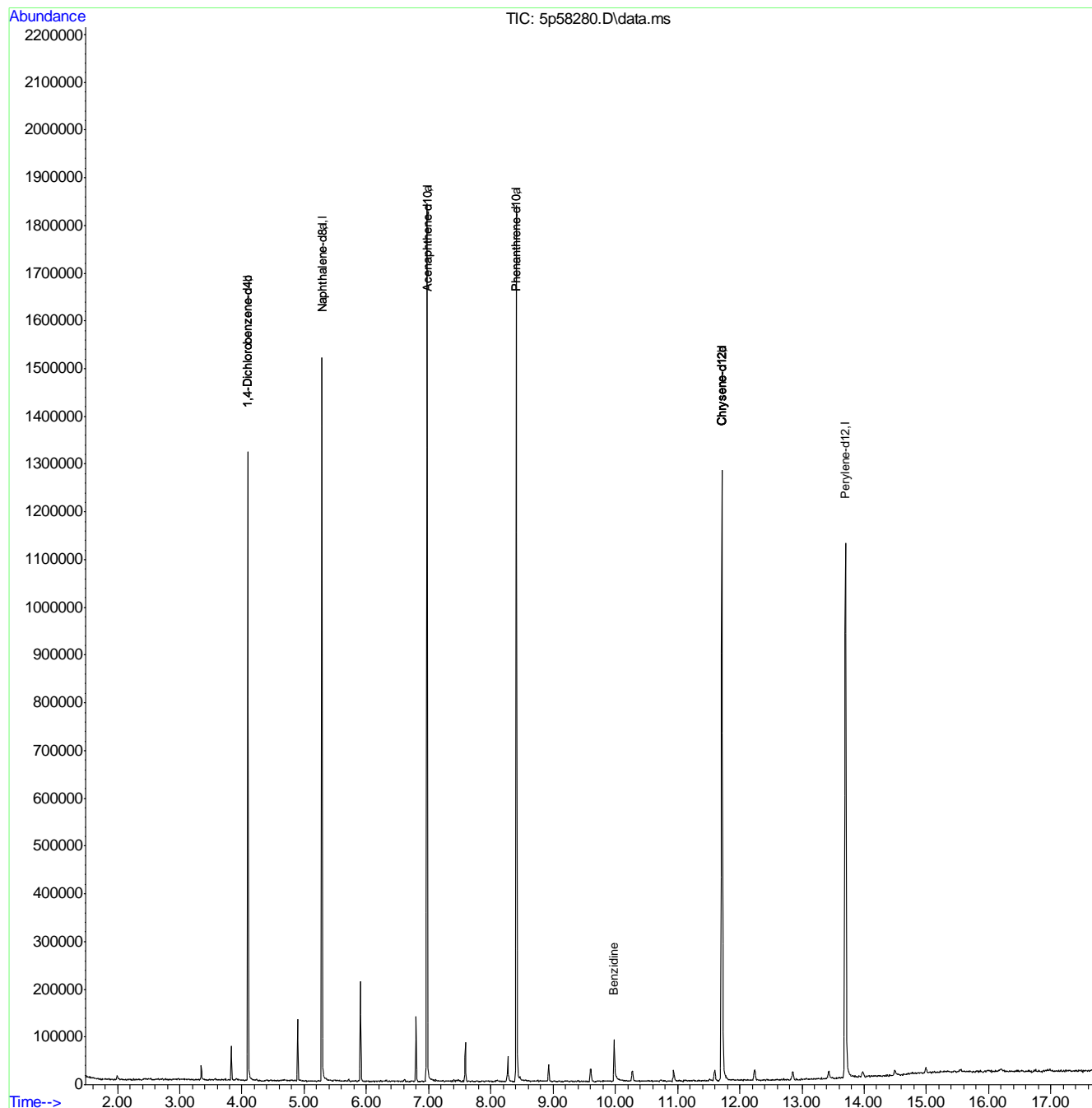
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	155904	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	609101	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	330621	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	567773	40.00	ppm	0.00
83) Chrysene-d12	11.712	240	503008	40.00	ppm	0.00
91) Perylene-d12	13.700	264	536733	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	155904	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	330621	40.00	ppm	0.00
105) Chrysene-d12a	11.712	240	503008	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	567773	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	609101	40.00	ppm	0.00
113) Chrysene-d12b	11.712	240	503008	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	155904	40.00	ppm	0.00
117) Chrysene-d12c	11.712	240	503008	40.00	ppm	0.00
119) Chrysene-d12d	11.712	240	503008	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.981	184	41159	3.41	ppm	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
Data File : 5p58280.D  
Acq On : 9 Apr 2019 1:11 pm  
Operator : yujiac  
Sample : ic2763-5  
Misc : op12947,e5p2763,1000,,,1,1  
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Apr 09 15:45:29 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:40:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58281.D  
 Acq On : 9 Apr 2019 1:36 pm  
 Operator : yujiac  
 Sample : ic2763-2  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 32 Sample Multiplier: 1

Quant Time: Apr 09 15:46:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration

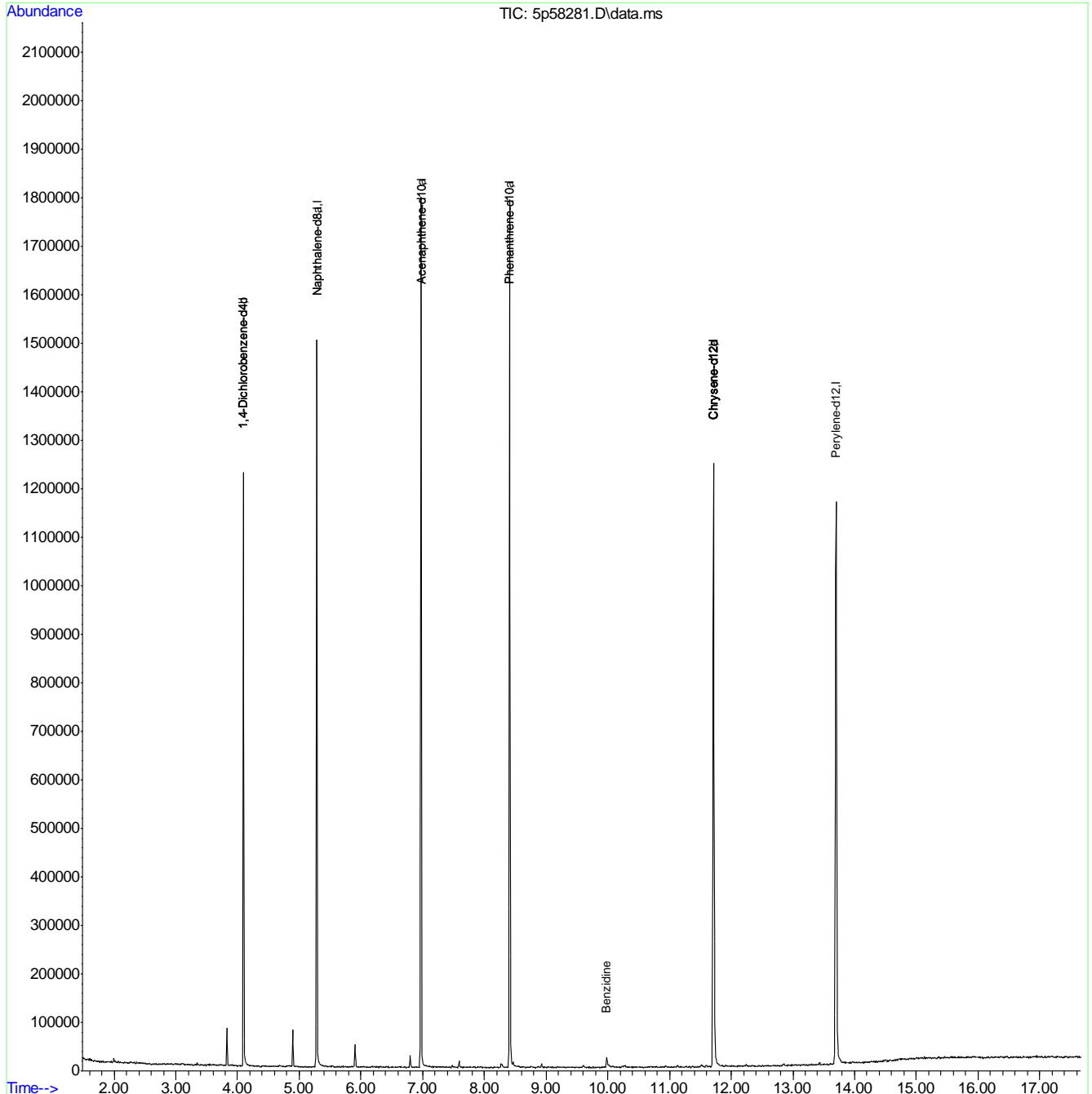
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	150576	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	598712	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	336242	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	551330	40.00	ppm	0.00
83) Chrysene-d12	11.712	240	514635	40.00	ppm	0.00
91) Perylene-d12	13.700	264	535936	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	150576	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	336242	40.00	ppm	0.00
105) Chrysene-d12a	11.712	240	514635	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	551330	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	598712	40.00	ppm	0.00
113) Chrysene-d12b	11.712	240	514559	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	150576	40.00	ppm	0.00
117) Chrysene-d12c	11.712	240	514635	40.00	ppm	0.00
119) Chrysene-d12d	11.712	240	514559	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.982	184	11163	0.90	ppm	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
Data File : 5p58281.D  
Acq On : 9 Apr 2019 1:36 pm  
Operator : yujiac  
Sample : ic2763-2  
Misc : op12947,e5p2763,1000,,,1,1  
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Apr 09 15:46:26 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:40:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58282.D  
 Acq On : 9 Apr 2019 2:01 pm  
 Operator : yujiac  
 Sample : ic2763-1  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 33 Sample Multiplier: 1

Quant Time: Apr 09 15:47:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:40:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.095	152	147191	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	576430	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	319782	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	534634	40.00	ppm	0.00
83) Chrysene-d12	11.713	240	478350	40.00	ppm	0.00
91) Perylene-d12	13.700	264	506906	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.095	152	147191	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	319782	40.00	ppm	0.00
105) Chrysene-d12a	11.713	240	478350	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	534634	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	576430	40.00	ppm	0.00
113) Chrysene-d12b	11.713	240	476698	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.095	152	147191	40.00	ppm	0.00
117) Chrysene-d12c	11.713	240	478350	40.00	ppm	0.00
119) Chrysene-d12d	11.713	240	476698	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.992	184	4539	0.40	ppm	89

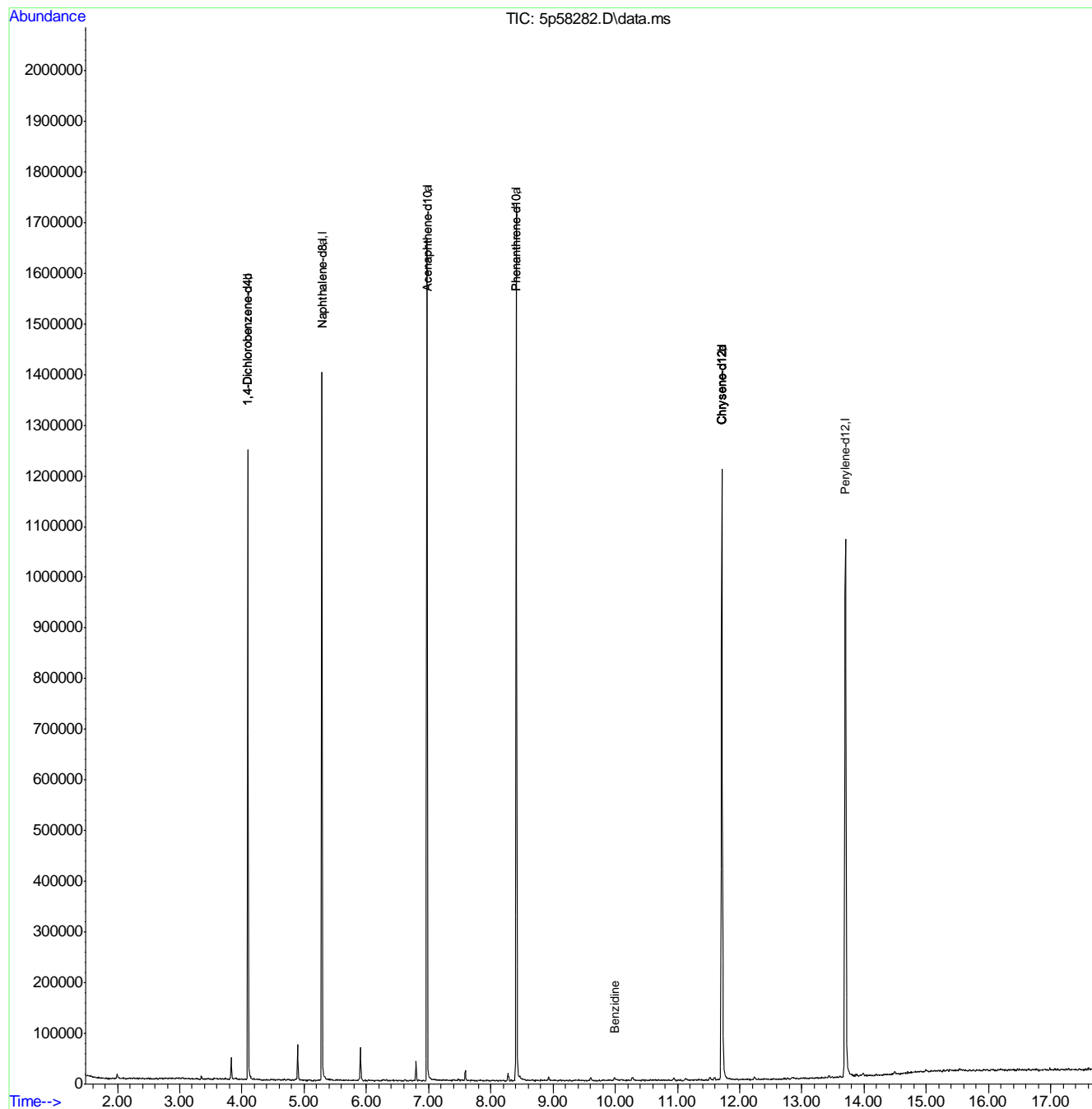
(#) = qualifier out of range (m) = manual integration (+) = signals summed



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
Data File : 5p58282.D  
Acq On : 9 Apr 2019 2:01 pm  
Operator : yujiac  
Sample : ic2763-1  
Misc : op12947,e5p2763,1000,,,1,1  
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Apr 09 15:47:21 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:40:22 2019  
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58283.D  
 Acq On : 9 Apr 2019 2:26 pm  
 Operator : yujiac  
 Sample : icv2763-50  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 34 Sample Multiplier: 1

Quant Time: Apr 10 10:06:56 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:57:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	187750	40.00	ppm	0.00
24) Naphthalene-d8	5.286	136	746144	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	399596	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	725388	40.00	ppm	0.00
83) Chrysene-d12	11.718	240	696239	40.00	ppm	0.00
91) Perylene-d12	13.705	264	699662	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	187750	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	399596	40.00	ppm	0.00
105) Chrysene-d12a	11.718	240	696239	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	725388	40.00	ppm	0.00
111) Naphthalene-d8a	5.286	136	746144	40.00	ppm	0.00
113) Chrysene-d12b	11.718	240	696239	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	187750	40.00	ppm	0.00
117) Chrysene-d12c	11.718	240	696239	40.00	ppm	0.00
119) Chrysene-d12d	11.718	240	696239	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.987	184	691248	45.08	ppm	99

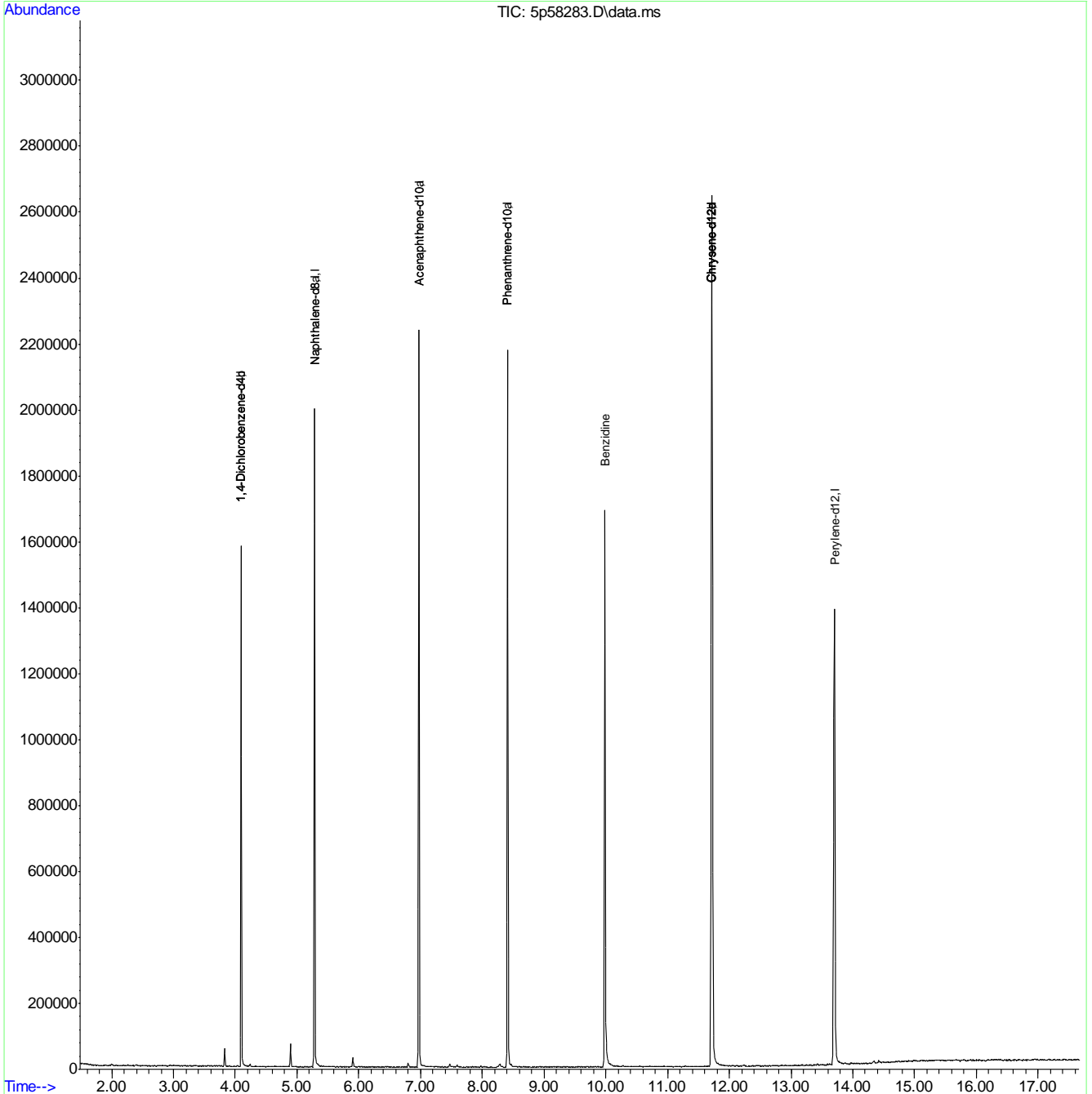
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.32  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58283.D  
 Acq On : 9 Apr 2019 2:26 pm  
 Operator : yujiac  
 Sample : icv2763-50  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 34 Sample Multiplier: 1

Quant Time: Apr 10 10:06:56 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:57:26 2019  
 Response via : Initial Calibration



9.6.32  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58284.D  
 Acq On : 9 Apr 2019 3:10 pm  
 Operator : yujiac  
 Sample : icv2761-50  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 35 Sample Multiplier: 1

Quant Time: Apr 09 16:00:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:57:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.094	152	138714	40.00	ppm	0.00
24) Naphthalene-d8	5.280	136	559435	40.00	ppm	0.00
47) Acenaphthene-d10	6.974	164	301015	40.00	ppm	0.00
69) Phenanthrene-d10	8.411	188	453318	40.00	ppm	0.00
83) Chrysene-d12	11.713	240	432051	40.00	ppm	0.00
91) Perylene-d12	13.700	264	417392	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.094	152	138714	40.00	ppm	0.00
103) Acenaphthene-d10a	6.974	164	301015	40.00	ppm	0.00
105) Chrysene-d12a	11.713	240	432051	40.00	ppm	0.00
107) Phenanthrene-d10a	8.411	188	453318	40.00	ppm	0.00
111) Naphthalene-d8a	5.280	136	559435	40.00	ppm	0.00
113) Chrysene-d12b	11.713	240	432009	40.00	ppm	0.00
115) 1,4-Dichlorobenzene-d4c	4.094	152	138714	40.00	ppm	0.00
117) Chrysene-d12c	11.713	240	432051	40.00	ppm	0.00
119) Chrysene-d12d	11.713	240	432009	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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
2) 1,4-Dioxane	1.541	88	142809	48.91	ppm	Qvalue 98
6) Indene	4.330	116	461091	54.58	ppm	97
7) Cumene	3.379	105	669003	49.63	ppm	98
13) Decane	3.977	43	216670	48.46	ppm	97
18) Acetophenone	4.474	105	367625	48.90	ppm	93
27) Quinoline	5.622	129	460509	44.43	ppm	98
40) 2,3-Dichloroaniline	6.258	161	215498	37.58	ppm	98
41) Caprolactam	5.702	55	104587	40.34	ppm	97
45) 1-Methylnaphthalene	6.066	141	378821	41.21	ppm	97
46) Dimethylnaphthalene	6.579	156	366583	41.49	ppm	96
53) Biphenyl	6.429	154	522570	46.40	ppm	99
82) Octadecane	8.379	57	335078	51.25	ppm	99
99) 7,12-Dimethylbenz(a)an...	13.208	256	271242	56.09	ppm	98

9.6.33  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
Data File : 5p58284.D  
Acq On : 9 Apr 2019 3:10 pm  
Operator : yujiac  
Sample : icv2761-50  
Misc : op12947,e5p2763,1000,,,1,1  
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Apr 09 16:00:27 2019  
Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
QLast Update : Tue Apr 09 15:57:26 2019  
Response via : Initial Calibration

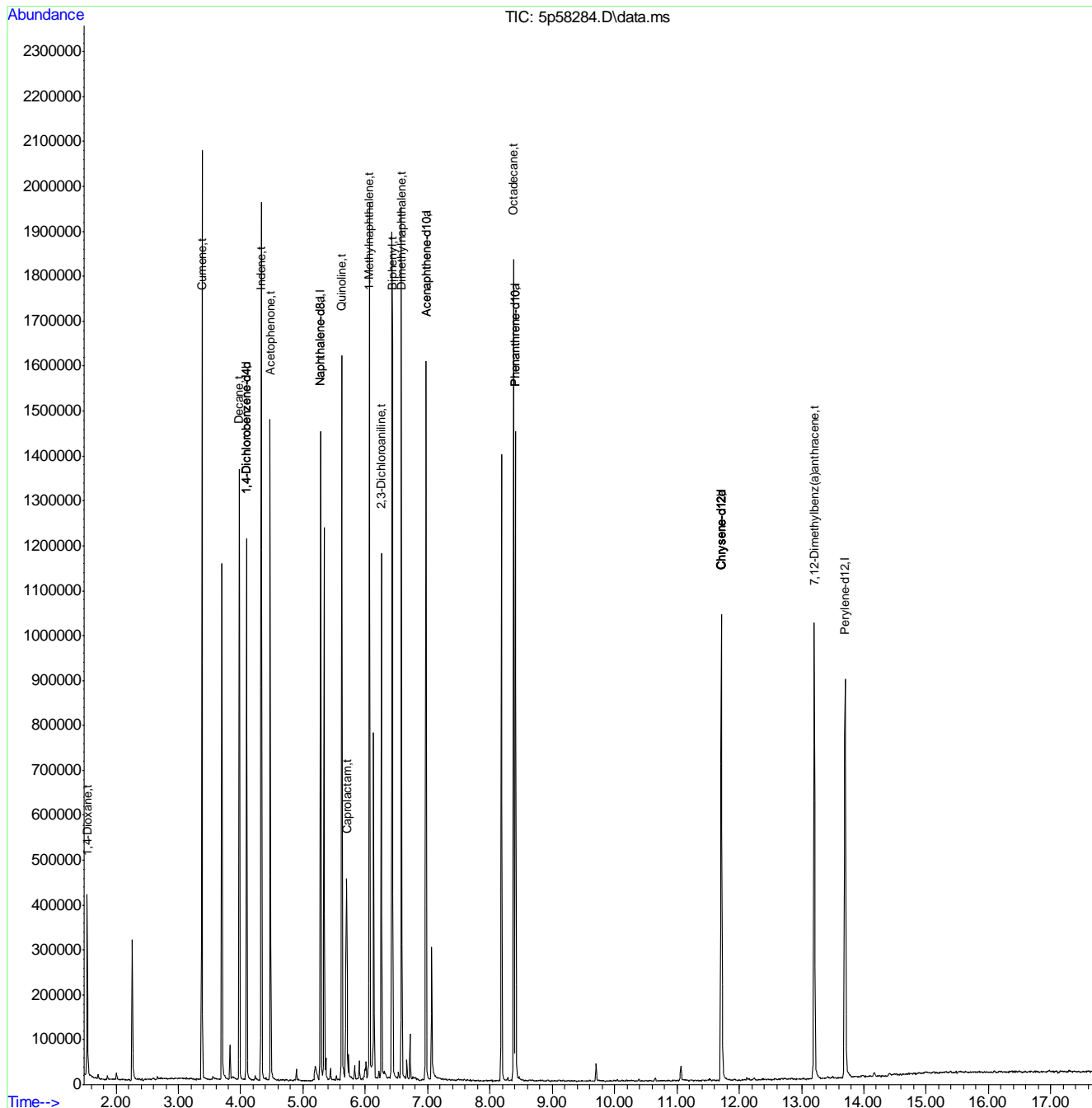
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2763\  
 Data File : 5p58284.D  
 Acq On : 9 Apr 2019 3:10 pm  
 Operator : yujiac  
 Sample : icv2761-50  
 Misc : op12947,e5p2763,1000,,,1,1  
 ALS Vial : 35 Sample Multiplier: 1

Quant Time: Apr 09 16:00:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Tue Apr 09 15:57:26 2019  
 Response via : Initial Calibration



9.6.33  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58570.D  
 Acq On : 17 Apr 2019 8:15 pm  
 Operator : chriss2  
 Sample : cc2761-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 16:02:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) 1,4-Dichlorobenzene-d4	3.923	152	134057	40.00	ppm	-0.05
24) Naphthalene-d8	5.114	136	518548	40.00	ppm	-0.04
47) Acenaphthene-d10	6.797	164	303009	40.00	ppm	-0.05
69) Phenanthrene-d10	8.223	188	502639	40.00	ppm	-0.05
83) Chrysene-d12	11.461	240	464527	40.00	ppm	-0.08
91) Perylene-d12	13.426	264	544127	40.00	ppm	-0.09
101) 1,4-Dichlorobenzene-d4b	3.923	152	134057	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.797	164	303009	40.00	ppm	-0.05
105) Chrysene-d12a	11.461	240	464527	40.00	ppm	-0.08
107) Phenanthrene-d10a	8.223	188	502639	40.00	ppm	-0.05
111) Naphthalene-d8a	5.114	136	518548	40.00	ppm	-0.04
113) Chrysene-d12b	11.461	240	464527	40.00	ppm	-0.08
115) 1,4-Dichlorobenzene-d4c	3.923	152	134057	40.00	ppm	-0.05
117) Chrysene-d12c	11.461	240	464527	40.00	ppm	-0.08
119) Chrysene-d12d	11.461	240	464527	40.00	ppm	-0.08
<b>System Monitoring Compounds</b>						
5) 2-Fluorophenol	2.801	112	308728	59.14	ppm	-0.10
Spiked Amount	50.000		Recovery	=	118.28%	
8) Phenol-d5	3.672	99	352857	53.70	ppm	-0.06
Spiked Amount	50.000		Recovery	=	107.40%	
25) Nitrobenzene-d5	4.446	82	302346	50.29	ppm	-0.06
Spiked Amount	50.000		Recovery	=	100.58%	
51) 2-Fluorobiphenyl	6.172	172	488785	46.41	ppm	-0.05
Spiked Amount	50.000		Recovery	=	92.82%	
73) 2,4,6-Tribromophenol	7.566	330	77276	53.34	ppm	-0.05
Spiked Amount	50.000		Recovery	=	106.68%	
85) Terphenyl-d14	10.072	244	598719	50.66	ppm	-0.20
Spiked Amount	50.000		Recovery	=	101.32%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
<b>Target Compounds</b>						
2) 1,4-Dioxane	1.358	88	140262	49.70	ppm	98
3) Pyridine	1.615	79	378429	58.19	ppm	96
4) N-Nitrosodimethylamine	1.588	74	208087	54.89	ppm	99
6) Indene	4.158	116	407697	49.93	ppm	100
7) Cumene	3.201	105	710135	54.51	ppm	98
9) Phenol	3.682	94	378769	52.66	ppm	97
10) Aniline	3.634	93	441509	57.77	ppm	74
11) bis(2-Chloroethyl)ether	3.704	93	250863	49.82	ppm	95
12) 2-Chlorophenol	3.752	128	245213	50.55	ppm	99
13) Decane	3.816	43	207739	48.08	ppm	98
14) 1,3-Dichlorobenzene	3.869	146	256067	47.87	ppm	99
15) 1,4-Dichlorobenzene	3.939	146	254181	48.30	ppm	100
16) Benzyl alcohol	4.083	108	159232	51.81	ppm	99
17) 1,2-Dichlorobenzene	4.078	146	255748	48.64	ppm	98

9.6.34  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58570.D  
 Acq On : 17 Apr 2019 8:15 pm  
 Operator : chriss2  
 Sample : cc2761-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 16:02:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.313	105	364204	50.13	ppm	99
19) 2-Methylphenol	4.222	108	235251	51.85	ppm	97
20) 2,2'-oxybis(1-Chloropr...	4.206	45	241729	46.80	ppm	98
21) 3&4-Methylphenol	4.371	108	252210	51.78	ppm	100
22) n-Nitroso-di-n-propyla...	4.329	70	188239	48.38	ppm	97
23) Hexachloroethane	4.382	201	85365	45.61	ppm	95
26) Nitrobenzene	4.462	77	286043	48.60	ppm	94
27) Quinoline	5.466	129	494697	51.49	ppm	99
28) Isophorone	4.697	82	538298	49.11	ppm	99
29) 2-Nitrophenol	4.767	139	139794	52.78	ppm	94
30) 2,4-Dimethylphenol	4.857	107	261214	55.74	ppm	98
31) Benzoic acid	5.034	105	234604	55.39	ppm	93
32) bis(2-Chloroethoxy)met...	4.922	93	319350	49.84	ppm	98
33) 2,4-Dichlorophenol	5.018	162	207914	50.66	ppm	95
34) 2,6-Dichlorophenol	5.221	162	196498	49.82	ppm	100
35) 1,3,5-Trichlorobenzene	4.777	180	217625	47.67	ppm	98
36) 1,2,4-Trichlorobenzene	5.071	180	209239	47.73	ppm	99
37) 1,2,3-Trichlorobenzene	5.280	180	195685	46.92	ppm	97
38) Naphthalene	5.135	128	641334	49.07	ppm	99
39) 4-Chloroaniline	5.215	127	282051	51.13	ppm	97
40) 2,3-Dichloroaniline	6.081	161	254616	47.90	ppm	97
41) Caprolactam	5.568	55	125630	52.27	ppm	98
42) Hexachlorobutadiene	5.274	225	115626	45.61	ppm	98
43) 4-Chloro-3-methylphenol	5.734	107	252960	53.45	ppm	# 32
44) 2-Methylnaphthalene	5.803	141	366408	47.79	ppm	100
45) 1-Methylnaphthalene	5.894	141	411095	48.24	ppm	99
46) Dimethylnaphthalene	6.407	156	380069	46.41	ppm	99
48) Hexachlorocyclopentadiene	5.963	237	219937	99.29	ppm	99
49) 2,4,6-Trichlorophenol	6.102	196	145745	49.27	ppm	99
50) 2,4,5-Trichlorophenol	6.145	196	159011	50.75	ppm	98
52) 2-Chloronaphthalene	6.263	162	416517	47.09	ppm	97
53) Biphenyl	6.257	154	530925	46.83	ppm	98
54) 2-Nitroaniline	6.391	65	160081	48.06	ppm	94
55) Dimethylphthalate	6.583	163	535001	49.64	ppm	100
56) Acenaphthylene	6.658	152	679832	48.35	ppm	99
57) 2,6-Dinitrotoluene	6.631	165	119236	52.05	ppm	99
58) 3-Nitroaniline	6.791	138	140458	56.58	ppm	88
59) Acenaphthene	6.823	153	427996	48.94	ppm	99
60) 2,4-Dinitrophenol	6.898	184	138457	94.58	ppm	93
61) 4-Nitrophenol	7.026	109	73294	53.89	ppm	98
62) Dibenzofuran	6.994	168	648500	49.27	ppm	99
63) 2,4-Dinitrotoluene	7.021	165	158440	53.05	ppm	87
64) 2,3,4,6-Tetrachlorophenol	7.139	232	140212	49.81	ppm	95
65) Diethylphthalate	7.267	149	519761	50.18	ppm	99
66) Fluorene	7.326	166	520662	50.07	ppm	97
67) 4-Chlorophenyl-phenyle...	7.342	204	231818	48.38	ppm	98
68) 4-Nitroaniline	7.384	138	138496	56.90	ppm	98
70) 4,6-Dinitro-2-methylph...	7.416	198	105346	56.20	ppm	80
71) n-Nitrosodiphenylamine	7.470	169	372240	50.25	ppm	98
72) 1,2-Diphenylhydrazine	7.497	77	583050	49.58	ppm	99



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58570.D  
 Acq On : 17 Apr 2019 8:15 pm  
 Operator : chriss2  
 Sample : cc2761-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 16:02:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration

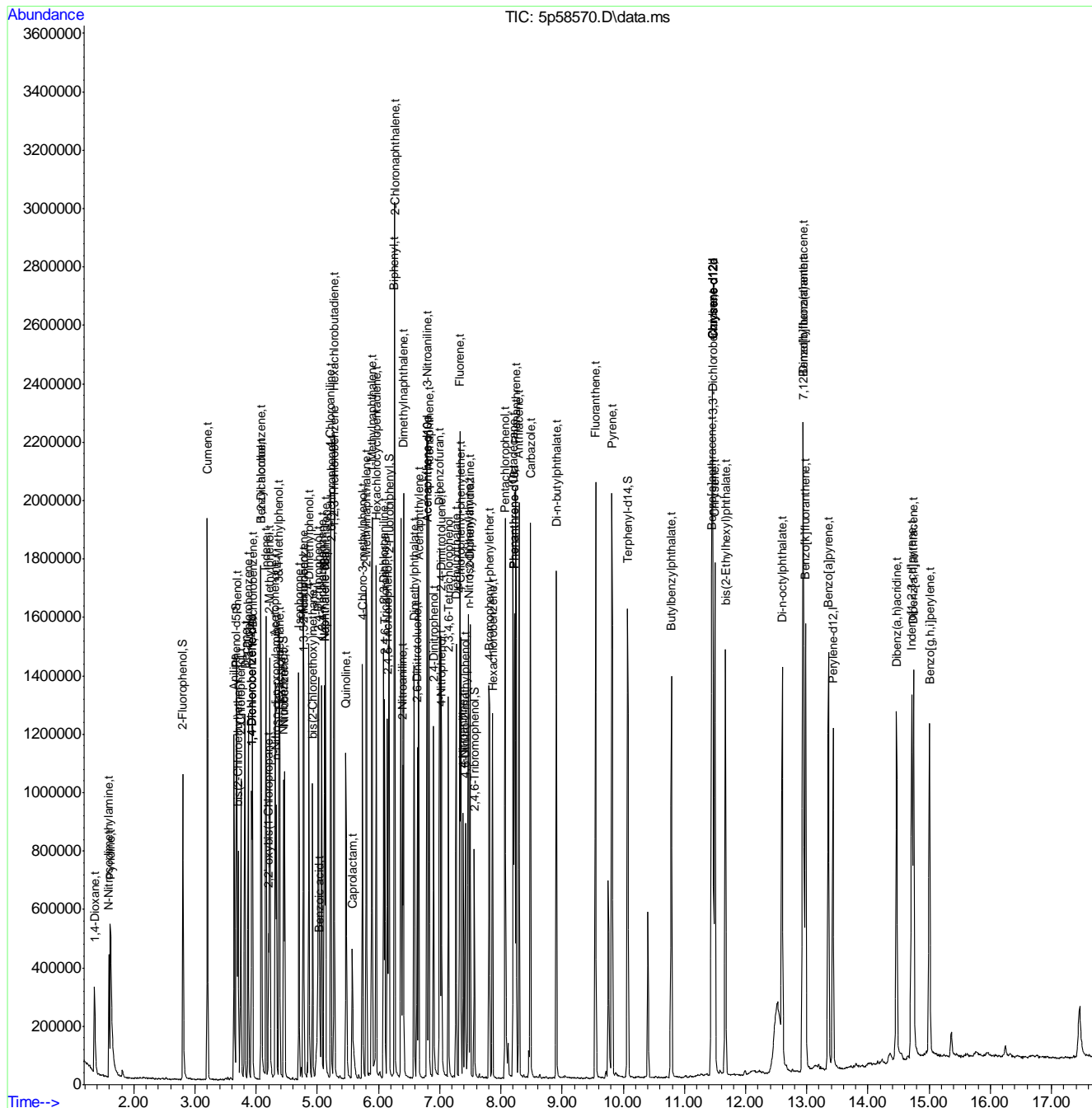
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	7.812	248	156956	49.50	ppm	97
75) Hexachlorobenzene	7.865	284	158270	49.98	ppm	92
76) Pentachlorophenol	8.074	266	220688	109.99	ppm	98
77) Phenanthrene	8.244	178	675719	49.73	ppm	99
78) Anthracene	8.298	178	733510	51.45	ppm	98
79) Carbazole	8.485	167	762366	52.75	ppm	99
80) Di-n-butylphthalate	8.907	149	943494	52.50	ppm	99
81) Fluoranthene	9.548	202	885286	52.46	ppm	98
82) Octadecane	8.202	57	351600	48.50	ppm	98
84) Pyrene	9.815	202	868076	49.18	ppm	99
86) Butylbenzylphthalate	10.787	149	439857	54.48	ppm	98
87) Benzo[a]anthracene	11.444	228	834892	51.46	ppm	99
88) 3,3'-Dichlorobenzidine	11.466	252	295697	55.93	ppm	96
89) Chrysene	11.498	228	754476	50.37	ppm	99
90) bis(2-Ethylhexyl)phtha...	11.669	149	588255	54.98	ppm	97
92) Di-n-octylphthalate	12.598	149	1000233	51.60	ppm	98
93) Benzo[b]fluoranthene	12.940	252	813310	48.95	ppm	97
94) Benzo[k]fluoranthene	12.978	252	728733	47.92	ppm	98
95) Benzo[a]pyrene	13.352	252	763957	51.62	ppm	98
96) Indeno[1,2,3-cd]pyrene	14.714	276	683255m	51.61	ppm	
97) Dibenz(a,h)acridine	14.468	279	639394	50.82	ppm	99
98) Dibenz[a,h]anthracene	14.746	278	700590	51.18	ppm	100
99) 7,12-Dimethylbenz(a)an...	12.946	256	366065	58.07	ppm	98
100) Benzo[g,h,i]perylene	15.008	276	677100	50.67	ppm	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58570.D  
 Acq On : 17 Apr 2019 8:15 pm  
 Operator : chriss2  
 Sample : cc2761-50  
 Misc : op12947,e5p2775,1000,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 16:02:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration



9.6.34  
9

# Manual Integration Approval Summary

Sample Number: E5P2775-CC2761      Method: SW846 8270D  
Lab FileID: 5P58570.D      Analyst approved: 04/18/19 16:59 Ying Li  
Injection Time: 04/17/19 20:15      Supervisor approved: 04/18/19 17:19 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		14.71	Poor instrument integration

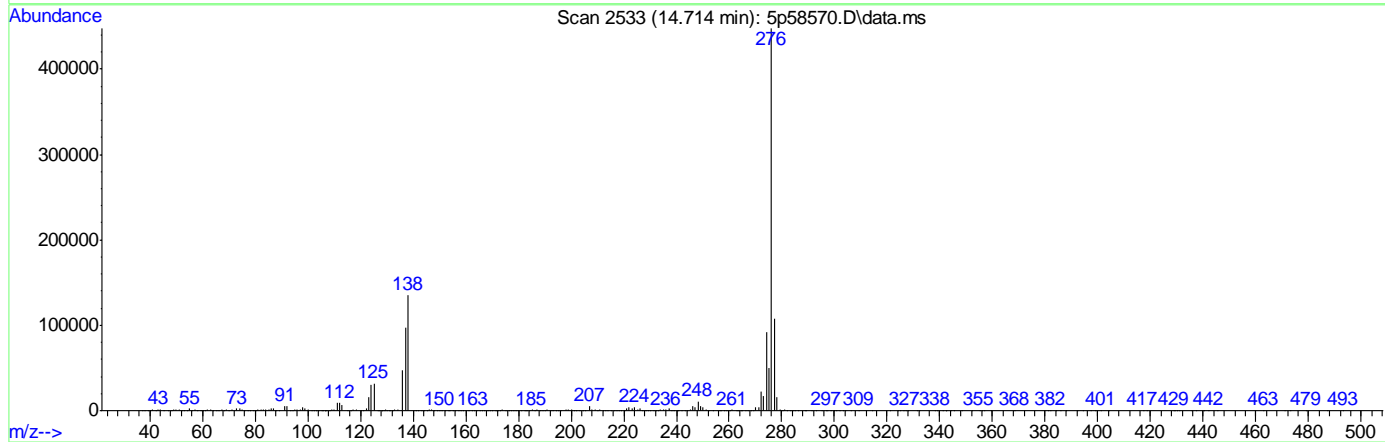
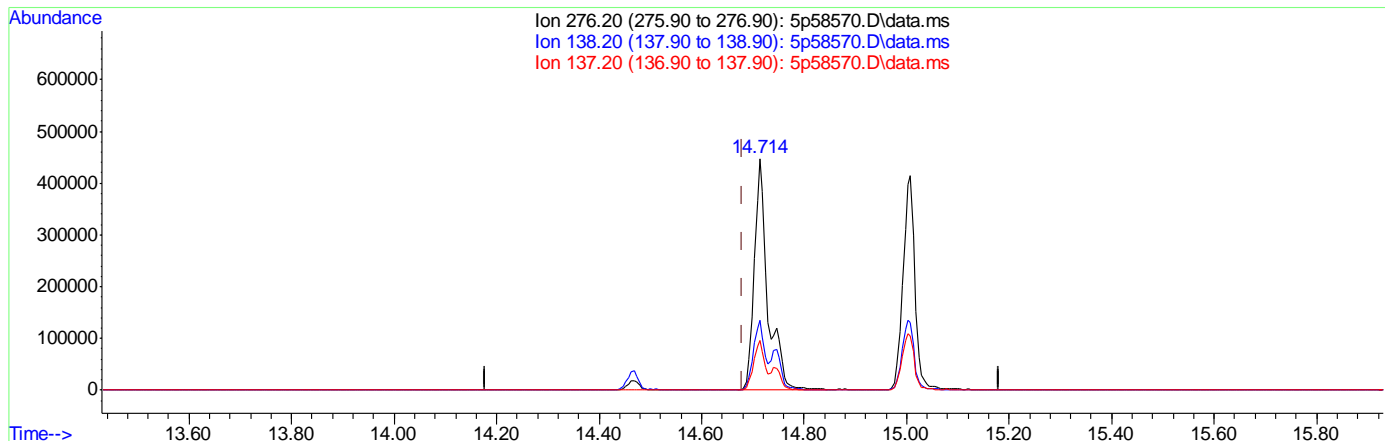
9.6.34.1

9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58570.D  
 Acq On : 17 Apr 2019 8:15 pm  
 Operator : chriss2  
 Sample : cc2761-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 16:00:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration



TIC: 5p58570.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.714min (+0.034) 63.08ppm

response 835016

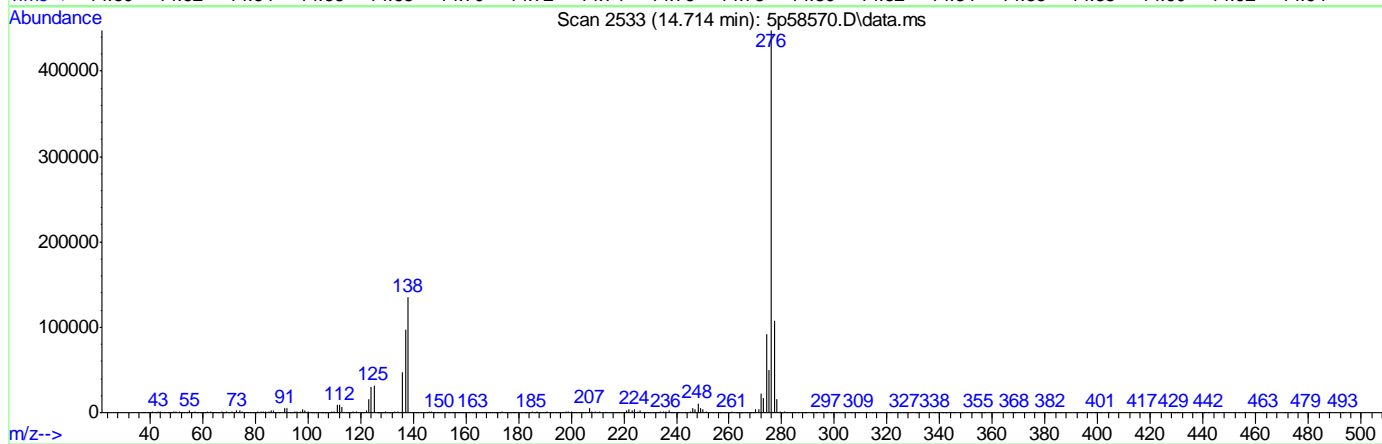
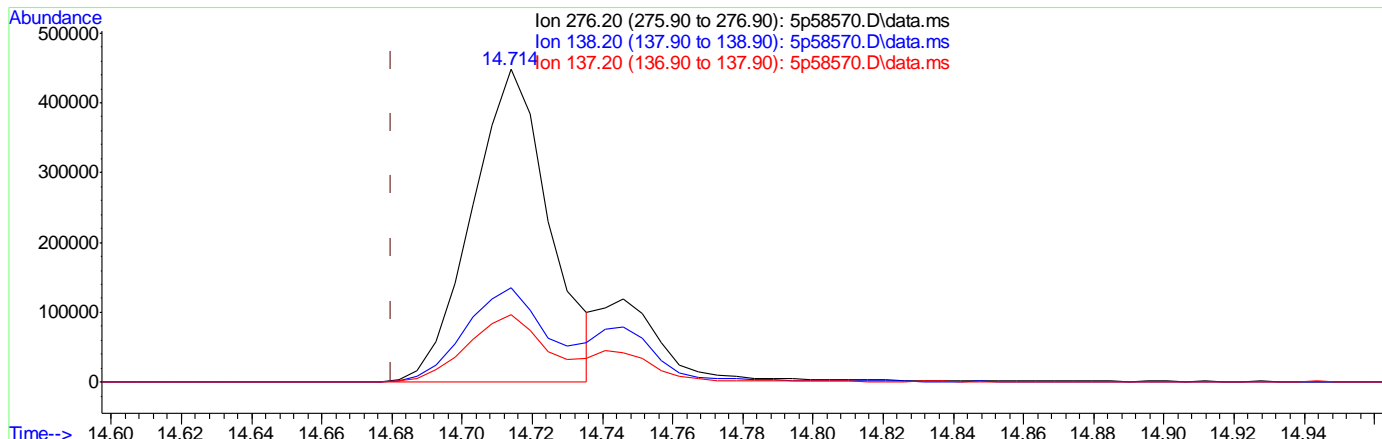
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	30.16
137.20	19.40	21.55
0.00	0.00	0.00

9.6.34.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58570.D  
 Acq On : 17 Apr 2019 8:15 pm  
 Operator : chriss2  
 Sample : cc2761-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 16:00:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 16:00:26 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.714min (+0.034) 51.61ppm m

response 683255

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	30.22
137.20	19.40	21.65
0.00	0.00	0.00

9.6.34.3  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58571.D  
 Acq On : 17 Apr 2019 8:39 pm  
 Operator : chriss2  
 Sample : cc2762-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 17:56:41 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

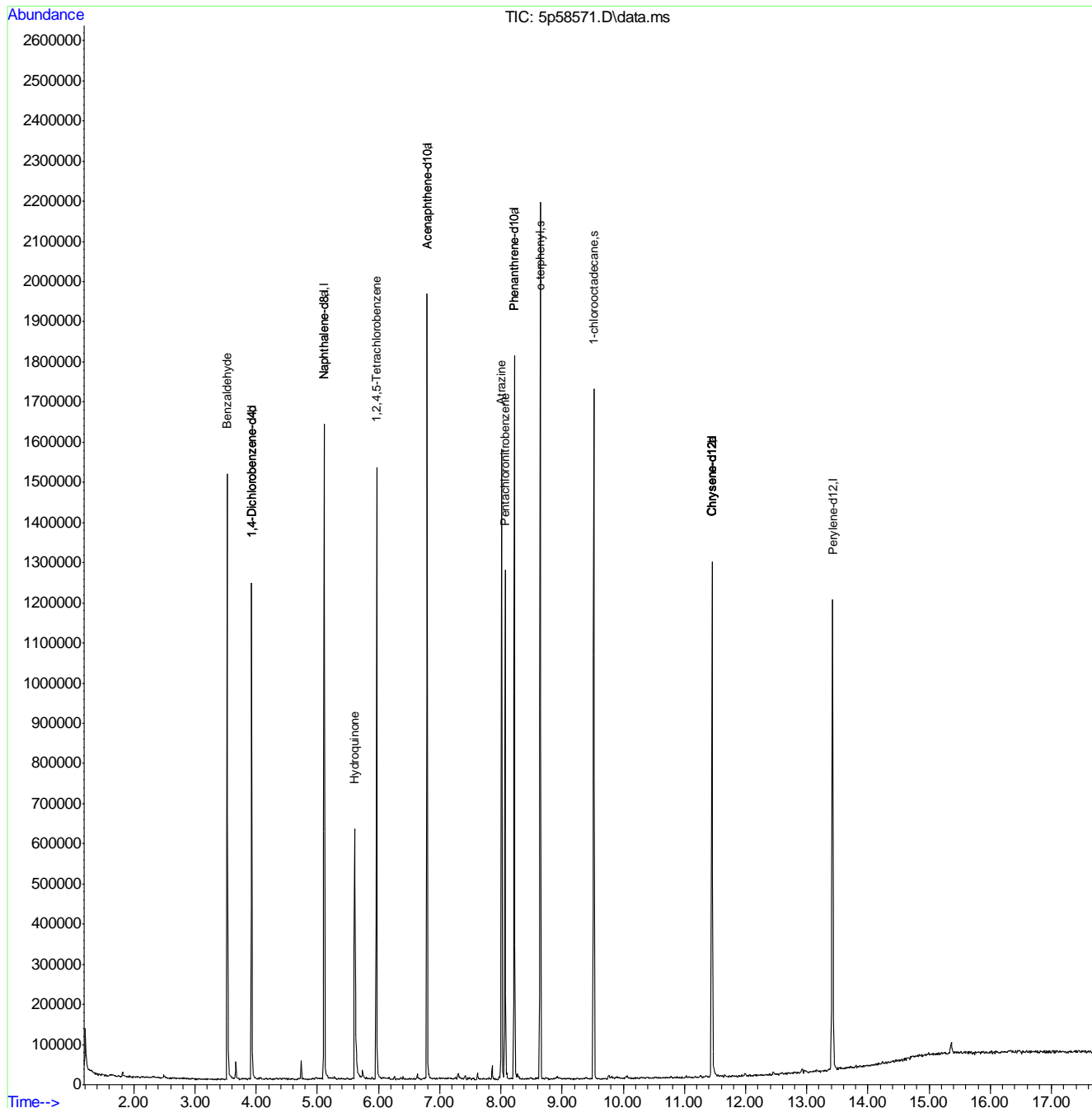
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.923	152	160255	40.00	ppm	-0.05
24) Naphthalene-d8	5.109	136	633855	40.00	ppm	-0.05
47) Acenaphthene-d10	6.791	164	350610	40.00	ppm	-0.05
69) Phenanthrene-d10	8.218	188	559426	40.00	ppm	-0.06
83) Chrysene-d12	11.450	240	528457	40.00	ppm	-0.09
91) Perylene-d12	13.421	264	558970	40.00	ppm	-0.10
101) 1,4-Dichlorobenzene-d4b	3.923	152	160255	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.791	164	350610	40.00	ppm	-0.05
105) Chrysene-d12a	11.450	240	528457	40.00	ppm	-0.09
107) Phenanthrene-d10a	8.218	188	559426	40.00	ppm	-0.06
111) Naphthalene-d8a	5.109	136	633855	40.00	ppm	-0.05
113) Chrysene-d12b	11.450	240	528770	40.00	ppm	-0.09
115) 1,4-Dichlorobenzene-d4c	3.923	152	160255	40.00	ppm	-0.05
117) Chrysene-d12c	11.450	240	528457	40.00	ppm	-0.09
119) Chrysene-d12d	11.450	240	528770	40.00	ppm	-0.09
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	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
106) 1-chlorooctadecane	9.516	57	274742	49.93	ppm	-0.19
Spiked Amount	50.000		Recovery	=	99.86%	
108) o-terphenyl	8.645	230	433248	50.62	ppm	-0.20
Spiked Amount	50.000		Recovery	=	101.24%	
Target Compounds						
102) Benzaldehyde	3.527	105	258491	49.09	ppm	99
104) 1,2,4,5-Tetrachloroben...	5.969	216	246467	48.98	ppm	100
109) Atrazine	8.009	215	85743	55.47	ppm	96
110) Pentachloronitrobenzene	8.068	295	32187	54.05	ppm	99
112) Hydroquinone	5.605	110	353088	66.80	ppm	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58571.D  
 Acq On : 17 Apr 2019 8:39 pm  
 Operator : chriss2  
 Sample : cc2762-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 17:56:41 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



9.6.35  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58572.D  
 Acq On : 17 Apr 2019 9:04 pm  
 Operator : chriss2  
 Sample : cc2763-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 16:05:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.923	152	169563	40.00	ppm	-0.05
24) Naphthalene-d8	5.109	136	673099	40.00	ppm	-0.05
47) Acenaphthene-d10	6.791	164	363198	40.00	ppm	-0.05
69) Phenanthrene-d10	8.218	188	602667	40.00	ppm	-0.06
83) Chrysene-d12	11.450	240	532017	40.00	ppm	-0.09
91) Perylene-d12	13.416	264	582242	40.00	ppm	-0.10
101) 1,4-Dichlorobenzene-d4b	3.923	152	169563	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.791	164	363198	40.00	ppm	-0.05
105) Chrysene-d12a	11.450	240	532017	40.00	ppm	-0.09
107) Phenanthrene-d10a	8.218	188	602667	40.00	ppm	-0.06
111) Naphthalene-d8a	5.109	136	673099	40.00	ppm	-0.05
113) Chrysene-d12b	11.450	240	532017	40.00	ppm	-0.09
115) 1,4-Dichlorobenzene-d4c	3.923	152	169563	40.00	ppm	-0.05
117) Chrysene-d12c	11.450	240	532017	40.00	ppm	-0.09
119) Chrysene-d12d	11.450	240	532017	40.00	ppm	-0.09
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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.751	184	627015	53.51	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

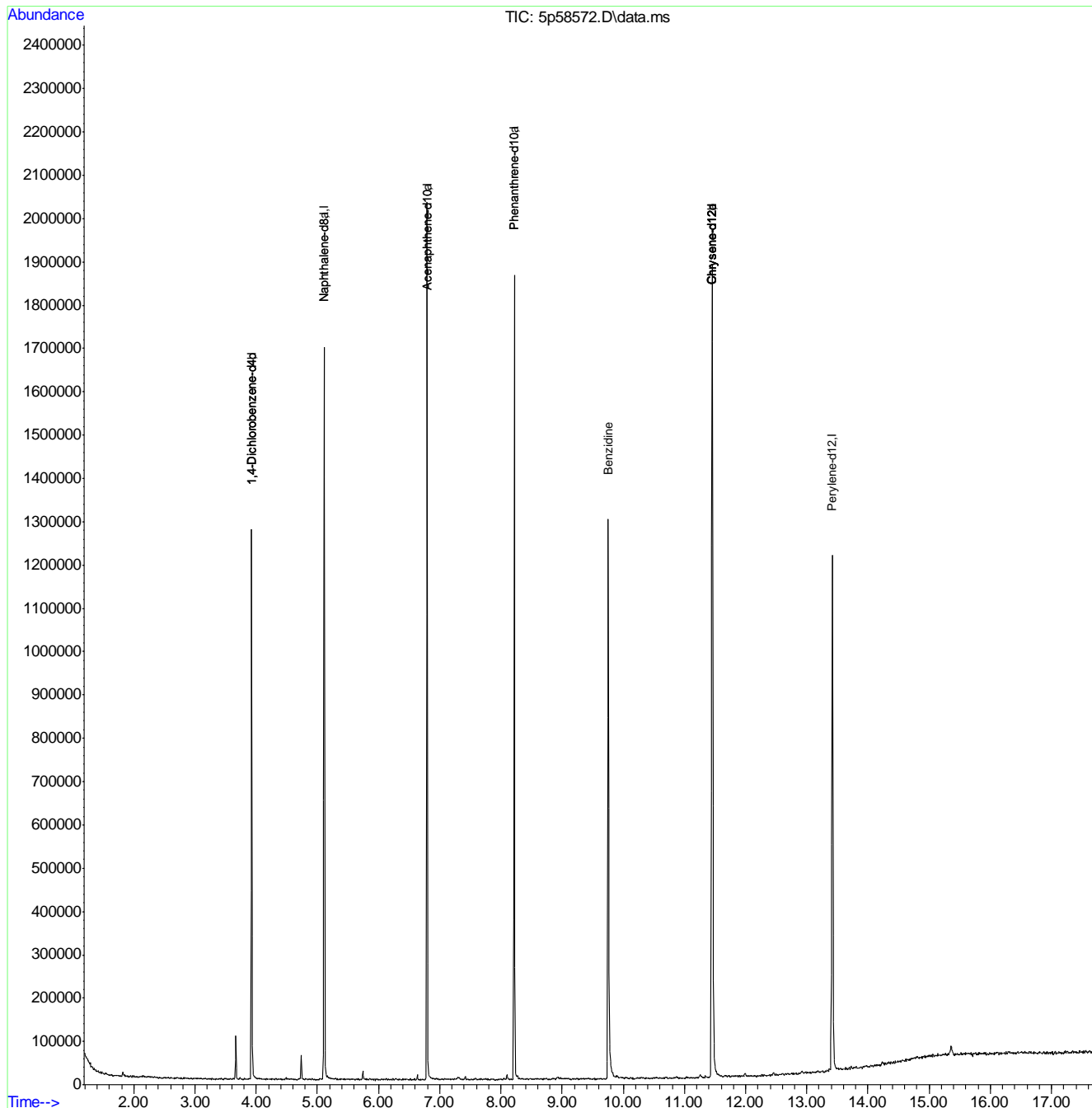
9.6.36  
9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2775\  
 Data File : 5p58572.D  
 Acq On : 17 Apr 2019 9:04 pm  
 Operator : chriss2  
 Sample : cc2763-50  
 Misc : op12947,e5p2775,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 18 16:05:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



9:6:36  
6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58601.D  
 Acq On : 18 Apr 2019 9:31 am  
 Operator : christc2  
 Sample : cc2761-25  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 14:45:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) 1,4-Dichlorobenzene-d4	3.917	152	145493	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	556255	40.00	ppm	-0.05
47) Acenaphthene-d10	6.786	164	323099	40.00	ppm	-0.06
69) Phenanthrene-d10	8.212	188	537467	40.00	ppm	-0.06
83) Chrysene-d12	11.439	240	494316	40.00	ppm	-0.10
91) Perylene-d12	13.405	264	547192	40.00	ppm	-0.11
101) 1,4-Dichlorobenzene-d4b	3.917	152	145493	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.786	164	323099	40.00	ppm	-0.06
105) Chrysene-d12a	11.439	240	494316	40.00	ppm	-0.10
107) Phenanthrene-d10a	8.212	188	537467	40.00	ppm	-0.06
111) Naphthalene-d8a	5.103	136	556255	40.00	ppm	-0.05
113) Chrysene-d12b	11.439	240	494143	40.00	ppm	-0.10
115) 1,4-Dichlorobenzene-d4c	3.917	152	145493	40.00	ppm	-0.05
117) Chrysene-d12c	11.439	240	494316	40.00	ppm	-0.10
119) Chrysene-d12d	11.439	240	494143	40.00	ppm	-0.10
<b>System Monitoring Compounds</b>						
5) 2-Fluorophenol	2.795	112	144432	25.49	ppm	-0.10
Spiked Amount	50.000		Recovery	=	50.98%	
8) Phenol-d5	3.666	99	179294	25.14	ppm	-0.07
Spiked Amount	50.000		Recovery	=	50.28%	
25) Nitrobenzene-d5	4.435	82	163593	25.37	ppm	-0.07
Spiked Amount	50.000		Recovery	=	50.74%	
51) 2-Fluorobiphenyl	6.156	172	285793	25.45	ppm	-0.07
Spiked Amount	50.000		Recovery	=	50.90%	
73) 2,4,6-Tribromophenol	7.550	330	40852	26.37	ppm	-0.06
Spiked Amount	50.000		Recovery	=	52.74%	
85) Terphenyl-d14	10.056	244	325485	25.88	ppm	-0.22
Spiked Amount	50.000		Recovery	=	51.76%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
<b>Target Compounds</b>						
2) 1,4-Dioxane	1.353	88	74533	24.33	ppm	97
3) Pyridine	1.620	79	176170	24.96	ppm	98
4) N-Nitrosodimethylamine	1.588	74	104244	25.33	ppm	99
6) Indene	4.152	116	232737	26.26	ppm	99
7) Cumene	3.191	105	350390	24.78	ppm	99
9) Phenol	3.677	94	200146	25.64	ppm	98
10) Aniline	3.629	93	227818	27.47	ppm	81
11) bis(2-Chloroethyl)ether	3.698	93	132648	24.27	ppm	91
12) 2-Chlorophenol	3.741	128	136527	25.93	ppm	97
13) Decane	3.805	43	115823	24.70	ppm	98
14) 1,3-Dichlorobenzene	3.864	146	149789	25.80	ppm	98
15) 1,4-Dichlorobenzene	3.933	146	148090	25.93	ppm	99
16) Benzyl alcohol	4.072	108	89661	26.88	ppm	93
17) 1,2-Dichlorobenzene	4.067	146	145267	25.46	ppm	99

9.6.37  
**9**

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58601.D  
 Acq On : 18 Apr 2019 9:31 am  
 Operator : christc2  
 Sample : cc2761-25  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 14:45:51 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Wed Apr 17 11:42:18 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.302	105	203266	25.78	ppm	99
19) 2-Methylphenol	4.211	108	137251	27.87	ppm	98
20) 2,2'-oxybis(1-Chloropr...	4.195	45	138677	24.74	ppm	95
21) 3&4-Methylphenol	4.361	108	138932	26.28	ppm	96
22) n-Nitroso-di-n-propyla...	4.318	70	104911	24.85	ppm	99
23) Hexachloroethane	4.377	201	52413	25.80	ppm	90
26) Nitrobenzene	4.452	77	159134	25.21	ppm	94
27) Quinoline	5.450	129	280073	27.18	ppm	98
28) Isophorone	4.687	82	301826	25.67	ppm	100
29) 2-Nitrophenol	4.756	139	77126	27.15	ppm	94
30) 2,4-Dimethylphenol	4.847	107	142588	28.36	ppm	99
31) Benzoic acid	5.002	105	131349	28.91	ppm	98
32) bis(2-Chloroethoxy)met...	4.916	93	175638	25.55	ppm	100
33) 2,4-Dichlorophenol	5.007	162	117602	26.71	ppm	94
34) 2,6-Dichlorophenol	5.210	162	113918	26.93	ppm	97
35) 1,3,5-Trichlorobenzene	4.767	180	127556	26.05	ppm	99
36) 1,2,4-Trichlorobenzene	5.061	180	122332	26.01	ppm	99
37) 1,2,3-Trichlorobenzene	5.269	180	116289	25.99	ppm	98
38) Naphthalene	5.125	128	367847	26.24	ppm	98
39) 4-Chloroaniline	5.205	127	160052	27.05	ppm	97
40) 2,3-Dichloroaniline	6.070	161	145231	25.47	ppm	98
41) Caprolactam	5.541	55	69365	26.91	ppm	95
42) Hexachlorobutadiene	5.264	225	68575	25.21	ppm	99
43) 4-Chloro-3-methylphenol	5.723	107	139840	27.54	ppm	98
44) 2-Methylnaphthalene	5.787	141	210695	25.62	ppm	97
45) 1-Methylnaphthalene	5.878	141	234634	25.67	ppm	99
46) Dimethylnaphthalene	6.396	156	219425	24.98	ppm	99
48) Hexachlorocyclopentadiene	5.953	237	120932	53.13	ppm	99
49) 2,4,6-Trichlorophenol	6.092	196	83976	26.63	ppm	96
50) 2,4,5-Trichlorophenol	6.134	196	90434	27.07	ppm	98
52) 2-Chloronaphthalene	6.252	162	241399	25.60	ppm	98
53) Biphenyl	6.246	154	311257	25.75	ppm	99
54) 2-Nitroaniline	6.375	65	90425	25.46	ppm	96
55) Dimethylphthalate	6.567	163	296974	25.84	ppm	99
56) Acenaphthylene	6.642	152	395056	26.35	ppm	99
57) 2,6-Dinitrotoluene	6.615	165	66946	27.41	ppm	90
58) 3-Nitroaniline	6.775	138	75893	28.67	ppm	97
59) Acenaphthene	6.813	153	242651	26.02	ppm	94
60) 2,4-Dinitrophenol	6.888	184	77489	52.62	ppm	97
61) 4-Nitrophenol	7.016	109	41343	28.51	ppm	100
62) Dibenzofuran	6.984	168	370711	26.41	ppm	99
63) 2,4-Dinitrotoluene	7.010	165	90822	28.52	ppm	96
64) 2,3,4,6-Tetrachlorophenol	7.128	232	80122	26.70	ppm	98
65) Diethylphthalate	7.256	149	285319	25.83	ppm	100
66) Fluorene	7.310	166	296108	26.71	ppm	98
67) 4-Chlorophenyl-phenyle...	7.331	204	132190	25.87	ppm	96
68) 4-Nitroaniline	7.368	138	71096	27.39	ppm	91
70) 4,6-Dinitro-2-methylph...	7.406	198	59179	29.52	ppm	84
71) n-Nitrosodiphenylamine	7.454	169	207032	26.14	ppm	99
72) 1,2-Diphenylhydrazine	7.481	77	322604	25.65	ppm	96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58601.D  
 Acq On : 18 Apr 2019 9:31 am  
 Operator : christc2  
 Sample : cc2761-25  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 14:45:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

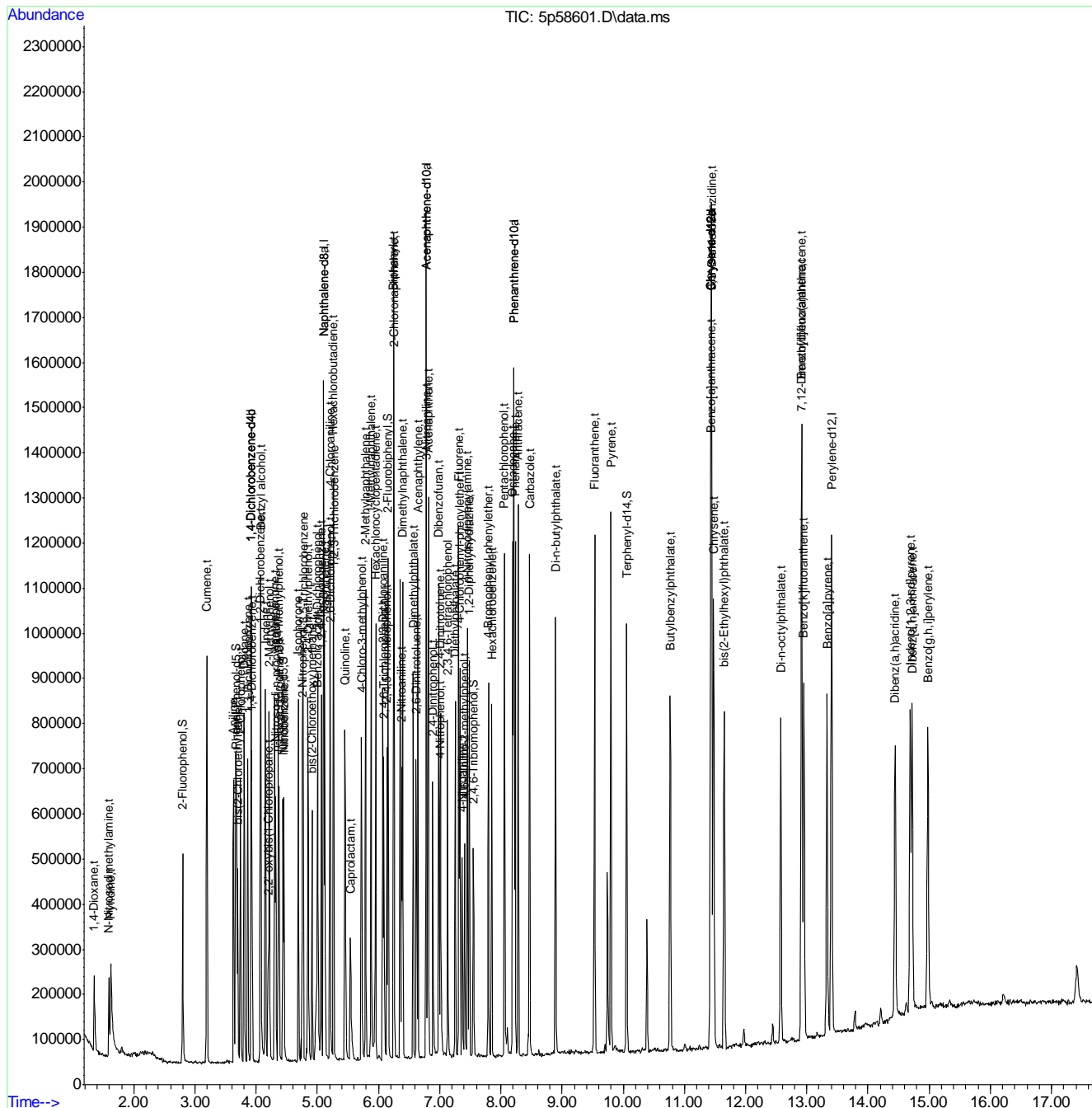
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	7.796	248	86428	25.49	ppm	95
75) Hexachlorobenzene	7.849	284	91061	26.89	ppm	98
76) Pentachlorophenol	8.057	266	119145	55.54	ppm	99
77) Phenanthrene	8.234	178	378566	26.06	ppm	99
78) Anthracene	8.282	178	415345	27.24	ppm	99
79) Carbazole	8.469	167	416195	26.93	ppm	99
80) Di-n-butylphthalate	8.891	149	523292	27.23	ppm	100
81) Fluoranthene	9.532	202	485205	26.89	ppm	99
82) Octadecane	8.191	57	199279	25.71	ppm	98
84) Pyrene	9.799	202	492736	26.23	ppm	98
86) Butylbenzylphthalate	10.766	149	235042	27.36	ppm	99
87) Benzo[a]anthracene	11.428	228	447270	25.91	ppm	100
88) 3,3'-Dichlorobenzidine	11.444	252	154776	27.51	ppm	96
89) Chrysene	11.477	228	411237	25.80	ppm	99
90) bis(2-Ethylhexyl)phtha...	11.648	149	310846	27.30	ppm	99
92) Di-n-octylphthalate	12.577	149	532046	27.30	ppm	99
93) Benzo[b]fluoranthene	12.914	252	432551	25.89	ppm	97
94) Benzo[k]fluoranthene	12.951	252	405045	26.48	ppm	96
95) Benzo[a]pyrene	13.330	252	399471	26.84	ppm	100
96) Indeno[1,2,3-cd]pyrene	14.693	276	360856m	27.11	ppm	
97) Dibenz(a,h)acridine	14.441	279	330790	26.14	ppm	99
98) Dibenz[a,h]anthracene	14.725	278	367333	26.69	ppm	98
99) 7,12-Dimethylbenz(a)an...	12.919	256	197513	31.16	ppm	99
100) Benzo[g,h,i]perylene	14.981	276	343517	25.56	ppm	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58601.D  
 Acq On : 18 Apr 2019 9:31 am  
 Operator : christc2  
 Sample : cc2761-25  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 14:45:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



9.6.37  
9

# Manual Integration Approval Summary

Sample Number: E5P2776-CC2761      Method: SW846 8270D  
Lab FileID: 5P58601.D      Analyst approved: 04/18/19 14:50 Ying Li  
Injection Time: 04/18/19 09:31      Supervisor approved: 04/18/19 18:32 Nancy Ma

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		14.69	Overlapping peak

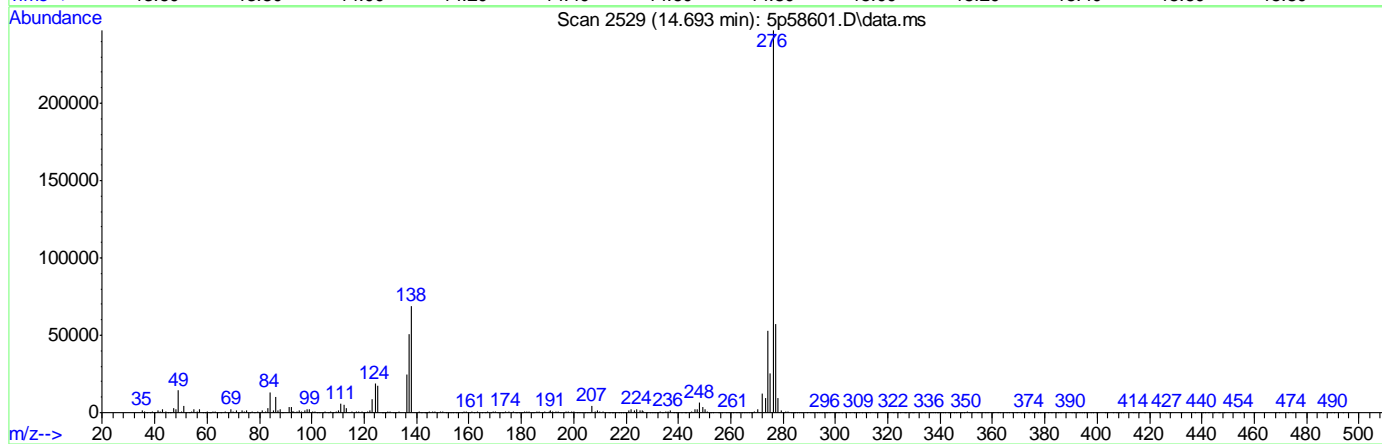
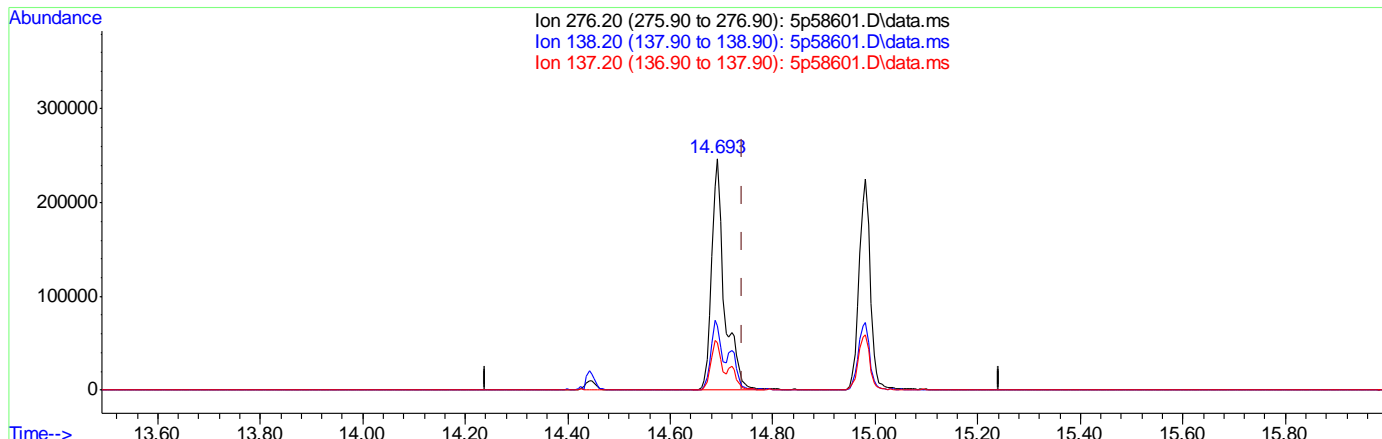
9.6.37.1

9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58601.D  
 Acq On : 18 Apr 2019 9:31 am  
 Operator : christc2  
 Sample : cc2761-25  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 14:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.693min (-0.048) 32.17ppm

response 428289

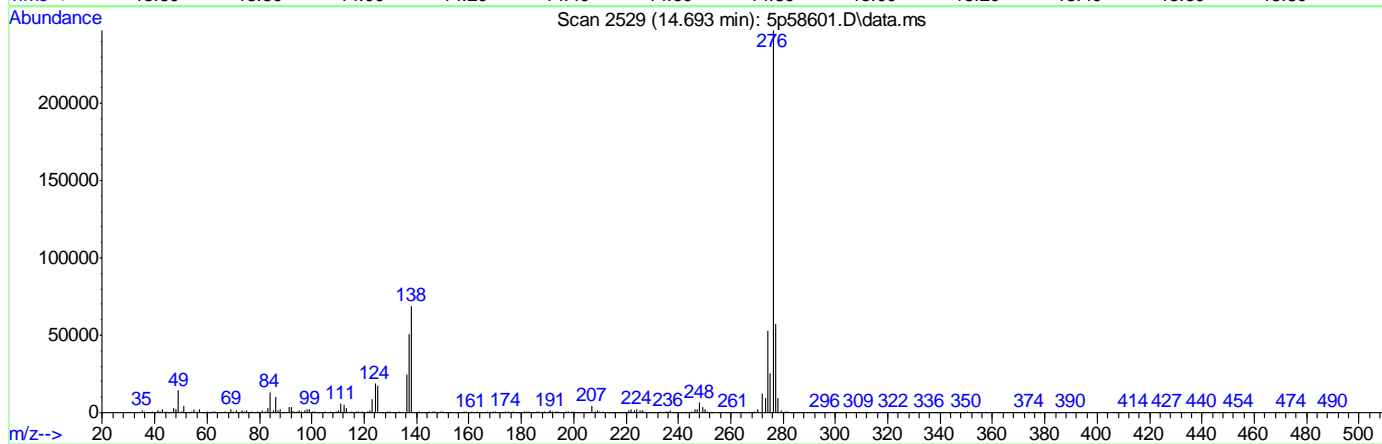
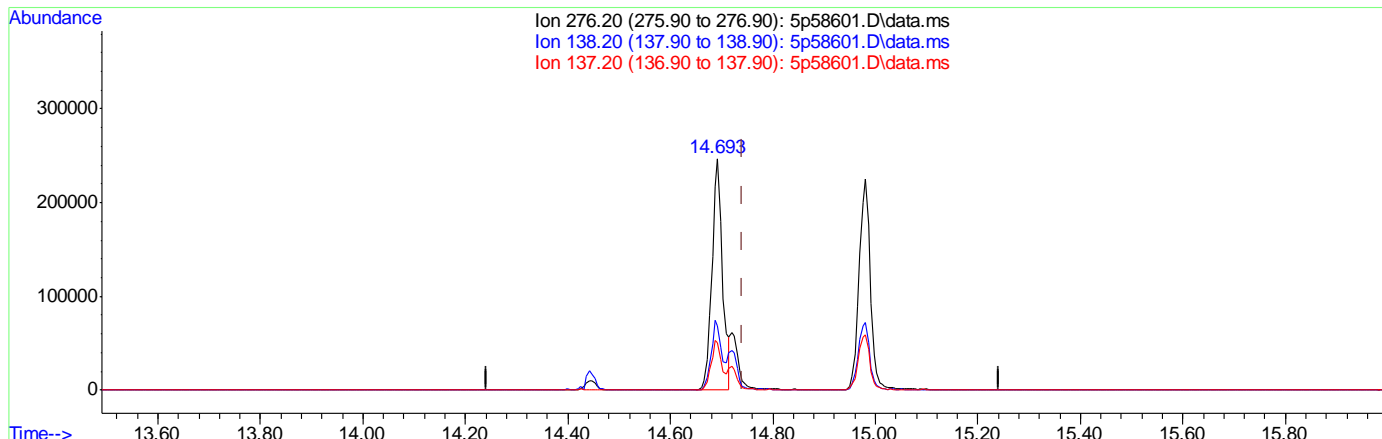
Ion	Exp%	Act%
276.20	100	100
138.20	26.90	27.75
137.20	19.40	20.51
0.00	0.00	0.00

9.6.37.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58601.D  
 Acq On : 18 Apr 2019 9:31 am  
 Operator : christc2  
 Sample : cc2761-25  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 14:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



(96) Indeno[1,2,3-cd]pyrene (t)

14.693min (-0.048) 27.11ppm m

response 360856

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	27.94
137.20	19.40	20.63
0.00	0.00	0.00

9.6.37.3  
9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58602.D  
 Acq On : 18 Apr 2019 9:56 am  
 Operator : christc2  
 Sample : cc2762-25  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 14:46:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.917	152	149680	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	573924	40.00	ppm	-0.05
47) Acenaphthene-d10	6.781	164	327649	40.00	ppm	-0.06
69) Phenanthrene-d10	8.207	188	540479	40.00	ppm	-0.07
83) Chrysene-d12	11.434	240	509019	40.00	ppm	-0.11
91) Perylene-d12	13.400	264	518300	40.00	ppm	-0.12
101) 1,4-Dichlorobenzene-d4b	3.917	152	149680	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.781	164	327649	40.00	ppm	-0.06
105) Chrysene-d12a	11.434	240	509019	40.00	ppm	-0.11
107) Phenanthrene-d10a	8.207	188	540479	40.00	ppm	-0.07
111) Naphthalene-d8a	5.103	136	573924	40.00	ppm	-0.05
113) Chrysene-d12b	11.434	240	508969	40.00	ppm	-0.11
115) 1,4-Dichlorobenzene-d4c	3.917	152	149680	40.00	ppm	-0.05
117) Chrysene-d12c	11.434	240	509019	40.00	ppm	-0.11
119) Chrysene-d12d	11.434	240	508969	40.00	ppm	-0.11
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	9.500	57	136745	25.80	ppm	-0.20
Spiked Amount	50.000		Recovery	=	51.60%	
108) o-terphenyl	8.629	230	222633	26.93	ppm	-0.21
Spiked Amount	50.000		Recovery	=	53.86%	
Target Compounds						
102) Benzaldehyde	3.517	105	128053	26.04	ppm	Qvalue 98
104) 1,2,4,5-Tetrachloroben...	5.958	216	123629	26.29	ppm	97
109) Atrazine	7.999	215	41475	27.77	ppm	93
110) Pentachloronitrobenzene	8.063	295	15821	27.50	ppm	86
112) Hydroquinone	5.595	110	165345	34.55	ppm	94

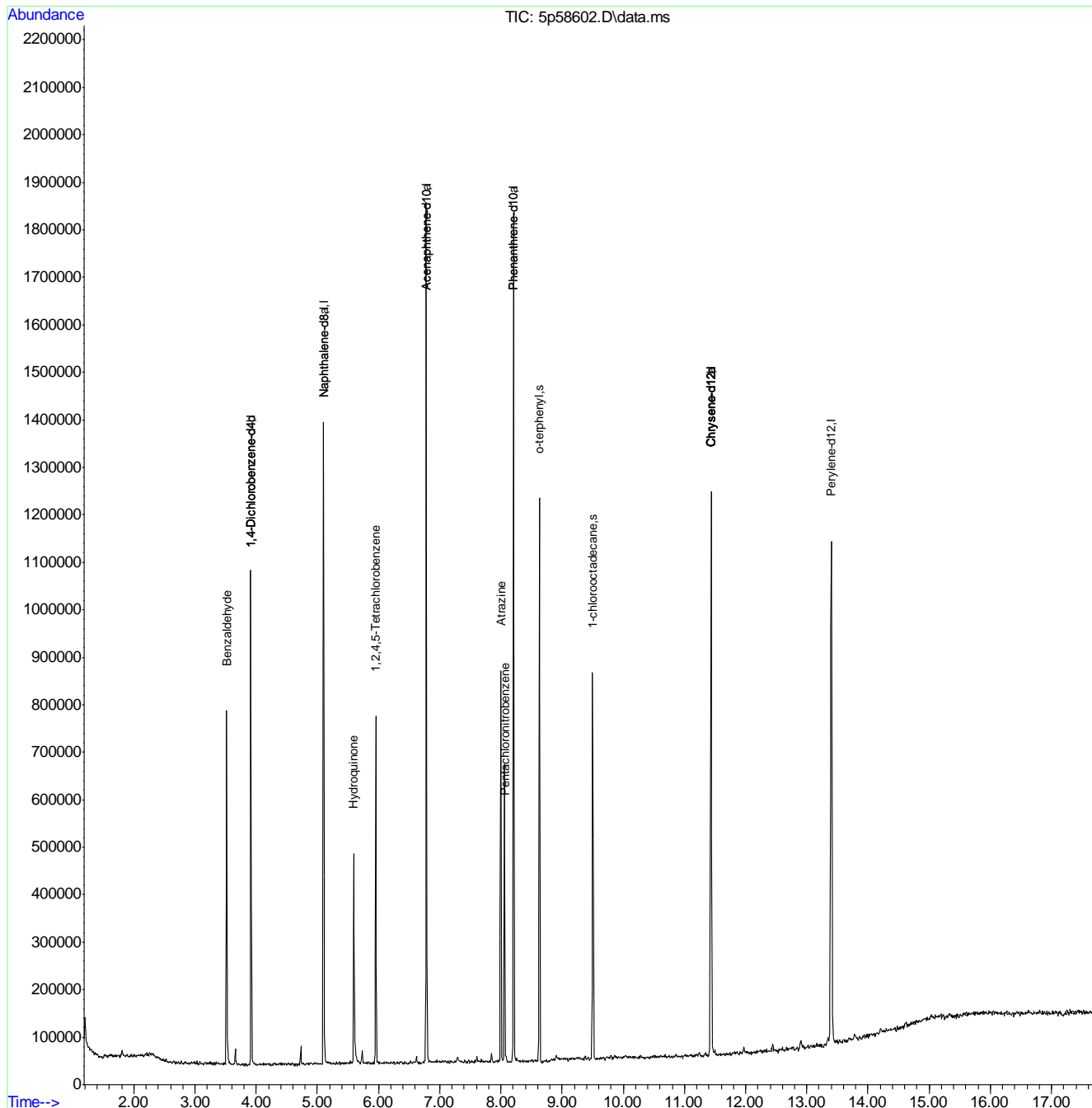
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.638  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2776\  
 Data File : 5p58602.D  
 Acq On : 18 Apr 2019 9:56 am  
 Operator : christc2  
 Sample : cc2762-25  
 Misc : op12947,e5p2776,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 14:46:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Wed Apr 17 11:42:18 2019  
 Response via : Initial Calibration



9.6.38  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58633.D  
 Acq On : 19 Apr 2019 12:37 am  
 Operator : carolb  
 Sample : cc2761-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 08:03:02 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.917	152	152958	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	577904	40.00	ppm	-0.05
47) Acenaphthene-d10	6.786	164	329092	40.00	ppm	-0.06
69) Phenanthrene-d10	8.212	188	546524	40.00	ppm	-0.06
83) Chrysene-d12	11.450	240	463344	40.00	ppm	-0.09
91) Perylene-d12	13.416	264	538716	40.00	ppm	-0.10
101) 1,4-Dichlorobenzene-d4b	3.917	152	152958	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.786	164	329092	40.00	ppm	-0.06
105) Chrysene-d12a	11.450	240	463344	40.00	ppm	-0.09
107) Phenanthrene-d10a	8.212	188	546524	40.00	ppm	-0.06
111) Naphthalene-d8a	5.103	136	577904	40.00	ppm	-0.05
113) Chrysene-d12b	11.450	240	463388	40.00	ppm	-0.09
115) 1,4-Dichlorobenzene-d4c	3.917	152	152958	40.00	ppm	-0.05
117) Chrysene-d12c	11.450	240	463344	40.00	ppm	-0.09
119) Chrysene-d12d	11.450	240	463388	40.00	ppm	-0.09
System Monitoring Compounds						
5) 2-Fluorophenol	2.795	112	321000	53.89	ppm	-0.10
Spiked Amount	50.000		Recovery	=	107.78%	
8) Phenol-d5	3.666	99	375249	50.05	ppm	-0.07
Spiked Amount	50.000		Recovery	=	100.10%	
25) Nitrobenzene-d5	4.441	82	336354	50.21	ppm	-0.06
Spiked Amount	50.000		Recovery	=	100.42%	
51) 2-Fluorobiphenyl	6.161	172	566857	49.56	ppm	-0.07
Spiked Amount	50.000		Recovery	=	99.12%	
73) 2,4,6-Tribromophenol	7.555	330	85892	54.52	ppm	-0.06
Spiked Amount	50.000		Recovery	=	109.04%	
85) Terphenyl-d14	10.061	244	627282	53.21	ppm	-0.21
Spiked Amount	50.000		Recovery	=	106.42%	
106) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						
2) 1,4-Dioxane	1.348	88	159940	49.67	ppm	98
3) Pyridine	1.609	79	391640	52.78	ppm	99
4) N-Nitrosodimethylamine	1.583	74	224740	51.95	ppm	95
6) Indene	4.152	116	471408	50.60	ppm	99
7) Cumene	3.191	105	749764	50.44	ppm	99
9) Phenol	3.682	94	401686	48.94	ppm	96
10) Aniline	3.629	93	487083	55.86	ppm	80
11) bis(2-Chloroethyl)ether	3.698	93	272656	47.46	ppm	89
12) 2-Chlorophenol	3.741	128	278266	50.28	ppm	96
13) Decane	3.805	43	227317	46.11	ppm	99
14) 1,3-Dichlorobenzene	3.864	146	308133	50.48	ppm	99
15) 1,4-Dichlorobenzene	3.933	146	296876	49.45	ppm	99
16) Benzyl alcohol	4.078	108	178182	50.81	ppm	92
17) 1,2-Dichlorobenzene	4.067	146	303913	50.66	ppm	96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58633.D  
 Acq On : 19 Apr 2019 12:37 am  
 Operator : carolb  
 Sample : cc2761-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 08:03:02 2019

Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M

Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um

QLast Update : Thu Apr 18 14:54:49 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
18) Acetophenone	4.307	105	414651	50.02	ppm	98
19) 2-Methylphenol	4.216	108	269860	52.12	ppm	100
20) 2,2'-oxybis(1-Chloropr...	4.195	45	272297	46.21	ppm	98
21) 3&4-Methylphenol	4.366	108	283120	50.94	ppm	98
22) n-Nitroso-di-n-propyla...	4.323	70	204788	46.13	ppm	98
23) Hexachloroethane	4.377	201	103072	48.26	ppm	93
26) Nitrobenzene	4.457	77	318599	48.57	ppm	96
27) Quinoline	5.456	129	556348	51.96	ppm	99
28) Isophorone	4.692	82	595466	48.75	ppm	100
29) 2-Nitrophenol	4.761	139	159056	53.88	ppm	86
30) 2,4-Dimethylphenol	4.852	107	296106	56.70	ppm	97
31) Benzoic acid	5.034	105	255455	54.12	ppm	96
32) bis(2-Chloroethoxy)met...	4.916	93	344975	48.31	ppm	98
33) 2,4-Dichlorophenol	5.012	162	236864	51.79	ppm	94
34) 2,6-Dichlorophenol	5.215	162	226322	51.49	ppm	98
35) 1,3,5-Trichlorobenzene	4.767	180	253483	49.82	ppm	97
36) 1,2,4-Trichlorobenzene	5.061	180	240223	49.17	ppm	99
37) 1,2,3-Trichlorobenzene	5.269	180	227676	48.98	ppm	99
38) Naphthalene	5.125	128	736150	50.54	ppm	99
39) 4-Chloroaniline	5.210	127	320566	52.14	ppm	97
40) 2,3-Dichloroaniline	6.076	161	294926	49.78	ppm	100
41) Caprolactam	5.573	55	132197	49.36	ppm	94
42) Hexachlorobutadiene	5.264	225	137096	48.52	ppm	97
43) 4-Chloro-3-methylphenol	5.728	107	280992	53.27	ppm	96
44) 2-Methylnaphthalene	5.792	141	424641	49.70	ppm	99
45) 1-Methylnaphthalene	5.883	141	462796	48.73	ppm	99
46) Dimethylnaphthalene	6.396	156	432739	47.41	ppm	99
48) Hexachlorocyclopentadiene	5.953	237	246933	102.53	ppm	97
49) 2,4,6-Trichlorophenol	6.097	196	165924	51.65	ppm	98
50) 2,4,5-Trichlorophenol	6.140	196	181211	53.25	ppm	97
52) 2-Chloronaphthalene	6.257	162	471295	49.06	ppm	98
53) Biphenyl	6.247	154	603000	48.97	ppm	100
54) 2-Nitroaniline	6.380	65	172889	47.79	ppm	99
55) Dimethylphthalate	6.572	163	579965	49.55	ppm	100
56) Acenaphthylene	6.647	152	772345	50.58	ppm	99
57) 2,6-Dinitrotoluene	6.626	165	136459	54.85	ppm	92
58) 3-Nitroaniline	6.781	138	146471	54.33	ppm	97
59) Acenaphthene	6.818	153	472063	49.70	ppm	97
60) 2,4-Dinitrophenol	6.893	184	155493	97.59	ppm	95
61) 4-Nitrophenol	7.021	109	76708	51.93	ppm	90
62) Dibenzofuran	6.989	168	727476	50.89	ppm	99
63) 2,4-Dinitrotoluene	7.016	165	177437	54.70	ppm	99
64) 2,3,4,6-Tetrachlorophenol	7.133	232	159636	52.22	ppm	99
65) Diethylphthalate	7.262	149	563924	50.12	ppm	99
66) Fluorene	7.315	166	573328	50.77	ppm	98
67) 4-Chlorophenyl-phenyle...	7.336	204	259343	49.83	ppm	93
68) 4-Nitroaniline	7.374	138	144626	54.71	ppm	99
70) 4,6-Dinitro-2-methylph...	7.416	198	116863	57.33	ppm	88
71) n-Nitrosodiphenylamine	7.459	169	411128	51.05	ppm	95
72) 1,2-Diphenylhydrazine	7.486	77	627584	49.08	ppm	100

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58633.D  
 Acq On : 19 Apr 2019 12:37 am  
 Operator : carolb  
 Sample : cc2761-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 08:03:02 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

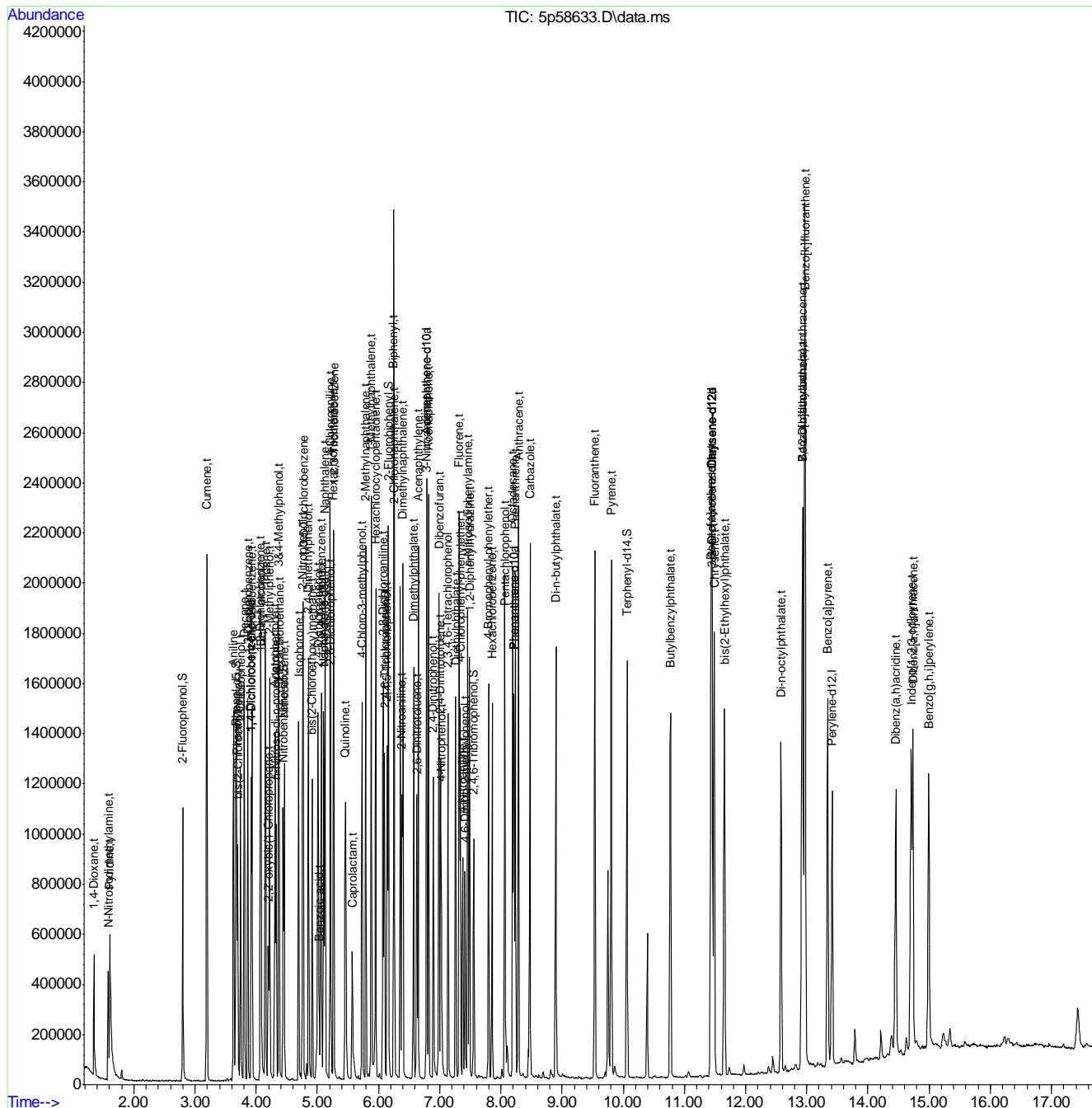
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
74) 4-Bromophenyl-phenylether	7.801	248	177892	51.59	ppm	98
75) Hexachlorobenzene	7.855	284	171084	49.69	ppm	98
76) Pentachlorophenol	8.068	266	234580	107.53	ppm	98
77) Phenanthrene	8.239	178	743434	50.32	ppm	98
78) Anthracene	8.287	178	795061	51.29	ppm	99
79) Carbazole	8.474	167	807099	51.36	ppm	100
80) Di-n-butylphthalate	8.896	149	1000651	51.21	ppm	100
81) Fluoranthene	9.537	202	935921	51.01	ppm	99
82) Octadecane	8.191	57	379059	48.09	ppm	99
84) Pyrene	9.804	202	921343	52.33	ppm	99
86) Butylbenzylphthalate	10.771	149	450419	55.93	ppm	99
87) Benzo[a]anthracene	11.434	228	849132	52.47	ppm	100
88) 3,3'-Dichlorobenzidine	11.455	252	289712	54.94	ppm	98
89) Chrysene	11.487	228	774186	51.82	ppm	99
90) bis(2-Ethylhexyl)phtha...	11.653	149	595202	55.77	ppm	99
92) Di-n-octylphthalate	12.577	149	1030823	53.72	ppm	99
93) Benzo[b]fluoranthene	12.930	252	791962	48.15	ppm	97
94) Benzo[k]fluoranthene	12.967	252	718194	47.70	ppm	98
95) Benzo[a]pyrene	13.341	252	762852	52.07	ppm	99
96) Indeno[1,2,3-cd]pyrene	14.703	276	689758m	52.63	ppm	
97) Dibenz(a,h)acridine	14.452	279	600977	48.24	ppm	100
98) Dibenz[a,h]anthracene	14.735	278	680170	50.19	ppm	100
99) 7,12-Dimethylbenz(a)an...	12.930	256	373947	59.92	ppm	98
100) Benzo[g,h,i]perylene	14.992	276	663700	50.17	ppm	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58633.D  
 Acq On : 19 Apr 2019 12:37 am  
 Operator : carolb  
 Sample : cc2761-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 08:03:02 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



9.6.39  
9

# Manual Integration Approval Summary

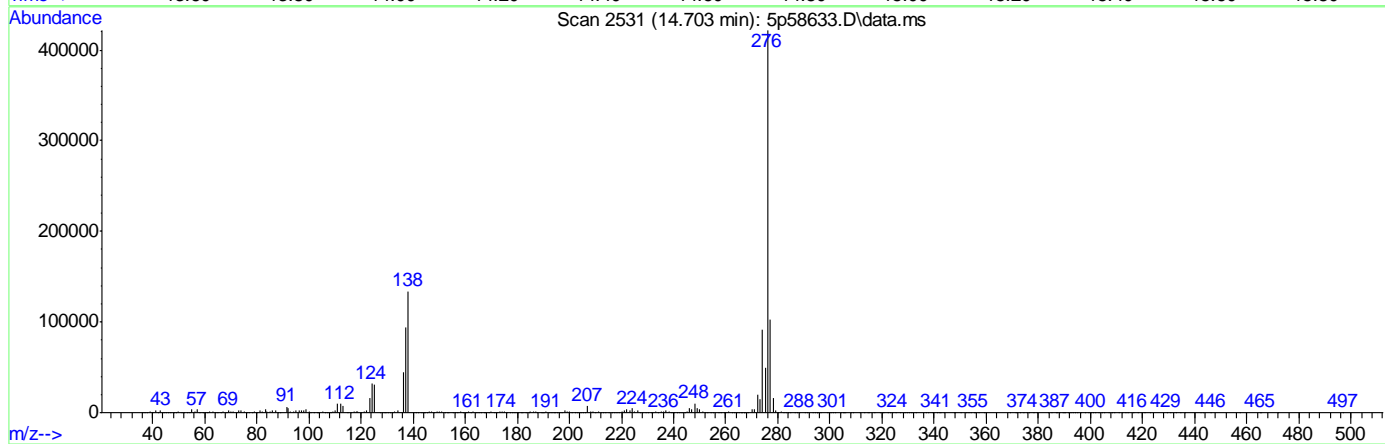
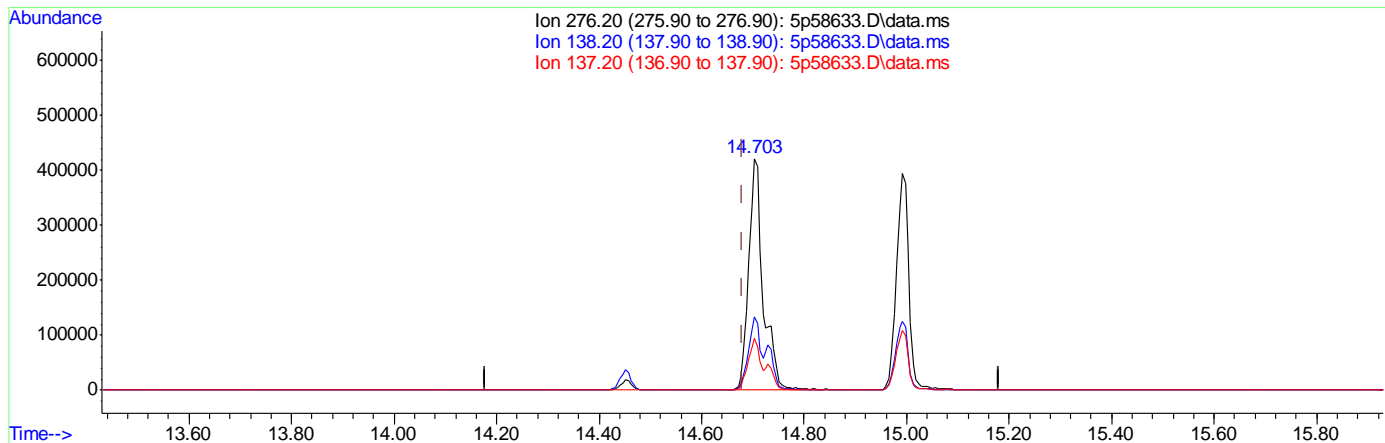
Sample Number: E5P2777-CC2761      Method: SW846 8270D  
Lab FileID: 5P58633.D      Analyst approved: 04/19/19 08:05 Ying Li  
Injection Time: 04/19/19 00:37      Supervisor approved: 04/19/19 09:01 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Indeno(1,2,3-cd)pyrene	193-39-5		14.70	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58633.D  
 Acq On : 19 Apr 2019 12:37 am  
 Operator : carolb  
 Sample : cc2761-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 07:57:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58633.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)  
 14.703min (+0.023) 62.87ppm  
 response 823988

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	31.67
137.20	19.40	22.03
0.00	0.00	0.00

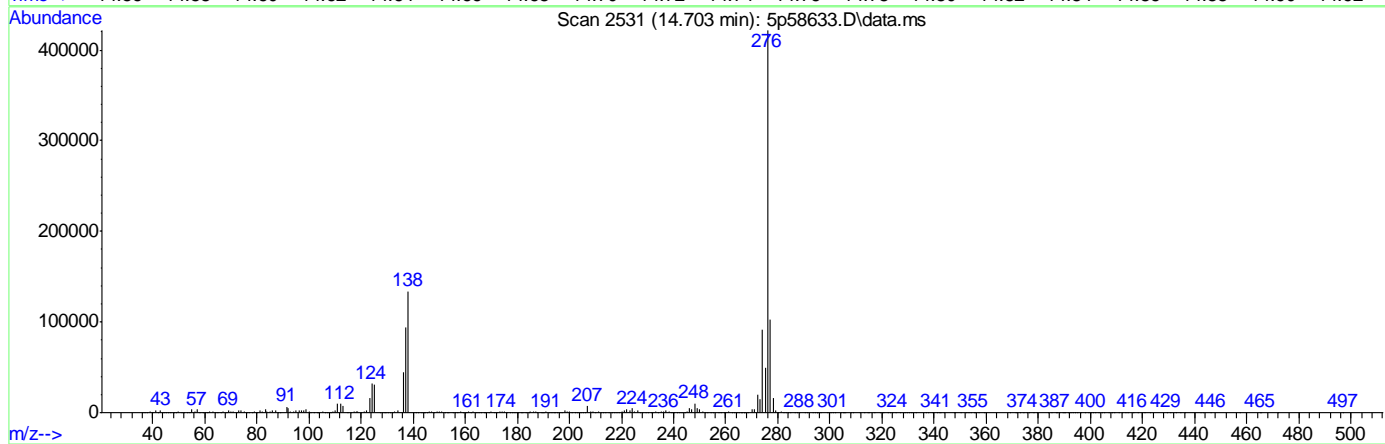
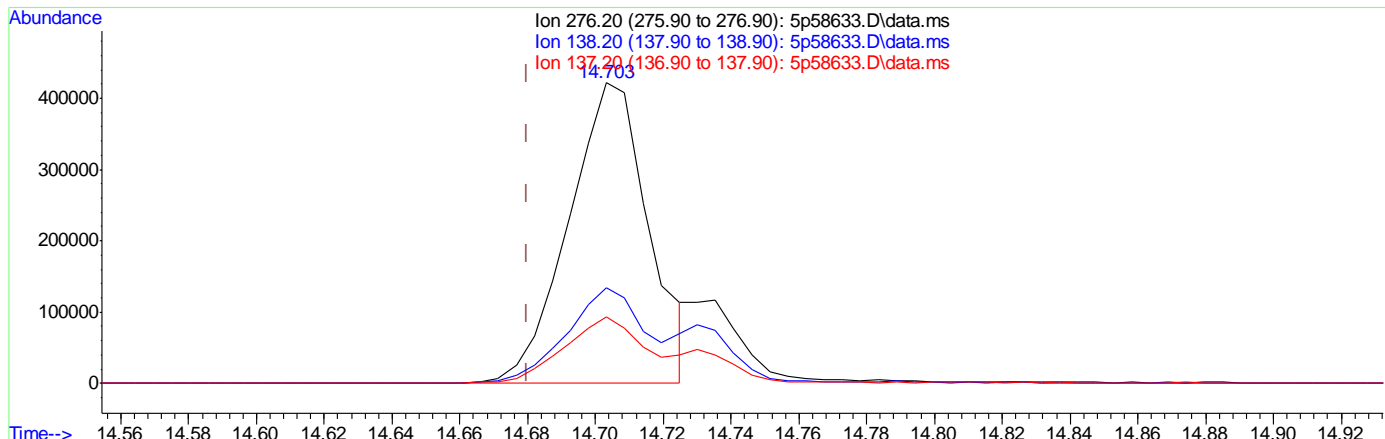
9.6.39.2  
9



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58633.D  
 Acq On : 19 Apr 2019 12:37 am  
 Operator : carolb  
 Sample : cc2761-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 07:57:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



TIC: 5p58633.D\data.ms

(96) Indeno[1,2,3-cd]pyrene (t)

14.703min (+0.023) 52.63ppm m

response 689758

Ion	Exp%	Act%
276.20	100	100
138.20	26.90	31.72
137.20	19.40	22.22
0.00	0.00	0.00

9.6.39.3  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58634.D  
 Acq On : 19 Apr 2019 1:02 am  
 Operator : carolb  
 Sample : cc2762-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 19 08:00:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.917	152	155932	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	577679	40.00	ppm	-0.05
47) Acenaphthene-d10	6.781	164	316778	40.00	ppm	-0.06
69) Phenanthrene-d10	8.207	188	496603	40.00	ppm	-0.07
83) Chrysene-d12	11.439	240	432373	40.00	ppm	-0.10
91) Perylene-d12	13.405	264	456193	40.00	ppm	-0.11
101) 1,4-Dichlorobenzene-d4b	3.917	152	155932	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.781	164	316778	40.00	ppm	-0.06
105) Chrysene-d12a	11.439	240	432373	40.00	ppm	-0.10
107) Phenanthrene-d10a	8.207	188	496603	40.00	ppm	-0.07
111) Naphthalene-d8a	5.103	136	577679	40.00	ppm	-0.05
113) Chrysene-d12b	11.439	240	432373	40.00	ppm	-0.10
115) 1,4-Dichlorobenzene-d4c	3.917	152	155932	40.00	ppm	-0.05
117) Chrysene-d12c	11.439	240	432373	40.00	ppm	-0.10
119) Chrysene-d12d	11.439	240	432373	40.00	ppm	-0.10
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	9.505	57	233909	51.96	ppm	-0.20
Spiked Amount	50.000		Recovery	=	103.92%	
108) o-terphenyl	8.629	230	375929	49.48	ppm	-0.21
Spiked Amount	50.000		Recovery	=	98.96%	
Target Compounds						
102) Benzaldehyde	3.517	105	250939	48.98	ppm	98
104) 1,2,4,5-Tetrachloroben...	5.958	216	236964	52.12	ppm	98
109) Atrazine	8.004	215	72608	52.92	ppm	91
110) Pentachloronitrobenzene	8.063	295	27993	52.95	ppm	90
112) Hydroquinone	5.600	110	296109	61.47	ppm	95

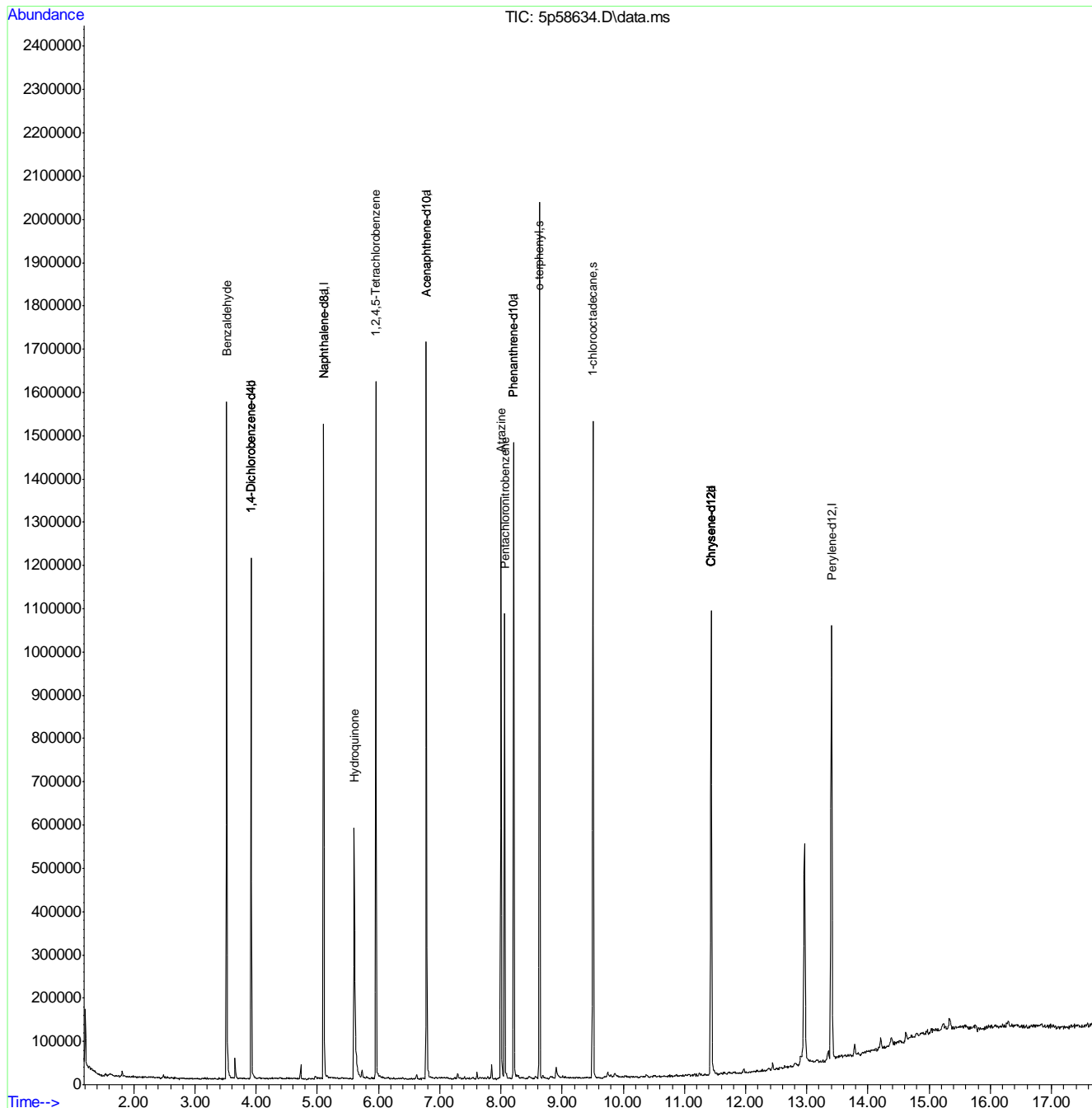
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.640  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58634.D  
 Acq On : 19 Apr 2019 1:02 am  
 Operator : carolb  
 Sample : cc2762-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 19 08:00:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



9.6.40  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58635.D  
 Acq On : 19 Apr 2019 1:34 am  
 Operator : carolb  
 Sample : cc2763-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 19 08:01:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.917	152	191107	40.00	ppm	-0.05
24) Naphthalene-d8	5.103	136	704776	40.00	ppm	-0.05
47) Acenaphthene-d10	6.781	164	388497	40.00	ppm	-0.06
69) Phenanthrene-d10	8.207	188	637639	40.00	ppm	-0.07
83) Chrysene-d12	11.439	240	539771	40.00	ppm	-0.10
91) Perylene-d12	13.405	264	561539	40.00	ppm	-0.11
101) 1,4-Dichlorobenzene-d4b	3.917	152	191107	40.00	ppm	-0.05
103) Acenaphthene-d10a	6.781	164	388497	40.00	ppm	-0.06
105) Chrysene-d12a	11.439	240	539771	40.00	ppm	-0.10
107) Phenanthrene-d10a	8.207	188	637639	40.00	ppm	-0.07
111) Naphthalene-d8a	5.103	136	704776	40.00	ppm	-0.05
113) Chrysene-d12b	11.439	240	539779	40.00	ppm	-0.10
115) 1,4-Dichlorobenzene-d4c	3.917	152	191107	40.00	ppm	-0.05
117) Chrysene-d12c	11.439	240	539771	40.00	ppm	-0.10
119) Chrysene-d12d	11.439	240	539779	40.00	ppm	-0.10
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	
Spiked Amount	50.000		Recovery	=	0.00%	
108) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount	50.000		Recovery	=	0.00%	
Target Compounds						Qvalue
118) Benzidine	9.740	184	605481	50.93	ppm	98

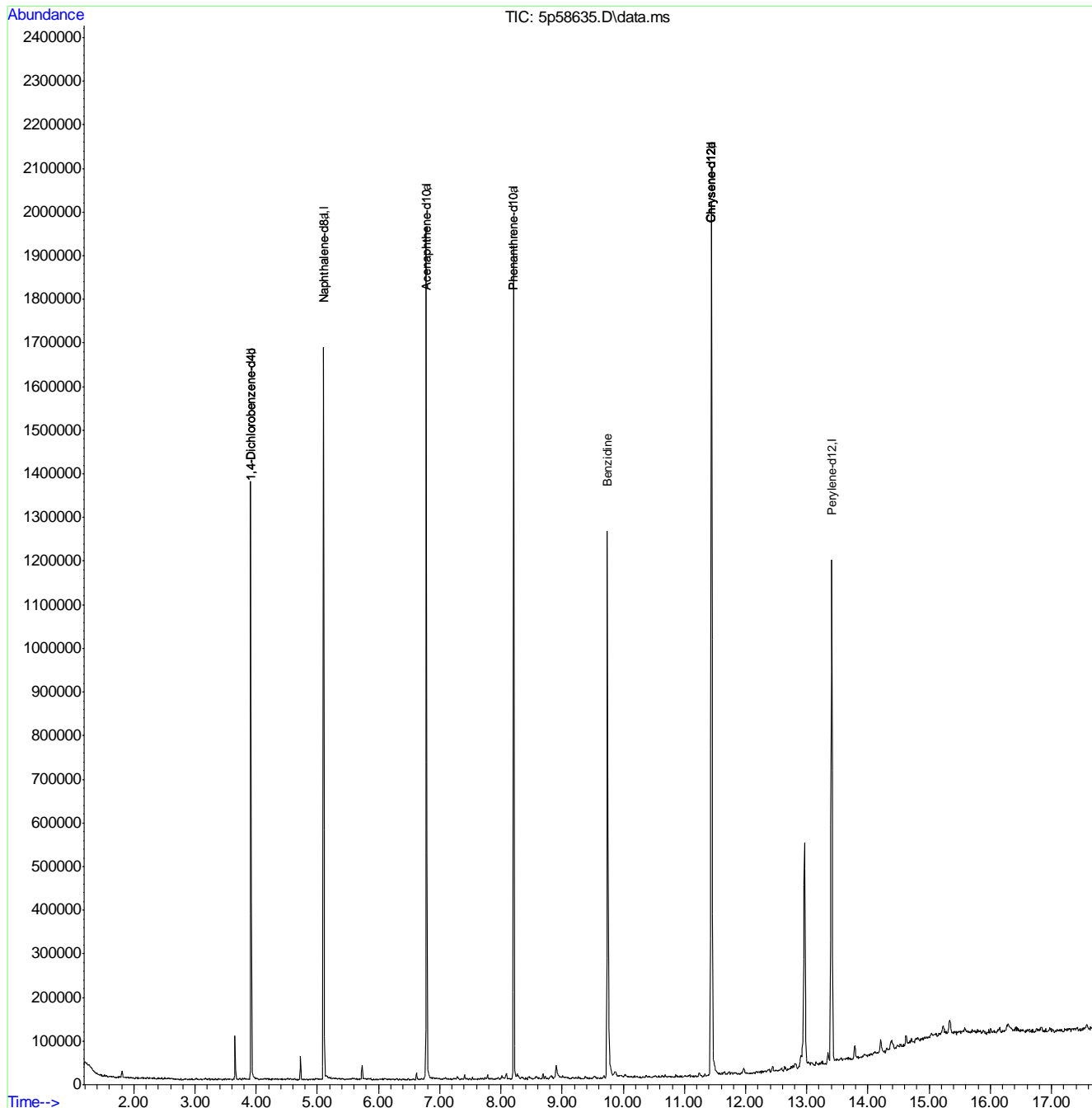
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.641  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E5P2777\  
 Data File : 5p58635.D  
 Acq On : 19 Apr 2019 1:34 am  
 Operator : carolb  
 Sample : cc2763-50  
 Misc : op12947,e5p2777,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 19 08:01:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\M5P2761.M  
 Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um  
 QLast Update : Thu Apr 18 14:54:49 2019  
 Response via : Initial Calibration



9.641  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128676.D  
 Acq On : 25 Mar 2019 10:18 am  
 Operator : christc2  
 Sample : ic5819-100  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 25 11:53:04 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) 1,4-Dichlorobenzene-d4	4.390	152	176719	40.00	ppm	0.00
24) Naphthalene-d8	5.330	136	678746	40.00	ppm	0.00
47) Acenaphthene-d10	6.687	164	455311	40.00	ppm	0.00
69) Phenanthrene-d10	8.450	188	791216	40.00	ppm	0.00
83) Chrysene-d12	13.611	240	714197	40.00	ppm	0.02
91) Perylene-d12	16.635	264	716417	40.00	ppm	0.01
101) 1,4-Dichlorobenzene-d4A	4.390	152	176719	40.00	ppm	-0.06
111) Naphthalene-d8A	5.330	136	678746	40.00	ppm	-0.06
120) Acenaphthene-d10A	6.687	164	455311	40.00	ppm	-0.07
131) Phenanthrene-d10A	8.450	188	791216	40.00	ppm	-0.10
146) Chrysene-d12A	13.611	240	714197	40.00	ppm	-0.12
153) Perylene-d12A	16.635	264	716417	40.00	ppm	-0.14
157) 1,4-Dichlorobenzene-d4b	4.390	152	176719	40.00	ppm	-0.06
159) Phenanthrene-d10b	8.450	188	791216	40.00	ppm	-0.10
161) Chrysene-d12b	13.611	240	714197	40.00	ppm	-0.12
163) Naphthalene-d8b	5.330	136	678746	40.00	ppm	-0.06
165) Acenaphthene-d10b	6.687	164	455311	40.00	ppm	-0.07
167) Naphthalene-d8c	5.330	136	678746	40.00	ppm	-0.06
172) 1,4-Dichlorobenzene-d4c	4.390	152	176719	40.00	ppm	-0.06
174) Chrysene-d12c	13.611	240	714197	40.00	ppm	-0.12
176) Chrysene-d12d	13.611	240	714197	40.00	ppm	-0.12
178) Naphthalene-d8d	5.330	136	678746	40.00	ppm	-0.06
180) Chrysene-d12D	13.611	240	714197	40.00	ppm	-0.12
<b>System Monitoring Compounds</b>						
5) 2-Fluorophenol	3.439	112	713512	98.93	ppm	0.00
Spiked Amount	50.000		Recovery	=	197.86%	
8) Phenol-d5	4.198	99	900542	98.87	ppm	0.00
Spiked Amount	50.000		Recovery	=	197.74%	
25) Nitrobenzene-d5	4.812	82	861144	97.23	ppm	0.00
Spiked Amount	50.000		Recovery	=	194.46%	
51) 2-Fluorobiphenyl	6.121	172	1637338	92.71	ppm	0.00
Spiked Amount	50.000		Recovery	=	185.42%	
73) 2,4,6-Tribromophenol	7.537	330	257988	111.45	ppm	0.01
Spiked Amount	50.000		Recovery	=	222.90%	
85) Terphenyl-d14	11.410	244	1886735	101.52	ppm	0.02
Spiked Amount	50.000		Recovery	=	203.04%	
<b>Target Compounds</b>						
2) 1,4-Dioxane	1.826	88	360490	104.37	ppm	100
3) Pyridine	2.168	79	888199	98.82	ppm	100
4) N-Nitrosodimethylamine	2.157	42	487561	100.22	ppm	96
6) Indene	4.583	116	1073008	100.59	ppm	97
7) Cumene	3.770	105	1830596	96.26	ppm	98
9) Phenol	4.209	94	925471	97.08	ppm	86
10) Aniline	4.155	93	987526	94.61	ppm	99
11) bis(2-Chloroethyl)ether	4.198	93	685268	98.72	ppm	88
12) 2-Chlorophenol	4.257	128	645446	101.37	ppm	95
13) Decane	4.273	43	509392	77.05	ppm	88

9.6.42  
**9**

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128676.D  
 Acq On : 25 Mar 2019 10:18 am  
 Operator : christc2  
 Sample : ic5819-100  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 25 11:53:04 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
14) 1,3-Dichlorobenzene	4.347	146	723289	98.48	ppm	98
15) 1,4-Dichlorobenzene	4.401	146	737080	102.23	ppm	98
16) Benzyl alcohol	4.529	108	431847	95.47	ppm	96
17) 1,2-Dichlorobenzene	4.513	146	761499	102.72	ppm	99
18) Acetophenone	4.700	105	998814	98.09	ppm	96
19) 2-Methylphenol	4.636	108	597451	98.89	ppm	98
20) 2,2'-oxybis(1-Chloropr...	4.604	121	166328	94.04	ppm #	78
21) 3&4-Methylphenol	4.748	108	687378	103.78	ppm	97
22) n-Nitroso-di-n-propyla...	4.721	70	475540	91.40	ppm	91
23) Hexachloroethane	4.764	201	281747	110.35	ppm	85
26) Nitrobenzene	4.828	77	839362	94.53	ppm	100
27) Quinoline	5.614	129	1322922	97.49	ppm	99
28) Isophorone	5.010	82	1563745	97.91	ppm	98
29) 2-Nitrophenol	5.063	139	411714	104.71	ppm	78
30) 2,4-Dimethylphenol	5.122	107	777800	104.24	ppm	98
31) Benzoic acid	5.314	105	596003	107.84	ppm	89
32) bis(2-Chloroethoxy)met...	5.165	93	822930	99.09	ppm	98
33) 2,4-Dichlorophenol	5.261	162	664134	112.21	ppm	91
34) 2,6-Dichlorophenol	5.411	162	629878	107.39	ppm	98
35) 1,3,5-Trichlorobenzene	5.063	180	726109	103.62	ppm	98
36) 1,2,4-Trichlorobenzene	5.293	180	669047	110.26	ppm	97
37) 1,2,3-Trichlorobenzene	5.453	180	652383	110.35	ppm	99
38) Naphthalene	5.346	128	1907234	105.84	ppm	99
39) 4-Chloroaniline	5.405	127	814995	104.83	ppm	95
40) 2,3-Dichloroaniline	6.062	161	788778	106.61	ppm	96
41) Caprolactam	5.726	55	422099m	97.45	ppm	
42) Hexachlorobutadiene	5.437	225	444411	107.70	ppm	99
43) 4-Chloro-3-methylphenol	5.790	107	716102	99.22	ppm	96
44) 2-Methylnaphthalene	5.843	141	1116179	102.42	ppm	97
45) 1-Methylnaphthalene	5.918	142	1431365	104.86	ppm	96
46) Dimethylnaphthalene	6.329	156	1372286	109.95	ppm	94
48) Hexachlorocyclopentadiene	5.961	237	880718	213.86	ppm	98
49) 2,4,6-Trichlorophenol	6.078	196	488140	102.13	ppm	98
50) 2,4,5-Trichlorophenol	6.126	196	531126	89.31	ppm	99
52) 2-Chloronaphthalene	6.217	162	1348461	101.34	ppm	97
53) Biphenyl	6.201	154	1848638	97.72	ppm	99
54) 2-Nitroaniline	6.319	65	476109	78.25	ppm #	67
55) Dimethylphthalate	6.458	163	1629691	94.28	ppm	99
56) Acenaphthylene	6.564	152	2153822	96.54	ppm	100
57) 2,6-Dinitrotoluene	6.516	165	337109	91.00	ppm	98
58) 3-Nitroaniline	6.682	138	386715	94.73	ppm	88
59) Acenaphthene	6.725	153	1374041	97.26	ppm	95
60) 2,4-Dinitrophenol	6.778	184	372584	202.95	ppm	90
61) 4-Nitrophenol	6.906	109	305993	88.65	ppm	87
62) Dibenzofuran	6.890	168	2063177	96.34	ppm	94
63) 2,4-Dinitrotoluene	6.896	165	526062	90.92	ppm	88
64) 2,3,4,6-Tetrachlorophenol	7.035	232	453756	104.60	ppm	96
65) Diethylphthalate	7.141	149	1713922	91.72	ppm	96
66) Fluorene	7.248	166	1664116	92.75	ppm	100
67) 4-Chlorophenyl-phenyle...	7.243	204	935716	95.19	ppm	100

9.6.42  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128676.D  
 Acq On : 25 Mar 2019 10:18 am  
 Operator : christc2  
 Sample : ic5819-100  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 25 11:53:04 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 4-Nitroaniline	7.339	138	338057	89.59	ppm	95
70) 4,6-Dinitro-2-methylph...	7.350	198	275423	101.09	ppm	89
71) n-Nitrosodiphenylamine	7.398	169	1125234	103.24	ppm	96
72) 1,2-Diphenylhydrazine	7.430	77	1935314	98.08	ppm	94
74) 4-Bromophenyl-phenylether	7.836	248	515044	106.50	ppm	95
75) Hexachlorobenzene	7.927	284	535413	106.85	ppm	88
76) Pentachlorophenol	8.226	266	685415	229.10	ppm	97
77) Phenanthrene	8.498	178	2279220	101.79	ppm	100
78) Anthracene	8.573	178	2373423	102.06	ppm	99
79) Carbazole	8.856	167	2107080	97.71	ppm	99
80) Di-n-butylphthalate	9.508	149	3122314	95.95	ppm	99
81) Fluoranthene	10.560	202	2683410	97.82	ppm	99
82) Octadecane	8.359	57	993292	85.94	ppm	92
84) Pyrene	10.993	202	2713845	98.44	ppm	99
86) Butylbenzylphthalate	12.569	149	1361916	92.98	ppm	97
87) Benzo[a]anthracene	13.590	228	2416251	96.32	ppm	98
88) 3,3'-Dichlorobenzidine	13.648	252	895428	104.45	ppm	98
89) Chrysene	13.680	228	2196552	99.76	ppm	98
90) bis(2-Ethylhexyl)phtha...	13.969	149	1888916	93.96	ppm	100
92) Di-n-octylphthalate	15.422	149	3278098	93.28	ppm	97
93) Benzo[b]fluoranthene	15.935	252	2582341	106.26	ppm	99
94) Benzo[k]fluoranthene	15.983	252	1881581	94.26	ppm	99
95) Benzo[a]pyrene	16.538	252	2015535	99.18	ppm	98
96) Indeno[1,2,3-cd]pyrene	18.601	276	1963410	105.49	ppm	95
97) Dibenz(a,h)acridine	18.232	279	1836340	104.48	ppm	98
98) Dibenz[a,h]anthracene	18.665	278	2037759	107.47	ppm	98
99) 7,12-Dimethylbenz(a)an...	15.929	256	1097943	101.56	ppm	98
100) Benzo[g,h,i]perylene	19.039	276	1879041	103.85	ppm	98

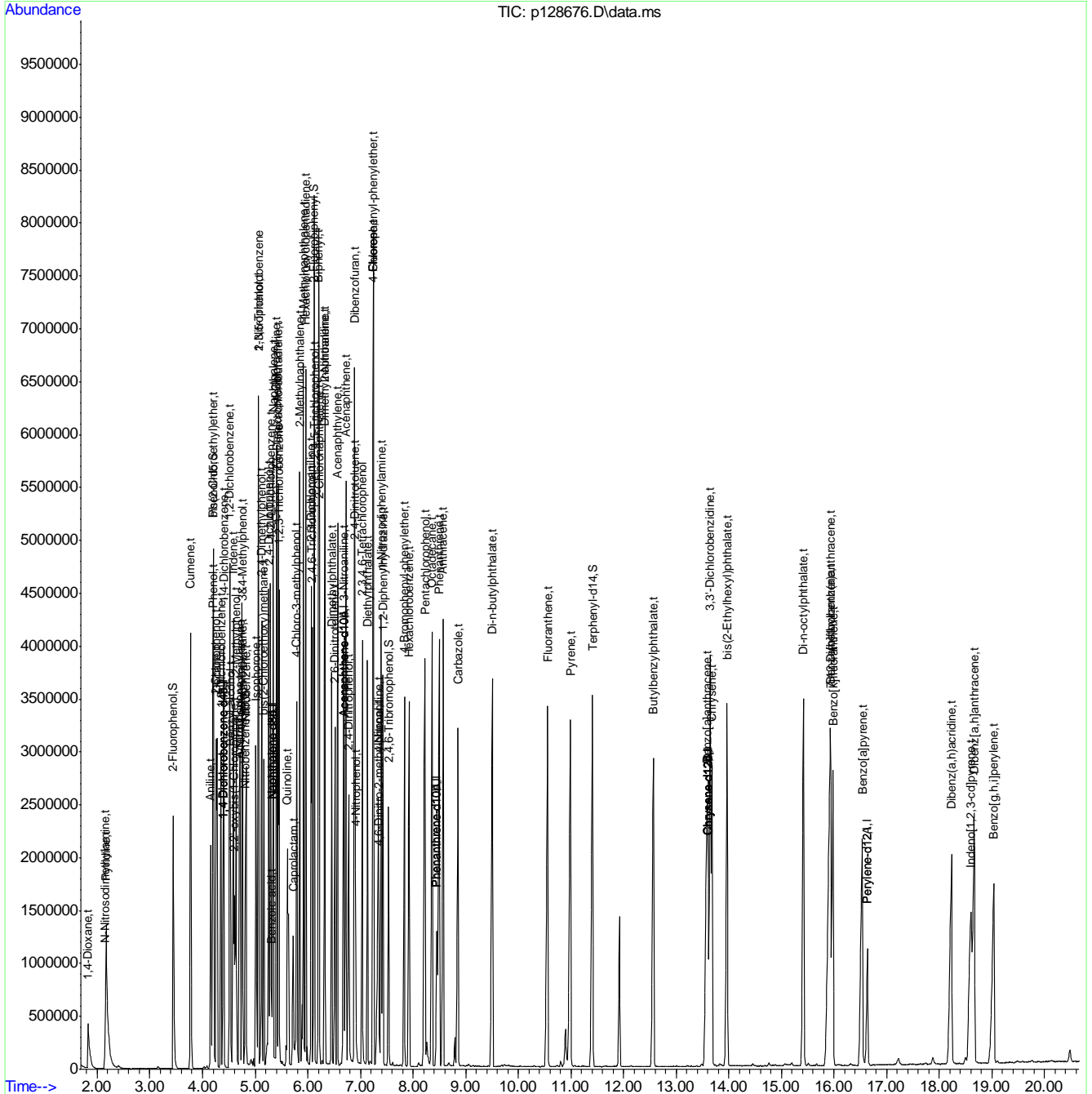
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128676.D  
 Acq On : 25 Mar 2019 10:18 am  
 Operator : christc2  
 Sample : ic5819-100  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 25 11:53:04 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration



9.642  
9

# Manual Integration Approval Summary

Sample Number: EP5819-IC5819      Method: SW846 8270D  
Lab FileID: P128676.D      Analyst approved: 03/25/19 17:27 Ying Li  
Injection Time: 03/25/19 10:18      Supervisor approved: 03/28/19 17:53 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Caprolactam	105-60-2		5.73	Split peak

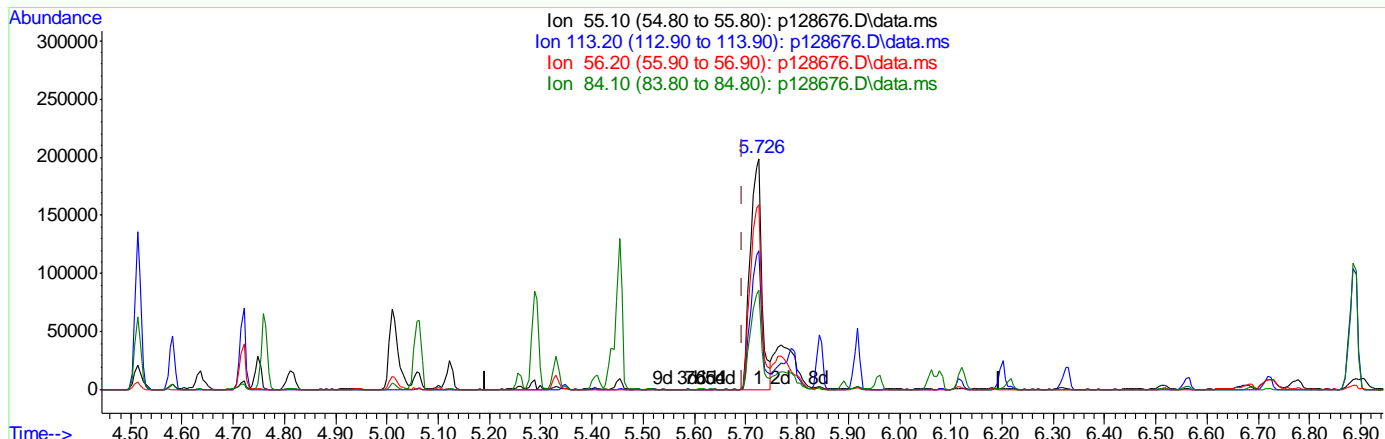
9.6.42.1

9

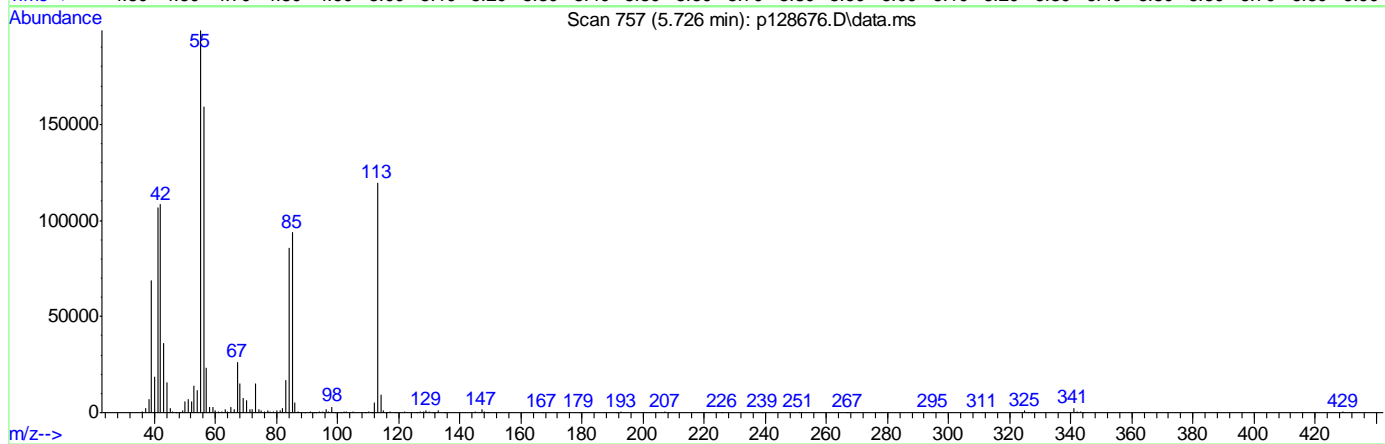
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128676.D  
 Acq On : 25 Mar 2019 10:18 am  
 Operator : christc2  
 Sample : ic5819-100  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 25 11:49:33 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration



9.6.42.2  
9



TIC: p128676.D\data.ms

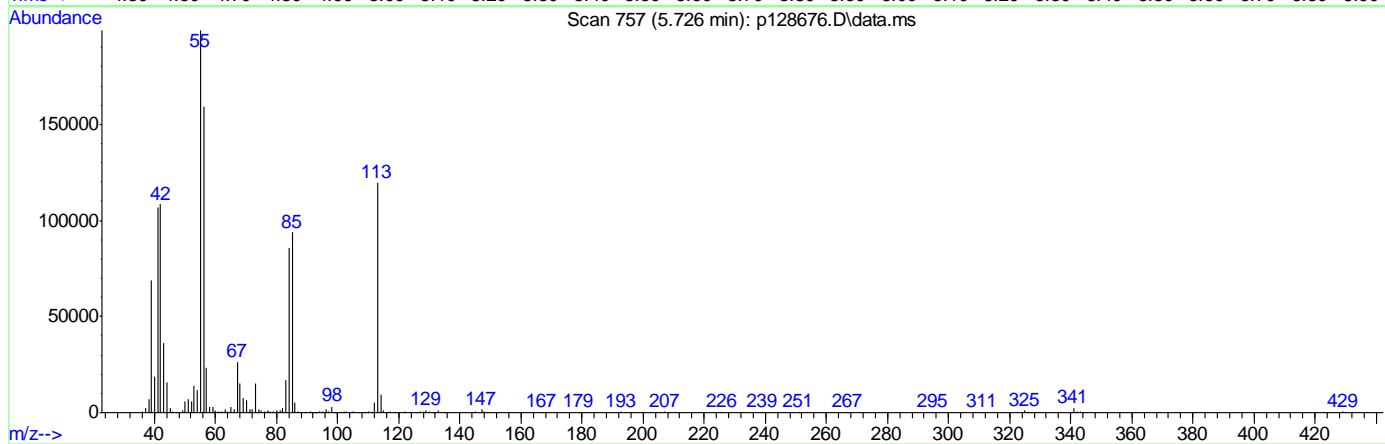
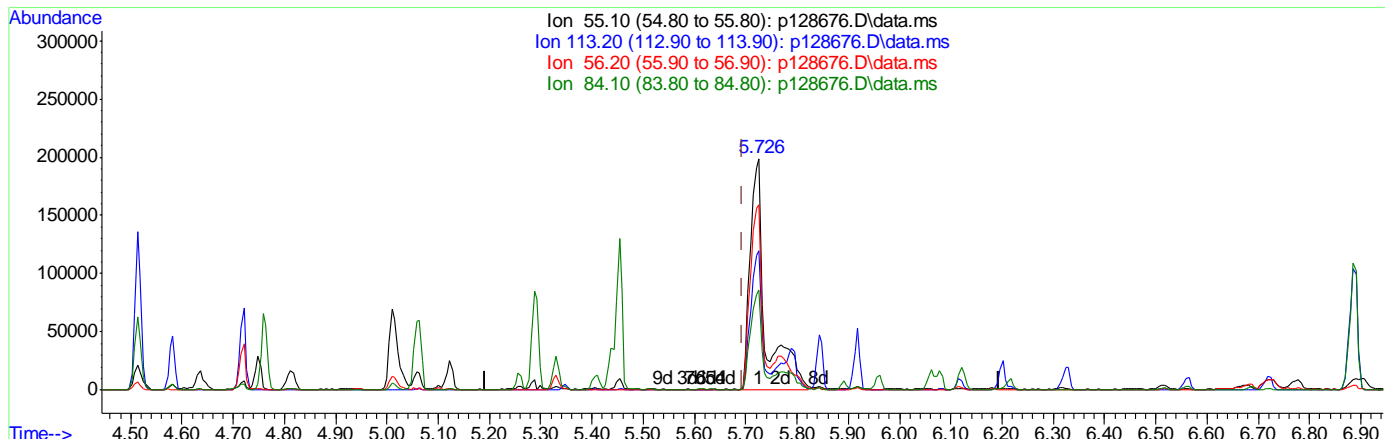
(41) Caprolactam (t)  
 5.726min (+0.032) 70.64ppm  
 response 305993

Ion	Exp%	Act%
55.10	100	100
113.20	58.90	60.52
56.20	79.90	80.49
84.10	42.00	43.29

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128676.D  
 Acq On : 25 Mar 2019 10:18 am  
 Operator : christc2  
 Sample : ic5819-100  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 25 11:53:04 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration



(41) Caprolactam (t)  
 5.726min (+0.032) 97.45ppm m  
 response 422099

Ion	Exp%	Act%
55.10	100	100
113.20	58.90	60.08
56.20	79.90	80.14
84.10	42.00	43.14

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128677.D  
 Acq On : 25 Mar 2019 10:45 am  
 Operator : christc2  
 Sample : ic5819-80  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 13:06:19 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.390	152	169600	40.00	ppm	0.00
24) Naphthalene-d8	5.330	136	667165	40.00	ppm	0.00
47) Acenaphthene-d10	6.682	164	431286	40.00	ppm	0.00
69) Phenanthrene-d10	8.450	188	776945	40.00	ppm	0.00
83) Chrysene-d12	13.606	240	728174	40.00	ppm	0.01
91) Perylene-d12	16.635	264	729307	40.00	ppm	0.01
101) 1,4-Dichlorobenzene-d4A	4.390	152	169600	40.00	ppm	-0.06
111) Naphthalene-d8A	5.330	136	667165	40.00	ppm	-0.06
120) Acenaphthene-d10A	6.682	164	431286	40.00	ppm	-0.08
131) Phenanthrene-d10A	8.450	188	776945	40.00	ppm	-0.10
146) Chrysene-d12A	13.606	240	728174	40.00	ppm	-0.13
153) Perylene-d12A	16.635	264	729307	40.00	ppm	-0.14
157) 1,4-Dichlorobenzene-d4b	4.390	152	169600	40.00	ppm	-0.06
159) Phenanthrene-d10b	8.450	188	776945	40.00	ppm	-0.10
161) Chrysene-d12b	13.606	240	728174	40.00	ppm	-0.13
163) Naphthalene-d8b	5.330	136	667165	40.00	ppm	-0.06
165) Acenaphthene-d10b	6.682	164	431286	40.00	ppm	-0.08
167) Naphthalene-d8c	5.330	136	667165	40.00	ppm	-0.06
172) 1,4-Dichlorobenzene-d4c	4.390	152	169600	40.00	ppm	-0.06
174) Chrysene-d12c	13.606	240	728174	40.00	ppm	-0.13
176) Chrysene-d12d	13.606	240	728174	40.00	ppm	-0.13
178) Naphthalene-d8d	5.330	136	667165	40.00	ppm	-0.06
180) Chrysene-d12D	13.606	240	728174	40.00	ppm	-0.13
System Monitoring Compounds						
5) 2-Fluorophenol	3.439	112	541051	78.17	ppm	0.00
Spiked Amount	50.000		Recovery	=	156.34%	
8) Phenol-d5	4.198	99	692879	79.26	ppm	0.00
Spiked Amount	50.000		Recovery	=	158.52%	
25) Nitrobenzene-d5	4.812	82	675965	77.65	ppm	0.00
Spiked Amount	50.000		Recovery	=	155.30%	
51) 2-Fluorobiphenyl	6.116	172	1304734	77.99	ppm	0.00
Spiked Amount	50.000		Recovery	=	155.98%	
73) 2,4,6-Tribromophenol	7.531	330	195201	85.87	ppm	0.00
Spiked Amount	50.000		Recovery	=	171.74%	
85) Terphenyl-d14	11.405	244	1529058	80.70	ppm	0.01
Spiked Amount	50.000		Recovery	=	161.40%	
Target Compounds						
2) 1,4-Dioxane	1.831	88	262768	79.27	ppm	98
3) Pyridine	2.173	79	668776	77.53	ppm	98
4) N-Nitrosodimethylamine	2.157	42	359652	77.03	ppm	91
6) Indene	4.583	116	829014	80.98	ppm	98
7) Cumene	3.771	105	1418410	77.71	ppm	99
9) Phenol	4.203	94	727330	79.50	ppm	91
10) Aniline	4.155	93	761551	76.02	ppm	99
11) bis(2-Chloroethyl)ether	4.198	93	540088	81.07	ppm	92
12) 2-Chlorophenol	4.257	128	490149	80.21	ppm	97
13) Decane	4.273	43	428346	67.51	ppm	94

9.6.43

9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128677.D  
 Acq On : 25 Mar 2019 10:45 am  
 Operator : christc2  
 Sample : ic5819-80  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 13:06:19 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
14) 1,3-Dichlorobenzene	4.347	146	558027	79.17	ppm	99
15) 1,4-Dichlorobenzene	4.401	146	564385	81.56	ppm	98
16) Benzyl alcohol	4.524	108	337805	77.81	ppm	94
17) 1,2-Dichlorobenzene	4.513	146	584669	82.18	ppm	99
18) Acetophenone	4.700	105	785097	80.34	ppm	94
19) 2-Methylphenol	4.631	108	456654	78.76	ppm	99
20) 2,2'-oxybis(1-Chloropr...	4.599	121	132959	78.33	ppm #	90
21) 3&4-Methylphenol	4.748	108	513617	80.80	ppm	97
22) n-Nitroso-di-n-propyla...	4.716	70	380172	76.14	ppm	92
23) Hexachloroethane	4.764	201	208377	85.04	ppm	85
26) Nitrobenzene	4.828	77	654533	75.00	ppm	97
27) Quinoline	5.608	129	1039984	77.97	ppm	98
28) Isophorone	5.010	82	1218707	77.63	ppm	95
29) 2-Nitrophenol	5.058	139	322454	83.44	ppm	84
30) 2,4-Dimethylphenol	5.122	107	602514	82.15	ppm	97
31) Benzoic acid	5.293	105	453838	83.54	ppm	93
32) bis(2-Chloroethoxy)met...	5.159	93	637452	78.09	ppm	98
33) 2,4-Dichlorophenol	5.256	162	491088	84.41	ppm	96
34) 2,6-Dichlorophenol	5.411	162	478491	83.00	ppm	98
35) 1,3,5-Trichlorobenzene	5.063	180	575117	83.50	ppm	98
36) 1,2,4-Trichlorobenzene	5.288	180	513101	86.02	ppm	99
37) 1,2,3-Trichlorobenzene	5.453	180	493732	84.96	ppm	98
38) Naphthalene	5.346	128	1464275	82.67	ppm	99
39) 4-Chloroaniline	5.405	127	632544	82.78	ppm	95
40) 2,3-Dichloroaniline	6.062	161	612237	84.18	ppm	96
41) Caprolactam	5.710	55	335704m	78.85	ppm	
42) Hexachlorobutadiene	5.437	225	341480	84.19	ppm	99
43) 4-Chloro-3-methylphenol	5.790	107	556694	78.47	ppm #	56
44) 2-Methylnaphthalene	5.843	141	869348	81.16	ppm	97
45) 1-Methylnaphthalene	5.918	142	1113134	82.96	ppm	97
46) Dimethylnaphthalene	6.324	156	1037191	84.55	ppm	95
48) Hexachlorocyclopentadiene	5.961	237	663667	170.13	ppm	98
49) 2,4,6-Trichlorophenol	6.078	196	372111	82.19	ppm	98
50) 2,4,5-Trichlorophenol	6.121	196	425006	75.45	ppm	97
52) 2-Chloronaphthalene	6.217	162	1032199	81.90	ppm	98
53) Biphenyl	6.196	154	1475182	82.32	ppm	99
54) 2-Nitroaniline	6.313	65	401465	69.66	ppm	88
55) Dimethylphthalate	6.452	163	1281776	78.28	ppm	99
56) Acenaphthylene	6.559	152	1667172	78.89	ppm	100
57) 2,6-Dinitrotoluene	6.511	165	265978	75.80	ppm	97
58) 3-Nitroaniline	6.677	138	299593	77.48	ppm	96
59) Acenaphthene	6.719	153	1063065	79.44	ppm	98
60) 2,4-Dinitrophenol	6.773	184	289350	166.39	ppm	93
61) 4-Nitrophenol	6.901	109	246481	75.38	ppm	87
62) Dibenzofuran	6.885	168	1606064	79.18	ppm	97
63) 2,4-Dinitrotoluene	6.890	165	427432	77.99	ppm	88
64) 2,3,4,6-Tetrachlorophenol	7.029	232	338897	82.48	ppm	99
65) Diethylphthalate	7.131	149	1357571	76.70	ppm	99
66) Fluorene	7.243	166	1328774	78.18	ppm	99
67) 4-Chlorophenyl-phenyle...	7.243	204	738141	79.28	ppm	96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128677.D  
 Acq On : 25 Mar 2019 10:45 am  
 Operator : christc2  
 Sample : ic5819-80  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 13:06:19 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

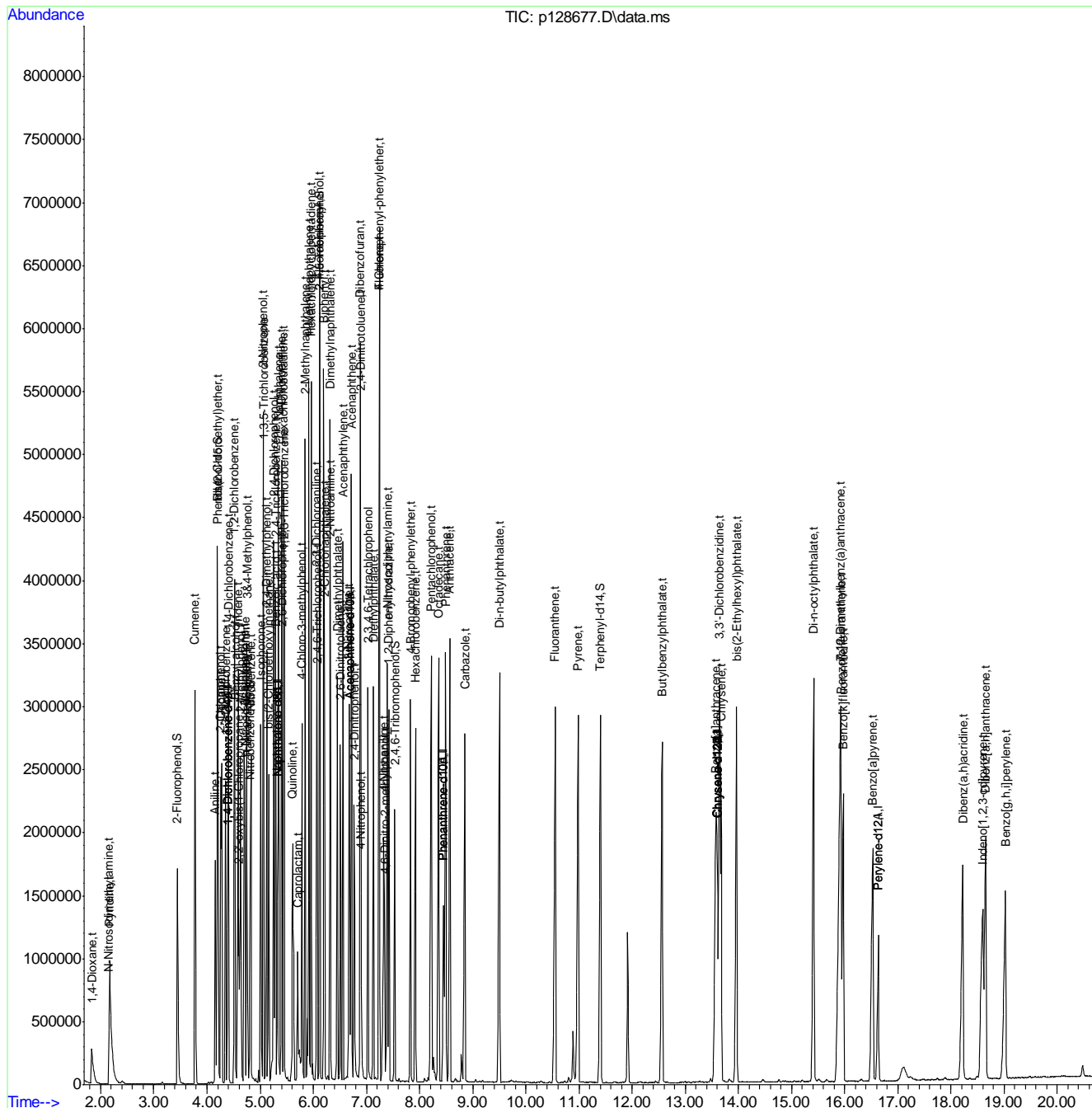
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 4-Nitroaniline	7.328	138	270600	75.71	ppm	92
70) 4,6-Dinitro-2-methylph...	7.344	198	215376	80.51	ppm	85
71) n-Nitrosodiphenylamine	7.393	169	868999	81.19	ppm	97
72) 1,2-Diphenylhydrazine	7.425	77	1436601	74.14	ppm	98
74) 4-Bromophenyl-phenylether	7.831	248	400937	84.43	ppm	98
75) Hexachlorobenzene	7.921	284	410236	83.38	ppm	91
76) Pentachlorophenol	8.221	266	507988	172.91	ppm	93
77) Phenanthrene	8.493	178	1792934	81.54	ppm	99
78) Anthracene	8.568	178	1864810	81.66	ppm	99
79) Carbazole	8.851	167	1693471	79.97	ppm	99
80) Di-n-butylphthalate	9.503	149	2547474	79.73	ppm	99
81) Fluoranthene	10.555	202	2169991	80.55	ppm	99
82) Octadecane	8.354	57	822480	72.47	ppm	95
84) Pyrene	10.988	202	2185028	77.74	ppm	99
86) Butylbenzylphthalate	12.564	149	1152835	77.20	ppm	97
87) Benzo[a]anthracene	13.579	228	2009377	78.56	ppm	98
88) 3,3'-Dichlorobenzidine	13.643	252	737428	84.37	ppm	98
89) Chrysene	13.675	228	1839808	81.95	ppm	98
90) bis(2-Ethylhexyl)phtha...	13.969	149	1593729	77.75	ppm	99
92) Di-n-octylphthalate	15.417	149	2858199	79.89	ppm	98
93) Benzo[b]fluoranthene	15.929	252	2163630	87.46	ppm	98
94) Benzo[k]fluoranthene	15.978	252	1527932	75.19	ppm	98
95) Benzo[a]pyrene	16.528	252	1655862	80.04	ppm	99
96) Indeno[1,2,3-cd]pyrene	18.601	276	1558377	82.25	ppm	95
97) Dibenz(a,h)acridine	18.227	279	1476309	82.51	ppm	99
98) Dibenz[a,h]anthracene	18.654	278	1588588	82.30	ppm	99
99) 7,12-Dimethylbenz(a)an...	15.924	256	918985	83.51	ppm	99
100) Benzo[g,h,i]perylene	19.028	276	1481791	80.45	ppm	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
Data File : p128677.D  
Acq On : 25 Mar 2019 10:45 am  
Operator : christc2  
Sample : ic5819-80  
Misc : op13894,ep5819,1000,,,1,1  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 13:06:19 2019  
Quant Method : C:\msdchem\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Mon Mar 25 11:47:04 2019  
Response via : Initial Calibration



9.6.43  
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# Manual Integration Approval Summary

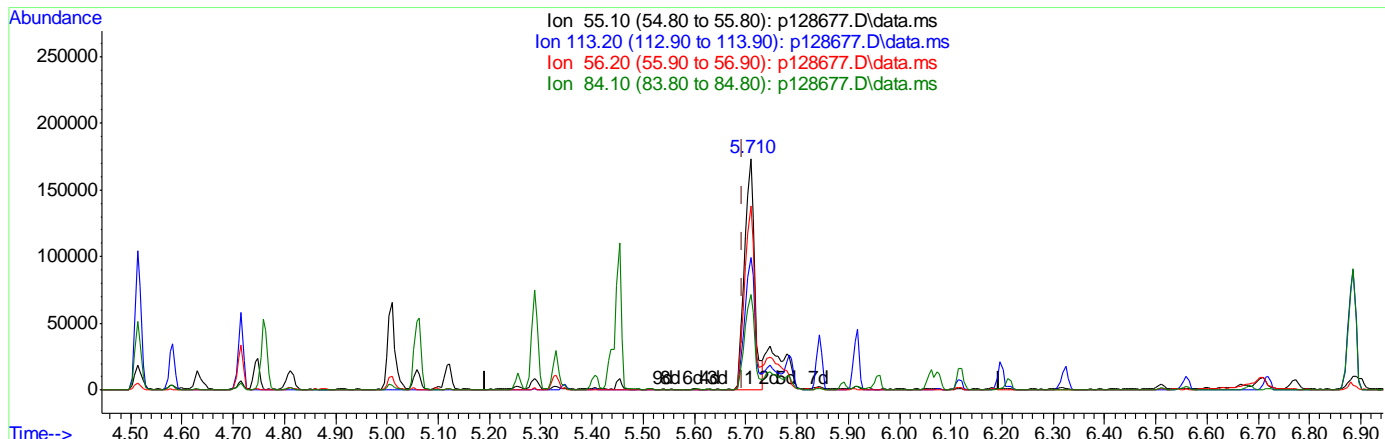
Sample Number: EP5819-IC5819      Method: SW846 8270D  
Lab FileID: P128677.D      Analyst approved: 03/25/19 17:27 Ying Li  
Injection Time: 03/25/19 10:45      Supervisor approved: 03/28/19 17:53 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Caprolactam	105-60-2		5.71	Split peak

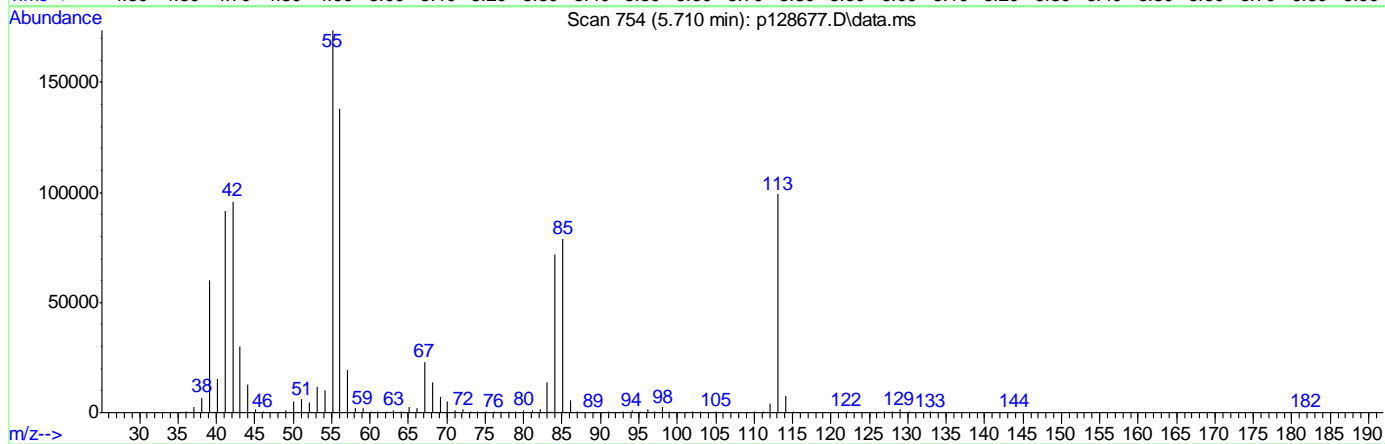
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128677.D  
 Acq On : 25 Mar 2019 10:45 am  
 Operator : christc2  
 Sample : ic5819-80  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 11:53:36 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration



9.6.43.2  
9



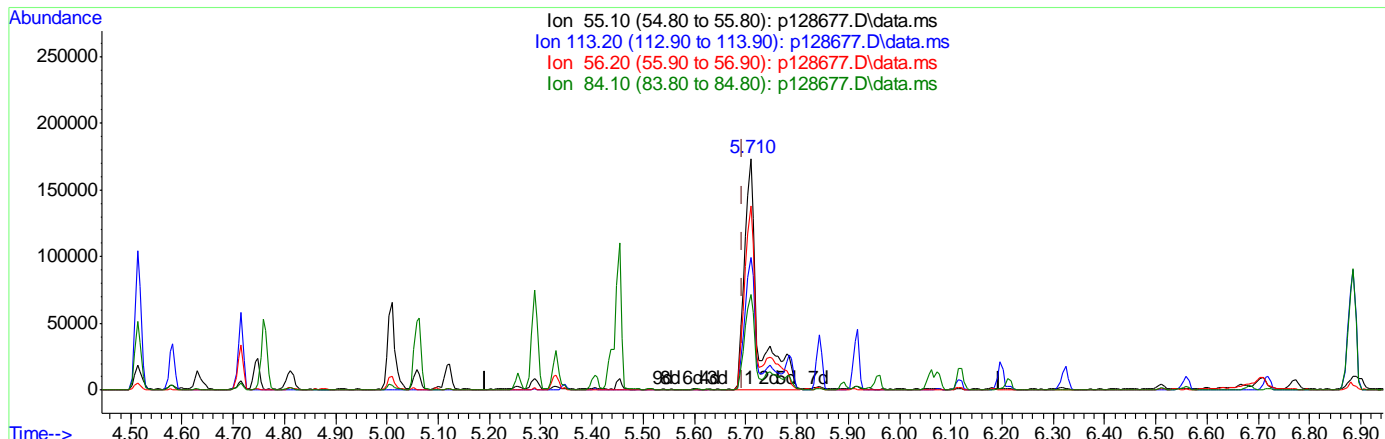
(41) Caprolactam (t)  
 5.710min (+0.016) 56.33ppm  
 response 239830

Ion	Exp%	Act%
55.10	100	100
113.20	58.90	57.26
56.20	79.90	79.26
84.10	42.00	41.56

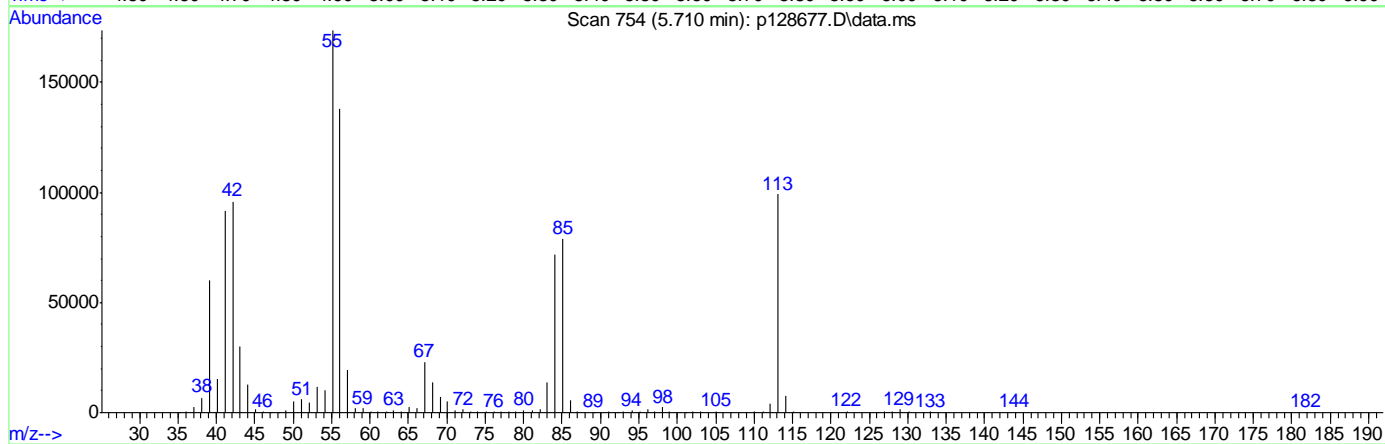
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128677.D  
 Acq On : 25 Mar 2019 10:45 am  
 Operator : christc2  
 Sample : ic5819-80  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 25 11:53:36 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration



9.6.43.3  
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(41) Caprolactam (t)  
 5.710min (+0.016) 78.85ppm m  
 response 335704

Ion	Exp%	Act%
55.10	100	100
113.20	58.90	57.15
56.20	79.90	79.35
84.10	42.00	41.33

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128678.D  
 Acq On : 25 Mar 2019 11:12 am  
 Operator : christc2  
 Sample : icc5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 11:48:32 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	177833	40.00	ppm	0.00
24) Naphthalene-d8	5.325	136	691826	40.00	ppm	0.00
47) Acenaphthene-d10	6.682	164	433118	40.00	ppm	0.00
69) Phenanthrene-d10	8.445	188	805538	40.00	ppm	0.00
83) Chrysene-d12	13.595	240	737519	40.00	ppm	0.00
91) Perylene-d12	16.624	264	762319	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	177833	40.00	ppm	-0.06
111) Naphthalene-d8A	5.325	136	691826	40.00	ppm	-0.06
120) Acenaphthene-d10A	6.682	164	433118	40.00	ppm	-0.08
131) Phenanthrene-d10A	8.445	188	805538	40.00	ppm	-0.11
146) Chrysene-d12A	13.595	240	737519	40.00	ppm	-0.14
153) Perylene-d12A	16.624	264	762319	40.00	ppm	-0.15
157) 1,4-Dichlorobenzene-d4b	4.385	152	177833	40.00	ppm	-0.06
159) Phenanthrene-d10b	8.445	188	805538	40.00	ppm	-0.11
161) Chrysene-d12b	13.595	240	737519	40.00	ppm	-0.14
163) Naphthalene-d8b	5.325	136	691826	40.00	ppm	-0.06
165) Acenaphthene-d10b	6.682	164	433118	40.00	ppm	-0.08
167) Naphthalene-d8c	5.325	136	691826	40.00	ppm	-0.06
172) 1,4-Dichlorobenzene-d4c	4.385	152	177833	40.00	ppm	-0.06
174) Chrysene-d12c	13.595	240	737519	40.00	ppm	-0.14
176) Chrysene-d12d	13.595	240	737519	40.00	ppm	-0.14
178) Naphthalene-d8d	5.325	136	691826	40.00	ppm	-0.06
180) Chrysene-d12D	13.595	240	737519	40.00	ppm	-0.14
System Monitoring Compounds						
5) 2-Fluorophenol	3.439	112	362873	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
8) Phenol-d5	4.193	99	458295	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
25) Nitrobenzene-d5	4.807	82	451369	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
51) 2-Fluorobiphenyl	6.116	172	840040	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
73) 2,4,6-Tribromophenol	7.526	330	117838	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
85) Terphenyl-d14	11.394	244	959554	50.00	ppm	0.00
Spiked Amount	50.000		Recovery	=	100.00%	
Target Compounds						
2) 1,4-Dioxane	1.837	88	173783	50.00	ppm	100
3) Pyridine	2.173	79	447738	49.50	ppm	100
4) N-Nitrosodimethylamine	2.163	42	240494	49.13	ppm	100
6) Indene	4.577	116	536700	50.00	ppm	100
7) Cumene	3.776	105	956878	50.00	ppm	100
9) Phenol	4.198	94	479639	50.00	ppm	100
10) Aniline	4.155	93	525185	50.00	ppm	100
11) bis(2-Chloroethyl)ether	4.198	93	349282	50.00	ppm	100
12) 2-Chlorophenol	4.257	128	320380	50.00	ppm	100
13) Decane	4.273	43	332624	50.00	ppm	100

9.6.44

9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128678.D  
 Acq On : 25 Mar 2019 11:12 am  
 Operator : christc2  
 Sample : icc5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 11:48:32 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
14) 1,3-Dichlorobenzene	4.342	146	369526	50.00	ppm	100
15) 1,4-Dichlorobenzene	4.401	146	362788	50.00	ppm	100
16) Benzyl alcohol	4.519	108	227606	50.00	ppm	100
17) 1,2-Dichlorobenzene	4.513	146	372997	50.00	ppm	100
18) Acetophenone	4.695	105	512335	50.00	ppm	100
19) 2-Methylphenol	4.625	108	303616	49.94	ppm	100
20) 2,2'-oxybis(1-Chloropr...	4.599	121	88988	50.00	ppm	100
21) 3&4-Methylphenol	4.743	108	329973	49.51	ppm	100
22) n-Nitroso-di-n-propyla...	4.706	70	257674	49.22	ppm	99
23) Hexachloroethane	4.759	201	128463	50.00	ppm	100
26) Nitrobenzene	4.823	77	452508	50.00	ppm	100
27) Quinoline	5.598	129	691519	50.00	ppm	100
28) Isophorone	4.999	82	813968	50.00	ppm	100
29) 2-Nitrophenol	5.058	139	200378	50.00	ppm	100
30) 2,4-Dimethylphenol	5.117	107	380630	50.05	ppm	100
31) Benzoic acid	5.272	105	281655	50.00	ppm	100
32) bis(2-Chloroethoxy)met...	5.154	93	423225	50.00	ppm	100
33) 2,4-Dichlorophenol	5.250	162	301645	50.00	ppm	100
34) 2,6-Dichlorophenol	5.405	162	298911	50.00	ppm	100
35) 1,3,5-Trichlorobenzene	5.058	180	357119	50.00	ppm	100
36) 1,2,4-Trichlorobenzene	5.288	180	309254	50.00	ppm	100
37) 1,2,3-Trichlorobenzene	5.448	180	301298	50.00	ppm	100
38) Naphthalene	5.341	128	918356	50.00	ppm	100
39) 4-Chloroaniline	5.400	127	396199	50.00	ppm	100
40) 2,3-Dichloroaniline	6.057	161	377067	50.00	ppm	100
41) Caprolactam	5.694	55	220033m	49.84	ppm	
42) Hexachlorobutadiene	5.437	225	210298	50.00	ppm	100
43) 4-Chloro-3-methylphenol	5.779	107	368432	50.08	ppm	100
44) 2-Methylnaphthalene	5.843	141	555392	50.00	ppm	100
45) 1-Methylnaphthalene	5.913	142	695698	50.00	ppm	100
46) Dimethylnaphthalene	6.319	156	636068	50.00	ppm	100
48) Hexachlorocyclopentadiene	5.956	237	391751	100.00	ppm	100
49) 2,4,6-Trichlorophenol	6.073	196	227338	50.00	ppm	100
50) 2,4,5-Trichlorophenol	6.116	196	280599	49.60	ppm	100
52) 2-Chloronaphthalene	6.212	162	632856	50.00	ppm	100
53) Biphenyl	6.191	154	899785	50.00	ppm	100
54) 2-Nitroaniline	6.308	65	287615	49.70	ppm	100
55) Dimethylphthalate	6.447	163	822145	50.00	ppm	100
56) Acenaphthylene	6.554	152	1061000	50.00	ppm	100
57) 2,6-Dinitrotoluene	6.506	165	176452	50.07	ppm	100
58) 3-Nitroaniline	6.666	138	194156	50.00	ppm	100
59) Acenaphthene	6.714	153	671977	50.00	ppm	100
60) 2,4-Dinitrophenol	6.762	184	174636	100.00	ppm	100
61) 4-Nitrophenol	6.891	109	164181	50.00	ppm	100
62) Dibenzofuran	6.880	168	1018551	50.00	ppm	100
63) 2,4-Dinitrotoluene	6.880	165	275186	50.00	ppm	100
64) 2,3,4,6-Tetrachlorophenol	7.024	232	206319	50.00	ppm	100
65) Diethylphthalate	7.126	149	888769	50.00	ppm	100
66) Fluorene	7.238	166	853380	50.00	ppm	100
67) 4-Chlorophenyl-phenyle...	7.238	204	467525	50.00	ppm	100

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128678.D  
 Acq On : 25 Mar 2019 11:12 am  
 Operator : christc2  
 Sample : icc5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 11:48:32 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration

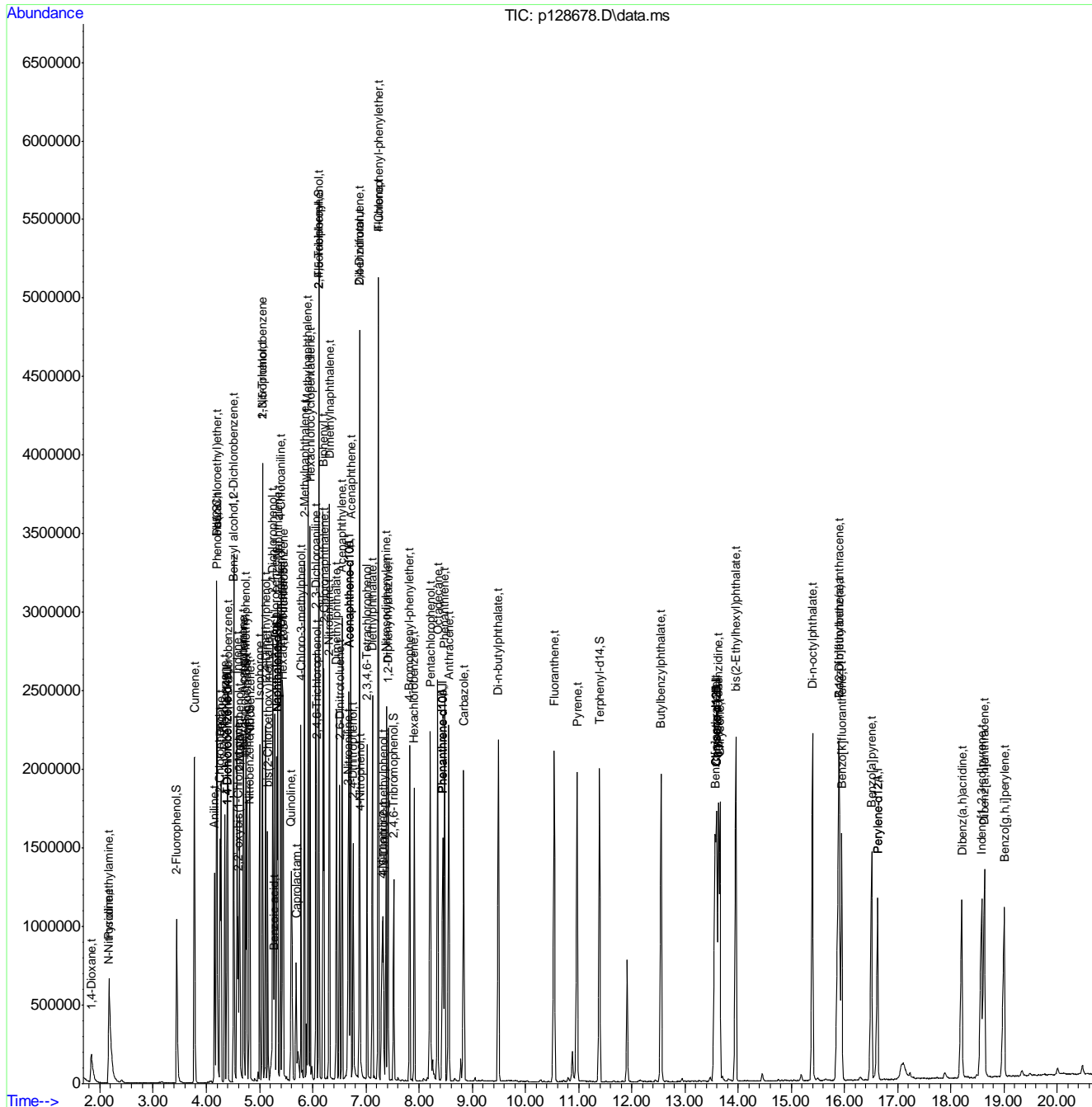
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 4-Nitroaniline	7.307	138	179492	50.01	ppm	100
70) 4,6-Dinitro-2-methylph...	7.329	198	138687	50.00	ppm	100
71) n-Nitrosodiphenylamine	7.382	169	554831	50.00	ppm	100
72) 1,2-Diphenylhydrazine	7.419	77	1004449	50.00	ppm	100
74) 4-Bromophenyl-phenylether	7.825	248	246182	50.00	ppm	100
75) Hexachlorobenzene	7.911	284	255068	50.00	ppm	100
76) Pentachlorophenol	8.210	266	304598	100.00	ppm	100
77) Phenanthrene	8.482	178	1139854	50.00	ppm	100
78) Anthracene	8.557	178	1183763	50.00	ppm	100
79) Carbazole	8.840	167	1097676	50.00	ppm	100
80) Di-n-butylphthalate	9.492	149	1656424	50.00	ppm	100
81) Fluoranthene	10.545	202	1396499	50.00	ppm	100
82) Octadecane	8.349	57	588339	50.00	ppm	100
84) Pyrene	10.977	202	1421523	49.93	ppm	100
86) Butylbenzylphthalate	12.553	149	756264	50.00	ppm	100
87) Benzo[a]anthracene	13.568	228	1295307	50.00	ppm	100
88) 3,3'-Dichlorobenzidine	13.627	252	442646	50.00	ppm	100
89) Chrysene	13.659	228	1133834	49.87	ppm	100
90) bis(2-Ethylhexyl)phtha...	13.958	149	1036462	49.93	ppm	100
92) Di-n-octylphthalate	15.401	149	1861402	49.78	ppm	100
93) Benzo[b]fluoranthene	15.903	252	1292982	50.00	ppm	99
94) Benzo[k]fluoranthene	15.951	252	1059727	49.89	ppm	100
95) Benzo[a]pyrene	16.512	252	1075665	49.75	ppm	100
96) Indeno[1,2,3-cd]pyrene	18.579	276	1006102	50.80	ppm	96
97) Dibenz(a,h)acridine	18.211	279	932238	49.85	ppm	100
98) Dibenz[a,h]anthracene	18.633	278	1007506	49.93	ppm	100
99) 7,12-Dimethylbenz(a)an...	15.903	256	574795	49.97	ppm	100
100) Benzo[g,h,i]perylene	19.007	276	958085	49.76	ppm	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
Data File : p128678.D  
Acq On : 25 Mar 2019 11:12 am  
Operator : christc2  
Sample : icc5819-50  
Misc : op13894,ep5819,1000,,,1,1  
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 11:48:32 2019  
Quant Method : C:\msdchem\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Mon Mar 25 11:47:04 2019  
Response via : Initial Calibration



9.6.44  
9

# Manual Integration Approval Summary

Sample Number: EP5819-ICC5819      Method: SW846 8270D  
Lab FileID: P128678.D      Analyst approved: 03/25/19 17:27 Ying Li  
Injection Time: 03/25/19 11:12      Supervisor approved: 03/28/19 17:53 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Caprolactam	105-60-2		5.69	Split peak

9.6.44.1

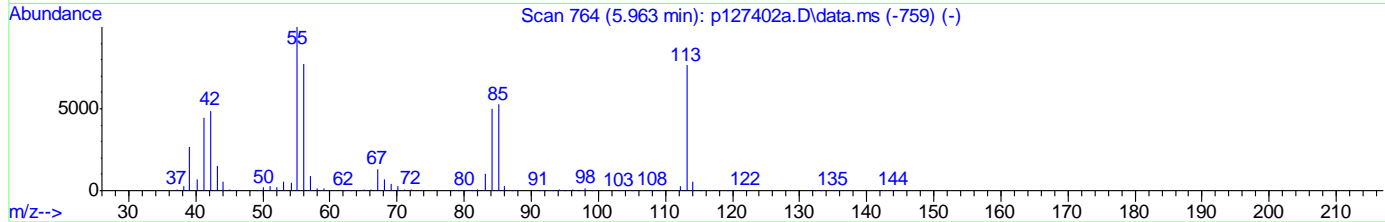
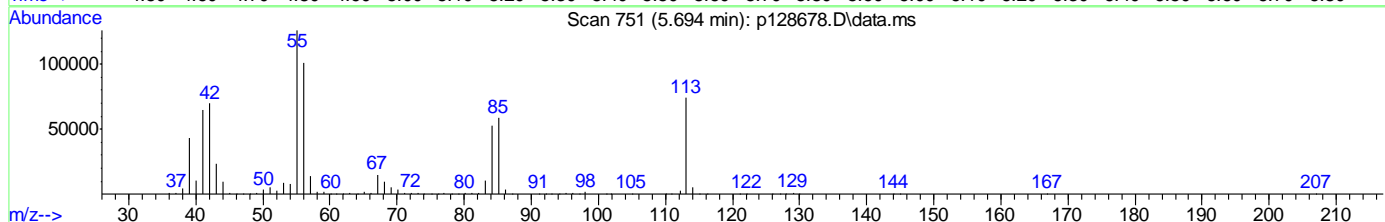
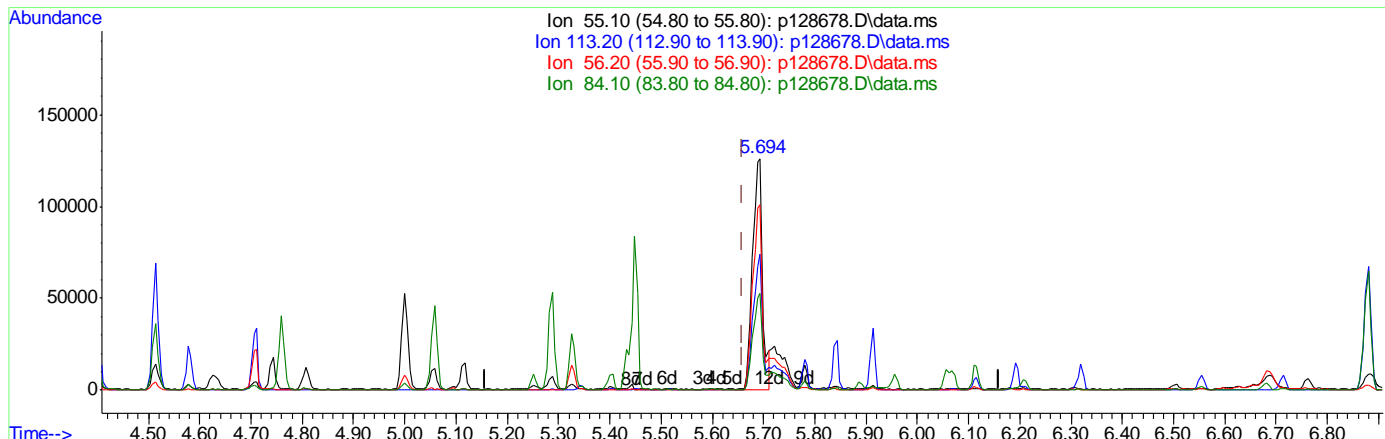
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Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128678.D  
 Acq On : 25 Mar 2019 11:12 am  
 Operator : christc2  
 Sample : icc5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 11:33:24 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Tue Mar 19 05:39:17 2019  
 Response via : Initial Calibration



TIC: p128678.D\data.ms

(41) Caprolactam (t)  
 5.694min (+0.035) 65.26ppm  
 response 172303

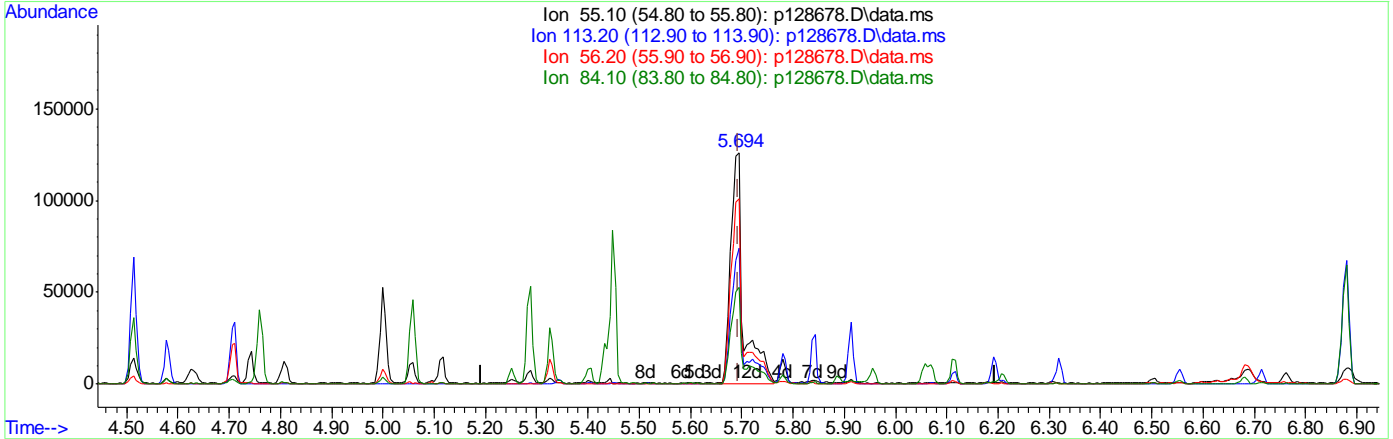
Ion	Exp%	Act%
55.10	100	100
113.20	85.00	59.08
56.20	80.80	79.75
84.10	51.90	42.26

9.6.44.2  
 9

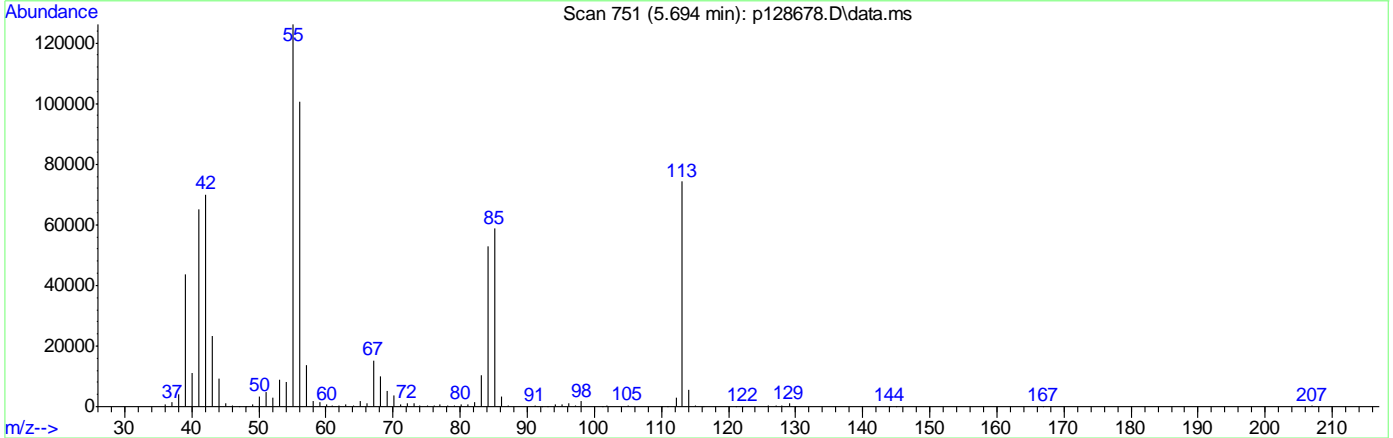
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128678.D  
 Acq On : 25 Mar 2019 11:12 am  
 Operator : christc2  
 Sample : icc5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 25 11:48:32 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 11:47:04 2019  
 Response via : Initial Calibration



9.6.44.3  
9



TIC: p128678.D\data.ms

(41) Caprolactam (t)  
 5.694min (0.000) 49.84ppm m  
 response 220033

Ion	Exp%	Act%
55.10	100	100
113.20	58.90	58.86
56.20	79.90	79.86
84.10	42.00	41.96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128679.D  
 Acq On : 25 Mar 2019 11:39 am  
 Operator : christc2  
 Sample : ic5819-25  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 25 13:09:30 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:08:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	203602	40.00	ppm	0.00
24) Naphthalene-d8	5.325	136	802307	40.00	ppm	0.00
47) Acenaphthene-d10	6.682	164	498306	40.00	ppm	0.00
69) Phenanthrene-d10	8.440	188	916066	40.00	ppm	0.00
83) Chrysene-d12	13.590	240	858367	40.00	ppm	0.00
91) Perylene-d12	16.624	264	880257	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	203602	40.00	ppm	-0.06
111) Naphthalene-d8A	5.325	136	802307	40.00	ppm	-0.06
120) Acenaphthene-d10A	6.682	164	498306	40.00	ppm	-0.08
131) Phenanthrene-d10A	8.440	188	916066	40.00	ppm	-0.11
146) Chrysene-d12A	13.590	240	858367	40.00	ppm	-0.14
153) Perylene-d12A	16.624	264	880257	40.00	ppm	-0.15
157) 1,4-Dichlorobenzene-d4b	4.385	152	203602	40.00	ppm	-0.06
159) Phenanthrene-d10b	8.440	188	916066	40.00	ppm	-0.11
161) Chrysene-d12b	13.590	240	858367	40.00	ppm	-0.14
163) Naphthalene-d8b	5.325	136	802307	40.00	ppm	-0.06
165) Acenaphthene-d10b	6.682	164	498306	40.00	ppm	-0.08
167) Naphthalene-d8c	5.325	136	802307	40.00	ppm	-0.06
172) 1,4-Dichlorobenzene-d4c	4.385	152	203602	40.00	ppm	-0.06
174) Chrysene-d12c	13.590	240	858367	40.00	ppm	-0.14
176) Chrysene-d12d	13.590	240	858367	40.00	ppm	-0.14
178) Naphthalene-d8d	5.325	136	802307	40.00	ppm	-0.06
180) Chrysene-d12D	13.590	240	858367	40.00	ppm	-0.14
System Monitoring Compounds						
5) 2-Fluorophenol	3.439	112	197722	23.80	ppm	0.00
Spiked Amount	50.000		Recovery	=	47.60%	
8) Phenol-d5	4.187	99	253936	24.20	ppm	0.00
Spiked Amount	50.000		Recovery	=	48.40%	
25) Nitrobenzene-d5	4.802	82	260930	24.92	ppm	0.00
Spiked Amount	50.000		Recovery	=	49.84%	
51) 2-Fluorobiphenyl	6.110	172	431766	22.34	ppm	0.00
Spiked Amount	50.000		Recovery	=	44.68%	
73) 2,4,6-Tribromophenol	7.521	330	61966	23.12	ppm	0.00
Spiked Amount	50.000		Recovery	=	46.24%	
85) Terphenyl-d14	11.389	244	527651	23.62	ppm	0.00
Spiked Amount	50.000		Recovery	=	47.24%	
Target Compounds						
2) 1,4-Dioxane	1.837	88	94912	23.85	ppm	97
3) Pyridine	2.173	79	240934	23.27	ppm	98
4) N-Nitrosodimethylamine	2.163	42	131563	23.47	ppm	94
6) Indene	4.577	116	304716	24.79	ppm	98
7) Cumene	3.771	105	531369	24.25	ppm	99
9) Phenol	4.193	94	275052	25.04	ppm	88
10) Aniline	4.150	93	304641	25.33	ppm	98
11) bis(2-Chloroethyl)ether	4.193	93	202111	25.27	ppm	90
12) 2-Chlorophenol	4.251	128	185256	25.25	ppm	96
13) Decane	4.273	43	214519	28.17	ppm	96

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128679.D  
 Acq On : 25 Mar 2019 11:39 am  
 Operator : christc2  
 Sample : ic5819-25  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 25 13:09:30 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:08:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
14) 1,3-Dichlorobenzene	4.342	146	209492	24.76	ppm	99
15) 1,4-Dichlorobenzene	4.396	146	197777	23.81	ppm	98
16) Benzyl alcohol	4.513	108	124808	23.95	ppm	93
17) 1,2-Dichlorobenzene	4.513	146	196866	23.05	ppm	99
18) Acetophenone	4.695	105	293078	24.98	ppm	96
19) 2-Methylphenol	4.625	108	177410	25.49	ppm	100
20) 2,2'-oxybis(1-Chloropr...	4.599	121	53186	26.10	ppm	97
21) 3&4-Methylphenol	4.737	108	190704	24.99	ppm	98
22) n-Nitroso-di-n-propyla...	4.700	70	152114	25.38	ppm	98
23) Hexachloroethane	4.759	201	71943	24.46	ppm	99
26) Nitrobenzene	4.818	77	266638	25.41	ppm	97
27) Quinoline	5.592	129	396431	24.71	ppm	98
28) Isophorone	4.994	82	465181	24.64	ppm	99
29) 2-Nitrophenol	5.053	139	104200	22.42	ppm	88
30) 2,4-Dimethylphenol	5.111	107	209341	23.74	ppm	99
31) Benzoic acid	5.245	105	182790	27.98	ppm	99
32) bis(2-Chloroethoxy)met...	5.154	93	242789	24.73	ppm	98
33) 2,4-Dichlorophenol	5.250	162	164546	23.52	ppm	98
34) 2,6-Dichlorophenol	5.400	162	154280	22.25	ppm	98
35) 1,3,5-Trichlorobenzene	5.058	180	185044	22.34	ppm	98
36) 1,2,4-Trichlorobenzene	5.288	180	172720	24.08	ppm	98
37) 1,2,3-Trichlorobenzene	5.448	180	162858	23.30	ppm	98
38) Naphthalene	5.341	128	500573	23.50	ppm	99
39) 4-Chloroaniline	5.395	127	210583	22.92	ppm	93
40) 2,3-Dichloroaniline	6.052	161	203956	23.32	ppm	96
41) Caprolactam	5.667	55	122544	23.93	ppm	99
42) Hexachlorobutadiene	5.432	225	108451	22.23	ppm	97
43) 4-Chloro-3-methylphenol	5.774	107	212384	24.89	ppm	100
44) 2-Methylnaphthalene	5.838	141	301258	23.39	ppm	96
45) 1-Methylnaphthalene	5.913	142	378382	23.45	ppm	97
46) Dimethylnaphthalene	6.313	156	333156	22.58	ppm	96
48) Hexachlorocyclopentadiene	5.956	237	173180	38.42	ppm	100
49) 2,4,6-Trichlorophenol	6.068	196	121056	23.14	ppm	99
50) 2,4,5-Trichlorophenol	6.110	196	137998	21.20	ppm	98
52) 2-Chloronaphthalene	6.207	162	351452	24.13	ppm	99
53) Biphenyl	6.191	154	465046	22.46	ppm	99
54) 2-Nitroaniline	6.303	65	168271	25.27	ppm	98
55) Dimethylphthalate	6.442	163	459192	24.27	ppm	99
56) Acenaphthylene	6.548	152	585306	23.97	ppm	99
57) 2,6-Dinitrotoluene	6.500	165	99860	24.63	ppm	94
58) 3-Nitroaniline	6.661	138	108908	24.38	ppm	97
59) Acenaphthene	6.709	153	359082	23.22	ppm	99
60) 2,4-Dinitrophenol	6.757	184	85858	42.73	ppm	90
61) 4-Nitrophenol	6.880	109	92337	24.44	ppm	# 24
62) Dibenzofuran	6.874	168	515796	22.01	ppm	93
63) 2,4-Dinitrotoluene	6.874	165	141676	22.37	ppm	78
64) 2,3,4,6-Tetrachlorophenol	7.019	232	107147	22.57	ppm	95
65) Diethylphthalate	7.115	149	491967	24.06	ppm	99
66) Fluorene	7.232	166	454303	23.14	ppm	97
67) 4-Chlorophenyl-phenyle...	7.232	204	226185	21.03	ppm	91

9.6.45

9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128679.D  
 Acq On : 25 Mar 2019 11:39 am  
 Operator : christc2  
 Sample : ic5819-25  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 25 13:09:30 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:08:22 2019  
 Response via : Initial Calibration

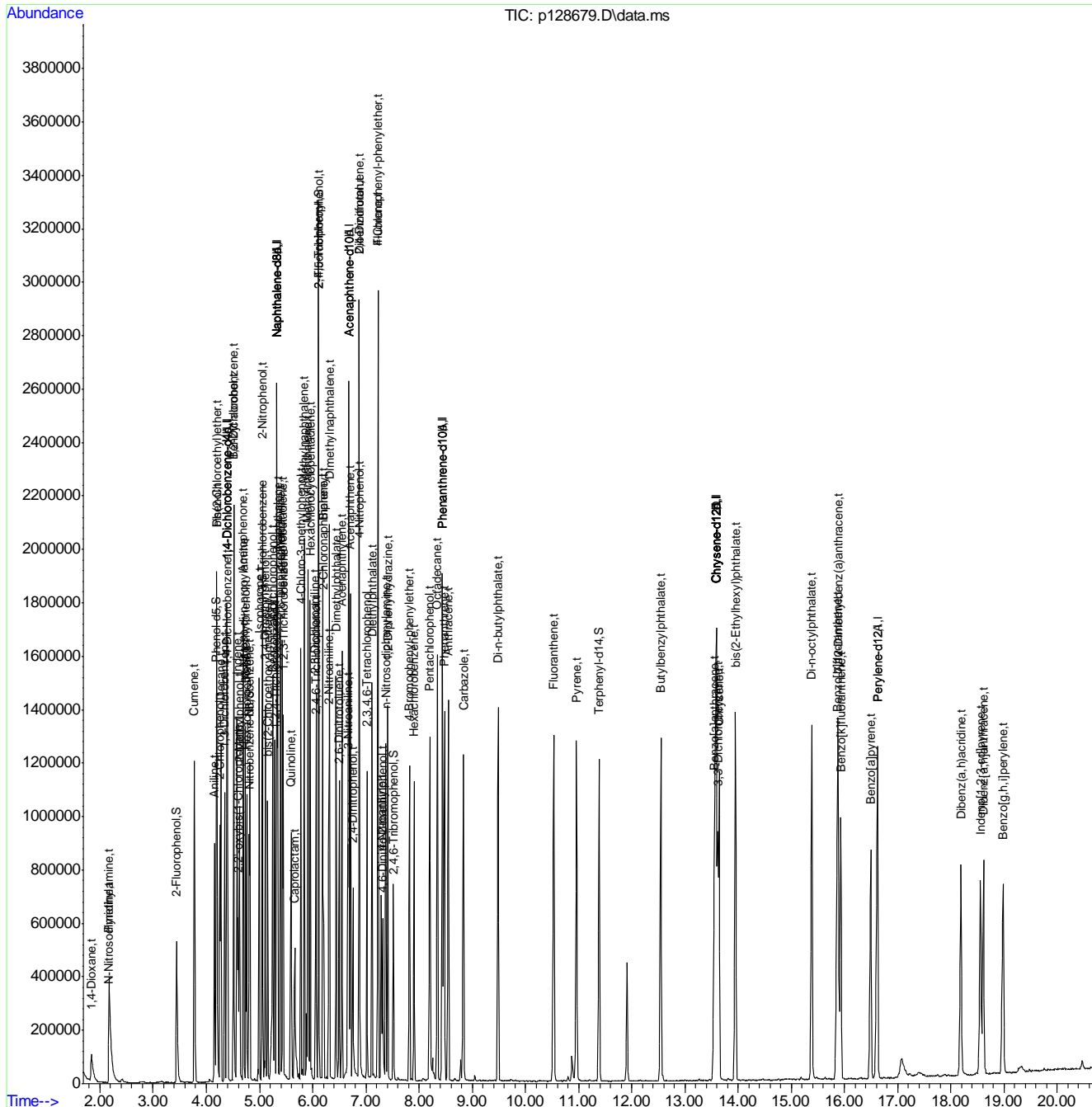
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 4-Nitroaniline	7.291	138	101841	24.66	ppm	98
70) 4,6-Dinitro-2-methylph...	7.318	198	74339	23.57	ppm	85
71) n-Nitrosodiphenylamine	7.377	169	308938	24.48	ppm	98
72) 1,2-Diphenylhydrazine	7.414	77	594910	26.04	ppm	98
74) 4-Bromophenyl-phenylether	7.820	248	134617	24.04	ppm	96
75) Hexachlorobenzene	7.905	284	137341	23.67	ppm	99
76) Pentachlorophenol	8.205	266	146489	42.29	ppm	95
77) Phenanthrene	8.477	178	623238	24.04	ppm	99
78) Anthracene	8.552	178	666397	24.75	ppm	99
79) Carbazole	8.835	167	617083	24.72	ppm	99
80) Di-n-butylphthalate	9.487	149	939254	24.93	ppm	99
81) Fluoranthene	10.534	202	784477	24.70	ppm	97
82) Octadecane	8.344	57	357006	26.68	ppm	94
84) Pyrene	10.967	202	804906	24.29	ppm	99
86) Butylbenzylphthalate	12.548	149	444650	25.26	ppm	99
87) Benzo[a]anthracene	13.558	228	735559	24.40	ppm	98
88) 3,3'-Dichlorobenzidine	13.616	252	237674	23.07	ppm	96
89) Chrysene	13.643	228	641137	24.23	ppm	100
90) bis(2-Ethylhexyl)phtha...	13.948	149	600431	24.85	ppm	96
92) Di-n-octylphthalate	15.385	149	1078380	24.97	ppm	98
93) Benzo[b]fluoranthene	15.871	252	728820	24.41	ppm	97
94) Benzo[k]fluoranthene	15.929	252	613827	25.03	ppm	98
95) Benzo[a]pyrene	16.496	252	611674	24.50	ppm	98
96) Indeno[1,2,3-cd]pyrene	18.558	276	548674	23.99	ppm	96
97) Dibenz(a,h)acridine	18.195	279	529402	24.51	ppm	100
98) Dibenz[a,h]anthracene	18.617	278	562860	24.16	ppm	99
99) 7,12-Dimethylbenz(a)an...	15.881	256	306960	23.11	ppm	95
100) Benzo[g,h,i]perylene	18.985	276	534581	24.05	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
Data File : pl28679.D  
Acq On : 25 Mar 2019 11:39 am  
Operator : christc2  
Sample : ic5819-25  
Misc : op13894,ep5819,1000,,,1,1  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 25 13:09:30 2019  
Quant Method : C:\msdchem\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Mon Mar 25 13:08:22 2019  
Response via : Initial Calibration



9.6:45  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128680.D  
 Acq On : 25 Mar 2019 12:06 pm  
 Operator : christc2  
 Sample : ic5819-10  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 25 13:12:27 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:08:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	208553	40.00	ppm	0.00
24) Naphthalene-d8	5.325	136	844670	40.00	ppm	0.00
47) Acenaphthene-d10	6.682	164	530981	40.00	ppm	0.00
69) Phenanthrene-d10	8.440	188	971044	40.00	ppm	0.00
83) Chrysene-d12	13.590	240	944615	40.00	ppm	0.00
91) Perylene-d12	16.624	264	948297	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	208553	40.00	ppm	-0.06
111) Naphthalene-d8A	5.325	136	844670	40.00	ppm	-0.06
120) Acenaphthene-d10A	6.682	164	530981	40.00	ppm	-0.08
131) Phenanthrene-d10A	8.440	188	971044	40.00	ppm	-0.11
146) Chrysene-d12A	13.590	240	944615	40.00	ppm	-0.14
153) Perylene-d12A	16.624	264	948297	40.00	ppm	-0.15
157) 1,4-Dichlorobenzene-d4b	4.385	152	208553	40.00	ppm	-0.06
159) Phenanthrene-d10b	8.440	188	971044	40.00	ppm	-0.11
161) Chrysene-d12b	13.590	240	944615	40.00	ppm	-0.14
163) Naphthalene-d8b	5.325	136	844670	40.00	ppm	-0.06
165) Acenaphthene-d10b	6.682	164	530981	40.00	ppm	-0.08
167) Naphthalene-d8c	5.325	136	844670	40.00	ppm	-0.06
172) 1,4-Dichlorobenzene-d4c	4.385	152	208553	40.00	ppm	-0.06
174) Chrysene-d12c	13.590	240	944615	40.00	ppm	-0.14
176) Chrysene-d12d	13.590	240	944615	40.00	ppm	-0.14
178) Naphthalene-d8d	5.325	136	844670	40.00	ppm	-0.06
180) Chrysene-d12D	13.590	240	944615	40.00	ppm	-0.14
System Monitoring Compounds						
5) 2-Fluorophenol	3.439	112	77639	9.12	ppm	0.00
Spiked Amount	50.000		Recovery	=	18.24%	
8) Phenol-d5	4.187	99	108016	10.05	ppm	0.00
Spiked Amount	50.000		Recovery	=	20.10%	
25) Nitrobenzene-d5	4.802	82	112506	10.21	ppm	0.00
Spiked Amount	50.000		Recovery	=	20.42%	
51) 2-Fluorobiphenyl	6.110	172	179637	8.72	ppm	0.00
Spiked Amount	50.000		Recovery	=	17.44%	
73) 2,4,6-Tribromophenol	7.515	330	25071	8.82	ppm	-0.01
Spiked Amount	50.000		Recovery	=	17.64%	
85) Terphenyl-d14	11.383	244	222418	9.05	ppm	-0.01
Spiked Amount	50.000		Recovery	=	18.10%	
Target Compounds						
2) 1,4-Dioxane	1.837	88	37570	9.22	ppm	100
3) Pyridine	2.179	79	94231	8.88	ppm	98
4) N-Nitrosodimethylamine	2.163	42	51733	9.01	ppm	94
6) Indene	4.577	116	130403	10.36	ppm	100
7) Cumene	3.771	105	221512	9.87	ppm	98
9) Phenol	4.198	94	118300	10.52	ppm	94
10) Aniline	4.150	93	129537	10.52	ppm	97
11) bis(2-Chloroethyl)ether	4.193	93	90631	11.06	ppm	90
12) 2-Chlorophenol	4.251	128	80333	10.69	ppm	94
13) Decane	4.273	43	101529	13.01	ppm	90



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128680.D  
 Acq On : 25 Mar 2019 12:06 pm  
 Operator : christc2  
 Sample : ic5819-10  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 25 13:12:27 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:08:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
14) 1,3-Dichlorobenzene	4.342	146	89792	10.36	ppm	96
15) 1,4-Dichlorobenzene	4.396	146	83814	9.85	ppm	99
16) Benzyl alcohol	4.513	108	54111	10.14	ppm	97
17) 1,2-Dichlorobenzene	4.513	146	82956	9.48	ppm	99
18) Acetophenone	4.689	105	125288	10.43	ppm	99
19) 2-Methylphenol	4.625	108	77840	10.92	ppm	98
20) 2,2'-oxybis(1-Chloropr...	4.599	121	23149	11.09	ppm	99
21) 3&4-Methylphenol	4.738	108	84980	10.87	ppm	99
22) n-Nitroso-di-n-propyla...	4.695	70	68299	11.12	ppm	95
23) Hexachloroethane	4.759	201	30342	10.07	ppm	94
26) Nitrobenzene	4.812	77	117199	10.61	ppm	96
27) Quinoline	5.582	129	166854	9.88	ppm	98
28) Isophorone	4.989	82	199123	10.02	ppm	98
29) 2-Nitrophenol	5.053	139	44078	9.01	ppm	78
30) 2,4-Dimethylphenol	5.106	107	85164	9.17	ppm	98
31) Benzoic acid	5.224	105	78240	11.38	ppm	98
32) bis(2-Chloroethoxy)met...	5.149	93	108182	10.47	ppm	98
33) 2,4-Dichlorophenol	5.250	162	69974	9.50	ppm	97
34) 2,6-Dichlorophenol	5.400	162	64087	8.78	ppm	99
35) 1,3,5-Trichlorobenzene	5.053	180	77303	8.86	ppm	94
36) 1,2,4-Trichlorobenzene	5.282	180	70950	9.40	ppm	97
37) 1,2,3-Trichlorobenzene	5.443	180	70575	9.59	ppm	95
38) Naphthalene	5.336	128	214704	9.57	ppm	99
39) 4-Chloroaniline	5.389	127	92684	9.58	ppm	88
40) 2,3-Dichloroaniline	6.052	161	86176	9.36	ppm	98
41) Caprolactam	5.640	55	53260	9.88	ppm	98
42) Hexachlorobutadiene	5.432	225	43011	8.38	ppm	96
43) 4-Chloro-3-methylphenol	5.769	107	89552	9.97	ppm	# 59
44) 2-Methylnaphthalene	5.838	141	128911	9.51	ppm	97
45) 1-Methylnaphthalene	5.907	142	162998	9.59	ppm	95
46) Dimethylnaphthalene	6.313	156	144018	9.27	ppm	95
48) Hexachlorocyclopentadiene	5.956	237	55280	11.51	ppm	95
49) 2,4,6-Trichlorophenol	6.062	196	52416	9.40	ppm	94
50) 2,4,5-Trichlorophenol	6.105	196	54264	7.82	ppm	99
52) 2-Chloronaphthalene	6.201	162	152140	9.80	ppm	95
53) Biphenyl	6.185	154	198572	9.00	ppm	98
54) 2-Nitroaniline	6.297	65	74246	10.46	ppm	93
55) Dimethylphthalate	6.436	163	194399	9.64	ppm	100
56) Acenaphthylene	6.549	152	253554	9.75	ppm	99
57) 2,6-Dinitrotoluene	6.495	165	41919	9.70	ppm	99
58) 3-Nitroaniline	6.655	138	46018	9.67	ppm	93
59) Acenaphthene	6.709	153	151103	9.17	ppm	98
60) 2,4-Dinitrophenol	6.752	184	28144	13.15	ppm	# 80
61) 4-Nitrophenol	6.880	109	39122	9.72	ppm	# 57
62) Dibenzofuran	6.869	168	216615	8.67	ppm	91
63) 2,4-Dinitrotoluene	6.869	165	58664	8.69	ppm	68
64) 2,3,4,6-Tetrachlorophenol	7.019	232	44914	8.88	ppm	99
65) Diethylphthalate	7.109	149	209561	9.62	ppm	99
66) Fluorene	7.227	166	188437	9.01	ppm	97
67) 4-Chlorophenyl-phenyle...	7.227	204	87546	7.64	ppm	79



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128680.D  
 Acq On : 25 Mar 2019 12:06 pm  
 Operator : christc2  
 Sample : ic5819-10  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 25 13:12:27 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:08:22 2019  
 Response via : Initial Calibration

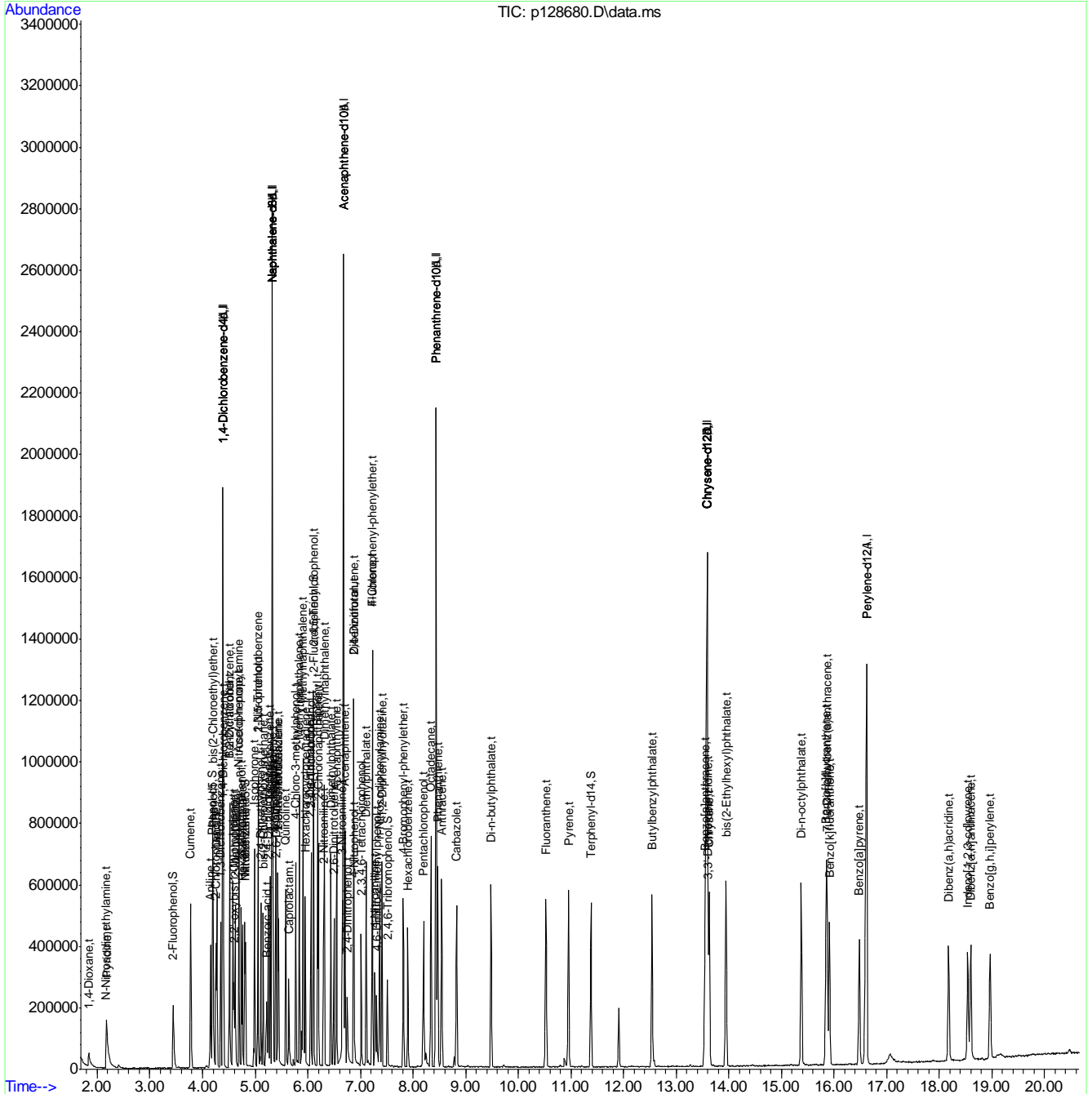
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 4-Nitroaniline	7.280	138	44432	10.10	ppm	92
70) 4,6-Dinitro-2-methylph...	7.307	198	28353	8.48	ppm #	72
71) n-Nitrosodiphenylamine	7.366	169	133436	9.98	ppm	99
72) 1,2-Diphenylhydrazine	7.409	77	268085	11.07	ppm	98
74) 4-Bromophenyl-phenylether	7.815	248	55316	9.32	ppm	97
75) Hexachlorobenzene	7.905	284	56024	9.11	ppm	91
76) Pentachlorophenol	8.199	266	53727	14.63	ppm	94
77) Phenanthrene	8.472	178	264117	9.61	ppm	99
78) Anthracene	8.547	178	286123	10.03	ppm	100
79) Carbazole	8.830	167	269555	10.18	ppm	100
80) Di-n-butylphthalate	9.487	149	398665	9.98	ppm	99
81) Fluoranthene	10.529	202	327158	9.72	ppm	94
82) Octadecane	8.344	57	164204	11.58	ppm	93
84) Pyrene	10.956	202	339986	9.32	ppm	94
86) Butylbenzylphthalate	12.543	149	190858	9.85	ppm	98
87) Benzo[a]anthracene	13.552	228	311512	9.39	ppm	98
88) 3,3'-Dichlorobenzidine	13.606	252	98064	8.65	ppm	98
89) Chrysene	13.632	228	280638	9.64	ppm	98
90) bis(2-Ethylhexyl)phtha...	13.948	149	264866	9.96	ppm	97
92) Di-n-octylphthalate	15.379	149	465391	10.00	ppm	97
93) Benzo[b]fluoranthene	15.855	252	304223	9.46	ppm	96
94) Benzo[k]fluoranthene	15.914	252	276321	10.46	ppm	97
95) Benzo[a]pyrene	16.480	252	268324	9.98	ppm	96
96) Indeno[1,2,3-cd]pyrene	18.542	276	237962	9.66	ppm	90
97) Dibenz(a,h)acridine	18.179	279	226337	9.73	ppm	98
98) Dibenz[a,h]anthracene	18.601	278	237599	9.47	ppm	96
99) 7,12-Dimethylbenz(a)an...	15.865	256	121492	8.49	ppm	98
100) Benzo[g,h,i]perylene	18.969	276	232024	9.69	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\
Data File : p128680.D
Acq On : 25 Mar 2019 12:06 pm
Operator : christc2
Sample : ic5819-10
Misc : op13894,ep5819,1000,,,1,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 25 13:12:27 2019
Quant Method : C:\msdchem\1\METHODS\MP5819.M
Quant Title : Semi Volatile Extractables by GC/MS
QLast Update : Mon Mar 25 13:08:22 2019
Response via : Initial Calibration



9.6.46
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128681.D  
 Acq On : 25 Mar 2019 12:33 pm  
 Operator : christc2  
 Sample : ic5819-5  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 25 13:16:13 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:13:57 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	210685	40.00	ppm	0.00
24) Naphthalene-d8	5.325	136	850930	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	542736	40.00	ppm	0.00
69) Phenanthrene-d10	8.440	188	1003322	40.00	ppm	0.00
83) Chrysene-d12	13.584	240	960529	40.00	ppm	-0.01
91) Perylene-d12	16.619	264	995899	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	210685	40.00	ppm	-0.06
111) Naphthalene-d8A	5.325	136	850930	40.00	ppm	-0.06
120) Acenaphthene-d10A	6.677	164	542736	40.00	ppm	-0.09
131) Phenanthrene-d10A	8.440	188	1003322	40.00	ppm	-0.11
146) Chrysene-d12A	13.584	240	960529	40.00	ppm	-0.15
153) Perylene-d12A	16.619	264	995899	40.00	ppm	-0.15
157) 1,4-Dichlorobenzene-d4b	4.385	152	210685	40.00	ppm	-0.06
159) Phenanthrene-d10b	8.440	188	1003322	40.00	ppm	-0.11
161) Chrysene-d12b	13.584	240	960529	40.00	ppm	-0.15
163) Naphthalene-d8b	5.325	136	850930	40.00	ppm	-0.06
165) Acenaphthene-d10b	6.677	164	542736	40.00	ppm	-0.09
167) Naphthalene-d8c	5.325	136	850930	40.00	ppm	-0.06
172) 1,4-Dichlorobenzene-d4c	4.385	152	210685	40.00	ppm	-0.06
174) Chrysene-d12c	13.584	240	960529	40.00	ppm	-0.15
176) Chrysene-d12d	13.584	240	960529	40.00	ppm	-0.15
178) Naphthalene-d8d	5.325	136	850930	40.00	ppm	-0.06
180) Chrysene-d12D	13.584	240	960529	40.00	ppm	-0.15
System Monitoring Compounds						
5) 2-Fluorophenol	3.439	112	36428	4.24	ppm	0.00
Spiked Amount	50.000		Recovery	=	8.48%	
8) Phenol-d5	4.187	99	52144	4.80	ppm	0.00
Spiked Amount	50.000		Recovery	=	9.60%	
25) Nitrobenzene-d5	4.801	82	56771	5.11	ppm	0.00
Spiked Amount	50.000		Recovery	=	10.22%	
51) 2-Fluorobiphenyl	6.105	172	91565	4.35	ppm	-0.01
Spiked Amount	50.000		Recovery	=	8.70%	
73) 2,4,6-Tribromophenol	7.510	330	12351	4.21	ppm	-0.02
Spiked Amount	50.000		Recovery	=	8.42%	
85) Terphenyl-d14	11.378	244	114376	4.58	ppm	-0.02
Spiked Amount	50.000		Recovery	=	9.16%	
Target Compounds						
2) 1,4-Dioxane	1.842	88	17879	4.34	ppm	96
3) Pyridine	2.178	79	45178	4.22	ppm	97
4) N-Nitrosodimethylamine	2.168	42	25743	4.44	ppm	88
6) Indene	4.577	116	64677	5.09	ppm	97
7) Cumene	3.770	105	106537	4.70	ppm	96
9) Phenol	4.198	94	57299	5.04	ppm	94
10) Aniline	4.150	93	64998	5.22	ppm	98
11) bis(2-Chloroethyl)ether	4.192	93	45354	5.48	ppm	86
12) 2-Chlorophenol	4.251	128	38601	5.08	ppm	98
13) Decane	4.267	43	54118	6.87	ppm	86

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128681.D  
 Acq On : 25 Mar 2019 12:33 pm  
 Operator : christc2  
 Sample : ic5819-5  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 25 13:16:13 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:13:57 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
14) 1,3-Dichlorobenzene	4.342	146	43633	4.98	ppm	96
15) 1,4-Dichlorobenzene	4.395	146	42153	4.90	ppm	97
16) Benzyl alcohol	4.513	108	26636	4.94	ppm	93
17) 1,2-Dichlorobenzene	4.513	146	42078	4.76	ppm	91
18) Acetophenone	4.689	105	63722	5.25	ppm	98
19) 2-Methylphenol	4.620	108	38320	5.32	ppm	97
20) 2,2'-oxybis(1-Chloropr...	4.593	121	11143	5.28	ppm #	77
21) 3&4-Methylphenol	4.737	108	41494	5.25	ppm	98
22) n-Nitroso-di-n-propyla...	4.689	70	35155	5.67	ppm	88
23) Hexachloroethane	4.759	201	15026	4.94	ppm	97
26) Nitrobenzene	4.812	77	60398	5.43	ppm	97
27) Quinoline	5.581	129	82093	4.83	ppm	99
28) Isophorone	4.988	82	100679	5.03	ppm	97
29) 2-Nitrophenol	5.047	139	21827	4.43	ppm #	69
30) 2,4-Dimethylphenol	5.106	107	43405	4.64	ppm	99
31) Benzoic acid	5.207	105	37081	5.35	ppm	95
32) bis(2-Chloroethoxy)met...	5.149	93	54947	5.28	ppm	97
33) 2,4-Dichlorophenol	5.250	162	35062	4.73	ppm	96
34) 2,6-Dichlorophenol	5.394	162	31731	4.32	ppm	95
35) 1,3,5-Trichlorobenzene	5.053	180	38250	4.35	ppm	97
36) 1,2,4-Trichlorobenzene	5.282	180	36619	4.81	ppm	98
37) 1,2,3-Trichlorobenzene	5.443	180	33878	4.57	ppm	99
38) Naphthalene	5.336	128	107458	4.76	ppm	99
39) 4-Chloroaniline	5.389	127	45881	4.71	ppm	89
40) 2,3-Dichloroaniline	6.052	161	45655	4.92	ppm	98
41) Caprolactam	5.635	55	26236	4.83	ppm	93
42) Hexachlorobutadiene	5.432	225	20920	4.04	ppm	97
43) 4-Chloro-3-methylphenol	5.768	107	44170	4.88	ppm	99
44) 2-Methylnaphthalene	5.838	141	64823	4.74	ppm	98
45) 1-Methylnaphthalene	5.907	142	84303	4.93	ppm	97
46) Dimethylnaphthalene	6.313	156	73237	4.68	ppm	96
48) Hexachlorocyclopentadiene	5.955	237	21424	4.36	ppm	98
49) 2,4,6-Trichlorophenol	6.062	196	25309	4.44	ppm	96
50) 2,4,5-Trichlorophenol	6.105	196	28007	3.95	ppm	94
52) 2-Chloronaphthalene	6.201	162	77550	4.89	ppm	96
53) Biphenyl	6.185	154	103729	4.60	ppm	98
54) 2-Nitroaniline	6.297	65	38050	5.25	ppm	98
55) Dimethylphthalate	6.436	163	97161	4.72	ppm	99
56) Acenaphthylene	6.548	152	129208	4.86	ppm	99
57) 2,6-Dinitrotoluene	6.490	165	20572	4.66	ppm	86
58) 3-Nitroaniline	6.650	138	22921	4.71	ppm	100
59) Acenaphthene	6.703	153	75485	4.48	ppm	95
60) 2,4-Dinitrophenol	6.751	184	9092	4.15	ppm	90
61) 4-Nitrophenol	6.880	109	18760	4.56	ppm #	69
62) Dibenzofuran	6.869	168	112186	4.39	ppm	99
63) 2,4-Dinitrotoluene	6.869	165	29072	4.22	ppm	79
64) 2,3,4,6-Tetrachlorophenol	7.013	232	20542	3.97	ppm	95
65) Diethylphthalate	7.109	149	104304	4.68	ppm	97
66) Fluorene	7.227	166	95103	4.45	ppm	100
67) 4-Chlorophenyl-phenyle...	7.227	204	44080	3.76	ppm	82

9.6.47  
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## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128681.D  
 Acq On : 25 Mar 2019 12:33 pm  
 Operator : christc2  
 Sample : ic5819-5  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 25 13:16:13 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:13:57 2019  
 Response via : Initial Calibration

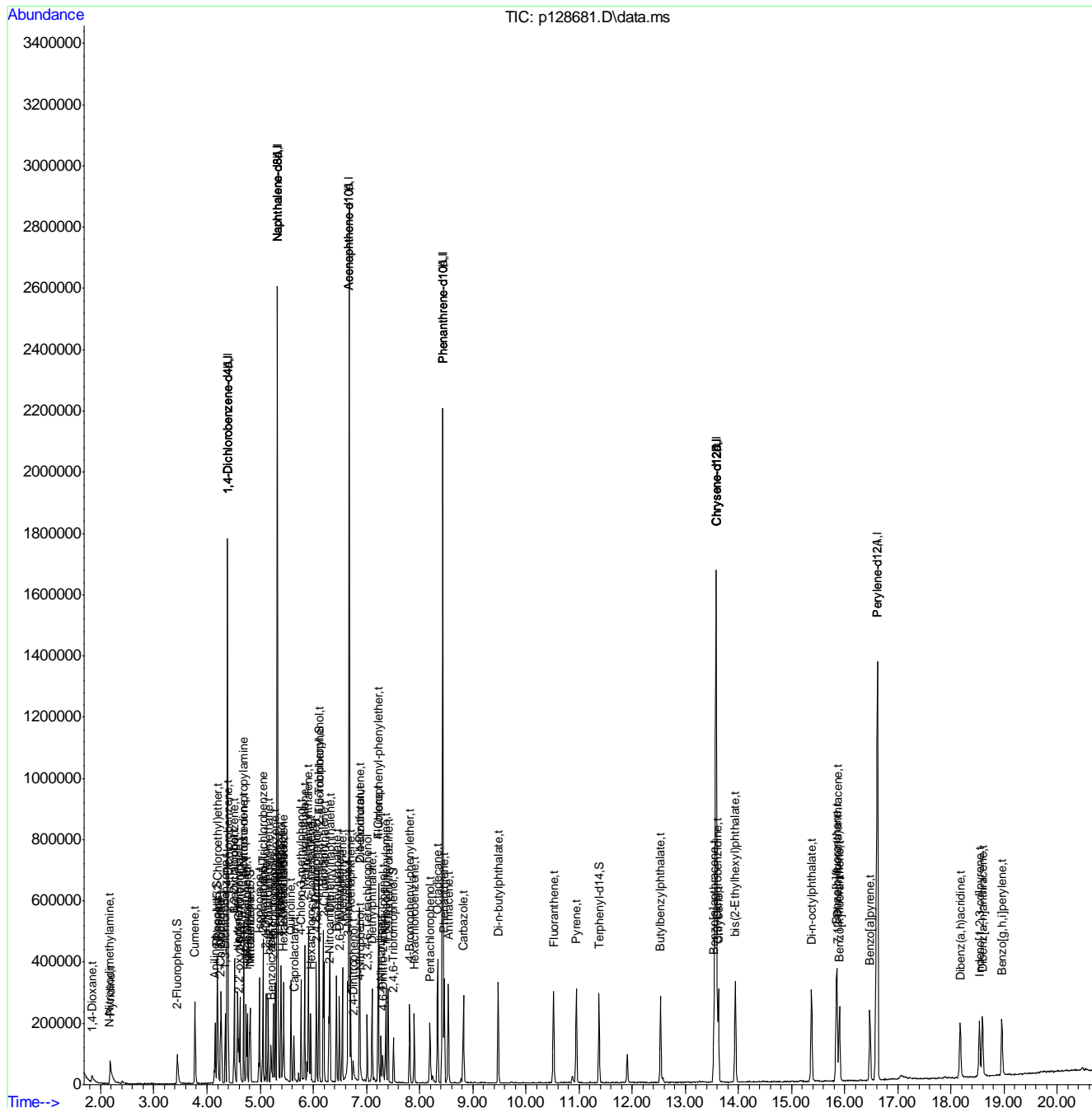
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 4-Nitroaniline	7.275	138	23111	5.14	ppm	89
70) 4,6-Dinitro-2-methylph...	7.307	198	12307	3.56	ppm #	73
71) n-Nitrosodiphenylamine	7.366	169	70664	5.11	ppm	98
72) 1,2-Diphenylhydrazine	7.409	77	137956	5.51	ppm	99
74) 4-Bromophenyl-phenylether	7.815	248	26297	4.29	ppm	98
75) Hexachlorobenzene	7.900	284	27940	4.40	ppm	95
76) Pentachlorophenol	8.199	266	23101	6.09	ppm	92
77) Phenanthrene	8.466	178	135420	4.77	ppm	99
78) Anthracene	8.541	178	148220	5.03	ppm	100
79) Carbazole	8.824	167	140977	5.16	ppm	99
80) Di-n-butylphthalate	9.481	149	203867	4.94	ppm	99
81) Fluoranthene	10.523	202	167796	4.82	ppm	94
82) Octadecane	8.338	57	85716	5.85	ppm	91
84) Pyrene	10.950	202	174589	4.71	ppm	93
86) Butylbenzylphthalate	12.537	149	94717	4.81	ppm	97
87) Benzo[a]anthracene	13.541	228	159602	4.73	ppm	97
88) 3,3'-Dichlorobenzidine	13.600	252	47064	4.08	ppm	97
89) Chrysene	13.627	228	146218	4.94	ppm	98
90) bis(2-Ethylhexyl)phtha...	13.942	149	134092	4.96	ppm	96
92) Di-n-octylphthalate	15.374	149	237496	4.86	ppm	95
93) Benzo[b]fluoranthene	15.849	252	155994	4.62	ppm	95
94) Benzo[k]fluoranthene	15.903	252	147155	5.30	ppm	97
95) Benzo[a]pyrene	16.474	252	136470	4.83	ppm	95
96) Indeno[1,2,3-cd]pyrene	18.536	276	120305	4.65	ppm	88
97) Dibenz(a,h)acridine	18.173	279	113626	4.65	ppm	95
98) Dibenz[a,h]anthracene	18.595	278	124884	4.74	ppm	94
99) 7,12-Dimethylbenz(a)an...	15.860	256	61430	4.09	ppm	95
100) Benzo[g,h,i]perylene	18.964	276	117563	4.67	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : pl28681.D  
 Acq On : 25 Mar 2019 12:33 pm  
 Operator : christc2  
 Sample : ic5819-5  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 25 13:16:13 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:13:57 2019  
 Response via : Initial Calibration



9.6.47  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128682.D  
 Acq On : 25 Mar 2019 1:00 pm  
 Operator : christc2  
 Sample : ic5819-2  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 25 13:24:12 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:13:57 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	226273	40.00	ppm	0.00
24) Naphthalene-d8	5.325	136	877040	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	535539	40.00	ppm	0.00
69) Phenanthrene-d10	8.434	188	964812	40.00	ppm	-0.01
83) Chrysene-d12	13.579	240	879297	40.00	ppm	-0.02
91) Perylene-d12	16.619	264	900833	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	226273	40.00	ppm	-0.06
111) Naphthalene-d8A	5.325	136	877040	40.00	ppm	-0.06
120) Acenaphthene-d10A	6.677	164	535539	40.00	ppm	-0.09
131) Phenanthrene-d10A	8.434	188	964812	40.00	ppm	-0.12
146) Chrysene-d12A	13.579	240	879297	40.00	ppm	-0.15
153) Perylene-d12A	16.619	264	900833	40.00	ppm	-0.15
157) 1,4-Dichlorobenzene-d4b	4.385	152	226273	40.00	ppm	-0.06
159) Phenanthrene-d10b	8.434	188	964812	40.00	ppm	-0.12
161) Chrysene-d12b	13.579	240	879297	40.00	ppm	-0.15
163) Naphthalene-d8b	5.325	136	877040	40.00	ppm	-0.06
165) Acenaphthene-d10b	6.677	164	535539	40.00	ppm	-0.09
167) Naphthalene-d8c	5.325	136	877040	40.00	ppm	-0.06
172) 1,4-Dichlorobenzene-d4c	4.385	152	226273	40.00	ppm	-0.06
174) Chrysene-d12c	13.579	240	879297	40.00	ppm	-0.15
176) Chrysene-d12d	13.579	240	879297	40.00	ppm	-0.15
178) Naphthalene-d8d	5.325	136	877040	40.00	ppm	-0.06
180) Chrysene-d12D	13.579	240	879297	40.00	ppm	-0.15
System Monitoring Compounds						
5) 2-Fluorophenol	3.439	112	15292	1.66	ppm	0.00
Spiked Amount	50.000		Recovery	=	3.32%	
8) Phenol-d5	4.193	99	22220	1.91	ppm	0.00
Spiked Amount	50.000		Recovery	=	3.82%	
25) Nitrobenzene-d5	4.802	82	23887	2.09	ppm	0.00
Spiked Amount	50.000		Recovery	=	4.18%	
51) 2-Fluorobiphenyl	6.105	172	38581	1.86	ppm	-0.01
Spiked Amount	50.000		Recovery	=	3.72%	
73) 2,4,6-Tribromophenol	7.510	330	4821	1.71	ppm	-0.02
Spiked Amount	50.000		Recovery	=	3.42%	
85) Terphenyl-d14	11.378	244	41288	1.80	ppm	-0.02
Spiked Amount	50.000		Recovery	=	3.60%	
Target Compounds						
2) 1,4-Dioxane	1.842	88	7625	1.72	ppm	96
3) Pyridine	2.195	79	18190	1.58	ppm	94
4) N-Nitrosodimethylamine	2.173	42	10845	1.74	ppm	93
6) Indene	4.577	116	27694	2.03	ppm	97
7) Cumene	3.771	105	45443	1.87	ppm	98
9) Phenol	4.198	94	25848	2.12	ppm	97
10) Aniline	4.155	93	27068	2.03	ppm	99
11) bis(2-Chloroethyl)ether	4.193	93	19550	2.20	ppm	91
12) 2-Chlorophenol	4.257	128	16297	2.00	ppm	95
13) Decane	4.267	43	22924	2.71	ppm	90

9.6.48  
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## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128682.D  
 Acq On : 25 Mar 2019 1:00 pm  
 Operator : christc2  
 Sample : ic5819-2  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 25 13:24:12 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:13:57 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
14) 1,3-Dichlorobenzene	4.342	146	18249	1.94	ppm	97
15) 1,4-Dichlorobenzene	4.396	146	18408	1.99	ppm	93
16) Benzyl alcohol	4.513	108	10735	1.85	ppm	81
17) 1,2-Dichlorobenzene	4.513	146	17487	1.84	ppm	98
18) Acetophenone	4.689	105	27158	2.08	ppm	97
19) 2-Methylphenol	4.620	108	16659	2.15	ppm	97
20) 2,2'-oxybis(1-Chloropr...	4.599	121	4901	2.16	ppm #	88
21) 3&4-Methylphenol	4.738	108	16704	1.97	ppm	99
22) n-Nitroso-di-n-propyla...	4.689	70	14779	2.22	ppm	88
23) Hexachloroethane	4.759	201	6333	1.94	ppm	95
26) Nitrobenzene	4.812	77	25472	2.22	ppm	99
27) Quinoline	5.582	129	35361	2.02	ppm	97
28) Isophorone	4.989	82	42893	2.08	ppm	96
29) 2-Nitrophenol	5.047	139	9028	1.78	ppm #	69
30) 2,4-Dimethylphenol	5.106	107	17196	1.78	ppm	96
31) Benzoic acid	5.197	105	13744	1.92	ppm	91
32) bis(2-Chloroethoxy)met...	5.149	93	22989	2.14	ppm	99
33) 2,4-Dichlorophenol	5.250	162	14836	1.94	ppm	97
34) 2,6-Dichlorophenol	5.395	162	13839	1.83	ppm	94
35) 1,3,5-Trichlorobenzene	5.053	180	16178	1.79	ppm	96
36) 1,2,4-Trichlorobenzene	5.282	180	15175	1.94	ppm	98
37) 1,2,3-Trichlorobenzene	5.443	180	14290	1.87	ppm	96
38) Naphthalene	5.336	128	46233	1.99	ppm	99
39) 4-Chloroaniline	5.389	127	18970	1.89	ppm	87
40) 2,3-Dichloroaniline	6.052	161	18848	1.97	ppm	96
41) Caprolactam	5.624	55	11924	2.13	ppm	94
42) Hexachlorobutadiene	5.432	225	9091	1.70	ppm	93
43) 4-Chloro-3-methylphenol	5.769	107	17314	1.86	ppm	96
44) 2-Methylnaphthalene	5.838	141	27269	1.94	ppm	96
45) 1-Methylnaphthalene	5.907	142	35345	2.00	ppm	98
46) Dimethylnaphthalene	6.308	156	30994	1.92	ppm	99
48) Hexachlorocyclopentadiene	5.956	237	6065	1.25	ppm	91
49) 2,4,6-Trichlorophenol	6.062	196	10639	1.89	ppm	97
50) 2,4,5-Trichlorophenol	6.105	196	10456	1.49	ppm	97
52) 2-Chloronaphthalene	6.201	162	32625	2.08	ppm	96
53) Biphenyl	6.185	154	44686	2.01	ppm	98
54) 2-Nitroaniline	6.297	65	15178	2.12	ppm	95
55) Dimethylphthalate	6.436	163	41049	2.02	ppm	97
56) Acenaphthylene	6.549	152	55223	2.10	ppm	98
57) 2,6-Dinitrotoluene	6.490	165	8725	2.00	ppm	88
58) 3-Nitroaniline	6.650	138	9246	1.93	ppm	96
59) Acenaphthene	6.703	153	31789	1.91	ppm	96
60) 2,4-Dinitrophenol	6.762	184	2445	1.13	ppm	79
61) 4-Nitrophenol	6.885	109	7201	1.77	ppm	89
62) Dibenzofuran	6.869	168	46216	1.83	ppm	96
63) 2,4-Dinitrotoluene	6.869	165	11860	1.74	ppm	90
64) 2,3,4,6-Tetrachlorophenol	7.013	232	8032	1.57	ppm	95
65) Diethylphthalate	7.104	149	42431	1.93	ppm	98
66) Fluorene	7.227	166	38651	1.83	ppm	99
67) 4-Chlorophenyl-phenyle...	7.227	204	18107	1.57	ppm	89

9.6.48  
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## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128682.D  
 Acq On : 25 Mar 2019 1:00 pm  
 Operator : christc2  
 Sample : ic5819-2  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 25 13:24:12 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:13:57 2019  
 Response via : Initial Calibration

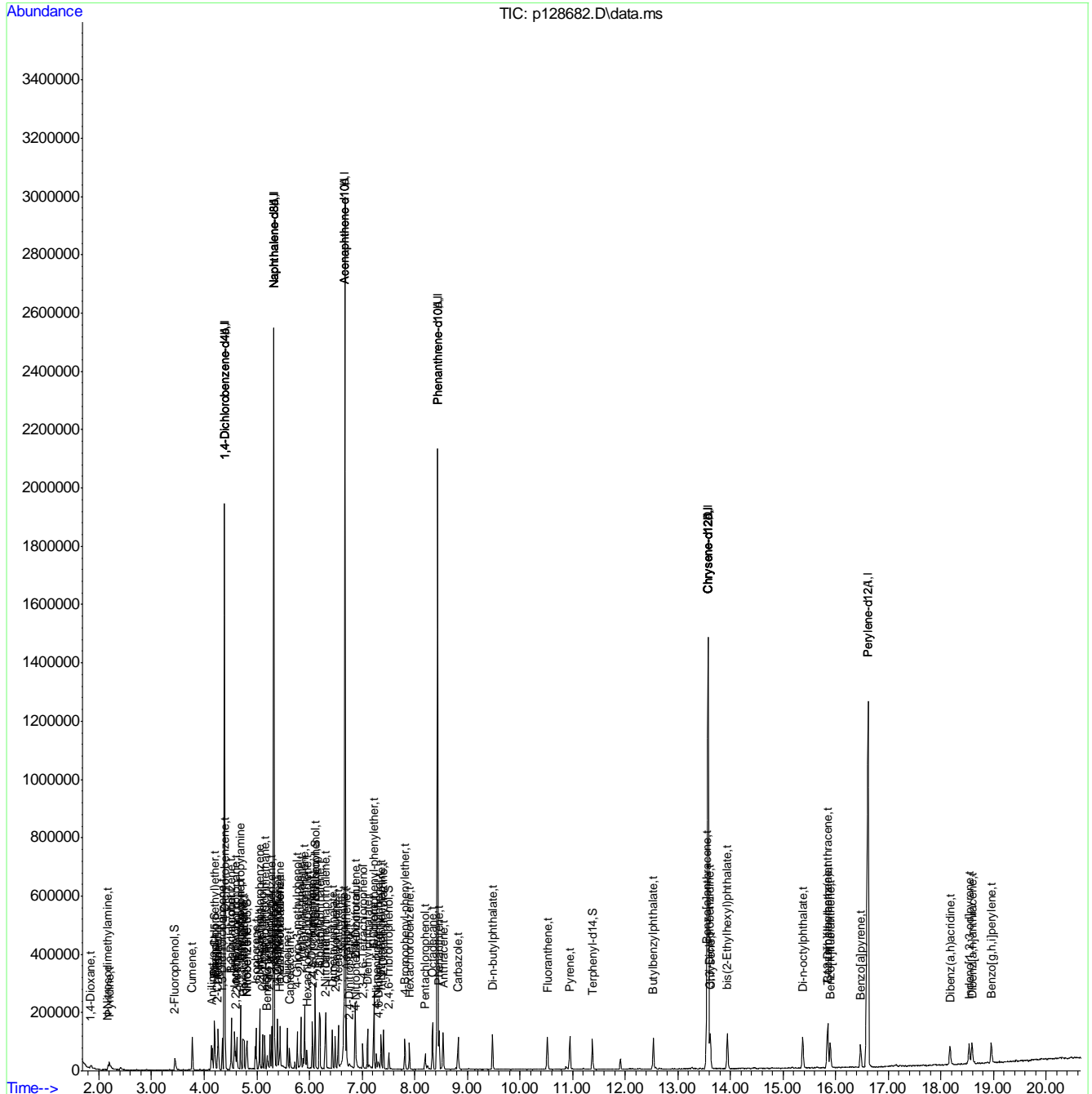
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 4-Nitroaniline	7.275	138	8273	1.86	ppm #	76
70) 4,6-Dinitro-2-methylph...	7.307	198	3641	1.10	ppm #	79
71) n-Nitrosodiphenylamine	7.366	169	27601	2.08	ppm	97
72) 1,2-Diphenylhydrazine	7.403	77	56197	2.34	ppm	95
74) 4-Bromophenyl-phenylether	7.815	248	10911	1.85	ppm	96
75) Hexachlorobenzene	7.900	284	10823	1.77	ppm	98
76) Pentachlorophenol	8.199	266	7089	1.94	ppm	94
77) Phenanthrene	8.466	178	54055	1.98	ppm	98
78) Anthracene	8.541	178	58091	2.05	ppm	98
79) Carbazole	8.824	167	55389	2.11	ppm	98
80) Di-n-butylphthalate	9.481	149	78814	1.99	ppm	99
81) Fluoranthene	10.523	202	61561	1.84	ppm	88
82) Octadecane	8.338	57	34124	2.42	ppm	89
84) Pyrene	10.951	202	66396	1.96	ppm	89
86) Butylbenzylphthalate	12.537	149	35814	1.99	ppm	99
87) Benzo[a]anthracene	13.547	228	61943	2.01	ppm	98
88) 3,3'-Dichlorobenzidine	13.600	252	16999	1.61	ppm	97
89) Chrysene	13.622	228	53551	1.98	ppm	94
90) bis(2-Ethylhexyl)phtha...	13.942	149	49172	1.99	ppm	95
92) Di-n-octylphthalate	15.374	149	83643	1.89	ppm	94
93) Benzo[b]fluoranthene	15.844	252	56075	1.84	ppm	96
94) Benzo[k]fluoranthene	15.903	252	53233	2.12	ppm	98
95) Benzo[a]pyrene	16.474	252	49353	1.93	ppm	97
96) Indeno[1,2,3-cd]pyrene	18.537	276	42322	1.81	ppm	88
97) Dibenz(a,h)acridine	18.173	279	40058	1.81	ppm	96
98) Dibenz[a,h]anthracene	18.590	278	45155	1.89	ppm	92
99) 7,12-Dimethylbenz(a)an...	15.855	256	22443	1.65	ppm	97
100) Benzo[g,h,i]perylene	18.959	276	43049	1.89	ppm	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
Data File : pl28682.D  
Acq On : 25 Mar 2019 1:00 pm  
Operator : christc2  
Sample : ic5819-2  
Misc : op13894,ep5819,1000,,,1,1  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 25 13:24:12 2019  
Quant Method : C:\msdchem\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Mon Mar 25 13:13:57 2019  
Response via : Initial Calibration



9.6.48  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128683.D  
 Acq On : 25 Mar 2019 1:27 pm  
 Operator : christc2  
 Sample : ic5819-1  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 25 14:29:43 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:34:33 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	213431	40.00	ppm	0.00
24) Naphthalene-d8	5.320	136	871713	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	550873	40.00	ppm	0.00
69) Phenanthrene-d10	8.440	188	993737	40.00	ppm	0.00
83) Chrysene-d12	13.579	240	917682	40.00	ppm	0.00
91) Perylene-d12	16.619	264	929537	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	213431	40.00	ppm	0.00
111) Naphthalene-d8A	5.320	136	871713	40.00	ppm	0.00
120) Acenaphthene-d10A	6.677	164	550873	40.00	ppm	0.00
131) Phenanthrene-d10A	8.440	188	993737	40.00	ppm	0.00
146) Chrysene-d12A	13.579	240	917682	40.00	ppm	0.00
153) Perylene-d12A	16.619	264	929537	40.00	ppm	0.00
157) 1,4-Dichlorobenzene-d4b	4.385	152	213431	40.00	ppm	0.00
159) Phenanthrene-d10b	8.440	188	993737	40.00	ppm	0.00
161) Chrysene-d12b	13.579	240	917682	40.00	ppm	0.00
163) Naphthalene-d8b	5.320	136	871713	40.00	ppm	0.00
165) Acenaphthene-d10b	6.677	164	550873	40.00	ppm	0.00
167) Naphthalene-d8c	5.320	136	871713	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.385	152	213431	40.00	ppm	0.00
174) Chrysene-d12c	13.579	240	917682	40.00	ppm	0.00
176) Chrysene-d12d	13.579	240	917682	40.00	ppm	0.00
178) Naphthalene-d8d	5.320	136	871713	40.00	ppm	0.00
180) Chrysene-d12D	13.579	240	917682	40.00	ppm	-0.15
System Monitoring Compounds						
5) 2-Fluorophenol	3.445	112	7292	0.90	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.80%	
8) Phenol-d5	4.193	99	10210	0.95	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.90%	
25) Nitrobenzene-d5	4.802	82	11126	0.97	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.94%	
51) 2-Fluorobiphenyl	6.105	172	19153	0.97	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.94%	
73) 2,4,6-Tribromophenol	7.510	330	2584	0.93	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.86%	
85) Terphenyl-d14	11.373	244	21543	0.94	ppm	0.00
Spiked Amount	50.000		Recovery	=	1.88%	
Target Compounds						
2) 1,4-Dioxane	1.842	88	3241	0.82	ppm	96
3) Pyridine	2.205	79	8632	0.87	ppm	95
4) N-Nitrosodimethylamine	2.184	42	4382	0.80	ppm	81
6) Indene	4.577	116	14351	1.10	ppm	89
7) Cumene	3.771	105	22564	1.02	ppm	99
9) Phenol	4.198	94	11731	1.01	ppm	91
10) Aniline	4.155	93	12699	1.00	ppm	94
11) bis(2-Chloroethyl)ether	4.193	93	9523	1.09	ppm	89
12) 2-Chlorophenol	4.257	128	8163	1.04	ppm	98
13) Decane	4.267	43	11424	1.29	ppm	91

9.6.49  
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## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128683.D  
 Acq On : 25 Mar 2019 1:27 pm  
 Operator : christc2  
 Sample : ic5819-1  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 25 14:29:43 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:34:33 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
14) 1,3-Dichlorobenzene	4.342	146	9592	1.09	ppm	97
15) 1,4-Dichlorobenzene	4.396	146	9609	1.11	ppm	91
16) Benzyl alcohol	4.513	108	4943	0.93	ppm #	74
17) 1,2-Dichlorobenzene	4.513	146	8992	1.03	ppm	95
18) Acetophenone	4.690	105	13270	1.06	ppm	94
19) 2-Methylphenol	4.625	108	8149	1.08	ppm	96
20) 2,2'-oxybis(1-Chloropr...	4.599	121	2199	1.00	ppm	90
21) 3&4-Methylphenol	4.738	108	8380	1.02	ppm	91
22) n-Nitroso-di-n-propyla...	4.690	70	7397	1.14	ppm #	79
23) Hexachloroethane	4.759	201	3151	1.01	ppm	99
26) Nitrobenzene	4.812	77	14061	1.21	ppm	97
27) Quinoline	5.582	129	17028	0.99	ppm	94
28) Isophorone	4.989	82	21207	1.04	ppm	98
29) 2-Nitrophenol	5.053	139	4494	0.94	ppm #	63
30) 2,4-Dimethylphenol	5.106	107	8551	0.92	ppm	98
31) Benzoic acid	5.197	105	6944	0.92	ppm	94
32) bis(2-Chloroethoxy)met...	5.149	93	11648	1.07	ppm	98
33) 2,4-Dichlorophenol	5.250	162	7148	0.94	ppm	95
34) 2,6-Dichlorophenol	5.395	162	6642	0.93	ppm	93
35) 1,3,5-Trichlorobenzene	5.053	180	7834	0.92	ppm	100
36) 1,2,4-Trichlorobenzene	5.283	180	7419	0.95	ppm	95
37) 1,2,3-Trichlorobenzene	5.443	180	7427	0.99	ppm	96
38) Naphthalene	5.336	128	23900	1.04	ppm	100
39) 4-Chloroaniline	5.389	127	8754	0.90	ppm	86
40) 2,3-Dichloroaniline	6.052	161	9396	0.99	ppm	99
41) Caprolactam	5.624	55	6148	1.12	ppm	88
42) Hexachlorobutadiene	5.427	225	4381	0.89	ppm	97
43) 4-Chloro-3-methylphenol	5.769	107	8534	0.94	ppm	97
44) 2-Methylnaphthalene	5.838	141	13404	0.98	ppm	95
45) 1-Methylnaphthalene	5.908	142	18323	1.05	ppm	98
46) Dimethylnaphthalene	6.308	156	15604	0.99	ppm	88
49) 2,4,6-Trichlorophenol	6.062	196	5073	0.91	ppm	94
50) 2,4,5-Trichlorophenol	6.105	196	5180	0.84	ppm	92
52) 2-Chloronaphthalene	6.201	162	16673	1.04	ppm	94
53) Biphenyl	6.185	154	21725	0.99	ppm	99
54) 2-Nitroaniline	6.298	65	7779	1.09	ppm	90
55) Dimethylphthalate	6.431	163	20099	0.99	ppm	97
56) Acenaphthylene	6.549	152	28051	1.05	ppm	99
57) 2,6-Dinitrotoluene	6.490	165	4307	1.00	ppm	99
58) 3-Nitroaniline	6.650	138	4352	0.91	ppm	93
59) Acenaphthene	6.704	153	16134	0.99	ppm	94
61) 4-Nitrophenol	6.891	109	3168	0.81	ppm #	66
62) Dibenzofuran	6.869	168	23038	0.96	ppm	94
63) 2,4-Dinitrotoluene	6.869	165	5448	0.86	ppm	71
64) 2,3,4,6-Tetrachlorophenol	7.019	232	4030	0.83	ppm	89
65) Diethylphthalate	7.104	149	21320	0.99	ppm	96
66) Fluorene	7.227	166	19273	0.95	ppm	99
67) 4-Chlorophenyl-phenyle...	7.227	204	8863	0.86	ppm	87
68) 4-Nitroaniline	7.275	138	3967	0.89	ppm	96
71) n-Nitrosodiphenylamine	7.366	169	13588	0.98	ppm	99

9.6.49  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128683.D  
 Acq On : 25 Mar 2019 1:27 pm  
 Operator : christc2  
 Sample : ic5819-1  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 25 14:29:43 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:34:33 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
72) 1,2-Diphenylhydrazine	7.403	77	28812	1.11	ppm	96
74) 4-Bromophenyl-phenylether	7.815	248	5187	0.88	ppm	93
75) Hexachlorobenzene	7.900	284	5676	0.94	ppm	97
77) Phenanthrene	8.466	178	26507	0.96	ppm	97
78) Anthracene	8.541	178	28649	0.97	ppm	99
79) Carbazole	8.824	167	26303	0.96	ppm	96
80) Di-n-butylphthalate	9.482	149	38733	0.96	ppm	99
81) Fluoranthene	10.523	202	31075	0.92	ppm	90
82) Octadecane	8.338	57	18340	1.20	ppm	90
84) Pyrene	10.945	202	34310	1.00	ppm	92
86) Butylbenzylphthalate	12.532	149	18839	1.02	ppm	98
87) Benzo[a]anthracene	13.547	228	33168	1.06	ppm	98
88) 3,3'-Dichlorobenzidine	13.600	252	8016	0.78	ppm	93
89) Chrysene	13.622	228	27950	1.00	ppm	95
90) bis(2-Ethylhexyl)phtha...	13.942	149	25572	1.01	ppm	99
92) Di-n-octylphthalate	15.374	149	41766	0.94	ppm	92
93) Benzo[b]fluoranthene	15.844	252	28784	0.92	ppm	88
94) Benzo[k]fluoranthene	15.898	252	27099	1.04	ppm	95
95) Benzo[a]pyrene	16.475	252	26071	1.00	ppm	93
96) Indeno[1,2,3-cd]pyrene	18.537	276	22750	0.96	ppm	82
97) Dibenz(a,h)acridine	18.173	279	20278	0.91	ppm	92
98) Dibenz[a,h]anthracene	18.590	278	22311	0.92	ppm	93
99) 7,12-Dimethylbenz(a)an...	15.849	256	10703	0.82	ppm	99
100) Benzo[g,h,i]perylene	18.964	276	21922	0.95	ppm	95

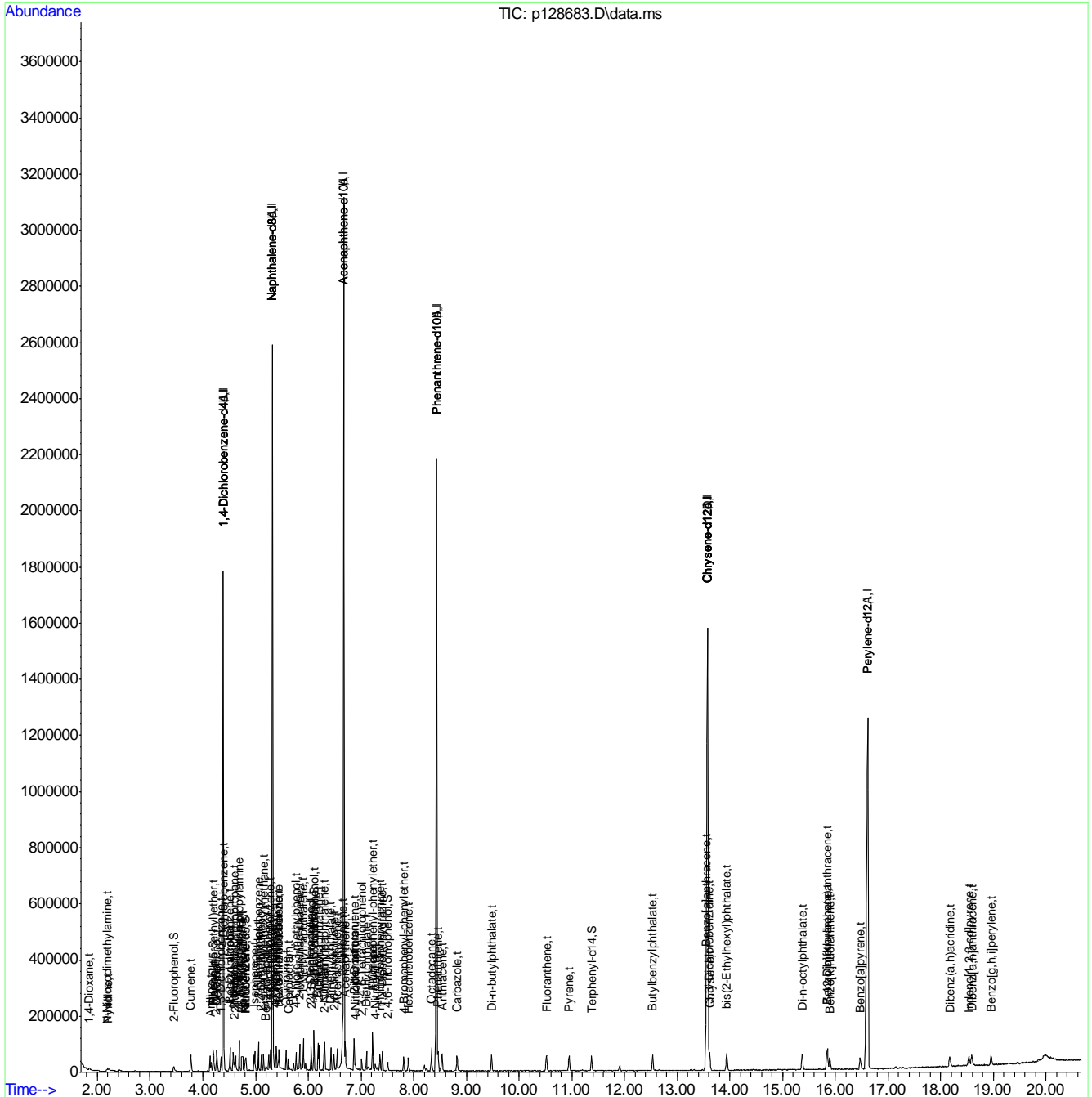
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.49  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : pl28683.D  
 Acq On : 25 Mar 2019 1:27 pm  
 Operator : christc2  
 Sample : ic5819-1  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 25 14:29:43 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 13:34:33 2019  
 Response via : Initial Calibration



9.649  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128684.D  
 Acq On : 25 Mar 2019 1:54 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 25 14:41:01 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	166157	40.00	ppm	0.00
24) Naphthalene-d8	5.325	136	601903	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	350777	40.00	ppm	0.00
69) Phenanthrene-d10	8.434	188	609607	40.00	ppm	0.00
83) Chrysene-d12	13.579	240	484626	40.00	ppm	0.00
91) Perylene-d12	16.613	264	524071	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	166157	40.00	ppm	0.00
111) Naphthalene-d8A	5.325	136	601903	40.00	ppm	0.00
120) Acenaphthene-d10A	6.677	164	350777	40.00	ppm	0.00
131) Phenanthrene-d10A	8.434	188	609607	40.00	ppm	0.00
146) Chrysene-d12A	13.579	240	484626	40.00	ppm	0.00
153) Perylene-d12A	16.613	264	524071	40.00	ppm	0.00
157) 1,4-Dichlorobenzene-d4b	4.385	152	166157	40.00	ppm	0.00
159) Phenanthrene-d10b	8.434	188	609607	40.00	ppm	0.00
161) Chrysene-d12b	13.579	240	484626	40.00	ppm	0.00
163) Naphthalene-d8b	5.325	136	601903	40.00	ppm	0.00
165) Acenaphthene-d10b	6.677	164	350777	40.00	ppm	0.00
167) Naphthalene-d8c	5.325	136	601903	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.385	152	166157	40.00	ppm	0.00
174) Chrysene-d12c	13.579	240	484626	40.00	ppm	0.00
176) Chrysene-d12d	13.579	240	484626	40.00	ppm	0.00
178) Naphthalene-d8d	5.325	136	601903	40.00	ppm	0.00
180) Chrysene-d12D	13.579	240	484626	40.00	ppm	-0.15
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						
4) N-Nitrosodimethylamine	2.179	42	216431	51.91	ppm	93
11) bis(2-Chloroethyl)ether	4.193	93	333653	48.40	ppm	92
14) 1,3-Dichlorobenzene	4.342	146	333401	47.99	ppm	99
15) 1,4-Dichlorobenzene	4.401	146	321977	47.14	ppm	99
17) 1,2-Dichlorobenzene	4.513	146	303659	44.67	ppm	98
20) 2,2'-oxybis(1-Chloropr...	4.593	121	92727	54.13	ppm	99
22) n-Nitroso-di-n-propyla...	4.695	70	252202	49.12	ppm	99
23) Hexachloroethane	4.759	201	116054	47.57	ppm	93
26) Nitrobenzene	4.818	77	402576	48.76	ppm	100
28) Isophorone	4.989	82	666817	46.99	ppm	99

9.6-50  
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## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128684.D  
 Acq On : 25 Mar 2019 1:54 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 25 14:41:01 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
32) bis(2-Chloroethoxy)met...	5.149	93	378381	49.99	ppm	100
36) 1,2,4-Trichlorobenzene	5.283	180	264147	49.32	ppm	99
38) Naphthalene	5.341	128	770053	48.39	ppm	99
42) Hexachlorobutadiene	5.432	225	172204	51.26	ppm	99
48) Hexachlorocyclopentadiene	5.956	237	123580	45.19	ppm	99
52) 2-Chloronaphthalene	6.201	162	517600	50.25	ppm	96
55) Dimethylphthalate	6.442	163	569789	44.05	ppm	100
56) Acenaphthylene	6.549	152	773348	45.29	ppm	100
57) 2,6-Dinitrotoluene	6.495	165	118807	43.20	ppm	86
59) Acenaphthene	6.709	153	465695	44.99	ppm	96
63) 2,4-Dinitrotoluene	6.875	165	161540	40.60	ppm	89
65) Diethylphthalate	7.115	149	604859	43.97	ppm	99
66) Fluorene	7.232	166	600401	46.81	ppm	99
67) 4-Chlorophenyl-phenyle...	7.232	204	302994	46.88	ppm	93
71) n-Nitrosodiphenylamine	7.371	169	373909	44.10	ppm	99
72) 1,2-Diphenylhydrazine	7.414	77	772563	47.89	ppm	100
74) 4-Bromophenyl-phenylether	7.820	248	163248	45.81	ppm	99
75) Hexachlorobenzene	7.906	284	160420	43.54	ppm	98
77) Phenanthrene	8.472	178	780066	46.10	ppm	100
78) Anthracene	8.552	178	797356	44.26	ppm	100
80) Di-n-butylphthalate	9.487	149	1033802	41.86	ppm	100
81) Fluoranthene	10.534	202	880503	43.10	ppm	97
84) Pyrene	10.967	202	867084	47.86	ppm	98
86) Butylbenzylphthalate	12.548	149	450672	46.23	ppm	97
87) Benzo[a]anthracene	13.558	228	767884	46.04	ppm	98
89) Chrysene	13.643	228	692990	46.88	ppm	98
90) bis(2-Ethylhexyl)phtha...	13.953	149	592805	44.14	ppm	98
92) Di-n-octylphthalate	15.385	149	1051322	42.15	ppm	98
93) Benzo[b]fluoranthene	15.866	252	707144	40.63	ppm	97
94) Benzo[k]fluoranthene	15.924	252	693063	46.91	ppm	99
95) Benzo[a]pyrene	16.496	252	673283	45.95	ppm	98
96) Indeno[1,2,3-cd]pyrene	18.558	276	676365	50.95	ppm	93
98) Dibenz[a,h]anthracene	18.617	278	665013	49.07	ppm	99
100) Benzo[g,h,i]perylene	18.991	276	684316	53.13	ppm	99

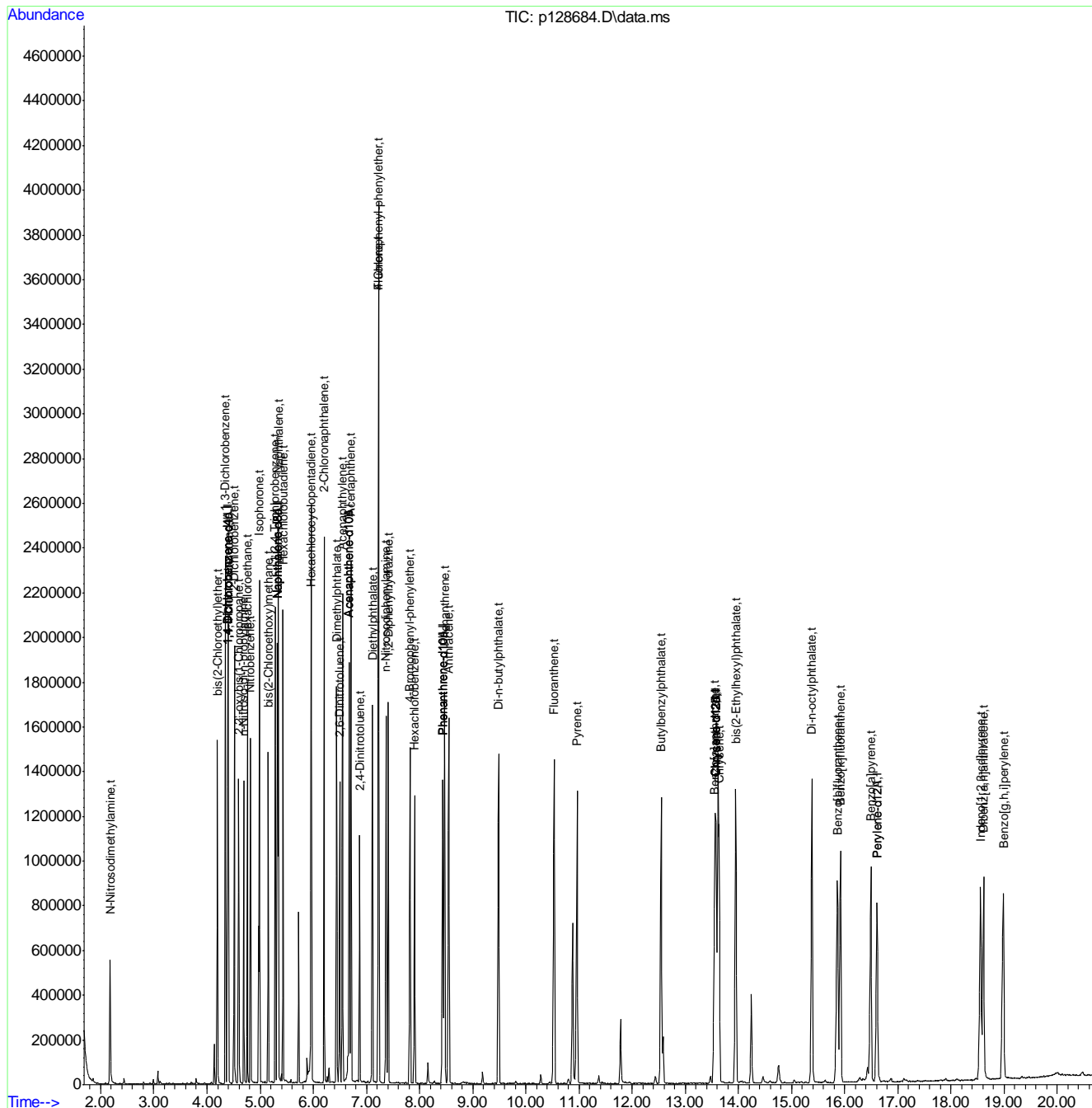
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128684.D  
 Acq On : 25 Mar 2019 1:54 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 25 14:41:01 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



9.6:50  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128685.D  
 Acq On : 25 Mar 2019 2:21 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 28 18:09:52 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	216027	40.00	ppm	0.00
24) Naphthalene-d8	5.320	136	832487	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	425440	40.00	ppm	0.00
69) Phenanthrene-d10	8.434	188	762317	40.00	ppm	0.00
83) Chrysene-d12	13.574	240	695037	40.00	ppm	0.00
91) Perylene-d12	16.608	264	615432	40.00	ppm	-0.01
101) 1,4-Dichlorobenzene-d4A	4.385	152	216027	40.00	ppm	0.00
111) Naphthalene-d8A	5.320	136	832487	40.00	ppm	0.00
120) Acenaphthene-d10A	6.677	164	425440	40.00	ppm	0.00
131) Phenanthrene-d10A	8.434	188	762317	40.00	ppm	0.00
146) Chrysene-d12A	13.574	240	695037	40.00	ppm	0.00
153) Perylene-d12A	16.608	264	615432	40.00	ppm	-0.01
157) 1,4-Dichlorobenzene-d4b	4.385	152	216027	40.00	ppm	0.00
159) Phenanthrene-d10b	8.434	188	762317	40.00	ppm	0.00
161) Chrysene-d12b	13.574	240	695037	40.00	ppm	0.00
163) Naphthalene-d8b	5.320	136	832487	40.00	ppm	0.00
165) Acenaphthene-d10b	6.677	164	425440	40.00	ppm	0.00
167) Naphthalene-d8c	5.320	136	832487	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.385	152	216027	40.00	ppm	0.00
174) Chrysene-d12c	13.574	240	695037	40.00	ppm	0.00
176) Chrysene-d12d	13.574	240	695037	40.00	ppm	0.00
178) Naphthalene-d8d	5.320	136	832487	40.00	ppm	0.00
180) Chrysene-d12D	13.574	240	695037	40.00	ppm	-0.16
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						
2) 1,4-Dioxane	1.869	88	155652m	39.76	ppm	Qvalue
6) Indene	4.577	116	697409	52.24	ppm	99
7) Cumene	3.781	105	1044868	46.42	ppm	97
13) Decane	4.273	43	365626	44.26	ppm	95
82) Octadecane	8.344	57	550715	45.82	ppm	96

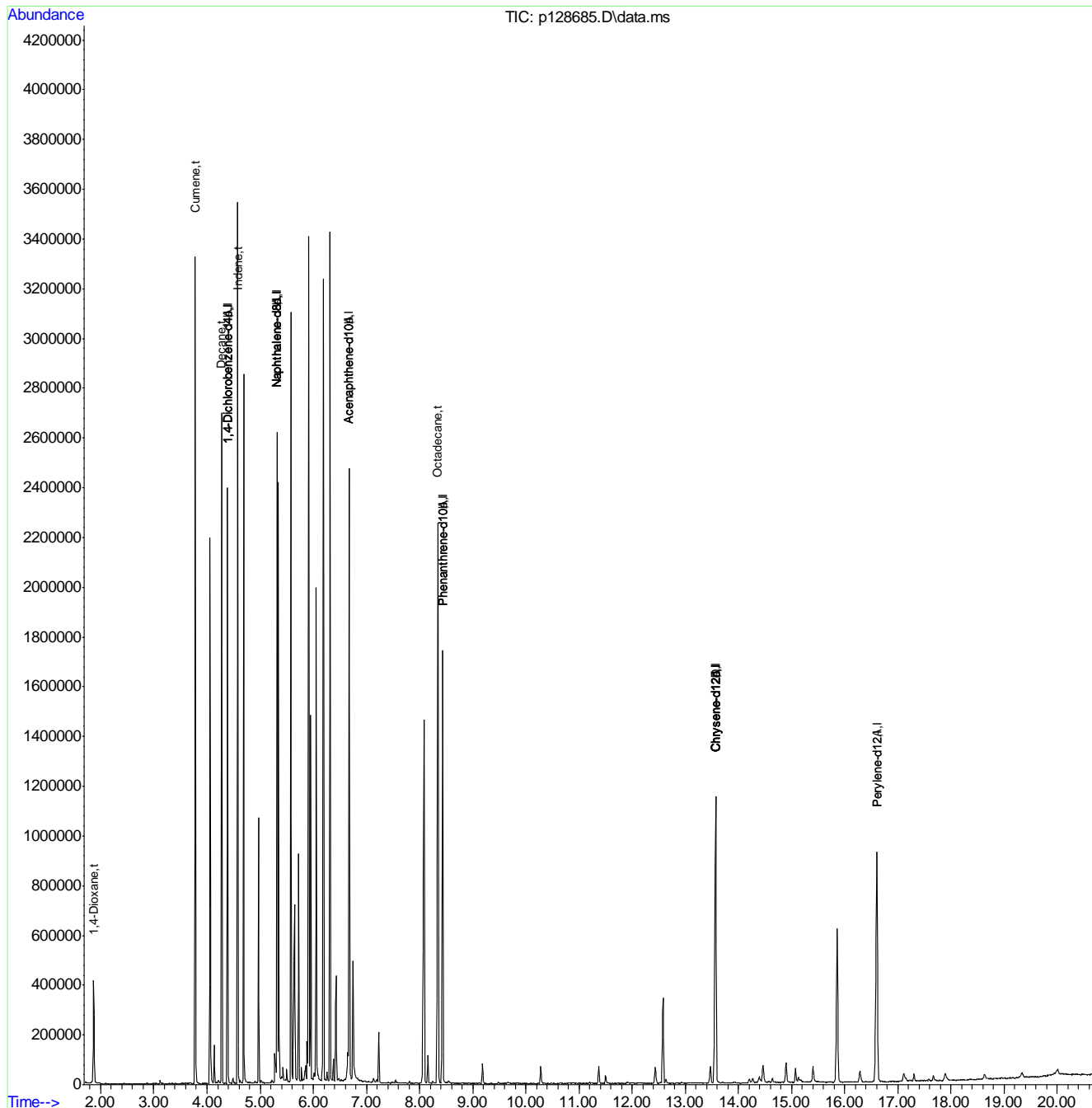
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6-51  
**9**

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128685.D  
 Acq On : 25 Mar 2019 2:21 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 28 18:09:52 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



9.6-51  
**9**

# Manual Integration Approval Summary

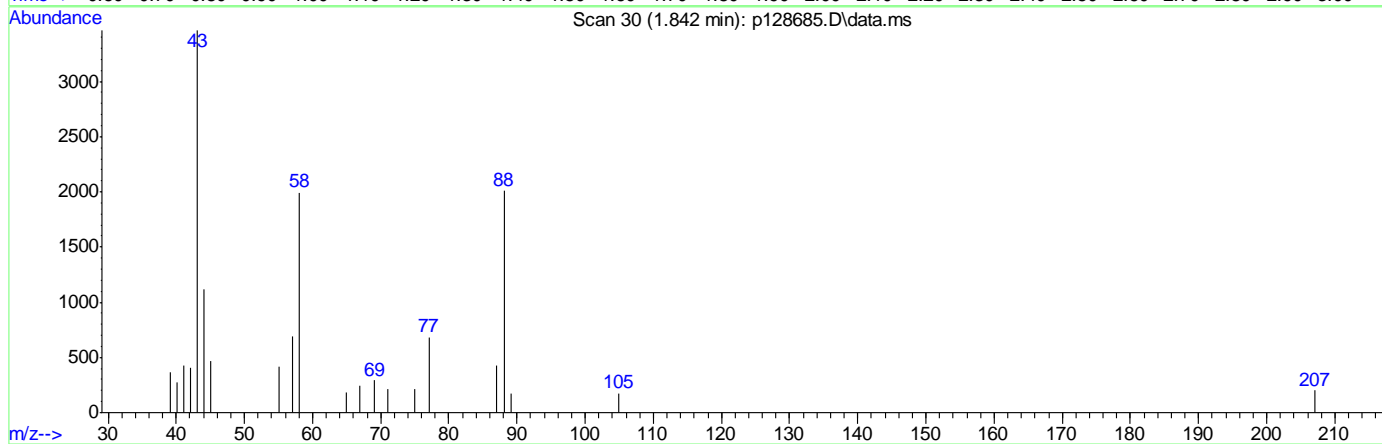
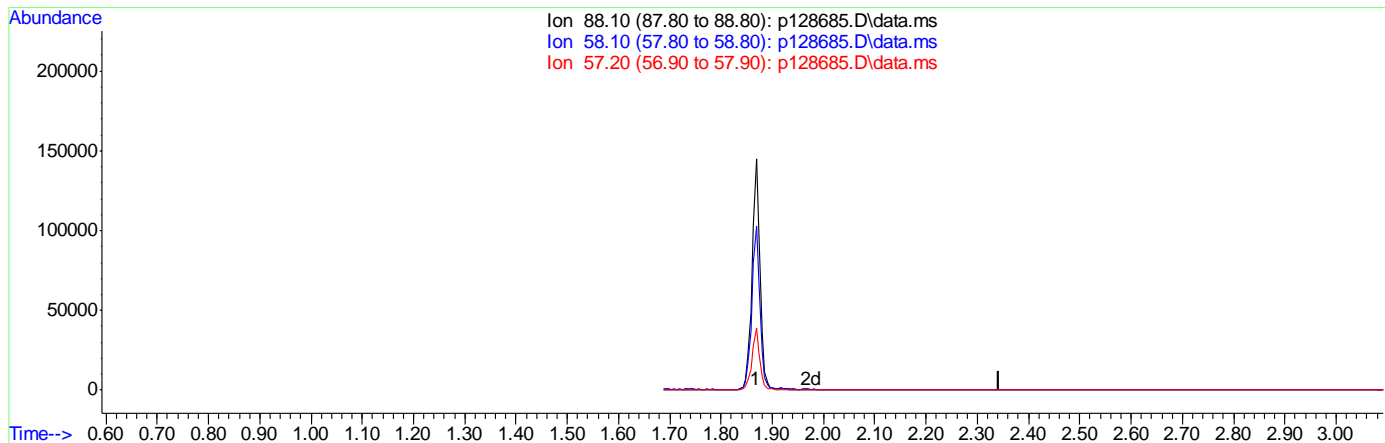
Sample Number: EP5819-ICV5819      Method: SW846 8270D  
Lab FileID: P128685.D      Analyst approved: 03/28/19 18:15 Kristi Schollenberger  
Injection Time: 03/25/19 14:21      Supervisor approved: 03/28/19 18:16 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dioxane	123-91-1		1.87	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128685.D  
 Acq On : 25 Mar 2019 2:21 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 27 19:09:05 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



(2) 1,4-Dioxane (t)

1.842min 0.00ppm d

response 0

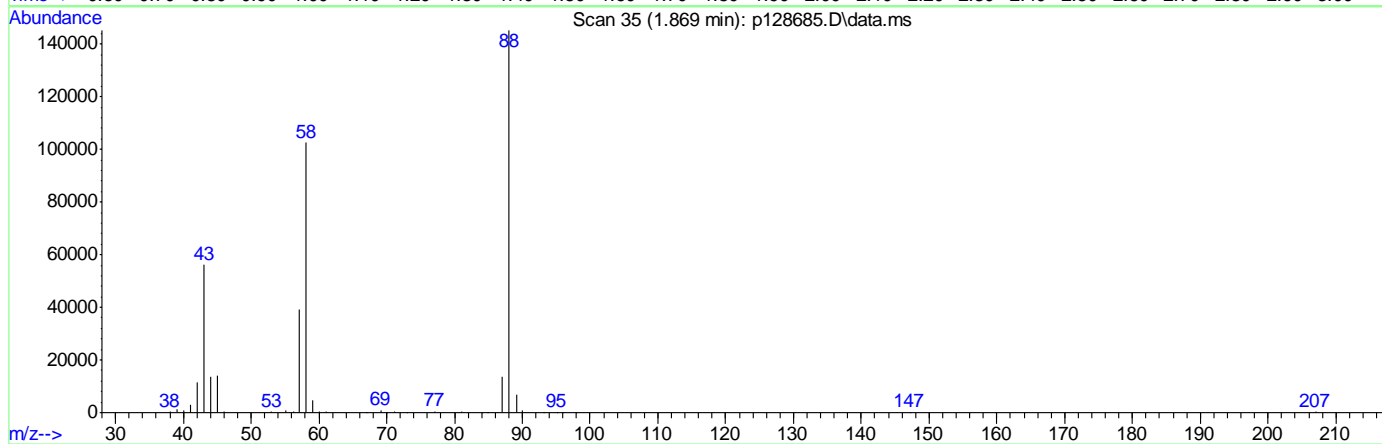
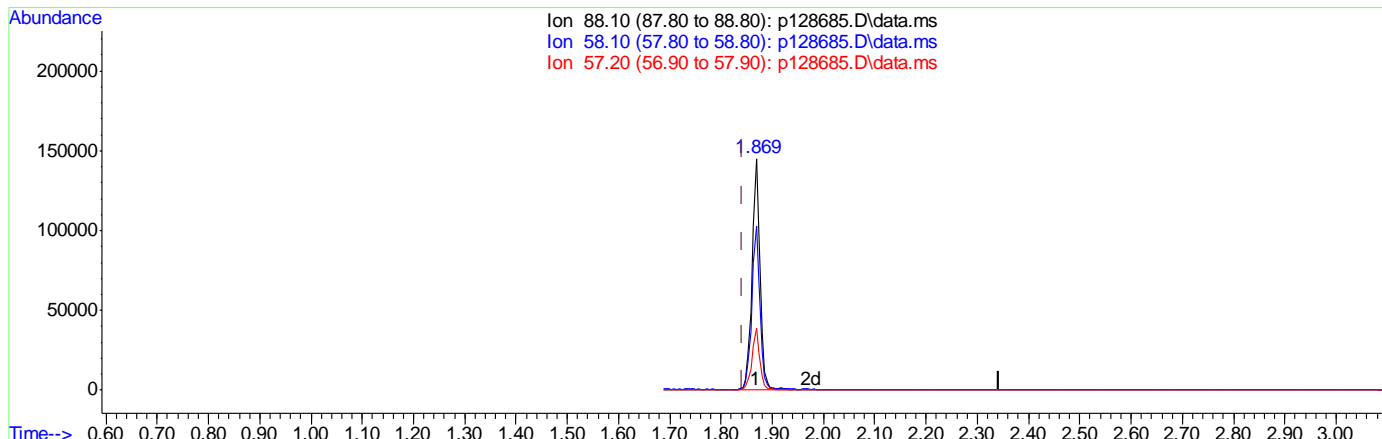
Ion	Exp%	Act%
88.10	100	0.00
58.10	69.50	0.00
57.20	24.90	0.00
0.00	0.00	0.00

9.6.51.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128685.D  
 Acq On : 25 Mar 2019 2:21 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 27 19:09:05 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



TIC: p128685.D\data.ms

(2) 1,4-Dioxane (t)  
 1.869min (+0.027) 39.76ppm m  
 response 155652

Ion	Exp%	Act%
88.10	100	100
58.10	69.50	70.67
57.20	24.90	26.96
0.00	0.00	0.00

9.6.51.3  
**9**

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128686.D  
 Acq On : 25 Mar 2019 2:48 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 25 17:20:05 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) 1,4-Dichlorobenzene-d4	4.380	152	162280	40.00	ppm	0.00
24) Naphthalene-d8	5.320	136	683945	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	345080	40.00	ppm	0.00
69) Phenanthrene-d10	8.434	188	672948	40.00	ppm	0.00
83) Chrysene-d12	13.574	240	601048	40.00	ppm	0.00
91) Perylene-d12	16.608	264	620974	40.00	ppm	-0.01
101) 1,4-Dichlorobenzene-d4A	4.380	152	162280	40.00	ppm	0.00
111) Naphthalene-d8A	5.320	136	683945	40.00	ppm	0.00
120) Acenaphthene-d10A	6.677	164	345080	40.00	ppm	0.00
131) Phenanthrene-d10A	8.434	188	672948	40.00	ppm	0.00
146) Chrysene-d12A	13.574	240	601048	40.00	ppm	0.00
153) Perylene-d12A	16.608	264	620974	40.00	ppm	-0.01
157) 1,4-Dichlorobenzene-d4b	4.380	152	162280	40.00	ppm	0.00
159) Phenanthrene-d10b	8.434	188	672948	40.00	ppm	0.00
161) Chrysene-d12b	13.574	240	601048	40.00	ppm	0.00
163) Naphthalene-d8b	5.320	136	683945	40.00	ppm	0.00
165) Acenaphthene-d10b	6.677	164	345080	40.00	ppm	0.00
167) Naphthalene-d8c	5.320	136	683945	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.380	152	162280	40.00	ppm	0.00
174) Chrysene-d12c	13.574	240	601048	40.00	ppm	0.00
176) Chrysene-d12d	13.574	240	601048	40.00	ppm	0.00
178) Naphthalene-d8d	5.320	136	683945	40.00	ppm	0.00
180) Chrysene-d12D	13.574	240	601048	40.00	ppm	-0.16
<b>System Monitoring Compounds</b>						
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%	
<b>Target Compounds</b>						
3) Pyridine	2.382	79	378751	51.02	ppm	Qvalue 100
10) Aniline	4.155	93	548508	57.04	ppm	100
16) Benzyl alcohol	4.519	108	217841	54.36	ppm	80
39) 4-Chloroaniline	5.389	127	331789	43.89	ppm	88
44) 2-Methylnaphthalene	5.838	141	491882m	45.94	ppm	
54) 2-Nitroaniline	6.297	65	230055	50.71	ppm	90
58) 3-Nitroaniline	6.661	138	143136	48.42	ppm	100
62) Dibenzofuran	6.874	168	739820	49.37	ppm	99
68) 4-Nitroaniline	7.280	138	146096	53.30	ppm	98
79) Carbazole	8.835	167	874585	47.45	ppm	99

9.6-52  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128686.D  
 Acq On : 25 Mar 2019 2:48 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 25 17:20:05 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

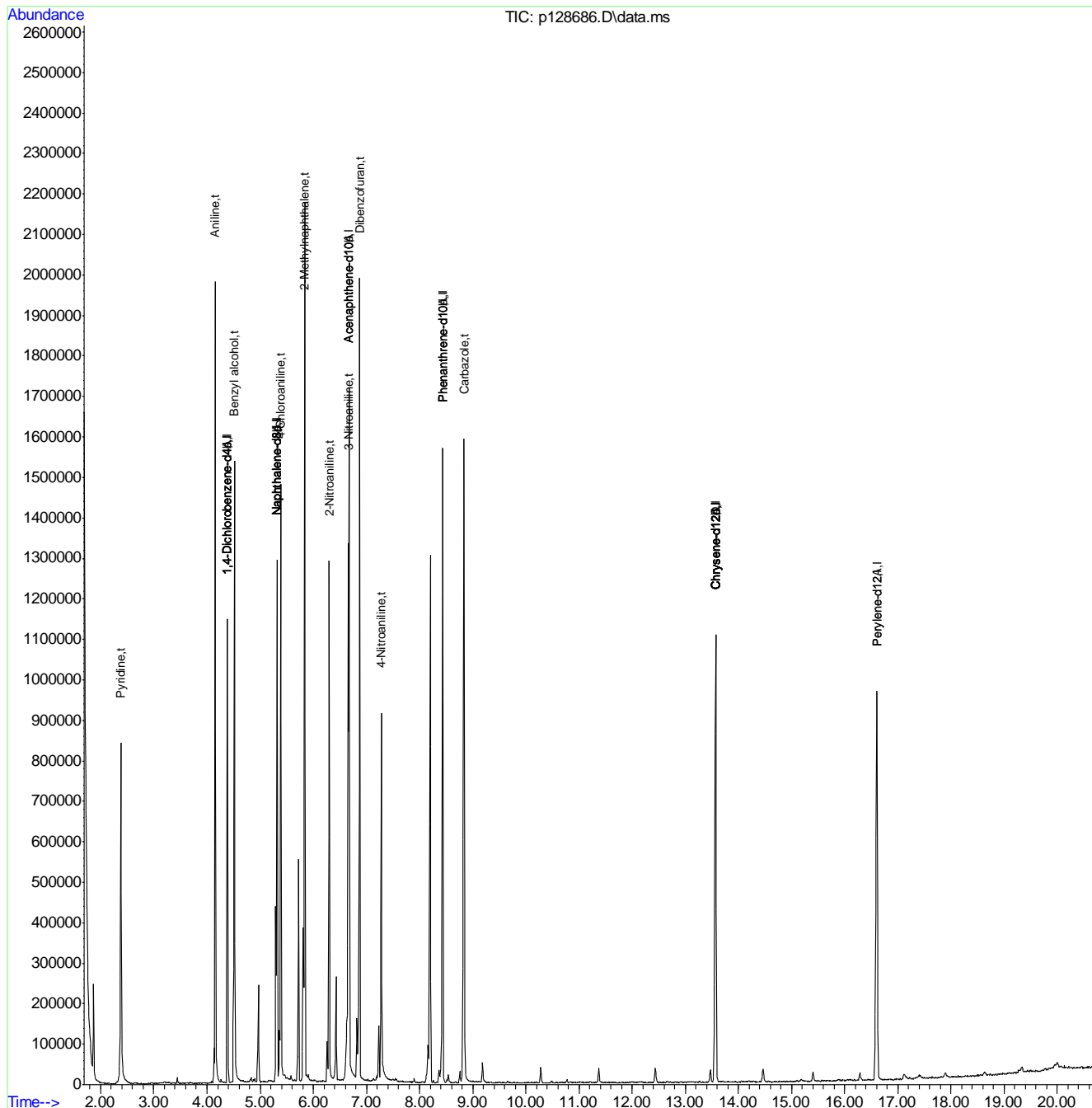
9.6.52  
**9**



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128686.D  
 Acq On : 25 Mar 2019 2:48 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 25 17:20:05 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



9.6-52  
9

# Manual Integration Approval Summary

Sample Number: EP5819-ICV5819      Method: SW846 8270D  
Lab FileID: P128686.D      Analyst approved: 03/25/19 17:27 Ying Li  
Injection Time: 03/25/19 14:48      Supervisor approved: 03/28/19 17:57 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Methylnaphthalene	91-57-6		5.84	Split peak

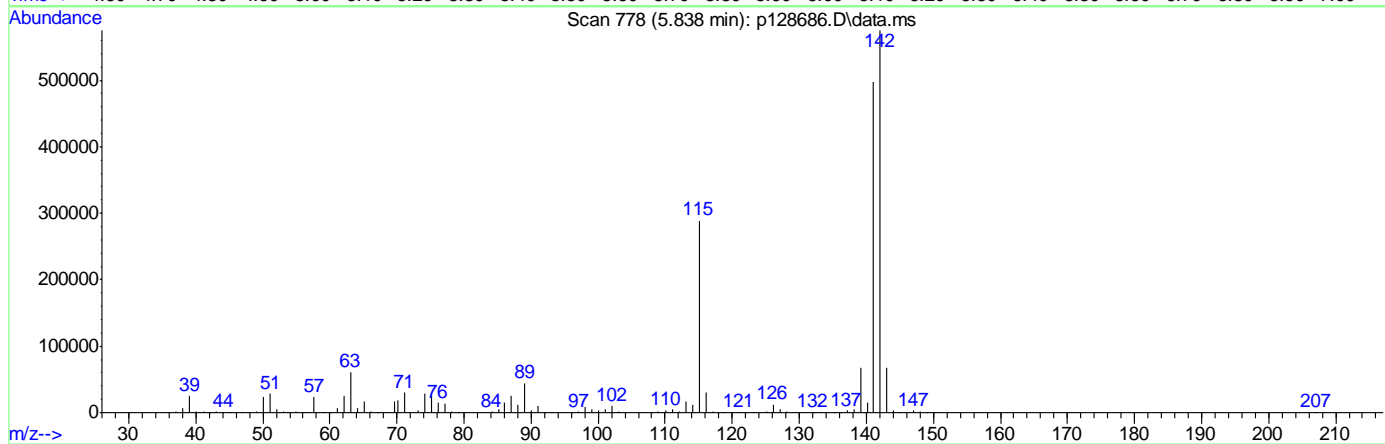
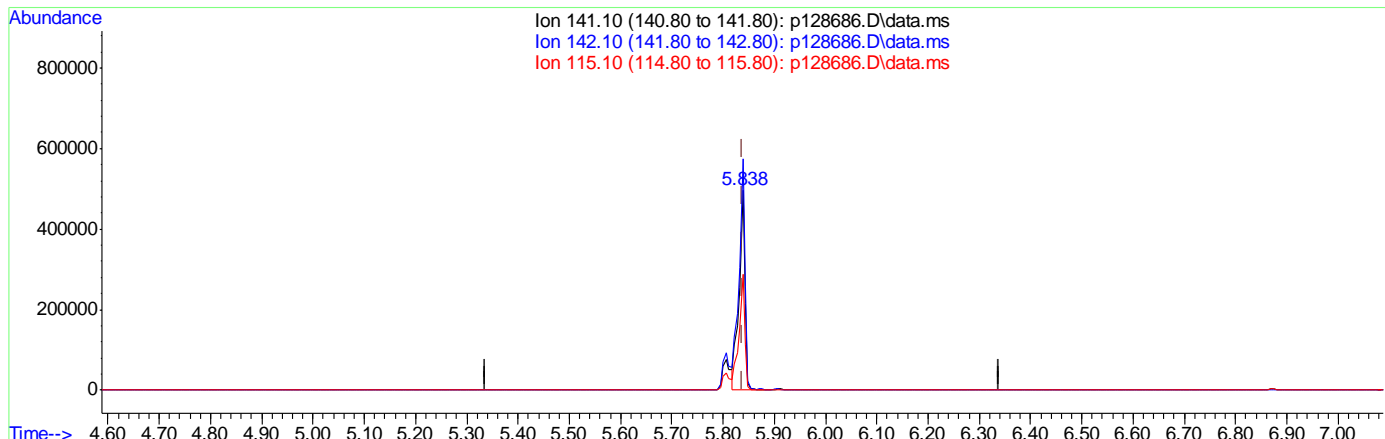
9.6.52.1

9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128686.D  
 Acq On : 25 Mar 2019 2:48 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 25 16:22:48 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



(44) 2-Methylnaphthalene (t)

5.838min (-0.000) 38.26ppm

response 409579

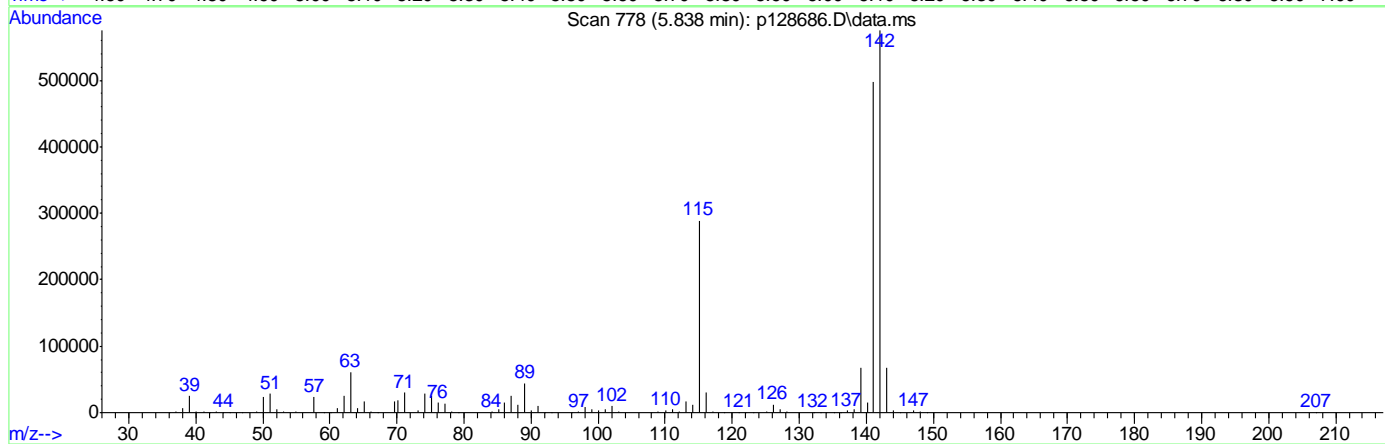
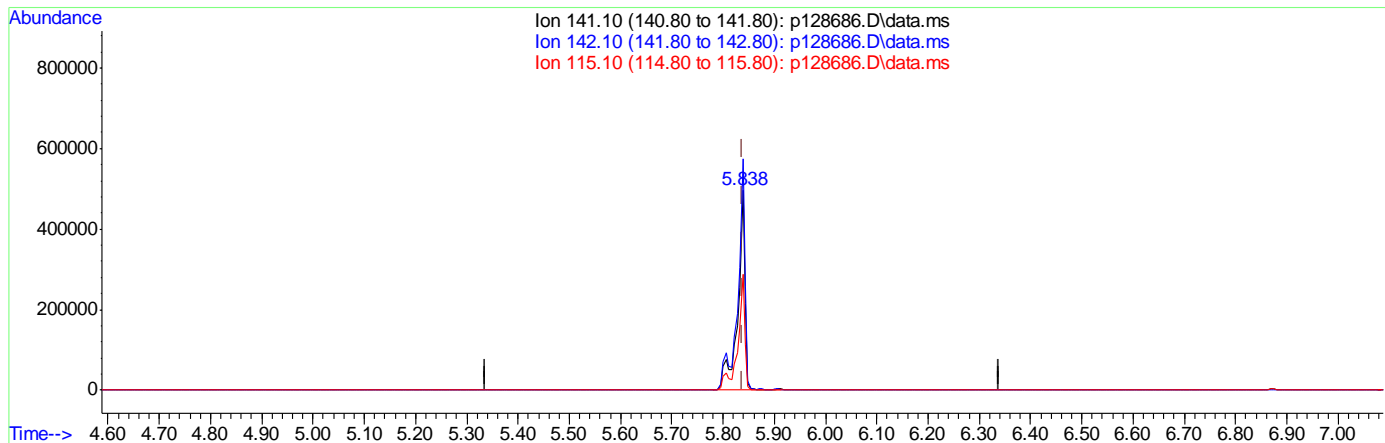
Ion	Exp%	Act%
141.10	100	100
142.10	117.80	115.81
115.10	52.30	58.14
0.00	0.00	0.00

9.6.52.2  
9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128686.D  
 Acq On : 25 Mar 2019 2:48 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 25 16:22:48 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



(44) 2-Methylnaphthalene (t)  
 5.838min (-0.000) 45.94ppm m  
 response 491882

Ion	Exp%	Act%
141.10	100	100
142.10	117.80	115.63
115.10	52.30	57.99
0.00	0.00	0.00

9.6.52.3  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128687.D  
 Acq On : 25 Mar 2019 3:15 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 25 16:29:07 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	222400	40.00	ppm	0.00
24) Naphthalene-d8	5.325	136	876796	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	476586	40.00	ppm	0.00
69) Phenanthrene-d10	8.434	188	794516	40.00	ppm	0.00
83) Chrysene-d12	13.574	240	691824	40.00	ppm	0.00
91) Perylene-d12	16.613	264	675890	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	222400	40.00	ppm	0.00
111) Naphthalene-d8A	5.325	136	876796	40.00	ppm	0.00
120) Acenaphthene-d10A	6.677	164	476586	40.00	ppm	0.00
131) Phenanthrene-d10A	8.434	188	794516	40.00	ppm	0.00
146) Chrysene-d12A	13.574	240	691824	40.00	ppm	0.00
153) Perylene-d12A	16.613	264	675890	40.00	ppm	0.00
157) 1,4-Dichlorobenzene-d4b	4.385	152	222400	40.00	ppm	0.00
159) Phenanthrene-d10b	8.434	188	794516	40.00	ppm	0.00
161) Chrysene-d12b	13.574	240	691824	40.00	ppm	0.00
163) Naphthalene-d8b	5.325	136	876796	40.00	ppm	0.00
165) Acenaphthene-d10b	6.677	164	476586	40.00	ppm	0.00
167) Naphthalene-d8c	5.325	136	876796	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.385	152	222400	40.00	ppm	0.00
174) Chrysene-d12c	13.574	240	691824	40.00	ppm	0.00
176) Chrysene-d12d	13.574	240	691824	40.00	ppm	0.00
178) Naphthalene-d8d	5.325	136	876796	40.00	ppm	0.00
180) Chrysene-d12D	13.574	240	691824	40.00	ppm	-0.16
System Monitoring Compounds						
5) 2-Fluorophenol	3.445	112	390632	46.89	ppm	0.00
Spiked Amount	50.000		Recovery	=	93.78%	
8) Phenol-d5	4.187	99	515117	46.13	ppm	0.00
Spiked Amount	50.000		Recovery	=	92.26%	
25) Nitrobenzene-d5	4.802	82	571136	49.89	ppm	0.00
Spiked Amount	50.000		Recovery	=	99.78%	
51) 2-Fluorobiphenyl	6.110	172	877334	51.57	ppm	0.00
Spiked Amount	50.000		Recovery	=	103.14%	
73) 2,4,6-Tribromophenol	7.515	330	102184	46.40	ppm	0.00
Spiked Amount	50.000		Recovery	=	92.80%	
85) Terphenyl-d14	11.389	244	823105	48.17	ppm	0.02
Spiked Amount	50.000		Recovery	=	96.34%	

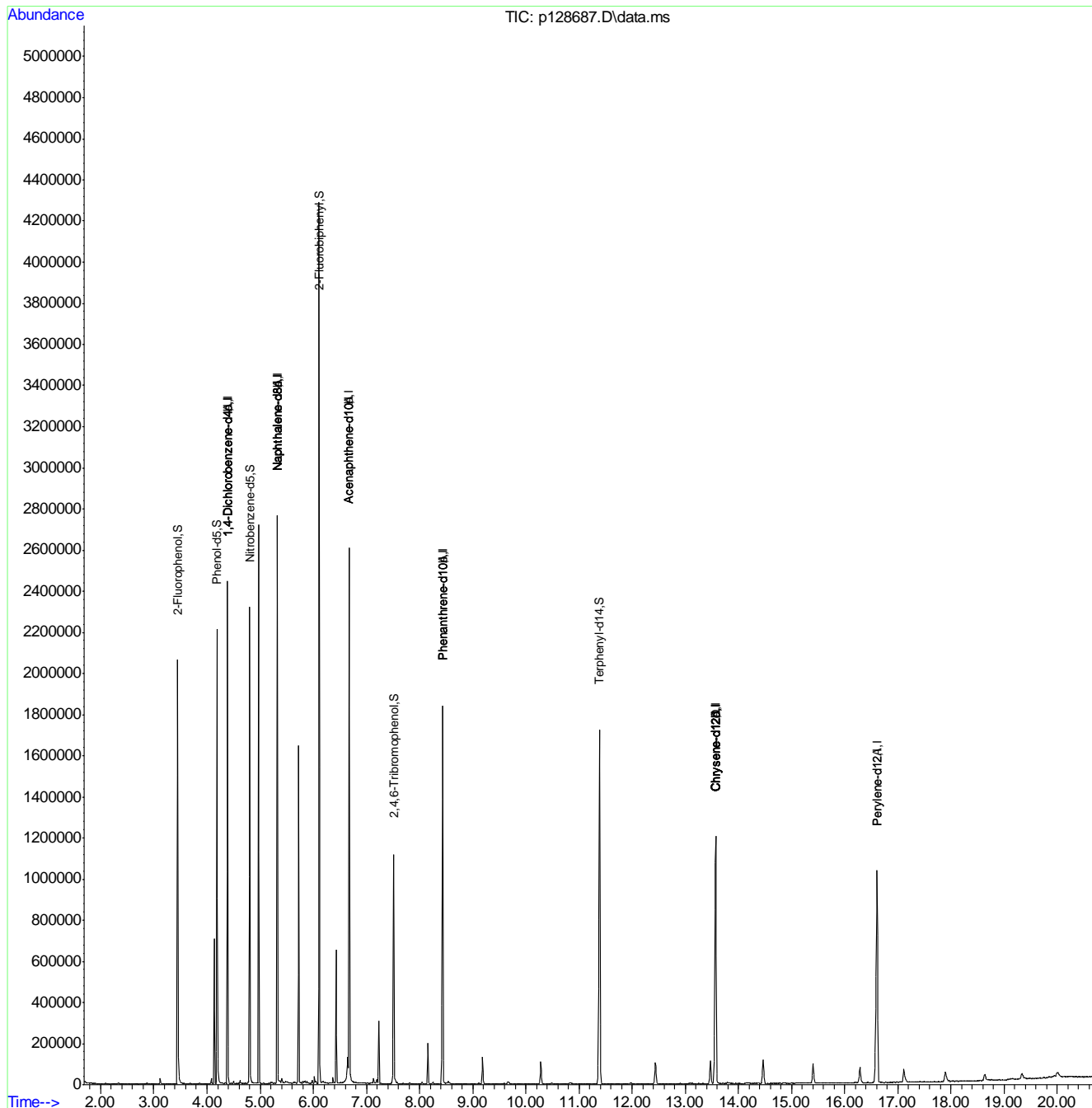
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128687.D  
 Acq On : 25 Mar 2019 3:15 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 25 16:29:07 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



9.6-53  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128688.D  
 Acq On : 25 Mar 2019 3:42 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 28 18:05:04 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 16:40:12 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<b>Internal Standards</b>						
1) 1,4-Dichlorobenzene-d4	4.385	152	147871	40.00	ppm	0.00
24) Naphthalene-d8	5.320	136	527332	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	323153	40.00	ppm	0.00
69) Phenanthrene-d10	8.434	188	541589	40.00	ppm	0.00
83) Chrysene-d12	13.568	240	453606	40.00	ppm	-0.01
91) Perylene-d12	16.603	264	488200	40.00	ppm	-0.02
101) 1,4-Dichlorobenzene-d4A	4.385	152	147871	40.00	ppm	0.00
111) Naphthalene-d8A	5.320	136	527332	40.00	ppm	0.00
120) Acenaphthene-d10A	6.677	164	323153	40.00	ppm	0.00
131) Phenanthrene-d10A	8.434	188	541589	40.00	ppm	0.00
146) Chrysene-d12A	13.568	240	453606	40.00	ppm	-0.01
153) Perylene-d12A	16.603	264	488200	40.00	ppm	-0.02
157) 1,4-Dichlorobenzene-d4b	4.385	152	147871	40.00	ppm	0.00
159) Phenanthrene-d10b	8.434	188	541589	40.00	ppm	0.00
161) Chrysene-d12b	13.568	240	453606	40.00	ppm	-0.01
163) Naphthalene-d8b	5.320	136	527332	40.00	ppm	0.00
165) Acenaphthene-d10b	6.677	164	323153	40.00	ppm	0.00
167) Naphthalene-d8c	5.320	136	527332	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.385	152	147871	40.00	ppm	0.00
174) Chrysene-d12c	13.568	240	453606	40.00	ppm	-0.01
176) Chrysene-d12d	13.568	240	453606	40.00	ppm	-0.01
178) Naphthalene-d8d	5.320	136	527332	40.00	ppm	0.00
180) Chrysene-d12D	13.568	240	453606	40.00	ppm	-0.17
<b>System Monitoring Compounds</b>						
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%	
<b>Target Compounds</b>						
9) Phenol	4.193	94	406459	50.30	ppm	Qvalue 90
12) 2-Chlorophenol	4.251	128	271242	49.83	ppm	97
19) 2-Methylphenol	4.620	108	277912	52.73	ppm	99
21) 3&4-Methylphenol	4.737	108	285908	50.28	ppm	100
29) 2-Nitrophenol	5.047	139	142735	49.50	ppm	# 52
30) 2,4-Dimethylphenol	5.106	107	336269	59.34	ppm	94
31) Benzoic acid	5.250	105	210546	46.75	ppm	97
33) 2,4-Dichlorophenol	5.245	162	215514	47.32	ppm	99
34) 2,6-Dichlorophenol	5.395	162	217727	50.71	ppm	96
43) 4-Chloro-3-methylphenol	5.763	107	275024	50.35	ppm	99

9.6.54  
**9**

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128688.D  
 Acq On : 25 Mar 2019 3:42 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 28 18:05:04 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 16:40:12 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,4,6-Trichlorophenol	6.062	196	171545	53.04	ppm	99
50) 2,4,5-Trichlorophenol	6.100	196	170006	47.98	ppm	97
60) 2,4-Dinitrophenol	6.751	184	47737	40.75	ppm	89
61) 4-Nitrophenol	6.874	109	107488	47.85	ppm	86
64) 2,3,4,6-Tetrachlorophenol	7.013	232	124126	44.69	ppm	91
70) 4,6-Dinitro-2-methylph...	7.307	198	86062m	50.16	ppm	
76) Pentachlorophenol	8.194	266	87571	48.67	ppm	95

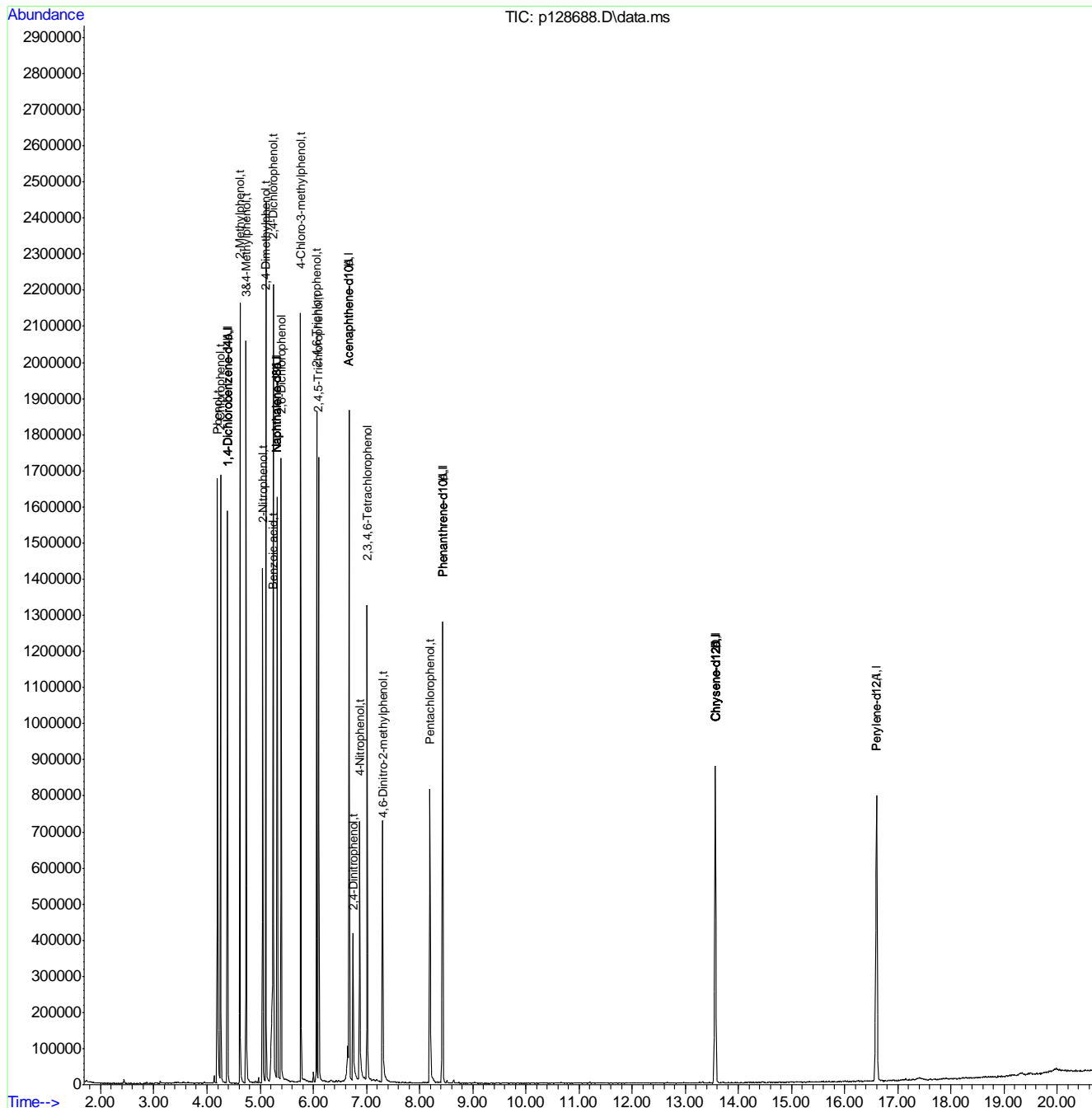
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128688.D  
 Acq On : 25 Mar 2019 3:42 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 28 18:05:04 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 16:40:12 2019  
 Response via : Initial Calibration



9.6.54  
9

# Manual Integration Approval Summary

Sample Number: EP5819-ICV5819      Method: SW846 8270D  
Lab FileID: P128688.D      Analyst approved: 03/28/19 18:08 Kristi Schollenberger  
Injection Time: 03/25/19 15:42      Supervisor approved: 03/28/19 18:08 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
4,6-Dinitro-o-cresol	534-52-1		7.31	Poor instrument integration

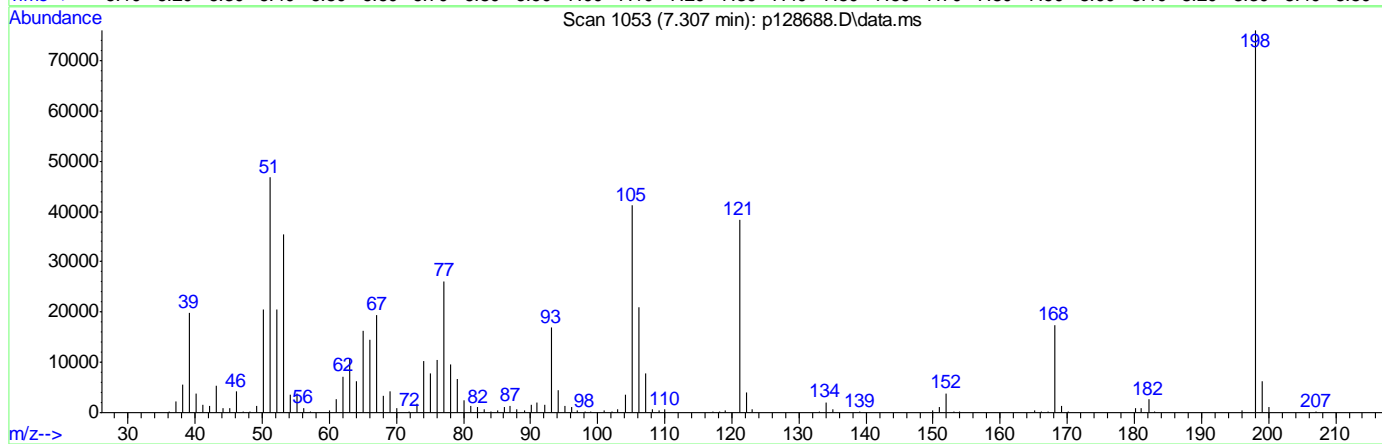
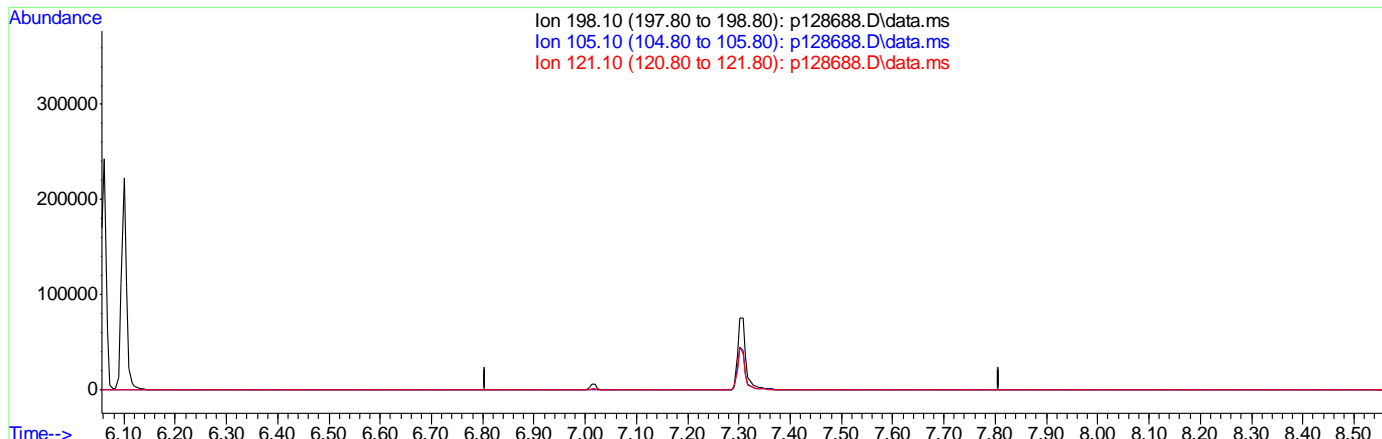
9.6.54.1

9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128688.D  
 Acq On : 25 Mar 2019 3:42 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 25 16:43:25 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 16:40:12 2019  
 Response via : Initial Calibration



TIC: p128688.D\data.ms

(70) 4,6-Dinitro-2-methylphenol (t)  
 7.307min 0.00ppm d  
 response 0

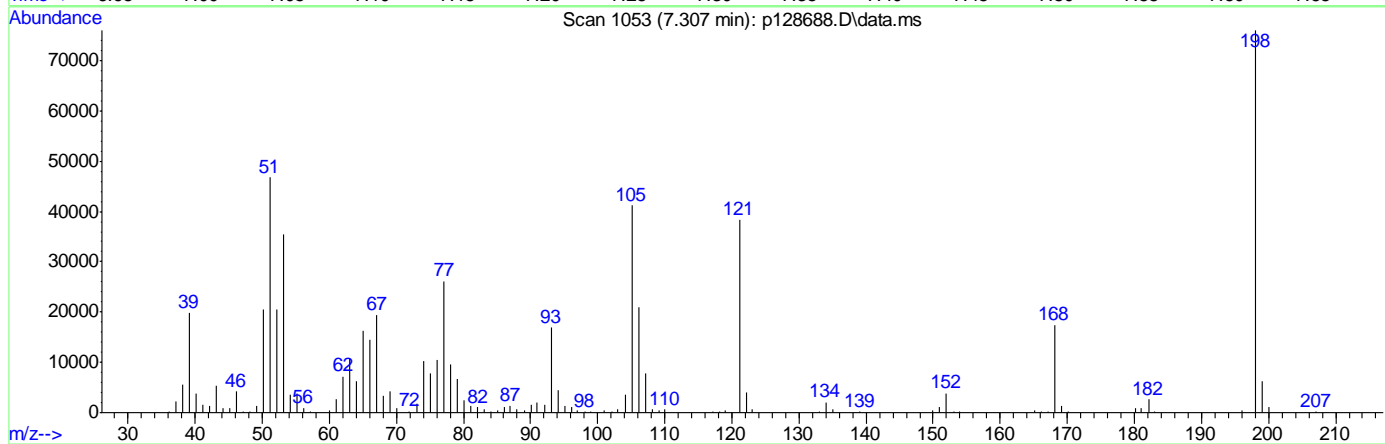
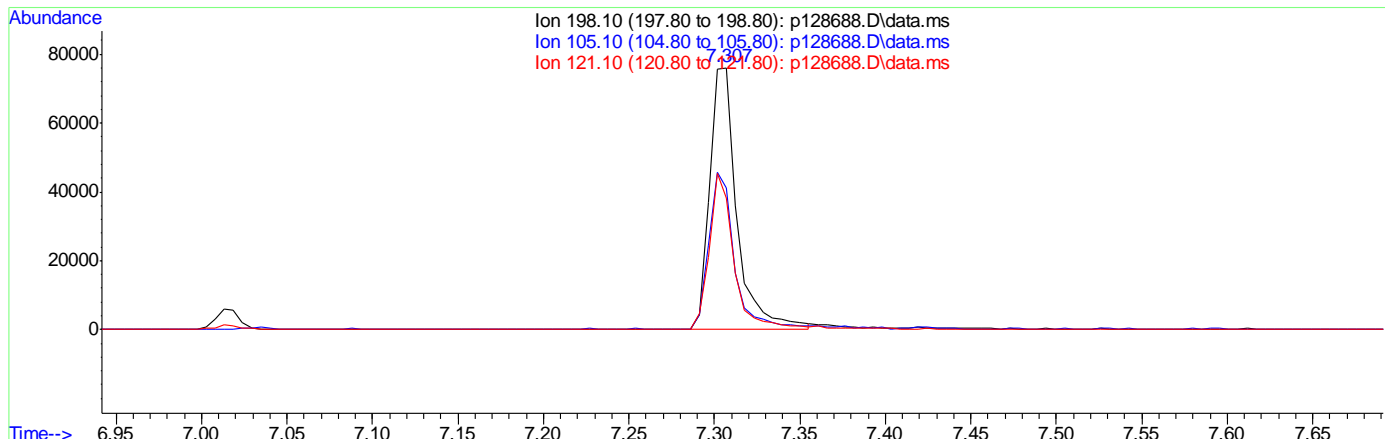
Ion	Exp%	Act%
198.10	100	0.00
105.10	13.00	0.00
121.10	51.00	0.00
0.00	0.00	0.00

9.6.54.2  
 9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128688.D  
 Acq On : 25 Mar 2019 3:42 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 25 16:43:25 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 16:40:12 2019  
 Response via : Initial Calibration



(70) 4,6-Dinitro-2-methylphenol (t)

7.307min (+0.000) 50.16ppm m

response 86062

Ion	Exp%	Act%
198.10	100	100
105.10	13.00	54.24#
121.10	51.00	50.40
0.00	0.00	0.00

9.6.54.3  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128689.D  
 Acq On : 25 Mar 2019 4:09 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 25 16:38:02 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.385	152	252073	40.00	ppm	0.00
24) Naphthalene-d8	5.325	136	1050035	40.00	ppm	0.00
47) Acenaphthene-d10	6.677	164	634265	40.00	ppm	0.00
69) Phenanthrene-d10	8.440	188	1224042	40.00	ppm	0.00
83) Chrysene-d12	13.584	240	1204875	40.00	ppm	0.00
91) Perylene-d12	16.624	264	1137327	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4A	4.385	152	252073	40.00	ppm	0.00
111) Naphthalene-d8A	5.325	136	1050035	40.00	ppm	0.00
120) Acenaphthene-d10A	6.677	164	634265	40.00	ppm	0.00
131) Phenanthrene-d10A	8.440	188	1224042	40.00	ppm	0.00
146) Chrysene-d12A	13.584	240	1204875	40.00	ppm	0.00
153) Perylene-d12A	16.624	264	1137327	40.00	ppm	0.00
157) 1,4-Dichlorobenzene-d4b	4.385	152	252073	40.00	ppm	0.00
159) Phenanthrene-d10b	8.440	188	1224042	40.00	ppm	0.00
161) Chrysene-d12b	13.584	240	1204875	40.00	ppm	0.00
163) Naphthalene-d8b	5.325	136	1050035	40.00	ppm	0.00
165) Acenaphthene-d10b	6.677	164	634265	40.00	ppm	0.00
167) Naphthalene-d8c	5.325	136	1050035	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.385	152	252073	40.00	ppm	0.00
174) Chrysene-d12c	13.584	240	1204875	40.00	ppm	0.00
176) Chrysene-d12d	13.584	240	1204875	40.00	ppm	0.00
178) Naphthalene-d8d	5.325	136	1050035	40.00	ppm	0.00
180) Chrysene-d12D	13.584	240	1204875	40.00	ppm	-0.15
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						
88) 3,3'-Dichlorobenzidine	13.627	252	628850	48.07	ppm	Qvalue 96

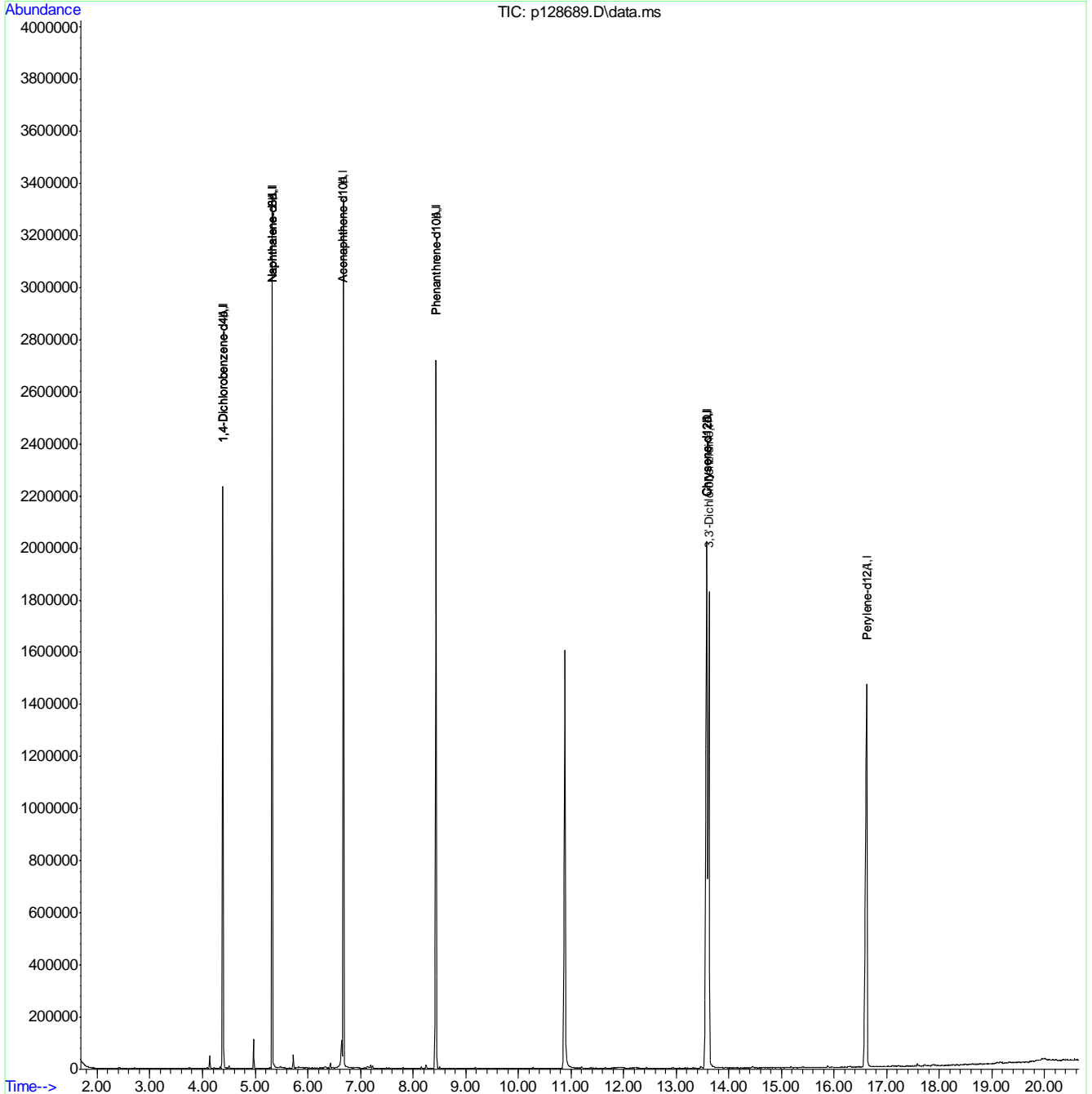
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.55  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5819\  
 Data File : p128689.D  
 Acq On : 25 Mar 2019 4:09 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5819,1000,,,1,1  
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 25 16:38:02 2019  
 Quant Method : C:\msdchem\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Mon Mar 25 14:35:38 2019  
 Response via : Initial Calibration



9.6.55  
**9**

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128703b.D  
 Acq On : 26 Mar 2019 5:16 pm  
 Operator : christc2  
 Sample : ic5821-100  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 27 08:48:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.376	152	195868	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	830629	40.00	ppm	0.00
47) Acenaphthene-d10	6.668	164	494705	40.00	ppm	0.00
69) Phenanthrene-d10	8.426	188	797789	40.00	ppm	-0.01
83) Chrysene-d12	13.560	240	718036	40.00	ppm	-0.02
91) Perylene-d12	16.594	264	768621	40.00	ppm	-0.02
101) 1,4-Dichlorobenzene-d4A	4.376	152	195868	40.00	ppm	0.00
111) Naphthalene-d8A	5.317	136	830629	40.00	ppm	0.00
120) Acenaphthene-d10A	6.668	164	494705	40.00	ppm	0.00
131) Phenanthrene-d10A	8.426	188	797789	40.00	ppm	-0.01
146) Chrysene-d12A	13.560	240	718036	40.00	ppm	-0.02
153) Perylene-d12A	16.594	264	768621	40.00	ppm	-0.02
157) 1,4-Dichlorobenzene-d4b	4.376	152	195868	40.00	ppm	0.00
159) Phenanthrene-d10b	8.426	188	797789	40.00	ppm	0.00
161) Chrysene-d12b	13.560	240	718036	40.00	ppm	-0.02
163) Naphthalene-d8b	5.317	136	830629	40.00	ppm	0.00
165) Acenaphthene-d10b	6.668	164	494705	40.00	ppm	0.00
167) Naphthalene-d8c	5.317	136	830629	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.376	152	195868	40.00	ppm	0.00
174) Chrysene-d12c	13.560	240	718036	40.00	ppm	-0.02
176) Chrysene-d12d	13.560	240	718036	40.00	ppm	-0.02
178) Naphthalene-d8d	5.317	136	830629	40.00	ppm	0.00
180) Chrysene-d12D	13.560	240	718036	40.00	ppm	-0.17
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						
158) Benzaldehyde	4.056	105	618718	99.19	ppm	90
160) Atrazine	8.095	200	478472	97.82	ppm	80
164) Hydroquinone	5.691	110	712321	97.93	ppm	98
166) 1,2,4,5-Tetrachloroben...	5.963	216	795823	108.81	ppm	98

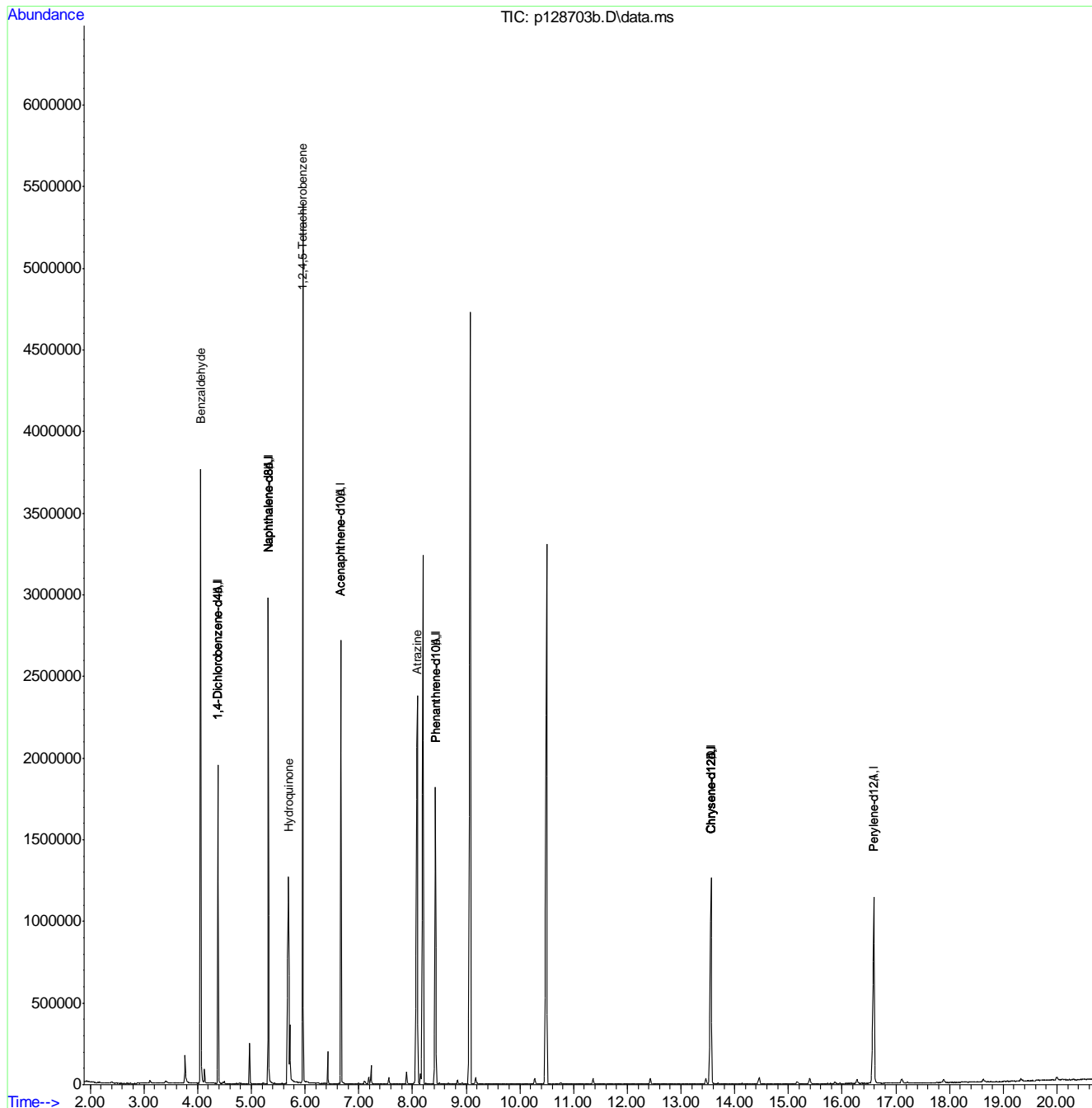
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.56  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128703b.D  
 Acq On : 26 Mar 2019 5:16 pm  
 Operator : christc2  
 Sample : ic5821-100  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 27 08:48:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration



9.6.56  
9



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128704b.D  
 Acq On : 26 Mar 2019 5:43 pm  
 Operator : christc2  
 Sample : ic5821-80  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 27 08:50:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration

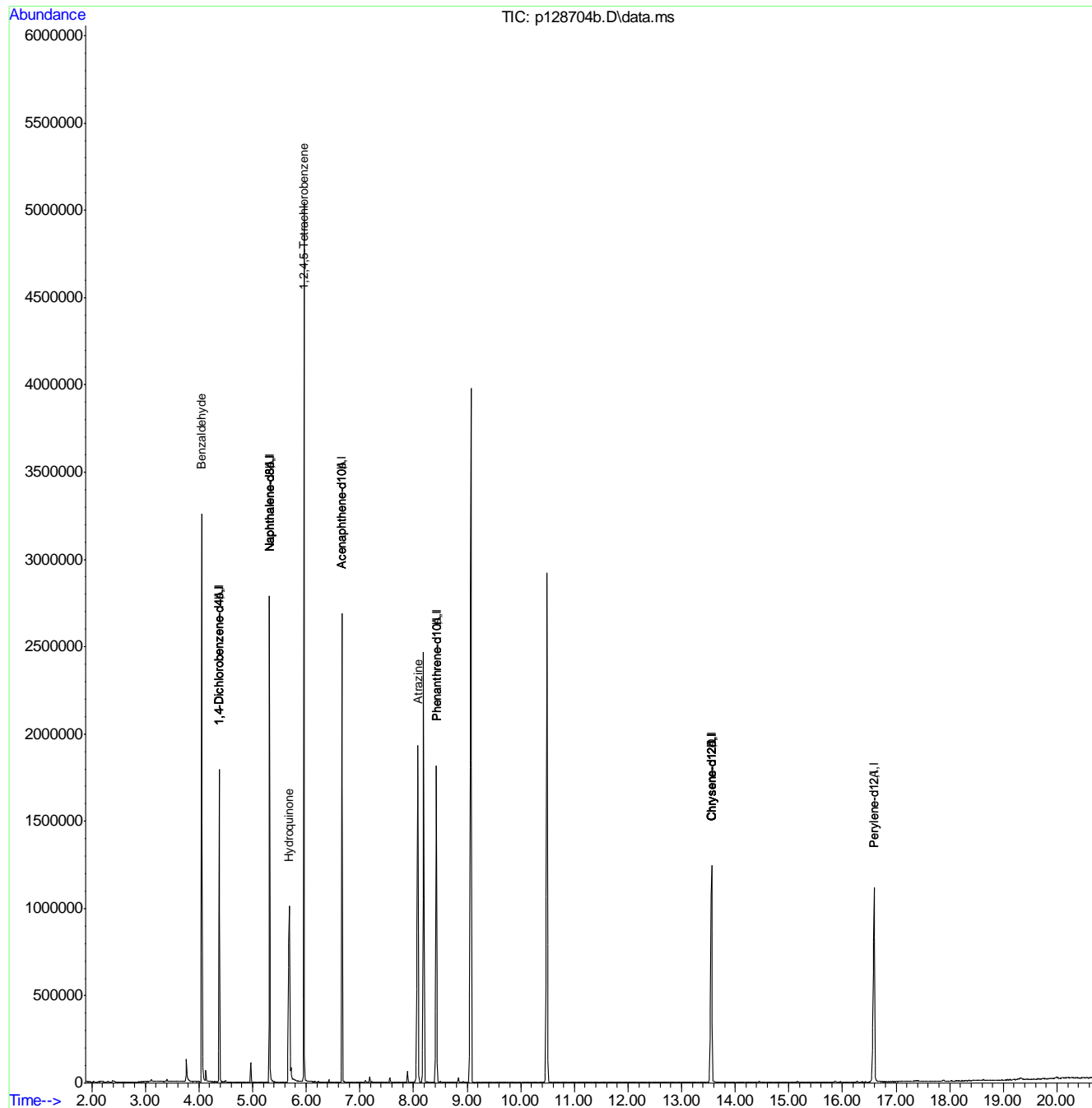
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.377	152	192066	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	798610	40.00	ppm	0.00
47) Acenaphthene-d10	6.668	164	480398	40.00	ppm	0.00
69) Phenanthrene-d10	8.426	188	770670	40.00	ppm	-0.01
83) Chrysene-d12	13.560	240	723484	40.00	ppm	-0.02
91) Perylene-d12	16.594	264	765263	40.00	ppm	-0.02
101) 1,4-Dichlorobenzene-d4A	4.377	152	192066	40.00	ppm	0.00
111) Naphthalene-d8A	5.317	136	798610	40.00	ppm	0.00
120) Acenaphthene-d10A	6.668	164	480398	40.00	ppm	0.00
131) Phenanthrene-d10A	8.426	188	770670	40.00	ppm	-0.01
146) Chrysene-d12A	13.560	240	723484	40.00	ppm	-0.02
153) Perylene-d12A	16.594	264	765263	40.00	ppm	-0.02
157) 1,4-Dichlorobenzene-d4b	4.377	152	192066	40.00	ppm	0.00
159) Phenanthrene-d10b	8.426	188	770670	40.00	ppm	0.00
161) Chrysene-d12b	13.560	240	723484	40.00	ppm	-0.02
163) Naphthalene-d8b	5.317	136	798610	40.00	ppm	0.00
165) Acenaphthene-d10b	6.668	164	480398	40.00	ppm	0.00
167) Naphthalene-d8c	5.317	136	798610	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.377	152	192066	40.00	ppm	0.00
174) Chrysene-d12c	13.560	240	723484	40.00	ppm	-0.02
176) Chrysene-d12d	13.560	240	723484	40.00	ppm	-0.02
178) Naphthalene-d8d	5.317	136	798610	40.00	ppm	0.00
180) Chrysene-d12D	13.560	240	723484	40.00	ppm	-0.17
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						
158) Benzaldehyde	4.051	105	470405	76.91	ppm	96
160) Atrazine	8.089	200	378470	80.10	ppm	87
164) Hydroquinone	5.685	110	572890	81.92	ppm	98
166) 1,2,4,5-Tetrachloroben...	5.958	216	585542	82.45	ppm	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
Data File : p128704b.D  
Acq On : 26 Mar 2019 5:43 pm  
Operator : christc2  
Sample : ic5821-80  
Misc : op13894,ep5821,1000,,,1,1  
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 27 08:50:18 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Wed Mar 27 07:55:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128705b.D  
 Acq On : 26 Mar 2019 6:10 pm  
 Operator : christc2  
 Sample : icc5821-50  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 27 08:45:41 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration

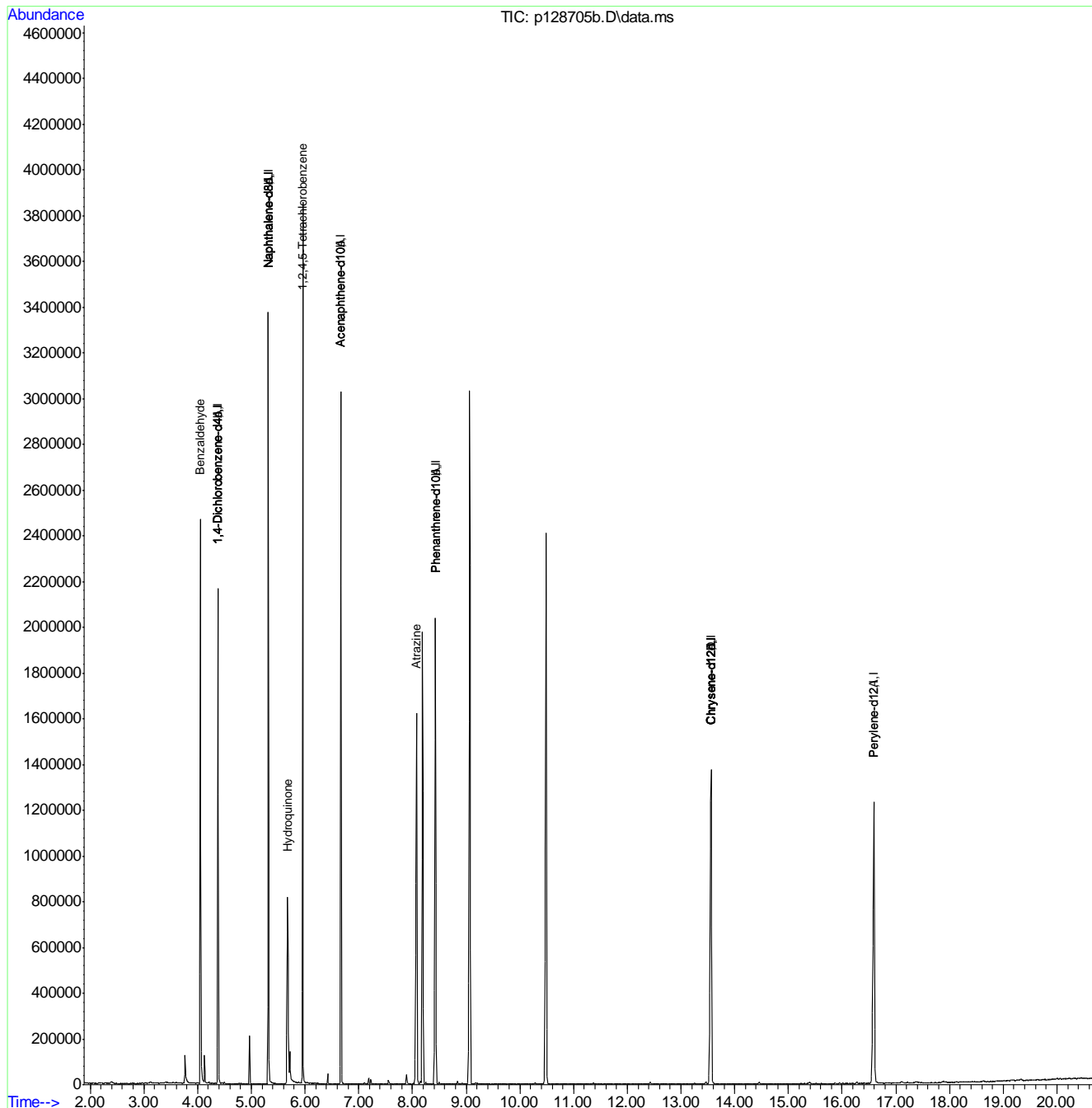
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.377	152	226516	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	930640	40.00	ppm	0.00
47) Acenaphthene-d10	6.668	164	558353	40.00	ppm	0.00
69) Phenanthrene-d10	8.426	188	901263	40.00	ppm	-0.01
83) Chrysene-d12	13.560	240	808232	40.00	ppm	-0.02
91) Perylene-d12	16.594	264	876545	40.00	ppm	-0.02
101) 1,4-Dichlorobenzene-d4A	4.377	152	226516	40.00	ppm	0.00
111) Naphthalene-d8A	5.317	136	930640	40.00	ppm	0.00
120) Acenaphthene-d10A	6.668	164	558353	40.00	ppm	0.00
131) Phenanthrene-d10A	8.426	188	901263	40.00	ppm	-0.01
146) Chrysene-d12A	13.560	240	808232	40.00	ppm	-0.02
153) Perylene-d12A	16.594	264	876545	40.00	ppm	-0.02
157) 1,4-Dichlorobenzene-d4b	4.377	152	226516	40.00	ppm	0.00
159) Phenanthrene-d10b	8.426	188	901263	40.00	ppm	0.00
161) Chrysene-d12b	13.560	240	808232	40.00	ppm	-0.02
163) Naphthalene-d8b	5.317	136	930640	40.00	ppm	0.00
165) Acenaphthene-d10b	6.668	164	558353	40.00	ppm	0.00
167) Naphthalene-d8c	5.317	136	930640	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.377	152	226516	40.00	ppm	0.00
174) Chrysene-d12c	13.560	240	808232	40.00	ppm	-0.02
176) Chrysene-d12d	13.560	240	808232	40.00	ppm	-0.02
178) Naphthalene-d8d	5.317	136	930640	40.00	ppm	0.00
180) Chrysene-d12D	13.560	240	808232	40.00	ppm	-0.17
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						
158) Benzaldehyde	4.051	105	358876	49.75	ppm	Qvalue 100
160) Atrazine	8.079	200	276292	50.00	ppm	100
164) Hydroquinone	5.680	110	407489	50.00	ppm	100
166) 1,2,4,5-Tetrachloroben...	5.958	216	412731	50.00	ppm	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128705b.D  
 Acq On : 26 Mar 2019 6:10 pm  
 Operator : christc2  
 Sample : icc5821-50  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 27 08:45:41 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration



9.6.58  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128706.D  
 Acq On : 26 Mar 2019 6:37 pm  
 Operator : christc2  
 Sample : ic5821-25  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 27 08:52:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.377	152	254948	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	1045754	40.00	ppm	0.00
47) Acenaphthene-d10	6.668	164	642475	40.00	ppm	0.00
69) Phenanthrene-d10	8.426	188	1036842	40.00	ppm	-0.01
83) Chrysene-d12	13.565	240	927316	40.00	ppm	-0.01
91) Perylene-d12	16.600	264	982313	40.00	ppm	-0.02
101) 1,4-Dichlorobenzene-d4A	4.377	152	254948	40.00	ppm	0.00
111) Naphthalene-d8A	5.317	136	1045754	40.00	ppm	0.00
120) Acenaphthene-d10A	6.668	164	642475	40.00	ppm	0.00
131) Phenanthrene-d10A	8.426	188	1036842	40.00	ppm	-0.01
146) Chrysene-d12A	13.565	240	927316	40.00	ppm	-0.01
153) Perylene-d12A	16.600	264	982313	40.00	ppm	-0.02
157) 1,4-Dichlorobenzene-d4b	4.377	152	254948	40.00	ppm	0.00
159) Phenanthrene-d10b	8.426	188	1036842	40.00	ppm	0.00
161) Chrysene-d12b	13.565	240	927316	40.00	ppm	-0.01
163) Naphthalene-d8b	5.317	136	1045754	40.00	ppm	0.00
165) Acenaphthene-d10b	6.668	164	642475	40.00	ppm	0.00
167) Naphthalene-d8c	5.317	136	1045754	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.377	152	254948	40.00	ppm	0.00
174) Chrysene-d12c	13.565	240	927316	40.00	ppm	-0.01
176) Chrysene-d12d	13.565	240	927316	40.00	ppm	-0.01
178) Naphthalene-d8d	5.317	136	1045754	40.00	ppm	0.00
180) Chrysene-d12D	13.565	240	927316	40.00	ppm	-0.17
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						
158) Benzaldehyde	4.051	105	198894	24.50	ppm	96
160) Atrazine	8.068	200	157050	24.70	ppm	95
164) Hydroquinone	5.669	110	215683	23.55	ppm	99
166) 1,2,4,5-Tetrachloroben...	5.958	216	209179	22.02	ppm	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

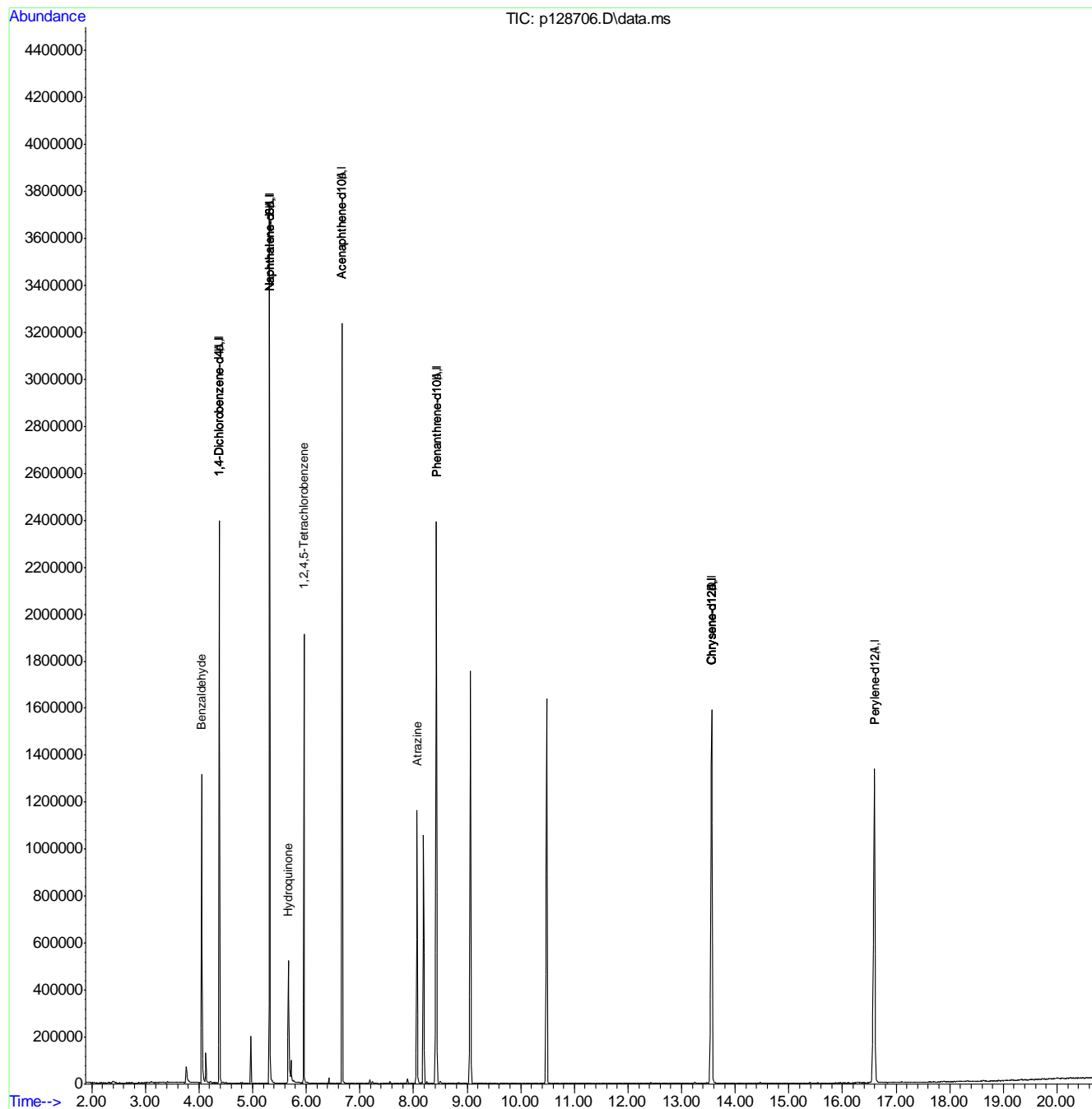
9.6.59

9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
Data File : p128706.D  
Acq On : 26 Mar 2019 6:37 pm  
Operator : christc2  
Sample : ic5821-25  
Misc : op13894,ep5821,1000,,,1,1  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 27 08:52:14 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Wed Mar 27 07:55:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128707.D  
 Acq On : 26 Mar 2019 7:03 pm  
 Operator : christc2  
 Sample : ic5821-10  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 27 08:54:49 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration

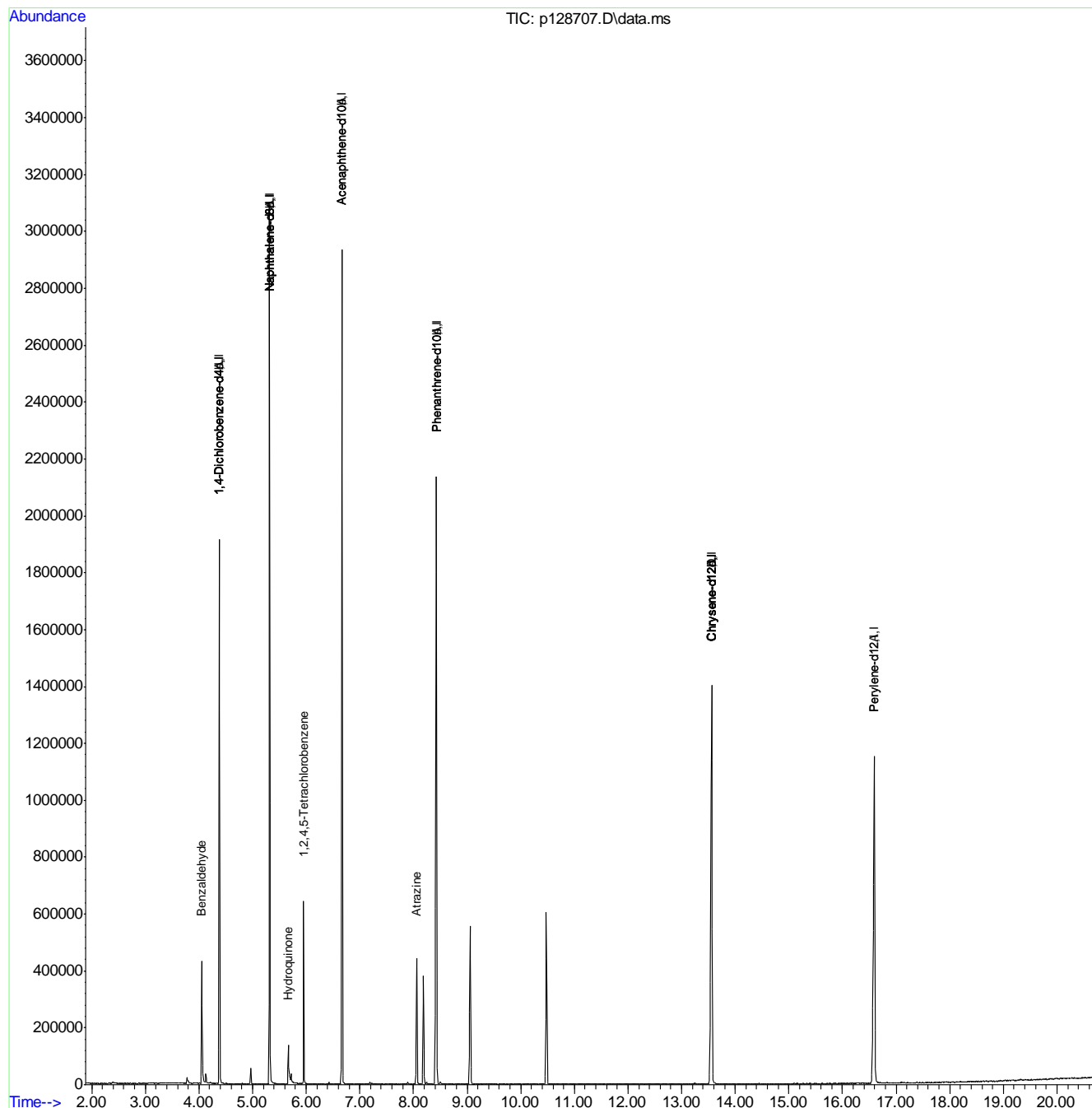
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.376	152	205971	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	855967	40.00	ppm	0.00
47) Acenaphthene-d10	6.668	164	516068	40.00	ppm	0.00
69) Phenanthrene-d10	8.426	188	869027	40.00	ppm	-0.01
83) Chrysene-d12	13.560	240	763641	40.00	ppm	-0.02
91) Perylene-d12	16.594	264	782282	40.00	ppm	-0.02
101) 1,4-Dichlorobenzene-d4A	4.376	152	205971	40.00	ppm	0.00
111) Naphthalene-d8A	5.317	136	855967	40.00	ppm	0.00
120) Acenaphthene-d10A	6.668	164	516068	40.00	ppm	0.00
131) Phenanthrene-d10A	8.426	188	869027	40.00	ppm	-0.01
146) Chrysene-d12A	13.560	240	763641	40.00	ppm	-0.02
153) Perylene-d12A	16.594	264	782282	40.00	ppm	-0.02
157) 1,4-Dichlorobenzene-d4b	4.376	152	205971	40.00	ppm	0.00
159) Phenanthrene-d10b	8.426	188	869027	40.00	ppm	0.00
161) Chrysene-d12b	13.560	240	763641	40.00	ppm	-0.02
163) Naphthalene-d8b	5.317	136	855967	40.00	ppm	0.00
165) Acenaphthene-d10b	6.668	164	516068	40.00	ppm	0.00
167) Naphthalene-d8c	5.317	136	855967	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.376	152	205971	40.00	ppm	0.00
174) Chrysene-d12c	13.560	240	763641	40.00	ppm	-0.02
176) Chrysene-d12d	13.560	240	763641	40.00	ppm	-0.02
178) Naphthalene-d8d	5.317	136	855967	40.00	ppm	0.00
180) Chrysene-d12D	13.560	240	763641	40.00	ppm	-0.17
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						
158) Benzaldehyde	4.051	105	70466	10.74	ppm	97
160) Atrazine	8.063	200	51904	9.74	ppm	96
164) Hydroquinone	5.664	110	59277	7.91	ppm	95
166) 1,2,4,5-Tetrachloroben...	5.952	216	72985	9.57	ppm	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
Data File : p128707.D  
Acq On : 26 Mar 2019 7:03 pm  
Operator : christc2  
Sample : ic5821-10  
Misc : op13894,ep5821,1000,,,1,1  
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 27 08:54:49 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Wed Mar 27 07:55:22 2019  
Response via : Initial Calibration





## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128708.D  
 Acq On : 26 Mar 2019 7:30 pm  
 Operator : christc2  
 Sample : ic5821-5  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 27 08:56:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.377	152	204777	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	857520	40.00	ppm	0.00
47) Acenaphthene-d10	6.668	164	518934	40.00	ppm	0.00
69) Phenanthrene-d10	8.421	188	872441	40.00	ppm	-0.02
83) Chrysene-d12	13.560	240	751135	40.00	ppm	-0.02
91) Perylene-d12	16.594	264	786983	40.00	ppm	-0.02
101) 1,4-Dichlorobenzene-d4A	4.377	152	204777	40.00	ppm	0.00
111) Naphthalene-d8A	5.317	136	857520	40.00	ppm	0.00
120) Acenaphthene-d10A	6.668	164	518934	40.00	ppm	0.00
131) Phenanthrene-d10A	8.421	188	872441	40.00	ppm	-0.02
146) Chrysene-d12A	13.560	240	751135	40.00	ppm	-0.02
153) Perylene-d12A	16.594	264	786983	40.00	ppm	-0.02
157) 1,4-Dichlorobenzene-d4b	4.377	152	204777	40.00	ppm	0.00
159) Phenanthrene-d10b	8.421	188	872441	40.00	ppm	0.00
161) Chrysene-d12b	13.560	240	751135	40.00	ppm	-0.02
163) Naphthalene-d8b	5.317	136	857520	40.00	ppm	0.00
165) Acenaphthene-d10b	6.668	164	518934	40.00	ppm	0.00
167) Naphthalene-d8c	5.317	136	857520	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.377	152	204777	40.00	ppm	0.00
174) Chrysene-d12c	13.560	240	751135	40.00	ppm	-0.02
176) Chrysene-d12d	13.560	240	751135	40.00	ppm	-0.02
178) Naphthalene-d8d	5.317	136	857520	40.00	ppm	0.00
180) Chrysene-d12D	13.560	240	751135	40.00	ppm	-0.17
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						
158) Benzaldehyde	4.051	105	34117	5.23	ppm	96
160) Atrazine	8.052	200	25410	4.75	ppm	91
164) Hydroquinone	5.675	110	22117	2.95	ppm	94
166) 1,2,4,5-Tetrachloroben...	5.953	216	34512	4.50	ppm	99

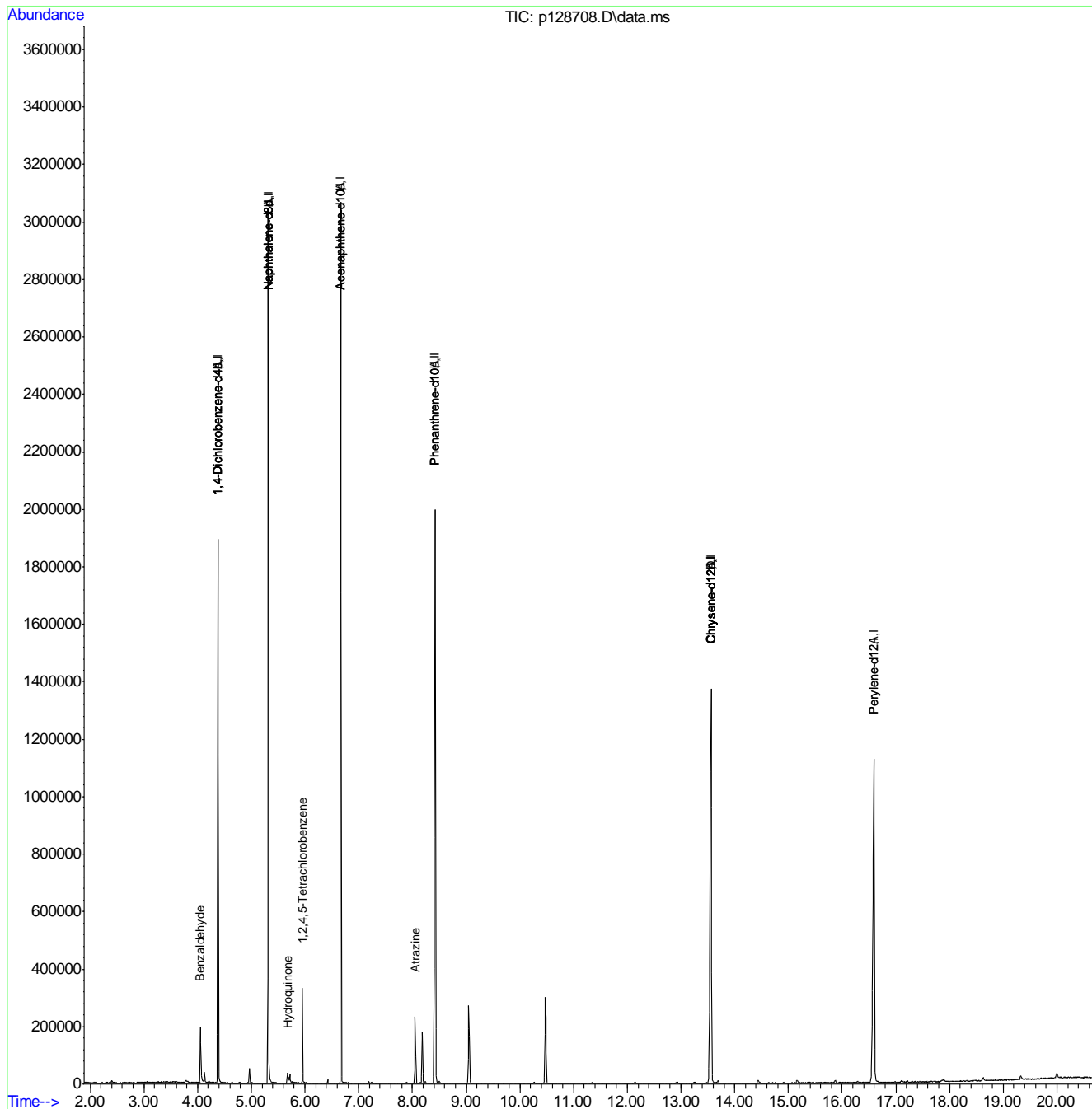
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.61  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
Data File : p128708.D  
Acq On : 26 Mar 2019 7:30 pm  
Operator : christc2  
Sample : ic5821-5  
Misc : op13894,ep5821,1000,,,1,1  
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 27 08:56:44 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Wed Mar 27 07:55:22 2019  
Response via : Initial Calibration



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128709.D  
 Acq On : 26 Mar 2019 7:57 pm  
 Operator : christc2  
 Sample : ic5821-2  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 27 08:58:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration

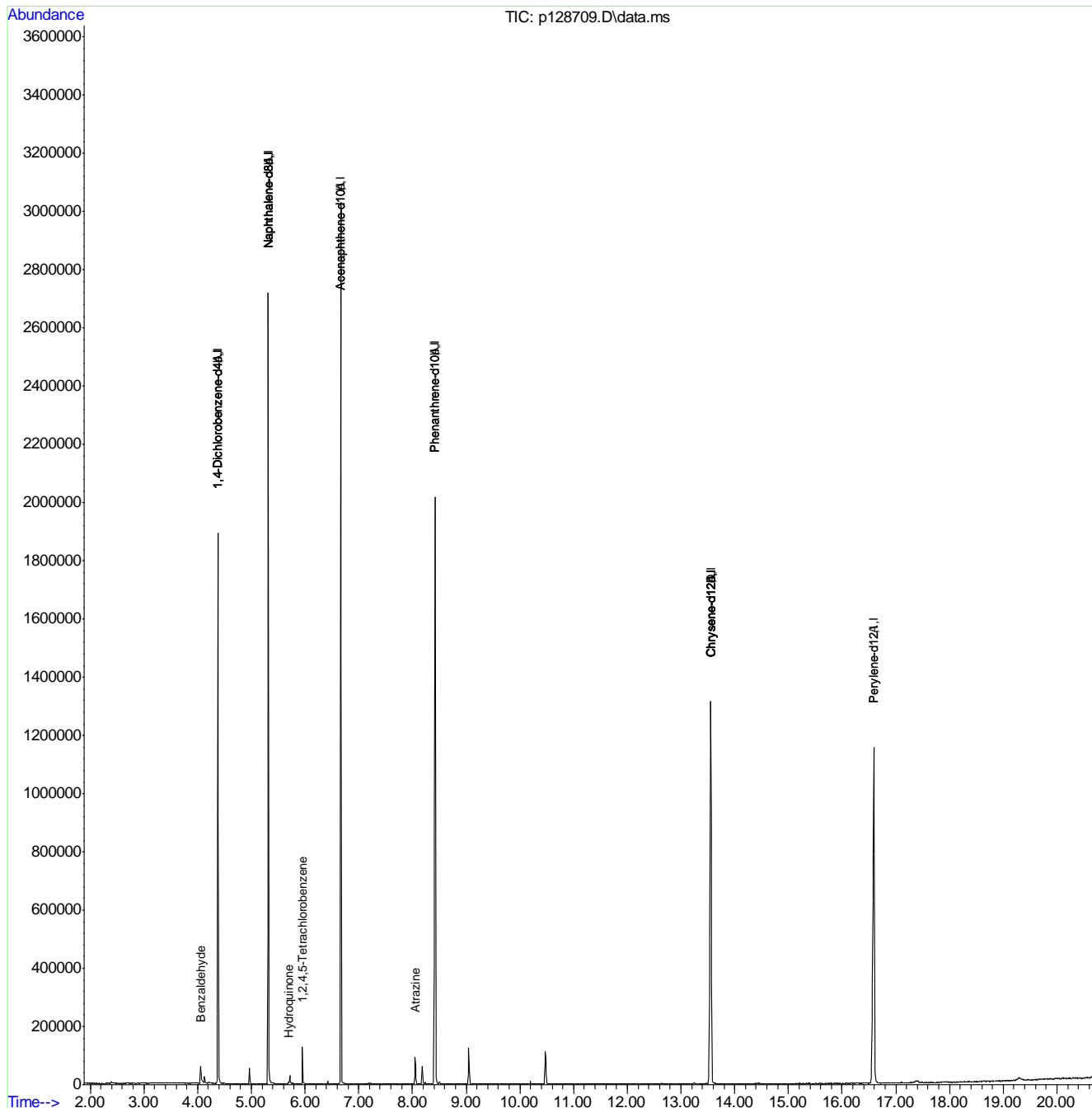
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.377	152	201130	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	837171	40.00	ppm	0.00
47) Acenaphthene-d10	6.669	164	514558	40.00	ppm	0.00
69) Phenanthrene-d10	8.421	188	883779	40.00	ppm	-0.02
83) Chrysene-d12	13.555	240	773957	40.00	ppm	-0.02
91) Perylene-d12	16.595	264	809379	40.00	ppm	-0.02
101) 1,4-Dichlorobenzene-d4A	4.377	152	201130	40.00	ppm	0.00
111) Naphthalene-d8A	5.317	136	837171	40.00	ppm	0.00
120) Acenaphthene-d10A	6.669	164	514558	40.00	ppm	0.00
131) Phenanthrene-d10A	8.421	188	883779	40.00	ppm	-0.02
146) Chrysene-d12A	13.555	240	773957	40.00	ppm	-0.02
153) Perylene-d12A	16.595	264	809379	40.00	ppm	-0.02
157) 1,4-Dichlorobenzene-d4b	4.377	152	201130	40.00	ppm	0.00
159) Phenanthrene-d10b	8.421	188	883779	40.00	ppm	0.00
161) Chrysene-d12b	13.555	240	773957	40.00	ppm	-0.02
163) Naphthalene-d8b	5.317	136	837171	40.00	ppm	0.00
165) Acenaphthene-d10b	6.669	164	514558	40.00	ppm	0.00
167) Naphthalene-d8c	5.317	136	837171	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.377	152	201130	40.00	ppm	0.00
174) Chrysene-d12c	13.555	240	773957	40.00	ppm	-0.02
176) Chrysene-d12d	13.555	240	773957	40.00	ppm	-0.02
178) Naphthalene-d8d	5.317	136	837171	40.00	ppm	0.00
180) Chrysene-d12D	13.555	240	773957	40.00	ppm	-0.18
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						
158) Benzaldehyde	4.056	105	12944	2.02	ppm	Qvalue 90
160) Atrazine	8.052	200	8841	1.63	ppm	73
164) Hydroquinone	5.707	110	5705	0.78	ppm	75
166) 1,2,4,5-Tetrachloroben...	5.953	216	13682	1.80	ppm	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128709.D  
 Acq On : 26 Mar 2019 7:57 pm  
 Operator : christc2  
 Sample : ic5821-2  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 27 08:58:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration



9.6.62  
9

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128710.D  
 Acq On : 26 Mar 2019 8:23 pm  
 Operator : christc2  
 Sample : ic5821-1  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 27 09:00:39 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 07:55:22 2019  
 Response via : Initial Calibration

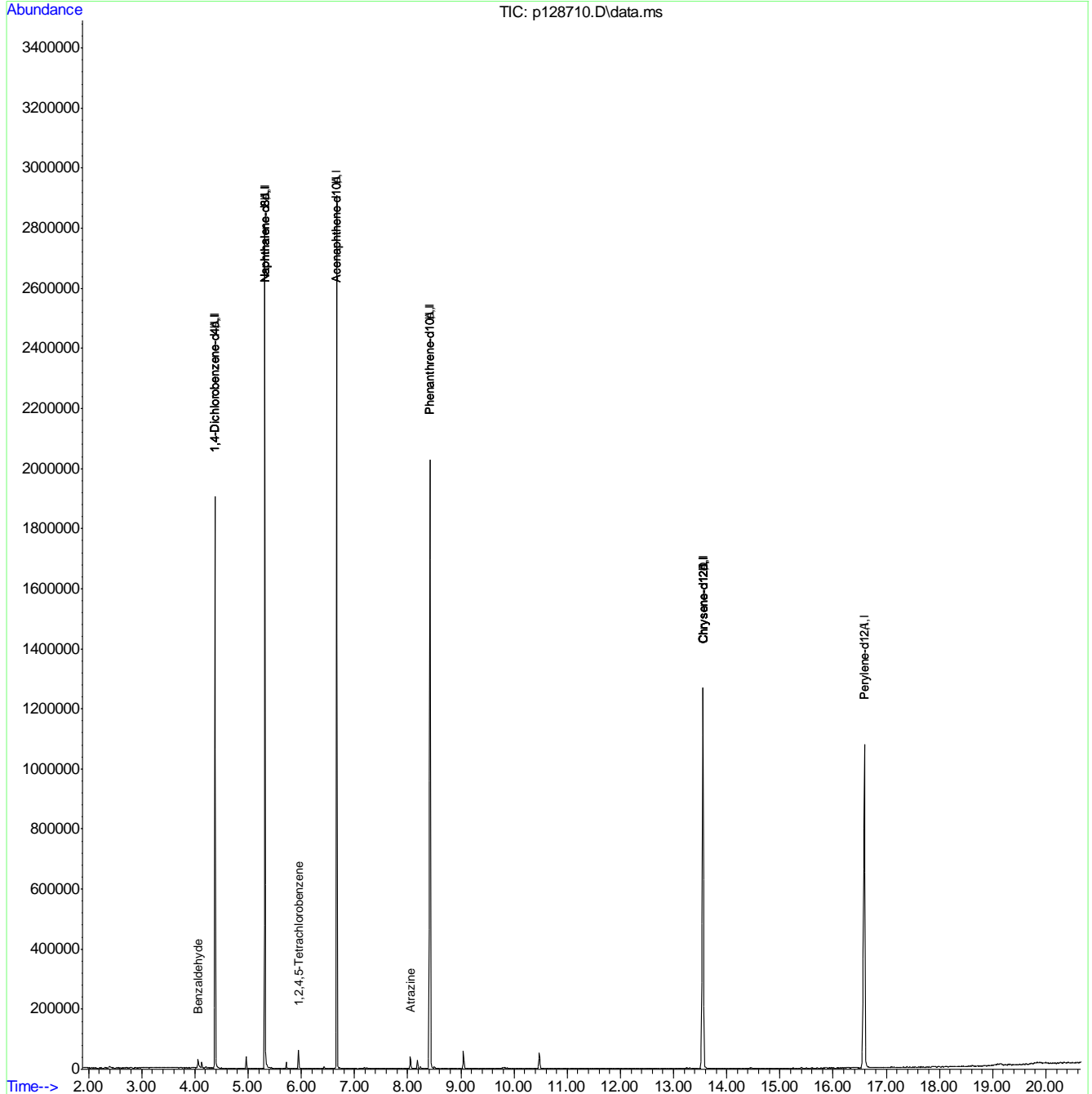
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.376	152	201991	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	839559	40.00	ppm	0.00
47) Acenaphthene-d10	6.668	164	498771	40.00	ppm	0.00
69) Phenanthrene-d10	8.421	188	858420	40.00	ppm	-0.02
83) Chrysene-d12	13.554	240	709689	40.00	ppm	-0.02
91) Perylene-d12	16.589	264	743479	40.00	ppm	-0.03
101) 1,4-Dichlorobenzene-d4A	4.376	152	201991	40.00	ppm	0.00
111) Naphthalene-d8A	5.317	136	839559	40.00	ppm	0.00
120) Acenaphthene-d10A	6.668	164	498771	40.00	ppm	0.00
131) Phenanthrene-d10A	8.421	188	858420	40.00	ppm	-0.02
146) Chrysene-d12A	13.554	240	709689	40.00	ppm	-0.02
153) Perylene-d12A	16.589	264	743479	40.00	ppm	-0.03
157) 1,4-Dichlorobenzene-d4b	4.376	152	201991	40.00	ppm	0.00
159) Phenanthrene-d10b	8.421	188	858420	40.00	ppm	0.00
161) Chrysene-d12b	13.554	240	709689	40.00	ppm	-0.02
163) Naphthalene-d8b	5.317	136	839559	40.00	ppm	0.00
165) Acenaphthene-d10b	6.668	164	498771	40.00	ppm	0.00
167) Naphthalene-d8c	5.317	136	839559	40.00	ppm	0.00
172) 1,4-Dichlorobenzene-d4c	4.376	152	201991	40.00	ppm	0.00
174) Chrysene-d12c	13.554	240	709689	40.00	ppm	-0.02
176) Chrysene-d12d	13.554	240	709689	40.00	ppm	-0.02
178) Naphthalene-d8d	5.317	136	839559	40.00	ppm	0.00
180) Chrysene-d12D	13.554	240	709689	40.00	ppm	-0.18
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						
158) Benzaldehyde	4.056	105	6410	1.00	ppm	92
160) Atrazine	8.052	200	4137	0.79	ppm	94
166) 1,2,4,5-Tetrachloroben...	5.952	216	6552	0.89	ppm	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
Data File : p128710.D  
Acq On : 26 Mar 2019 8:23 pm  
Operator : christc2  
Sample : ic5821-1  
Misc : op13894,ep5821,1000,,,1,1  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 27 09:00:39 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Wed Mar 27 07:55:22 2019  
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128711.D  
 Acq On : 26 Mar 2019 8:50 pm  
 Operator : christc2  
 Sample : icv5821-50  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 08 10:00:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Sun Apr 07 07:31:56 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.377	152	370974	40.00	ppm	0.00
24) Naphthalene-d8	5.317	136	1561130	40.00	ppm	0.00
47) Acenaphthene-d10	6.674	164	859302	40.00	ppm	0.00
69) Phenanthrene-d10	8.442	188	1478016	40.00	ppm	0.00
83) Chrysene-d12	13.571	240	1445786	40.00	ppm	0.00
91) Perylene-d12	16.605	264	1286051	40.00	ppm	-0.01
101) 1,4-Dichlorobenzene-d4b	4.377	152	370974	40.00	ppm	0.00
103) Phenanthrene-d10b	8.442	188	1478016	40.00	ppm	0.02
105) Chrysene-d12b	13.571	240	1445786	40.00	ppm	0.02
107) Naphthalene-d8b	5.317	136	1561130	40.00	ppm	0.00
109) Acenaphthene-d10b	6.674	164	859302	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	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%	
Target Compounds						
102) Benzaldehyde	4.056	105	557330	46.85	ppm	93
104) Atrazine	8.095	200	429084	50.55	ppm	88
110) 1,2,4,5-Tetrachloroben...	5.958	216	697055	57.43	ppm	98

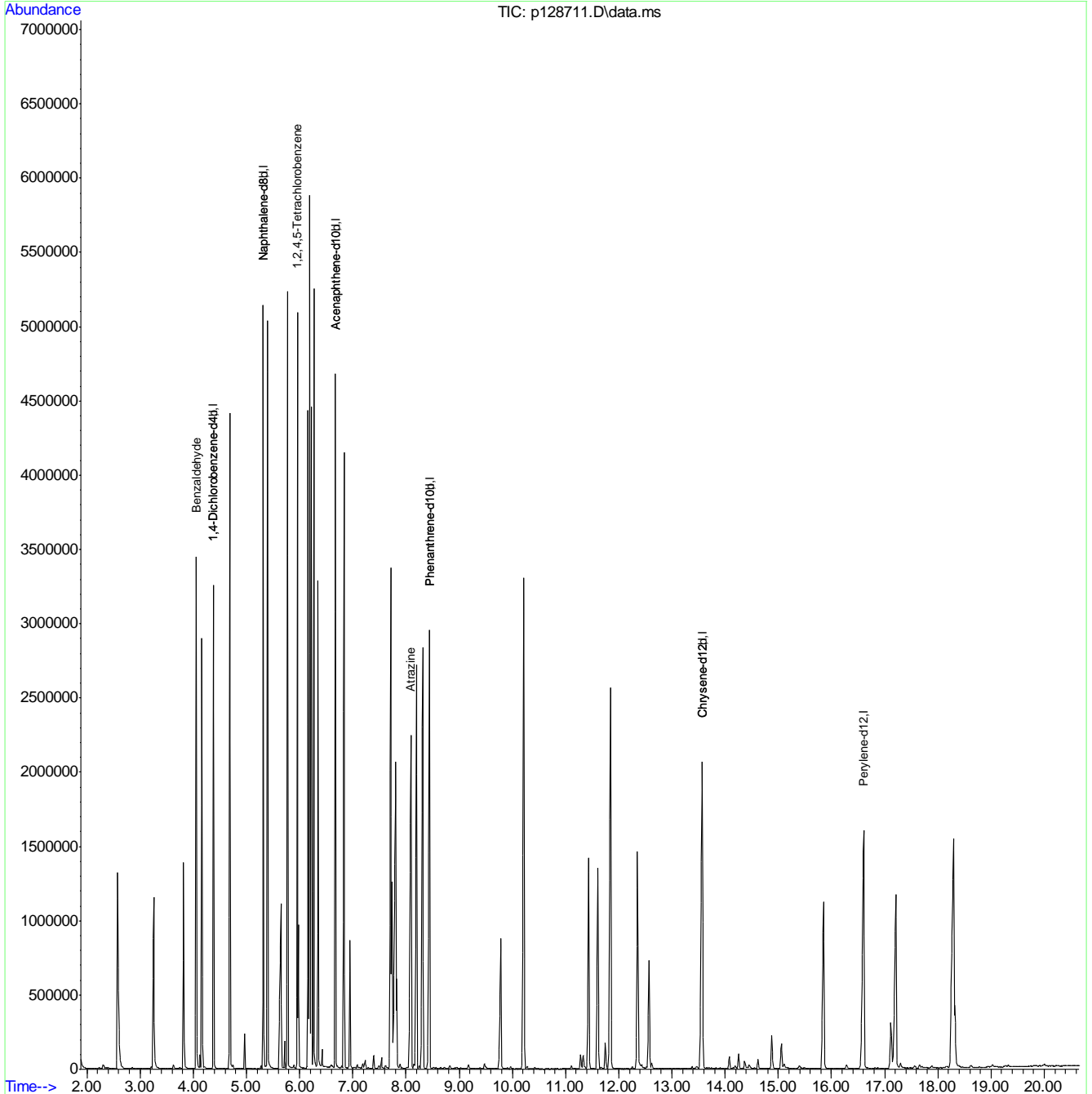
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.64  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128711.D  
 Acq On : 26 Mar 2019 8:50 pm  
 Operator : christc2  
 Sample : icv5821-50  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 08 10:00:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Sun Apr 07 07:31:56 2019  
 Response via : Initial Calibration



9.6.64  
 9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128712.D  
 Acq On : 26 Mar 2019 9:17 pm  
 Operator : christc2  
 Sample : icv5821-50  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 08 10:03:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Sun Apr 07 07:31:56 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.376	152	175945	40.00	ppm	0.00
24) Naphthalene-d8	5.311	136	695103	40.00	ppm	0.00
47) Acenaphthene-d10	6.668	164	366583	40.00	ppm	0.00
69) Phenanthrene-d10	8.420	188	676633	40.00	ppm	-0.02
83) Chrysene-d12	13.549	240	619815	40.00	ppm	-0.03
91) Perylene-d12	16.583	264	620929	40.00	ppm	-0.04
101) 1,4-Dichlorobenzene-d4b	4.376	152	175945	40.00	ppm	0.00
103) Phenanthrene-d10b	8.420	188	676633	40.00	ppm	0.00
105) Chrysene-d12b	13.549	240	619815	40.00	ppm	0.00
107) Naphthalene-d8b	5.311	136	695103	40.00	ppm	0.00
109) Acenaphthene-d10b	6.668	164	366583	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%	
Target Compounds						
108) Hydroquinone	5.669	110	294266	54.47	ppm	Qvalue 99

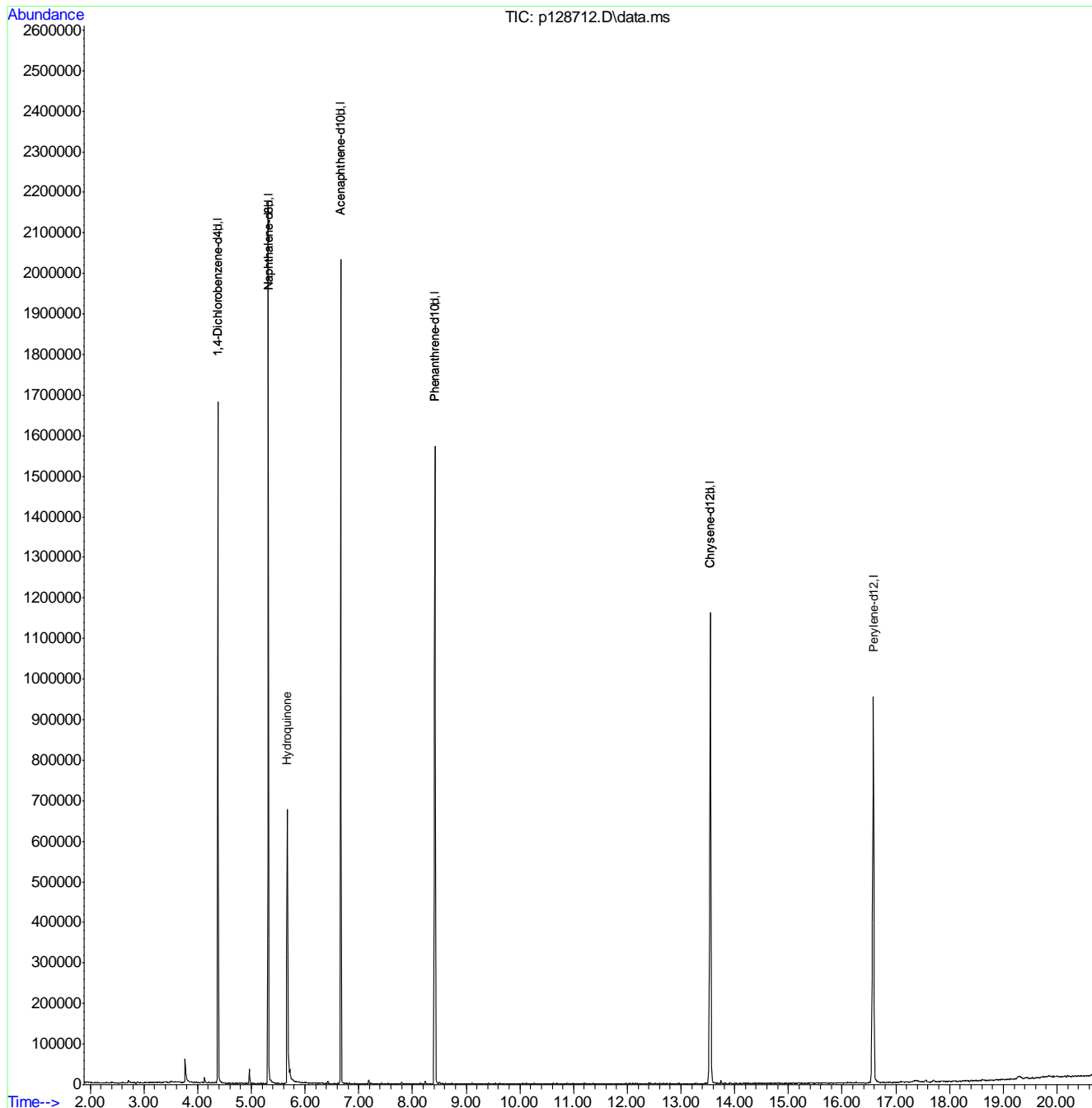
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.6.65  
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5821\  
 Data File : p128712.D  
 Acq On : 26 Mar 2019 9:17 pm  
 Operator : christc2  
 Sample : icv5821-50  
 Misc : op13894,ep5821,1000,,,1,1  
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 08 10:03:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Sun Apr 07 07:31:56 2019  
 Response via : Initial Calibration



9.6.65  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5823\  
 Data File : p128724.D  
 Acq On : 27 Mar 2019 3:31 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5823,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 27 19:15:35 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 10:04:47 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.360	152	118573	40.00	ppm	-0.02
24) Naphthalene-d8	5.301	136	474759	40.00	ppm	-0.02
47) Acenaphthene-d10	6.652	164	273195	40.00	ppm	-0.02
69) Phenanthrene-d10	8.399	188	473818	40.00	ppm	-0.04
83) Chrysene-d12	13.517	240	457190	40.00	ppm	-0.06
91) Perylene-d12	16.546	264	496760	40.00	ppm	-0.07
101) 1,4-Dichlorobenzene-d4A	4.360	152	118573	40.00	ppm	-0.02
111) Naphthalene-d8A	5.301	136	474759	40.00	ppm	-0.02
120) Acenaphthene-d10A	6.652	164	273195	40.00	ppm	-0.02
131) Phenanthrene-d10A	8.399	188	473818	40.00	ppm	-0.04
146) Chrysene-d12A	13.517	240	457190	40.00	ppm	-0.06
153) Perylene-d12A	16.546	264	496760	40.00	ppm	-0.07
157) 1,4-Dichlorobenzene-d4b	4.360	152	118573	40.00	ppm	-0.02
159) Phenanthrene-d10b	8.399	188	473818	40.00	ppm	-0.02
161) Chrysene-d12b	13.517	240	457190	40.00	ppm	-0.03
163) Naphthalene-d8b	5.301	136	474759	40.00	ppm	-0.02
165) Acenaphthene-d10b	6.652	164	273195	40.00	ppm	-0.02
167) Naphthalene-d8c	5.301	136	474759	40.00	ppm	-0.02
172) 1,4-Dichlorobenzene-d4c	4.360	152	118573	40.00	ppm	-0.02
174) Chrysene-d12c	13.517	240	457190	40.00	ppm	-0.06
176) Chrysene-d12d	13.517	240	457190	40.00	ppm	-0.06
178) Naphthalene-d8d	5.301	136	474759	40.00	ppm	-0.02
180) Chrysene-d12D	13.517	240	457190	40.00	ppm	-0.22
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						
18) Acetophenone	4.665	105	406589	58.08	ppm	93
27) Quinoline	5.562	129	528637	56.57	ppm	99
40) 2,3-Dichloroaniline	6.033	161	241145	46.91	ppm	96
41) Caprolactam	5.621	55	169227	55.58	ppm	95
45) 1-Methylnaphthalene	5.888	142	489992	51.22	ppm	92
46) Dimethylnaphthalene	6.294	156	449503	52.42	ppm	96
53) Biphenyl	6.166	154	619336	56.85	ppm	99
99) 7,12-Dimethylbenz(a)an...	15.820	256	415705	61.29	ppm	94

6 99.9%

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5823\  
Data File : p128724.D  
Acq On : 27 Mar 2019 3:31 pm  
Operator : christc2  
Sample : icv5819-50  
Misc : op13894,ep5823,1000,,,1,1  
ALS Vial : 2 Sample Multiplier: 1

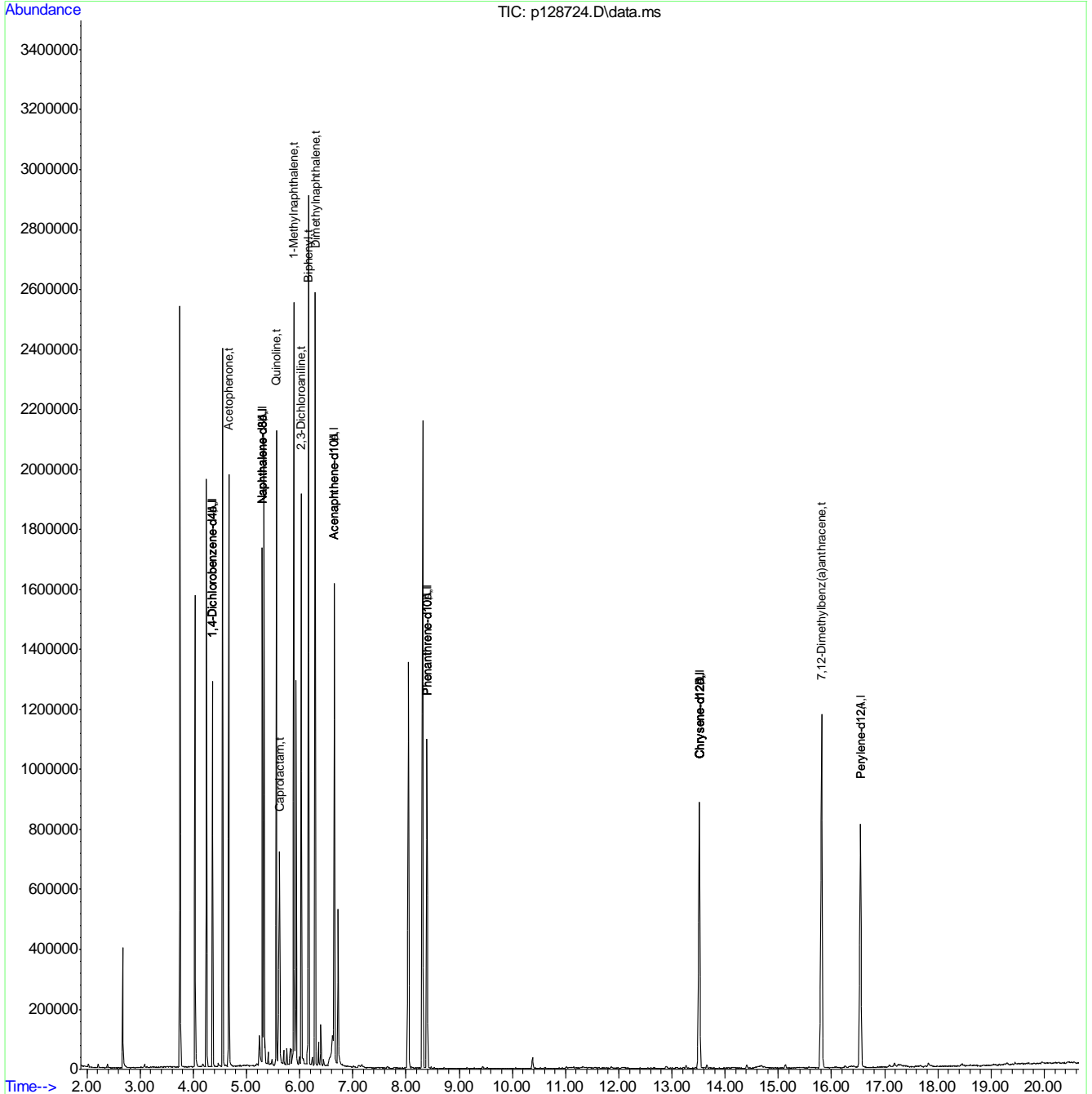
Quant Time: Mar 27 19:15:35 2019  
Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
Quant Title : Semi Volatile Extractables by GC/MS  
QLast Update : Wed Mar 27 10:04:47 2019  
Response via : Initial Calibration

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\EP5823\  
 Data File : p128724.D  
 Acq On : 27 Mar 2019 3:31 pm  
 Operator : christc2  
 Sample : icv5819-50  
 Misc : op13894,ep5823,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 27 19:15:35 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Wed Mar 27 10:04:47 2019  
 Response via : Initial Calibration



6 99'9'6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129124.D  
 Acq On : 17 Apr 2019 9:06 pm  
 Operator : carolb  
 Sample : cc5819-50  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 13:22:08 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Thu Apr 18 10:45:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.193	152	128083	40.00	ppm	0.00
24) Naphthalene-d8	5.134	136	480410	40.00	ppm	0.00
47) Acenaphthene-d10	6.442	164	312012	40.00	ppm	0.00
69) Phenanthrene-d10	8.098	188	524076	40.00	ppm	0.00
83) Chrysene-d12	13.115	240	516660	40.00	ppm	0.00
91) Perylene-d12	16.123	264	580985	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.193	152	128083	40.00	ppm	0.00
103) Phenanthrene-d10b	8.098	188	524076	40.00	ppm	0.00
105) Chrysene-d12b	13.115	240	516660	40.00	ppm	0.00
107) Naphthalene-d8b	5.134	136	480410	40.00	ppm	0.00
109) Acenaphthene-d10b	6.442	164	312012	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	3.242	112	238522	49.71	ppm	-0.05
Spiked Amount	50.000		Recovery	=	99.42%	
8) Phenol-d5	4.006	99	314638	48.92	ppm	0.00
Spiked Amount	50.000		Recovery	=	97.84%	
25) Nitrobenzene-d5	4.615	82	338986	54.04	ppm	-0.01
Spiked Amount	50.000		Recovery	=	108.08%	
51) 2-Fluorobiphenyl	5.914	172	529928	47.58	ppm	0.02
Spiked Amount	50.000		Recovery	=	95.16%	
73) 2,4,6-Tribromophenol	7.228	330	74092	51.00	ppm	0.02
Spiked Amount	50.000		Recovery	=	102.00%	
85) Terphenyl-d14	10.962	244	618467	48.47	ppm	-0.02
Spiked Amount	50.000		Recovery	=	96.94%	
Target Compounds						
2) 1,4-Dioxane	1.602	88	122757	52.89	ppm	98
4) N-Nitrosodimethylamine	1.891	42	184529	57.42	ppm	90
6) Indene	4.386	116	387228	48.92	ppm	99
7) Cumene	3.574	105	700676	52.50	ppm	99
9) Phenol	4.017	94	340740	48.68	ppm	91
11) bis(2-Chloroethyl)ether	4.006	93	266846	50.22	ppm	95
12) 2-Chlorophenol	4.070	128	228596	48.48	ppm	94
13) Decane	4.086	43	268965	58.90	ppm	95
14) 1,3-Dichlorobenzene	4.151	146	263757	49.25	ppm	98
15) 1,4-Dichlorobenzene	4.204	146	260589	49.49	ppm	98
16) Benzyl alcohol	4.338	108	37087	11.72	ppm	# 15
17) 1,2-Dichlorobenzene	4.322	146	256694	48.99	ppm	99
18) Acetophenone	4.503	105	368873	48.78	ppm	95
19) 2-Methylphenol	4.444	108	226306	49.57	ppm	100
20) 2,2'-oxybis(1-Chloropr...	4.412	121	65291	49.44	ppm	# 88
21) 3&4-Methylphenol	4.562	108	222071	45.09	ppm	97
22) n-Nitroso-di-n-propyla...	4.519	70	200302	50.60	ppm	96
23) Hexachloroethane	4.567	201	97894	52.06	ppm	94
26) Nitrobenzene	4.631	77	343788	52.17	ppm	98
27) Quinoline	5.518	129	484503m	51.24	ppm	
28) Isophorone	4.813	82	590402	52.13	ppm	98
29) 2-Nitrophenol	4.866	139	131716	50.14	ppm	77

9.6.67  
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## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129124.D  
 Acq On : 17 Apr 2019 9:06 pm  
 Operator : carolb  
 Sample : cc5819-50  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 13:22:08 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Thu Apr 18 10:45:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
30) 2,4-Dimethylphenol	4.925	107	277806	53.81	ppm	94
31) Benzoic acid	5.080	105	159568	38.89	ppm	98
32) bis(2-Chloroethoxy)met...	4.968	93	303172	50.19	ppm	100
33) 2,4-Dichlorophenol	5.064	162	201225	48.50	ppm	96
34) 2,6-Dichlorophenol	5.208	162	199097	50.90	ppm	98
35) 1,3,5-Trichlorobenzene	4.866	180	244355	52.59	ppm	97
36) 1,2,4-Trichlorobenzene	5.096	180	215894	50.50	ppm	98
37) 1,2,3-Trichlorobenzene	5.256	180	206969	50.19	ppm	99
38) Naphthalene	5.150	128	642489	50.59	ppm	99
40) 2,3-Dichloroaniline	5.860	161	238611	45.87	ppm	97
41) Caprolactam	5.508	55	137352	44.58	ppm	97
42) Hexachlorobutadiene	5.246	225	147499	55.01	ppm	99
43) 4-Chloro-3-methylphenol	5.609	107	229580	46.14	ppm	99
44) 2-Methylnaphthalene	5.646	141	367314	48.84	ppm	92
45) 1-Methylnaphthalene	5.716	142	464631	48.00	ppm	92
46) Dimethylnaphthalene	6.106	156	410608	47.32	ppm	96
48) Hexachlorocyclopentadiene	5.764	237	285998	103.35	ppm	98
49) 2,4,6-Trichlorophenol	5.871	196	150108	48.07	ppm	99
50) 2,4,5-Trichlorophenol	5.930	196	137872	40.30	ppm	100
52) 2-Chloronaphthalene	5.999	162	429351	46.86	ppm	96
53) Biphenyl	5.988	154	587060	47.18	ppm	99
54) 2-Nitroaniline	6.095	65	198845	48.47	ppm	85
55) Dimethylphthalate	6.229	163	549091	47.73	ppm	100
56) Acenaphthylene	6.325	152	720119	47.41	ppm	99
57) 2,6-Dinitrotoluene	6.282	165	115510	47.22	ppm	91
58) 3-Nitroaniline	6.442	138	74008	27.69	ppm	95
59) Acenaphthene	6.474	153	455247	49.44	ppm	96
60) 2,4-Dinitrophenol	6.523	184	138147	110.01	ppm	83
61) 4-Nitrophenol	6.645	109	111600	51.45	ppm #	81
62) Dibenzofuran	6.629	168	654102	48.28	ppm	100
63) 2,4-Dinitrotoluene	6.635	165	168261	47.54	ppm	95
64) 2,3,4,6-Tetrachlorophenol	6.763	232	131132	48.90	ppm	95
65) Diethylphthalate	6.864	149	595258	48.65	ppm	99
66) Fluorene	6.961	166	572528	50.18	ppm	99
67) 4-Chlorophenyl-phenyle...	6.966	204	285535	49.66	ppm	90
68) 4-Nitroaniline	7.025	138	91646	36.98	ppm	96
70) 4,6-Dinitro-2-methylph...	7.046	198	99330	59.83	ppm	94
71) n-Nitrosodiphenylamine	7.099	169	362238	49.69	ppm	99
72) 1,2-Diphenylhydrazine	7.137	77	750591	54.12	ppm	96
74) 4-Bromophenyl-phenylether	7.516	248	156677	51.14	ppm	90
75) Hexachlorobenzene	7.596	284	163200	51.52	ppm	96
76) Pentachlorophenol	7.879	266	198769	101.71	ppm	93
77) Phenanthrene	8.131	178	762781	52.44	ppm	99
78) Anthracene	8.205	178	806808	52.09	ppm	99
79) Carbazole	8.478	167	771450	53.75	ppm	99
80) Di-n-butylphthalate	9.124	149	1118277	52.67	ppm	99
81) Fluoranthene	10.118	202	928338	52.86	ppm	99
82) Octadecane	8.034	57	435799	52.75	ppm	94
84) Pyrene	10.535	202	976954	50.58	ppm	99
86) Butylbenzylphthalate	12.116	149	530892	51.09	ppm	92

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129124.D  
 Acq On : 17 Apr 2019 9:06 pm  
 Operator : carolb  
 Sample : cc5819-50  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 13:22:08 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Thu Apr 18 10:45:26 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
87) Benzo[a]anthracene	13.093	228	901967	50.73	ppm	98
88) 3,3'-Dichlorobenzidine	13.158	252	227178	40.50	ppm	97
89) Chrysene	13.174	228	822039	52.16	ppm	99
90) bis(2-Ethylhexyl)phtha...	13.521	149	731565	51.10	ppm	100
92) Di-n-octylphthalate	14.953	149	1306956	47.27	ppm	100
93) Benzo[b]fluoranthene	15.396	252	952719	49.38	ppm	99
94) Benzo[k]fluoranthene	15.455	252	806817	49.26	ppm	99
95) Benzo[a]pyrene	16.010	252	848164	52.21	ppm	100
96) Indeno[1,2,3-cd]pyrene	18.067	276	829669	56.37	ppm	95
97) Dibenz(a,h)acridine	17.709	279	769428	55.71	ppm	99
98) Dibenz[a,h]anthracene	18.131	278	841724	56.02	ppm	99
99) 7,12-Dimethylbenz(a)an...	15.401	256	424216	53.48	ppm	99
100) Benzo[g,h,i]perylene	18.494	276	829545	58.10	ppm	100

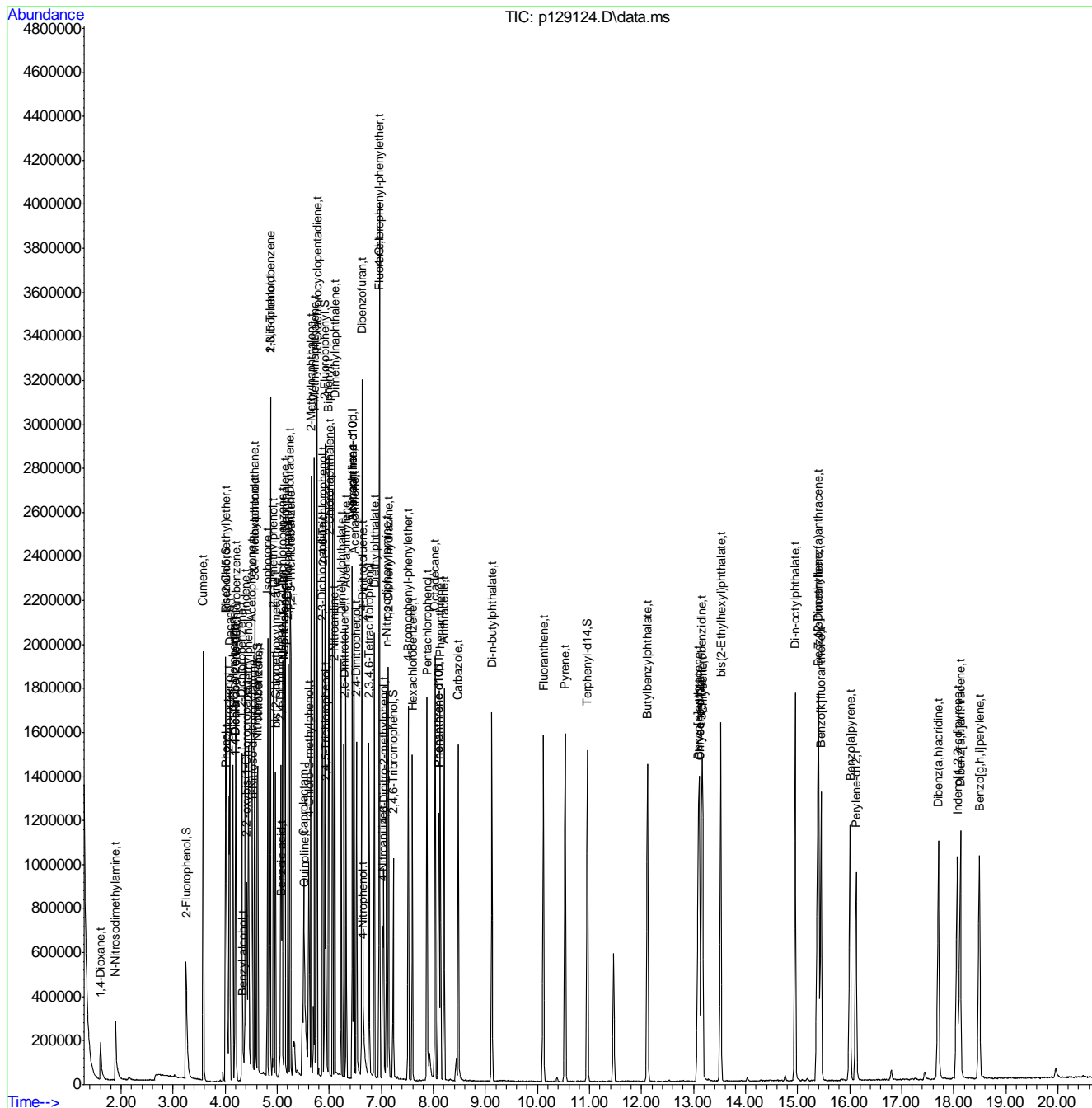
(#) = qualifier out of range (m) = manual integration (+) = signals summed



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129124.D  
 Acq On : 17 Apr 2019 9:06 pm  
 Operator : carolb  
 Sample : cc5819-50  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 19 13:22:08 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Thu Apr 18 10:45:26 2019  
 Response via : Initial Calibration



# Manual Integration Approval Summary

Sample Number: EP5843-CC5819      Method: SW846 8270D  
Lab FileID: P129124.D      Analyst approved: 04/19/19 13:24 Kristi Schollenberger  
Injection Time: 04/17/19 21:06      Supervisor approved: 04/19/19 13:26 Kristi Schollenberger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Quinoline	91-22-5		5.52	Split peak

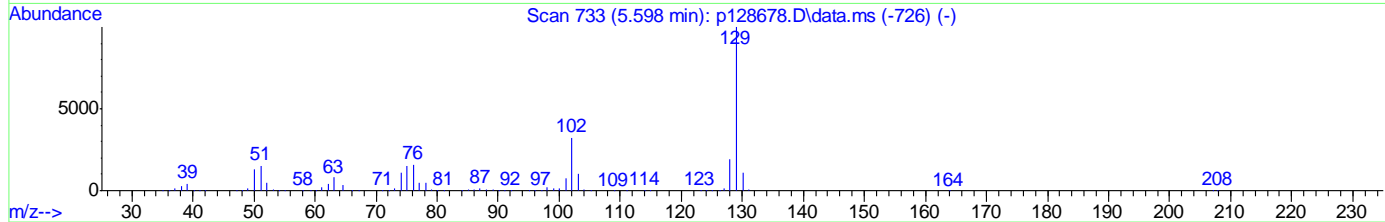
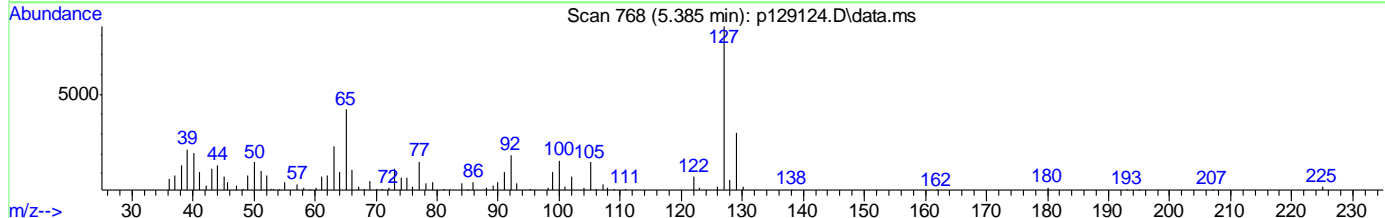
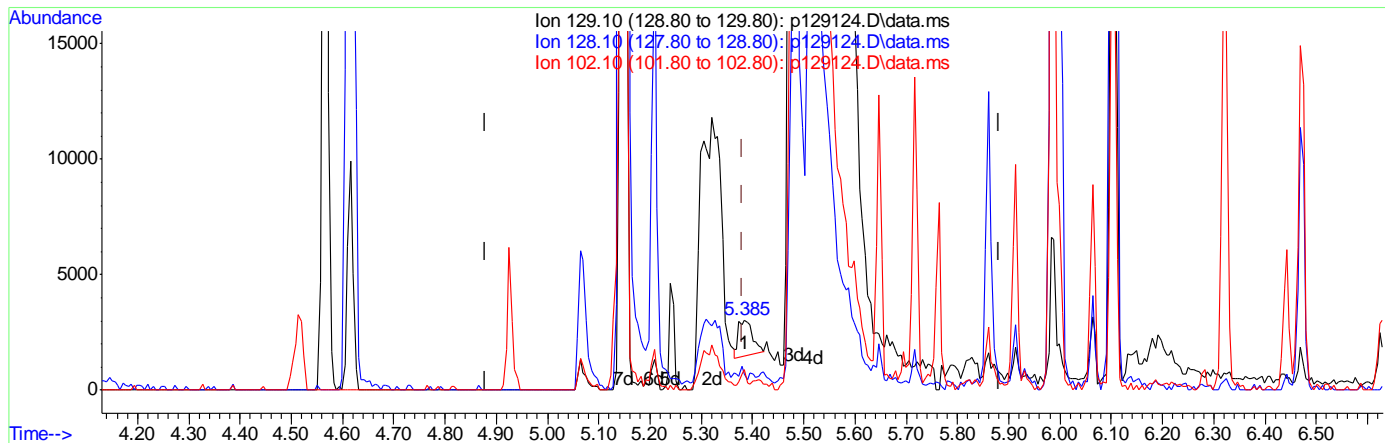
9.6.67.1

9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129124.D  
 Acq On : 17 Apr 2019 9:06 pm  
 Operator : carolb  
 Sample : cc5819-50  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 10:45:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Thu Apr 18 10:45:26 2019  
 Response via : Initial Calibration



TIC: p129124.D\data.ms

(27) Quinoline (t)  
 5.385min (+0.004) 0.31ppm  
 response 2947

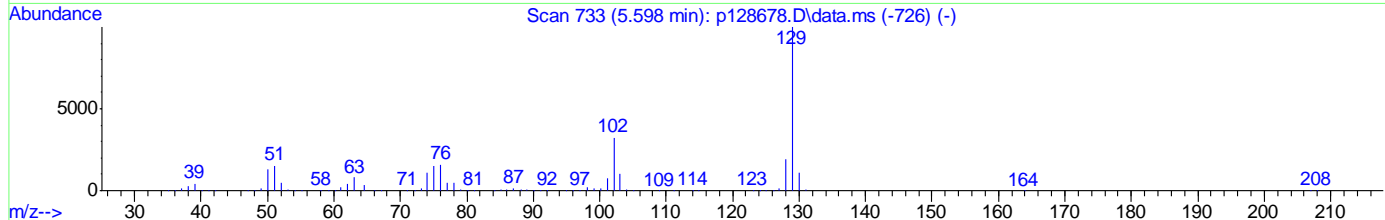
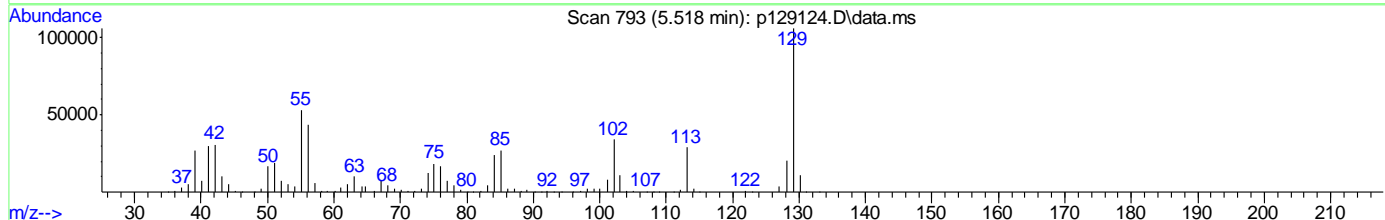
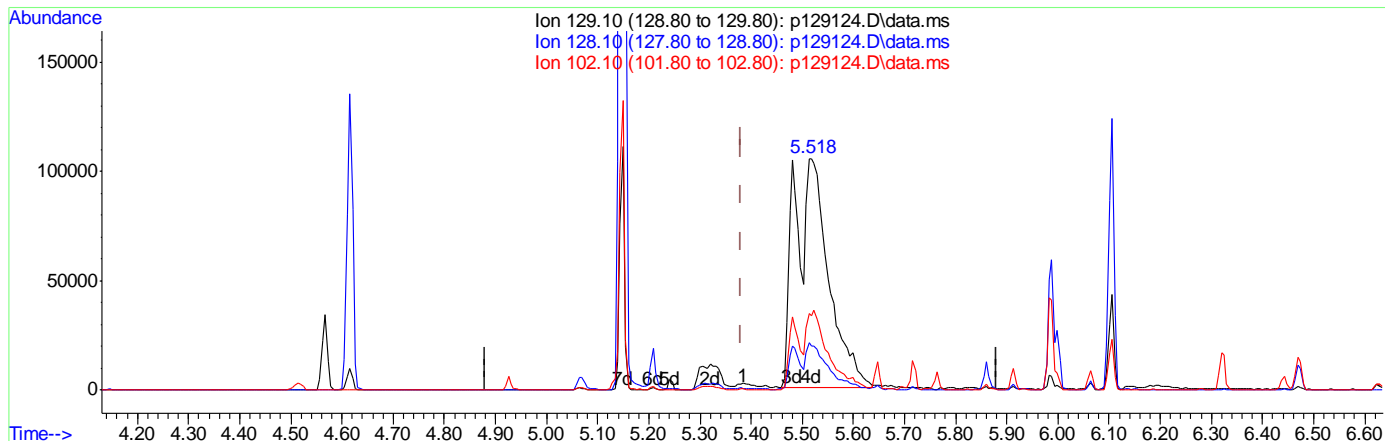
Ion	Exp%	Act%
129.10	100	100
128.10	18.90	0.00
102.10	32.40	48.24
0.00	0.00	0.00

9.6.67.2  
 9

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129124.D  
 Acq On : 17 Apr 2019 9:06 pm  
 Operator : carolb  
 Sample : cc5819-50  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 18 10:45:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Thu Apr 18 10:45:26 2019  
 Response via : Initial Calibration



TIC: p129124.D\data.ms

(27) Quinoline (t)  
 5.518min (+0.138) 51.24ppm m  
 response 484503

Ion	Exp%	Act%
129.10	100	100
128.10	18.90	19.23
102.10	32.40	32.17
0.00	0.00	0.00

9.6.67.3  
 9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129125.D  
 Acq On : 17 Apr 2019 9:33 pm  
 Operator : carolb  
 Sample : cc5821-50  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 10:59:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Thu Apr 18 10:57:31 2019  
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.193	152	266961	40.00	ppm	0.00
24) Naphthalene-d8	5.134	136	1094416	40.00	ppm	0.00
47) Acenaphthene-d10	6.442	164	686868	40.00	ppm	0.00
69) Phenanthrene-d10	8.099	188	1110527	40.00	ppm	0.00
83) Chrysene-d12	13.110	240	1044120	40.00	ppm	0.00
91) Perylene-d12	16.128	264	1166586	40.00	ppm	0.00
101) 1,4-Dichlorobenzene-d4b	4.193	152	266961	40.00	ppm	0.00
103) Phenanthrene-d10b	8.099	188	1110527	40.00	ppm	0.00
105) Chrysene-d12b	13.110	240	1044120	40.00	ppm	0.00
107) Naphthalene-d8b	5.134	136	1094416	40.00	ppm	0.00
109) Acenaphthene-d10b	6.442	164	686868	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%	
Target Compounds						
102) Benzaldehyde	3.862	105	371593	43.41	ppm	98
104) Atrazine	7.794	200	307580	48.23	ppm	96
108) Hydroquinone	5.513	110	311682	36.64	ppm	100
110) 1,2,4,5-Tetrachloroben...	5.769	216	502005	51.74	ppm	99

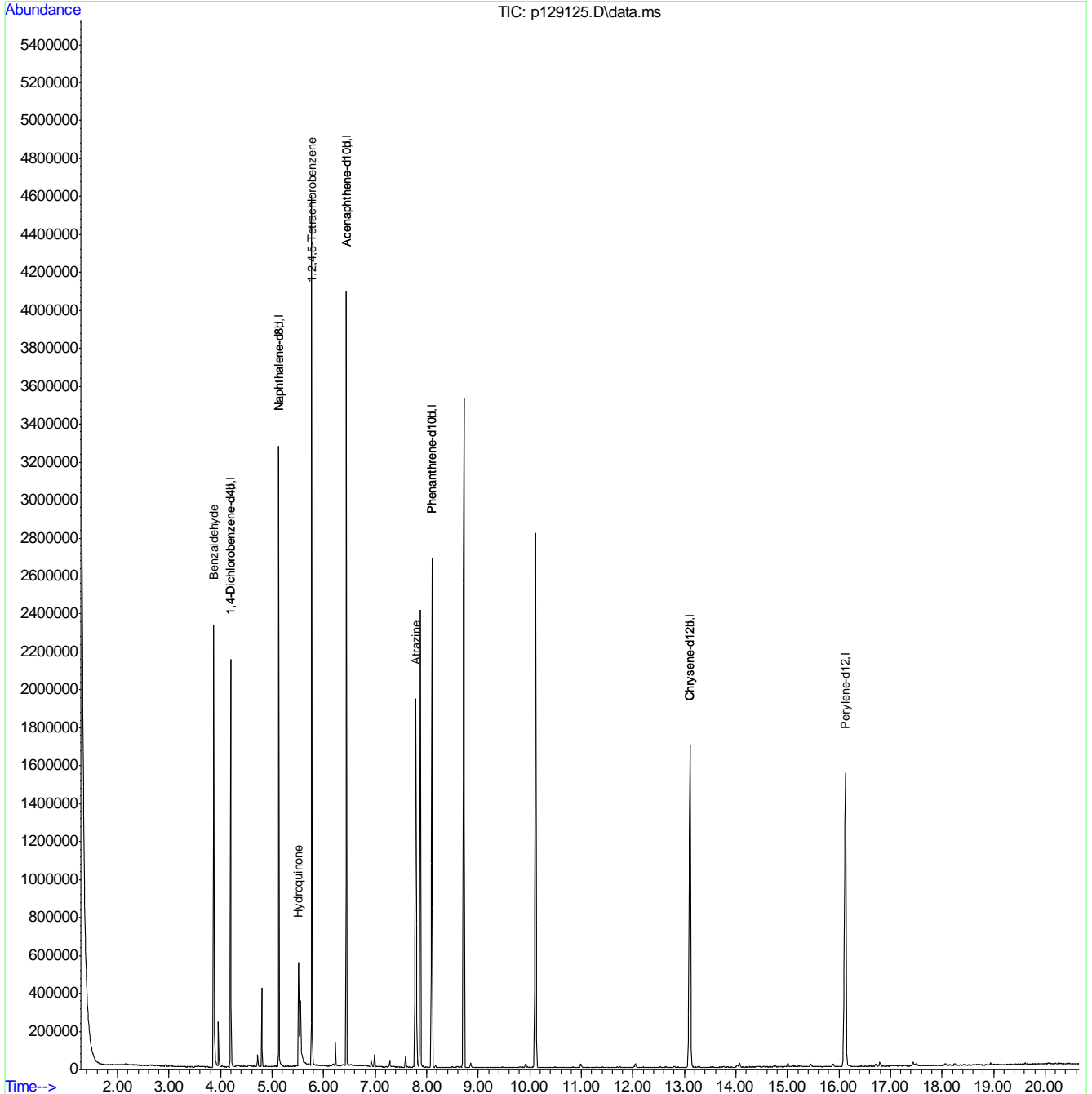
(#) = qualifier out of range (m) = manual integration (+) = signals summed

6 89.9.6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EP5843\  
 Data File : p129125.D  
 Acq On : 17 Apr 2019 9:33 pm  
 Operator : carolb  
 Sample : cc5821-50  
 Misc : op13894,ep5843,1000,,,1,1  
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 18 10:59:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\MP5819.M  
 Quant Title : Semi Volatile Extractables by GC/MS  
 QLast Update : Thu Apr 18 10:57:31 2019  
 Response via : Initial Calibration



6 89'9'6

GCMS Semi Volatile Run Log

Instrument ID: GCMS5P

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	ISTD	A0144955	4000ppm
			DCM- fisher	190729	---

Column:  Initial Calib Date:  Sequence Loaded By:   SW846 8270 D  
 Batch ID:  Analysis Date:  Data Processed By:   EPA 625  
 Approved By:  Approved Date:  Injection Volume:

Data File	Sample ID	OP Batch ID	Test	MTX	A L S	Dil	L+	Surr OK?	IS OK?	Data OK?	Comment
5P 58248	DFTPP				1					ok	11:58pm
5P 58249a	IC2761-100		BNA		2					ok	sv182535-96a, sequence halted, rerun as "a" file
5P 58250	IC2761-80				3					ok	sv182535-96b
5P 58251	ICC2761-50				4					ok	sv182535-96c
5P 58252	IC2761-25				5					ok	sv182535-96d
5P 58253	IC2761-10				6					ok	sv182535-96e
5P 58254	IC2761-5				7					ok	sv182535-96g
5P 58255	IC2761-2				8					ok	sv182535-96h
5P 58256	IC2761-1				9					ok	sv182535-96i
5P 58257	ICV2761-50		BN1		10					ok	op1923336-51

# 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
5P 58258	ICV2761-50		BN2		11					ok/r	op182160-30 rr for 99#
5P 58259	ICV2761-50		Aniline		12					ok	op192336-39
5P 58260	ICV2761-50		Acid		13					ok	op192336-47
5P 58261	ICV2761-50		ABN Surr		14					ok	op192336-76
5P 58262	ICV2761-50		Bzd 3rd		15					ok	op182490-113; 5:55am



Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	ISTD	A0144955	4000ppm
			DCM- fisher	190729	---

Column:  MS 30m x 0.25 mm x 1  SW846 8270 D  
 Batch ID:  E5P2762  NINAP  
 Approved By: \_\_\_\_\_  
 Sequence Loaded By:  chris2  M5P2761  
 Data Processed By:  ying li  1 uL  
 Injection Volume: \_\_\_\_\_  
 Quant Method/s: \_\_\_\_\_  
 EPA 625

Data File	Sample ID	OP Batch ID	Test	MTX	A L S	Dil	L+	Surr OK?	IS OK?	Data OK?	Comment
5P 58263	DFTPP				1					ok	6:15 am
5P 58264	IC2762-100		TCL42		16					ok	sv182535-50a
5P 58265	IC2762-80				17					ok	sv182535-50b
5P 58266	ICC2762-50				18					ok	sv182535-50c
5P 58267	IC2762-25				19					ok	sv182535-50d
5P 58268	IC2762-10				20					ok	sv182535-50e
5P 58269	IC2762-5				21					ok	sv182535-50g
5P 58270	IC2762-2				22					ok	sv182535-50h
5P 58271	IC2762-1				23					ok	sv182535-50i
5P 58272	ICV2762-50		AP9 Mix #2		24					ok	sv182490-78

# 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
5P 58273	ICV2762-50		HQ 2nd		25					ok	sv182490-103b; 10:27 am

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	ISTD	A0144955	4000ppm
			DCM- fisher	190729	---

Column:  MS 30m x 0.25 mm x 1  SW846 8270 D  
 Batch ID:  E5P2763  NINAP  
 Sequence Loaded By:  yujiac  M5P2761  
 Data Processed By:  ying li  1 uL  
 Initial Calib Date:  4/8/2018  Quant Method/s  
 Analysis Date:  4/9/2019  Injection Volume  
 Approved Date:  10/2019 9:45:02 A

Data File	Sample ID	OP Batch ID	Test	MTX	A L S	Dil	L+	Surr OK?	IS OK?	Data OK?	Comment
5P 58274	DFTPP				1					ok	10:54 am
5P 58275	IC2763-100		bzd		26					ok	sv182535-70a
5P 58276	IC2763-80				27					ok	sv182535-70b
5P 58277	ICC2763-50				28					ok	sv182535-70c
5P 58278	IC2763-25				29					ok	sv182535-70d
5P 58279	IC2763-10				30					ok	sv182535-70e
5P 58280	IC2763-5.0				31					ok	sv182535-70g
5P 58281	IC2763-2.0				32					ok	sv182535-70h
5P 58282	IC2763-1.0				33					ok	sv182535-70i
5P 58283	ICV2763-50		bzd 3rd		34					ok	sv182490-113

# 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
5P 58294	ICV2761-50		BN2		35					ok	op192336-72 3:10pm

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	ISTD	A0144955	4000ppm
bona	sv182535-121a	50ppm	DCM- fisher	190729	---
tlc42	sv182535-120a	50ppm			
bzd	sv182535-71a	50ppm			

Column:  30m x 0.25 mm x  10m x 0.25 mm  
 Batch ID: E5P2775  
 Approved By: KRISTIS

Initial Calib Date: 4/8/2018  
 Analysis Date: 4/17/2019  
 Approved Date: 3/2019, 10:52:02

Sequence Loaded By: chriss2  
 Data Processed By: ying lijeryllr

Quant Method/s: M5P2761  
 Injection Volume: 1 uL

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
5P 58569	DFTPP				1					ok	7:50pm
5P 58570	CC2761-50				2					ok	
5P 58571	CC2762-50				3					ok	
5P 58572	CC2763-50				4					ok	
58573	OP19787-MB1	OP19787	AB8270TCL20,AB8270TCL20+,B8270PALO,B8270PAUMO	SO			X	y	y	ok	
58574	OP19787-BS1	OP19787	AB8270TCL20,AB8270TCL20+,B8270PALO,B8270PAUMO	SO			X	y	y	ok	
58575	OP19786-MB1	OP19786	AB8270TCL20,AB8270TCL20+,B8270MINAP,B8270PAH	SO			X	y	y	ok	
58576	OP19786-BS1	OP19786	AB8270TCL20,AB8270TCL20+,B8270MINAP,B8270PAH	SO			X	y	y	ok	
5P 58577	JC86300-7	OP19787	AB8270TCL20+	SO			X	y	y	ok	
5P 58578	JC86335-1	OP19787	AB8270TCL20+	SO			X	y	y	ok	

# 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
5P 58579	JC86213-5	OP19787	AB8270TCL20	SO	11			y		ok	
5P 58580	JC86337-3	OP19786	AB8270TCL20	SO	12			y	y	ok	
5P 58581	JC86337-5	OP19786	AB8270TCL20	SO	13			y	y	ok	
5P 58582	JC86337-6	OP19786	AB8270TCL20	SO	14			y	y	ok	
5P 58583	JC86383-1	OP19786	AB8270TCL20+	SO	15		X	y	y	ok	
5P 58584	JC86383-2	OP19786	AB8270TCL20+	SO	16		X	y	y	ok	
5P 58585	JC86383-4	OP19786	AB8270TCL20+	SO	17		X	y	y	ok	
5P 58586	JC86213-1	OP19786	AB8270TCL20	SO	18			Y	Y	OK	
5P 58587	JC86300-8	OP19787	AB8270TCL20+	SO	19		X	Y	Y	OK	
5P 58588	JC86310-1A	OP19787	AB8270TCL20+	SO	20		X	Y	Y	OK	
5P 58589	JC86383-3	OP19786	AB8270TCL20+	SO	21		X	Y	Y	OK	
5P 58590	JC86310-2	OP19786	AB8270TCL20+	SO	22		X	Y	Y	OK	
5P 58591	JC86213-3	OP19786	AB8270TCL20	SO	23			Y	Y	OK	CORR NEEDS DILUTION
5P 58592	JC86213-4	OP19786	AB8270TCL20	SO	24			Y	Y	OK	
5P 58593	JC86335-2	OP19787	AB8270TCL20+	SO	25		X	y	y	ok/dil r 5x	
5P 58594	JC86213-6	OP19787	AB8270TCL20	SO	26			Y	Y	OK	
5P 58595	JC86213-7				27			Y	Y	OK	
5P 58596	JC86300-6	OP19787	AB8270TCL20+	SO	28		X	Y	Y	OK	
5P 58597	JC86335-3	OP19787	AB8270TCL20+	SO	29		X	y	y	ok/dil r 5x	

# 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
58598	OP19787-MS	OP19787	AB8270TCL20,AB8270TCL20+,B 8270PALO,B8270PAUMO	SO	30		X	Y	Y	OK	07:44PM
58599	OP19787-MSD	OP19787	AB8270TCL20,AB8270TCL20+,B 8270PALO,B8270PAUMO	SO	31		X				RR OUT OF CLOCK
5P 58600	JC86300-5	OP19787	AB8270TCL20+	SO	32		X				RR OUT OF CLOCK
5P 58601	JC86213-2	OP19786	AB8270TCL20	SO	33						RR OUT OF CLOCK
58602	OP19786-MS	OP19786	AB8270TCL20,AB8270TCL20+,B 82702MINAP,B8270PAH	SO	34	5	X				diluted for visc.; RR OUT OF CLOCK
58603	OP19786-MSD	OP19786	AB8270TCL20,AB8270TCL20+,B 82702MINAP,B8270PAH	SO	35	5	X				diluted for visc.; RR OUT OF CLOCK
5P 58604	JC86337-1	OP19786	AB8270TCL20	SO	36	5					diluted for visc.; RR OUT OF CLOCK
5P 58605	JC86337-2	OP19786	AB8270TCL20	SO	37	5					diluted for visc.; RR OUT OF CLOCK
5P 58606	JC86337-4	OP19786	AB8270TCL20	SO	38	5					diluted for visc.;RR OUT OF CLOCK

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	ISTD	A0144955	4000ppm
bn	sv182535-121a	25ppm	DCM- fisher	190729	---
tol42	sv182535-120a	25ppm			

Column:  MS 30m x 0.25 mm x  Initial Calib Date: 4/8/2018  SW846 8270 D  
 Batch ID: E5P2776  Analysis Date: 4/18/2019  EPA 625  
 Approved By: KRISTIS  Approved Date: 3/2019 11:24:46

Sequence Loaded By: christc2  Quant Method/s: M5P2761  
 Data Processed By: michelic  Injection Volume: 1 uL

Data File	Sample ID	OP Batch ID	Test	MTX	A L S	Dil	L+	Surr OK?	IS OK?	Data OK?	Comment
5P 58599	DFTPP				1					no	197 fail, irr
5P 58600	DFTPP				1					ok	9:16am
5P 58601	CC2761-25		bn		2					ok	
5P 58602	CC2762-25		tol42		3					ok	
5P 58603	OP19696A-MB1	OP19696A	B8270EPHINAP+2MNAP	SO	4		X	Y	Y	OK	
5P 58604	OP19696A-BS1	OP19696A	B8270EPHINAP+2MNAP	SO	5		X	Y	Y	OK	
5P 58605	OP19696A-BSD	OP19696A	B8270EPHINAP+2MNAP	SO	6		X	Y	Y	OK	
5P 58606	OP19683A-MB1	OP19683A	B8270EPHAP	SO	7			Y	Y	OK	
5P 58607	OP19683A-BS1	OP19683A	B8270EPHAP	SO	8			Y	Y	OK	
5P 58608	OP19683A-BSD	OP19683A	B8270EPHAP	SO	9			Y	Y	OK	



# 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
5P 58609	JC86341-7	OP19770	B8270NJTCL20+	AQ	10	5	X	Y	Y	OK	
5P 58610	OP19787-MS	OP19787	AB8270TCL20,AB8270TCL20+,B8270PALO,B8270PAUMO	SO	11		X	Y	Y	ok	
5P 58611	OP19787-MSD	OP19787	AB8270TCL20,AB8270TCL20+,B8270PALO,B8270PAUMO	SO	12		X	Y	Y	ok	
5P 58612	JC86300-5	OP19787	AB8270TCL20+	SO	13		X	Y	Y	ok	
5P 58613	JC86213-2	OP19786	AB8270TCL20	SO	14			Y	Y	OK	
5P 58614	OP19786-MS	OP19786	AB8270TCL20,AB8270TCL20+,B82702MINAP,B8270PAH	SO	15		X	Y	Y	ok	
5P 58615	OP19786-MSD	OP19786	AB8270TCL20,AB8270TCL20+,B82702MINAP,B8270PAH	SO	16		X	Y	Y	ok	
5P 58616	JC86337-1	OP19786	AB8270TCL20	SO	17			Y	Y	ok	rr 10x dl
5P 58617	JC86337-2	OP19786	AB8270TCL20	SO	18			Y	Y	ok	rr 10x dl
5P 58618	JC86337-4	OP19786	AB8270TCL20	SO	19			Y	Y	ok	rr 5x dl
5P 58619	JC86213-3	OP19786	AB8270TCL20	SO	20	5		Y	Y	ok	
5P 58620	JC86335-2	OP19787	AB8270TCL20+	SO	21	5	X	Y	Y	OK	rerun for overcal
5P 58621	JC86335-3	OP19787	AB8270TCL20+	SO	22	5	X	Y	Y	OK	
5P 58622	JC86107-4R	OP19683A	B8270EPHPAH	SO	23			Y	Y	OK	
5P 58623	JC86051-5R	OP19696A	B8270EPHPAH+2MINAP	SO	24		X	Y	Y	OK	rerun for overcal
5P 58624	JC85704-8R	OP19725	AB8270TCL20+	SO	25	5	X	Y	Y	OK	diluted for visc. 7:27pm
5P 58625	JC85968-1R	OP19786	B8270PAH	SO	26	5		Y	Y	ok	2:29 pm
5P 58626	JC85883-1	OP19786	B8270PAH	SO	27					not run	sequence stopped
5P 58627	JC85883-2	OP19786	B8270PAH	SO	28					not run	

# 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
5P 58628	JC86289-1	OP19787	B8270PAUMO	SO	29					not run	
5P 58629	JC86289-2	OP19787	B8270PAUMO	SO	30					not run	
5P 58630	JC86289-4	OP19787	B8270PALO	SO	31					not run	
5P 58631	JC86289-5	OP19787	B8270PALO	SO	32					not run	

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	ISTD	A0144955	4000ppm
bona	sv182535-121d	25ppm	DCM- fisher	190729	---
tbl42	sv182535-120c	25ppm			
bzd	sv182535-71d	25ppm			

Column:  MS 30m x 0.25 mm x  Initial Calib Date: 4/8/2018  
 Batch ID: E5P2777 Analysis Date: 4/18/2019  
 Approved By: KRISTIS Approved Date: 3/2019 10:53:52/

Sequence Loaded By: carolb Quant Method/s: M5P2761 SW846 8270 D   
 Data Processed By: ying li Injection Volume: 1 uL EPA 625

Data File	Sample ID	OP Batch ID	Test	MTX	A L S	Dil	L+	Surr OK?	IS OK?	Data OK?	Comment
5P 58632	DFTPP				1					ok	12:11
5P 58633	CC2761-50				2					ok	
5P 58634	CC2762-50				3					ok	
5P 58635	CC2763-50				4					ok	
58636	OP19849-MB1	OP19849		AQ	5		X	y	y	ok	
58637	OP19849-BS1	OP19849		AQ	6		X	y	y	ok	
58638	OP19849-BSD	OP19849		AQ	7		X	y	y	ok	
58639	JC86352-4	OP19849	AB8270NJTCL20+-BMS+ANILINE	AQ	8		X	y	y	ok	
5P 58640	JC85400-3	OP19849	AB8270TCL20+	AQ	9		X	y	y	ok	
58641	JC86280-1	OP19849	B8270NJTCL20+	AQ	10		X	y	y	ok	

# 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
58642	JC86353-7	OP19849	B8270NJTCCL20+	AQ	11		X	y	y	ok	
58643	JC86352-3	OP19849	AB8270NJTCCL20+,BMS+ANILINE	AQ	12		X	y	y	ok	
5P 58644	JC86375-4	OP19849	B8270PAH	AQ	13			y	y	ok	
58645	JC86352-2	OP19849	AB8270NJTCCL20+,BMS+ANILINE	AQ	14		X	y	y	ok	
5P 58646	JC86375-3	OP19849	B8270PAH	AQ	15			y	y	ok	
5P 58647	JC86592-1	OP19849	AB8270SL1	AQ	16			y	y	ok	
58648	JC86353-8	OP19849	B8270NJTCCL20+	AQ	17		X	y	y	ok	
5P 58649	JC86592-2	OP19849	AB8270SL1	AQ	18			y	y	ok	
5P 58650	JC86375-2	OP19849	B8270PAH	AQ	19			y	y	ok	
58651	JC86352-5	OP19849	AB8270NJTCCL20+,BMS+ANILINE	AQ	20		X	y	y	ok	
58652	JC86352-1	OP19849	AB8270NJTCCL20+,BMS+ANILINE	AQ	21		X	y	y	ok	
5P 58653	JC86375-1	OP19849	B8270PAH	AQ	22			y	y	ok	
58654	JC86353-4	OP19849	B8270NJTCCL20+	AQ	23		X	y	y	ok	10:42am

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182555-77	50ppm	int std	A0144955	4000ppm
			dcm-fisher	191108	---

Column:  Initial Calib Date:  Sequence Loaded By:   SW846 8270 D  
 Batch ID:  Analysis Date:  Data Processed By:   EPA 625  
 Approved By:  Approved Date:  Injection Volume:

Data File	Sample ID	OP Batch ID	Test	MTX	A L S	Dil	L+	Surr OK?	IS OK?	Data OK?	Comment
P 128674	DFTPP				1					not using	floating baseline, rr
P 128675	DFTPP				1					ok	9:46am
P 128676	IC5819-100		bn		2					ok	sv182535-96a
P 128677	IC5819-80				3					ok	sv182535-96b
P 128678	IC5819-50				4					ok	sv182535-96c
P 128679	IC5819-25				5					ok	sv182535-96d
P 128680	IC5819-10				6					ok	sv182535-96e
P 128681	IC5819-5				7					ok	sv182535-96g
P 128682	IC5819-2				8					ok	sv182535-96h
P 128683	IC5819-1				9					ok	sv182535-96i

# 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 128684	ICV5819-50		bn1		10					ok	op182336-51
P 128685	ICV5819-50		bn2		11					ok	op182160-30
P 128686	ICV5819-50		aniline		12					ok	op192336-39
P 128687	ICV5819-50		abn surr		13					ok	op182231-194
P 128688	ICV5819-50		acid		14					ok	op192336-47
P 128689	ICV5819-50		bzd 3rd		15					ok	sv182990-113 4:09pm

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	int std	A0144955	4000ppm
			dcm-fisher	191108	---

Column:  Initial Calib Date:   
 Batch ID:  Analysis Date:   
 Approved By:  Approved Date:

Sequence Loaded By:  Quant Method/s:   SW846 8270 D  
 Data Processed By:  Injection Volume:   EPA 625

Data File	Sample ID	OP Batch ID	Test	MTX	A L S	Dil	L+	Surr OK?	IS OK?	Data OK?	Comment
P 128702	DFTPP				1					ok	3:16pm
P 128703b	IC5821-100		tol42		2					ok	sv182535-50a method had wrong initial temp. Restarted with B data files
P 128704b	IC5821-80				3					ok	sv182535-50b
P 128705b	IC5821-50				4					ok	sv182535-50c
P 128706	IC5821-25				5					ok	sv182535-50d
P 128707	IC5821-10				6					ok	sv182535-50e
P 128708	IC5821-5				7					ok	sv182535-50g
P 128709	IC5821-2				8					ok	sv182535-50h
P 128710	IC5821-1				9					ok	sv182535-50i
P 128711	ICV5821-50		ap9 mix #2		10					ok	sv182490-65

# 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 128712	ICV5821-50		HQ		11					ok	sv182490-103c 8:50pm



Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	int std	A0144955	4000ppm
			dcm-fisher	191108	---

Column   
 Batch ID   
 Approved By:

Initial Calib Date   
 Analysis Date   
 Approved Date

Sequence Loaded By:   
 Data Processed By:

Quant Method/s   
 Injection Volume

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 128723	DFTPP				1					ok	2:25pm
P 128724	ICV5819-50		bn2		2					ok	op192336-72 3:31pm

Standard / Reagent	Lot #	Concentration	Standard / Reagent	Lot #	Concentration
DFTPP	sv182535-77	50ppm	int std	A0144955	4000ppm
BNA	sv182535-121d	50ppm	dcm-fisher	191108	---
tol42	sv1828535-120c	50ppm			

Column  Initial Calib Date   SW846 8270 D  
 Batch ID  Analysis Date   EPA 625  
 Approved By:  Approved Date

Sequence Loaded By:  Quant Method/s   
 Data Processed By:  Injection Volume

Data File	Sample ID	OP Batch ID	Test	MTX	A L S	Dil	L+	Surr OK?	IS OK?	Data OK?	Comment
P 129123	DFTPP				1					ok	8.55pm
P 129124	CC5819-50				2					ok	10,16,31,39,58,68 low
P 129125	CC5821-50				3					ok	
129126	OP19787-MB1	OP19787	AB8270TCL20,AB8270TCL20+,B8270PALO,B8270PAUMO	SO	4		X	x	x	ok	
129127	OP19786-MB1	OP19786	AB8270TCL20,AB8270TCL20+,B8270MINAP,B8270PAH	SO	5		X	x	x	ok	
P 129128	JC86159-1	OP19786	B82702MNAP	SO	6			x	x	ok	
P 129129	JC85883-2	OP19786	B8270PAH	SO	7	5		x	x	ok/rr	o/d rr 1X dilution due to viscosity
P 129130	JC86296-3	OP19787	B8270PAUMO	SO	8			x	x	ok	% solid is waiting
P 129131	JC86289-1	OP19787	B8270PAUMO	SO	9	5		x	x	ok	o/d rr 1X, dilution due to viscosity, % solid is waiting
P 129132	JC86289-5	OP19787	B8270PALO	SO	10	5		x	x	ok	o/d rr 1X, dilution due to viscosity, % solid is waiting

# 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 129133	JC86289-4	OP19787	B8270PALO	SO	11	5		x	x	ok	o/d rr 1X, dilution due to viscosity, % solid is waiting
P 129134	JC86296-4	OP19787	B8270PAUMO	SO	12			x	x	ok	% solid is waiting
P 129135	JC86296-6	OP19787	B8270PAUMO	SO	13			x	x	ok	% solid is waiting
P 129136	JC85968-1R	OP19786	B8270PAH	SO	14			x	x	ok/dl rr 5X	
P 129137	JC86107-6	OP19786	B8270PAH	SO	15			x	x	ok	
P 129138	JC85883-1	OP19786	B8270PAH	SO	16	5		x	x	ok	o/d rr 1X dilution due to viscosity
P 129139	JC86289-2	OP19787	B8270PAUMO	SO	17	5		x	x	ok	o/d rr 1X, dilution due to viscosity, % solid is waiting 3.50am

LOGBOOK ID:

Date started: 4/16/18  
 Date finished: 16/14

Time started: 18:25  
 Time finished: 23:25

**ABN Extraction Log - Solids**

Extract Method (CHECK/OFF "N" DO NOT CIRCLE):  
 Microwave SW3550C  
 Waste Dil. SW3550A

BATCH # MS 19780 RACK# R-46

Weighted by: LJ  
 Extracted by: SH  
 Concentrated by: SH  
 Final Vol. Top-up: SH LJ  
 Valid by: SH LJ

QC ID# for Special Spike	Amount to Spike	Spike ID	Lot #	Conc.	Amnt. Spiked

Sample #	Analysis Type	Sample Description	Sample Wt. (g) or Vol. (mL)	Decant	Microwave ID	Final Extract Vol. (mL)	Color	Comments

Equipment/Range	ID	Observed Temp (°C)	Corrected Temp (°C)	Pressure/Fluoride
Buchi Chiller				
Waterbath (70-80°C)	10.11	76.5, 76.3	-1.0	75.3, 75.3
Waterbath Chiller (0PM)	V3.14	5.0, 5.1	-	0.8
NEVAP (2-3°C, LPM)	2		+0.1	1.0
Balance	1338	N/A	N/A	N/A
SURROGATE	LOT #	CONC (ppm)	AMT (mL)	
ABN	DP19233697	50	1.0	
ABN DDD SIM				
WITNESS SIGN: <u>LJ</u>				
MATRIX SPIKE	LOT #	CONC (ppm)	AMT (mL)	
Acid	DP19233667	50	1.0	
Acid (for SIM)				
Base #1	DP19233687	50	1.0	
Base #2	DP19233683	50	1.0	
Aniline	DP19233695	50	1.0	
BISM				
WITNESS SIGN: <u>SH</u>				
SOLVENT	LOT #	BRAND	AMT (mL)	
1:1 METH CHLOR	19109	FISHER	30.0	
ACETONE				
METH CHLOR				
REAGENT	LOT #	BAKE BATCH #	BRAND	
HYDROMATRIX	6435092	3-15-19A	ABILENT	
SODIUM SULFATE	183473	4-18-19A	FISHER	
FILTER PAPER	16819760		FISHER	
MATRIX	LOT #	BAKE BATCH #	BRAND	
SAND	16A181000A	3-13-19	FISHER	

**SPECIAL PROCESSING INSTRUCTIONS**

Rx Reason:

Spilling:

Weights/Volumes:

Required MS/MSD:

Final Volumes:

Other: HT 4/18 10am due 4/19

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SGS Form: OP019A-10 Rev Date: 8/2/17

Comments: QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by:

## GC/LC Semi-volatiles

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### QC Data Summaries

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#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- DDT/Endrin Breakdown Checks
- GC Identification Summaries (Hits)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

**Method Blank Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19789-MB1	6G64305.D	1	04/18/19	TL	04/17/19	OP19789	G6G1984

The QC reported here applies to the following samples:

Method: SW846 8081B

JC86337-1, JC86337-2

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.67	0.55	ug/kg	
319-84-6	alpha-BHC	ND	0.67	0.54	ug/kg	
319-85-7	beta-BHC	ND	0.67	0.60	ug/kg	
319-86-8	delta-BHC	ND	0.67	0.64	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.67	0.49	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.67	0.54	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.67	0.30	ug/kg	
60-57-1	Dieldrin	ND	0.67	0.46	ug/kg	
72-54-8	4,4'-DDD	ND	0.67	0.61	ug/kg	
72-55-9	4,4'-DDE	ND	0.67	0.58	ug/kg	
50-29-3	4,4'-DDT	ND	0.67	0.59	ug/kg	
72-20-8	Endrin	ND	0.67	0.52	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.67	0.52	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.67	0.38	ug/kg	
959-98-8	Endosulfan-I	ND	0.67	0.38	ug/kg	
33213-65-9	Endosulfan-II	ND	0.67	0.42	ug/kg	
76-44-8	Heptachlor	ND	0.67	0.57	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.67	0.47	ug/kg	
72-43-5	Methoxychlor	ND	1.3	0.53	ug/kg	
53494-70-5	Endrin ketone	ND	0.67	0.48	ug/kg	
8001-35-2	Toxaphene	ND	17	16	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	71%	25-135%
877-09-8	Tetrachloro-m-xylene	72%	25-135%
2051-24-3	Decachlorobiphenyl	78%	10-156%
2051-24-3	Decachlorobiphenyl	135%	10-156%

**Method Blank Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19788-MB1	XX2433851.D	1	04/17/19	SK	04/17/19	OP19788	GXX6658

The QC reported here applies to the following samples:

Method: SW846 8082A

JC86337-1, JC86337-2

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	17	ug/kg	
11141-16-5	Aroclor 1232	ND	33	26	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	71%	31-146%
877-09-8	Tetrachloro-m-xylene	73%	31-146%
2051-24-3	Decachlorobiphenyl	91%	17-164%
2051-24-3	Decachlorobiphenyl	123%	17-164%

**Method Blank Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19829-MB1	EF189195.D	1	04/19/19	TR	04/19/19	OP19829	GEF6426

The QC reported here applies to the following samples:

Method: SW846 8082A

JC86337-7, JC86337-8

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	17	ug/kg	
11141-16-5	Aroclor 1232	ND	33	26	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	86%	31-146%
877-09-8	Tetrachloro-m-xylene	97%	31-146%
2051-24-3	Decachlorobiphenyl	107%	17-164%
2051-24-3	Decachlorobiphenyl	107%	17-164%



**Method Blank Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19829-MB1	5G87737.D	1	04/19/19	SK	04/19/19	OP19829	G5G2111

The QC reported here applies to the following samples:

Method: SW846 8082A

JC86337-7, JC86337-8

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	17	ug/kg	
11141-16-5	Aroclor 1232	ND	33	26	ug/kg	
53469-21-9	Aroclor 1242	ND	33	14	ug/kg	
12672-29-6	Aroclor 1248	ND	33	30	ug/kg	
11097-69-1	Aroclor 1254	ND	33	18	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	14	ug/kg	
37324-23-5	Aroclor 1262	ND	33	22	ug/kg	

CAS No.	Surrogate Recoveries	Limits	
877-09-8	Tetrachloro-m-xylene	81%	31-146%
877-09-8	Tetrachloro-m-xylene	85%	31-146%
2051-24-3	Decachlorobiphenyl	82%	17-164%
2051-24-3	Decachlorobiphenyl	82%	17-164%

**Blank Spike Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19789-BS1	6G64306.D	1	04/18/19	TL	04/17/19	OP19789	G6G1984

The QC reported here applies to the following samples:

Method: SW846 8081B

JC86337-1, JC86337-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
309-00-2	Aldrin	16.7	13.0	78	46-120
319-84-6	alpha-BHC	16.7	12.7	76	45-116
319-85-7	beta-BHC	16.7	12.5	75	42-121
319-86-8	delta-BHC	16.7	12.9	77	42-121
58-89-9	gamma-BHC (Lindane)	16.7	12.7	76	46-118
5103-71-9	alpha-Chlordane	16.7	13.7	82	49-119
5103-74-2	gamma-Chlordane	16.7	13.0	78	48-121
60-57-1	Dieldrin	16.7	13.5	81	48-126
72-54-8	4,4'-DDD	16.7	12.9	77	47-120
72-55-9	4,4'-DDE	16.7	13.0	78	48-121
50-29-3	4,4'-DDT	16.7	13.8	83	45-135
72-20-8	Endrin	16.7	14.1	85	51-137
1031-07-8	Endosulfan sulfate	16.7	13.9	83	48-128
7421-93-4	Endrin aldehyde	16.7	13.1	79	46-125
959-98-8	Endosulfan-I	16.7	13.4	80	47-118
33213-65-9	Endosulfan-II	16.7	12.4	74	49-121
76-44-8	Heptachlor	16.7	13.0	78	48-120
1024-57-3	Heptachlor epoxide	16.7	12.4	74	46-122
72-43-5	Methoxychlor	16.7	14.0	84	44-136
53494-70-5	Endrin ketone	16.7	13.9	83	44-139

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	0%* a	25-135%
877-09-8	Tetrachloro-m-xylene	0%* a	25-135%
2051-24-3	Decachlorobiphenyl	0%* a	10-156%
2051-24-3	Decachlorobiphenyl	0%* a	10-156%

(a) Surrogate not spiked.

\* = Outside of Control Limits.

**Blank Spike Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19788-BS1	XX2433852.D	1	04/17/19	SK	04/17/19	OP19788	GXX6658

The QC reported here applies to the following samples:

Method: SW846 8082A

JC86337-1, JC86337-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	133	124	93	67-157
11104-28-2	Aroclor 1221		ND		70-130
11141-16-5	Aroclor 1232		ND		70-130
53469-21-9	Aroclor 1242		ND		70-130
12672-29-6	Aroclor 1248		ND		70-130
11097-69-1	Aroclor 1254		ND		70-130
11096-82-5	Aroclor 1260	133	117	88	63-155
11100-14-4	Aroclor 1268		ND		50-150 <sup>a</sup>
37324-23-5	Aroclor 1262		ND		50-150 <sup>a</sup>

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	80%	31-146%
877-09-8	Tetrachloro-m-xylene	82%	31-146%
2051-24-3	Decachlorobiphenyl	98%	17-164%
2051-24-3	Decachlorobiphenyl	130%	17-164%

(a) Advisory control limits.

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19829-BS1	5G87738.D	1	04/19/19	SK	04/19/19	OP19829	G5G2111
OP19829-BSD	5G87739.D	1	04/19/19	SK	04/19/19	OP19829	G5G2111

The QC reported here applies to the following samples:

Method: SW846 8082A

JC86337-7, JC86337-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	133	120	90	111	83	8	67-157/26
11104-28-2	Aroclor 1221		ND		ND		nc	70-130/30
11141-16-5	Aroclor 1232		ND		ND		nc	70-130/30
53469-21-9	Aroclor 1242		ND		ND		nc	70-130/30
12672-29-6	Aroclor 1248		ND		ND		nc	70-130/30
11097-69-1	Aroclor 1254		ND		ND		nc	70-130/30
11096-82-5	Aroclor 1260	133	118	88	112	84	5	63-155/24
11100-14-4	Aroclor 1268		ND		ND		nc	-/30
37324-23-5	Aroclor 1262		ND		ND		nc	-/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
877-09-8	Tetrachloro-m-xylene	80%	79%	31-146%
877-09-8	Tetrachloro-m-xylene	85%	84%	31-146%
2051-24-3	Decachlorobiphenyl	83%	80%	17-164%
2051-24-3	Decachlorobiphenyl	84%	81%	17-164%

\* = Outside of Control Limits.

10.3.1  
 10

## Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: JC86337

Account: BBLNYS Arcadis

Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19789-MS	6G64309.D	1	04/18/19	TL	04/17/19	OP19789	G6G1984
OP19789-MSD	6G64310.D	1	04/18/19	TL	04/17/19	OP19789	G6G1984
JC86300-2	6G64308.D	1	04/18/19	TL	04/17/19	OP19789	G6G1984

The QC reported here applies to the following samples:

Method: SW846 8081B

JC86337-1, JC86337-2

CAS No.	Compound	JC86300-2 ug/kg	Spike Q	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND	22.5	14.0	62	23.5	14.7	63	5	23-143/44
319-84-6	alpha-BHC	ND	22.5	12.1	54	23.5	20.2	86	50* a	18-152/47
319-85-7	beta-BHC	ND	22.5	11.1	49	23.5	20.6	88	60* a	7-143/48
319-86-8	delta-BHC	ND	22.5	12.7	56	23.5	15.1	64	17	13-155/49
58-89-9	gamma-BHC (Lindane)	ND	22.5	12.0	53	23.5	14.9	63	22	23-138/49
5103-71-9	alpha-Chlordane	ND	22.5	14.8	66	23.5	14.4	61	3	16-149/46
5103-74-2	gamma-Chlordane	ND	22.5	13.0	58	23.5	13.6	58	5	14-152/45
60-57-1	Dieldrin	ND	22.5	13.4	60	23.5	13.9	59	4	14-154/46
72-54-8	4,4'-DDD	ND	22.5	12.9	57	23.5	16.5	70	24	18-149/51
72-55-9	4,4'-DDE	ND	22.5	12.8	57	23.5	15.5	66	19	10-154/49
50-29-3	4,4'-DDT	ND	22.5	13.8	61	23.5	14.7	63	6	10-170/50
72-20-8	Endrin	ND	22.5	14.5	64	23.5	16.0	68	10	18-173/49
1031-07-8	Endosulfan sulfate	ND	22.5	12.9	57	23.5	11.5	49	11	19-132/50
7421-93-4	Endrin aldehyde	ND	22.5	14.3	64	23.5	16.6	71	15	10-160/53
959-98-8	Endosulfan-I	ND	22.5	13.1	58	23.5	13.3	57	2	18-143/46
33213-65-9	Endosulfan-II	ND	22.5	12.1	54	23.5	13.2	56	9	21-132/46
76-44-8	Heptachlor	ND	22.5	13.8	61	23.5	19.8	84	36	22-146/46
1024-57-3	Heptachlor epoxide	ND	22.5	12.0	53	23.5	12.6	54	5	21-151/45
72-43-5	Methoxychlor	ND	22.5	14.0	62	23.5	16.4	70	16	11-166/50
53494-70-5	Endrin ketone	ND	22.5	14.7	65	23.5	16.1	69	9	8-179/51
8001-35-2	Toxaphene	ND		ND			ND		nc	50-150/30

CAS No.	Surrogate Recoveries	MS	MSD	JC86300-2	Limits
877-09-8	Tetrachloro-m-xylene	53%	61%	67%	25-135%
877-09-8	Tetrachloro-m-xylene	52%	57%	66%	25-135%
2051-24-3	Decachlorobiphenyl	53%	94%	68%	10-156%
2051-24-3	Decachlorobiphenyl	144%	259%* b	129%	10-156%

(a) Analytical precision exceeds in-house control limits.

(b) Outside control limits due to matrix interference.

\* = Outside of Control Limits.

**Matrix Spike/Matrix Spike Duplicate Summary**

Job Number: JC86337

Account: BBLNYS Arcadis

Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19788-MS	XX2433854.D	1	04/17/19	SK	04/17/19	OP19788	GXX6658
OP19788-MSD	XX2433855.D	1	04/17/19	SK	04/17/19	OP19788	GXX6658
JC86334-1	XX2433853.D	1	04/17/19	SK	04/17/19	OP19788	GXX6658

The QC reported here applies to the following samples:

Method: SW846 8082A

JC86337-1, JC86337-2

CAS No.	Compound	JC86334-1 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	154	119	78	150	135	90	13	36-191/60
11104-28-2	Aroclor 1221	ND		ND			ND		nc	70-130/50
11141-16-5	Aroclor 1232	ND		ND			ND		nc	70-130/1
53469-21-9	Aroclor 1242	ND		ND			ND		nc	70-130/6
12672-29-6	Aroclor 1248	ND		ND			ND		nc	70-130/33
11097-69-1	Aroclor 1254	ND		ND			ND		nc	70-130/38
11096-82-5	Aroclor 1260	ND	154	121	79	150	135	90	11	15-200/68
11100-14-4	Aroclor 1268	ND		ND			ND		nc	-/50
37324-23-5	Aroclor 1262	ND		ND			ND		nc	-/17

CAS No.	Surrogate Recoveries	MS	MSD	JC86334-1	Limits
877-09-8	Tetrachloro-m-xylene	65%	74%	48%	31-146%
877-09-8	Tetrachloro-m-xylene	65%	77%	50%	31-146%
2051-24-3	Decachlorobiphenyl	76%	85%	58%	17-164%
2051-24-3	Decachlorobiphenyl	93%	95%	74%	17-164%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP19829-MS	5G87742.D	1	04/19/19	SK	04/19/19	OP19829	G5G2111
OP19829-MSD	5G87743.D	1	04/19/19	SK	04/19/19	OP19829	G5G2111
JC86211-2	5G87741.D	1	04/19/19	SK	04/19/19	OP19829	G5G2111

The QC reported here applies to the following samples:

Method: SW846 8082A

JC86337-7, JC86337-8

CAS No.	Compound	JC86211-2 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND	159	149	94	162	147	91	1	36-191/60
11104-28-2	Aroclor 1221	ND		ND			ND		nc	70-130/50
11141-16-5	Aroclor 1232	ND		ND			ND		nc	70-130/1
53469-21-9	Aroclor 1242	ND		ND			ND		nc	70-130/6
12672-29-6	Aroclor 1248	ND		ND			ND		nc	70-130/33
11097-69-1	Aroclor 1254	38.2		131			184		34	70-130/38
11096-82-5	Aroclor 1260	ND	159	268	169	162	207	128	26	15-200/68
11100-14-4	Aroclor 1268	ND		ND			ND		nc	-/50
37324-23-5	Aroclor 1262	ND		ND			ND		nc	-/17

CAS No.	Surrogate Recoveries	MS	MSD	JC86211-2	Limits
877-09-8	Tetrachloro-m-xylene	82%	70%	78%	31-146%
877-09-8	Tetrachloro-m-xylene	87%	74%	82%	31-146%
2051-24-3	Decachlorobiphenyl	82%	76%	76%	17-164%
2051-24-3	Decachlorobiphenyl	71%	62%	62%	17-164%

\* = Outside of Control Limits.

10.4.3 10

# Internal Standard Area Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	G6G1984-CC1951	Injection Date:	04/18/19
Lab File ID:	6G64303.D	Injection Time:	09:59
Instrument ID:	GC6G	Method:	SW846 8081B

IS 1		IS 2	
AREA	RT	AREA	RT

Check Std	280785845	2.17	311720087	1.95
Upper Limit <sup>a</sup>	561571690	2.67	623440174	2.45
Lower Limit <sup>b</sup>	140392923	1.67	155860044	1.45

Lab Sample ID	IS 1		IS 2	
	AREA	RT	AREA	RT
OP19789-MB1	251121320	2.17	280346768	1.96
OP19789-BS1	275427272	2.17	312260257	1.95
ZZZZZZ	277064354	2.17	318560870	1.96
JC86300-2	276718433	2.17	312091947	1.95
OP19789-MS	265718744	2.17	299090911	1.96
OP19789-MSD	267424175	2.17	290266382	1.96
ZZZZZZ	298607656	2.17	330894284	1.95
ZZZZZZ	285510218	2.17	315235452	1.96
ZZZZZZ	236352592	2.17	256810133	1.96
ZZZZZZ	284288644	2.17	316643168	1.95
ZZZZZZ	255308861	2.17	321180844	1.96
ZZZZZZ	227328749	2.17	335904154	1.96
JC86337-1	298460573	2.17	309844270	1.96
JC86337-2	263106593	2.17	275852497	1.96

IS 1 = 1-Bromo-2-nitrobenzene (Signal #2)  
 IS 2 = 1-Bromo-2-nitrobenzene (Signal #1)

(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.

10.5.1  
10



**DDT/Endrin Breakdown Check**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	G6G1951-DDT	Injection Date:	03/13/19
Lab File ID:	6G63602.D	Injection Time:	11:43
Instrument ID:	GC6G		

Compound	Response Signal 1	Response Signal 2
4,4'-DDD	4065198	4359080
4,4'-DDE	5025548	4410427
4,4'-DDT	444908339	415035416

DDT Breakdown <sup>a</sup>	2 %	2.1 %
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Endrin aldehyde	965179	429520
Endrin ketone	1756703	2806864
Endrin	265458072	244511798

Endrin Breakdown <sup>b</sup>	1 %	1.3 %
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(a) Calculated as:  $(\text{DDD} + \text{DDE}) / (\text{DDD} + \text{DDE} + \text{DDT}) \times 100$

(b) Calculated as:  $(\text{Endrin Aldehyde} + \text{Endrin Ketone}) / (\text{Endrin Aldehyde} + \text{Endrin Ketone} + \text{Endrin}) \times 100$

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
G6G1951-IC1951	6G63604.D	03/13/19	12:18	00:36	Initial cal 1
G6G1951-IC1951	6G63605.D	03/13/19	12:36	00:53	Initial cal 2
G6G1951-IC1951	6G63606.D	03/13/19	12:54	01:11	Initial cal 5
G6G1951-IC1951	6G63607.D	03/13/19	13:12	01:29	Initial cal 10
G6G1951-ICC1951	6G63608.D	03/13/19	13:29	01:47	Initial cal 25
G6G1951-IC1951	6G63609.D	03/13/19	13:47	02:05	Initial cal 50
G6G1951-IC1951	6G63610.D	03/13/19	14:05	02:23	Initial cal 75
G6G1951-IC1951	6G63611.D	03/13/19	14:23	02:40	Initial cal 100
G6G1951-IC1951	6G63612.D	03/13/19	14:41	02:58	Initial cal 500
G6G1951-IC1951	6G63613.D	03/13/19	14:58	03:16	Initial cal 500
G6G1951-ICV1951	6G63614.D	03/13/19	15:16	03:33	Initial cal verification 25
G6G1951-ICV1951	6G63615.D	03/13/19	15:34	03:52	Initial cal verification 500
G6G1951-ICV1951	6G63616.D	03/13/19	15:52	04:10	Initial cal verification 500
G6G1951-ICV1951	6G63617.D	03/13/19	16:11	04:28	Initial cal verification 50
G6G1951-ICV1951	6G63618.D	03/13/19	16:29	04:46	Initial cal verification 50

**DDT/Endrin Breakdown Check**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample:	G6G1984-DDT	Injection Date:	04/18/19
Lab File ID:	6G64302.D	Injection Time:	09:42
Instrument ID:	GC6G		

Compound	Response Signal 1	Response Signal 2
4,4'-DDD	3482349	4973058
4,4'-DDE	6249412	5130059
4,4'-DDT	604588599	429891582

DDT Breakdown <sup>a</sup>	1.6 %	2.3 %
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Endrin aldehyde	1063986	827927
Endrin ketone	3178973	2684105
Endrin	367143200	258686167

Endrin Breakdown <sup>b</sup>	1.1 %	1.3 %
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(a) Calculated as:  $(\text{DDD} + \text{DDE}) / (\text{DDD} + \text{DDE} + \text{DDT}) \times 100$

(b) Calculated as:  $(\text{Endrin Aldehyde} + \text{Endrin Ketone}) / (\text{Endrin Aldehyde} + \text{Endrin Ketone} + \text{Endrin}) \times 100$

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
G6G1984-CC1951	6G64303.D	04/18/19	09:59	00:17	Continuing cal 25
OP19789-MB1	6G64305.D	04/18/19	10:47	01:06	Method Blank
OP19789-BS1	6G64306.D	04/18/19	11:05	01:23	Blank Spike
ZZZZZZ	6G64307.D	04/18/19	11:23	01:41	(unrelated sample)
JC86300-2	6G64308.D	04/18/19	11:40	01:59	(used for QC only; not part of job JC86337)
OP19789-MS	6G64309.D	04/18/19	11:59	02:17	Matrix Spike
OP19789-MSD	6G64310.D	04/18/19	12:17	02:36	Matrix Spike Duplicate
ZZZZZZ	6G64311.D	04/18/19	12:35	02:53	(unrelated sample)
ZZZZZZ	6G64312.D	04/18/19	12:52	03:11	(unrelated sample)
ZZZZZZ	6G64313.D	04/18/19	13:11	03:29	(unrelated sample)
ZZZZZZ	6G64314.D	04/18/19	13:28	03:47	(unrelated sample)
ZZZZZZ	6G64315.D	04/18/19	13:47	04:05	(unrelated sample)
ZZZZZZ	6G64316.D	04/18/19	14:05	04:23	(unrelated sample)
JC86337-1	6G64317.D	04/18/19	14:23	04:42	PCTP-66R-HC (0-2)
JC86337-2	6G64318.D	04/18/19	14:41	04:59	PCTP-66R-HC (2-4)

# GC Identification Summary

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA

<b>Check Std:</b> G6G1984-CC1951	<b>Injection Date:</b> 04/18/19
<b>Lab File ID:</b> 6G64303.D	<b>Injection Time:</b> 09:59
<b>Instrument ID:</b> GC6G	<b>Method:</b> SW846 8081B

<b>Sample ID:</b> JC86337-1	<b>Injection Date:</b> 04/18/19
<b>Lab File ID:</b> 6G64317.D	<b>Injection Time:</b> 14:23
<b>Client ID:</b> PCTP-66R-HC (0-2)	

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
4,4'-DDE	1	5.35	5.35	3.8		ug/kg	
4,4'-DDE	2 <sup>a</sup>	6.72	6.72	3.0		ug/kg	23.5
4,4'-DDT	1 <sup>a</sup>	6.61	6.62	11.3		ug/kg	
4,4'-DDT	2	8.20	8.21	16.7		ug/kg	38.6

(a) Final result reported from this column.

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	G6G1984-CC1951	Injection Date:	04/18/19
Lab File ID:	6G64303.D	Injection Time:	09:59
Instrument ID:	GC6G	Method:	SW846 8081B

Sample ID:	OP19789-BS1	Injection Date:	04/18/19
Lab File ID:	6G64306.D	Injection Time:	11:05
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 <sup>a</sup>	4.17	4.17	13.0		ug/kg	3.0
Aldrin	2	5.11	5.11	13.4		ug/kg	
alpha-BHC	1 <sup>a</sup>	3.03	3.03	12.7		ug/kg	3.9
alpha-BHC	2	3.65	3.65	13.2		ug/kg	
beta-BHC	1 <sup>a</sup>	3.41	3.40	12.5		ug/kg	6.2
beta-BHC	2	4.16	4.16	13.3		ug/kg	
delta-BHC	1 <sup>a</sup>	3.59	3.59	12.9		ug/kg	3.8
delta-BHC	2	4.56	4.56	13.4		ug/kg	
gamma-BHC (Lindane)	1 <sup>a</sup>	3.33	3.33	12.7		ug/kg	3.1
gamma-BHC (Lindane)	2	4.08	4.08	13.1		ug/kg	
alpha-Chlordane	1	5.23	5.23	14.6		ug/kg	6.4
alpha-Chlordane	2 <sup>a</sup>	6.45	6.45	13.7		ug/kg	
gamma-Chlordane	1 <sup>a</sup>	5.06	5.06	13.0		ug/kg	0.8
gamma-Chlordane	2	6.23	6.22	13.1		ug/kg	
Dieldrin	1 <sup>a</sup>	5.74	5.74	13.5		ug/kg	2.9
Dieldrin	2	6.99	6.99	13.9		ug/kg	
4,4'-DDD	1 <sup>a</sup>	6.19	6.20	12.9		ug/kg	6.7
4,4'-DDD	2	7.67	7.67	13.8		ug/kg	
4,4'-DDE	1 <sup>a</sup>	5.35	5.35	13.0		ug/kg	3.8
4,4'-DDE	2	6.72	6.72	13.5		ug/kg	
4,4'-DDT	1 <sup>a</sup>	6.62	6.62	13.8		ug/kg	3.6
4,4'-DDT	2	8.20	8.21	14.3		ug/kg	
Endrin	1 <sup>a</sup>	6.07	6.07	14.1		ug/kg	2.1
Endrin	2	7.49	7.49	14.4		ug/kg	
Endosulfan sulfate	1 <sup>a</sup>	7.72	7.71	13.9		ug/kg	2.8
Endosulfan sulfate	2	8.89	8.89	14.3		ug/kg	
Endrin aldehyde	1	7.03	7.03	13.2		ug/kg	0.8
Endrin aldehyde	2 <sup>a</sup>	8.42	8.42	13.1		ug/kg	
Endosulfan-I	1 <sup>a</sup>	5.42	5.41	13.4		ug/kg	1.5
Endosulfan-I	2	6.55	6.55	13.6		ug/kg	
Endosulfan-II	1 <sup>a</sup>	6.39	6.39	12.4		ug/kg	4.0
Endosulfan-II	2	7.84	7.84	12.9		ug/kg	
Heptachlor	1	3.83	3.83	13.4		ug/kg	3.0
Heptachlor	2 <sup>a</sup>	4.66	4.66	13.0		ug/kg	
Heptachlor epoxide	1 <sup>a</sup>	4.90	4.90	12.4		ug/kg	8.5
Heptachlor epoxide	2	5.94	5.94	13.5		ug/kg	
Methoxychlor	1 <sup>a</sup>	7.41	7.41	14.0		ug/kg	2.8
Methoxychlor	2	9.45	9.45	14.4		ug/kg	
Endrin ketone	1 <sup>a</sup>	8.16	8.16	13.9		ug/kg	4.2
Endrin ketone	2	9.85	9.85	14.5		ug/kg	

(a) QC results reported from this column.

10.7.2 10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	G6G1984-CC1951	Injection Date:	04/18/19
Lab File ID:	6G64303.D	Injection Time:	09:59
Instrument ID:	GC6G	Method:	SW846 8081B

Sample ID:	OP19789-MS	Injection Date:	04/18/19
Lab File ID:	6G64309.D	Injection Time:	11:59
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 <sup>a</sup>	4.18	4.17	14.0		ug/kg	3.6
Aldrin	2	5.11	5.11	13.5		ug/kg	
alpha-BHC	1 <sup>a</sup>	3.03	3.03	12.1		ug/kg	6.4
alpha-BHC	2	3.65	3.65	12.9		ug/kg	
beta-BHC	1 <sup>a</sup>	3.41	3.40	11.1		ug/kg	16.5
beta-BHC	2	4.17	4.16	13.1		ug/kg	
delta-BHC	1 <sup>a</sup>	3.60	3.59	12.7		ug/kg	0.8
delta-BHC	2	4.56	4.56	12.6		ug/kg	
gamma-BHC (Lindane)	1 <sup>a</sup>	3.33	3.33	12.0		ug/kg	5.7
gamma-BHC (Lindane)	2	4.08	4.08	12.7		ug/kg	
alpha-Chlordane	1 <sup>a</sup>	5.24	5.23	14.8		ug/kg	8.5
alpha-Chlordane	2	6.45	6.45	13.6		ug/kg	
gamma-Chlordane	1 <sup>a</sup>	5.06	5.06	13.0		ug/kg	4.5
gamma-Chlordane	2	6.23	6.22	13.6		ug/kg	
Dieldrin	1 <sup>a</sup>	5.74	5.74	13.4		ug/kg	5.1
Dieldrin	2	6.99	6.99	14.1		ug/kg	
4,4'-DDD	1 <sup>a</sup>	6.19	6.20	12.9		ug/kg	8.9
4,4'-DDD	2	7.67	7.67	14.1		ug/kg	
4,4'-DDE	1 <sup>a</sup>	5.35	5.35	12.8		ug/kg	6.1
4,4'-DDE	2	6.72	6.72	13.6		ug/kg	
4,4'-DDT	1 <sup>a</sup>	6.62	6.62	13.8		ug/kg	5.6
4,4'-DDT	2	8.21	8.21	14.6		ug/kg	
Endrin	1 <sup>a</sup>	6.07	6.07	14.5		ug/kg	0.7
Endrin	2	7.49	7.49	14.6		ug/kg	
Endosulfan sulfate	1 <sup>a</sup>	7.72	7.71	12.9		ug/kg	16.4
Endosulfan sulfate	2	8.89	8.89	15.2		ug/kg	
Endrin aldehyde	1 <sup>a</sup>	7.03	7.03	14.3		ug/kg	15.8
Endrin aldehyde	2	8.42	8.42	12.2		ug/kg	
Endosulfan-I	1 <sup>a</sup>	5.42	5.41	13.1		ug/kg	3.7
Endosulfan-I	2	6.55	6.55	13.6		ug/kg	
Endosulfan-II	1 <sup>a</sup>	6.40	6.39	12.1		ug/kg	7.2
Endosulfan-II	2	7.84	7.84	13.0		ug/kg	
Heptachlor	1 <sup>a</sup>	3.84	3.83	13.8		ug/kg	5.2
Heptachlor	2	4.66	4.66	13.1		ug/kg	
Heptachlor epoxide	1 <sup>a</sup>	4.90	4.90	12.0		ug/kg	12.5
Heptachlor epoxide	2	5.94	5.94	13.6		ug/kg	
Methoxychlor	1 <sup>a</sup>	7.41	7.41	14.0		ug/kg	1.4
Methoxychlor	2	9.45	9.45	13.8		ug/kg	
Endrin ketone	1 <sup>a</sup>	8.16	8.16	14.7		ug/kg	0.0
Endrin ketone	2	9.85	9.85	14.7		ug/kg	

(a) QC results reported from this column.

10.7.3  
10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	G6G1984-CC1951	Injection Date:	04/18/19
Lab File ID:	6G64303.D	Injection Time:	09:59
Instrument ID:	GC6G	Method:	SW846 8081B

Sample ID:	OP19789-MSD	Injection Date:	04/18/19
Lab File ID:	6G64310.D	Injection Time:	12:17
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 <sup>a</sup>	4.18	4.17	14.7		ug/kg	0.0
Aldrin	2	5.11	5.11	14.7		ug/kg	
alpha-BHC	1 <sup>a</sup>	3.04	3.03	20.2		ug/kg	27.6
alpha-BHC	2	3.65	3.65	15.3		ug/kg	
beta-BHC	1 <sup>a</sup>	3.41	3.40	20.6		ug/kg	36.1
beta-BHC	2	4.16	4.16	14.3		ug/kg	
delta-BHC	1 <sup>a</sup>	3.60	3.59	15.1		ug/kg	0.0
delta-BHC	2	4.56	4.56	15.1		ug/kg	
gamma-BHC (Lindane)	1 <sup>a</sup>	3.33	3.33	14.9		ug/kg	0.7
gamma-BHC (Lindane)	2	4.08	4.08	14.8		ug/kg	
alpha-Chlordane	1 <sup>a</sup>	5.24	5.23	14.4		ug/kg	0.7
alpha-Chlordane	2	6.45	6.45	14.3		ug/kg	
gamma-Chlordane	1 <sup>a</sup>	5.06	5.06	13.6		ug/kg	14.3
gamma-Chlordane	2	6.22	6.22	15.7		ug/kg	
Dieldrin	1 <sup>a</sup>	5.74	5.74	13.9		ug/kg	10.2
Dieldrin	2	6.99	6.99	15.4		ug/kg	
4,4'-DDD	1 <sup>a</sup>	6.19	6.20	16.5		ug/kg	2.4
4,4'-DDD	2	7.67	7.67	16.9		ug/kg	
4,4'-DDE	1 <sup>a</sup>	5.35	5.35	15.5		ug/kg	6.9
4,4'-DDE	2	6.72	6.72	16.6		ug/kg	
4,4'-DDT	1 <sup>a</sup>	6.62	6.62	14.7		ug/kg	12.1
4,4'-DDT	2	8.20	8.21	16.6		ug/kg	
Endrin	1 <sup>a</sup>	6.07	6.07	16.0		ug/kg	1.3
Endrin	2	7.49	7.49	15.8		ug/kg	
Endosulfan sulfate	1 <sup>a</sup>	7.72	7.71	11.5		ug/kg	28.4
Endosulfan sulfate	2	8.88	8.89	15.3		ug/kg	
Endrin aldehyde	1 <sup>a</sup>	7.03	7.03	16.6		ug/kg	19.9
Endrin aldehyde	2	8.41	8.42	13.6		ug/kg	
Endosulfan-I	1 <sup>a</sup>	5.42	5.41	13.3		ug/kg	7.2
Endosulfan-I	2	6.55	6.55	14.3		ug/kg	
Endosulfan-II	1 <sup>a</sup>	6.40	6.39	13.2		ug/kg	9.4
Endosulfan-II	2	7.84	7.84	14.5		ug/kg	
Heptachlor	1 <sup>a</sup>	3.84	3.83	19.8		ug/kg	33.6
Heptachlor	2	4.66	4.66	14.1		ug/kg	
Heptachlor epoxide	1 <sup>a</sup>	4.90	4.90	12.6		ug/kg	7.6
Heptachlor epoxide	2	5.94	5.94	13.6		ug/kg	
Methoxychlor	1 <sup>a</sup>	7.41	7.41	16.4		ug/kg	6.3
Methoxychlor	2	9.45	9.45	15.4		ug/kg	
Endrin ketone	1 <sup>a</sup>	8.16	8.16	16.1		ug/kg	6.4
Endrin ketone	2	9.85	9.85	15.1		ug/kg	

(a) QC results reported from this column.

10.7.4 10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GXX6659-CC6621	Injection Date:	04/18/19
Lab File ID:	XX2433916.D	Injection Time:	11:07
Instrument ID:	GCXX	Method:	SW846 8082A

Sample ID:	JC86337-1	Injection Date:	04/18/19
Lab File ID:	XX2433923.D	Injection Time:	13:15
Client ID:	PCTP-66R-HC (0-2)		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1260	1			448		ug/kg	19.3
Aroclor 1260	2 <sup>a</sup>			369		ug/kg	
AR1260-A	1	7.84	7.84	347		ug/kg	
AR1260-A	2	9.49	9.49	315		ug/kg	
AR1260-B	1	8.01	8.00	337		ug/kg	
AR1260-B	2	9.61	9.61	393		ug/kg	
AR1260-D	1	8.79	8.78	350		ug/kg	
AR1260-D	2	10.39	10.40	328		ug/kg	
AR1260-E	1	9.23	9.18	758		ug/kg	
AR1260-E	2	10.95	10.95	440		ug/kg	

(a) Final result reported from this column.

10.7.5  
10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std: GEF6426-CC6419	Injection Date: 04/19/19
Lab File ID: EF189203.D	Injection Time: 15:42
Instrument ID: GCEF	Method: SW846 8082A

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Sample ID: JC86337-7	Injection Date: 04/19/19
Lab File ID: EF189209.D	Injection Time: 18:13
Client ID: S-138 (0.0-0.5)	

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1254	1 <sup>a</sup>			159		ug/kg	25.3
Aroclor 1254	2			205		ug/kg	
AR1254-B	1	7.95	7.96 <sup>b</sup>	93.3		ug/kg	
AR1254-B	2	9.56	9.57 <sup>b</sup>	179		ug/kg	
AR1254-C	1	8.57	8.53 <sup>b</sup>	228		ug/kg	
AR1254-C	2	10.38	10.36 <sup>b</sup>	221		ug/kg	
AR1254-D	1	8.78	8.79 <sup>b</sup>	134		ug/kg	
AR1254-D	2	10.62	10.62 <sup>b</sup>	311		ug/kg	
AR1254-E	1	9.37	9.40 <sup>b</sup>	124		ug/kg	
AR1254-E	2	11.11	11.13 <sup>b</sup>	121		ug/kg	
AR1254-F	1	9.78	9.79 <sup>b</sup>	153		ug/kg	
AR1254-F	2	11.88	11.88 <sup>b</sup>	183		ug/kg	
Ar1254-G	1	10.38	10.39 <sup>b</sup>	223		ug/kg	
Ar1254-G	2	12.34	12.35 <sup>b</sup>	212		ug/kg	

(a) Final result reported from this column.  
 (b) StdRT taken from init cal: GEF6419-IC6419 EF188943.D 04/09/19 19:36

10.7.6  
10



# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GEF6426-CC6419	Injection Date:	04/19/19
Lab File ID:	EF189203.D	Injection Time:	15:42
Instrument ID:	GCEF	Method:	SW846 8082A

Sample ID:	JC86337-8	Injection Date:	04/19/19
Lab File ID:	EF189210.D	Injection Time:	18:38
Client ID:	S-138 (0.5-2.0)		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1254	1 <sup>a</sup>			426		ug/kg	35.4
Aroclor 1254	2			609		ug/kg	
AR1254-C	1	8.53	8.53 <sup>b</sup>	328		ug/kg	
AR1254-C	2	10.36	10.36 <sup>b</sup>	813		ug/kg	
AR1254-D	1	8.78	8.79 <sup>b</sup>	401		ug/kg	
AR1254-D	2	10.62	10.62 <sup>b</sup>	615		ug/kg	
AR1254-E	1	9.38	9.40 <sup>b</sup>	386		ug/kg	
AR1254-E	2	11.12	11.13 <sup>b</sup>	451		ug/kg	
AR1254-F	1	9.78	9.79 <sup>b</sup>	451		ug/kg	
AR1254-F	2	11.91	11.88 <sup>b</sup>	579		ug/kg	
Ar1254-G	1	10.38	10.39 <sup>b</sup>	566		ug/kg	
Ar1254-G	2	12.34	12.35 <sup>b</sup>	589		ug/kg	

(a) Final result reported from this column.

(b) StdRT taken from init cal: GEF6419-IC6419 EF188943.D 04/09/19 19:36

10.7.7  
10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GXX6658-CC6621	Injection Date:	04/17/19
Lab File ID:	XX2433849.D	Injection Time:	13:25
Instrument ID:	GCXX	Method:	SW846 8082A

Sample ID:	OP19788-BS1	Injection Date:	04/17/19
Lab File ID:	XX2433852.D	Injection Time:	14:20
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 <sup>a</sup>			124		ug/kg	3.2
Aroclor 1016	2			128		ug/kg	
AR1016-A	1	3.68	3.67	132		ug/kg	
AR1016-A	2	4.74	4.73	151		ug/kg	
AR1016-B	1	4.11	4.10	129		ug/kg	
AR1016-B	2	5.31	5.31	121		ug/kg	
AR1016-C	1	4.70	4.69	118		ug/kg	
AR1016-C	2	5.97	5.97	120		ug/kg	
AR1016-D	1	4.87	4.86	122		ug/kg	
AR1016-D	2	6.17	6.17	122		ug/kg	
AR1016-E	1	5.41	5.40	121		ug/kg	
AR1016-E	2	6.84	6.84	125		ug/kg	
Aroclor 1260	1 <sup>a</sup>			117		ug/kg	5.0
Aroclor 1260	2			123		ug/kg	
AR1260-A	1	7.85	7.84	97.3		ug/kg	
AR1260-A	2	9.49	9.49	103		ug/kg	
AR1260-B	1	8.01	8.00	127		ug/kg	
AR1260-B	2	9.61	9.61	133		ug/kg	
AR1260-C	1	8.35	8.35	120		ug/kg	
AR1260-C	2	10.05	10.05	129		ug/kg	
AR1260-D	1	8.79	8.78	115		ug/kg	
AR1260-D	2	10.40	10.39	129		ug/kg	
AR1260-E	1	9.19	9.18	126		ug/kg	
AR1260-E	2	10.95	10.95	122		ug/kg	

(a) QC results reported from this column.

10.7.8  
10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std: G5G2111-CC2101	Injection Date: 04/19/19
Lab File ID: 5G87735.D	Injection Time: 09:57
Instrument ID: GC5G	Method: SW846 8082A

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Sample ID: OP19829-BS1	Injection Date: 04/19/19
Lab File ID: 5G87738.D	Injection Time: 11:46
Client ID: Blank Spike	

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1			119		ug/kg	0.8
Aroclor 1016	2 <sup>a</sup>			120		ug/kg	
AR1016-B	1	5.05	5.05	118		ug/kg	
AR1016-B	2	6.62	6.61	123		ug/kg	
AR1016-C	1	6.13	6.13	118		ug/kg	
AR1016-C	2	7.89	7.87	122		ug/kg	
AR1016-D	1	6.44	6.44	118		ug/kg	
AR1016-D	2	8.27	8.25	117		ug/kg	
AR1016-E	1	7.47	7.48	124		ug/kg	
AR1016-E	2	9.65	9.64	117		ug/kg	
Aroclor 1260	1			118		ug/kg	0.0
Aroclor 1260	2 <sup>a</sup>			118		ug/kg	
AR1260-A	1	12.65	12.65	117		ug/kg	
AR1260-A	2	15.46	15.46	117		ug/kg	
AR1260-B	1	13.02	13.03	124		ug/kg	
AR1260-B	2	15.76	15.75	121		ug/kg	
AR1260-C	1	13.77	13.78	119		ug/kg	
AR1260-C	2	16.72	16.72	124		ug/kg	
AR1260-D	1	14.78	14.78	111		ug/kg	
AR1260-D	2	17.56	17.56	117		ug/kg	
AR1260-E	1	15.66	15.66	117		ug/kg	
AR1260-E	2	18.77	18.78	111		ug/kg	

(a) QC results reported from this column.

10.7.9  
10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	G5G2111-CC2101	Injection Date:	04/19/19
Lab File ID:	5G87735.D	Injection Time:	09:57
Instrument ID:	GC5G	Method:	SW846 8082A

Sample ID:	OP19829-BSD	Injection Date:	04/19/19
Lab File ID:	5G87739.D	Injection Time:	12:18
Client ID:	Blank Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1			110		ug/kg	0.9
Aroclor 1016	2 <sup>a</sup>			111		ug/kg	
AR1016-B	1	5.04	5.05	113		ug/kg	
AR1016-B	2	6.61	6.61	117		ug/kg	
AR1016-C	1	6.12	6.13	105		ug/kg	
AR1016-C	2	7.88	7.87	105		ug/kg	
AR1016-D	1	6.43	6.44	110		ug/kg	
AR1016-D	2	8.26	8.25	105		ug/kg	
AR1016-E	1	7.47	7.48	111		ug/kg	
AR1016-E	2	9.65	9.64	119		ug/kg	
Aroclor 1260	1			110		ug/kg	1.8
Aroclor 1260	2 <sup>a</sup>			112		ug/kg	
AR1260-A	1	12.64	12.65	110		ug/kg	
AR1260-A	2	15.46	15.46	111		ug/kg	
AR1260-B	1	13.02	13.03	115		ug/kg	
AR1260-B	2	15.76	15.75	118		ug/kg	
AR1260-C	1	13.77	13.78	110		ug/kg	
AR1260-C	2	16.72	16.72	117		ug/kg	
AR1260-D	1	14.78	14.78	103		ug/kg	
AR1260-D	2	17.56	17.56	109		ug/kg	
AR1260-E	1	15.65	15.66	111		ug/kg	
AR1260-E	2	18.78	18.78	106		ug/kg	

(a) QC results reported from this column.

10.7.10 10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GXX6658-CC6621	Injection Date:	04/17/19
Lab File ID:	XX2433849.D	Injection Time:	13:25
Instrument ID:	GCXX	Method:	SW846 8082A

Sample ID:	OP19788-MS	Injection Date:	04/17/19
Lab File ID:	XX2433854.D	Injection Time:	14:57
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 <sup>a</sup>			119		ug/kg	6.5
Aroclor 1016	2			127		ug/kg	
AR1016-A	1	3.68	3.67	129		ug/kg	
AR1016-A	2	4.73	4.73	146		ug/kg	
AR1016-B	1	4.11	4.10	120		ug/kg	
AR1016-B	2	5.31	5.31	123		ug/kg	
AR1016-C	1	4.70	4.69	104		ug/kg	
AR1016-C	2	5.97	5.97	116		ug/kg	
AR1016-D	1	4.87	4.86	116		ug/kg	
AR1016-D	2	6.17	6.17	113		ug/kg	
AR1016-E	1	5.41	5.40	125		ug/kg	
AR1016-E	2	6.84	6.84	134		ug/kg	
Aroclor 1260	1 <sup>a</sup>			121		ug/kg	23.4
Aroclor 1260	2			153		ug/kg	
AR1260-B	1	8.01	8.00	123		ug/kg	
AR1260-B	2	9.61	9.61	208		ug/kg	
AR1260-C	1	8.35	8.35	111		ug/kg	
AR1260-C	2	10.05	10.05	135		ug/kg	
AR1260-D	1	8.79	8.78	109		ug/kg	
AR1260-D	2	10.40	10.39	128		ug/kg	
AR1260-E	1	9.19	9.18	139		ug/kg	
AR1260-E	2	10.96	10.95	140		ug/kg	

(a) QC results reported from this column.

10.7.11  
10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	G5G2111-CC2101	Injection Date:	04/19/19
Lab File ID:	5G87735.D	Injection Time:	09:57
Instrument ID:	GC5G	Method:	SW846 8082A

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Sample ID:	OP19829-MS	Injection Date:	04/19/19
Lab File ID:	5G87742.D	Injection Time:	13:56
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 <sup>a</sup>			149		ug/kg	13.8
Aroclor 1016	2			171		ug/kg	
AR1016-B	1	5.05	5.05	157		ug/kg	
AR1016-B	2	6.62	6.61	170		ug/kg	
AR1016-C	1	6.11	6.13	143		ug/kg	
AR1016-C	2	7.88	7.87	155		ug/kg	
AR1016-D	1	6.43	6.44	129		ug/kg	
AR1016-D	2	8.26	8.25	181		ug/kg	
AR1016-E	1	7.47	7.48	166		ug/kg	
AR1016-E	2	9.65	9.64	176		ug/kg	
Aroclor 1254	1			151		ug/kg	14.2
Aroclor 1254	2 <sup>a</sup>			131		ug/kg	
AR1254-A	1	8.50	8.49 <sup>b</sup>	183		ug/kg	
AR1254-A	2	10.94	10.94 <sup>b</sup>	122		ug/kg	
AR1254-D	1	10.38	10.38 <sup>b</sup>	42.0		ug/kg	
AR1254-D	2	12.99	12.99 <sup>b</sup>	69.6		ug/kg	
AR1254-E	1	11.22	11.22 <sup>b</sup>	47.0		ug/kg	
AR1254-E	2	13.71	13.72 <sup>b</sup>	72.1		ug/kg	
AR1254-F	1	11.79	11.79 <sup>b</sup>	333		ug/kg	
AR1254-F	2	14.82	14.85 <sup>b</sup>	259		ug/kg	
Aroclor 1260	1 <sup>a</sup>			268		ug/kg	13.5
Aroclor 1260	2			234		ug/kg	
AR1260-B	1	13.01	13.03	215		ug/kg	
AR1260-B	2	15.75	15.75	237		ug/kg	
AR1260-C	1	13.77	13.78	430		ug/kg	
AR1260-C	2	16.72	16.72	225		ug/kg	
AR1260-D	1	14.76	14.78	186		ug/kg	
AR1260-D	2	17.55	17.56	235		ug/kg	
AR1260-E	1	15.64	15.66	243		ug/kg	
AR1260-E	2	18.76	18.78	239		ug/kg	

(a) QC results reported from this column.

(b) StdRT taken from init cal: G5G2101-IC2101 5G87362.D 04/08/19 18:41

10.7.12 10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std: GXX6658-CC6621	Injection Date: 04/17/19
Lab File ID: XX2433849.D	Injection Time: 13:25
Instrument ID: GCXX	Method: SW846 8082A

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Sample ID: OP19788-MSD	Injection Date: 04/17/19
Lab File ID: XX2433855.D	Injection Time: 15:15
Client ID: Matrix Spike Duplicate	

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 <sup>a</sup>			135		ug/kg	2.9
Aroclor 1016	2			139		ug/kg	
AR1016-A	1	3.68	3.67	144		ug/kg	
AR1016-A	2	4.73	4.73	159		ug/kg	
AR1016-B	1	4.11	4.10	136		ug/kg	
AR1016-B	2	5.31	5.31	133		ug/kg	
AR1016-C	1	4.70	4.69	123		ug/kg	
AR1016-C	2	5.97	5.97	131		ug/kg	
AR1016-D	1	4.87	4.86	133		ug/kg	
AR1016-D	2	6.17	6.17	130		ug/kg	
AR1016-E	1	5.41	5.40	141		ug/kg	
AR1016-E	2	6.84	6.84	145		ug/kg	
Aroclor 1260	1 <sup>a</sup>			135		ug/kg	15.1
Aroclor 1260	2			157		ug/kg	
AR1260-B	1	8.01	8.00	137		ug/kg	
AR1260-B	2	9.61	9.61	192		ug/kg	
AR1260-C	1	8.35	8.35	126		ug/kg	
AR1260-C	2	10.05	10.05	169		ug/kg	
AR1260-D	1	8.79	8.78	121		ug/kg	
AR1260-D	2	10.40	10.39	146		ug/kg	
AR1260-E	1	9.19	9.18	157		ug/kg	
AR1260-E	2	10.95	10.95	123		ug/kg	

(a) QC results reported from this column.

10.7.13  
10

# GC Identification Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	G5G2111-CC2101	Injection Date:	04/19/19
Lab File ID:	5G87735.D	Injection Time:	09:57
Instrument ID:	GC5G	Method:	SW846 8082A

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Sample ID:	OP19829-MSD	Injection Date:	04/19/19
Lab File ID:	5G87743.D	Injection Time:	14:29
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 <sup>a</sup>			147		ug/kg	10.9
Aroclor 1016	2			164		ug/kg	
AR1016-B	1	5.05	5.05	140		ug/kg	
AR1016-B	2	6.62	6.61	172		ug/kg	
AR1016-C	1	6.11	6.13	141		ug/kg	
AR1016-C	2	7.88	7.87	146		ug/kg	
AR1016-D	1	6.43	6.44	131		ug/kg	
AR1016-D	2	8.26	8.25	168		ug/kg	
AR1016-E	1	7.47	7.48	176		ug/kg	
AR1016-E	2	9.65	9.64	171		ug/kg	
Aroclor 1254	1			198		ug/kg	7.3
Aroclor 1254	2 <sup>a</sup>			184		ug/kg	
AR1254-A	1	8.50	8.49 <sup>b</sup>	235		ug/kg	
AR1254-A	2	10.94	10.94 <sup>b</sup>	168		ug/kg	
AR1254-D	1	10.38	10.38 <sup>b</sup>	108		ug/kg	
AR1254-D	2	12.99	12.99 <sup>b</sup>	140		ug/kg	
AR1254-E	1	11.22	11.22 <sup>b</sup>	116		ug/kg	
AR1254-E	2	13.71	13.72 <sup>b</sup>	143		ug/kg	
AR1254-F	1	11.79	11.79 <sup>b</sup>	333		ug/kg	
AR1254-F	2	14.83	14.85 <sup>b</sup>	283		ug/kg	
Aroclor 1260	1 <sup>a</sup>			207		ug/kg	12.3
Aroclor 1260	2			183		ug/kg	
AR1260-B	1	13.01	13.03	168		ug/kg	
AR1260-B	2	15.75	15.75	185		ug/kg	
AR1260-C	1	13.77	13.78	351		ug/kg	
AR1260-C	2	16.72	16.72	174		ug/kg	
AR1260-D	1	14.77	14.78	138		ug/kg	
AR1260-D	2	17.55	17.56	185		ug/kg	
AR1260-E	1	15.64	15.66	172		ug/kg	
AR1260-E	2	18.77	18.78	189		ug/kg	

(a) QC results reported from this column.

(b) StdRT taken from init cal: G5G2101-IC2101 5G87362.D 04/08/19 18:41

10.7.14 10



# Surrogate Recovery Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Method: SW846 8081B	Matrix: SO
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>	S2 <sup>a</sup>	S2 <sup>b</sup>
JC86337-1	6G64317.D	49	39	33	173* <sup>c</sup>
JC86337-2	6G64318.D	51	37	36	293* <sup>c</sup>
OP19789-BS1	6G64306.D	0* <sup>d</sup>	0* <sup>d</sup>	0* <sup>d</sup>	0* <sup>d</sup>
OP19789-MB1	6G64305.D	71	72	78	135
OP19789-MS	6G64309.D	53	52	53	144
OP19789-MSD	6G64310.D	61	57	94	259* <sup>c</sup>

Surrogate Compounds                      Recovery Limits

S1 = Tetrachloro-m-xylene                      25-135%  
 S2 = Decachlorobiphenyl                      10-156%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to matrix interference.
- (d) Surrogate not spiked.

10.8.1  
10

# Surrogate Recovery Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Method: SW846 8082A	Matrix: SO
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>	S2 <sup>a</sup>	S2 <sup>b</sup>
JC86337-1	XX2433923.D	51	60	103	254* <sup>c</sup>
JC86337-2	XX2433924.D	49	79	467* <sup>c</sup>	384* <sup>c</sup>
JC86337-7	EF189209.D	75	69	83	165* <sup>c</sup>
JC86337-8	EF189210.D	93	87	124	250* <sup>c</sup>
OP19788-BS1	XX2433852.D	80	82	98	130
OP19788-MB1	XX2433851.D	71	73	91	123
OP19788-MS	XX2433854.D	65	65	76	93
OP19788-MSD	XX2433855.D	74	77	85	95
OP19829-BS1	5G87738.D	80	85	83	84
OP19829-BSD	5G87739.D	79	84	80	81
OP19829-MB1	5G87737.D	81	85	82	82
OP19829-MB1	EF189195.D	86	97	107	107
OP19829-MS	5G87742.D	82	87	82	71
OP19829-MSD	5G87743.D	70	74	76	62

**Surrogate Compounds**                      **Recovery Limits**

S1 = Tetrachloro-m-xylene	31-146%
S2 = Decachlorobiphenyl	17-164%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to matrix interference.

10.8.2 10

# GC Surrogate Retention Time Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std: G6G1984-CC1951	Injection Date: 04/18/19
Lab File ID: 6G64303.D	Injection Time: 09:59
Instrument ID: GC6G	Method: SW846 8081B

	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
Check Std	2.55	2.98	9.98	11.96

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
OP19789-MB1	6G64305.D	04/18/19	10:47	2.56	2.98	9.98	11.97
OP19789-BS1	6G64306.D	04/18/19	11:05	0.00	0.00	0.00	0.00
ZZZZZZ	6G64307.D	04/18/19	11:23	2.56	2.98	9.98	11.96
JC86300-2	6G64308.D	04/18/19	11:40	2.55	2.98	9.97	11.97
OP19789-MS	6G64309.D	04/18/19	11:59	2.56	2.98	9.97	11.97
OP19789-MSD	6G64310.D	04/18/19	12:17	2.56	2.99	9.97	11.97
ZZZZZZ	6G64311.D	04/18/19	12:35	2.55	2.99	9.97	11.96
ZZZZZZ	6G64312.D	04/18/19	12:52	2.56	2.99	9.97	11.97
ZZZZZZ	6G64313.D	04/18/19	13:11	2.56	2.99	9.97	11.96
ZZZZZZ	6G64314.D	04/18/19	13:28	2.56	2.99	9.97	11.96
ZZZZZZ	6G64315.D	04/18/19	13:47	2.56	2.99	9.97	11.96
ZZZZZZ	6G64316.D	04/18/19	14:05	2.56	2.99	9.98	11.96
JC86337-1	6G64317.D	04/18/19	14:23	2.56	2.99	9.98	11.95
JC86337-2	6G64318.D	04/18/19	14:41	2.56	2.99	9.98	11.95

## Surrogate Compounds

S1 = Tetrachloro-m-xylene  
 S2 = Decachlorobiphenyl

- (a) Retention time from GC signal #1
- (b) Retention time from GC signal #2

10.9.1 10

# GC Surrogate Retention Time Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GXX6658-CC6621	Injection Date:	04/17/19
Lab File ID:	XX2433849.D	Injection Time:	13:25
Instrument ID:	GCXX	Method:	SW846 8082A

	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
Check Std	3.27	4.04	10.75	12.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
OP19788-MB1	XX2433851.D	04/17/19	14:02	3.27	4.04	10.75	12.64
OP19788-BS1	XX2433852.D	04/17/19	14:20	3.27	4.04	10.75	12.65
JC86334-1	XX2433853.D	04/17/19	14:38	3.27	4.04	10.75	12.65
OP19788-MS	XX2433854.D	04/17/19	14:57	3.27	4.04	10.75	12.65
OP19788-MSD	XX2433855.D	04/17/19	15:15	3.27	4.04	10.75	12.64
ZZZZZZ	XX2433856.D	04/17/19	15:33	3.27	4.04	10.75	12.65
ZZZZZZ	XX2433857.D	04/17/19	15:51	3.27	4.04	10.75	12.65

Surrogate  
Compounds

S1 = Tetrachloro-m-xylene  
 S2 = Decachlorobiphenyl

- (a) Retention time from GC signal #1
- (b) Retention time from GC signal #2

10.9.2  
10

# GC Surrogate Retention Time Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	G5G2111-CC2101	Injection Date:	04/19/19
Lab File ID:	5G87735.D	Injection Time:	09:57
Instrument ID:	GC5G	Method:	SW846 8082A

	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
Check Std	3.64	4.38	19.24	22.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
OP19829-MB1	5G87737.D	04/19/19	11:13	3.64	4.38	19.24	22.63
OP19829-BS1	5G87738.D	04/19/19	11:46	3.65	4.40	19.23	22.63
OP19829-BSD	5G87739.D	04/19/19	12:18	3.63	4.39	19.23	22.64
ZZZZZZ	5G87740.D	04/19/19	12:51	3.66	4.42	19.25	22.64
JC86211-2	5G87741.D	04/19/19	13:24	3.63	4.38	19.23	22.63
OP19829-MS	5G87742.D	04/19/19	13:56	3.64	4.39	19.23	22.63
OP19829-MSD	5G87743.D	04/19/19	14:29	3.64	4.40	19.23	22.63

Surrogate  
Compounds

S1 = Tetrachloro-m-xylene  
 S2 = Decachlorobiphenyl

- (a) Retention time from GC signal #1
- (b) Retention time from GC signal #2

10.9.3  
10

# GC Surrogate Retention Time Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GEF6426-CC6419	Injection Date:	04/19/19
Lab File ID:	EF189193.D	Injection Time:	10:07
Instrument ID:	GCEF	Method:	SW846 8082A

S1 <sup>a</sup>	S1 <sup>b</sup>	S2 <sup>a</sup>	S2 <sup>b</sup>
RT	RT	RT	RT

Check Std	3.64	4.27	14.98	17.33
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Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
OP19829-MB1	EF189195.D	04/19/19	10:56	3.63	4.27	14.99	17.34
ZZZZZZ	EF189197.D	04/19/19	11:46	3.64	4.27	14.97	17.33
ZZZZZZ	EF189198.D	04/19/19	12:11	3.63	4.27	15.02	17.32
ZZZZZZ	EF189202.D	04/19/19	13:52	3.64	4.27	14.97	17.33

Surrogate Compounds

S1 = Tetrachloro-m-xylene  
 S2 = Decachlorobiphenyl

- (a) Retention time from GC signal #1
- (b) Retention time from GC signal #2

10.9.4  
10

# GC Surrogate Retention Time Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GEF6426-CC6419	Injection Date:	04/19/19
Lab File ID:	EF189203.D	Injection Time:	15:42
Instrument ID:	GCEF	Method:	SW846 8082A

	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
Check Std	3.62	4.26	14.97	17.33

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
ZZZZZZ	EF189206.D	04/19/19	16:58	3.63	4.27	14.97	17.33
ZZZZZZ	EF189207.D	04/19/19	17:23	3.63	4.26	14.97	17.33
ZZZZZZ	EF189208.D	04/19/19	17:48	3.63	4.26	14.97	17.33
JC86337-7	EF189209.D	04/19/19	18:13	3.63	4.26	14.96	17.32
JC86337-8	EF189210.D	04/19/19	18:38	3.64	4.27	14.97	17.32
ZZZZZZ	EF189211.D	04/19/19	19:03	3.65	4.28	14.97	17.33

**Surrogate  
Compounds**

S1 = Tetrachloro-m-xylene  
 S2 = Decachlorobiphenyl

- (a) Retention time from GC signal #1
- (b) Retention time from GC signal #2

10.9.5  
10

# GC Surrogate Retention Time Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Check Std:	GXX6659-CC6621	Injection Date:	04/18/19
Lab File ID:	XX2433916.D	Injection Time:	11:07
Instrument ID:	GCXX	Method:	SW846 8082A

	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
Check Std	3.27	4.05	10.75	12.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 <sup>a</sup> RT	S1 <sup>b</sup> RT	S2 <sup>a</sup> RT	S2 <sup>b</sup> RT
ZZZZZZ	XX2433918.D	04/18/19	11:44	3.27	4.05	10.75	12.65
ZZZZZZ	XX2433919.D	04/18/19	12:02	3.27	4.04	10.75	12.64
ZZZZZZ	XX2433920.D	04/18/19	12:20	3.27	4.04	10.75	12.64
ZZZZZZ	XX2433921.D	04/18/19	12:39	3.27	4.04	10.75	12.64
ZZZZZZ	XX2433922.D	04/18/19	12:57	3.27	4.04	10.75	12.64
JC86337-1	XX2433923.D	04/18/19	13:15	3.27	4.04	10.75	12.67
JC86337-2	XX2433924.D	04/18/19	13:34	3.27	4.04	10.81	12.67

Surrogate  
Compounds

S1 = Tetrachloro-m-xylene  
 S2 = Decachlorobiphenyl

- (a) Retention time from GC signal #1
- (b) Retention time from GC signal #2

10.9.6  
10



**Initial Calibration Summary**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICC2101  
 Lab FileID: 5G87359.D

Response Factor Report GC5G

Method : C:\MSDCHEM\1\METHODS\5PCB2101.M (ChemStation Integrator)  
 Title :  
 Last Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration

Calibration Files

250 =5G87357.d 500 =5G87358.d 1000=5G87359.d 2000=5G87360.d  
 3000=5G87361.d 50 =5G87356.d =

Compound	250	500	1000	2000	3000	50	Avg	%RSD
1)S Tetrachloro-m-xyl	3.233	3.133	3.127	3.038	2.983	3.421	3.156 E7	4.94
2) AR1221-A			2.233				2.233 E5	0.00
3) AR1221-B			3.520				3.520 E5	0.00
4) AR1221-C			9.311				9.311 E5	0.00
5) AR1221-D			1.762				1.762 E5	0.00
6) AR1221-E			1.018				1.018 E5	0.00
7) AR1232-A			7.412				7.412 E5	0.00
8) AR1232-B			3.786				3.786 E5	0.00
9) AR1232-C			1.094				1.094 E6	0.00
10) AR1232-D			4.604				4.604 E5	0.00
11) AR1232-E			4.385				4.385 E5	0.00
12) AR1242-A			8.973				8.973 E5	0.00
13) AR1242-B			1.805				1.805 E6	0.00
14) AR1242-C			7.549				7.549 E5	0.00
15) AR1242-D			7.794				7.794 E5	0.00
16) AR1242-E			6.721				6.721 E5	0.00
17) AR1248-A			4.638				4.638 E5	0.00
18) AR1248-B			1.180				1.180 E6	0.00
19) AR1248-C			1.250				1.250 E6	0.00
20) AR1248-D			1.232				1.232 E6	0.00
21) AR1248-E			7.352				7.352 E5	0.00
22) AR1248-F			1.074				1.074 E6	0.00
23) AR1248-G			9.090				9.090 E5	0.00
24) AR1254-A			9.683				9.683 E5	0.00
25) AR1254-B			1.302				1.302 E6	0.00
26) AR1254-C			1.079				1.079 E6	0.00
27) AR1254-D			1.854				1.854 E6	0.00
28) AR1254-E			1.390				1.390 E6	0.00
29) AR1254-F			1.299				1.299 E6	0.00
30) AR1254-G			1.990				1.990 E6	0.00
31) AR1262-A			1.525				1.525 E6	0.00
32) AR1262-B			2.080				2.080 E6	0.00
33) AR1262-C			1.827				1.827 E6	0.00
34) AR1262-D			4.100				4.100 E6	0.00
35) AR1262-E			5.119				5.119 E6	0.00
36) AR1268-A			5.077				5.077 E6	0.00
37) AR1268-B			5.034				5.034 E6	0.00
38) AR1268-C			4.308				4.308 E6	0.00
39) AR1268-D			1.830				1.830 E6	0.00
40) AR1268-E			1.358				1.358 E7	0.00
41) AR1016-A	5.825	5.901	5.578	5.382	5.231	6.894	5.802 E5	10.21
42) AR1016-B	1.171	1.135	1.099	1.050	1.014	1.369	1.140 E6	11.04
43) AR1016-C	2.417	2.334	2.289	2.239	2.190	2.710	2.363 E6	7.92
44) AR1016-D	1.019	0.983	0.955	0.935	0.905	1.191	0.998 E6	10.23
45) AR1016-E	1.011	0.999	0.972	0.953	0.924	1.199	1.010 E6	9.71
46) AR1260-A	2.445	2.398	2.351	2.302	2.272	2.677	2.407 E6	6.07
47) AR1260-B	1.429	1.402	1.375	1.329	1.316	1.584	1.406 E6	6.92

10.10.1  
10

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICC2101  
 Lab FileID: 5G87359.D

48)	AR1260-C	1.513	1.412	1.398	1.340	1.326	1.899	1.481	E6	14.53
49)	AR1260-D	3.472	3.411	3.439	3.397	3.403	3.751	3.479	E6	3.91
50)	AR1260-E	3.857	3.862	3.810	3.713	3.670	4.087	3.833	E6	3.83
51)S	Decachlorobipheny	3.144	2.990	2.996	2.944	2.903	3.364	3.057	E7	5.60

Signal #2

1)S	Tetrachloro-m-xyl	1.341	1.360	1.366	1.383	1.376	1.424	1.375	E7	2.04
2)	AR1221-A			1.024				1.024	E5	0.00
3)	AR1221-B			1.577				1.577	E5	0.00
4)	AR1221-C			3.980				3.980	E5	0.00
5)	AR1221-D			8.031				8.031	E4	0.00
6)	AR1221-E			4.679				4.679	E4	0.00
7)	AR1232-A			3.132				3.132	E5	0.00
8)	AR1232-B			2.542				2.542	E5	0.00
9)	AR1232-C			5.325				5.325	E5	0.00
10)	AR1232-D			2.097				2.097	E5	0.00
11)	AR1232-E			1.493				1.493	E5	0.00
12)	AR1242-A			3.941				3.941	E5	0.00
13)	AR1242-B			8.741				8.741	E5	0.00
14)	AR1242-C			3.393				3.393	E5	0.00
15)	AR1242-D			2.686				2.686	E5	0.00
16)	AR1242-E			3.355				3.355	E5	0.00
17)	AR1248-A			2.137				2.137	E5	0.00
18)	AR1248-B			5.811				5.811	E5	0.00
19)	AR1248-C			3.260				3.260	E5	0.00
20)	AR1248-D			4.389				4.389	E5	0.00
21)	AR1248-E			4.883				4.883	E5	0.00
22)	AR1248-F			5.918				5.918	E5	0.00
23)	AR1248-G			5.604				5.604	E5	0.00
24)	AR1254-A			5.344				5.344	E5	0.00
25)	AR1254-B			5.804				5.804	E5	0.00
26)	AR1254-C			4.568				4.568	E5	0.00
27)	AR1254-D			8.833				8.833	E5	0.00
28)	AR1254-E			6.426				6.426	E5	0.00
29)	AR1254-F			7.784				7.784	E5	0.00
30)	AR1254-G			9.297				9.297	E5	0.00
31)	AR1262-A			6.545				6.545	E5	0.00
32)	AR1262-B			9.973				9.973	E5	0.00
33)	AR1262-C			8.789				8.789	E5	0.00
34)	AR1262-D			2.010				2.010	E6	0.00
35)	AR1262-E			2.358				2.358	E6	0.00
36)	AR1268-A			2.467				2.467	E6	0.00
37)	AR1268-B			2.455				2.455	E6	0.00
38)	AR1268-C			2.135				2.135	E6	0.00
39)	AR1268-D			8.953				8.953	E5	0.00
40)	AR1268-E			6.815				6.815	E6	0.00
41)	AR1016-A	2.464	2.420	2.382	2.343	2.269	2.873	2.458	E5	8.70
42)	AR1016-B	5.207	5.081	4.982	4.840	4.717	5.781	5.101	E5	7.35
43)	AR1016-C	1.145	1.139	1.131	1.118	1.096	1.257	1.148	E6	4.90
44)	AR1016-D	4.487	4.415	4.334	4.237	4.148	4.891	4.419	E5	5.91
45)	AR1016-E	3.463	3.425	3.362	3.297	3.229	4.040	3.469	E5	8.42
46)	AR1260-A	1.124	1.111	1.114	1.106	1.096	1.174	1.121	E6	2.45
47)	AR1260-B	6.770	6.672	6.649	6.568	6.504	7.305	6.744	E5	4.29
48)	AR1260-C	6.607	6.555	6.536	6.492	6.431	6.964	6.597	E5	2.87
49)	AR1260-D	1.687	1.702	1.724	1.732	1.726	1.718	1.715	E6	1.00
50)	AR1260-E	1.729	1.730	1.737	1.735	1.730	1.824	1.747	E6	2.15
51)S	Decachlorobipheny	1.455	1.457	1.469	1.465	1.455	1.541	1.474	E7	2.27

(#) = Out of Range

10.10.1  
10

# Initial Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICC2101  
Lab FileID: 5G87359.D

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5PCB2101.M

Tue Apr 09 09:48:13 2019

10.10.1

10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
 Lab FileID: 5G87366.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2101\5G87366.d\ECD1A.ch Vial: 13  
 Signal #2 : C:\msdchem\1\DATA\G5G2101\5G87366.d\ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm Operator: summerk  
 Sample : icv2101-1000 Inst : GC5G  
 Misc : op19562,g5g2101,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2101.M (ChemStation Integrator)  
 Title :  
 Last Update : Tue Apr 09 09:30:37 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	31.558	31.033 E6	1.7	99	0.01	3.60-	3.67
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	580.188	562.002 E3	3.1	101	0.01	4.27-	4.34

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
 Lab FileID: 5G87366.D

42	AR1016-B	1.140	1.045	E6	8.3	95	0.01	5.01- 5.08
43	AR1016-C	2.363	2.167	E6	8.3	95	0.01	6.08- 6.14
44	AR1016-D	0.998	0.914	E6	8.4	96	0.01	6.39- 6.45
45	AR1016-E	1.010	0.925	E6	8.4	95	0.00	7.44- 7.49
46	AR1260-A	2.407	2.297	E6	4.6	98	0.00	12.61-12.67
47	AR1260-B	1.406	1.380	E6	1.8	100	0.00	12.99-13.05
48	AR1260-C	1.481	1.396	E6	5.7	100	0.00	13.74-13.80
49	AR1260-D	3.479	3.462	E6	0.5	101	0.00	14.74-14.80
50	AR1260-E	3.833	3.555	E6	7.3	93	0.00	15.62-15.68
51 S	Decachlorobiphenyl	30.569	30.662	E6	-0.3	102	0.00	19.21-19.27

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	13.749	13.510	E6	1.7	99	0.01	4.36- 4.42
2	AR1221-A				-----NA-----			
3	AR1221-B				-----NA-----			
4	AR1221-C				-----NA-----			
5	AR1221-D				-----NA-----			
6	AR1221-E				-----NA-----			
7	AR1232-A				-----NA-----			
8	AR1232-B				-----NA-----			
9	AR1232-C				-----NA-----			
10	AR1232-D				-----NA-----			
11	AR1232-E				-----NA-----			
12	AR1242-A				-----NA-----			
13	AR1242-B				-----NA-----			
14	AR1242-C				-----NA-----			
15	AR1242-D				-----NA-----			
16	AR1242-E				-----NA-----			
17	AR1248-A				-----NA-----			
18	AR1248-B				-----NA-----			
19	AR1248-C				-----NA-----			
20	AR1248-D				-----NA-----			
21	AR1248-E				-----NA-----			
22	AR1248-F				-----NA-----			
23	AR1248-G				-----NA-----			
24	AR1254-A				-----NA-----			
25	AR1254-B				-----NA-----			
26	AR1254-C				-----NA-----			
27	AR1254-D				-----NA-----			
28	AR1254-E				-----NA-----			
29	AR1254-F				-----NA-----			
30	AR1254-G				-----NA-----			
31	AR1262-A				-----NA-----			
32	AR1262-B				-----NA-----			
33	AR1262-C				-----NA-----			
34	AR1262-D				-----NA-----			
35	AR1262-E				-----NA-----			
36	AR1268-A				-----NA-----			
37	AR1268-B				-----NA-----			
38	AR1268-C				-----NA-----			
39	AR1268-D				-----NA-----			
40	AR1268-E				-----NA-----			
41	AR1016-A	245.846	237.897	E3	3.2	100	0.00	5.55- 5.61
42	AR1016-B	510.122	468.567	E3	8.1	94	0.00	6.59- 6.65
43	AR1016-C	1.148	1.057	E6	7.9	93	0.00	7.85- 7.91
44	AR1016-D	441.861	407.024	E3	7.9	94	0.00	8.23- 8.29
45	AR1016-E	346.938	318.184	E3	8.3	95	0.00	9.62- 9.68
46	AR1260-A	1.121	1.088	E6	2.9	98	0.00	15.44-15.50
47	AR1260-B	674.444	664.688	E3	1.4	100	0.00	15.73-15.79

10.10.2 10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
Lab FileID: 5G87366.D

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48	AR1260-C	659.743	663.807	E3	-0.6	102	0.00	16.70-16.76
49	AR1260-D	1.715	1.748	E6	-1.9	101	0.00	17.53-17.59
50	AR1260-E	1.747	1.643	E6	6.0	95	0.00	18.75-18.81
51 S	Decachlorobiphenyl	14.736	15.236	E6	-3.4	104	0.00	22.61-22.67

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(#) = Out of Range  
5G87359.d 5PCB2101.M

SPCC's out = 0 CCC's out = 0  
Tue Apr 09 09:46:08 2019

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
 Lab FileID: 5G87367.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2101\5G87367.d\ECD1A.ch Vial: 14  
 Signal #2 : C:\msdchem\1\DATA\G5G2101\5G87367.d\ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm Operator: summerk  
 Sample : icv2101-1000 Inst : GC5G  
 Misc : op19562,g5g2101,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2101.M (ChemStation Integrator)  
 Title :  
 Last Update : Tue Apr 09 09:30:37 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	31.558	42.598 E6	-35.0	# 136	0.00	3.59	3.66
2	AR1221-A	223.267	229.665 E3	-2.9	103	0.00	2.71	2.91
3	AR1221-B	351.999	323.024 E3	8.2	92	0.00	3.84	4.04
4	AR1221-C	931.084	841.392 E3	9.6	90	0.00	4.19	4.39
5	AR1221-D	176.178	149.232 E3	15.3	85	0.00	4.93	5.13
6	AR1221-E	101.778	83.275 E3	18.2	82	0.00	5.37	5.57
7	AR1232-A							
8	AR1232-B							
9	AR1232-C							
10	AR1232-D							
11	AR1232-E							
12	AR1242-A							
13	AR1242-B							
14	AR1242-C							
15	AR1242-D							
16	AR1242-E							
17	AR1248-A							
18	AR1248-B							
19	AR1248-C							
20	AR1248-D							
21	AR1248-E							
22	AR1248-F							
23	AR1248-G							
24	AR1254-A	968.310	962.726 E3	0.6	99	0.00	8.40	8.60
25	AR1254-B	1.302	1.290 E6	0.9	99	0.00	9.15	9.35
26	AR1254-C	1.079	1.073 E6	0.6	99	0.00	9.92	10.12
27	AR1254-D	1.854	1.835 E6	1.0	99	0.00	10.28	10.48
28	AR1254-E	1.390	1.371 E6	1.4	99	0.00	11.12	11.32
29	AR1254-F	1.299	1.287 E6	0.9	99	0.00	11.69	11.89
30	AR1254-G	1.990	1.963 E6	1.4	99	0.00	12.54	12.74
31	AR1262-A							
32	AR1262-B							
33	AR1262-C							
34	AR1262-D							
35	AR1262-E							
36	AR1268-A							
37	AR1268-B							
38	AR1268-C							
39	AR1268-D							
40	AR1268-E							
41	AR1016-A							

Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101
Lab FileID: 5G87367.D

Table with columns for sample ID, name, and numerical data. Rows 42-50 are NA. Row 51 S: Decachlorobiphenyl, 30.569, 40.833, E6, -33.6#, 136, 0.00, 19.21-19.27

\*\*\*\*\* Signal #2 \*\*\*\*\*

Table with columns for sample ID, name, and numerical data. Rows 1-30 contain data for Tetrachloro-m-xylene and other compounds. Rows 31-47 are NA.

10.10.3
10



# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
Lab FileID: 5G87367.D

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48	AR1260-C									-----NA-----
49	AR1260-D									-----NA-----
50	AR1260-E									-----NA-----
51 S	Decachlorobiphenyl	14.736	20.162	E6	-36.8#	137	0.00		22.61-22.67	

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(#) = Out of Range                      SPCC's out = 0    CCC's out = 0  
5G87359.d    5PCB2101.M                      Tue Apr 09 09:46:10 2019

10.10.3  
10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
 Lab FileID: 5G87368.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2101\5G87368.d\ECD1A.ch Vial: 15  
 Signal #2 : C:\msdchem\1\DATA\G5G2101\5G87368.d\ECD2B.ch  
 Acq On : 8 Apr 2019 9:55 pm Operator: summerk  
 Sample : icv2101-1000 Inst : GC5G  
 Misc : op19562,g5g2101,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2101.M (ChemStation Integrator)  
 Title :  
 Last Update : Tue Apr 09 09:30:37 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	31.558	42.438 E6	-34.5#	136	0.00	3.59-	3.66
2	AR1221-A			-----NA-----				
3	AR1221-B			-----NA-----				
4	AR1221-C			-----NA-----				
5	AR1221-D			-----NA-----				
6	AR1221-E			-----NA-----				
7	AR1232-A	741.224	681.574 E3	8.0	92	0.00	4.20-	4.40
8	AR1232-B	378.648	356.910 E3	5.7	94	0.00	5.37-	5.57
9	AR1232-C	1.094	1.025 E6	6.3	94	0.00	6.00-	6.20
10	AR1232-D	460.413	431.367 E3	6.3	94	0.00	6.31-	6.51
11	AR1232-E	438.527	410.743 E3	6.3	94	0.00	7.36-	7.56
12	AR1242-A			-----NA-----				
13	AR1242-B			-----NA-----				
14	AR1242-C			-----NA-----				
15	AR1242-D			-----NA-----				
16	AR1242-E			-----NA-----				
17	AR1248-A			-----NA-----				
18	AR1248-B			-----NA-----				
19	AR1248-C			-----NA-----				
20	AR1248-D			-----NA-----				
21	AR1248-E			-----NA-----				
22	AR1248-F			-----NA-----				
23	AR1248-G			-----NA-----				
24	AR1254-A			-----NA-----				
25	AR1254-B			-----NA-----				
26	AR1254-C			-----NA-----				
27	AR1254-D			-----NA-----				
28	AR1254-E			-----NA-----				
29	AR1254-F			-----NA-----				
30	AR1254-G			-----NA-----				
31	AR1262-A	1.525	1.517 E6	0.5	99	0.00	11.70-	11.90
32	AR1262-B	2.080	2.075 E6	0.2	100	0.00	12.92-	13.12
33	AR1262-C	1.827	1.814 E6	0.7	99	0.00	13.67-	13.87
34	AR1262-D	4.100	4.058 E6	1.0	99	0.00	14.67-	14.87
35	AR1262-E	5.119	5.060 E6	1.2	99	0.00	15.69-	15.89
36	AR1268-A			-----NA-----				
37	AR1268-B			-----NA-----				
38	AR1268-C			-----NA-----				
39	AR1268-D			-----NA-----				
40	AR1268-E			-----NA-----				
41	AR1016-A			-----NA-----				

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
 Lab FileID: 5G87368.D

42	AR1016-B												
43	AR1016-C												
44	AR1016-D												
45	AR1016-E												
46	AR1260-A												
47	AR1260-B												
48	AR1260-C												
49	AR1260-D												
50	AR1260-E												
51 S	Decachlorobiphenyl	30.569	41.499	E6	-35.8#	138		0.00				19.21-19.27	
***** Signal #2 *****													
1 S	Tetrachloro-m-xylene	13.749	18.704	E6	-36.0#	137		0.00				4.35- 4.41	
2	AR1221-A												
3	AR1221-B												
4	AR1221-C												
5	AR1221-D												
6	AR1221-E												
7	AR1232-A	313.230	291.244	E3	7.0	93		0.00				5.47- 5.67	
8	AR1232-B	254.216	238.446	E3	6.2	94		0.00				6.51- 6.71	
9	AR1232-C	532.466	497.067	E3	6.6	93		0.00				7.78- 7.98	
10	AR1232-D	209.675	195.807	E3	6.6	93		0.00				8.16- 8.36	
11	AR1232-E	149.257	138.928	E3	6.9	93		0.00				9.55- 9.75	
12	AR1242-A												
13	AR1242-B												
14	AR1242-C												
15	AR1242-D												
16	AR1242-E												
17	AR1248-A												
18	AR1248-B												
19	AR1248-C												
20	AR1248-D												
21	AR1248-E												
22	AR1248-F												
23	AR1248-G												
24	AR1254-A												
25	AR1254-B												
26	AR1254-C												
27	AR1254-D												
28	AR1254-E												
29	AR1254-F												
30	AR1254-G												
31	AR1262-A	654.531	663.639	E3	-1.4	101		0.00				14.20-14.40	
32	AR1262-B	997.331	1001.247	E3	-0.4	100		0.00				15.66-15.86	
33	AR1262-C	878.851	874.301	E3	0.5	99		0.00				16.63-16.83	
34	AR1262-D	2.010	1.993	E6	0.8	99		0.00				17.46-17.66	
35	AR1262-E	2.358	2.341	E6	0.7	99		0.00				18.65-18.85	
36	AR1268-A												
37	AR1268-B												
38	AR1268-C												
39	AR1268-D												
40	AR1268-E												
41	AR1016-A												
42	AR1016-B												
43	AR1016-C												
44	AR1016-D												
45	AR1016-E												
46	AR1260-A												
47	AR1260-B												

10.10.4  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
Lab FileID: 5G87368.D

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48	AR1260-C									-----NA-----
49	AR1260-D									-----NA-----
50	AR1260-E									-----NA-----
51 S	Decachlorobiphenyl	14.736	20.302	E6	-37.8#	138	0.00		22.62-22.68	

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(#) = Out of Range                      SPCC's out = 0    CCC's out = 0  
5G87359.d    5PCB2101.M                      Tue Apr 09 09:47:10 2019

10.10.4  
10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
 Lab FileID: 5G87369.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2101\5G87369.d\ECD1A.ch Vial: 16  
 Signal #2 : C:\msdchem\1\DATA\G5G2101\5G87369.d\ECD2B.ch  
 Acq On : 8 Apr 2019 10:27 pm Operator: summerk  
 Sample : icv2101-1000 Inst : GC5G  
 Misc : op19562,g5g2101,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2101.M (ChemStation Integrator)  
 Title :  
 Last Update : Tue Apr 09 09:30:37 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1 S	Tetrachloro-m-xylene	31.558	42.113 E6	-33.4	# 135	0.00	3.58- 3.65
2	AR1221-A						
3	AR1221-B						
4	AR1221-C						
5	AR1221-D						
6	AR1221-E						
7	AR1232-A						
8	AR1232-B						
9	AR1232-C						
10	AR1232-D						
11	AR1232-E						
12	AR1242-A	897.342	907.360 E3	-1.1	101	0.00	4.93- 5.13
13	AR1242-B	1.805	1.874 E6	-3.8	104	0.00	6.00- 6.20
14	AR1242-C	754.941	785.931 E3	-4.1	104	0.00	6.31- 6.51
15	AR1242-D	779.443	798.492 E3	-2.4	102	0.00	7.36- 7.56
16	AR1242-E	672.055	685.134 E3	-1.9	102	0.00	8.59- 8.79
17	AR1248-A						
18	AR1248-B						
19	AR1248-C						
20	AR1248-D						
21	AR1248-E						
22	AR1248-F						
23	AR1248-G						
24	AR1254-A						
25	AR1254-B						
26	AR1254-C						
27	AR1254-D						
28	AR1254-E						
29	AR1254-F						
30	AR1254-G						
31	AR1262-A						
32	AR1262-B						
33	AR1262-C						
34	AR1262-D						
35	AR1262-E						
36	AR1268-A	5.077	4.951 E6	2.5	98	0.00	15.70-15.90
37	AR1268-B	5.034	4.943 E6	1.8	98	0.00	15.81-16.01
38	AR1268-C	4.308	4.216 E6	2.1	98	0.00	16.44-16.64
39	AR1268-D	1.830	1.773 E6	3.1	97	0.00	17.59-17.79
40	AR1268-E	13.583	13.192 E6	2.9	97	0.00	18.52-18.72
41	AR1016-A						

**Initial Calibration Verification**

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
 Lab FileID: 5G87369.D

42	AR1016-B												
43	AR1016-C												
44	AR1016-D												
45	AR1016-E												
46	AR1260-A												
47	AR1260-B												
48	AR1260-C												
49	AR1260-D												
50	AR1260-E												
51 S	Decachlorobiphenyl	30.569	103.858	E6	-239.7#	347#	0.00				19.21-19.27		

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	13.749	18.920	E6	-37.6#	138	0.00				4.35- 4.41		
2	AR1221-A												
3	AR1221-B												
4	AR1221-C												
5	AR1221-D												
6	AR1221-E												
7	AR1232-A												
8	AR1232-B												
9	AR1232-C												
10	AR1232-D												
11	AR1232-E												
12	AR1242-A	394.091	412.230	E3	-4.6	105	0.00				6.51- 6.71		
13	AR1242-B	874.073	913.445	E3	-4.5	105	0.00				7.78- 7.98		
14	AR1242-C	339.344	356.223	E3	-5.0	105	0.00				8.16- 8.36		
15	AR1242-D	268.562	274.945	E3	-2.4	102	0.00				9.55- 9.75		
16	AR1242-E	335.455	337.197	E3	-0.5	101	0.00				10.85-11.05		
17	AR1248-A												
18	AR1248-B												
19	AR1248-C												
20	AR1248-D												
21	AR1248-E												
22	AR1248-F												
23	AR1248-G												
24	AR1254-A												
25	AR1254-B												
26	AR1254-C												
27	AR1254-D												
28	AR1254-E												
29	AR1254-F												
30	AR1254-G												
31	AR1262-A												
32	AR1262-B												
33	AR1262-C												
34	AR1262-D												
35	AR1262-E												
36	AR1268-A	2.467	2.468	E6	-0.0	100	0.00				18.65-18.85		
37	AR1268-B	2.455	2.391	E6	2.6	97	0.00				18.79-18.99		
38	AR1268-C	2.135	2.085	E6	2.3	98	0.00				19.63-19.83		
39	AR1268-D	895.320	837.272	E3	6.5	94	0.00				20.61-20.81		
40	AR1268-E	6.815	6.701	E6	1.7	98	0.00				21.69-21.89		
41	AR1016-A												
42	AR1016-B												
43	AR1016-C												
44	AR1016-D												
45	AR1016-E												
46	AR1260-A												
47	AR1260-B												

10.10.5  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
Lab FileID: 5G87369.D

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48	AR1260-C									-----NA-----
49	AR1260-D									-----NA-----
50	AR1260-E									-----NA-----
51 S	Decachlorobiphenyl	14.736	51.726	E6	-251.0#	352#	0.00	22.61-22.67		-----

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(#) = Out of Range                      SPCC's out = 0    CCC's out = 0  
5G87359.d    5PCB2101.M                      Tue Apr 09 09:46:14 2019

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
 Lab FileID: 5G87370.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2101\5G87370.d\ECD1A.ch Vial: 17  
 Signal #2 : C:\msdchem\1\DATA\G5G2101\5G87370.d\ECD2B.ch  
 Acq On : 8 Apr 2019 10:59 pm Operator: summerk  
 Sample : icv2101-1000 Inst : GC5G  
 Misc : op19562,g5g2101,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2101.M (ChemStation Integrator)  
 Title :  
 Last Update : Tue Apr 09 09:30:37 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	31.558	42.442 E6	-34.5#	136	0.00	3.59-	3.66
2	AR1221-A			-----NA-----				
3	AR1221-B			-----NA-----				
4	AR1221-C			-----NA-----				
5	AR1221-D			-----NA-----				
6	AR1221-E			-----NA-----				
7	AR1232-A			-----NA-----				
8	AR1232-B			-----NA-----				
9	AR1232-C			-----NA-----				
10	AR1232-D			-----NA-----				
11	AR1232-E			-----NA-----				
12	AR1242-A			-----NA-----				
13	AR1242-B			-----NA-----				
14	AR1242-C			-----NA-----				
15	AR1242-D			-----NA-----				
16	AR1242-E			-----NA-----				
17	AR1248-A	463.798	439.106 E3	5.3	95	0.00	4.93-	5.13
18	AR1248-B	1.180	1.183 E6	-0.3	100	0.00	5.99-	6.19
19	AR1248-C	1.250	1.271 E6	-1.7	102	0.00	6.79-	6.99
20	AR1248-D	1.232	1.280 E6	-3.9	104	0.00	7.36-	7.56
21	AR1248-E	735.229	780.226 E3	-6.1	106	0.00	7.58-	7.78
22	AR1248-F	1.074	1.175 E6	-9.4	109	0.00	8.59-	8.79
23	AR1248-G	909.004	970.974 E3	-6.8	107	0.00	9.14-	9.34
24	AR1254-A			-----NA-----				
25	AR1254-B			-----NA-----				
26	AR1254-C			-----NA-----				
27	AR1254-D			-----NA-----				
28	AR1254-E			-----NA-----				
29	AR1254-F			-----NA-----				
30	AR1254-G			-----NA-----				
31	AR1262-A			-----NA-----				
32	AR1262-B			-----NA-----				
33	AR1262-C			-----NA-----				
34	AR1262-D			-----NA-----				
35	AR1262-E			-----NA-----				
36	AR1268-A			-----NA-----				
37	AR1268-B			-----NA-----				
38	AR1268-C			-----NA-----				
39	AR1268-D			-----NA-----				
40	AR1268-E			-----NA-----				
41	AR1016-A			-----NA-----				



Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101
Lab FileID: 5G87370.D

Table with columns for sample ID, chemical name, and various numerical data points. Includes rows for Decachlorobiphenyl and Tetrachloro-m-xylene, with many 'NA' entries for missing data.

10.10.6
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2101-ICV2101  
Lab FileID: 5G87370.D

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48	AR1260-C					-----NA-----			
49	AR1260-D					-----NA-----			
50	AR1260-E					-----NA-----			
51 S	Decachlorobiphenyl	14.736	21.455	E6	-45.6#	146	0.00	22.61-22.67	

---

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0  
5G87359.d    5PCB2101.M                      Tue Apr 09 09:46:16 2019

10.10.6  
10

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2111-CC2101  
 Lab FileID: 5G87735.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2111\5G87735.d\ECD1A.ch Vial: 26  
 Signal #2 : C:\msdchem\1\DATA\G5G2111\5G87735.d\ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am Operator: summerk  
 Sample : cc2101-500 Inst : GC5G  
 Misc : op19833,g5g2111,1.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2101.M (ChemStation Integrator)  
 Title :  
 Last Update : Fri Apr 19 11:08:11 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	31.558	31.324 E6	0.7	100	0.00	3.61-	3.68
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	580.188	557.415 E3	3.9	94	0.00	4.29-	4.36

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2111-CC2101  
 Lab FileID: 5G87735.D

42	AR1016-B	1.140	1.104	E6	3.2	97	0.00	5.01- 5.08
43	AR1016-C	2.363	2.143	E6	9.3	92	0.00	6.10- 6.16
44	AR1016-D	0.998	0.946	E6	5.2	96	0.00	6.41- 6.47
45	AR1016-E	1.010	0.964	E6	4.6	96	0.00	7.45- 7.51
46	AR1260-A	2.407	2.143	E6	11.0	89	0.00	12.62-12.68
47	AR1260-B	1.406	1.306	E6	7.1	93	0.00	13.00-13.06
48	AR1260-C	1.481	1.273	E6	14.0	90	0.00	13.75-13.81
49	AR1260-D	3.479	2.904	E6	16.5	85	0.00	14.75-14.81
50	AR1260-E	3.833	3.410	E6	11.0	88	0.00	15.63-15.69
51 S	Decachlorobiphenyl	30.569	26.475	E6	13.4	89	0.00	19.21-19.27

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	13.749	13.339	E6	3.0	98	0.00	4.35- 4.41
2	AR1221-A							-----NA-----
3	AR1221-B							-----NA-----
4	AR1221-C							-----NA-----
5	AR1221-D							-----NA-----
6	AR1221-E							-----NA-----
7	AR1232-A							-----NA-----
8	AR1232-B							-----NA-----
9	AR1232-C							-----NA-----
10	AR1232-D							-----NA-----
11	AR1232-E							-----NA-----
12	AR1242-A							-----NA-----
13	AR1242-B							-----NA-----
14	AR1242-C							-----NA-----
15	AR1242-D							-----NA-----
16	AR1242-E							-----NA-----
17	AR1248-A							-----NA-----
18	AR1248-B							-----NA-----
19	AR1248-C							-----NA-----
20	AR1248-D							-----NA-----
21	AR1248-E							-----NA-----
22	AR1248-F							-----NA-----
23	AR1248-G							-----NA-----
24	AR1254-A							-----NA-----
25	AR1254-B							-----NA-----
26	AR1254-C							-----NA-----
27	AR1254-D							-----NA-----
28	AR1254-E							-----NA-----
29	AR1254-F							-----NA-----
30	AR1254-G							-----NA-----
31	AR1262-A							-----NA-----
32	AR1262-B							-----NA-----
33	AR1262-C							-----NA-----
34	AR1262-D							-----NA-----
35	AR1262-E							-----NA-----
36	AR1268-A							-----NA-----
37	AR1268-B							-----NA-----
38	AR1268-C							-----NA-----
39	AR1268-D							-----NA-----
40	AR1268-E							-----NA-----
41	AR1016-A	245.846	236.965	E3	3.6	98	0.00	5.54- 5.60
42	AR1016-B	510.122	503.971	E3	1.2	99	0.00	6.58- 6.64
43	AR1016-C	1.148	1.085	E6	5.5	95	0.00	7.84- 7.90
44	AR1016-D	441.861	423.133	E3	4.2	96	0.00	8.22- 8.28
45	AR1016-E	346.938	330.584	E3	4.7	97	0.00	9.61- 9.67
46	AR1260-A	1.121	1.012	E6	9.7	91	0.00	15.43-15.49
47	AR1260-B	674.444	642.897	E3	4.7	96	0.00	15.72-15.78

10.10.7  
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# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2111-CC2101  
Lab FileID: 5G87735.D

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48	AR1260-C	659.743	616.012	E3	6.6	94	0.00	16.69-16.75
49	AR1260-D	1.715	1.500	E6	12.5	88	0.00	17.53-17.59
50	AR1260-E	1.747	1.571	E6	10.1	91	0.00	18.75-18.81
51 S	Decachlorobiphenyl	14.736	13.058	E6	11.4	90	0.00	22.61-22.67

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(#) = Out of Range                      SPCC's out = 0    CCC's out = 0  
5G87358.d    5PCB2101.M                      Fri Apr 19 13:49:14 2019

10.10.7  
10

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2111-CC2101  
 Lab FileID: 5G87744.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\G5G2111\5G87744.d\ECD1A.ch Vial: 34  
 Signal #2 : C:\msdchem\1\DATA\G5G2111\5G87744.d\ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm Operator: summerk  
 Sample : cc2101-1000 Inst : GC5G  
 Misc : op19829,g5g2111,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\5PCB2101.M (ChemStation Integrator)  
 Title :  
 Last Update : Fri Apr 19 16:14:32 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	31.558	31.233 E6	1.0	100	0.00	3.59-	3.66
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	580.188	609.309 E3	-5.0	109	0.00	4.27-	4.34

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2111-CC2101  
 Lab FileID: 5G87744.D

42	AR1016-B	1.140	1.081	E6	5.2	98	0.00	5.00- 5.07
43	AR1016-C	2.363	2.176	E6	7.9	95	0.00	6.07- 6.13
44	AR1016-D	0.998	0.936	E6	6.2	98	0.00	6.39- 6.45
45	AR1016-E	1.010	0.939	E6	7.0	97	0.00	7.43- 7.49
46	AR1260-A	2.407	2.215	E6	8.0	94	0.00	12.60-12.66
47	AR1260-B	1.406	1.319	E6	6.2	96	0.00	12.98-13.04
48	AR1260-C	1.481	1.332	E6	10.1	95	0.00	13.73-13.79
49	AR1260-D	3.479	3.148	E6	9.5	92	0.00	14.73-14.79
50	AR1260-E	3.833	3.528	E6	8.0	93	0.00	15.61-15.67
51 S	Decachlorobiphenyl	30.569	27.777	E6	9.1	93	0.00	19.20-19.26

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	13.749	13.588	E6	1.2	99	0.00	4.36- 4.42
2	AR1221-A							-----NA-----
3	AR1221-B							-----NA-----
4	AR1221-C							-----NA-----
5	AR1221-D							-----NA-----
6	AR1221-E							-----NA-----
7	AR1232-A							-----NA-----
8	AR1232-B							-----NA-----
9	AR1232-C							-----NA-----
10	AR1232-D							-----NA-----
11	AR1232-E							-----NA-----
12	AR1242-A							-----NA-----
13	AR1242-B							-----NA-----
14	AR1242-C							-----NA-----
15	AR1242-D							-----NA-----
16	AR1242-E							-----NA-----
17	AR1248-A							-----NA-----
18	AR1248-B							-----NA-----
19	AR1248-C							-----NA-----
20	AR1248-D							-----NA-----
21	AR1248-E							-----NA-----
22	AR1248-F							-----NA-----
23	AR1248-G							-----NA-----
24	AR1254-A							-----NA-----
25	AR1254-B							-----NA-----
26	AR1254-C							-----NA-----
27	AR1254-D							-----NA-----
28	AR1254-E							-----NA-----
29	AR1254-F							-----NA-----
30	AR1254-G							-----NA-----
31	AR1262-A							-----NA-----
32	AR1262-B							-----NA-----
33	AR1262-C							-----NA-----
34	AR1262-D							-----NA-----
35	AR1262-E							-----NA-----
36	AR1268-A							-----NA-----
37	AR1268-B							-----NA-----
38	AR1268-C							-----NA-----
39	AR1268-D							-----NA-----
40	AR1268-E							-----NA-----
41	AR1016-A	245.846	238.780	E3	2.9	100	0.00	5.54- 5.60
42	AR1016-B	510.122	496.086	E3	2.8	100	0.00	6.59- 6.65
43	AR1016-C	1.148	1.102	E6	4.0	97	0.00	7.85- 7.91
44	AR1016-D	441.861	423.585	E3	4.1	98	0.00	8.23- 8.29
45	AR1016-E	346.938	330.793	E3	4.7	98	0.00	9.62- 9.68
46	AR1260-A	1.121	1.061	E6	5.4	95	0.00	15.43-15.49
47	AR1260-B	674.444	647.097	E3	4.1	97	0.00	15.73-15.79

10.10.8  
10

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G5G2111-CC2101  
Lab FileID: 5G87744.D

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48	AR1260-C	659.743	631.805	E3	4.2	97	0.00	16.69-16.75
49	AR1260-D	1.715	1.611	E6	6.1	93	0.00	17.53-17.59
50	AR1260-E	1.747	1.648	E6	5.7	95	0.00	18.73-18.79
51 S	Decachlorobiphenyl	14.736	13.599	E6	7.7	93	0.00	22.60-22.66

---

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

5G87744.d 5PCB2101.M

Fri Apr 19 16:16:02 2019



# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICC1951  
 Lab FileID: 6G63608.D

## Response Factor Report GC6G

Method : C:\MSDCHEM\1\METHODS\6PST1951.M (ChemStation Integrator)  
 Title : PEST/PCB  
 Last Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration

### Calibration Files

5 =6g63606.d 10 =6g63607.d 25 =6g63608.d 50 =6g63609.d  
 100 =6g63611.d 1 =6g63604.d 75 =6g63610.d 2 =6g63605.d  
 = =

Compound	5	10	25	50	100	1	75	2	Avg	%RSD
1) I 1-bromo-2-nitrobenzen -----ISTD-----										
2) Tetrachloro-m-xylene	0.641	0.639	0.662	0.668	0.702	0.639	0.697	0.679	0.666	3.79
3) hexachlorobenzene	1.510	1.484	1.503	1.550	1.599	1.537	1.590	1.509	1.535	2.73
4) alpha-BHC	1.001	1.025	1.148	1.298	1.461	1.109	1.405	1.034	1.185	15.20
5) gamma-BHC	0.963	1.000	1.095	1.217	1.353	1.131	1.308	1.039	1.138	12.56
6) Heptachlor	1.047	1.060	1.145	1.253	1.382	1.133	1.340	1.057	1.177	11.23
7) beta-BHC	0.430	0.456	0.461	0.479	0.501	0.627	0.495	0.477	0.491	12.14
8) delta-BHC	0.885	0.917	1.025	1.158	1.319	0.919	1.264	0.886	1.047	16.91
9) Aldrin	0.982	0.987	1.077	1.184	1.309	1.012	1.273	0.971	1.099	12.49
10) alachlor	0.124	0.126	0.126	0.127	0.127		0.127		0.126	0.95
11) Heptachlor Epoxide	0.975	0.949	1.006	1.083	1.177	1.573	1.149	1.122	1.129	17.50
12) gamma-Chlordane	0.883	0.927	1.009	1.099	1.219	1.026	1.181	0.921	1.033	12.02
13) alpha-Chlordane	0.881	0.909	0.987	1.071	1.180	0.782	1.145	0.857	0.976	14.73
14) Endosulfan I	0.910	0.915	0.968	1.039	1.129	0.946	1.102	0.898	0.989	9.14
15) 4,4'-DDE	0.937	0.936	1.000	1.073	1.177	0.983	1.145	0.934	1.023	9.51
16) Dieldrin	0.931	0.935	1.012	1.105	1.218	0.963	1.183	0.896	1.030	11.94
17) Endrin	0.876	0.891	0.945	1.026	1.128	0.913	1.095	0.882	0.969	10.33
18) 4,4'-DDD	0.643	0.662	0.697	0.765	0.855	0.732	0.825	0.640	0.727	11.27
19) Endosulfan II	0.926	0.900	0.930	0.979	1.055	1.201	1.032	0.996	1.002	9.65
20) 4,4'-DDT	0.706	0.704	0.761	0.833	0.933	0.735	0.897	0.723	0.786	11.43
21) Endrin Aldehyde	0.746	0.741	0.773	0.811	0.863	0.883	0.848	0.770	0.804	6.84
22) Endosulfan Sulfate	0.755	0.761	0.795	0.842	0.900	0.836	0.884	0.795	0.821	6.54
23) Methoxychlor										

10.10.9  
10

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICC1951  
 Lab FileID: 6G63608.D

24)	Mirex	0.433	0.449	0.459	0.475	0.493	0.470	0.488	0.458	0.466	4.29
25)	Endrin Ketone	0.815	0.793	0.795	0.800	0.810	0.883	0.813	0.882	0.824	4.51
26)	Decachlorobiphenyl	0.889	0.904	0.960	1.012	1.074	0.916	1.054	0.880	0.961	7.96
		1.203	1.167	1.180	1.202	1.240	1.475	1.232	1.244	1.243	7.88
27)	I 1-bromo-2-nitrobenzen	-----ISTD-----									
28)	Toxaphene{A}										
					0.014					0.014	0.00
29)	Toxaphene{B}										
					0.040					0.040	0.00
30)	Toxaphene{C}										
					0.032					0.032	0.00
31)	Toxaphene{D}										
					0.025					0.025	0.00
32)	Toxaphene{E}										
					0.028					0.028	0.00
33)	I 1-bromo-2-nitrobenzen	-----ISTD-----									
34)	Chlordane {A}										
					0.064					0.064	0.00
35)	Chlordane {B}										
					0.039					0.039	0.00
36)	Chlordane {C}										
					0.147					0.147	0.00
37)	Chlordane {D}										
					0.232					0.232	0.00
38)	Chlordane {E}										
					0.031					0.031	0.00

Signal #2

1)	I 1-bromo-2-nitrobenzen	-----ISTD-----									
2)	Tetrachloro-m-xylene										
		0.873	0.851	0.851	0.844	0.885	0.955	0.879	0.898	0.879	4.10
3)	hexachlorobenzene										
		0.970	0.933	0.909	0.889	0.911	1.042	0.912	0.985	0.944	5.45
4)	alpha-BHC										
		1.074	1.076	1.127	1.169	1.254	1.150	1.235	1.110	1.149	5.86
5)	gamma-BHC										
		1.013	1.008	1.035	1.064	1.127	1.097	1.112	1.022	1.060	4.46
6)	Heptachlor										
		1.068	1.026	1.041	1.036	1.072	1.173	1.069	1.117	1.075	4.51
7)	beta-BHC										
		0.515	0.494	0.482	0.473	0.479	0.559	0.480	0.514	0.499	5.77
8)	delta-BHC										
		0.929	0.929	0.973	1.006	1.077	0.977	1.059	0.932	0.985	5.88
9)	Aldrin										
		0.951	0.924	0.929	0.934	0.976	1.042	0.971	0.983	0.964	4.04
10)	alachlor										
		0.146	0.146	0.143	0.135	0.129		0.133		0.139	5.23
11)	Heptachlor Epoxide										
		0.920	0.898	0.889	0.878	0.900	0.994	0.900	0.961	0.918	4.32
12)	gamma-Chlordane										
		0.932	0.882	0.880	0.867	0.898	1.075	0.893	0.995	0.928	7.78
13)	alpha-Chlordane										
		0.902	0.871	0.856	0.845	0.867	0.986	0.867	0.937	0.891	5.38

10.10.9  
10

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICC1951  
 Lab FileID: 6G63608.D

14)	Endosulfan I	0.842	0.810	0.805	0.795	0.817	0.896	0.818	0.874	0.832	4.30
15)	4,4'-DDE	0.816	0.792	0.812	0.822	0.865	0.873	0.856	0.812	0.831	3.57
16)	Dieldrin	0.882	0.857	0.858	0.862	0.906	0.994	0.901	0.877	0.892	5.08
17)	Endrin	0.821	0.801	0.798	0.801	0.827	0.909	0.829	0.832	0.827	4.36
18)	4,4'-DDD	0.687	0.672	0.679	0.681	0.713	0.763	0.707	0.699	0.700	4.17
19)	Endosulfan II	0.868	0.816	0.784	0.764	0.785	1.161	0.782	0.951	0.864	15.61
20)	4,4'-DDT	0.682	0.672	0.677	0.682	0.718	0.717	0.709	0.704	0.695	2.72
21)	Endrin Aldehyde	0.680	0.651	0.633	0.617	0.626	0.752	0.628	0.669	0.657	6.77
22)	Endosulfan Sulfate	0.748	0.709	0.688	0.664	0.670	0.836	0.675	0.732	0.715	8.02
23)	Methoxychlor	0.420	0.416	0.406	0.391	0.390	0.444	0.397	0.407	0.409	4.38
24)	Mirex	0.735	0.688	0.648	0.608	0.595	0.784	0.606	0.695	0.670	10.13
25)	Endrin Ketone	0.813	0.796	0.784	0.772	0.789	0.879	0.789	0.811	0.804	4.11
26)	Decachlorobiphenyl	0.728	0.698	0.657	0.622	0.610	0.861	0.619	0.767	0.695	12.58
27)	I 1-bromo-2-nitrobenzen	-----ISTD-----									
28)	Toxaphene{A}					0.021				0.021	0.00
29)	Toxaphene{B}					0.024				0.024	0.00
30)	Toxaphene{C}					0.043				0.043	0.00
31)	Toxaphene{D}					0.027				0.027	0.00
32)	Toxaphene{E}					0.023				0.023	0.00
33)	I 1-bromo-2-nitrobenzen	-----ISTD-----									
34)	Chlordane {A}					0.059				0.059	0.00
35)	Chlordane {B}					0.033				0.033	0.00
36)	Chlordane {C}					0.107				0.107	0.00
37)	Chlordane {D}					0.178				0.178	0.00
38)	Chlordane {E}					0.029				0.029	0.00

(#) = Out of Range ### Number of calibration levels exceeded format ###

6PST1951.M

Wed Mar 13 16:27:53 2019

10.10.9  
10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951  
 Lab FileID: 6G63614.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\G6G1951\6g63614.d\ECD1A.CH Vial: 13  
 Signal #2 : C:\msdchem\1\data\G6G1951\6g63614.d\ECD2B.CH  
 Acq On : 13-Mar-19, 15:16:31 Operator: mailisih  
 Sample : icv1951-25 Inst : GC6G  
 Misc : opl8954,g6g1951,16.8,,,1,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\6PST1951.M (ChemStation Integrator)  
 Title : PEST/PCB  
 Last Update : Wed Mar 13 15:21:00 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 : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	102	0.00	1.46-	2.46
2 SAB	Tetrachloro-m-xylene	0.666	0.643	3.5	99	0.00	2.53-	2.59
3	hexachlorobenzene			-----NA-----				
4 A	alpha-BHC	1.185	1.290	-8.9	115	0.00	3.01-	3.07
5 MA	gamma-BHC	1.138	1.214	-6.7	114	0.00	3.31-	3.37
6 MA	Heptachlor	1.177	1.274	-8.2	114	0.00	3.81-	3.87
7 B	beta-BHC	0.491	0.511	-4.1	113	0.00	3.38-	3.44
8 B	delta-BHC	1.047	1.137	-8.6	114	0.00	3.57-	3.63
9 MB	Aldrin	1.099	1.209	-10.0	115	0.00	4.15-	4.21
10	alachlor			-----NA-----				
11 B	Heptachlor Epoxide	1.129	1.128	0.1	115	0.00	4.88-	4.94
12 B	gamma-Chlordane	1.033	1.148	-11.1	117	0.00	5.04-	5.10
13 B	alpha-Chlordane	0.976	1.128	-15.6	117	0.00	5.22-	5.28
14 A	Endosulfan I	0.989	1.082	-9.4	115	0.00	5.40-	5.46
15 B	4,4'-DDE	1.023	1.125	-10.0	115	0.00	5.33-	5.39
16 MA	Dieldrin	1.030	1.137	-10.4	115	0.00	5.72-	5.78
17 MA	Endrin	0.969	1.043	-7.6	113	0.00	6.05-	6.11
18 A	4,4'-DDD	0.727	0.773	-6.3	114	0.00	6.17-	6.23
19 B	Endosulfan II	1.002	1.004	-0.2	111	0.00	6.38-	6.44
20 MA	4,4'-DDT	0.786	0.848	-7.9	114	0.00	6.60-	6.66
21 B	Endrin Aldehyde	0.804	0.859	-6.8	114	0.00	7.01-	7.07
22 B	Endosulfan Sulfate	0.821	0.852	-3.8	110	0.00	7.70-	7.76
23 A	Methoxychlor	0.466	0.474	-1.7	106	0.00	7.39-	7.45
24	Mirex	0.824	0.779	5.5	100	0.00	7.55-	7.61
25 B	Endrin Ketone	0.961	1.063	-10.6	113	0.00	8.14-	8.20
26 SA	Decachlorobiphenyl	1.243	1.143	8.0	99	0.00	9.96-	10.02
27 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.46-	2.46
28 L8	Toxaphene{A}			-----NA-----				
29 L8	Toxaphene{B}			-----NA-----				
30 L8	Toxaphene{C}			-----NA-----				
31 L8	Toxaphene{D}			-----NA-----				
32 L8	Toxaphene{E}			-----NA-----				
33 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.46-	2.46
34	Chlordane {A}			-----NA-----				
35	Chlordane {B}			-----NA-----				
36	Chlordane {C}			-----NA-----				
37	Chlordane {D}			-----NA-----				
38	Chlordane {E}			-----NA-----				

10.10.10 10

Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951
Lab FileID: 6G63614.D

\*\*\*\*\* Signal #2 \*\*\*\*\*

Table with columns for ID, Name, and numerical values. Includes entries for 1-bromo-2-nitrobenzene, Tetrachloro-m-xylene, hexachlorobenzene, alpha-BHC, gamma-BHC, Heptachlor, beta-BHC, delta-BHC, Aldrin, alachlor, Heptachlor Epoxide, gamma-Chlordane, alpha-Chlordane, Endosulfan I, 4,4'-DDE, Dieldrin, Endrin, 4,4'-DDD, Endosulfan II, 4,4'-DDT, Endrin Aldehyde, Endosulfan Sulfate, Methoxychlor, Mirex, Endrin Ketone, Decachlorobiphenyl, and Toxaphene {A-E}.

(#) = Out of Range
6g63608.d 6PST1951.M

SPCC's out = 0 CCC's out = 0
Wed Mar 13 16:25:20 2019

10.10.10 10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951  
 Lab FileID: 6G63615.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\G6G1951\6g63615.d\ECD1A.CH Vial: 14  
 Signal #2 : C:\msdchem\1\data\G6G1951\6g63615.d\ECD2B.CH  
 Acq On : 13-Mar-19, 15:34:38 Operator: mailisih  
 Sample : icv1951-500 Inst : GC6G  
 Misc : opl8954,g6g1951,16.8,,,1,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\6PST1951.M (ChemStation Integrator)  
 Title : PEST/PCB  
 Last Update : Wed Mar 13 15:21:00 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 : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	101	0.00	1.46-	2.46
2 SAB	Tetrachloro-m-xylene	0.666	0.626	6.0	95	0.00	2.53-	2.59
3	hexachlorobenzene			-----NA-----				
4 A	alpha-BHC			-----NA-----				
5 MA	gamma-BHC			-----NA-----				
6 MA	Heptachlor			-----NA-----				
7 B	beta-BHC			-----NA-----				
8 B	delta-BHC			-----NA-----				
9 MB	Aldrin			-----NA-----				
10	alachlor			-----NA-----				
11 B	Heptachlor Epoxide			-----NA-----				
12 B	gamma-Chlordane			-----NA-----				
13 B	alpha-Chlordane			-----NA-----				
14 A	Endosulfan I			-----NA-----				
15 B	4,4'-DDE			-----NA-----				
16 MA	Dieldrin			-----NA-----				
17 MA	Endrin			-----NA-----				
18 A	4,4'-DDD			-----NA-----				
19 B	Endosulfan II			-----NA-----				
20 MA	4,4'-DDT			-----NA-----				
21 B	Endrin Aldehyde			-----NA-----				
22 B	Endosulfan Sulfate			-----NA-----				
23 A	Methoxychlor			-----NA-----				
24	Mirex			-----NA-----				
25 B	Endrin Ketone			-----NA-----				
26 SA	Decachlorobiphenyl	1.243	1.146	7.8	97	0.00	9.96-	10.02
27 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	99	0.00	1.46-	2.46
28 L8	Toxaphene{A}			-----NA-----				
29 L8	Toxaphene{B}			-----NA-----				
30 L8	Toxaphene{C}			-----NA-----				
31 L8	Toxaphene{D}			-----NA-----				
32 L8	Toxaphene{E}			-----NA-----				
33 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	100	0.00	1.46-	2.46
34	Chlordane {A}	0.064	0.060	6.3	94	0.00	3.74-	3.94
35	Chlordane {B}	0.039	0.037	5.1	96	0.00	4.23-	4.43
36	Chlordane {C}	0.147	0.137	6.8	94	0.00	4.98-	5.18
37	Chlordane {D}	0.232	0.223	3.9	96	0.00	5.14-	5.34
38	Chlordane {E}	0.031	0.030	3.2	97	0.00	6.21-	6.41

Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951
Lab FileID: 6G63615.D

\*\*\*\*\* Signal #2 \*\*\*\*\*

Table with columns for ID, Name, and numerical values. Includes entries for 1-bromo-2-nitrobenzene, Tetrachloro-m-xylene, hexachlorobenzene, alpha-BHC, gamma-BHC, Heptachlor, beta-BHC, delta-BHC, Aldrin, alachlor, Heptachlor Epoxide, gamma-Chlordane, alpha-Chlordane, Endosulfan I, 4,4'-DDE, Dieldrin, Endrin, 4,4'-DDD, Endosulfan II, 4,4'-DDT, Endrin Aldehyde, Endosulfan Sulfate, Methoxychlor, Mirex, Endrin Ketone, Decachlorobiphenyl, and various Toxaphene and Chlordane isomers.

(#) = Out of Range
6g63609.d 6PST1951.M

SPCC's out = 0 CCC's out = 0
Wed Mar 13 16:25:58 2019

10.10.11
10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951  
 Lab FileID: 6G63616.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\G6G1951\6g63616.d\ECD1A.CH Vial: 15  
 Signal #2 : C:\msdchem\1\data\G6G1951\6g63616.d\ECD2B.CH  
 Acq On : 13-Mar-19, 15:52:55 Operator: mailisih  
 Sample : icv1951-500 Inst : GC6G  
 Misc : opl8954,g6g1951,16.8,,,1,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\6PST1951.M (ChemStation Integrator)  
 Title : PEST/PCB  
 Last Update : Wed Mar 13 15:21:00 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 : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	103	0.00	1.46-	2.46
2 SAB	Tetrachloro-m-xylene	0.666	0.642	3.6	99	0.00	2.53-	2.59
3	hexachlorobenzene			-----NA-----				
4 A	alpha-BHC			-----NA-----				
5 MA	gamma-BHC			-----NA-----				
6 MA	Heptachlor			-----NA-----				
7 B	beta-BHC			-----NA-----				
8 B	delta-BHC			-----NA-----				
9 MB	Aldrin			-----NA-----				
10	alachlor			-----NA-----				
11 B	Heptachlor Epoxide			-----NA-----				
12 B	gamma-Chlordane			-----NA-----				
13 B	alpha-Chlordane			-----NA-----				
14 A	Endosulfan I			-----NA-----				
15 B	4,4'-DDE			-----NA-----				
16 MA	Dieldrin			-----NA-----				
17 MA	Endrin			-----NA-----				
18 A	4,4'-DDD			-----NA-----				
19 B	Endosulfan II			-----NA-----				
20 MA	4,4'-DDT			-----NA-----				
21 B	Endrin Aldehyde			-----NA-----				
22 B	Endosulfan Sulfate			-----NA-----				
23 A	Methoxychlor			-----NA-----				
24	Mirex			-----NA-----				
25 B	Endrin Ketone			-----NA-----				
26 SA	Decachlorobiphenyl	1.243	1.164	6.4	100	0.00	9.96-	10.02
27 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	101	0.00	1.46-	2.46
28 L8	Toxaphene{A}	0.014	0.012	14.3	83	0.00	5.67-	5.87
29 L8	Toxaphene{B}	0.040	0.037	7.5	93	0.00	6.30-	6.50
30 L8	Toxaphene{C}	0.032	0.030	6.3	94	0.00	6.48-	6.68
31 L8	Toxaphene{D}	0.025	0.022	12.0	90	0.00	6.82-	7.02
32 L8	Toxaphene{E}	0.028	0.026	7.1	96	0.00	7.48-	7.68
33 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	102	0.00	1.46-	2.46
34	Chlordane {A}			-----NA-----				
35	Chlordane {B}			-----NA-----				
36	Chlordane {C}			-----NA-----				
37	Chlordane {D}			-----NA-----				
38	Chlordane {E}			-----NA-----				



Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951
Lab FileID: 6G63616.D

\*\*\*\*\* Signal #2 \*\*\*\*\*

Table with columns for ID, Name, and numerical values. Includes entries for 1-bromo-2-nitrobenzene, Tetrachloro-m-xylene, hexachlorobenzene, alpha-BHC, gamma-BHC, Heptachlor, beta-BHC, delta-BHC, Aldrin, alachlor, Heptachlor Epoxide, gamma-Chlordane, alpha-Chlordane, Endosulfan I, 4,4'-DDE, Dieldrin, Endrin, 4,4'-DDD, Endosulfan II, 4,4'-DDT, Endrin Aldehyde, Endosulfan Sulfate, Methoxychlor, Mirex, Endrin Ketone, Decachlorobiphenyl, and various Toxaphene and Chlordane isomers.

(#) = Out of Range
6g63609.d 6PST1951.M

SPCC's out = 0 CCC's out = 0
Wed Mar 13 16:26:01 2019

10.10.12 10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951  
 Lab FileID: 6G63617.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\G6G1951\6g63617.d\ECD1A.CH Vial: 16  
 Signal #2 : C:\msdchem\1\data\G6G1951\6g63617.d\ECD2B.CH  
 Acq On : 13-Mar-19, 16:11:10 Operator: mailisih  
 Sample : icv1951-50 Inst : GC6G  
 Misc : opl8954,g6g1951,16.8,,,1,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\6PST1951.M (ChemStation Integrator)  
 Title : PEST/PCB  
 Last Update : Wed Mar 13 15:21:00 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 : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	103	0.00	1.46-	2.46
2 SAB	Tetrachloro-m-xylene			-----NA-----				
3	hexachlorobenzene	1.535	1.505	2.0	100	0.00	2.87-	2.93
4 A	alpha-BHC			-----NA-----				
5 MA	gamma-BHC			-----NA-----				
6 MA	Heptachlor			-----NA-----				
7 B	beta-BHC			-----NA-----				
8 B	delta-BHC			-----NA-----				
9 MB	Aldrin			-----NA-----				
10	alachlor			-----NA-----				
11 B	Heptachlor Epoxide			-----NA-----				
12 B	gamma-Chlordane			-----NA-----				
13 B	alpha-Chlordane			-----NA-----				
14 A	Endosulfan I			-----NA-----				
15 B	4,4'-DDE			-----NA-----				
16 MA	Dieldrin			-----NA-----				
17 MA	Endrin			-----NA-----				
18 A	4,4'-DDD			-----NA-----				
19 B	Endosulfan II			-----NA-----				
20 MA	4,4'-DDT			-----NA-----				
21 B	Endrin Aldehyde			-----NA-----				
22 B	Endosulfan Sulfate			-----NA-----				
23 A	Methoxychlor			-----NA-----				
24	Mirex			-----NA-----				
25 B	Endrin Ketone			-----NA-----				
26 SA	Decachlorobiphenyl			-----NA-----				
27 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	100	0.00	1.46-	2.46
28 L8	Toxaphene{A}			-----NA-----				
29 L8	Toxaphene{B}			-----NA-----				
30 L8	Toxaphene{C}			-----NA-----				
31 L8	Toxaphene{D}			-----NA-----				
32 L8	Toxaphene{E}			-----NA-----				
33 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	102	0.00	1.46-	2.46
34	Chlordane {A}			-----NA-----				
35	Chlordane {B}			-----NA-----				
36	Chlordane {C}			-----NA-----				
37	Chlordane {D}			-----NA-----				
38	Chlordane {E}			-----NA-----				

10.10.13

10

Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951
Lab FileID: 6G63617.D

\*\*\*\*\* Signal #2 \*\*\*\*\*

Table with columns for ID, Name, and numerical values. Includes entries for 1-bromo-2-nitrobenzene, Tetrachloro-m-xylene, hexachlorobenzene, and various BHC isomers.

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6g63609.d 6PST1951.M Wed Mar 13 16:26:56 2019

10.10.13 10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951  
 Lab FileID: 6G63618.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\G6G1951\6g63618.d\ECD1A.CH Vial: 17  
 Signal #2 : C:\msdchem\1\data\G6G1951\6g63618.d\ECD2B.CH  
 Acq On : 13-Mar-19, 16:29:31 Operator: mailisih  
 Sample : icv1951-50 Inst : GC6G  
 Misc : opl8954,g6g1951,16.8,,,1,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\6PST1951.M (ChemStation Integrator)  
 Title : PEST/PCB  
 Last Update : Wed Mar 13 15:21:00 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 : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	102	0.00	1.46- 2.46
2 SAB	Tetrachloro-m-xylene			-----NA-----			
3	hexachlorobenzene			-----NA-----			
4 A	alpha-BHC			-----NA-----			
5 MA	gamma-BHC			-----NA-----			
6 MA	Heptachlor			-----NA-----			
7 B	beta-BHC			-----NA-----			
8 B	delta-BHC			-----NA-----			
9 MB	Aldrin			-----NA-----			
10	alachlor	0.126	0.129	-2.4	104	0.00	4.30- 4.36
11 B	Heptachlor Epoxide			-----NA-----			
12 B	gamma-Chlordane			-----NA-----			
13 B	alpha-Chlordane			-----NA-----			
14 A	Endosulfan I			-----NA-----			
15 B	4,4'-DDE			-----NA-----			
16 MA	Dieldrin			-----NA-----			
17 MA	Endrin			-----NA-----			
18 A	4,4'-DDD			-----NA-----			
19 B	Endosulfan II			-----NA-----			
20 MA	4,4'-DDT			-----NA-----			
21 B	Endrin Aldehyde			-----NA-----			
22 B	Endosulfan Sulfate			-----NA-----			
23 A	Methoxychlor			-----NA-----			
24	Mirex			-----NA-----			
25 B	Endrin Ketone			-----NA-----			
26 SA	Decachlorobiphenyl			-----NA-----			
27 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	100	0.00	1.46- 2.46
28 L8	Toxaphene{A}			-----NA-----			
29 L8	Toxaphene{B}			-----NA-----			
30 L8	Toxaphene{C}			-----NA-----			
31 L8	Toxaphene{D}			-----NA-----			
32 L8	Toxaphene{E}			-----NA-----			
33 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	101	0.00	1.46- 2.46
34	Chlordane {A}			-----NA-----			
35	Chlordane {B}			-----NA-----			
36	Chlordane {C}			-----NA-----			
37	Chlordane {D}			-----NA-----			
38	Chlordane {E}			-----NA-----			

10.10.14

10

Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1951-ICV1951
Lab FileID: 6G63618.D

\*\*\*\*\* Signal #2 \*\*\*\*\*

Table with columns for ID, Name, and numerical values. Includes entries for 1-bromo-2-nitrobenzene, Tetrachloro-m-xylene, hexachlorobenzene, alpha-BHC, gamma-BHC, Heptachlor, beta-BHC, delta-BHC, Aldrin,alachlor, Heptachlor Epoxide, gamma-Chlordane, alpha-Chlordane, Endosulfan I, 4,4'-DDE, Dieldrin, Endrin, 4,4'-DDD, Endosulfan II, 4,4'-DDT, Endrin Aldehyde, Endosulfan Sulfate, Methoxychlor, Mirex, Endrin Ketone, Decachlorobiphenyl, Toxaphene{A-E}, and Chlordane {A-E}.

(#) = Out of Range
6g63609.d 6PST1951.M

SPCC's out = 0 CCC's out = 0
Thu Mar 14 08:28:17 2019

10:10:14 10

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1984-CC1951  
 Lab FileID: 6G64303.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\G6G1984\6g64303.d\ECD1A.CH Vial: 2  
 Signal #2 : C:\msdchem\1\data\G6G1984\6g64303.d\ECD2B.CH  
 Acq On : 18-Apr-19, 09:59:30 Operator: thomasl  
 Sample : cc1951-25 Inst : GC6G  
 Misc : op19802,g6g1984,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\6PST1951.M (ChemStation Integrator)  
 Title : PEST/PCB  
 Last Update : Mon Apr 15 03:55:56 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 : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	135	0.00	1.45-	2.45
2 SAB	Tetrachloro-m-xylene	0.666	0.656	1.5	133	0.00	2.52-	2.58
3	hexachlorobenzene	1.535	1.501	2.2	134	0.00	2.86-	2.92
4 A	alpha-BHC	1.185	1.181	0.3	138	0.00	3.00-	3.06
5 MA	gamma-BHC	1.138	1.123	1.3	138	0.00	3.30-	3.36
6 MA	Heptachlor	1.177	1.176	0.1	138	0.00	3.80-	3.86
7 B	beta-BHC	0.491	0.461	6.1	135	0.00	3.37-	3.43
8 B	delta-BHC	1.047	1.008	3.7	132	0.00	3.56-	3.62
9 MB	Aldrin	1.099	1.101	-0.2	138	0.00	4.14-	4.20
10	alachlor	0.126	0.128	-1.6	137	0.00	4.29-	4.35
11 B	Heptachlor Epoxide	1.129	1.032	8.6	138	0.00	4.87-	4.93
12 B	gamma-Chlordane	1.033	0.965	6.6	129	0.00	5.03-	5.09
13 B	alpha-Chlordane	0.976	0.967	0.9	132	0.00	5.20-	5.26
14 A	Endosulfan I	0.989	1.008	-1.9	140	0.00	5.38-	5.44
15 B	4,4'-DDE	1.023	0.957	6.5	129	0.00	5.32-	5.38
16 MA	Dieldrin	1.030	1.034	-0.4	137	0.00	5.71-	5.77
17 MA	Endrin	0.969	0.993	-2.5	141	0.00	6.04-	6.10
18 A	4,4'-DDD	0.727	0.692	4.8	133	0.00	6.17-	6.23
19 B	Endosulfan II	1.002	0.943	5.9	136	0.00	6.36-	6.42
20 MA	4,4'-DDT	0.786	0.793	-0.9	140	0.00	6.59-	6.65
21 B	Endrin Aldehyde	0.804	0.759	5.6	132	0.00	7.00-	7.06
22 B	Endosulfan Sulfate	0.821	0.852	-3.8	144	0.00	7.68-	7.75
23 A	Methoxychlor	0.466	0.486	-4.3	143	0.00	7.38-	7.44
24	Mirex	0.824	0.807	2.1	137	0.00	7.53-	7.59
25 B	Endrin Ketone	0.961	0.973	-1.2	136	0.00	8.13-	8.19
26 SA	Decachlorobiphenyl	1.243	1.184	4.7	135	0.00	9.95-	10.01
27 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.45-	2.45
28 L8	Toxaphene{A}			-----NA-----				
29 L8	Toxaphene{B}			-----NA-----				
30 L8	Toxaphene{C}			-----NA-----				
31 L8	Toxaphene{D}			-----NA-----				
32 L8	Toxaphene{E}			-----NA-----				
33 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.45-	2.45
34	Chlordane {A}			-----NA-----				
35	Chlordane {B}			-----NA-----				
36	Chlordane {C}			-----NA-----				
37	Chlordane {D}			-----NA-----				
38	Chlordane {E}			-----NA-----				

10.10.15 10

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1984-CC1951  
 Lab FileID: 6G64303.D

\*\*\*\*\* Signal #2 \*\*\*\*\*

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	100	0.00	1.67-	2.67
2	SAB	Tetrachloro-m-xylene	0.879	0.860	2.2	101	0.00	2.95-	3.01
3		hexachlorobenzene	0.944	0.904	4.2	99	0.00	3.46-	3.52
4	A	alpha-BHC	1.149	1.144	0.4	101	0.00	3.62-	3.68
5	MA	gamma-BHC	1.060	1.051	0.8	102	0.00	4.05-	4.11
6	MA	Heptachlor	1.075	1.044	2.9	100	0.00	4.63-	4.69
7	B	beta-BHC	0.499	0.483	3.2	100	0.00	4.13-	4.19
8	B	delta-BHC	0.985	0.973	1.2	100	0.00	4.53-	4.59
9	MB	Aldrin	0.964	0.938	2.7	101	0.00	5.08-	5.14
10		alachlor	0.139	0.148	-6.5	103	0.00	4.89-	4.95
11	B	Heptachlor Epoxide	0.918	0.898	2.2	101	0.00	5.91-	5.97
12	B	gamma-Chlordane	0.928	0.877	5.5	100	0.00	6.19-	6.25
13	B	alpha-Chlordane	0.891	0.869	2.5	102	0.00	6.42-	6.48
14	A	Endosulfan I	0.832	0.822	1.2	102	0.00	6.52-	6.58
15	B	4,4'-DDE	0.831	0.813	2.2	100	0.00	6.69-	6.75
16	MA	Dieldrin	0.892	0.877	1.7	102	0.00	6.96-	7.02
17	MA	Endrin	0.827	0.837	-1.2	105	0.00	7.46-	7.52
18	A	4,4'-DDD	0.700	0.684	2.3	101	0.00	7.64-	7.70
19	B	Endosulfan II	0.864	0.797	7.8	102	0.00	7.81-	7.87
20	MA	4,4'-DDT	0.695	0.702	-1.0	104	0.00	8.18-	8.24
21	B	Endrin Aldehyde	0.657	0.629	4.3	99	0.00	8.39-	8.45
22	B	Endosulfan Sulfate	0.715	0.731	-2.2	106	0.00	8.86-	8.92
23	A	Methoxychlor	0.409	0.427	-4.4	105	0.00	9.42-	9.48
24		Mirex	0.670	0.677	-1.0	104	0.00	9.75-	9.81
25	B	Endrin Ketone	0.804	0.815	-1.4	104	0.00	9.82-	9.88
26	SA	Decachlorobiphenyl	0.695	0.693	0.3	105	0.00	11.93-	11.99
27	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.67-	2.67
28	L8	Toxaphene{A}						-----NA-----	
29	L8	Toxaphene{B}						-----NA-----	
30	L8	Toxaphene{C}						-----NA-----	
31	L8	Toxaphene{D}						-----NA-----	
32	L8	Toxaphene{E}						-----NA-----	
33	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.67-	2.67
34		Chlordane {A}						-----NA-----	
35		Chlordane {B}						-----NA-----	
36		Chlordane {C}						-----NA-----	
37		Chlordane {D}						-----NA-----	
38		Chlordane {E}						-----NA-----	

(#) = Out of Range  
 6g63608.d 6PST1951.M

SPCC's out = 0 CCC's out = 0  
 Thu Apr 18 11:10:13 2019

10:10:15 10

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1984-CC1951  
 Lab FileID: 6G64320.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\G6G1984\6g64320.d\ECD1A.CH Vial: 4  
 Signal #2 : C:\msdchem\1\data\G6G1984\6g64320.d\ECD2B.CH  
 Acq On : 18-Apr-19, 16:17:54 Operator: thomasl  
 Sample : cc1951-50 Inst : GC6G  
 Misc : op19789,g6g1984,16.8,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\6PST1951.M (ChemStation Integrator)  
 Title : PEST/PCB  
 Last Update : Thu Apr 18 15:15:58 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 : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	134	0.00	1.45-	2.45
2 SAB	Tetrachloro-m-xylene	0.666	0.669	-0.5	134	0.00	2.52-	2.58
3	hexachlorobenzene	1.535	1.551	-1.0	134	0.00	2.86-	2.92
4 A	alpha-BHC	1.185	1.344	-13.4	139	0.00	3.00-	3.06
5 MA	gamma-BHC	1.138	1.268	-11.4	139	0.00	3.30-	3.36
6 MA	Heptachlor	1.177	1.313	-11.6	140	0.00	3.80-	3.86
7 B	beta-BHC	0.491	0.475	3.3	133	0.00	3.38-	3.44
8 B	delta-BHC	1.047	1.167	-11.5	135	0.00	3.56-	3.62
9 MB	Aldrin	1.099	1.242	-13.0	140	0.00	4.14-	4.20
10	alachlor	0.126	0.126	0.0	133	0.00	4.29-	4.35
11 B	Heptachlor Epoxide	1.129	1.086	3.8	134	0.00	4.87-	4.93
12 B	gamma-Chlordane	1.033	1.058	-2.4	129	0.00	5.03-	5.09
13 B	alpha-Chlordane	0.976	1.071	-9.7	134	0.00	5.21-	5.27
14 A	Endosulfan I	0.989	1.097	-10.9	141	0.00	5.39-	5.45
15 B	4,4'-DDE	1.023	1.103	-7.8	138	0.00	5.32-	5.38
16 MA	Dieldrin	1.030	1.160	-12.6	141	0.00	5.71-	5.77
17 MA	Endrin	0.969	1.120	-15.6	146	0.00	6.04-	6.10
18 A	4,4'-DDD	0.727	0.807	-11.0	141	0.00	6.16-	6.22
19 B	Endosulfan II	1.002	1.022	-2.0	140	0.00	6.36-	6.42
20 MA	4,4'-DDT	0.786	0.868	-10.4	139	0.00	6.59-	6.65
21 B	Endrin Aldehyde	0.804	0.820	-2.0	135	0.00	7.00-	7.06
22 B	Endosulfan Sulfate	0.821	0.900	-9.6	143	0.00	7.69-	7.75
23 A	Methoxychlor	0.466	0.501	-7.5	141	0.00	7.38-	7.44
24	Mirex	0.824	0.803	2.5	135	0.00	7.53-	7.59
25 B	Endrin Ketone	0.961	1.038	-8.0	137	0.00	8.13-	8.19
26 SA	Decachlorobiphenyl	1.243	1.220	1.9	136	0.00	9.94-	10.00
27 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	131	0.00	1.45-	2.45
28 L8	Toxaphene{A}			-----NA-----				
29 L8	Toxaphene{B}			-----NA-----				
30 L8	Toxaphene{C}			-----NA-----				
31 L8	Toxaphene{D}			-----NA-----				
32 L8	Toxaphene{E}			-----NA-----				
33 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	132	0.00	1.45-	2.45
34	Chlordane {A}			-----NA-----				
35	Chlordane {B}			-----NA-----				
36	Chlordane {C}			-----NA-----				
37	Chlordane {D}			-----NA-----				
38	Chlordane {E}			-----NA-----				



# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: G6G1984-CC1951  
 Lab FileID: 6G64320.D

\*\*\*\*\* Signal #2 \*\*\*\*\*

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.67-	2.67
2	SAB	Tetrachloro-m-xylene	0.879	0.854	2.8	99	0.00	2.95-	3.01
3		hexachlorobenzene	0.944	0.890	5.7	98	0.00	3.46-	3.52
4	A	alpha-BHC	1.149	1.191	-3.7	100	0.00	3.62-	3.68
5	MA	gamma-BHC	1.060	1.078	-1.7	99	0.00	4.05-	4.11
6	MA	Heptachlor	1.075	1.064	1.0	100	0.00	4.63-	4.69
7	B	beta-BHC	0.499	0.467	6.4	97	0.00	4.13-	4.19
8	B	delta-BHC	0.985	1.020	-3.6	99	0.00	4.53-	4.59
9	MB	Aldrin	0.964	0.958	0.6	100	0.00	5.08-	5.14
10		alachlor	0.139	0.132	5.0	96	0.00	4.89-	4.95
11	B	Heptachlor Epoxide	0.918	0.898	2.2	100	0.00	5.91-	5.97
12	B	gamma-Chlordane	0.928	0.878	5.4	99	0.00	6.20-	6.26
13	B	alpha-Chlordane	0.891	0.852	4.4	99	0.00	6.42-	6.48
14	A	Endosulfan I	0.832	0.815	2.0	100	0.00	6.52-	6.58
15	B	4,4'-DDE	0.831	0.841	-1.2	100	0.00	6.69-	6.75
16	MA	Dieldrin	0.892	0.891	0.1	101	0.00	6.96-	7.02
17	MA	Endrin	0.827	0.842	-1.8	103	0.00	7.46-	7.52
18	A	4,4'-DDD	0.700	0.701	-0.1	101	0.00	7.64-	7.70
19	B	Endosulfan II	0.864	0.784	9.3	100	0.00	7.81-	7.87
20	MA	4,4'-DDT	0.695	0.691	0.6	99	0.00	8.18-	8.24
21	B	Endrin Aldehyde	0.657	0.617	6.1	98	0.00	8.39-	8.45
22	B	Endosulfan Sulfate	0.715	0.694	2.9	102	0.00	8.86-	8.92
23	A	Methoxychlor	0.409	0.388	5.1	97	0.00	9.42-	9.48
24		Mirex	0.670	0.615	8.2	99	0.00	9.75-	9.81
25	B	Endrin Ketone	0.804	0.791	1.6	100	0.00	9.82-	9.88
26	SA	Decachlorobiphenyl	0.695	0.628	9.6	99	0.00	11.93-	11.99
27	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	96	0.00	1.67-	2.67
28	L8	Toxaphene{A}			-----NA-----				
29	L8	Toxaphene{B}			-----NA-----				
30	L8	Toxaphene{C}			-----NA-----				
31	L8	Toxaphene{D}			-----NA-----				
32	L8	Toxaphene{E}			-----NA-----				
33	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	97	0.00	1.67-	2.67
34		Chlordane {A}			-----NA-----				
35		Chlordane {B}			-----NA-----				
36		Chlordane {C}			-----NA-----				
37		Chlordane {D}			-----NA-----				
38		Chlordane {E}			-----NA-----				

(#) = Out of Range  
 6g63609.d 6PST1951.M

SPCC's out = 0 CCC's out = 0  
 Fri Apr 19 08:29:39 2019

10.10.16 10

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICC6419  
 Lab FileID: EF188940.D

## Response Factor Report gcef

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Initial Calibration

### Calibration Files

3000=EF188942.D 2000=EF188941.D 1000=EF188940.D 500 =EF188939.D  
 250 =EF188938.D 50 =EF188937.D

Compound	3000	2000	1000	500	250	50	Avg	%RSD
1) S Tetrachloro-m-xylen	1.509	1.487	1.479	1.459	1.438	1.408	1.463 E4	2.47
2) AR1221-A			1.601				1.601 E2	0.00
3) AR1221-B			2.255				2.255 E2	0.00
4) AR1221-C			7.269				7.269 E2	0.00
5) AR1221-D			1.197				1.197 E2	0.00
6) AR1221-E			8.750				8.750 E1	0.00
7) AR1232-A			5.738				5.738 E2	0.00
8) AR1232-B			3.710				3.710 E2	0.00
9) AR1232-C			8.062				8.062 E2	0.00
10) AR1232-D			3.006				3.006 E2	0.00
11) AR1232-E			2.831				2.831 E2	0.00
12) AR1242-A			5.659				5.659 E2	0.00
13) AR1242-B			1.281				1.281 E3	0.00
14) AR1242-C			4.838				4.838 E2	0.00
15) AR1242-D			5.097				5.097 E2	0.00
16) AR1242-E			5.519				5.519 E2	0.00
17) AR1248-A			3.138				3.138 E2	0.00
18) AR1248-B			9.258				9.258 E2	0.00
19) AR1248-C			8.483				8.483 E2	0.00
20) AR1248-D			7.879				7.879 E2	0.00
21) AR1248-E			3.964				3.964 E2	0.00
22) AR1248-F			8.605				8.605 E2	0.00
23) AR1248-G			9.019				9.019 E2	0.00
24) AR1254-A			7.108				7.108 E2	0.00
25) AR1254-B			8.979				8.979 E2	0.00
26) AR1254-C			6.444				6.444 E2	0.00
27) AR1254-D			1.033				1.033 E3	0.00
28) AR1254-E			9.909				9.909 E2	0.00
29) AR1254-F			9.021				9.021 E2	0.00
30) AR1254-G			1.147				1.147 E3	0.00
31) AR1262-A			9.285				9.285 E2	0.00
32) AR1262-B			1.327				1.327 E3	0.00
33) AR1262-C			9.991				9.991 E2	0.00
34) AR1262-D			2.483				2.483 E3	0.00
35) AR1262-E			2.869				2.869 E3	0.00
36) AR1268-A			2.485				2.485 E3	0.00
37) AR1268-B			2.924				2.924 E3	0.00
38) AR1268-C			2.196				2.196 E3	0.00
39) AR1268-D			9.823				9.823 E2	0.00
40) AR1268-E			6.160				6.160 E3	0.00
41) AR1016-A	3.745	3.886	4.194	4.434	4.666	5.471	4.399 E2	14.22
42) AR1016-B	6.213	6.484	7.036	7.482	7.789	8.346	7.225 E2	11.16
43) AR1016-C	1.402	1.471	1.608	1.730	1.832	1.996	1.673 E3	13.41
44) AR1016-D	5.366	5.619	6.090	6.446	6.760	7.268	6.258 E2	11.38
45) AR1016-E	5.624	5.814	6.254	6.566	6.844	7.436	6.423 E2	10.47
46) AR1260-A	1.231	1.272	1.363	1.434	1.504	1.598	1.400 E3	9.98
47) AR1260-B	0.758	0.796	0.872	0.943	0.998	1.036	0.900 E3	12.33

10.10.17 10

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICC6419  
 Lab FileID: EF188940.D

48)	AR1260-C	0.697	0.726	0.794	0.835	0.911	1.128	0.848	E3	18.50
49)	AR1260-D	1.838	1.920	2.050	2.143	2.141	2.187	2.046	E3	6.83
50)	AR1260-E	1.958	1.992	2.068	2.094	2.074	2.166	2.059	E3	3.61
51) S	Decachlorobiphenyl	1.553	1.636	1.800	2.010	1.854	1.853	1.784	E4	9.26

Signal #2

1) S	Tetrachloro-m-xylen	1.826	1.805	1.810	1.793	1.794	1.636	1.777	E4	3.96
2)	AR1221-A			1.552				1.552	E2	0.00
3)	AR1221-B			2.699				2.699	E2	0.00
4)	AR1221-C			7.314				7.314	E2	0.00
5)	AR1221-D			1.228				1.228	E2	0.00
6)	AR1221-E			1.027				1.027	E2	0.00
7)	AR1232-A			5.826				5.826	E2	0.00
8)	AR1232-B			4.237				4.237	E2	0.00
9)	AR1232-C			8.954				8.954	E2	0.00
10)	AR1232-D			3.946				3.946	E2	0.00
11)	AR1232-E			2.984				2.984	E2	0.00
12)	AR1242-A			6.875				6.875	E2	0.00
13)	AR1242-B			1.411				1.411	E3	0.00
14)	AR1242-C			6.362				6.362	E2	0.00
15)	AR1242-D			4.202				4.202	E2	0.00
16)	AR1242-E			6.214				6.214	E2	0.00
17)	AR1248-A			3.725				3.725	E2	0.00
18)	AR1248-B			9.657				9.657	E2	0.00
19)	AR1248-C			5.512				5.512	E2	0.00
20)	AR1248-D			6.809				6.809	E2	0.00
21)	AR1248-E			7.930				7.930	E2	0.00
22)	AR1248-F			1.094				1.094	E3	0.00
23)	AR1248-G			1.179				1.179	E3	0.00
24)	AR1254-A			1.051				1.051	E3	0.00
25)	AR1254-B			1.058				1.058	E3	0.00
26)	AR1254-C			7.292				7.292	E2	0.00
27)	AR1254-D			1.587				1.587	E3	0.00
28)	AR1254-E			1.350				1.350	E3	0.00
29)	AR1254-F			1.077				1.077	E3	0.00
30)	AR1254-G			1.575				1.575	E3	0.00
31)	AR1262-A			1.377				1.377	E3	0.00
32)	AR1262-B			2.015				2.015	E3	0.00
33)	AR1262-C			1.492				1.492	E3	0.00
34)	AR1262-D			3.264				3.264	E3	0.00
35)	AR1262-E			3.878				3.878	E3	0.00
36)	AR1268-A			3.455				3.455	E3	0.00
37)	AR1268-B			4.002				4.002	E3	0.00
38)	AR1268-C			3.014				3.014	E3	0.00
39)	AR1268-D			1.207				1.207	E3	0.00
40)	AR1268-E			7.737				7.737	E3	0.00
41)	AR1016-A	3.934	4.047	4.342	4.491	4.549	5.110	4.412	E2	9.50
42)	AR1016-B	7.623	7.926	8.461	8.841	9.097	8.525	8.412	E2	6.57
43)	AR1016-C	1.576	1.651	1.788	1.890	2.003	2.135	1.841	E3	11.52
44)	AR1016-D	7.254	7.489	7.966	8.222	8.542	8.728	8.034	E2	7.23
45)	AR1016-E	4.805	5.012	5.328	5.507	5.558	5.704	5.319	E2	6.51
46)	AR1260-A	1.806	1.845	1.944	1.964	2.019	2.185	1.961	E3	6.90
47)	AR1260-B	1.249	1.287	1.370	1.414	1.448	1.521	1.381	E3	7.35
48)	AR1260-C	1.088	1.102	1.150	1.179	1.209	1.200	1.155	E3	4.37
49)	AR1260-D	2.622	2.648	2.759	2.779	2.822	2.765	2.733	E3	2.89
50)	AR1260-E	2.642	2.636	2.704	2.665	2.819	3.014	2.747	E3	5.36
51) S	Decachlorobiphenyl	1.853	1.845	1.935	1.907	2.013	2.268	1.970	E4	8.02

(#) = Out of Range

10:10:17 10

# Initial Calibration Summary

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** GEF6419-ICC6419  
**Lab FileID:** EF188940.D

PCB6419.M

Wed Apr 10 08:52:18 2019

GCEF

10.10.17

10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
 Lab FileID: EF188947.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD1A.CH Vial: 36  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:15 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.633	14.903 E3	-1.8	101	0.00	3.50-	3.75
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	439.926	426.574	3.0	102	0.00	4.09-	4.28

10.10.18  
10

# Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
 Lab FileID: EF188947.D

42	AR1016-B	722.503	681.932		5.6	97	0.00	4.72- 4.84
43	AR1016-C	1.673	1.541	E3	7.9	96	0.00	5.58- 5.65
44	AR1016-D	625.809	585.388		6.5	96	0.00	5.84- 5.90
45	AR1016-E	642.281	611.074		4.9	98	0.00	6.63- 6.69
46	AR1260-A	1.400	1.357	E3	3.1	100	0.00	10.32-10.46
47	AR1260-B	900.478	906.764		-0.7	104	0.00	10.57-10.71
48	AR1260-C	848.398	793.690		6.4	100	0.00	11.11-11.25
49	AR1260-D	2.046	2.160	E3	-5.6	105	0.00	11.81-11.93
50	AR1260-E	2.059	2.053	E3	0.3	99	0.00	12.43-12.57
51 S	Decachlorobiphenyl	17.843	18.885	E3	-5.8	105	0.00	14.90-15.04

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	17.773	17.005	E3	4.3	94	0.00	4.15- 4.36
2	AR1221-A				-----NA-----			
3	AR1221-B				-----NA-----			
4	AR1221-C				-----NA-----			
5	AR1221-D				-----NA-----			
6	AR1221-E				-----NA-----			
7	AR1232-A				-----NA-----			
8	AR1232-B				-----NA-----			
9	AR1232-C				-----NA-----			
10	AR1232-D				-----NA-----			
11	AR1232-E				-----NA-----			
12	AR1242-A				-----NA-----			
13	AR1242-B				-----NA-----			
14	AR1242-C				-----NA-----			
15	AR1242-D				-----NA-----			
16	AR1242-E				-----NA-----			
17	AR1248-A				-----NA-----			
18	AR1248-B				-----NA-----			
19	AR1248-C				-----NA-----			
20	AR1248-D				-----NA-----			
21	AR1248-E				-----NA-----			
22	AR1248-F				-----NA-----			
23	AR1248-G				-----NA-----			
24	AR1254-A				-----NA-----			
25	AR1254-B				-----NA-----			
26	AR1254-C				-----NA-----			
27	AR1254-D				-----NA-----			
28	AR1254-E				-----NA-----			
29	AR1254-F				-----NA-----			
30	AR1254-G				-----NA-----			
31	AR1262-A				-----NA-----			
32	AR1262-B				-----NA-----			
33	AR1262-C				-----NA-----			
34	AR1262-D				-----NA-----			
35	AR1262-E				-----NA-----			
36	AR1268-A				-----NA-----			
37	AR1268-B				-----NA-----			
38	AR1268-C				-----NA-----			
39	AR1268-D				-----NA-----			
40	AR1268-E				-----NA-----			
41	AR1016-A	441.207	402.052		8.9	93	0.00	5.13- 5.25
42	AR1016-B	841.216	769.258		8.6	91	0.00	5.97- 6.03
43	AR1016-C	1.841	1.605	E3	12.8	90	0.00	6.91- 6.97
44	AR1016-D	803.373	720.881		10.3	90	0.00	7.20- 7.26
45	AR1016-E	531.885	479.950		9.8	90	0.00	8.20- 8.27
46	AR1260-A	1.961	1.867	E3	4.8	96	0.00	12.28-12.40
47	AR1260-B	1.381	1.378	E3	0.2	101	0.00	12.47-12.59

10.10.18  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
Lab FileID: EF188947.D

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48	AR1260-C	1.155	1.154	E3	0.1	100	0.00	13.16-13.28
49	AR1260-D	2.733	2.840	E3	-3.9	103	0.00	13.72-13.85
50	AR1260-E	2.747	2.664	E3	3.0	99	0.00	14.58-14.70
51 S	Decachlorobiphenyl	19.703	21.087	E3	-7.0	109	0.00	17.25-17.38

---

(#) = Out of Range  
EF188940.D PCB6419.M

SPCC's out = 0 CCC's out = 0  
Wed Apr 10 08:51:00 2019 GCEF

10.10.18  
10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
 Lab FileID: EF188948.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.633	20.703 E3	-41.5#	140	0.00	3.49-	3.74
2	AR1221-A	160.053	168.849	-5.5	105	0.00	2.81-	3.01
3	AR1221-B	225.511	206.531	8.4	92	0.00	3.78-	3.98
4	AR1221-C	726.855	664.904	8.5	91	0.00	4.08-	4.28
5	AR1221-D	119.711	96.764	19.2	81	0.00	4.68-	4.88
6	AR1221-E	87.499	77.168	11.8	88	0.00	4.93-	5.13
7	AR1232-A			-----	NA	-----		
8	AR1232-B			-----	NA	-----		
9	AR1232-C			-----	NA	-----		
10	AR1232-D			-----	NA	-----		
11	AR1232-E			-----	NA	-----		
12	AR1242-A			-----	NA	-----		
13	AR1242-B			-----	NA	-----		
14	AR1242-C			-----	NA	-----		
15	AR1242-D			-----	NA	-----		
16	AR1242-E			-----	NA	-----		
17	AR1248-A			-----	NA	-----		
18	AR1248-B			-----	NA	-----		
19	AR1248-C			-----	NA	-----		
20	AR1248-D			-----	NA	-----		
21	AR1248-E			-----	NA	-----		
22	AR1248-F			-----	NA	-----		
23	AR1248-G			-----	NA	-----		
24	AR1254-A	710.847	708.091	0.4	100	0.00	7.32-	7.52
25	AR1254-B	897.944	896.561	0.2	100	0.00	7.86-	8.06
26	AR1254-C	644.382	651.519	-1.1	101	0.00	8.43-	8.63
27	AR1254-D	1.033	1.019 E3	1.4	99	0.00	8.69-	8.89
28	AR1254-E	990.943	968.380	2.3	98	0.00	9.30-	9.50
29	AR1254-F	902.081	917.313	-1.7	102	0.00	9.69-	9.89
30	AR1254-G	1.147	1.146 E3	0.1	100	0.00	10.29-	10.49
31	AR1262-A			-----	NA	-----		
32	AR1262-B			-----	NA	-----		
33	AR1262-C			-----	NA	-----		
34	AR1262-D			-----	NA	-----		
35	AR1262-E			-----	NA	-----		
36	AR1268-A			-----	NA	-----		
37	AR1268-B			-----	NA	-----		
38	AR1268-C			-----	NA	-----		
39	AR1268-D			-----	NA	-----		
40	AR1268-E			-----	NA	-----		
41	AR1016-A			-----	NA	-----		

10.10.19  
10



# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
Lab FileID: EF188948.D

42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----
48	AR1260-C								-----NA-----
49	AR1260-D								-----NA-----
50	AR1260-E								-----NA-----
51 S	Decachlorobiphenyl	17.843	24.776	E3	-38.9#	138	0.00	14.90-15.04	

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	17.773	24.200	E3	-36.2#	134	0.00	4.15- 4.36	
2	AR1221-A	155.179	162.098		-4.5	104	0.00	3.40- 3.60	
3	AR1221-B	269.908	231.820		14.1	86	0.00	4.70- 4.90	
4	AR1221-C	731.367	643.070		12.1	88	0.00	5.09- 5.29	
5	AR1221-D	122.792	100.560		18.1	82	0.00	5.90- 6.10	
6	AR1221-E	102.732	102.978		-0.2	100	0.00	6.04- 6.24	
7	AR1232-A							-----NA-----	
8	AR1232-B							-----NA-----	
9	AR1232-C							-----NA-----	
10	AR1232-D							-----NA-----	
11	AR1232-E							-----NA-----	
12	AR1242-A							-----NA-----	
13	AR1242-B							-----NA-----	
14	AR1242-C							-----NA-----	
15	AR1242-D							-----NA-----	
16	AR1242-E							-----NA-----	
17	AR1248-A							-----NA-----	
18	AR1248-B							-----NA-----	
19	AR1248-C							-----NA-----	
20	AR1248-D							-----NA-----	
21	AR1248-E							-----NA-----	
22	AR1248-F							-----NA-----	
23	AR1248-G							-----NA-----	
24	AR1254-A	1.051	1.045	E3	0.6	99	0.00	9.06- 9.26	
25	AR1254-B	1.058	1.047	E3	1.0	99	0.00	9.47- 9.67	
26	AR1254-C	729.170	713.591		2.1	98	0.00	10.25-10.45	
27	AR1254-D	1.587	1.559	E3	1.8	98	0.00	10.52-10.72	
28	AR1254-E	1.350	1.276	E3	5.5	95	0.00	11.03-11.23	
29	AR1254-F	1.077	1.038	E3	3.6	96	0.00	11.77-11.97	
30	AR1254-G	1.575	1.560	E3	1.0	99	0.00	12.24-12.44	
31	AR1262-A							-----NA-----	
32	AR1262-B							-----NA-----	
33	AR1262-C							-----NA-----	
34	AR1262-D							-----NA-----	
35	AR1262-E							-----NA-----	
36	AR1268-A							-----NA-----	
37	AR1268-B							-----NA-----	
38	AR1268-C							-----NA-----	
39	AR1268-D							-----NA-----	
40	AR1268-E							-----NA-----	
41	AR1016-A							-----NA-----	
42	AR1016-B							-----NA-----	
43	AR1016-C							-----NA-----	
44	AR1016-D							-----NA-----	
45	AR1016-E							-----NA-----	
46	AR1260-A							-----NA-----	
47	AR1260-B							-----NA-----	

10.10.19  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
Lab FileID: EF188948.D

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48	AR1260-C					-----NA-----		
49	AR1260-D					-----NA-----		
50	AR1260-E					-----NA-----		
51 S	Decachlorobiphenyl	19.703	27.126	E3	-37.7#	140	0.00	17.25-17.38

---

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0  
EF188940.D PCB6419.M                  Wed Apr 10 08:51:02 2019    GCEF

10.10.19  
10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
 Lab FileID: EF188949.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD1A.CH Vial: 38  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:05 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.633	20.688 E3	-41.4	# 140	0.00	3.50-	3.75
2	AR1221-A							
3	AR1221-B							
4	AR1221-C							
5	AR1221-D							
6	AR1221-E							
7	AR1232-A	573.825	531.927	7.3	93	0.00	4.08-	4.28
8	AR1232-B	370.956	347.908	6.2	94	0.00	4.68-	4.88
9	AR1232-C	806.250	755.811	6.3	94	0.00	5.52-	5.72
10	AR1232-D	300.604	281.186	6.5	94	0.00	5.77-	5.97
11	AR1232-E	283.082	264.131	6.7	93	0.00	6.56-	6.76
12	AR1242-A							
13	AR1242-B							
14	AR1242-C							
15	AR1242-D							
16	AR1242-E							
17	AR1248-A							
18	AR1248-B							
19	AR1248-C							
20	AR1248-D							
21	AR1248-E							
22	AR1248-F							
23	AR1248-G							
24	AR1254-A							
25	AR1254-B							
26	AR1254-C							
27	AR1254-D							
28	AR1254-E							
29	AR1254-F							
30	AR1254-G							
31	AR1262-A	928.470	922.947	0.6	99	0.00	9.69-	9.89
32	AR1262-B	1.327	1.337 E3	-0.8	101	0.00	10.55-	10.75
33	AR1262-C	999.067	1003.021	-0.4	100	0.00	11.08-	11.28
34	AR1262-D	2.483	2.518 E3	-1.4	101	0.00	11.78-	11.98
35	AR1262-E	2.869	2.938 E3	-2.4	102	0.00	12.48-	12.68
36	AR1268-A							
37	AR1268-B							
38	AR1268-C							
39	AR1268-D							
40	AR1268-E							
41	AR1016-A							

10.10.20 10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
Lab FileID: EF188949.D

42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----
48	AR1260-C								-----NA-----
49	AR1260-D								-----NA-----
50	AR1260-E								-----NA-----
51 S	Decachlorobiphenyl	17.843	25.103	E3	-40.7#	139	0.00	14.91-15.05	

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	17.773	24.824	E3	-39.7#	137	0.00	4.15- 4.36	
2	AR1221-A								-----NA-----
3	AR1221-B								-----NA-----
4	AR1221-C								-----NA-----
5	AR1221-D								-----NA-----
6	AR1221-E								-----NA-----
7	AR1232-A	582.646	535.840		8.0	92	0.00	5.09- 5.29	
8	AR1232-B	423.736	394.356		6.9	93	0.00	5.90- 6.10	
9	AR1232-C	895.430	833.945		6.9	93	0.00	6.84- 7.04	
10	AR1232-D	394.553	369.624		6.3	94	0.00	7.13- 7.33	
11	AR1232-E	298.381	290.139		2.8	97	0.00	8.41- 8.61	
12	AR1242-A								-----NA-----
13	AR1242-B								-----NA-----
14	AR1242-C								-----NA-----
15	AR1242-D								-----NA-----
16	AR1242-E								-----NA-----
17	AR1248-A								-----NA-----
18	AR1248-B								-----NA-----
19	AR1248-C								-----NA-----
20	AR1248-D								-----NA-----
21	AR1248-E								-----NA-----
22	AR1248-F								-----NA-----
23	AR1248-G								-----NA-----
24	AR1254-A								-----NA-----
25	AR1254-B								-----NA-----
26	AR1254-C								-----NA-----
27	AR1254-D								-----NA-----
28	AR1254-E								-----NA-----
29	AR1254-F								-----NA-----
30	AR1254-G								-----NA-----
31	AR1262-A	1.377	1.344	E3	2.4	98	0.00	11.42-11.62	
32	AR1262-B	2.015	2.003	E3	0.6	99	0.00	12.44-12.64	
33	AR1262-C	1.492	1.472	E3	1.3	99	0.00	13.12-13.32	
34	AR1262-D	3.264	3.176	E3	2.7	97	0.00	13.69-13.89	
35	AR1262-E	3.878	3.733	E3	3.7	96	0.00	14.51-14.71	
36	AR1268-A								-----NA-----
37	AR1268-B								-----NA-----
38	AR1268-C								-----NA-----
39	AR1268-D								-----NA-----
40	AR1268-E								-----NA-----
41	AR1016-A								-----NA-----
42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----

10.10.20  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
Lab FileID: EF188949.D

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48	AR1260-C									-----NA-----
49	AR1260-D									-----NA-----
50	AR1260-E									-----NA-----
51 S	Decachlorobiphenyl	19.703	28.284	E3	-43.6#	146	0.00		17.26-17.38	

---

(#) = Out of Range  
EF188940.D PCB6419.M

SPCC's out = 0 CCC's out = 0  
Wed Apr 10 08:51:04 2019 GCEF

10.10.20  
10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
 Lab FileID: EF188950.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188950.D\ECD1A.CH Vial: 39  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188950.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:30 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.633	20.253 E3	-38.4	# 137	0.00	3.50-	3.75
2	AR1221-A							
3	AR1221-B							
4	AR1221-C							
5	AR1221-D							
6	AR1221-E							
7	AR1232-A							
8	AR1232-B							
9	AR1232-C							
10	AR1232-D							
11	AR1232-E							
12	AR1242-A	565.907	593.088	-4.8	105	0.00	4.68-	4.88
13	AR1242-B	1.281	1.331 E3	-3.9	104	0.00	5.52-	5.72
14	AR1242-C	483.773	505.306	-4.5	104	0.00	5.77-	5.97
15	AR1242-D	509.654	524.736	-3.0	103	0.00	6.56-	6.76
16	AR1242-E	551.881	574.288	-4.1	104	0.00	7.48-	7.68
17	AR1248-A							
18	AR1248-B							
19	AR1248-C							
20	AR1248-D							
21	AR1248-E							
22	AR1248-F							
23	AR1248-G							
24	AR1254-A							
25	AR1254-B							
26	AR1254-C							
27	AR1254-D							
28	AR1254-E							
29	AR1254-F							
30	AR1254-G							
31	AR1262-A							
32	AR1262-B							
33	AR1262-C							
34	AR1262-D							
35	AR1262-E							
36	AR1268-A	2.485	2.433 E3	2.1	98	0.00	12.48-	12.68
37	AR1268-B	2.924	2.914 E3	0.3	100	0.00	12.57-	12.77
38	AR1268-C	2.196	2.178 E3	0.8	99	0.00	13.01-	13.21
39	AR1268-D	982.252	965.090	1.7	98	0.00	13.81-	14.01
40	AR1268-E	6.160	6.131 E3	0.5	100	0.00	14.44-	14.64
41	AR1016-A							

10.10.21  
10

Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419
Lab FileID: EF188950.D

Table with 10 columns: ID, Sample Name, and various numerical values. Rows 42-50 show 'NA' results. Row 51 shows 'Decachlorobiphenyl' with values 17.843, 57.752, E3, -223.7#, 321#, 0.00, and 14.90-15.04.

\*\*\*\*\* Signal #2 \*\*\*\*\*

Table with 10 columns: ID, Sample Name, and various numerical values. Rows 1-11 show 'NA' results. Rows 12-16 show numerical data for 'Tetrachloro-m-xylene'. Rows 17-35 show 'NA' results. Rows 36-40 show numerical data. Rows 41-47 show 'NA' results.

10.10.21 10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
Lab FileID: EF188950.D

---

48	AR1260-C									-----NA-----
49	AR1260-D									-----NA-----
50	AR1260-E									-----NA-----
51 S	Decachlorobiphenyl	19.703	69.133	E3	-250.9#	357#	0.00		17.26-17.38	

---

(#) = Out of Range                      SPCC's out = 0    CCC's out = 0  
EF188940.D PCB6419.M                  Wed Apr 10 08:51:06 2019    GCEF

10.10.21

10



## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
 Lab FileID: EF188951.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD1A.CH Vial: 40  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:55 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.633	20.025 E3	-36.8	# 135	0.00	3.50-	3.75
2	AR1221-A			-----NA-----				
3	AR1221-B			-----NA-----				
4	AR1221-C			-----NA-----				
5	AR1221-D			-----NA-----				
6	AR1221-E			-----NA-----				
7	AR1232-A			-----NA-----				
8	AR1232-B			-----NA-----				
9	AR1232-C			-----NA-----				
10	AR1232-D			-----NA-----				
11	AR1232-E			-----NA-----				
12	AR1242-A			-----NA-----				
13	AR1242-B			-----NA-----				
14	AR1242-C			-----NA-----				
15	AR1242-D			-----NA-----				
16	AR1242-E			-----NA-----				
17	AR1248-A	313.820	292.183	6.9	93	0.00	4.68-	4.88
18	AR1248-B	925.756	906.801	2.0	98	0.00	5.52-	5.72
19	AR1248-C	848.270	855.266	-0.8	101	0.00	6.16-	6.36
20	AR1248-D	787.949	797.373	-1.2	101	0.00	6.55-	6.75
21	AR1248-E	396.428	412.252	-4.0	104	0.00	6.73-	6.93
22	AR1248-F	860.517	892.387	-3.7	104	0.00	7.47-	7.67
23	AR1248-G	901.926	940.000	-4.2	104	0.00	7.87-	8.07
24	AR1254-A			-----NA-----				
25	AR1254-B			-----NA-----				
26	AR1254-C			-----NA-----				
27	AR1254-D			-----NA-----				
28	AR1254-E			-----NA-----				
29	AR1254-F			-----NA-----				
30	AR1254-G			-----NA-----				
31	AR1262-A			-----NA-----				
32	AR1262-B			-----NA-----				
33	AR1262-C			-----NA-----				
34	AR1262-D			-----NA-----				
35	AR1262-E			-----NA-----				
36	AR1268-A			-----NA-----				
37	AR1268-B			-----NA-----				
38	AR1268-C			-----NA-----				
39	AR1268-D			-----NA-----				
40	AR1268-E			-----NA-----				
41	AR1016-A			-----NA-----				

10.10.22 10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
Lab FileID: EF188951.D

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42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----
48	AR1260-C								-----NA-----
49	AR1260-D								-----NA-----
50	AR1260-E								-----NA-----
51 S	Decachlorobiphenyl	17.843	26.169	E3	-46.7#	145	0.00	14.91-15.05	

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	17.773	25.977	E3	-46.2#	143	0.00	4.15- 4.36	
2	AR1221-A								-----NA-----
3	AR1221-B								-----NA-----
4	AR1221-C								-----NA-----
5	AR1221-D								-----NA-----
6	AR1221-E								-----NA-----
7	AR1232-A								-----NA-----
8	AR1232-B								-----NA-----
9	AR1232-C								-----NA-----
10	AR1232-D								-----NA-----
11	AR1232-E								-----NA-----
12	AR1242-A								-----NA-----
13	AR1242-B								-----NA-----
14	AR1242-C								-----NA-----
15	AR1242-D								-----NA-----
16	AR1242-E								-----NA-----
17	AR1248-A	372.491	340.687			8.5	91	0.00	5.90- 6.10
18	AR1248-B	965.658	929.271			3.8	96	0.00	6.84- 7.04
19	AR1248-C	551.156	548.740			0.4	100	0.00	7.55- 7.75
20	AR1248-D	680.941	679.599			0.2	100	0.00	8.14- 8.34
21	AR1248-E	792.978	856.010			-7.9	108	0.00	8.41- 8.61
22	AR1248-F	1.094	1.134	E3	-3.7	104	0.00	9.08- 9.28	
23	AR1248-G	1.179	1.248	E3	-5.9	106	0.00	9.60- 9.80	
24	AR1254-A								-----NA-----
25	AR1254-B								-----NA-----
26	AR1254-C								-----NA-----
27	AR1254-D								-----NA-----
28	AR1254-E								-----NA-----
29	AR1254-F								-----NA-----
30	AR1254-G								-----NA-----
31	AR1262-A								-----NA-----
32	AR1262-B								-----NA-----
33	AR1262-C								-----NA-----
34	AR1262-D								-----NA-----
35	AR1262-E								-----NA-----
36	AR1268-A								-----NA-----
37	AR1268-B								-----NA-----
38	AR1268-C								-----NA-----
39	AR1268-D								-----NA-----
40	AR1268-E								-----NA-----
41	AR1016-A								-----NA-----
42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----

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10.10.22  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6419-ICV6419  
Lab FileID: EF188951.D

48	AR1260-C									-----NA-----
49	AR1260-D									-----NA-----
50	AR1260-E									-----NA-----
51 S	Decachlorobiphenyl	19.703	27.593	E3	-40.0#	143	0.00			17.26-17.38

-----  
 (#) = Out of Range                                              SPCC's out = 0    CCC's out = 0  
 EF188940.D PCB6419.M                                          Wed Apr 10 08:51:08 2019    GCEF

10.10.22 10

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
 Lab FileID: EF189193.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD1A.CH Vial: 1  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:07 am Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19817,GEF6426,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.633	15.305 E3	-4.6	105	0.01	3.52-	3.77
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	439.926	450.943	-2.5	102	0.02	4.12-	4.30

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
 Lab FileID: EF189193.D

42	AR1016-B	722.503	778.133	-7.7	104	0.02	4.74- 4.87
43	AR1016-C	1.673	1.780	E3 -6.4	103	0.02	5.61- 5.68
44	AR1016-D	625.809	689.595	-10.2	107	0.02	5.87- 5.93
45	AR1016-E	642.281	698.034	-8.7	106	0.02	6.65- 6.71
46	AR1260-A	1.400	1.548	E3 -10.6	108	0.02	10.35-10.48
47	AR1260-B	900.478	1082.306	-20.2#	115	0.02	10.60-10.73
48	AR1260-C	848.398	904.664	-6.6	108	0.02	11.13-11.27
49	AR1260-D	2.046	2.459	E3 -20.2#	115	0.02	11.83-11.96
50	AR1260-E	2.059	2.418	E3 -17.4	115	0.10	12.53-12.67
51 S	Decachlorobiphenyl	17.843	21.149	E3 -18.5	105	0.02	14.92-15.05

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	17.773	19.913	E3 -12.0	111	0.01	4.16- 4.38
2	AR1221-A			-----NA-----			
3	AR1221-B			-----NA-----			
4	AR1221-C			-----NA-----			
5	AR1221-D			-----NA-----			
6	AR1221-E			-----NA-----			
7	AR1232-A			-----NA-----			
8	AR1232-B			-----NA-----			
9	AR1232-C			-----NA-----			
10	AR1232-D			-----NA-----			
11	AR1232-E			-----NA-----			
12	AR1242-A			-----NA-----			
13	AR1242-B			-----NA-----			
14	AR1242-C			-----NA-----			
15	AR1242-D			-----NA-----			
16	AR1242-E			-----NA-----			
17	AR1248-A			-----NA-----			
18	AR1248-B			-----NA-----			
19	AR1248-C			-----NA-----			
20	AR1248-D			-----NA-----			
21	AR1248-E			-----NA-----			
22	AR1248-F			-----NA-----			
23	AR1248-G			-----NA-----			
24	AR1254-A			-----NA-----			
25	AR1254-B			-----NA-----			
26	AR1254-C			-----NA-----			
27	AR1254-D			-----NA-----			
28	AR1254-E			-----NA-----			
29	AR1254-F			-----NA-----			
30	AR1254-G			-----NA-----			
31	AR1262-A			-----NA-----			
32	AR1262-B			-----NA-----			
33	AR1262-C			-----NA-----			
34	AR1262-D			-----NA-----			
35	AR1262-E			-----NA-----			
36	AR1268-A			-----NA-----			
37	AR1268-B			-----NA-----			
38	AR1268-C			-----NA-----			
39	AR1268-D			-----NA-----			
40	AR1268-E			-----NA-----			
41	AR1016-A	441.207	478.244	-8.4	106	0.01	5.15- 5.27
42	AR1016-B	841.216	920.909	-9.5	104	0.01	5.99- 6.05
43	AR1016-C	1.841	1.955	E3 -6.2	103	0.02	6.93- 6.99
44	AR1016-D	803.373	926.031	-15.3	113	0.02	7.22- 7.28
45	AR1016-E	531.885	570.512	-7.3	104	0.02	8.22- 8.29
46	AR1260-A	1.961	2.076	E3 -5.9	106	0.02	12.30-12.42
47	AR1260-B	1.381	1.604	E3 -16.1	113	0.01	12.49-12.61

10.10.23 10

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
Lab FileID: EF189193.D

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48	AR1260-C	1.155	1.370	E3	-18.6	116	0.02	13.17-13.30
49	AR1260-D	2.733	3.012	E3	-10.2	108	0.02	13.74-13.87
50	AR1260-E	2.747	3.294	E3	-19.9	124	0.02	14.60-14.72
51 S	Decachlorobiphenyl	19.703	21.631	E3	-9.8	113	0.00	17.27-17.39

---

(#) = Out of Range  
EF188939.D PCB6419.M

SPCC's out = 0 CCC's out = 0  
Tue Apr 23 12:14:40 2019 GCEF

10.10.23  
10

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
 Lab FileID: EF189203.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD1A.CH Vial: 11  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD2B.CH  
 Acq On : 19 Apr 2019 3:42 pm Operator: tianweir  
 Sample : cc6419-1000 Inst : gcef  
 Misc : op19829,GEF6426,16.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.633	15.693 E3	-7.2	106	0.00	3.50-	3.75
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	439.926	418.148	5.0	100	-0.01	4.09-	4.27

10.10.24

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# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
 Lab FileID: EF189203.D

42	AR1016-B	722.503	710.140		1.7	101	-0.01	4.71- 4.84
43	AR1016-C	1.673	1.640	E3	2.0	102	-0.02	5.57- 5.64
44	AR1016-D	625.809	582.094		7.0	96	-0.02	5.83- 5.89
45	AR1016-E	642.281	629.655		2.0	101	-0.01	6.62- 6.68
46	AR1260-A	1.400	1.482	E3	-5.9	109	-0.01	10.31-10.45
47	AR1260-B	900.478	942.690		-4.7	108	0.00	10.57-10.71
48	AR1260-C	848.398	846.916		0.2	107	0.00	11.10-11.24
49	AR1260-D	2.046	1.954	E3	4.5	95	0.00	11.80-11.92
50	AR1260-E	2.059	2.287	E3	-11.1	111	-0.01	12.42-12.55
51 S	Decachlorobiphenyl	17.843	18.306	E3	-2.6	102	0.00	14.90-15.04

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	17.773	19.769	E3	-11.2	109	0.00	4.15- 4.37
2	AR1221-A						-----NA-----	
3	AR1221-B						-----NA-----	
4	AR1221-C						-----NA-----	
5	AR1221-D						-----NA-----	
6	AR1221-E						-----NA-----	
7	AR1232-A						-----NA-----	
8	AR1232-B						-----NA-----	
9	AR1232-C						-----NA-----	
10	AR1232-D						-----NA-----	
11	AR1232-E						-----NA-----	
12	AR1242-A						-----NA-----	
13	AR1242-B						-----NA-----	
14	AR1242-C						-----NA-----	
15	AR1242-D						-----NA-----	
16	AR1242-E						-----NA-----	
17	AR1248-A						-----NA-----	
18	AR1248-B						-----NA-----	
19	AR1248-C						-----NA-----	
20	AR1248-D						-----NA-----	
21	AR1248-E						-----NA-----	
22	AR1248-F						-----NA-----	
23	AR1248-G						-----NA-----	
24	AR1254-A						-----NA-----	
25	AR1254-B						-----NA-----	
26	AR1254-C						-----NA-----	
27	AR1254-D						-----NA-----	
28	AR1254-E						-----NA-----	
29	AR1254-F						-----NA-----	
30	AR1254-G						-----NA-----	
31	AR1262-A						-----NA-----	
32	AR1262-B						-----NA-----	
33	AR1262-C						-----NA-----	
34	AR1262-D						-----NA-----	
35	AR1262-E						-----NA-----	
36	AR1268-A						-----NA-----	
37	AR1268-B						-----NA-----	
38	AR1268-C						-----NA-----	
39	AR1268-D						-----NA-----	
40	AR1268-E						-----NA-----	
41	AR1016-A	441.207	456.658		-3.5	105	0.00	5.13- 5.26
42	AR1016-B	841.216	896.840		-6.6	106	0.00	5.98- 6.04
43	AR1016-C	1.841	1.894	E3	-2.9	106	0.00	6.91- 6.97
44	AR1016-D	803.373	772.706		3.8	97	0.00	7.20- 7.26
45	AR1016-E	531.885	561.481		-5.6	105	0.00	8.21- 8.28
46	AR1260-A	1.961	2.114	E3	-7.8	109	0.00	12.28-12.40
47	AR1260-B	1.381	1.473	E3	-6.7	108	0.00	12.48-12.60

10.10.24 10



# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
Lab FileID: EF189203.D

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48	AR1260-C	1.155	1.272	E3	-10.1	111	0.00	13.16-13.29
49	AR1260-D	2.733	3.018	E3	-10.4	109	0.00	13.73-13.85
50	AR1260-E	2.747	2.923	E3	-6.4	108	0.00	14.58-14.70
51 S	Decachlorobiphenyl	19.703	20.525	E3	-4.2	106	0.00	17.27-17.39

---

(#) = Out of Range  
EF189191.D PCB6419.M

SPCC's out = 0 CCC's out = 0  
Fri Apr 19 16:17:30 2019 GCEF

10.10.24  
10

## Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
 Lab FileID: EF189214.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD1A.CH Vial: 19  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD2B.CH  
 Acq On : 19 Apr 2019 8:18 pm Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19829,GEF6426,16.1,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	14.633	15.630 E3	-6.8	107	0.00	3.50-	3.75
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	439.926	453.148	-3.0	102	0.00	4.09-	4.28

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
 Lab FileID: EF189214.D

42	AR1016-B	722.503	773.974		-7.1	103	0.00	4.72- 4.84
43	AR1016-C	1.673	1.775	E3	-6.1	103	-0.01	5.58- 5.65
44	AR1016-D	625.809	672.628		-7.5	104	-0.01	5.83- 5.89
45	AR1016-E	642.281	675.325		-5.1	103	-0.01	6.62- 6.68
46	AR1260-A	1.400	1.539	E3	-9.9	107	-0.01	10.31-10.45
47	AR1260-B	900.478	998.661		-10.9	106	0.00	10.57-10.71
48	AR1260-C	848.398	881.805		-3.9	106	0.00	11.10-11.24
49	AR1260-D	2.046	1.993	E3	2.6	93	0.00	11.80-11.92
50	AR1260-E	2.059	2.290	E3	-11.2	109	-0.02	12.42-12.55
51 S	Decachlorobiphenyl	17.843	18.708	E3	-4.8	93	0.00	14.90-15.03

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	17.773	19.668	E3	-10.7	110	0.00	4.15- 4.37
2	AR1221-A				-----NA-----			
3	AR1221-B				-----NA-----			
4	AR1221-C				-----NA-----			
5	AR1221-D				-----NA-----			
6	AR1221-E				-----NA-----			
7	AR1232-A				-----NA-----			
8	AR1232-B				-----NA-----			
9	AR1232-C				-----NA-----			
10	AR1232-D				-----NA-----			
11	AR1232-E				-----NA-----			
12	AR1242-A				-----NA-----			
13	AR1242-B				-----NA-----			
14	AR1242-C				-----NA-----			
15	AR1242-D				-----NA-----			
16	AR1242-E				-----NA-----			
17	AR1248-A				-----NA-----			
18	AR1248-B				-----NA-----			
19	AR1248-C				-----NA-----			
20	AR1248-D				-----NA-----			
21	AR1248-E				-----NA-----			
22	AR1248-F				-----NA-----			
23	AR1248-G				-----NA-----			
24	AR1254-A				-----NA-----			
25	AR1254-B				-----NA-----			
26	AR1254-C				-----NA-----			
27	AR1254-D				-----NA-----			
28	AR1254-E				-----NA-----			
29	AR1254-F				-----NA-----			
30	AR1254-G				-----NA-----			
31	AR1262-A				-----NA-----			
32	AR1262-B				-----NA-----			
33	AR1262-C				-----NA-----			
34	AR1262-D				-----NA-----			
35	AR1262-E				-----NA-----			
36	AR1268-A				-----NA-----			
37	AR1268-B				-----NA-----			
38	AR1268-C				-----NA-----			
39	AR1268-D				-----NA-----			
40	AR1268-E				-----NA-----			
41	AR1016-A	441.207	477.279		-8.2	106	0.00	5.13- 5.26
42	AR1016-B	841.216	946.069		-12.5	107	0.00	5.98- 6.04
43	AR1016-C	1.841	2.008	E3	-9.1	106	0.00	6.91- 6.97
44	AR1016-D	803.373	865.600		-7.7	105	0.00	7.20- 7.26
45	AR1016-E	531.885	574.503		-8.0	104	0.00	8.21- 8.28
46	AR1260-A	1.961	2.044	E3	-4.2	104	0.00	12.28-12.40
47	AR1260-B	1.381	1.438	E3	-4.1	102	0.00	12.47-12.60

10.10.25  
10

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GEF6426-CC6419  
Lab FileID: EF189214.D

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48	AR1260-C	1.155	1.228	E3	-6.3	104	0.00	13.16-13.28
49	AR1260-D	2.733	2.884	E3	-5.5	104	0.00	13.72-13.85
50	AR1260-E	2.747	2.695	E3	1.9	101	0.00	14.58-14.70
51 S	Decachlorobiphenyl	19.703	19.371	E3	1.7	102	0.00	17.26-17.38

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(#) = Out of Range  
EF188939.D PCB6419.M

SPCC's out = 0 CCC's out = 0  
Mon Apr 22 08:22:39 2019 GCEF

10.10.25  
10

# Initial Calibration Summary

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA

**Sample:** GXX6621-ICC6621  
**Lab FileID:** XX2432205.D

Response Factor Report HP G1530A

Method : C:\MSDCHEM\1\METHODS\PCB6621.M (Chemstation Integrator)  
 Title :  
 Last Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration

Calibration Files

50 =xx2432202.D 250 =xx2432203.D 500 =xx2432204.D 1000=xx2432205.D  
 2000 =xx2432206.D 3000 =xx2432207.D

Compound	50	250	500	1000	2000	3000	Avg	%RSD
1) S Tetrachloro-m-xylen		1.689	1.812	1.903	1.954	1.987	1.869 E7	6.44
2) AR1221-A				1.301			1.301 E5	0.00
3) AR1221-B				2.061			2.061 E5	0.00
4) AR1221-C				6.191			6.191 E5	0.00
5) AR1221-D				1.032			1.032 E5	0.00
6) AR1221-E				1.138			1.138 E5	0.00
7) AR1232-A				4.808			4.808 E5	0.00
8) AR1232-B				3.247			3.247 E5	0.00
9) AR1232-C				7.047			7.047 E5	0.00
10) AR1232-D				2.621			2.621 E5	0.00
11) AR1232-E				2.551			2.551 E5	0.00
12) AR1242-A				5.011			5.011 E5	0.00
13) AR1242-B				1.173			1.173 E6	0.00
14) AR1242-C				4.311			4.311 E5	0.00
15) AR1242-D				4.626			4.626 E5	0.00
16) AR1242-E				7.343			7.343 E5	0.00
17) AR1248-A				2.653			2.653 E5	0.00
18) AR1248-B				7.182			7.182 E5	0.00
19) AR1248-C				7.299			7.299 E5	0.00
20) AR1248-D				7.344			7.344 E5	0.00
21) AR1248-E				6.674			6.674 E5	0.00
22) AR1248-F				1.276			1.276 E6	0.00
23) AR1248-G				5.452			5.452 E5	0.00
24) AR1254-A				5.578			5.578 E5	0.00
25) AR1254-B				1.188			1.188 E6	0.00
26) AR1254-C				6.566			6.566 E5	0.00
27) AR1254-D				1.192			1.192 E6	0.00
28) AR1254-E				8.770			8.770 E5	0.00
29) AR1254-F				7.564			7.564 E5	0.00
30) AR1254-G				1.184			1.184 E6	0.00
31) AR1262-A				8.935			8.935 E5	0.00
32) AR1262-B				1.092			1.092 E6	0.00
33) AR1262-C				1.054			1.054 E6	0.00
34) AR1262-D				2.317			2.317 E6	0.00
35) AR1262-E				2.575			2.575 E6	0.00
36) AR1268-A				2.639			2.639 E6	0.00
37) AR1268-B				2.630			2.630 E6	0.00
38) AR1268-C				2.196			2.196 E6	0.00
39) AR1268-D				8.889			8.889 E5	0.00
40) AR1268-E				7.687			7.687 E6	0.00
41) AR1016-A	3.745	3.378	3.517	3.504	3.404	3.339	3.481 E5	4.22
42) AR1016-B	5.946	5.956	6.136	6.041	5.897	5.771	5.958 E5	2.09
43) AR1016-C	1.391	1.366	1.431	1.448	1.444	1.432	1.418 E6	2.30
44) AR1016-D	5.387	5.081	5.244	5.256	5.236	5.209	5.235 E5	1.87
45) AR1016-E	5.899	5.396	5.559	5.534	5.518	5.518	5.571 E5	3.06
46) AR1260-A	1.423	1.434	1.504	1.550	1.577	1.580	1.511 E6	4.62
47) AR1260-B	6.492	6.243	6.479	6.617	6.706	6.729	6.545 E5	2.76

10.10.26 10

# Initial Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICC6621  
 Lab FileID: XX2432205.D

48)	AR1260-C	7.492	7.068	7.381	7.542	7.665	7.685	7.472	E5	3.05
49)	AR1260-D	1.633	1.676	1.781	1.844	1.885	1.894	1.785	E6	6.15
50)	AR1260-E	1.617	1.655	1.741	1.798	1.838	1.853	1.750	E6	5.56
51) S	Decachlorobiphenyl	1.919	1.799	1.817	1.808	1.875	1.880	1.850	E7	2.62

Signal #2

1) S	Tetrachloro-m-xylen	1.174	1.258	1.282	1.302	1.317	1.267	E7	4.44	
2)	AR1221-A			7.384			7.384	E4	0.00	
3)	AR1221-B			1.351			1.351	E5	0.00	
4)	AR1221-C			3.250			3.250	E5	0.00	
5)	AR1221-D			6.608			6.608	E4	0.00	
6)	AR1221-E			4.870			4.870	E4	0.00	
7)	AR1232-A			2.632			2.632	E5	0.00	
8)	AR1232-B			2.100			2.100	E5	0.00	
9)	AR1232-C			4.532			4.532	E5	0.00	
10)	AR1232-D			1.737			1.737	E5	0.00	
11)	AR1232-E			1.237			1.237	E5	0.00	
12)	AR1242-A			3.467			3.467	E5	0.00	
13)	AR1242-B			7.459			7.459	E5	0.00	
14)	AR1242-C			2.802			2.802	E5	0.00	
15)	AR1242-D			2.239			2.239	E5	0.00	
16)	AR1242-E			2.792			2.792	E5	0.00	
17)	AR1248-A			1.801			1.801	E5	0.00	
18)	AR1248-B			4.952			4.952	E5	0.00	
19)	AR1248-C			2.746			2.746	E5	0.00	
20)	AR1248-D			3.687			3.687	E5	0.00	
21)	AR1248-E			4.066			4.066	E5	0.00	
22)	AR1248-F			4.930			4.930	E5	0.00	
23)	AR1248-G			4.820			4.820	E5	0.00	
24)	AR1254-A			4.407			4.407	E5	0.00	
25)	AR1254-B			4.985			4.985	E5	0.00	
26)	AR1254-C			4.075			4.075	E5	0.00	
27)	AR1254-D			7.958			7.958	E5	0.00	
28)	AR1254-E			6.122			6.122	E5	0.00	
29)	AR1254-F			6.552			6.552	E5	0.00	
30)	AR1254-G			7.845			7.845	E5	0.00	
31)	AR1262-A			5.787			5.787	E5	0.00	
32)	AR1262-B			9.188			9.188	E5	0.00	
33)	AR1262-C			7.377			7.377	E5	0.00	
34)	AR1262-D			1.791			1.791	E6	0.00	
35)	AR1262-E			1.954			1.954	E6	0.00	
36)	AR1268-A			2.187			2.187	E6	0.00	
37)	AR1268-B			1.975			1.975	E6	0.00	
38)	AR1268-C			1.705			1.705	E6	0.00	
39)	AR1268-D			6.958			6.958	E5	0.00	
40)	AR1268-E			5.024			5.024	E6	0.00	
41)	AR1016-A	2.025	1.983	1.973	1.954	1.897	1.863	1.949	E5	3.05
42)	AR1016-B	4.801	4.190	4.178	4.115	4.019	3.963	4.211	E5	7.18
43)	AR1016-C	9.974	8.946	9.059	9.054	8.944	8.912	9.148	E5	4.47
44)	AR1016-D	3.555	3.374	3.411	3.394	3.334	3.328	3.399	E5	2.44
45)	AR1016-E	2.941	2.661	2.677	2.659	2.631	2.625	2.699	E5	4.45
46)	AR1260-A	1.078	1.007	1.036	1.051	1.037	1.049	1.043	E6	2.21
47)	AR1260-B	5.831	5.507	5.674	5.717	5.613	5.686	5.671	E5	1.90
48)	AR1260-C	5.786	5.447	5.642	5.698	5.600	5.714	5.648	E5	2.08
49)	AR1260-D	1.398	1.375	1.448	1.476	1.432	1.447	1.429	E6	2.57
50)	AR1260-E	1.362	1.266	1.314	1.330	1.286	1.337	1.316	E6	2.67
51) S	Decachlorobiphenyl	1.236	1.131	1.163	1.166	1.168	1.184	1.175	E7	2.95

(#) = Out of Range

10.10.26 10

# Initial Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICC6621  
Lab FileID: XX2432205.D

PCB6621.M

Tue Mar 05 10:22:32 2019

10.10.26

10

**Initial Calibration Verification**

Job Number: **JC86337**  
 Account: **BBLNYS Arcadis**  
 Project: **National Grid, Philly Coke, Philadelphia, PA**

Sample: **GXX6621-ICV6621**  
 Lab FileID: **XX2432213.D**

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...\xx2432213.D\ECD1A.CH Vial: 15  
 Signal #2 : C:\msdchem\1\DATA\gx6621\xx2432213.D\ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am Operator: tianweir  
 Sample : icv6621-1000 Inst : HP G1530A  
 Misc : opl7615,GXX6621,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\PCB6621.M (Chemstation Integrator)  
 Title :  
 Last Update : Tue Mar 05 09:28:51 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	18.690	24.457 E6	-30.9#	129	0.00	3.25-	3.31
2	AR1221-A	130.146	131.023 E3	-0.7	101	0.00	2.62-	2.82
3	AR1221-B	206.143	189.292 E3	8.2	92	0.00	3.37-	3.57
4	AR1221-C	619.123	560.583 E3	9.5	91	0.00	3.59-	3.79
5	AR1221-D	103.224	86.764 E3	15.9	84	0.00	4.03-	4.23
6	AR1221-E	113.771	106.585 E3	6.3	94	0.00	4.18-	4.38
7	AR1232-A			-----NA-----				
8	AR1232-B			-----NA-----				
9	AR1232-C			-----NA-----				
10	AR1232-D			-----NA-----				
11	AR1232-E			-----NA-----				
12	AR1242-A			-----NA-----				
13	AR1242-B			-----NA-----				
14	AR1242-C			-----NA-----				
15	AR1242-D			-----NA-----				
16	AR1242-E			-----NA-----				
17	AR1248-A			-----NA-----				
18	AR1248-B			-----NA-----				
19	AR1248-C			-----NA-----				
20	AR1248-D			-----NA-----				
21	AR1248-E			-----NA-----				
22	AR1248-F			-----NA-----				
23	AR1248-G			-----NA-----				
24	AR1254-A	557.761	557.856 E3	-0.0	100	0.00	5.84-	6.04
25	AR1254-B	1.188	1.176 E6	1.0	99	0.00	6.19-	6.39
26	AR1254-C	656.558	652.836 E3	0.6	99	0.00	6.57-	6.77
27	AR1254-D	1.192	1.183 E6	0.8	99	0.00	6.73-	6.93
28	AR1254-E	877.006	868.692 E3	0.9	99	0.00	7.12-	7.32
29	AR1254-F	756.443	752.519 E3	0.5	99	0.00	7.38-	7.58
30	AR1254-G	1.184	1.174 E6	0.8	99	0.00	7.76-	7.96
31	AR1262-A			-----NA-----				
32	AR1262-B			-----NA-----				
33	AR1262-C			-----NA-----				
34	AR1262-D			-----NA-----				
35	AR1262-E			-----NA-----				
36	AR1268-A			-----NA-----				
37	AR1268-B			-----NA-----				
38	AR1268-C			-----NA-----				
39	AR1268-D			-----NA-----				
40	AR1268-E			-----NA-----				
41	AR1016-A			-----NA-----				

10.10.27  
10



# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432213.D

42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----
48	AR1260-C								-----NA-----
49	AR1260-D								-----NA-----
50	AR1260-E								-----NA-----
51 S	Decachlorobiphenyl	18.498	23.135	E6	-25.1#	128	0.00	10.74-10.81	

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	12.668	15.875	E6	-25.3#	124	0.00	4.02- 4.08	
2	AR1221-A	73.843	77.443	E3	-4.9	105	0.00	3.41- 3.47	
3	AR1221-B	135.114	124.781	E3	7.6	92	0.00	4.36- 4.56	
4	AR1221-C	324.957	296.957	E3	8.6	91	0.00	4.65- 4.85	
5	AR1221-D	66.076	55.819	E3	15.5	84	0.00	5.22- 5.42	
6	AR1221-E	48.705	47.911	E3	1.6	98	0.00	5.30- 5.50	
7	AR1232-A							-----NA-----	
8	AR1232-B							-----NA-----	
9	AR1232-C							-----NA-----	
10	AR1232-D							-----NA-----	
11	AR1232-E							-----NA-----	
12	AR1242-A							-----NA-----	
13	AR1242-B							-----NA-----	
14	AR1242-C							-----NA-----	
15	AR1242-D							-----NA-----	
16	AR1242-E							-----NA-----	
17	AR1248-A							-----NA-----	
18	AR1248-B							-----NA-----	
19	AR1248-C							-----NA-----	
20	AR1248-D							-----NA-----	
21	AR1248-E							-----NA-----	
22	AR1248-F							-----NA-----	
23	AR1248-G							-----NA-----	
24	AR1254-A	440.660	435.968	E3	1.1	99	0.00	7.36- 7.56	
25	AR1254-B	498.464	495.250	E3	0.6	99	0.00	7.62- 7.82	
26	AR1254-C	407.460	404.683	E3	0.7	99	0.00	8.13- 8.33	
27	AR1254-D	795.800	790.737	E3	0.6	99	0.00	8.30- 8.50	
28	AR1254-E	612.210	605.135	E3	1.2	99	0.00	8.61- 8.81	
29	AR1254-F	655.188	649.686	E3	0.8	99	0.00	9.13- 9.33	
30	AR1254-G	784.501	778.793	E3	0.7	99	0.00	9.40- 9.60	
31	AR1262-A							-----NA-----	
32	AR1262-B							-----NA-----	
33	AR1262-C							-----NA-----	
34	AR1262-D							-----NA-----	
35	AR1262-E							-----NA-----	
36	AR1268-A							-----NA-----	
37	AR1268-B							-----NA-----	
38	AR1268-C							-----NA-----	
39	AR1268-D							-----NA-----	
40	AR1268-E							-----NA-----	
41	AR1016-A							-----NA-----	
42	AR1016-B							-----NA-----	
43	AR1016-C							-----NA-----	
44	AR1016-D							-----NA-----	
45	AR1016-E							-----NA-----	
46	AR1260-A							-----NA-----	
47	AR1260-B							-----NA-----	

10.10.27 10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432213.D

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48	AR1260-C									-----NA-----
49	AR1260-D									-----NA-----
50	AR1260-E									-----NA-----
51 S	Decachlorobiphenyl	11.746	13.901	E6	-18.3	119	0.00		12.62-12.68	

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(#) = Out of Range  
xx2432205.D PCB6621.M

SPCC's out = 0 CCC's out = 0  
Tue Mar 05 10:21:30 2019

10.10.27  
10

**Initial Calibration Verification**

Job Number: **JC86337**  
 Account: **BBLNYS Arcadis**  
 Project: **National Grid, Philly Coke, Philadelphia, PA**

Sample: **GXX6621-ICV6621**  
 Lab FileID: **XX2432214.D**

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...\xx2432214.D\ECD1A.CH Vial: 16  
 Signal #2 : C:\msdchem\1\DATA\gxx6621\xx2432214.D\ECD2B.CH  
 Acq On : 05 Mar 2019 7:02 am Operator: tianweir  
 Sample : icv6621-1000 Inst : HP G1530A  
 Misc : opl7615,GXX6621,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\PCB6621.M (Chemstation Integrator)  
 Title :  
 Last Update : Tue Mar 05 09:28:51 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	18.690	24.638 E6	-31.8	# 129	0.00	3.25-	3.31
2	AR1221-A							
3	AR1221-B							
4	AR1221-C							
5	AR1221-D							
6	AR1221-E							
7	AR1232-A	480.844	452.585 E3	5.9	94	0.00	3.59-	3.79
8	AR1232-B	324.655	311.869 E3	3.9	96	0.00	4.03-	4.23
9	AR1232-C	704.653	669.586 E3	5.0	95	0.00	4.61-	4.81
10	AR1232-D	262.102	249.795 E3	4.7	95	0.00	4.79-	4.99
11	AR1232-E	255.058	242.708 E3	4.8	95	0.00	5.32-	5.52
12	AR1242-A							
13	AR1242-B							
14	AR1242-C							
15	AR1242-D							
16	AR1242-E							
17	AR1248-A							
18	AR1248-B							
19	AR1248-C							
20	AR1248-D							
21	AR1248-E							
22	AR1248-F							
23	AR1248-G							
24	AR1254-A							
25	AR1254-B							
26	AR1254-C							
27	AR1254-D							
28	AR1254-E							
29	AR1254-F							
30	AR1254-G							
31	AR1262-A	893.472	910.790 E3	-1.9	102	0.00	7.37-	7.57
32	AR1262-B	1.092	1.112 E6	-1.8	102	0.00	7.93-	8.13
33	AR1262-C	1.054	1.074 E6	-1.9	102	0.00	8.27-	8.47
34	AR1262-D	2.317	2.354 E6	-1.6	102	0.00	8.71-	8.91
35	AR1262-E	2.575	2.631 E6	-2.2	102	0.00	9.16-	9.36
36	AR1268-A							
37	AR1268-B							
38	AR1268-C							
39	AR1268-D							
40	AR1268-E							
41	AR1016-A							

10.10.28  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432214.D

42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----
48	AR1260-C								-----NA-----
49	AR1260-D								-----NA-----
50	AR1260-E								-----NA-----
51 S	Decachlorobiphenyl	18.498	23.810	E6	-28.7#	132	0.00	10.74-10.81	
***** Signal #2 *****									
1 S	Tetrachloro-m-xylene	12.668	16.362	E6	-29.2#	128	0.00	4.02- 4.08	
2	AR1221-A								-----NA-----
3	AR1221-B								-----NA-----
4	AR1221-C								-----NA-----
5	AR1221-D								-----NA-----
6	AR1221-E								-----NA-----
7	AR1232-A	263.238	249.294	E3	5.3	95	0.00	4.64- 4.84	
8	AR1232-B	209.991	202.168	E3	3.7	96	0.00	5.22- 5.42	
9	AR1232-C	453.240	429.430	E3	5.3	95	0.00	5.88- 6.08	
10	AR1232-D	173.736	164.611	E3	5.3	95	0.00	6.08- 6.28	
11	AR1232-E	123.749	118.021	E3	4.6	95	0.00	6.75- 6.95	
12	AR1242-A								-----NA-----
13	AR1242-B								-----NA-----
14	AR1242-C								-----NA-----
15	AR1242-D								-----NA-----
16	AR1242-E								-----NA-----
17	AR1248-A								-----NA-----
18	AR1248-B								-----NA-----
19	AR1248-C								-----NA-----
20	AR1248-D								-----NA-----
21	AR1248-E								-----NA-----
22	AR1248-F								-----NA-----
23	AR1248-G								-----NA-----
24	AR1254-A								-----NA-----
25	AR1254-B								-----NA-----
26	AR1254-C								-----NA-----
27	AR1254-D								-----NA-----
28	AR1254-E								-----NA-----
29	AR1254-F								-----NA-----
30	AR1254-G								-----NA-----
31	AR1262-A	578.715	588.316	E3	-1.7	102	0.00	8.86- 9.06	
32	AR1262-B	918.799	928.514	E3	-1.1	101	0.00	9.52- 9.72	
33	AR1262-C	737.743	745.803	E3	-1.1	101	0.00	9.96-10.16	
34	AR1262-D	1.791	1.802	E6	-0.6	101	0.00	10.30-10.50	
35	AR1262-E	1.954	1.974	E6	-1.0	101	0.00	10.83-11.03	
36	AR1268-A								-----NA-----
37	AR1268-B								-----NA-----
38	AR1268-C								-----NA-----
39	AR1268-D								-----NA-----
40	AR1268-E								-----NA-----
41	AR1016-A								-----NA-----
42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----

10.10.28  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432214.D

---

48	AR1260-C					-----NA-----			
49	AR1260-D					-----NA-----			
50	AR1260-E					-----NA-----			
51 S	Decachlorobiphenyl	11.746	14.815	E6	-26.1#	127	0.00	12.62-12.68	

---

(#) = Out of Range  
xx2432205.D PCB6621.M

SPCC's out = 0 CCC's out = 0  
Tue Mar 05 10:21:31 2019

10.10.28

10

**Initial Calibration Verification**

Job Number: **JC86337**  
 Account: **BBLNYS Arcadis**  
 Project: **National Grid, Philly Coke, Philadelphia, PA**

Sample: **GXX6621-ICV6621**  
 Lab FileID: **XX2432215.D**

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...\xx2432215.D\ECD1A.CH Vial: 17  
 Signal #2 : C:\msdchem\1\DATA\gxx6621\xx2432215.D\ECD2B.CH  
 Acq On : 05 Mar 2019 7:20 am Operator: tianweir  
 Sample : icv6621-1000 Inst : HP G1530A  
 Misc : opl7615,GXX6621,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\PCB6621.M (Chemstation Integrator)  
 Title :  
 Last Update : Tue Mar 05 09:28:51 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	18.690	24.659 E6	-31.9	130	0.00	3.25-	3.31
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A	501.119	534.862 E3	-6.7	107	0.00	4.03-	4.23
13	AR1242-B	1.173	1.245 E6	-6.1	106	0.00	4.61-	4.81
14	AR1242-C	431.139	461.709 E3	-7.1	107	0.00	4.79-	4.99
15	AR1242-D	462.648	480.854 E3	-3.9	104	0.00	5.32-	5.52
16	AR1242-E	734.323	753.134 E3	-2.6	103	0.00	5.93-	6.13
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A	2.639	2.601 E6	1.4	99	0.00	9.16-	9.36
37	AR1268-B	2.630	2.580 E6	1.9	98	0.00	9.22-	9.42
38	AR1268-C	2.196	2.153 E6	2.0	98	0.00	9.49-	9.69
39	AR1268-D	888.871	885.359 E3	0.4	100	0.00	9.99-	10.19
40	AR1268-E	7.687	7.563 E6	1.6	98	0.00	10.40-	10.60
41	AR1016-A			NA				

10.10.29

10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432215.D

42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----
48	AR1260-C								-----NA-----
49	AR1260-D								-----NA-----
50	AR1260-E								-----NA-----
51 S	Decachlorobiphenyl	18.498	59.419	E6	-221.2#	329#	0.00	10.74-10.81	

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	12.668	16.639	E6	-31.3#	130	0.00	4.02- 4.08	
2	AR1221-A								-----NA-----
3	AR1221-B								-----NA-----
4	AR1221-C								-----NA-----
5	AR1221-D								-----NA-----
6	AR1221-E								-----NA-----
7	AR1232-A								-----NA-----
8	AR1232-B								-----NA-----
9	AR1232-C								-----NA-----
10	AR1232-D								-----NA-----
11	AR1232-E								-----NA-----
12	AR1242-A	346.669	368.576	E3	-6.3	106	0.00	5.22- 5.42	
13	AR1242-B	745.856	787.321	E3	-5.6	106	0.00	5.88- 6.08	
14	AR1242-C	280.197	299.074	E3	-6.7	107	0.00	6.08- 6.28	
15	AR1242-D	223.892	232.036	E3	-3.6	104	0.00	6.75- 6.95	
16	AR1242-E	279.225	284.581	E3	-1.9	102	0.00	7.36- 7.56	
17	AR1248-A								-----NA-----
18	AR1248-B								-----NA-----
19	AR1248-C								-----NA-----
20	AR1248-D								-----NA-----
21	AR1248-E								-----NA-----
22	AR1248-F								-----NA-----
23	AR1248-G								-----NA-----
24	AR1254-A								-----NA-----
25	AR1254-B								-----NA-----
26	AR1254-C								-----NA-----
27	AR1254-D								-----NA-----
28	AR1254-E								-----NA-----
29	AR1254-F								-----NA-----
30	AR1254-G								-----NA-----
31	AR1262-A								-----NA-----
32	AR1262-B								-----NA-----
33	AR1262-C								-----NA-----
34	AR1262-D								-----NA-----
35	AR1262-E								-----NA-----
36	AR1268-A	2.187	2.138	E6	2.2	98	0.00	10.83-11.03	
37	AR1268-B	1.975	1.922	E6	2.7	97	0.00	10.90-11.10	
38	AR1268-C	1.705	1.672	E6	1.9	98	0.00	11.28-11.48	
39	AR1268-D	695.839	668.958	E3	3.9	96	0.00	11.68-11.88	
40	AR1268-E	5.024	4.838	E6	3.7	96	0.00	12.16-12.36	
41	AR1016-A								-----NA-----
42	AR1016-B								-----NA-----
43	AR1016-C								-----NA-----
44	AR1016-D								-----NA-----
45	AR1016-E								-----NA-----
46	AR1260-A								-----NA-----
47	AR1260-B								-----NA-----

10.10.29 10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432215.D

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48	AR1260-C								-----NA-----
49	AR1260-D								-----NA-----
50	AR1260-E								-----NA-----
51 S	Decachlorobiphenyl	11.746	37.243	E6	-217.1#	319#	0.00	12.62-12.68	

---

---

(#) = Out of Range  
xx2432205.D PCB6621.M

SPCC's out = 0 CCC's out = 0  
Tue Mar 05 10:21:32 2019

10.10.29  
10



**Initial Calibration Verification**

Job Number: **JC86337**  
 Account: **BBLNYS Arcadis**  
 Project: **National Grid, Philly Coke, Philadelphia, PA**

Sample: **GXX6621-ICV6621**  
 Lab FileID: **XX2432216.D**

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...\xx2432216.D\ECD1A.CH Vial: 18  
 Signal #2 : C:\msdchem\1\DATA\gxx6621\xx2432216.D\ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am Operator: tianweir  
 Sample : icv6621-1000 Inst : HP G1530A  
 Misc : op17615,GXX6621,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\PCB6621.M (Chemstation Integrator)  
 Title :  
 Last Update : Tue Mar 05 09:28:51 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	18.690	24.819 E6	-32.8	# 130	0.00	3.25-	3.31
2	AR1221-A							
3	AR1221-B							
4	AR1221-C							
5	AR1221-D							
6	AR1221-E							
7	AR1232-A							
8	AR1232-B							
9	AR1232-C							
10	AR1232-D							
11	AR1232-E							
12	AR1242-A							
13	AR1242-B							
14	AR1242-C							
15	AR1242-D							
16	AR1242-E							
17	AR1248-A	265.334	253.457 E3	4.5	96	0.00	4.02-	4.22
18	AR1248-B	718.152	726.781 E3	-1.2	101	0.00	4.61-	4.81
19	AR1248-C	729.921	748.199 E3	-2.5	103	0.00	5.06-	5.26
20	AR1248-D	734.434	770.584 E3	-4.9	105	0.00	5.32-	5.52
21	AR1248-E	667.373	705.210 E3	-5.7	106	0.00	5.44-	5.64
22	AR1248-F	1.276	1.398 E6	-9.6	110	0.00	5.89-	6.09
23	AR1248-G	545.225	594.913 E3	-9.1	109	0.00	6.19-	6.39
24	AR1254-A							
25	AR1254-B							
26	AR1254-C							
27	AR1254-D							
28	AR1254-E							
29	AR1254-F							
30	AR1254-G							
31	AR1262-A							
32	AR1262-B							
33	AR1262-C							
34	AR1262-D							
35	AR1262-E							
36	AR1268-A							
37	AR1268-B							
38	AR1268-C							
39	AR1268-D							
40	AR1268-E							
41	AR1016-A							

10:10:30  
10

Initial Calibration Verification

Job Number: JC86337
Account: BBLNYS Arcadis
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621
Lab FileID: XX2432216.D

Table with columns for sample ID, name, and numerical data. Row 51 S: Decachlorobiphenyl, 18.498, 24.295, E6, -31.3#, 134, 0.00, 10.74-10.81

\*\*\*\*\* Signal #2 \*\*\*\*\*

Table with columns for sample ID, name, and numerical data. Row 1 S: Tetrachloro-m-xylene, 12.668, 16.921, E6, -33.6#, 132, 0.00, 4.02- 4.08. Rows 17-23 contain numerical data for various samples.

10:10:30 10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432216.D

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48	AR1260-C									-----NA-----
49	AR1260-D									-----NA-----
50	AR1260-E									-----NA-----
51 S	Decachlorobiphenyl	11.746	15.158	E6	-29.0#	130	0.00			12.62-12.68

---

(#) = Out of Range  
xx2432205.D PCB6621.M

SPCC's out = 0 CCC's out = 0  
Tue Mar 05 10:21:33 2019

10:10:30  
10

## Initial Calibration Verification

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
 Lab FileID: XX2432220.D

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...\xx2432220.D\ECD1A.CH Vial: 21  
 Signal #2 : C:\msdchem\1\DATA\gx6621\xx2432220.D\ECD2B.CH  
 Acq On : 05 Mar 2019 9:59 am Operator: summerk  
 Sample : icv6621-1000 Inst : HP G1530A  
 Misc : opl8918,GXX6621,1.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\PCB6621.M (Chemstation Integrator)  
 Title :  
 Last Update : Tue Mar 05 09:28:51 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	18.690	16.492 E6	11.8	87	0.03	3.28-	3.34
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	348.113	341.117 E3	2.0	97	0.03	3.69-	3.75

10:10:31

10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432220.D

42	AR1016-B	595.772	600.035	E3	-0.7	99	0.02	4.12-	4.18
43	AR1016-C	1.418	1.411	E6	0.5	97	0.02	4.70-	4.76
44	AR1016-D	523.547	525.574	E3	-0.4	100	0.02	4.88-	4.94
45	AR1016-E	557.070	545.901	E3	2.0	99	0.02	5.41-	5.48
46	AR1260-A	1.511	1.331	E6	11.9	86	0.02	7.85-	7.91
47	AR1260-B	654.458	704.114	E3	-7.6	106	0.02	8.01-	8.07
48	AR1260-C	747.236	806.785	E3	-8.0	107	0.02	8.35-	8.42
49	AR1260-D	1.785	1.932	E6	-8.2	105	0.02	8.79-	8.85
50	AR1260-E	1.750	1.877	E6	-7.3	104	0.01	9.19-	9.25
51 S	Decachlorobiphenyl	18.498	18.154	E6	1.9	100	0.01	10.75-	10.82

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	12.668	11.588	E6	8.5	90	0.00	4.03-	4.09
2	AR1221-A							-----NA-----	
3	AR1221-B							-----NA-----	
4	AR1221-C							-----NA-----	
5	AR1221-D							-----NA-----	
6	AR1221-E							-----NA-----	
7	AR1232-A							-----NA-----	
8	AR1232-B							-----NA-----	
9	AR1232-C							-----NA-----	
10	AR1232-D							-----NA-----	
11	AR1232-E							-----NA-----	
12	AR1242-A							-----NA-----	
13	AR1242-B							-----NA-----	
14	AR1242-C							-----NA-----	
15	AR1242-D							-----NA-----	
16	AR1242-E							-----NA-----	
17	AR1248-A							-----NA-----	
18	AR1248-B							-----NA-----	
19	AR1248-C							-----NA-----	
20	AR1248-D							-----NA-----	
21	AR1248-E							-----NA-----	
22	AR1248-F							-----NA-----	
23	AR1248-G							-----NA-----	
24	AR1254-A							-----NA-----	
25	AR1254-B							-----NA-----	
26	AR1254-C							-----NA-----	
27	AR1254-D							-----NA-----	
28	AR1254-E							-----NA-----	
29	AR1254-F							-----NA-----	
30	AR1254-G							-----NA-----	
31	AR1262-A							-----NA-----	
32	AR1262-B							-----NA-----	
33	AR1262-C							-----NA-----	
34	AR1262-D							-----NA-----	
35	AR1262-E							-----NA-----	
36	AR1268-A							-----NA-----	
37	AR1268-B							-----NA-----	
38	AR1268-C							-----NA-----	
39	AR1268-D							-----NA-----	
40	AR1268-E							-----NA-----	
41	AR1016-A	194.928	207.440	E3	-6.4	106	0.00	4.72-	4.78
42	AR1016-B	421.104	399.174	E3	5.2	97	0.00	5.30-	5.36
43	AR1016-C	914.832	902.378	E3	1.4	100	0.00	5.95-	6.01
44	AR1016-D	339.943	338.950	E3	0.3	100	0.00	6.15-	6.21
45	AR1016-E	269.903	267.477	E3	0.9	101	0.00	6.83-	6.89
46	AR1260-A	1.043	0.932	E6	10.6	89	0.00	9.47-	9.53
47	AR1260-B	567.144	610.899	E3	-7.7	107	0.00	9.59-	9.65

10:10:31  
10

# Initial Calibration Verification

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6621-ICV6621  
Lab FileID: XX2432220.D

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48	AR1260-C	564.774	589.694	E3	-4.4	103	0.00	10.03-10.09
49	AR1260-D	1.429	1.574	E6	-10.1	107	0.00	10.38-10.44
50	AR1260-E	1.316	1.393	E6	-5.9	105	0.00	10.93-10.99
51 S	Decachlorobiphenyl	11.746	11.308	E6	3.7	97	0.00	12.63-12.69

---

(#) = Out of Range  
xx2432205.D PCB6621.M

SPCC's out = 0 CCC's out = 0  
Tue Mar 05 13:17:08 2019

10:10:31

10

**Continuing Calibration Summary**

Job Number: **JC86337**  
 Account: **BBLNYS Arcadis**  
 Project: **National Grid, Philly Coke, Philadelphia, PA**

Sample: **GXX6658-CC6621**  
 Lab FileID: **XX2433849.D**

## Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:50:16 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 S	Tetrachloro-m-xylene	18.690	16.562 E6	11.4	91	-0.02
41	AR1016-A	348.113	354.525 E3	-1.8	101	-0.02
42	AR1016-B	595.772	643.008 E3	-7.9	105	-0.02
43	AR1016-C	1.418	1.482 E6	-4.5	104	-0.02
44	AR1016-D	523.547	545.016 E3	-4.1	104	-0.02
45	AR1016-E	557.070	562.137 E3	-0.9	101	-0.02
46	AR1260-A	1.511	1.238 E6	18.1	82	-0.02
47	AR1260-B	654.458	698.160 E3	-6.7	108	-0.03
48	AR1260-C	747.236	748.288 E3	-0.1	101	-0.03
49	AR1260-D	1.785	1.647 E6	7.7	92	-0.02
50	AR1260-E	1.750	1.886 E6	-7.8	108	-0.02
51 S	Decachlorobiphenyl	18.498	18.144 E6	1.9	100	-0.02

## Signal #2

1 S	Tetrachloro-m-xylene	12.668	11.344 E6	10.5	90	0.00
41	AR1016-A	194.928	202.341 E3	-3.8	103	-0.01
42	AR1016-B	421.104	438.112 E3	-4.0	105	-0.02
43	AR1016-C	914.832	938.275 E3	-2.6	104	0.00
44	AR1016-D	339.943	353.456 E3	-4.0	104	-0.01
45	AR1016-E	269.903	275.049 E3	-1.9	103	-0.01
46	AR1260-A	1.043	0.903 E6	13.4	87	0.00
47	AR1260-B	567.144	626.935 E3	-10.5	110	0.00
48	AR1260-C	564.774	590.471 E3	-4.5	105	0.00
49	AR1260-D	1.429	1.492 E6	-4.4	103	0.00
50	AR1260-E	1.316	1.468 E6	-11.6	112	-0.01
51 S	Decachlorobiphenyl	11.746	11.210 E6	4.6	96	0.00

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6658-CC6621  
Lab FileID: XX2433849.D

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6621.M Wed Apr 17 14:50:55 2019

10:10:32  
10



**Continuing Calibration Summary**

Job Number: **JC86337**  
 Account: **BBLNYS Arcadis**  
 Project: **National Grid, Philly Coke, Philadelphia, PA**

Sample: **GXX6658-CC6621**  
 Lab FileID: **XX2433860.D**

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\sar...\xx2433860.d\ECD1A.CH Vial: 18  
 Signal #2 : C:\msdchem\1\data\sarah\gxx6658\xx2433860.d\ECD2B.CH  
 Acq On : 17 Apr 2019 4:46 pm Operator: summerk  
 Sample : cc6621-1000 Inst : HP G1530A  
 Misc : op19788,gxx6658,15.8,,,10.0,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\msdchem\1\METHODS\pcb6621.m (ChemStation Integrator)  
 Title :  
 Last Update : Wed Apr 17 21:47:25 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	18.690	16.560 E6	11.4	87	0.00	3.24-	3.30
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	348.113	341.479 E3	1.9	97	0.00	3.65-	3.71

10:10:33  
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# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6658-CC6621  
Lab FileID: XX2433860.D

42	AR1016-B	595.772	611.569	E3	-2.7	101	0.00	4.08- 4.14
43	AR1016-C	1.418	1.434	E6	-1.1	99	0.00	4.67- 4.73
44	AR1016-D	523.547	524.573	E3	-0.2	100	0.00	4.84- 4.90
45	AR1016-E	557.070	540.701	E3	2.9	98	0.00	5.37- 5.44
46	AR1260-A	1.511	1.259	E6	16.7	81	0.00	7.82- 7.88
47	AR1260-B	654.458	693.633	E3	-6.0	105	0.00	7.98- 8.04
48	AR1260-C	747.236	777.788	E3	-4.1	103	0.00	8.32- 8.39
49	AR1260-D	1.785	1.707	E6	4.4	93	0.00	8.76- 8.82
50	AR1260-E	1.750	1.875	E6	-7.1	104	0.00	9.16- 9.22
51 S	Decachlorobiphenyl	18.498	17.597	E6	4.9	97	0.00	10.72-10.79

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	12.668	11.165	E6	11.9	87	0.00	4.01- 4.07
2	AR1221-A				-----NA-----			
3	AR1221-B				-----NA-----			
4	AR1221-C				-----NA-----			
5	AR1221-D				-----NA-----			
6	AR1221-E				-----NA-----			
7	AR1232-A				-----NA-----			
8	AR1232-B				-----NA-----			
9	AR1232-C				-----NA-----			
10	AR1232-D				-----NA-----			
11	AR1232-E				-----NA-----			
12	AR1242-A				-----NA-----			
13	AR1242-B				-----NA-----			
14	AR1242-C				-----NA-----			
15	AR1242-D				-----NA-----			
16	AR1242-E				-----NA-----			
17	AR1248-A				-----NA-----			
18	AR1248-B				-----NA-----			
19	AR1248-C				-----NA-----			
20	AR1248-D				-----NA-----			
21	AR1248-E				-----NA-----			
22	AR1248-F				-----NA-----			
23	AR1248-G				-----NA-----			
24	AR1254-A				-----NA-----			
25	AR1254-B				-----NA-----			
26	AR1254-C				-----NA-----			
27	AR1254-D				-----NA-----			
28	AR1254-E				-----NA-----			
29	AR1254-F				-----NA-----			
30	AR1254-G				-----NA-----			
31	AR1262-A				-----NA-----			
32	AR1262-B				-----NA-----			
33	AR1262-C				-----NA-----			
34	AR1262-D				-----NA-----			
35	AR1262-E				-----NA-----			
36	AR1268-A				-----NA-----			
37	AR1268-B				-----NA-----			
38	AR1268-C				-----NA-----			
39	AR1268-D				-----NA-----			
40	AR1268-E				-----NA-----			
41	AR1016-A	194.928	192.601	E3	1.2	99	0.00	4.71- 4.77
42	AR1016-B	421.104	419.665	E3	0.3	102	0.00	5.28- 5.34
43	AR1016-C	914.832	912.498	E3	0.3	101	0.00	5.94- 6.00
44	AR1016-D	339.943	340.692	E3	-0.2	100	0.00	6.14- 6.20
45	AR1016-E	269.903	265.539	E3	1.6	100	0.00	6.81- 6.87
46	AR1260-A	1.043	0.889	E6	14.8	85	0.00	9.46- 9.52
47	AR1260-B	567.144	622.000	E3	-9.7	109	0.00	9.58- 9.64

10:10:33  
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# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6658-CC6621  
Lab FileID: XX2433860.D

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48	AR1260-C	564.774	601.996	E3	-6.6	106	0.00	10.02-10.08
49	AR1260-D	1.429	1.510	E6	-5.7	102	0.00	10.37-10.43
50	AR1260-E	1.316	1.411	E6	-7.2	106	0.00	10.92-10.98
51 S	Decachlorobiphenyl	11.746	10.918	E6	7.0	94	0.00	12.62-12.68

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(#) = Out of Range  
xx2432205.D pcb6621.m

SPCC's out = 0 CCC's out = 0  
Wed Apr 17 21:53:13 2019

10:10:33  
10

**Continuing Calibration Summary**

Job Number: **JC86337**  
 Account: **BBLNYS Arcadis**  
 Project: **National Grid, Philly Coke, Philadelphia, PA**

Sample: **GXX6659-CC6621**  
 Lab FileID: **XX2433916.D**

## Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:47:21 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1 S	Tetrachloro-m-xylene	18.690	17.902 E6	4.2	94	-0.01
41	AR1016-A	348.113	366.963 E3	-5.4	105	-0.01
42	AR1016-B	595.772	656.333 E3	-10.2	109	-0.02
43	AR1016-C	1.418	1.519 E6	-7.1	105	-0.02
44	AR1016-D	523.547	569.326 E3	-8.7	108	-0.02
45	AR1016-E	557.070	582.725 E3	-4.6	105	-0.02
46	AR1260-A	1.511	1.359 E6	10.1	88	-0.02
47	AR1260-B	654.458	750.216 E3	-14.6	113	-0.02
48	AR1260-C	747.236	841.841 E3	-12.7	112	-0.02
49	AR1260-D	1.785	1.855 E6	-3.9	101	-0.02
50	AR1260-E	1.750	1.988 E6	-13.6	111	-0.02
51 S	Decachlorobiphenyl	18.498	18.980 E6	-2.6	105	-0.02

## Signal #2

1 S	Tetrachloro-m-xylene	12.668	11.640 E6	8.1	91	0.00
41	AR1016-A	194.928	200.740 E3	-3.0	103	0.00
42	AR1016-B	421.104	413.365 E3	1.8	100	-0.02
43	AR1016-C	914.832	948.947 E3	-3.7	105	-0.01
44	AR1016-D	339.943	356.385 E3	-4.8	105	-0.01
45	AR1016-E	269.903	277.697 E3	-2.9	104	-0.01
46	AR1260-A	1.043	0.939 E6	10.0	89	0.00
47	AR1260-B	567.144	638.220 E3	-12.5	112	-0.01
48	AR1260-C	564.774	609.836 E3	-8.0	107	-0.01
49	AR1260-D	1.429	1.549 E6	-8.4	105	0.00
50	AR1260-E	1.316	1.521 E6	-15.6	114	0.00
51 S	Decachlorobiphenyl	11.746	11.478 E6	2.3	98	-0.01

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6659-CC6621  
Lab FileID: XX2433916.D

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

PCB6621.M Thu Apr 18 11:47:57 2019

10:10:34

10

**Continuing Calibration Summary**

Job Number: **JC86337**  
 Account: **BBLNYS Arcadis**  
 Project: **National Grid, Philly Coke, Philadelphia, PA**

Sample: **GXX6659-CC6621**  
 Lab FileID: **XX2433927.D**

## Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\data\sar...\xx2433927.d\ECD1A.CH Vial: 66  
 Signal #2 : C:\msdchem\1\data\sarah\gxx6659\xx2433927.d\ECD2B.CH  
 Acq On : 18 Apr 2019 2:56 pm Operator: summerk  
 Sample : cc6621-500 Inst : HP G1530A  
 Misc : op19811,gxx6659,16.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\PCB6621.M (ChemStation Integrator)  
 Title :  
 Last Update : Wed Apr 17 21:47:25 2019  
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min  
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT	Window
1 S	Tetrachloro-m-xylene	18.690	17.319 E6	7.3	96	0.00	3.24-	3.30
2	AR1221-A			NA				
3	AR1221-B			NA				
4	AR1221-C			NA				
5	AR1221-D			NA				
6	AR1221-E			NA				
7	AR1232-A			NA				
8	AR1232-B			NA				
9	AR1232-C			NA				
10	AR1232-D			NA				
11	AR1232-E			NA				
12	AR1242-A			NA				
13	AR1242-B			NA				
14	AR1242-C			NA				
15	AR1242-D			NA				
16	AR1242-E			NA				
17	AR1248-A			NA				
18	AR1248-B			NA				
19	AR1248-C			NA				
20	AR1248-D			NA				
21	AR1248-E			NA				
22	AR1248-F			NA				
23	AR1248-G			NA				
24	AR1254-A			NA				
25	AR1254-B			NA				
26	AR1254-C			NA				
27	AR1254-D			NA				
28	AR1254-E			NA				
29	AR1254-F			NA				
30	AR1254-G			NA				
31	AR1262-A			NA				
32	AR1262-B			NA				
33	AR1262-C			NA				
34	AR1262-D			NA				
35	AR1262-E			NA				
36	AR1268-A			NA				
37	AR1268-B			NA				
38	AR1268-C			NA				
39	AR1268-D			NA				
40	AR1268-E			NA				
41	AR1016-A	348.113	370.068 E3	-6.3	105	0.00	3.65-	3.71

10:10:35  
10

# Continuing Calibration Summary

Job Number: JC86337  
 Account: BBLNYS Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6659-CC6621  
 Lab FileID: XX2433927.D

42	AR1016-B	595.772	662.132	E3	-11.1	108	0.00	4.08-	4.14
43	AR1016-C	1.418	1.485	E6	-4.7	104	0.00	4.67-	4.73
44	AR1016-D	523.547	564.758	E3	-7.9	108	0.00	4.84-	4.90
45	AR1016-E	557.070	577.502	E3	-3.7	104	0.00	5.37-	5.44
46	AR1260-A	1.511	1.304	E6	13.7	87	0.00	7.81-	7.87
47	AR1260-B	654.458	737.493	E3	-12.7	114	0.00	7.98-	8.04
48	AR1260-C	747.236	817.110	E3	-9.4	111	0.00	8.32-	8.39
49	AR1260-D	1.785	1.724	E6	3.4	97	0.00	8.76-	8.82
50	AR1260-E	1.750	1.921	E6	-9.8	110	0.00	9.16-	9.22
51 S	Decachlorobiphenyl	18.498	19.027	E6	-2.9	105	0.00	10.72-	10.79

\*\*\*\*\* Signal #2 \*\*\*\*\*

1 S	Tetrachloro-m-xylene	12.668	11.557	E6	8.8	92	0.00	4.01-	4.07
2	AR1221-A				-----NA-----				
3	AR1221-B				-----NA-----				
4	AR1221-C				-----NA-----				
5	AR1221-D				-----NA-----				
6	AR1221-E				-----NA-----				
7	AR1232-A				-----NA-----				
8	AR1232-B				-----NA-----				
9	AR1232-C				-----NA-----				
10	AR1232-D				-----NA-----				
11	AR1232-E				-----NA-----				
12	AR1242-A				-----NA-----				
13	AR1242-B				-----NA-----				
14	AR1242-C				-----NA-----				
15	AR1242-D				-----NA-----				
16	AR1242-E				-----NA-----				
17	AR1248-A				-----NA-----				
18	AR1248-B				-----NA-----				
19	AR1248-C				-----NA-----				
20	AR1248-D				-----NA-----				
21	AR1248-E				-----NA-----				
22	AR1248-F				-----NA-----				
23	AR1248-G				-----NA-----				
24	AR1254-A				-----NA-----				
25	AR1254-B				-----NA-----				
26	AR1254-C				-----NA-----				
27	AR1254-D				-----NA-----				
28	AR1254-E				-----NA-----				
29	AR1254-F				-----NA-----				
30	AR1254-G				-----NA-----				
31	AR1262-A				-----NA-----				
32	AR1262-B				-----NA-----				
33	AR1262-C				-----NA-----				
34	AR1262-D				-----NA-----				
35	AR1262-E				-----NA-----				
36	AR1268-A				-----NA-----				
37	AR1268-B				-----NA-----				
38	AR1268-C				-----NA-----				
39	AR1268-D				-----NA-----				
40	AR1268-E				-----NA-----				
41	AR1016-A	194.928	207.824	E3	-6.6	105	0.00	4.71-	4.77
42	AR1016-B	421.104	422.825	E3	-0.4	101	0.00	5.28-	5.34
43	AR1016-C	914.832	951.160	E3	-4.0	105	0.00	5.94-	6.00
44	AR1016-D	339.943	360.739	E3	-6.1	106	0.00	6.14-	6.20
45	AR1016-E	269.903	282.756	E3	-4.8	106	0.00	6.81-	6.87
46	AR1260-A	1.043	0.909	E6	12.8	88	0.00	9.46-	9.52
47	AR1260-B	567.144	645.548	E3	-13.8	114	0.00	9.58-	9.64

10:10:35 10

# Continuing Calibration Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Sample: GXX6659-CC6621  
Lab FileID: XX2433927.D

---

48	AR1260-C	564.774	613.869	E3	-8.7	109	0.00	10.02-10.08
49	AR1260-D	1.429	1.523	E6	-6.6	105	0.00	10.37-10.43
50	AR1260-E	1.316	1.515	E6	-15.1	115	0.00	10.92-10.98
51 S	Decachlorobiphenyl	11.746	11.620	E6	1.1	100	0.00	12.62-12.68

---

(#) = Out of Range  
xx2432204.D PCB6621.M

SPCC's out = 0 CCC's out = 0  
Thu Apr 18 23:42:04 2019

10:10:35  
10



**GC/LC Semi-volatiles**

---

**Raw Data**

---

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64317.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:23:52  
 Operator : thomasl  
 Sample : jc86337-1  
 Misc : op19789,g6g1984,15.3,,,10,1  
 ALS Vial : 73 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:28:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----							
Internal Standards							
1)	I 1-bromo-2...	1.957	2.170	309.8E6	298.5E6	50.000	50.000
27)	I 1-bromo-2...	1.957	2.170	309.8E6	298.5E6	50.000	50.000
33)	I 1-bromo-2...	1.957	2.170	309.8E6	298.5E6	50.000	50.000
System Monitoring Compounds							
2)	SAB Tetrachlo...	2.558	2.985	80904002	82254584	19.603	15.672
	Spiked Amount	40.000	Range 30 - 150	Recovery =		49.01%	39.18%
26)	SA Decachlor...	9.978	11.952	101.8E6	286.7E6	13.218m	69.079m#
	Spiked Amount	40.000		Recovery =		33.05%	172.70%
Target Compounds							
15)	B 4,4'-DDE	5.349	6.717	31012760	19114487	4.891m	3.854
20)	MA 4,4'-DDT	6.607	8.204	70661142	88695143	14.500m	21.377 #
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

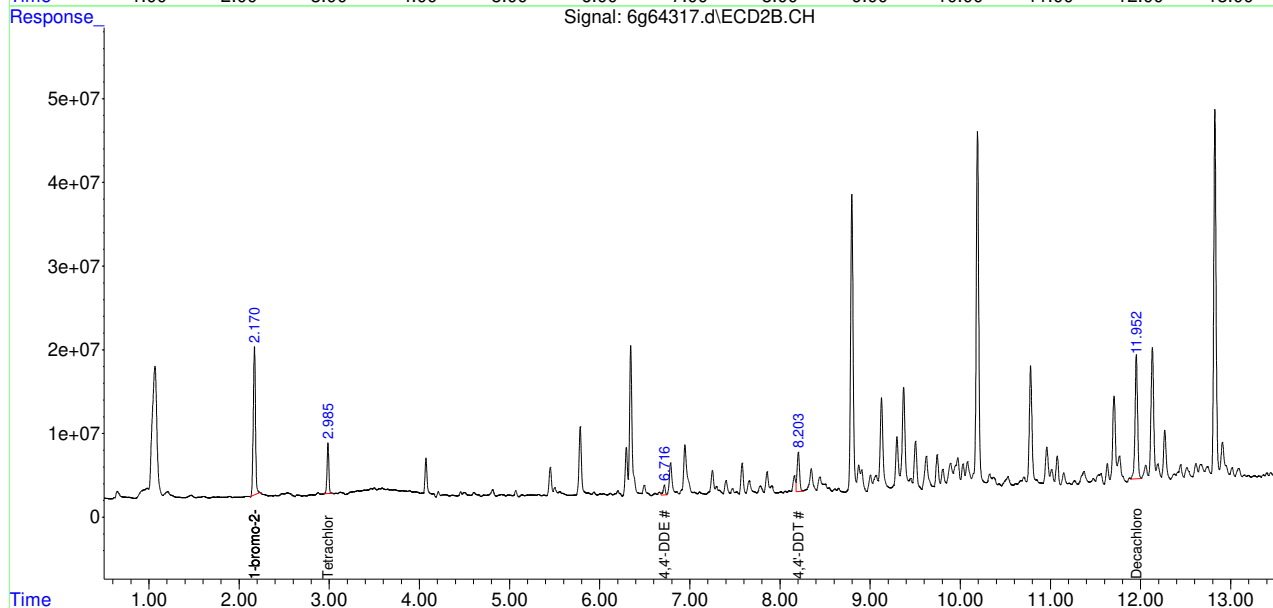
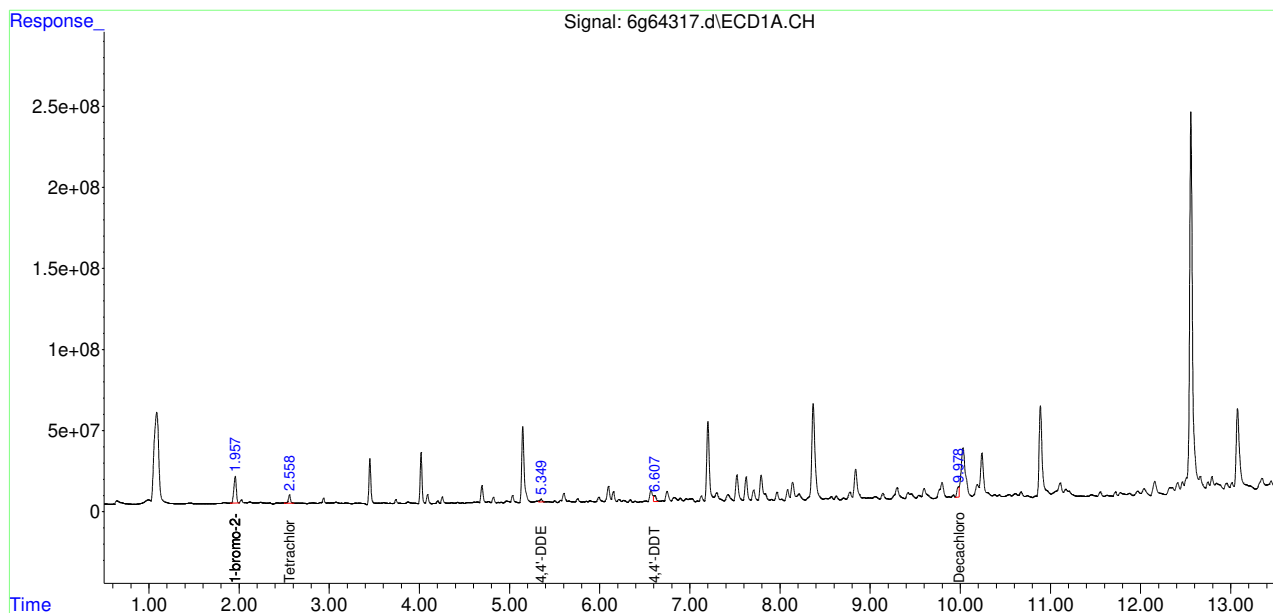
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64317.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:23:52  
 Operator : thomas1  
 Sample : jc86337-1  
 Misc : op19789,g6g1984,15.3,,,10,1  
 ALS Vial : 73 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:28:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.11  
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# Manual Integration Approval Summary

Sample Number: JC86337-1                      Method: SW846 8081B  
Lab FileID: 6G64317.D                      Analyst approved: 04/18/19 15:34 Thomas Lally  
Injection Time: 04/18/19 14:23                      Supervisor approved: 04/18/19 16:20 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
4,4'-DDE	72-55-9	1	5.35	Poorly defined baseline
4,4'-DDT	50-29-3	1	6.61	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	1	9.98	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	2	11.95	Poorly defined baseline

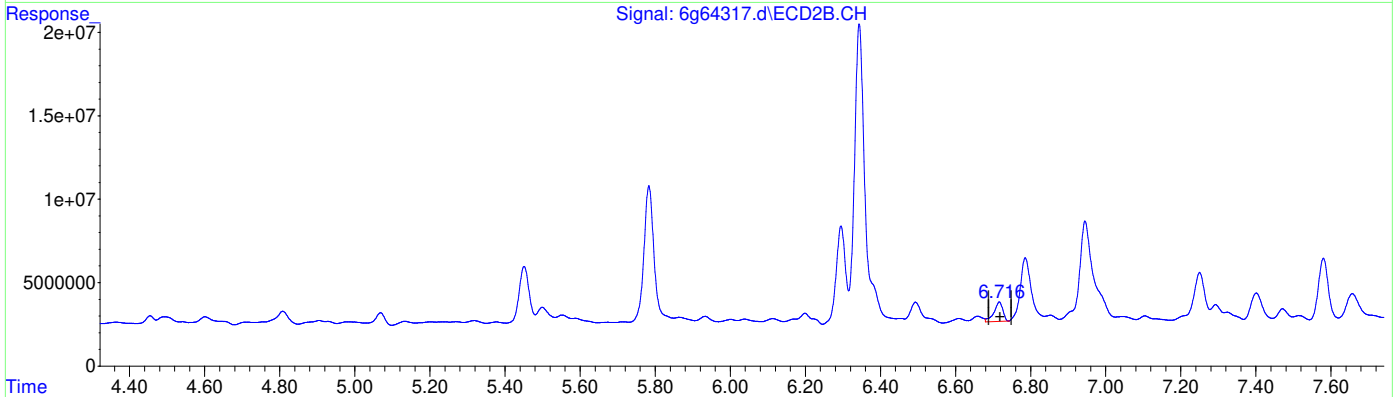
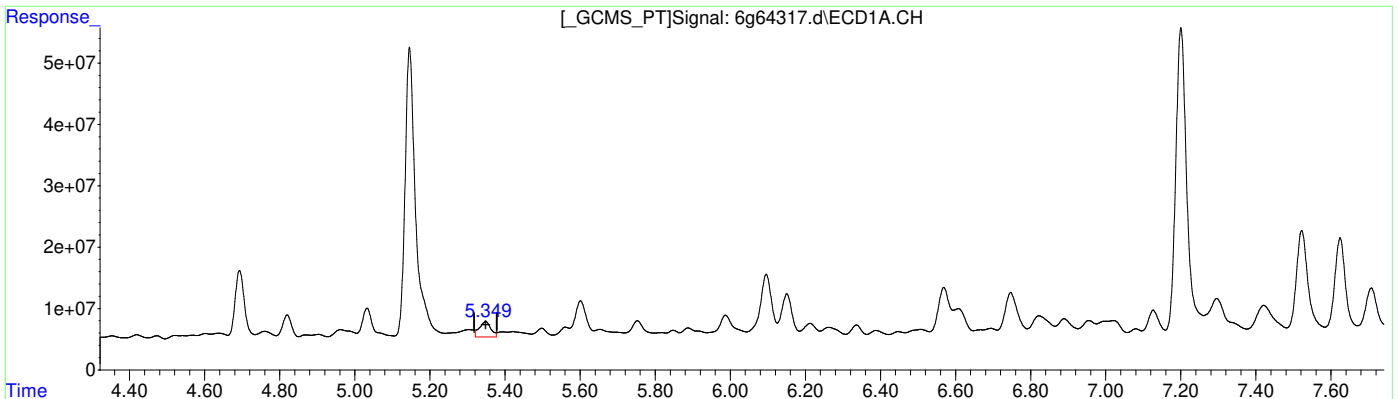
11.1.1.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64317.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:23:52  
 Operator : thomasl  
 Sample : jc86337-1  
 Misc : op19789,g6g1984,15.3,,,10,1  
 ALS Vial : 73 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:16:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(15) 4,4'-DDE (B)  
 5.349min 8.422 PPB  
 response 53405152

(15) 4,4'-DDE #2 (B)  
 6.717min 3.854 PPB  
 response 19114487

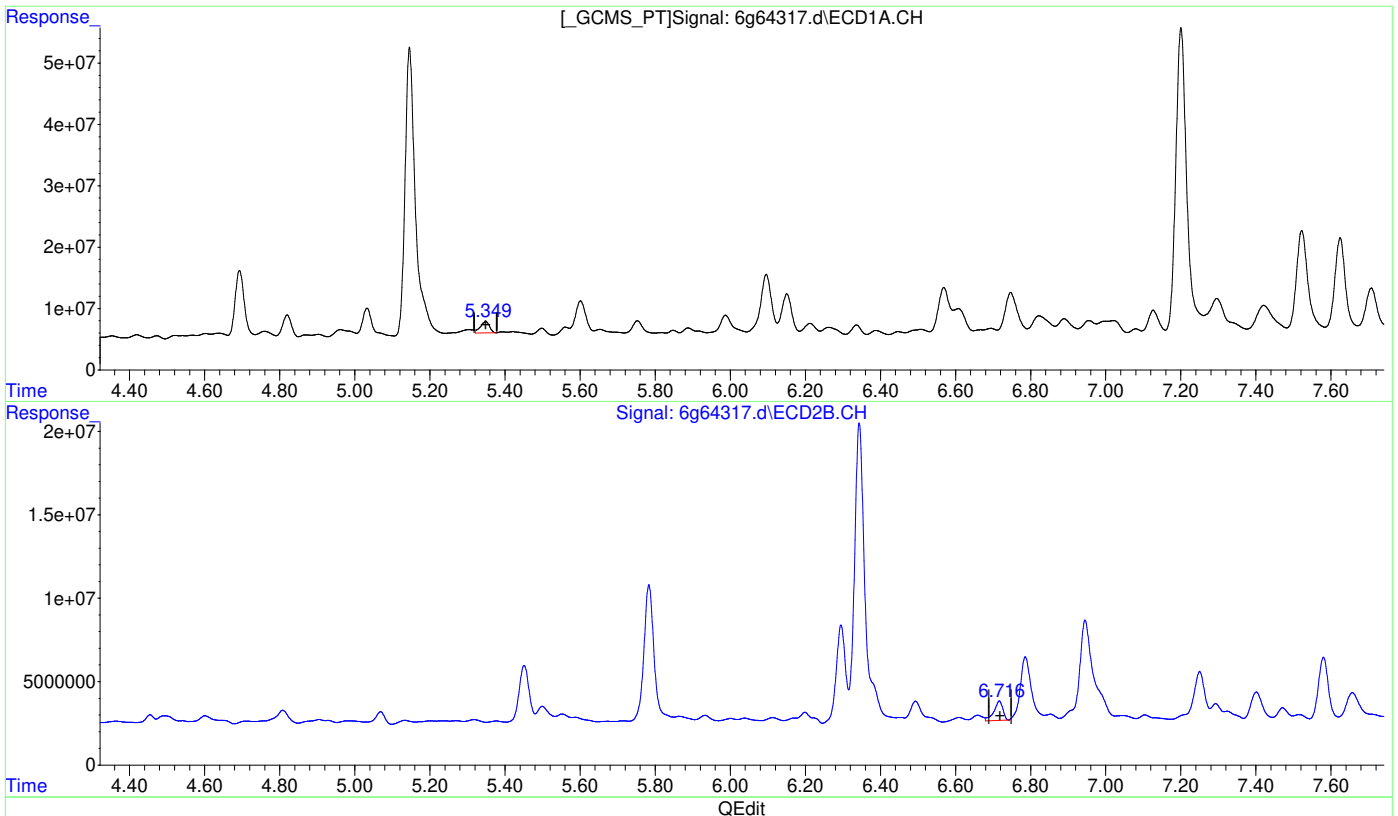
11.1.12  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64317.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:23:52  
 Operator : thomasl  
 Sample : jc86337-1  
 Misc : op19789,g6g1984,15.3,,,10,1  
 ALS Vial : 73 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:16:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.1.13  
11

(15) 4,4'-DDE (B)  
 5.349min 4.891 PPB m  
 response 31012760

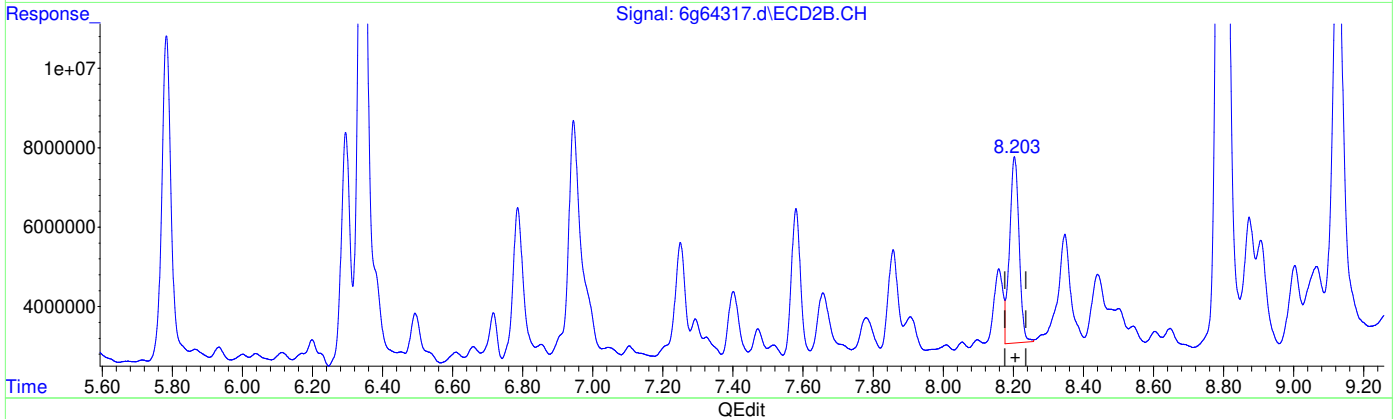
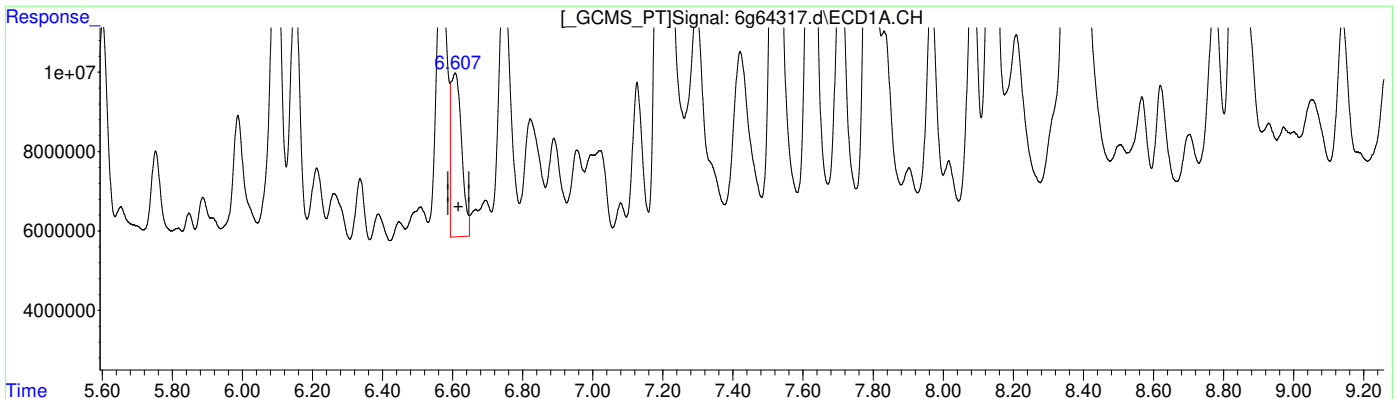
(15) 4,4'-DDE #2 (B)  
 6.717min 3.854 PPB  
 response 19114487

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64317.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:23:52  
 Operator : thomasl  
 Sample : jc86337-1  
 Misc : op19789,g6g1984,15.3,,,10,1  
 ALS Vial : 73 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:16:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(20) 4,4'-DDT (MA)  
 6.607min 17.968 PPB  
 response 87563459

(20) 4,4'-DDT #2 (MA)  
 8.204min 21.377 PPB  
 response 88695143

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 15:26:20 2019

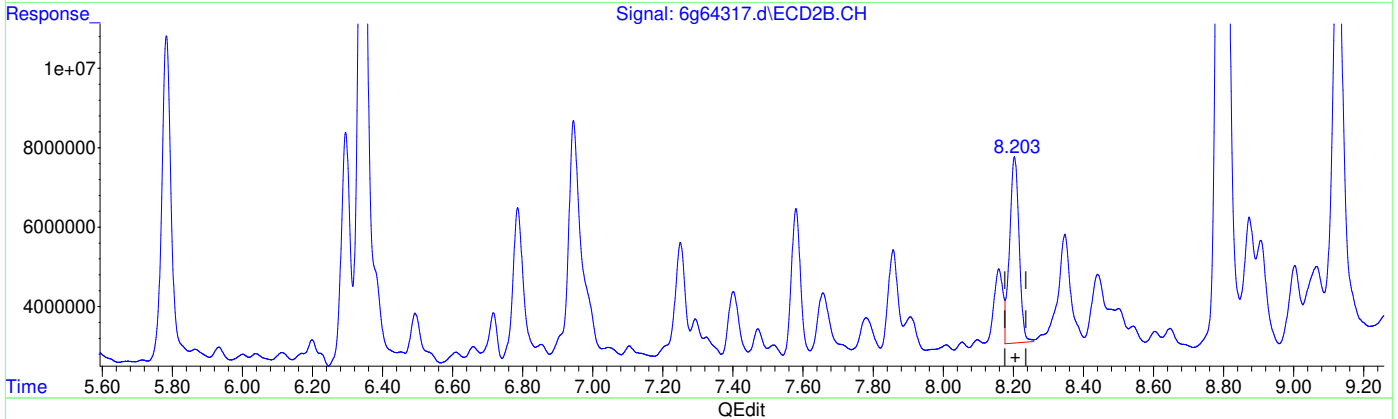
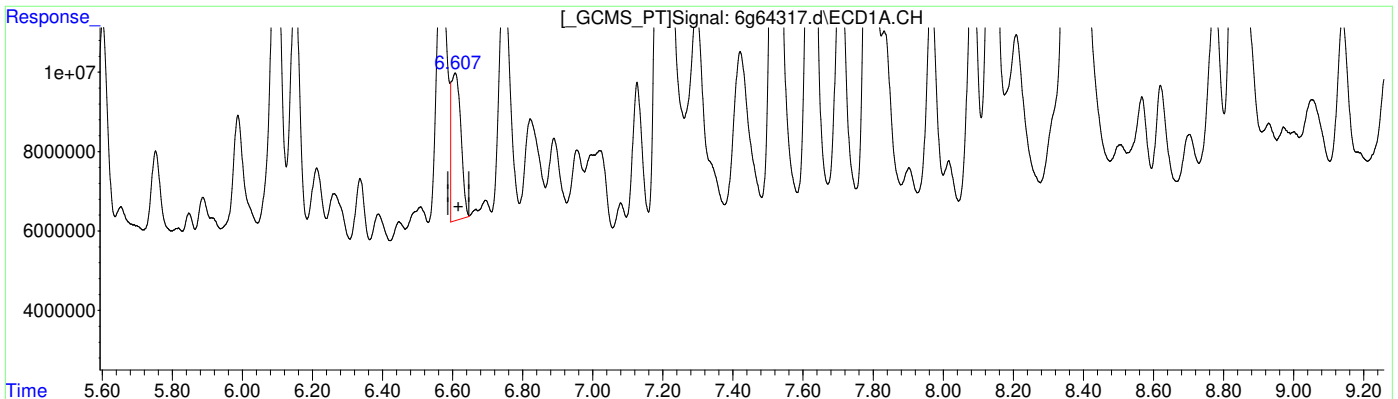
11.1.14  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64317.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:23:52  
 Operator : thomasl  
 Sample : jc86337-1  
 Misc : op19789,g6g1984,15.3,,,10,1  
 ALS Vial : 73 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:16:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(20) 4,4'-DDT (MA)  
 6.607min 14.500 PPB m  
 response 70661142

(20) 4,4'-DDT #2 (MA)  
 8.204min 21.377 PPB  
 response 88695143

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 15:26:28 2019

11.1.15  
11

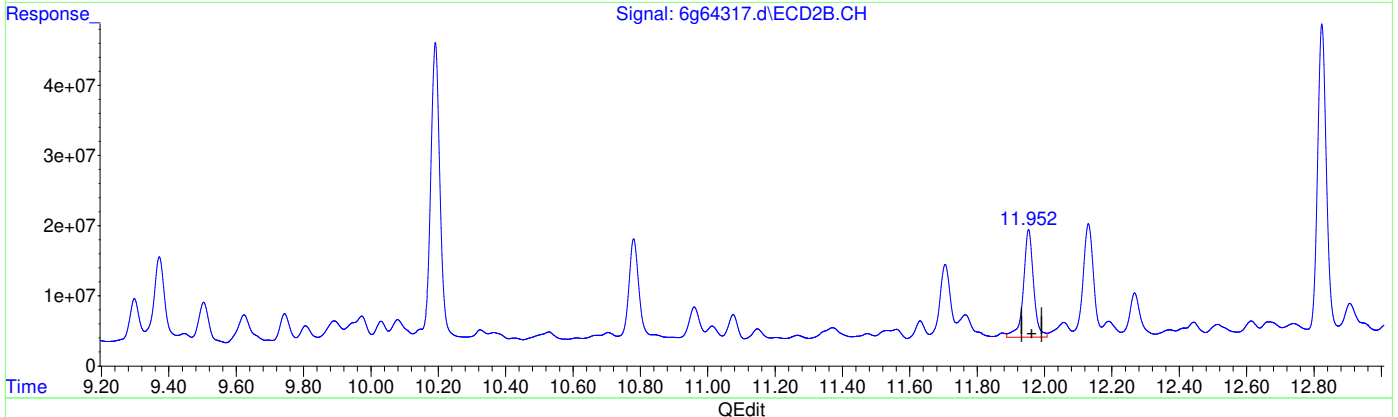
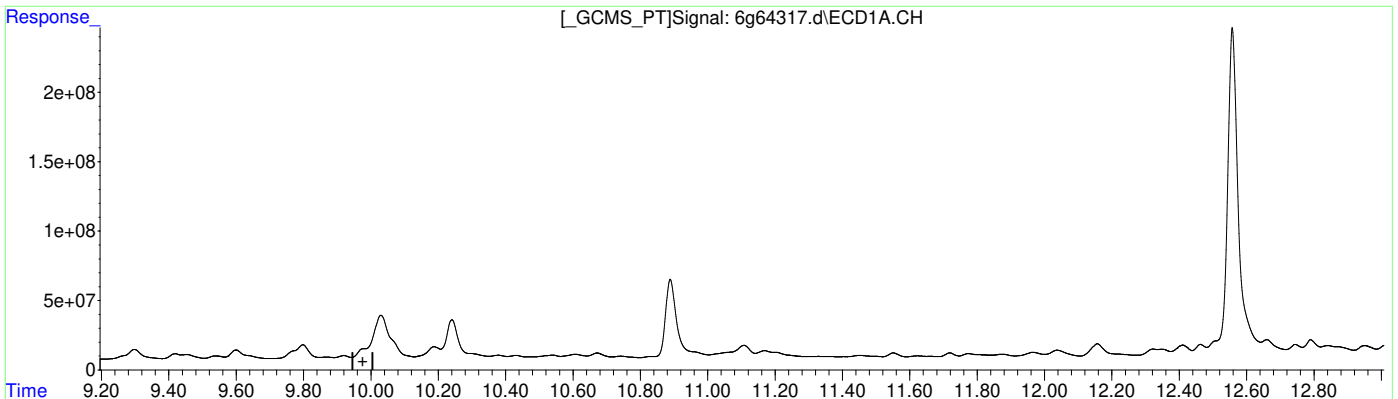


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64317.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:23:52  
 Operator : thomasl  
 Sample : jc86337-1  
 Misc : op19789,g6g1984,15.3,,,10,1  
 ALS Vial : 73 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:16:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(26) Decachlorobiphenyl (SA)

0.000min 0.000 PPB

response 0

(26) Decachlorobiphenyl #2 (SA)

11.953min 77.492 PPB

response 321579533

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 15:27:01 2019

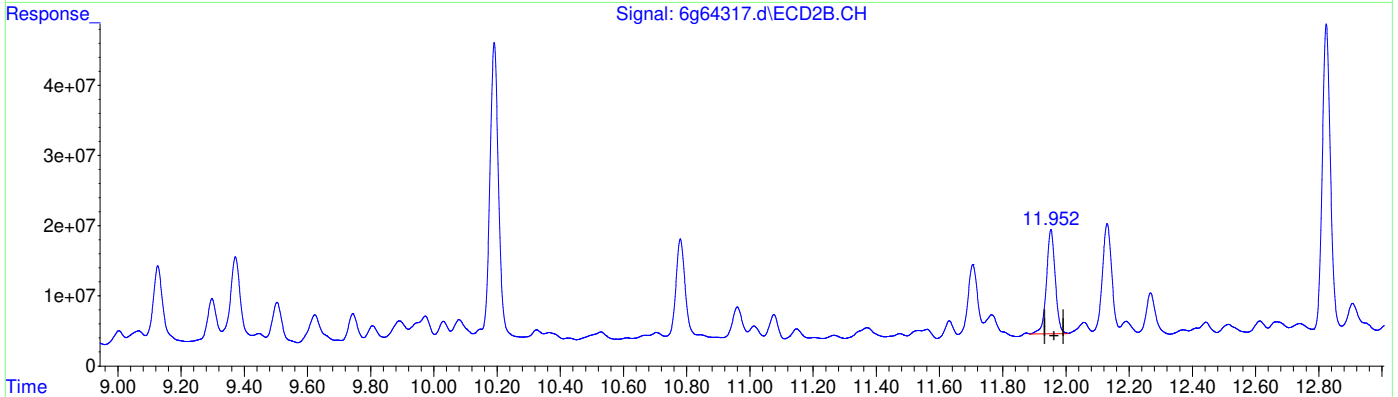
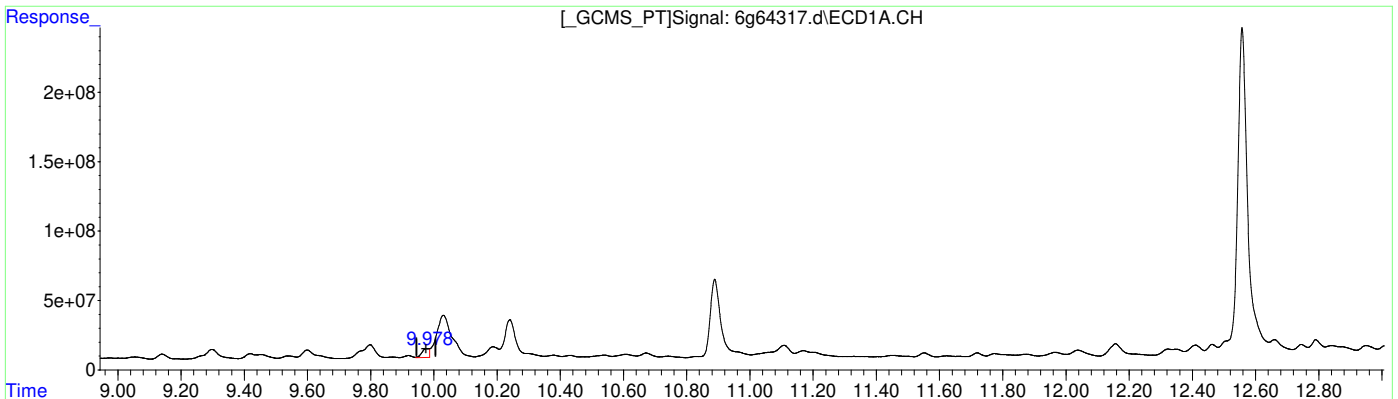
11.1.16  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64317.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:23:52  
 Operator : thomasl  
 Sample : jc86337-1  
 Misc : op19789,g6g1984,15.3,,,10,1  
 ALS Vial : 73 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:16:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



Retention Time (min)	Response	Concentration (PPB m)
9.978	101797525	13.218
11.952	286666655	69.079

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 15:28:08 2019

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64318.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:41:23  
 Operator : thomasl  
 Sample : jc86337-2  
 Misc : op19789,g6g1984,16.8,,,10,1  
 ALS Vial : 74 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:38:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
1) I 1-bromo-2...	1.957	2.171	275.9E6	263.1E6	50.000	50.000
27) I 1-bromo-2...	1.957	2.171	275.9E6	263.1E6	50.000	50.000
33) I 1-bromo-2...	1.957	2.171	275.9E6	263.1E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.557	2.986	75471360	69058652	20.540	14.926 #
Spiked Amount	40.000	Range 30 - 150	Recovery =		51.35%	37.31%
26) SA Decachlor...	9.979	11.950	98757218	429.1E6	14.403m	117.300m#
Spiked Amount	40.000		Recovery =		36.01%	293.25%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

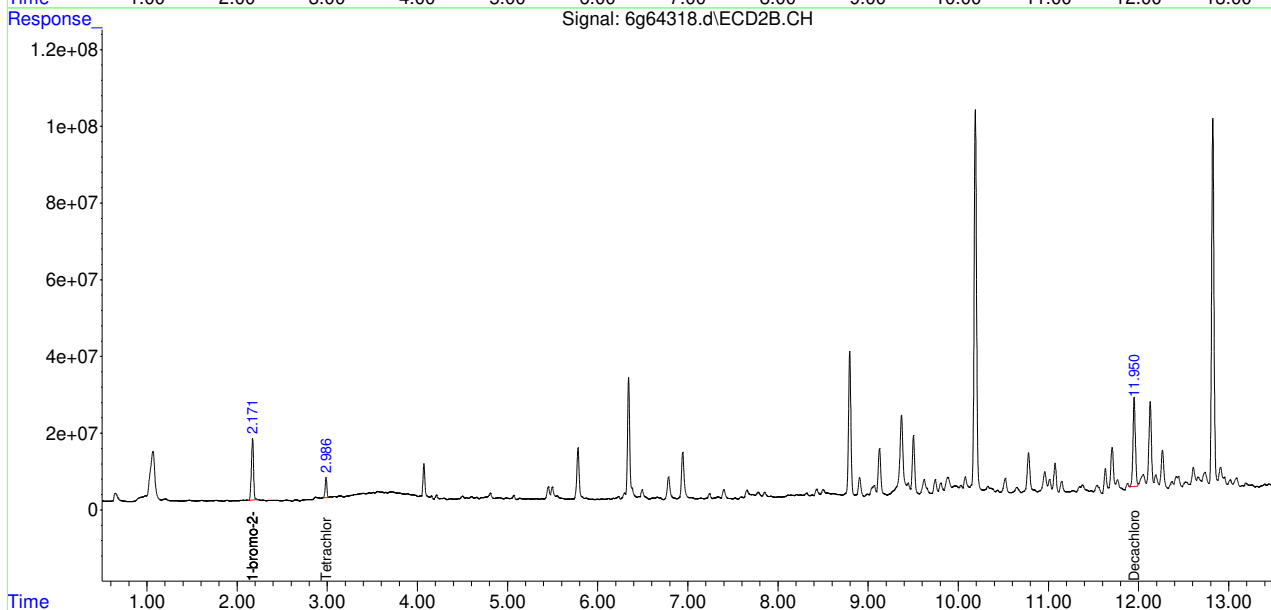
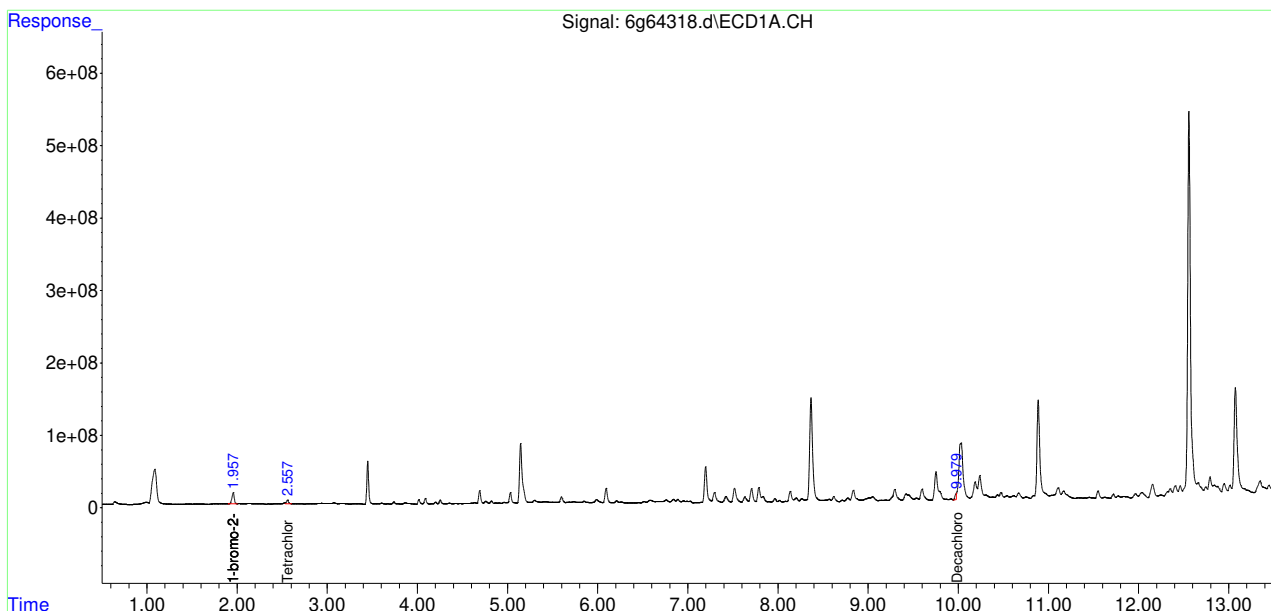
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64318.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:41:23  
 Operator : thomasl  
 Sample : jc86337-2  
 Misc : op19789,g6g1984,16.8,,,10,1  
 ALS Vial : 74 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:38:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



# Manual Integration Approval Summary

Sample Number: JC86337-2                      Method: SW846 8081B  
Lab FileID: 6G64318.D                      Analyst approved: 04/18/19 15:40 Thomas Lally  
Injection Time: 04/18/19 14:41                      Supervisor approved: 04/18/19 16:20 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Decachlorobiphenyl	2051-24-3	1	9.98	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	2	11.95	Poorly defined baseline

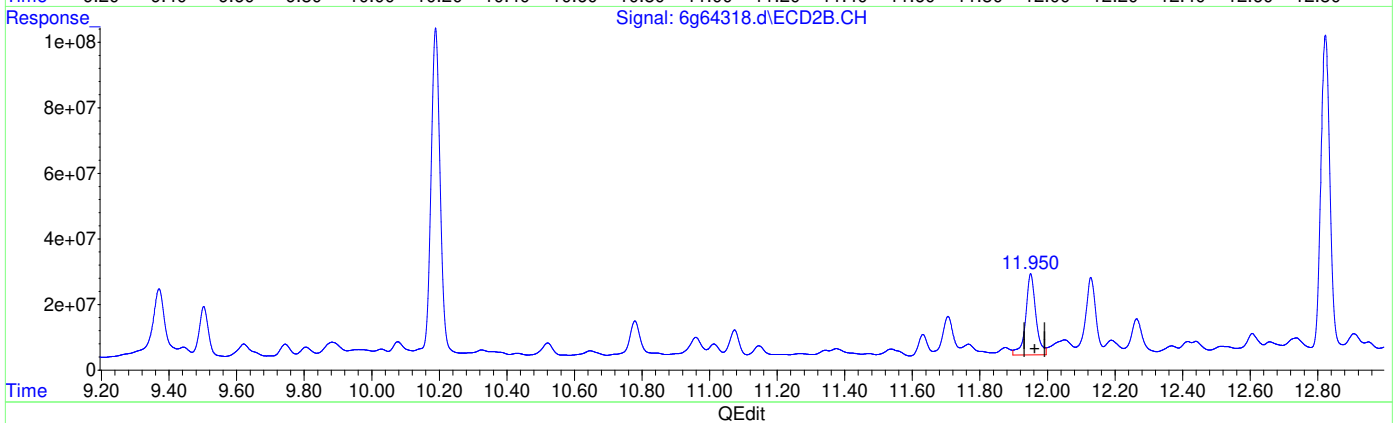
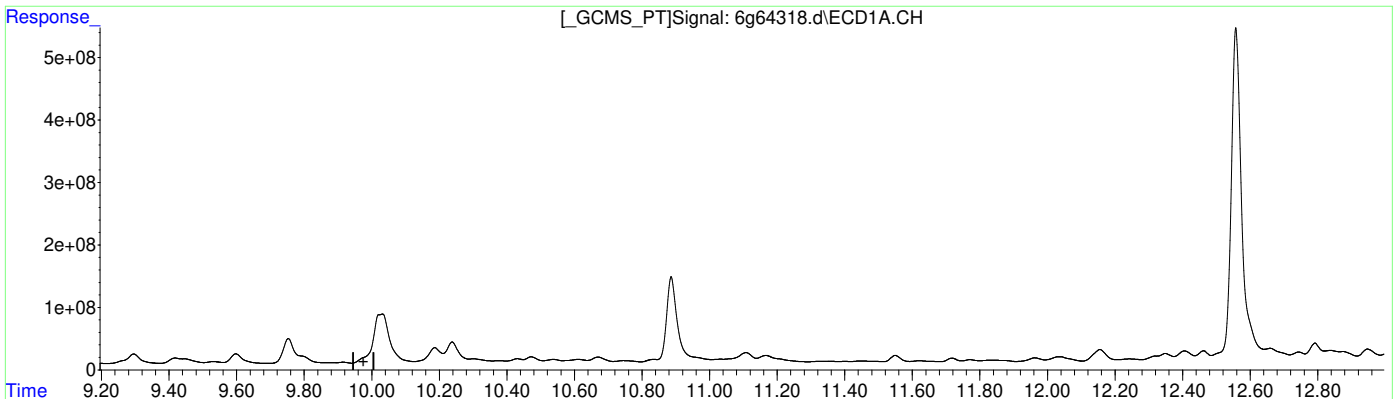
11.1.21  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64318.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:41:23  
 Operator : thomasl  
 Sample : jc86337-2  
 Misc : op19789,g6g1984,16.8,,,10,1  
 ALS Vial : 74 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:16:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(26) Decachlorobiphenyl (SA)

0.000min 0.000 PPB

response 0

(26) Decachlorobiphenyl #2 (SA)

11.950min 141.539 PPB

response 517784771

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 15:31:09 2019

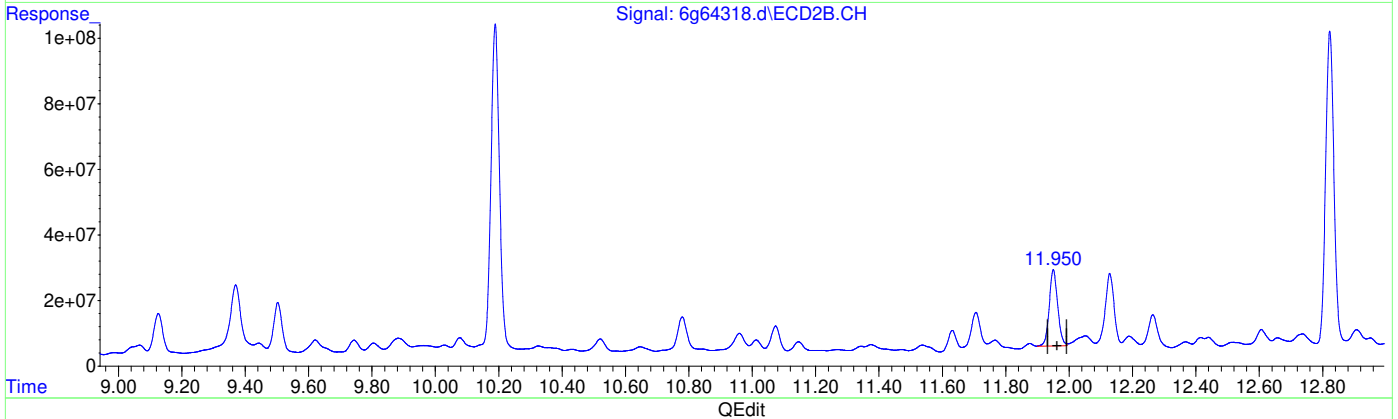
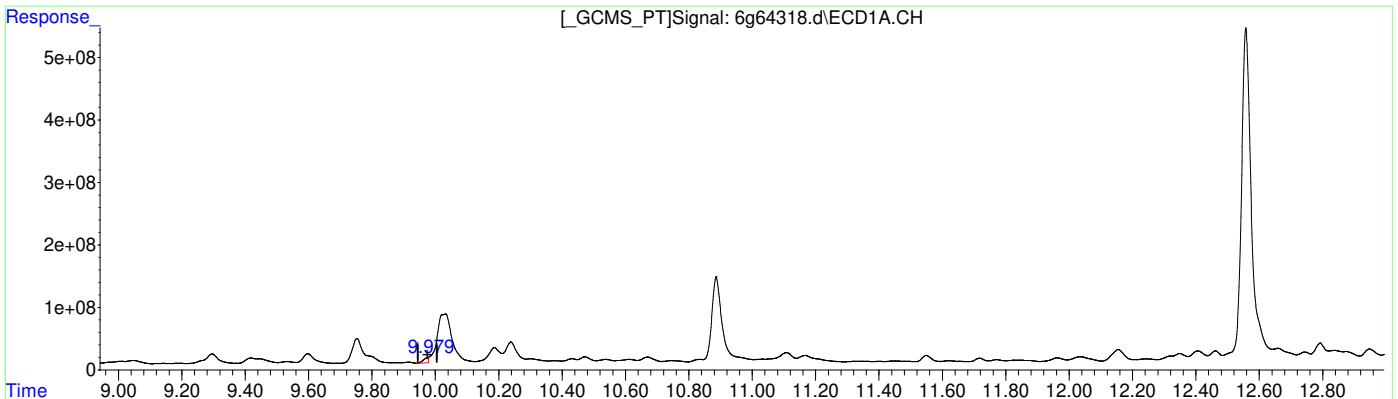
11.1.22  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64318.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 14:41:23  
 Operator : thomasl  
 Sample : jc86337-2  
 Misc : op19789,g6g1984,16.8,,,10,1  
 ALS Vial : 74 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 15:38:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(26) Decachlorobiphenyl (SA)

9.979min 14.403 PPB m

response 98757218

(26) Decachlorobiphenyl #2 (SA)

11.950min 117.300 PPB m

response 429114767

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 15:38:47 2019

11.1.23  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433923.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 1:15 pm  
 Operator : summerk  
 Sample : jc86337-1  
 Misc : op19788,gxx6659,15.3,,,10,5  
 ALS Vial : 64 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 14:00:30 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.272	4.043	76840423	60771005	4.111	4.797
Spiked Amount	40.000		Recovery	=	10.28%	11.99%
51) S Decachlor...	10.746f	12.671f	153.0E6	238.8E6	8.272	20.331 #
Spiked Amount	40.000		Recovery	=	20.68%	50.83%
Target Compounds						
46) AR1260-A	7.842f	9.490	134.5E6	84238043	88.997	80.769m
47) AR1260-B	8.005f	9.609	56548072	57035370	86.404	100.566
49) AR1260-D	8.785f	10.395	160.2E6	120.2E6	89.726	84.084
50) AR1260-E	9.233f	10.948	339.8E6	148.3E6	194.164m	112.756m#
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

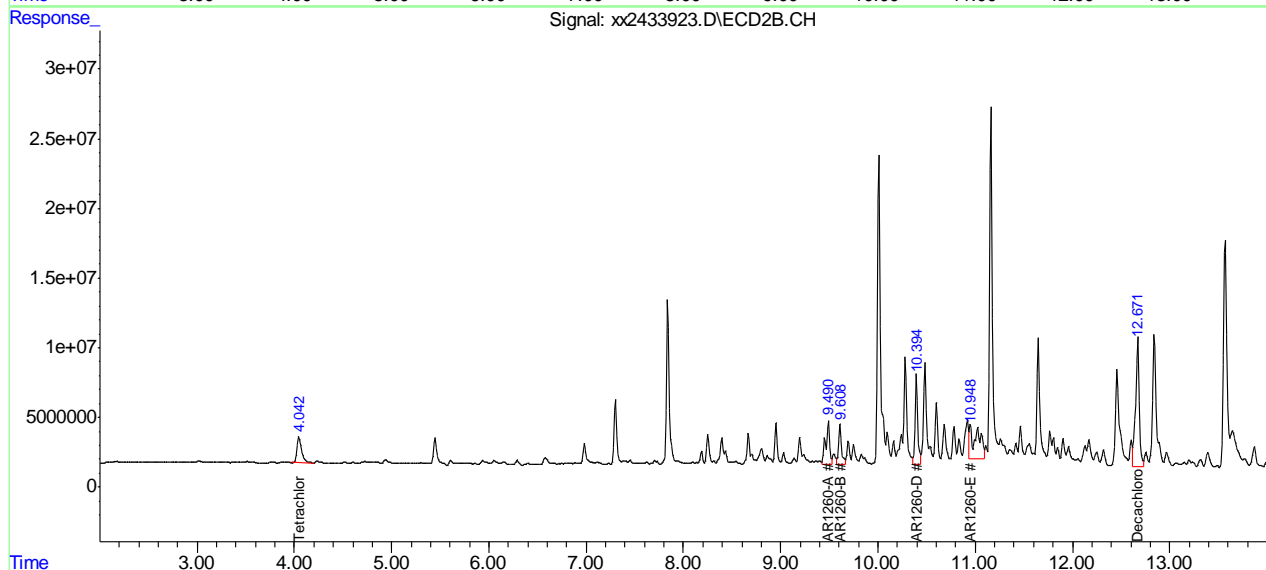
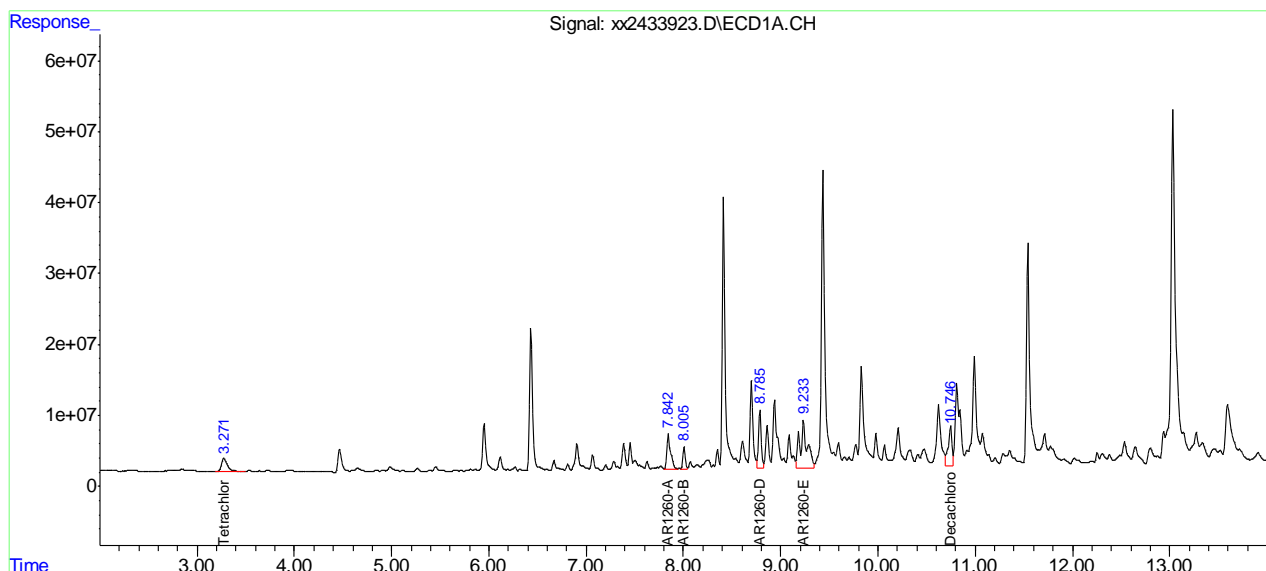


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433923.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 1:15 pm  
 Operator : summerk  
 Sample : jc86337-1  
 Misc : op19788,gxx6659,15.3,,,10,5  
 ALS Vial : 64 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 14:00:30 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary

Sample Number: JC86337-1                      Method: SW846 8082A  
Lab FileID: XX2433923.D                      Analyst approved: 04/18/19 14:02 Summer Kotb  
Injection Time: 04/18/19 13:15                      Supervisor approved: 04/19/19 06:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	9.23	Split peak
AR1260-A		2	9.49	Split peak
AR1260-E		2	10.95	Split peak

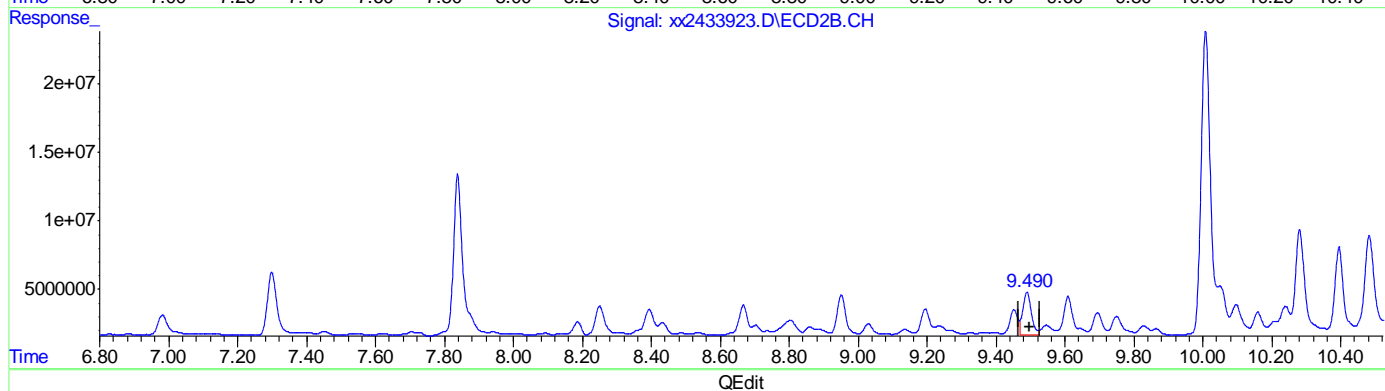
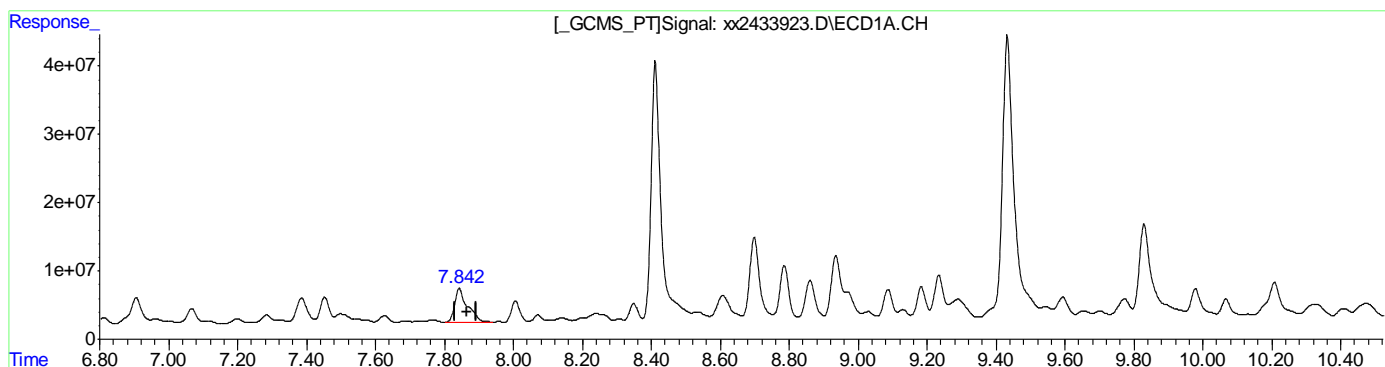
11.1.3.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
Data File : xx2433923.D  
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
Acq On : 18 Apr 2019 1:15 pm  
Operator : summerk  
Sample : jc86337-1  
Misc : op19788,gxx6659,15.3,,,10,5  
ALS Vial : 64 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Apr 18 13:59:15 2019  
Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
Quant Title :  
QLast Update : Tue Mar 05 09:28:51 2019  
Response via : Initial Calibration  
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
7.842min 88.997PPB  
response 134494942

(46) AR1260-A #2  
9.490min 52.787PPB  
response 55054351

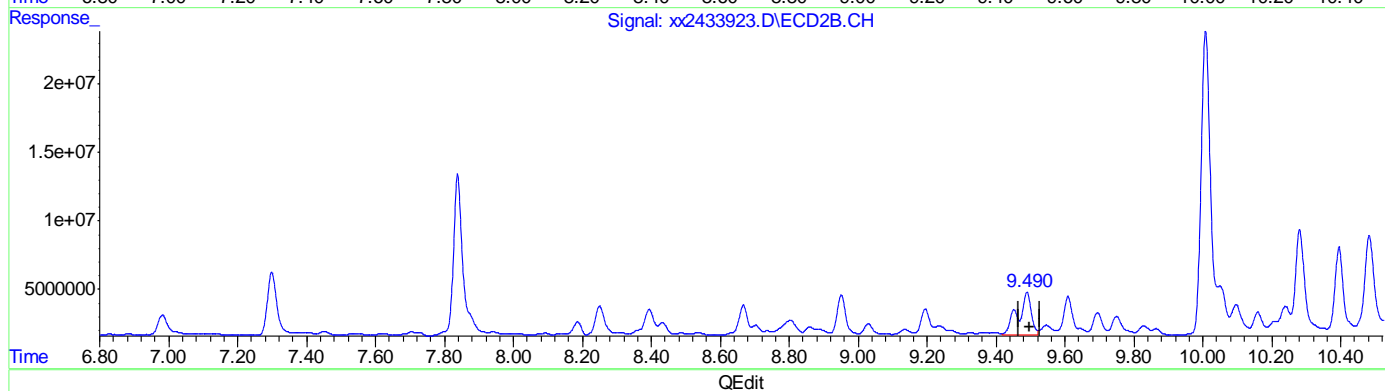
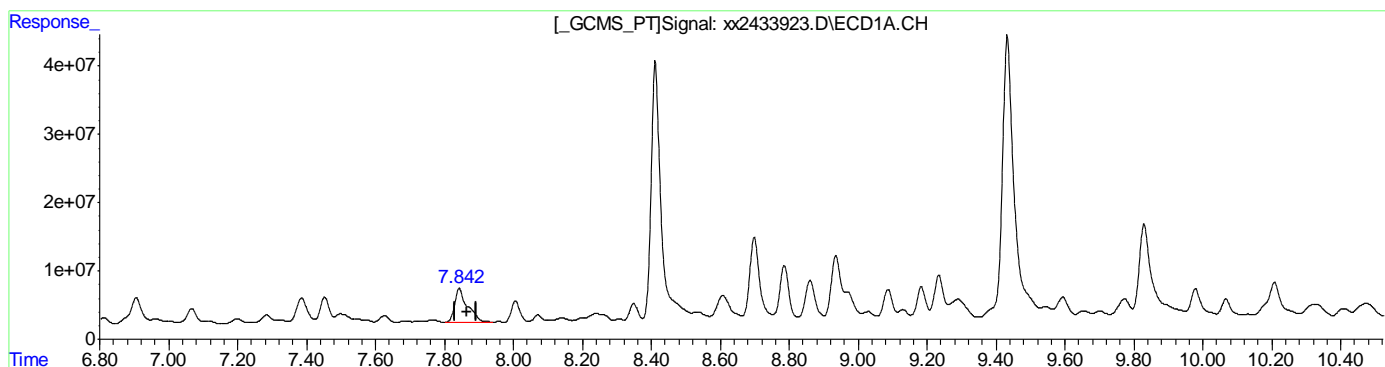
11.1.3.2  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433923.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 1:15 pm  
 Operator : summerk  
 Sample : jc86337-1  
 Misc : op19788,gxx6659,15.3,,,10,5  
 ALS Vial : 64 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 13:59:15 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.842min 88.997PPB  
 response 134494942

(46) AR1260-A #2  
 9.490min 80.769PPB m  
 response 84238043

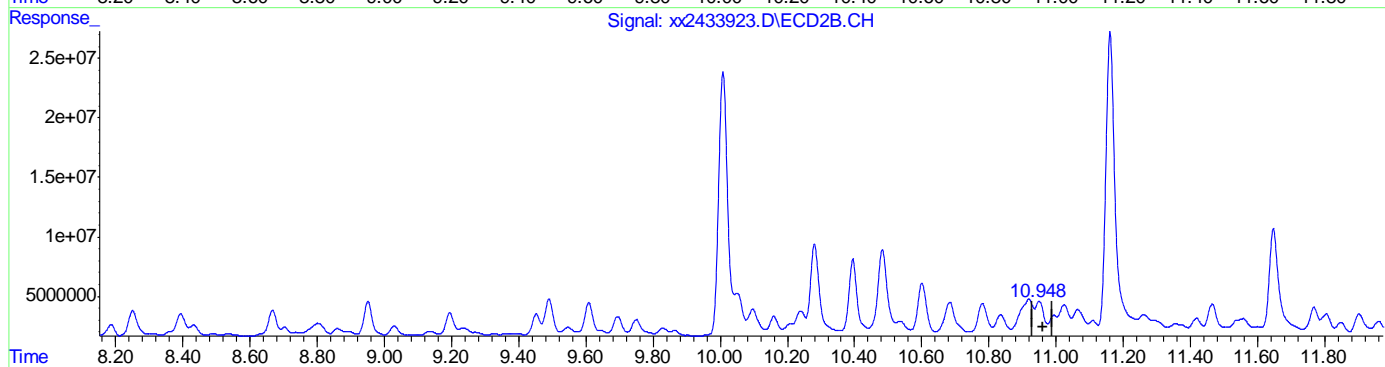
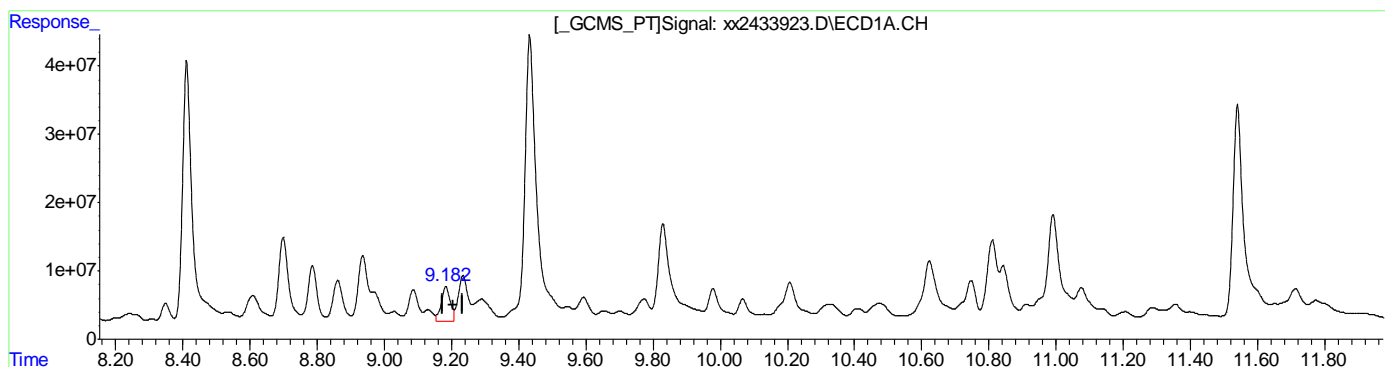
11.1.3.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433923.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 1:15 pm  
 Operator : summerk  
 Sample : jc86337-1  
 Misc : op19788,gxx6659,15.3,,,10,5  
 ALS Vial : 64 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 13:59:15 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.183min 55.220PPB  
 response 96649531

(50) AR1260-E #2  
 10.950min 40.174PPB  
 response 52852927

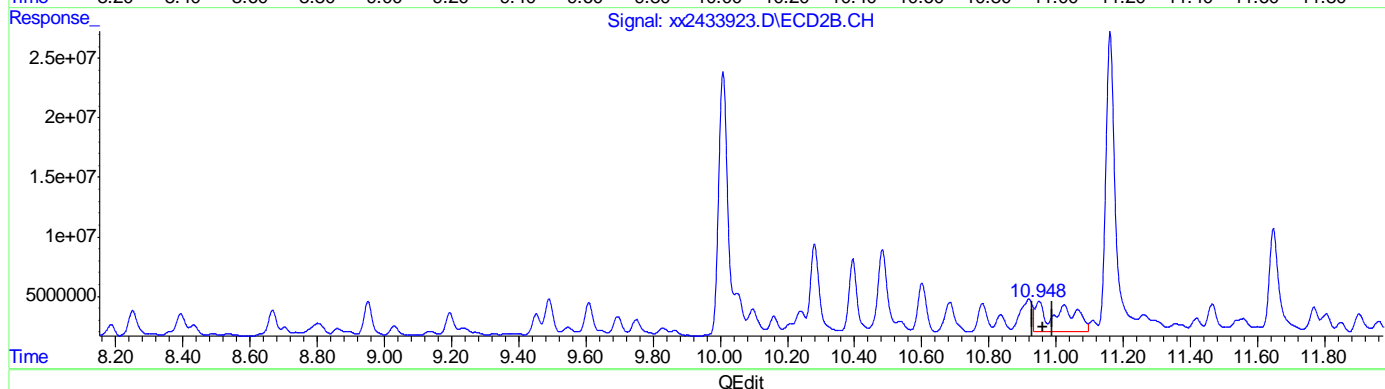
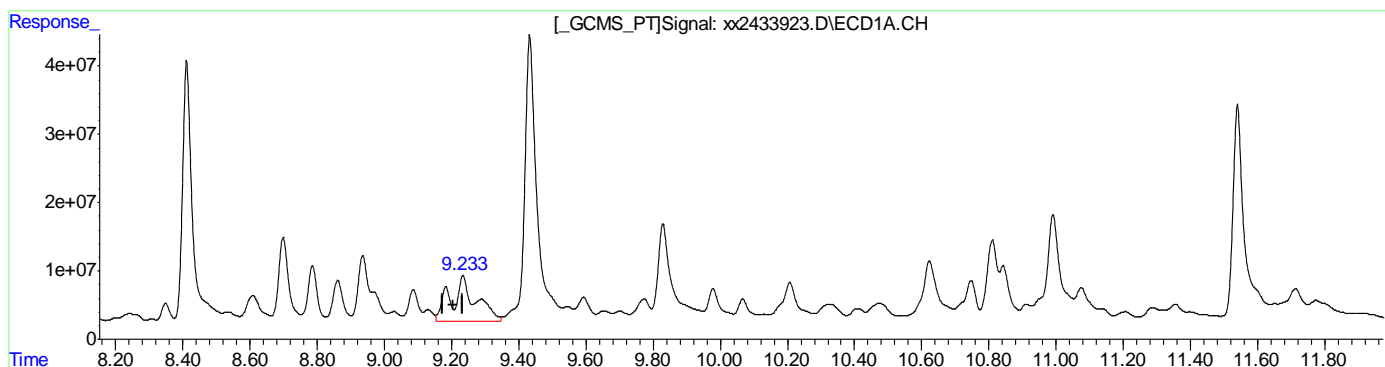
11.1.3.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433923.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 1:15 pm  
 Operator : summerk  
 Sample : jc86337-1  
 Misc : op19788,gxx6659,15.3,,,10,5  
 ALS Vial : 64 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 13:59:15 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.233min 194.164PPB m  
 response 339838127

(50) AR1260-E #2  
 10.948min 112.756PPB m  
 response 148343144

11.1.3.5  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433924.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 1:34 pm  
 Operator : summerk  
 Sample : jc86337-2  
 Misc : op19788,gxx6659,16.8,,,10,5  
 ALS Vial : 65 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 14:02:03 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.274	4.045	72981390	79748961	3.905	6.296 #
Spiked Amount	40.000		Recovery	=	9.76%	15.74%
51) S Decachlor...	10.811f	12.670f	690.8E6	361.0E6	37.347m	30.733m
Spiked Amount	40.000		Recovery	=	93.37%	76.83%

## Target Compounds

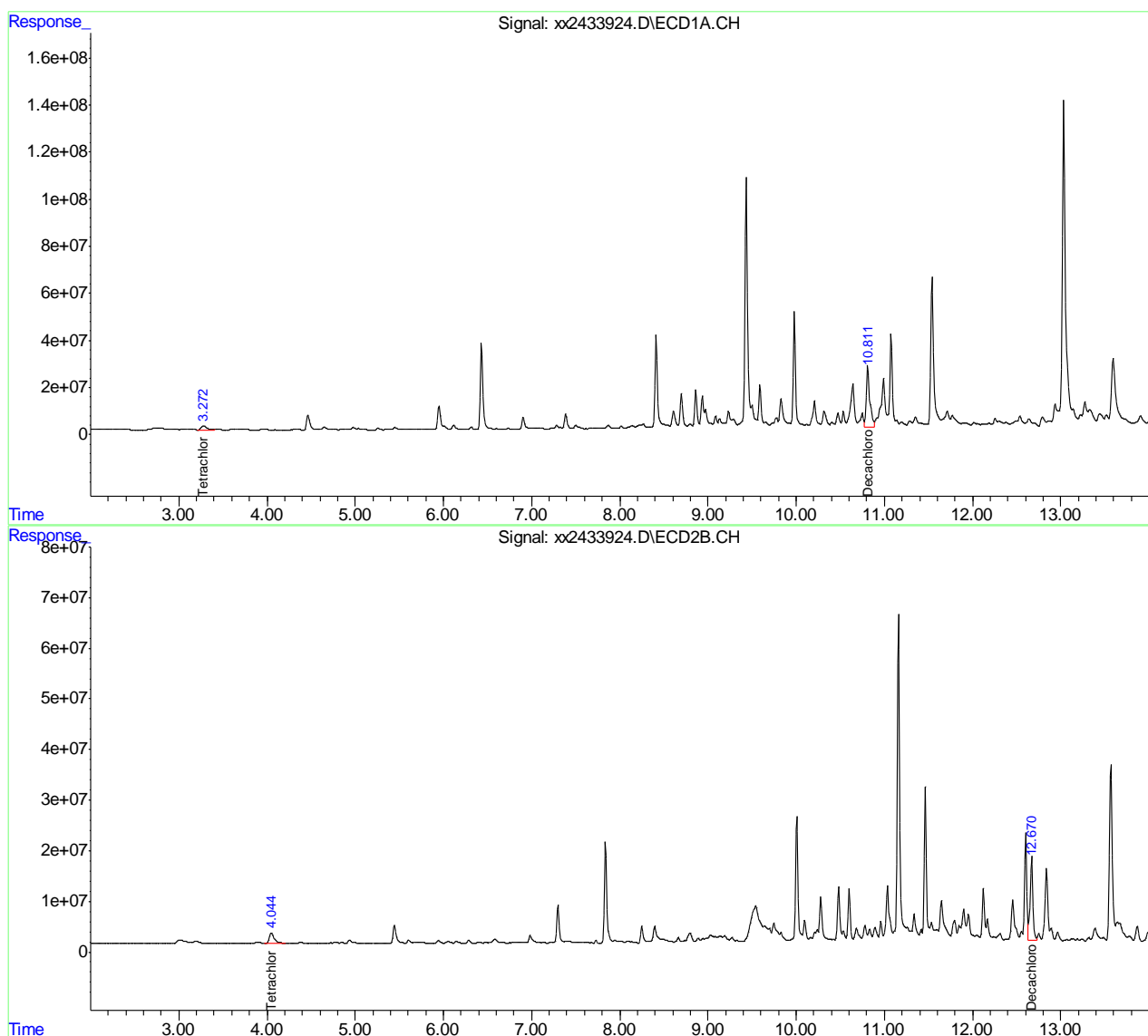
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6659\  
Data File : xx2433924.D  
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
Acq On : 18 Apr 2019 1:34 pm  
Operator : summerk  
Sample : jc86337-2  
Misc : op19788,gxx6659,16.8,,,10,5  
ALS Vial : 65 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Apr 18 14:02:03 2019  
Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
Quant Title :  
QLast Update : Tue Mar 05 09:28:51 2019  
Response via : Initial Calibration  
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)





# Manual Integration Approval Summary

Sample Number: JC86337-2                      Method: SW846 8082A  
Lab FileID: XX2433924.D                      Analyst approved: 04/18/19 14:02 Summer Kotb  
Injection Time: 04/18/19 13:34                      Supervisor approved: 04/19/19 06:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Decachlorobiphenyl	2051-24-3	1	10.81	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	2	12.67	Poorly defined baseline

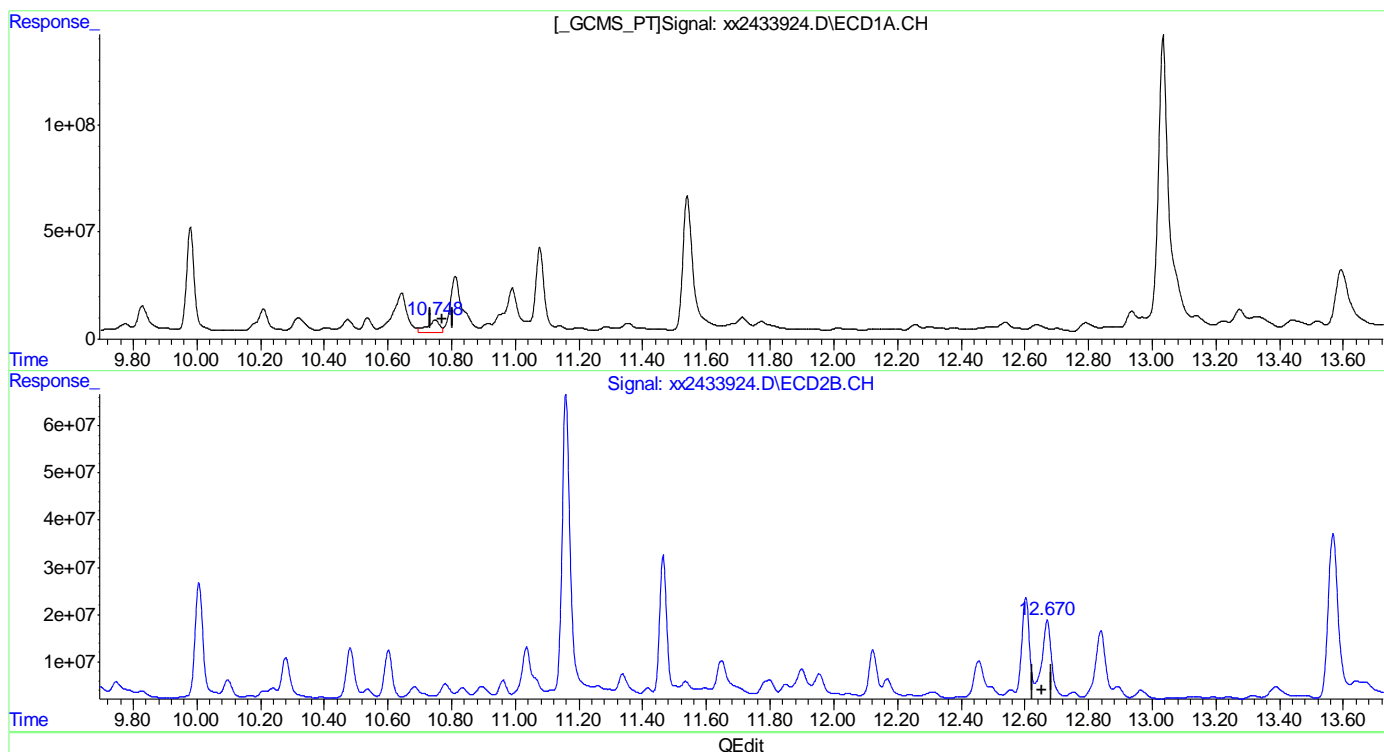
11.1.4.1  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433924.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 1:34 pm  
 Operator : summerk  
 Sample : jc86337-2  
 Misc : op19788,gxx6659,16.8,,,10,5  
 ALS Vial : 65 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 14:01:13 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(51) Decachlorobiphenyl (S)

10.748min 8.449ppb

response 156294780

(51) Decachlorobiphenyl #2 (S)

12.670min 31.269ppb

response 367287778

(+) = Expected Retention Time

PCB6621.M Thu Apr 18 14:01:50 2019

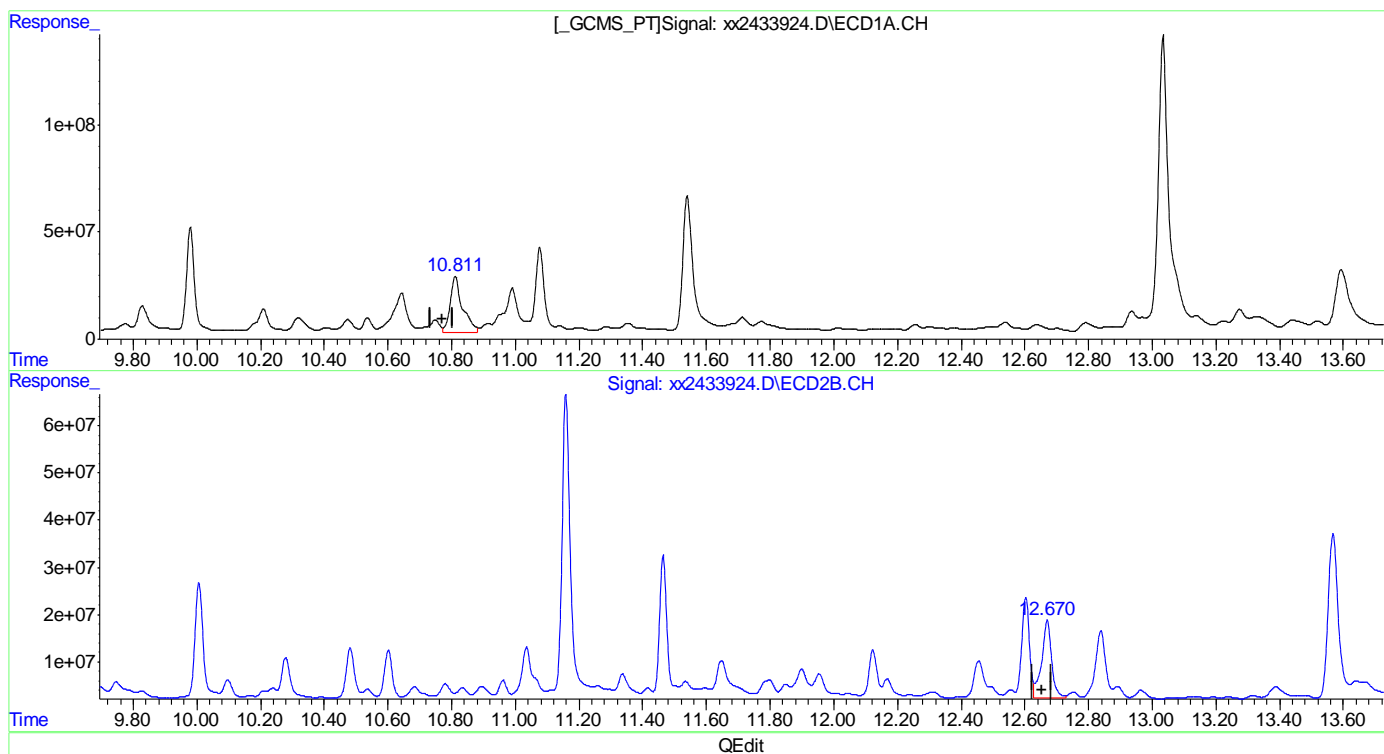
Page: 1

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433924.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 1:34 pm  
 Operator : summerk  
 Sample : jc86337-2  
 Misc : op19788,gxx6659,16.8,,,10,5  
 ALS Vial : 65 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 14:01:13 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(51) Decachlorobiphenyl (S)  
 10.811min 37.347ppb m  
 response 690843098

(51) Decachlorobiphenyl #2 (S)  
 12.670min 30.733ppb m  
 response 360985174

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/22/19 08:49

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD1A.CH Vial: 16  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD2B.CH  
 Acq On : 19 Apr 2019 6:13 pm Operator: tianweir  
 Sample : jc86337-7 Inst : gcef  
 Misc : op19829,GEF6426,16.4,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:20 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.63	4.26	436075	491953	29.801m	27.680m
Spiked Amount	40.000		Recovery	=	74.50%	69.20%
51) S Decachlorobiphen	14.96	17.32	588854	1300478	33.003m	66.005 #
Spiked Amount	40.000		Recovery	=	82.51%	165.01%
Target Compounds						
25) AR1254-B	7.95	9.56	116559	263667	129.806	249.167 #
26) AR1254-C	8.57	10.38	204158	224134	316.827	307.383
27) AR1254-D	8.78	10.62	191749	687018	185.691	433.029 #
28) AR1254-E	9.37	11.11	170399	226282	171.956	167.582
29) AR1254-F	9.78	11.88	192297	274688	213.171	255.071
30) AR1254-G	10.38	12.34	355545	464294	310.063	294.718

11.15  
 11

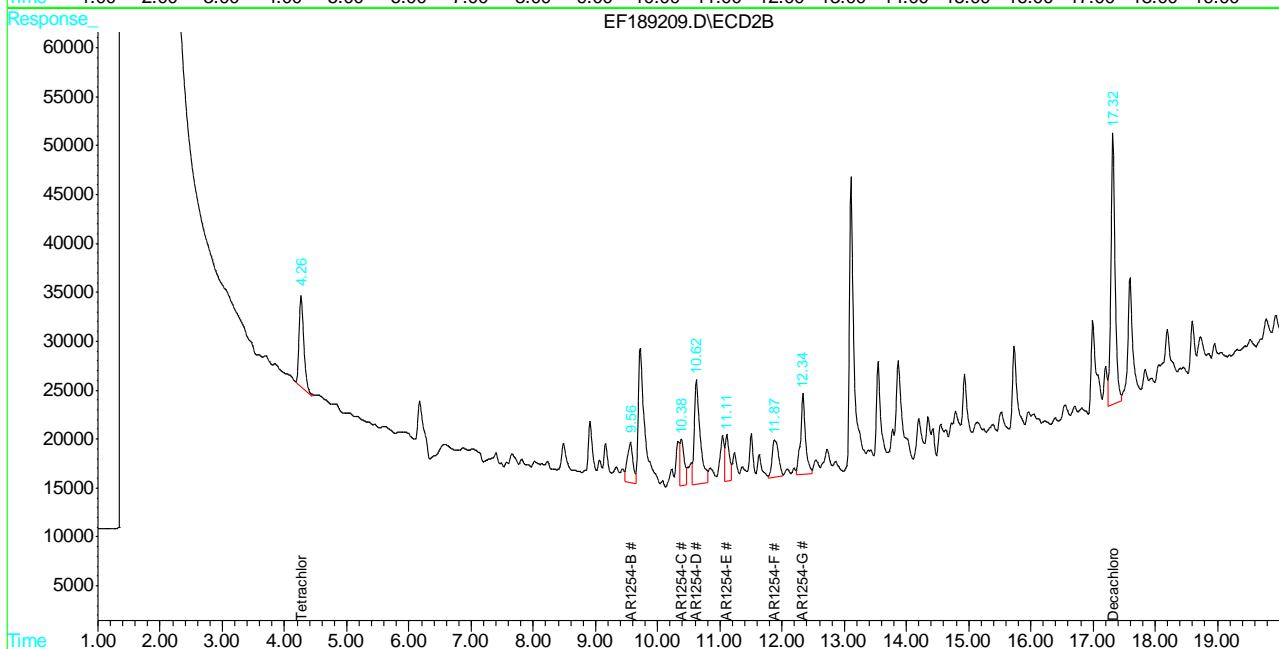
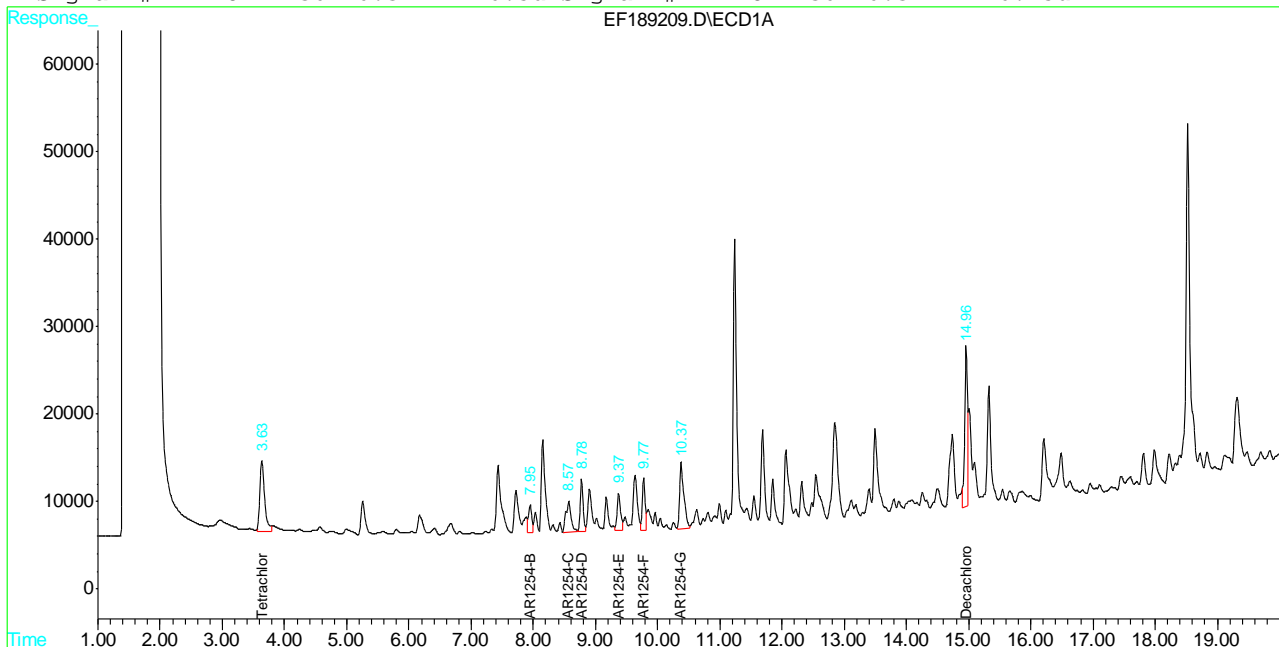
-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF189209.D PCB6419.M Mon Apr 22 08:20:28 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD1A.CH Vial: 16  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD2B.CH  
 Acq On : 19 Apr 2019 6:13 pm Operator: tianweir  
 Sample : jc86337-7 Inst : gcef  
 Misc : op19829,GEF6426,16.4,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:20 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



# Manual Integration Approval Summary

Sample Number: JC86337-7                      Method: SW846 8082A  
Lab FileID: EF189209.D                      Analyst approved: 04/22/19 08:27 Tianwei Ruan  
Injection Time: 04/19/19 18:13                      Supervisor approved: 04/22/19 08:49 Gwendolyn Burns

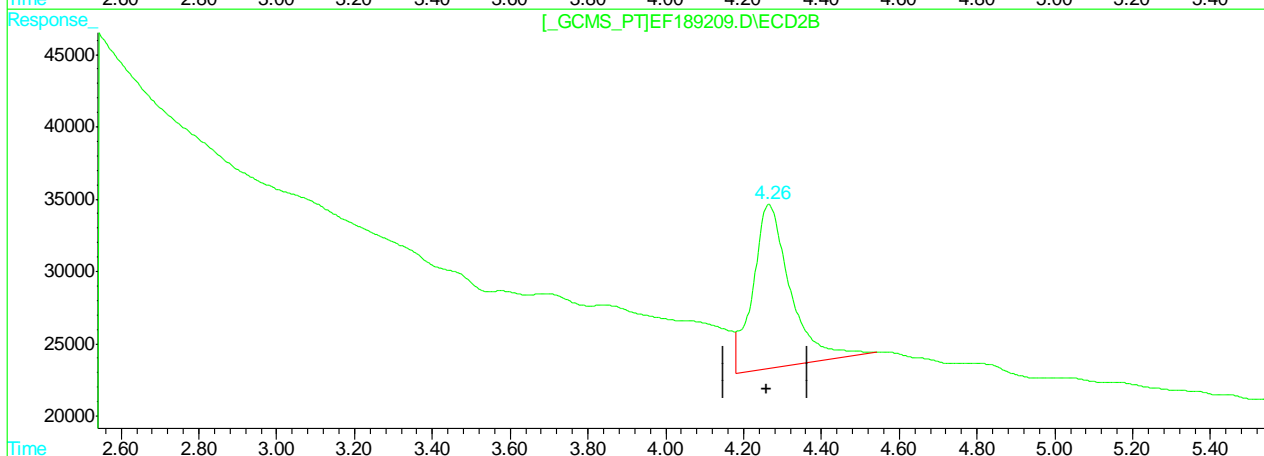
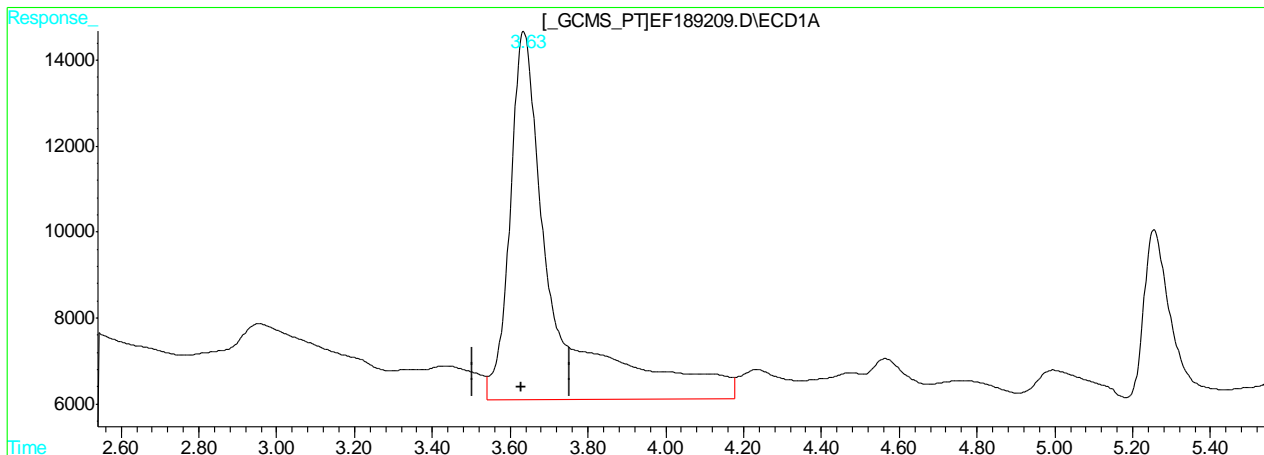
Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrachloro-m-xylene	877-09-8	1	3.63	Poorly defined baseline
Tetrachloro-m-xylene	877-09-8	2	4.26	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	1	14.96	Poorly defined baseline

11.1.5.1  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD1A.CH Vial: 16  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD2B.CH  
 Acq On : 19 Apr 2019 6:13 pm Operator: tianweir  
 Sample : jc86337-7 Inst : gcef  
 Misc : op19829,GEF6426,16.4,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:19 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(1) Tetrachloro-m-xylene (S)

3.64min 45.994PPB

response 673024

(1) Tetrachloro-m-xylene #2 (S)

4.27min 43.018PPB

response 764545

(+) = Expected Retention Time

EF189209.D PCB6419.M

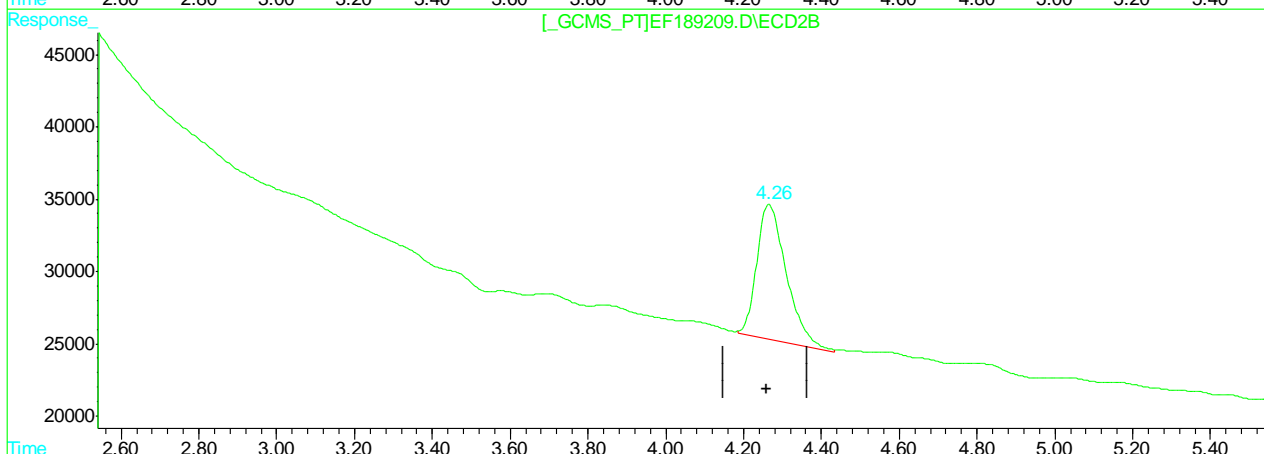
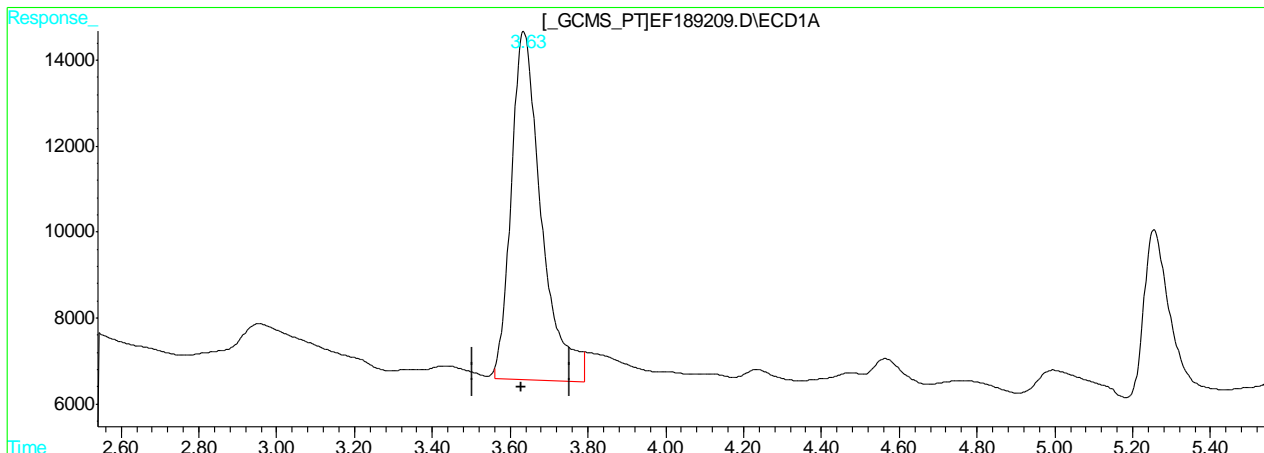
Mon Apr 22 08:19:23 2019

GCEF

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD1A.CH Vial: 16  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD2B.CH  
 Acq On : 19 Apr 2019 6:13 pm Operator: tianweir  
 Sample : jc86337-7 Inst : gcef  
 Misc : op19829,GEF6426,16.4,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:19 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(1) Tetrachloro-m-xylene (S)

3.63min 29.801PPB m

response 436075

(1) Tetrachloro-m-xylene #2 (S)

4.26min 27.680PPB m

response 491953

(+) = Expected Retention Time

EF189209.D PCB6419.M

Mon Apr 22 08:19:29 2019

GCEF

11.1.5.3

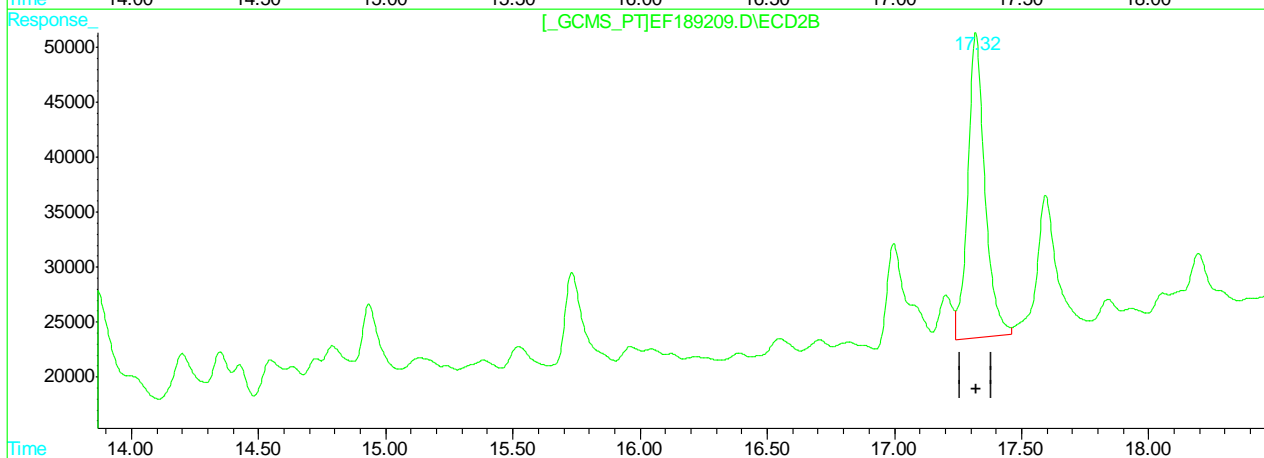
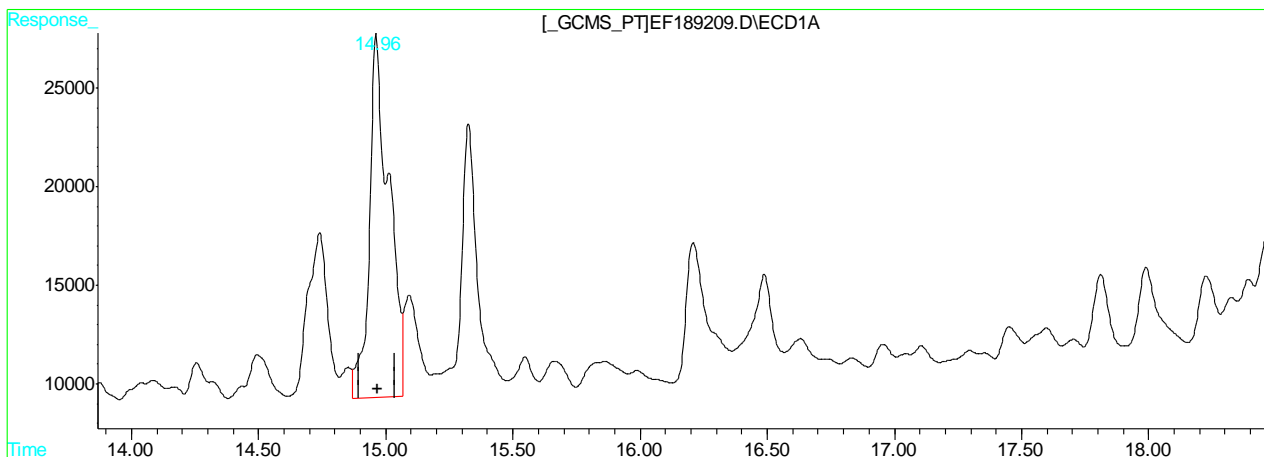
11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD1A.CH Vial: 16  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD2B.CH  
 Acq On : 19 Apr 2019 6:13 pm Operator: tianweir  
 Sample : jc86337-7 Inst : gcef  
 Misc : op19829,GEF6426,16.4,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:19 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.96min 54.838PPB

response 978440

(51) Decachlorobiphenyl #2 (S)

17.32min 66.005PPB

response 1300478

(+) = Expected Retention Time

EF189209.D PCB6419.M

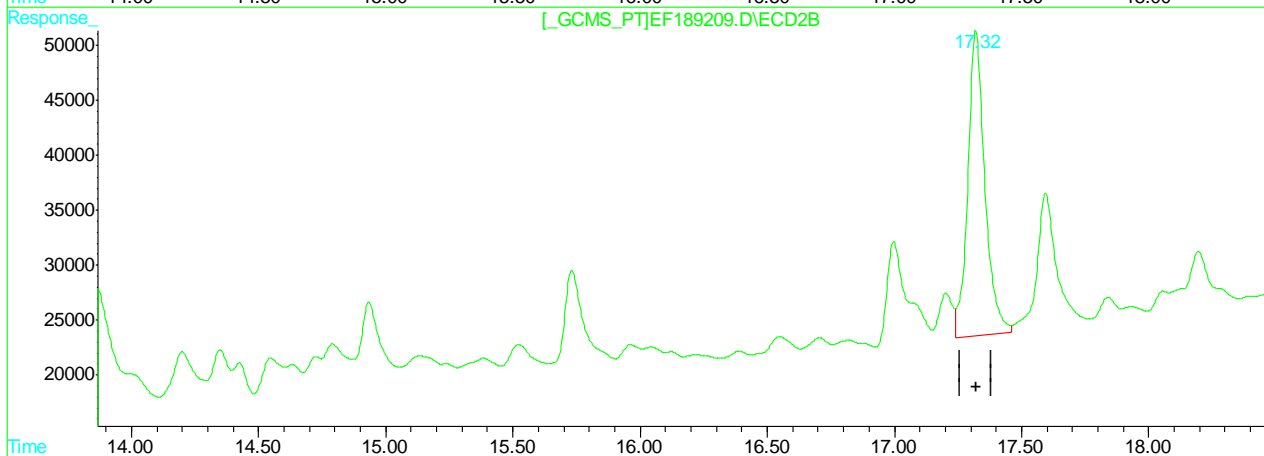
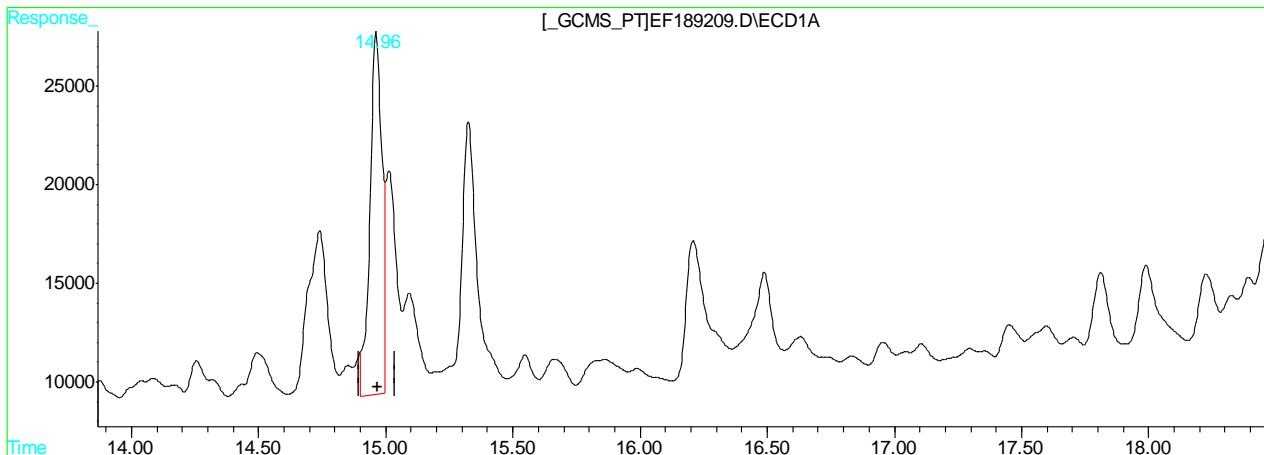
Mon Apr 22 08:19:32 2019

GCEF

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD1A.CH Vial: 16  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189209.D\ECD2B.CH  
 Acq On : 19 Apr 2019 6:13 pm Operator: tianweir  
 Sample : jc86337-7 Inst : gcef  
 Misc : op19829,GEF6426,16.4,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:19 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.96min 33.003PPB m

response 588854

(51) Decachlorobiphenyl #2 (S)

17.32min 66.005PPB

response 1300478

(+) = Expected Retention Time

EF189209.D PCB6419.M

Mon Apr 22 08:19:45 2019

GCEF

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189210.D\ECD1A.CH Vial: 17  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189210.D\ECD2B.CH  
 Acq On : 19 Apr 2019 6:38 pm Operator: tianweir  
 Sample : jc86337-8 Inst : gcef  
 Misc : op19829,GEF6426,16.7,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:20 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.64	4.27	547090	620802	37.388	34.930
Spiked Amount	40.000		Recovery	=	93.47%	87.33%
51) S Decachlorobiphen	14.97	17.32	888486	1972965	49.796	100.137 #
Spiked Amount	40.000		Recovery	=	124.49%	250.34%
Target Compounds						
26) AR1254-C	8.53	10.36	309432	866798	480.200	1188.746 #
27) AR1254-D	8.78	10.62	605109	1426941	585.992	899.404 #
28) AR1254-E	9.38	11.12	559030	891477	564.139	660.220
29) AR1254-F	9.78	11.91	594865	912707	659.436	847.525 #
30) AR1254-G	10.38	12.34	948734	1358283	827.370	862.192

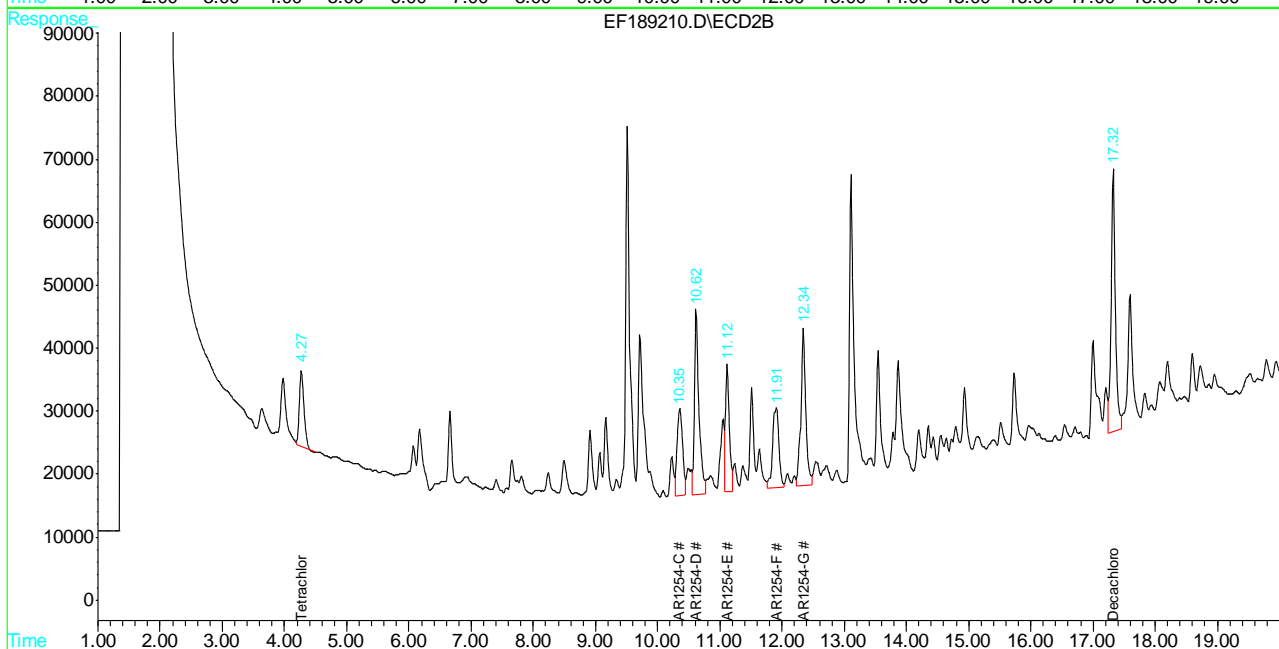
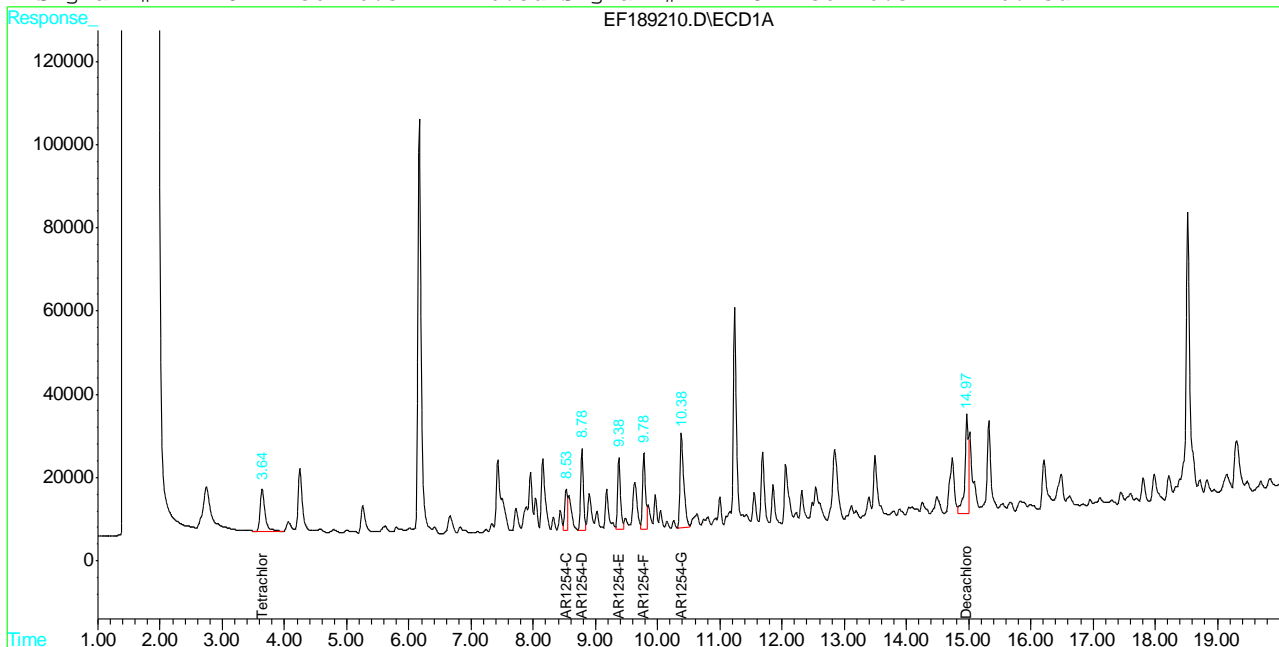
-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF189210.D PCB6419.M Mon Apr 22 08:21:09 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189210.D\ECD1A.CH Vial: 17  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189210.D\ECD2B.CH  
 Acq On : 19 Apr 2019 6:38 pm Operator: tianweir  
 Sample : jc86337-8 Inst : gcef  
 Misc : op19829,GEF6426,16.7,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:20 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64305.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 10:47:41  
 Operator : thomasl  
 Sample : op19789-mb1  
 Misc : op19789,g6g1984,15.0,,,10,1  
 ALS Vial : 61 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:16:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
1) I 1-bromo-2...	1.959	2.168	280.3E6	251.1E6	50.000	50.000
27) I 1-bromo-2...	1.959	2.168	280.3E6	251.1E6	50.000	50.000
33) I 1-bromo-2...	1.959	2.168	280.3E6	251.1E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.560	2.983	106.5E6	127.6E6	28.513	28.889
Spiked Amount	40.000	Range 30 - 150	Recovery =	71.28%	72.22%	
26) SA Decachlor...	9.982	11.969	217.7E6	188.9E6	31.245	54.112 #
Spiked Amount	40.000		Recovery =	78.11%	135.28%	
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

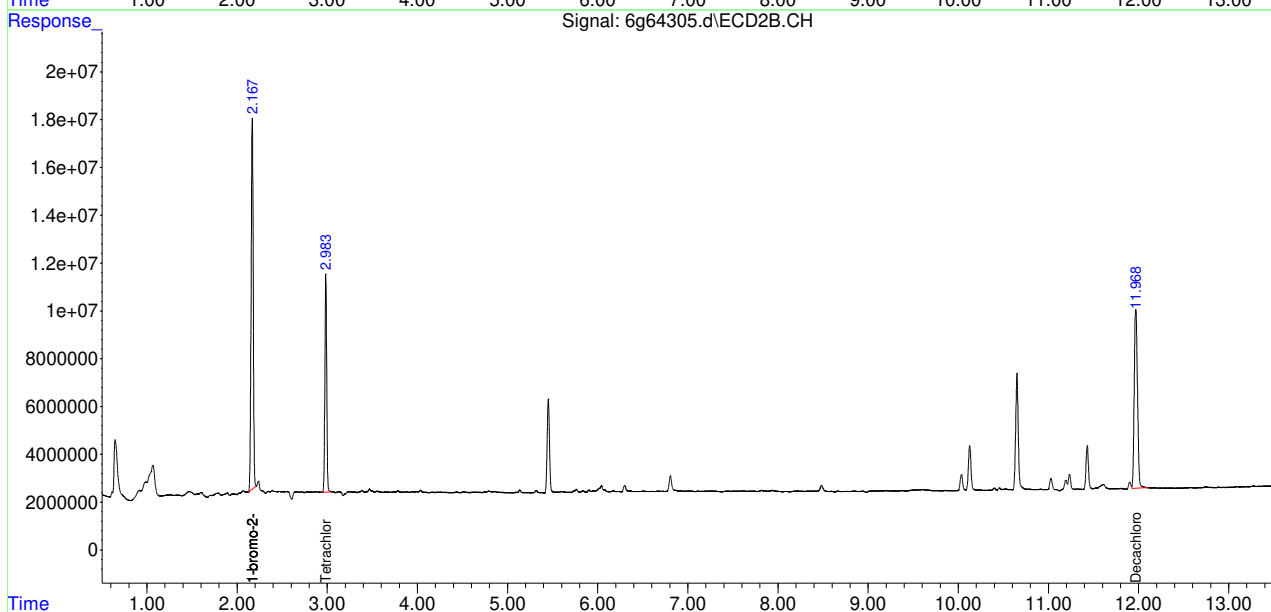
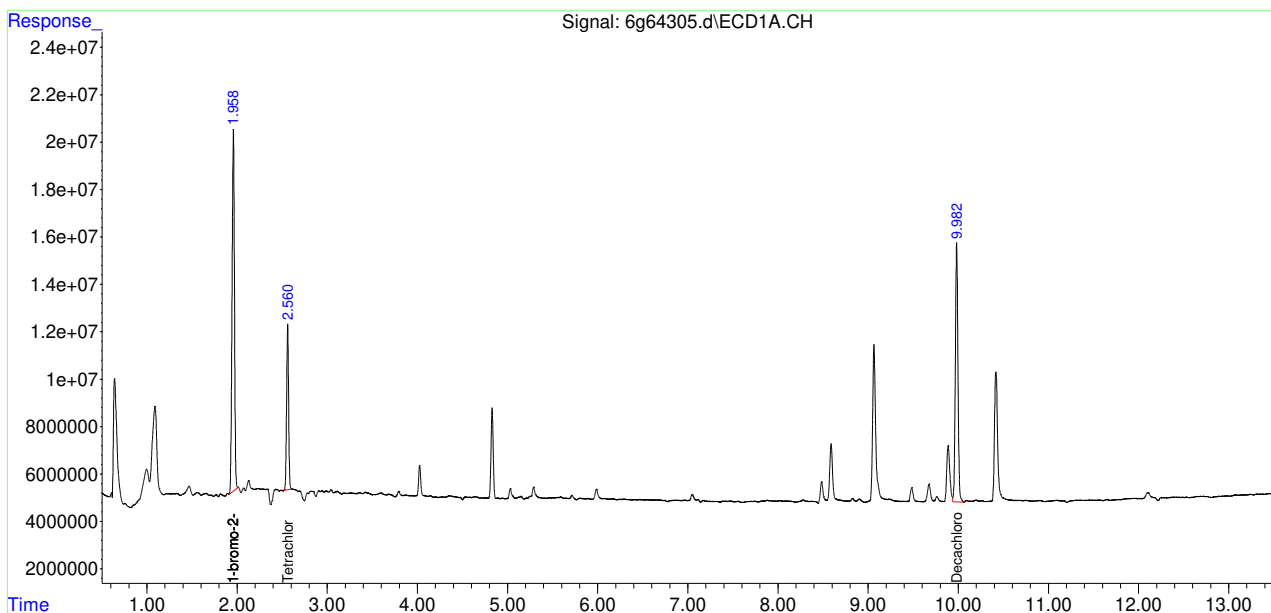
11.21  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64305.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 10:47:41  
 Operator : thomasl  
 Sample : op19789-mb1  
 Misc : op19789,g6g1984,15.0,,,10,1  
 ALS Vial : 61 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:16:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.21 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433851.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:02 pm  
 Operator : summerk  
 Sample : op19788-mb1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:45 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.268f	4.042	533.4E6	371.0E6	28.539	29.289
Spiked Amount	40.000		Recovery	=	71.35%	73.22%
51) S Decachlor...	10.752f	12.645	672.1E6	580.0E6	36.334	49.383 #
Spiked Amount	40.000		Recovery	=	90.84%	123.46%

Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

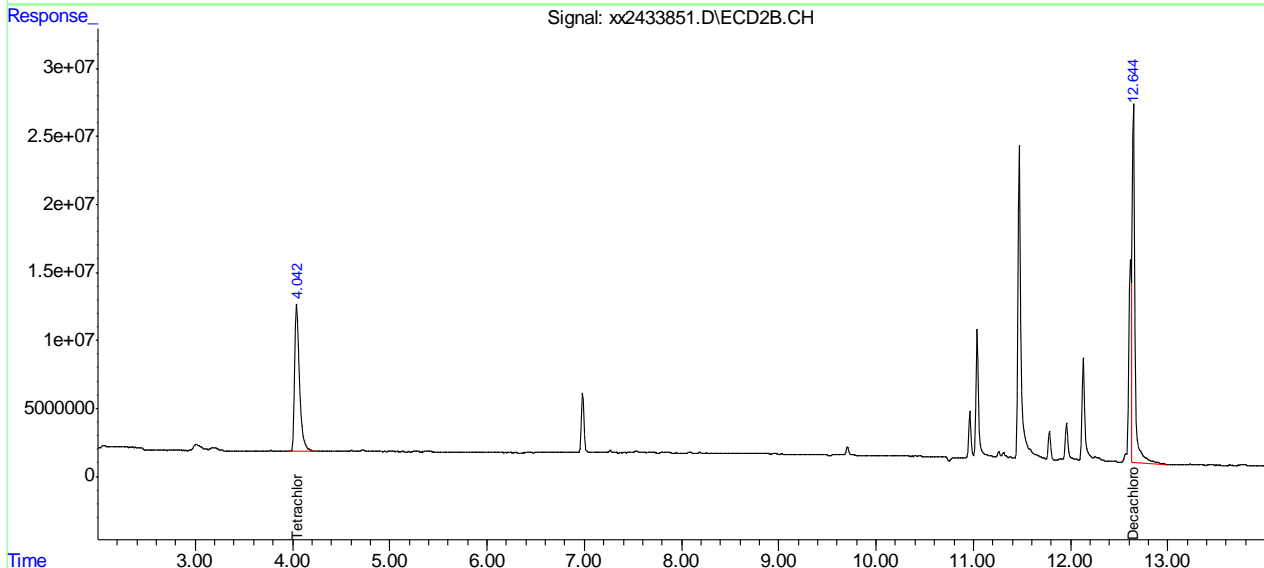
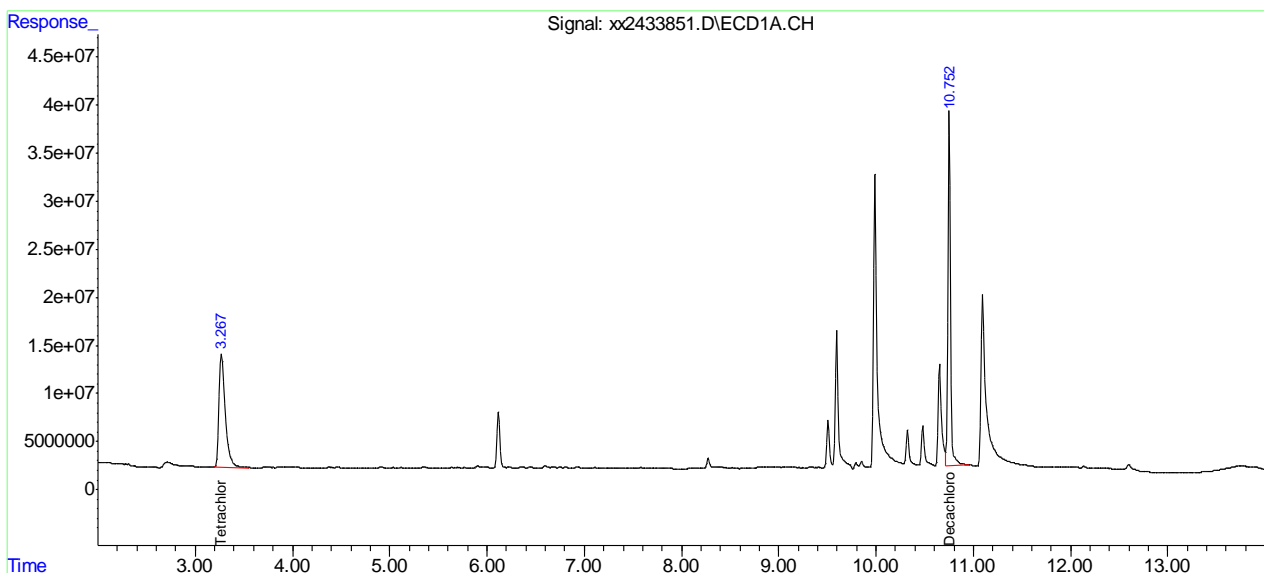
11.22  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433851.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:02 pm  
 Operator : summerk  
 Sample : op19788-mb1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:45 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.22  
11



Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189195.D\ECD1A.CH Vial: 3  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189195.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:56 am Operator: tianweir  
 Sample : op19829-mb1 Inst : gcef  
 Misc : op19829,GEF6426,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 12:26 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.63	4.27	505006	686060	34.512	38.602
Spiked Amount	40.000		Recovery	=	86.28%	96.50%
51) S Decachlorobiphen	14.99	17.34	764647	847046	42.855	42.991m
Spiked Amount	40.000		Recovery	=	107.14%	107.48%

Target Compounds

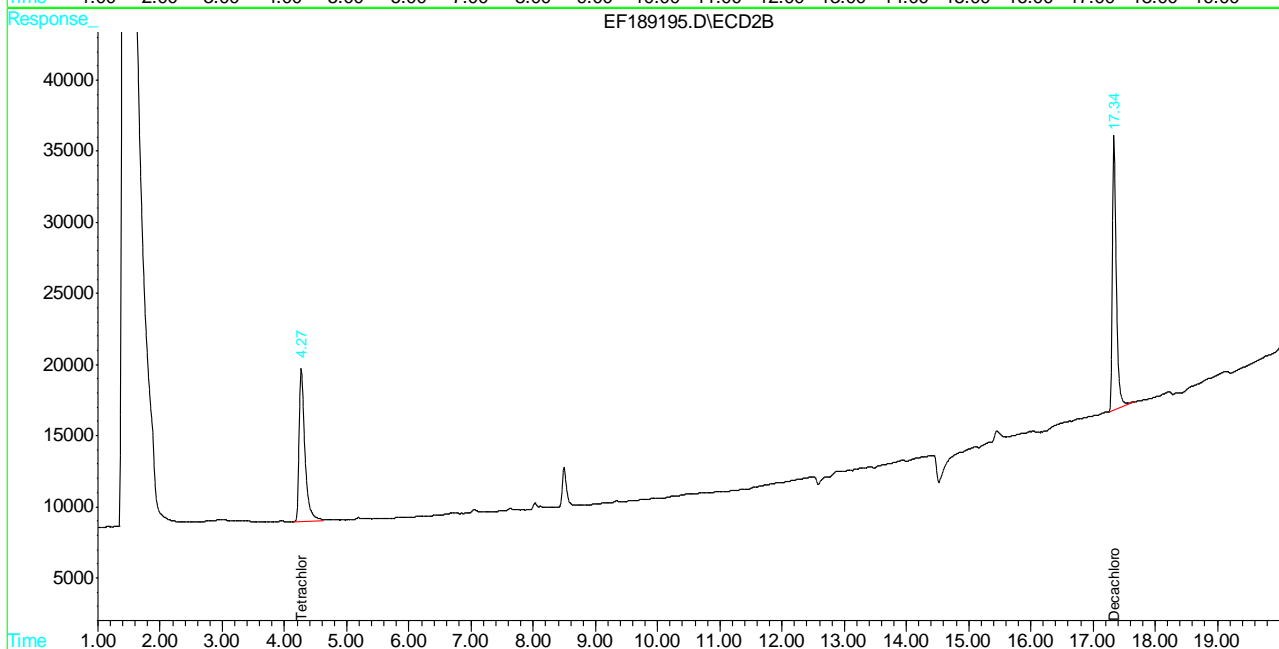
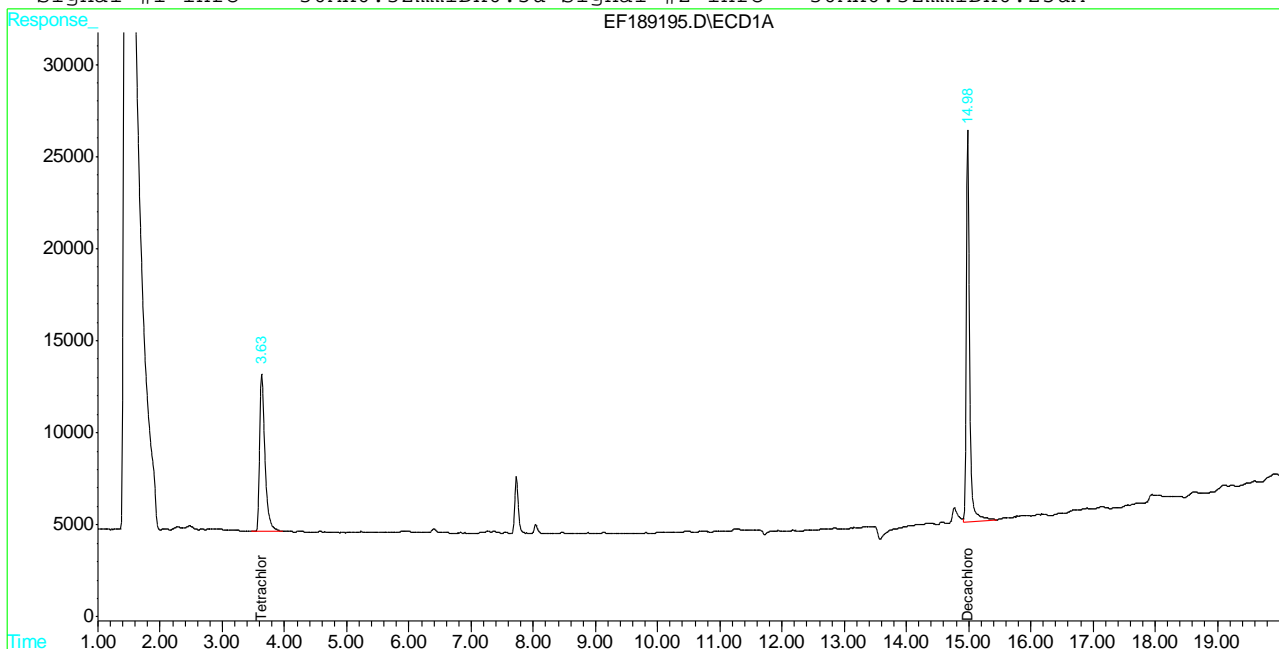
11.23  
 11

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189195.D\ECD1A.CH Vial: 3  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189195.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:56 am Operator: tianweir  
 Sample : op19829-mb1 Inst : gcef  
 Misc : op19829,GEF6426,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 12:26 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.23  
11

# Manual Integration Approval Summary

Sample Number: OP19829-MB1      Method: SW846 8082A  
Lab FileID: EF189195.D      Analyst approved: 04/19/19 16:32 Summer Kotb  
Injection Time: 04/19/19 10:56      Supervisor approved: 04/22/19 08:49 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Decachlorobiphenyl	2051-24-3	2	17.34	Poorly defined baseline

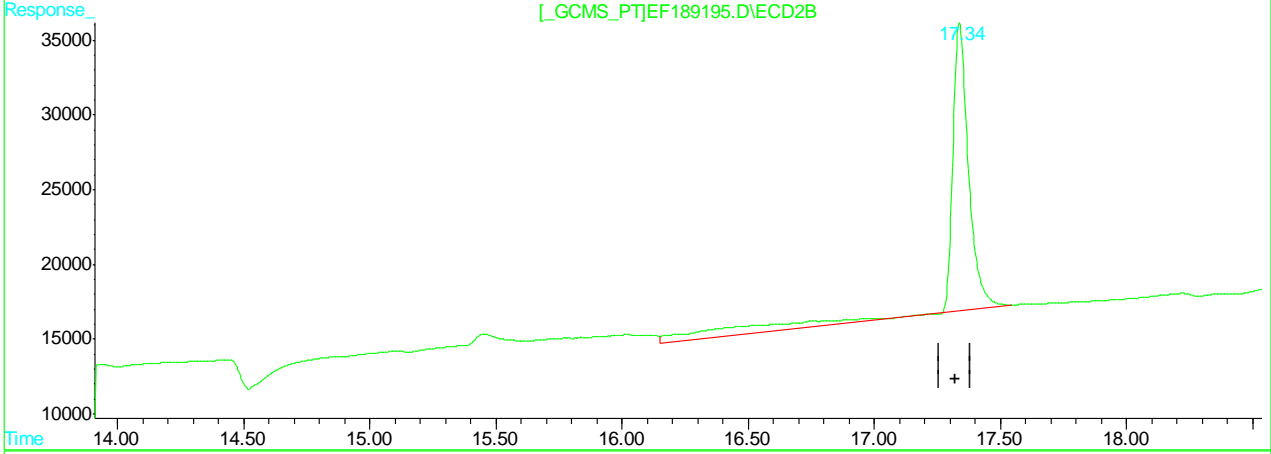
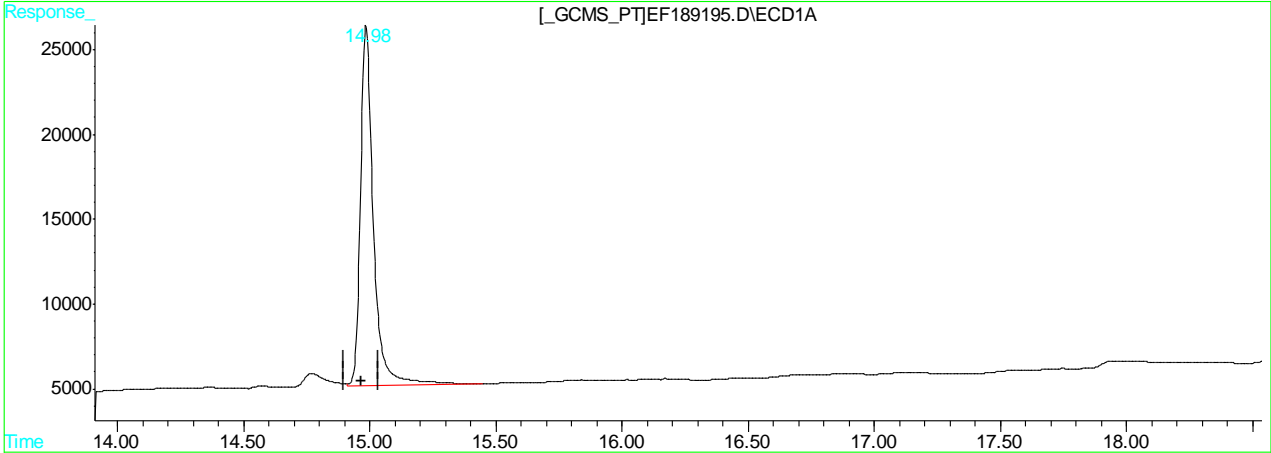
11.2.3.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189195.D\ECD1A.CH Vial: 3  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189195.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:56 am Operator: tianweir  
 Sample : op19829-mb1 Inst : gcef  
 Misc : op19829,GEF6426,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 12:25 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Response	Concentration (PPB)
14.99	764647	42.855
17.34	1019048	51.721

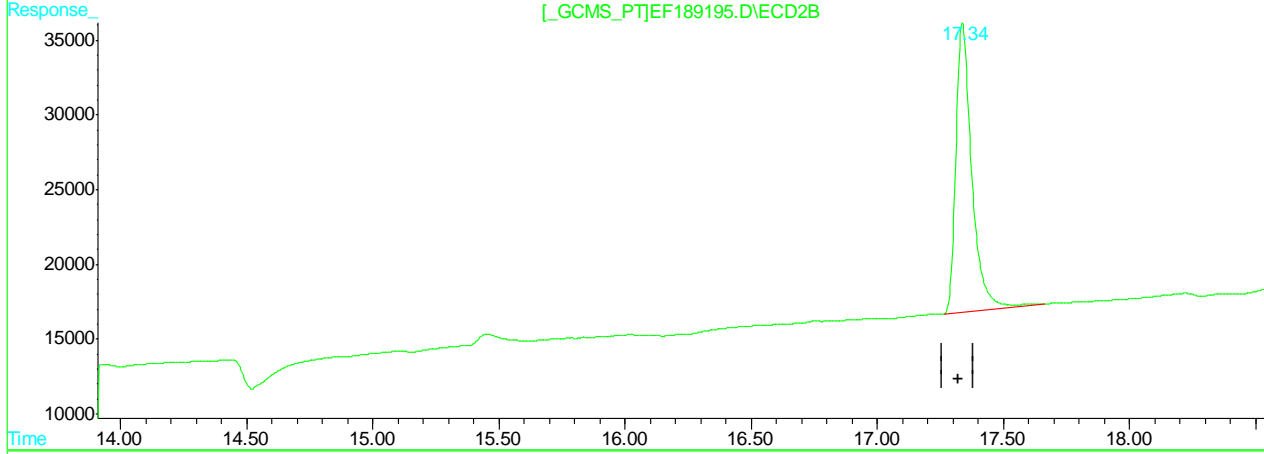
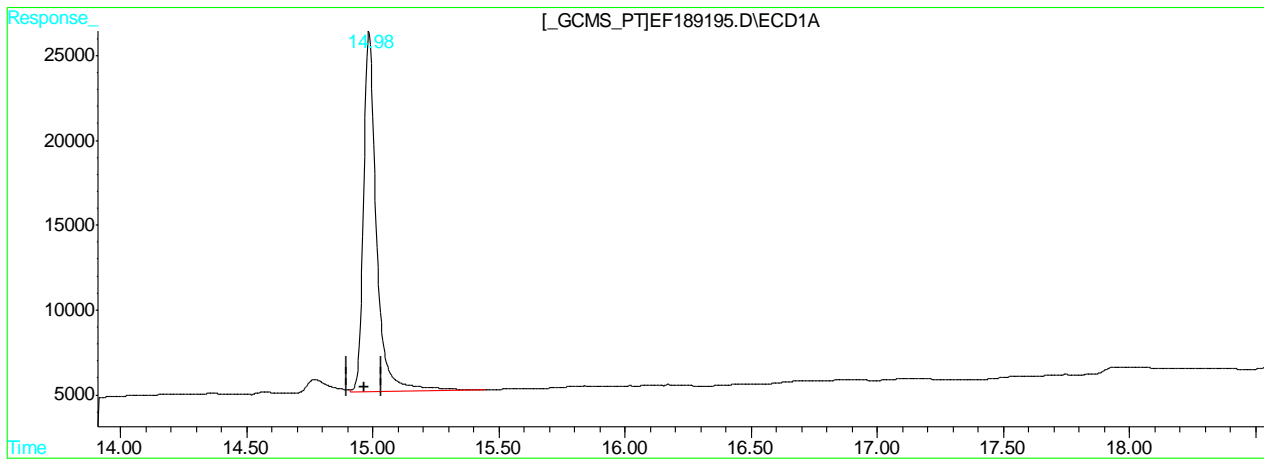
(+) = Expected Retention Time  
 EF189195.D PCB6419.M Fri Apr 19 12:26:09 2019 GCEF

11.2.3.2  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189195.D\ECD1A.CH Vial: 3  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189195.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:56 am Operator: tianweir  
 Sample : op19829-mb1 Inst : gcef  
 Misc : op19829,GEF6426,15.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 12:25 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.99min 42.855PPB

response 764647

(51) Decachlorobiphenyl #2 (S)

17.34min 42.991PPB m

response 847046

(+) = Expected Retention Time

EF189195.D PCB6419.M

Fri Apr 19 12:26:14 2019

GCEF

11.2.3.3

11

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87737.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:13 am  
 Operator : summerk  
 Sample : op19829-mb1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:41:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.639	4.379	1027.8E6	468.8E6	32.569	34.094
Spiked Amount	40.000		Recovery	=	81.42%	85.23%
51) S Decachlor...	19.238	22.634	1001.3E6	482.3E6	32.754	32.729
Spiked Amount	40.000		Recovery	=	81.88%	81.82%
Target Compounds						
-----						

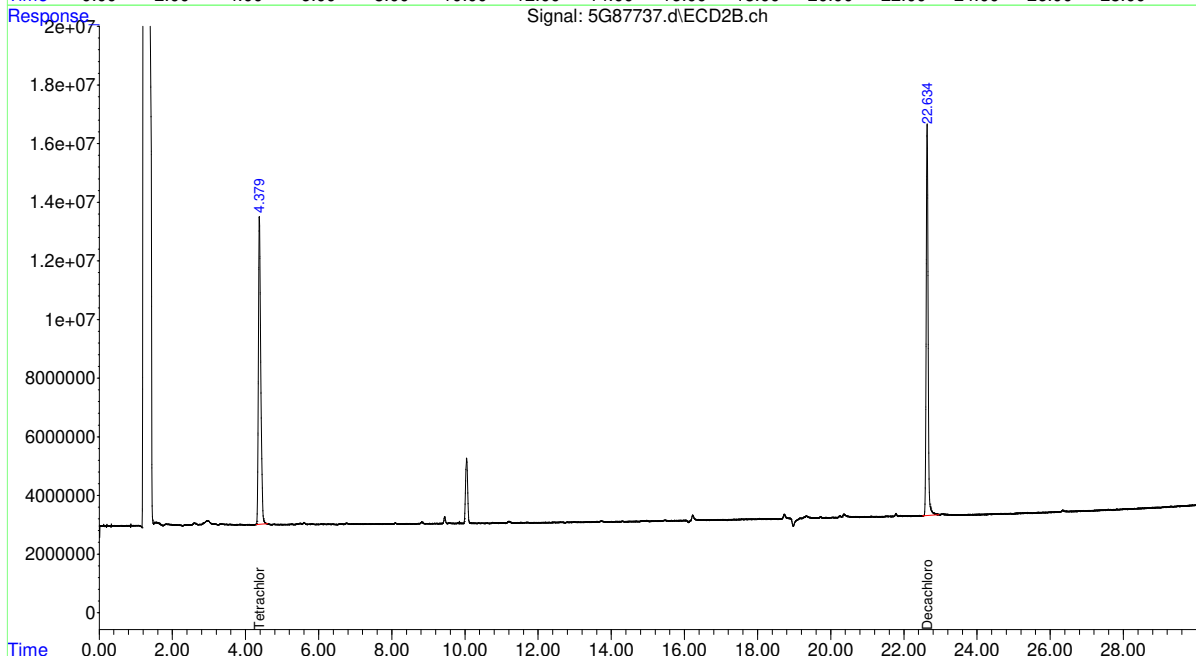
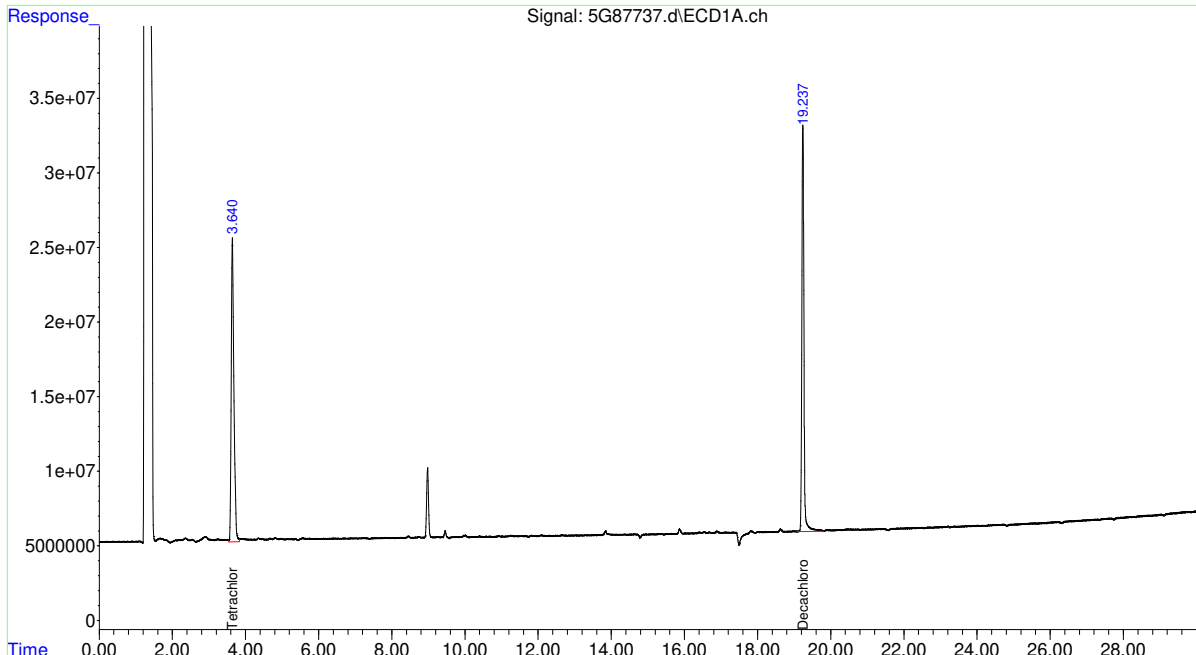
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.24  
11

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87737.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:13 am  
 Operator : summerk  
 Sample : op19829-mb1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:41:24 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64306.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:05:09  
 Operator : thomasl  
 Sample : op19789-bs1  
 Misc : op19789,g6g1984,15.0,,,10,1  
 ALS Vial : 62 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:32:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.955	2.170	312.3E6	275.4E6	50.000	50.000
27) I 1-bromo-2...	1.955	2.170	312.3E6	275.4E6	50.000	50.000
33) I 1-bromo-2...	1.955	2.170	312.3E6	275.4E6	50.000	50.000

System Monitoring Compounds

Target Compounds						
3) I hexachlor...	2.890	3.494	175.6E6	100.4E6	18.309	19.318
4) A alpha-BHC	3.031	3.649	141.5E6	125.4E6	19.113	19.802
5) MA gamma-BHC	3.331	4.079	135.7E6	115.0E6	19.091	19.705
6) MA Heptachlor	3.834	4.659	147.7E6	115.8E6	20.087	19.559
7) B beta-BHC	3.406	4.165	57694289	54796624	18.823	19.917
8) B delta-BHC	3.594	4.563	126.3E6	109.2E6	19.321	20.115
9) MB Aldrin	4.173	5.112	134.3E6	106.6E6	19.566	20.077
10) I alachlor	4.318	4.921	15116240	15624619	19.193	20.421
11) B Heptachlo...	4.897	5.939	131.1E6	102.6E6	18.586	20.292
12) B gamma-Chl...	5.062	6.225	125.7E6	100.4E6	19.478	19.642
13) B alpha-Chl...	5.235	6.453	133.3E6	100.6E6	21.863	20.487
14) A Endosulfan I	5.416	6.548	123.9E6	93771489	20.070	20.453
15) B 4,4'-DDE	5.349	6.718	124.8E6	92488614	19.524	20.207
16) MA Dieldrin	5.742	6.986	130.5E6	102.1E6	20.277	20.778
17) MA Endrin	6.069	7.491	127.8E6	98467808	21.109	21.610
18) A 4,4'-DDD	6.194	7.671	88078604	79774314	19.388	20.687
19) B Endosulfa...	6.394	7.841	116.1E6	92077093	18.549	19.351
20) MA 4,4'-DDT	6.616	8.205	101.6E6	82361897	20.679	21.511
21) B Endrin Al...	7.028	8.415	99521632	71241484	19.813	19.690
22) B Endosulfa...	7.717	8.886	106.7E6	84335104	20.810	21.406
23) A Methoxychlor	7.408	9.452	61065112	48754384	20.999	21.656
25) B Endrin Ke...	8.159	9.851	125.1E6	96181596	20.847	21.717
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

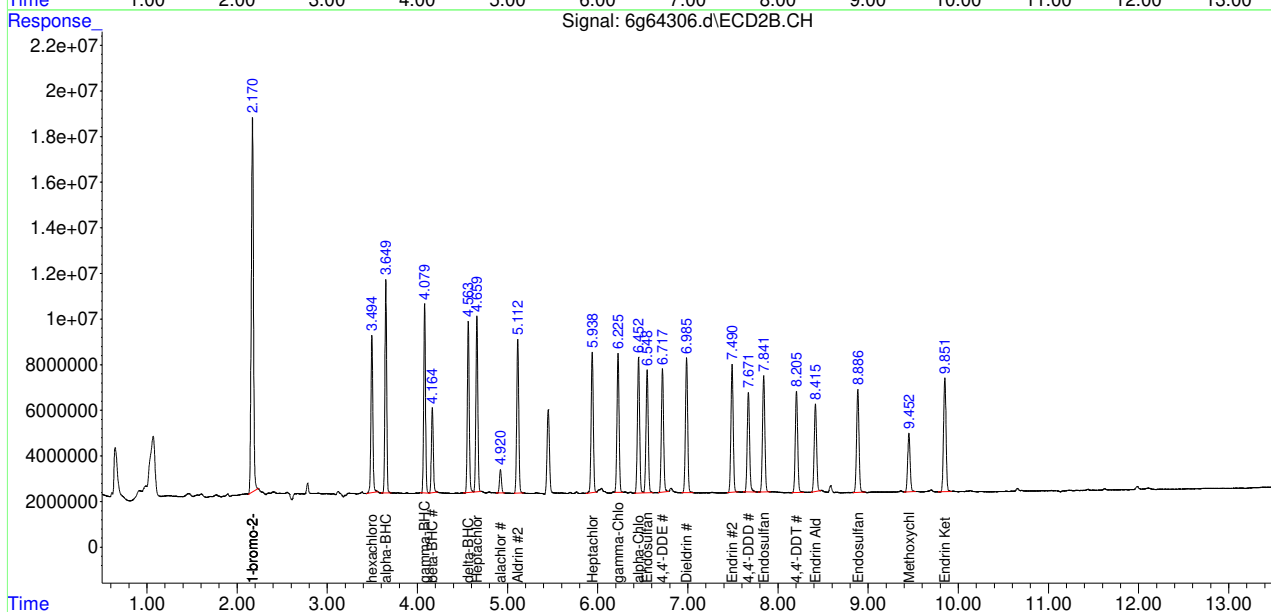
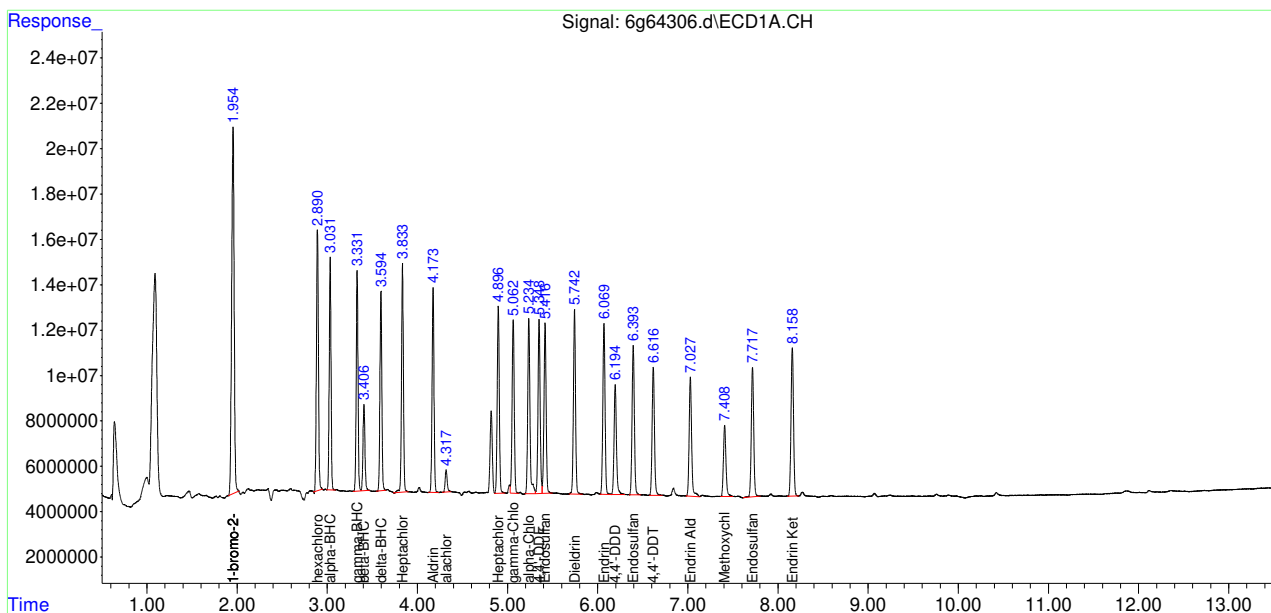


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64306.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:05:09  
 Operator : thomasl  
 Sample : op19789-bs1  
 Misc : op19789,g6g1984,15.0,,,10,1  
 ALS Vial : 62 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:32:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.3.1  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:55:57 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.270	4.042	596.0E6	417.6E6	31.890	32.968
Spiked Amount	40.000		Recovery	=	79.72%	82.42%
51) S Decachlor...	10.752f	12.646	726.3E6	612.8E6	39.266	52.172 #
Spiked Amount	40.000		Recovery	=	98.16%	130.43%
Target Compounds						
41) AR1016-A	3.678	4.736	68803690	44176423	197.648	226.629
42) AR1016-B	4.109f	5.314f	115.5E6	76439866	193.885	181.523
43) AR1016-C	4.695f	5.971	251.4E6	164.5E6	177.217	179.845m
44) AR1016-D	4.870f	6.166	95912894	62153646	183.198	182.836
45) AR1016-E	5.405f	6.844	101.3E6	50594849	181.759	187.456
46) AR1260-A	7.845f	9.491	220.5E6	161.1E6	145.879	154.511m
47) AR1260-B	8.006f	9.610	124.6E6	113.1E6	190.441	199.401
48) AR1260-C	8.351f	10.053	134.7E6	109.1E6	180.212	193.186
49) AR1260-D	8.788f	10.397	307.4E6	276.0E6	172.181m	193.122
50) AR1260-E	9.188f	10.955	329.7E6	241.4E6	188.378m	183.520m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

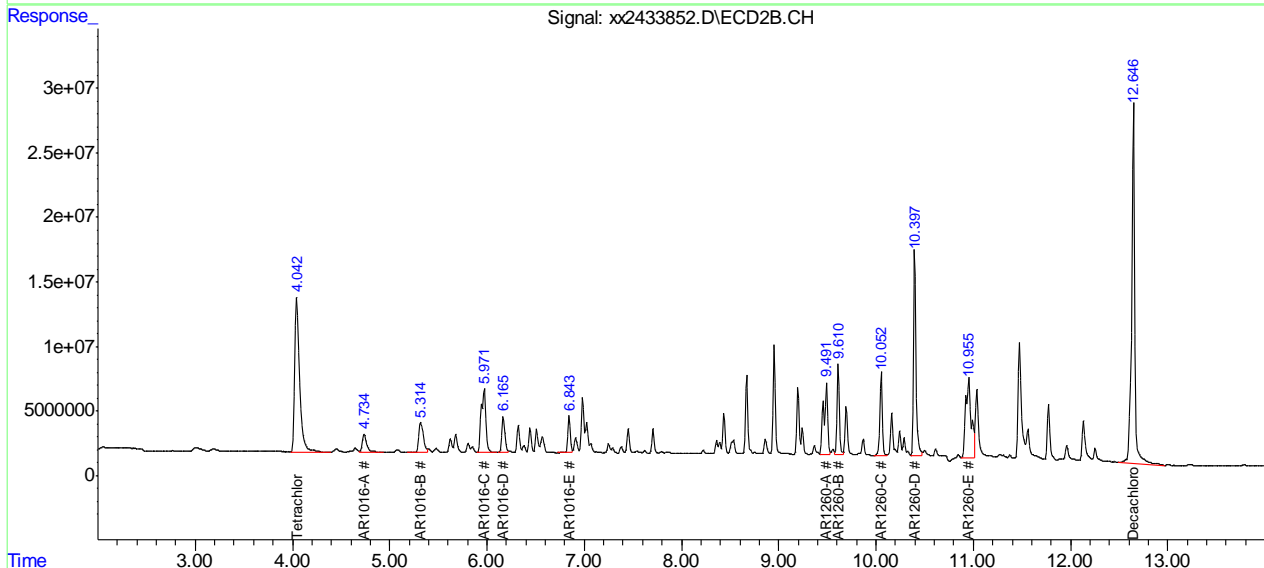
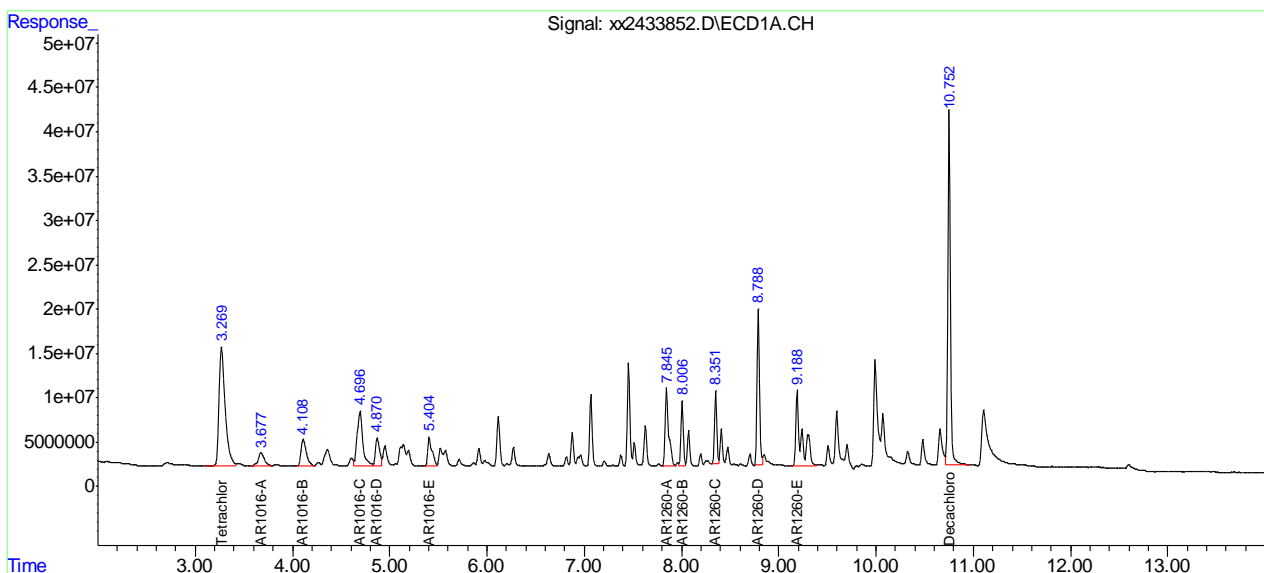
11.32  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:55:57 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary

Sample Number: OP19788-BS1      Method: SW846 8082A  
Lab FileID: XX2433852.D      Analyst approved: 04/17/19 14:56 Summer Kotb  
Injection Time: 04/17/19 14:20      Supervisor approved: 04/18/19 06:41 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.97	Split peak
AR1260-D		1	8.79	Split peak
AR1260-E		1	9.19	Split peak
AR1260-A		2	9.49	Split peak
AR1260-E		2	10.95	Split peak

11.3.2.1

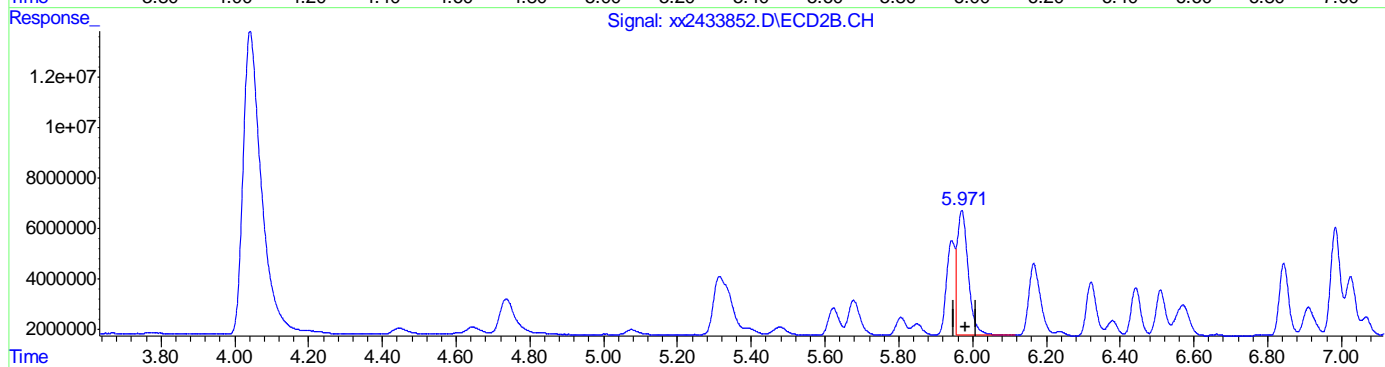
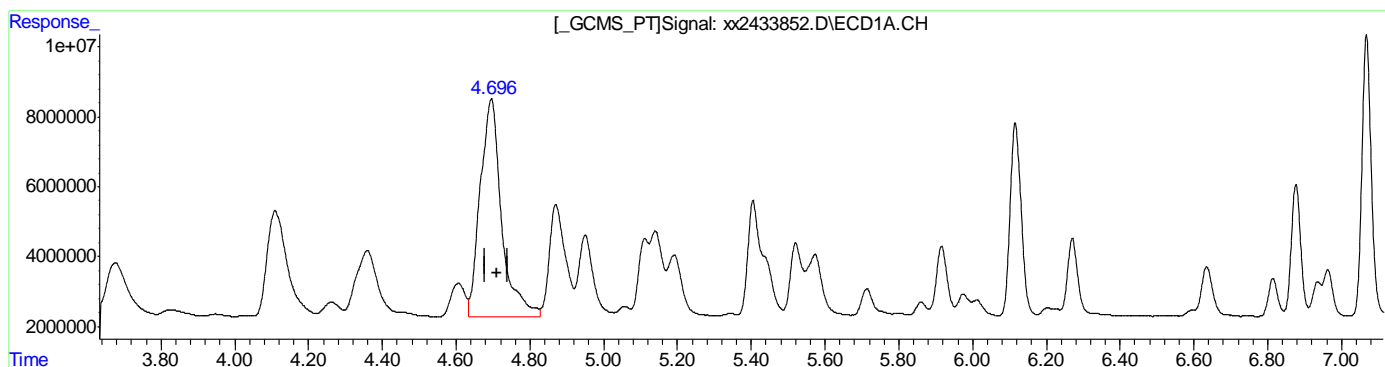
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:55 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.695min 177.217PPB  
 response 251379986

(43) AR1016-C #2  
 5.971min 114.375PPB  
 response 104633693

(+) = Expected Retention Time  
 PCB6621.M Wed Apr 17 14:55:05 2019

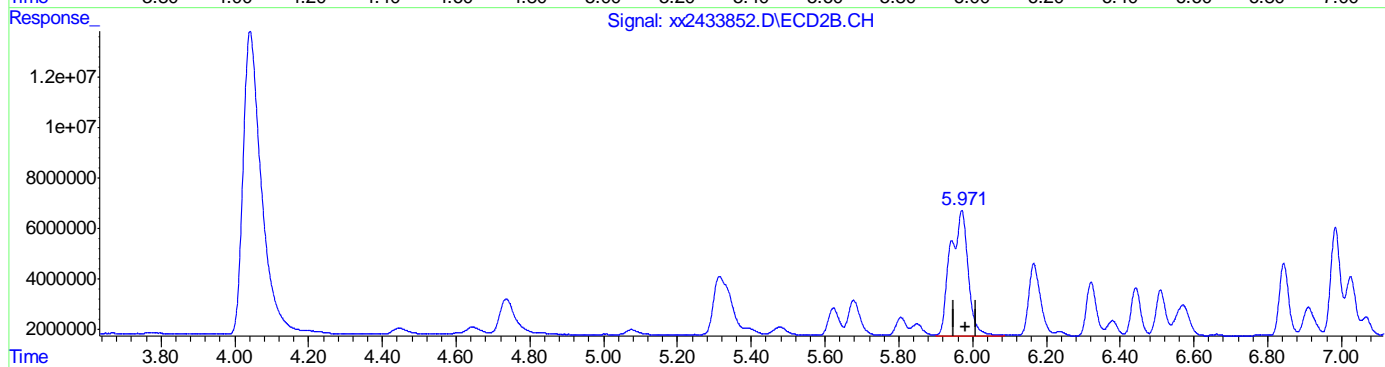
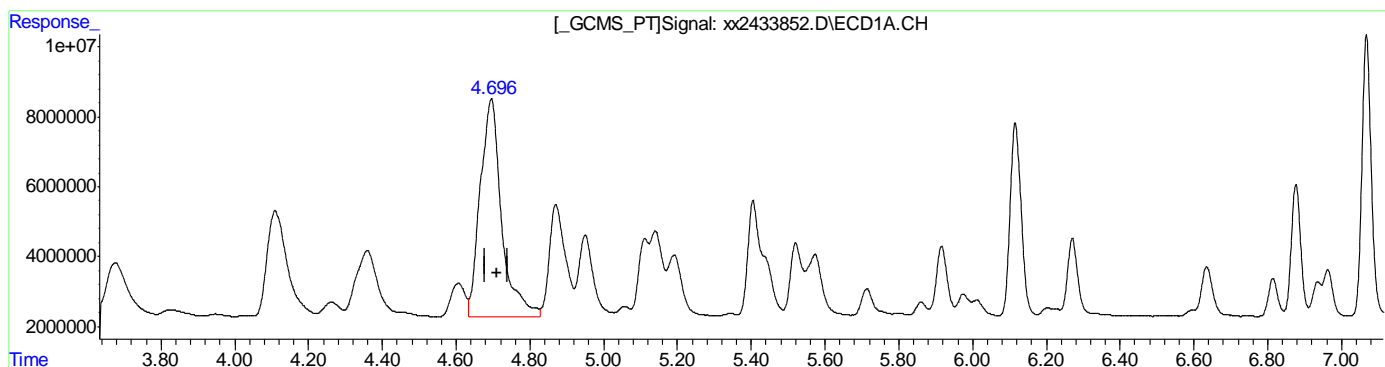
11.3.22  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:55 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.695min 177.217PPB  
 response 251379986

(43) AR1016-C #2  
 5.971min 179.845PPB m  
 response 164528098

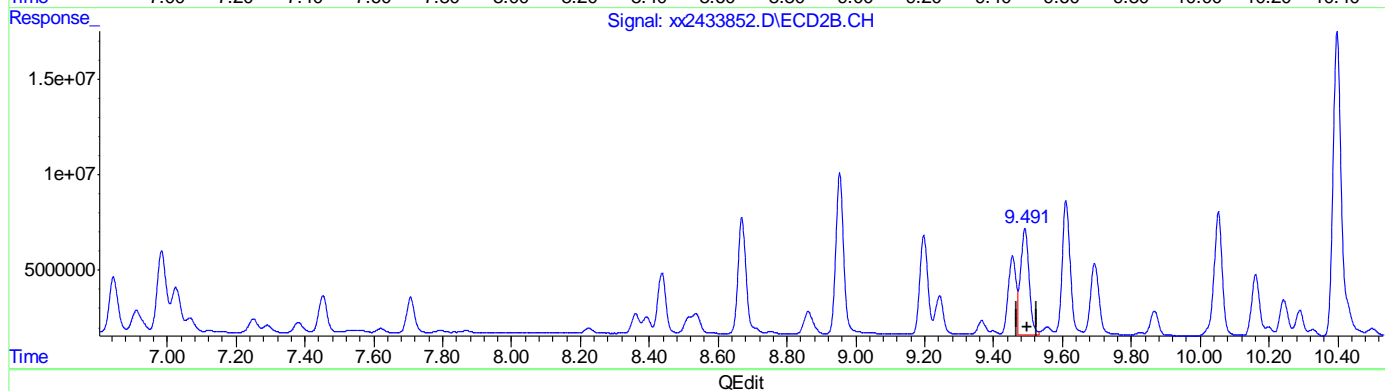
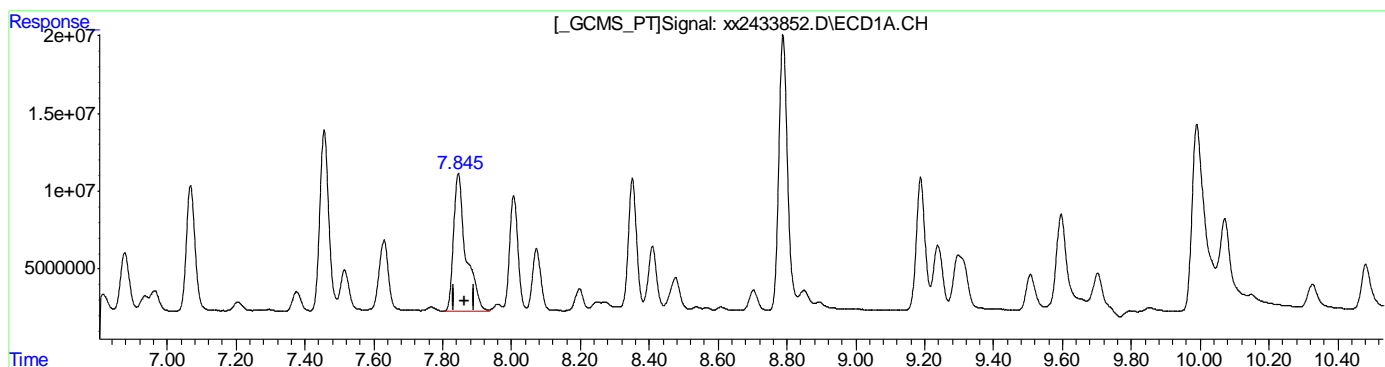
11.3.23  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:55 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.845min 145.879PPB  
 response 220457545

(46) AR1260-A #2  
 9.491min 91.266PPB  
 response 95185408

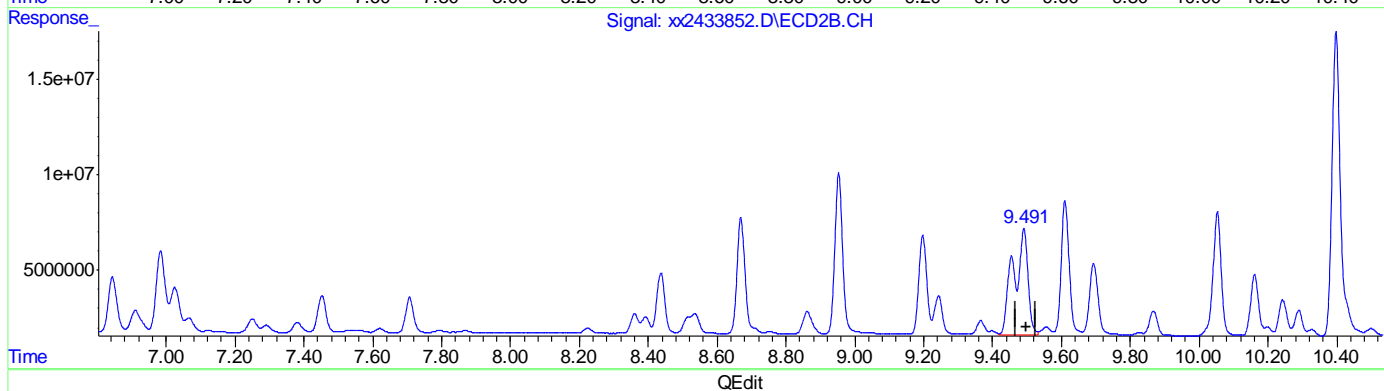
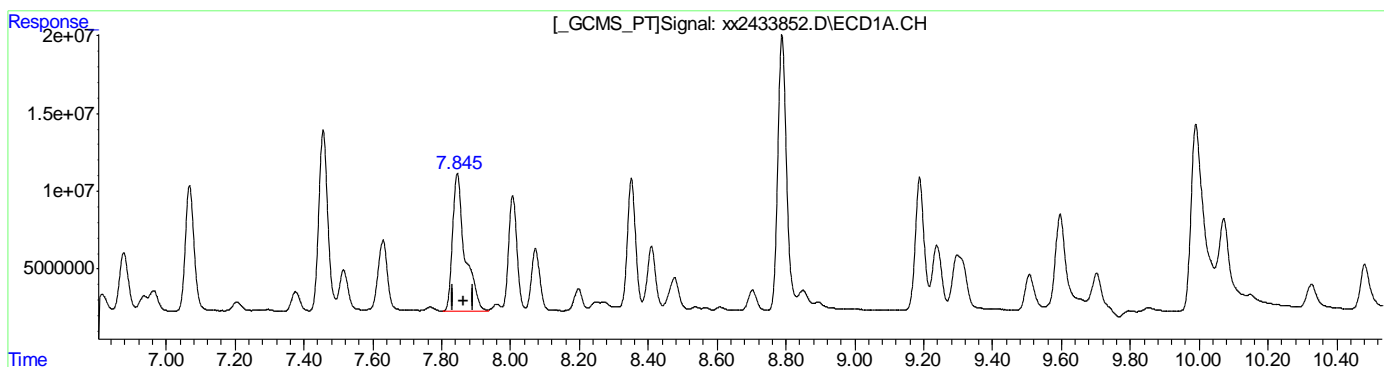
11.3.24  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:55 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.845min 145.879PPB  
 response 220457545

(46) AR1260-A #2  
 9.491min 154.511PPB m  
 response 161146013

11.3.25  
 11

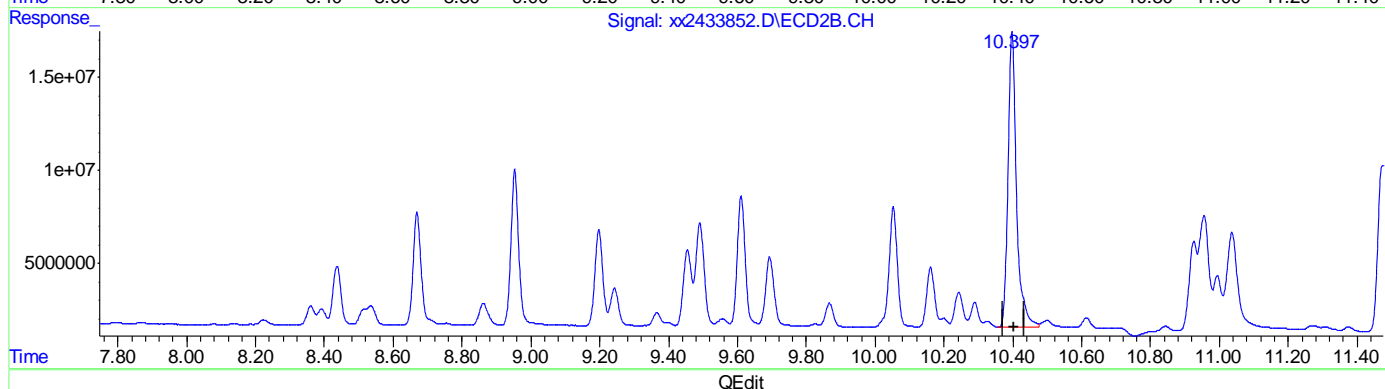
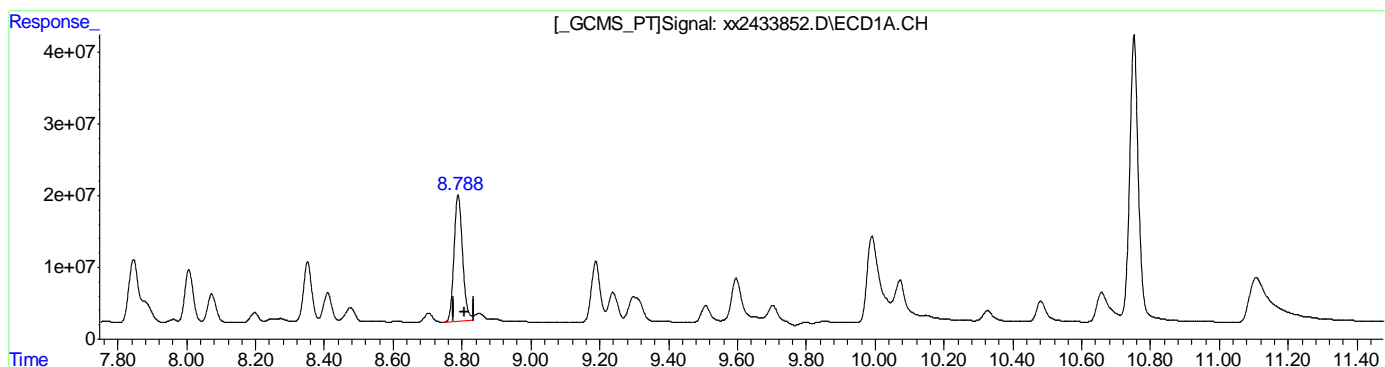


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:55 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(49) AR1260-D  
 8.788min 169.321PPB  
 response 302321075

(49) AR1260-D #2  
 10.397min 193.122PPB  
 response 276011423

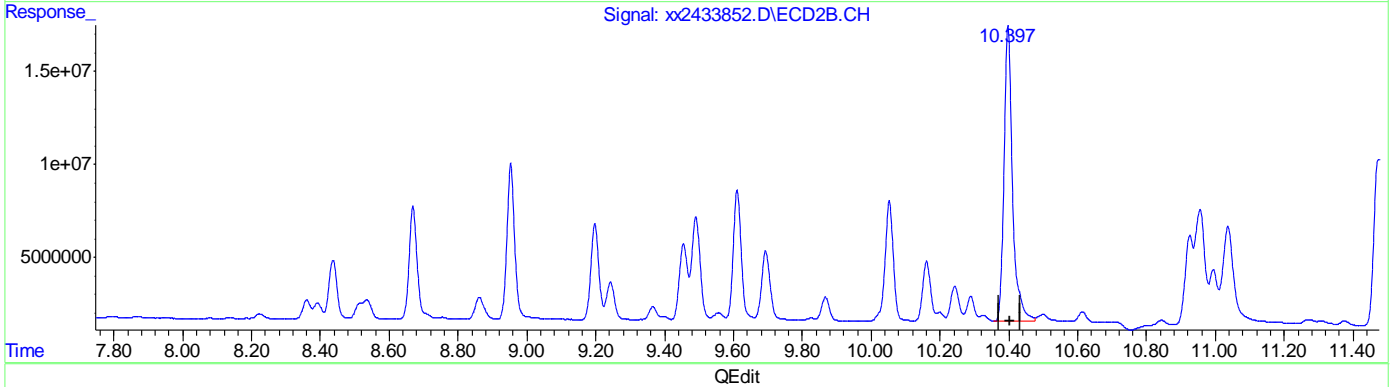
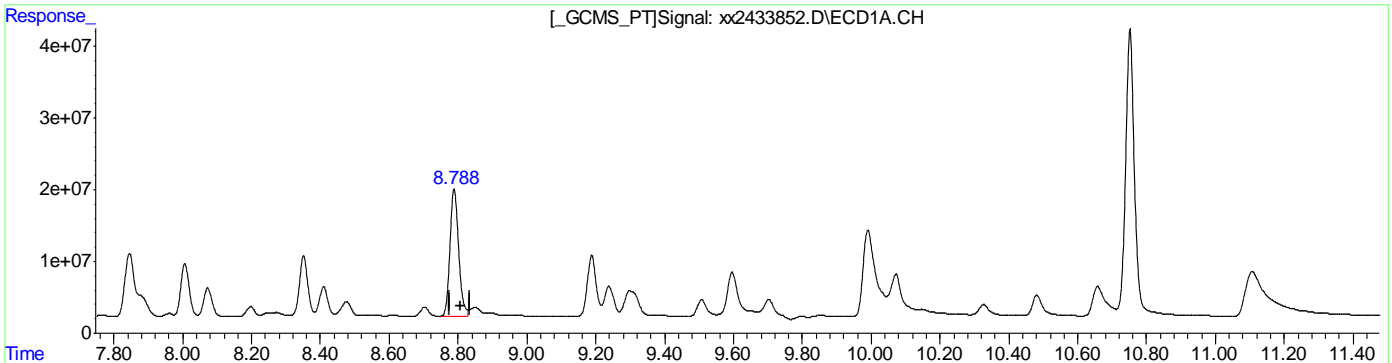
11.3.26  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:55 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(49) AR1260-D  
 8.788min 172.181PPB m  
 response 307426816

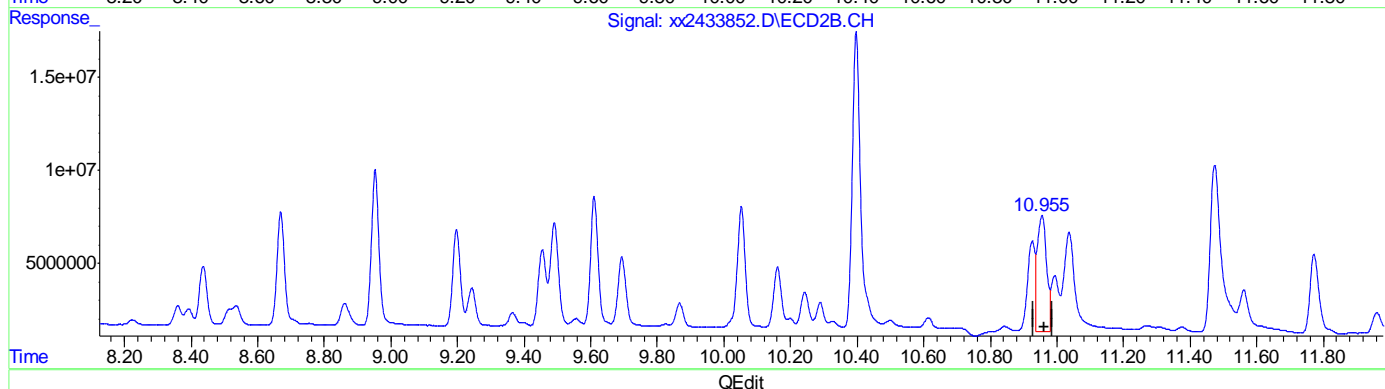
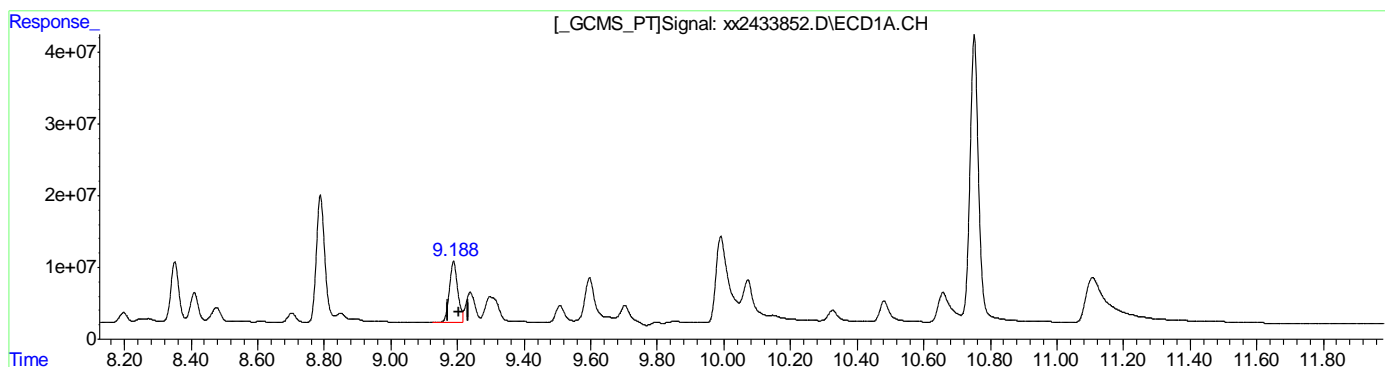
(49) AR1260-D #2  
 10.397min 193.122PPB  
 response 276011423

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:55 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.188min 85.030PPB  
 response 148825177

(50) AR1260-E #2  
 10.955min 93.587PPB  
 response 123123896

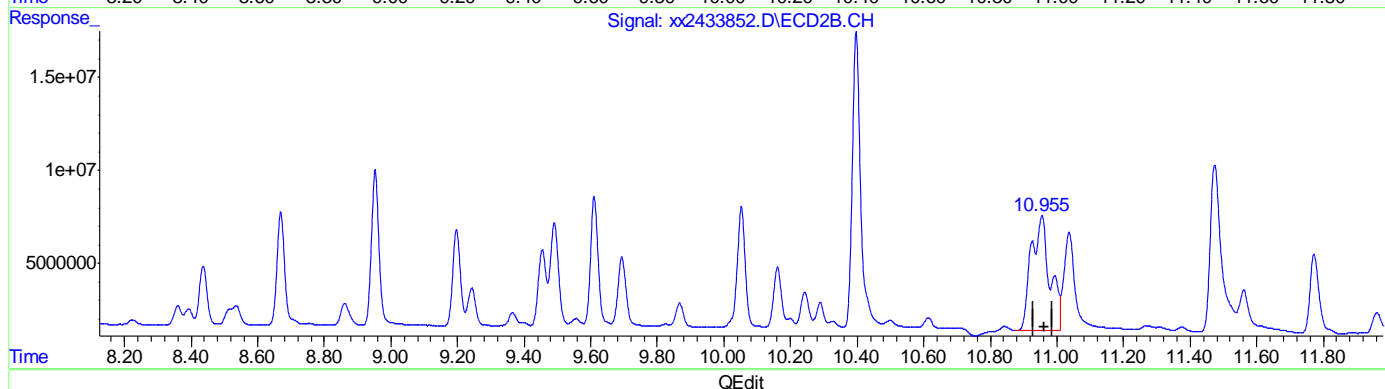
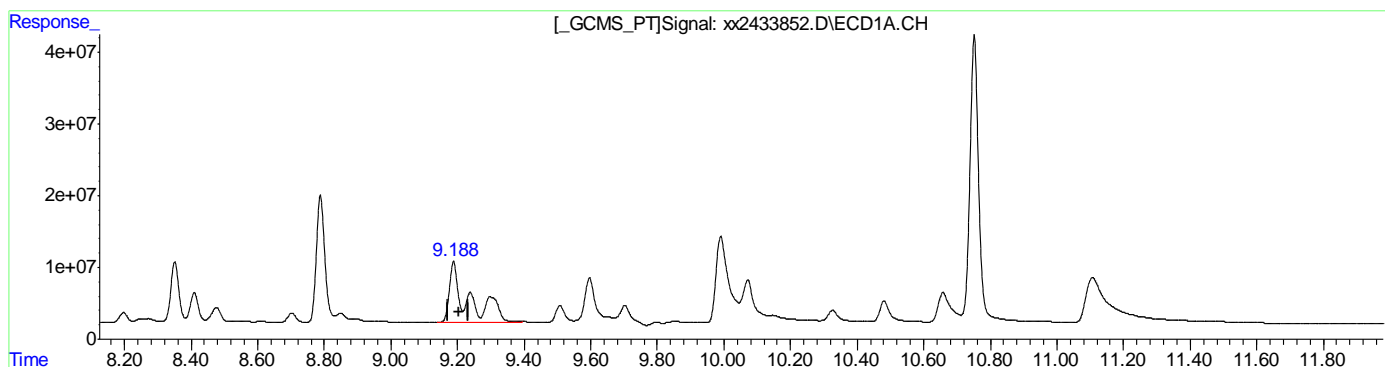
11.3.28  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433852.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:20 pm  
 Operator : summerk  
 Sample : op19788-bs1  
 Misc : op19788,gxx6658,15.0,,,10.0,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:54:55 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.188min 188.378PPB m  
 response 329710851

(50) AR1260-E #2  
 10.955min 183.520PPB m  
 response 241440971

11.3.29  
 11

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/19/19 16:22

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:45:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.647	4.399f	1011.0E6	470.1E6	32.036	34.189
Spiked Amount	40.000		Recovery	=	80.09%	85.47%
51) S Decachlor...	19.233	22.634	1011.3E6	494.3E6	33.081	33.546
Spiked Amount	40.000		Recovery	=	82.70%	83.86%
Target Compounds						
42) AR1016-B	5.053	6.623f	201.5E6	93815886	176.828	183.909
43) AR1016-C	6.126	7.890f	419.0E6	209.6E6	177.293	182.606m
44) AR1016-D	6.440	8.267	176.6E6	77696419	176.990	175.839
45) AR1016-E	7.472	9.654	187.4E6	60754784	185.605m	175.117
46) AR1260-A	12.646	15.461	422.6E6	197.3E6	175.544m	176.045m
47) AR1260-B	13.020	15.756	262.2E6	122.5E6	186.520	181.623
48) AR1260-C	13.773	16.723	263.9E6	123.0E6	178.200	186.412
49) AR1260-D	14.777	17.562	577.1E6	301.5E6	165.891	175.817
50) AR1260-E	15.656	18.774	672.4E6	291.1E6	175.411m	166.568m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

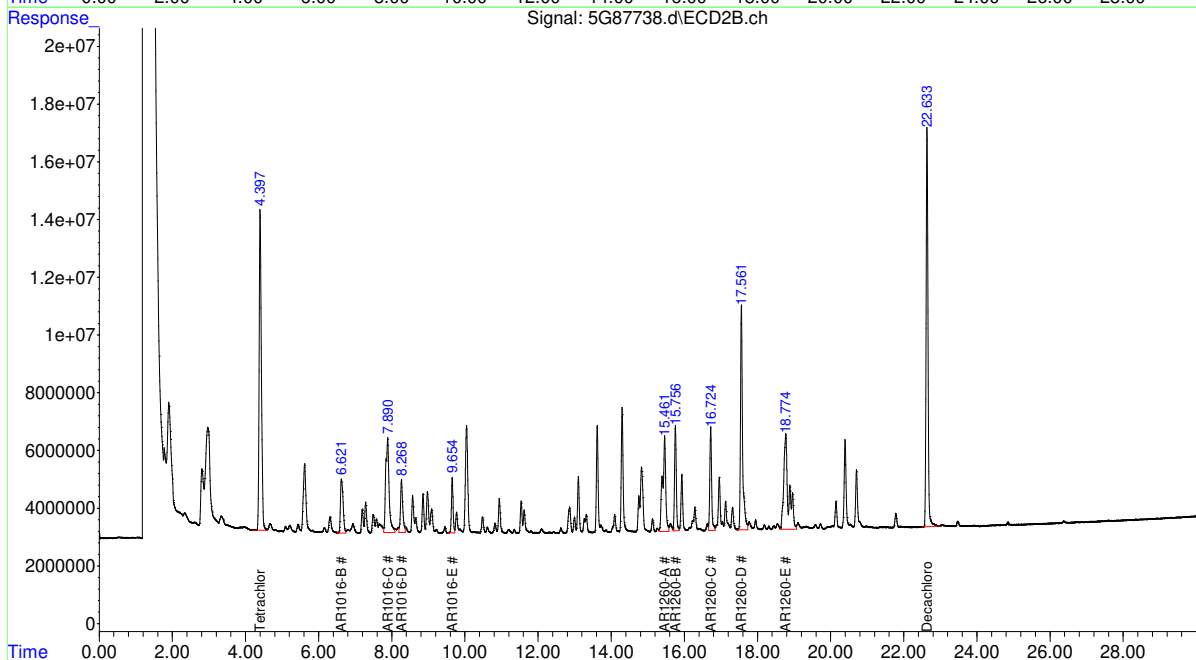
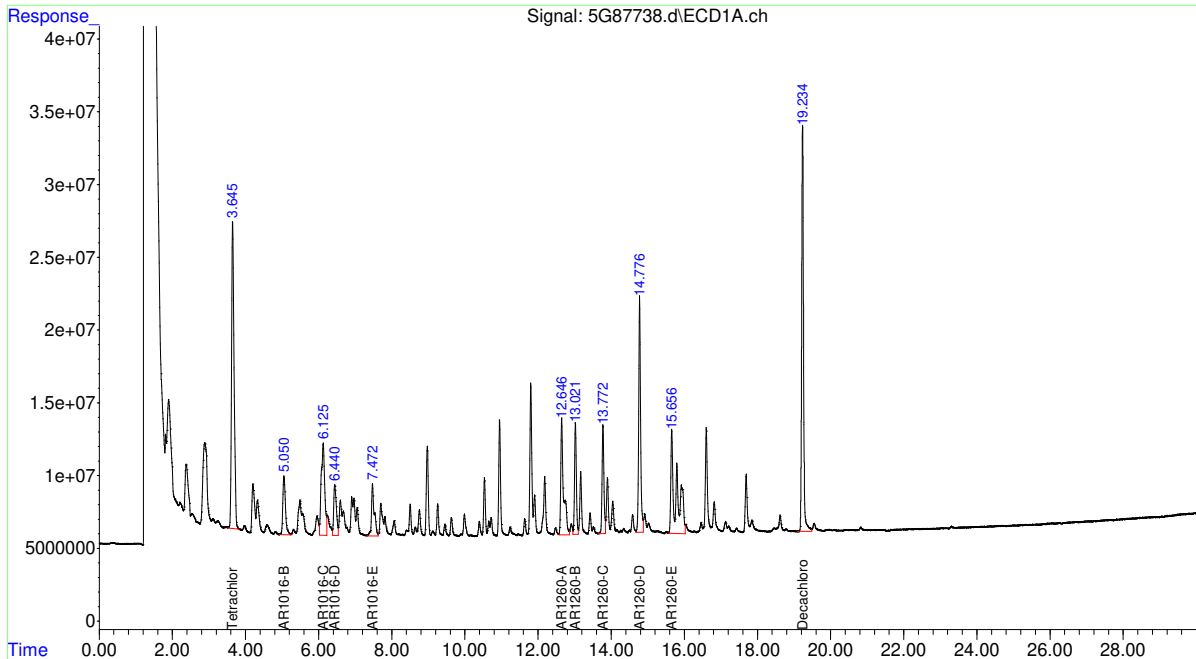
11.3.3  
11



Data Path : C:\msdchem\1\DATA\G5G2111\  
Data File : 5G87738.d  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 19 Apr 2019 11:46 am  
Operator : summerk  
Sample : op19829-bs1  
Misc : op19829,g5g2111,15.0,,,10,1  
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Apr 19 13:45:30 2019  
Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
Quant Title :  
QLast Update : Fri Apr 19 11:08:11 2019  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 1ul  
Signal #1 Phase: RTX-CLP1 Signal #2 Phase: RTX-CLP2  
Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: OP19829-BS1      Method: SW846 8082A  
Lab FileID: 5G87738.D      Analyst approved: 04/19/19 13:50 Summer Kotb  
Injection Time: 04/19/19 11:46      Supervisor approved: 04/19/19 16:22 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-E		1	7.47	Split peak
AR1016-C		2	7.89	Split peak
AR1260-A		1	12.65	Split peak
AR1260-A		2	15.46	Split peak
AR1260-E		1	15.66	Split peak
AR1260-E		2	18.77	Split peak

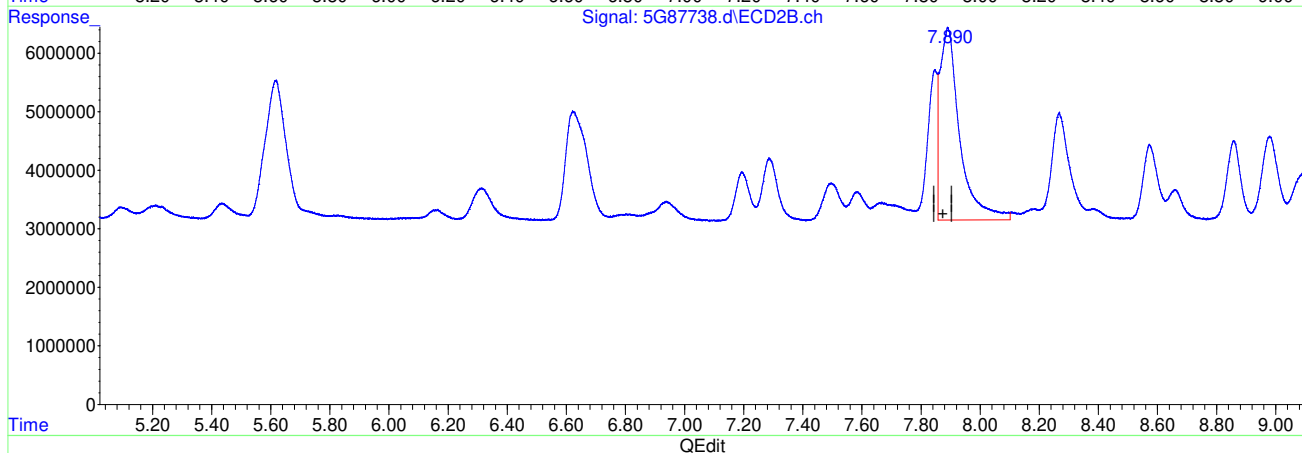
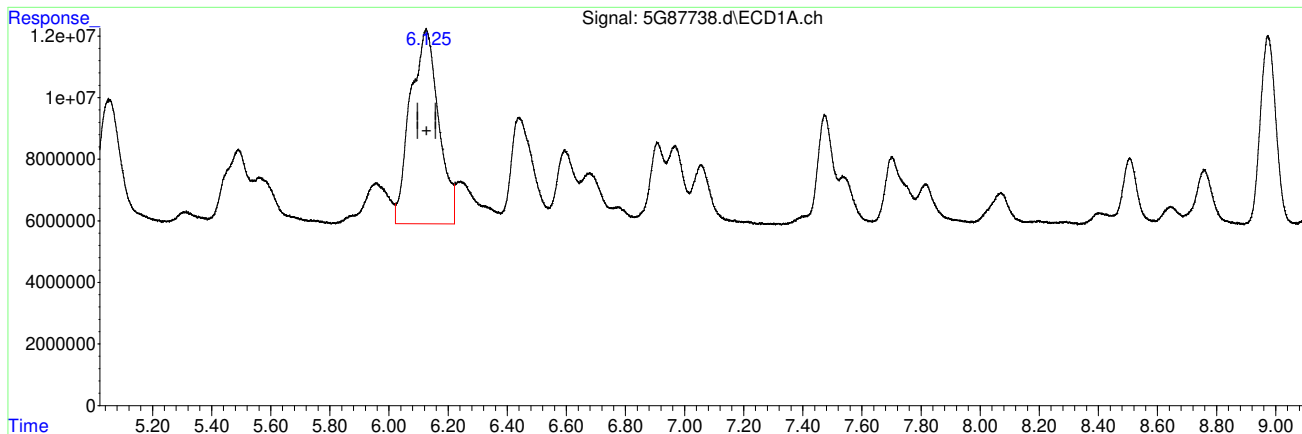
11.3.3.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:43:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(43) AR1016-C  
 6.126min 177.293 PPB  
 response 418990586

(43) AR1016-C #2  
 7.891min 133.149 PPB  
 response 152809847

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:44:44 2019

11.3.32  
11

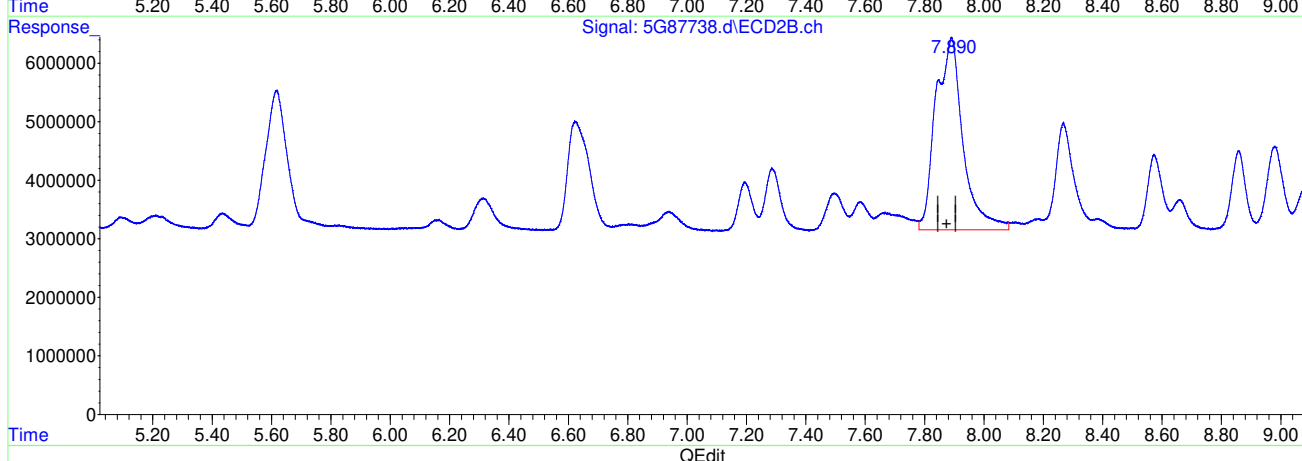
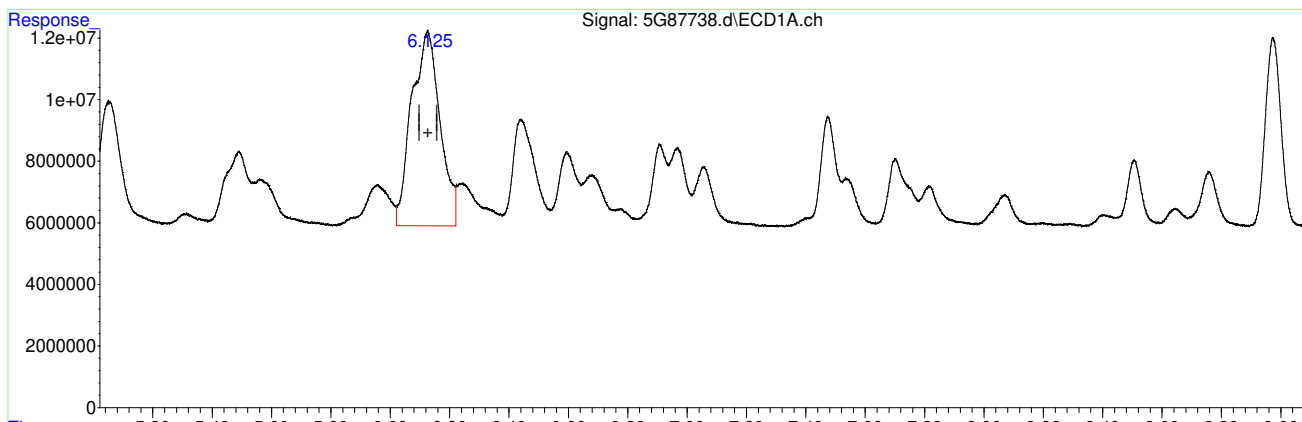


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:43:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(43) AR1016-C  
 6.126min 177.293 PPB  
 response 418990586

(43) AR1016-C #2  
 7.890min 182.606 PPB m  
 response 209569686

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:44:51 2019

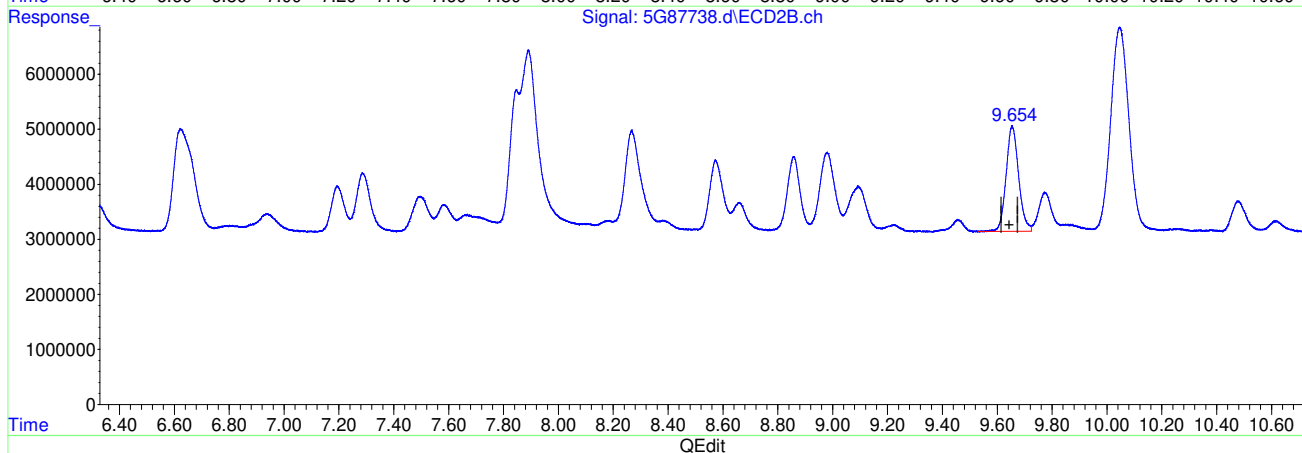
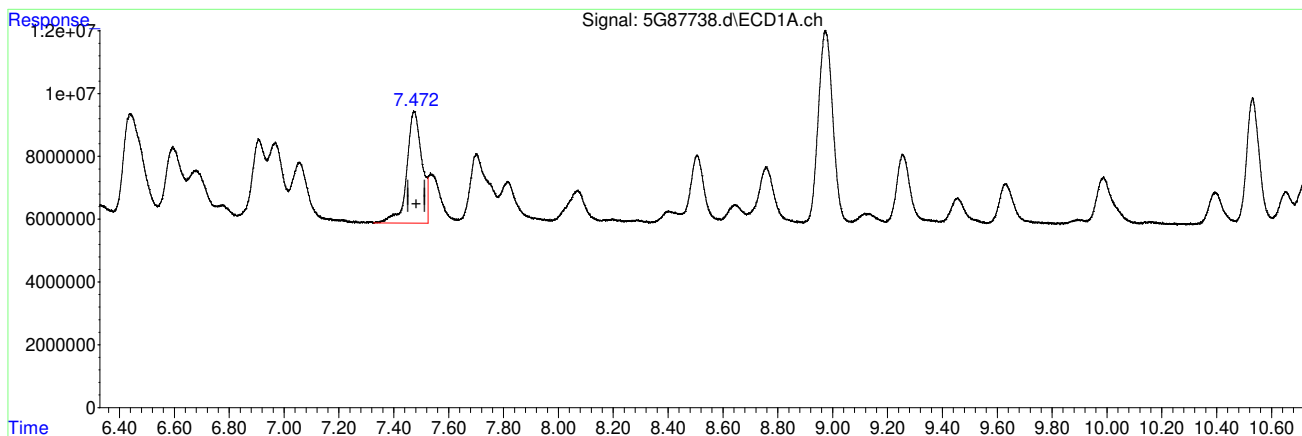
11.3.33  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:43:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.474min 135.359 PPB  
 response 136663185

(45) AR1016-E #2  
 9.654min 175.117 PPB  
 response 60754784

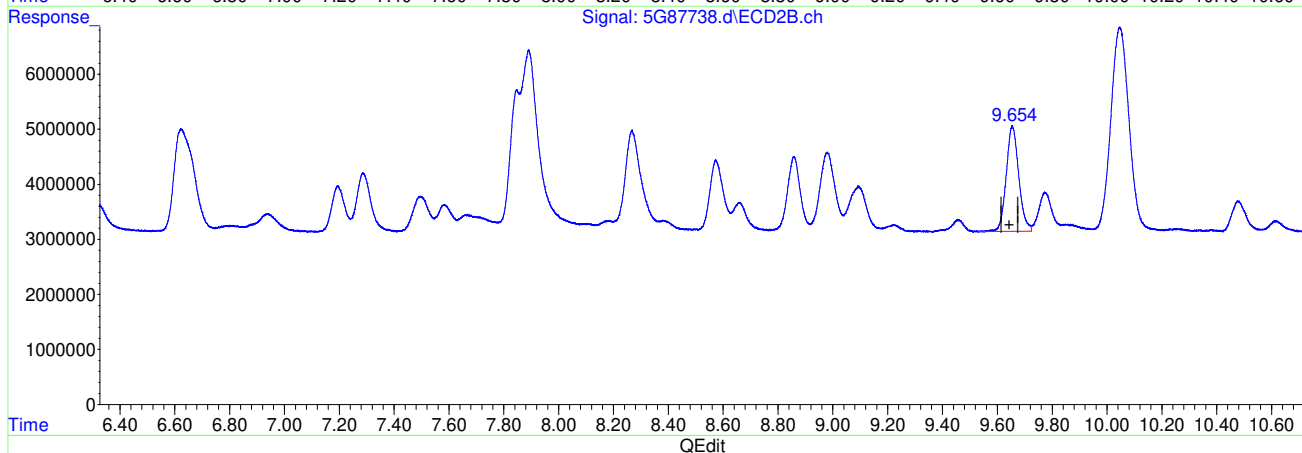
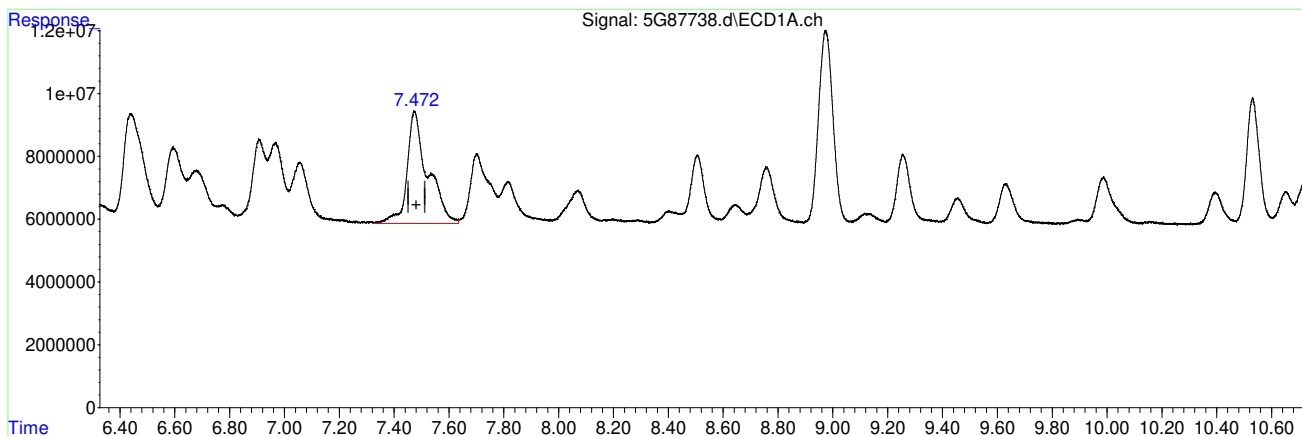
(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:44:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:43:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.472min 185.605 PPB m  
 response 187393432

(45) AR1016-E #2  
 9.654min 175.117 PPB  
 response 60754784

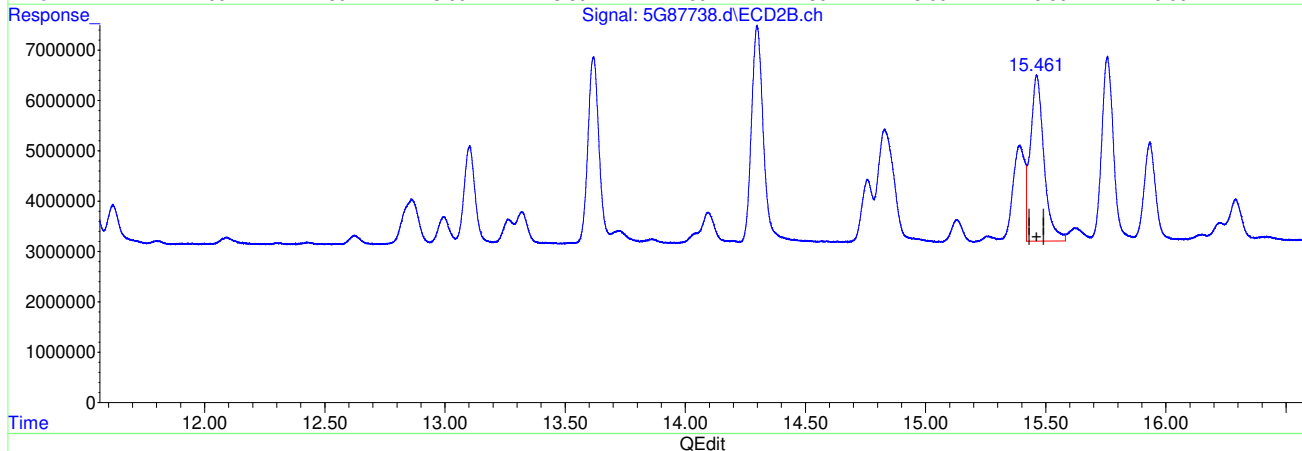
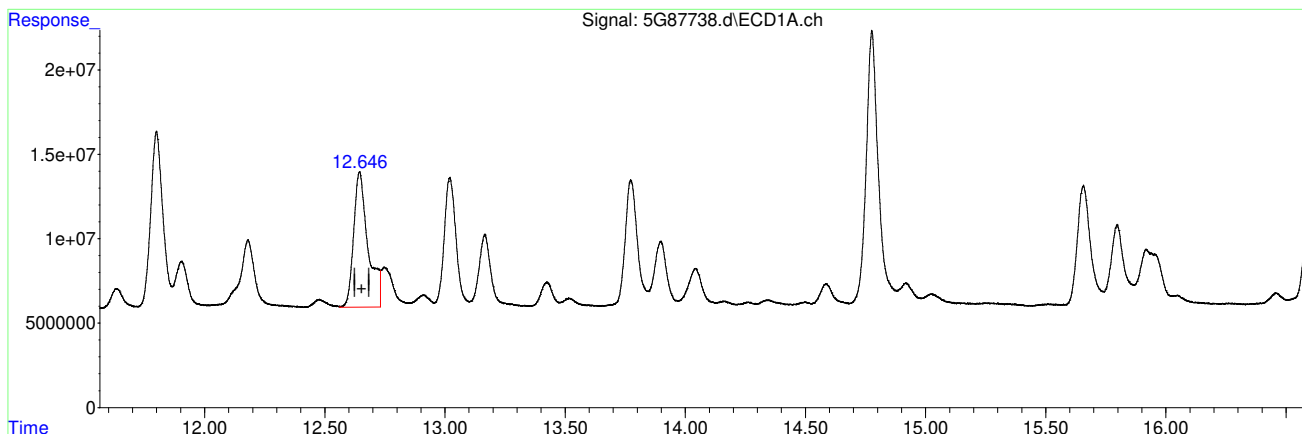
(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:45:01 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:43:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.644min 138.933 PPB  
 response 334460607

(46) AR1260-A #2  
 15.462min 115.536 PPB  
 response 129490209

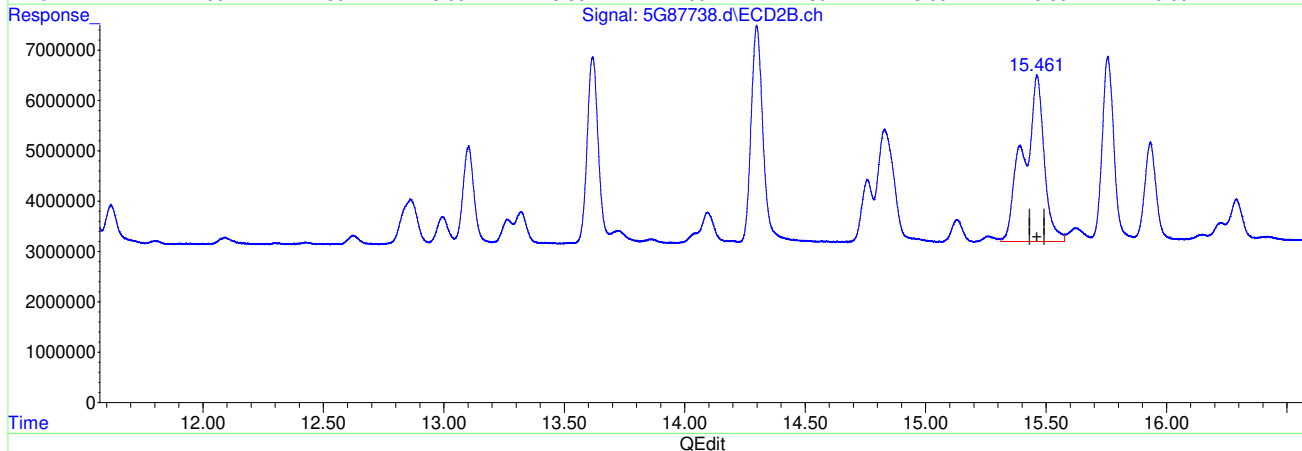
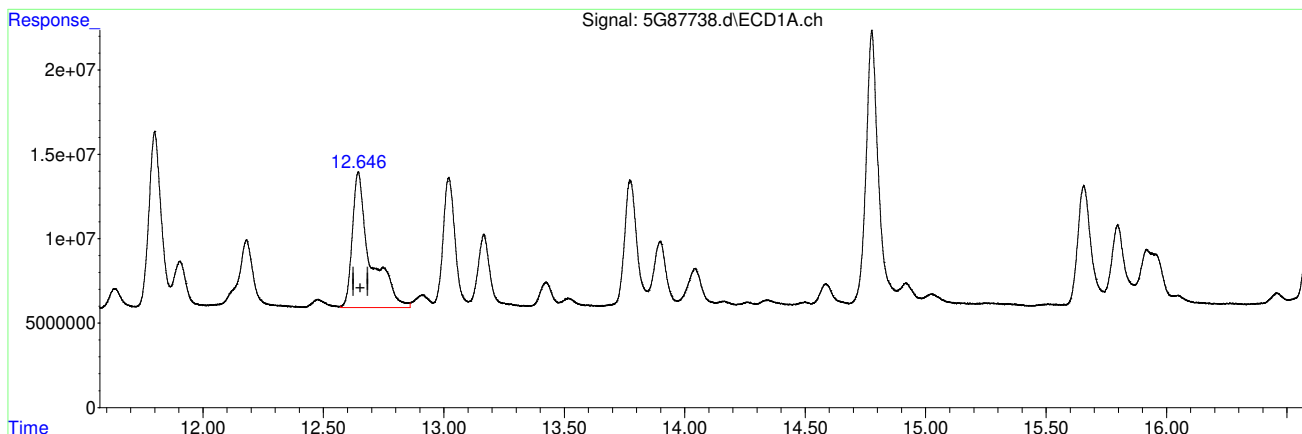
(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:45:04 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:43:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.646min 175.544 PPB m  
 response 422598078

(46) AR1260-A #2  
 15.461min 176.045 PPB m  
 response 197308249

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:45:17 2019

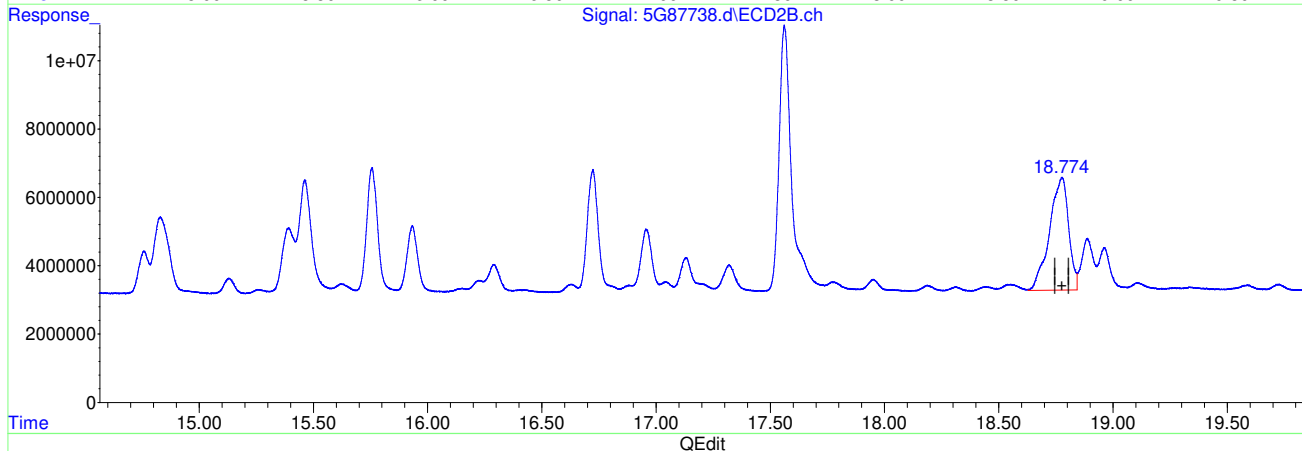
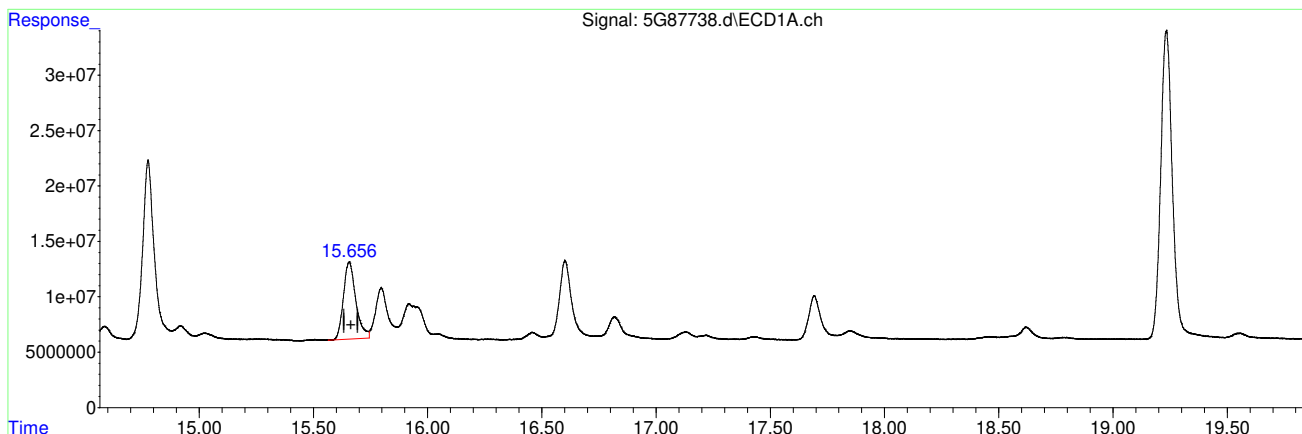
11.3.37 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:43:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.657min 68.506 PPB  
 response 262587518

(50) AR1260-E #2  
 18.776min 109.684 PPB  
 response 191661958

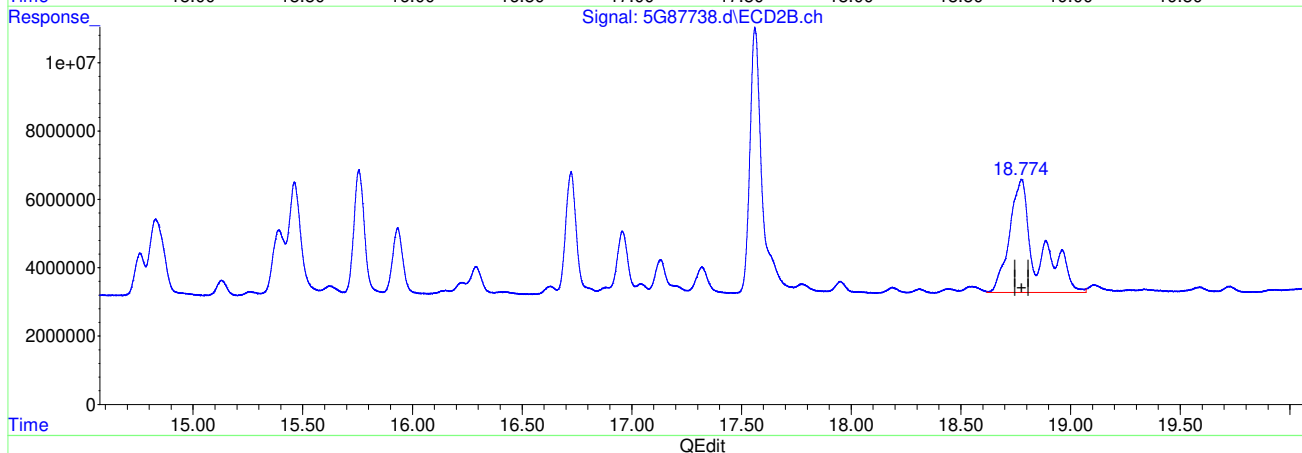
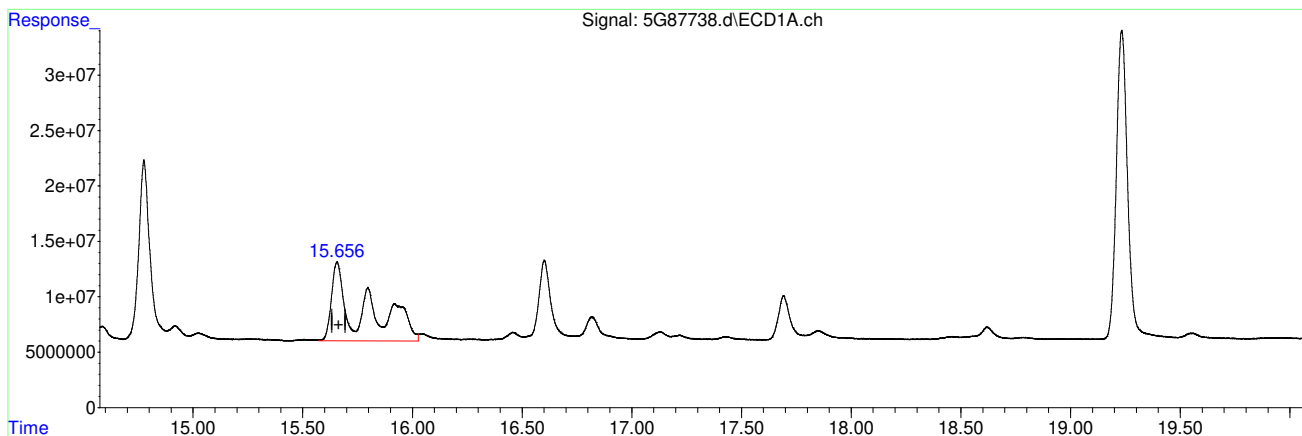
(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:45:21 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87738.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 11:46 am  
 Operator : summerk  
 Sample : op19829-bs1  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:43:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.656min 175.411 PPB m  
 response 672364650

(50) AR1260-E #2  
 18.774min 166.568 PPB m  
 response 291061736

(+) = Expected Retention Time

5PCB2101.M Fri Apr 19 13:45:32 2019

11.3.39  
11

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87739.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 12:18 pm  
 Operator : summerk  
 Sample : op19829-bsd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:46:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.634	4.386	991.4E6	463.1E6	31.414	33.683
Spiked Amount	40.000		Recovery	=	78.53%	84.21%
51) S Decachlor...	19.234	22.638	974.0E6	478.7E6	31.864	32.485
Spiked Amount	40.000		Recovery	=	79.66%	81.21%
Target Compounds						
42) AR1016-B	5.043	6.615	193.0E6	89248543	169.326	174.955
43) AR1016-C	6.116	7.885	373.2E6	180.9E6	157.924	157.635
44) AR1016-D	6.433	8.264	165.3E6	69627427	165.663	157.578
45) AR1016-E	7.466f	9.649	168.1E6	61869283	166.528m	178.330
46) AR1260-A	12.639	15.461	395.9E6	186.8E6	164.463m	166.659m
47) AR1260-B	13.018	15.758	243.3E6	119.2E6	173.068	176.733
48) AR1260-C	13.774	16.722	244.1E6	116.0E6	164.819	175.826
49) AR1260-D	14.775	17.559	538.0E6	279.4E6	154.655	162.922
50) AR1260-E	15.655	18.776	638.0E6	278.5E6	166.436m	159.375m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

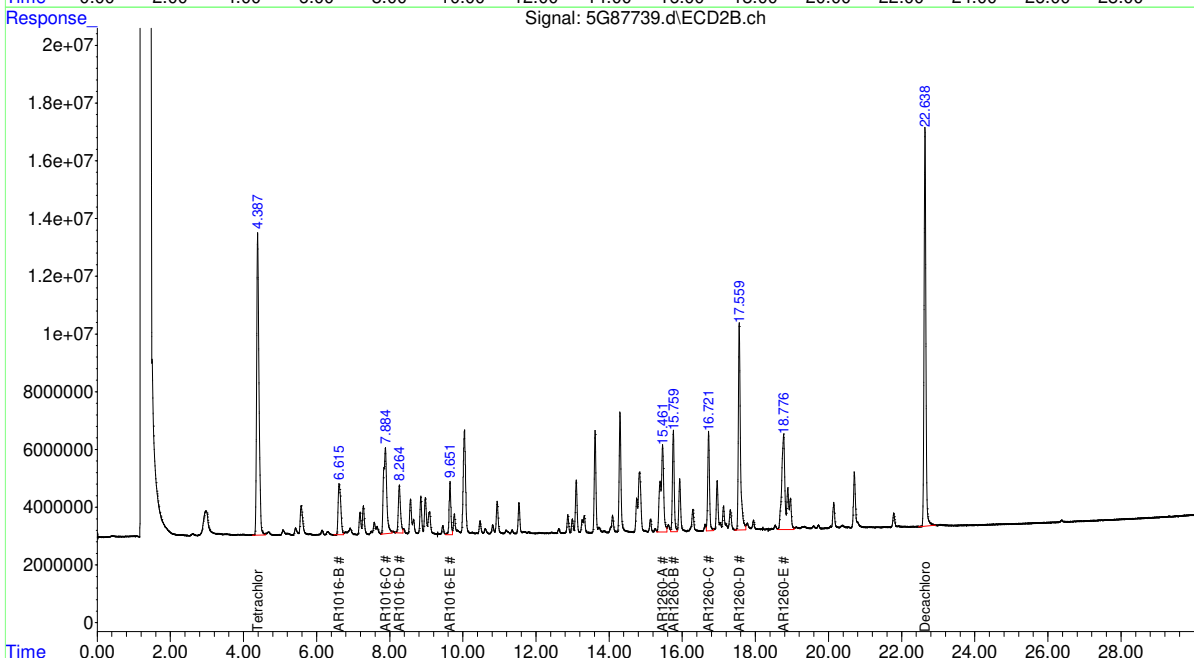
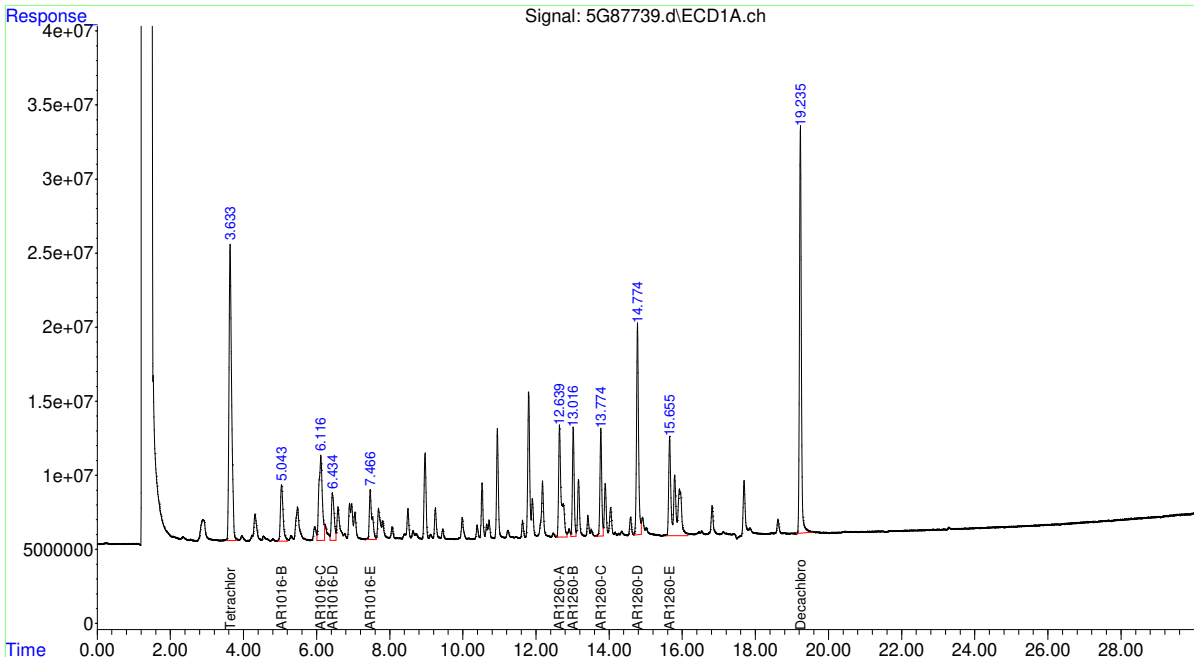
11.34  
 11



Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87739.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 12:18 pm  
 Operator : summerk  
 Sample : op19829-bsd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:46:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase: RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: OP19829-BSD      Method: SW846 8082A  
Lab FileID: 5G87739.D      Analyst approved: 04/19/19 13:50 Summer Kotb  
Injection Time: 04/19/19 12:18      Supervisor approved: 04/19/19 16:22 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-E		1	7.47	Split peak
AR1260-A		1	12.64	Split peak
AR1260-A		2	15.46	Split peak
AR1260-E		1	15.65	Split peak
AR1260-E		2	18.78	Split peak

11.3.4.1

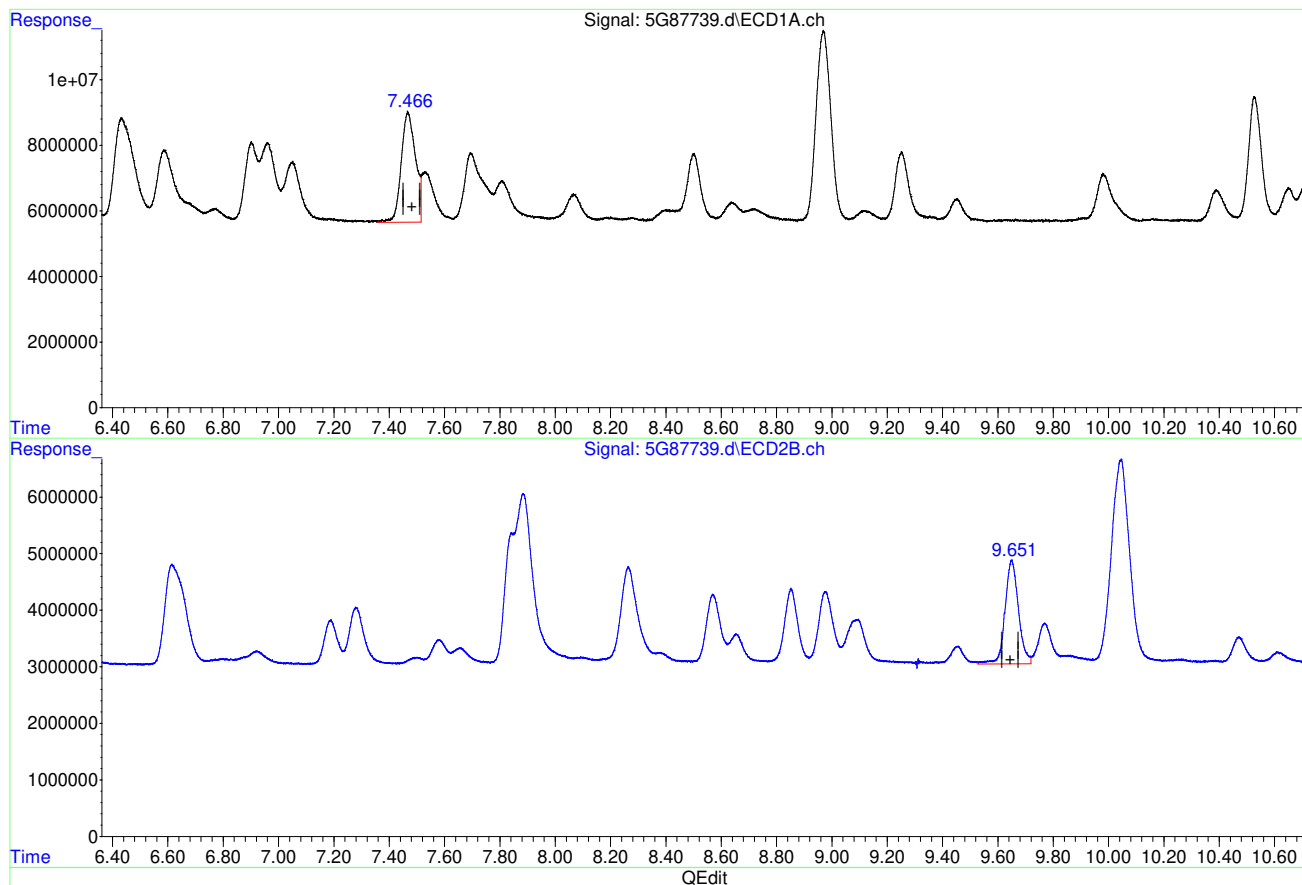
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87739.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 12:18 pm  
 Operator : summerk  
 Sample : op19829-bsd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:45:39 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E

7.467min 119.566 PPB

response 120717704

(45) AR1016-E #2

9.649min 178.330 PPB

response 61869283

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:45:58 2019

Page: 1

SGS

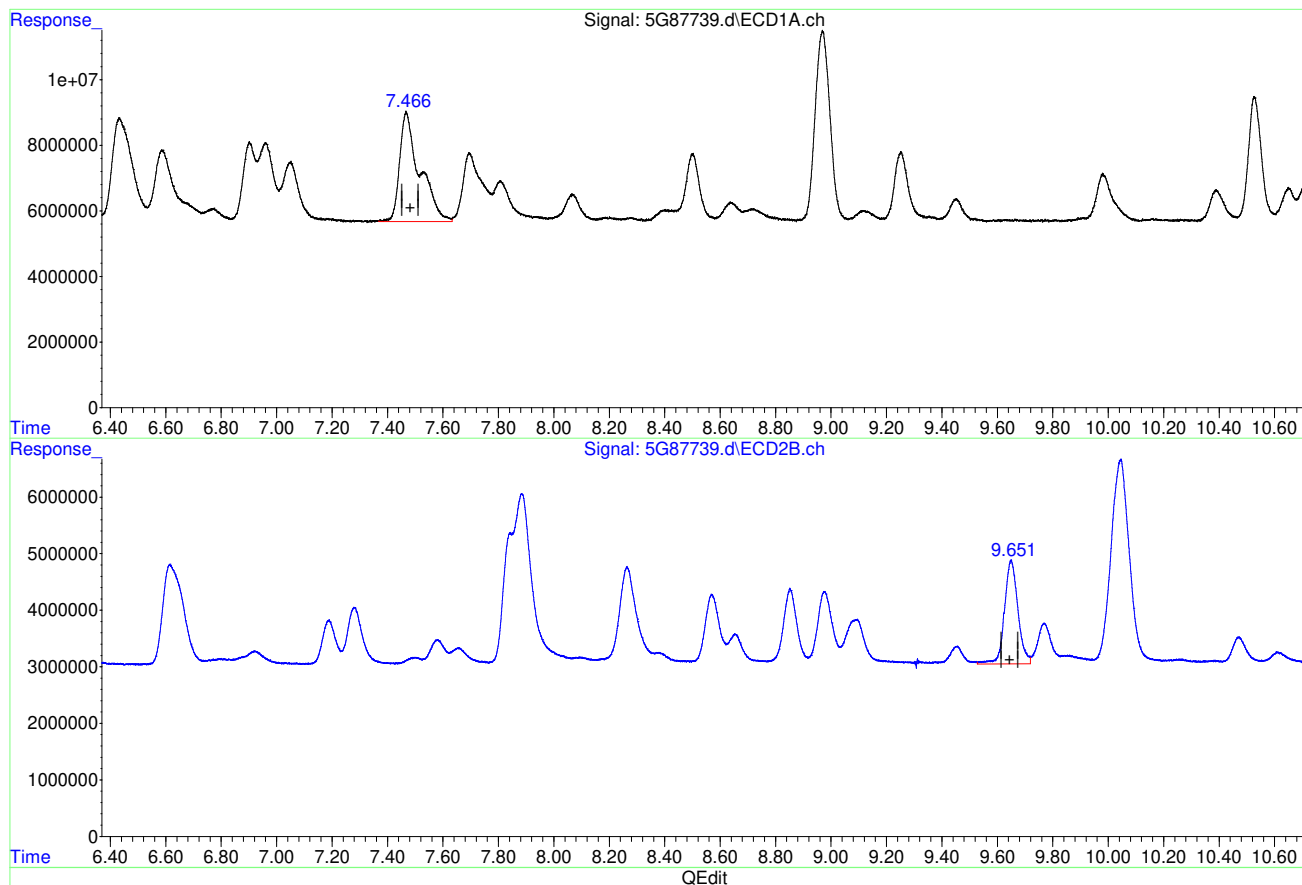
1101 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87739.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 12:18 pm  
 Operator : summerk  
 Sample : op19829-bsd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:45:39 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E

7.466min 166.528 PPB m

response 168132764

(45) AR1016-E #2

9.649min 178.330 PPB

response 61869283

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:46:04 2019

Page: 1

SGS

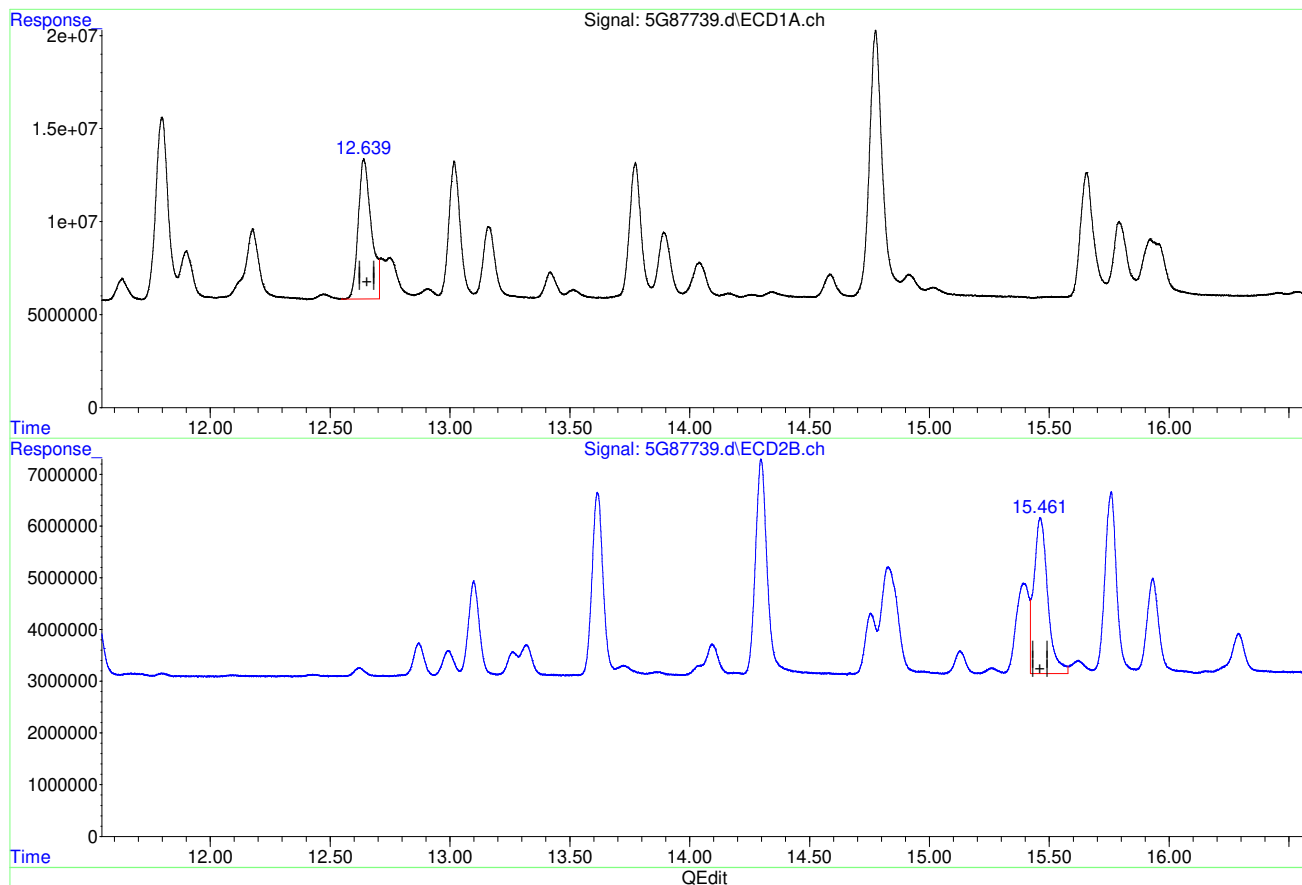
1102 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87739.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 12:18 pm  
 Operator : summerk  
 Sample : op19829-bsd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:45:39 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.640min 117.911 PPB  
 response 283852806

(46) AR1260-A #2  
 15.462min 108.129 PPB  
 response 121188433

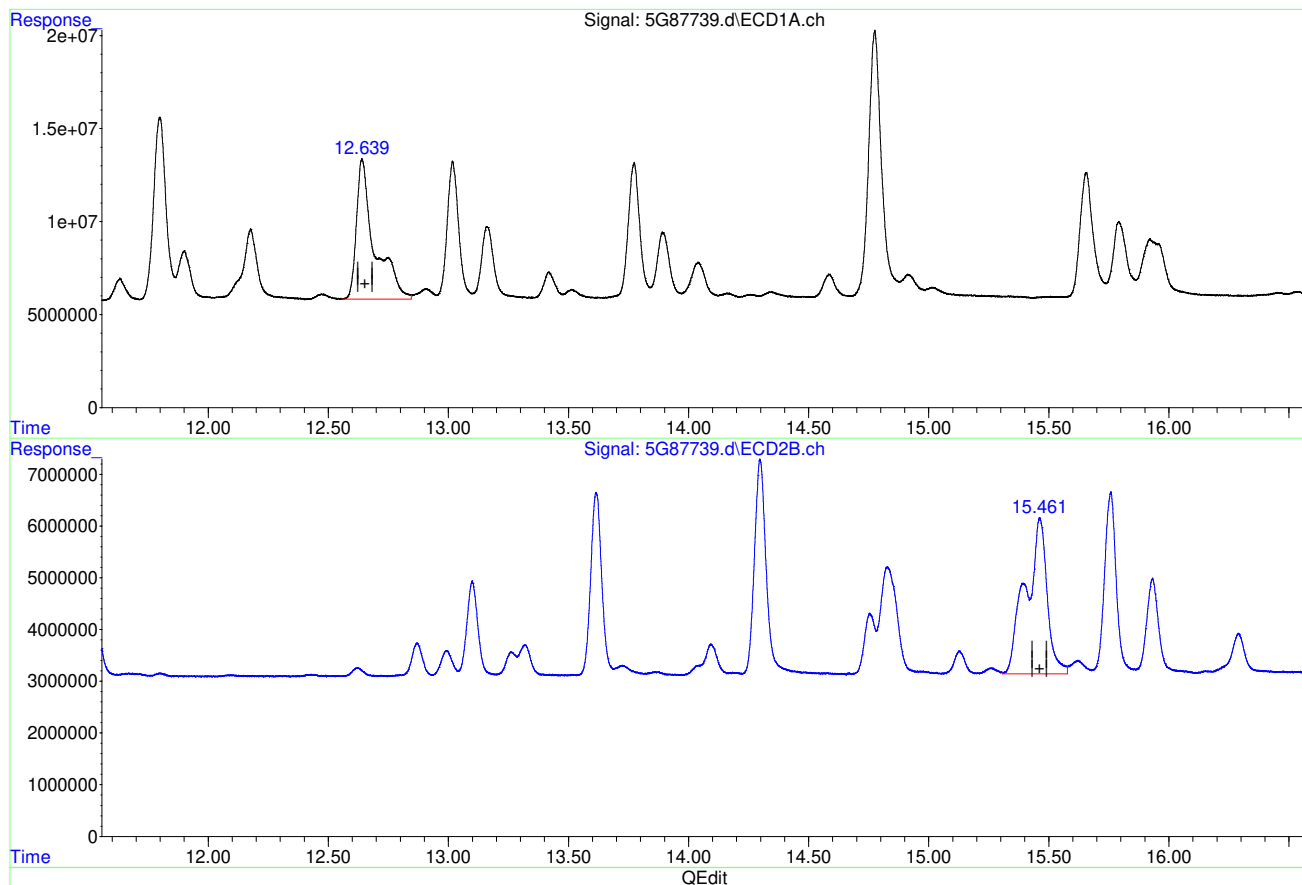
(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:46:06 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87739.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 12:18 pm  
 Operator : summerk  
 Sample : op19829-bsd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:45:39 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.639min 164.463 PPB m  
 response 395921671

(46) AR1260-A #2  
 15.461min 166.659 PPB m  
 response 186787640

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:46:17 2019

Page: 1

SGS

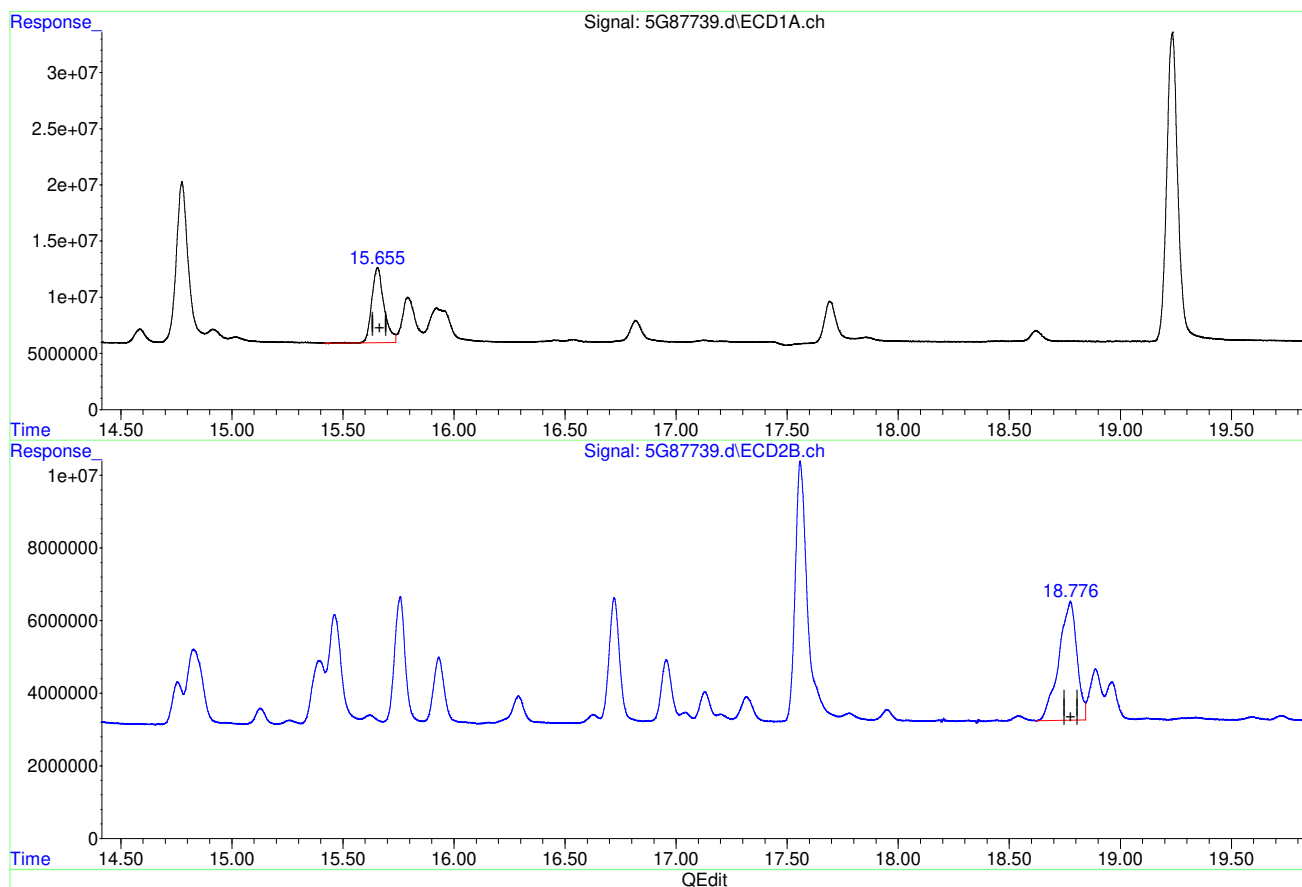
1104 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87739.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 12:18 pm  
 Operator : summerk  
 Sample : op19829-bsd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:45:39 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E

15.656min 66.938 PPB

response 256579221

(50) AR1260-E #2

18.775min 105.881 PPB

response 185015667

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:46:21 2019

Page: 1

SGS

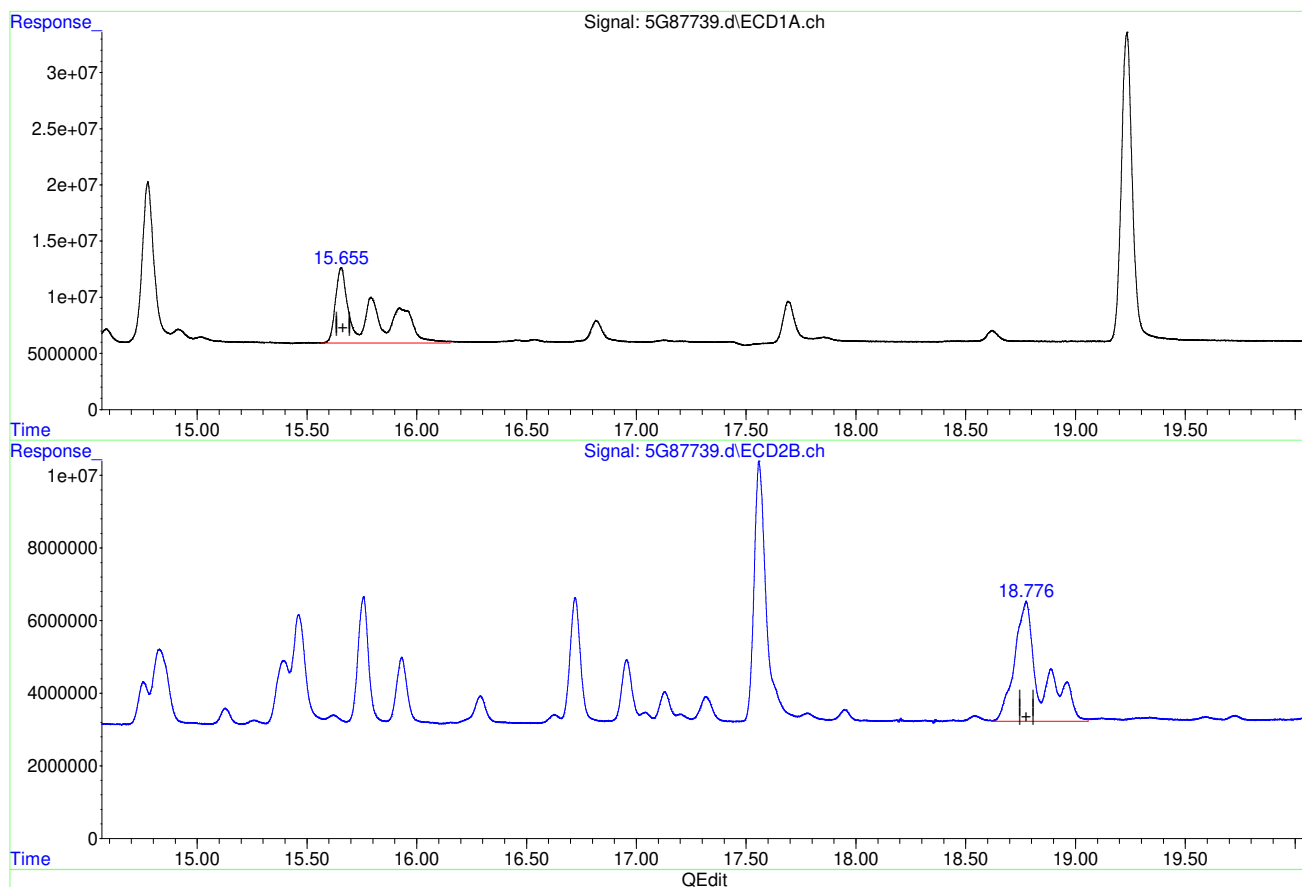
1105 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87739.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 12:18 pm  
 Operator : summerk  
 Sample : op19829-bsd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 13:45:39 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E

15.655min 166.436 PPB m

response 637963012

(50) AR1260-E #2

18.776min 159.375 PPB m

response 278491426

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 13:46:33 2019

Page: 1

SGS

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64309.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:59:22  
 Operator : thomasl  
 Sample : op19789-ms  
 Misc : op19789,g6g1984,16.9,,,10,1  
 ALS Vial : 65 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:45:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.957	2.171	299.1E6	265.7E6	50.000	50.000
27) I 1-bromo-2...	1.957	2.171	299.1E6	265.7E6	50.000	50.000
33) I 1-bromo-2...	1.957	2.171	299.1E6	265.7E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.557	2.985	83967656	97729924	21.076	20.915
Spiked Amount	40.000	Range	30 - 150	Recovery =	52.69%	52.29%
26) SA Decachlor...	9.974	11.973	158.3E6	213.1E6	21.287	57.669 #
Spiked Amount	40.000		Recovery =	53.22%	144.17%	
Target Compounds						
3) hexachlor...	2.892	3.495	121.0E6	73156867	13.174	14.585
4) A alpha-BHC	3.035	3.650	95243258	87270320	13.435	14.289
5) MA gamma-BHC	3.333	4.080	91042009	79308087	13.372	14.082
6) MA Heptachlor	3.836	4.659	107.9E6	83195432	15.328	14.561
7) B beta-BHC	3.409	4.165	36299769	38754584	12.364	14.601
8) B delta-BHC	3.597	4.564	88320864	73299049	14.108	13.999
9) MB Aldrin	4.176	5.113	102.6E6	76794883	15.595	14.996
10)alachlor	4.320	4.921	11330062	11464989	15.019m	15.532
11) B Heptachlo...	4.899	5.940	90163060	73613240	13.349	15.096
12) B gamma-Chl...	5.065	6.225	89535226	74421403	14.485	15.094
13) B alpha-Chl...	5.238	6.453	95671744	71714880	16.381	15.139
14) A Endosulfan I	5.418	6.549	85741744	66689108	14.500	15.077
15) B 4,4'-DDE	5.350	6.718	87188206	66481874	14.243	15.056
16) MA Dieldrin	5.744	6.985	91965022	74096969	14.924	15.631
17) MA Endrin	6.071	7.490	93128372	71293095	16.060	16.218
18) A 4,4'-DDD	6.194	7.671	62214986	58185284	14.298	15.640
19) B Endosulfa...	6.396	7.841	80359852	66503536	13.401	14.487
20) MA 4,4'-DDT	6.617	8.205	71957420	59967857	15.297	16.234
21) B Endrin Al...	7.029	8.415	76145283	47445214	15.827m	13.592
22) B Endosulfa...	7.718	8.886	70084862	64060976	14.274m	16.854
23) A Methoxychlor	7.407	9.453	43171952	33288616	15.499	15.327
25) B Endrin Ke...	8.160	9.850	94051018	69965344	16.360	16.375
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

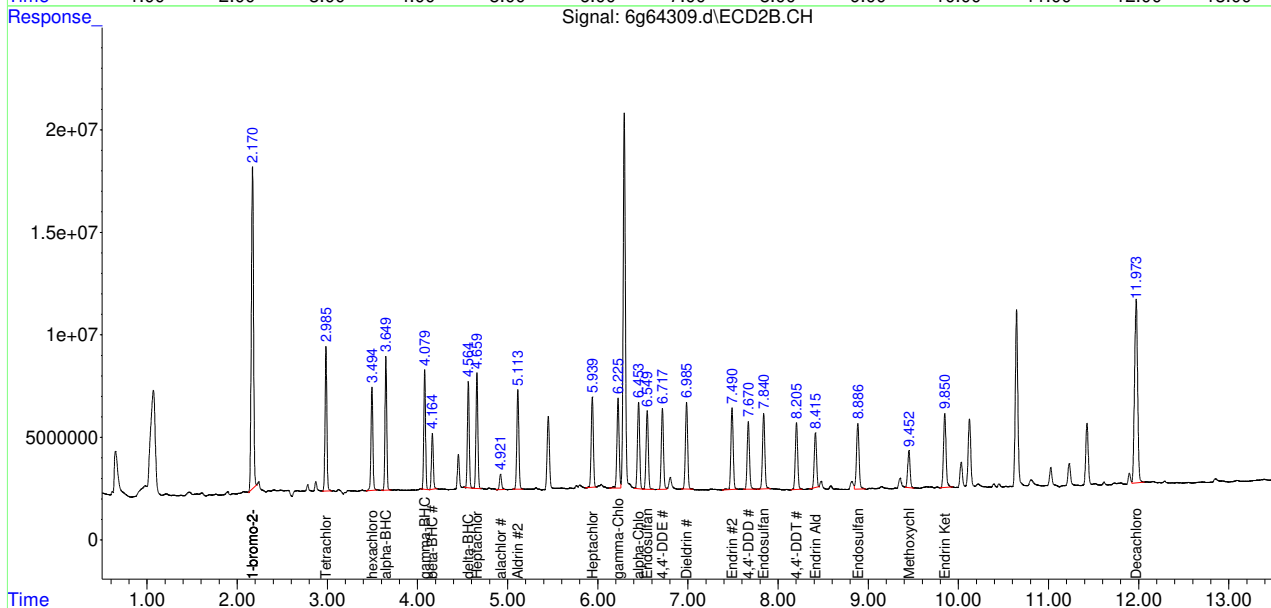
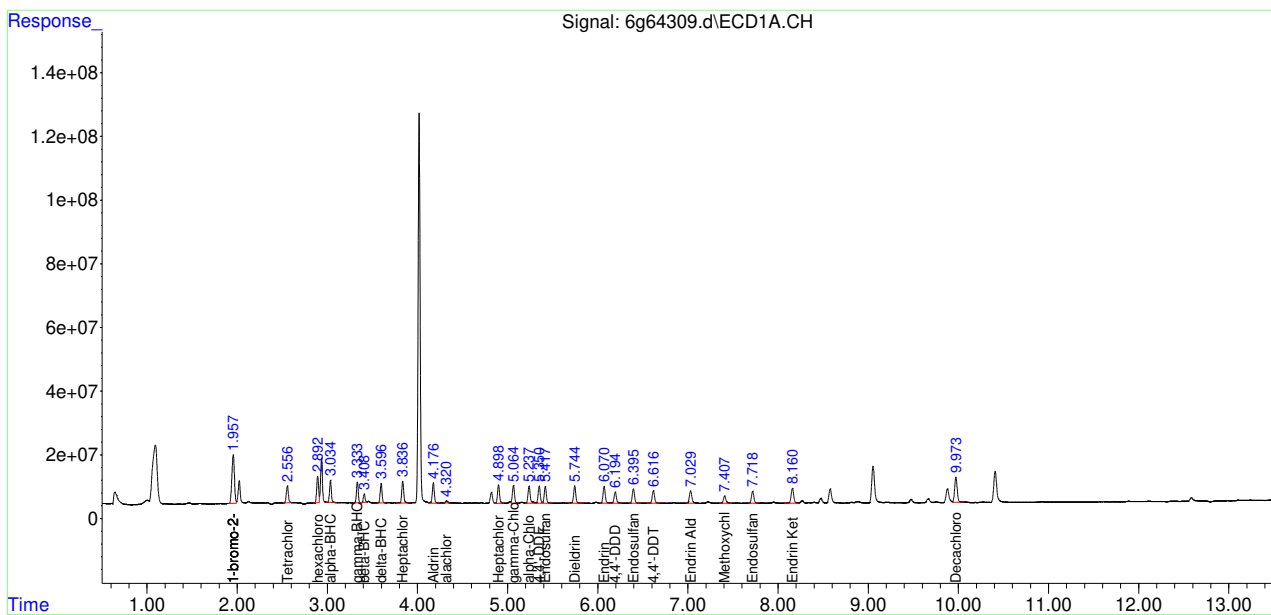
11.4.1  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64309.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:59:22  
 Operator : thomasl  
 Sample : op19789-ms  
 Misc : op19789,g6g1984,16.9,,,10,1  
 ALS Vial : 65 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:45:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.4.1  
11

# Manual Integration Approval Summary

Sample Number: OP19789-MS                      Method: SW846 8081B  
Lab FileID: 6G64309.D                      Analyst approved: 04/18/19 15:34 Thomas Lally  
Injection Time: 04/18/19 11:59                      Supervisor approved: 04/18/19 16:20 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Alachlor	15972-60-8	1	4.32	Poorly defined baseline
Endrin aldehyde	7421-93-4	1	7.03	Poorly defined baseline
Endosulfan sulfate	1031-07-8	1	7.72	Poorly defined baseline

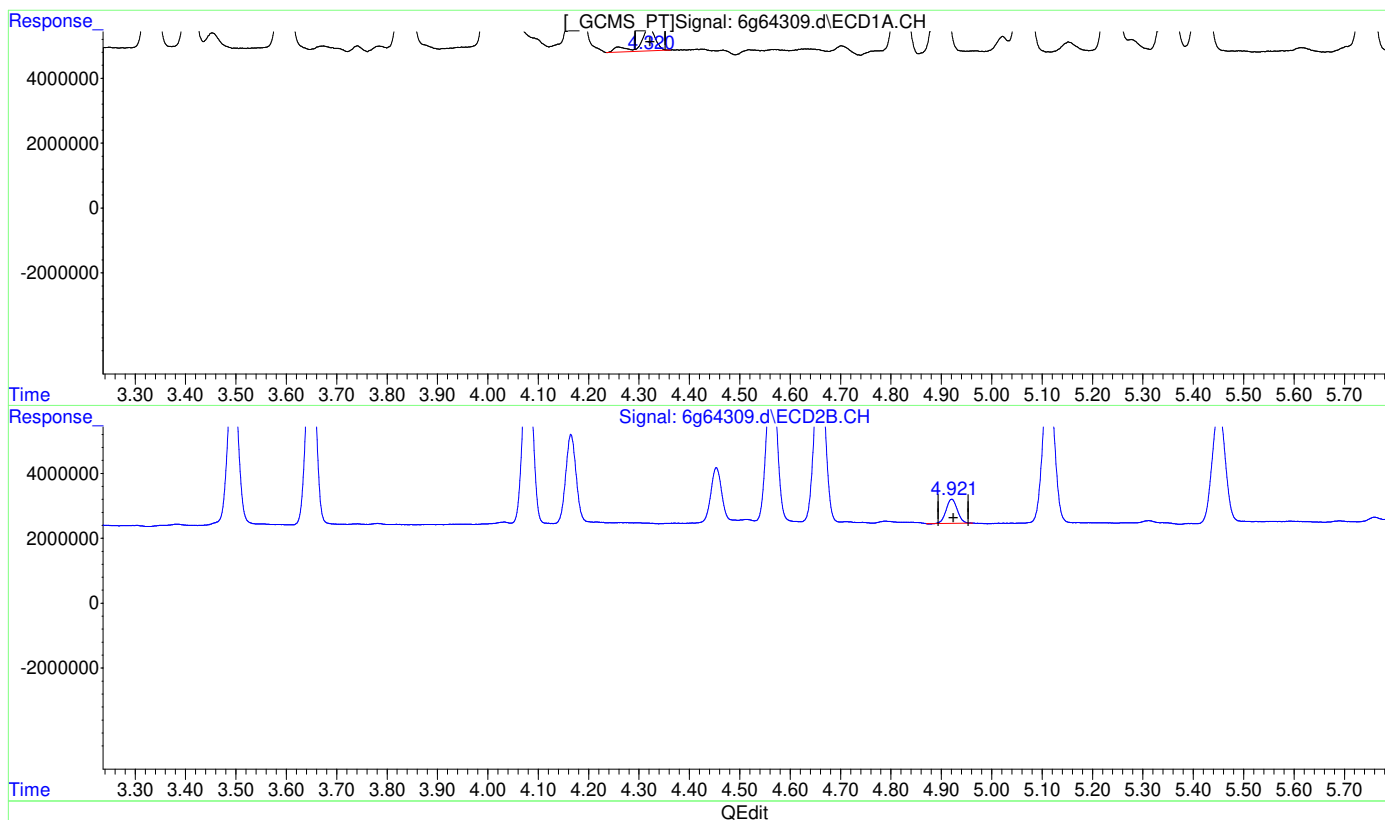
11.4.1.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64309.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:59:22  
 Operator : thomasl  
 Sample : op19789-ms  
 Misc : op19789,g6g1984,16.9,,,10,1  
 ALS Vial : 65 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:44:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(10)alachlor	
4.320min	20.131 PPB
response	15186616
(10)alachlor #2	
4.921min	15.532 PPB
response	11464989

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:44:36 2019

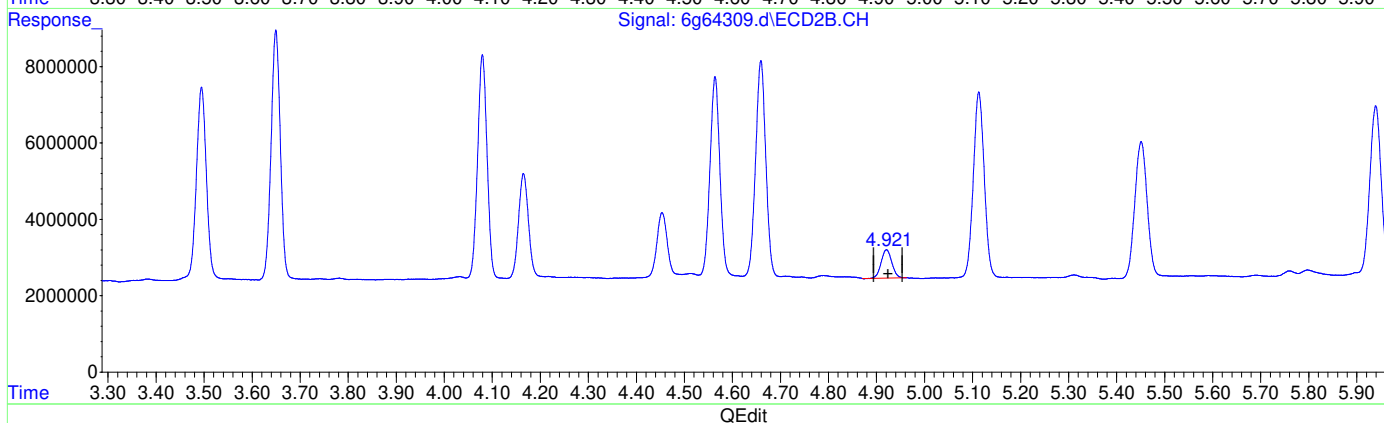
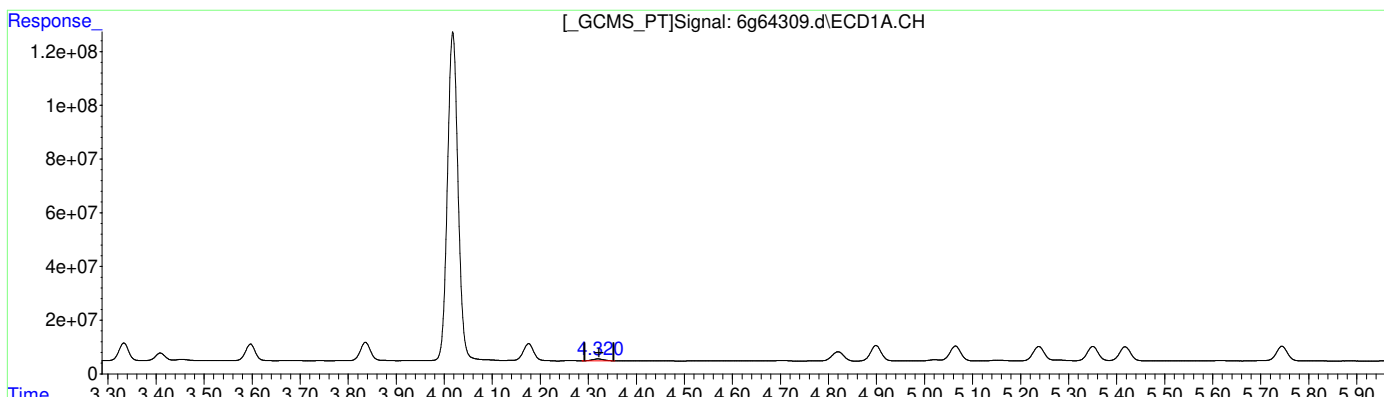
11.4.12  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64309.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:59:22  
 Operator : thomasl  
 Sample : op19789-ms  
 Misc : op19789,g6g1984,16.9,,,10,1  
 ALS Vial : 65 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:44:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(10)alachlor  
 4.320min 15.019 PPB m  
 response 11330062

(10)alachlor #2  
 4.921min 15.532 PPB  
 response 11464989

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:44:42 2019

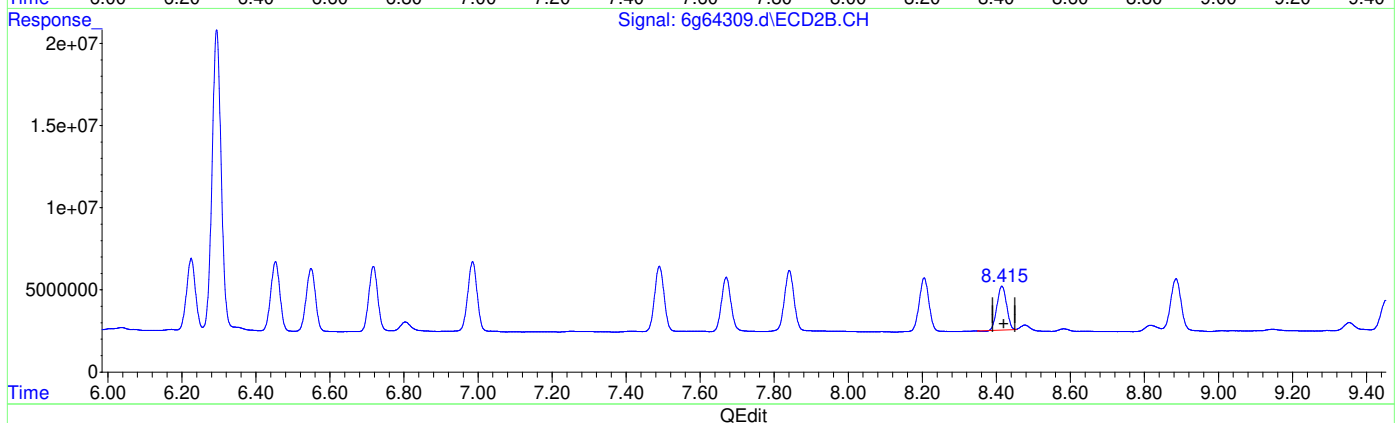
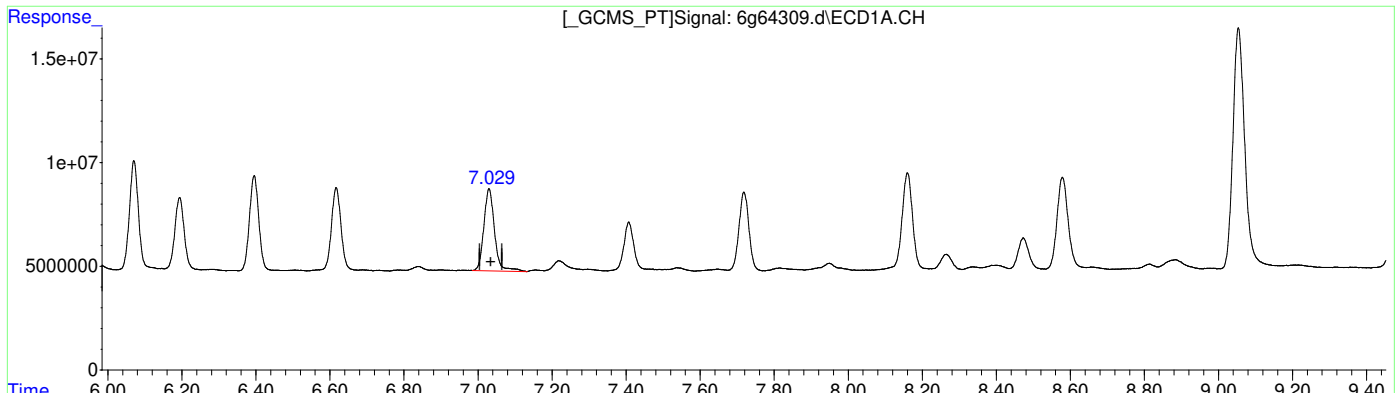
11.4.13  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64309.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:59:22  
 Operator : thomasl  
 Sample : op19789-ms  
 Misc : op19789,g6g1984,16.9,,,10,1  
 ALS Vial : 65 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:44:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)  
 7.030min 16.569 PPB  
 response 79718356

(21) Endrin Aldehyde #2 (B)  
 8.415min 13.592 PPB  
 response 47445214

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:45:02 2019

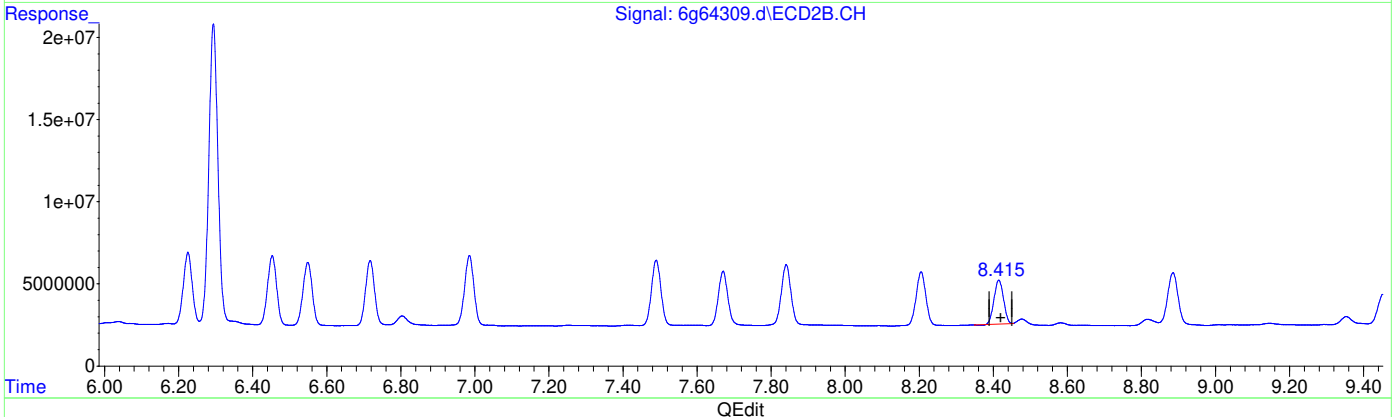
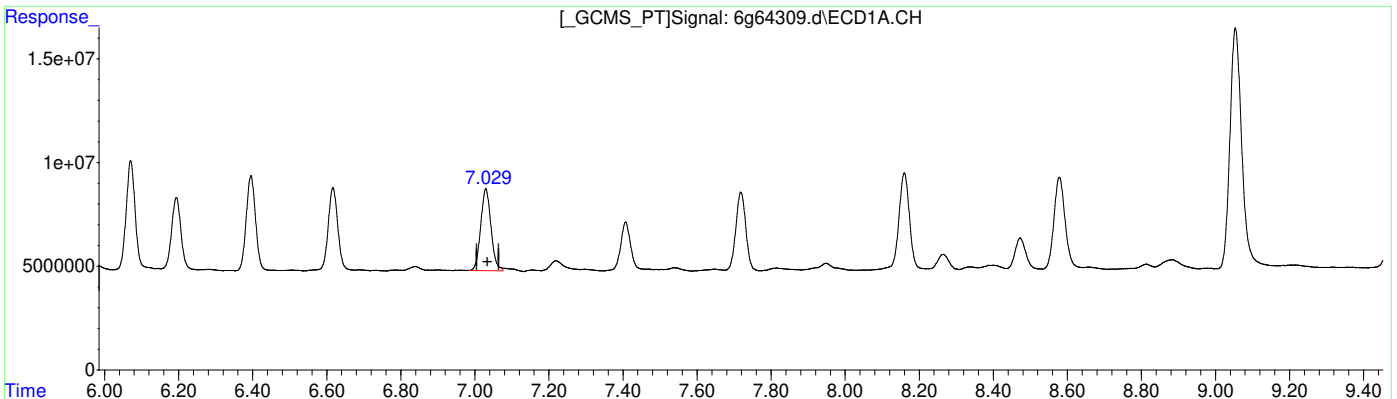
11.4.14  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64309.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:59:22  
 Operator : thomasl  
 Sample : op19789-ms  
 Misc : op19789,g6g1984,16.9,,,10,1  
 ALS Vial : 65 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:44:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)  
 7.029min 15.827 PPB m  
 response 76145283

(21) Endrin Aldehyde #2 (B)  
 8.415min 13.592 PPB  
 response 47445214

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:45:14 2019

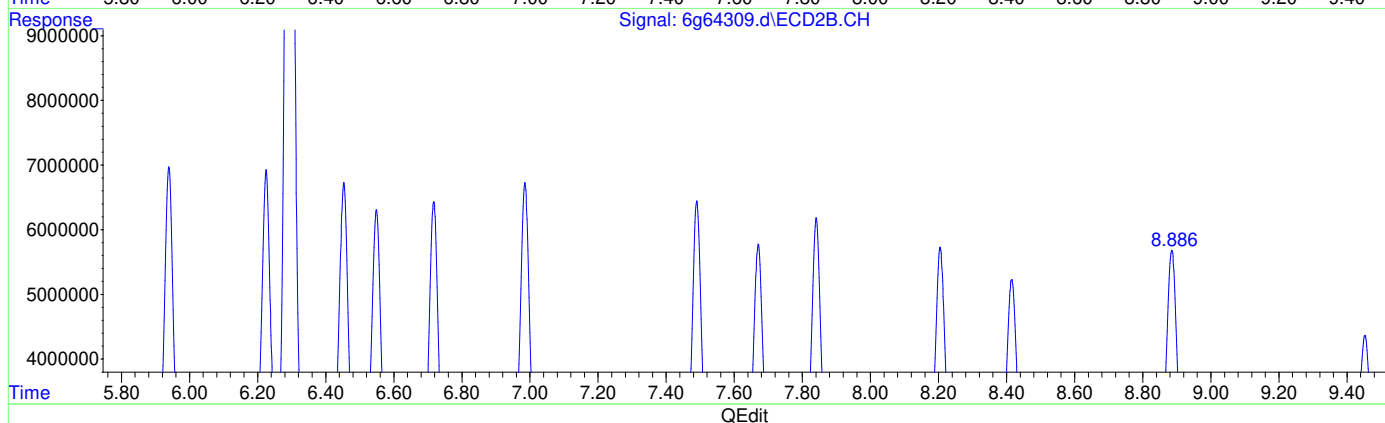
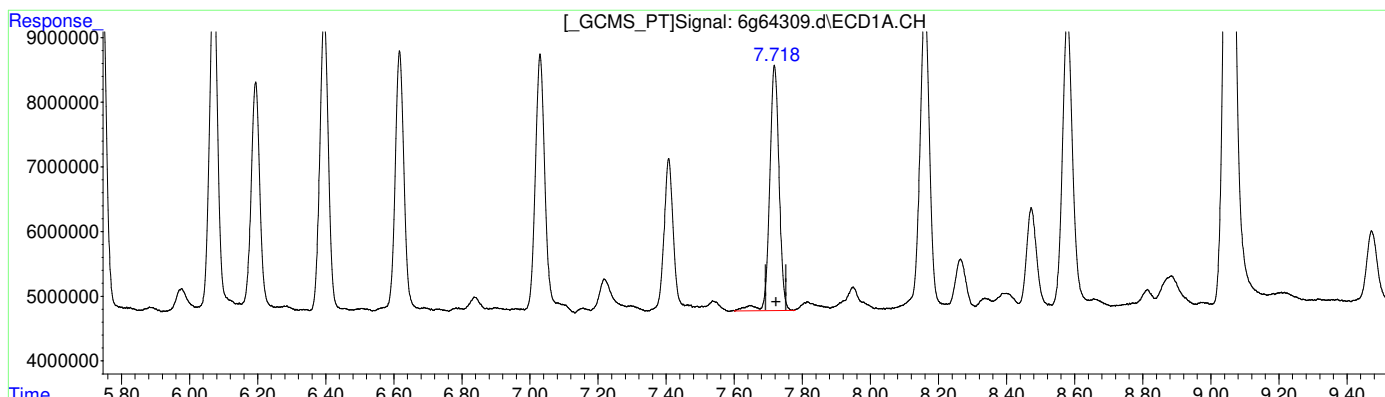
11.4.15  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64309.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:59:22  
 Operator : thomasl  
 Sample : op19789-ms  
 Misc : op19789,g6g1984,16.9,,,10,1  
 ALS Vial : 65 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:44:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(22) Endosulfan Sulfate (B)

7.718min 14.901 PPB

response 73165630

(22) Endosulfan Sulfate #2 (B)

8.886min 16.854 PPB

response 64060976

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:45:30 2019

11.4.16  
11

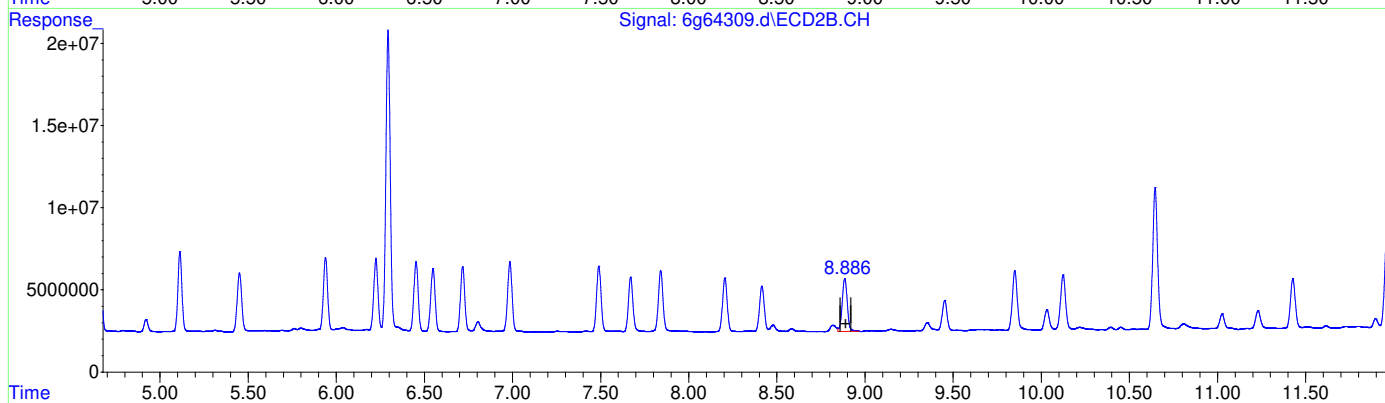
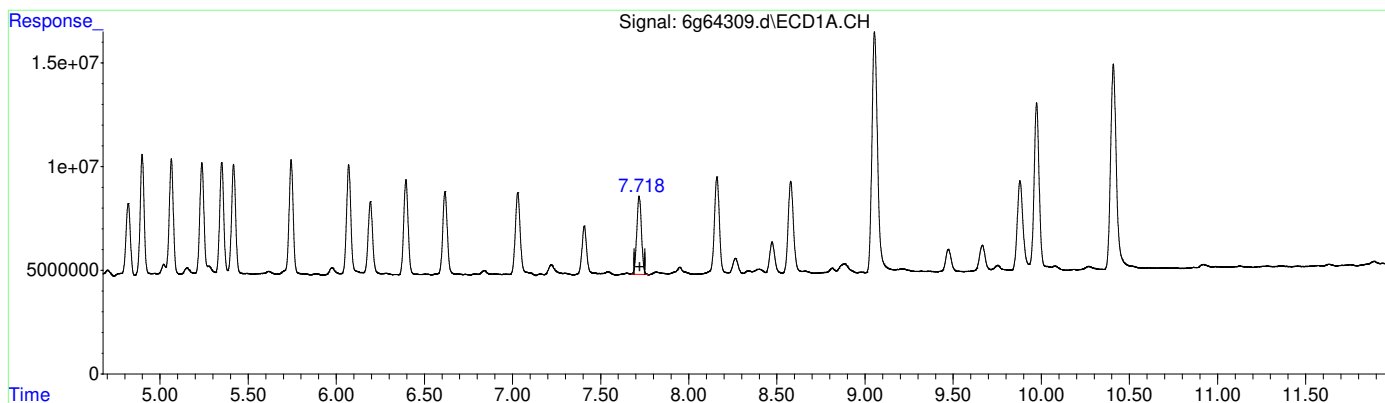


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64309.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 11:59:22  
 Operator : thomasl  
 Sample : op19789-ms  
 Misc : op19789,g6g1984,16.9,,,10,1  
 ALS Vial : 65 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:44:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(22) Endosulfan Sulfate (B)

7.718min 14.274 PPB m

response 70084862

(22) Endosulfan Sulfate #2 (B)

8.886min 16.854 PPB

response 64060976

11.4.17  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:50:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards							
1)	I 1-bromo-2...	1.956	2.170	290.3E6	267.4E6	50.000	50.000
27)	I 1-bromo-2...	1.956	2.170	290.3E6	267.4E6	50.000	50.000
33)	I 1-bromo-2...	1.956	2.170	290.3E6	267.4E6	50.000	50.000
System Monitoring Compounds							
2)	SAB Tetrachlo...	2.558	2.986	93668321	107.7E6	24.226	22.895
	Spiked Amount	40.000	Range	30 - 150	Recovery	= 60.57%	57.24%
26)	SA Decachlor...	9.974	11.975	271.1E6	385.3E6	37.575	103.621 #
	Spiked Amount	40.000		Recovery	= 93.94%	259.05%	
Target Compounds							
3)	hexachlor...	2.894	3.495	146.6E6	82391560	16.449	16.322
4)	A alpha-BHC	3.036	3.650	147.9E6	100.1E6	21.491	16.278
5)	MA gamma-BHC	3.334	4.080	104.5E6	89344503	15.809	15.763
6)	MA Heptachlor	3.837	4.660	143.9E6	86121752	21.061	14.977 #
7)	B beta-BHC	3.409	4.164	62375460	40559584	21.892	15.183 #
8)	B delta-BHC	3.596	4.563	97619308	84412866	16.068	16.019
9)	MB Aldrin	4.176	5.114	99671554	80756731	15.618	15.669
10)	alachlor	4.319	4.921	16098104	10361781	21.988	13.948 #
11)	B Heptachlo...	4.900	5.940	87811108	70804090	13.396	14.427
12)	B gamma-Chl...	5.065	6.224	86799202	83014991	14.470	16.730m
13)	B alpha-Chl...	5.239	6.453	86801503	72559328	15.314	15.220
14)	A Endosulfan I	5.419	6.549	81465046	67610000	14.196	15.188
15)	B 4,4'-DDE	5.351	6.718	98041000	78680875	16.503	17.705
16)	MA Dieldrin	5.745	6.986	88282338	78171756	14.762	16.385
17)	MA Endrin	6.071	7.490	95726936	74303816	17.010	16.795
18)	A 4,4'-DDD	6.193	7.670	74326806	67205065	17.601	17.949
19)	B Endosulfa...	6.395	7.841	81509855	71215530	14.006	15.414
20)	MA 4,4'-DDT	6.617	8.204	71563873	65664811	15.676m	17.663m
21)	B Endrin Al...	7.028	8.414	82364697	51029666	17.640m	14.526m
22)	B Endosulfa...	7.718	8.885	58288249	62120084	12.232m	16.239m#
23)	A Methoxychlor	7.405	9.451	47273404	35932200	17.488	16.438
25)	B Endrin Ke...	8.159	9.852	95479469	69001504	17.114m	16.046
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

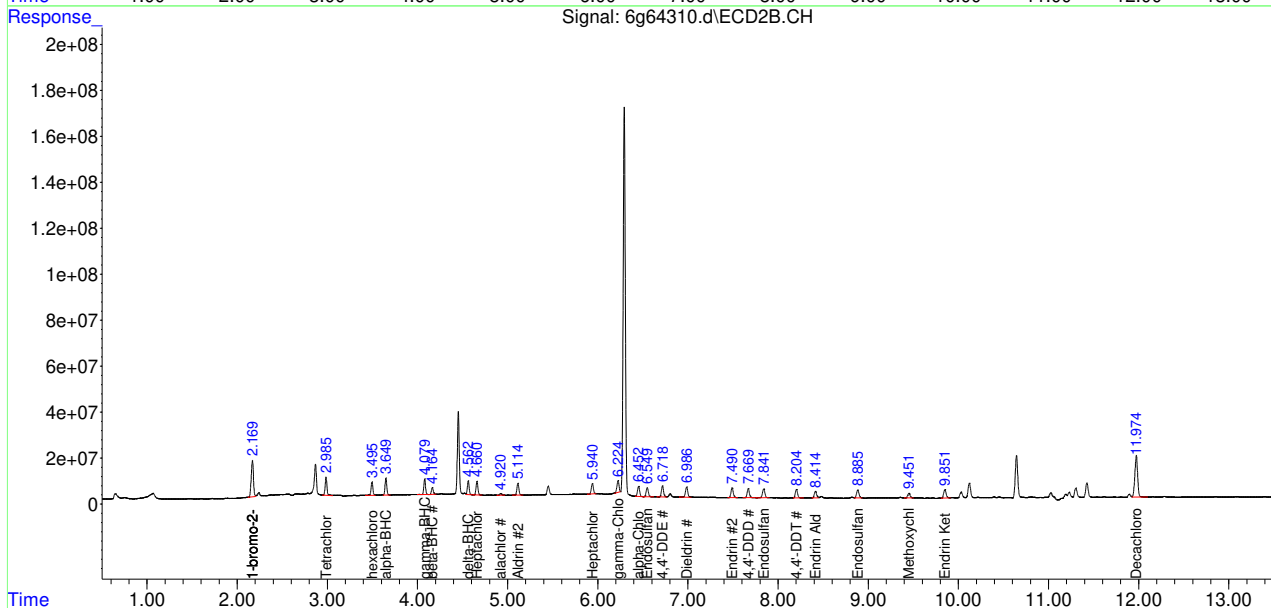
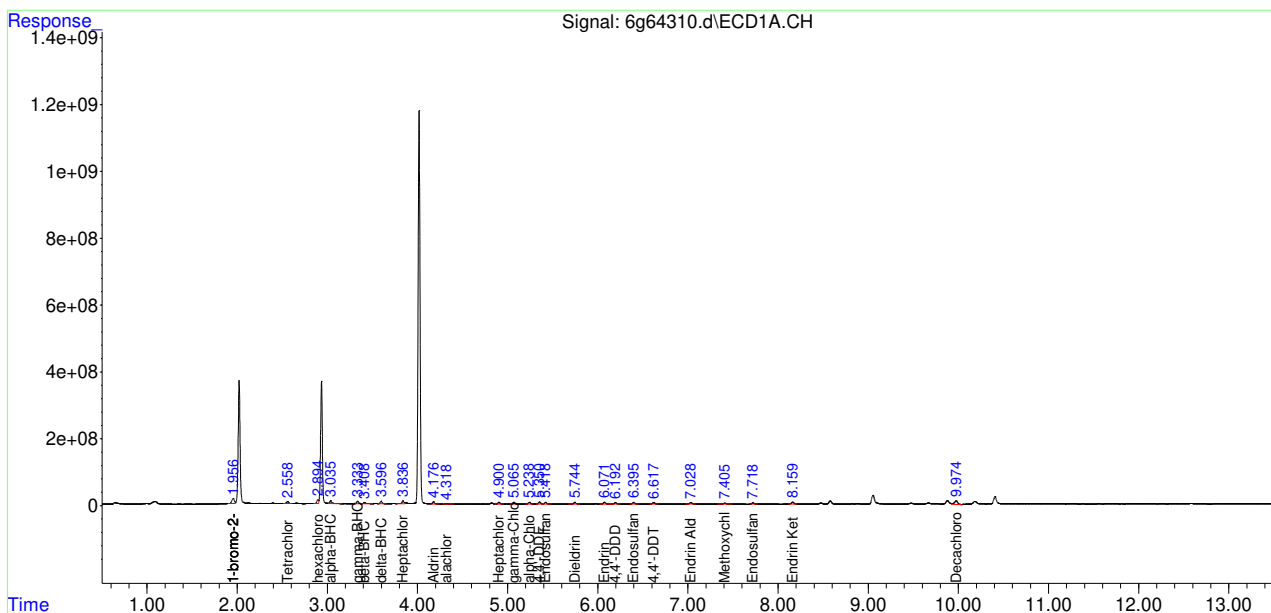
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:50:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



# Manual Integration Approval Summary

Sample Number: OP19789-MSD      Method: SW846 8081B  
Lab FileID: 6G64310.D      Analyst approved: 04/18/19 15:34 Thomas Lally  
Injection Time: 04/18/19 12:17      Supervisor approved: 04/18/19 16:20 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
gamma-Chlordane	5103-74-2	2	6.22	Poorly defined baseline
4,4'-DDT	50-29-3	1	6.62	Poorly defined baseline
Endrin aldehyde	7421-93-4	1	7.03	Poorly defined baseline
Endosulfan sulfate	1031-07-8	1	7.72	Poorly defined baseline
Endrin ketone	53494-70-5	1	8.16	Poorly defined baseline
4,4'-DDT	50-29-3	2	8.20	Poorly defined baseline
Endrin aldehyde	7421-93-4	2	8.41	Poorly defined baseline
Endosulfan sulfate	1031-07-8	2	8.88	Poorly defined baseline

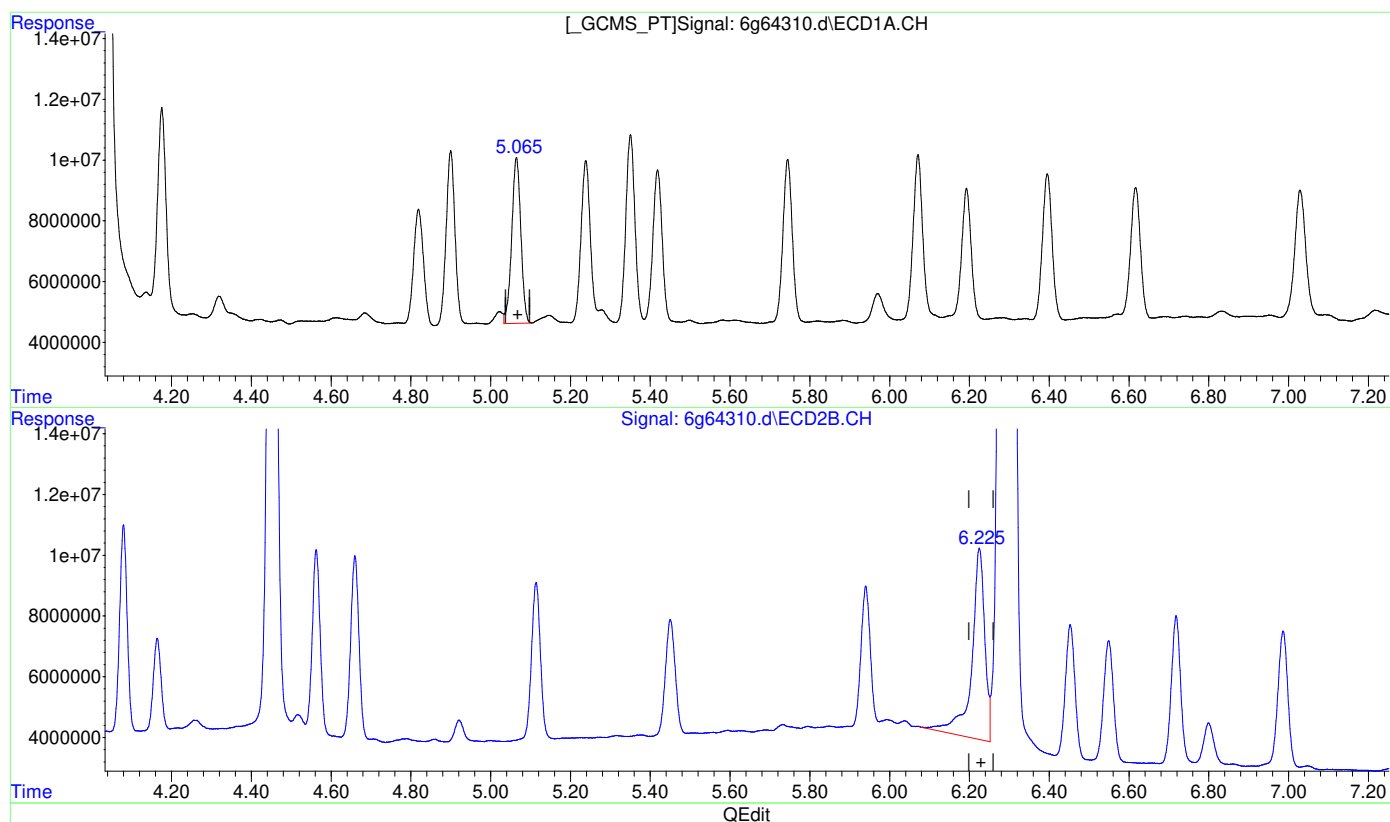
11.4.21  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(12) gamma-Chlordane (B)

5.065min 14.470 PPB

response 86799202

(12) gamma-Chlordane #2 (B)

6.225min 28.994 PPB

response 143870208

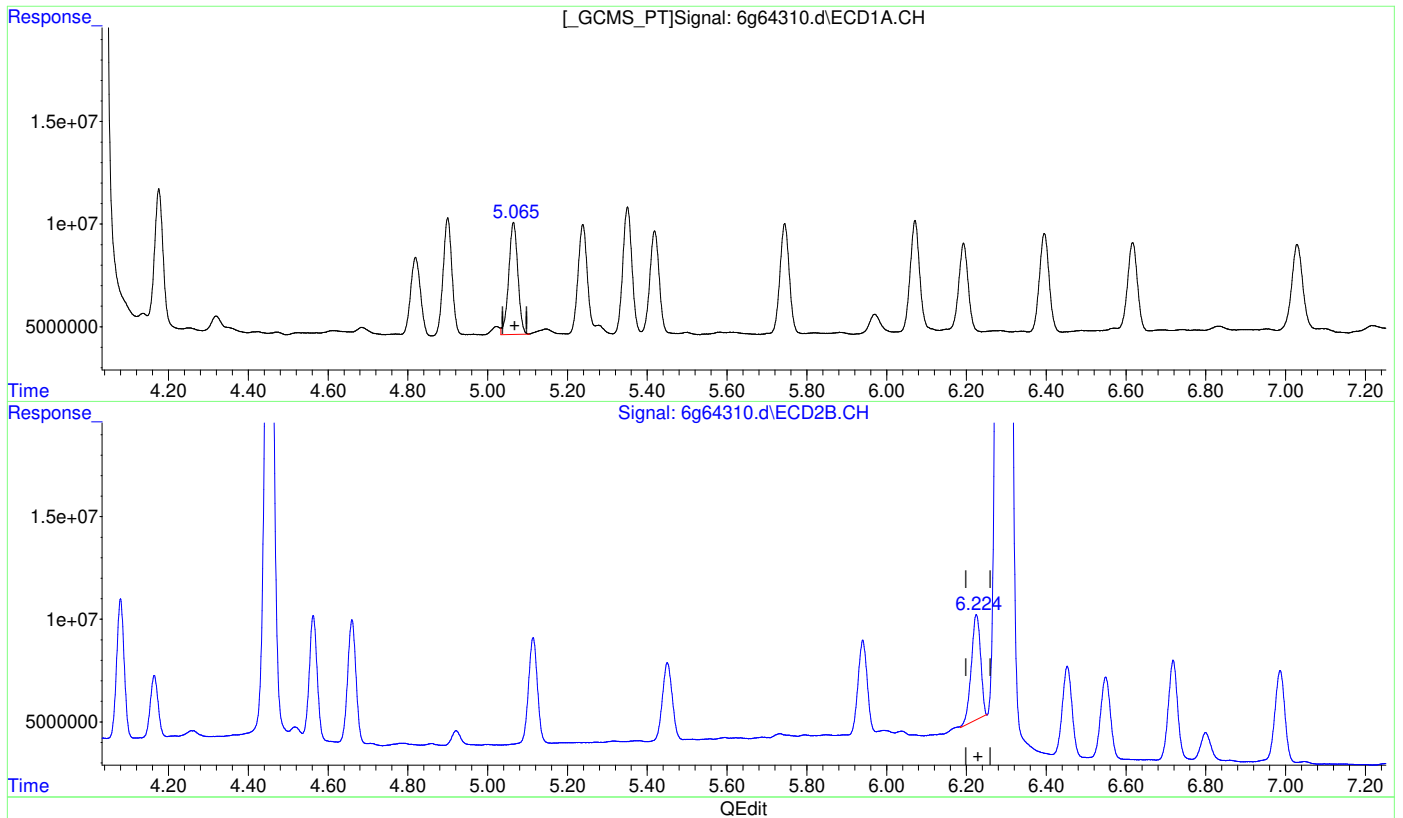
(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:47:01 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(12) gamma-Chlordane (B)

5.065min 14.470 PPB

response 86799202

(12) gamma-Chlordane #2 (B)

6.224min 16.730 PPB m

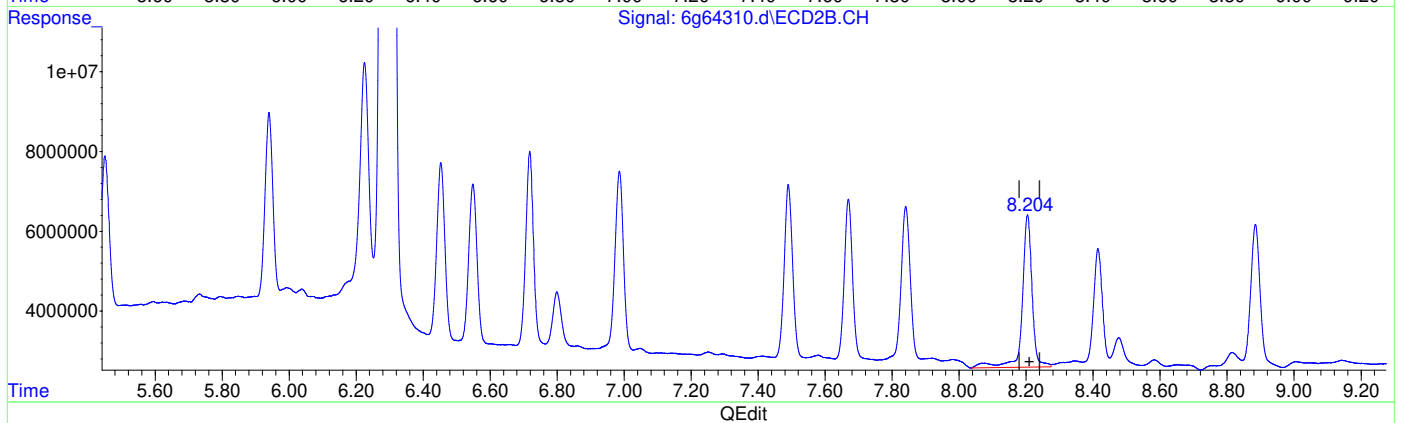
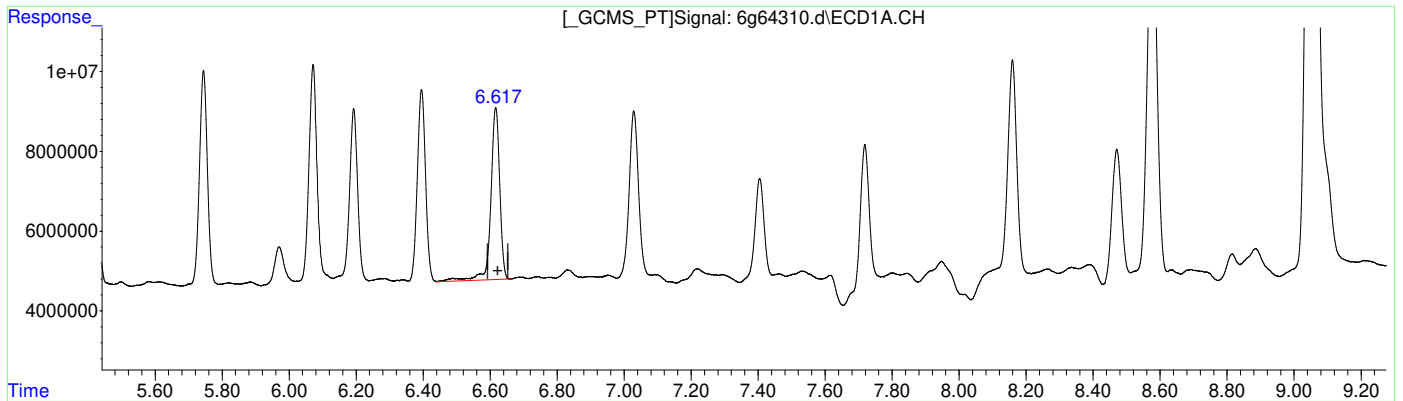
response 83014991

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(20) 4,4'-DDT (MA)  
 6.617min 17.544 PPB  
 response 80093335

(20) 4,4'-DDT #2 (MA)  
 8.204min 21.323 PPB  
 response 79271855

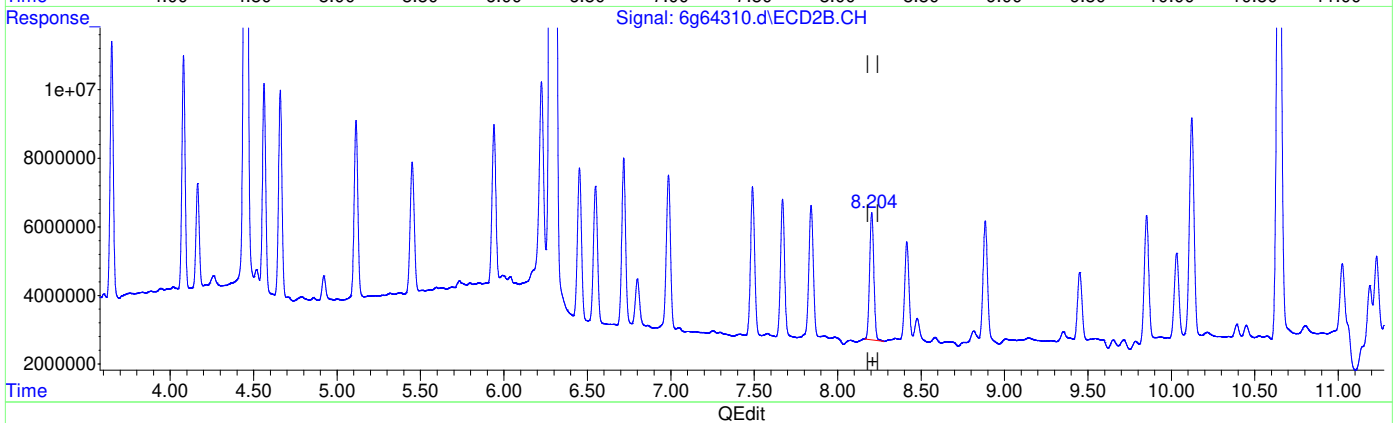
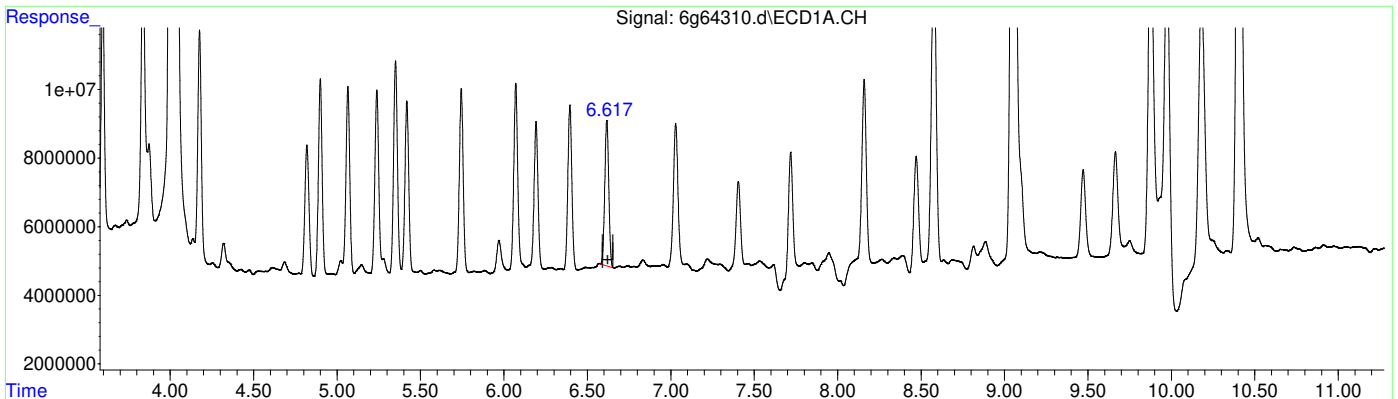
(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:47:27 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(20) 4,4'-DDT (MA)  
 6.617min 15.676 PPB m  
 response 71563873

(20) 4,4'-DDT #2 (MA)  
 8.204min 17.663 PPB m  
 response 65664811

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:47:57 2019

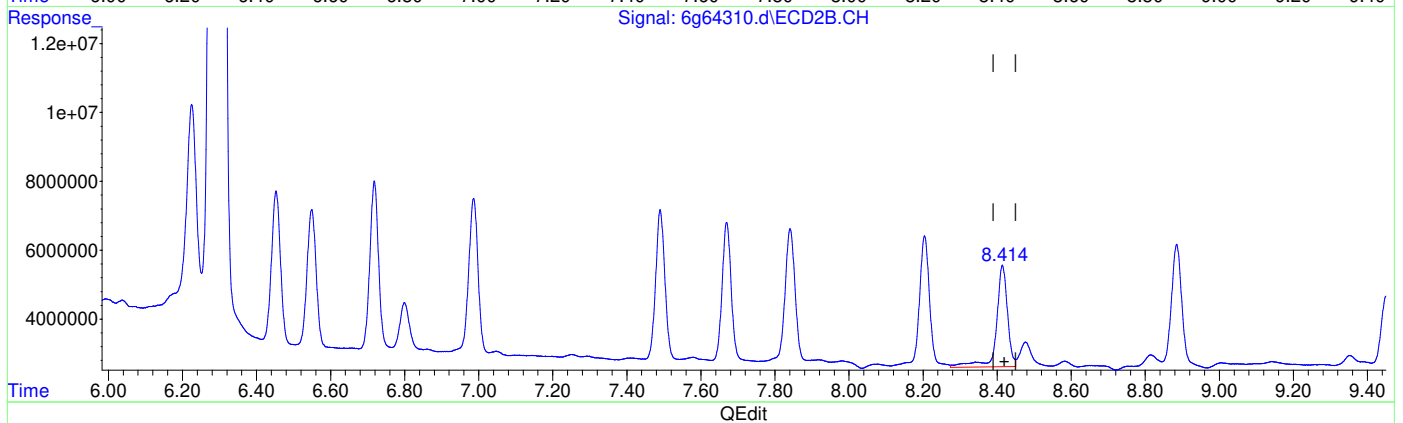
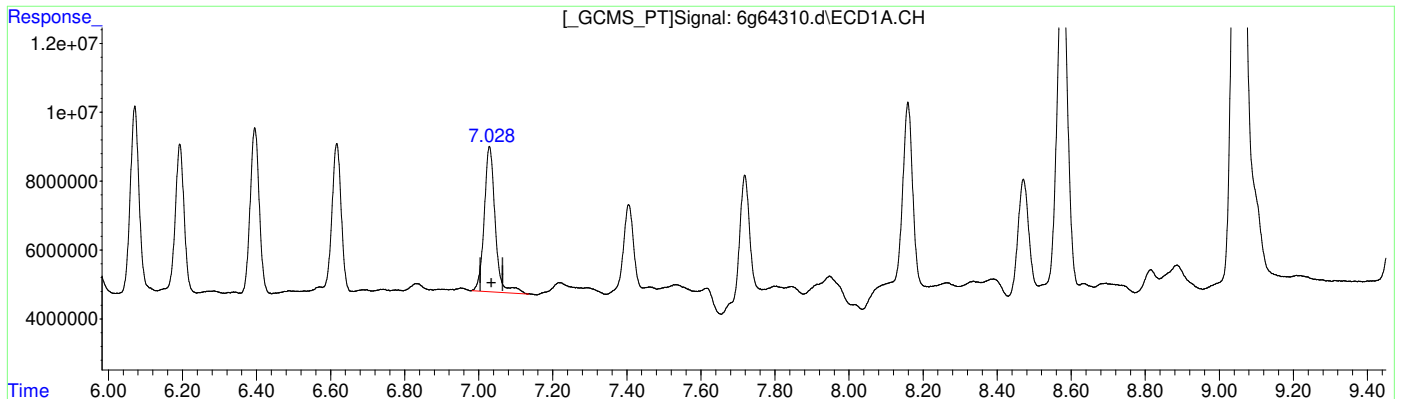


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)

7.029min 18.664 PPB

response 87149188

(21) Endrin Aldehyde #2 (B)

8.414min 17.478 PPB

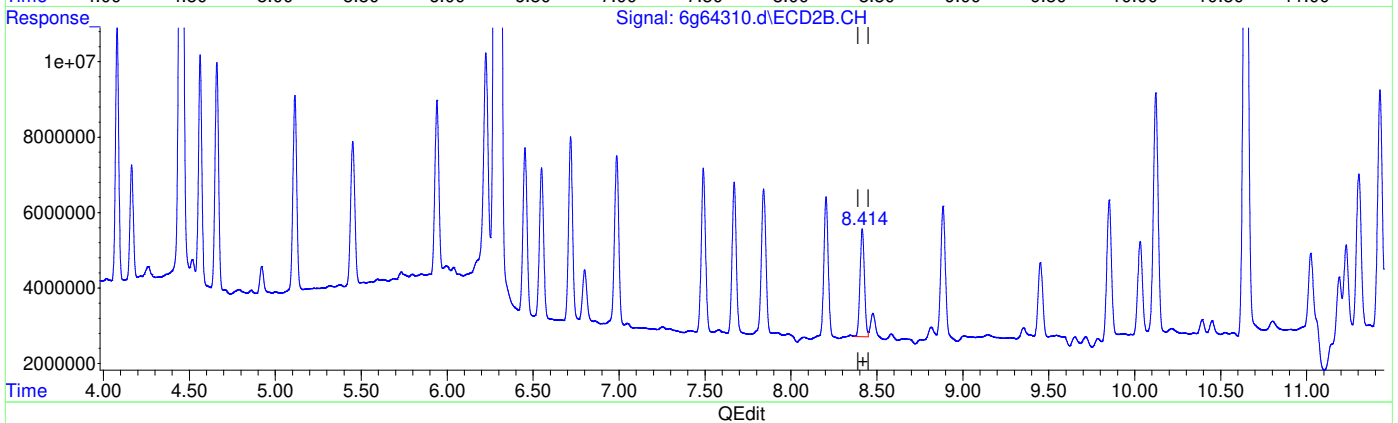
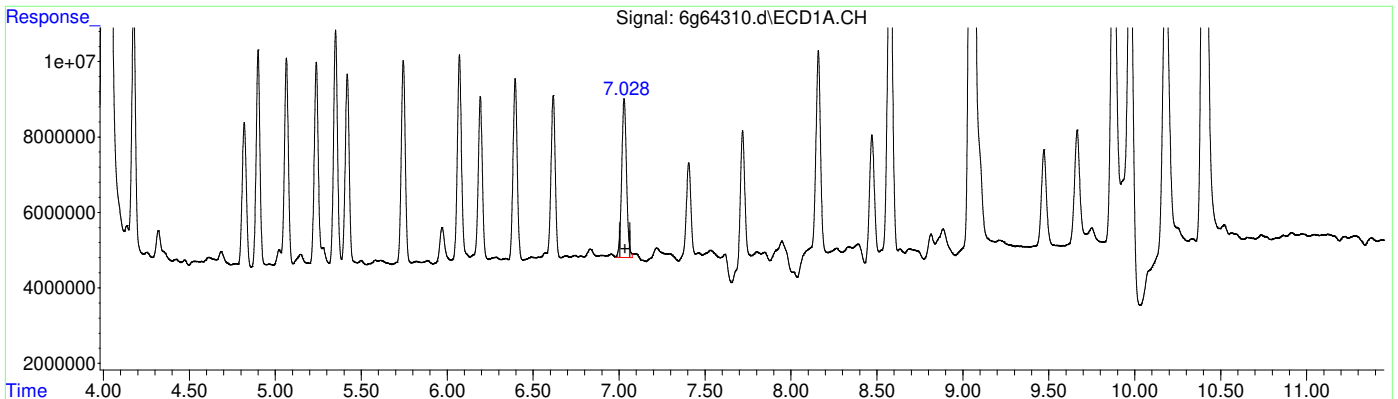
response 61399590

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)

7.028min 17.640 PPB m

response 82364697

(21) Endrin Aldehyde #2 (B)

8.414min 14.526 PPB m

response 51029666

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:48:33 2019

Page: 1

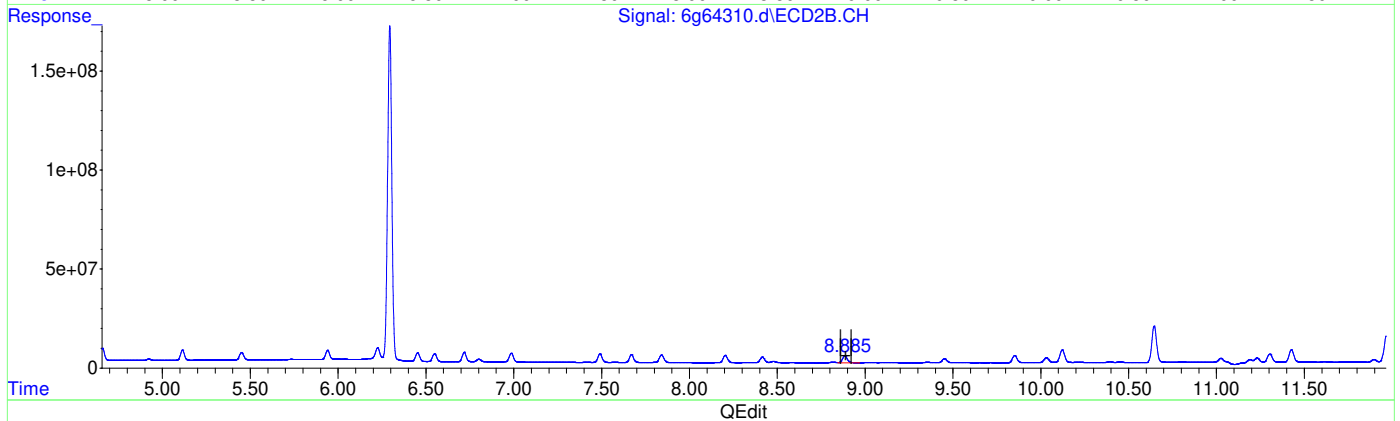
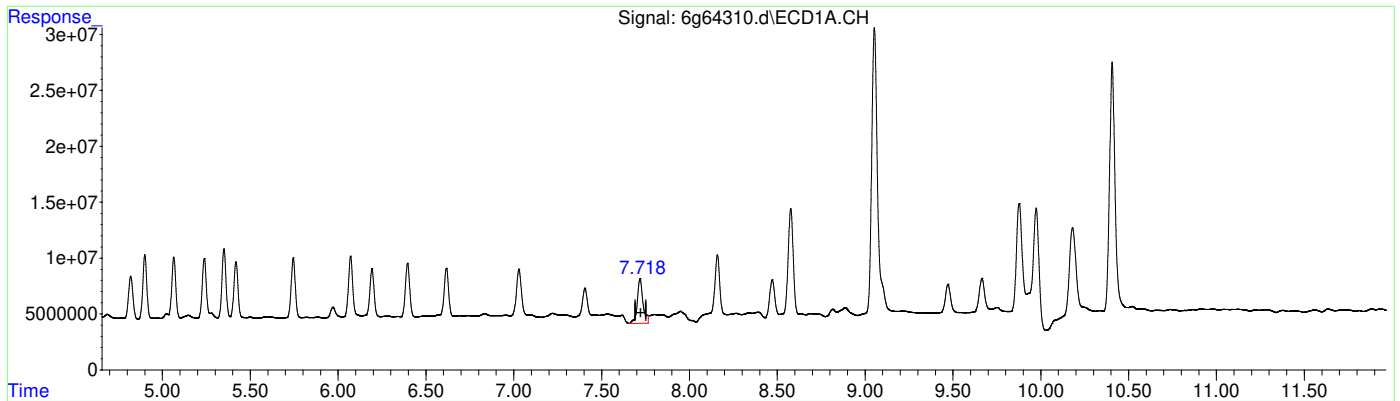
SGS 1124 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(22) Endosulfan Sulfate (B)

7.719min 18.930 PPB

response 90205435

(22) Endosulfan Sulfate #2 (B)

8.885min 18.644 PPB

response 71319338

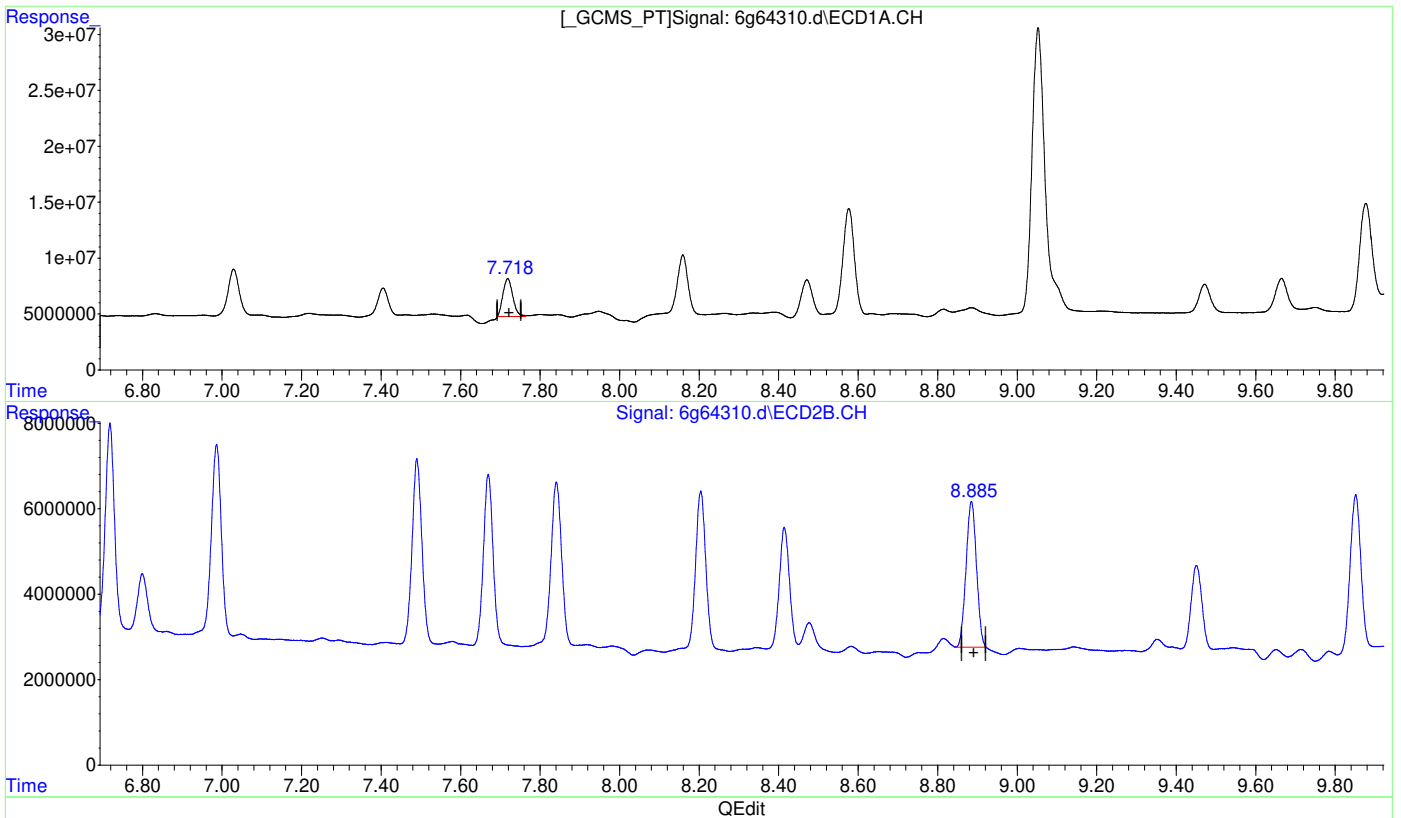
(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:49:00 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(22) Endosulfan Sulfate (B)

7.718min 12.232 PPB m

response 58288249

(22) Endosulfan Sulfate #2 (B)

8.885min 16.239 PPB m

response 62120084

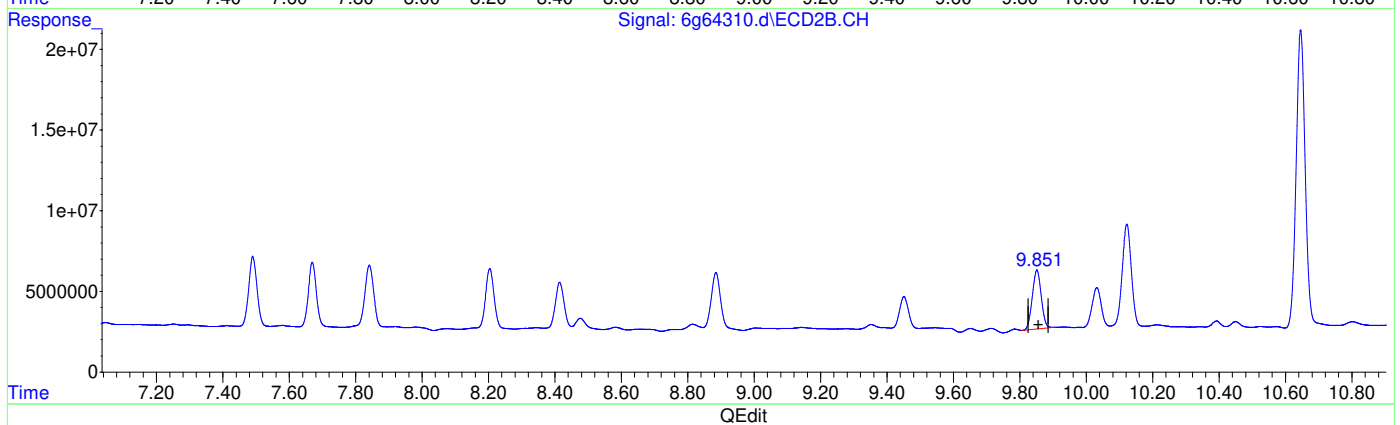
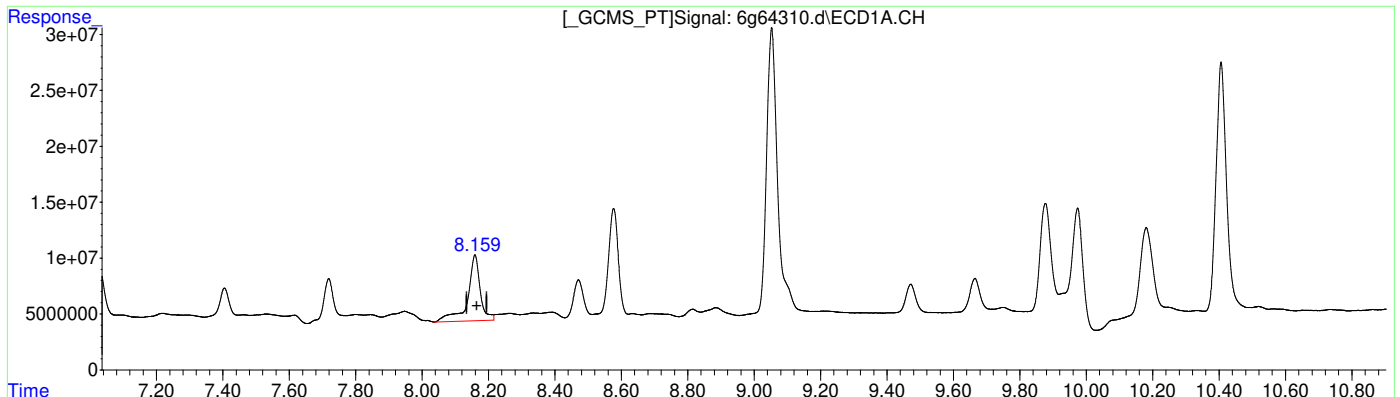
(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:49:40 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(25) Endrin Ketone (B)

8.159min 27.583 PPB

response 153888528

(25) Endrin Ketone #2 (B)

9.852min 16.046 PPB

response 69001504

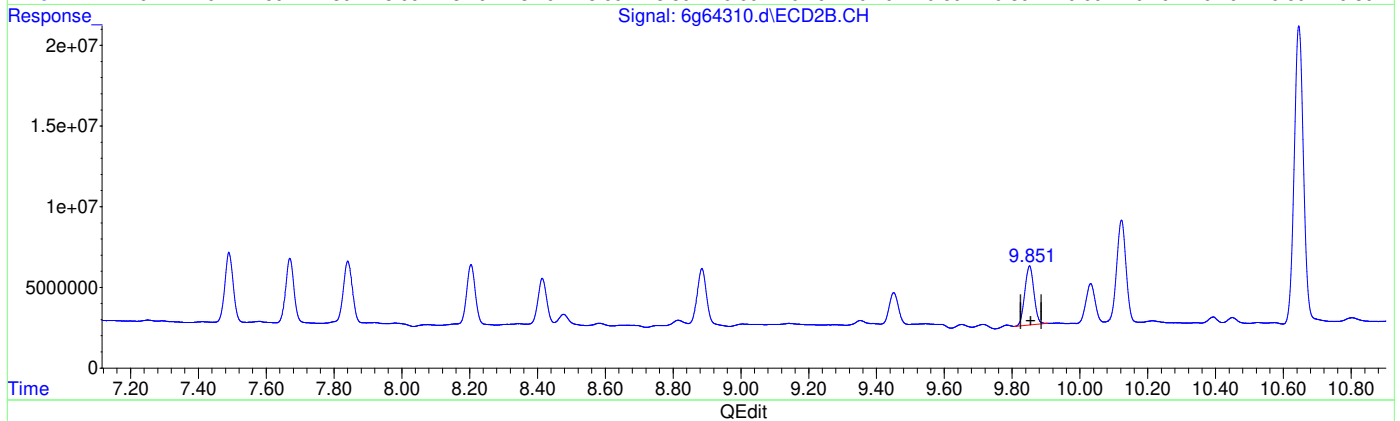
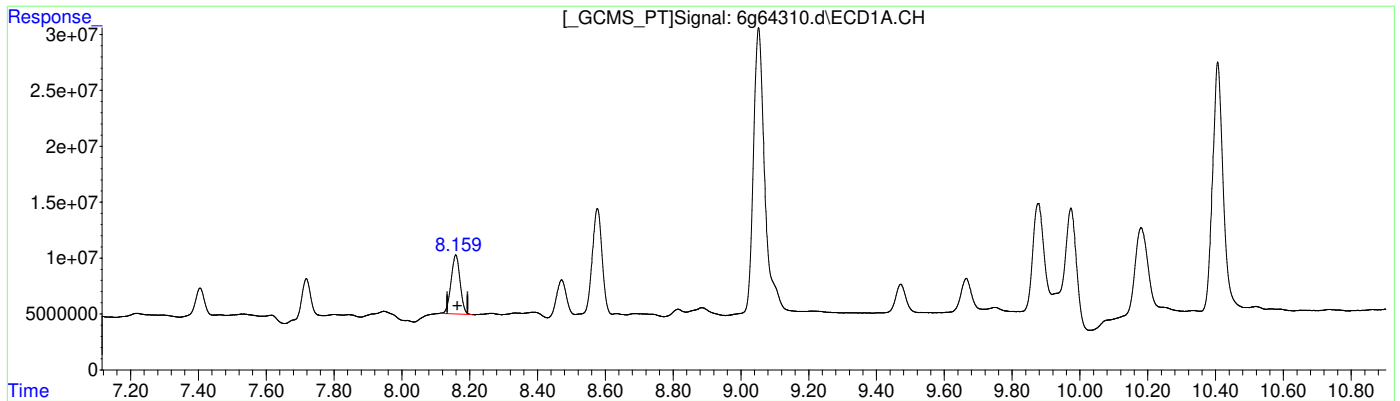
(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:49:49 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64310.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 12:17:41 (#1); 18-Apr-19, 12:17:40 (#2)  
 Operator : thomasl  
 Sample : op19789-msd  
 Misc : op19789,g6g1984,16.2,,,10,1  
 ALS Vial : 66 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 12:46:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(25) Endrin Ketone (B)  
 8.159min 17.114 PPB m  
 response 95479469

(25) Endrin Ketone #2 (B)  
 9.852min 16.046 PPB  
 response 69001504

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 12:49:58 2019

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433854.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:57 pm  
 Operator : summerk  
 Sample : op19788-ms  
 Misc : op19788,gxx6658,15.4,,,10.0,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:17:49 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.272	4.043	484.4E6	331.2E6	25.917	26.144
Spiked Amount	40.000		Recovery	=	64.79%	65.36%
51) S Decachlor...	10.750f	12.646	565.1E6	435.6E6	30.549	37.082m
Spiked Amount	40.000		Recovery	=	76.37%	92.70%
Target Compounds						
41) AR1016-A	3.678	4.734	58463628	37195401	167.944	190.816
42) AR1016-B	4.112f	5.313f	93190201	67476035	156.419	160.236
43) AR1016-C	4.698	5.974	191.9E6	138.2E6	135.316	151.029m
44) AR1016-D	4.871f	6.166	79014820	50085811	150.922	147.336
45) AR1016-E	5.407f	6.843	90850976	47233191	163.087	175.001
47) AR1260-B	8.008f	9.611	105.3E6	153.6E6	160.828	270.746 #
48) AR1260-C	8.352f	10.053	108.3E6	99338223	144.964	175.890
49) AR1260-D	8.789f	10.396	253.1E6	238.7E6	141.729	167.039
50) AR1260-E	9.188f	10.956	317.5E6	240.7E6	181.391m	182.920m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

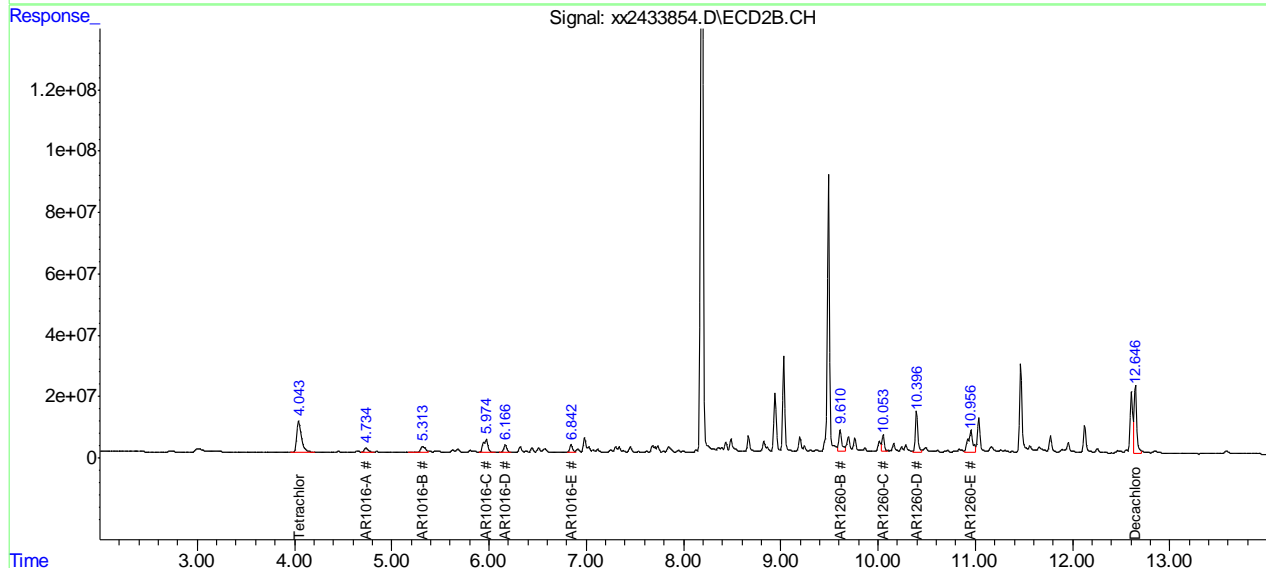
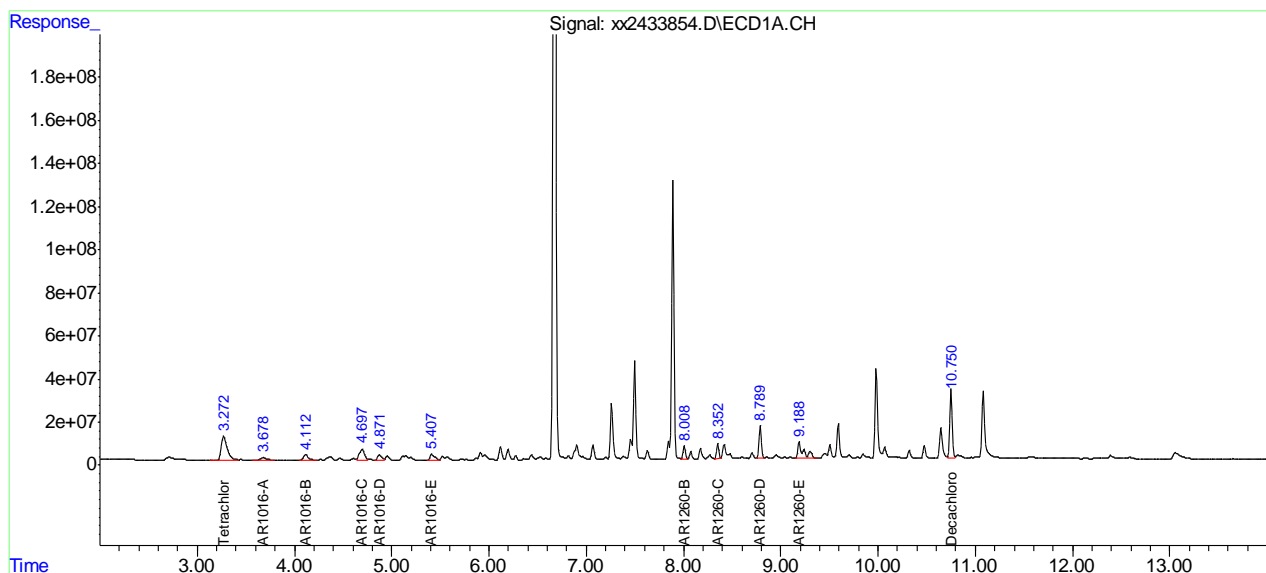
11.4.3  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433854.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:57 pm  
 Operator : summerk  
 Sample : op19788-ms  
 Misc : op19788,gxx6658,15.4,,,10.0,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:17:49 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.4.3  
11



# Manual Integration Approval Summary

Sample Number: OP19788-MS                      Method: SW846 8082A  
Lab FileID: XX2433854.D                      Analyst approved: 04/17/19 15:32 Summer Kotb  
Injection Time: 04/17/19 14:57                      Supervisor approved: 04/18/19 06:41 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.97	Split peak
AR1260-E		1	9.19	Split peak
AR1260-E		2	10.96	Split peak
Decachlorobiphenyl	2051-24-3	2	12.65	Poorly defined baseline

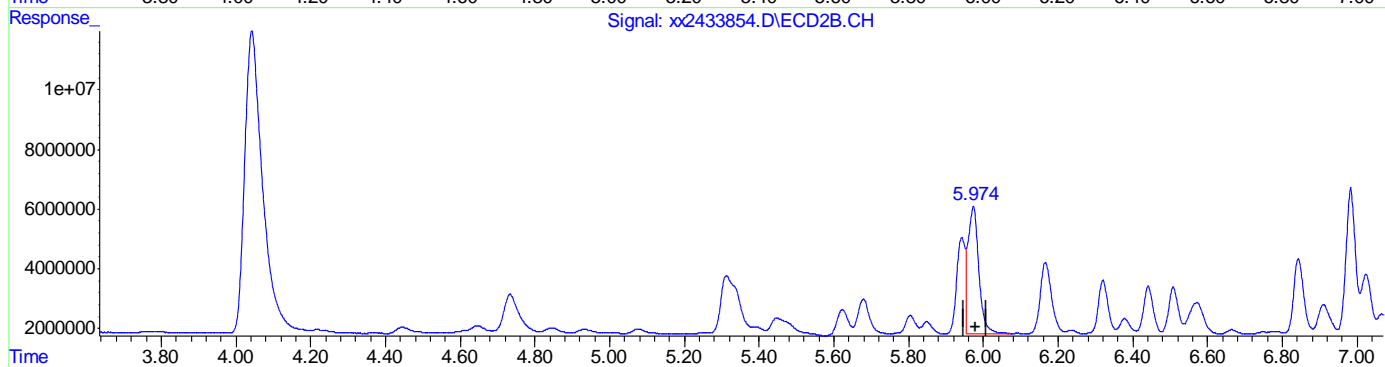
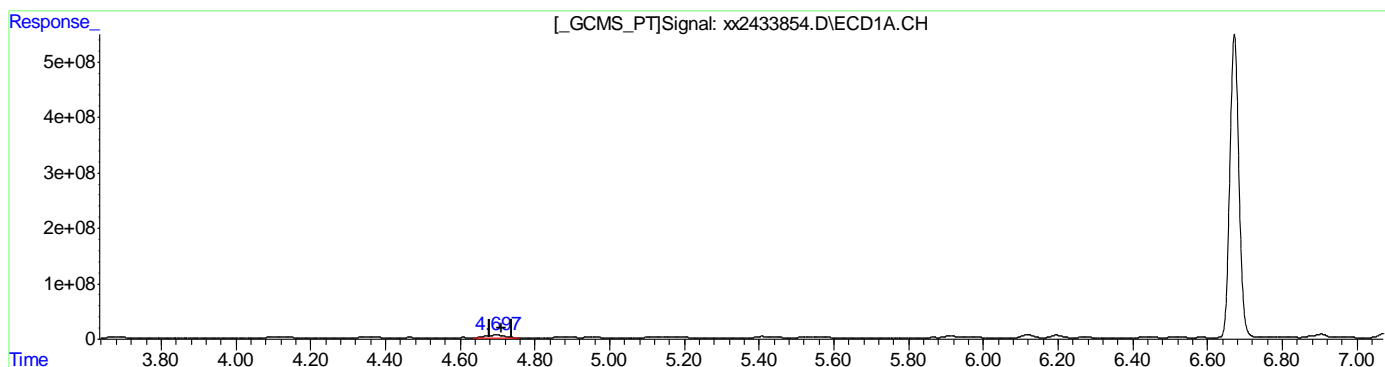
11.4.3.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433854.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:57 pm  
 Operator : summerk  
 Sample : op19788-ms  
 Misc : op19788,gxx6658,15.4,,,10.0,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:16:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.698min 135.316PPB  
 response 191943597

(43) AR1016-C #2  
 5.974min 94.642PPB  
 response 86581293

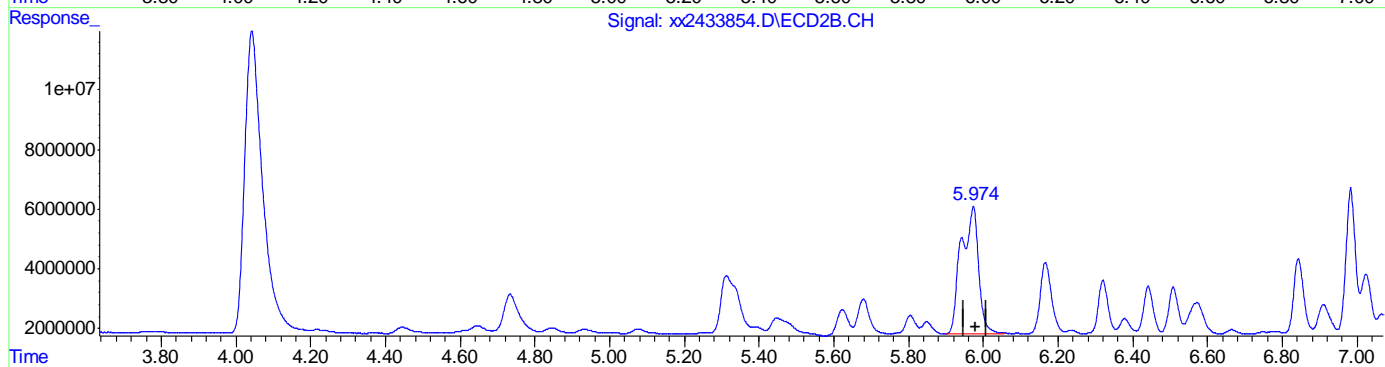
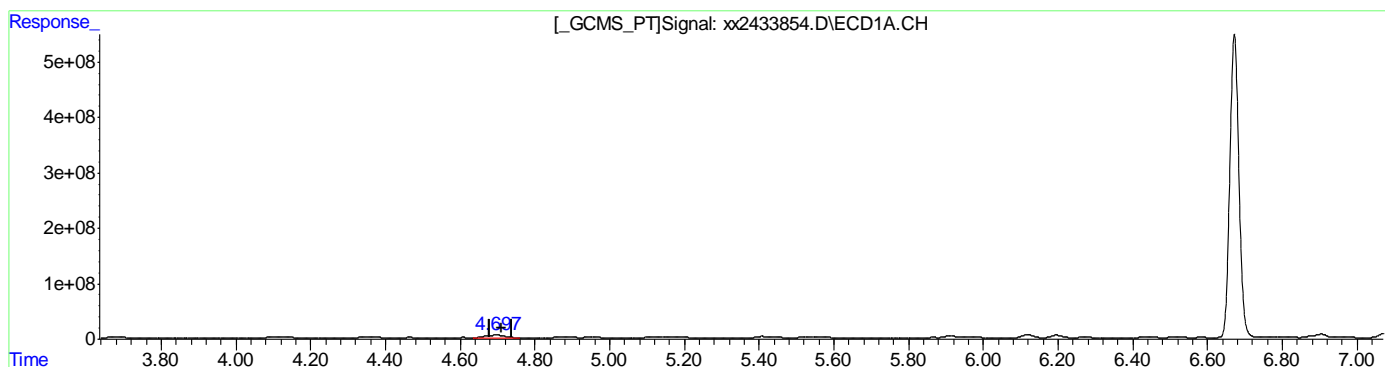
11.4.3.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433854.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:57 pm  
 Operator : summerk  
 Sample : op19788-ms  
 Misc : op19788,gxx6658,15.4,,,10.0,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:16:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.698min 135.316PPB  
 response 191943597

(43) AR1016-C #2  
 5.974min 151.029PPB m  
 response 138166478

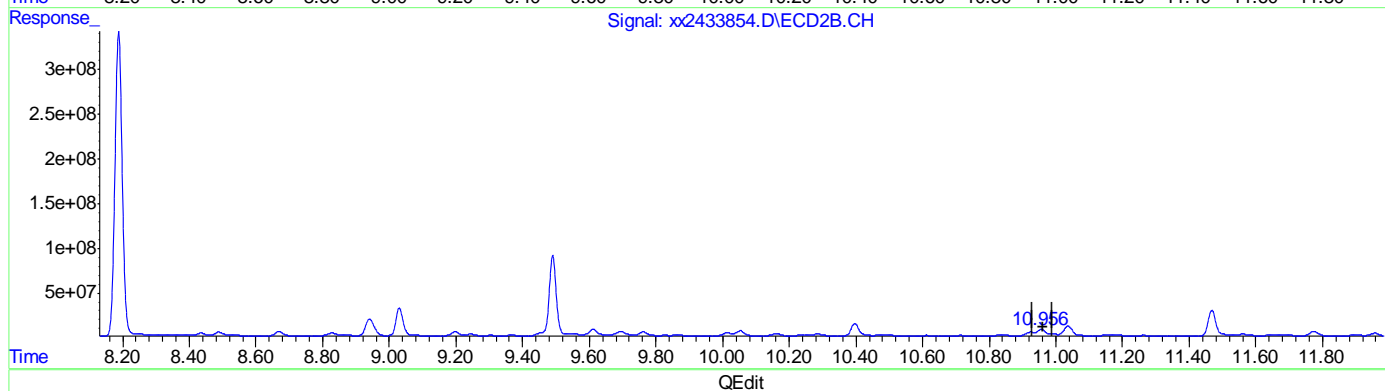
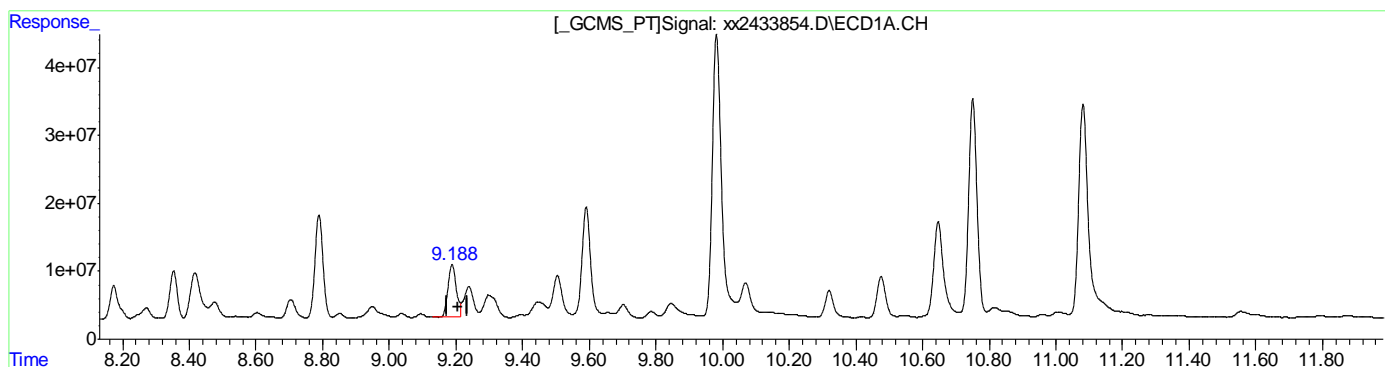
11.4.3.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433854.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:57 pm  
 Operator : summerk  
 Sample : op19788-ms  
 Misc : op19788,gxx6658,15.4,,,10.0,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:16:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.188min 78.968PPB  
 response 138215373

(50) AR1260-E #2  
 10.956min 111.114PPB  
 response 146182543

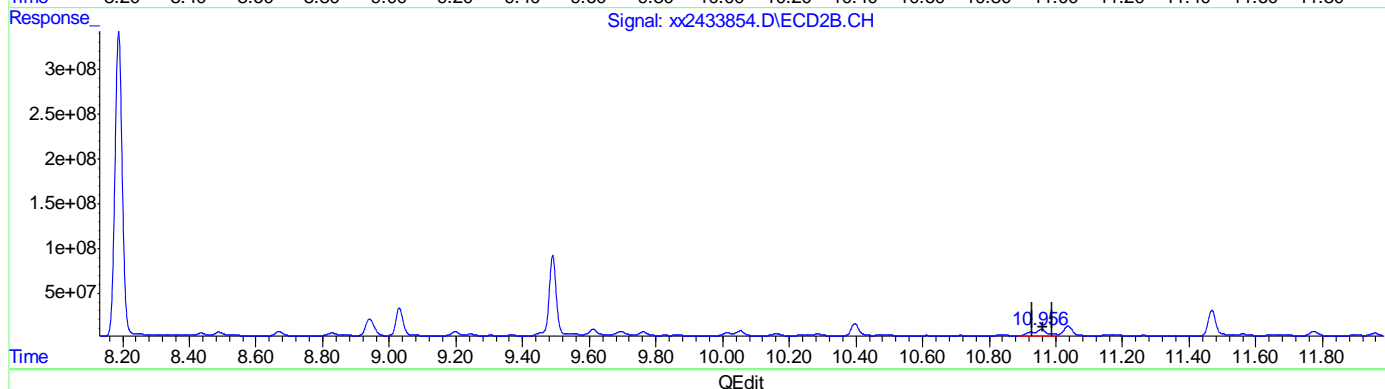
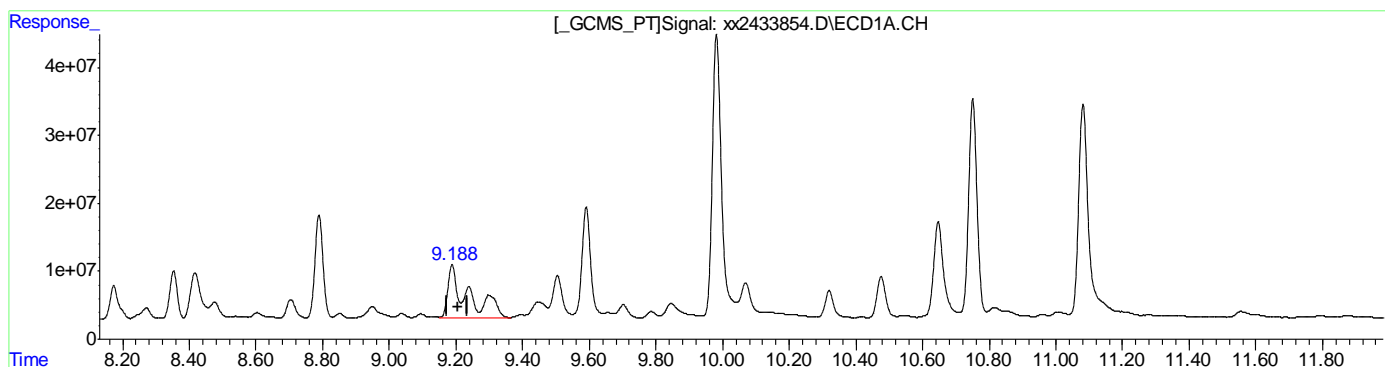
11.4.3.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433854.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:57 pm  
 Operator : summerk  
 Sample : op19788-ms  
 Misc : op19788,gxx6658,15.4,,,10.0,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:16:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.188min 181.391PPB m  
 response 317482364

(50) AR1260-E #2  
 10.956min 182.920PPB m  
 response 240651354

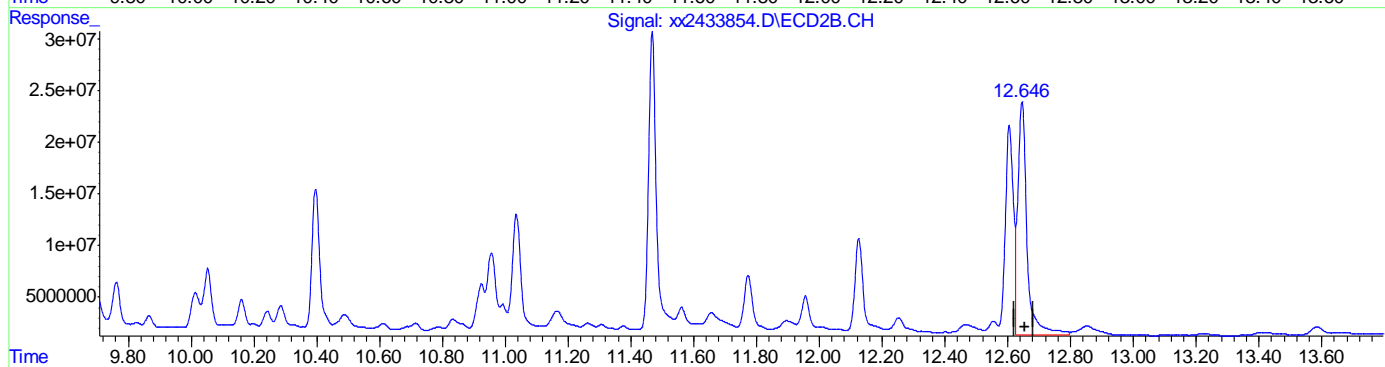
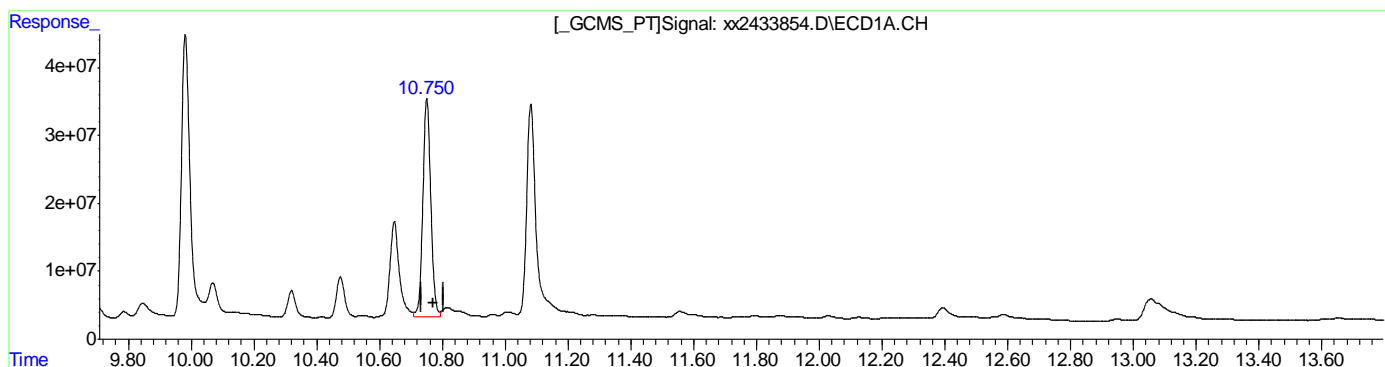
11.4.3.5  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433854.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:57 pm  
 Operator : summerk  
 Sample : op19788-ms  
 Misc : op19788,gxx6658,15.4,,,10.0,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:16:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(51) Decachlorobiphenyl (S)  
 10.750min 30.549ppb  
 response 565093522

(51) Decachlorobiphenyl #2 (S)  
 12.646min 39.059ppb  
 response 458786705

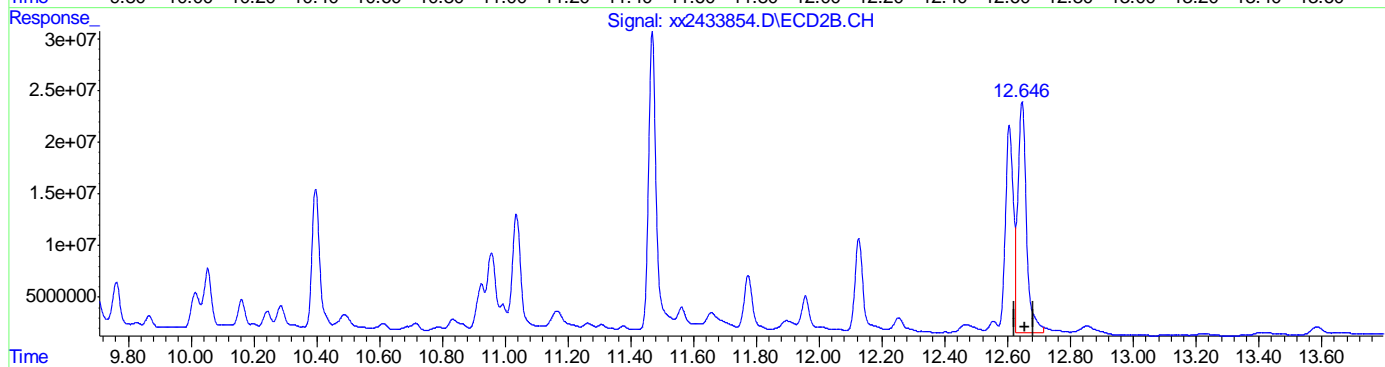
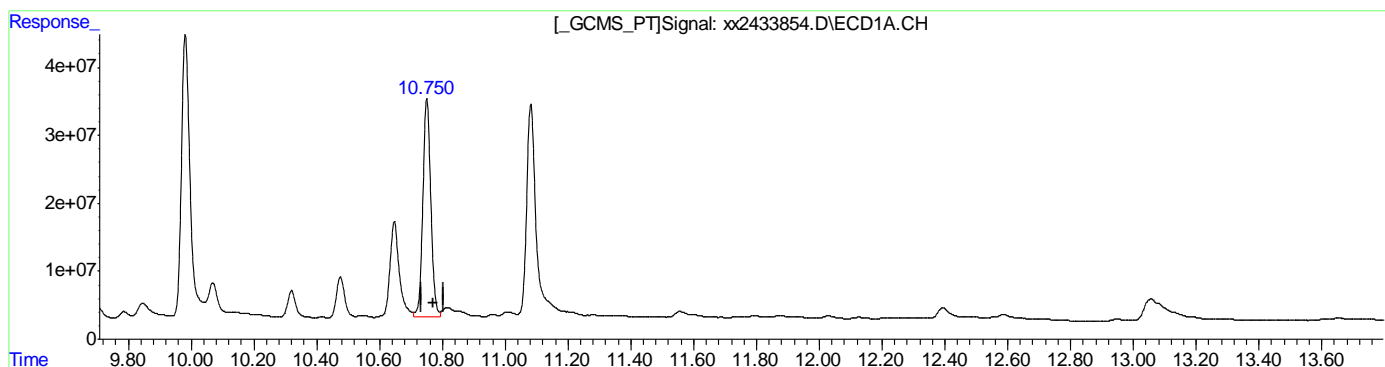
11.4.3.6  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433854.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 2:57 pm  
 Operator : summerk  
 Sample : op19788-ms  
 Misc : op19788,gxx6658,15.4,,,10.0,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:16:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(51) Decachlorobiphenyl (S)  
 10.750min 30.549ppb  
 response 565093522

(51) Decachlorobiphenyl #2 (S)  
 12.646min 37.082ppb m  
 response 435561625

11.4.3.7  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433855.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 3:15 pm  
 Operator : summerk  
 Sample : op19788-msd  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:31:34 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.273	4.042	552.6E6	390.3E6	29.569	30.807
Spiked Amount	40.000		Recovery	=	73.92%	77.02%
51) S Decachlor...	10.751f	12.645	627.9E6	446.6E6	33.943	38.018m
Spiked Amount	40.000		Recovery	=	84.86%	95.05%
Target Compounds						
41) AR1016-A	3.676	4.733	67169387	41336115	192.953	212.058
42) AR1016-B	4.111f	5.314f	108.0E6	74724646	181.281	177.449
43) AR1016-C	4.698	5.972	234.1E6	159.6E6	165.050	174.460m
44) AR1016-D	4.869f	6.165	93067631	59207996	177.764	174.170
45) AR1016-E	5.407f	6.844	104.9E6	52314938	188.322	193.829
47) AR1260-B	8.007f	9.612	120.1E6	145.6E6	183.466	256.713 #
48) AR1260-C	8.351f	10.052	125.6E6	127.5E6	168.033	225.817 #
49) AR1260-D	8.788f	10.398	288.1E6	278.9E6	161.367	195.138
50) AR1260-E	9.186f	10.952	368.4E6	216.2E6	210.463m	164.302m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.44

11

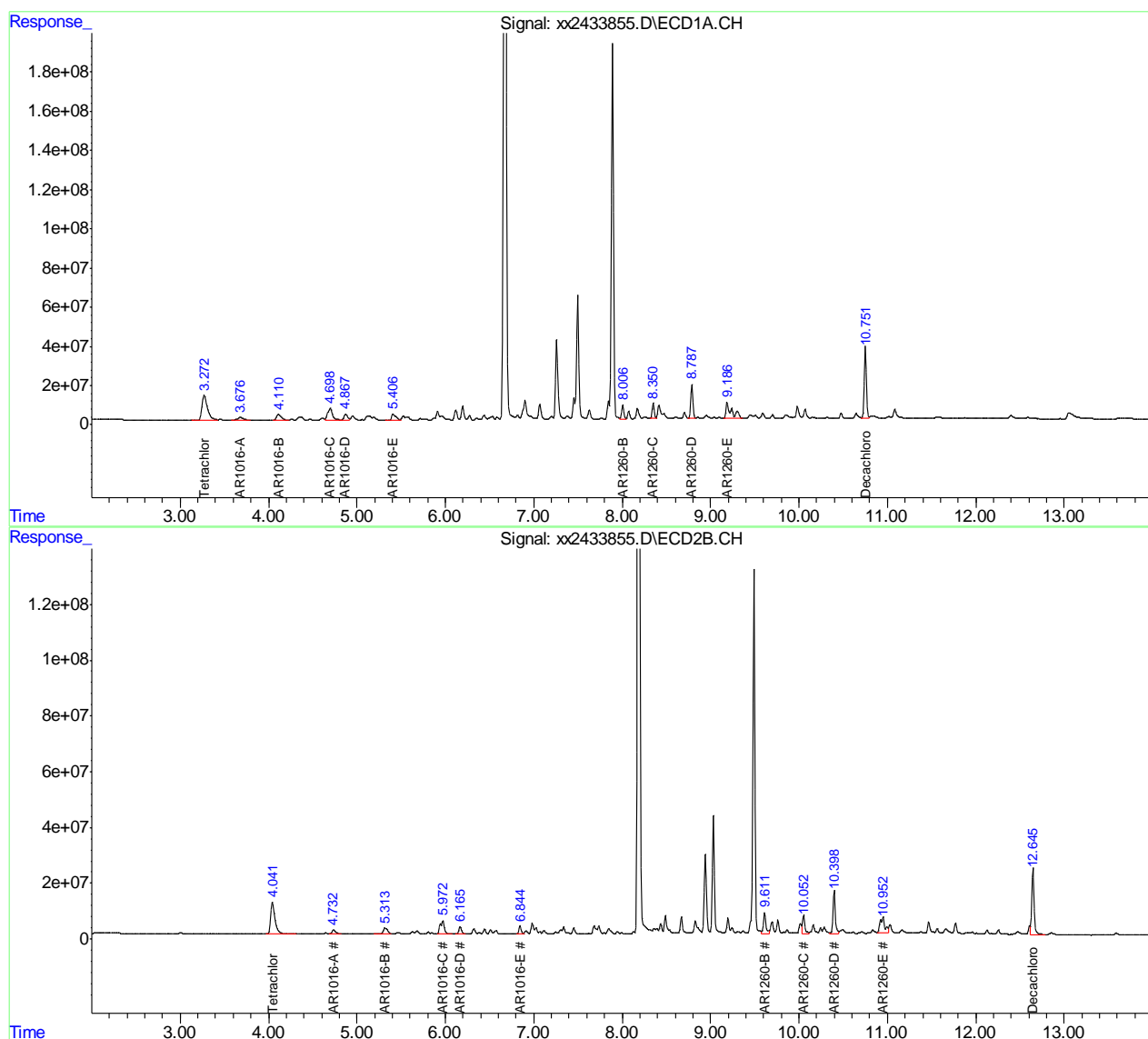


## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433855.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 3:15 pm  
 Operator : summerk  
 Sample : op19788-msd  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:31:34 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary

Sample Number: OP19788-MSD      Method: SW846 8082A  
Lab FileID: XX2433855.D      Analyst approved: 04/17/19 15:32 Summer Kotb  
Injection Time: 04/17/19 15:15      Supervisor approved: 04/18/19 06:41 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.97	Split peak
AR1260-E		1	9.19	Split peak
AR1260-E		2	10.95	Split peak
Decachlorobiphenyl	2051-24-3	2	12.64	Poorly defined baseline

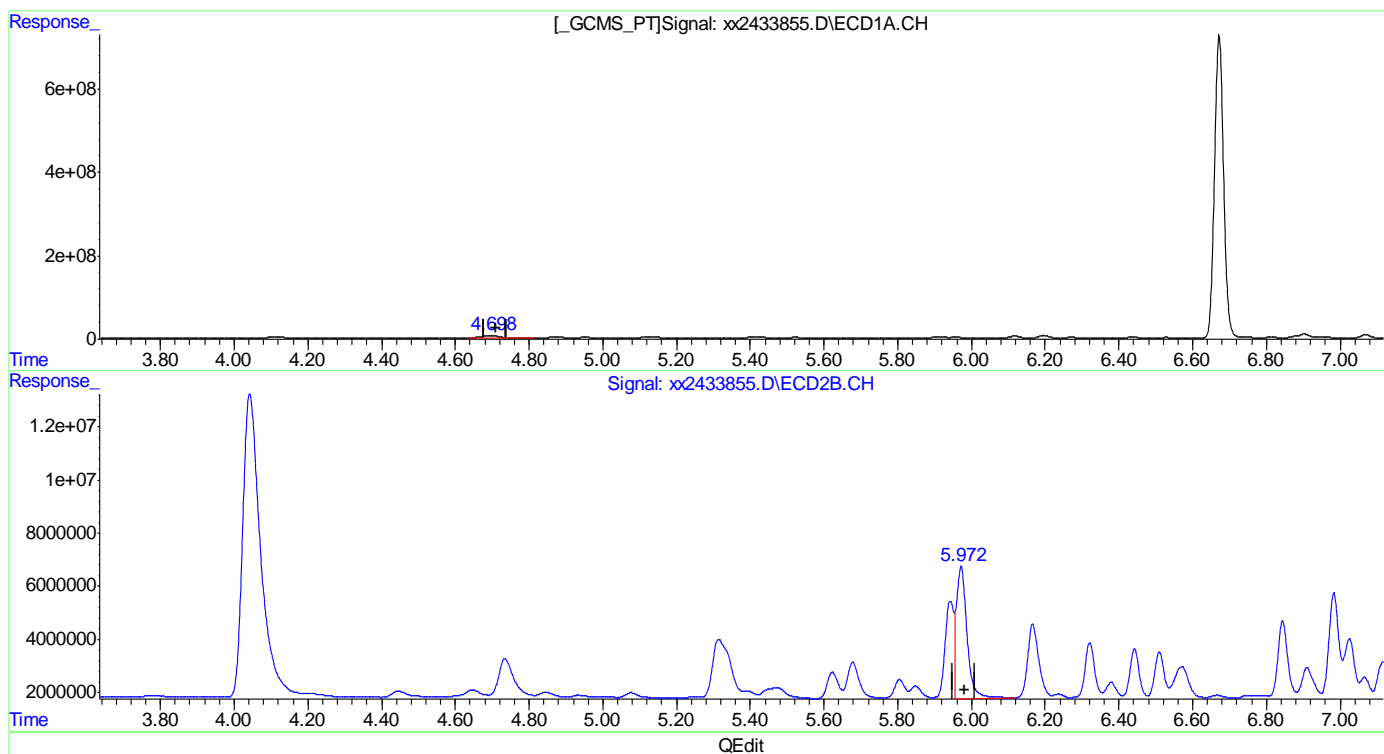
11.4.4.1  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433855.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 3:15 pm  
 Operator : summerk  
 Sample : op19788-msd  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:30:39 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.698min 165.050PPB  
 response 234120397

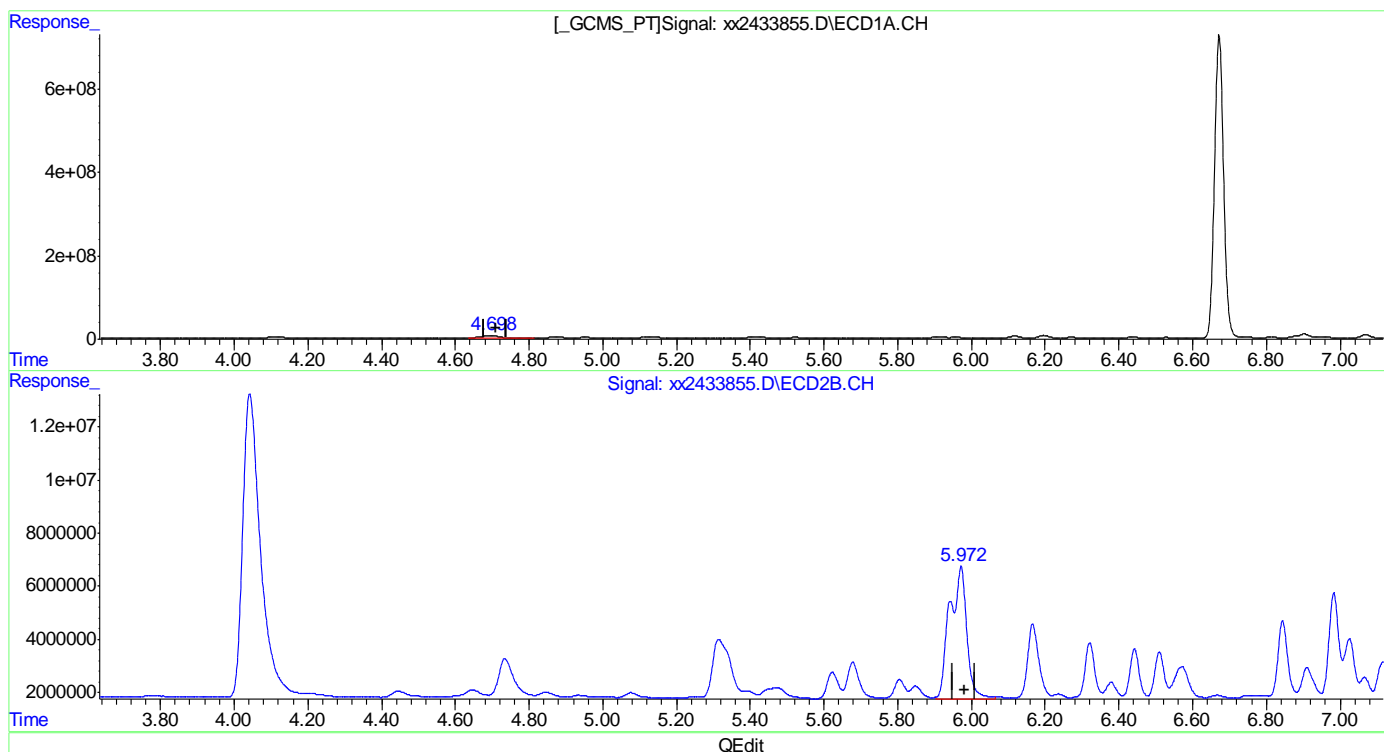
(43) AR1016-C #2  
 5.972min 111.342PPB  
 response 101859644

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433855.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 3:15 pm  
 Operator : summerk  
 Sample : op19788-msd  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:30:39 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.698min 165.050PPB  
 response 234120397

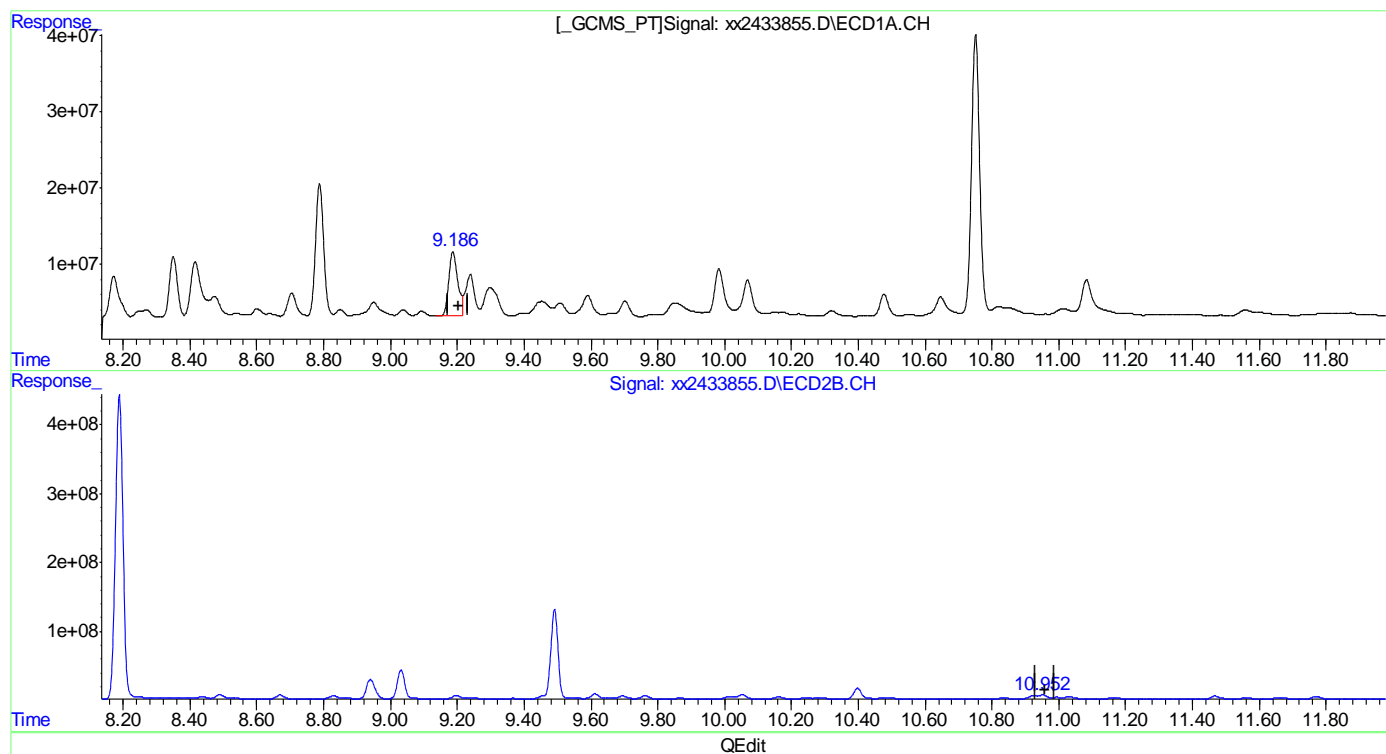
(43) AR1016-C #2  
 5.972min 174.460PPB m  
 response 159601815

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433855.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 3:15 pm  
 Operator : summerk  
 Sample : op19788-msd  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:30:39 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.187min 89.414PPB  
 response 156497373

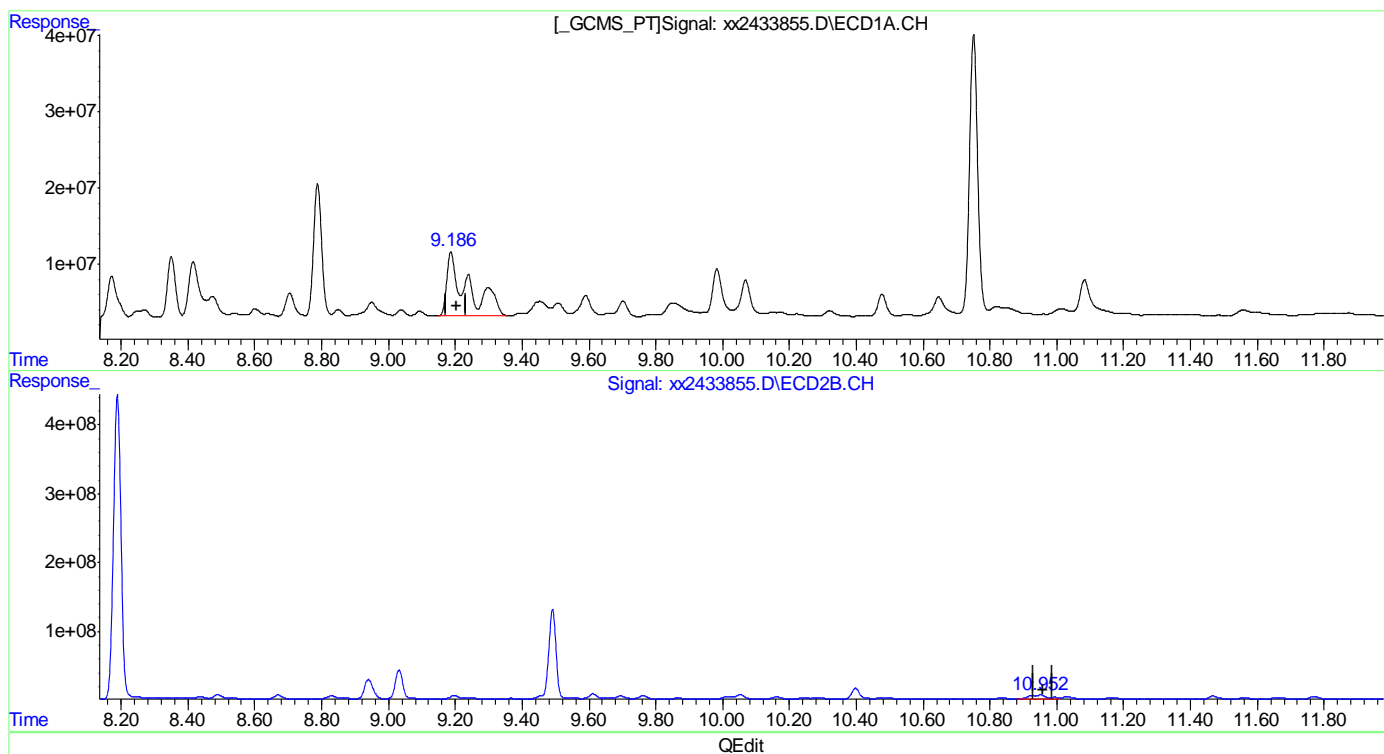
(50) AR1260-E #2  
 10.952min 79.304PPB  
 response 104333824

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433855.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 3:15 pm  
 Operator : summerk  
 Sample : op19788-msd  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:30:39 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.186min 210.463PPB m  
 response 368366241

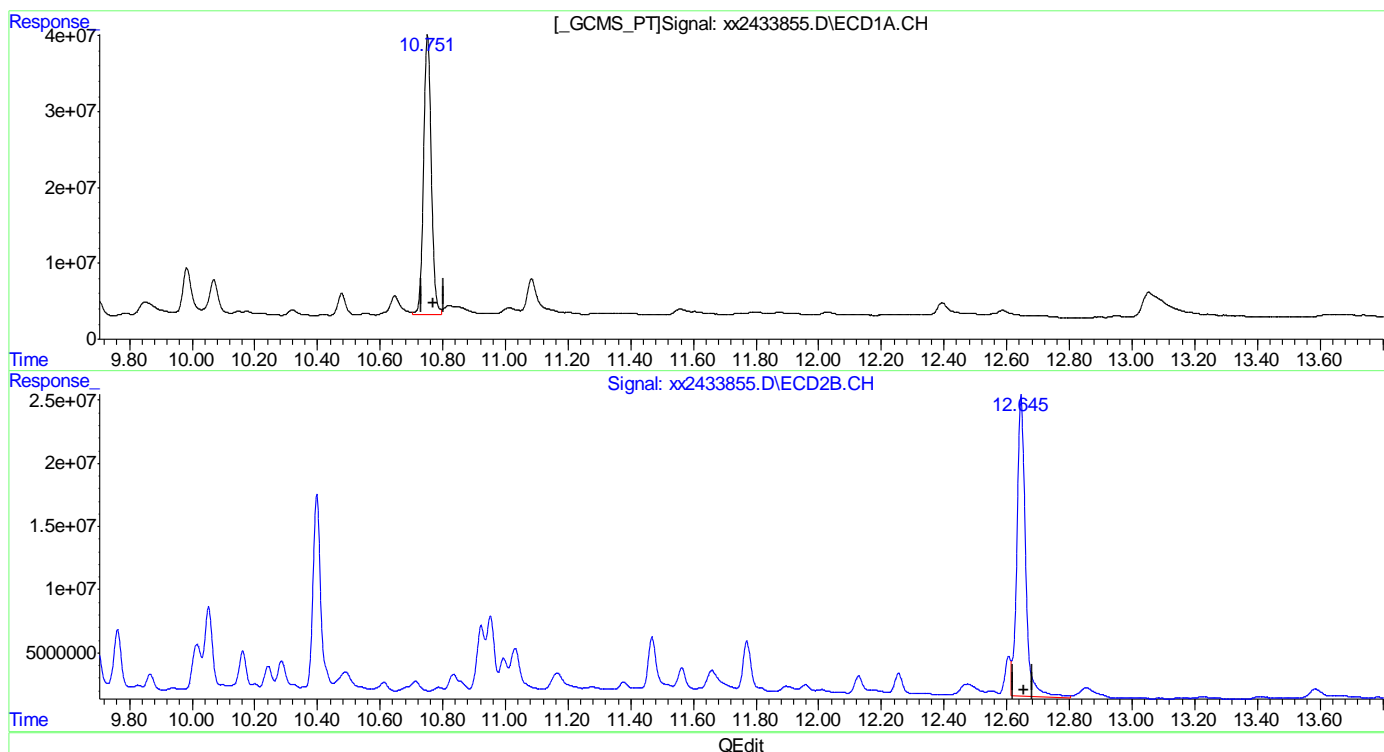
(50) AR1260-E #2  
 10.952min 164.302PPB m  
 response 216157545

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433855.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 3:15 pm  
 Operator : summerk  
 Sample : op19788-msd  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:30:39 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(51) Decachlorobiphenyl (S)  
 10.751min 33.943ppb  
 response 627874052

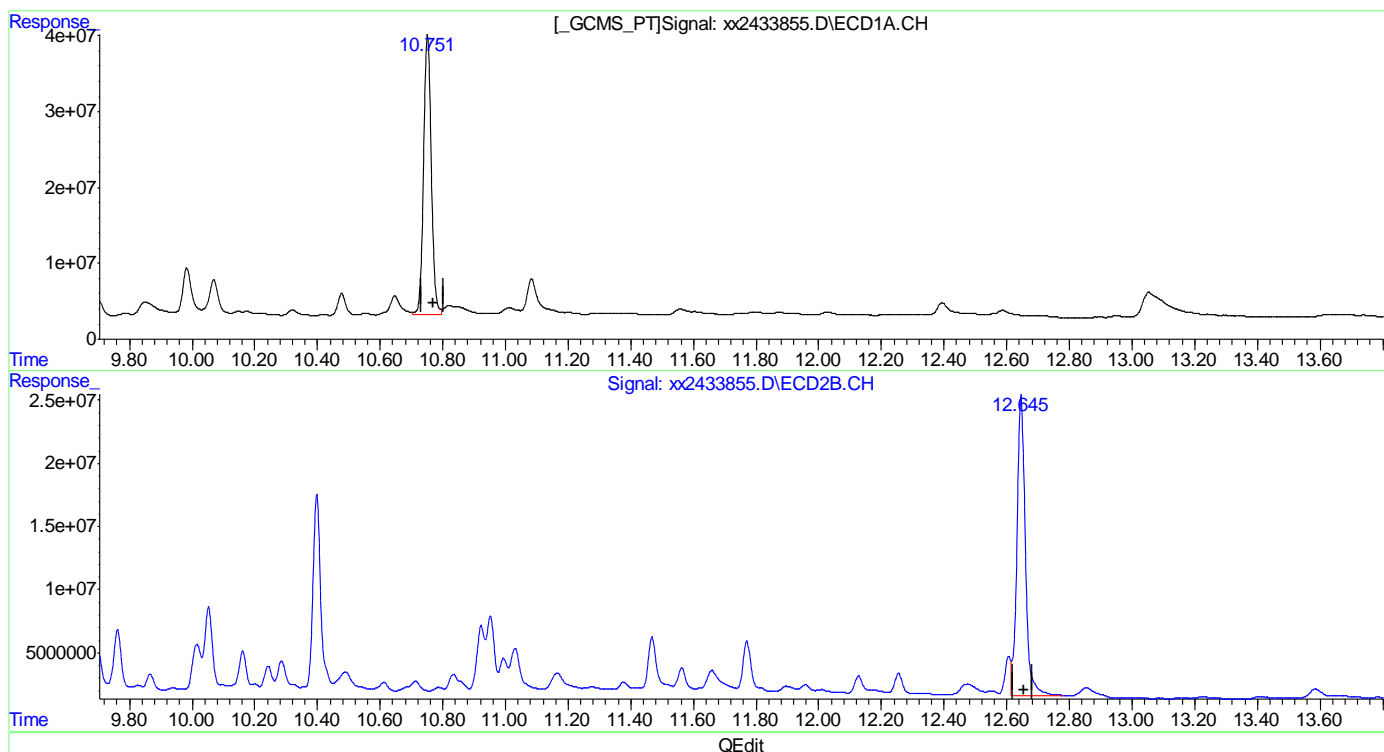
(51) Decachlorobiphenyl #2 (S)  
 12.646min 38.747ppb  
 response 455122460

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433855.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 3:15 pm  
 Operator : summerk  
 Sample : op19788-msd  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 15:30:39 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(51) Decachlorobiphenyl (S)  
 10.751min 33.943ppb  
 response 627874052

(51) Decachlorobiphenyl #2 (S)  
 12.645min 38.018ppb m  
 response 446557918



Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/19/19 16:22

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:01:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.642	4.395f	1035.0E6	481.0E6	32.796	34.981
Spiked Amount	40.000		Recovery	=	81.99%	87.45%
51) S Decachlor...	19.226f	22.632	1006.5E6	416.2E6	32.925m	28.245
Spiked Amount	40.000		Recovery	=	82.31%	70.61%
Target Compounds						
24) AR1254-A	8.502	10.938	223.1E6	81996114	230.449	153.445 #
27) AR1254-D	10.381	12.987	98032097	77327520	52.880	87.548 #
28) AR1254-E	11.221	13.713	82094870	58287169	59.048	90.712 #
29) AR1254-F	11.792	14.822	544.8E6	253.3E6	419.208	325.345m
42) AR1016-B	5.046	6.618	225.6E6	108.9E6	197.958	213.550
43) AR1016-C	6.111f	7.878	424.7E6	224.3E6	179.709	195.402m
44) AR1016-D	6.425f	8.259	161.8E6	100.8E6	162.110	228.132 #
45) AR1016-E	7.465f	9.649	210.5E6	76731983	208.491m	221.169
47) AR1260-B	13.014f	15.751	379.9E6	201.0E6	270.211	297.980
48) AR1260-C	13.766f	16.716	801.3E6	187.0E6	541.005	283.395 #
49) AR1260-D	14.764f	17.553	812.7E6	507.5E6	233.608	295.935 #
50) AR1260-E	15.639f	18.760f	1169.3E6	525.3E6	305.064m	300.595m
-----						

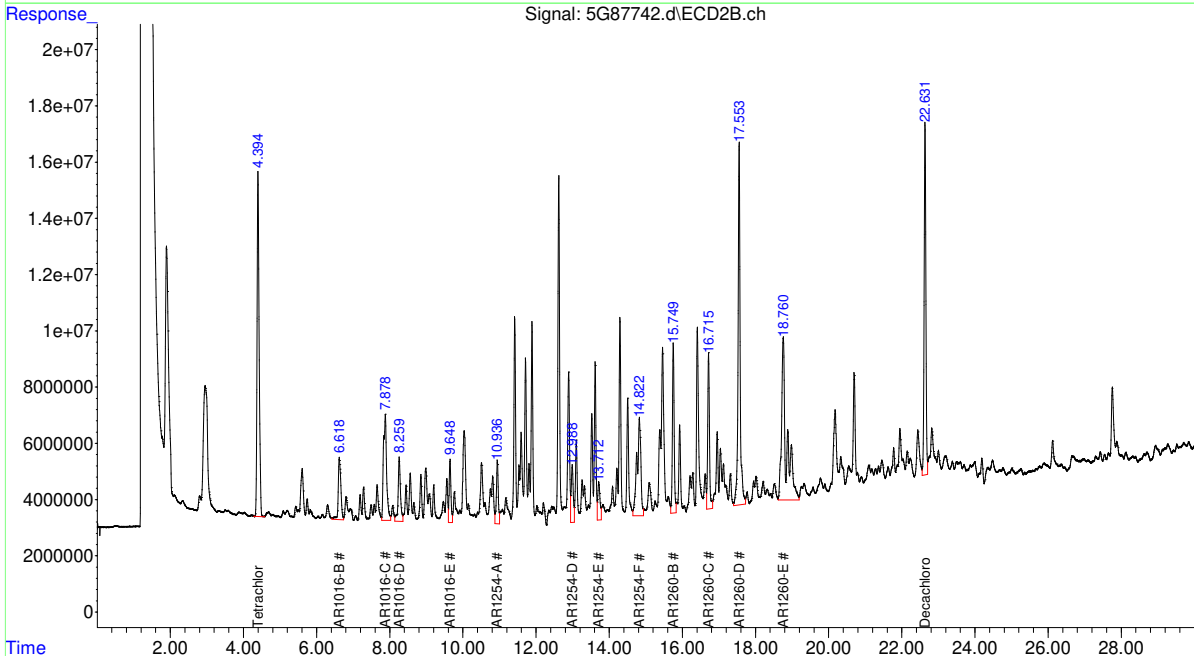
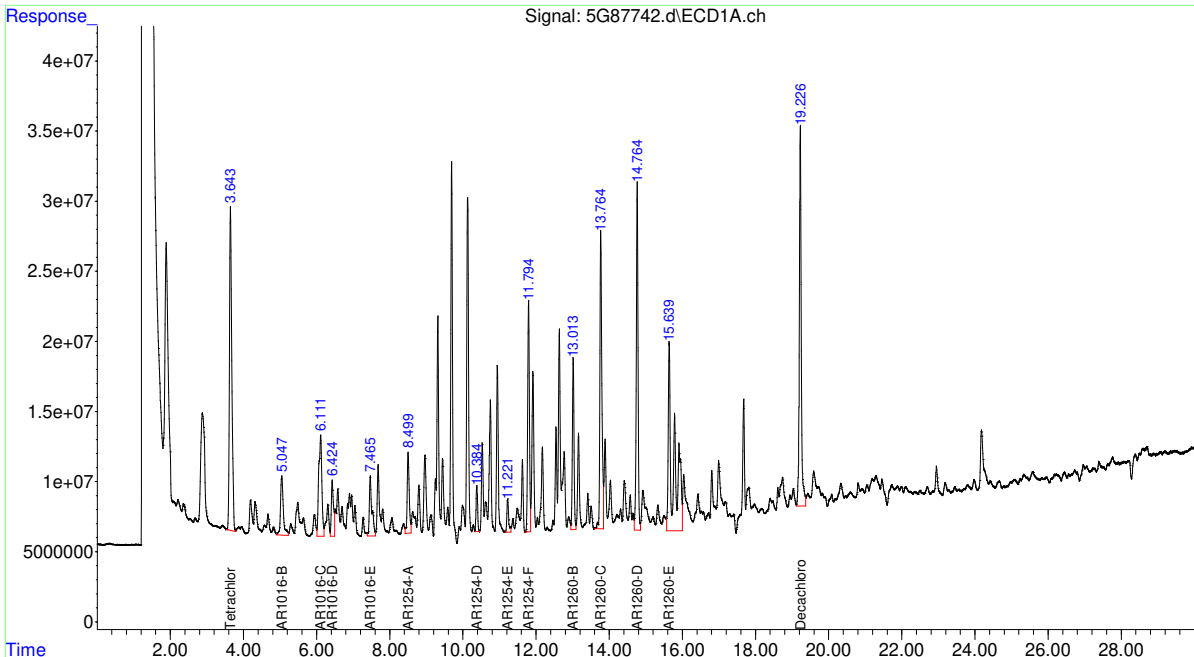
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.4.5  
11

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:01:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: OP19829-MS                      Method: SW846 8082A  
Lab FileID: 5G87742.D                      Analyst approved: 04/19/19 15:07 Summer Kotb  
Injection Time: 04/19/19 13:56                      Supervisor approved: 04/19/19 16:22 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-E		1	7.47	Split peak
AR1016-C		2	7.88	Split peak
AR1254-F		2	14.82	Split peak
AR1260-E		1	15.64	Split peak
AR1260-E		2	18.76	Split peak
Decachlorobiphenyl	2051-24-3	1	19.23	Poorly defined baseline

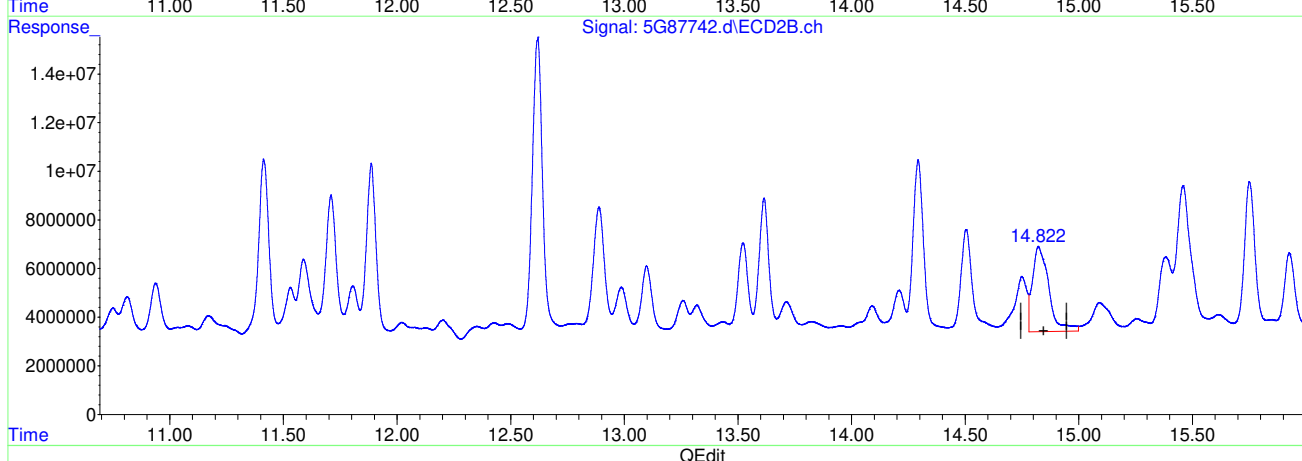
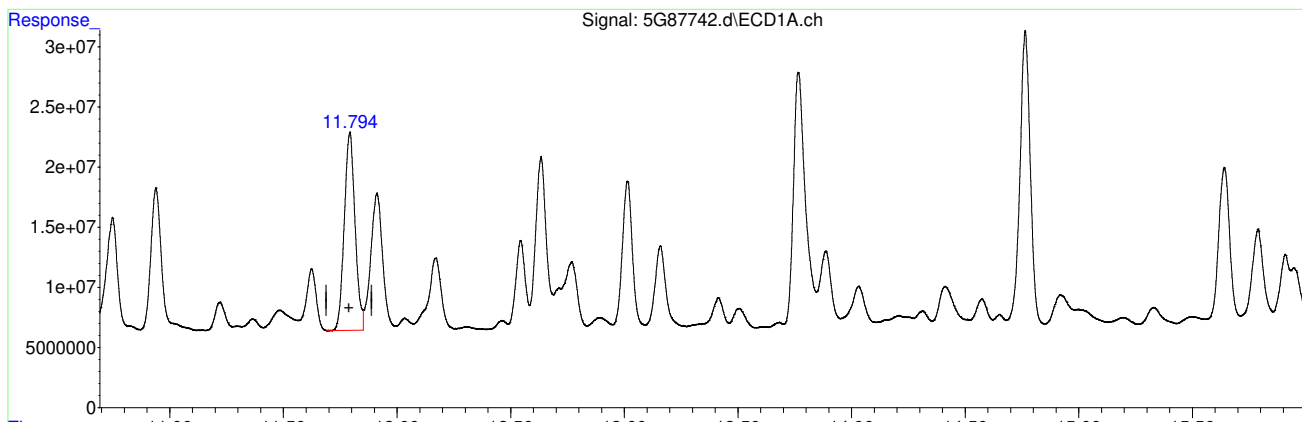
11.4.5.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(29) AR1254-F  
 11.792min 419.208 PPB  
 response 544752851

(29) AR1254-F #2  
 14.823min 224.663 PPB  
 response 174879118

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 14:59:57 2019

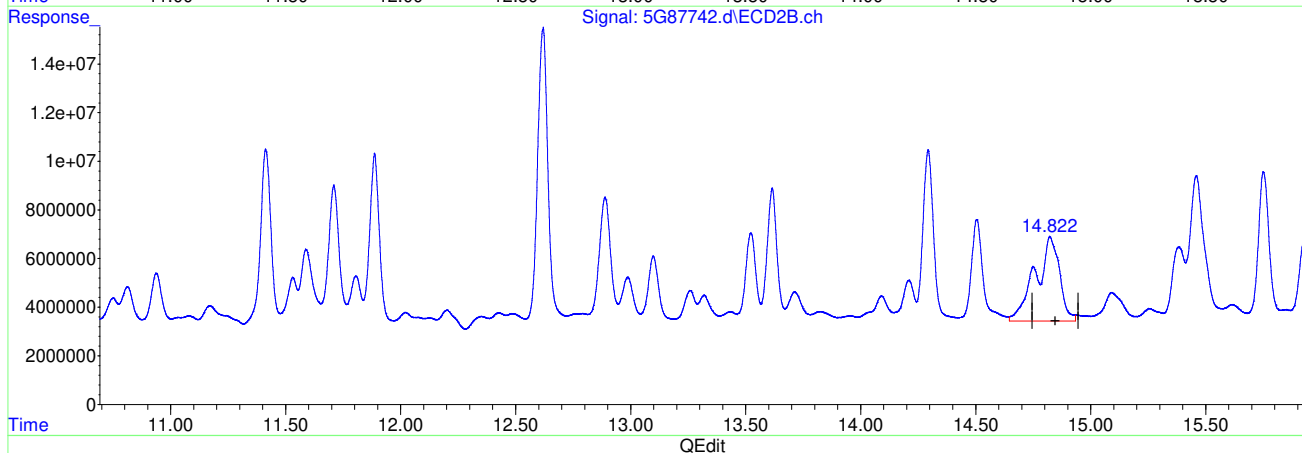
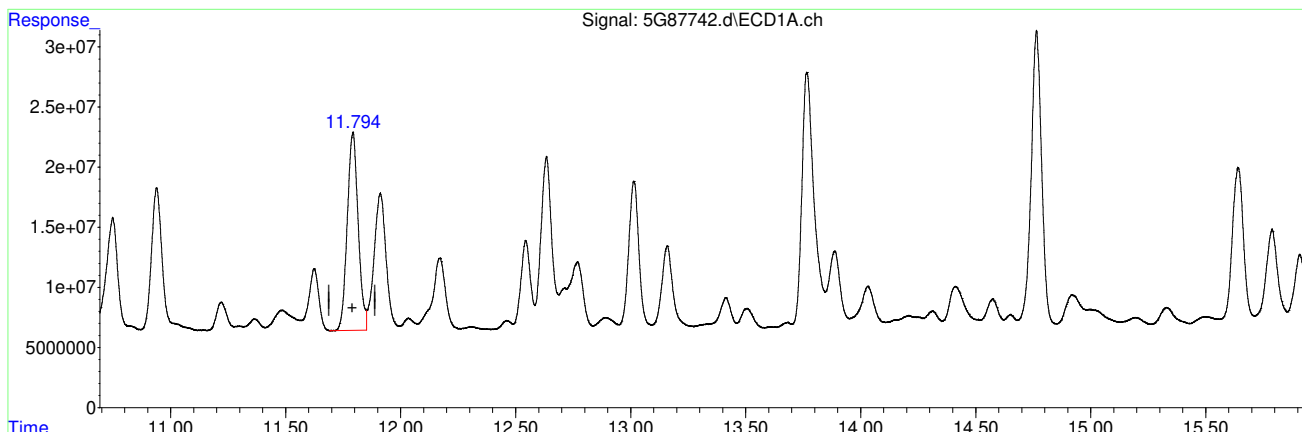
11.4.5.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(29) AR1254-F  
 11.792min 419.208 PPB  
 response 544752851

(29) AR1254-F #2  
 14.822min 325.345 PPB m  
 response 253250604

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:00:03 2019

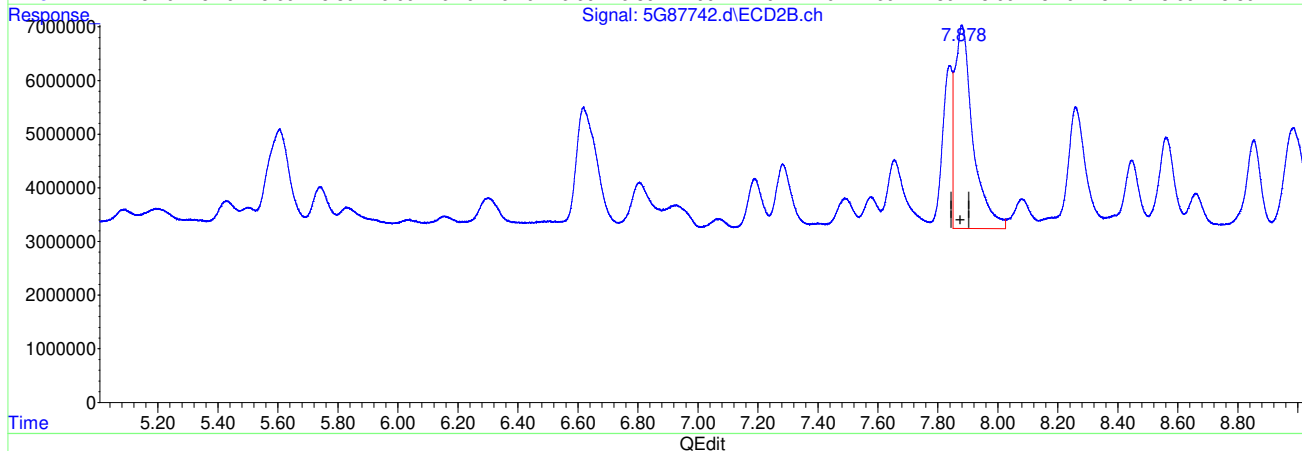
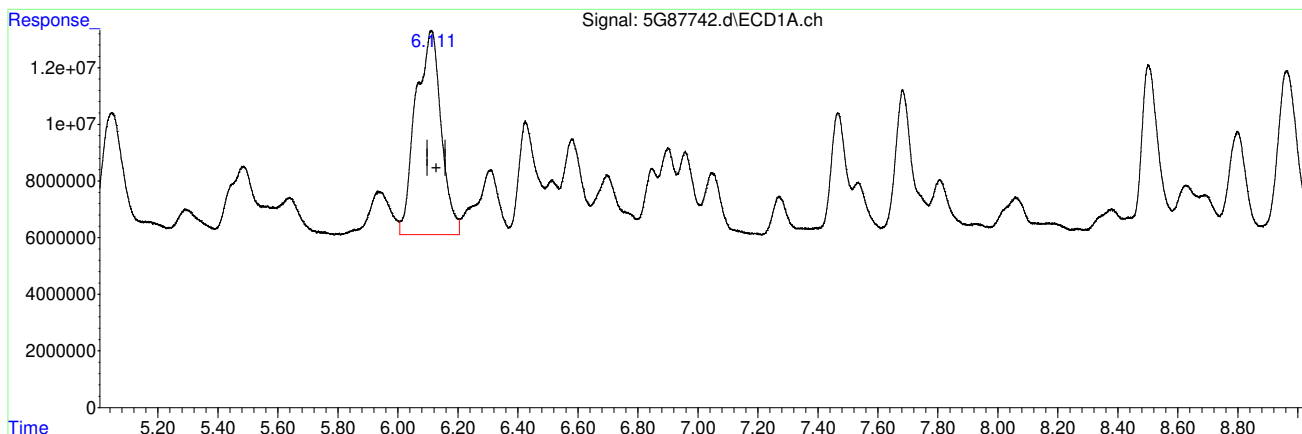
11.4.5.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(43) AR1016-C  
 6.111min 179.709 PPB  
 response 424699589

(43) AR1016-C #2  
 7.880min 136.995 PPB  
 response 157223471

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:00:17 2019

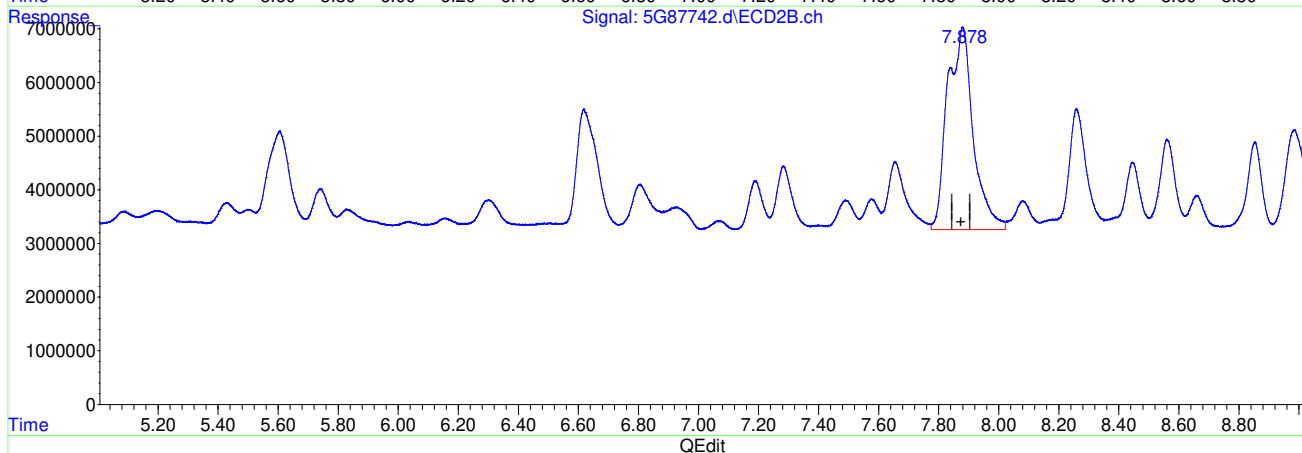
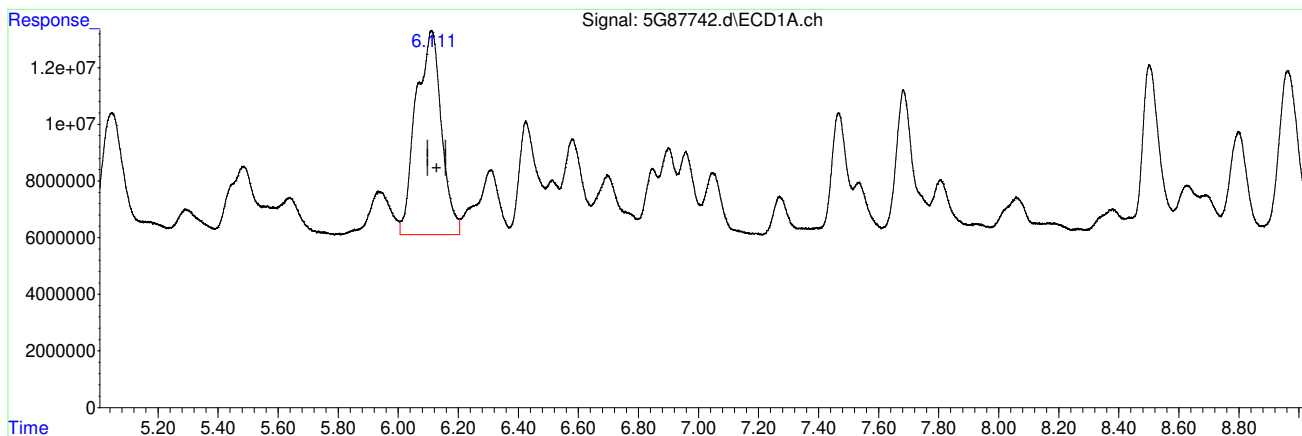
11.4.5.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(43) AR1016-C  
 6.111min 179.709 PPB  
 response 424699589

(43) AR1016-C #2  
 7.878min 195.402 PPB m  
 response 224255373

(+) = Expected Retention Time

5PCB2101.M Fri Apr 19 15:00:24 2019

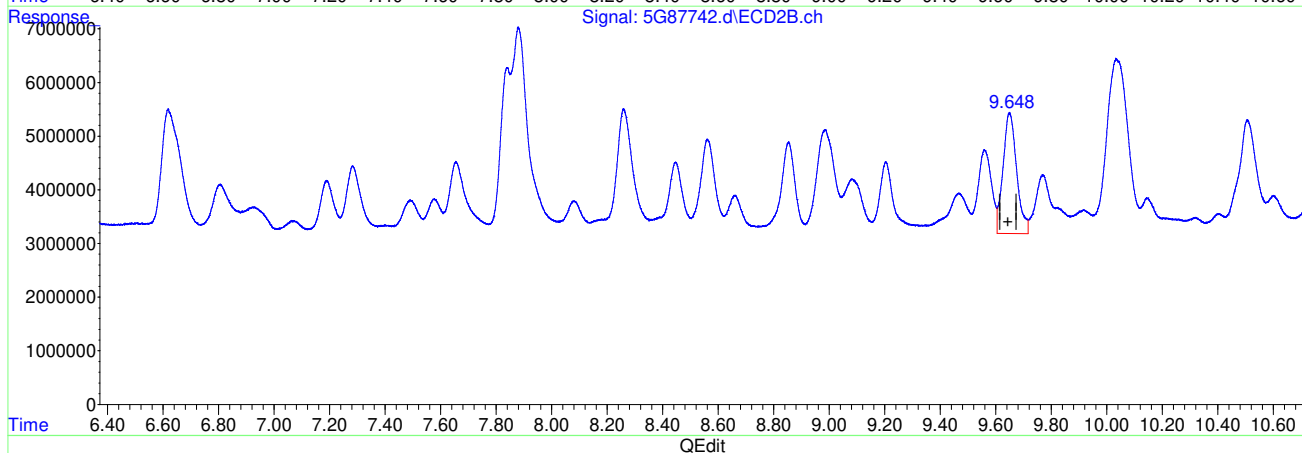
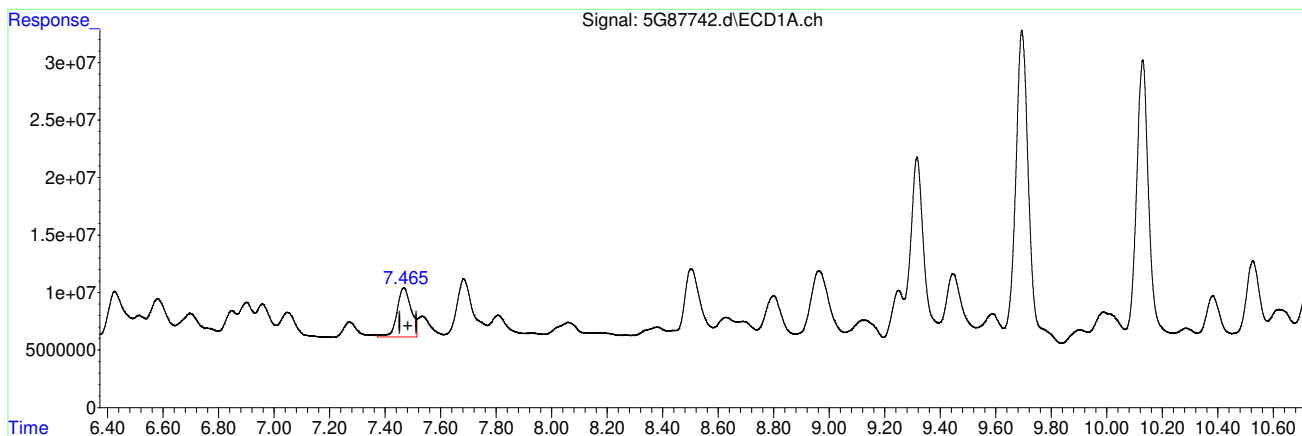
11.4.5.5  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.467min 149.529 PPB  
 response 150969846

(45) AR1016-E #2  
 9.649min 221.169 PPB  
 response 76731983

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:00:28 2019

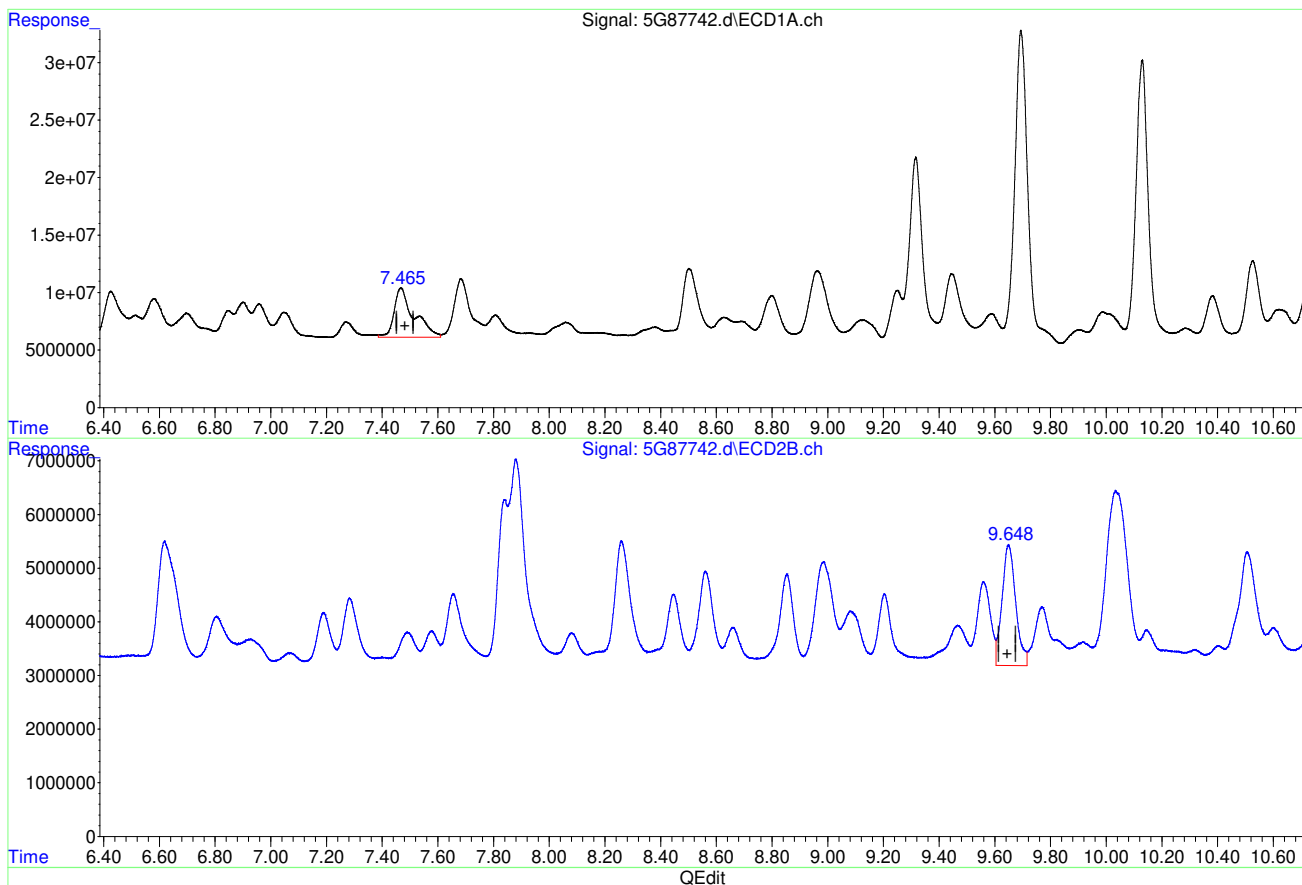


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.465min 208.491 PPB m  
 response 210500087

(45) AR1016-E #2  
 9.649min 221.169 PPB  
 response 76731983

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:00:34 2019

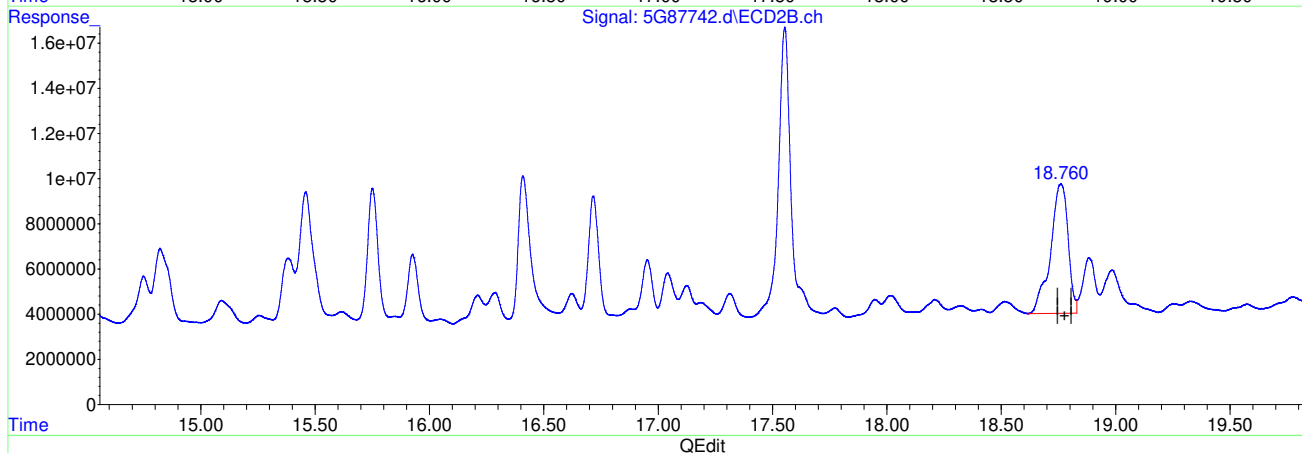
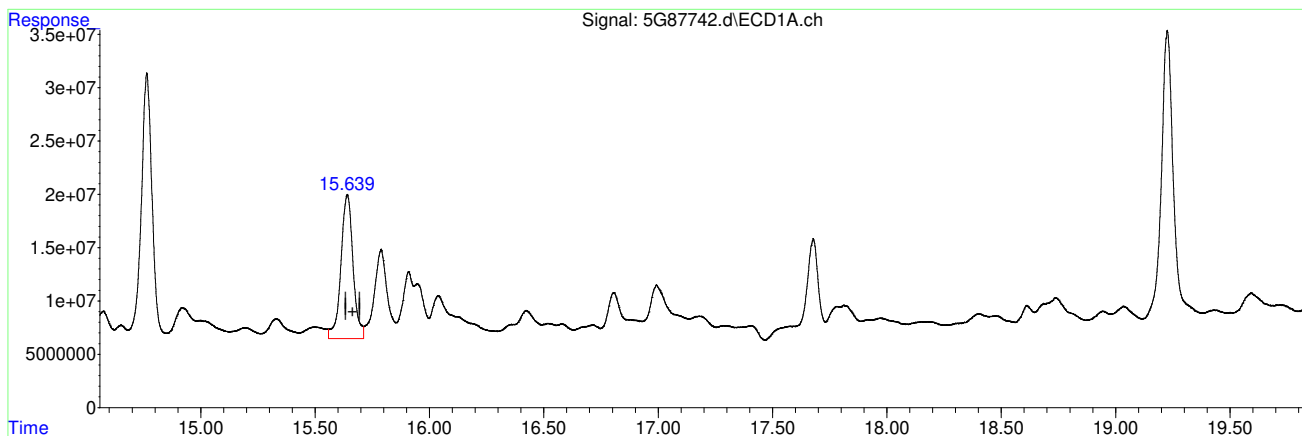
11.4.57  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.641min 130.080 PPB  
 response 498608314

(50) AR1260-E #2  
 18.761min 175.079 PPB  
 response 305933391

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:00:42 2019

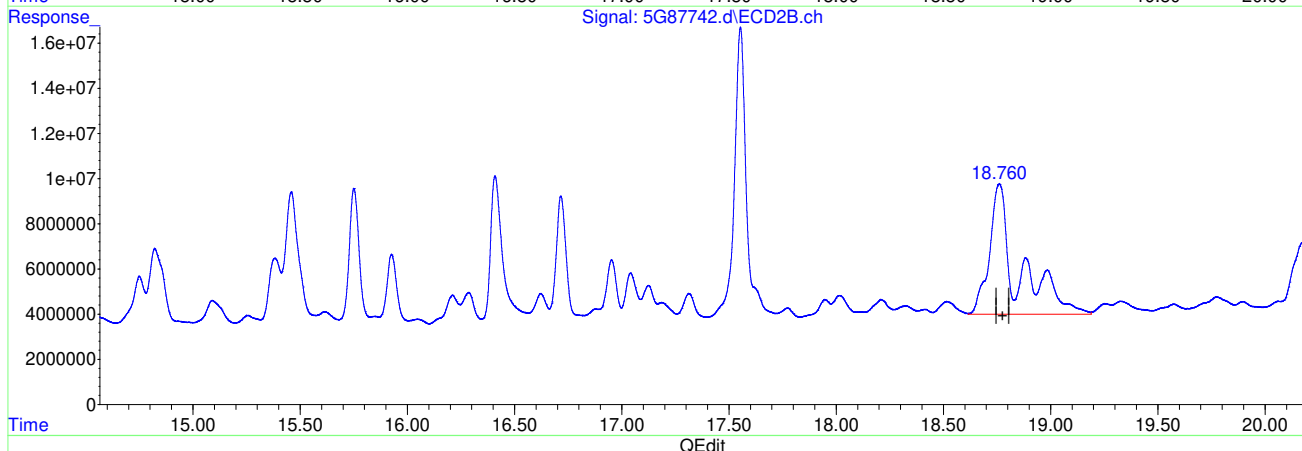
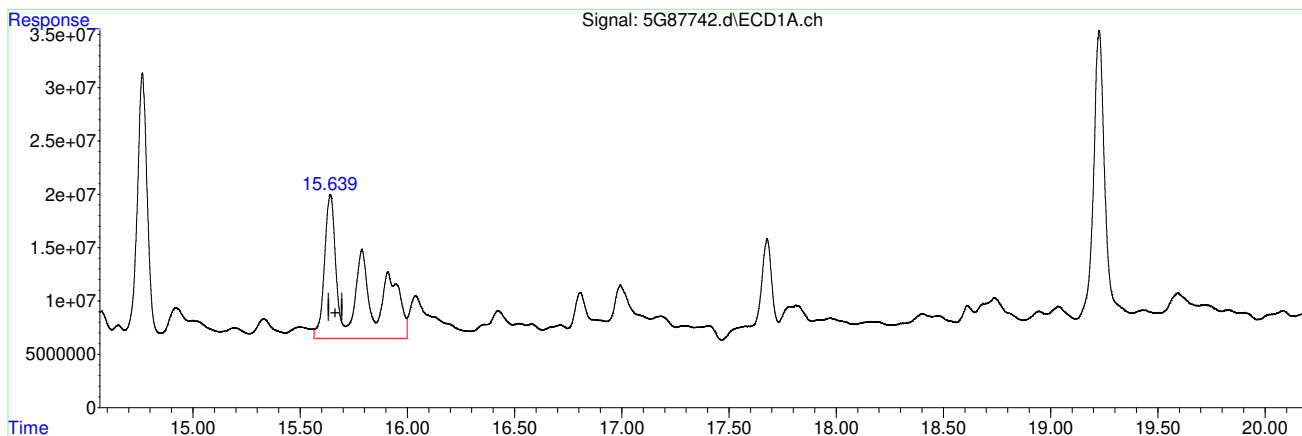
11.4.5.8  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.639min 305.064 PPB m  
 response 1169336236

(50) AR1260-E #2  
 18.760min 300.595 PPB m  
 response 525259884

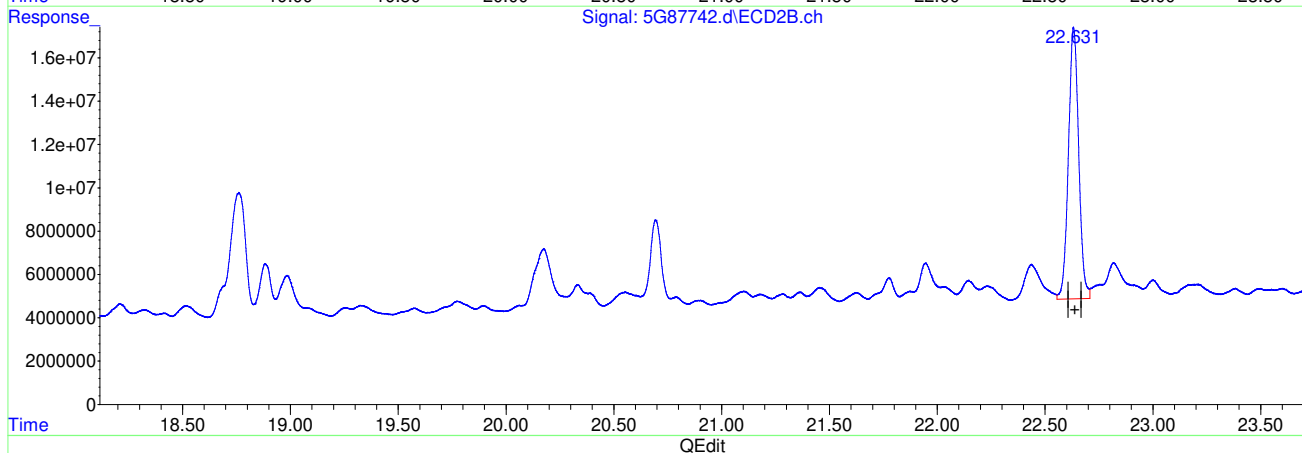
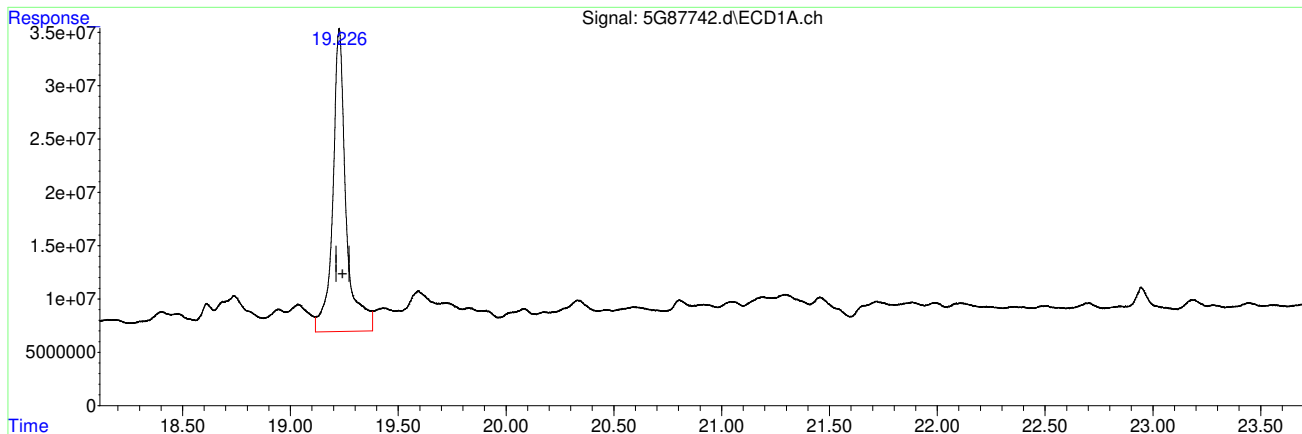
(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:01:04 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(51) Decachlorobiphenyl (S)

19.226min 39.846 ppb

response 1218035057

(51) Decachlorobiphenyl #2 (S)

22.632min 28.245 ppb

response 416226941

(+) = Expected Retention Time

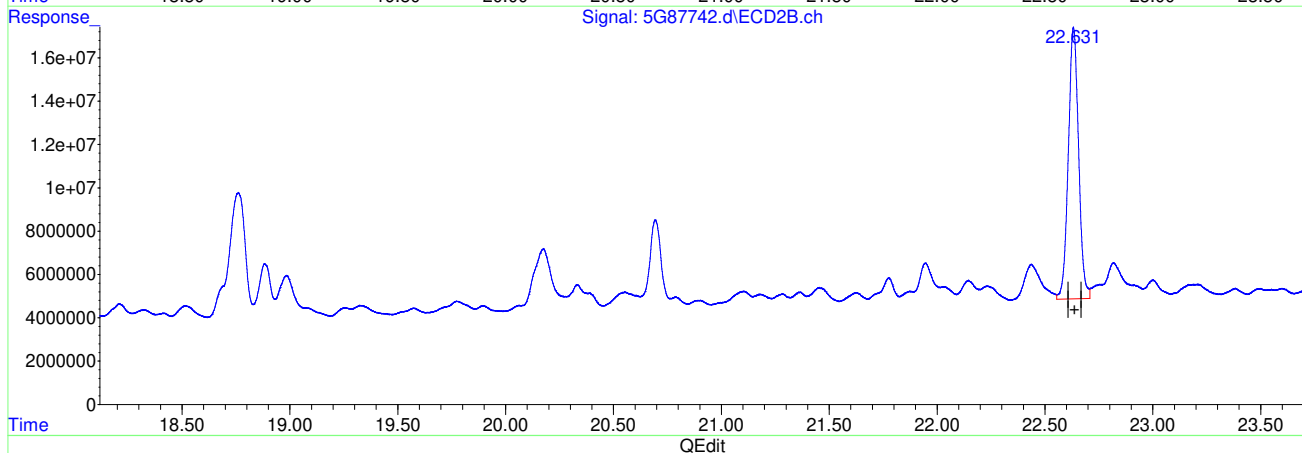
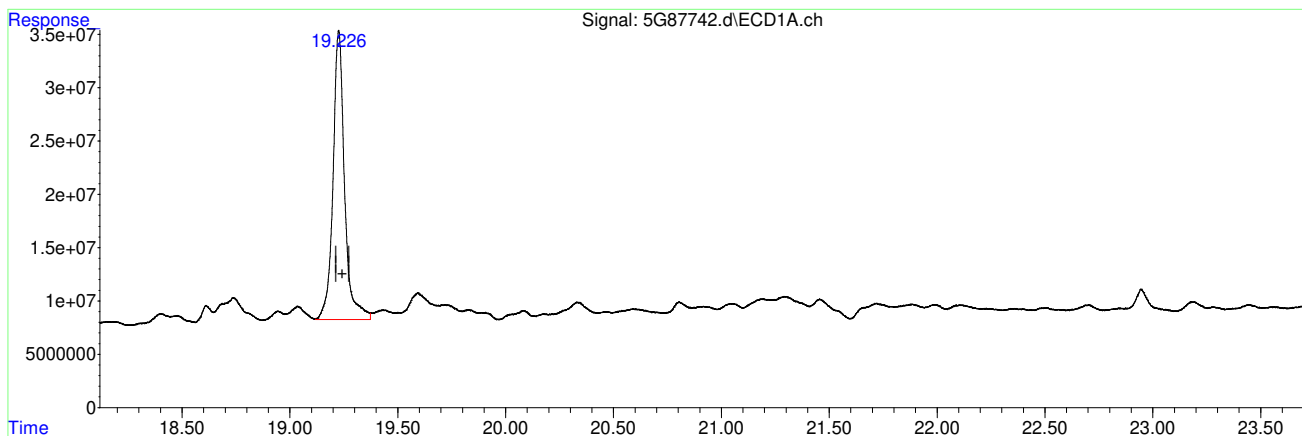
5PCB2101.M Fri Apr 19 15:01:07 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87742.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 1:56 pm  
 Operator : summerk  
 Sample : op19829-ms  
 Misc : op19829,g5g2111,15.3,,,10,1  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 14:59:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(51) Decachlorobiphenyl (S)  
 19.226min 32.925 ppb m  
 response 1006476798

(51) Decachlorobiphenyl #2 (S)  
 22.632min 28.245 ppb  
 response 416226941

(+) = Expected Retention Time

11.4.5.11 11

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:04:47 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.644	4.396f	887.1E6	409.3E6	28.109	29.767
Spiked Amount	40.000		Recovery	=	70.27%	74.42%
51) S Decachlor...	19.226f	22.631	924.4E6	365.4E6	30.240	24.798
Spiked Amount	40.000		Recovery	=	75.60%	61.99%
Target Compounds						
24) AR1254-A	8.504	10.939	280.2E6	111.0E6	289.324	207.711 #
27) AR1254-D	10.384	12.987	247.1E6	152.0E6	133.282	172.053 #
28) AR1254-E	11.222	13.714	198.9E6	113.3E6	143.074	176.399
29) AR1254-F	11.792	14.831	532.9E6	271.8E6	410.090	349.157m
42) AR1016-B	5.045	6.620	196.1E6	108.4E6	172.095	212.413
43) AR1016-C	6.112f	7.879	412.3E6	206.6E6	174.456	179.978m
44) AR1016-D	6.426f	8.261	160.7E6	91752536	161.046	207.650 #
45) AR1016-E	7.468	9.652	219.5E6	73163205	217.408m	210.883
47) AR1260-B	13.015f	15.754	291.9E6	153.8E6	207.642	228.001
48) AR1260-C	13.769	16.719	641.3E6	141.3E6	432.953	214.174 #
49) AR1260-D	14.766f	17.553	591.0E6	391.4E6	169.885	228.250 #
50) AR1260-E	15.640f	18.769	814.9E6	407.3E6	212.599m	233.064m

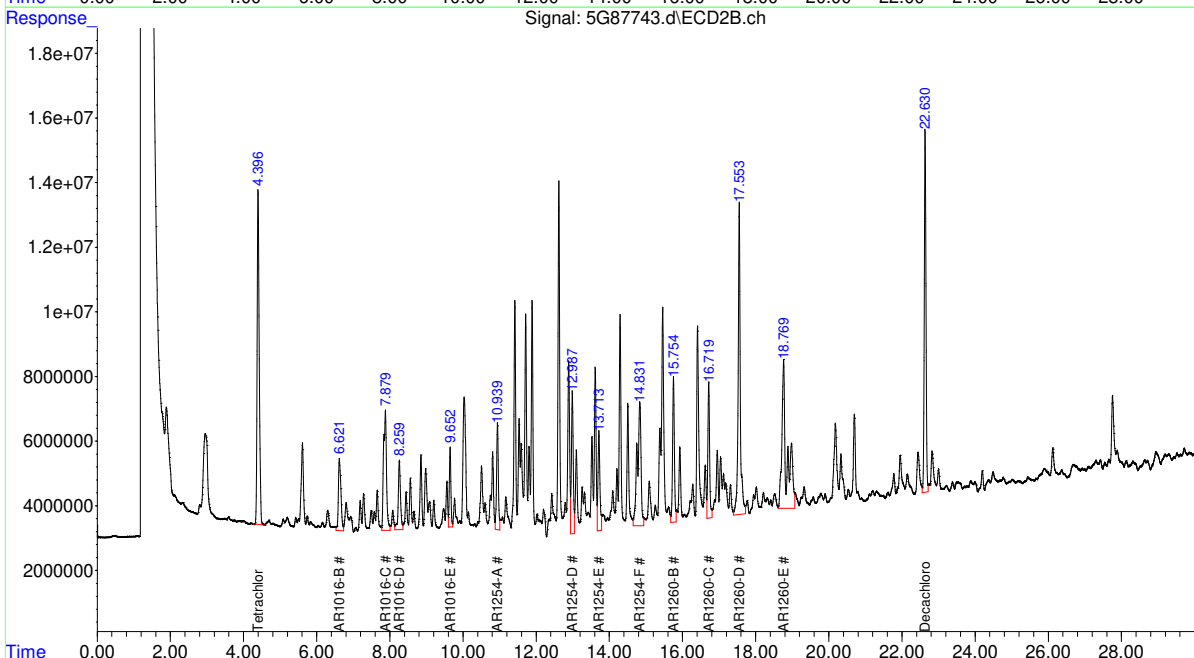
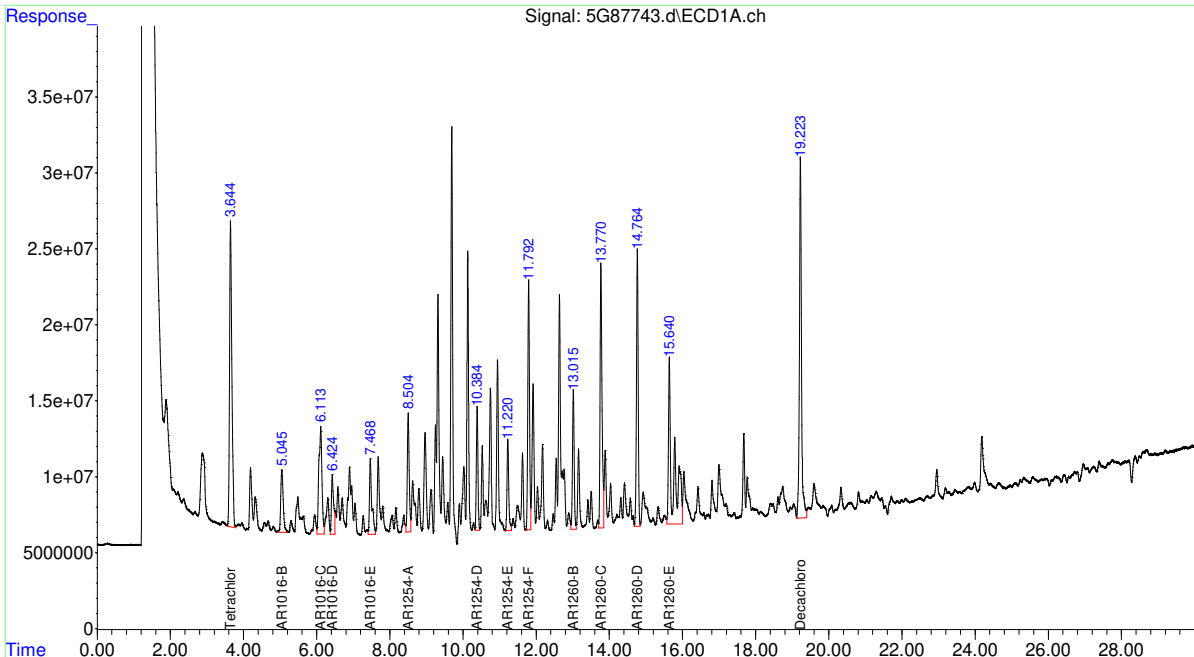
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.4.6  
11

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:04:47 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: OP19829-MSD      Method: SW846 8082A  
Lab FileID: 5G87743.D      Analyst approved: 04/19/19 15:07 Summer Kotb  
Injection Time: 04/19/19 14:29      Supervisor approved: 04/19/19 16:22 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-E		1	7.47	Split peak
AR1016-C		2	7.88	Split peak
AR1254-F		2	14.83	Split peak
AR1260-E		1	15.64	Split peak
AR1260-E		2	18.77	Split peak

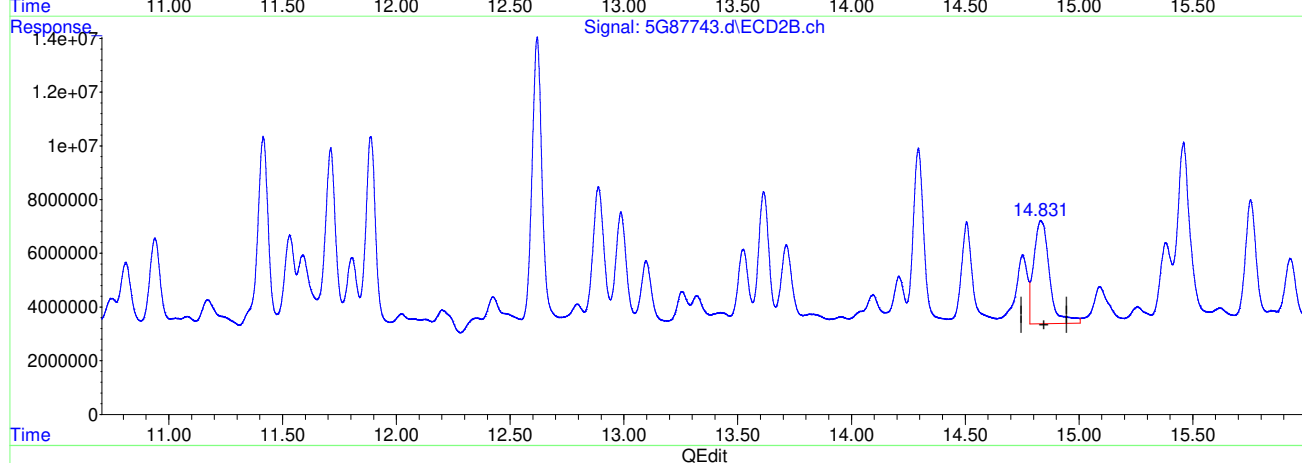
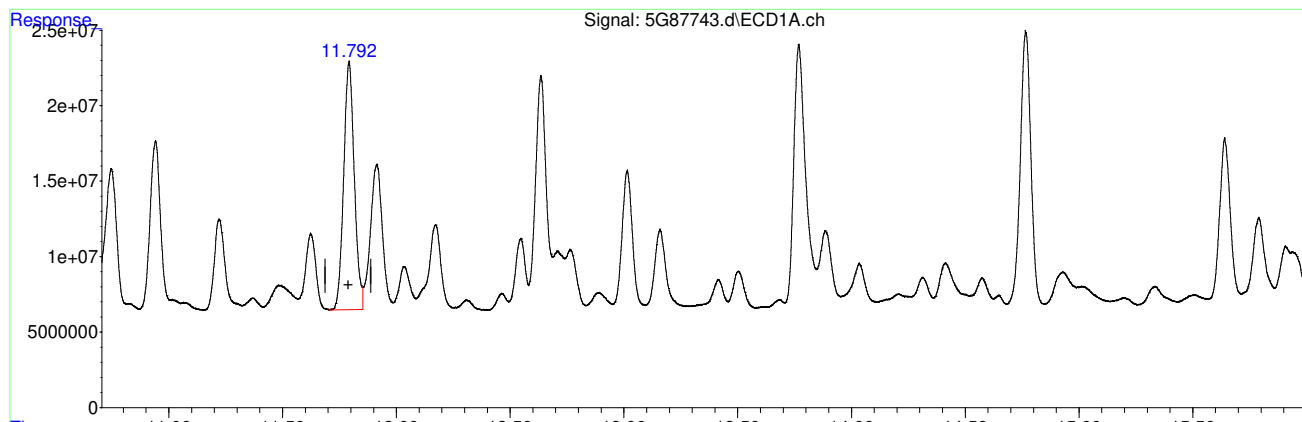


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:02:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase: RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(29) AR1254-F

11.792min 410.090 PPB

response 532904708

(29) AR1254-F #2

14.832min 237.515 PPB

response 184882801

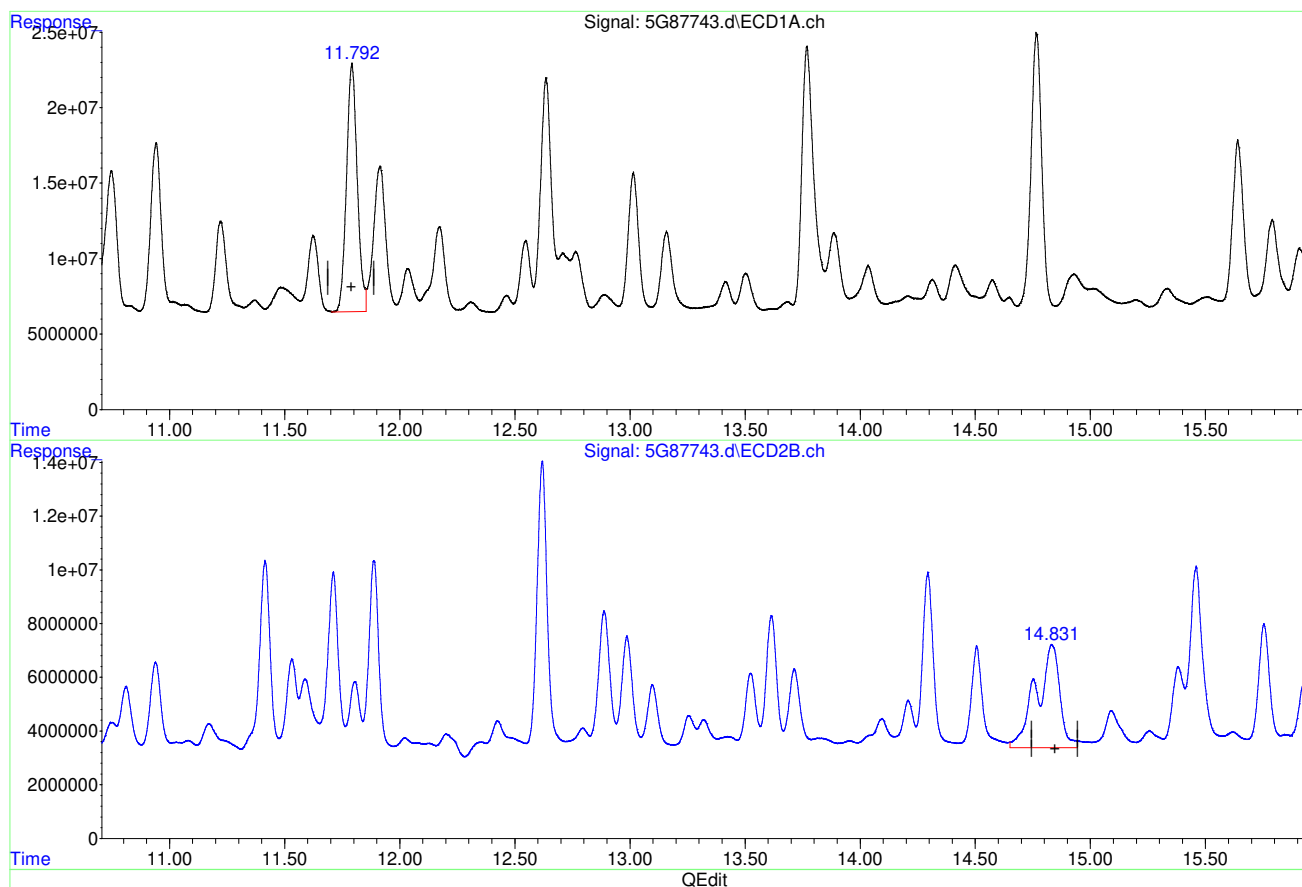
(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:03:59 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:02:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(29) AR1254-F

11.792min 410.090 PPB

response 532904708

(29) AR1254-F #2

14.831min 349.157 PPB m

response 271785507

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:04:05 2019

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SGS

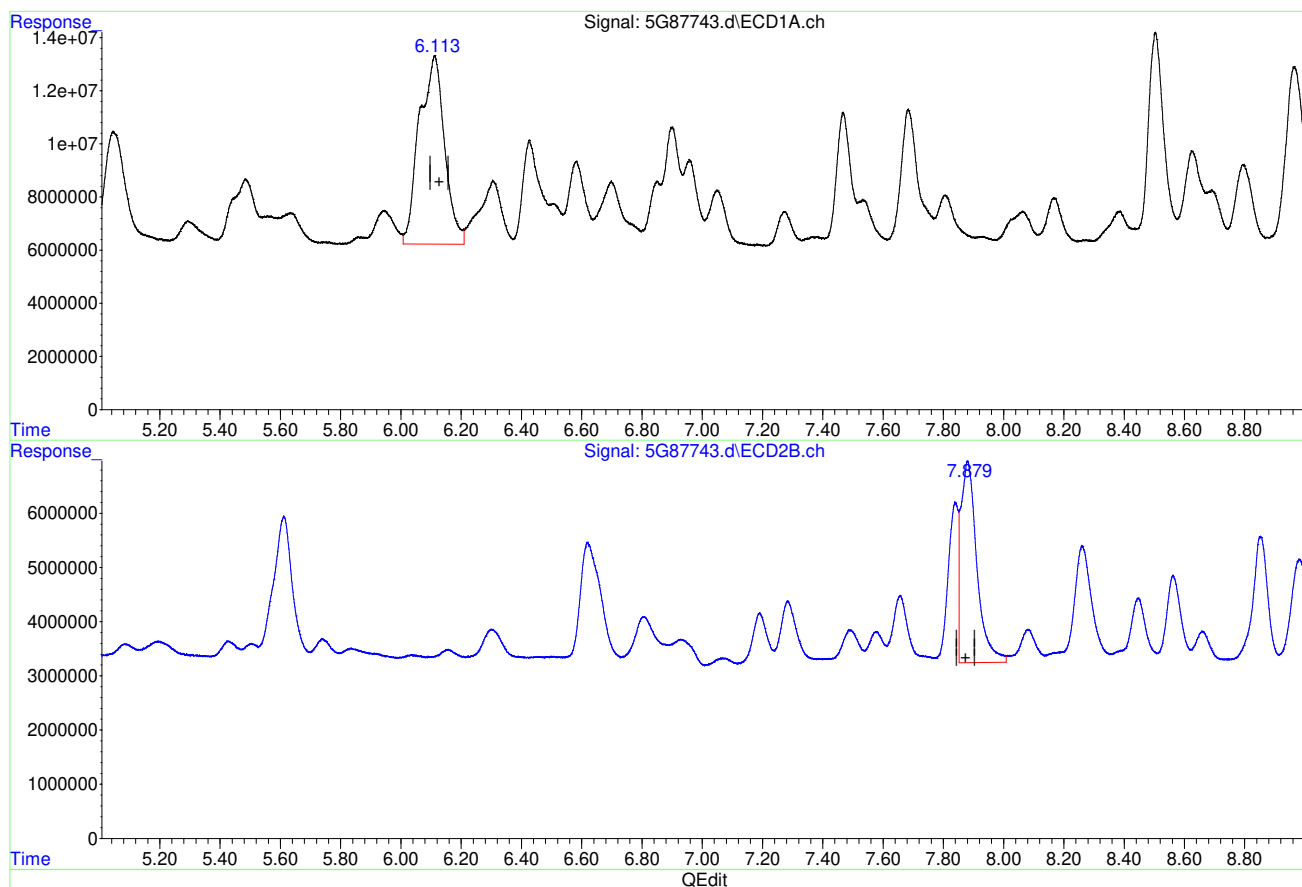
1164 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:02:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(43) AR1016-C  
 6.112min 174.456 PPB  
 response 412285047

(43) AR1016-C #2  
 7.880min 119.606 PPB  
 response 137267824

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:04:11 2019

Page: 1

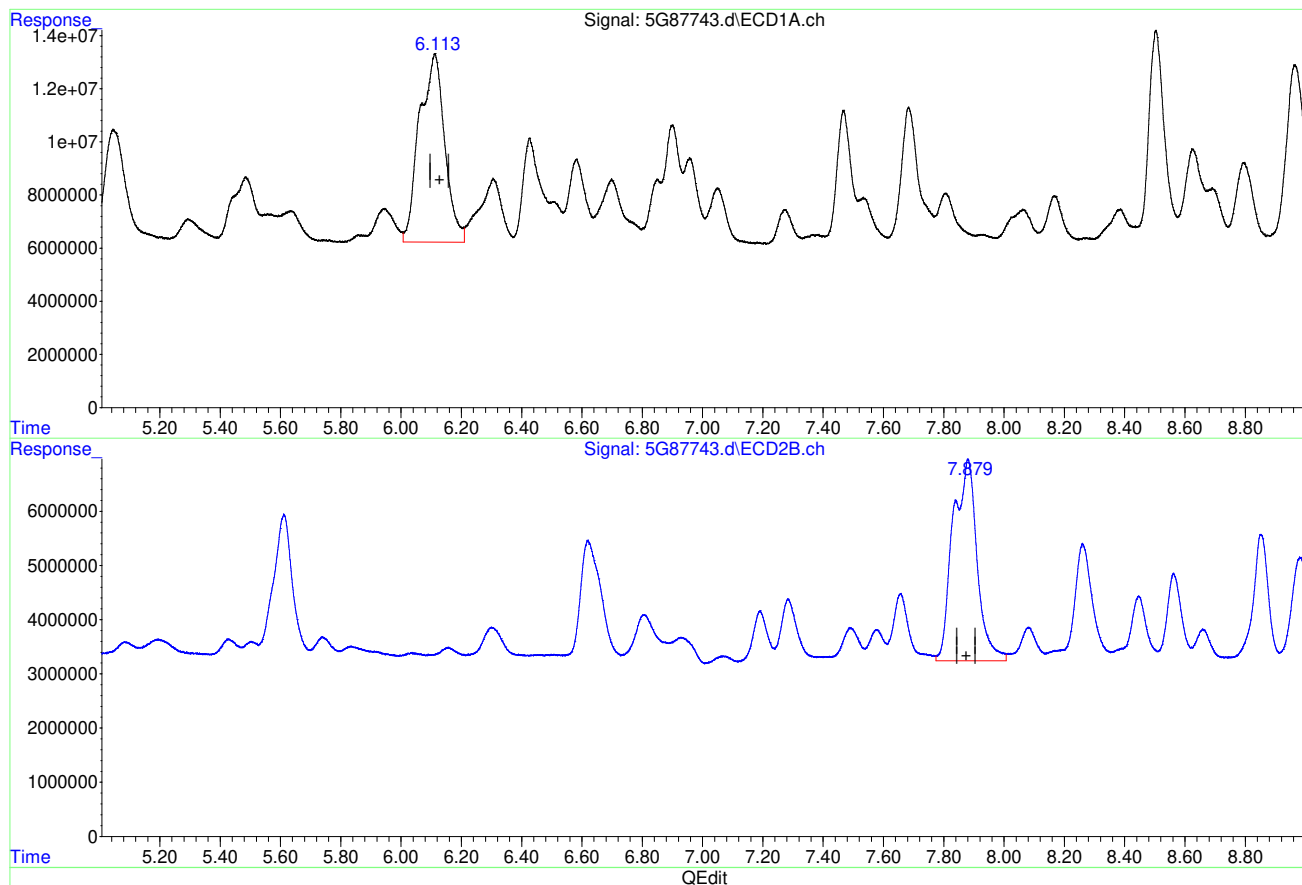
1165 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:02:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(43) AR1016-C  
 6.112min 174.456 PPB  
 response 412285047

(43) AR1016-C #2  
 7.879min 179.978 PPB m  
 response 206554314

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:04:17 2019

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SGS

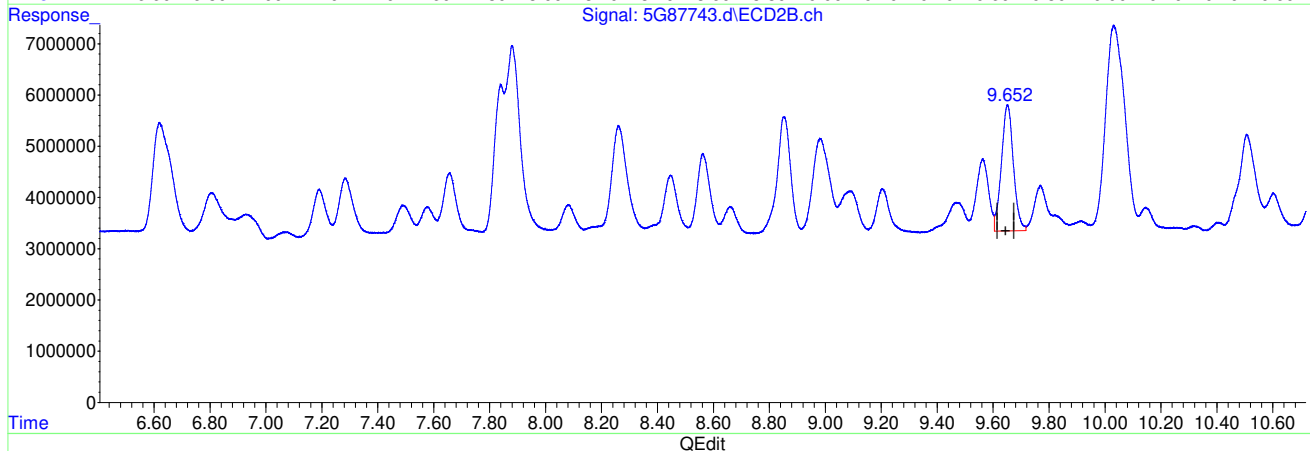
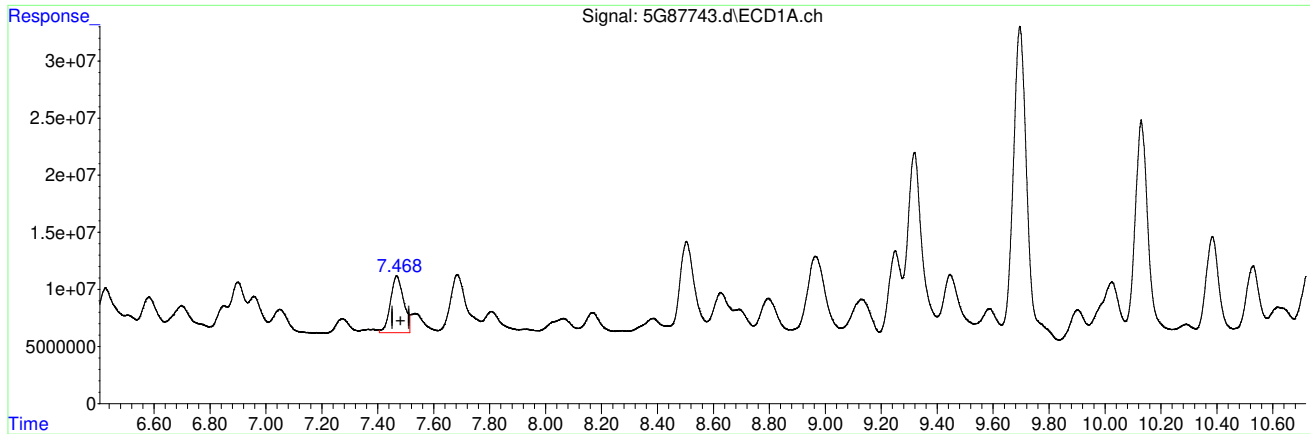
1166 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:02:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.468min 161.691 PPB  
 response 163249201

(45) AR1016-E #2  
 9.652min 210.883 PPB  
 response 73163205

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:04:21 2019

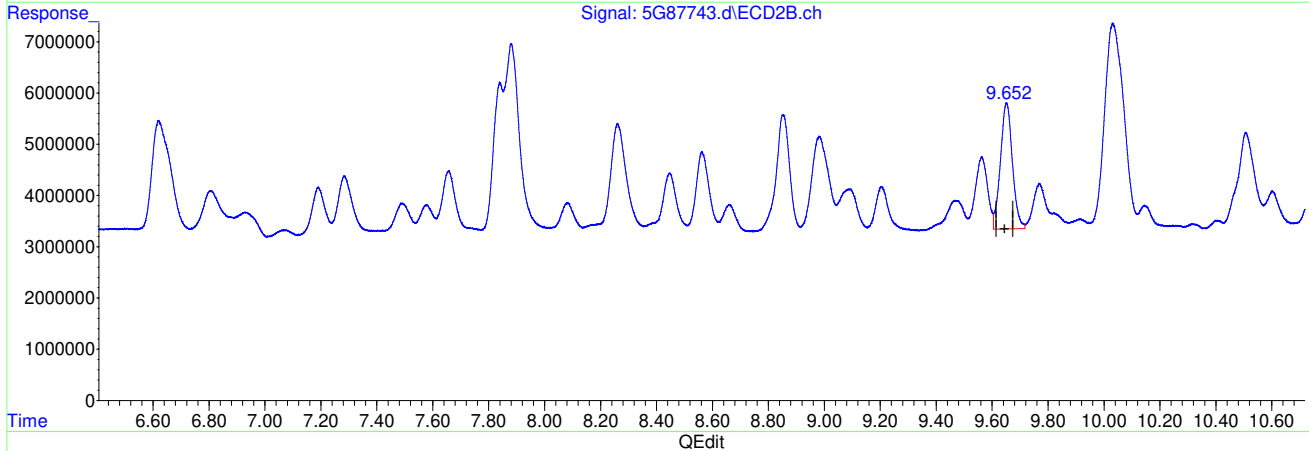
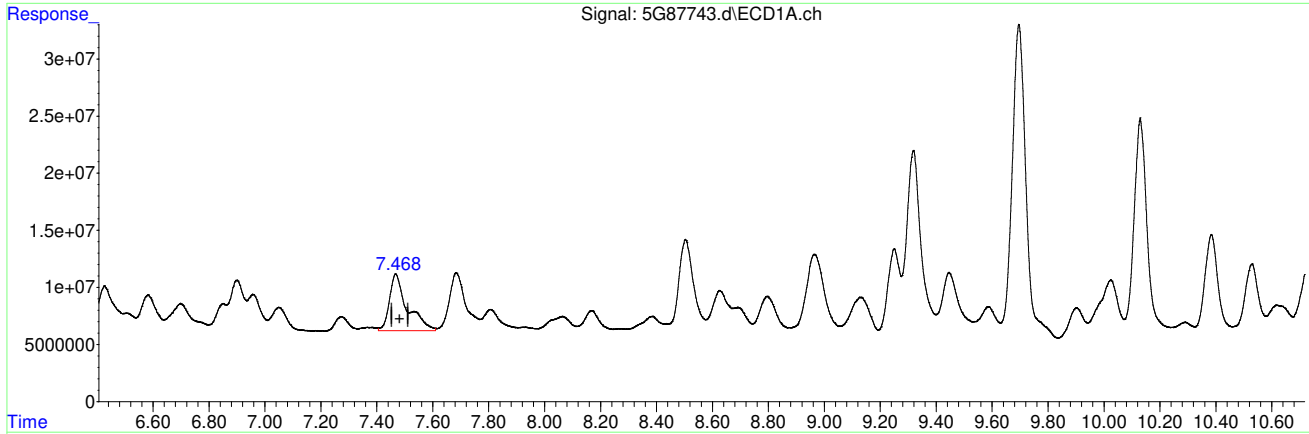
Page: 1

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:02:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.468min 217.408 PPB m  
 response 219502908

(45) AR1016-E #2  
 9.652min 210.883 PPB  
 response 73163205

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:04:28 2019

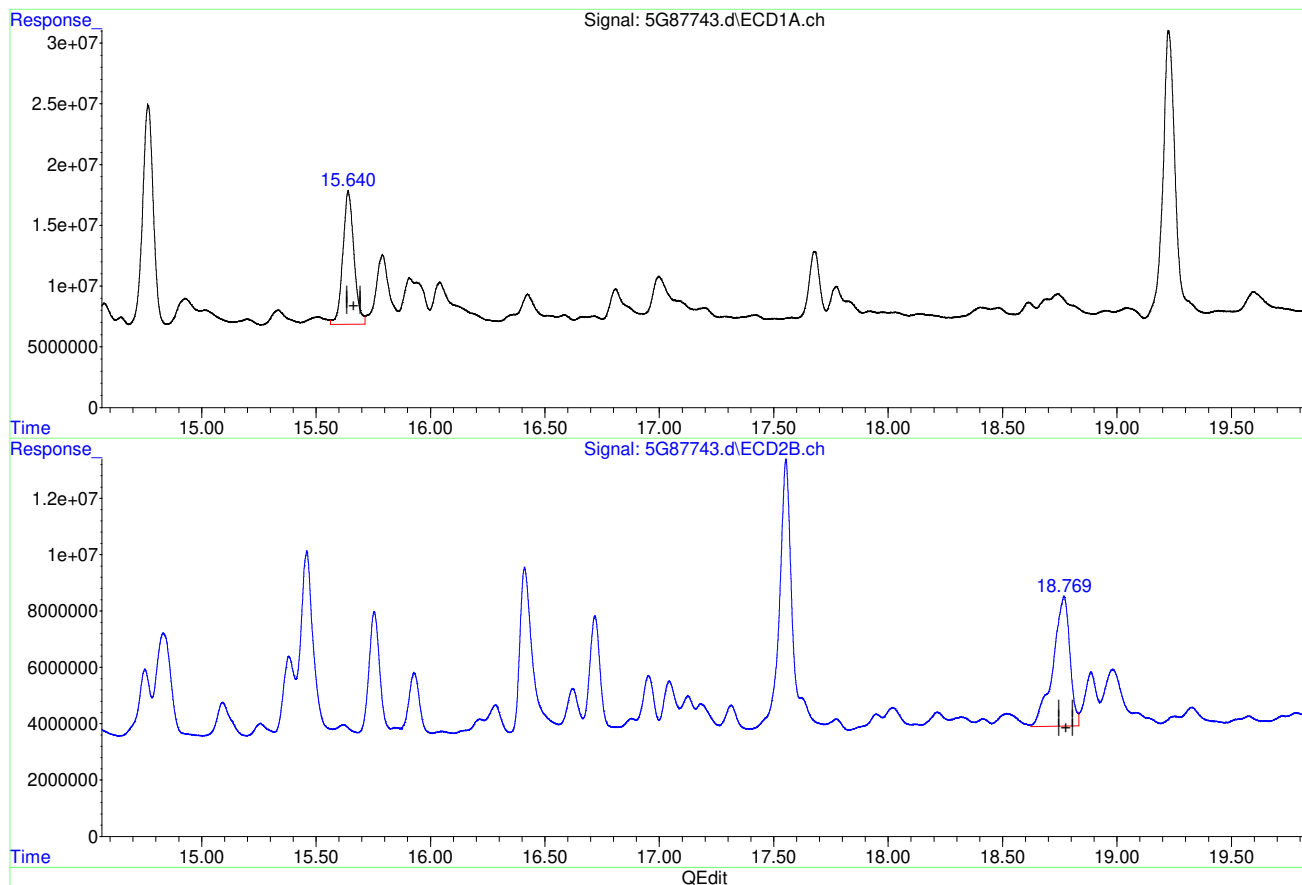
Page: 1

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:02:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.640min 96.959 PPB  
 response 371650620

(50) AR1260-E #2  
 18.768min 134.799 PPB  
 response 235548614

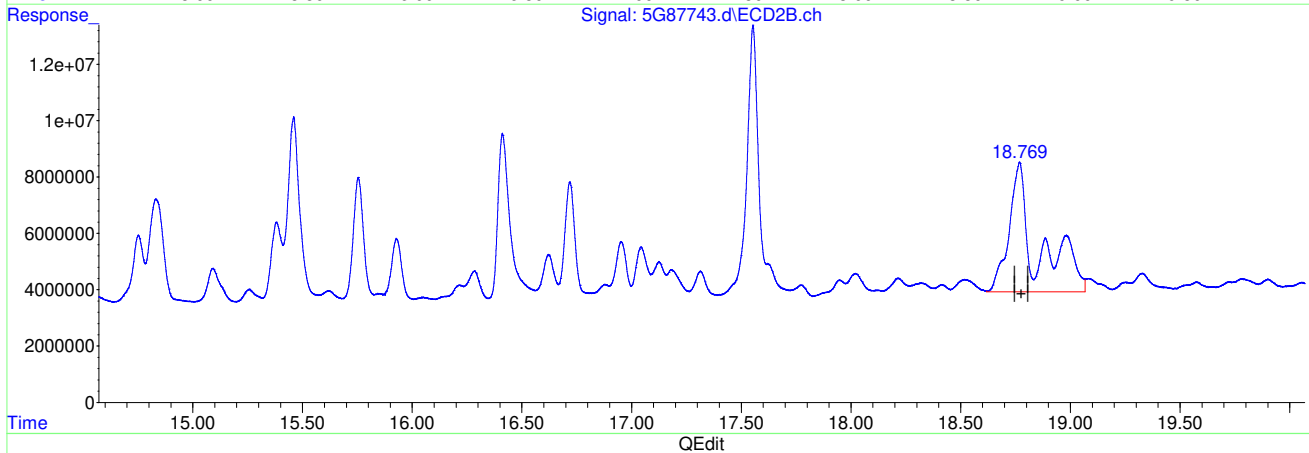
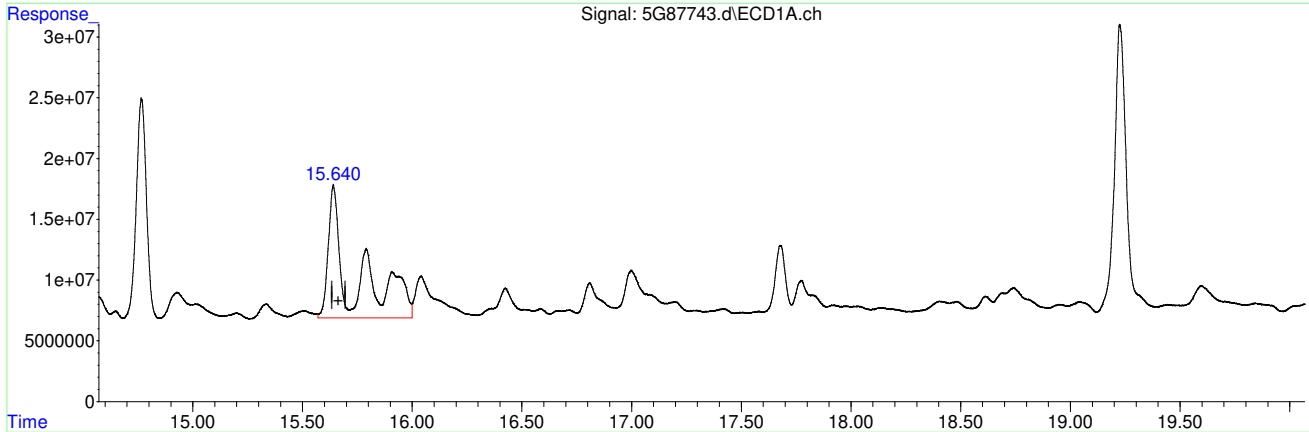
(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:04:34 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87743.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 2:29 pm  
 Operator : summerk  
 Sample : op19829-msd  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 15:02:57 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:11 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase: RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.640min 212.599 PPB m  
 response 814910501

(50) AR1260-E #2  
 18.769min 233.064 PPB m  
 response 407256342

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 15:04:50 2019



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63602.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 11:43:07  
 Operator : mailisih  
 Sample : ddt  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:23:42 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.957	2.175	229.8E6	288.2E6	50.000	50.000
27) I 1-bromo-2...	1.957	2.175	229.8E6	288.2E6	50.000	50.000
33) I 1-bromo-2...	1.957	2.175	229.8E6	288.2E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.556	2.991	212.4E6	336.7E6	69.395	66.426
Spiked Amount	40.000	Range 30 - 150	Recovery =	173.49%#	166.07%#	
26) SA Decachlor...	9.981	11.979	381.5E6	228.0E6	66.798	56.894
Spiked Amount	40.000		Recovery =	167.00%	142.24%	
Target Compounds						
15) B 4,4'-DDE	5.352	6.735	5025548	4410427	1.069	0.921
17) MA Endrin	6.076	7.509	265.5E6	244.5E6	59.591	51.280
18) A 4,4'-DDD	6.198	7.688	4065198	4359080	1.216	1.080
20) MA 4,4'-DDT	6.621	8.224	444.9E6	415.0E6	123.119	103.584
21) B Endrin Al...	7.033	8.436	965179	429520	0.261m	0.113m#
25) B Endrin Ke...	8.165	9.870	1756703	2806864	0.398	0.606 #
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

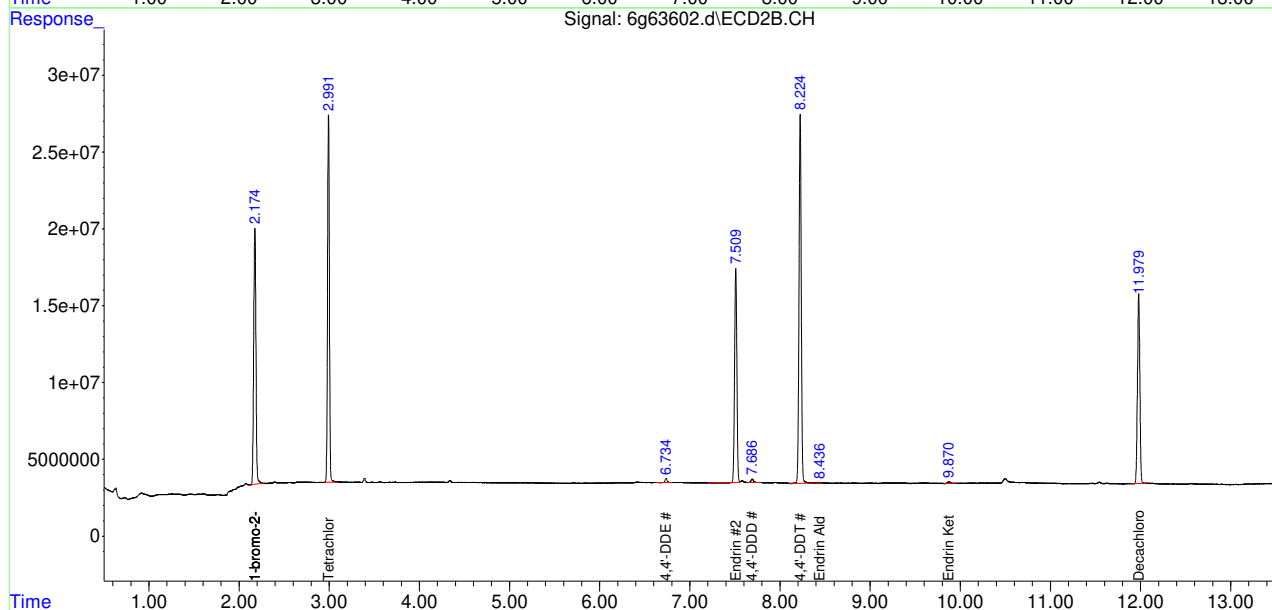
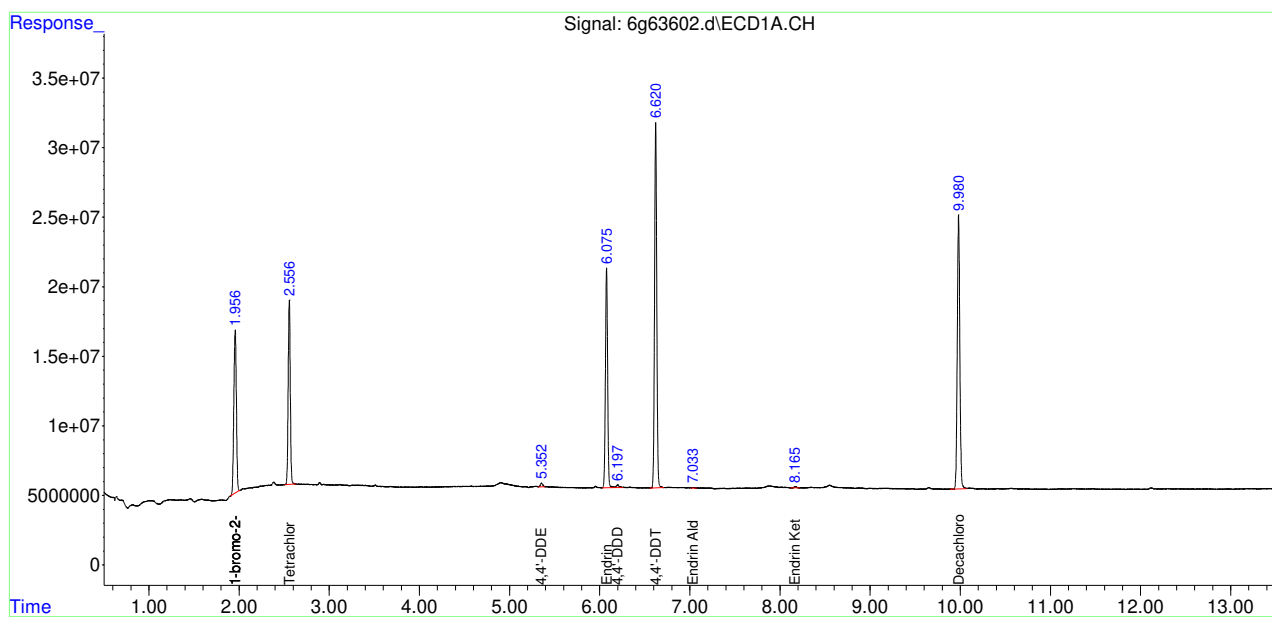
11.51  
11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63602.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 11:43:07  
 Operator : mailisih  
 Sample : ddt  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:23:42 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



# Manual Integration Approval Summary

Sample Number: G6G1951-DDT      Method: SW846 8081B  
Lab FileID: 6G63602.D      Analyst approved: 03/13/19 16:29 Mailisi Heshuote  
Injection Time: 03/13/19 11:43      Supervisor approved: 03/14/19 14:58 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Endrin aldehyde	7421-93-4	1	7.03	Poorly defined baseline
Endrin aldehyde	7421-93-4	2	8.44	Poorly defined baseline

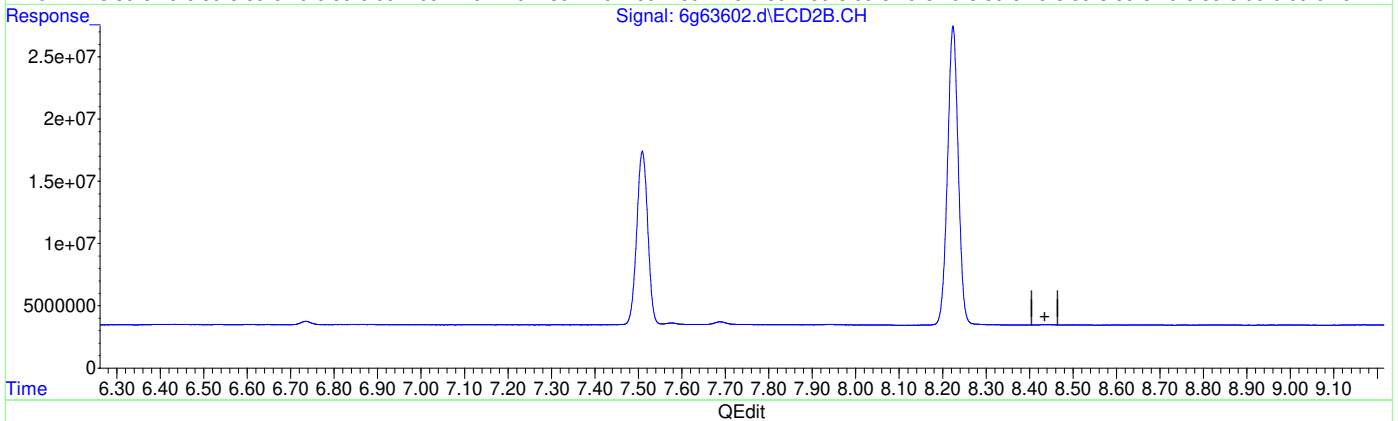
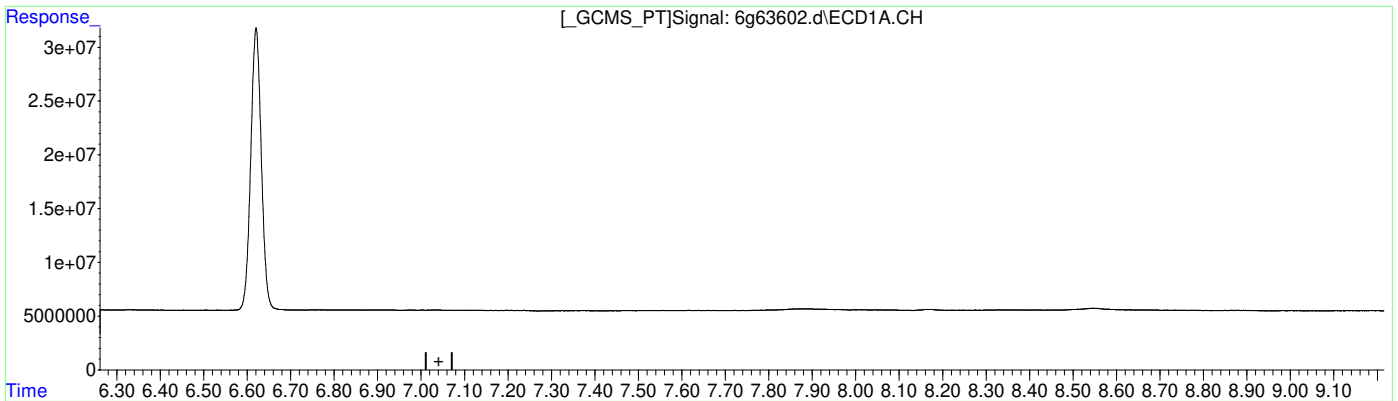
11.5.1.1  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63602.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 11:43:07  
 Operator : mailisih  
 Sample : ddt  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:22:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)

0.000min 0.000 PPB

response 0

(21) Endrin Aldehyde #2 (B)

0.000min 0.000 PPB

response 0

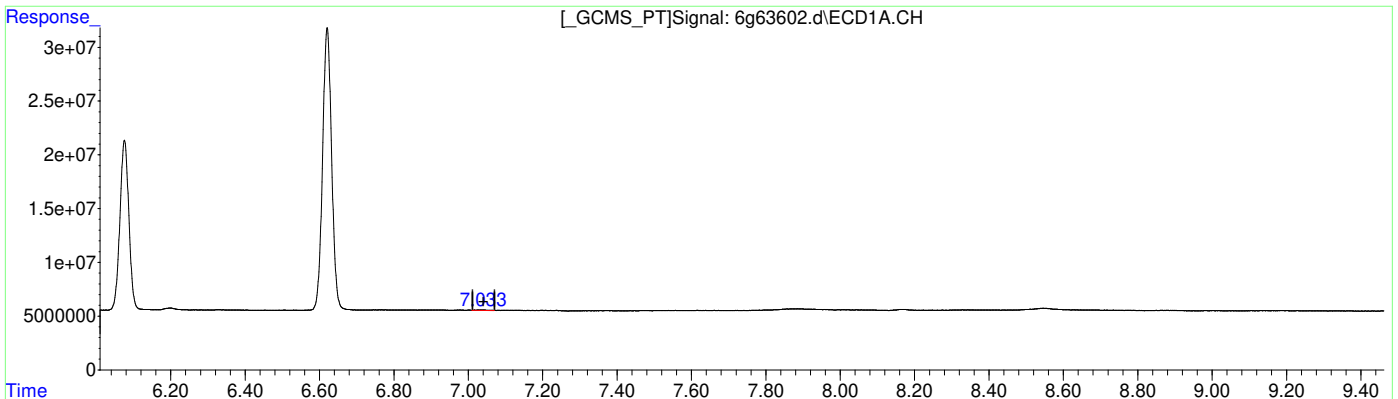
(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:23:04 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63602.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 11:43:07  
 Operator : mailisih  
 Sample : ddt  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:22:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)

7.033min 0.261 PPB m

response 965179

(21) Endrin Aldehyde #2 (B)

8.436min 0.113 PPB m

response 429520

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:23:20 2019

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## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:06:50 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards							
1)	I 1-bromo-2...	1.957	2.172	339.8E6	304.5E6	50.000	50.000
27)	I 1-bromo-2...	1.957	2.172	339.8E6	304.5E6	50.000	50.000
33)	I 1-bromo-2...	1.957	2.172	339.8E6	304.5E6	50.000	50.000
System Monitoring Compounds							
2)	SAB Tetrachlo...	2.555	2.985	288.9E6	335.8E6	63.842	62.715
	Spiked Amount	40.000	Range 30 - 150	Recovery	=	159.60%#	156.79%#
26)	SA Decachlor...	9.970	11.961	527.1E6	257.7E6	62.413	60.855
	Spiked Amount	40.000		Recovery	=	156.03%	152.14%
Target Compounds							
15)	B 4,4'-DDE	5.350	6.719	6249412	5130059	0.899m	1.014m
17)	MA Endrin	6.067	7.490	367.1E6	258.7E6	55.730	51.349
18)	A 4,4'-DDD	6.196	7.673	3482349	4973058	0.704m	1.166m#
20)	MA 4,4'-DDT	6.615	8.206	604.6E6	429.9E6	113.132	101.550
21)	B Endrin Al...	7.019	8.412	1063986	827927	0.195m	0.207m
25)	B Endrin Ke...	8.154	9.847	3178973	2684105	0.487m	0.548m
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

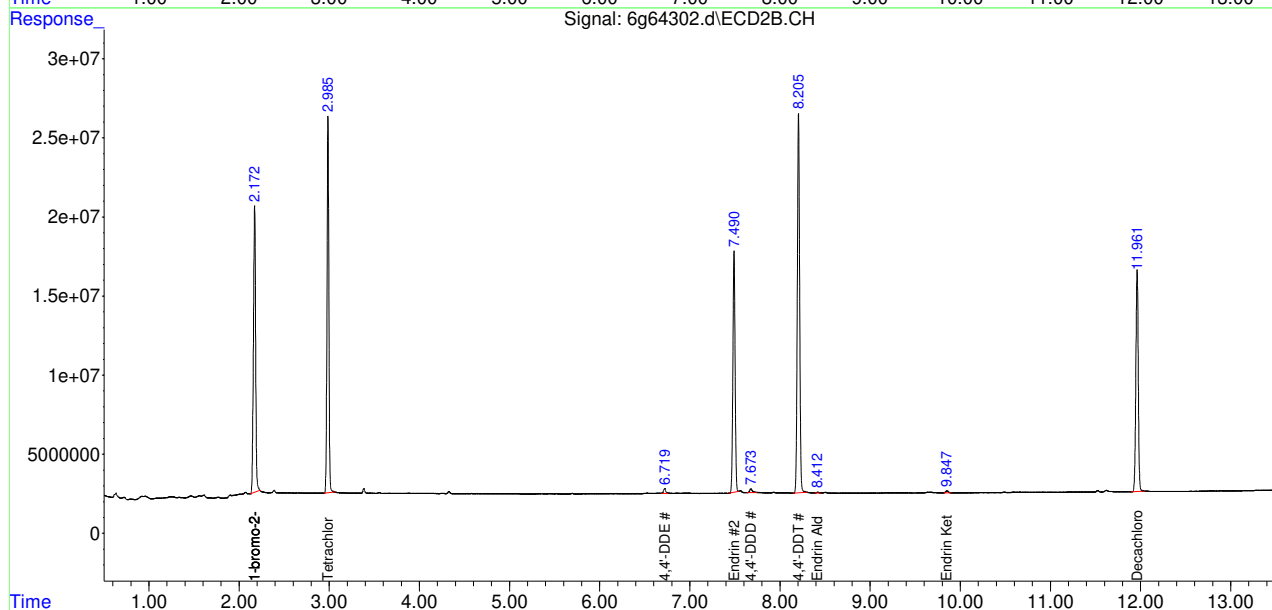
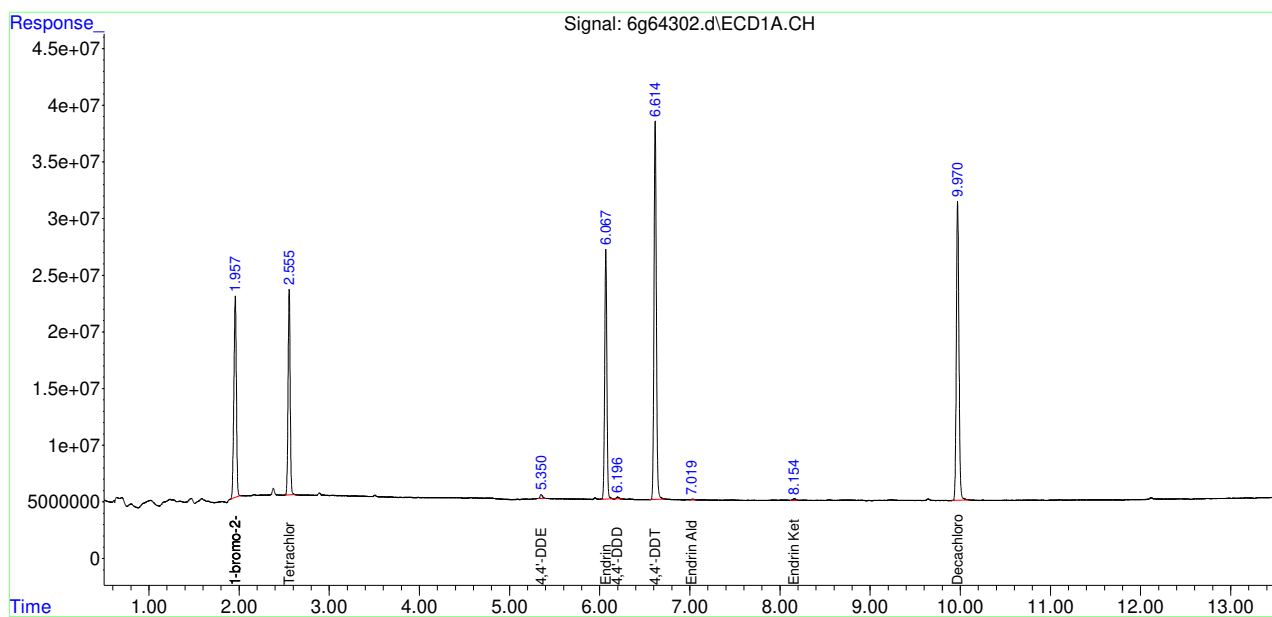
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:06:50 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



# Manual Integration Approval Summary

Sample Number: G6G1984-DDT      Method: EPA 608.3  
Lab FileID: 6G64302.D      Analyst approved: 04/18/19 11:11 Thomas Lally  
Injection Time: 04/18/19 09:42      Supervisor approved: 04/18/19 16:14 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
4,4'-DDE	72-55-9	1	5.35	Poorly defined baseline
4,4'-DDD	72-54-8	1	6.20	Poorly defined baseline
4,4'-DDE	72-55-9	2	6.72	Poorly defined baseline
Endrin aldehyde	7421-93-4	1	7.02	Poorly defined baseline
4,4'-DDD	72-54-8	2	7.67	Poorly defined baseline
Endrin ketone	53494-70-5	1	8.15	Poorly defined baseline
Endrin aldehyde	7421-93-4	2	8.41	Poorly defined baseline
Endrin ketone	53494-70-5	2	9.85	Poorly defined baseline

11.5.21  
11

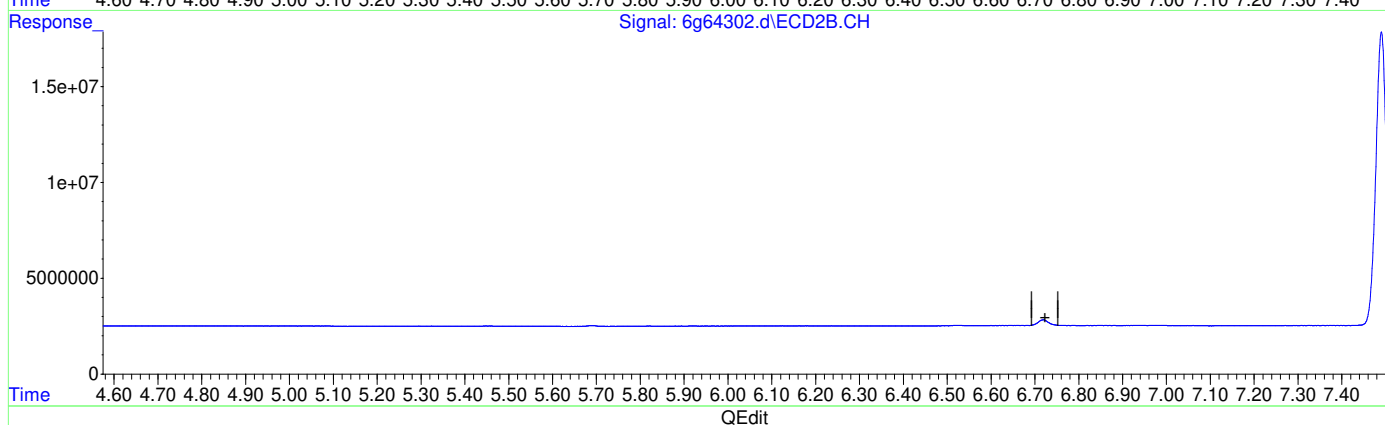
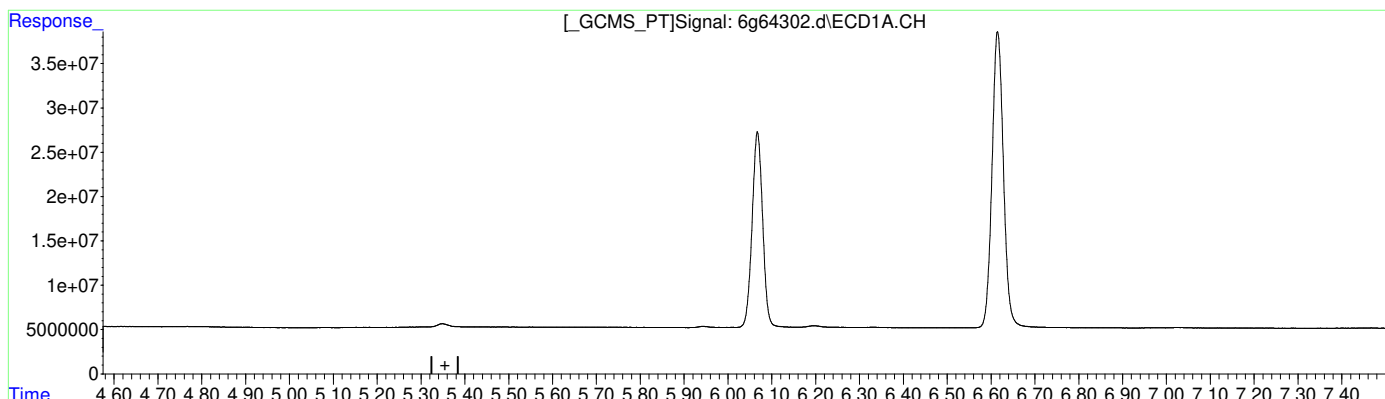


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:03:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(15) 4,4'-DDE (B)  
 0.000min 0.000 PPB  
 response 0

(15) 4,4'-DDE #2 (B)  
 0.000min 0.000 PPB  
 response 0

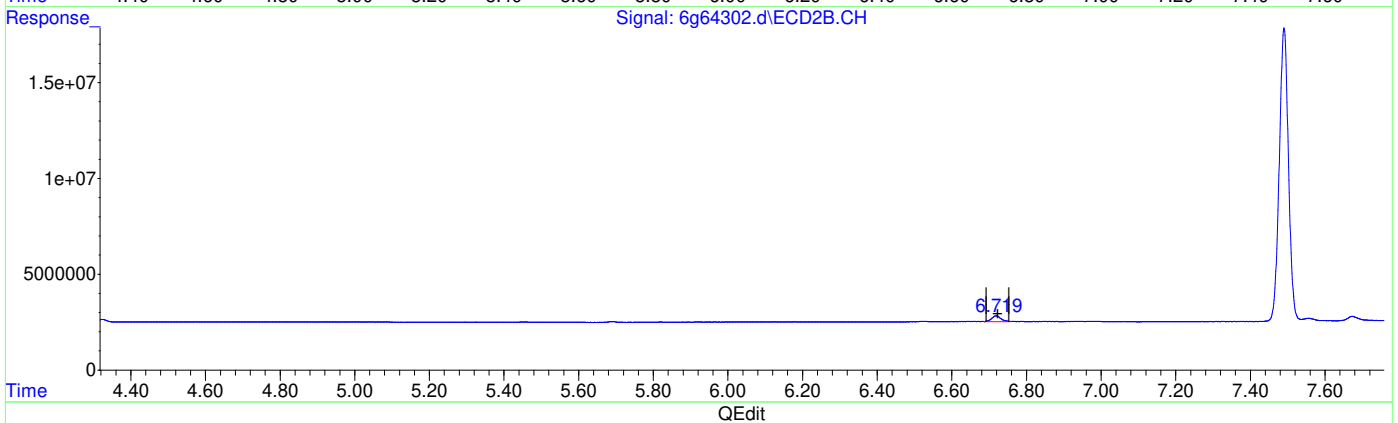
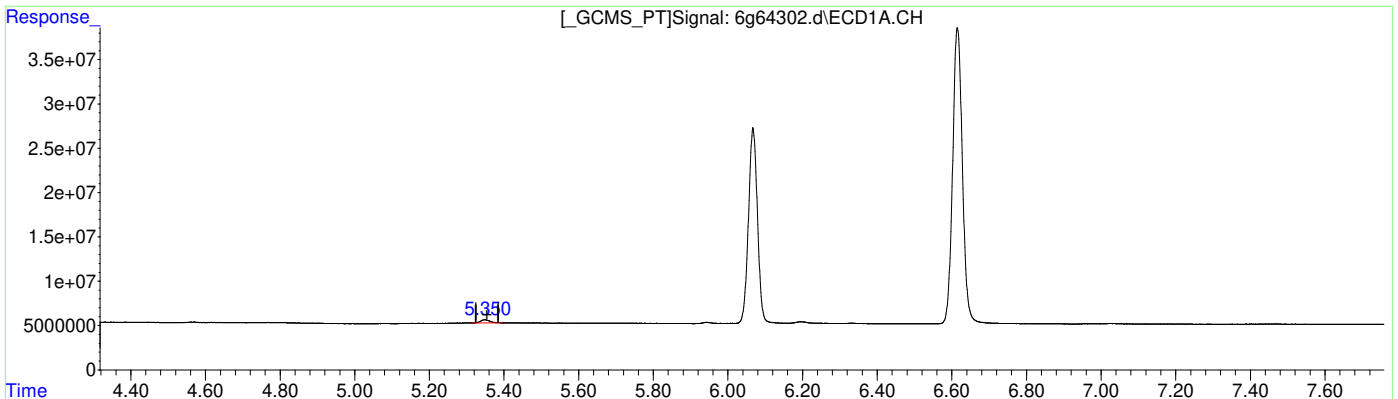
(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 11:03:42 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:03:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(15) 4,4'-DDE (B)  
 5.350min 0.899 PPB m  
 response 6249412

(15) 4,4'-DDE #2 (B)  
 6.719min 1.014 PPB m  
 response 5130059

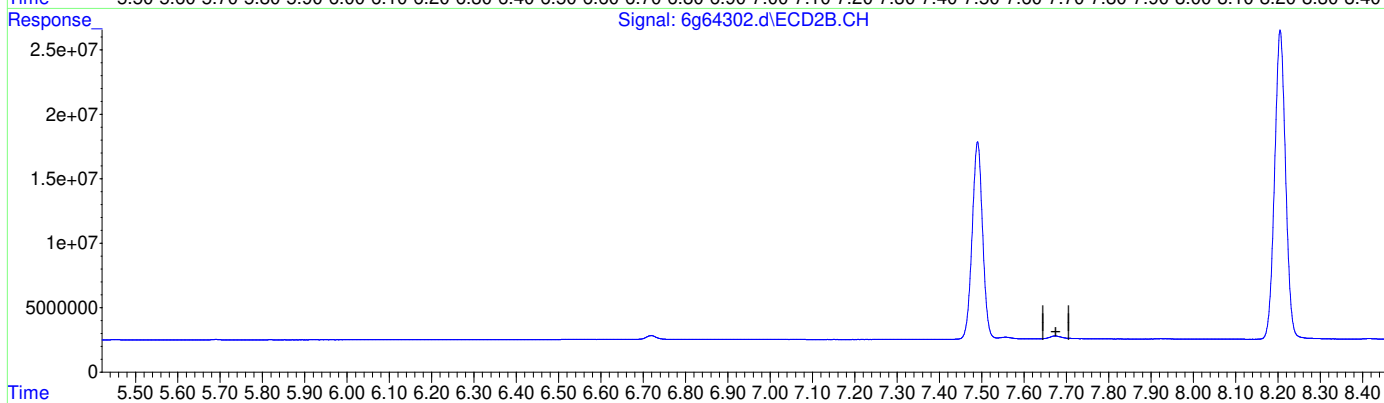
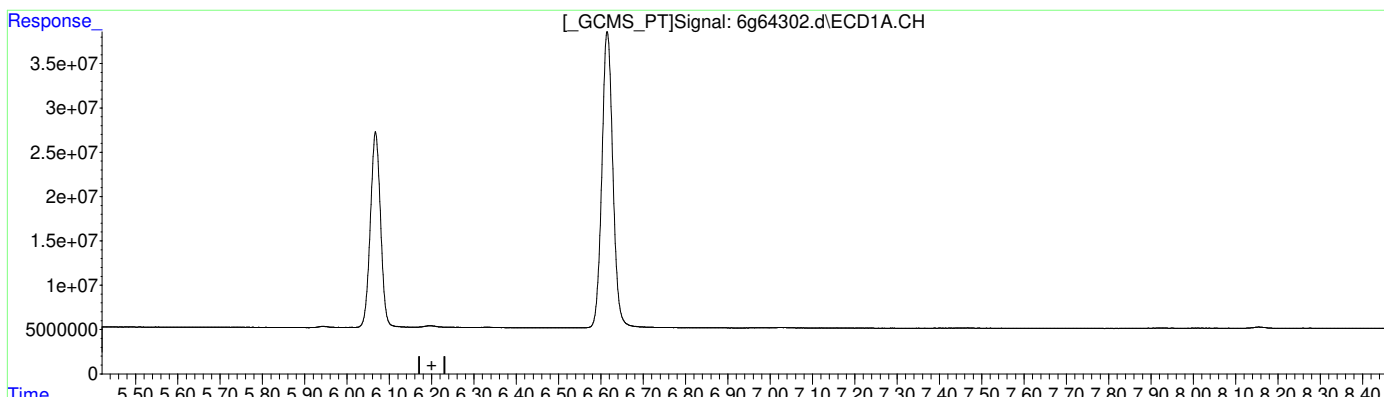
(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 11:04:16 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:03:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



QEdit

(18) 4,4'-DDD (A)	0.000min	0.000 PPB	response 0
(18) 4,4'-DDD #2 (A)	0.000min	0.000 PPB	response 0

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 11:04:22 2019

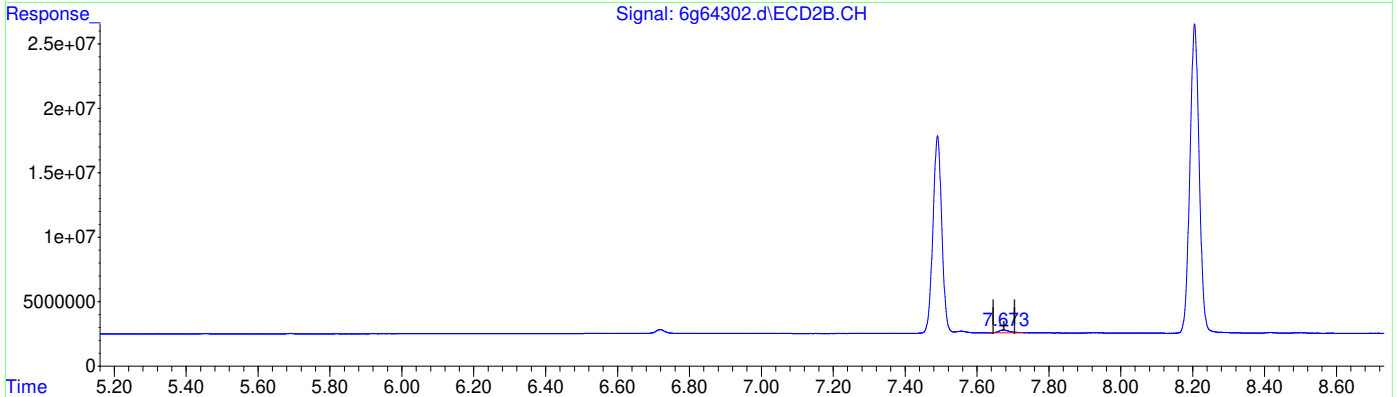
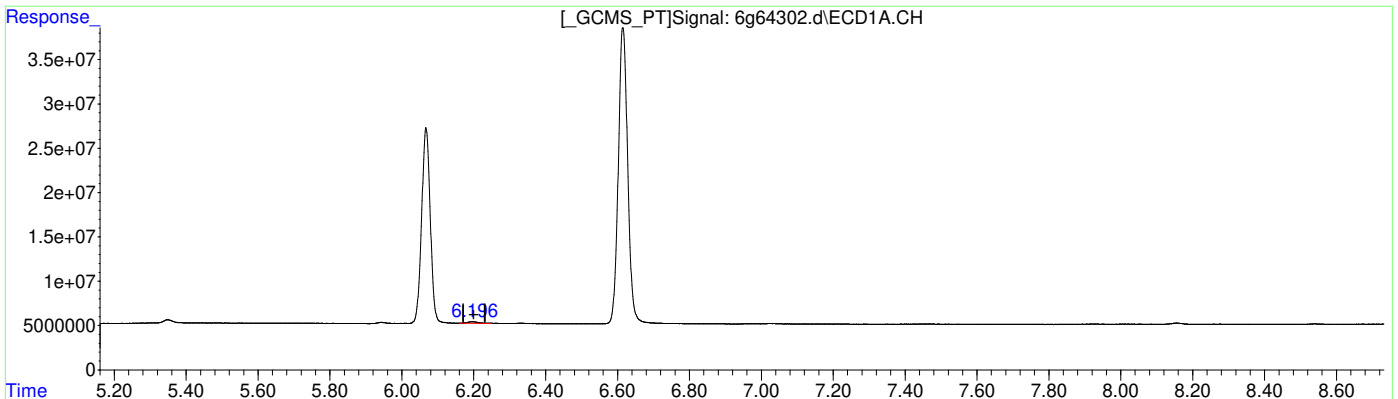
11.5.24  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:03:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



QEdit

(18) 4,4'-DDD (A)	6.196min	0.704 PPB m	response 3482349
(18) 4,4'-DDD #2 (A)	7.673min	1.166 PPB m	response 4973058

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 11:05:15 2019

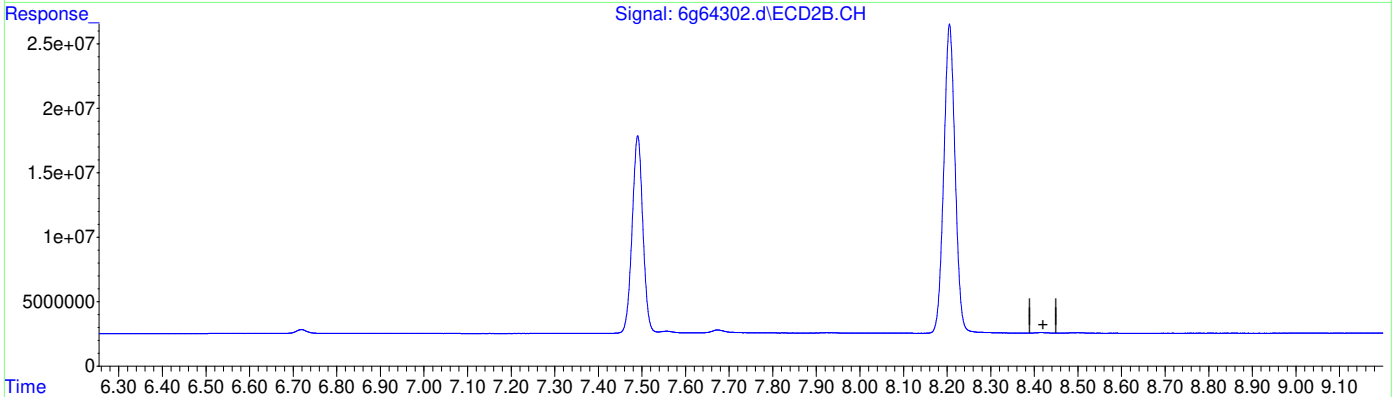
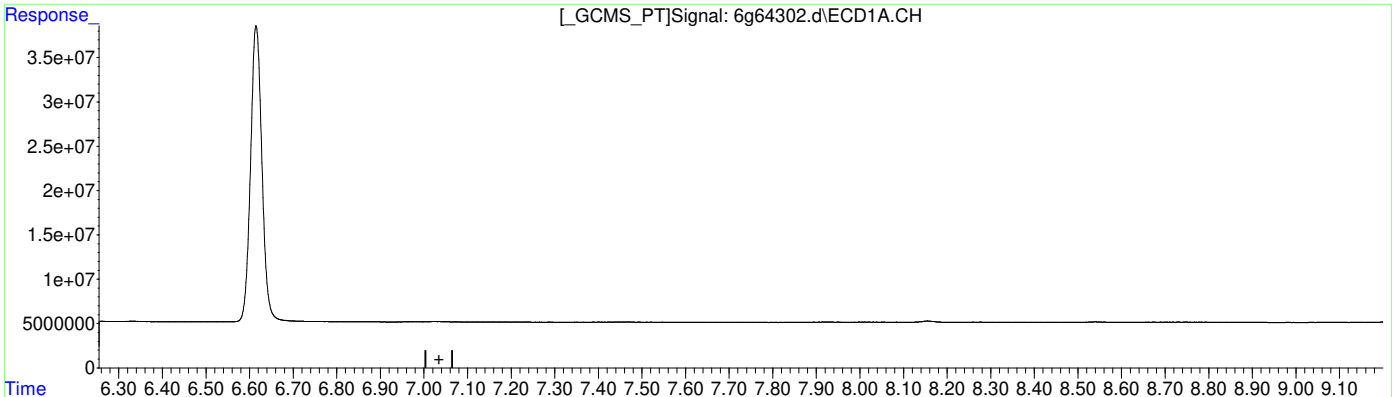
11.5.25  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:03:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



QEdit

(21) Endrin Aldehyde (B)	0.000min	0.000 PPB
response	0	
(21) Endrin Aldehyde #2 (B)	0.000min	0.000 PPB
response	0	

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 11:05:21 2019

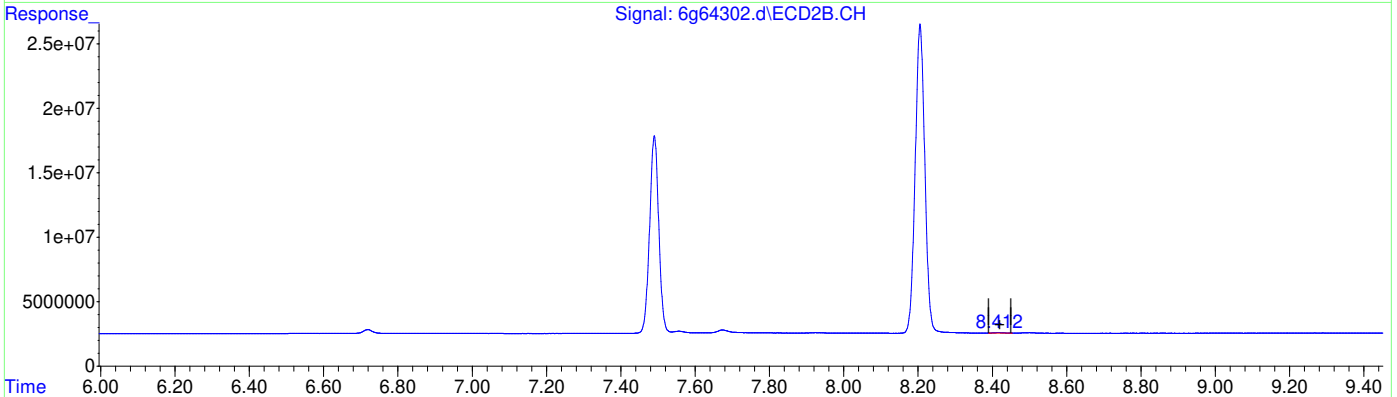
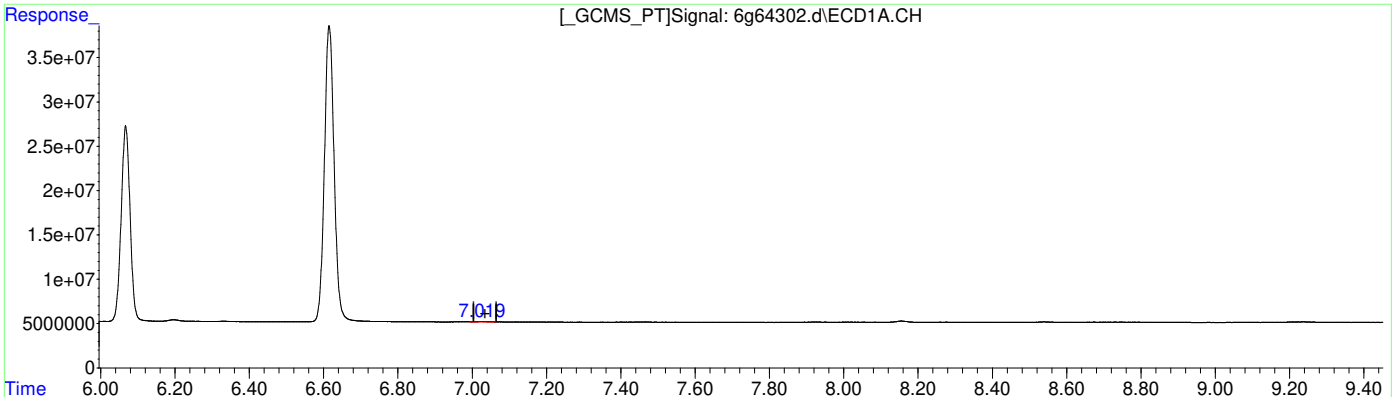
11.5.26 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:03:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)  
 7.019min 0.195 PPB m  
 response 1063986

(21) Endrin Aldehyde #2 (B)  
 8.412min 0.207 PPB m  
 response 827927

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 11:05:50 2019

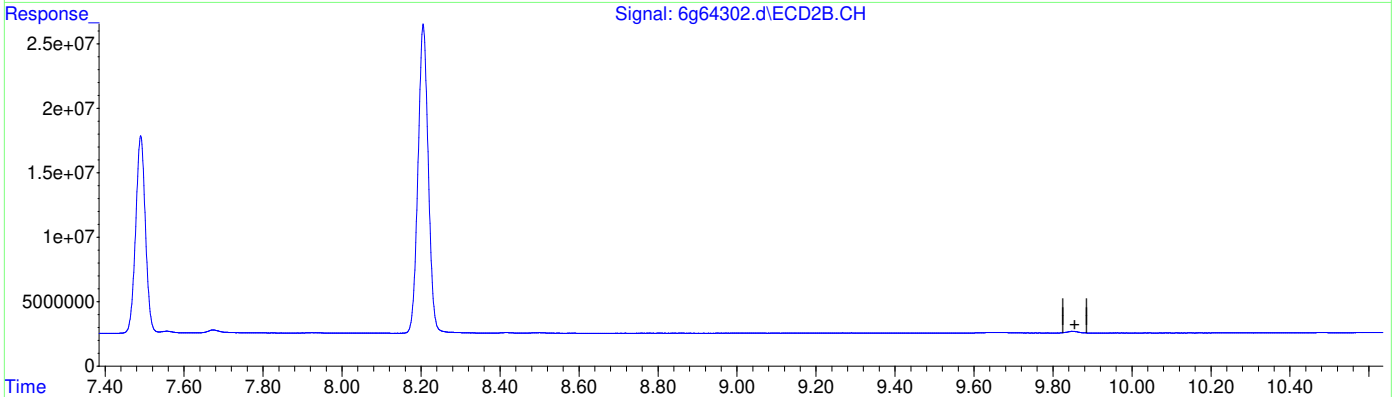
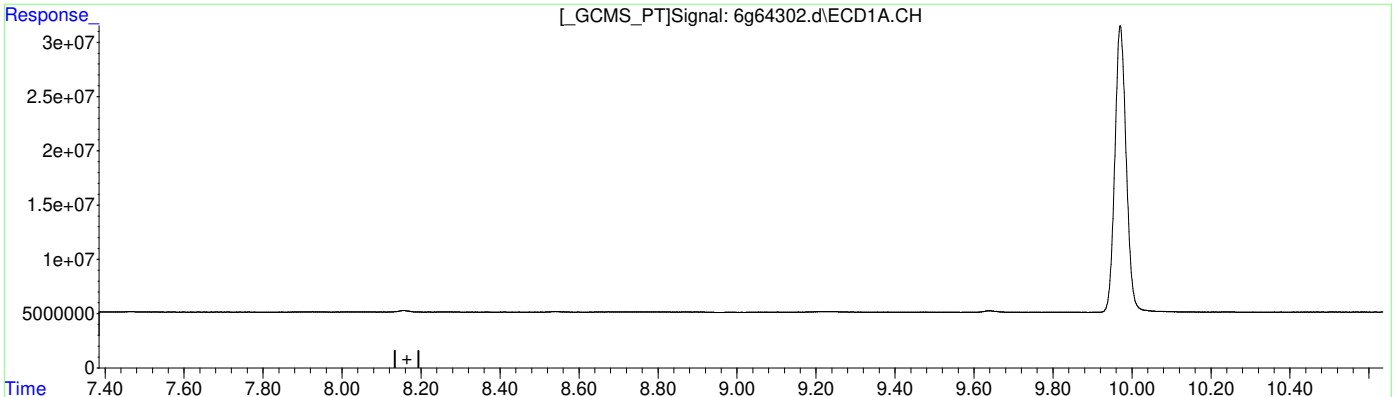
11.5.27  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:03:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(25) Endrin Ketone (B)  
 0.000min 0.000 PPB  
 response 0

(25) Endrin Ketone #2 (B)  
 0.000min 0.000 PPB  
 response 0

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 11:05:56 2019

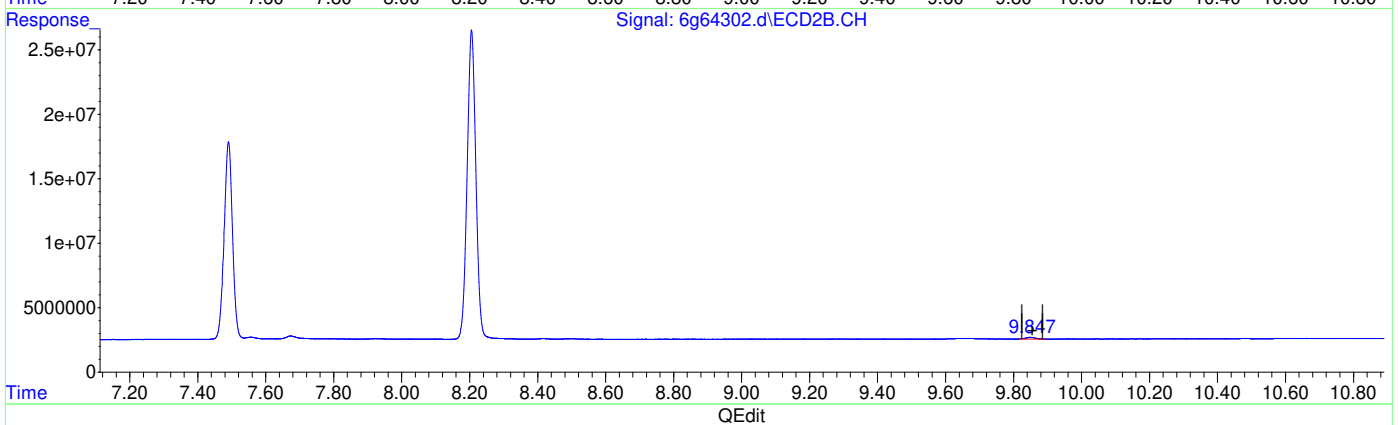
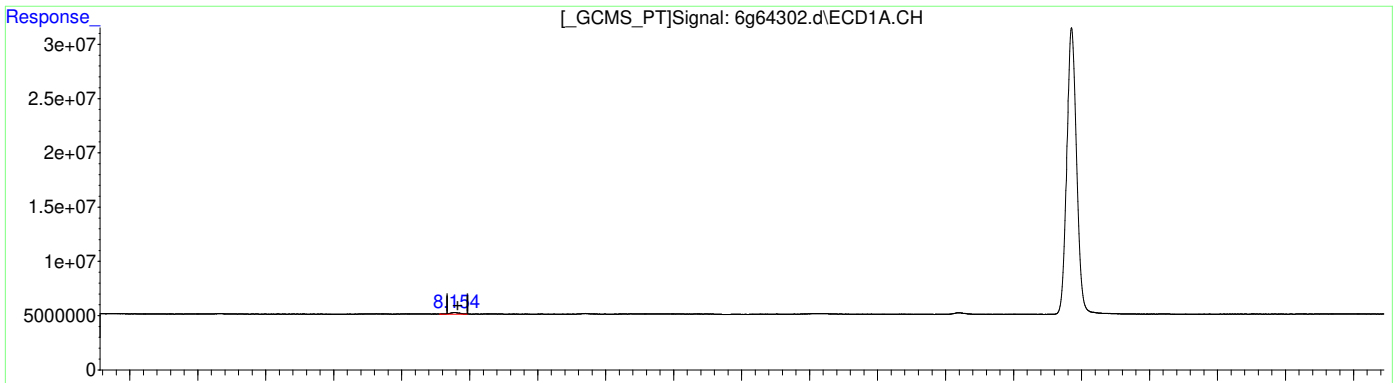
11.5.28  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64302.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:42:01  
 Operator : thomasl  
 Sample : ddt  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:03:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(25) Endrin Ketone (B)

8.154min 0.487 PPB m

response 3178973

(25) Endrin Ketone #2 (B)

9.847min 0.548 PPB m

response 2684105

(+) = Expected Retention Time  
 6PST1951.M Thu Apr 18 11:06:26 2019

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:43:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.617	4.378	68418084	28484062	1.986m	1.780
Spiked Amount	40.000		Recovery	=	4.96%	4.45%
51) S Decachlor...	19.238f	22.644f	67279962	30816095	1.913	1.710
Spiked Amount	40.000		Recovery	=	4.78%	4.27%
Target Compounds						
41) AR1016-A	4.299	5.566f	34469869	14365741	58.283m	55.119
42) AR1016-B	5.033	6.613f	68464490	28905471	64.348	55.455
43) AR1016-C	6.098	7.878	135.5E6	62847709	58.961	55.183
44) AR1016-D	6.416	8.257	59531207	24454053	63.803	54.997
45) AR1016-E	7.459	9.650	59958834	20199308	61.198	56.856
46) AR1260-A	12.635	15.466f	133.8E6	58689170	49.699m	44.076m
47) AR1260-B	13.018	15.760f	79204696	36524682	58.624	51.789
48) AR1260-C	13.771	16.726f	94953304	34819326	68.036	50.762 #
49) AR1260-D	14.772	17.567f	187.5E6	85907448	56.394	48.981
50) AR1260-E	15.648	18.779f	204.3E6	91190430	57.378m	52.890m

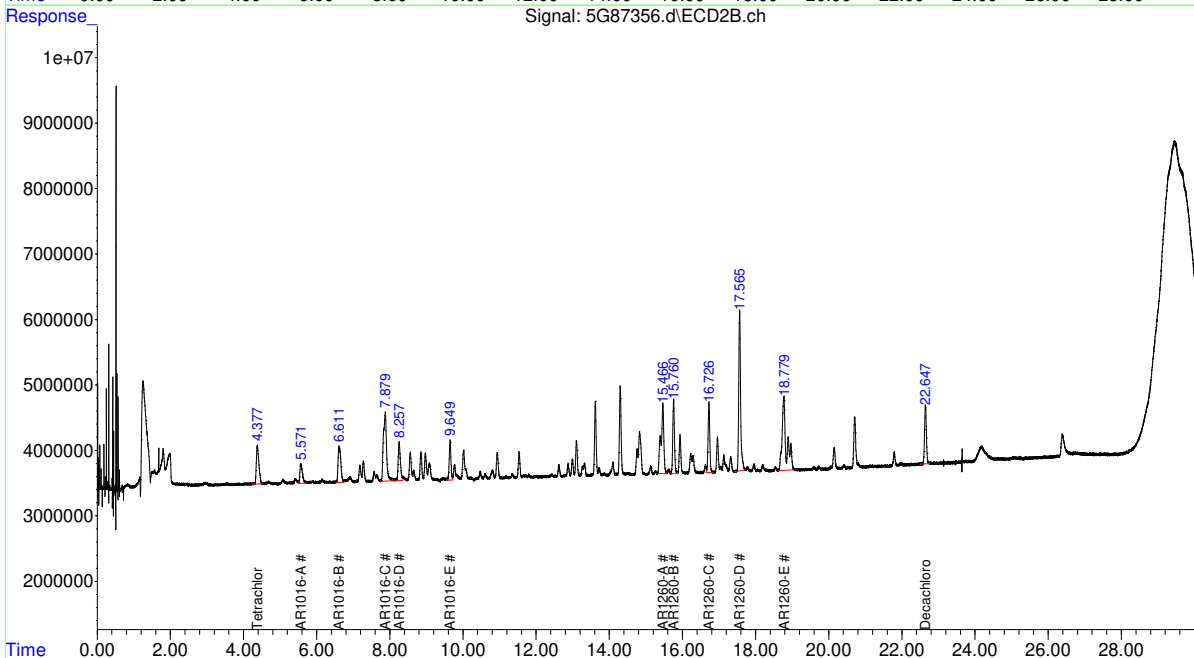
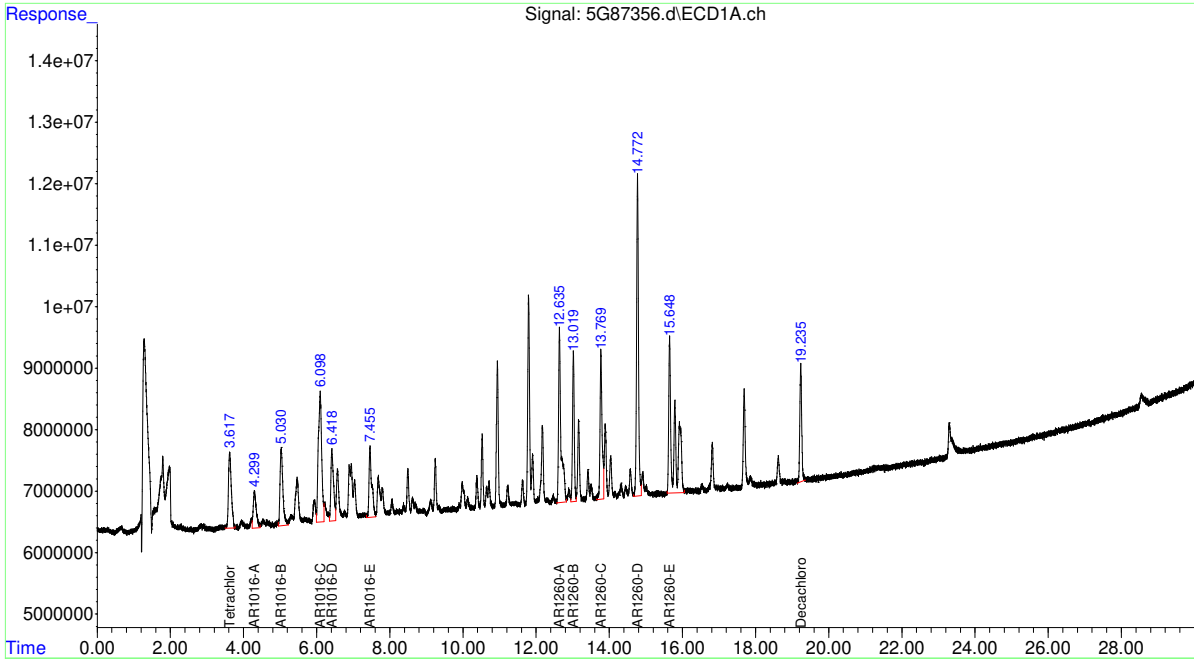
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.1  
11

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:43:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-IC2101      Method: EPA 608  
Lab FileID: 5G87356.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 15:28      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrachloro-m-xylene	877-09-8	1	3.62	Poorly defined baseline
AR1016-A		1	4.30	Split peak
AR1260-A		1	12.64	Split peak
AR1260-A		2	15.47	Split peak
AR1260-E		1	15.65	Split peak
AR1260-E		2	18.78	Split peak

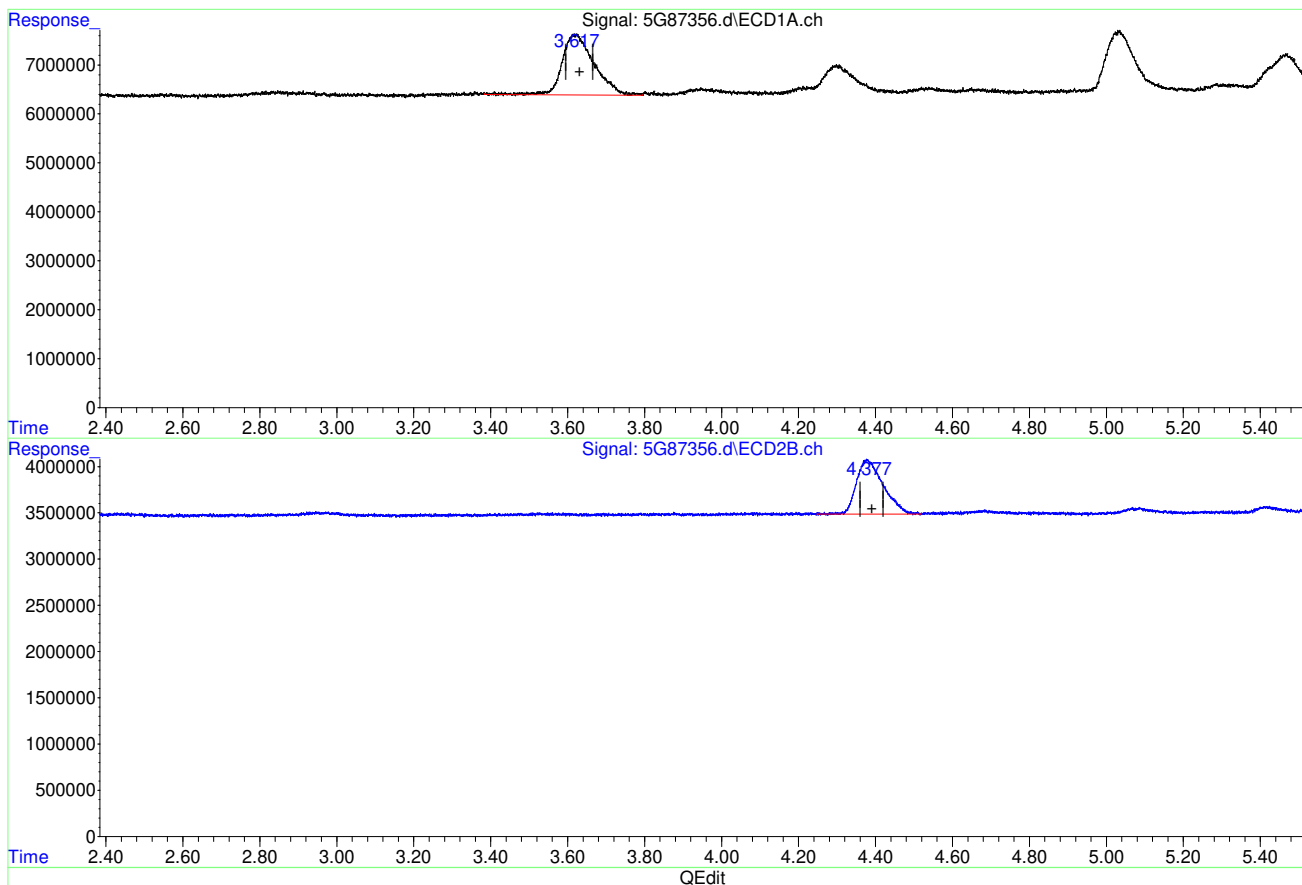
11.6.1.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:41:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(1) Tetrachloro-m-xylene (S)

3.623min 2.092 ppb

response 72059462

(1) Tetrachloro-m-xylene #2 (S)

4.378min 1.780 ppb

response 28484062

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:41:51 2019

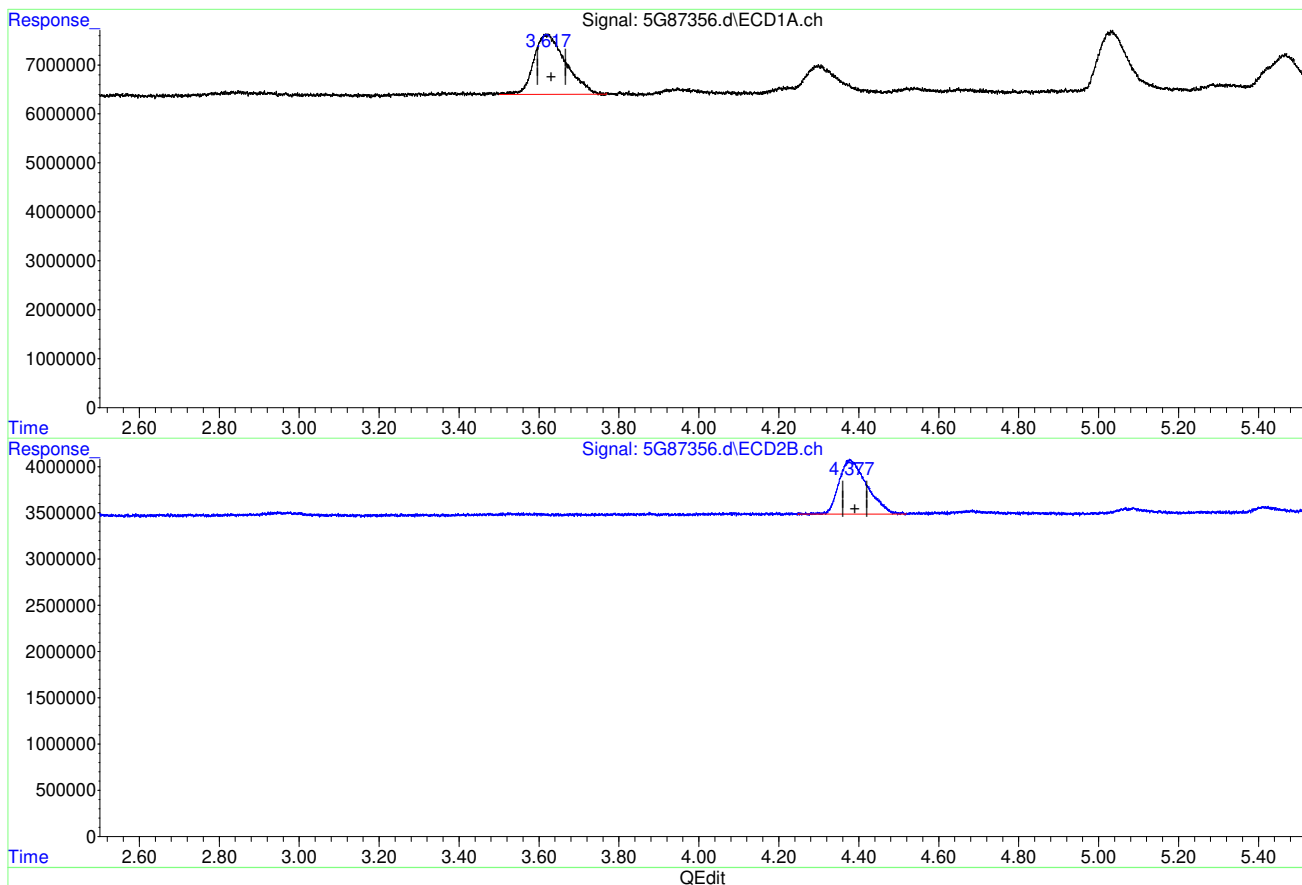
11.6.12  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:41:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(1) Tetrachloro-m-xylene (S)

3.617min 1.986 ppb m

response 68418084

(1) Tetrachloro-m-xylene #2 (S)

4.378min 1.780 ppb

response 28484062

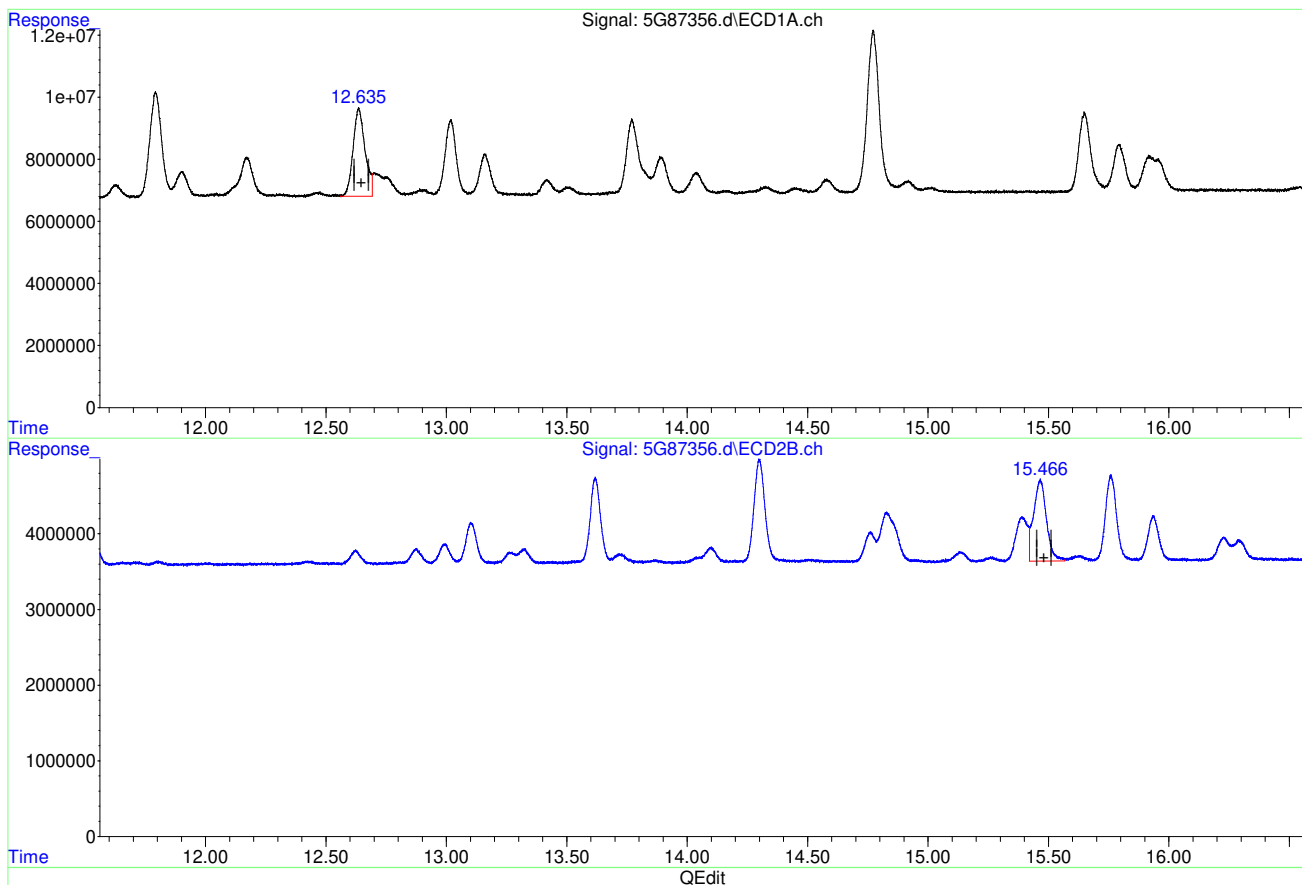
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:41:57 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:41:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.636min 36.362 PPB  
 response 97915099

(46) AR1260-A #2  
 15.466min 29.890 PPB  
 response 39800334

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:42:18 2019

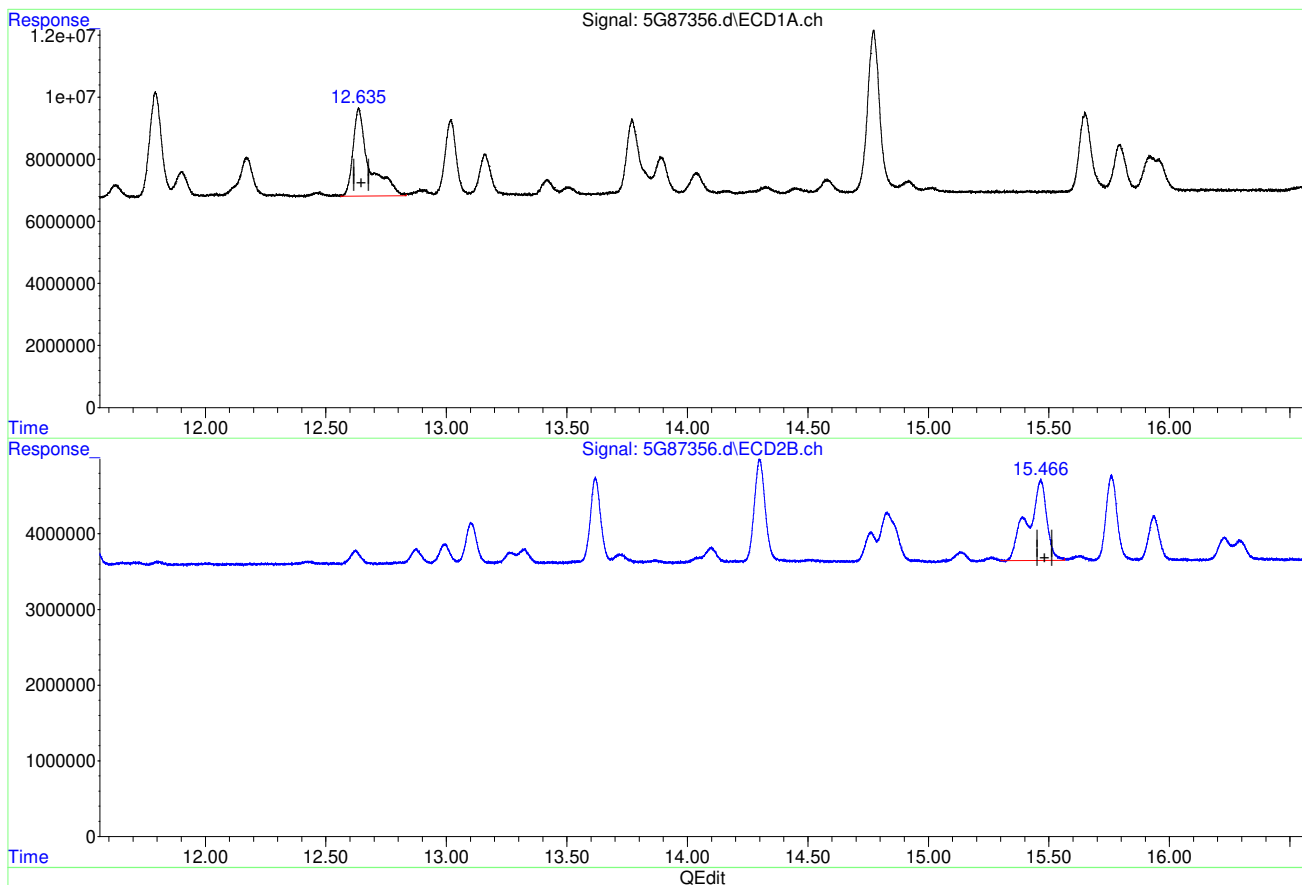
11.6.14  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:41:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.635min 49.699 PPB m  
 response 133829086

(46) AR1260-A #2  
 15.466min 44.076 PPB m  
 response 58689170

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:42:27 2019

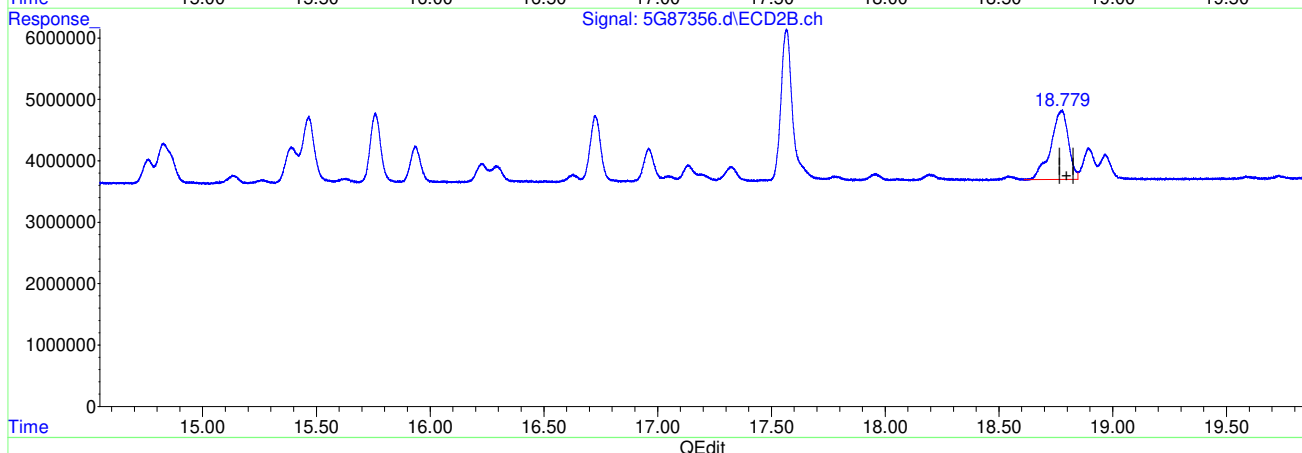
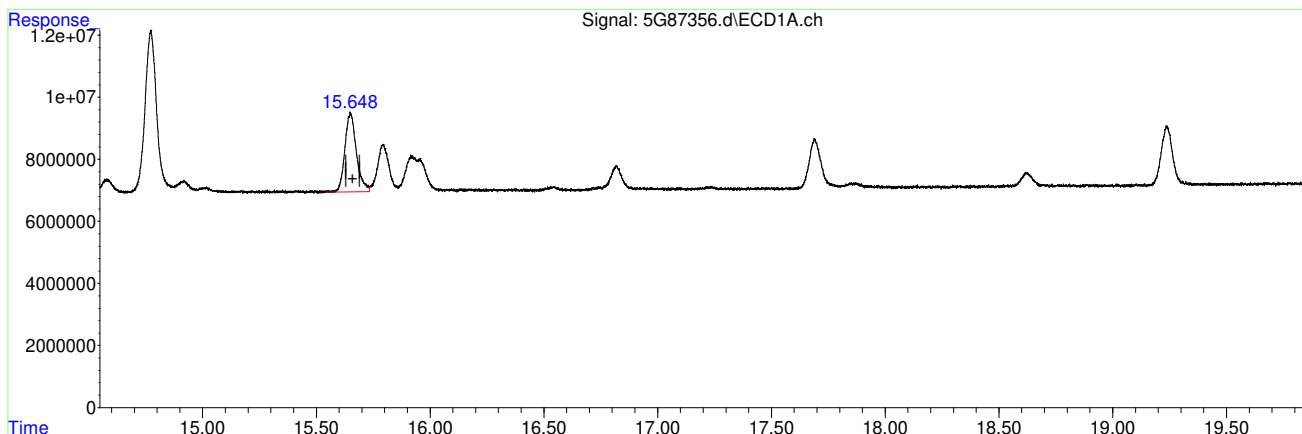
11.6.1.5  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:41:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.650min 25.217 PPB  
 response 89809464

(50) AR1260-E #2  
 18.776min 35.279 PPB  
 response 60826807

(+) = Expected Retention Time

11.6.16  
11

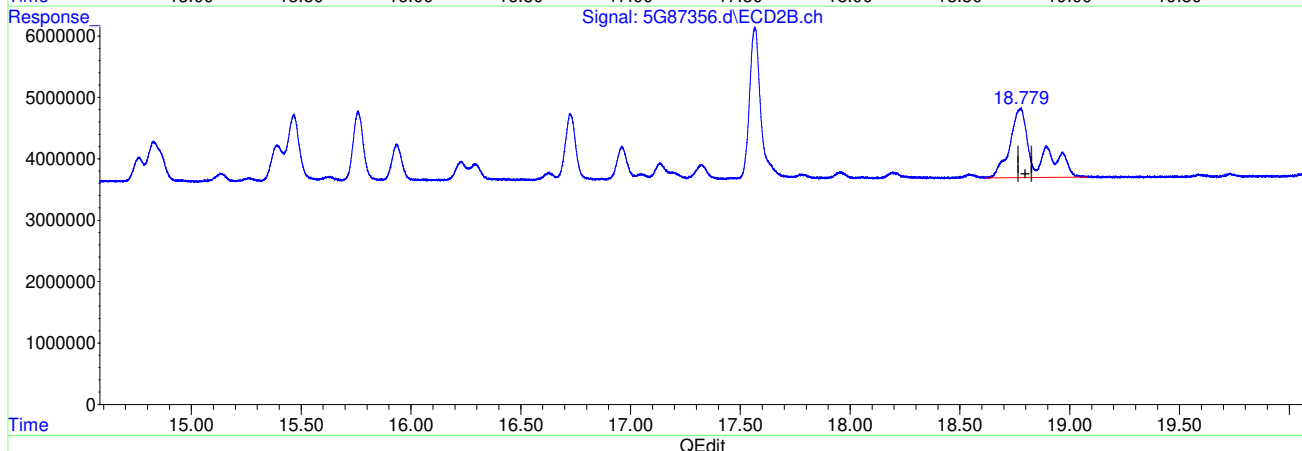
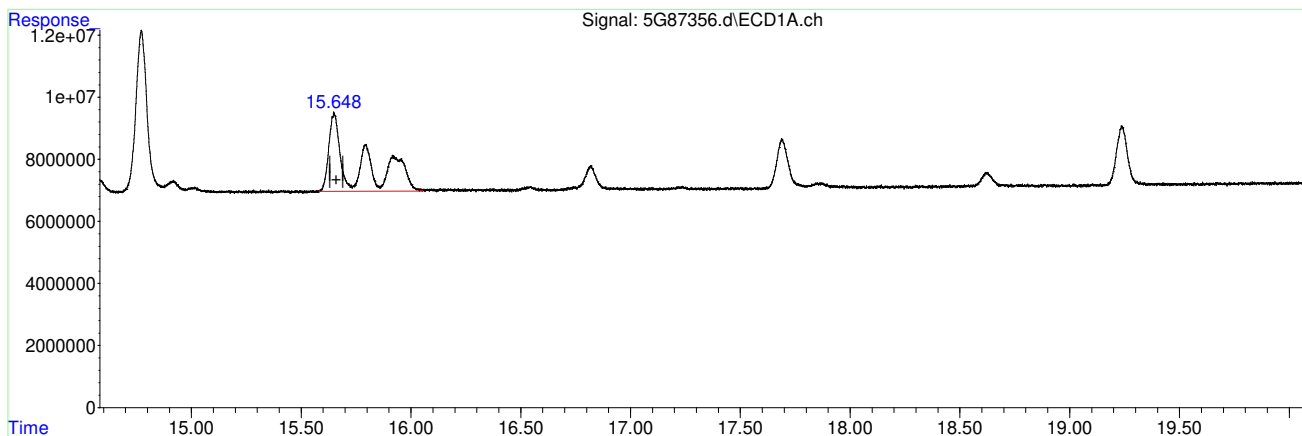


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:41:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase: RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.648min 57.378 PPB m  
 response 204347352

(50) AR1260-E #2  
 18.779min 52.890 PPB m  
 response 91190430

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:42:39 2019

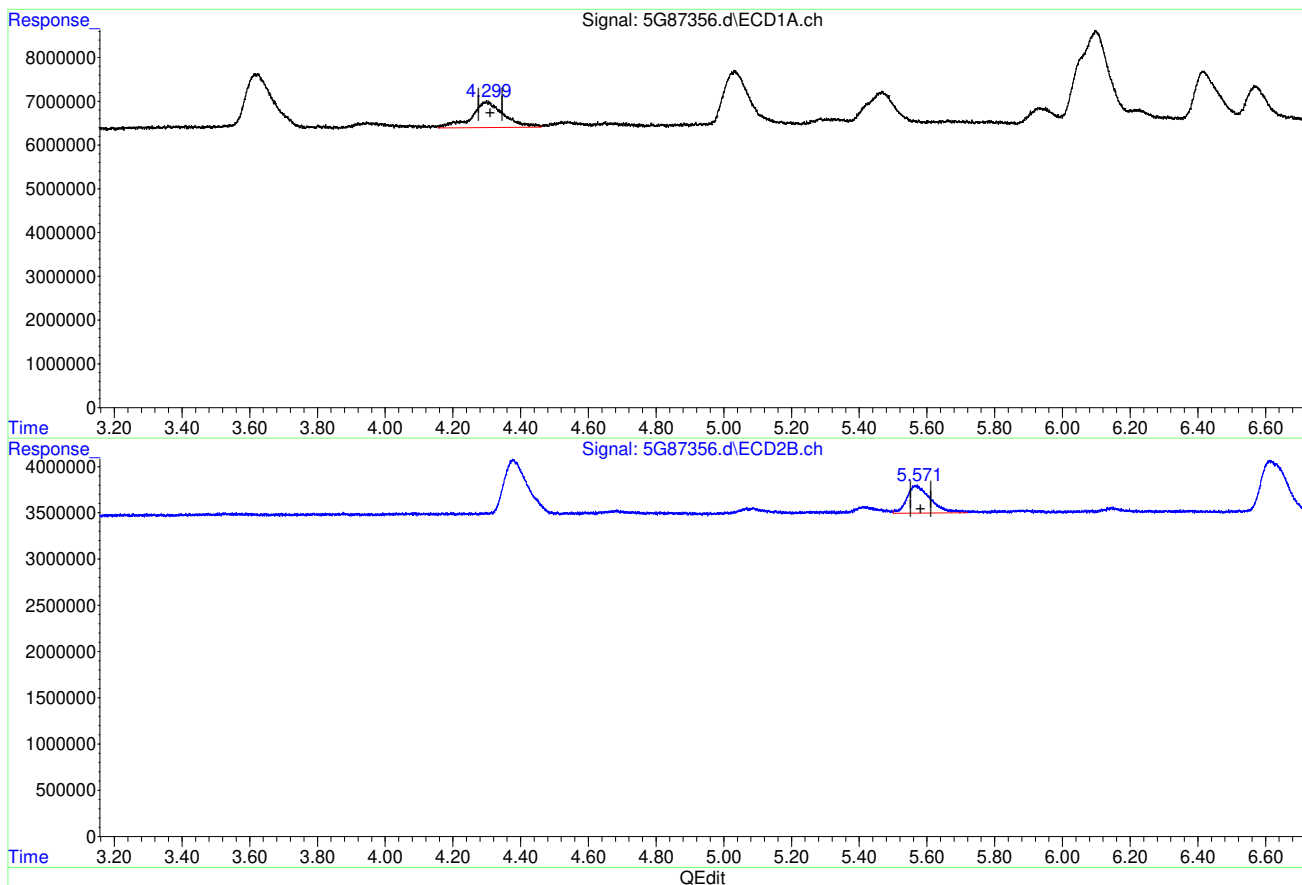
11.6.17  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:42:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(41) AR1016-A  
 4.299min 66.040 PPB  
 response 39057914

(41) AR1016-A #2  
 5.566min 55.119 PPB  
 response 14365741

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:43:07 2019

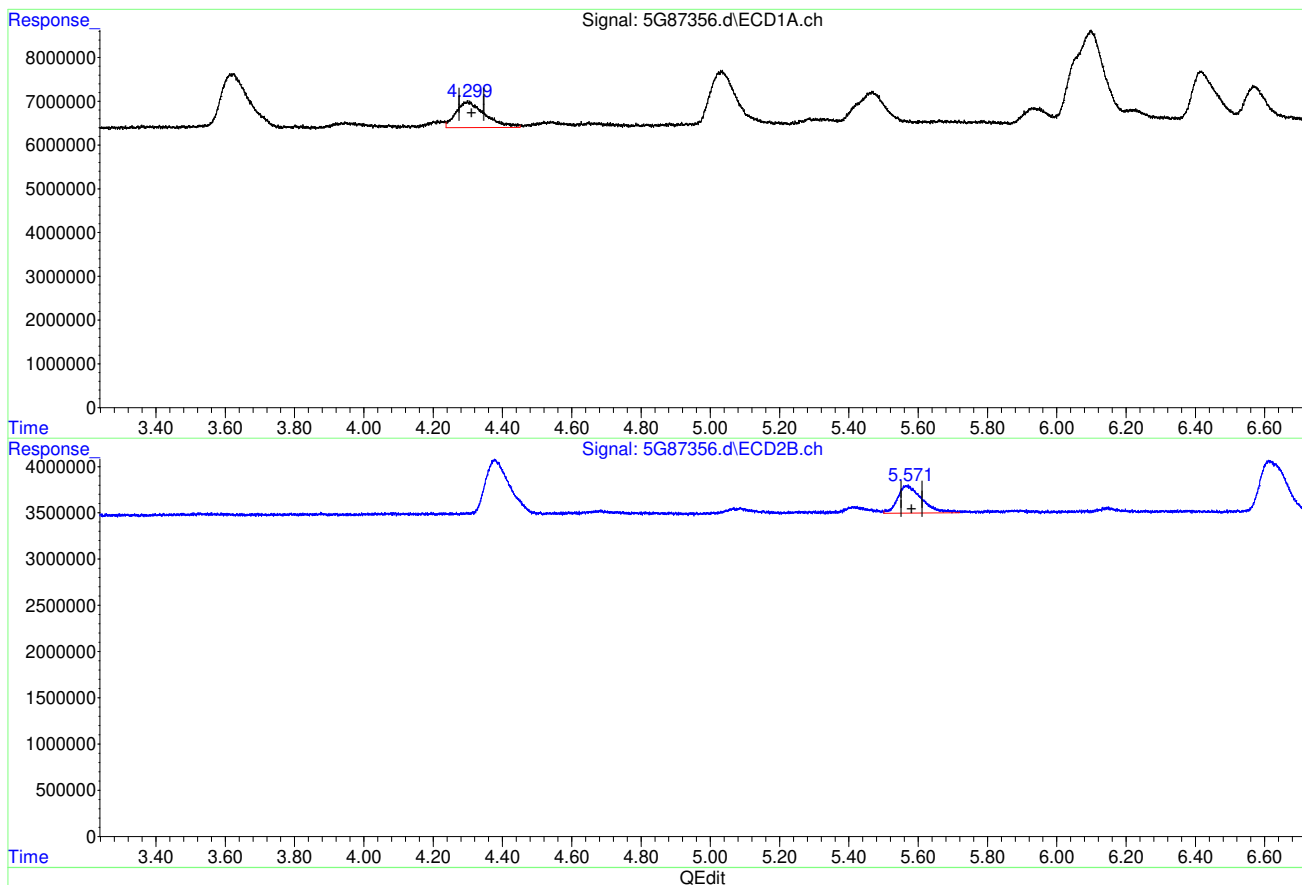
11.6.18  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87356.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 3:28 pm  
 Operator : summerk  
 Sample : ic2101-50  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:42:38 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(41) AR1016-A  
 4.299min 58.283 PPB m  
 response 34469869

(41) AR1016-A #2  
 5.566min 55.119 PPB  
 response 14365741

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:43:13 2019

11.6.1.9  
 11

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87357.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:00 pm  
 Operator : summerk  
 Sample : ic2101-250  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:44:06 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.620	4.379	323.3E6	134.1E6	9.384	8.379
Spiked Amount	40.000		Recovery	=	23.46%	20.95%
51) S Decachlor...	19.239	22.643f	314.4E6	145.5E6	8.936	8.075
Spiked Amount	40.000		Recovery	=	22.34%	20.19%
Target Compounds						
41) AR1016-A	4.300	5.570	145.6E6	61609334	246.236m	236.386
42) AR1016-B	5.032	6.613f	292.8E6	130.2E6	275.234	249.718
43) AR1016-C	6.097	7.878	604.4E6	286.2E6	262.987	251.276
44) AR1016-D	6.415	8.256f	254.7E6	112.2E6	272.956	252.267
45) AR1016-E	7.459	9.650	252.8E6	86571802	258.002	243.676
46) AR1260-A	12.638	15.466f	611.3E6	280.9E6	227.006	210.945m
47) AR1260-B	13.016	15.761f	357.3E6	169.2E6	264.486	239.980
48) AR1260-C	13.771	16.726f	378.2E6	165.2E6	271.005	240.803
49) AR1260-D	14.771	17.566f	868.0E6	421.7E6	261.017	240.454
50) AR1260-E	15.651	18.783	964.3E6	432.2E6	270.755m	250.667m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

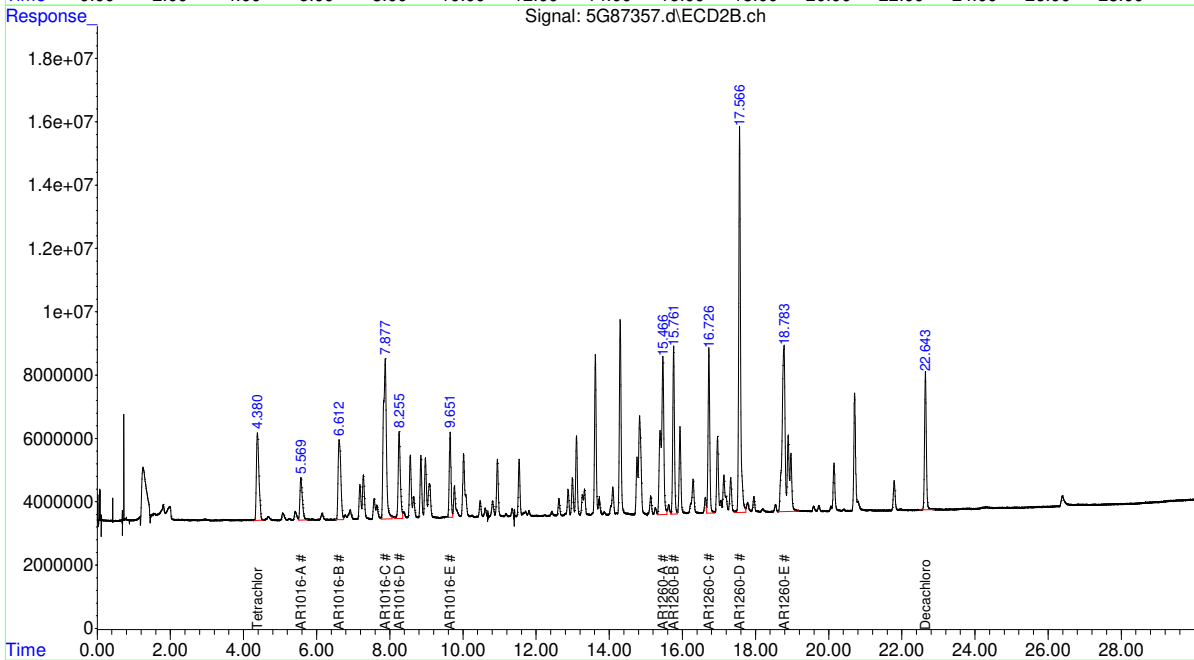
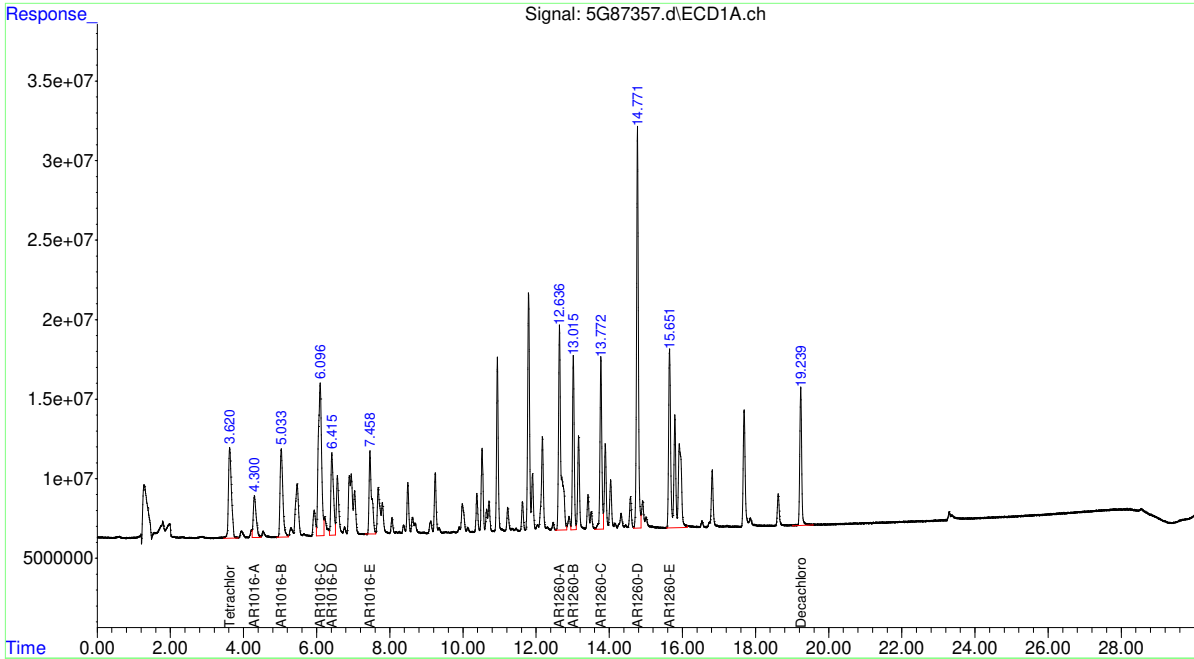
11.6.2  
11



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87357.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:00 pm  
 Operator : summerk  
 Sample : ic2101-250  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:44:06 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase: RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-IC2101      Method: EPA 608  
Lab FileID: 5G87357.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 16:00      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-A		1	4.30	Split peak
AR1260-A		2	15.47	Split peak
AR1260-E		1	15.65	Split peak
AR1260-E		2	18.78	Split peak

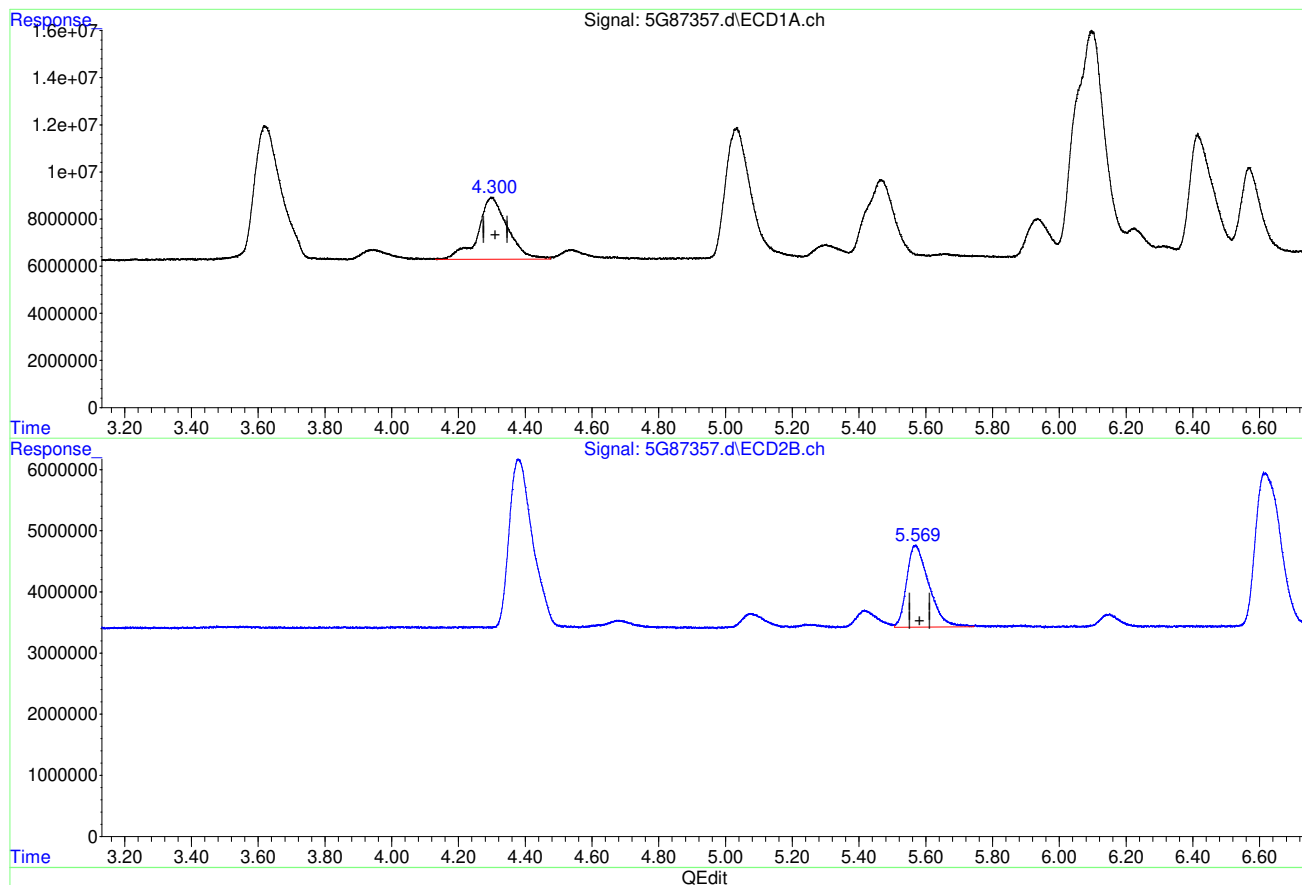
11.6.2.1  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87357.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:00 pm  
 Operator : summerk  
 Sample : ic2101-250  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:42:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(41) AR1016-A  
 4.300min 274.148 PPB  
 response 162138026

(41) AR1016-A #2  
 5.570min 236.386 PPB  
 response 61609334

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:43:31 2019

Page: 1

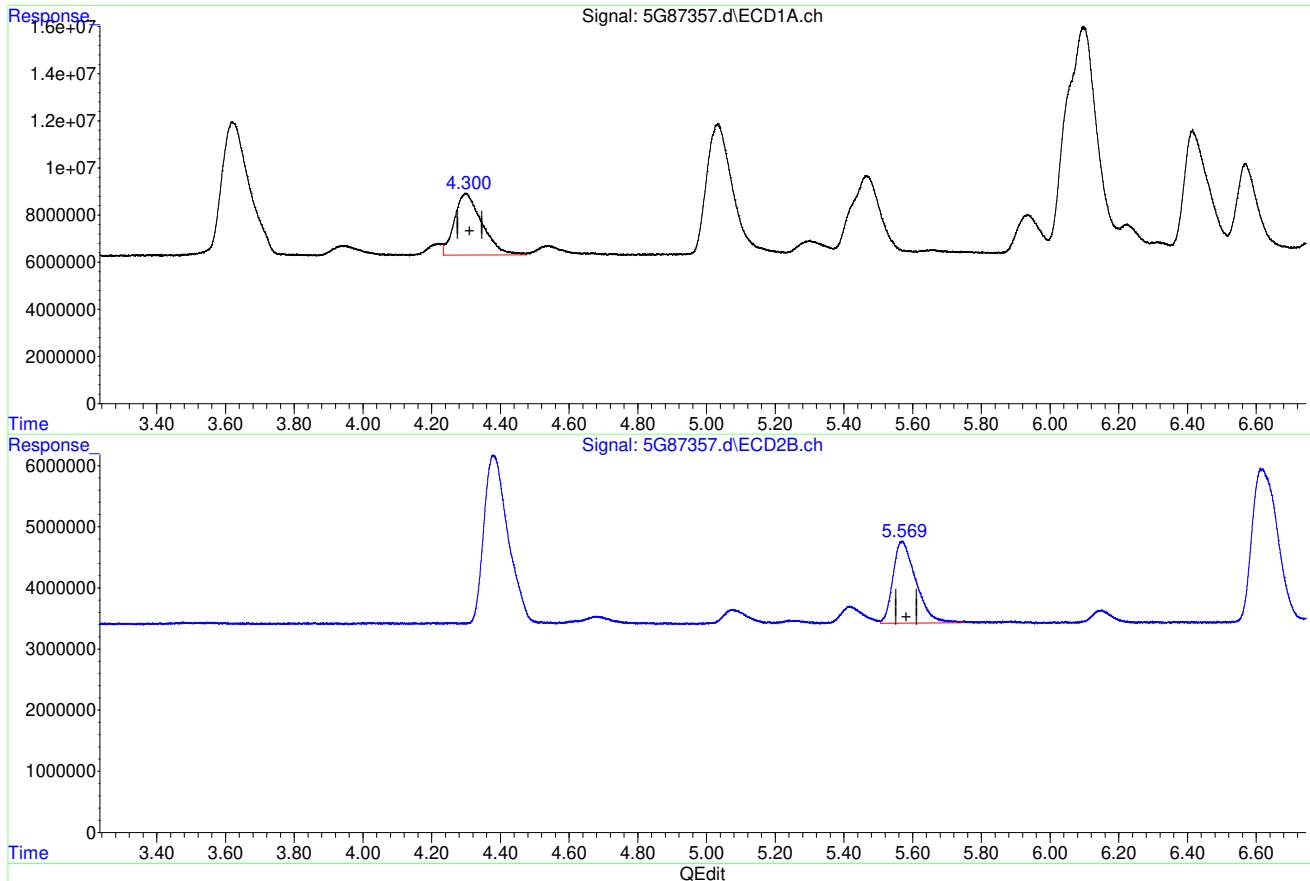
1201 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87357.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:00 pm  
 Operator : summerk  
 Sample : ic2101-250  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:42:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(41) AR1016-A  
 4.300min 246.236 PPB m  
 response 145630003

(41) AR1016-A #2  
 5.570min 236.386 PPB  
 response 61609334

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:43:42 2019

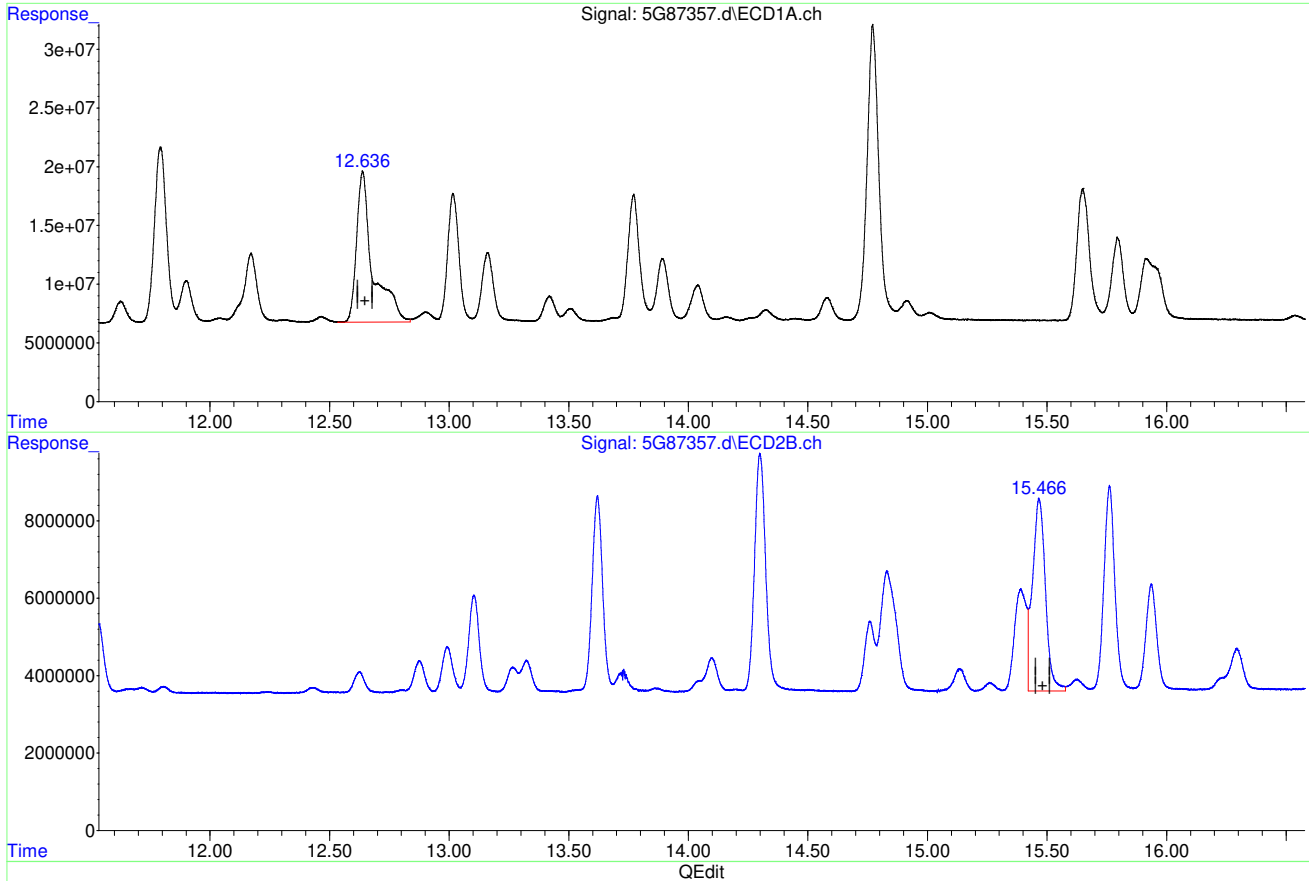


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87357.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:00 pm  
 Operator : summerk  
 Sample : ic2101-250  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:42:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.638min 227.006 PPB  
 response 611277815

(46) AR1260-A #2  
 15.466min 140.196 PPB  
 response 186677973

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:43:48 2019

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SGS

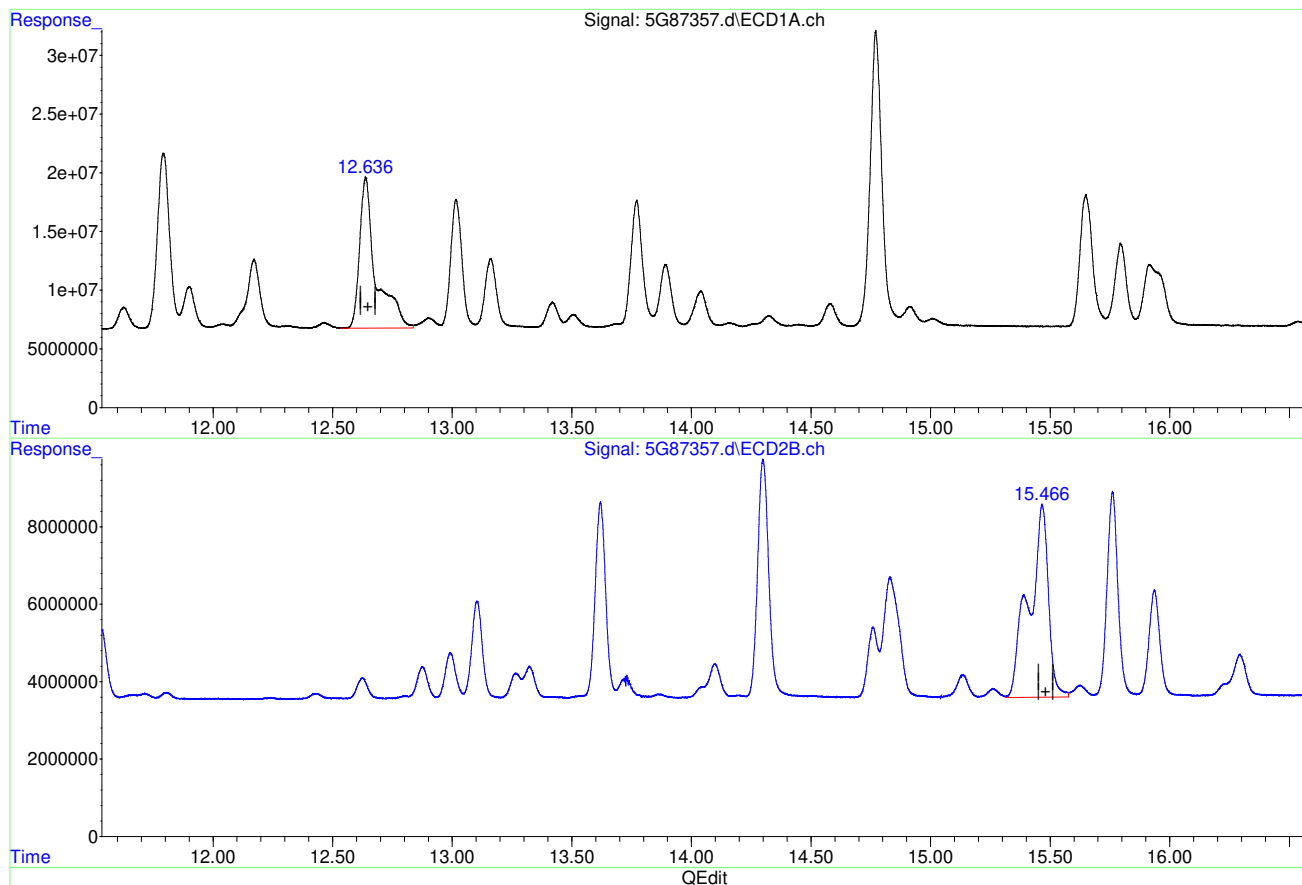
1203 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87357.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:00 pm  
 Operator : summerk  
 Sample : ic2101-250  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:42:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.638min 227.006 PPB  
 response 611277815

(46) AR1260-A #2  
 15.466min 210.945 PPB m  
 response 280882977

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:43:53 2019

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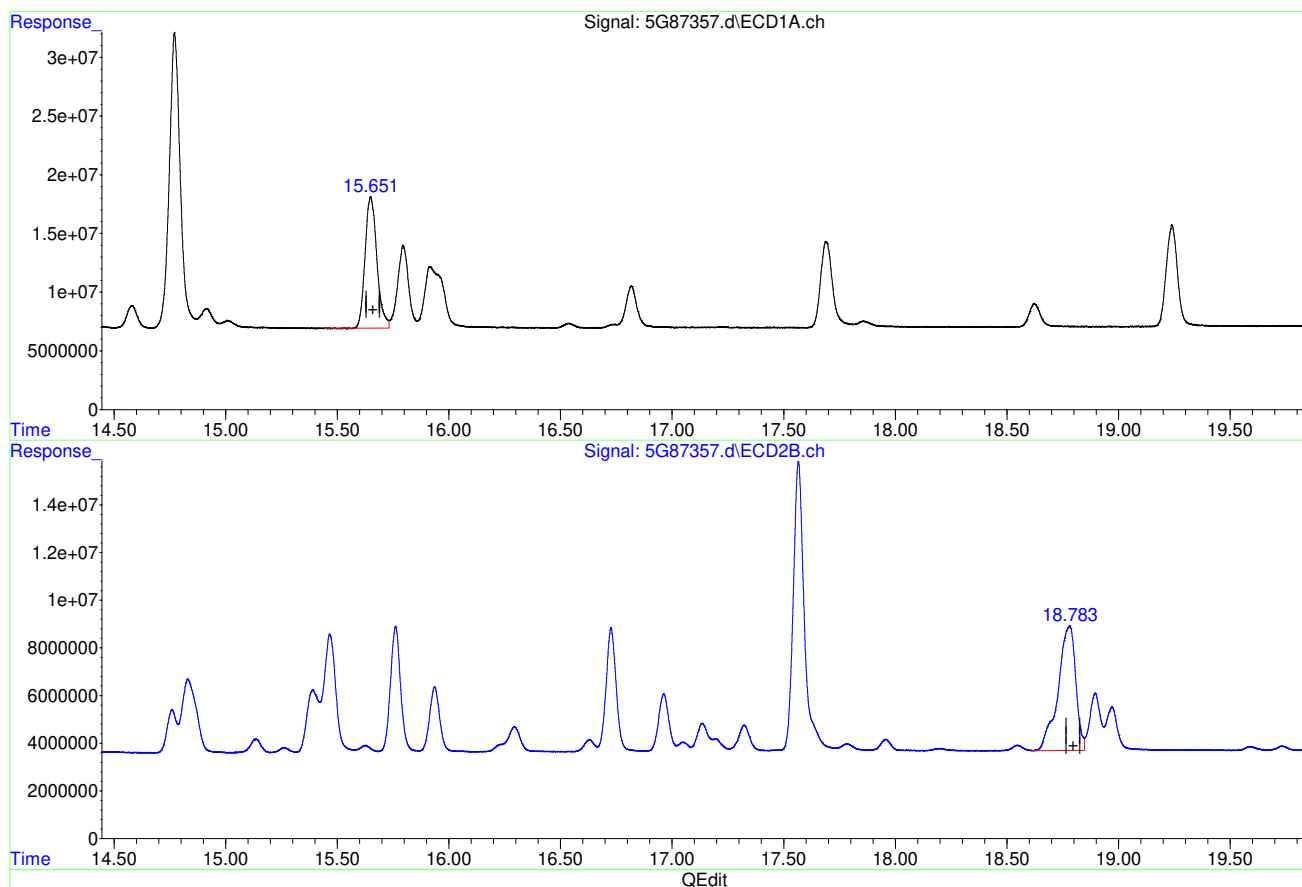
1204 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87357.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:00 pm  
 Operator : summerk  
 Sample : ic2101-250  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:42:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.649min 115.441 PPB  
 response 411136805

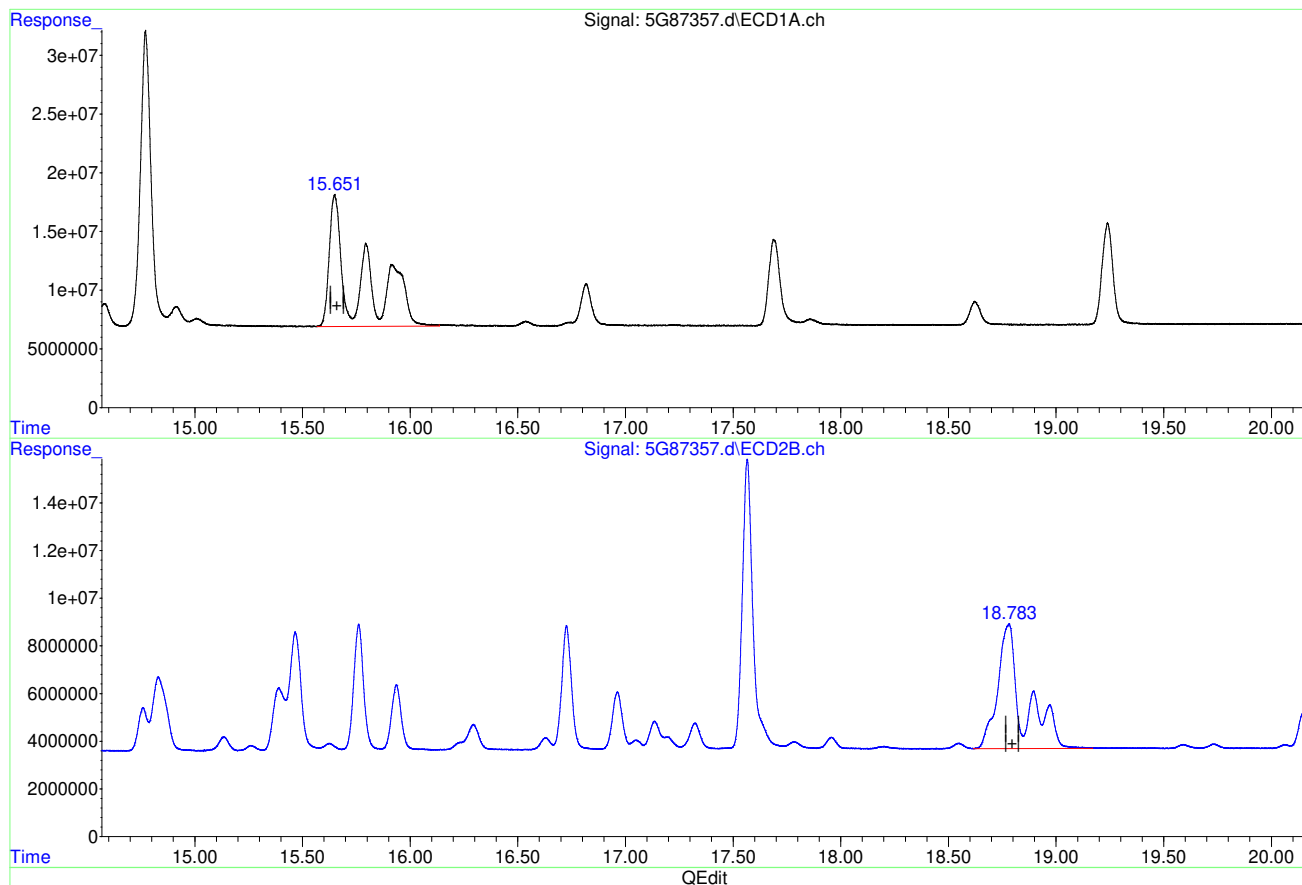
(50) AR1260-E #2  
 18.781min 166.948 PPB  
 response 287842593

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87357.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:00 pm  
 Operator : summerk  
 Sample : ic2101-250  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:42:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E

15.651min 270.755 PPB m

response 964278531

(50) AR1260-E #2

18.783min 250.667 PPB m

response 432187238

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:44:07 2019

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87358.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:32 pm  
 Operator : summerk  
 Sample : ic2101-500  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:02 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.616f	4.379	626.6E6	272.0E6	18.187m	16.993
Spiked Amount	40.000		Recovery	=	45.47%	42.48%
51) S Decachlor...	19.237f	22.643f	598.1E6	291.4E6	17.002	16.169
Spiked Amount	40.000		Recovery	=	42.50%	40.42%
Target Compounds						
41) AR1016-A	4.296	5.567	295.1E6	121.0E6	498.882	464.194
42) AR1016-B	5.031	6.615f	567.3E6	254.0E6	533.187	487.350
43) AR1016-C	6.094f	7.874	1167.0E6	569.7E6	507.829	500.226
44) AR1016-D	6.413f	8.257	491.7E6	220.8E6	526.973	496.512
45) AR1016-E	7.458	9.650	499.5E6	171.3E6	509.795	482.042
46) AR1260-A	12.637	15.467f	1199.1E6	555.5E6	445.287m	417.206m
47) AR1260-B	13.017	15.761f	700.8E6	333.6E6	518.724	472.987
48) AR1260-C	13.768	16.726f	706.2E6	327.7E6	505.973	477.783
49) AR1260-D	14.773	17.566f	1705.5E6	850.8E6	512.831	485.063
50) AR1260-E	15.649	18.775f	1931.0E6	864.8E6	542.200m	501.572m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

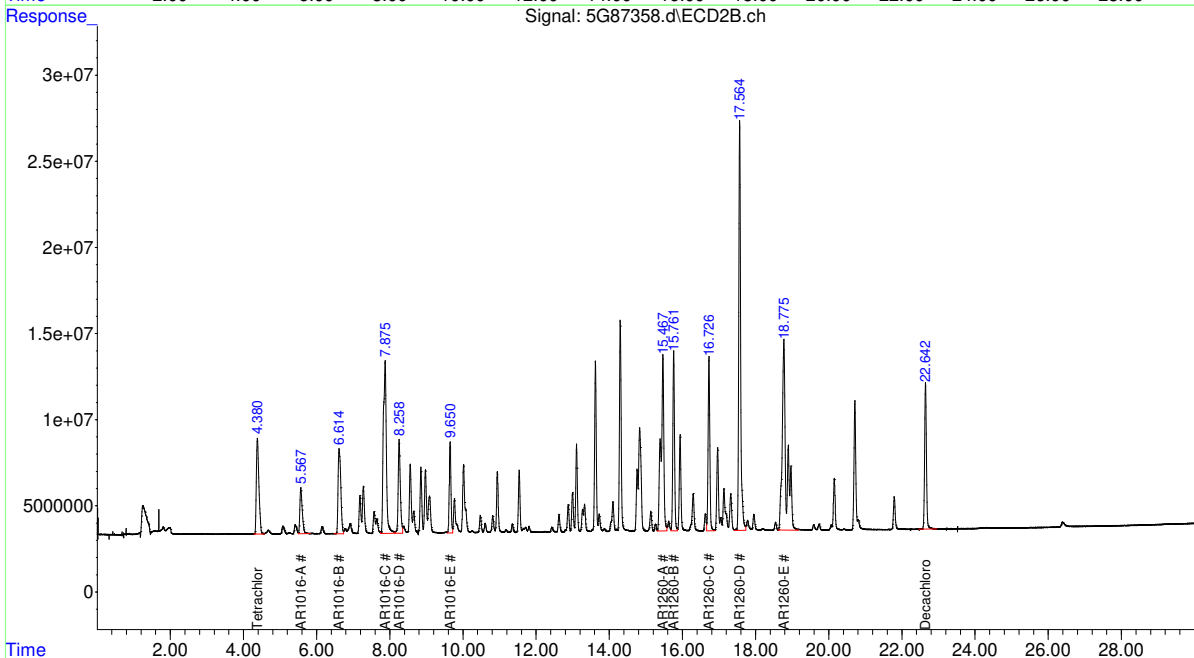
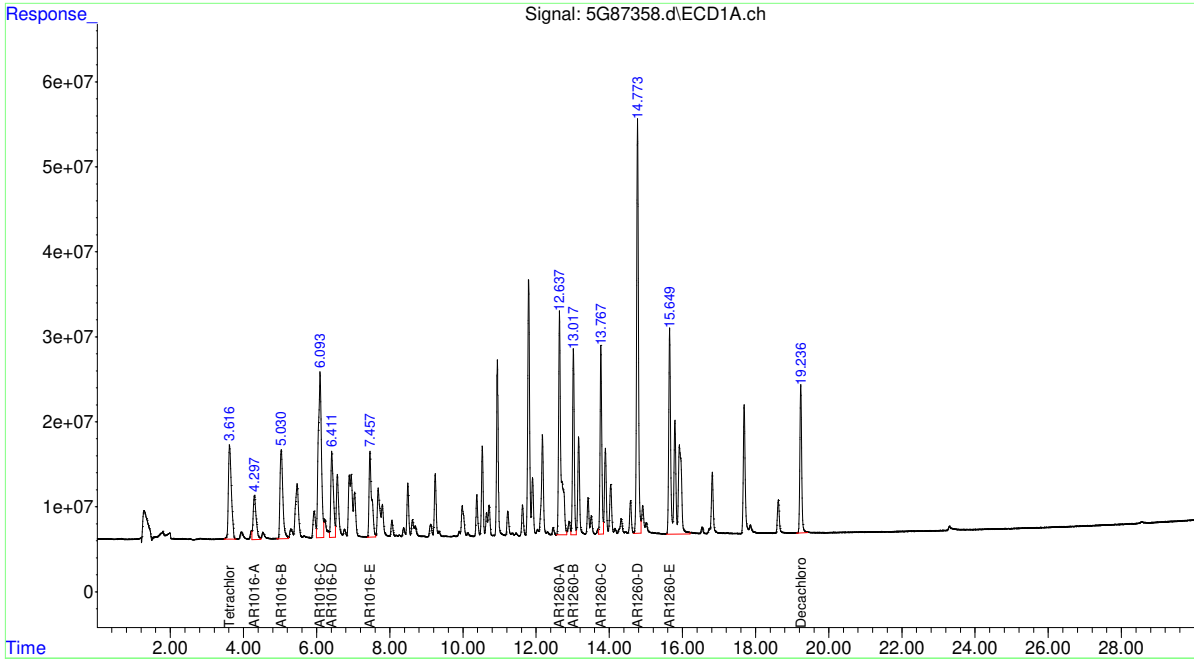
11.6.3  
11



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87358.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:32 pm  
 Operator : summerk  
 Sample : ic2101-500  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:02 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-IC2101      Method: EPA 608  
Lab FileID: 5G87358.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 16:32      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrachloro-m-xylene	877-09-8	1	3.62	Poorly defined baseline
AR1260-A		1	12.64	Split peak
AR1260-A		2	15.47	Split peak
AR1260-E		1	15.65	Split peak
AR1260-E		2	18.78	Split peak

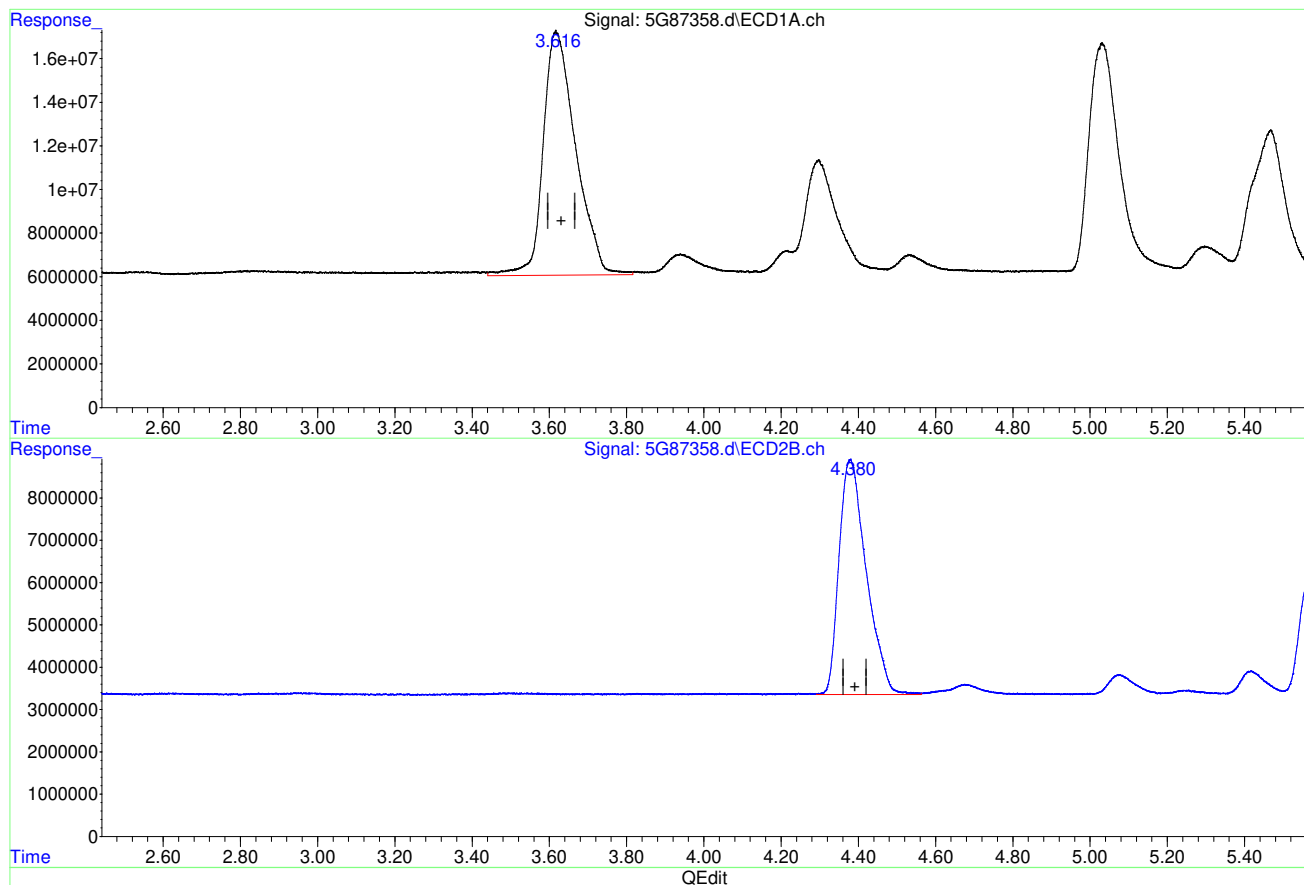
11.6.3.1  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87358.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:32 pm  
 Operator : summerk  
 Sample : ic2101-500  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(1) Tetrachloro-m-xylene (S)

3.617min 19.017 ppb

response 655193746

(1) Tetrachloro-m-xylene #2 (S)

4.379min 16.993 ppb

response 271974948

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:44:19 2019

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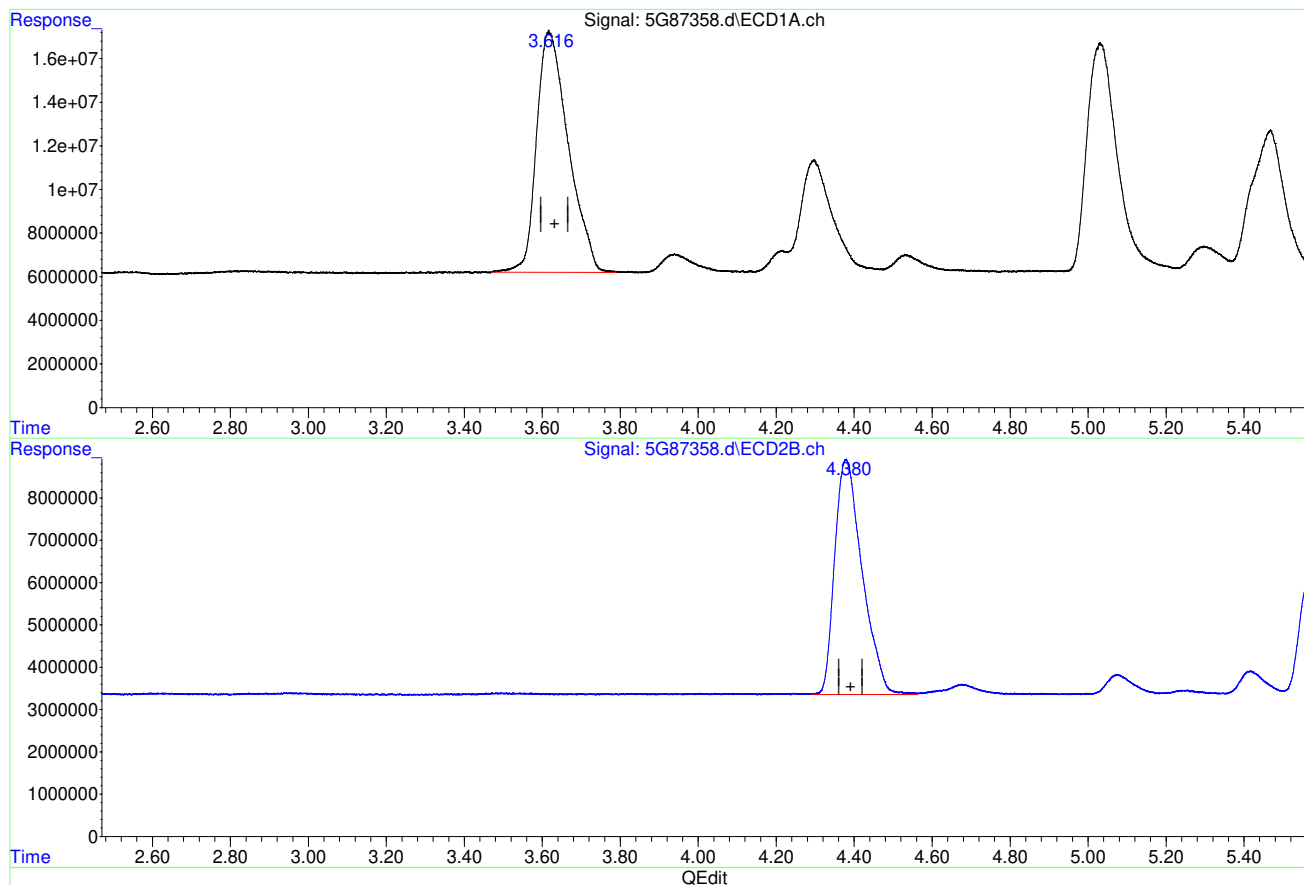


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87358.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:32 pm  
 Operator : summerk  
 Sample : ic2101-500  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(1) Tetrachloro-m-xylene (S)

3.616min 18.187 ppb m

response 626591181

(1) Tetrachloro-m-xylene #2 (S)

4.379min 16.993 ppb

response 271974948

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:44:24 2019

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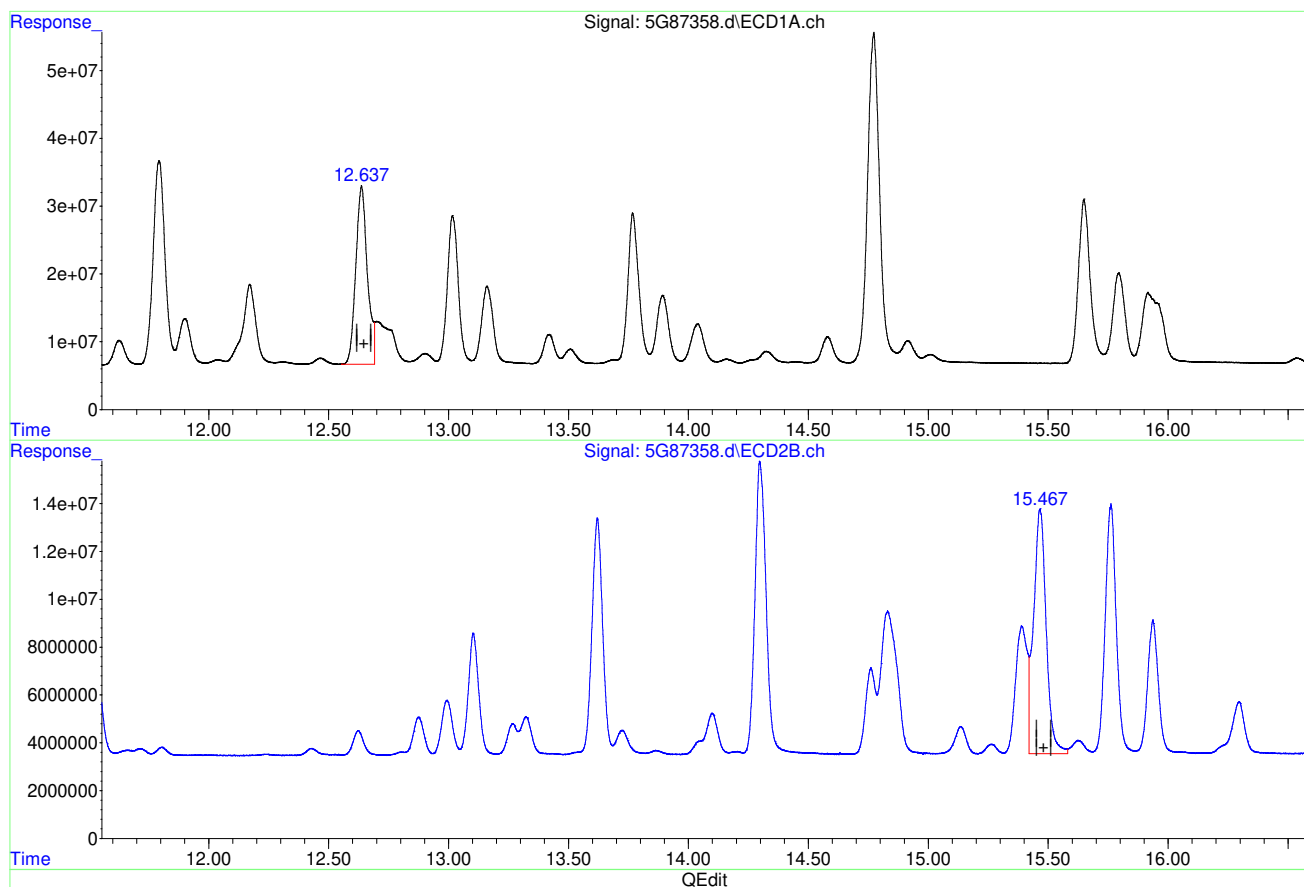
1211 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87358.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:32 pm  
 Operator : summerk  
 Sample : ic2101-500  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.637min 328.151 PPB  
 response 883639728

(46) AR1260-A #2  
 15.466min 280.881 PPB  
 response 374006015

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:44:40 2019

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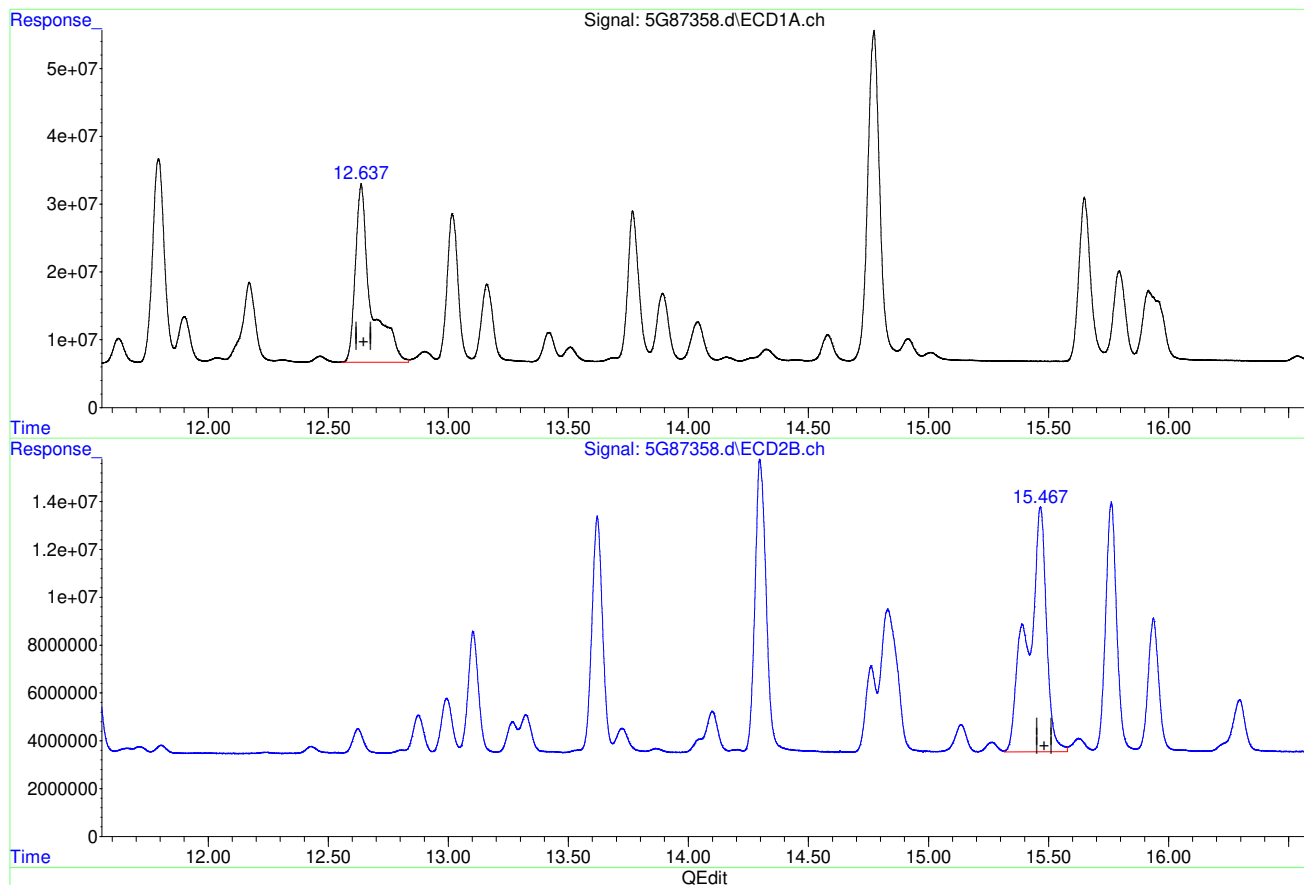
1212 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87358.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:32 pm  
 Operator : summerk  
 Sample : ic2101-500  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A

12.637min 445.287 PPB m

response 1199062864

(46) AR1260-A #2

15.467min 417.206 PPB m

response 555528969

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:44:50 2019

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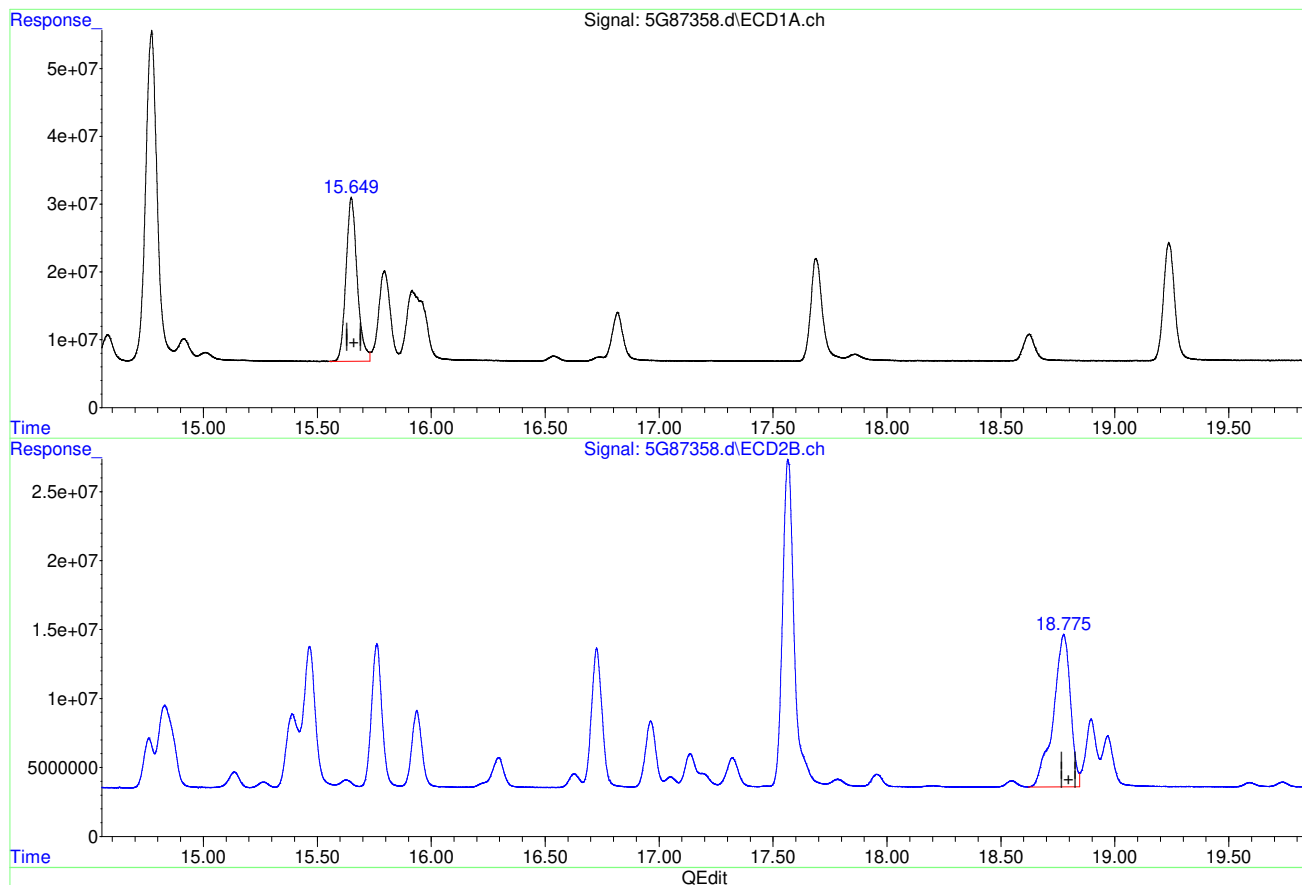
1213 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87358.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:32 pm  
 Operator : summerk  
 Sample : ic2101-500  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.649min 231.642 PPB  
 response 824980867

(50) AR1260-E #2  
 18.775min 335.393 PPB  
 response 578266383

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:44:53 2019

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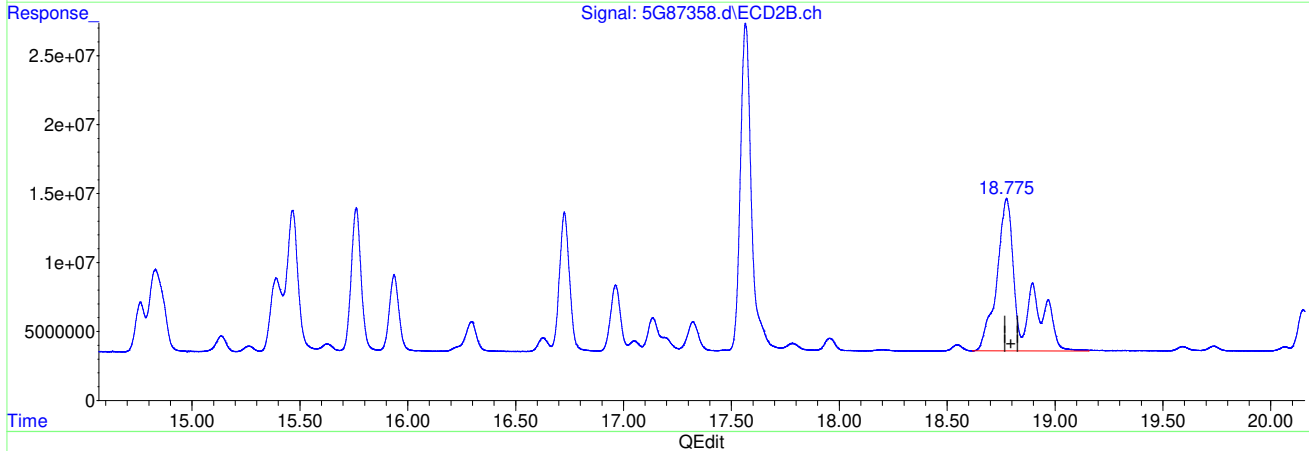
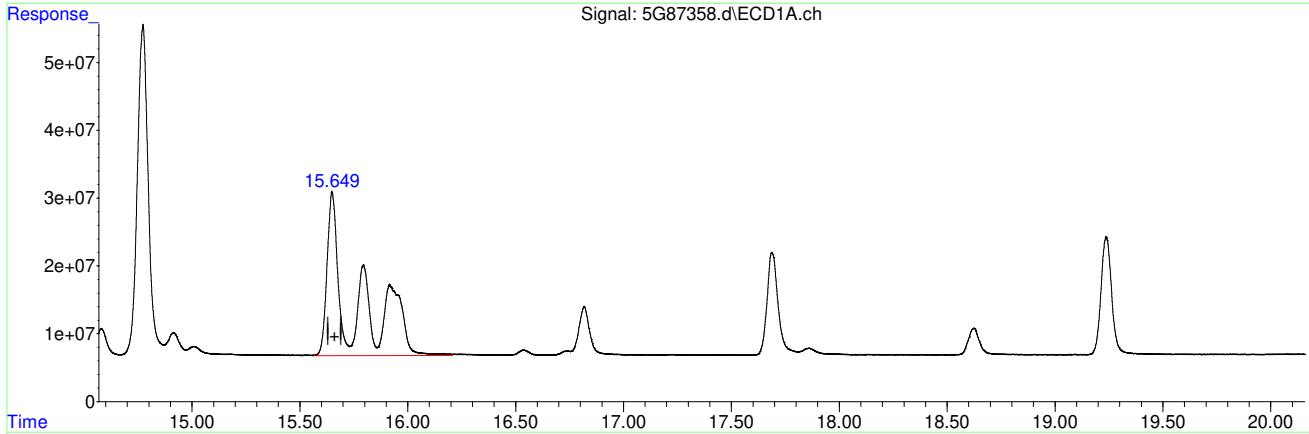
1214 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87358.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 4:32 pm  
 Operator : summerk  
 Sample : ic2101-500  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.649min 542.200 PPB m  
 response 1931015501

(50) AR1260-E #2  
 18.775min 501.572 PPB m  
 response 864785210

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:45:03 2019

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Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:46:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.618	4.379	1250.8E6	546.5E6	36.305	34.144m
Spiked Amount	40.000		Recovery	=	90.76%	85.36%
51) S Decachlor...	19.236f	22.644f	1198.6E6	587.6E6	34.071	32.611
Spiked Amount	40.000		Recovery	=	85.18%	81.53%
Target Compounds						
41) AR1016-A	4.294f	5.567	557.8E6	238.2E6	943.166	913.803
42) AR1016-B	5.030	6.615f	1099.1E6	498.2E6	1033.014	955.787
43) AR1016-C	6.093f	7.874	2289.4E6	1130.8E6	996.231	992.867
44) AR1016-D	6.412f	8.257	954.7E6	433.4E6	1023.249	974.697
45) AR1016-E	7.457f	9.650	971.6E6	336.2E6	991.638m	946.394
46) AR1260-A	12.637	15.467f	2350.6E6	1113.9E6	872.929m	836.534m
47) AR1260-B	13.016	15.761f	1374.8E6	664.9E6	1017.548	942.725
48) AR1260-C	13.771	16.725f	1397.5E6	653.6E6	1001.356	952.910
49) AR1260-D	14.771	17.565f	3439.5E6	1723.9E6	1034.257	982.887
50) AR1260-E	15.644f	18.776f	3809.7E6	1737.1E6	1069.712m	1007.529m

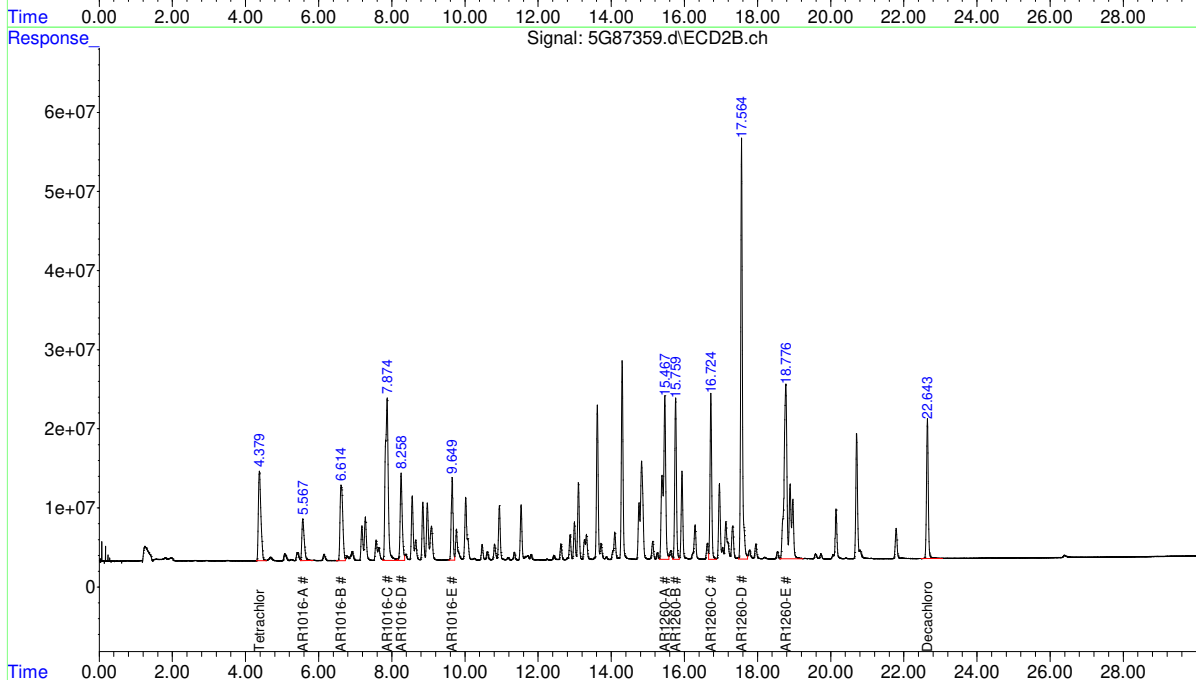
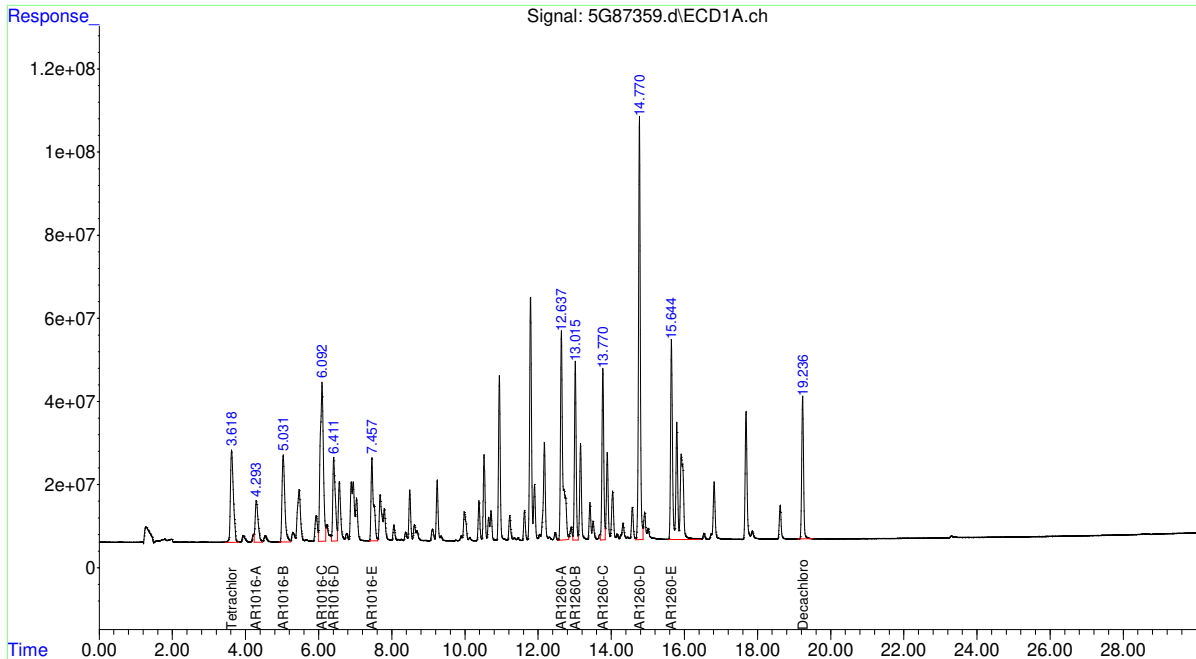
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.64  
 11

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:46:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-ICC2101      Method: EPA 608  
Lab FileID: 5G87359.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 17:05      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrachloro-m-xylene	877-09-8	2	4.38	Poorly defined baseline
AR1016-E		1	7.46	Split peak
AR1260-A		1	12.64	Split peak
AR1260-A		2	15.47	Split peak
AR1260-E		1	15.64	Split peak
AR1260-E		2	18.78	Split peak

11.6.4.1  
11

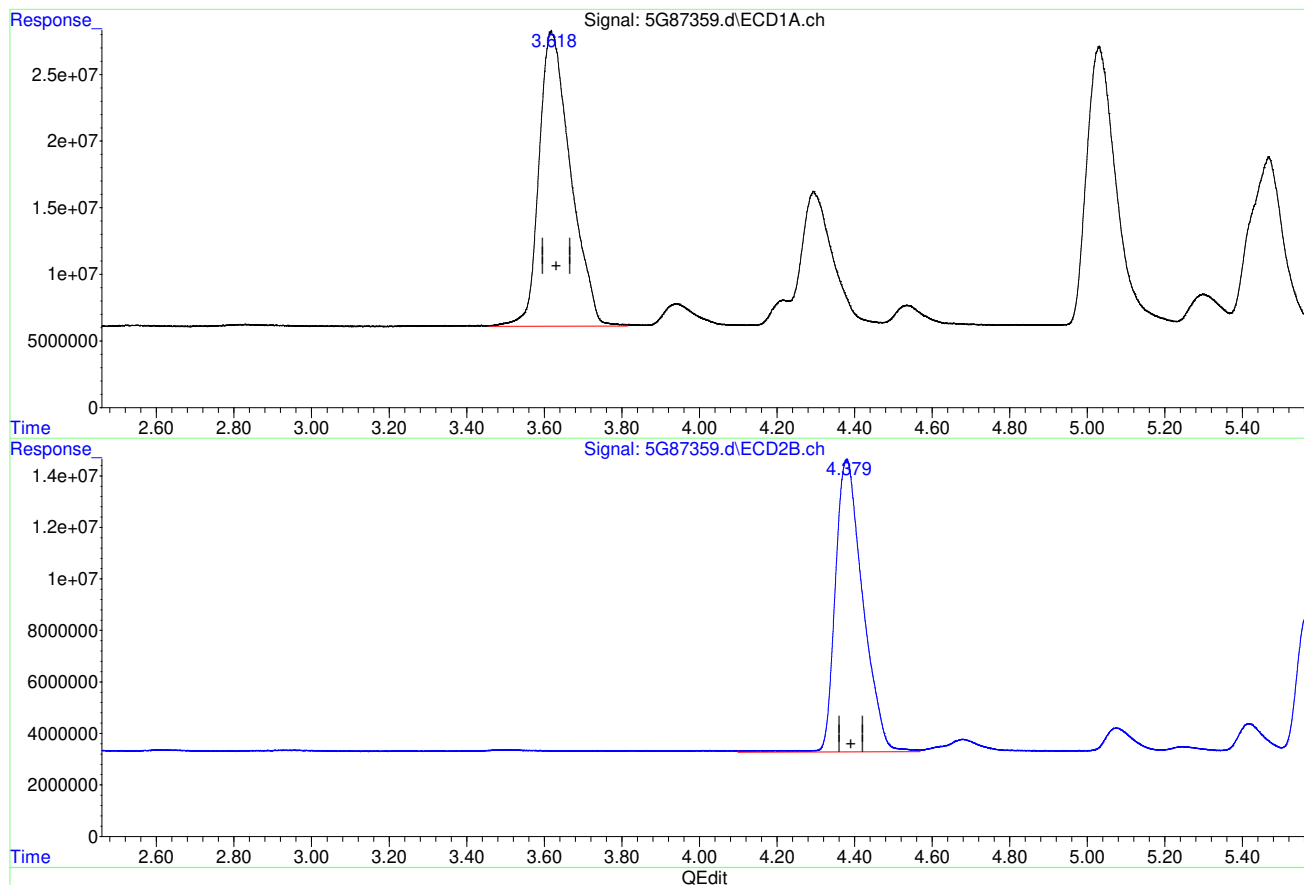


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(1) Tetrachloro-m-xylene (S)

3.618min 36.305 ppb

response 1250808172

(1) Tetrachloro-m-xylene #2 (S)

4.380min 34.914 ppb

response 558790892

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:45:29 2019

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SGS

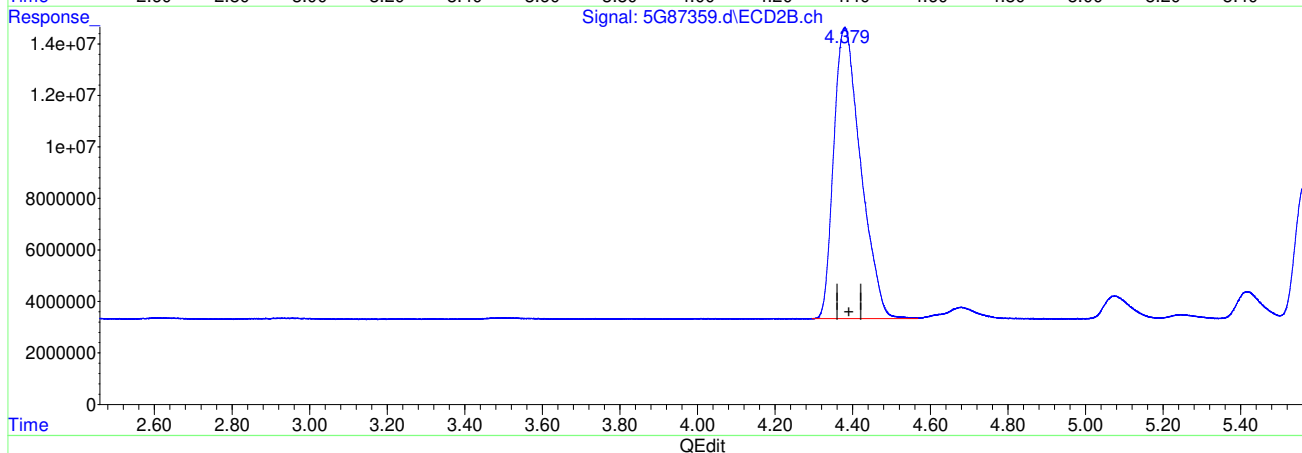
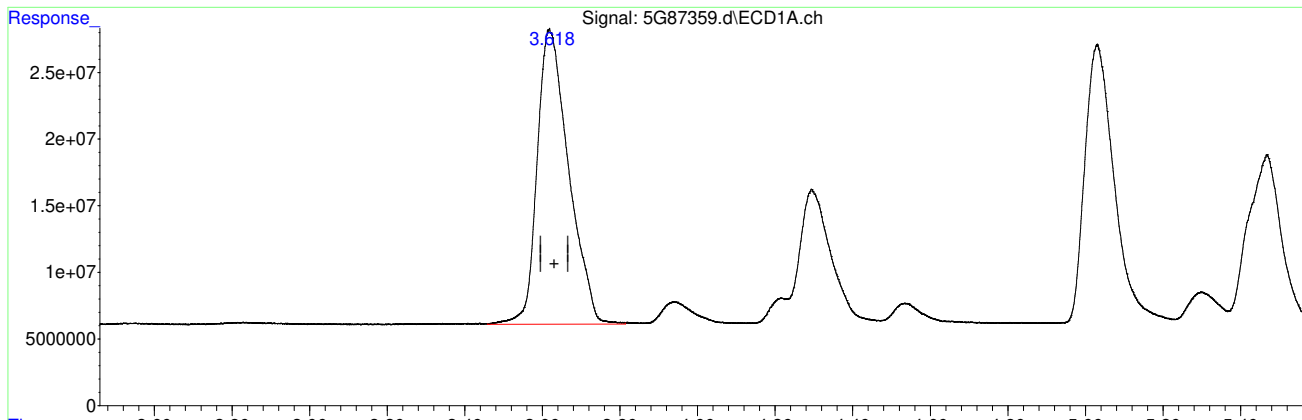
1219 of 1990

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(1) Tetrachloro-m-xylene (S)

3.618min 36.305 ppb

response 1250808172

(1) Tetrachloro-m-xylene #2 (S)

4.379min 34.144 ppb m

response 546472040

(+) = Expected Retention Time

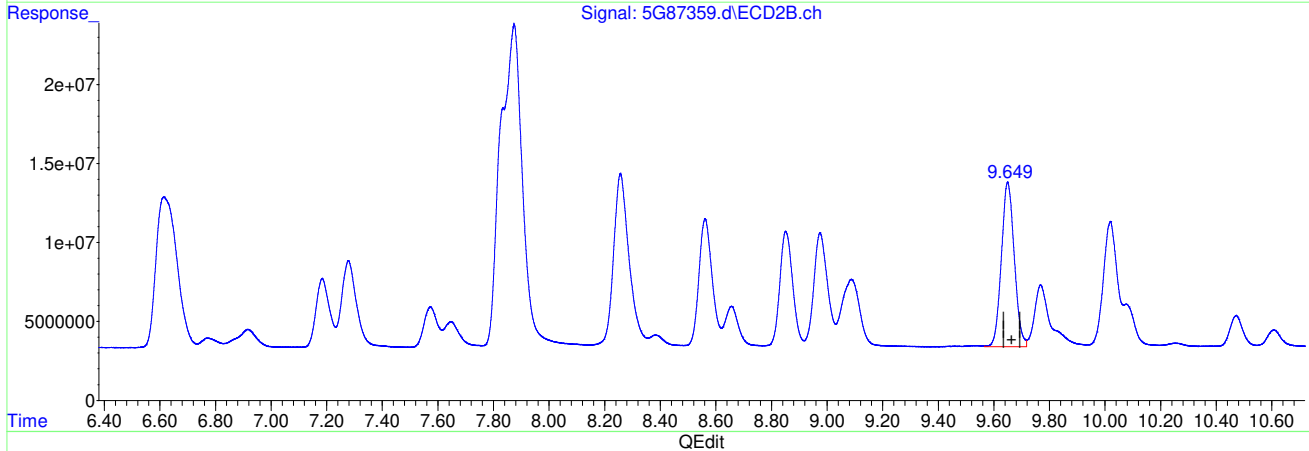
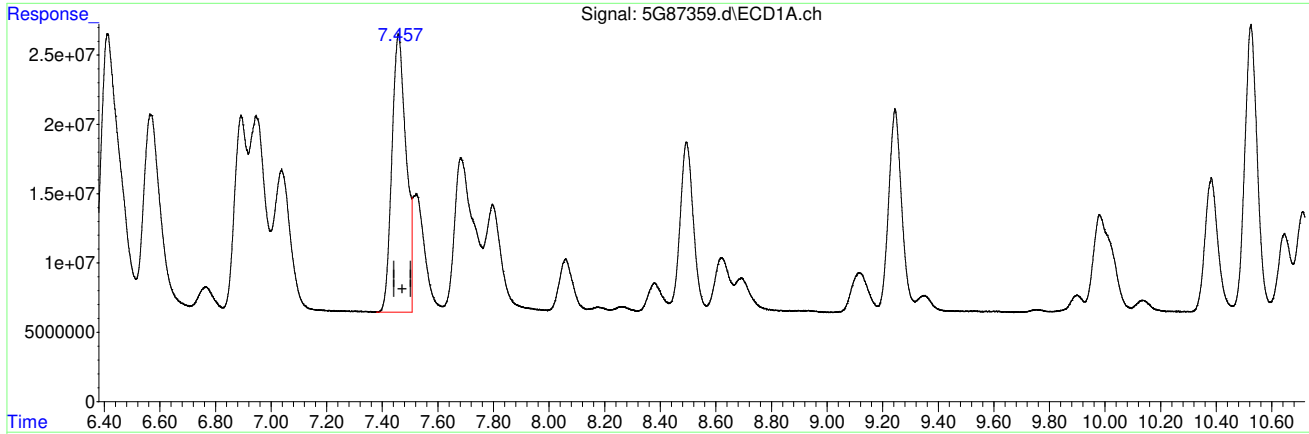
5PCB2101.M Tue Apr 09 08:45:34 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.458min 727.238 PPB  
 response 712513368

(45) AR1016-E #2  
 9.650min 946.394 PPB  
 response 336228672

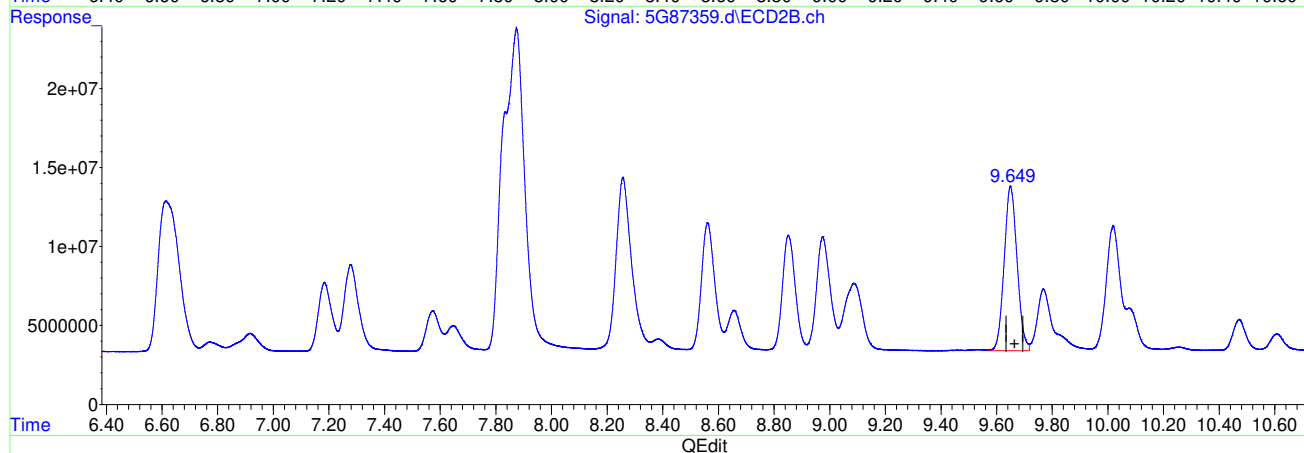
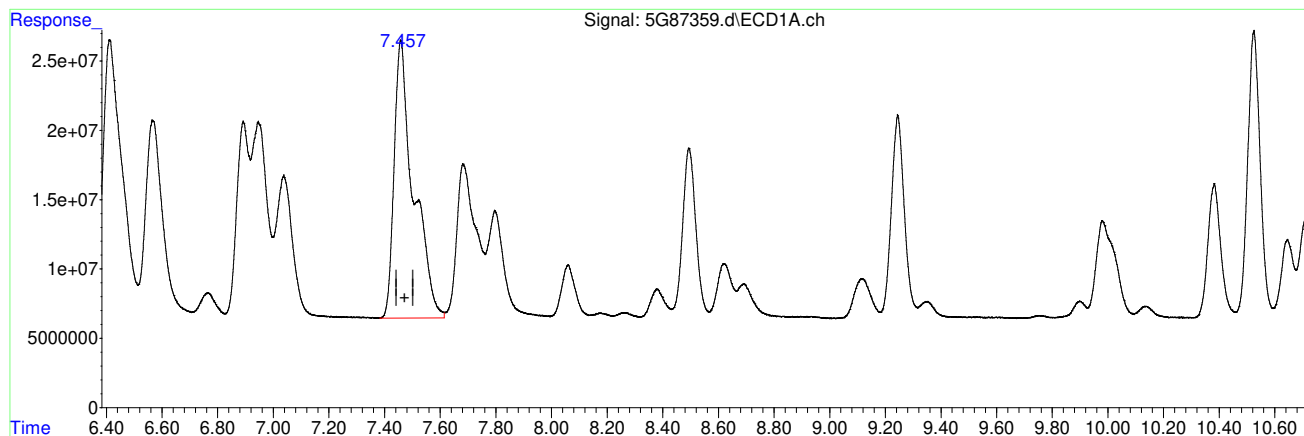
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:45:40 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E

7.457min 991.638 PPB m

response 971559304

(45) AR1016-E #2

9.650min 946.394 PPB

response 336228672

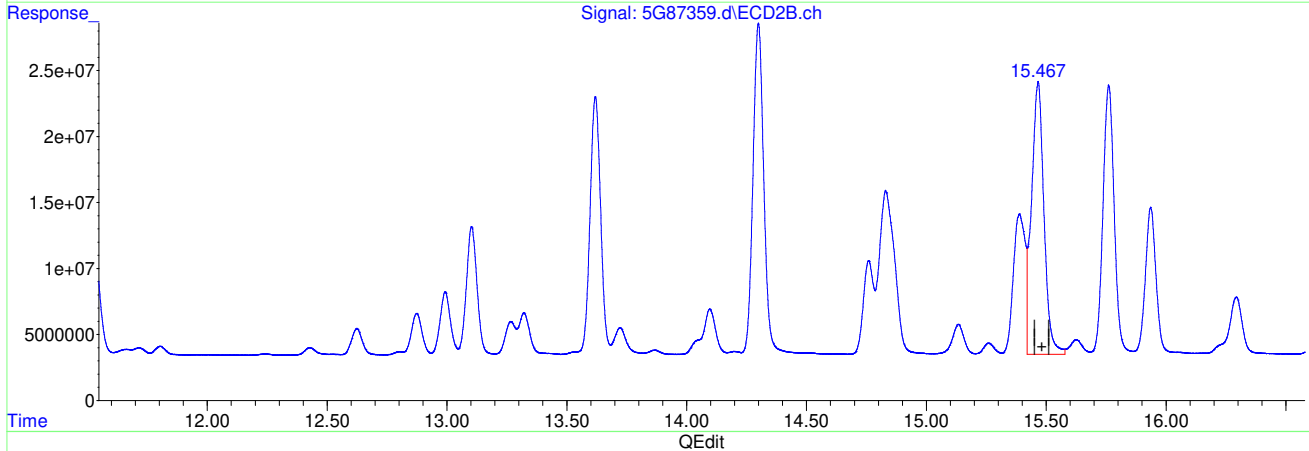
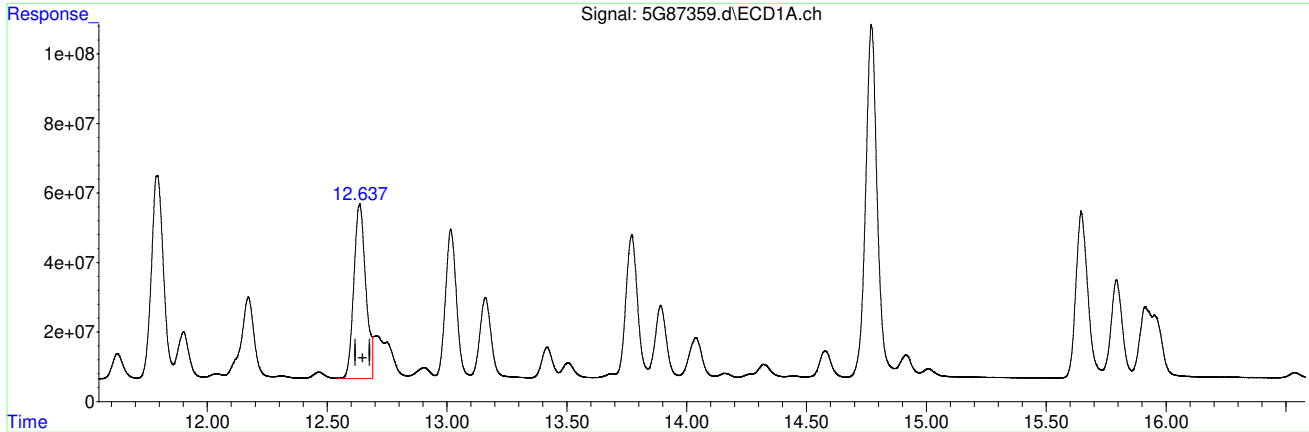
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:45:48 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.636min 648.077 PPB  
 response 1745133507

(46) AR1260-A #2  
 15.466min 561.211 PPB  
 response 747278288

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:45:51 2019

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SGS

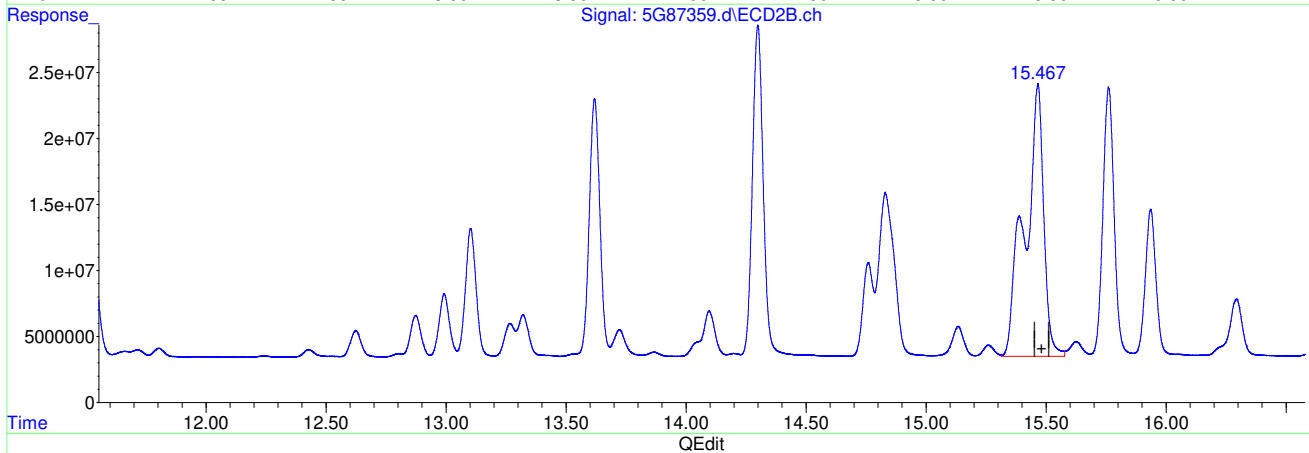
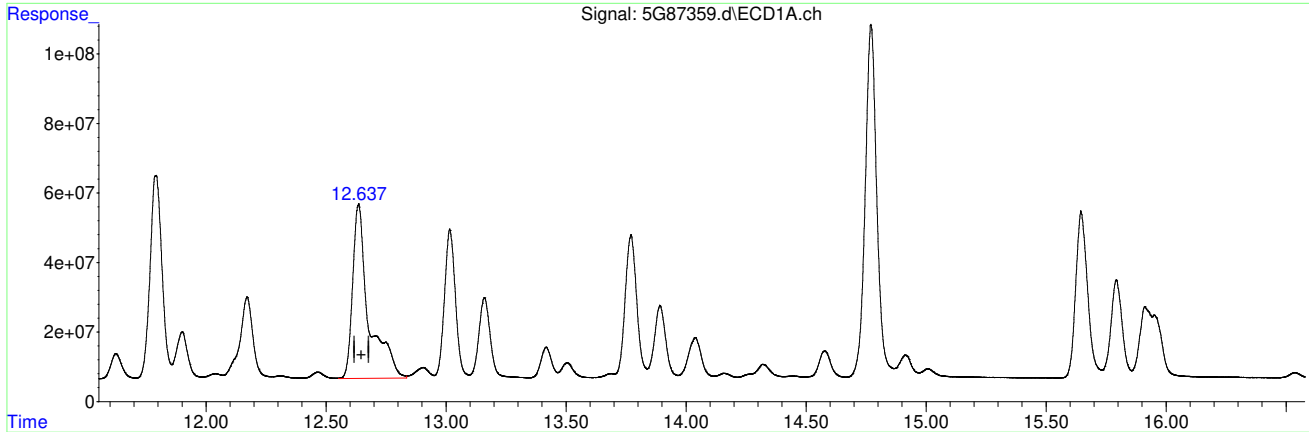
1223 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.637min 872.929 PPB m  
 response 2350610425

(46) AR1260-A #2  
 15.467min 836.534 PPB m  
 response 1113883591

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:46:03 2019

Page: 1

SGS

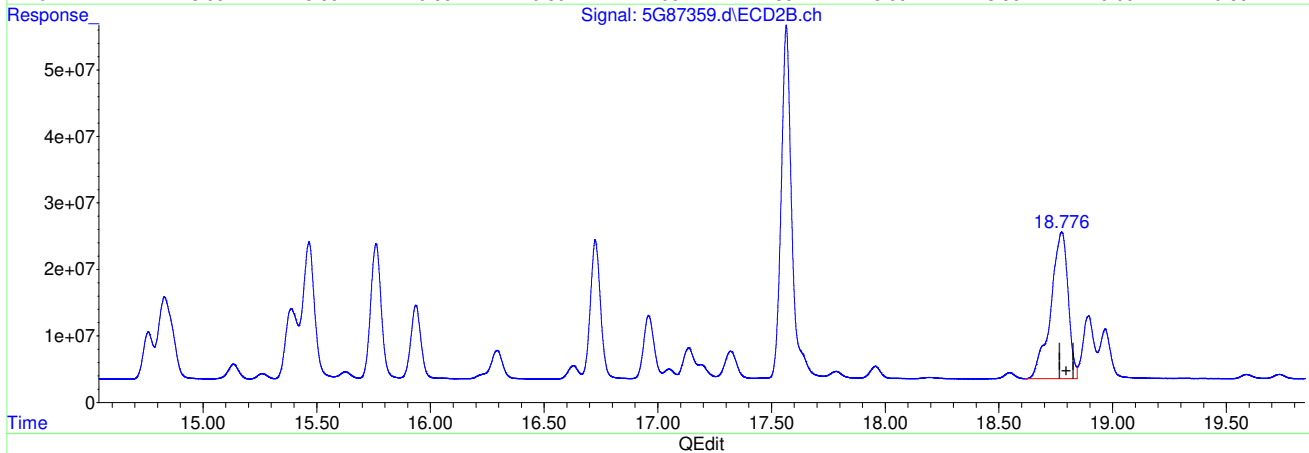
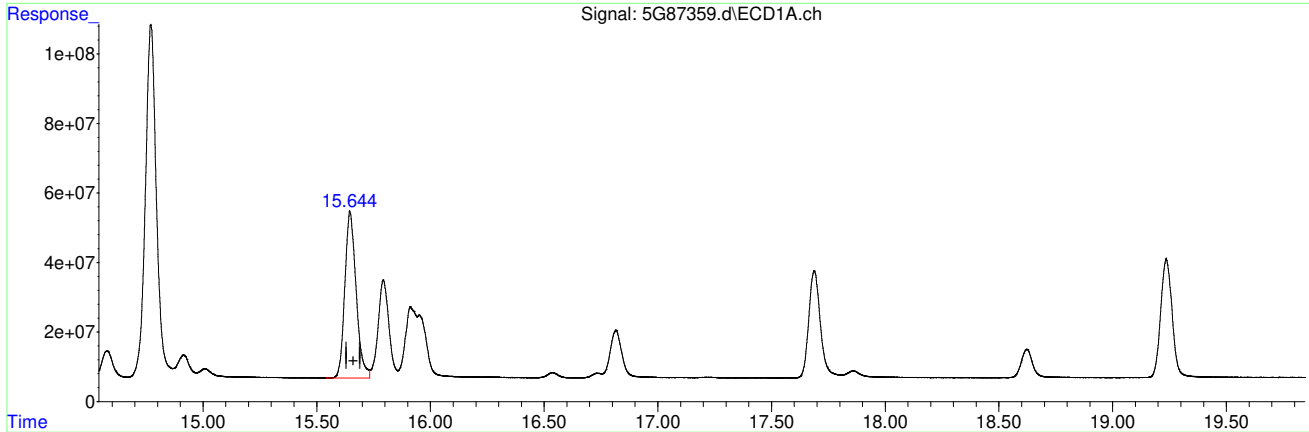
1224 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.646min 462.770 PPB  
 response 1648129998

(50) AR1260-E #2  
 18.776min 679.104 PPB  
 response 1170876382

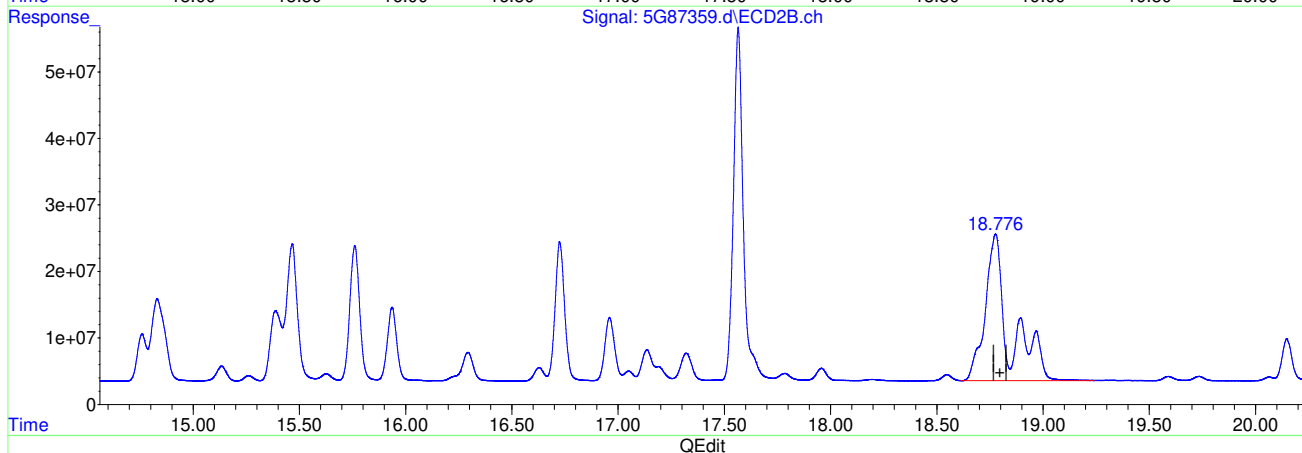
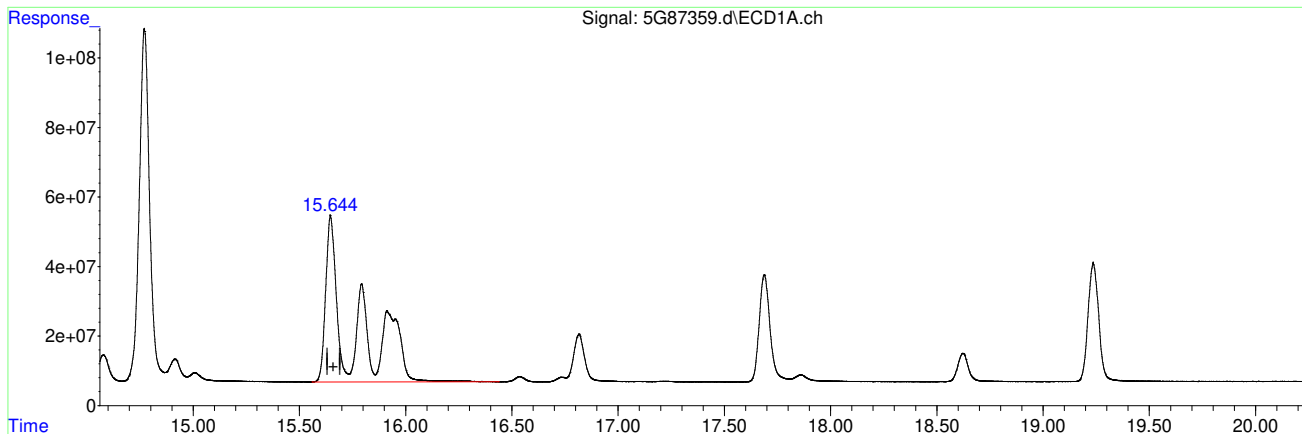
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:46:07 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87359.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:05 pm  
 Operator : summerk  
 Sample : icc2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:45:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.644min 1069.712 PPB m  
 response 3809716347

(50) AR1260-E #2  
 18.776min 1007.529 PPB m  
 response 1737128906

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:46:17 2019

11.6.4.9  
 11



Quantitation Report (QT Reviewed)

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87360.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:37 pm  
 Operator : summerk  
 Sample : ic2101-2000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:47:07 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.617	4.378	2430.5E6	1106.0E6	70.544	69.105
Spiked Amount	40.000		Recovery	=	176.36%	172.76%
51) S Decachlor...	19.238f	22.642f	2355.4E6	1171.8E6	66.957	65.034
Spiked Amount	40.000		Recovery	=	167.39%	162.59%
Target Compounds						
41) AR1016-A	4.295f	5.565f	1076.4E6	468.6E6	1819.930	1797.845
42) AR1016-B	5.032	6.611f	2100.4E6	968.0E6	1974.073	1857.062
43) AR1016-C	6.092f	7.873	4478.3E6	2235.6E6	1948.734	1962.992
44) AR1016-D	6.411f	8.255f	1870.8E6	847.4E6	2005.104	1905.783
45) AR1016-E	7.458	9.649f	1906.7E6	659.4E6	1946.145	1856.077
46) AR1260-A	12.634	15.464f	4603.5E6	2213.0E6	1709.558m	1661.963m
47) AR1260-B	13.016	15.760f	2658.4E6	1313.6E6	1967.593	1862.614
48) AR1260-C	13.773	16.726f	2679.6E6	1298.4E6	1919.961	1892.820
49) AR1260-D	14.771	17.564f	6794.5E6	3463.4E6	2043.113	1974.667
50) AR1260-E	15.644f	18.781f	7425.1E6	3469.9E6	2084.844m	2012.506m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.5  
11

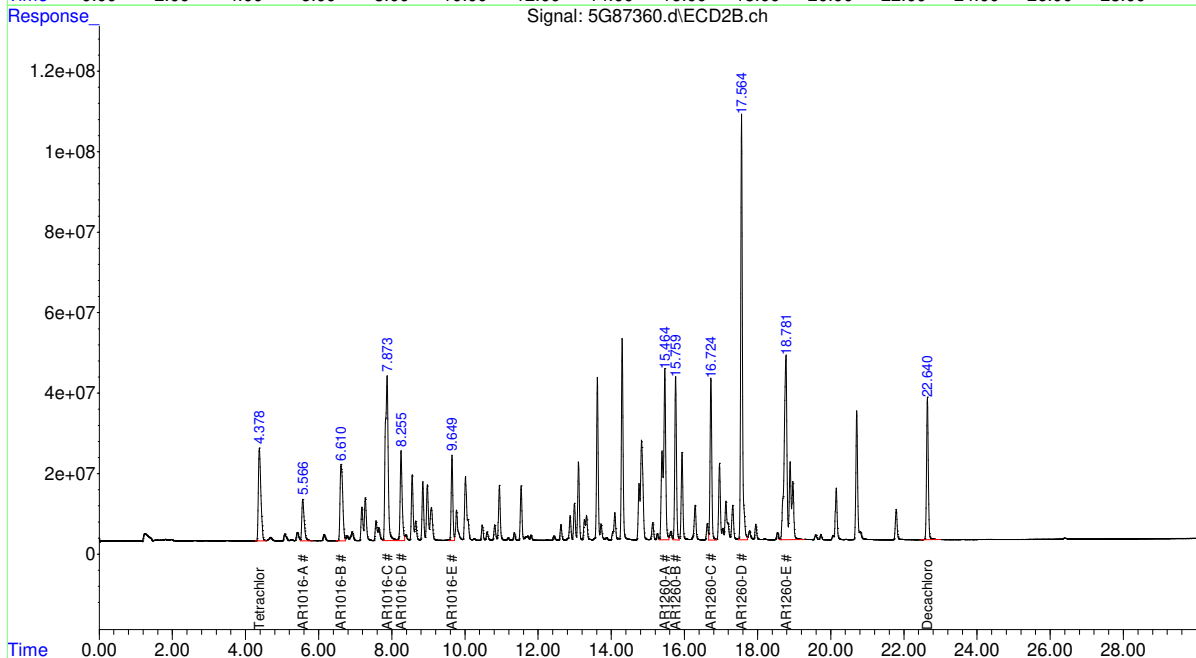
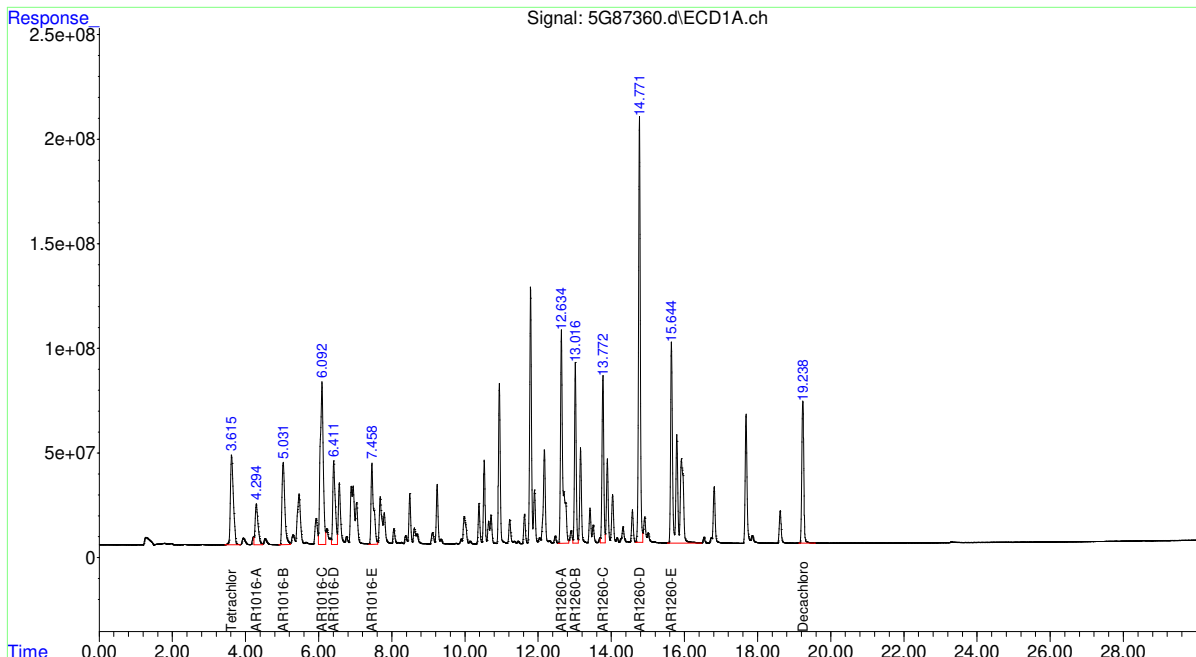


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87360.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:37 pm  
 Operator : summerk  
 Sample : ic2101-2000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:47:07 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-IC2101      Method: EPA 608  
Lab FileID: 5G87360.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 17:37      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-A		1	12.63	Split peak
AR1260-A		2	15.46	Split peak
AR1260-E		1	15.64	Split peak
AR1260-E		2	18.78	Split peak

11.6.5.1

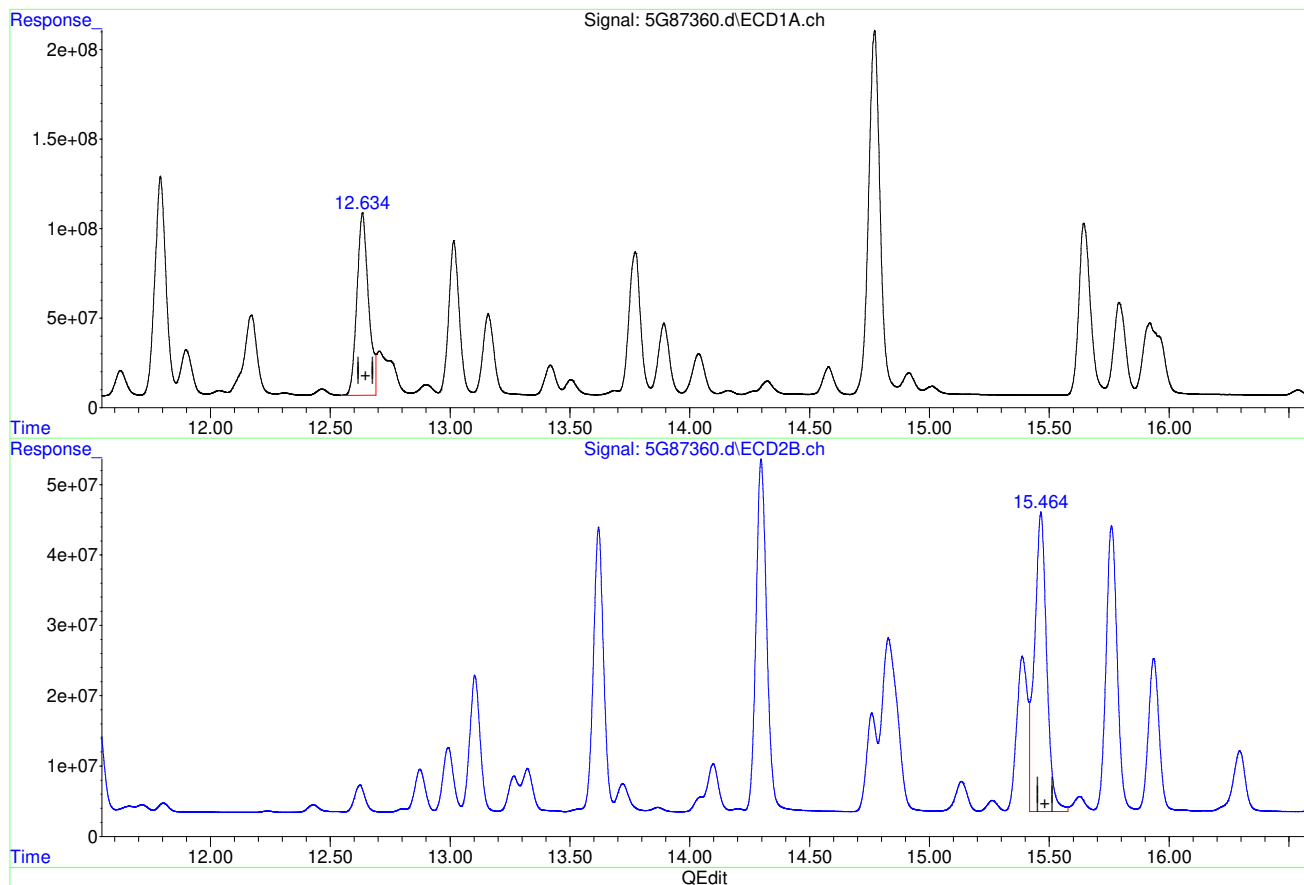
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87360.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:37 pm  
 Operator : summerk  
 Sample : ic2101-2000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:46:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.635min 1273.425 PPB  
 response 3429059552

(46) AR1260-A #2  
 15.465min 1137.595 PPB  
 response 1514760684

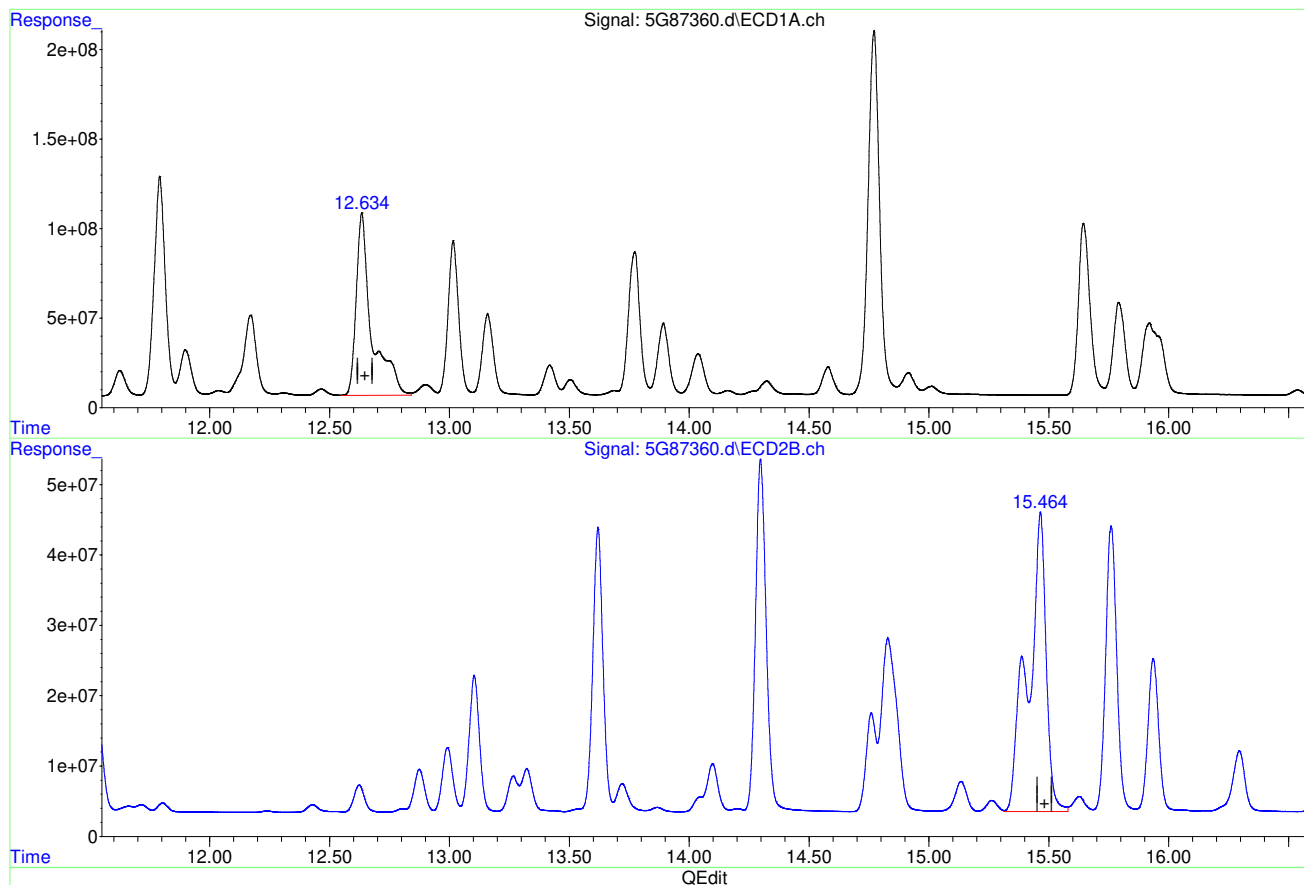
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:46:43 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87360.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:37 pm  
 Operator : summerk  
 Sample : ic2101-2000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:46:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.634min 1709.558 PPB m  
 response 4603473851

(46) AR1260-A #2  
 15.464min 1661.963 PPB m  
 response 2212980607

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:46:55 2019

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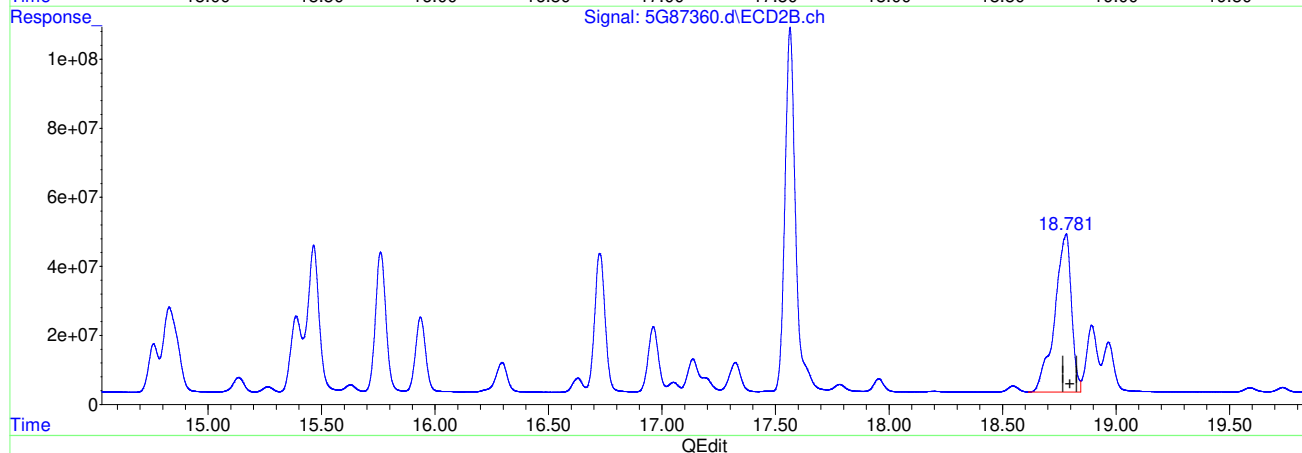
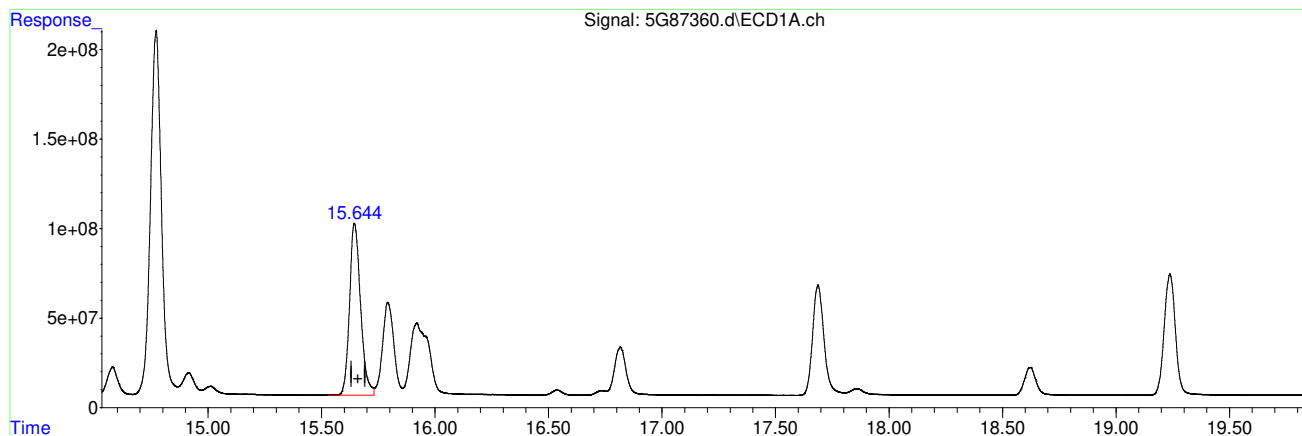
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## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87360.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:37 pm  
 Operator : summerk  
 Sample : ic2101-2000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:46:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.645min 913.290 PPB  
 response 3252630395

(50) AR1260-E #2  
 18.780min 1362.601 PPB  
 response 2349326174

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:46:59 2019

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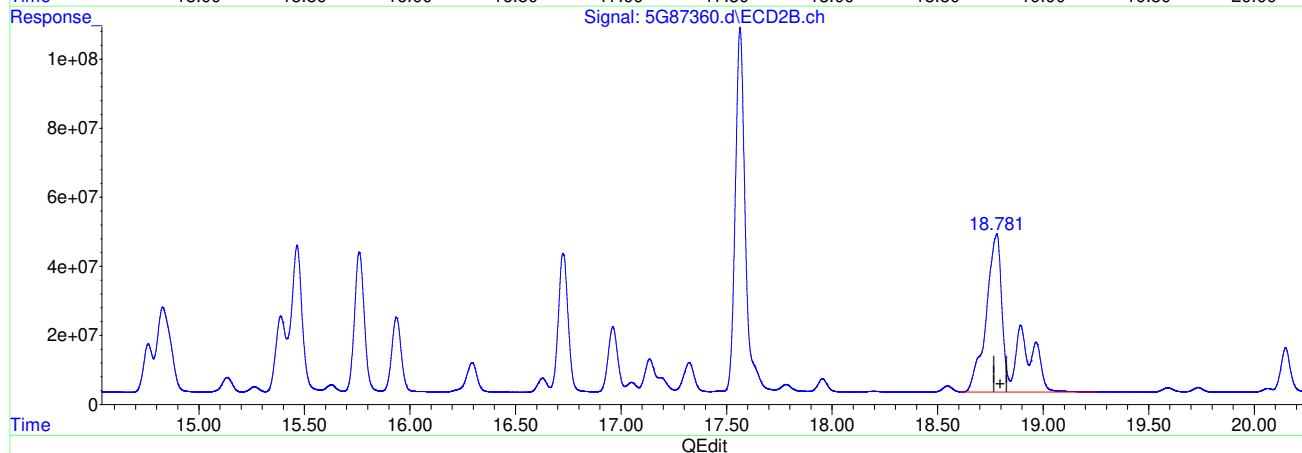
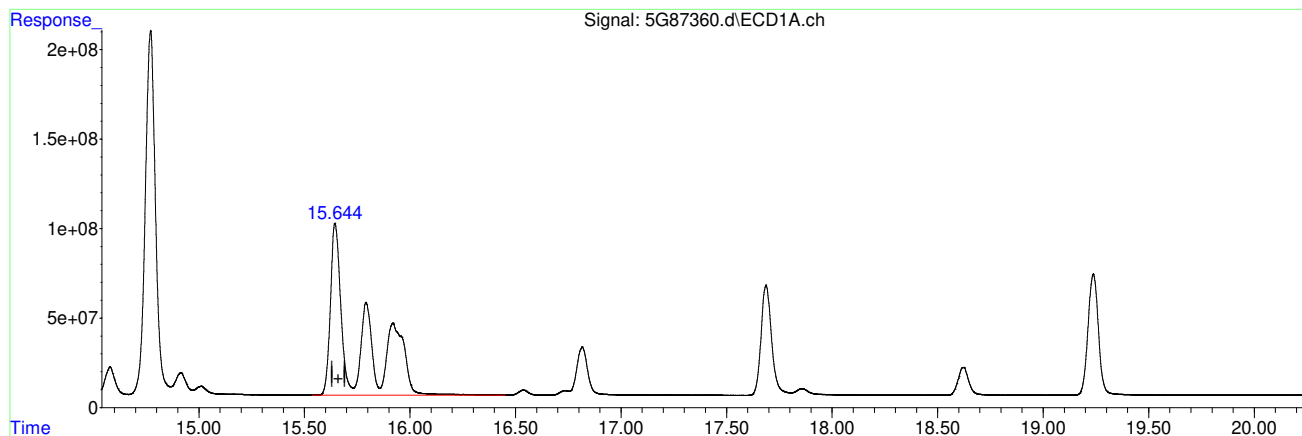
1232 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87360.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 5:37 pm  
 Operator : summerk  
 Sample : ic2101-2000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:46:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E

15.644min 2084.844 PPB m

response 7425052357

(50) AR1260-E #2

18.781min 2012.506 PPB m

response 3469858226

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:47:09 2019

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SGS

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Quantitation Report (QT Reviewed)

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87361.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:09 pm  
 Operator : summerk  
 Sample : ic2101-3000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:48:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.620	4.379	3579.2E6	1650.9E6	103.885	103.149
Spiked Amount	40.000		Recovery	=	259.71%	257.87%
51) S Decachlor...	19.237f	22.643f	3483.1E6	1746.5E6	99.012	96.927
Spiked Amount	40.000		Recovery	=	247.53%	242.32%
Target Compounds						
41) AR1016-A	4.296f	5.564f	1569.3E6	680.7E6	2653.502	2611.797
42) AR1016-B	5.032	6.614f	3042.2E6	1415.2E6	2859.300	2714.949
43) AR1016-C	6.094f	7.872f	6568.8E6	3289.0E6	2858.412	2887.924
44) AR1016-D	6.410f	8.254f	2716.1E6	1244.3E6	2910.986	2798.505
45) AR1016-E	7.456f	9.649f	2771.0E6	968.7E6	2828.226m	2726.651
46) AR1260-A	12.632	15.463f	6815.9E6	3287.8E6	2531.189m	2469.162m
47) AR1260-B	13.017	15.761f	3947.3E6	1951.1E6	2921.603	2766.493
48) AR1260-C	13.771	16.726f	3976.7E6	1929.3E6	2849.363	2812.583
49) AR1260-D	14.772	17.562f	10209.8E6	5178.8E6	3070.100	2952.695
50) AR1260-E	15.643f	18.775f	11010.5E6	5190.6E6	3091.581m	3010.557m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.6  
11

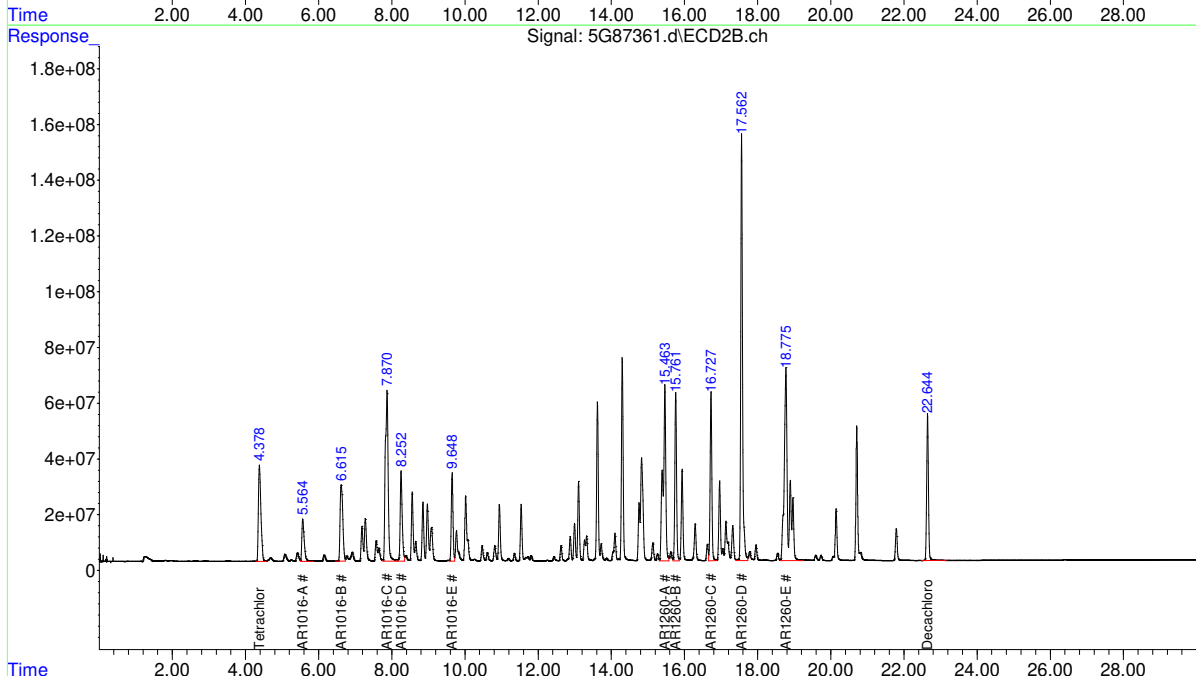
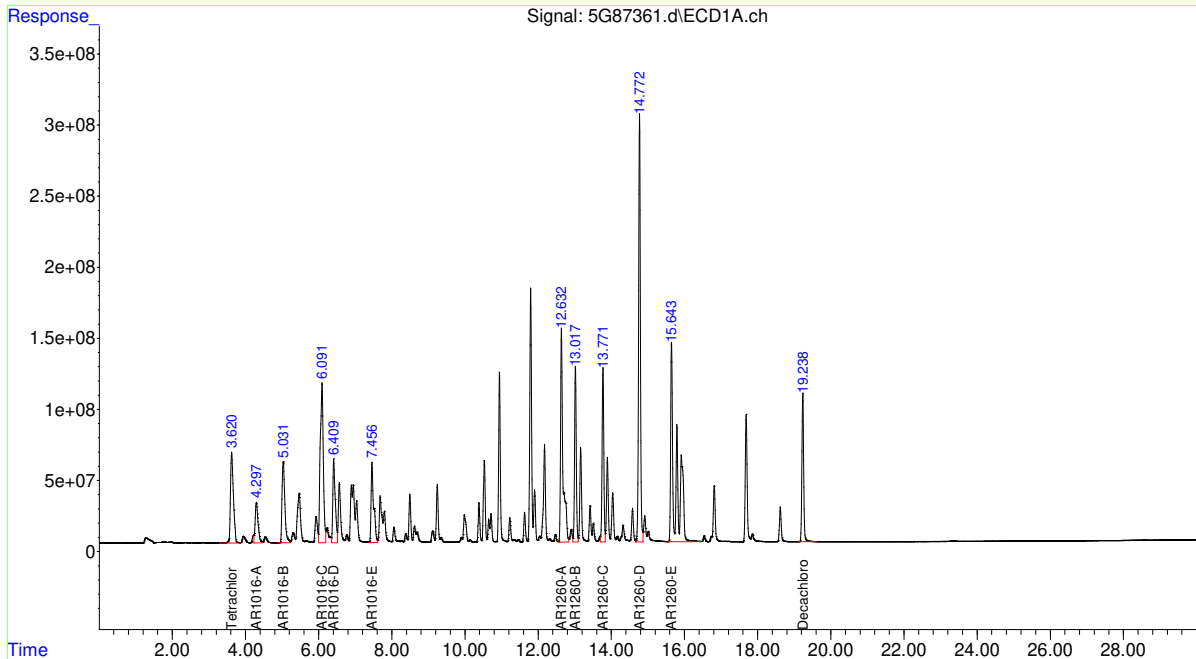


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87361.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:09 pm  
 Operator : summerk  
 Sample : ic2101-3000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:48:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



11.6.6  
11

# Manual Integration Approval Summary

Sample Number: G5G2101-IC2101      Method: EPA 608  
Lab FileID: 5G87361.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 18:09      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-E		1	7.46	Split peak
AR1260-A		1	12.63	Split peak
AR1260-A		2	15.46	Split peak
AR1260-E		1	15.64	Split peak
AR1260-E		2	18.77	Split peak

11.6.6.1

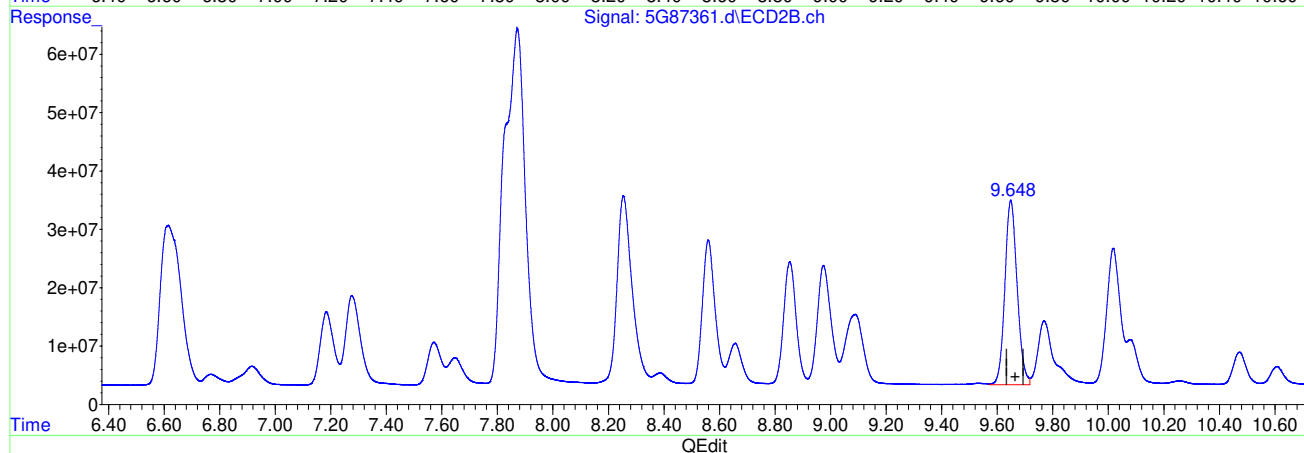
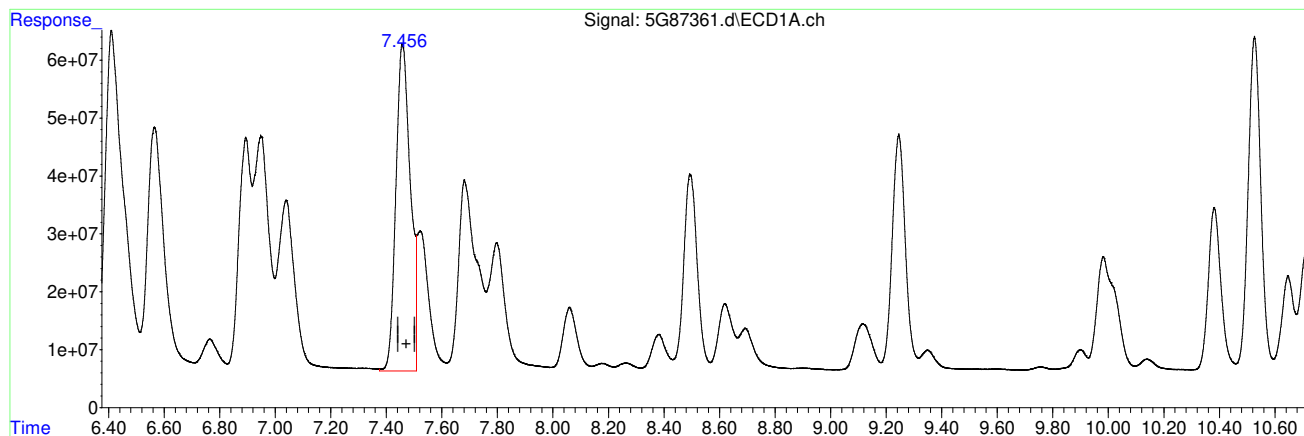
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87361.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:09 pm  
 Operator : summerk  
 Sample : ic2101-3000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:47:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E

7.458min 2084.799 PPB

response 2042586596

(45) AR1016-E #2

9.649min 2726.651 PPB

response 968706746

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:47:38 2019

Page: 1

SGS

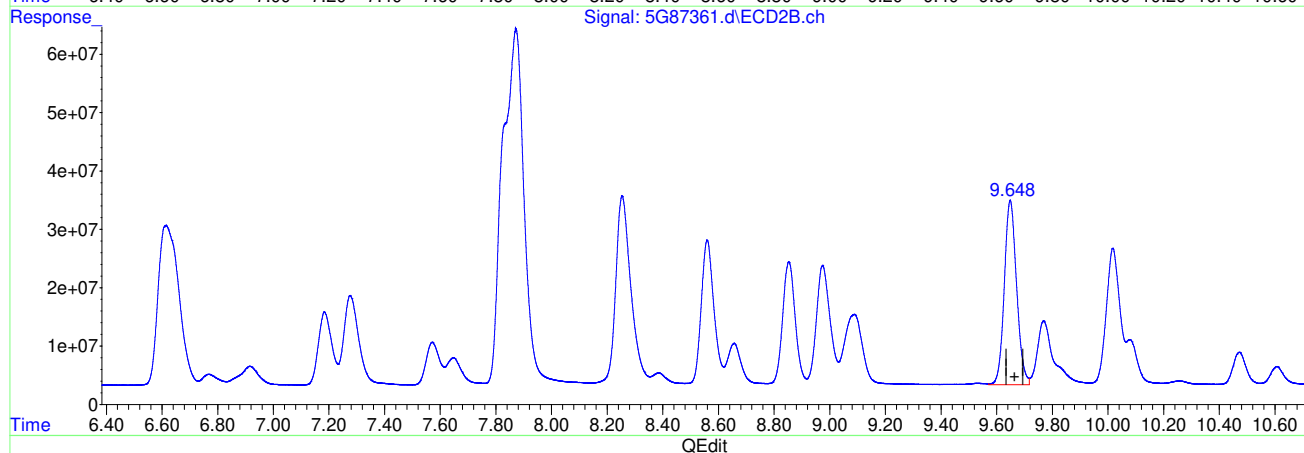
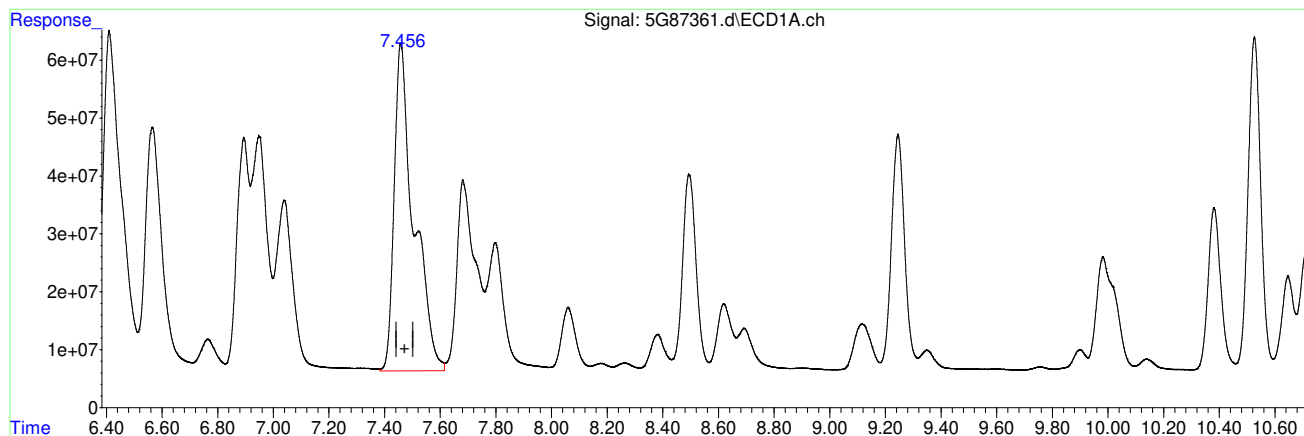
1237 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87361.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:09 pm  
 Operator : summerk  
 Sample : ic2101-3000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:47:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E

7.456min 2828.226 PPB m

response 2770961237

(45) AR1016-E #2

9.649min 2726.651 PPB

response 968706746

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:47:48 2019

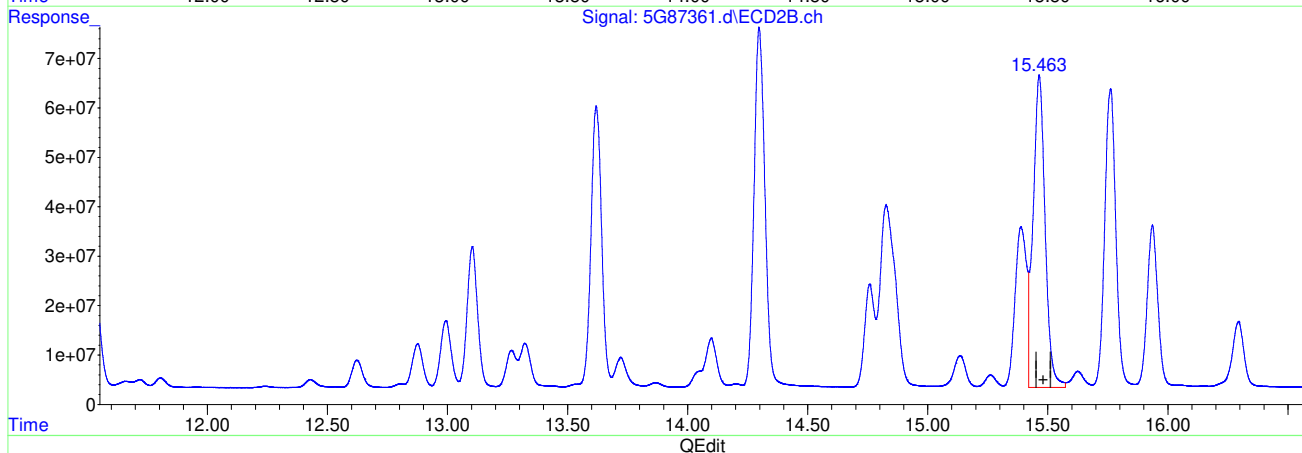
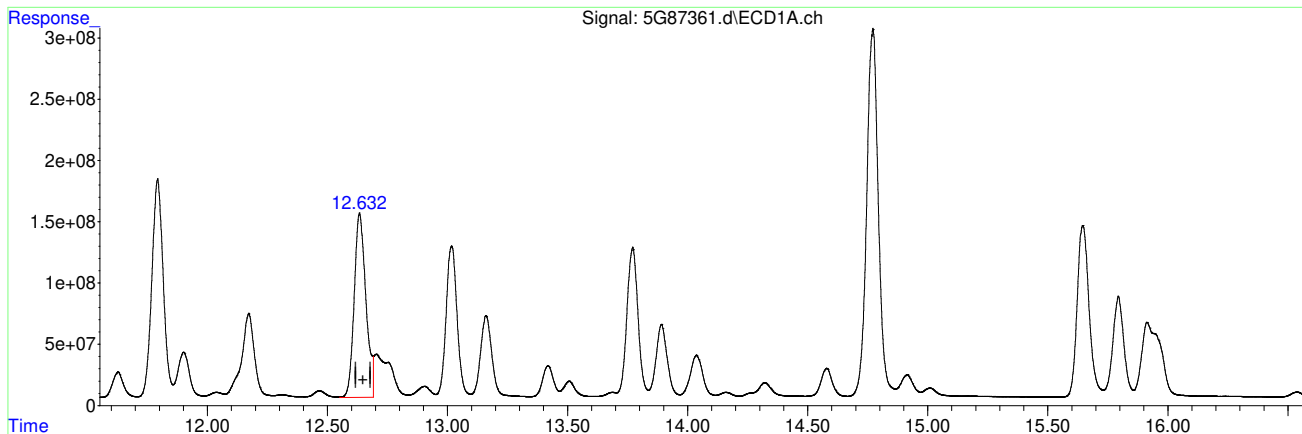
Page: 1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87361.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:09 pm  
 Operator : summerk  
 Sample : ic2101-3000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:47:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.633min 1886.565 PPB  
 response 5080115775

(46) AR1260-A #2  
 15.464min 1654.102 PPB  
 response 2202513780

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:47:50 2019

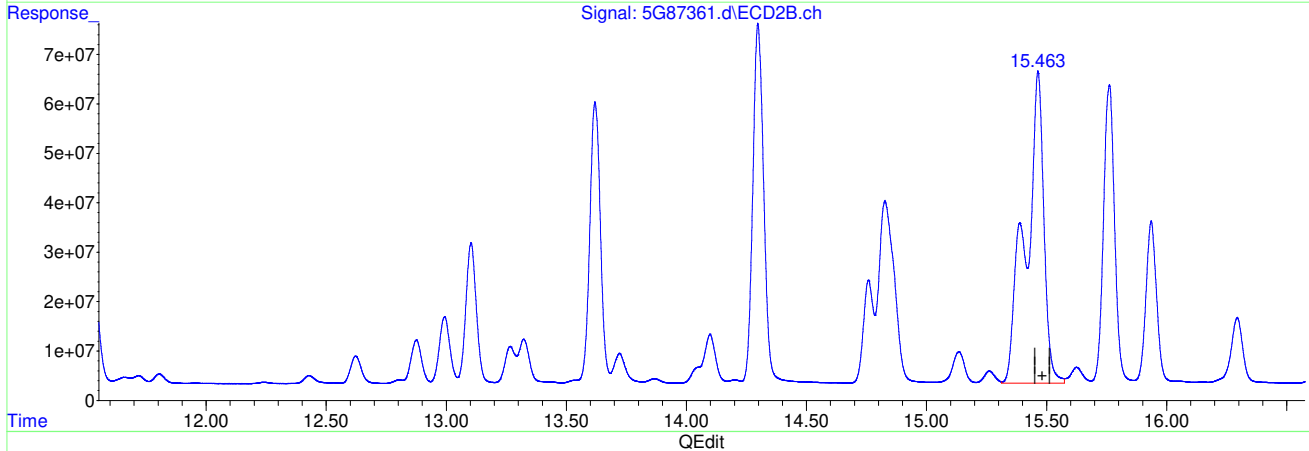
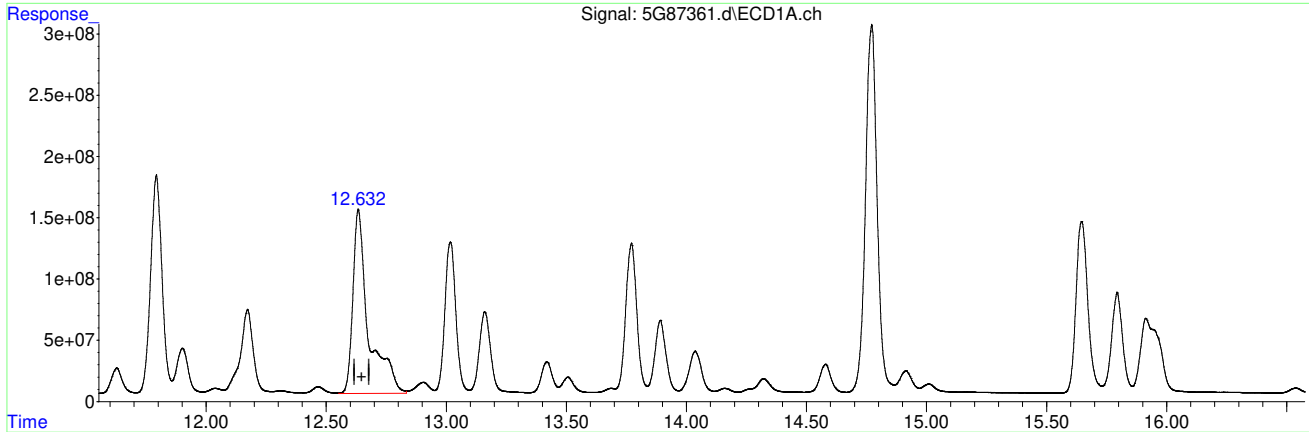
11.6.6.4  
 11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87361.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:09 pm  
 Operator : summerk  
 Sample : ic2101-3000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:47:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A

12.632min 2531.189 PPB m

response 6815948345

(46) AR1260-A #2

15.463min 2469.162 PPB m

response 3287803548

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:48:08 2019

Page: 1

SGS

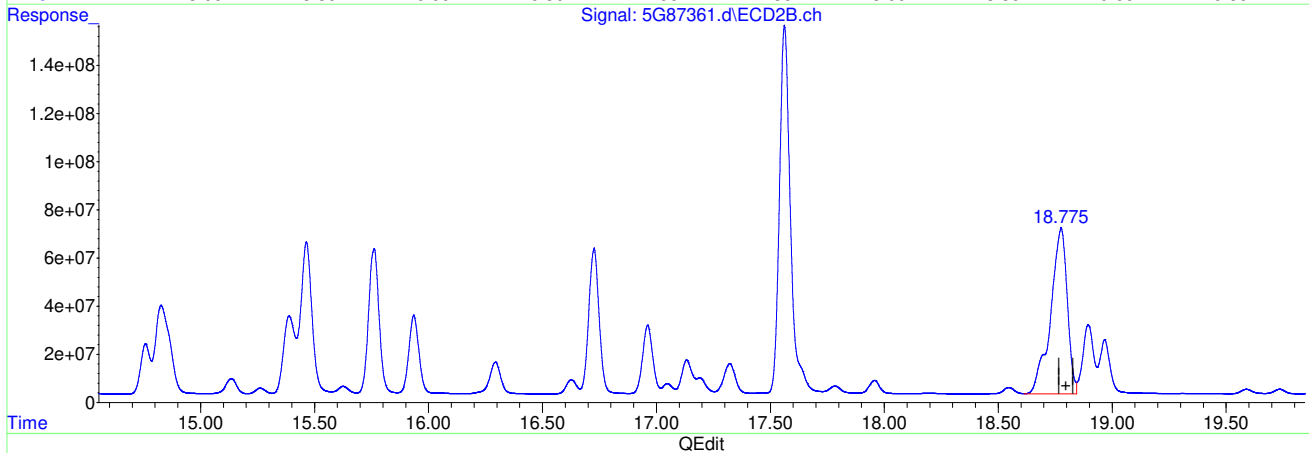
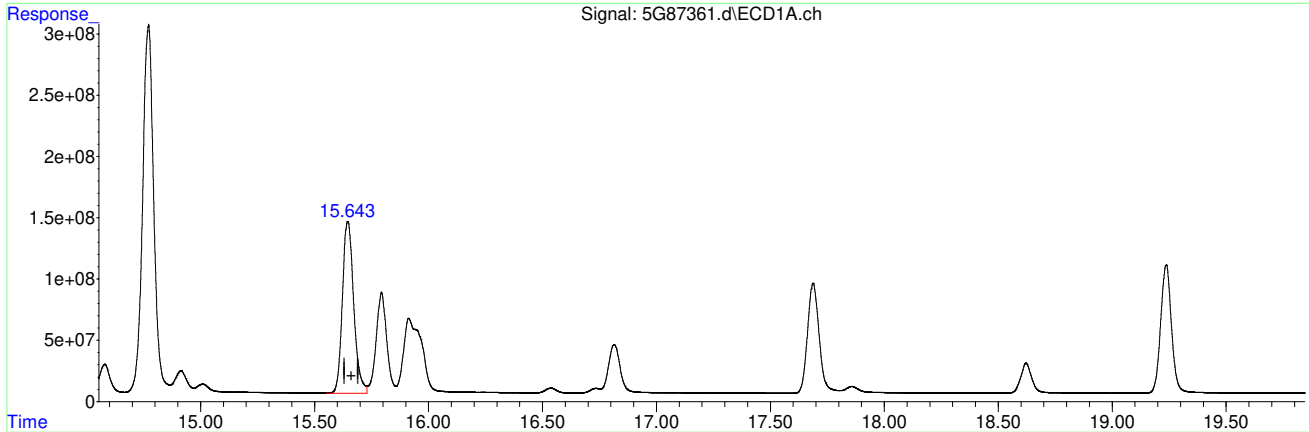
1240 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87361.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:09 pm  
 Operator : summerk  
 Sample : ic2101-3000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:47:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E

15.646min 1359.137 PPB

response 4840488364

(50) AR1260-E #2

18.775min 2035.997 PPB

response 3510360694

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:48:11 2019

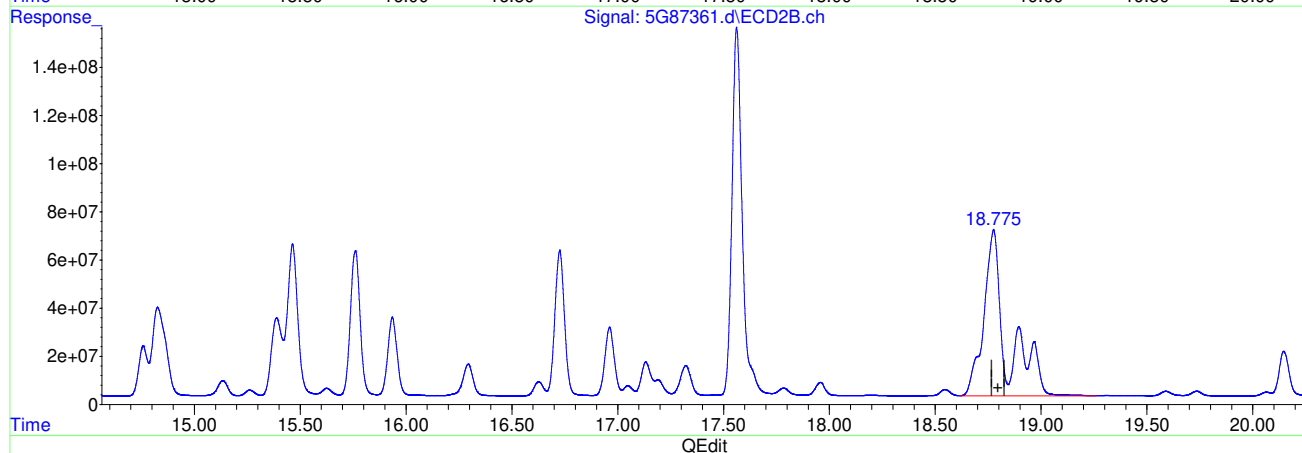
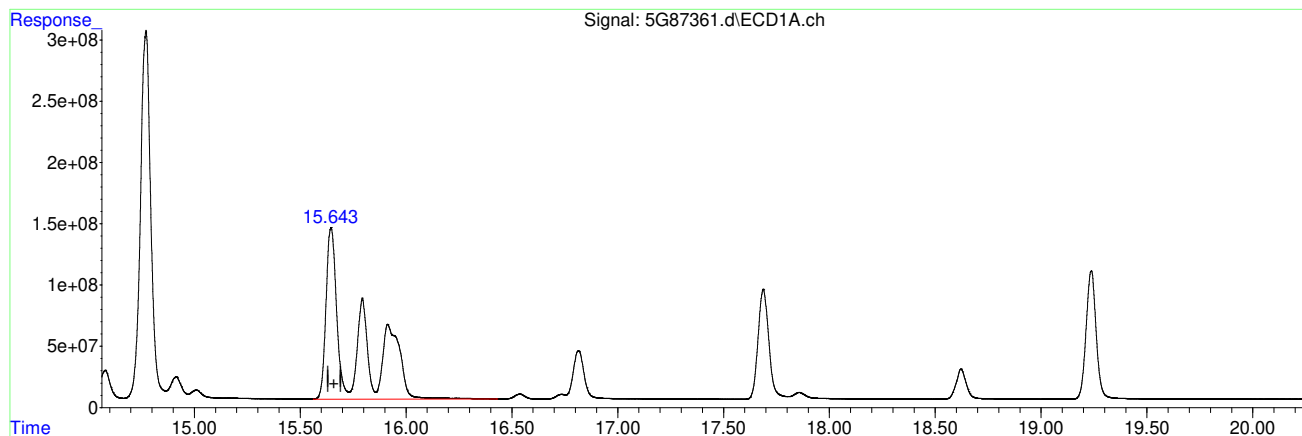
Page: 1

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87361.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:09 pm  
 Operator : summerk  
 Sample : ic2101-3000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 08:47:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Mar 08 08:32:18 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E

15.643min 3091.581 PPB m

response 11010488172

(50) AR1260-E #2

18.775min 3010.557 PPB m

response 5190645878

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 08:48:27 2019

Page: 1



Manual Integrations  
APPROVED  
(compounds with "m" flag)

Gwendolyn Burns  
04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87362.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:41 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:25:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.618	4.379	1637.5E6	699.5E6	51.888	50.875
Spiked Amount	40.000		Recovery	=	129.72%	127.19%
51) S Decachlor...	19.240	22.645	1609.0E6	791.0E6	52.635	53.676
Spiked Amount	40.000		Recovery	=	131.59%	134.19%
Target Compounds						
2) AR1221-A	2.813	3.491	223.3E6	102.4E6	1201.407	1063.778
3) AR1221-B	3.939	5.075	352.0E6	157.7E6	1042.276	957.503
4) AR1221-C	4.293	5.565	931.1E6	398.0E6	926.718	968.429
5) AR1221-D	5.034	6.609	176.2E6	80306003	1494.908m	922.735 #
6) AR1221-E	5.470	6.770	101.8E6	46794124	568.037	1023.675 #
24) AR1254-A	8.494	10.939	968.3E6	534.4E6	992.849	963.459
25) AR1254-B	9.243	11.534	1302.1E6	580.4E6	1017.447	967.726
26) AR1254-C	10.022	12.624	1078.6E6	456.8E6	1007.254	968.308
27) AR1254-D	10.379	12.992	1853.9E6	883.3E6	1016.329	981.642
28) AR1254-E	11.219	13.719	1390.3E6	642.6E6	877.336	976.769
29) AR1254-F	11.789	14.846	1299.5E6	778.4E6	967.552	984.605m
30) AR1254-G	12.637	15.466	1990.2E6	929.7E6	1014.183	958.212m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

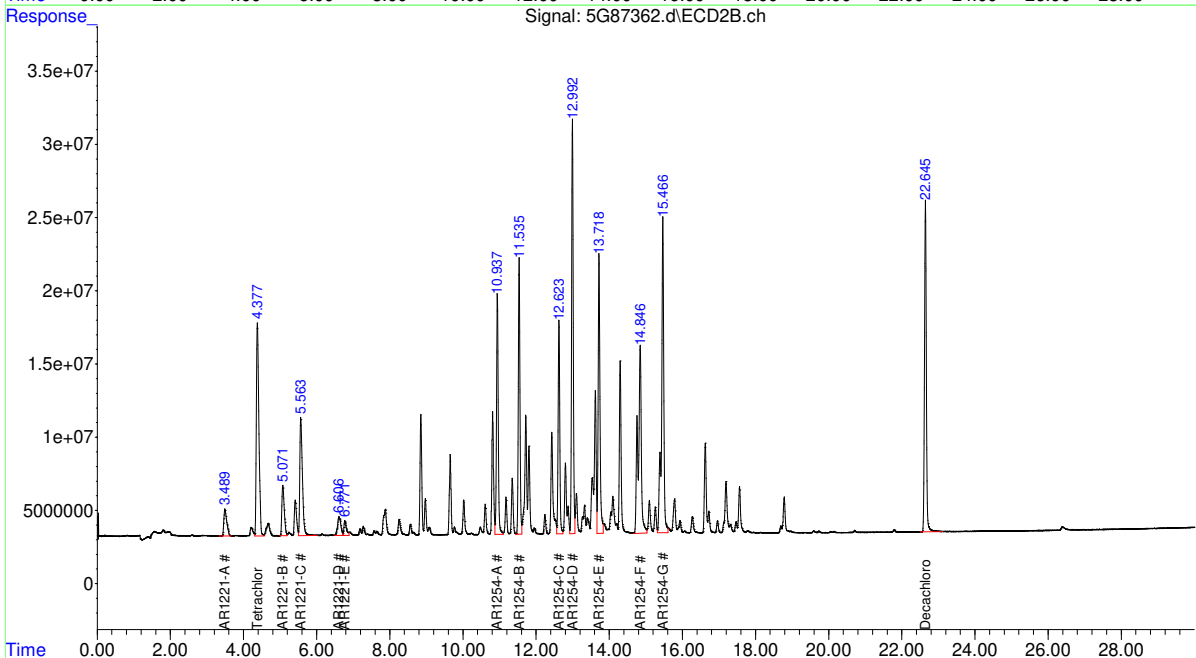
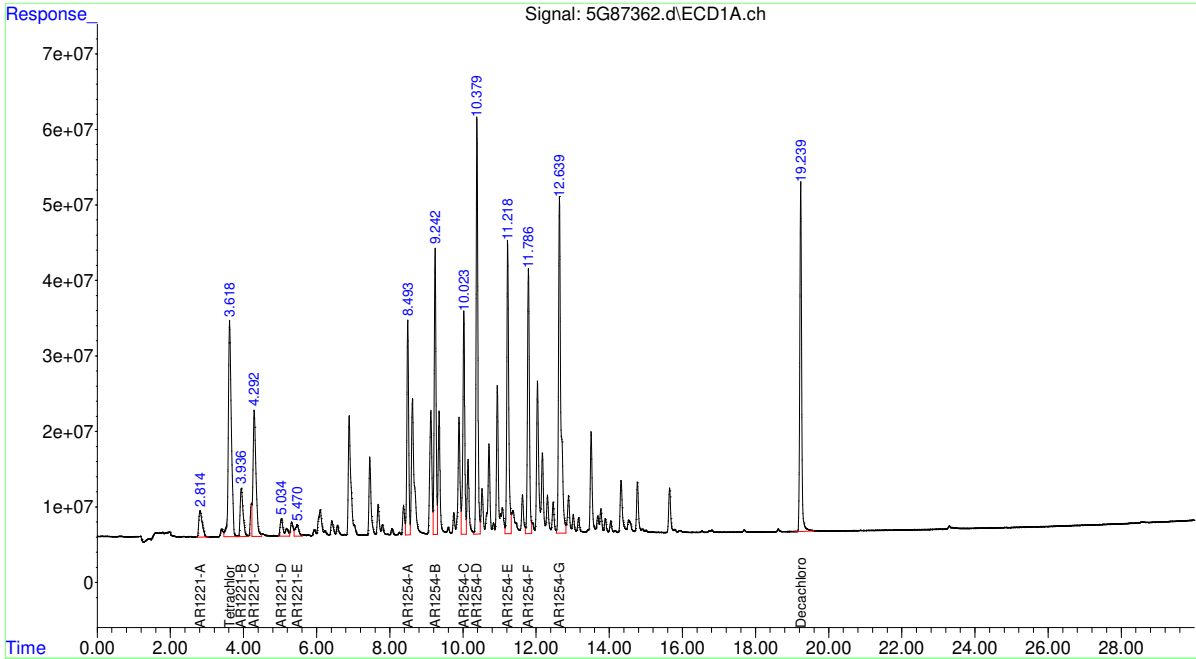
11.67  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87362.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:41 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:25:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-IC2101      Method: EPA 608  
Lab FileID: 5G87362.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 18:41      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1221-D		1	5.03	Split peak
AR1254-F		2	14.85	Split peak
AR1254-G		2	15.47	Split peak

11.6.7.1

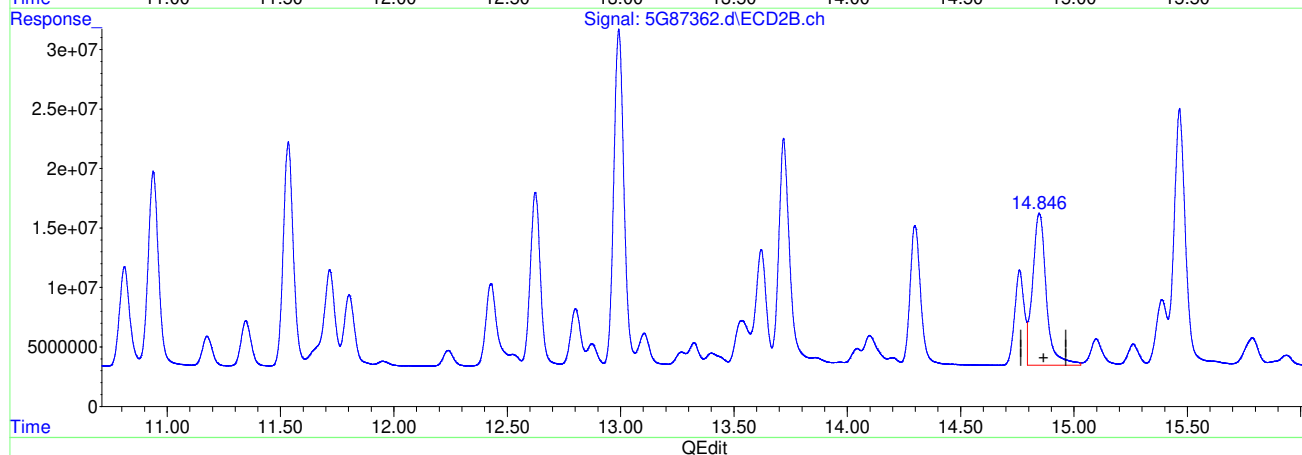
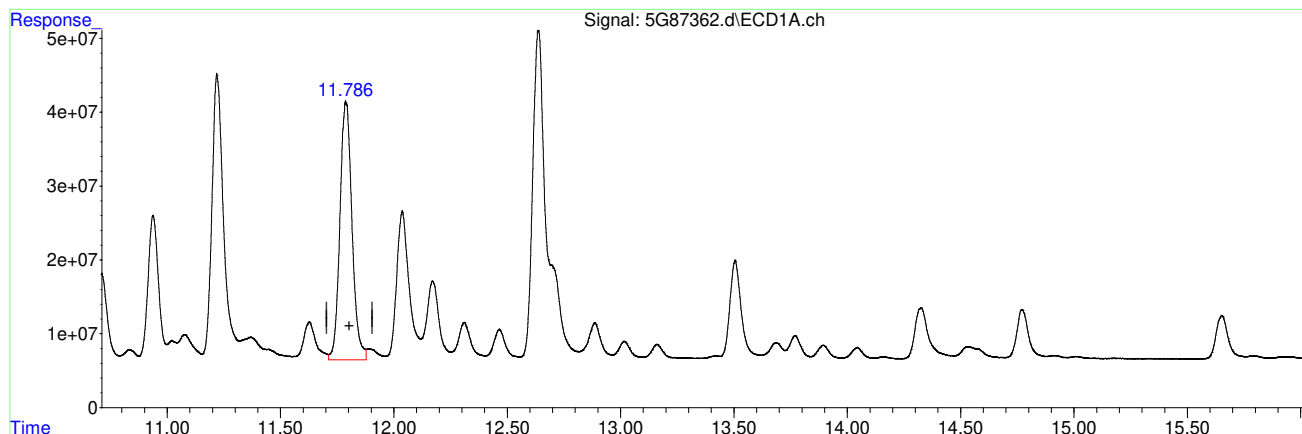
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87362.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:41 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:14:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(29) AR1254-F  
 11.789min 967.552 PPB  
 response 1299482228

(29) AR1254-F #2  
 14.847min 680.052 PPB  
 response 537632338

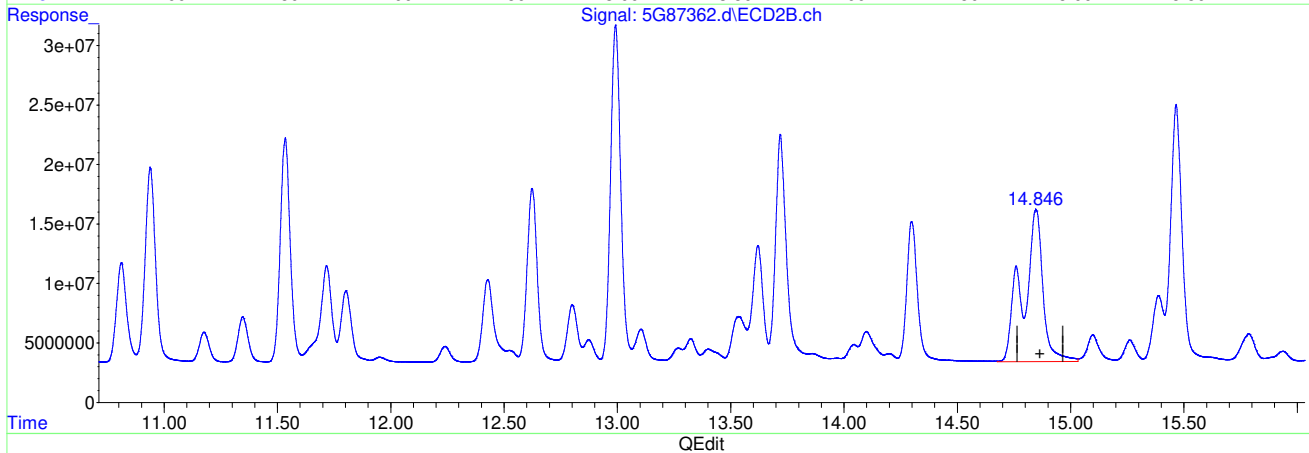
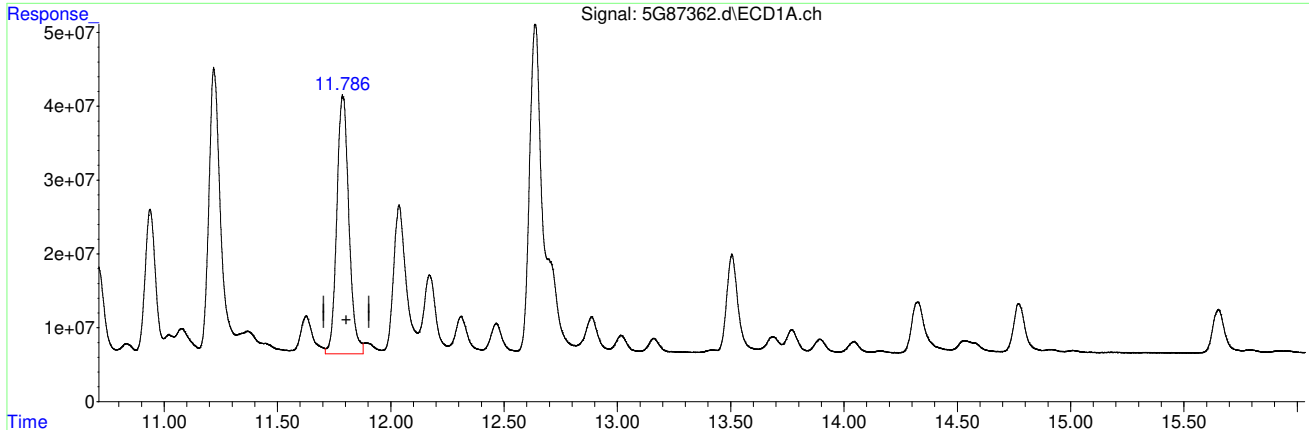
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:14:49 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87362.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:41 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:14:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(29) AR1254-F  
 11.789min 967.552 PPB  
 response 1299482228

(29) AR1254-F #2  
 14.846min 984.605 PPB m  
 response 778405265

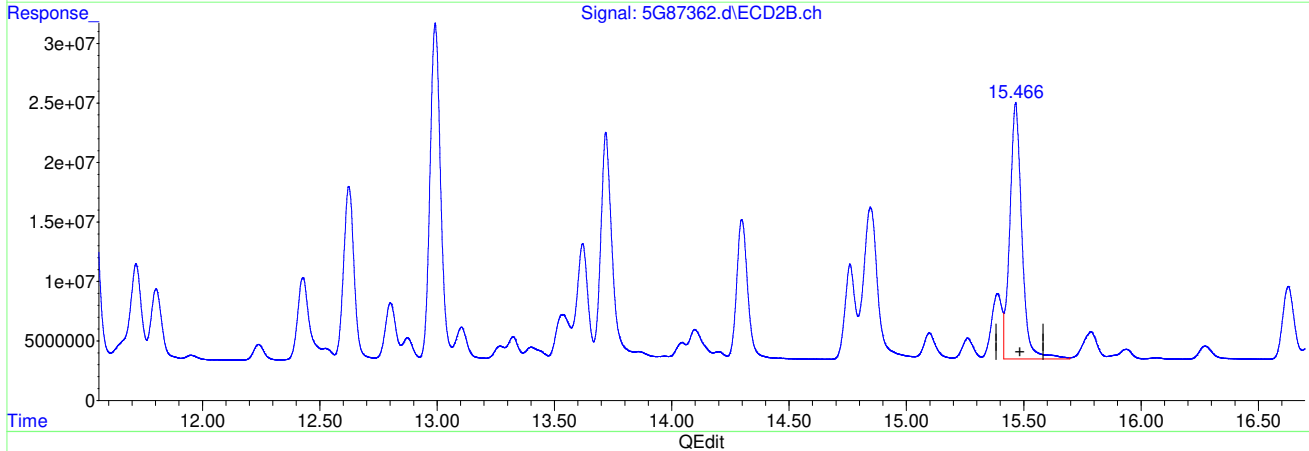
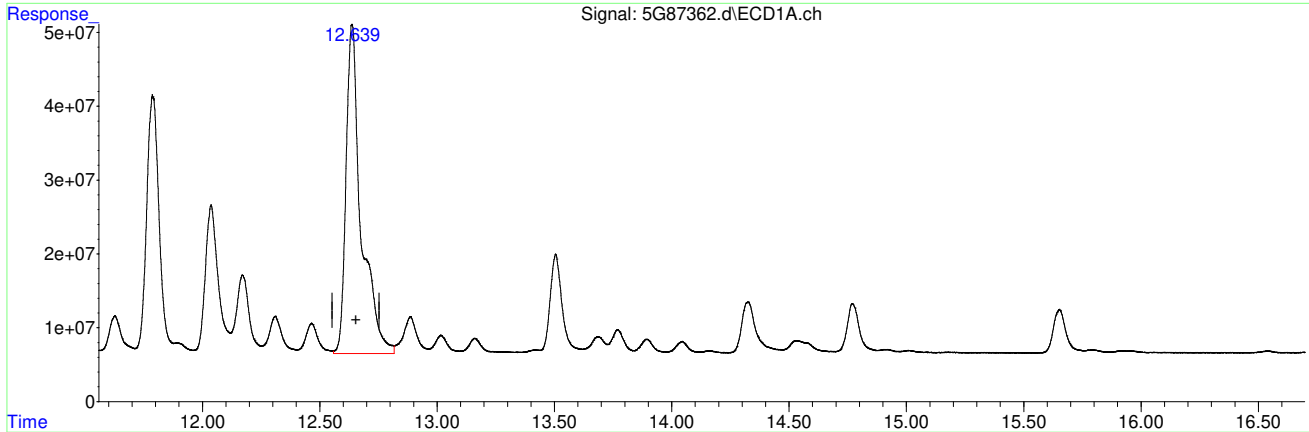
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:14:53 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87362.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:41 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:14:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(30) AR1254-G  
 12.637min 1014.183 PPB  
 response 1990243295

(30) AR1254-G #2  
 15.465min 792.099 PPB  
 response 768548197

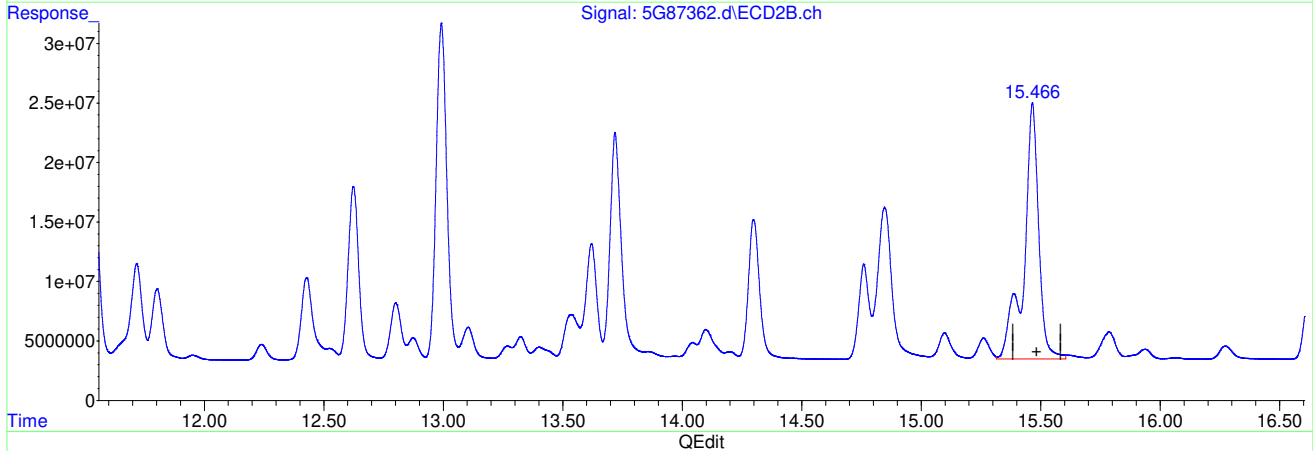
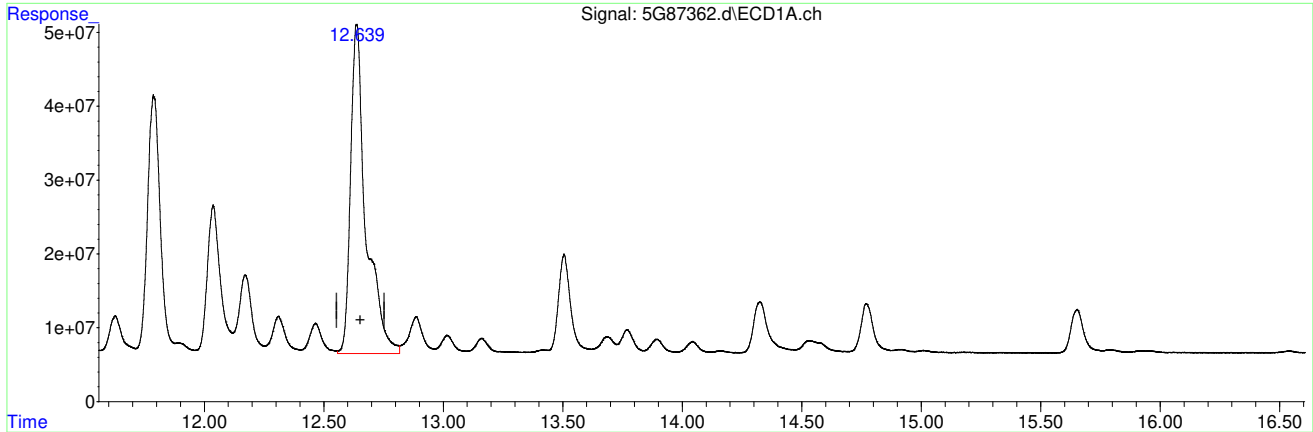
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:14:55 2019

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87362.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:41 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:14:11 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(30) AR1254-G  
 12.637min 1014.183 PPB  
 response 1990243295

(30) AR1254-G #2  
 15.466min 958.212 PPB m  
 response 929722355

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:15:03 2019

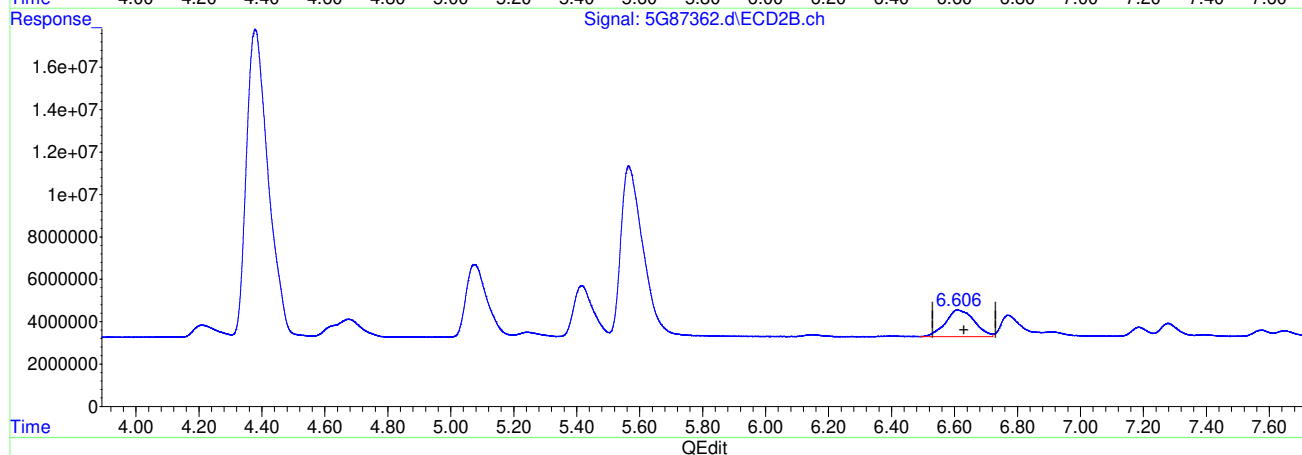
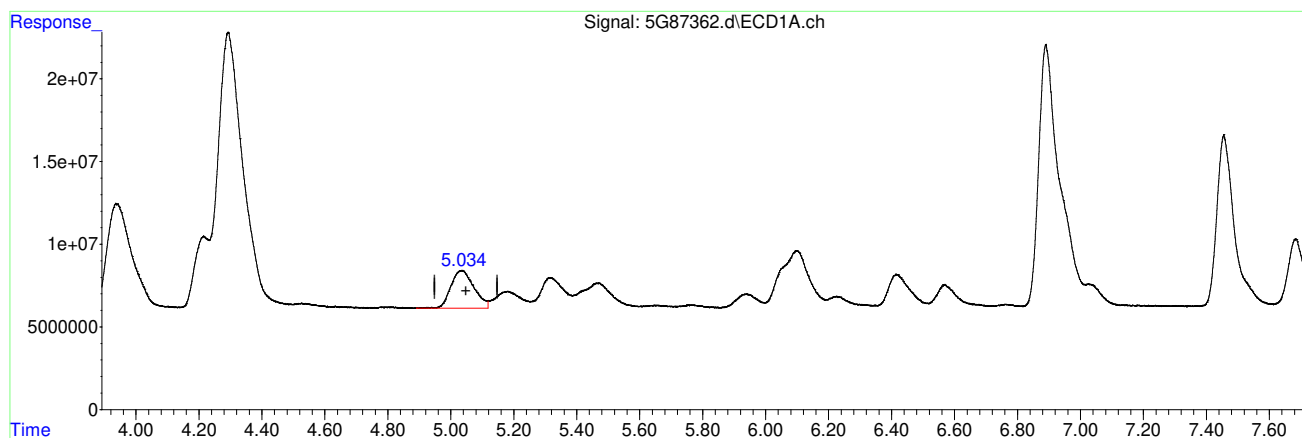
Page: 1

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87362.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:41 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:15:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(5) AR1221-D

5.034min 989.369 PPB

response 116598954

(5) AR1221-D #2

6.609min 922.735 PPB

response 80306003

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:24:57 2019

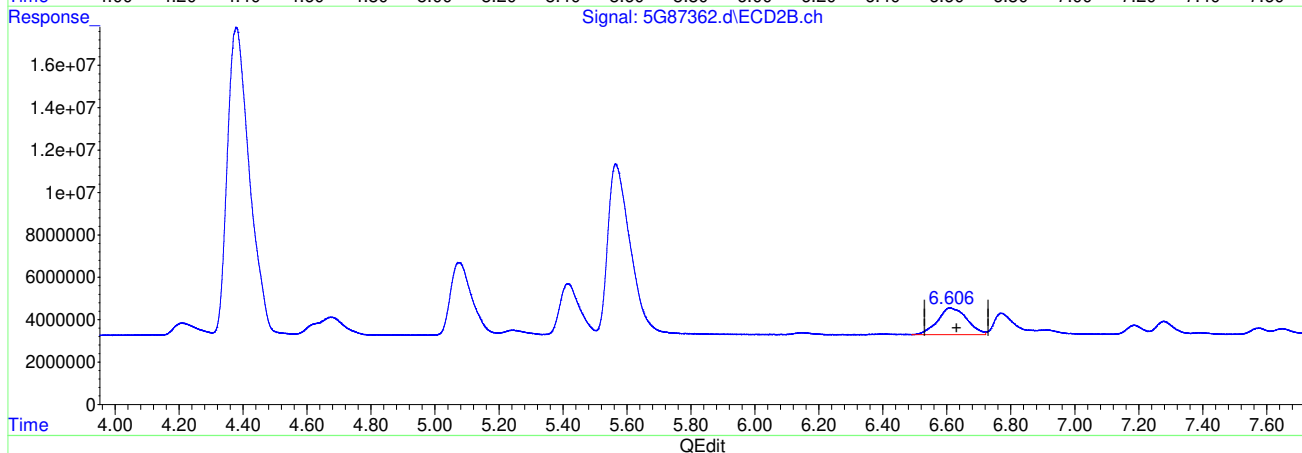
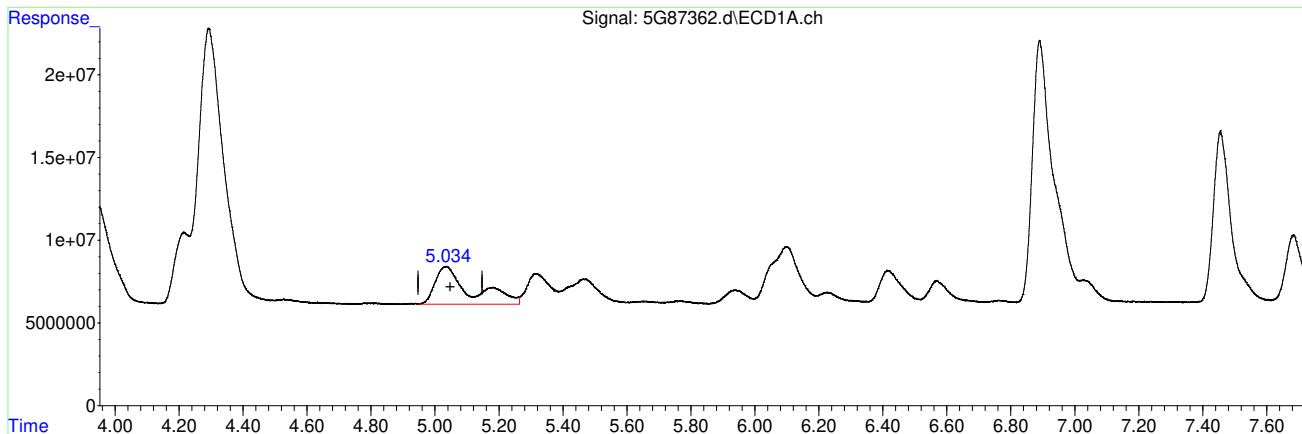


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87362.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 6:41 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:15:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(5) AR1221-D  
 5.034min 1494.908 PPB m  
 response 176177645

(5) AR1221-D #2  
 6.609min 922.735 PPB  
 response 80306003

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:25:03 2019

11.6.7.7  
 11

Quantitation Report (QT Reviewed)

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

Gwendolyn Burns  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87363.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 7:14 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:16:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.621	4.377	1455.5E6	631.2E6	46.123	45.911
Spiked Amount	40.000		Recovery	=	115.31%	114.78%
51) S Decachlor...	19.238	22.643	1452.0E6	719.5E6	47.500	48.823
Spiked Amount	40.000		Recovery	=	118.75%	122.06%
Target Compounds						
7) AR1232-A	4.296	5.567	741.2E6	313.2E6	944.305	968.500
8) AR1232-B	5.468	6.615	378.6E6	254.2E6	1001.124	970.869
9) AR1232-C	6.095	7.878	1093.8E6	532.5E6	932.509	976.126
10) AR1232-D	6.414	8.257	460.4E6	209.7E6	1013.456	968.465
11) AR1232-E	7.456	9.650	438.5E6	149.3E6	999.806m	946.724
31) AR1262-A	11.795	14.299	1524.6E6	654.5E6	1018.181	952.352
32) AR1262-B	13.016	15.760	2079.6E6	997.3E6	1015.213	947.607
33) AR1262-C	13.768	16.726	1826.8E6	878.9E6	1012.737	965.124
34) AR1262-D	14.768	17.562	4099.9E6	2010.5E6	1019.958	970.689
35) AR1262-E	15.795	18.751	5118.7E6	2357.8E6	1023.519m	973.976m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.8  
 11

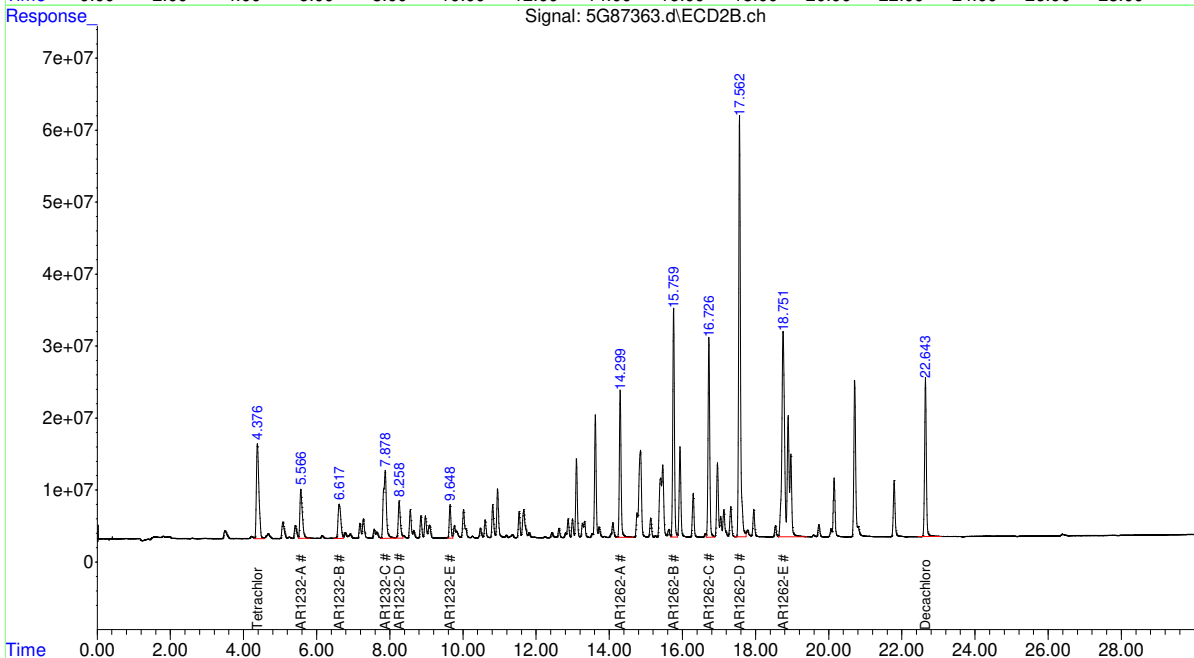
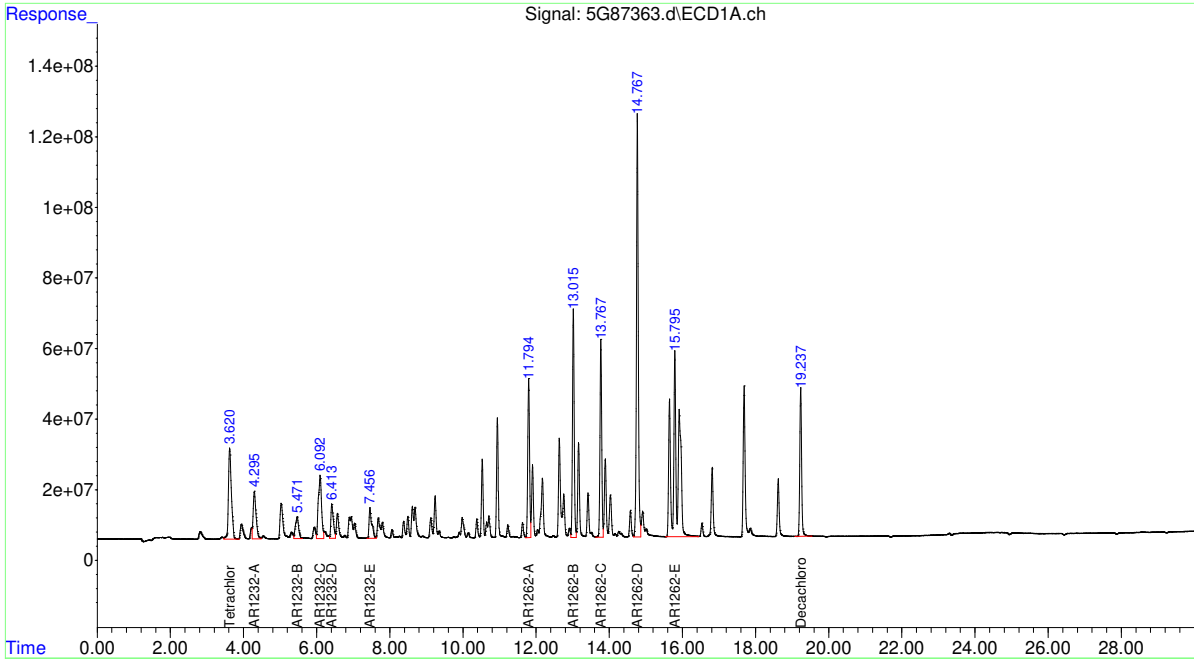


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87363.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 7:14 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:16:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-IC2101      Method: EPA 608  
Lab FileID: 5G87363.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 19:14      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1232-E		1	7.46	Split peak
AR1262-E		1	15.80	Split peak
AR1262-E		2	18.75	Split peak

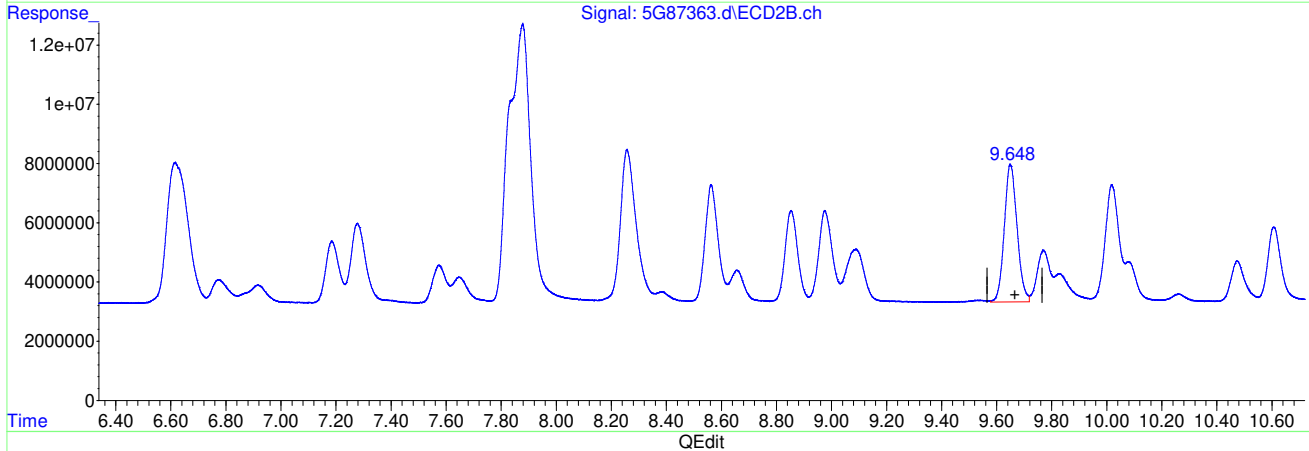
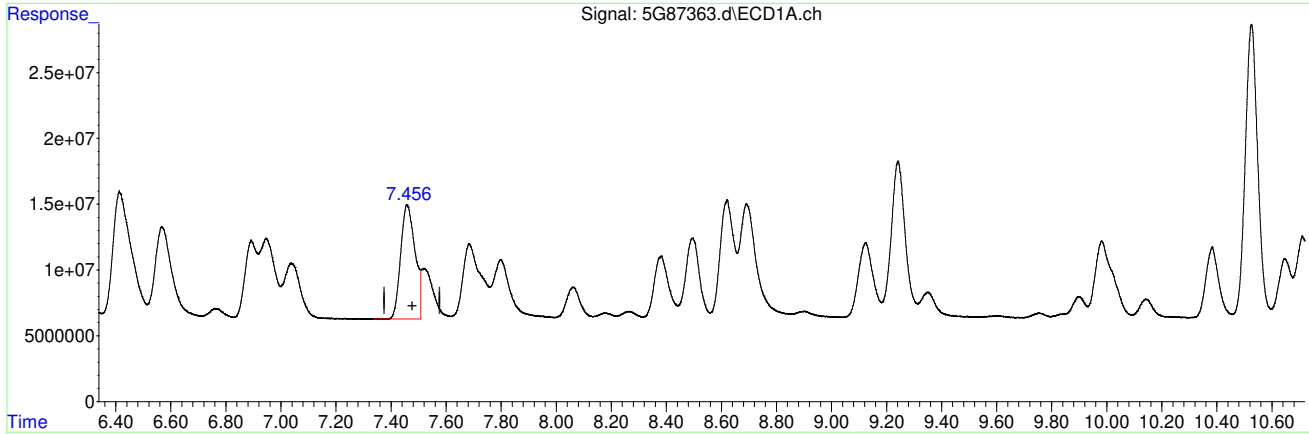
11.6.8.1  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87363.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 7:14 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:15:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(11) AR1232-E  
 7.458min 721.178 PPB  
 response 316317140

(11) AR1232-E #2  
 9.650min 946.724 PPB  
 response 149257058

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:15:34 2019

Page: 1

SGS

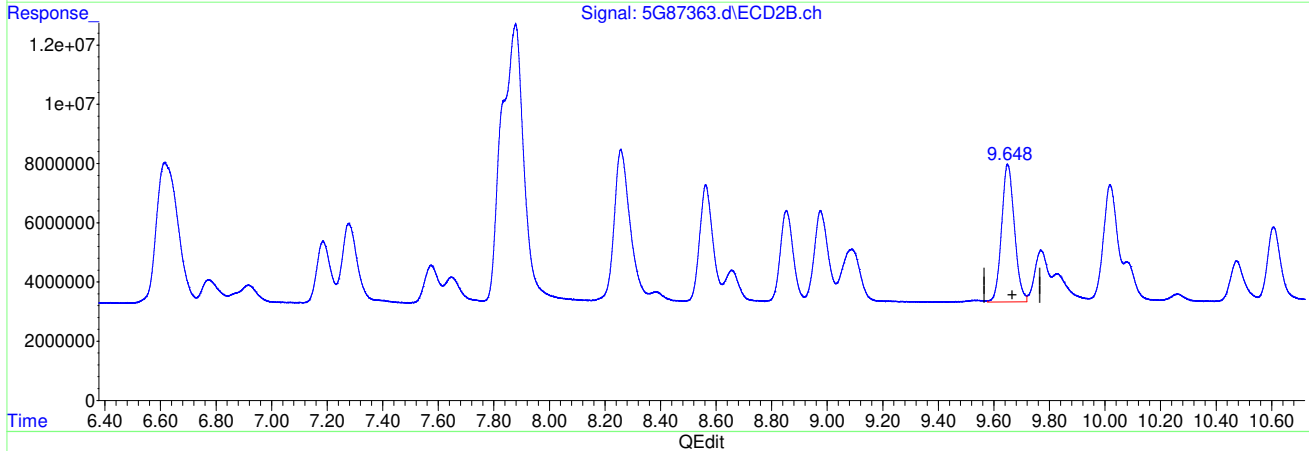
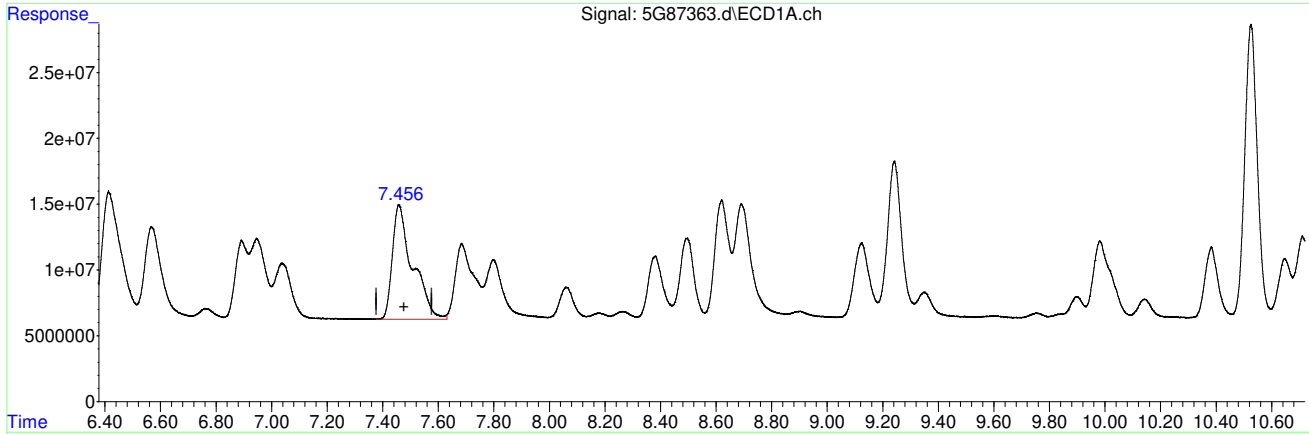
1255 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87363.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 7:14 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:15:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase: RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(11) AR1232-E  
 7.456min 999.806 PPB m  
 response 438526577

(11) AR1232-E #2  
 9.650min 946.724 PPB  
 response 149257058

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:15:42 2019

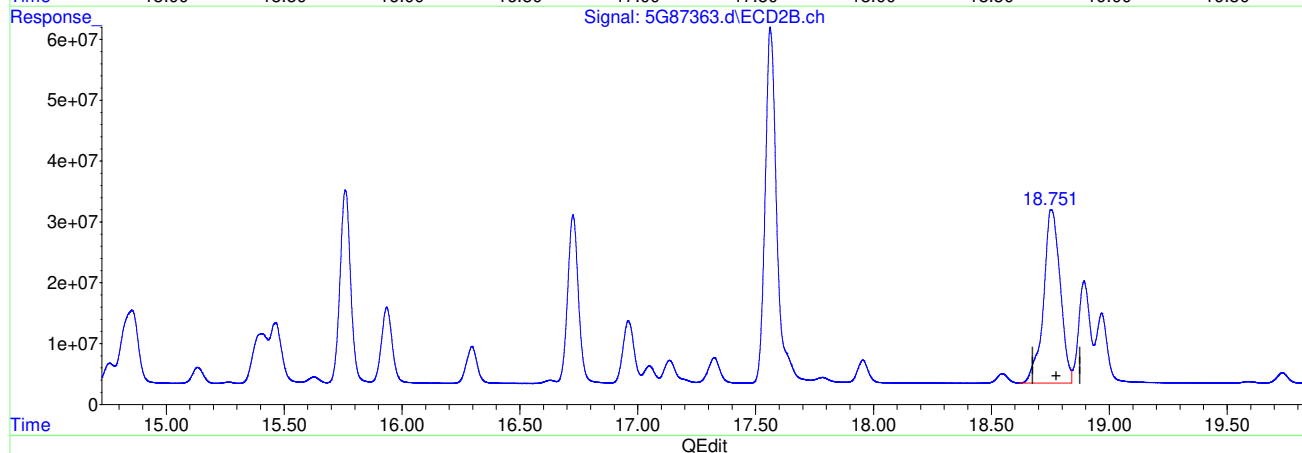
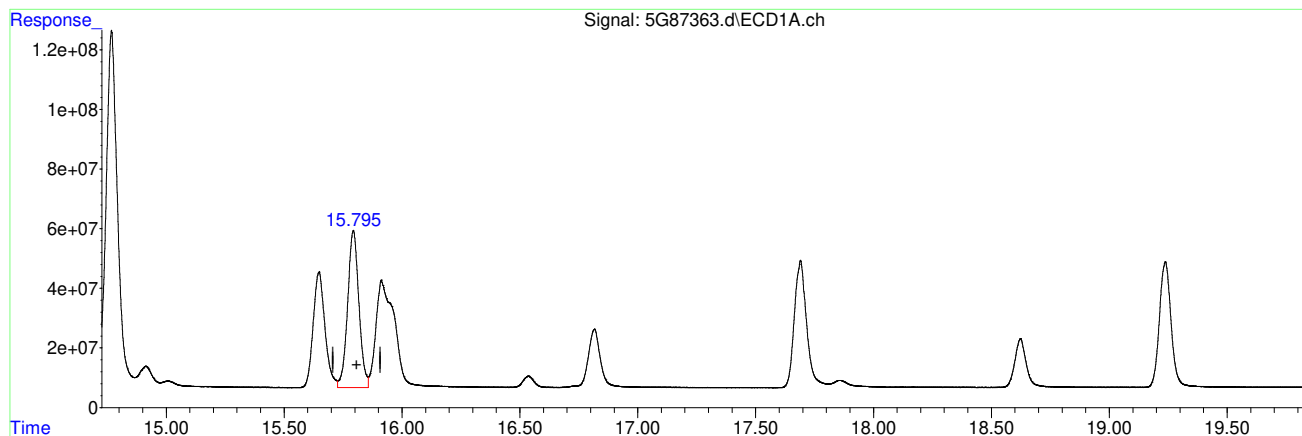
Page: 1

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87363.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 7:14 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:15:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(35) AR1262-E  
 15.794min 350.790 PPB  
 response 1754345062

(35) AR1262-E #2  
 18.754min 580.916 PPB  
 response 1406270851

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:15:48 2019

Page: 1

SGS

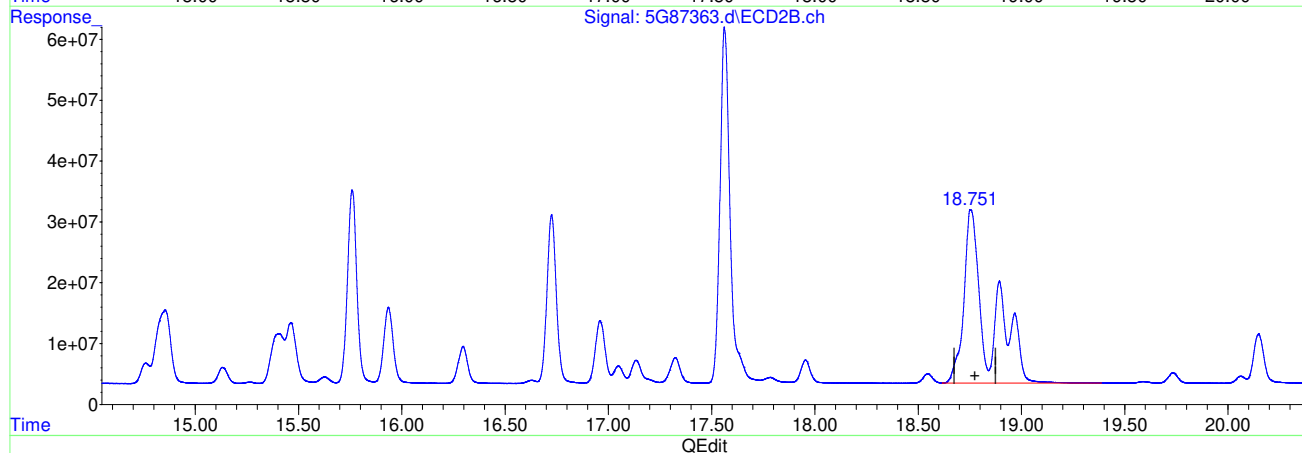
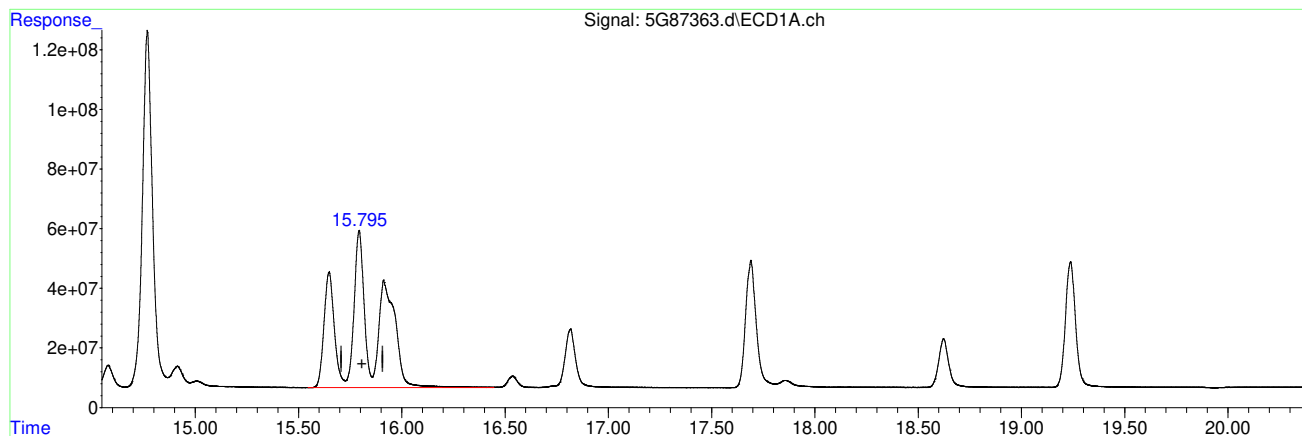
1257 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87363.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 7:14 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:15:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(35) AR1262-E

15.795min 1023.519 PPB m

response 5118748849

(35) AR1262-E #2

18.751min 973.976 PPB m

response 2357783547

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:16:02 2019

Page: 1



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87364.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 7:46 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:16:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.619	4.378	1713.4E6	729.7E6	54.294	53.072
Spiked Amount	40.000		Recovery	=	135.73%	132.68%
51) S Decachlor...	19.236	22.642	4281.7E6	2072.1E6	140.067	140.615
Spiked Amount	40.000		Recovery	=	350.17%	351.54%
Target Compounds						
12) AR1242-A	5.032	6.615	897.3E6	394.1E6	1059.608	982.464
13) AR1242-B	6.093	7.874	1805.1E6	874.1E6	1066.466	990.874
14) AR1242-C	6.414	8.257	754.9E6	339.3E6	1041.923	987.724
15) AR1242-D	7.459	9.650	779.4E6	268.6E6	1010.040	972.628
16) AR1242-E	8.691	10.948	672.1E6	335.5E6	1044.782	968.867
36) AR1268-A	15.792	18.747	5077.2E6	2466.9E6	1024.887	938.687
37) AR1268-B	15.912	18.894	5034.2E6	2455.2E6	1032.759	970.914
38) AR1268-C	16.535	19.732	4308.3E6	2135.2E6	1027.940	963.403
39) AR1268-D	17.688	20.706	1830.4E6	895.3E6	1029.866	1017.544
40) AR1268-E	18.621	21.787	13583.5E6	6815.4E6	1047.985	987.836
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

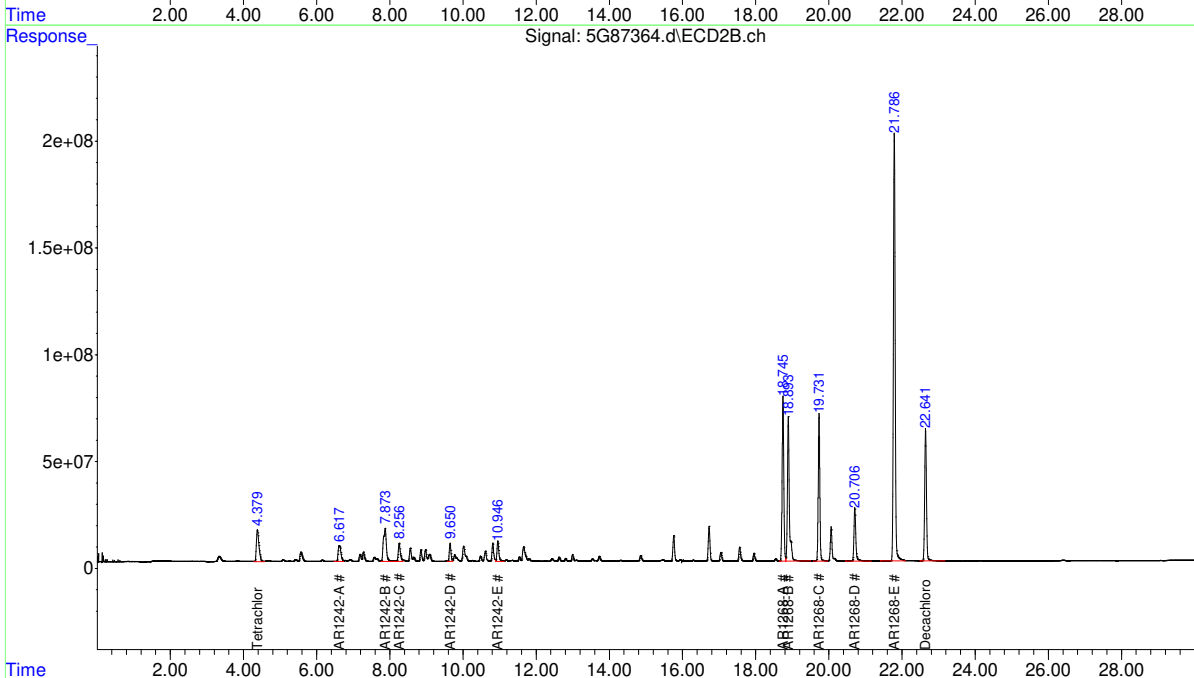
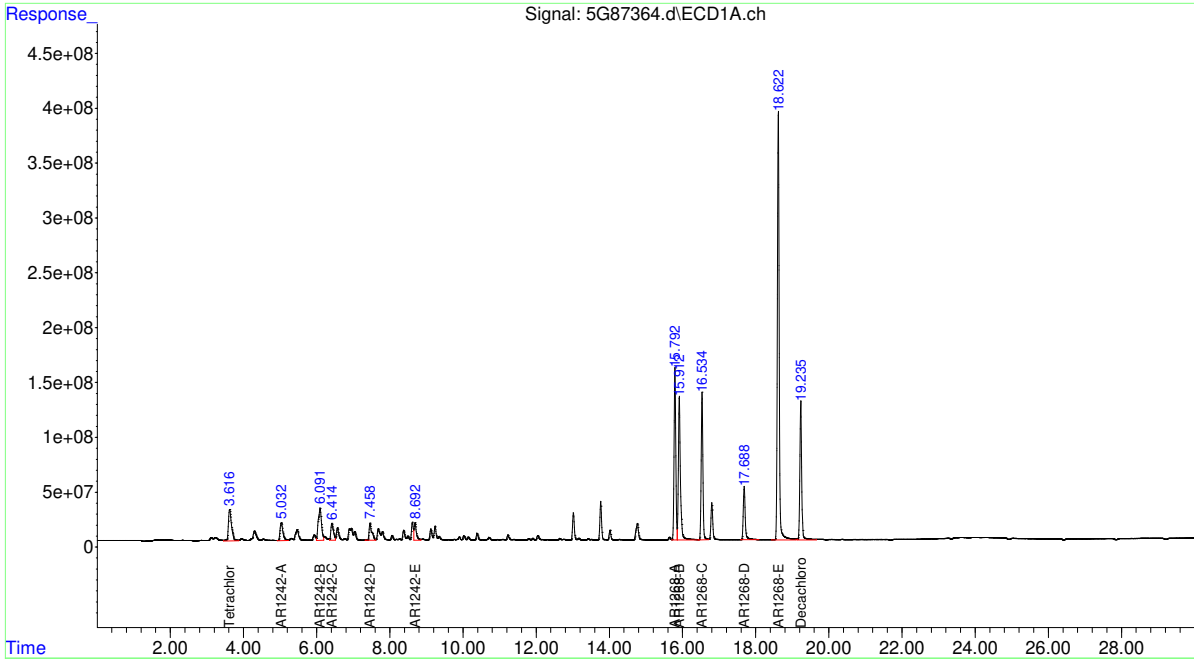
11.6.9  
11



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87364.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 7:46 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:16:26 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87365.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:18 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:17:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.620	4.380	1508.3E6	686.8E6	47.795	49.950
Spiked Amount	40.000		Recovery	=	119.49%	124.88%
51) S Decachlor...	19.237	22.642	1595.6E6	772.7E6	52.197	52.432
Spiked Amount	40.000		Recovery	=	130.49%	131.08%
Target Compounds						
17) AR1248-A	5.029	6.611	463.8E6	213.7E6	998.348	908.108
18) AR1248-B	6.094	7.872	1180.0E6	581.1E6	1069.754	946.946m
19) AR1248-C	6.893	8.852	1250.2E6	326.0E6	1015.144m	944.265
20) AR1248-D	7.458	9.651	1232.1E6	438.9E6	991.316	949.231
21) AR1248-E	7.685	10.017	735.2E6	488.3E6	990.804	942.993
22) AR1248-F	8.690	10.946	1073.9E6	591.8E6	907.050	956.565
23) AR1248-G	9.238	11.660	909.0E6	560.4E6	1009.969	965.359
-----						

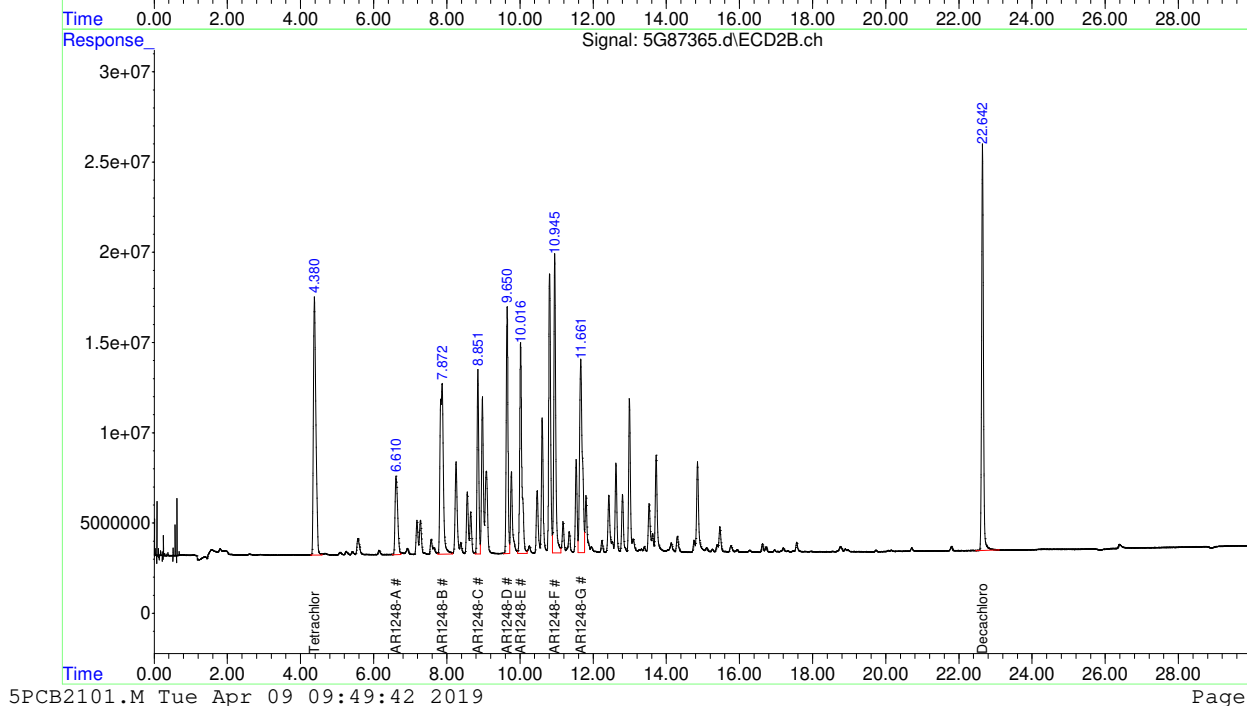
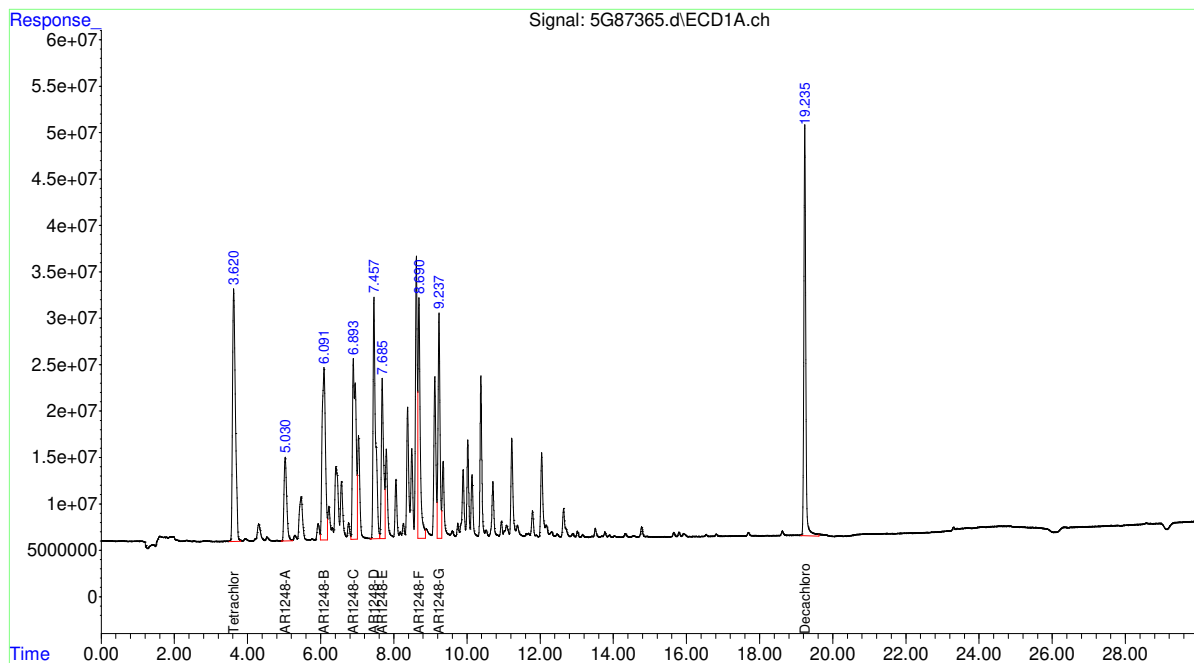
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.10  
 11

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87365.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:18 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:17:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase: RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-IC2101      Method: EPA 608  
Lab FileID: 5G87365.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 20:18      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1248-C		1	6.89	Split peak
AR1248-B		2	7.87	Split peak

11.6.10.1

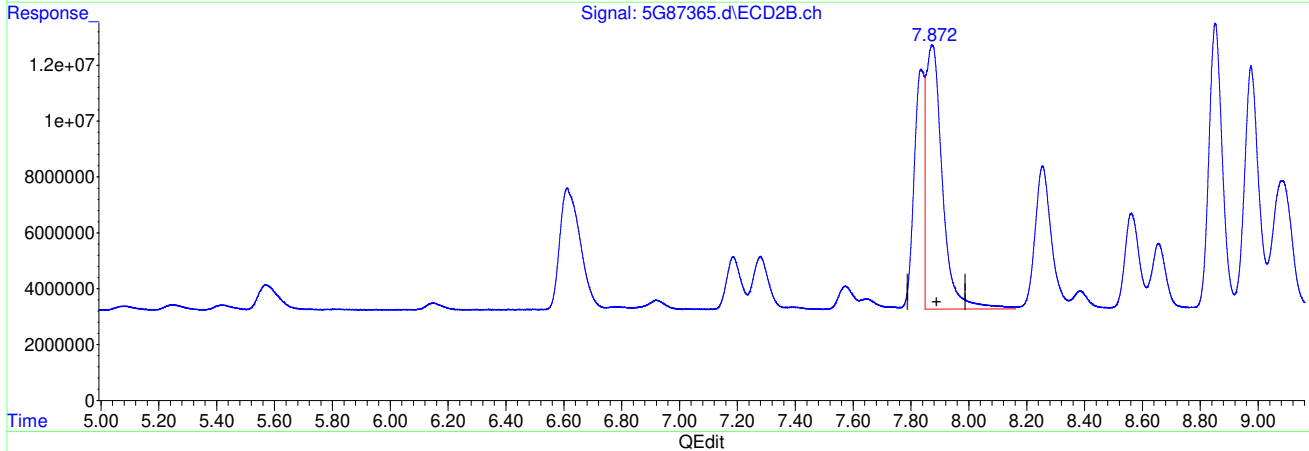
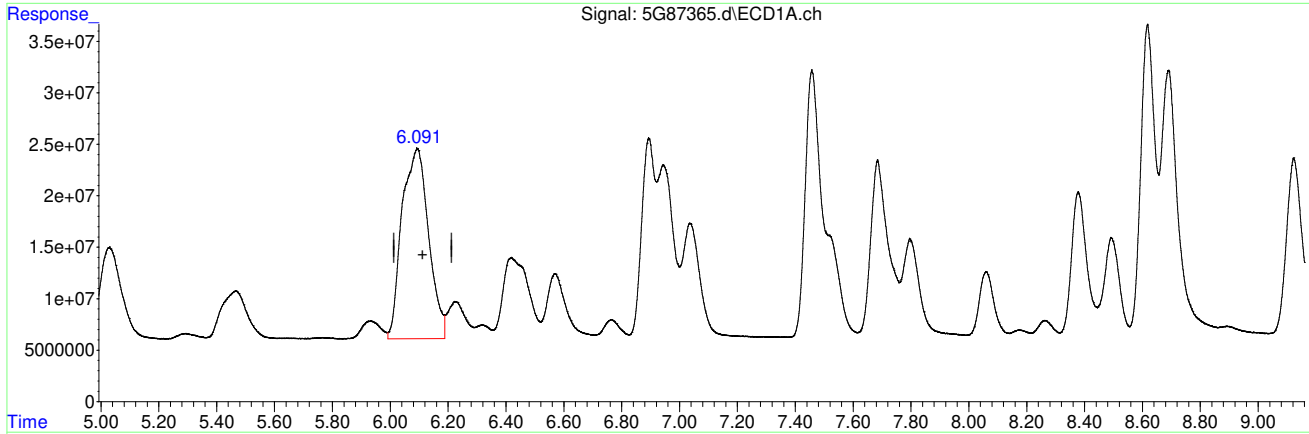
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87365.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:18 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:16:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(18) AR1248-B  
 6.094min 1069.754 PPB  
 response 1180044682

(18) AR1248-B #2  
 7.873min 609.387 PPB  
 response 373968795

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:17:11 2019

Page: 1

SGS

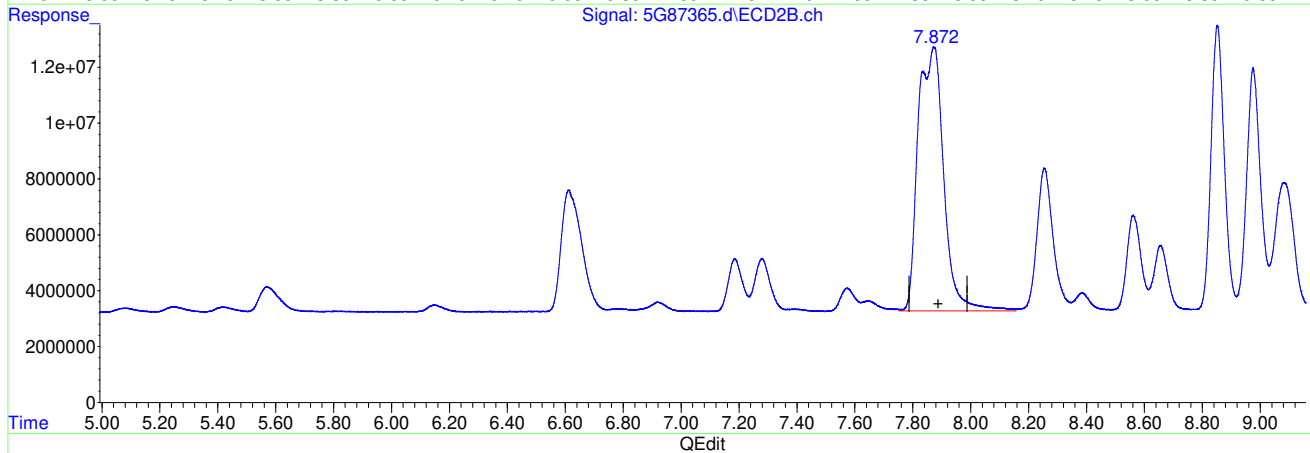
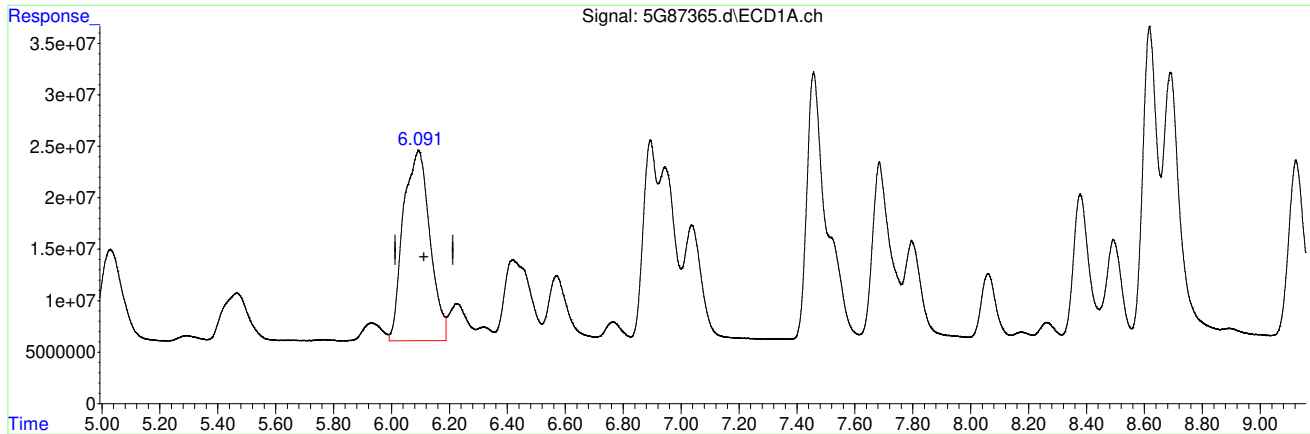
1264 of 1990

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87365.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:18 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:16:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(18) AR1248-B  
 6.094min 1069.754 PPB  
 response 1180044682

(18) AR1248-B #2  
 7.872min 946.946 PPB m  
 response 581121809

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:17:17 2019

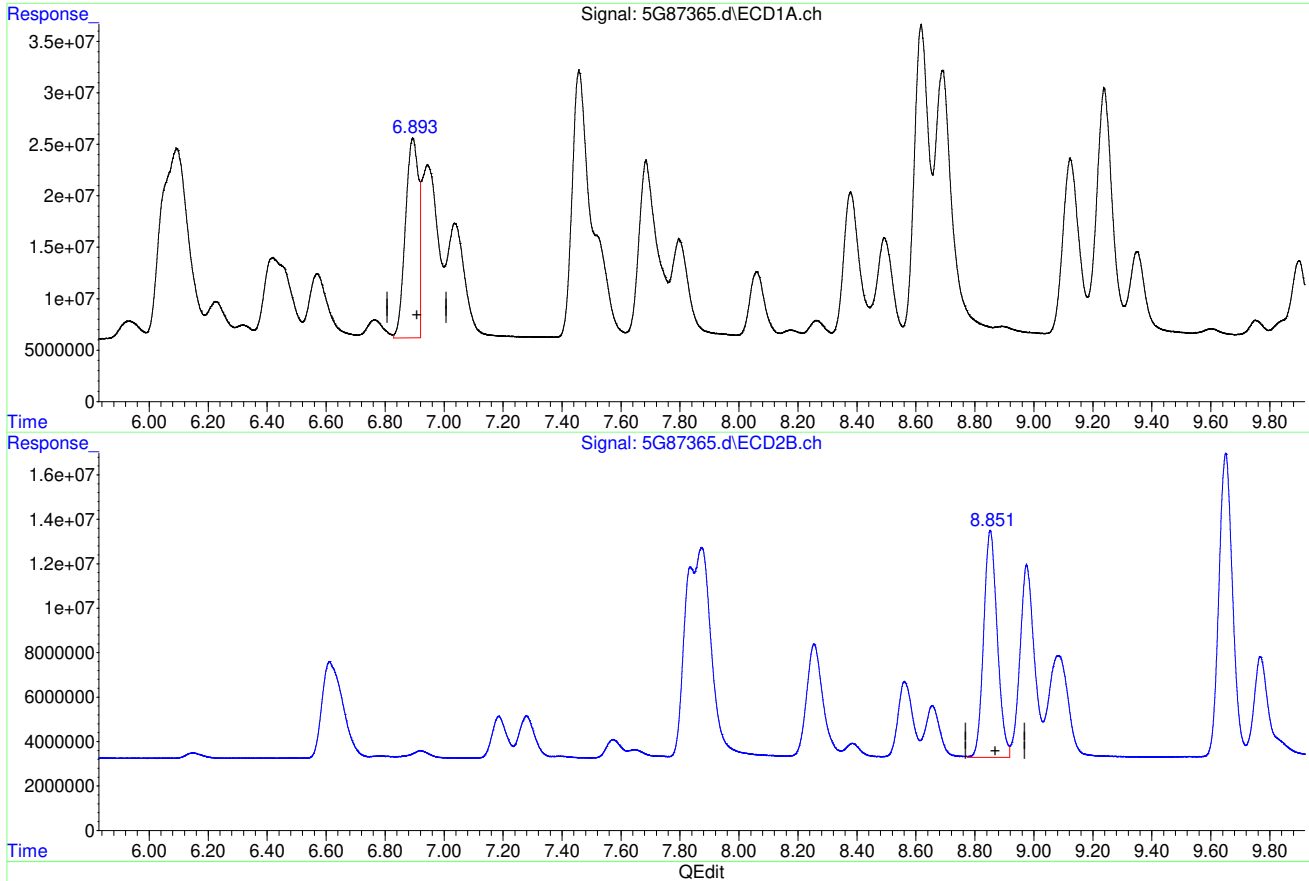
Page: 1

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87365.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:18 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:16:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(19) AR1248-C  
 6.894min 491.157 PPB  
 response 604874609

(19) AR1248-C #2  
 8.852min 944.265 PPB  
 response 325964258

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:17:19 2019

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SGS

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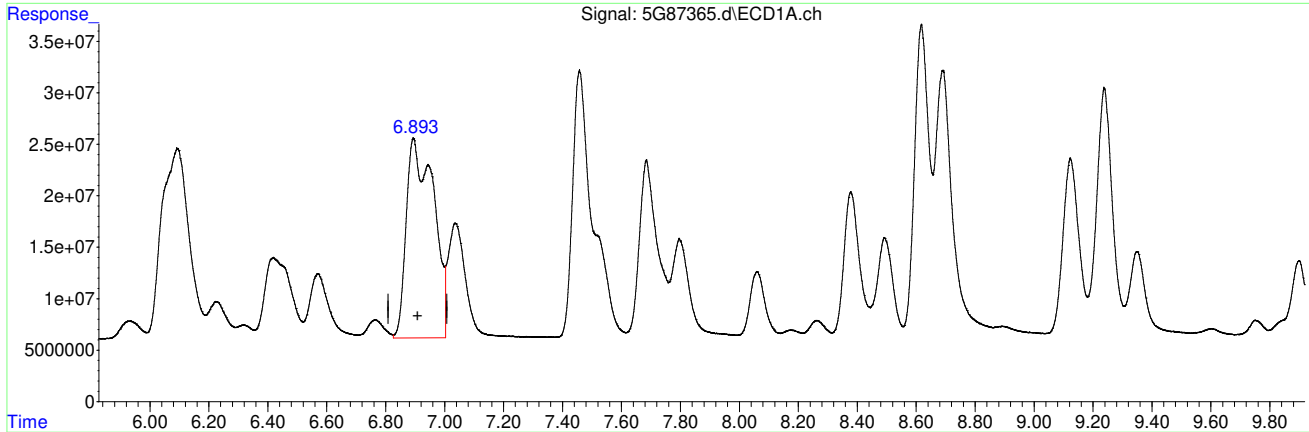


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87365.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:18 pm  
 Operator : summerk  
 Sample : ic2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:16:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 08:49:07 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(19) AR1248-C  
 6.893min 1015.144 PPB m  
 response 1250178686

(19) AR1248-C #2  
 8.852min 944.265 PPB  
 response 325964258

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:17:29 2019

Page: 1

SGS

1267 of 1990

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87366.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:32:09 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.632	4.389	1241.3E6	540.4E6	39.335	39.304
Spiked Amount	40.000		Recovery	=	98.34%	98.26%
51) S Decachlor...	19.238	22.642	1226.5E6	609.4E6	40.122	41.357
Spiked Amount	40.000		Recovery	=	100.31%	103.39%
Target Compounds						
41) AR1016-A	4.309	5.576	562.0E6	237.9E6	968.655	967.670
42) AR1016-B	5.041	6.622	1045.1E6	468.6E6	916.903	918.540
43) AR1016-C	6.106	7.881	2167.1E6	1057.2E6	917.008	921.196
44) AR1016-D	6.422	8.262	914.2E6	407.0E6	916.010	921.160
45) AR1016-E	7.465	9.654	925.3E6	318.2E6	916.510m	917.121
46) AR1260-A	12.640	15.467	2296.6E6	1088.0E6	953.980m	970.764m
47) AR1260-B	13.018	15.761	1380.5E6	664.7E6	981.968	985.536
48) AR1260-C	13.773	16.727	1396.4E6	663.8E6	942.728	1006.160
49) AR1260-D	14.772	17.564	3461.9E6	1748.3E6	995.103	1019.573
50) AR1260-E	15.651	18.781	3554.9E6	1642.9E6	927.428m	940.174m

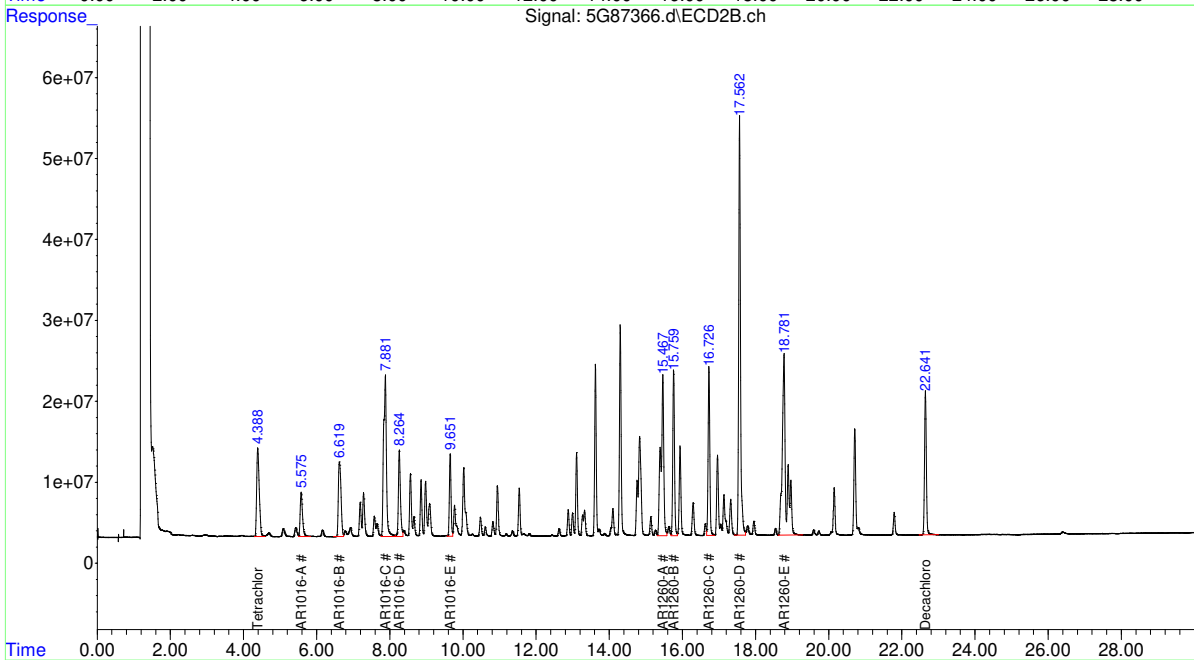
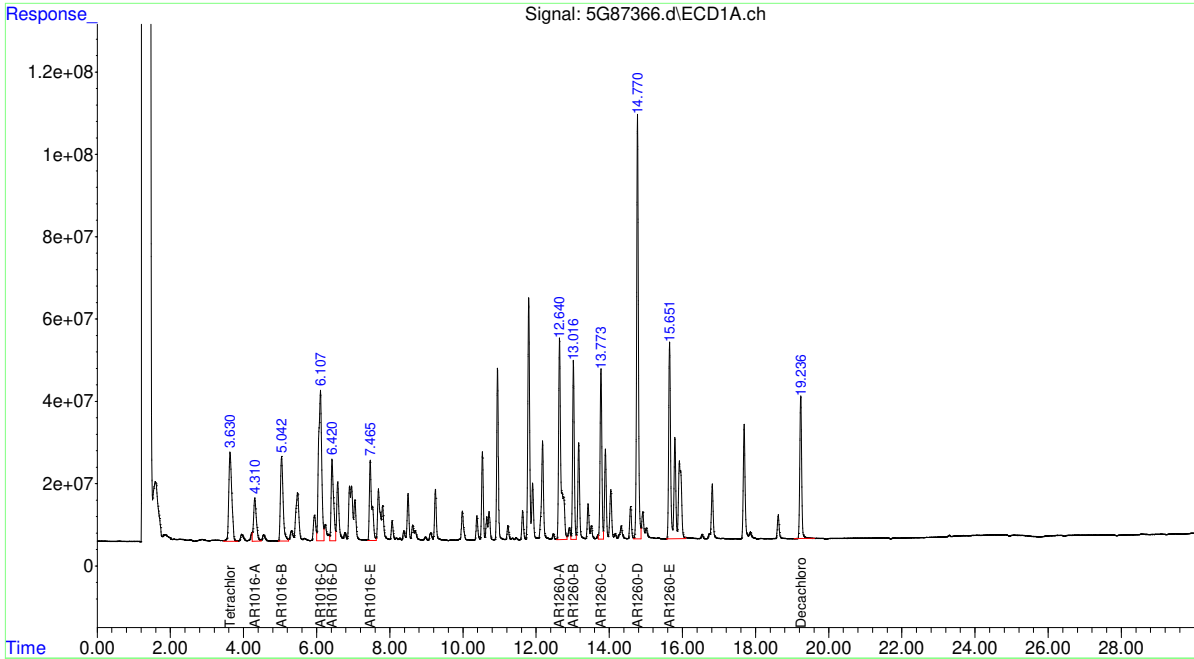
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.11  
11

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87366.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:32:09 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



11.6.11 11

# Manual Integration Approval Summary

Sample Number: G5G2101-ICV2101      Method: EPA 608  
Lab FileID: 5G87366.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 20:50      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-E		1	7.46	Split peak
AR1260-A		1	12.64	Split peak
AR1260-A		2	15.47	Split peak
AR1260-E		1	15.65	Split peak
AR1260-E		2	18.78	Split peak

11.6.11.1

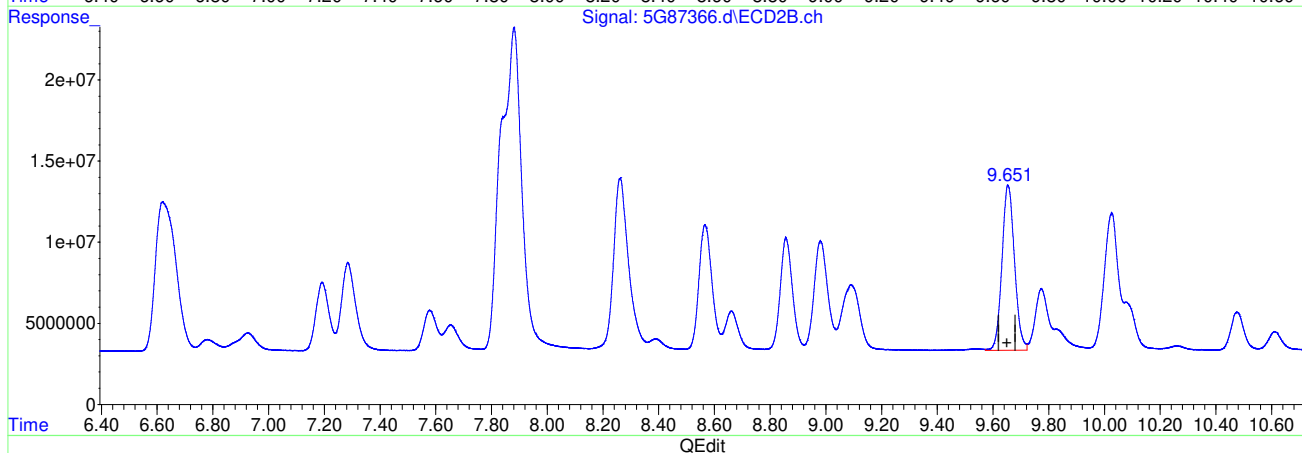
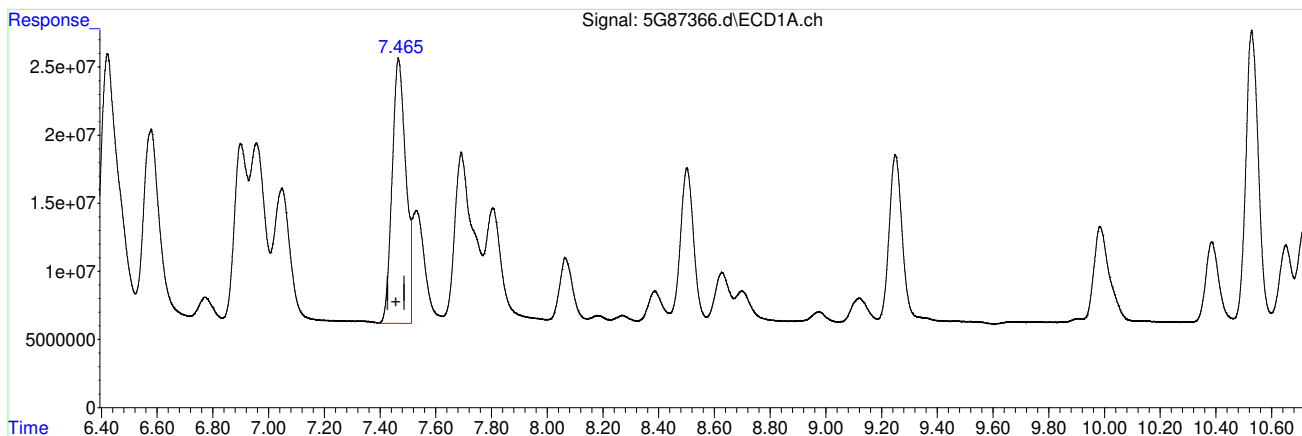
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87366.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:30:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.466min 656.960 PPB  
 response 663290939

(45) AR1016-E #2  
 9.654min 917.121 PPB  
 response 318183743

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:31:39 2019

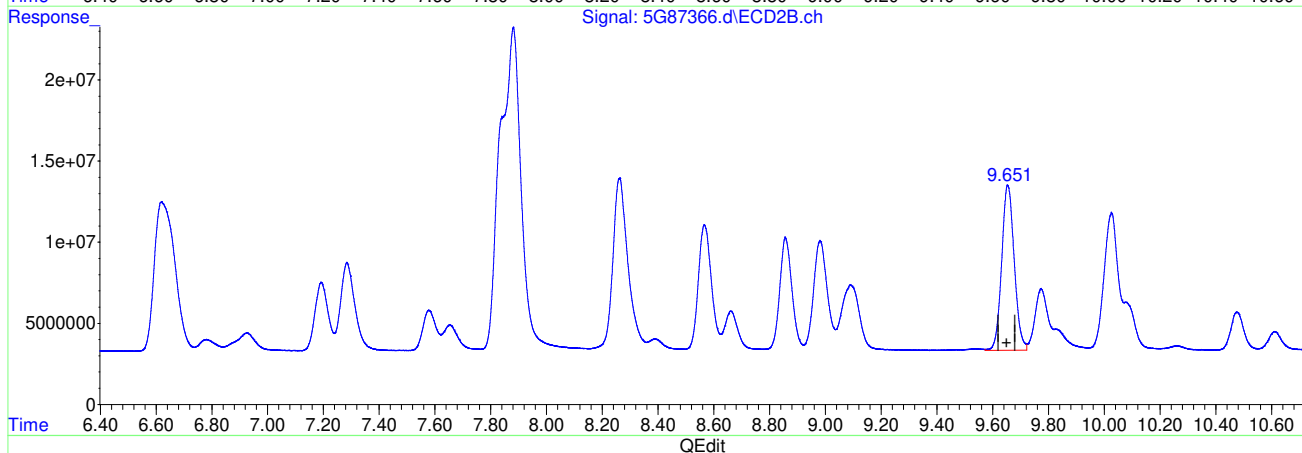
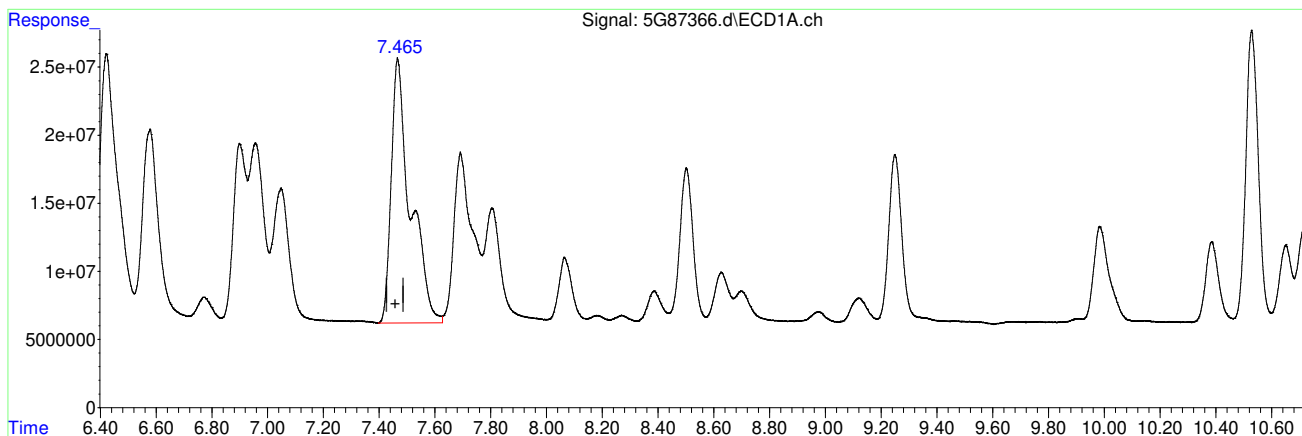
11.6.11.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87366.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:30:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.465min 916.510 PPB m  
 response 925341306

(45) AR1016-E #2  
 9.654min 917.121 PPB  
 response 318183743

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:31:44 2019

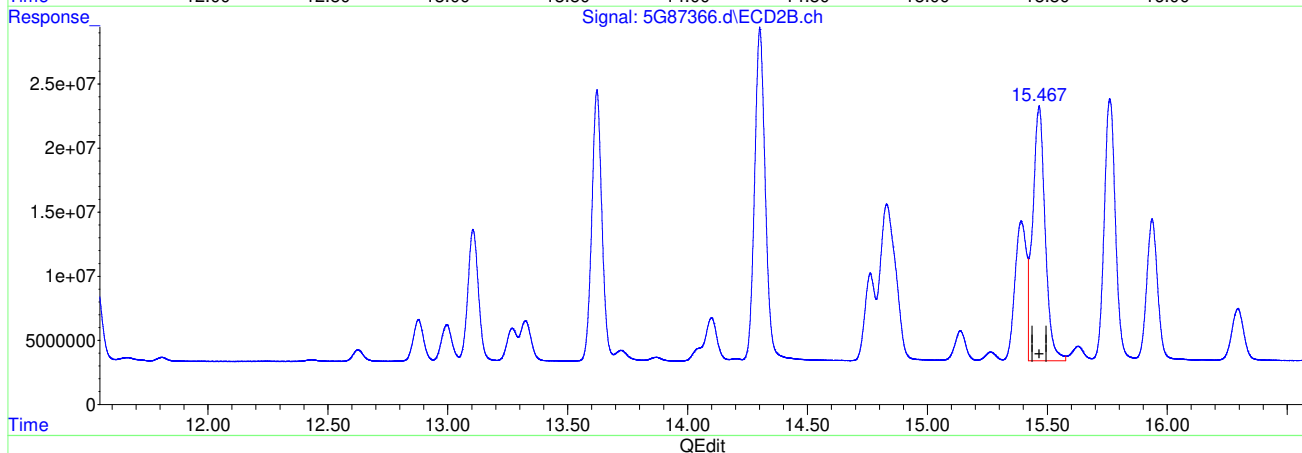
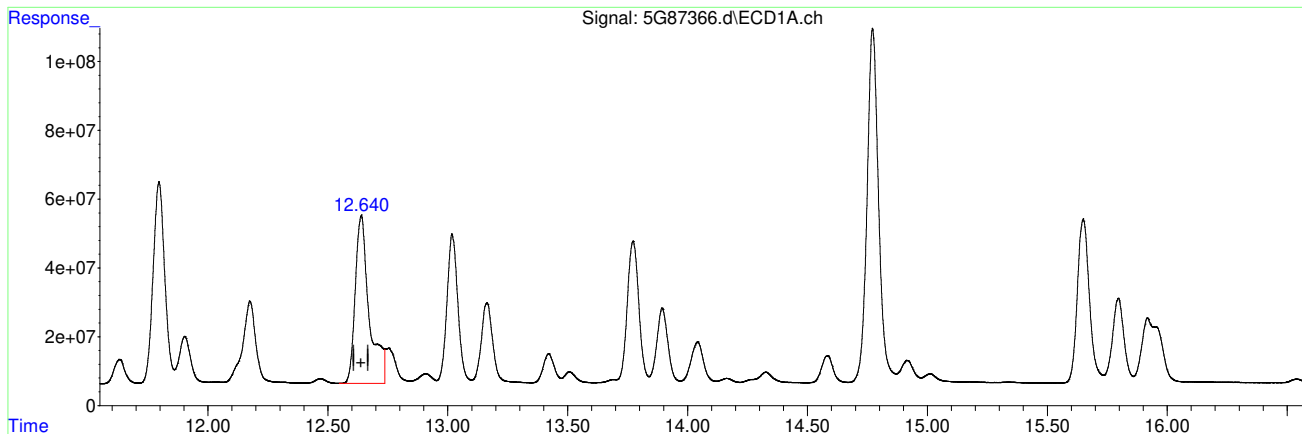
11.6.11.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87366.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:30:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.640min 824.669 PPB  
 response 1985273580

(46) AR1260-A #2  
 15.465min 641.556 PPB  
 response 719043506

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:31:46 2019

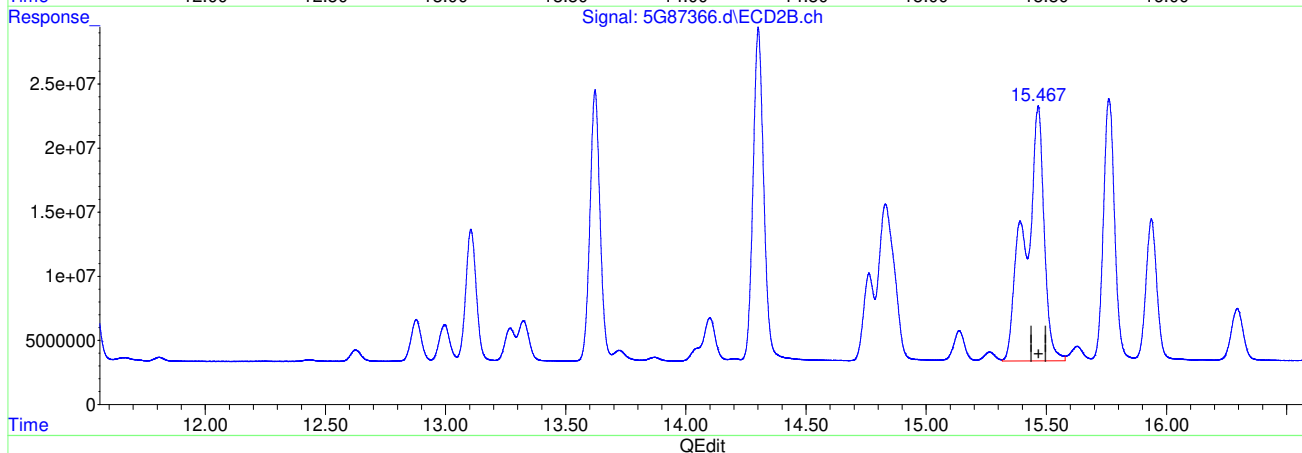
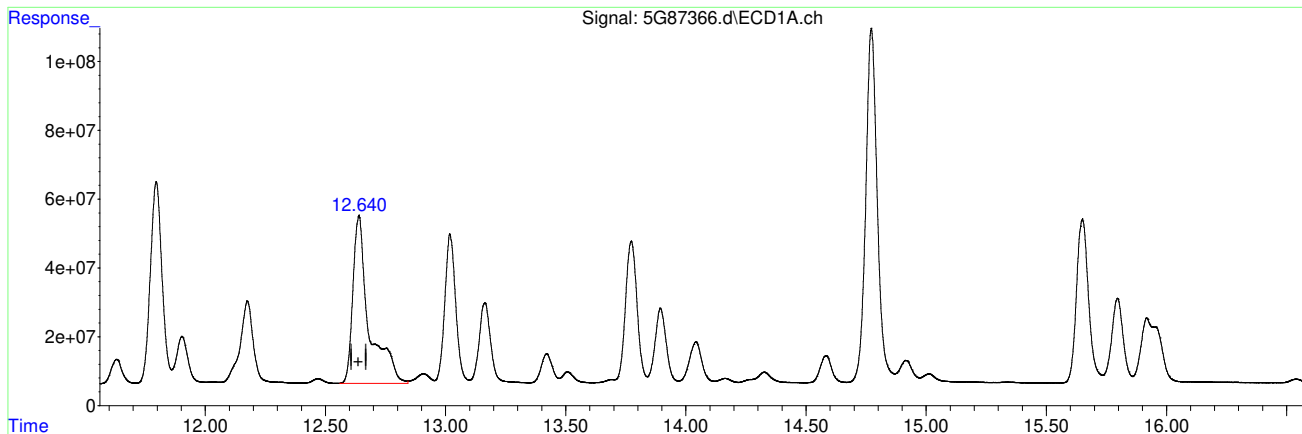
11.6.11.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87366.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:30:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.640min 953.980 PPB m  
 response 2296571154

(46) AR1260-A #2  
 15.467min 970.764 PPB m  
 response 1088012879

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:31:57 2019

11.6.11.5  
 11

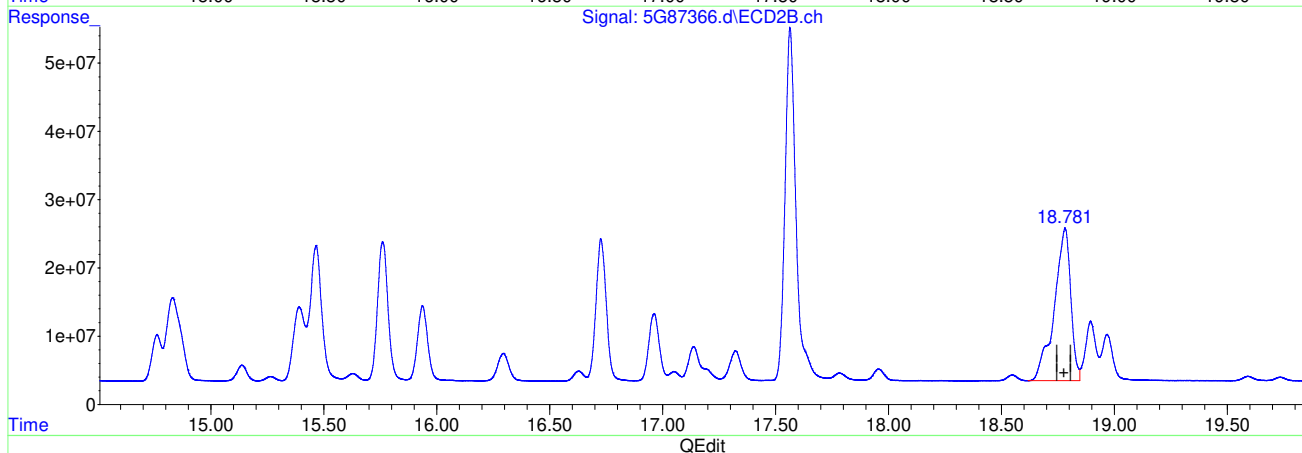
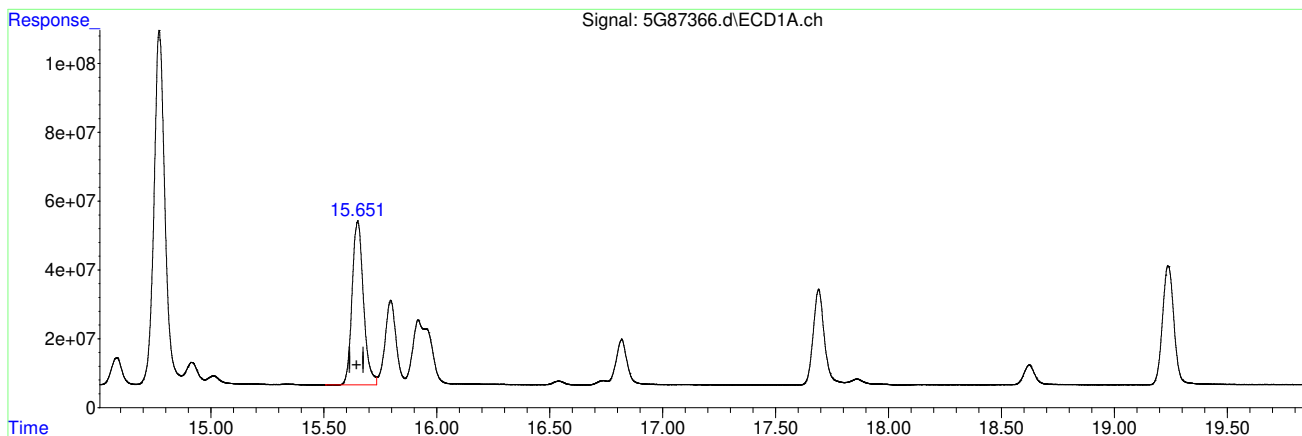


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87366.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:30:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.650min 436.114 PPB  
 response 1671659808

(50) AR1260-E #2  
 18.781min 648.293 PPB  
 response 1132826766

(+) = Expected Retention Time

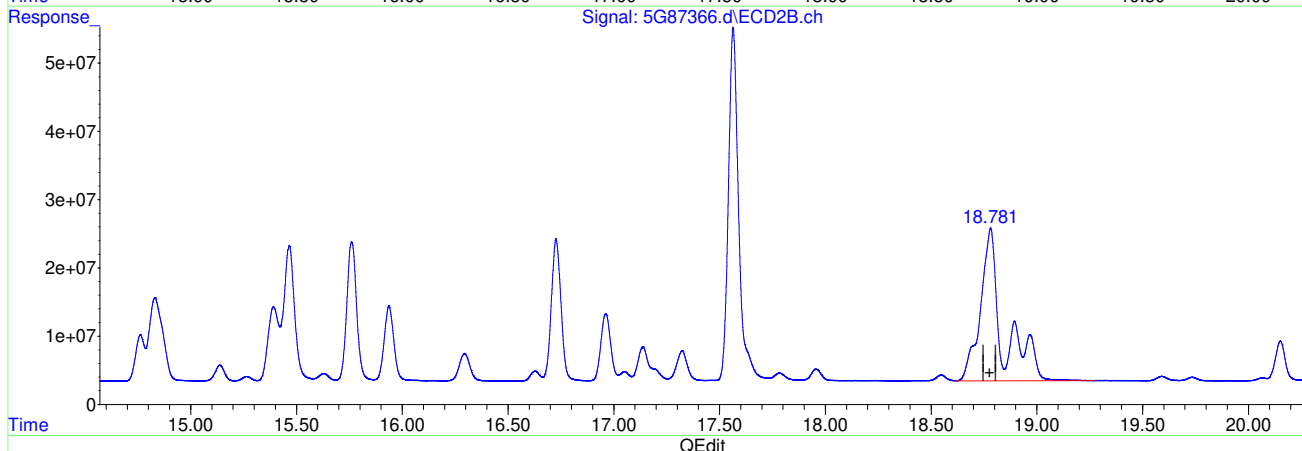
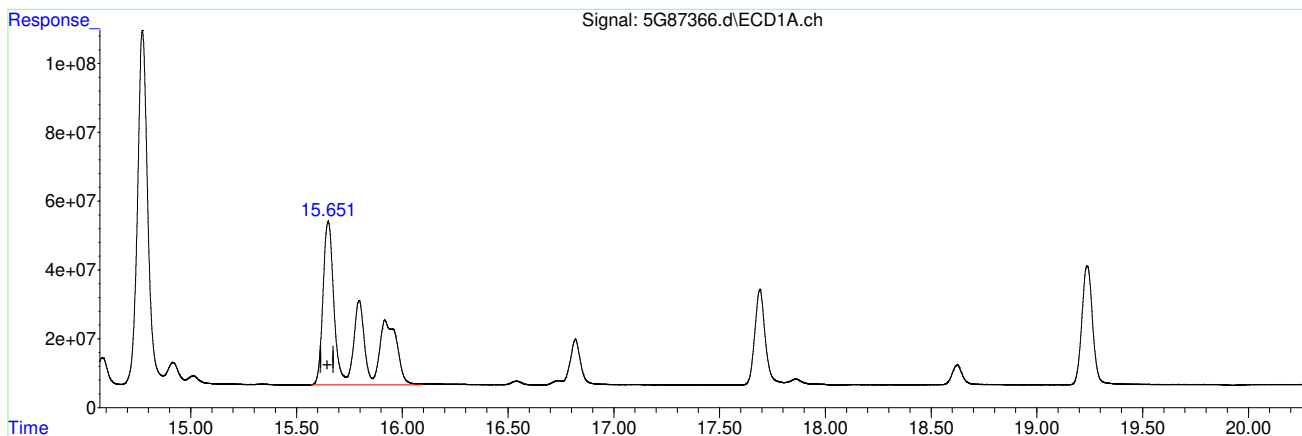
11.6.11.6  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87366.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 8:50 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:30:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.651min 927.428 PPB m  
 response 3554908514

(50) AR1260-E #2  
 18.781min 940.174 PPB m  
 response 1642859410

(+) = Expected Retention Time

11.6.11.7  
11

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87367.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:33:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.621	4.379	1703.9E6	733.5E6	53.994	53.345
Spiked Amount	40.000		Recovery	=	134.99%	133.36%
51) S Decachlor...	19.236	22.643	1633.3E6	806.5E6	53.431	54.727
Spiked Amount	40.000		Recovery	=	133.58%	136.82%
Target Compounds						
2) AR1221-A	2.812	3.494	229.7E6	100.6E6	1028.656	982.577
3) AR1221-B	3.941	5.076	323.0E6	142.3E6	917.686	902.069
4) AR1221-C	4.295	5.567	841.4E6	358.8E6	903.670	901.418
5) AR1221-D	5.032	6.607	149.2E6	66856247	847.052m	832.519
6) AR1221-E	5.468	6.772	83275102	44707040	818.202	955.399
24) AR1254-A	8.496	10.938	962.7E6	529.8E6	994.233	991.538
25) AR1254-B	9.246	11.533	1290.3E6	577.8E6	990.998	995.375
26) AR1254-C	10.022	12.623	1072.5E6	453.0E6	994.409	991.793
27) AR1254-D	10.380	12.992	1834.9E6	874.0E6	989.783	989.513
28) AR1254-E	11.220	13.720	1371.5E6	632.4E6	986.444	984.159
29) AR1254-F	11.789	14.848	1287.1E6	762.8E6	990.483	980.004m
30) AR1254-G	12.639	15.466	1962.9E6	916.2E6	986.258	985.480m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

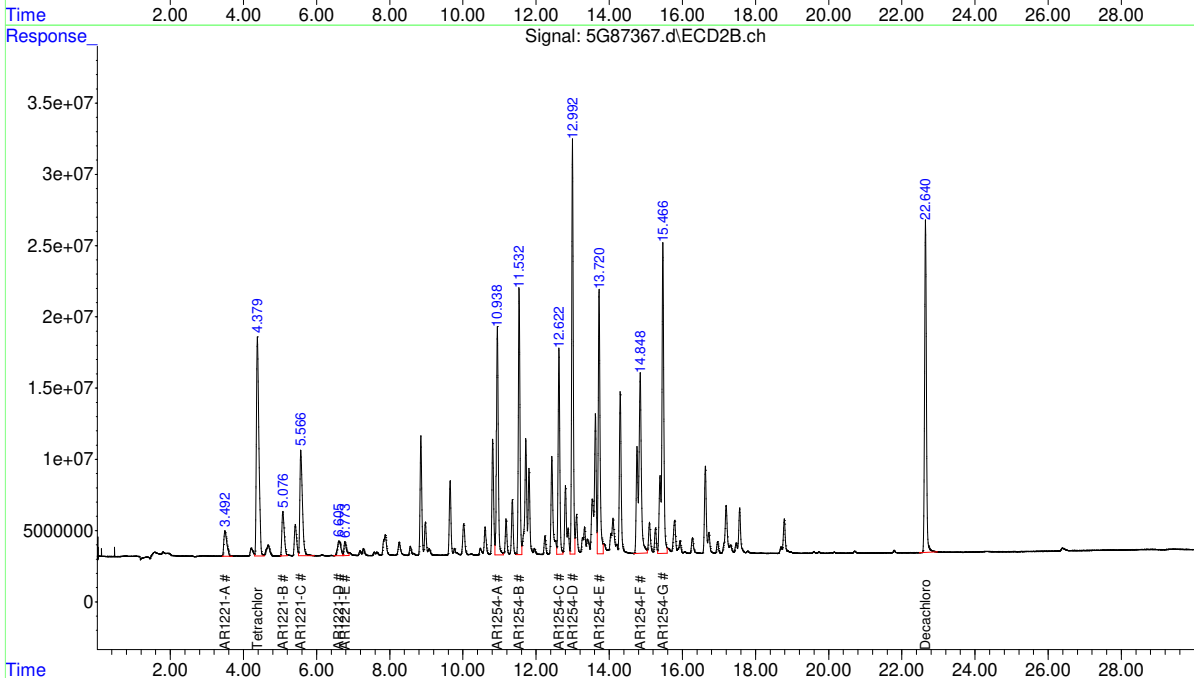
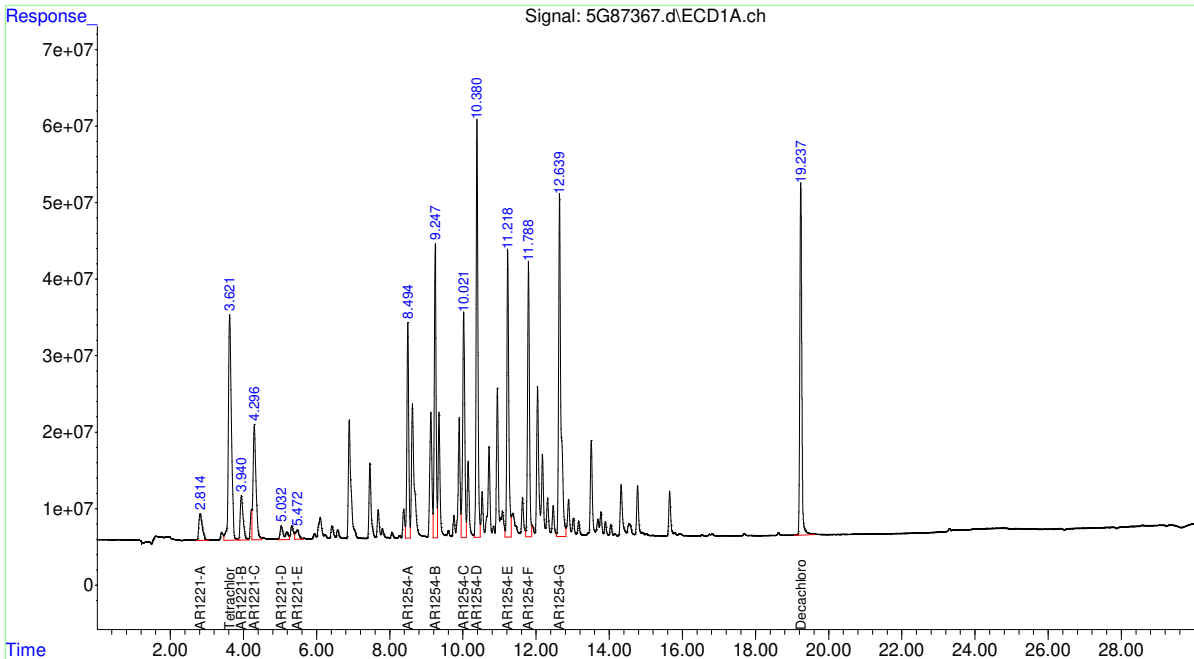
11.6.12  
11



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87367.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:33:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-ICV2101      Method: EPA 608  
Lab FileID: 5G87367.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 21:23      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1221-D		1	5.03	Split peak
AR1254-F		2	14.85	Split peak
AR1254-G		2	15.47	Split peak

11.6.12.1

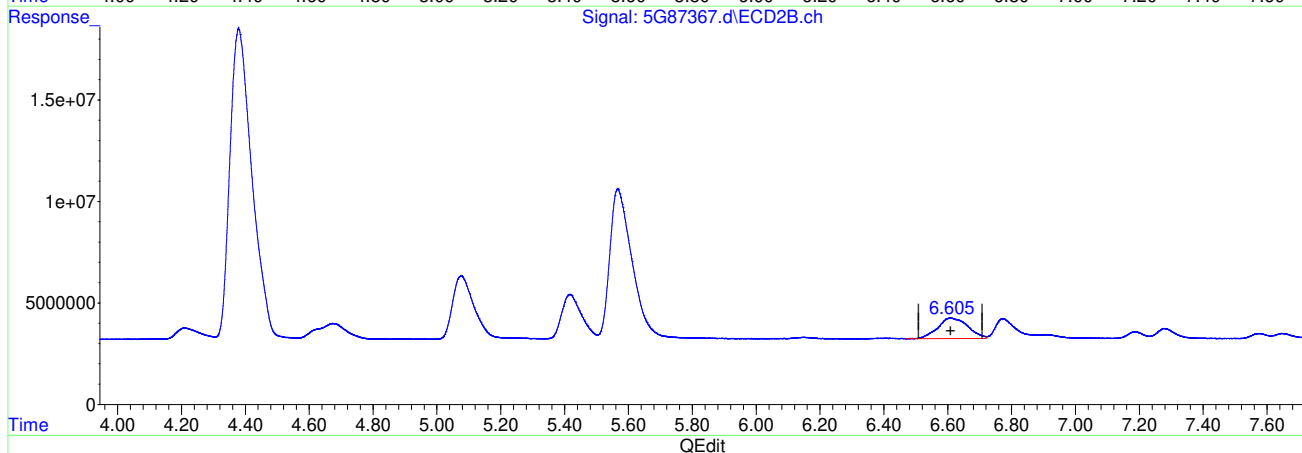
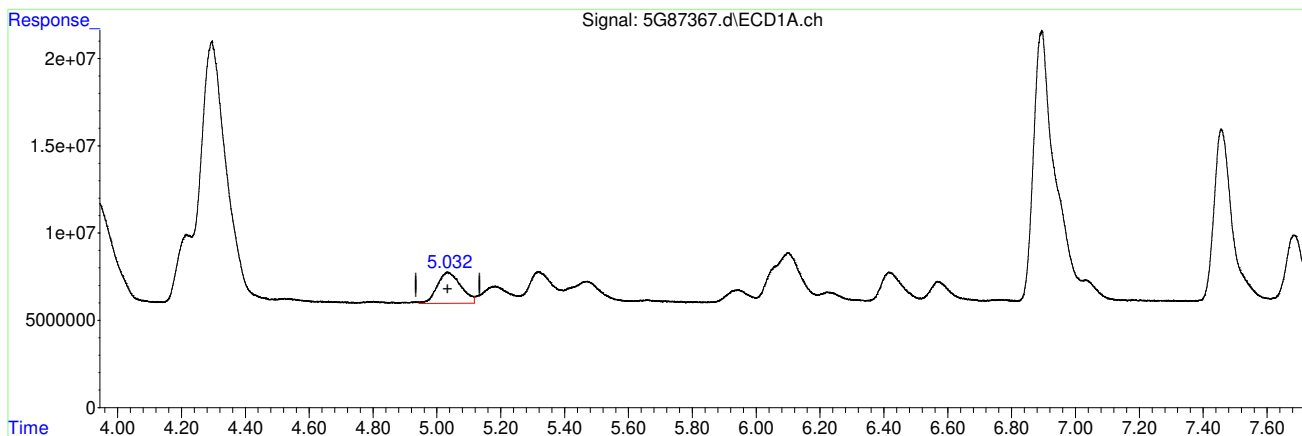
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87367.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:32:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(5) AR1221-D  
 5.032min 516.609 PPB  
 response 91014883

(5) AR1221-D #2  
 6.607min 832.519 PPB  
 response 66856247

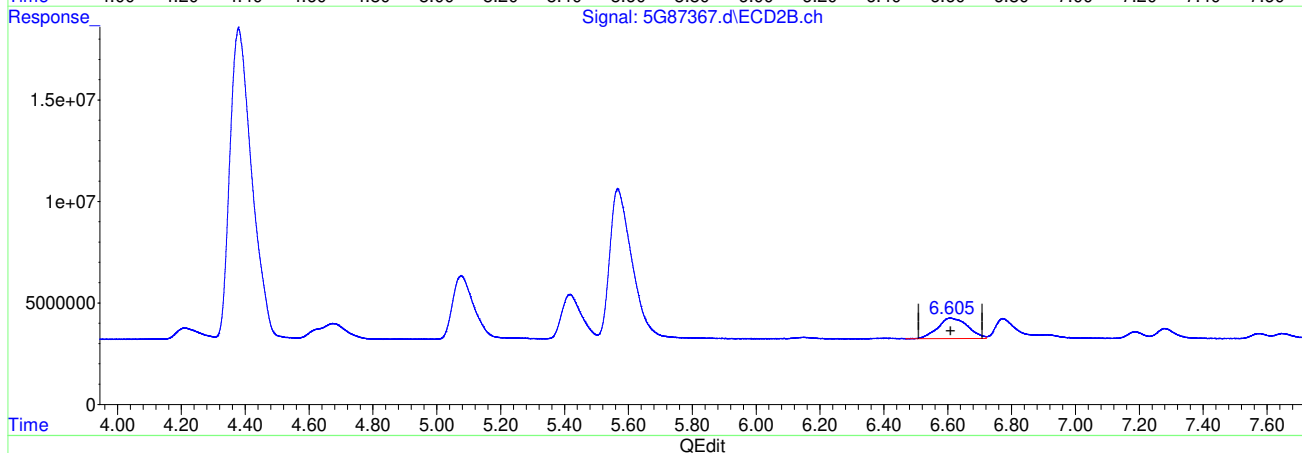
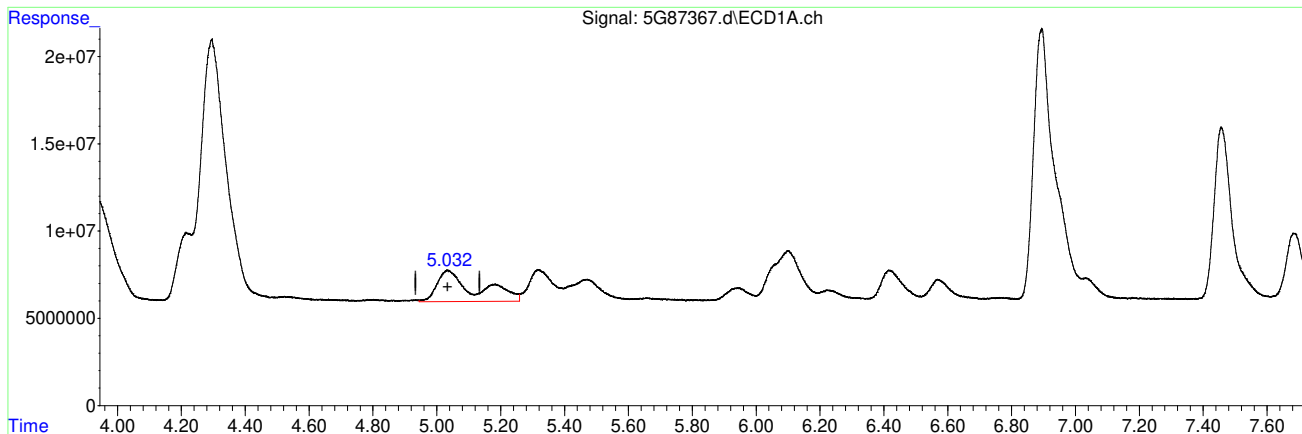
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:32:34 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87367.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:32:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(5) AR1221-D  
 5.032min 847.052 PPB m  
 response 149231707

(5) AR1221-D #2  
 6.607min 832.519 PPB  
 response 66856247

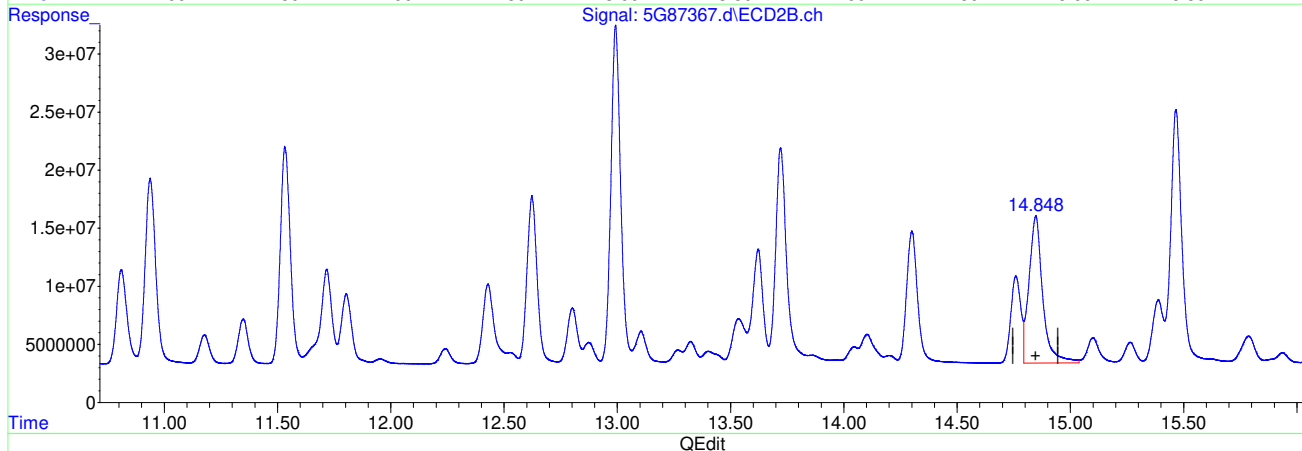
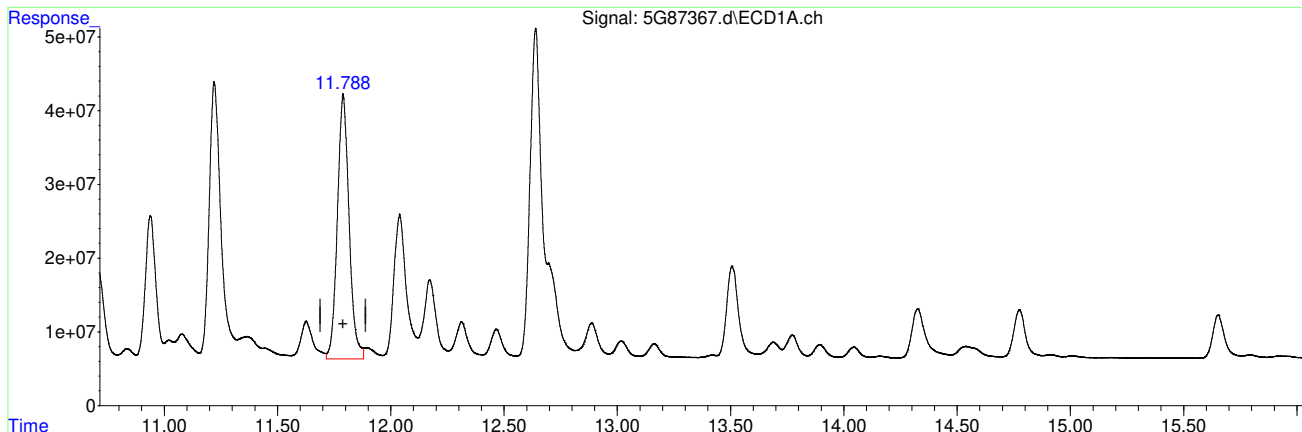
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:32:43 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87367.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:32:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(29) AR1254-F  
 11.789min 990.483 PPB  
 response 1287114581

(29) AR1254-F #2  
 14.847min 685.496 PPB  
 response 533594021

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:32:50 2019

11.6.124  
 11

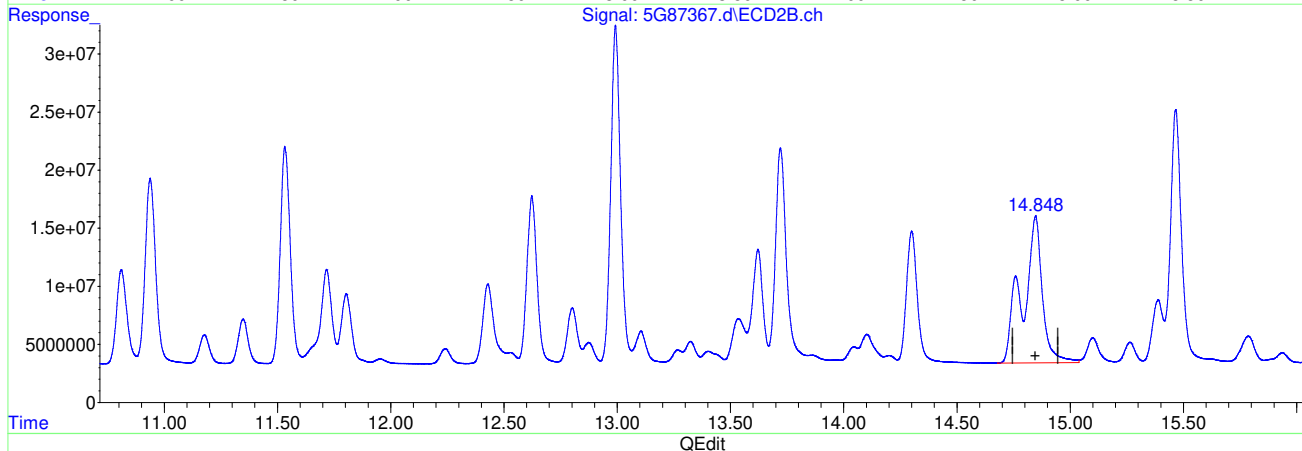
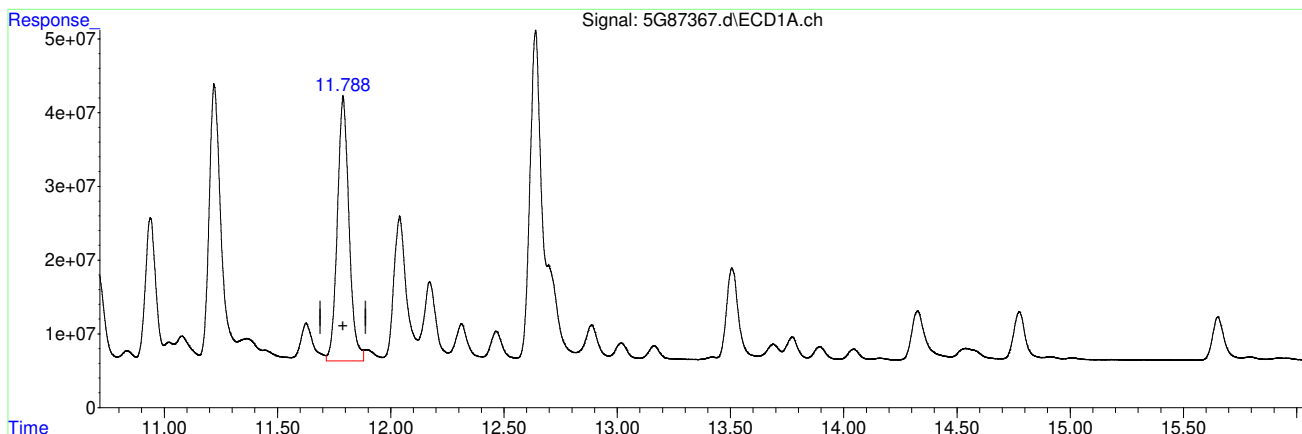


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87367.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:32:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(29) AR1254-F  
 11.789min 990.483 PPB  
 response 1287114581

(29) AR1254-F #2  
 14.848min 980.004 PPB m  
 response 762840565

(+) = Expected Retention Time

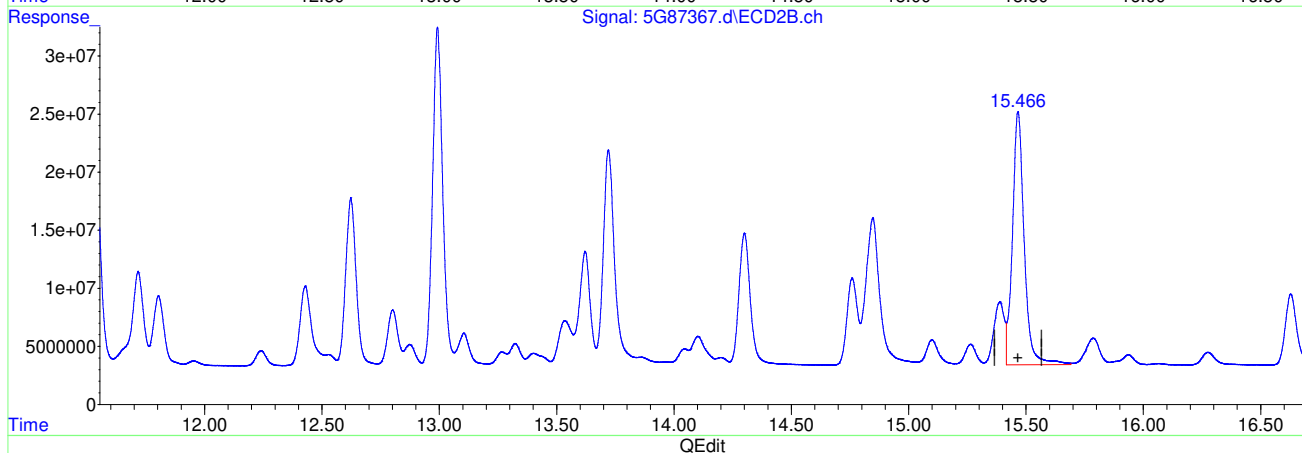
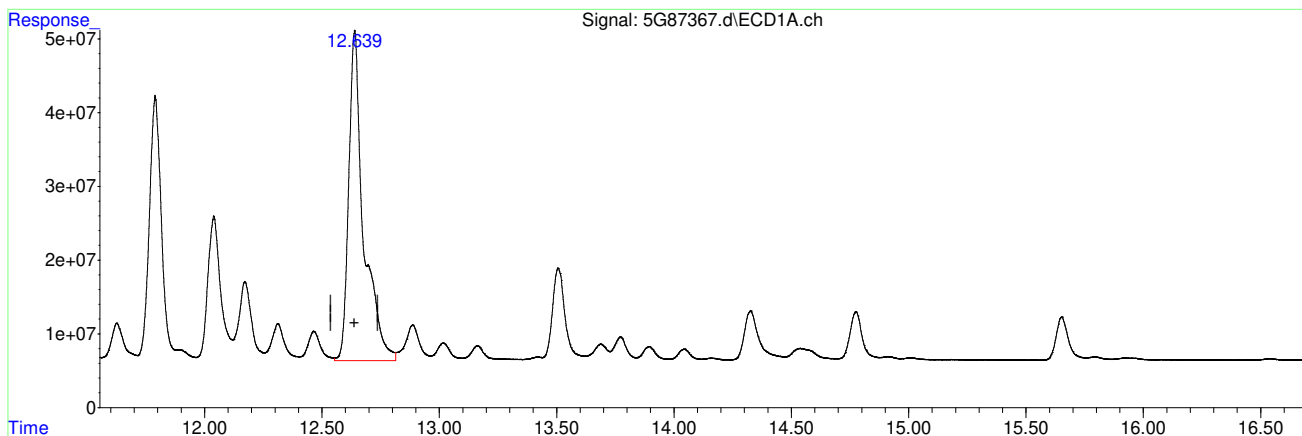
5PCB2101.M Tue Apr 09 09:32:55 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87367.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:32:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(30) AR1254-G  
 12.639min 986.258 PPB  
 response 1962892580

(30) AR1254-G #2  
 15.466min 816.124 PPB  
 response 758768801

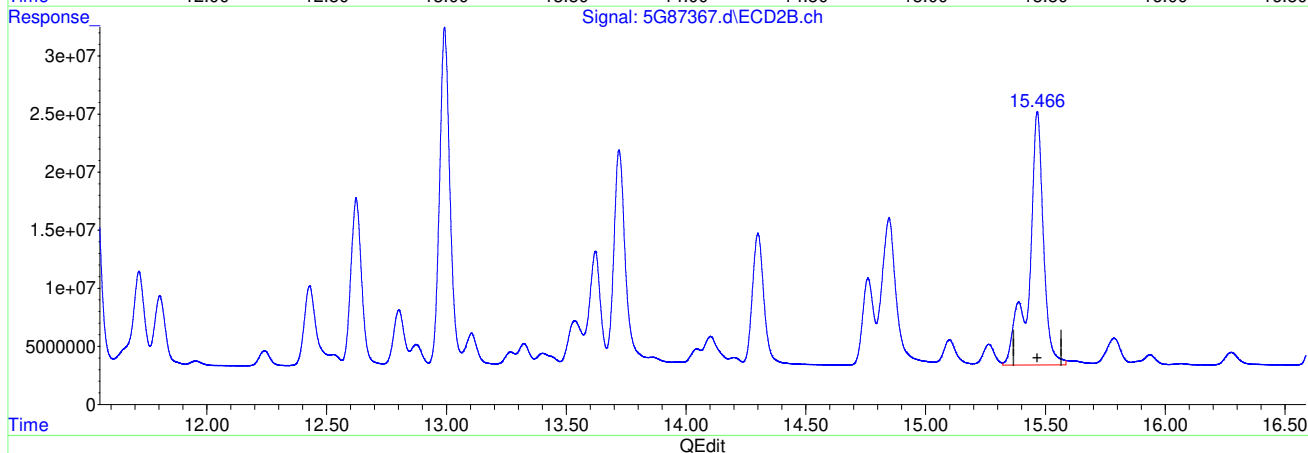
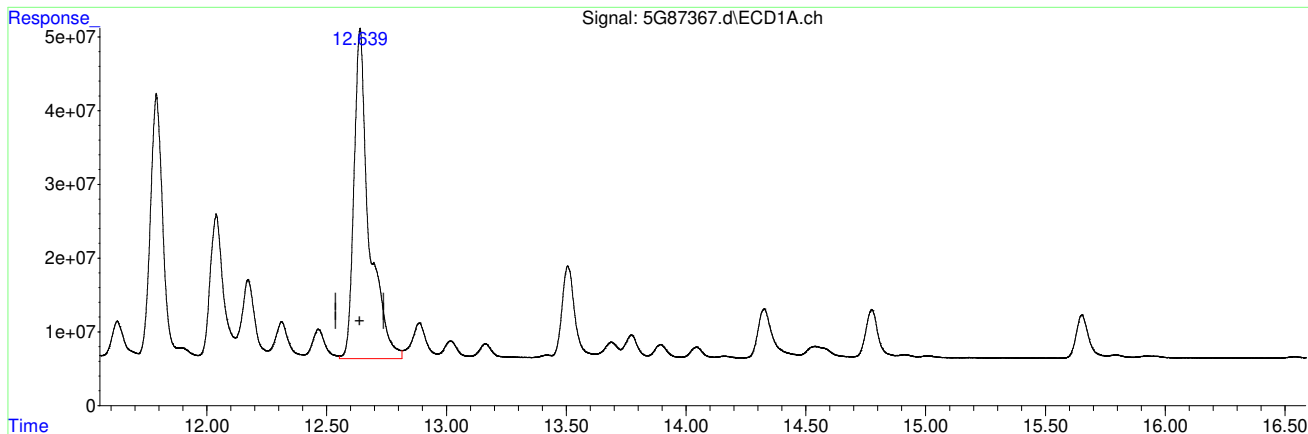
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87367.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:23 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:32:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(30) AR1254-G  
 12.639min 986.258 PPB  
 response 1962892580

(30) AR1254-G #2  
 15.466min 985.480 PPB m  
 response 916222571

(+) = Expected Retention Time

11.6.127  
 11

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87368.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:55 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:46:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.621	4.380	1697.5E6	748.2E6	53.792	54.415
Spiked Amount	40.000		Recovery	=	134.48%	136.04%
51) S Decachlor...	19.239	22.646	1659.9E6	812.1E6	54.302	55.107
Spiked Amount	40.000		Recovery	=	135.76%	137.77%
Target Compounds						
7) AR1232-A	4.295	5.567	681.6E6	291.2E6	919.526	929.807
8) AR1232-B	5.469	6.613	356.9E6	238.4E6	942.591	937.967
9) AR1232-C	6.097	7.877	1025.0E6	497.1E6	937.111	933.517
10) AR1232-D	6.414	8.258	431.4E6	195.8E6	936.914	933.857
11) AR1232-E	7.460	9.651	410.7E6	138.9E6	936.644m	930.800
31) AR1262-A	11.795	14.300	1516.7E6	663.6E6	994.789	1013.915
32) AR1262-B	13.018	15.760	2075.2E6	1001.2E6	997.886	1003.926
33) AR1262-C	13.771	16.727	1814.2E6	874.3E6	993.104	994.823
34) AR1262-D	14.771	17.565	4058.4E6	1992.9E6	989.861	991.270
35) AR1262-E	15.792	18.752	5060.0E6	2341.3E6	988.516m	992.997m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

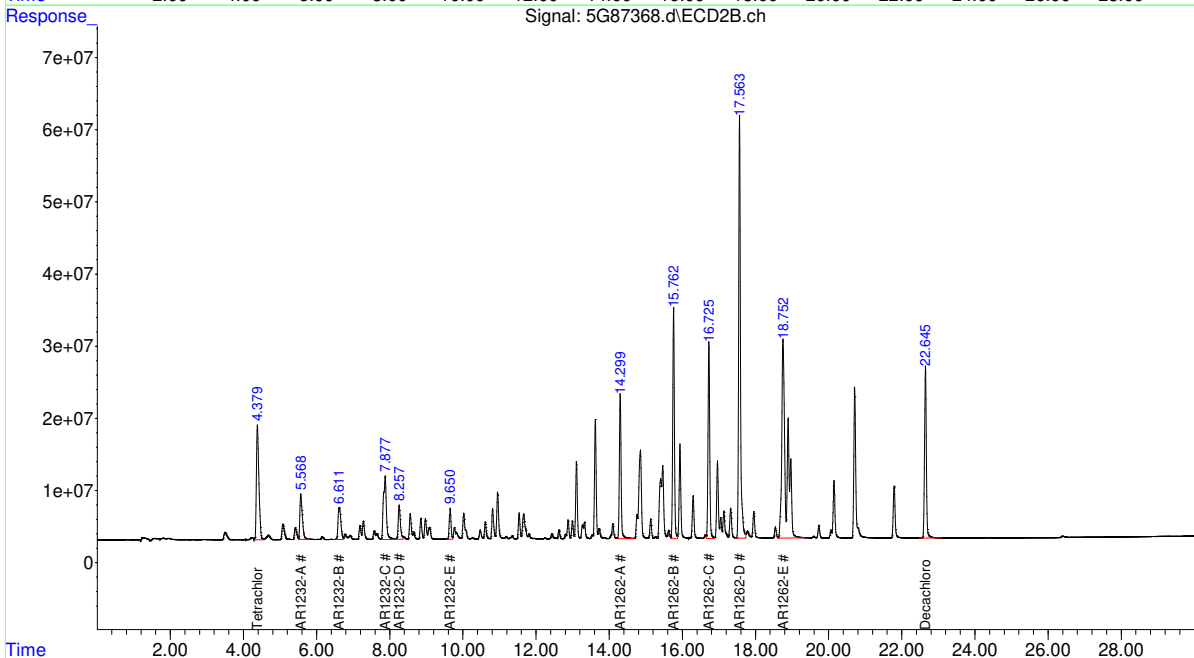
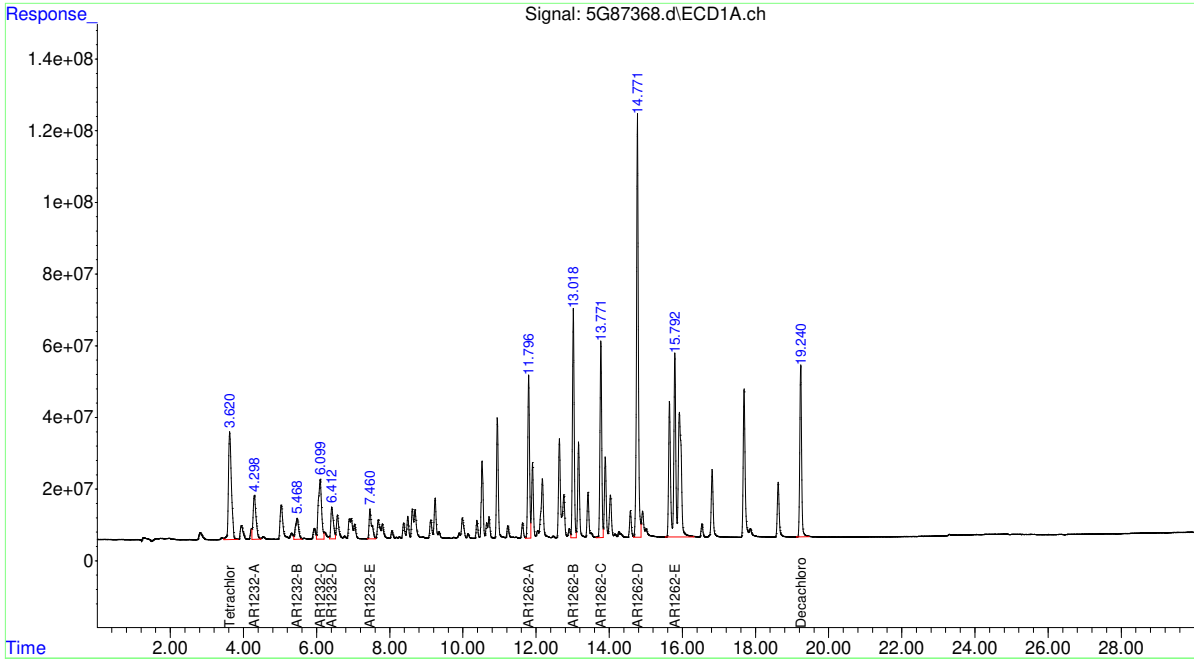
11.6.13  
11



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87368.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:55 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:46:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-ICV2101      Method: EPA 608  
Lab FileID: 5G87368.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 21:55      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1232-E		1	7.46	Split peak
AR1262-E		1	15.79	Split peak
AR1262-E		2	18.75	Split peak

11.6.13.1

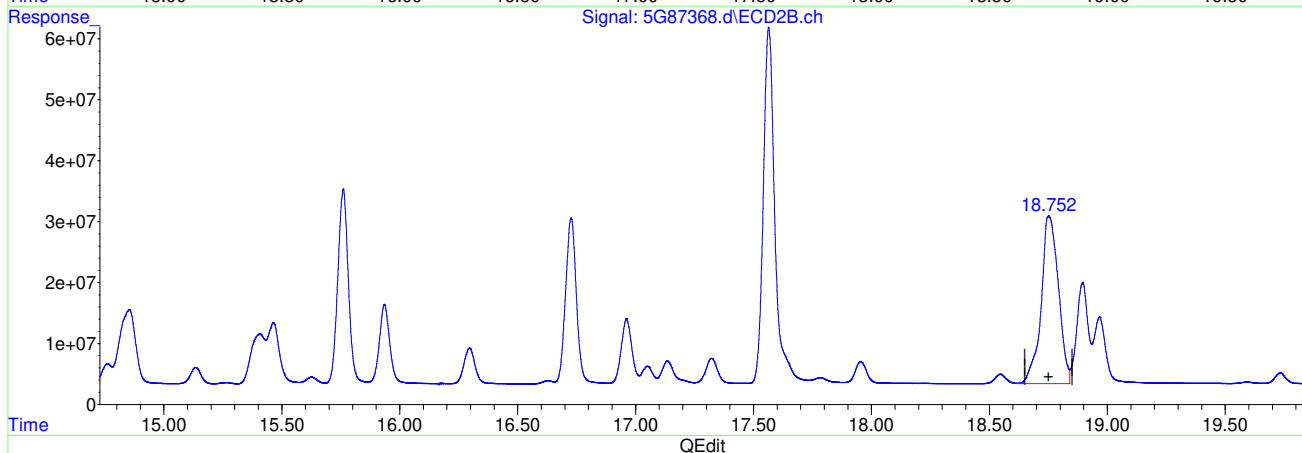
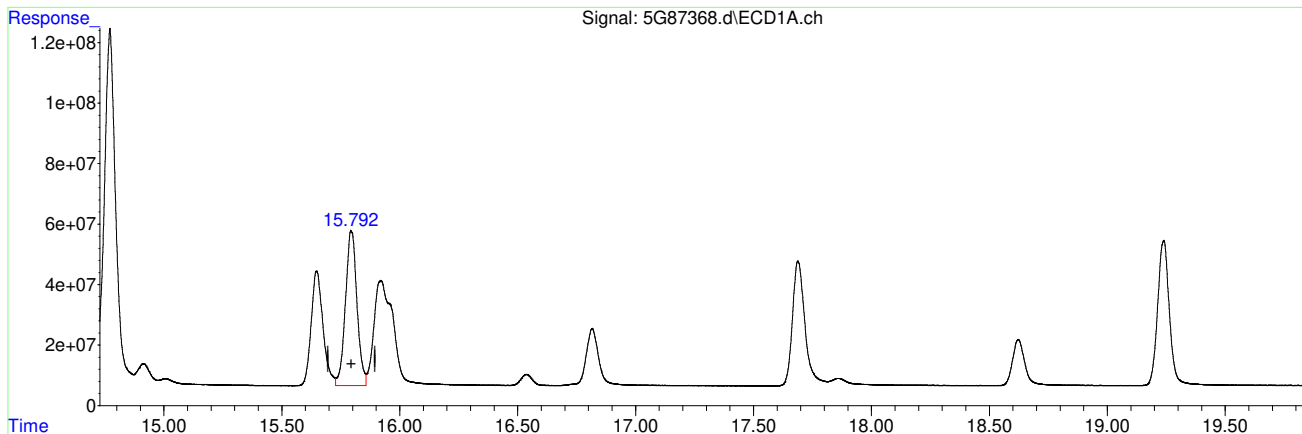
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87368.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:55 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:33:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(35) AR1262-E  
 15.794min 340.884 PPB  
 response 1744901582

(35) AR1262-E #2  
 18.752min 592.530 PPB  
 response 1397057332

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:43:06 2019

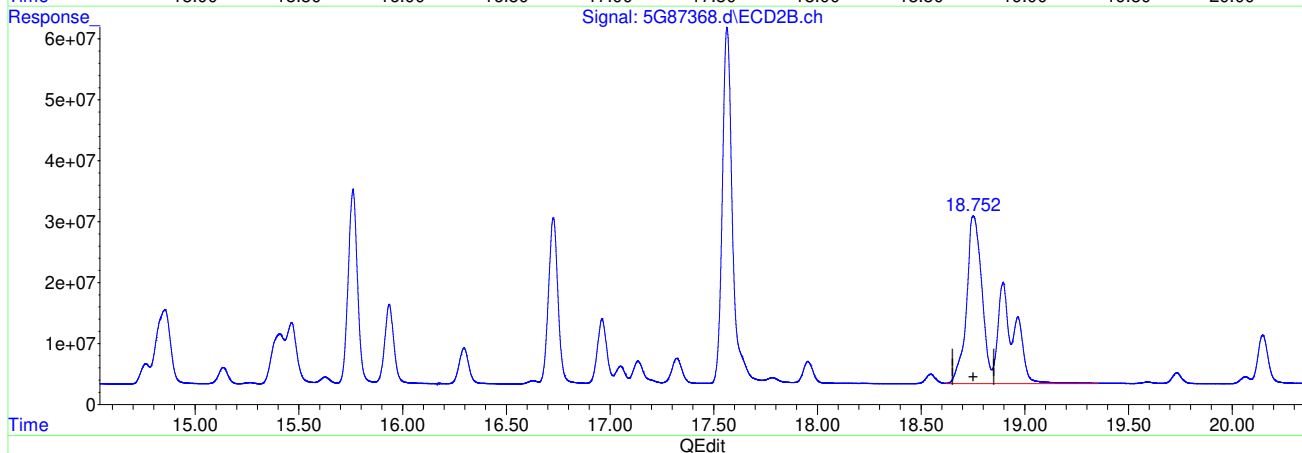
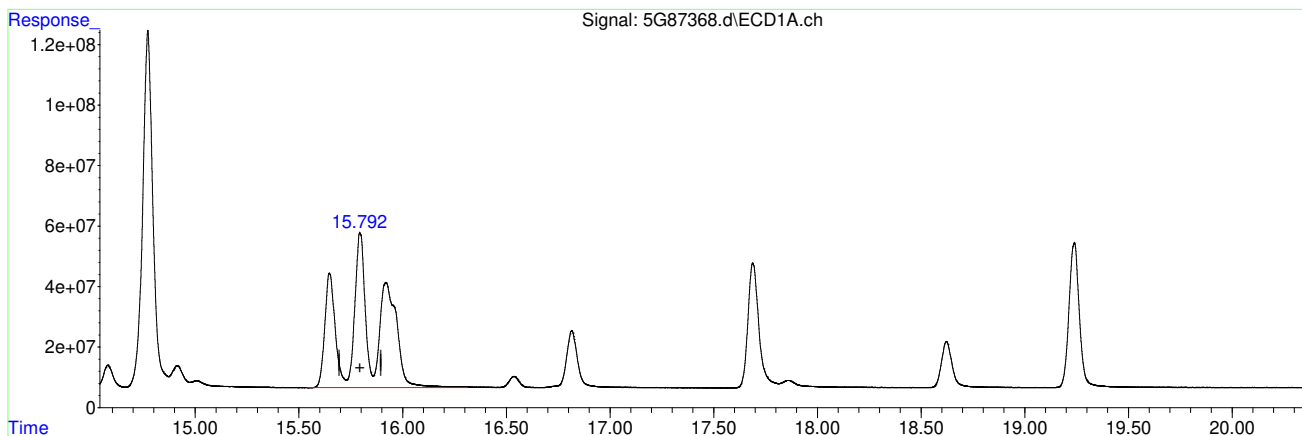
11.6.13.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87368.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:55 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:33:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(35) AR1262-E  
 15.792min 988.516 PPB m  
 response 5059963850

(35) AR1262-E #2  
 18.752min 992.997 PPB m  
 response 2341272991

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:43:14 2019

11.6.13.3  
 11

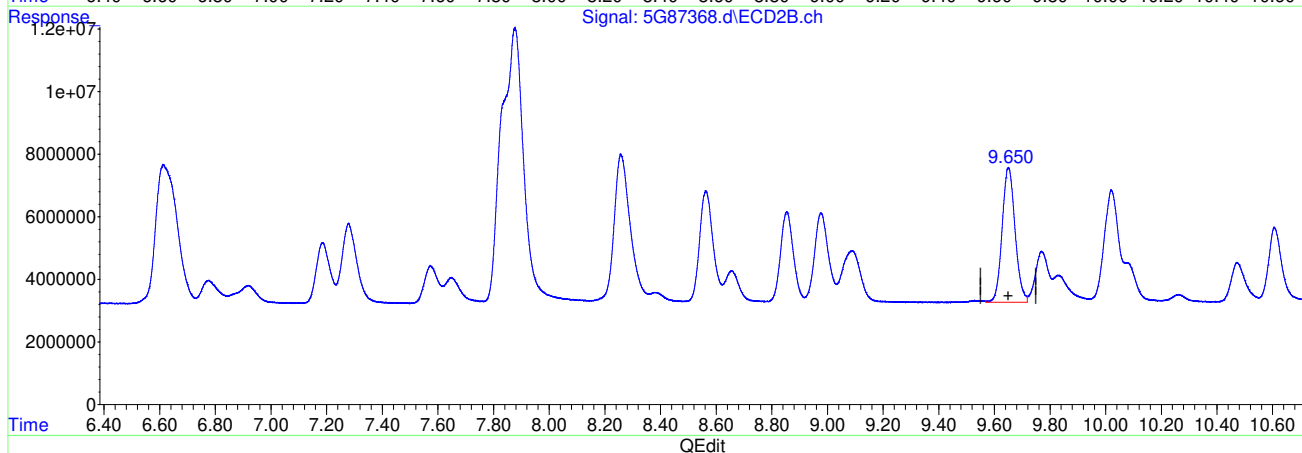
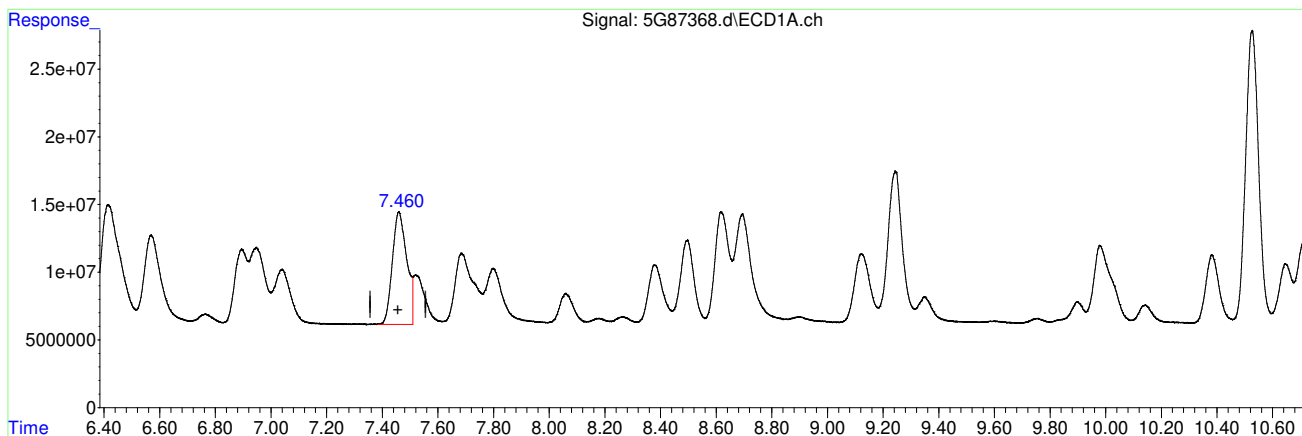


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87368.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:55 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:43:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(11) AR1232-E  
 7.460min 682.065 PPB  
 response 299103580

(11) AR1232-E #2  
 9.651min 930.800 PPB  
 response 138928468

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:46:49 2019

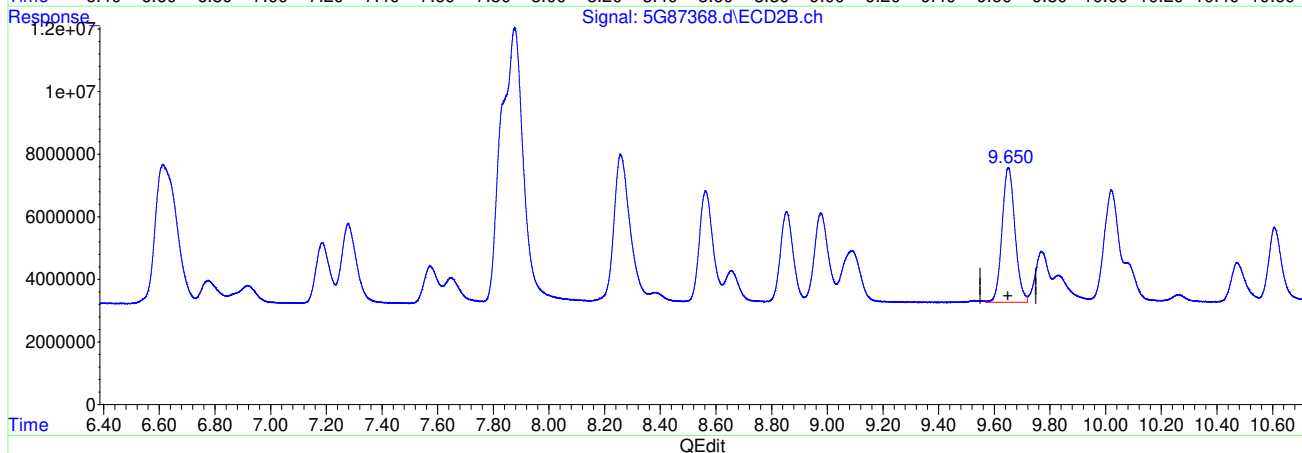
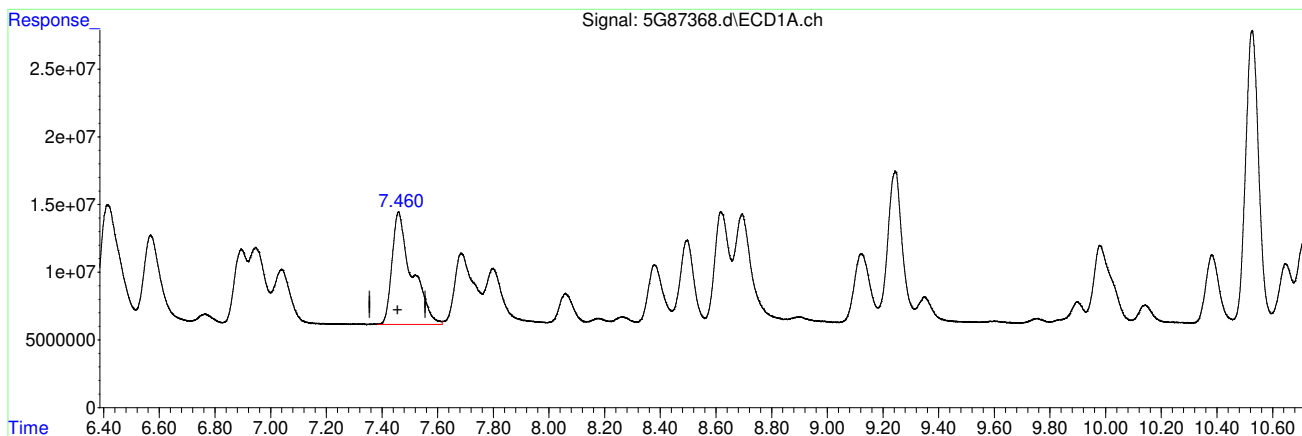
11.6.13.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87368.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 9:55 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:43:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(11) AR1232-E  
 7.460min 936.644 PPB m  
 response 410743348

(11) AR1232-E #2  
 9.651min 930.800 PPB  
 response 138928468

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:46:57 2019

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87369.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:27 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:44:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.619	4.380	1684.5E6	756.8E6	53.380	55.042
Spiked Amount	40.000		Recovery	=	133.45%	137.60%
51) S Decachlor...	19.236	22.643	4154.3E6	2069.0E6	135.901	140.405
Spiked Amount	40.000		Recovery	=	339.75%	351.01%
Target Compounds						
12) AR1242-A	5.027	6.611	907.4E6	412.2E6	1011.163	1046.027
13) AR1242-B	6.097	7.875	1873.7E6	913.4E6	1038.011	1045.044
14) AR1242-C	6.415	8.257	785.9E6	356.2E6	1041.048	1049.742
15) AR1242-D	7.459	9.651	798.5E6	274.9E6	1024.440m	1023.766
16) AR1242-E	8.694	10.950	685.1E6	337.2E6	1019.460	1005.190
36) AR1268-A	15.797	18.749	4951.3E6	2467.7E6	975.201	1000.307
37) AR1268-B	15.914	18.894	4943.2E6	2390.9E6	981.922	973.830m
38) AR1268-C	16.537	19.732	4216.3E6	2084.6E6	978.654	976.310
39) AR1268-D	17.692	20.711	1773.1E6	837.3E6	968.710	935.164
40) AR1268-E	18.621	21.786	13191.6E6	6700.6E6	971.149	983.166

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

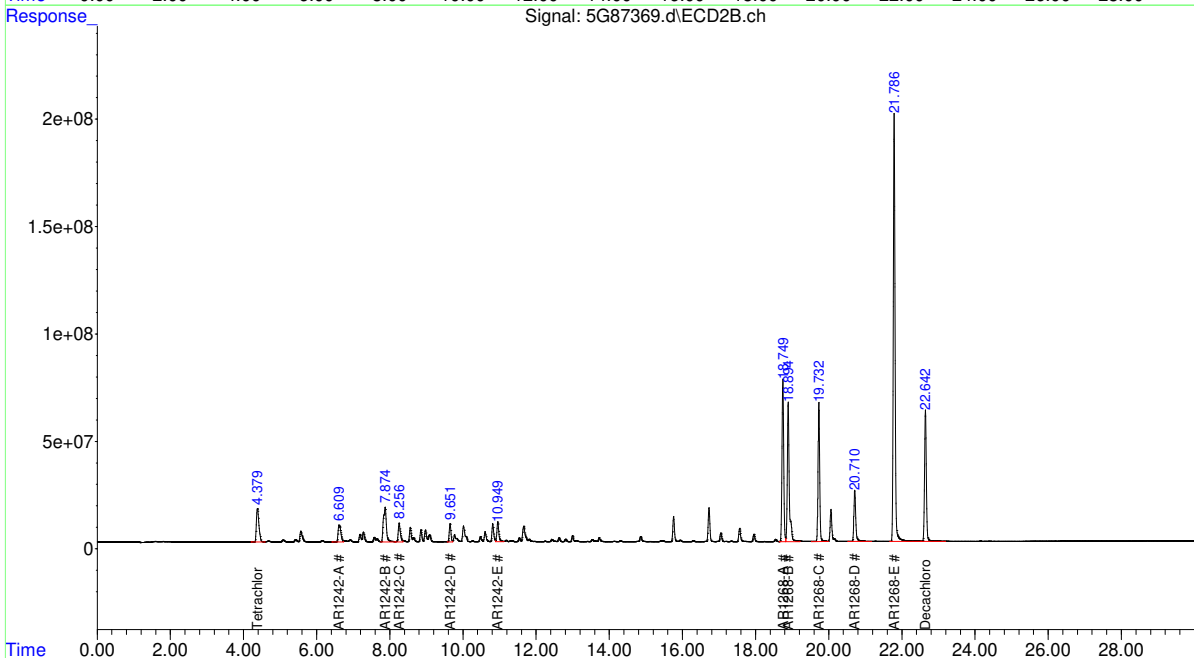
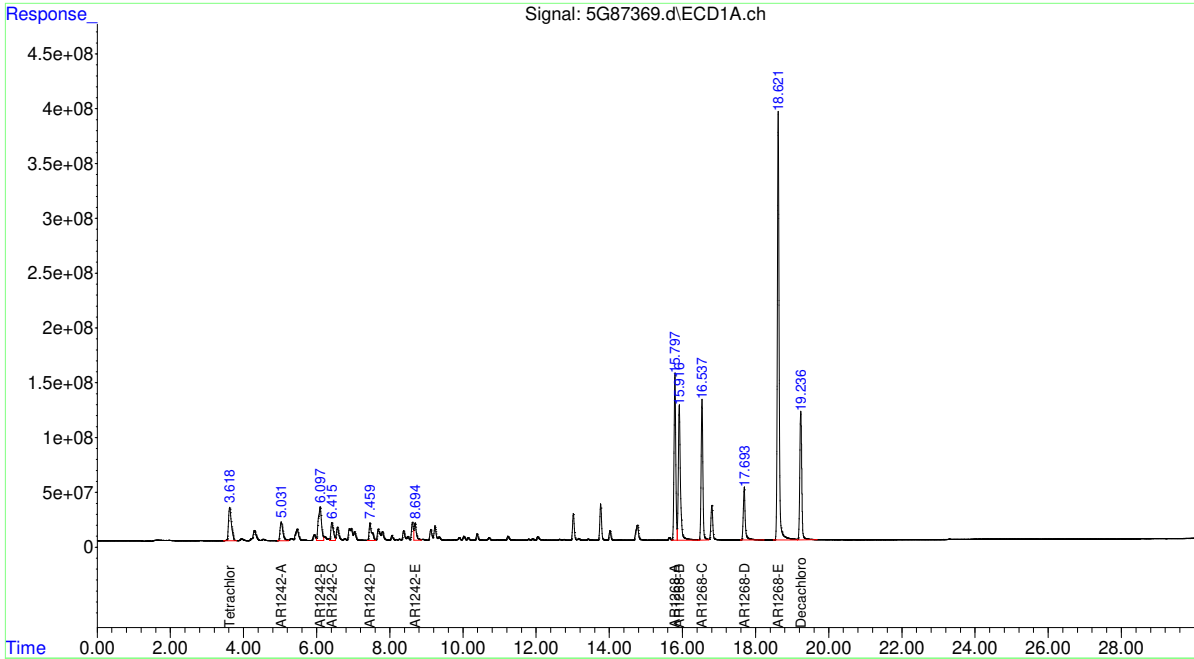
11.6.14  
11



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87369.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:27 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:44:03 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-ICV2101      Method: EPA 608  
Lab FileID: 5G87369.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 22:27      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1242-D		1	7.46	Split peak
AR1268-B		2	18.89	Split peak

11.6.14.1

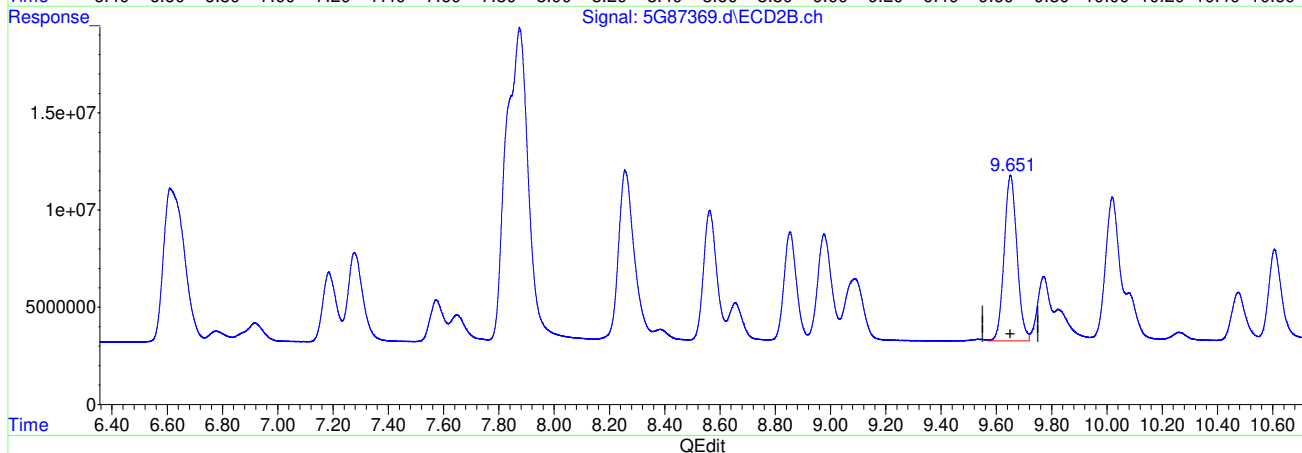
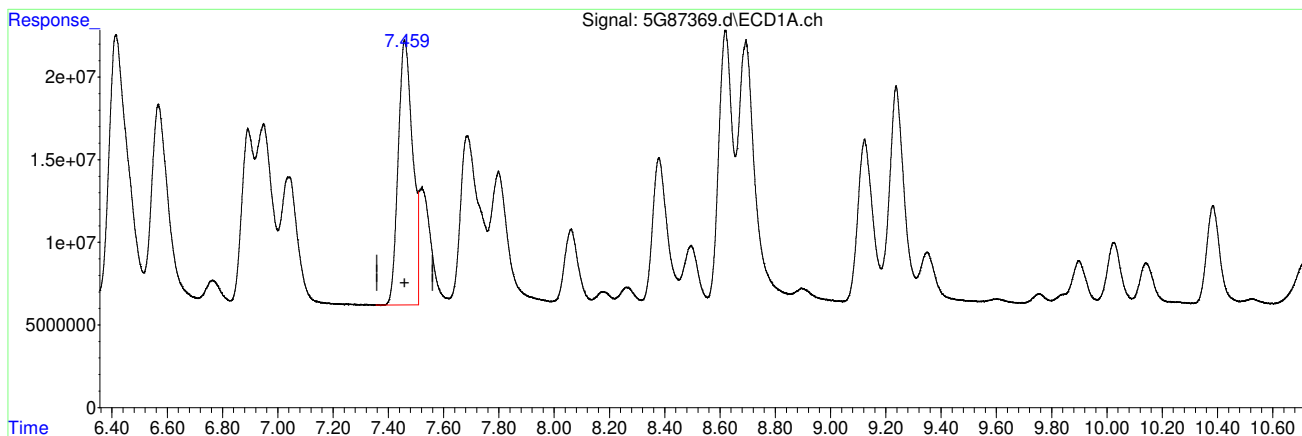
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87369.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:27 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:43:22 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(15) AR1242-D  
 7.459min 745.627 PPB  
 response 581173786

(15) AR1242-D #2  
 9.651min 1023.766 PPB  
 response 274944547

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:43:43 2019

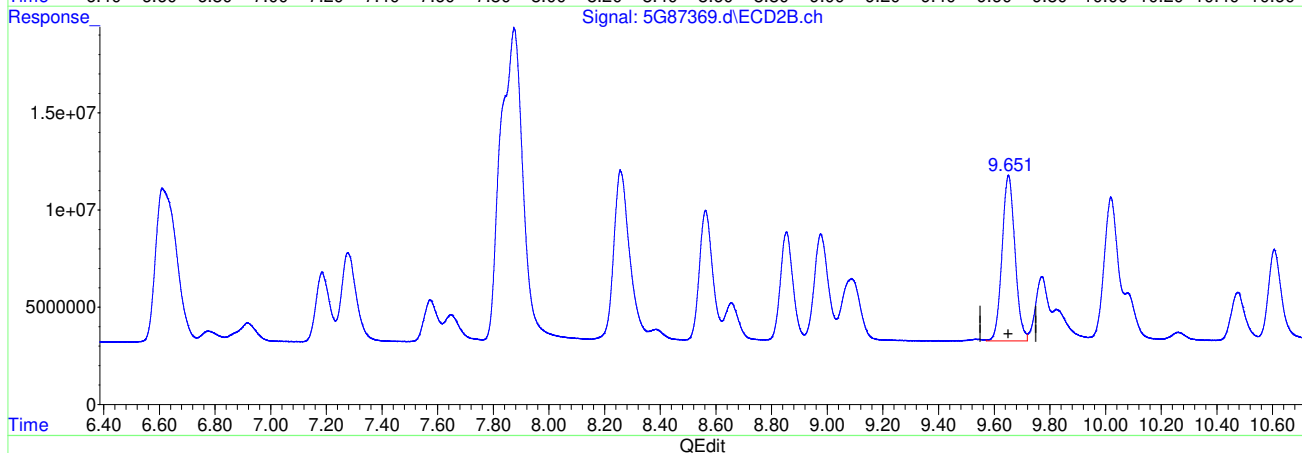
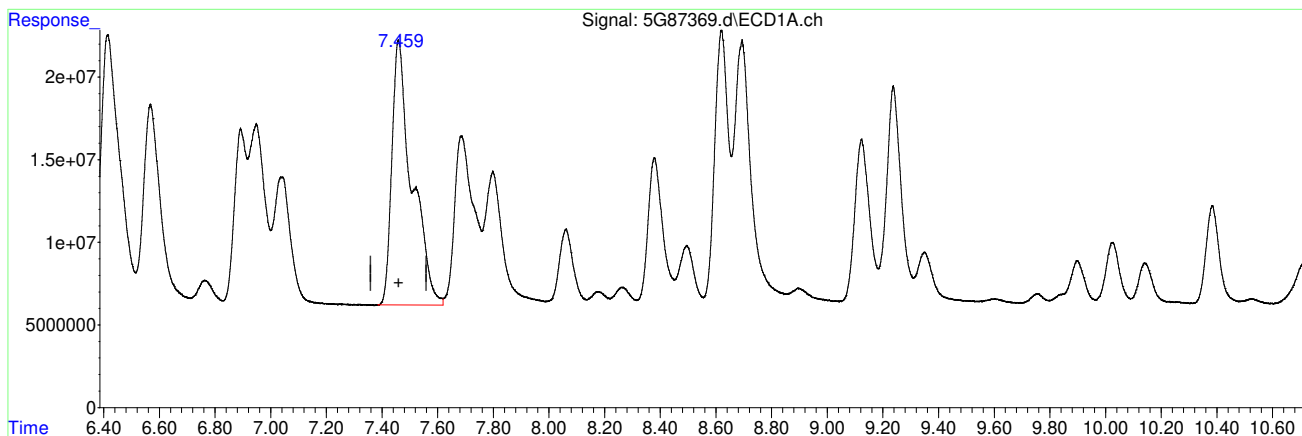
11.6.14.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87369.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:27 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:43:22 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(15) AR1242-D  
 7.459min 1024.440 PPB m  
 response 798492494

(15) AR1242-D #2  
 9.651min 1023.766 PPB  
 response 274944547

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:43:49 2019

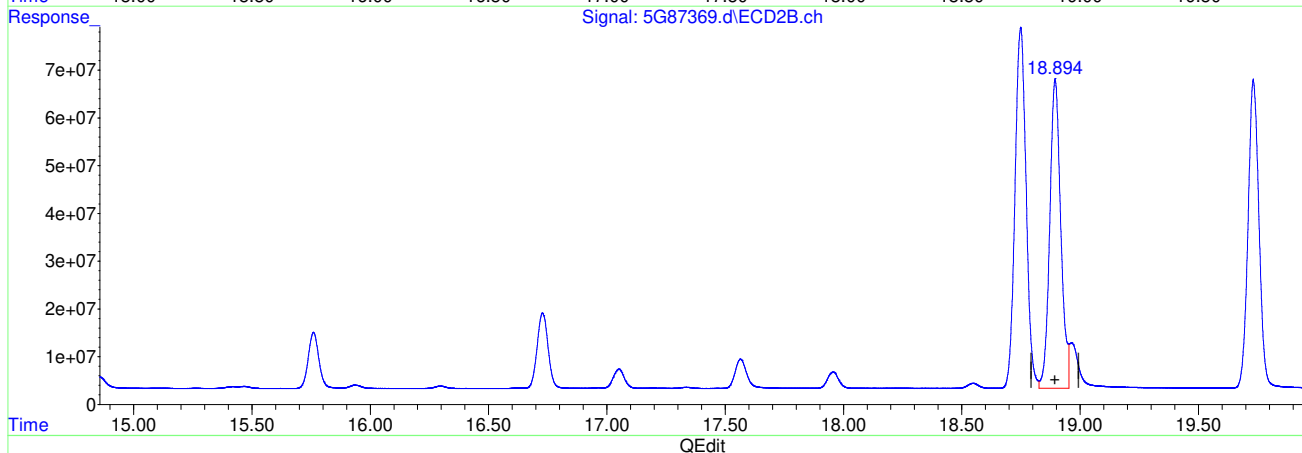
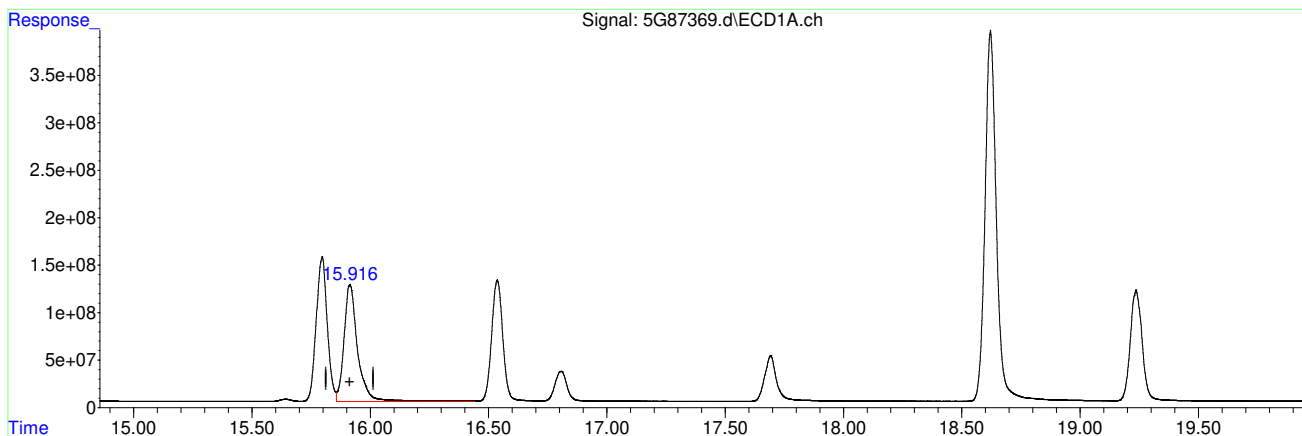
11.6.14.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87369.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:27 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:43:22 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(37) AR1268-B  
 15.914min 981.922 PPB  
 response 4943195798

(37) AR1268-B #2  
 18.894min 854.421 PPB  
 response 2097774819

(+) = Expected Retention Time

5PCB2101.M Tue Apr 09 09:43:58 2019

11.6.14.4  
 11

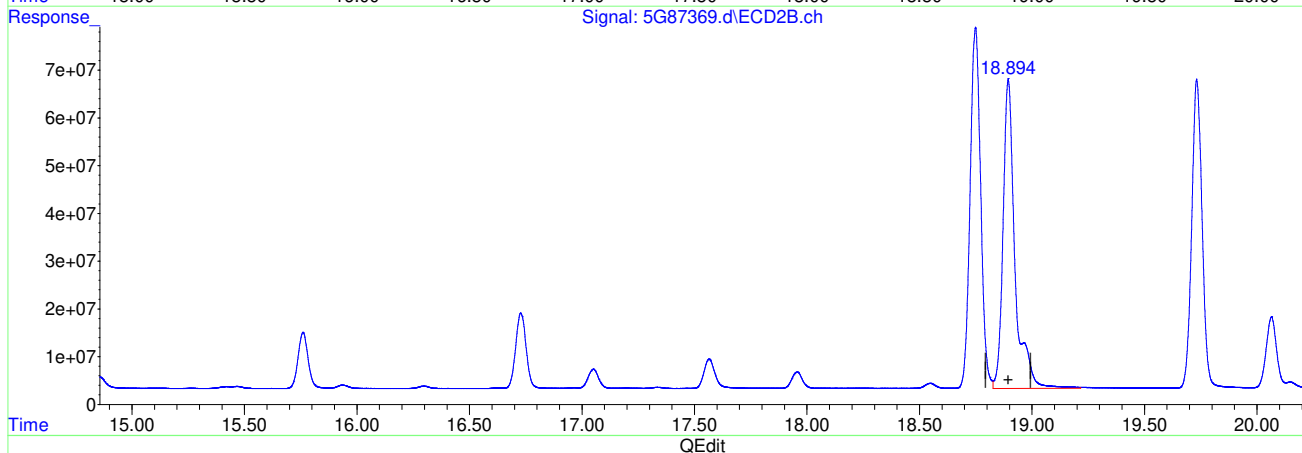
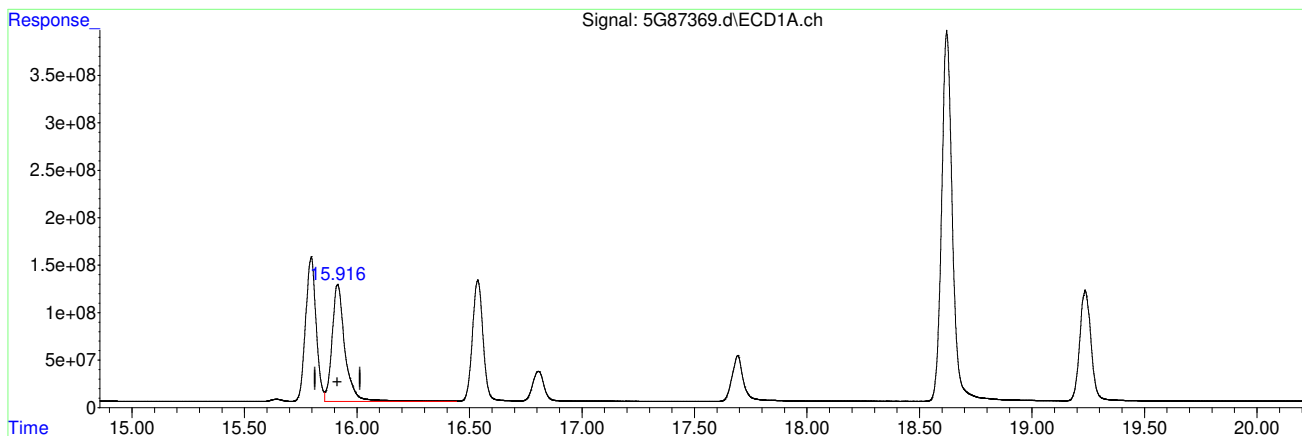


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87369.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:27 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:43:22 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(37) AR1268-B  
 15.914min 981.922 PPB  
 response 4943195798

(37) AR1268-B #2  
 18.894min 973.830 PPB m  
 response 2390946867

(+) = Expected Retention Time

11.6.14.5  
11

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
**Gwendolyn Burns**  
 04/09/19 16:45

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87370.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:59 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : op19562,g5g2101,15.0,,,10,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:44:53 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.621	4.380	1697.7E6	777.4E6	53.797	56.543
Spiked Amount	40.000		Recovery	=	134.49%	141.36%
51) S Decachlor...	19.239	22.644	1742.9E6	858.2E6	57.015	58.236
Spiked Amount	40.000		Recovery	=	142.54%	145.59%
Target Compounds						
17) AR1248-A	5.027	6.611	439.1E6	201.4E6	946.762	942.449
18) AR1248-B	6.093	7.875	1183.0E6	584.2E6	1002.523	1005.372m
19) AR1248-C	6.893	8.851	1271.0E6	334.0E6	1016.628m	1024.669
20) AR1248-D	7.458	9.650	1280.5E6	453.4E6	1039.238	1033.087
21) AR1248-E	7.682	10.020	780.2E6	516.0E6	1061.202	1056.795
22) AR1248-F	8.689	10.947	1175.1E6	633.5E6	1094.259	1070.398
23) AR1248-G	9.237	11.656	971.0E6	604.6E6	1068.173	1078.800
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

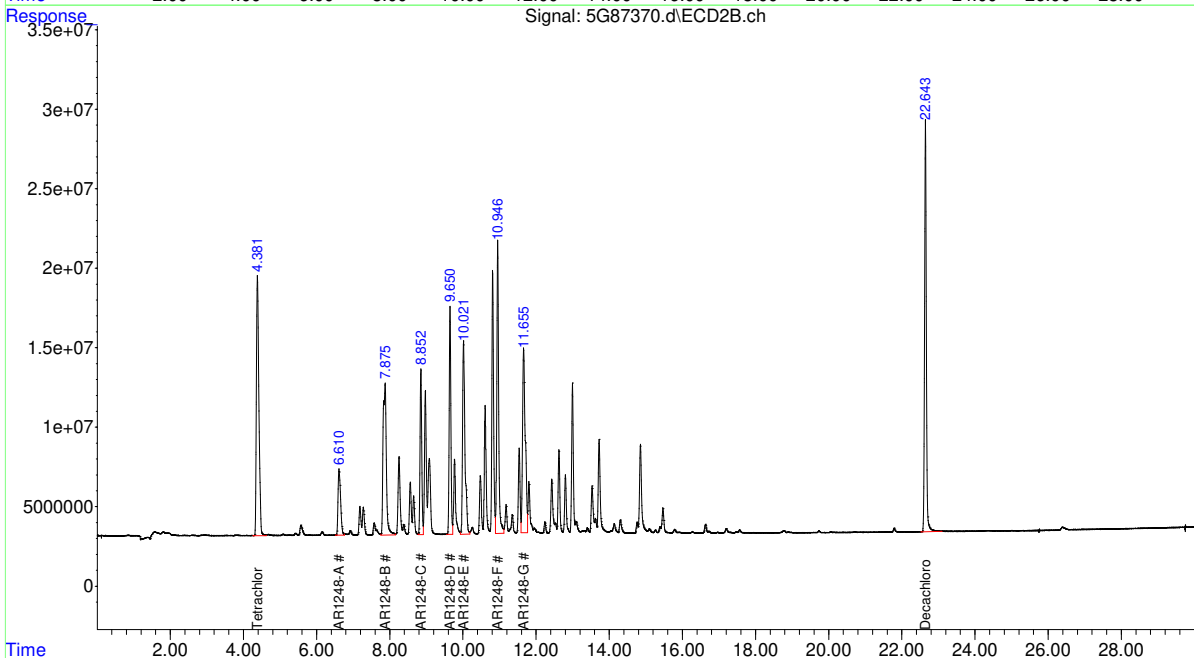
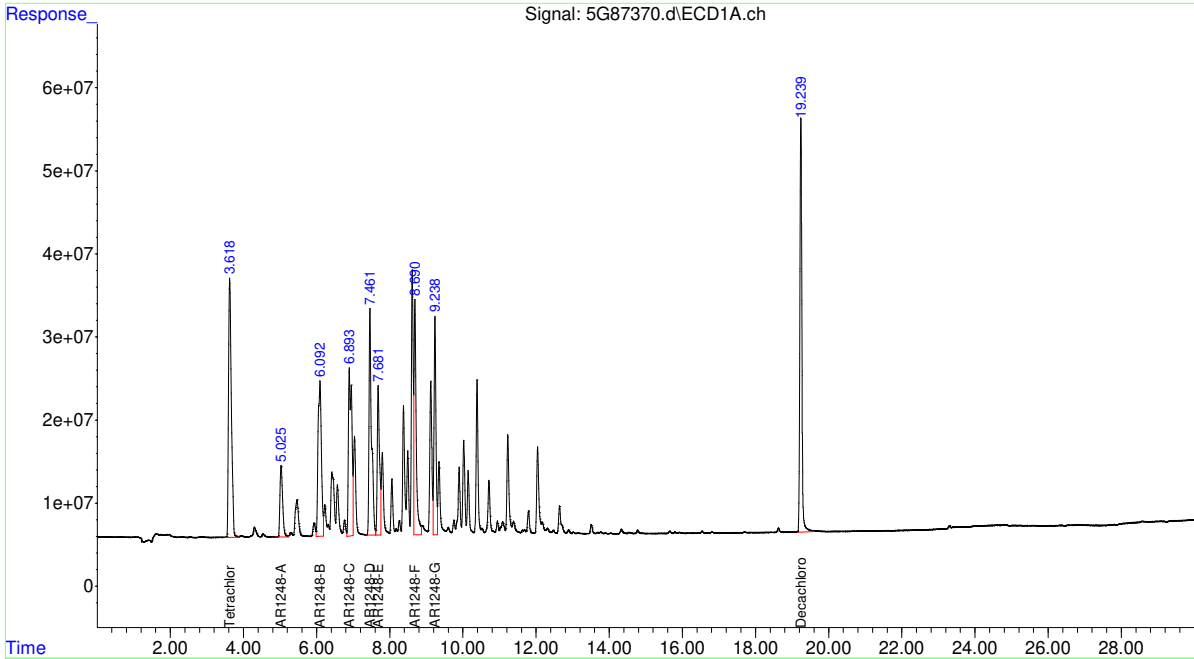
11.6.15  
11



Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87370.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:59 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:44:53 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2101-ICV2101      Method: EPA 608  
Lab FileID: 5G87370.D      Analyst approved: 04/09/19 09:51 Tianwei Ruan  
Injection Time: 04/08/19 22:59      Supervisor approved: 04/09/19 16:45 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1248-C		1	6.89	Split peak
AR1248-B		2	7.88	Split peak

11.6.15.1

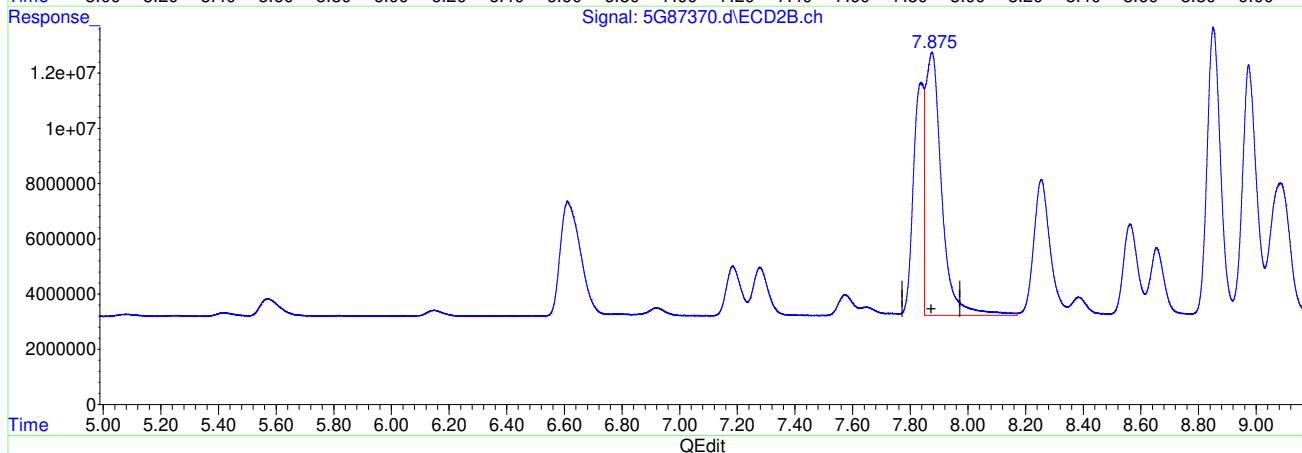
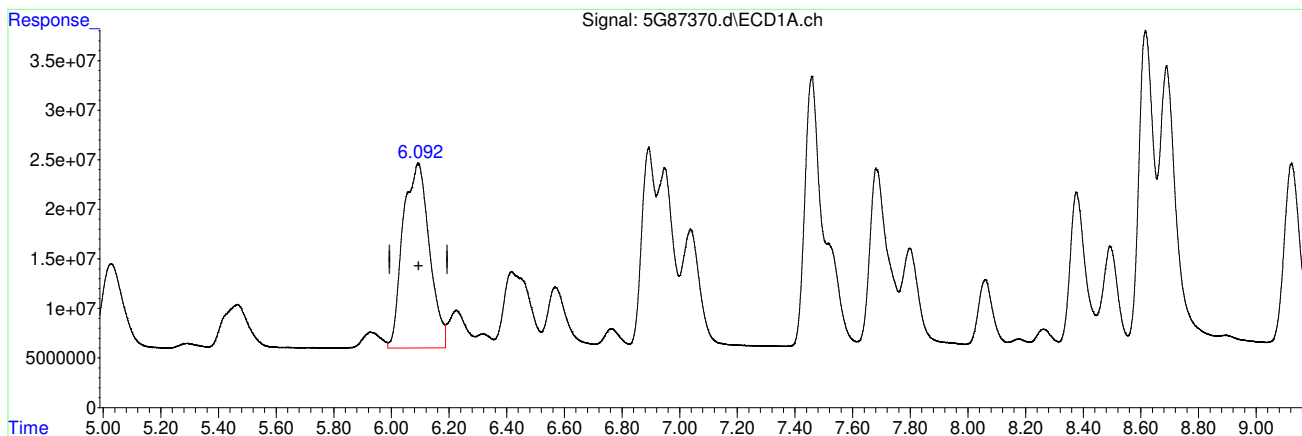
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87370.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:59 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(18) AR1248-B  
 6.093min 1002.523 PPB  
 response 1183022203

(18) AR1248-B #2  
 7.875min 642.441 PPB  
 response 373336421

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:44:36 2019

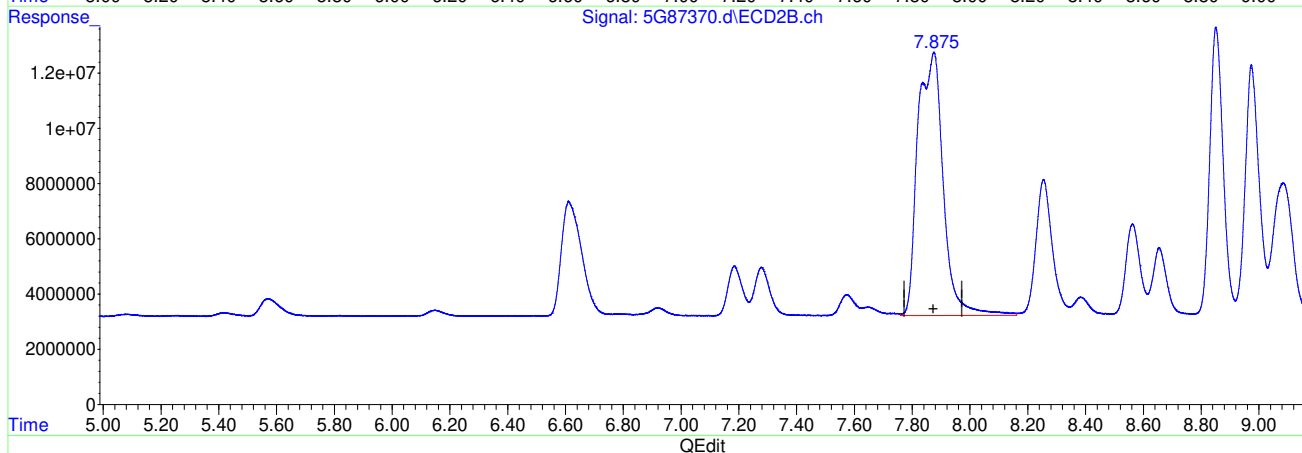
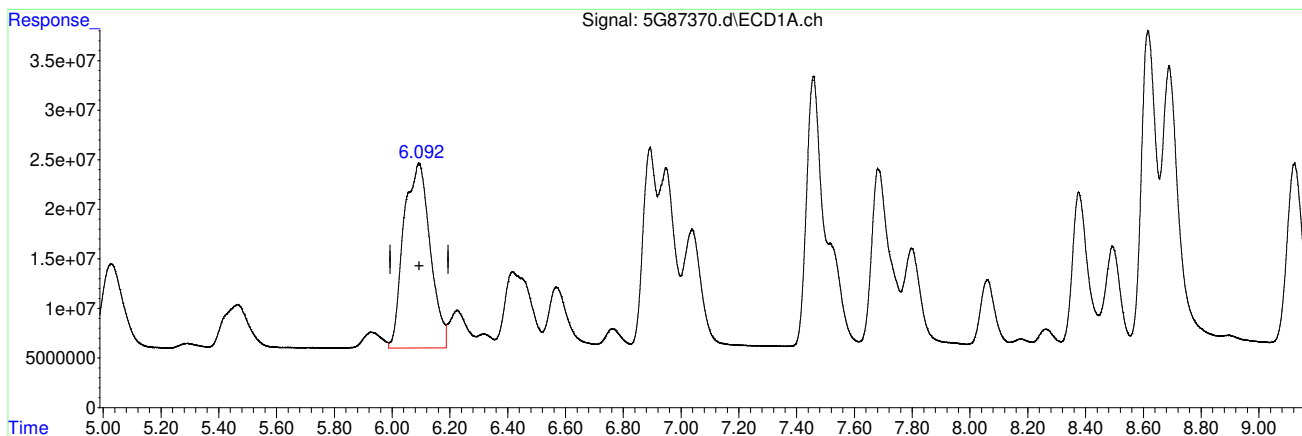
11.6.15.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87370.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:59 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(18) AR1248-B  
 6.093min 1002.523 PPB  
 response 1183022203

(18) AR1248-B #2  
 7.875min 1005.372 PPB m  
 response 584243696

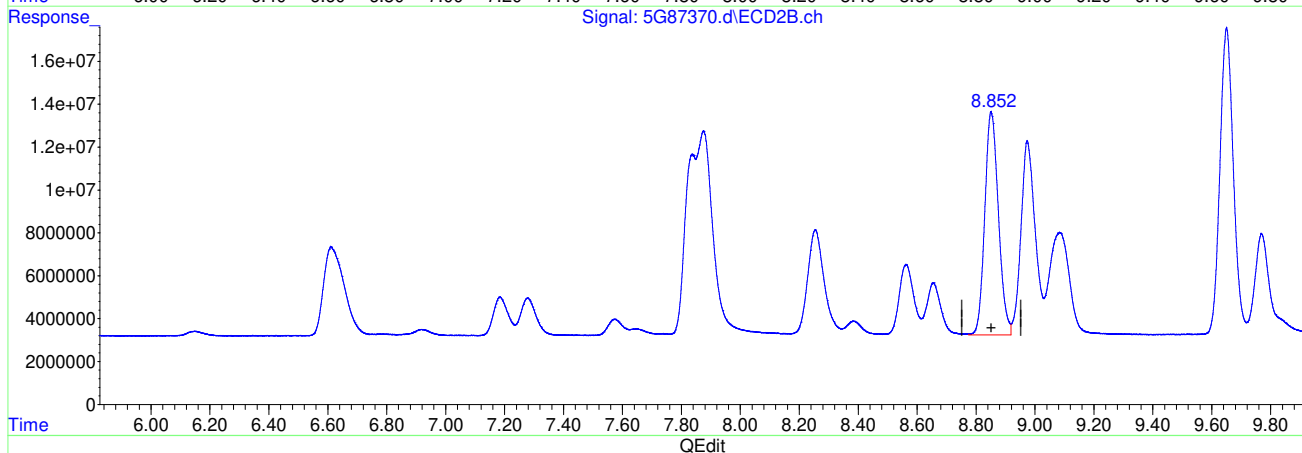
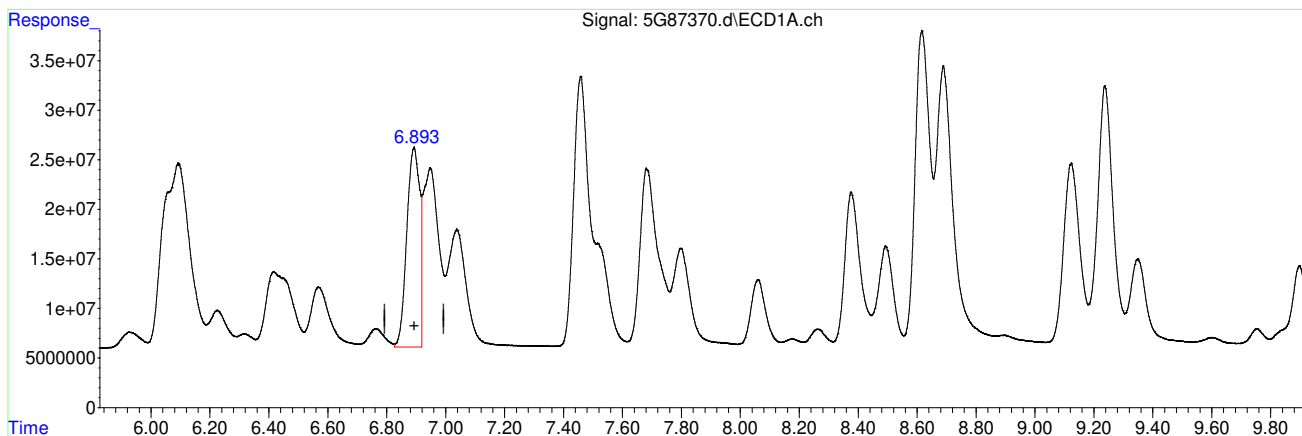
(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:44:40 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87370.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:59 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(19) AR1248-C  
 6.893min 493.074 PPB  
 response 616430395

(19) AR1248-C #2  
 8.851min 1024.669 PPB  
 response 334005512

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:44:42 2019

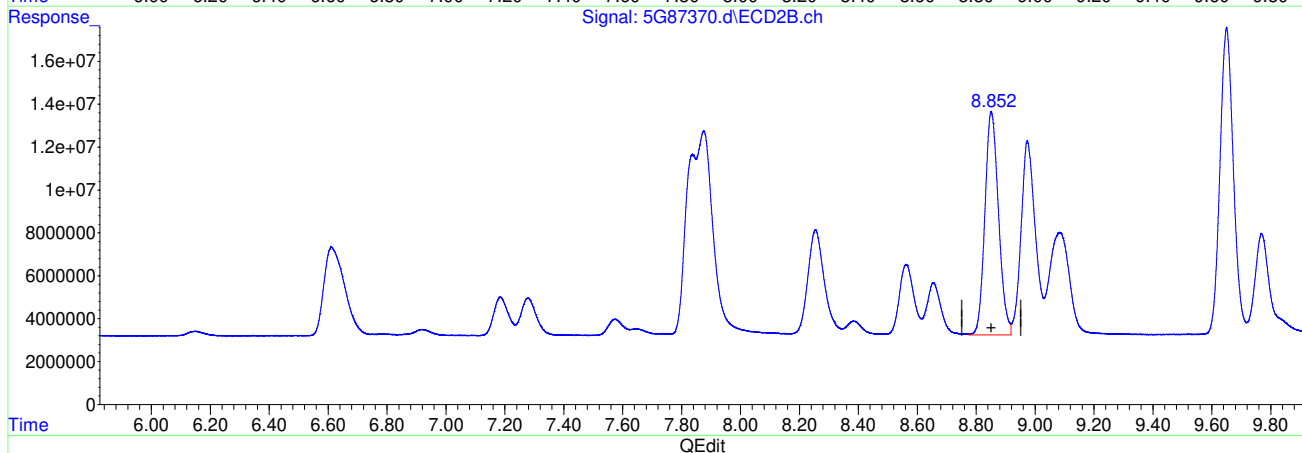
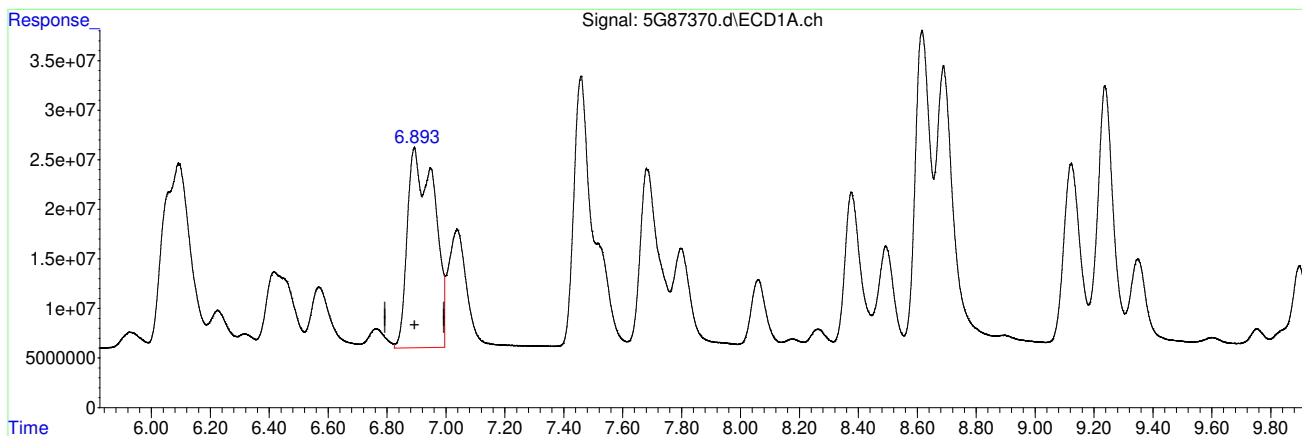
11.6.15.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2101\  
 Data File : 5G87370.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 8 Apr 2019 10:59 pm  
 Operator : summerk  
 Sample : icv2101-1000  
 Misc : opl9562,g5g2101,15.0,,,10,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 09 09:44:15 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Tue Apr 09 09:30:37 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(19) AR1248-C  
 6.893min 1016.628 PPB m  
 response 1270966253

(19) AR1248-C #2  
 8.851min 1024.669 PPB  
 response 334005512

(+) = Expected Retention Time  
 5PCB2101.M Tue Apr 09 09:44:54 2019

11.6.15.5  
 11



Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:09:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.641	4.380	626.5E6	266.8E6	19.852	19.404
Spiked Amount	40.000		Recovery	=	49.63%	48.51%
51) S Decachlor...	19.243	22.638	529.5E6	261.2E6	17.321	17.723
Spiked Amount	40.000		Recovery	=	43.30%	44.31%
Target Compounds						
41) AR1016-A	4.323	5.568	278.7E6	118.5E6	480.375	481.938
42) AR1016-B	5.049	6.606	551.9E6	252.0E6	484.209	493.971
43) AR1016-C	6.128	7.873	1071.6E6	542.3E6	453.443	472.495m
44) AR1016-D	6.442	8.254	472.8E6	211.6E6	473.684	478.808
45) AR1016-E	7.480	9.644	481.9E6	165.3E6	477.306m	476.432
46) AR1260-A	12.652	15.462	1071.5E6	506.1E6	445.097m	451.547m
47) AR1260-B	13.030	15.755	653.0E6	321.4E6	464.529	476.613
48) AR1260-C	13.783	16.720	636.6E6	308.0E6	429.764	466.857
49) AR1260-D	14.784	17.563	1452.1E6	749.9E6	417.381	437.331
50) AR1260-E	15.665	18.777	1705.2E6	785.6E6	444.874m	449.597m

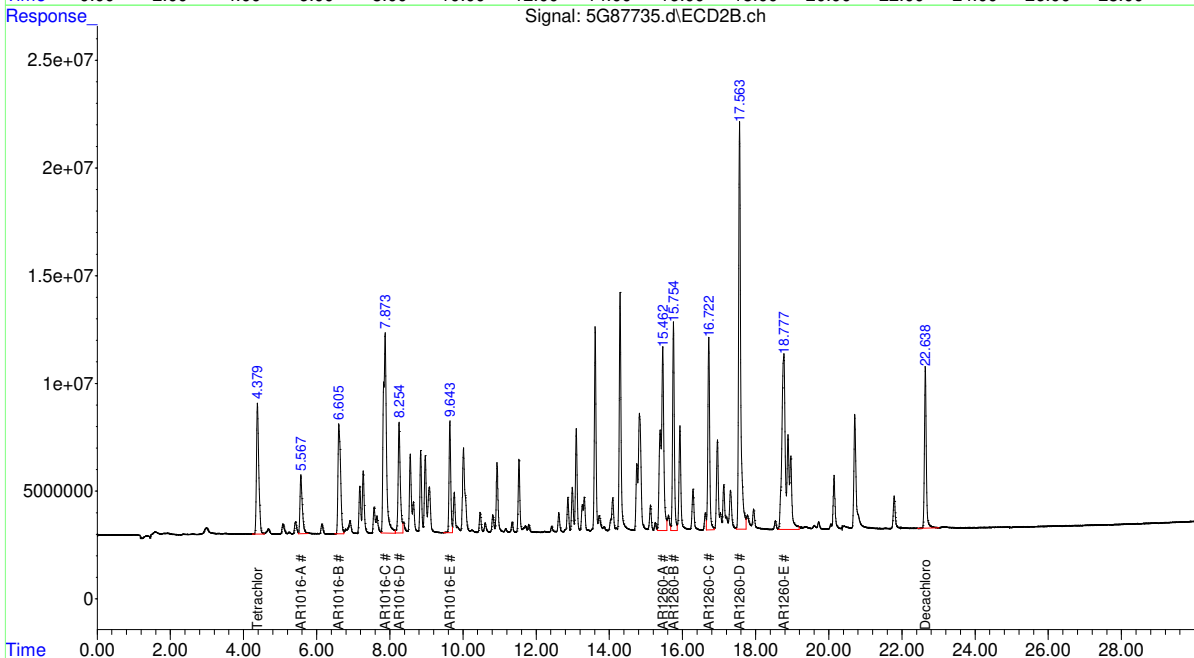
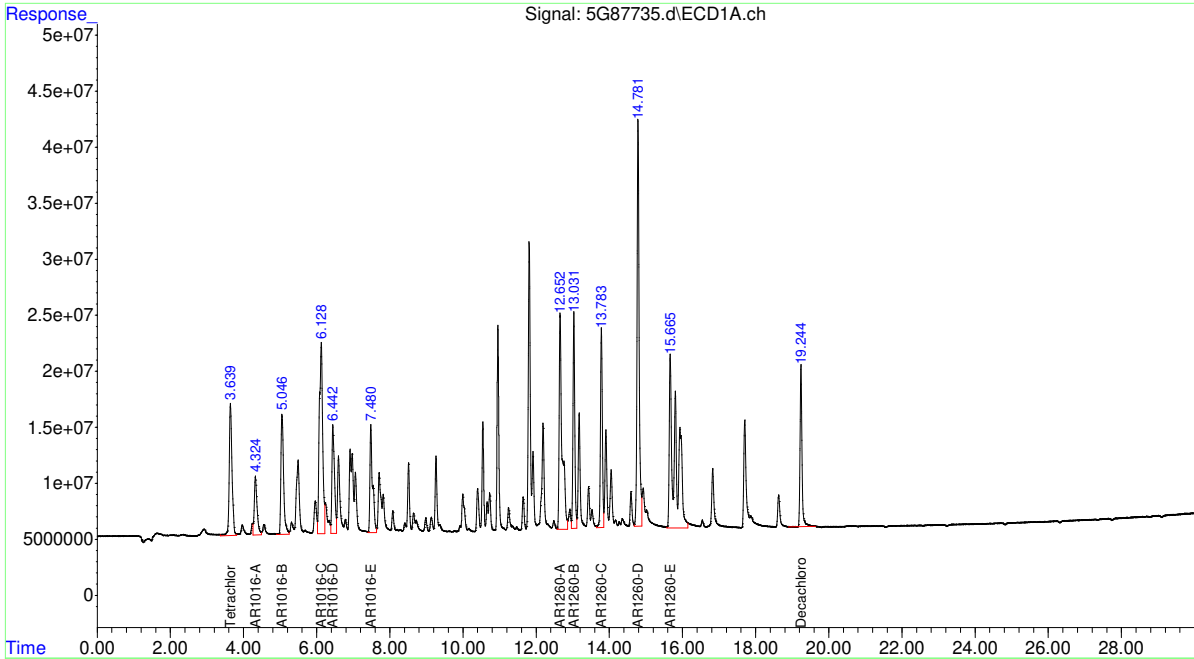
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.16  
11

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:09:19 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2111-CC2101      Method: SW846 8082A  
Lab FileID: 5G87735.D      Analyst approved: 04/19/19 13:50 Summer Kotb  
Injection Time: 04/19/19 09:57      Supervisor approved: 04/19/19 14:14 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-E		1	7.48	Split peak
AR1016-C		2	7.87	Split peak
AR1260-A		1	12.65	Split peak
AR1260-A		2	15.46	Split peak
AR1260-E		1	15.66	Split peak
AR1260-E		2	18.78	Split peak

11.6.16.1

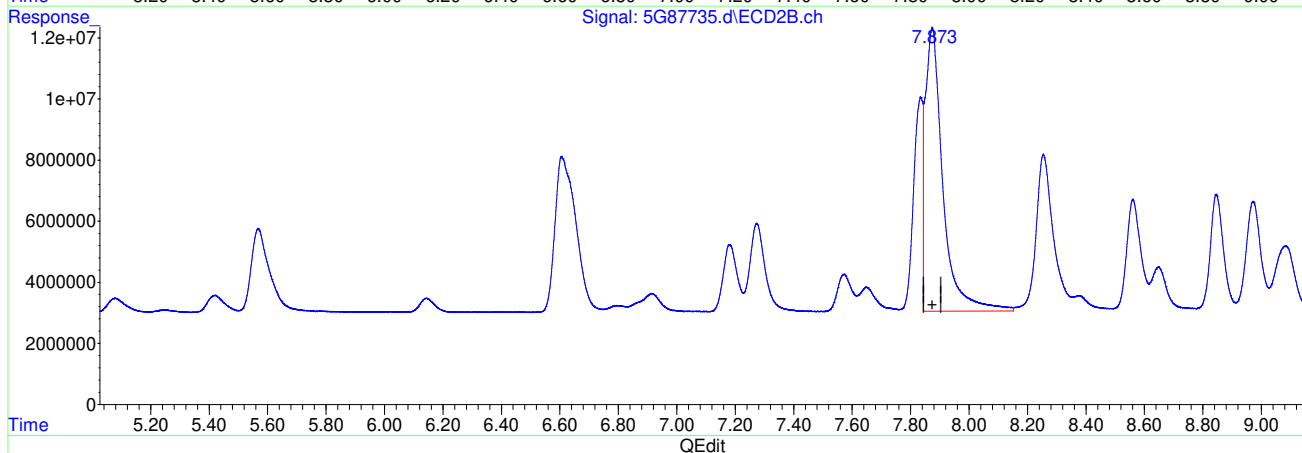
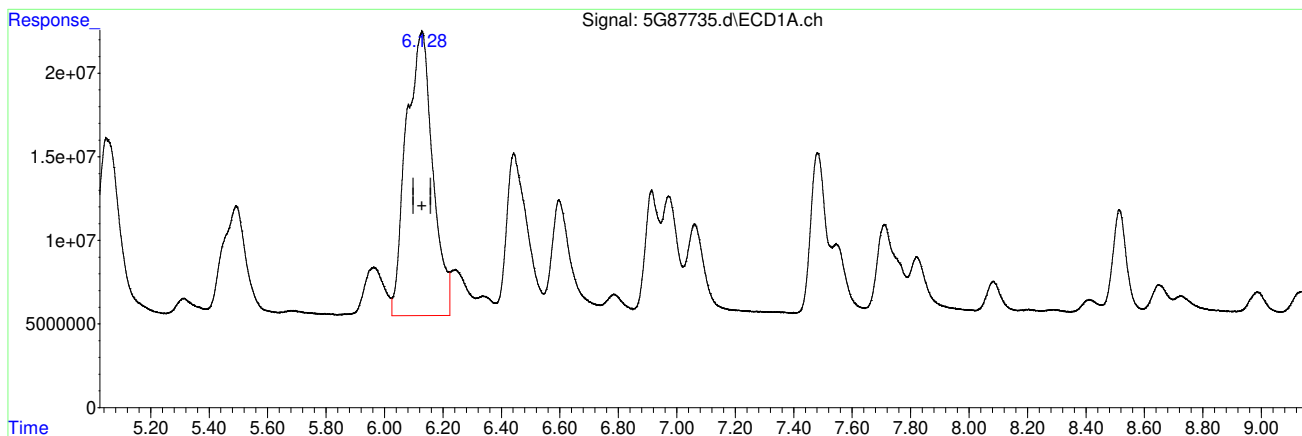
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:08:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(43) AR1016-C  
 6.128min 453.443 PPB  
 response 1071606165

(43) AR1016-C #2  
 7.874min 338.897 PPB  
 response 388939664

(+) = Expected Retention Time

5PCB2101.M Fri Apr 19 11:08:32 2019

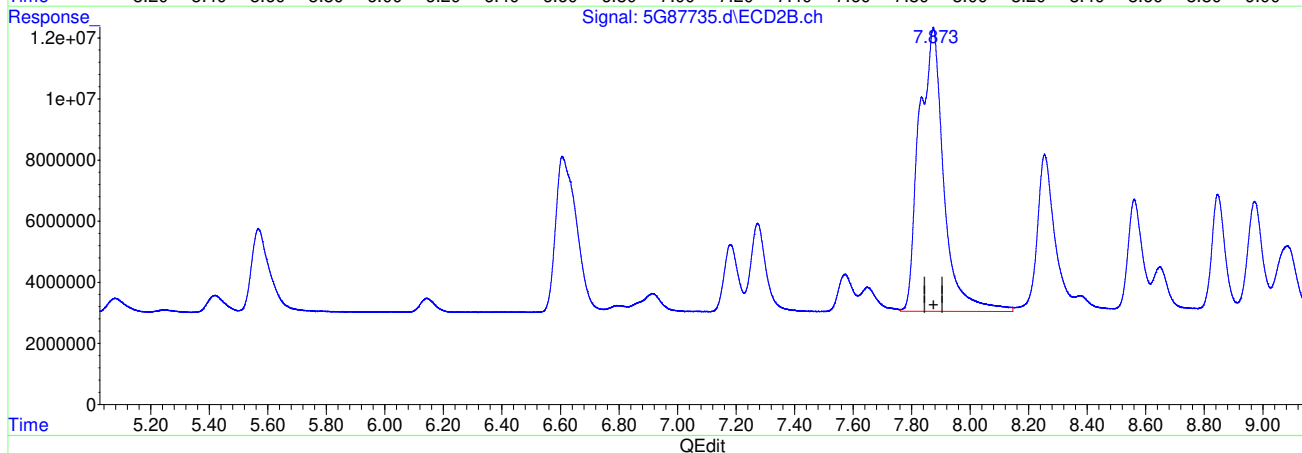
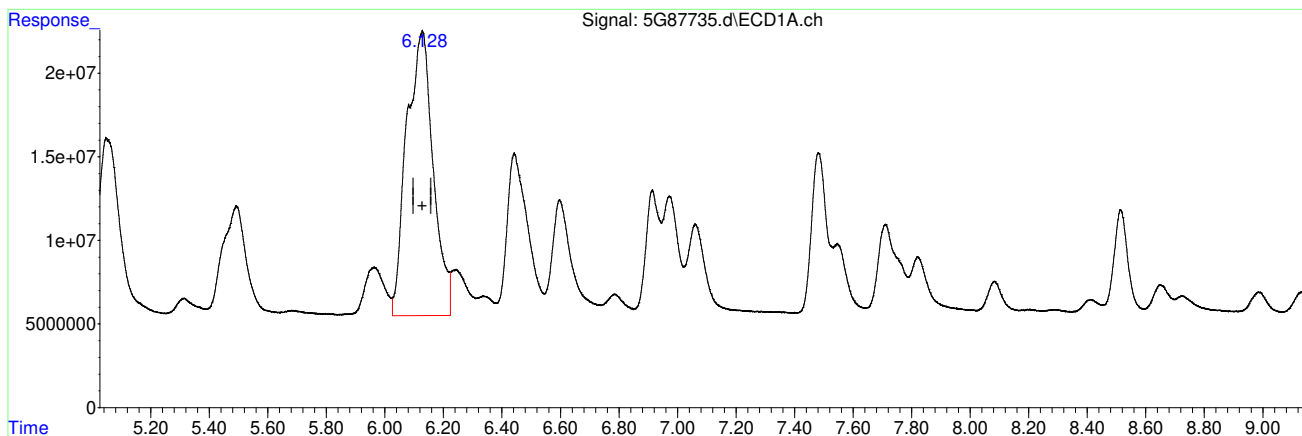
11.6.16.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:08:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(43) AR1016-C  
 6.128min 453.443 PPB  
 response 1071606165

(43) AR1016-C #2  
 7.873min 472.495 PPB m  
 response 542264692

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 11:08:39 2019

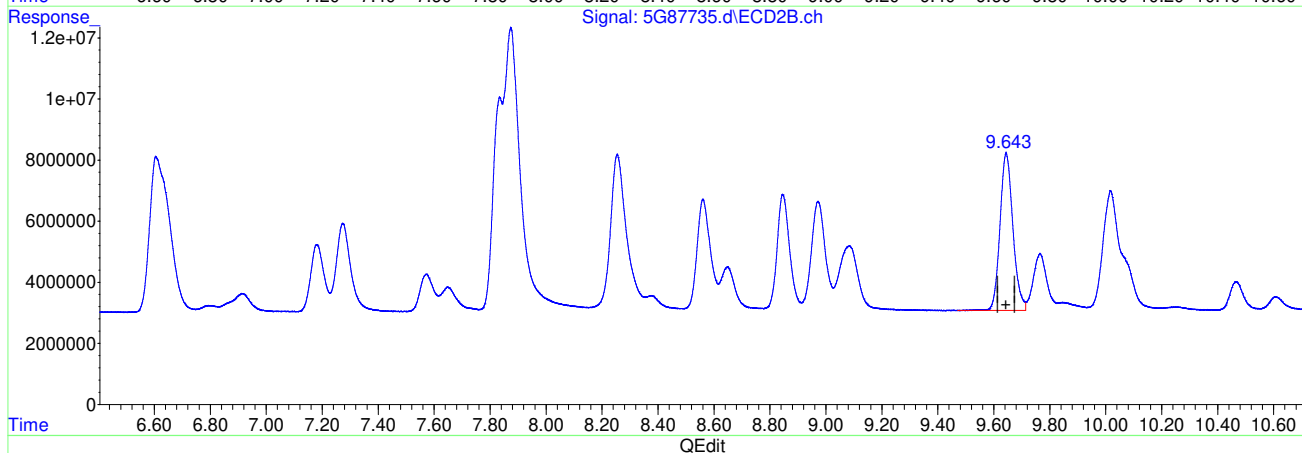
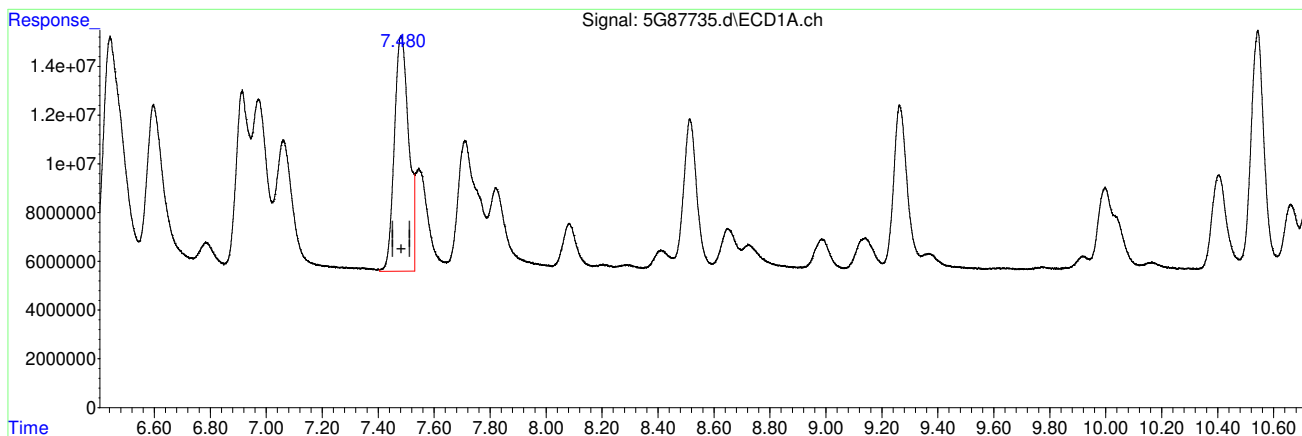
11.6.16.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : opl9833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:08:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.482min 343.478 PPB  
 response 346788244

(45) AR1016-E #2  
 9.644min 476.432 PPB  
 response 165292244

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 11:08:42 2019

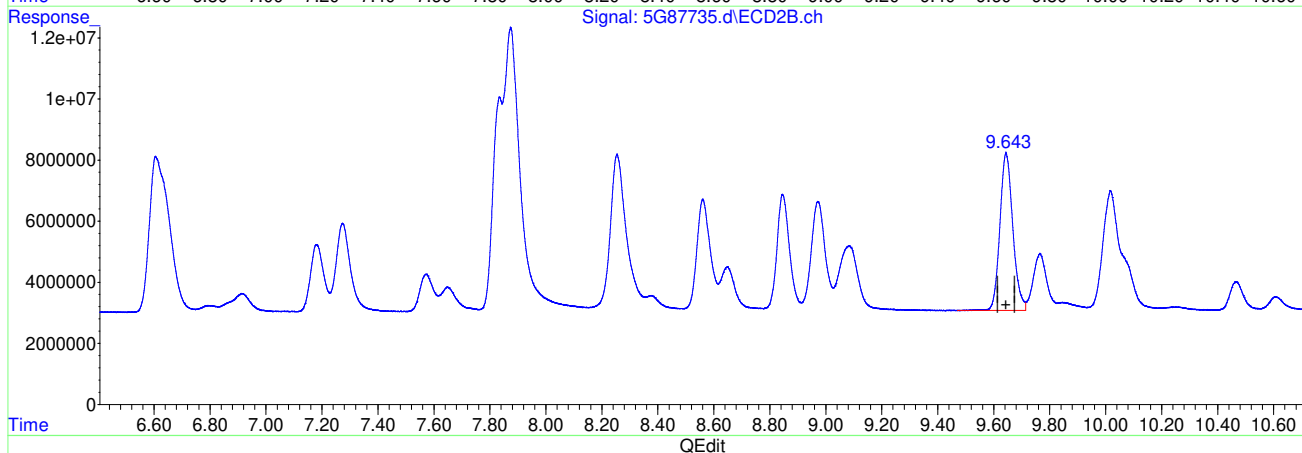
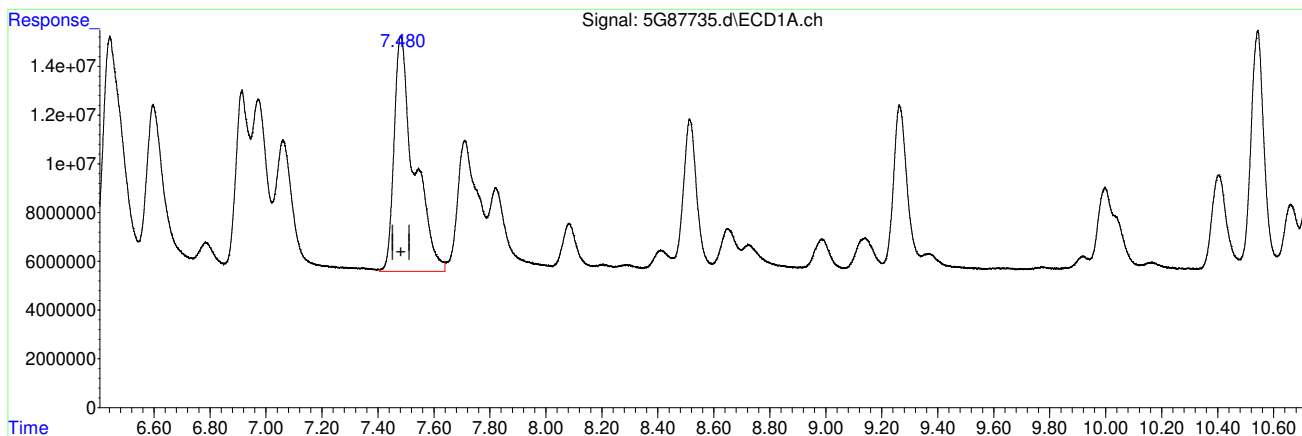
11.6.16.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:08:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.480min 477.306 PPB m  
 response 481905239

(45) AR1016-E #2  
 9.644min 476.432 PPB  
 response 165292244

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 11:08:48 2019

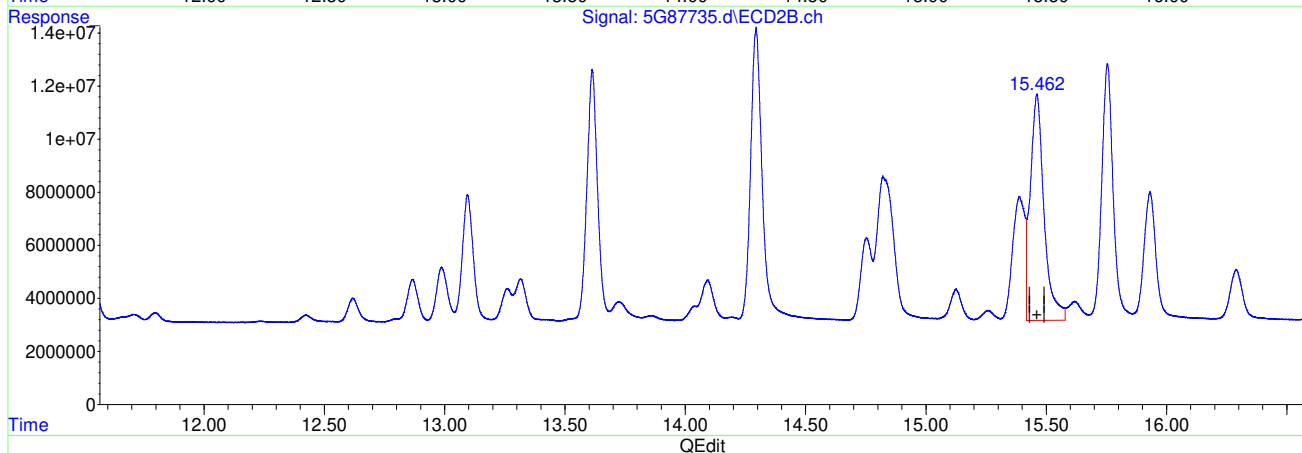
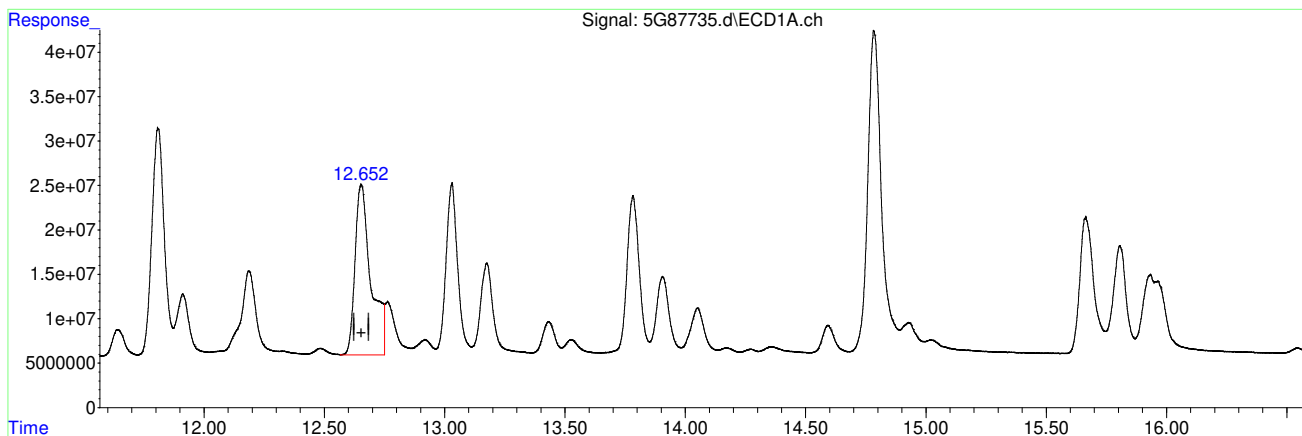
11.6.16.5  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:08:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.653min 364.673 PPB  
 response 877898028

(46) AR1260-A #2  
 15.461min 303.403 PPB  
 response 340047657

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 11:08:51 2019

11.6.16.6  
 11

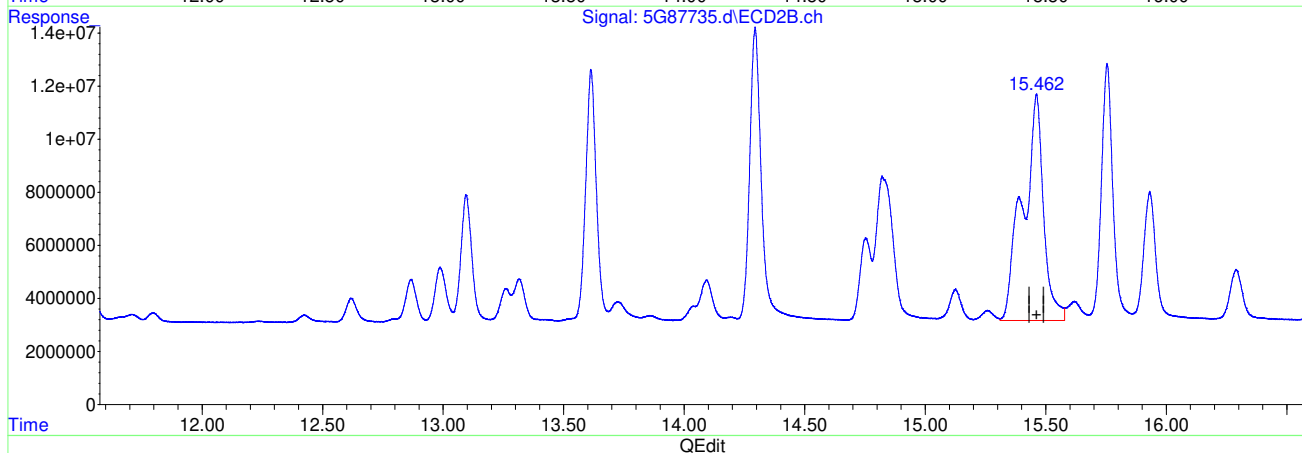
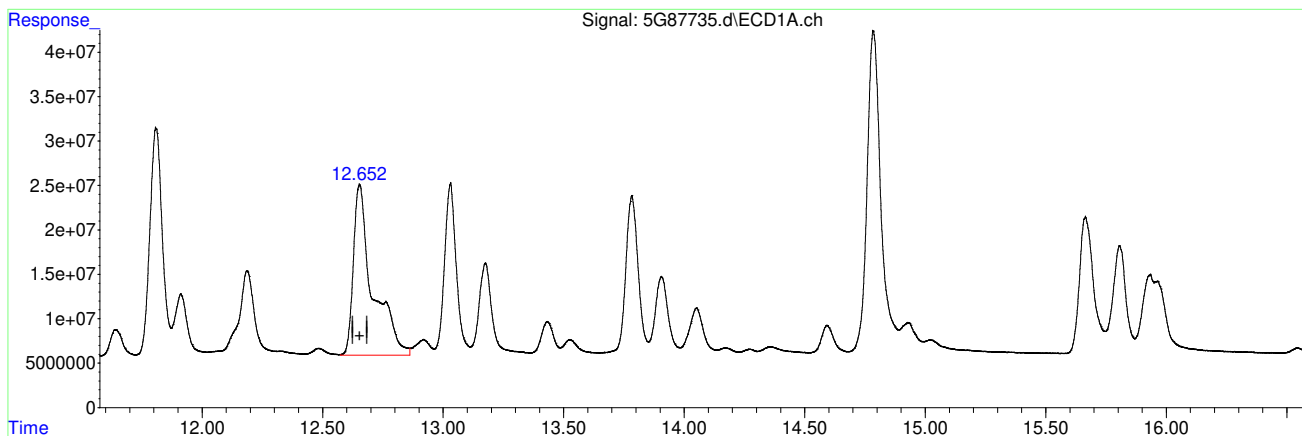


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:08:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.652min 445.097 PPB m  
 response 1071507364

(46) AR1260-A #2  
 15.462min 451.547 PPB m  
 response 506084739

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 11:09:03 2019

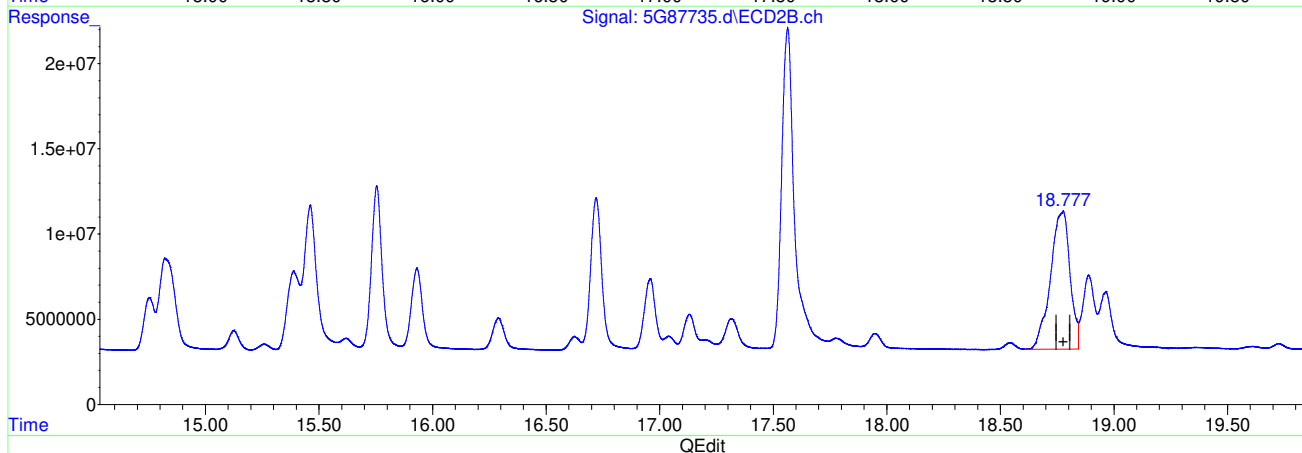
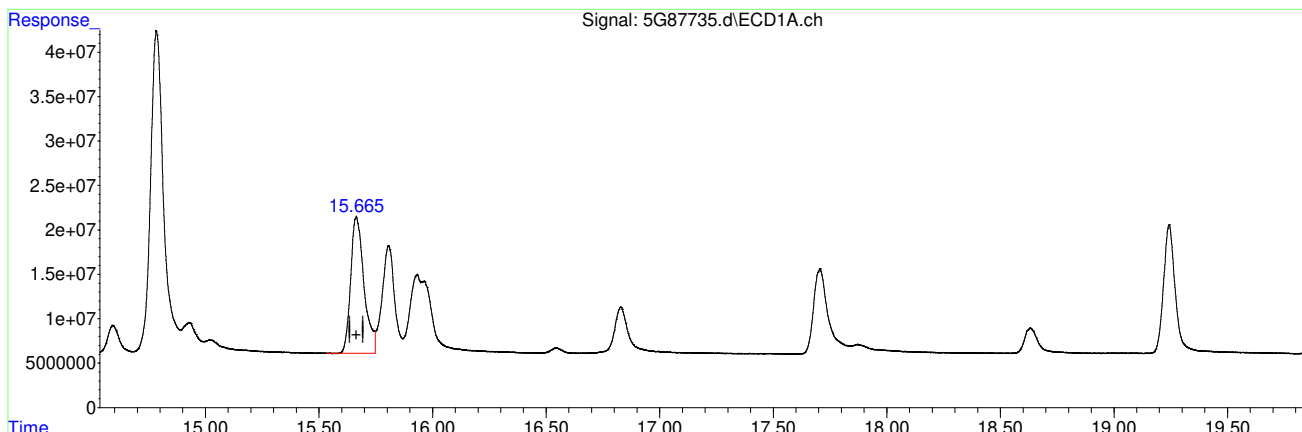
11.6.16.7  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:08:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.664min 163.775 PPB  
 response 627761393

(50) AR1260-E #2  
 18.776min 276.995 PPB  
 response 484021057

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 11:09:07 2019

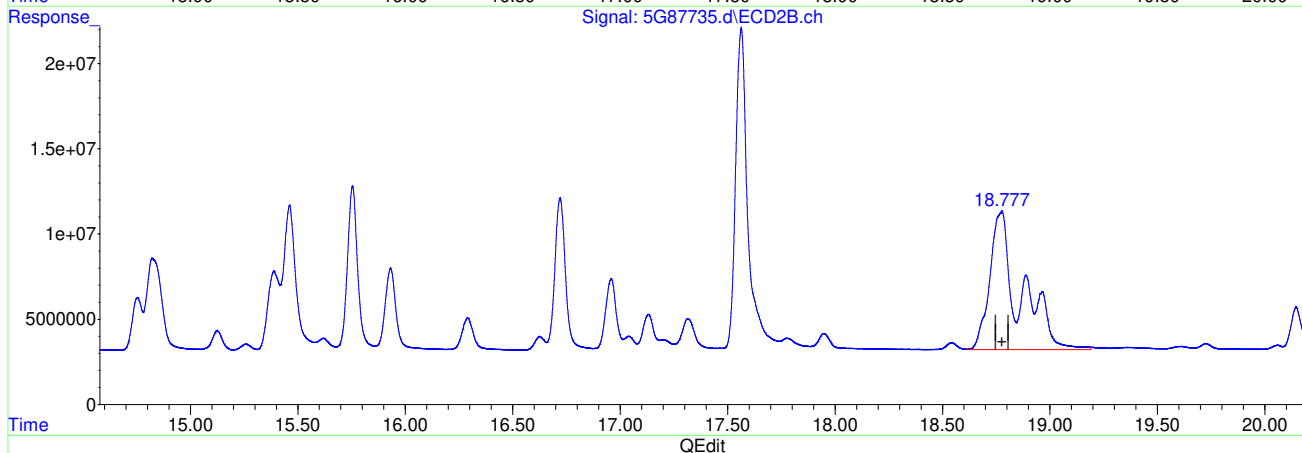
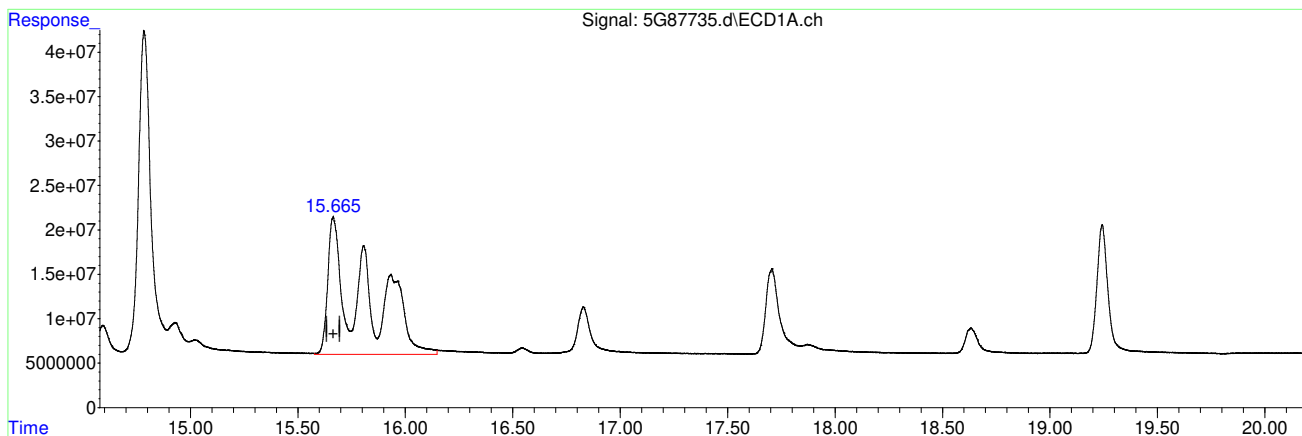
11.6.16.8  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87735.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 9:57 am  
 Operator : summerk  
 Sample : cc2101-500  
 Misc : op19833,g5g2111,1.0,,,10,1  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 11:08:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 11:08:12 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.665min 444.874 PPB m  
 response 1705238432

(50) AR1260-E #2  
 18.777min 449.597 PPB m  
 response 785625217

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 11:09:21 2019

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87744.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm  
 Operator : summerk  
 Sample : cc2101-1000  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 16:15:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 16:14:33 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.624	4.386	1249.3E6	543.5E6	39.589	39.529
Spiked Amount	40.000		Recovery	=	98.97%	98.82%
51) S Decachlor...	19.229	22.634	1111.1E6	544.0E6	36.347	36.914
Spiked Amount	40.000		Recovery	=	90.87%	92.29%
Target Compounds						
41) AR1016-A	4.301	5.573	609.3E6	238.8E6	1050.193	971.261
42) AR1016-B	5.031	6.616	1081.2E6	496.1E6	948.602	972.485
43) AR1016-C	6.098	7.881	2175.8E6	1102.2E6	920.692	960.428
44) AR1016-D	6.415	8.259	936.0E6	423.6E6	937.822	958.640
45) AR1016-E	7.456	9.652	939.1E6	330.8E6	930.127m	953.467
46) AR1260-A	12.631	15.462	2215.2E6	1060.9E6	920.165	946.576m
47) AR1260-B	13.009	15.755	1319.4E6	647.1E6	938.555	959.453
48) AR1260-C	13.763	16.720	1332.5E6	631.8E6	899.584	957.653
49) AR1260-D	14.763	17.561	3148.2E6	1611.4E6	904.932	939.735
50) AR1260-E	15.643	18.765	3527.7E6	1647.7E6	920.342m	942.953m
-----						

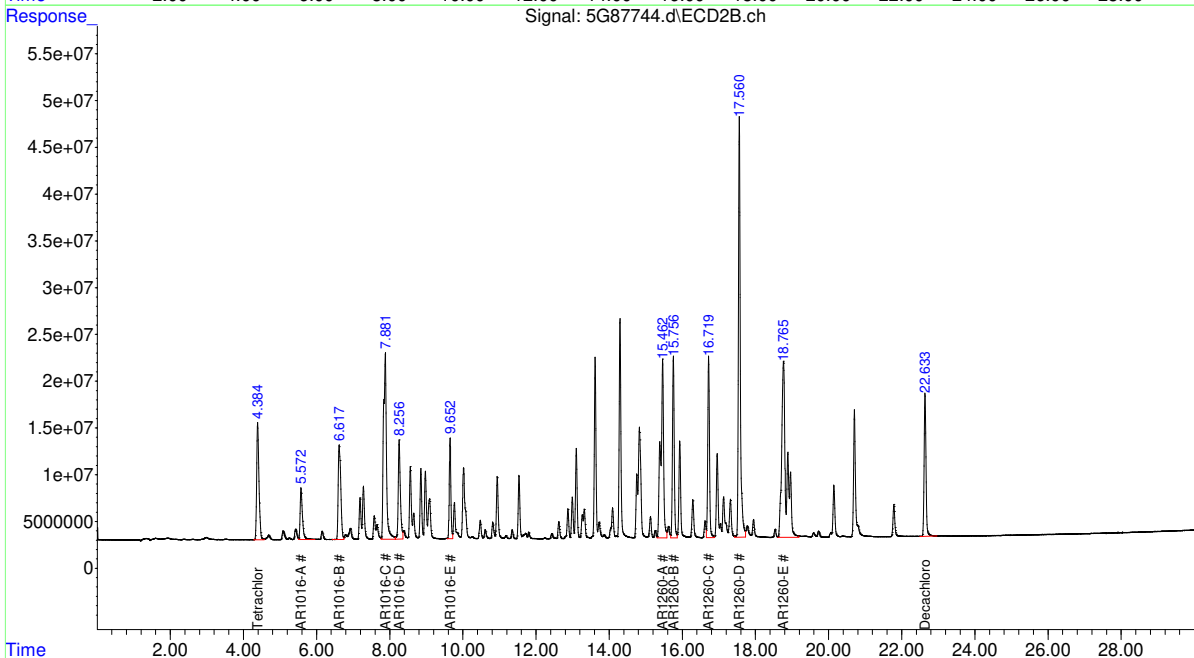
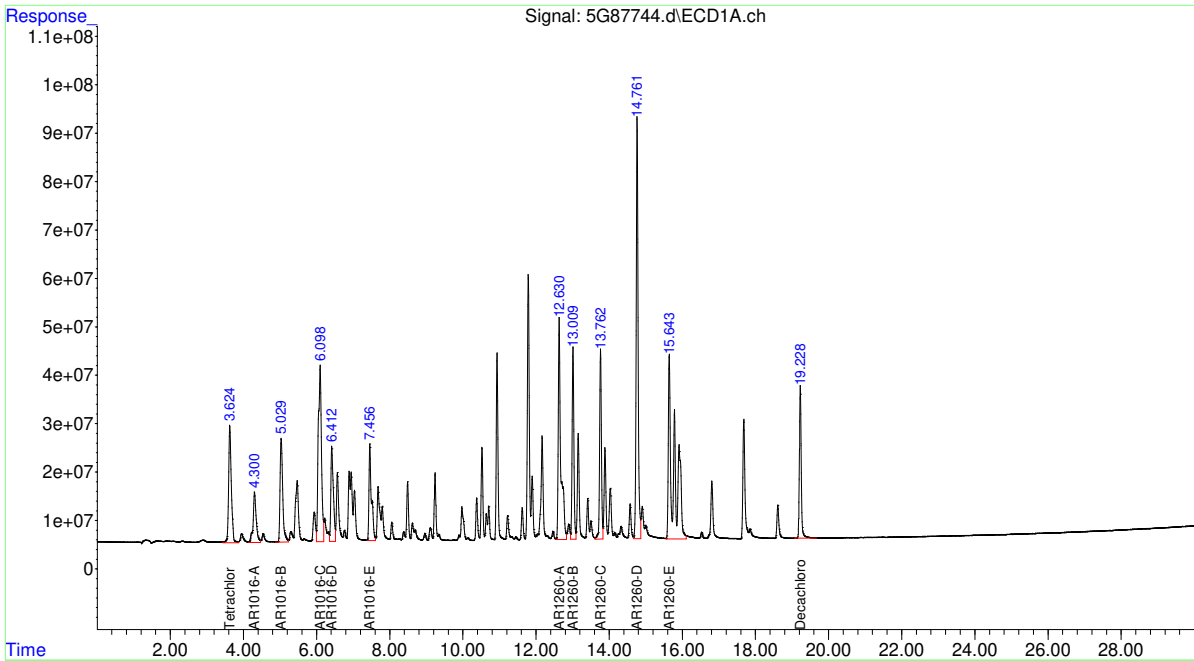
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.17  
11

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87744.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm  
 Operator : summerk  
 Sample : cc2101-1000  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 16:15:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 16:14:33 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



# Manual Integration Approval Summary

Sample Number: G5G2111-CC2101      Method: SW846 8082A  
Lab FileID: 5G87744.D      Analyst approved: 04/19/19 16:16 Summer Kotb  
Injection Time: 04/19/19 15:43      Supervisor approved: 04/19/19 16:22 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-E		1	7.46	Split peak
AR1260-A		2	15.46	Split peak
AR1260-E		1	15.64	Split peak
AR1260-E		2	18.76	Split peak

11.6.17.1

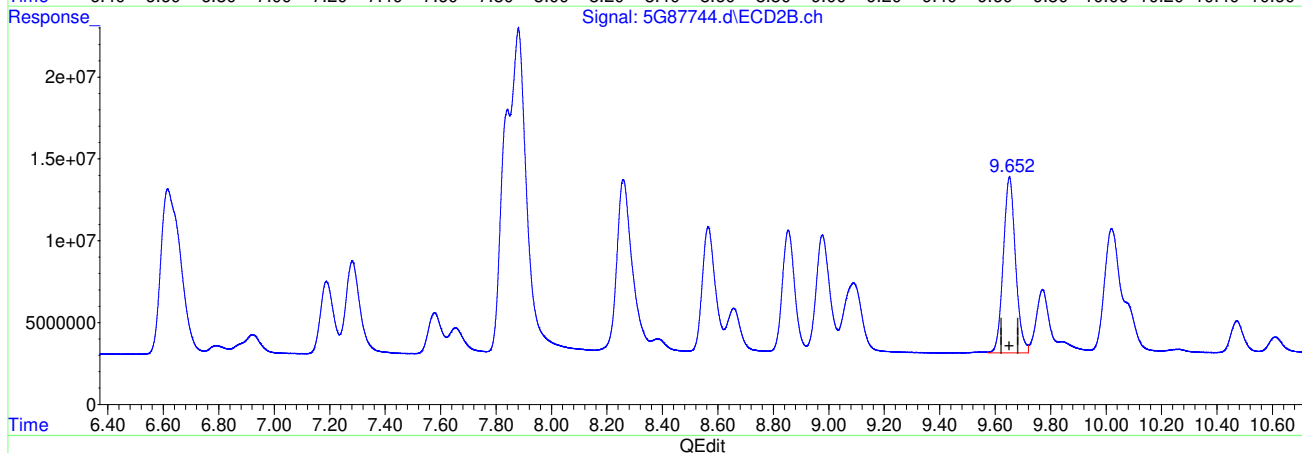
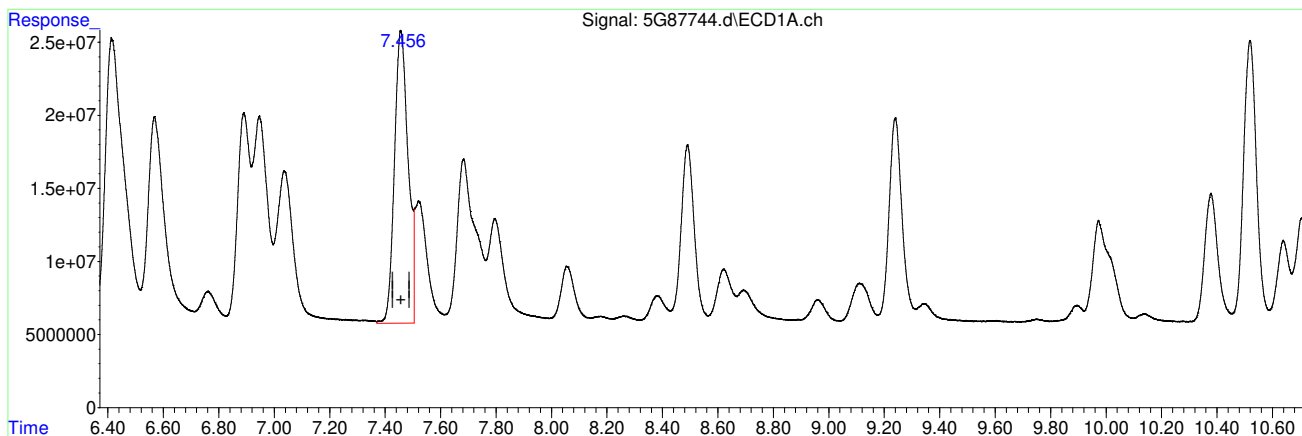
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87744.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm  
 Operator : summerk  
 Sample : cc2101-1000  
 Misc : opl9829,g5g2111,15.0,,,10,1  
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 16:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 16:14:33 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.457min 682.180 PPB  
 response 688753998

(45) AR1016-E #2  
 9.652min 953.467 PPB  
 response 330793375

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 16:14:53 2019

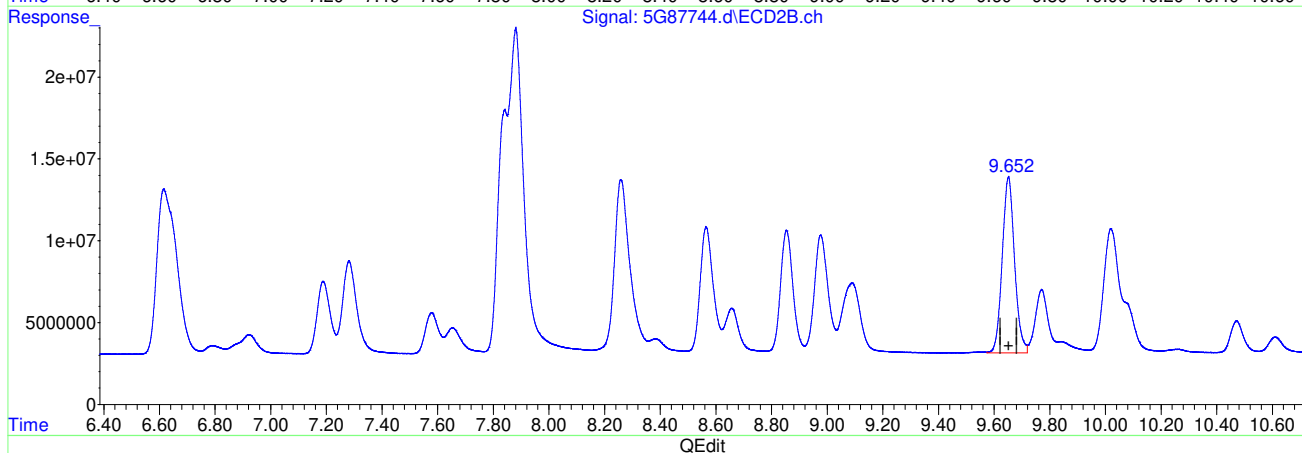
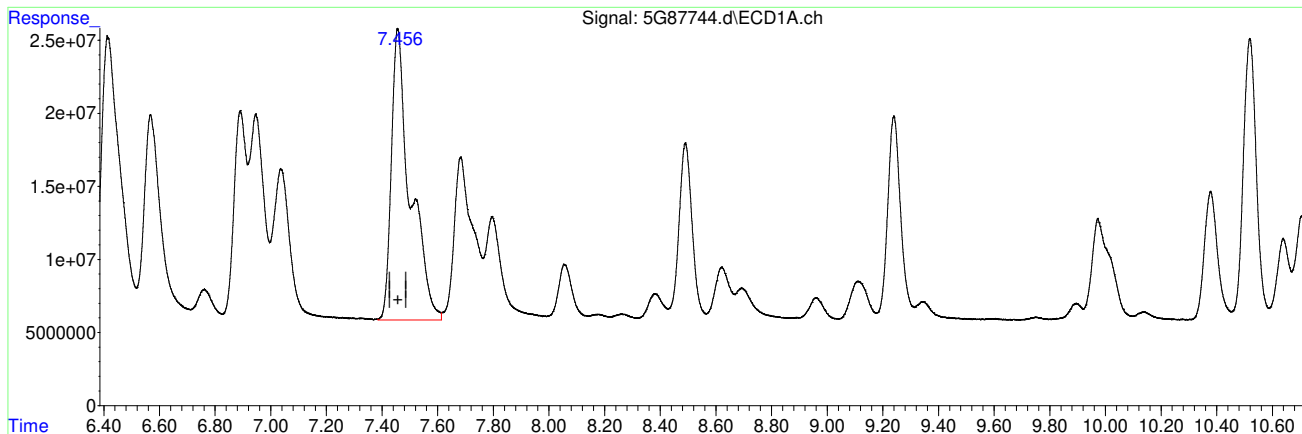
11.6.17.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87744.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm  
 Operator : summerk  
 Sample : cc2101-1000  
 Misc : opl9829,g5g2111,15.0,,,10,1  
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 16:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 16:14:33 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(45) AR1016-E  
 7.456min 930.127 PPB m  
 response 939089971

(45) AR1016-E #2  
 9.652min 953.467 PPB  
 response 330793375

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 16:14:59 2019

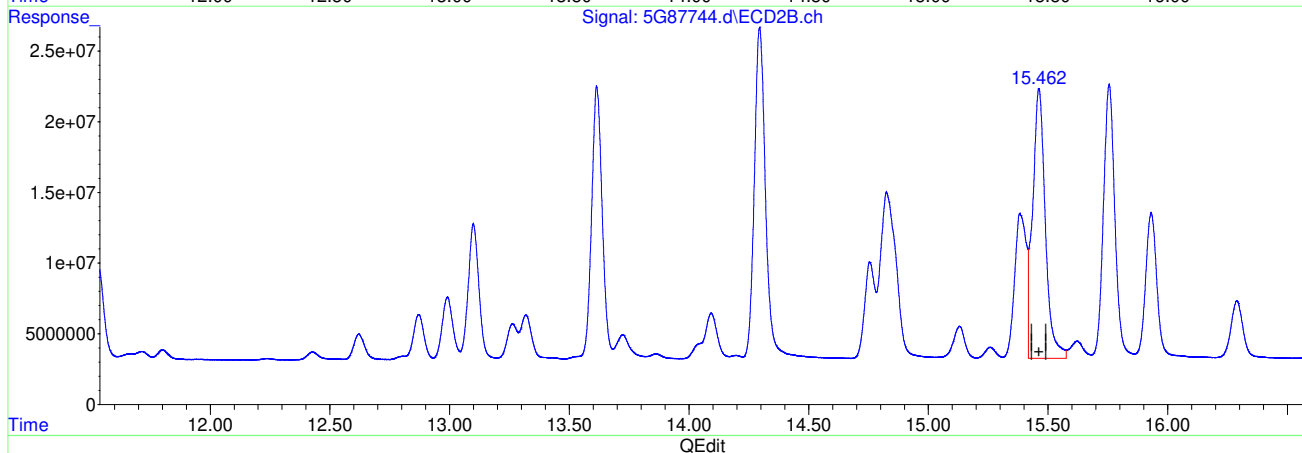
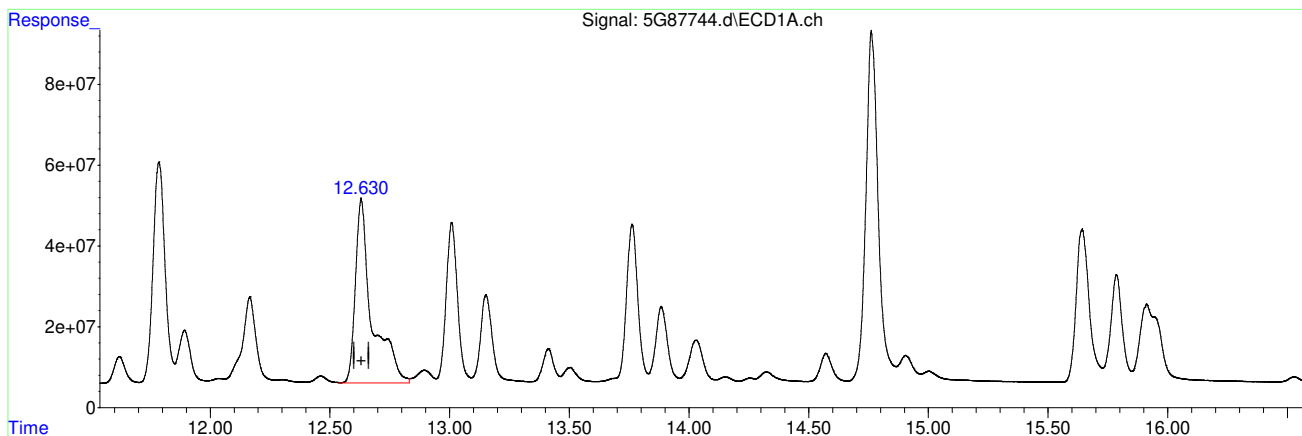


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87744.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm  
 Operator : summerk  
 Sample : cc2101-1000  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 16:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 16:14:33 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.631min 920.165 PPB  
 response 2215166108

(46) AR1260-A #2  
 15.462min 632.380 PPB  
 response 708759278

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 16:15:02 2019

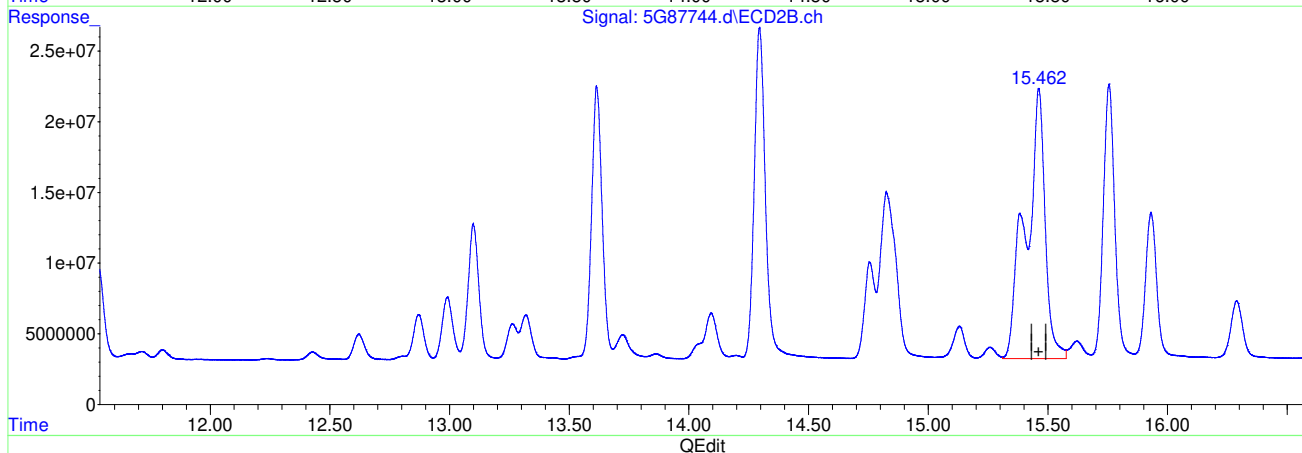
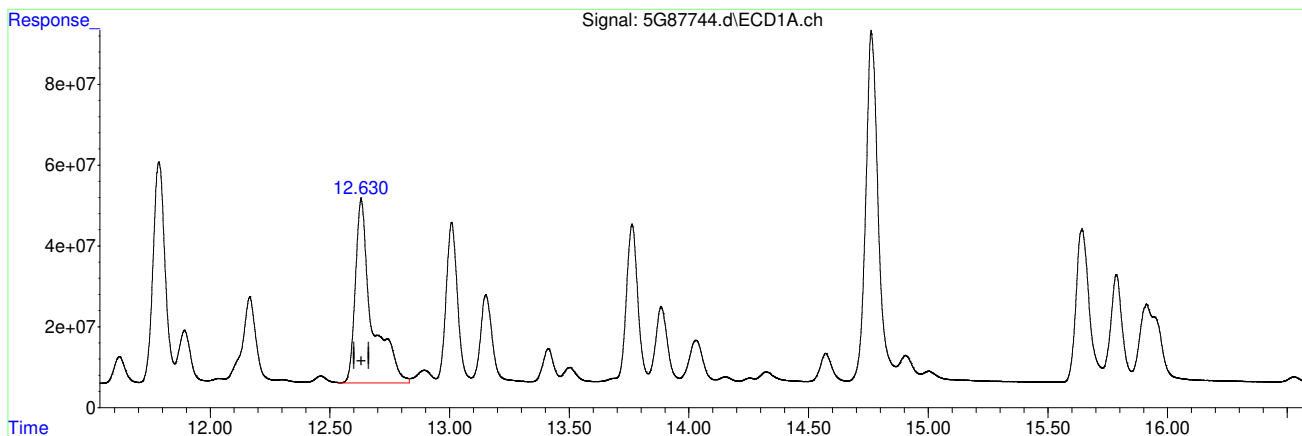
11.6.17.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87744.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm  
 Operator : summerk  
 Sample : cc2101-1000  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 16:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 16:14:33 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(46) AR1260-A  
 12.631min 920.165 PPB  
 response 2215166108

(46) AR1260-A #2  
 15.462min 946.576 PPB m  
 response 1060903465

(+) = Expected Retention Time

5PCB2101.M Fri Apr 19 16:15:10 2019

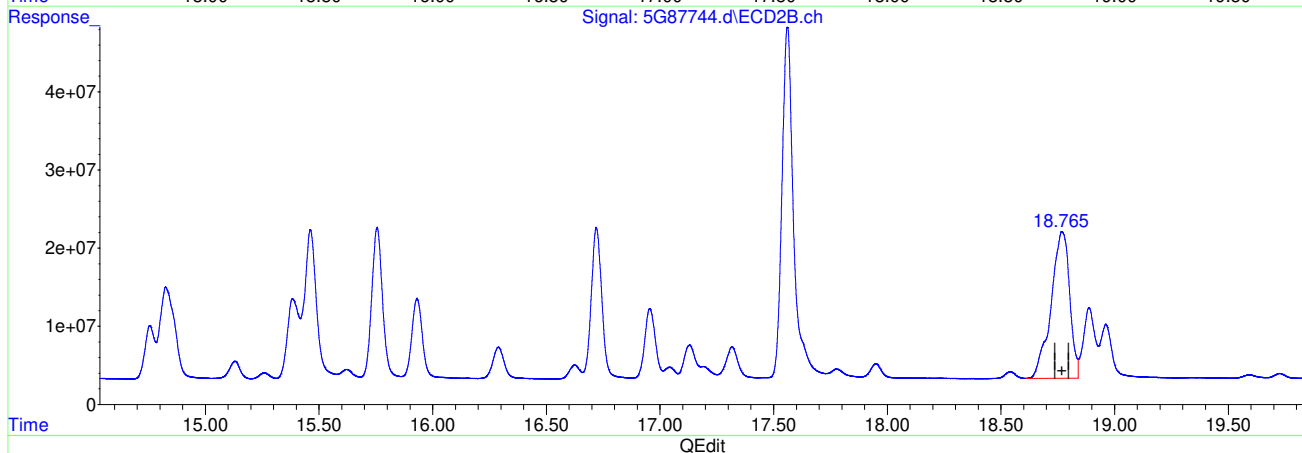
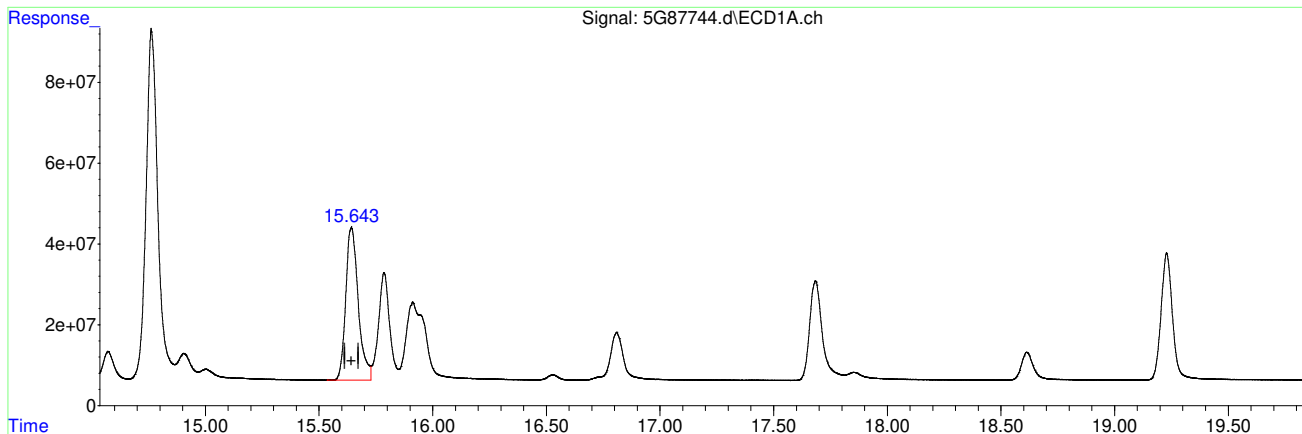
11.6.17.5  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87744.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm  
 Operator : summerk  
 Sample : cc2101-1000  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 16:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 16:14:33 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.642min 377.909 PPB  
 response 1448557197

(50) AR1260-E #2  
 18.768min 611.338 PPB  
 response 1068251929

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 16:15:13 2019

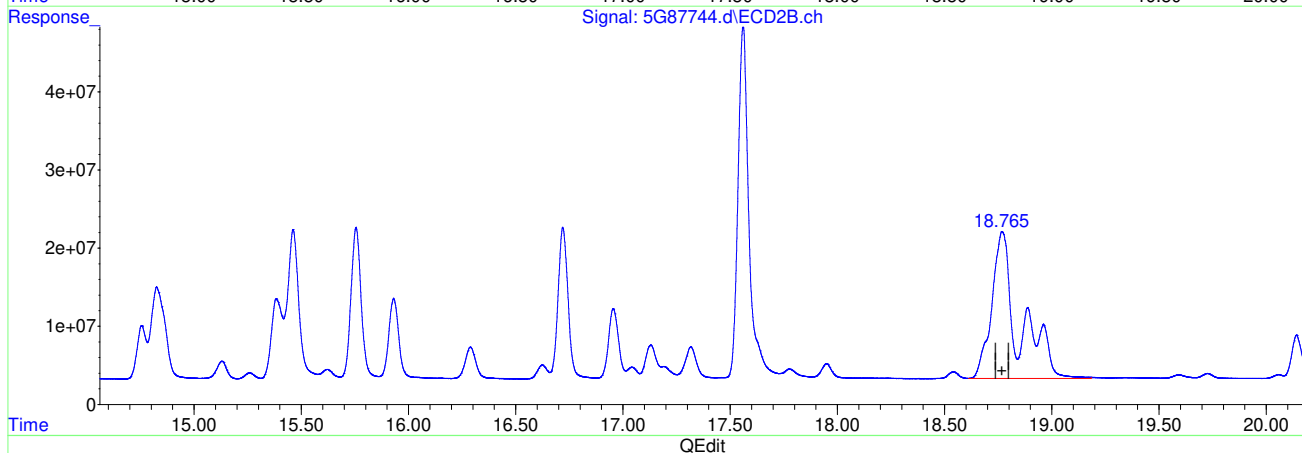
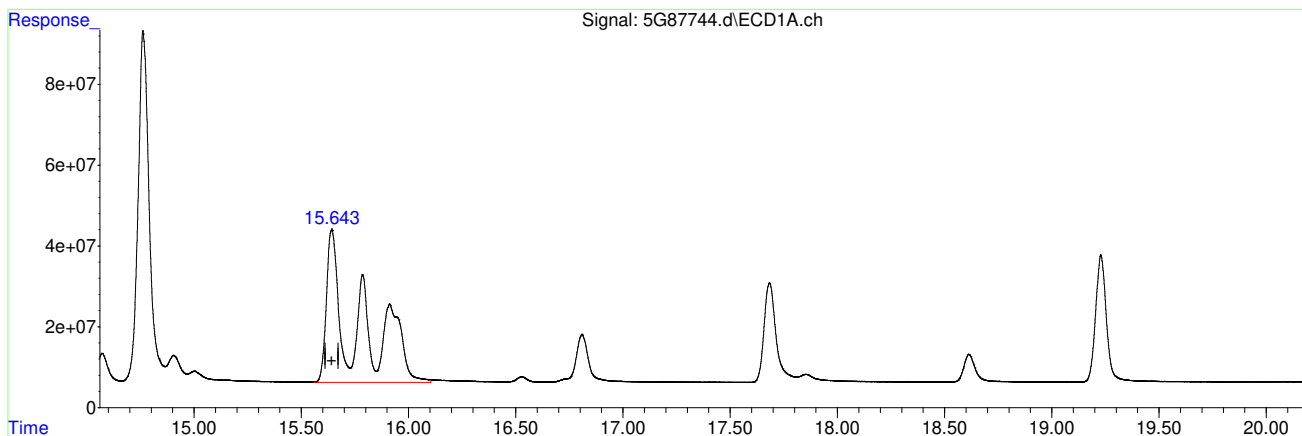
11.6.17.6  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\G5G2111\  
 Data File : 5G87744.d  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 19 Apr 2019 3:43 pm  
 Operator : summerk  
 Sample : cc2101-1000  
 Misc : op19829,g5g2111,15.0,,,10,1  
 ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 19 16:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\5PCB2101.M  
 Quant Title :  
 QLast Update : Fri Apr 19 16:14:33 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 1ul  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30mx.32mmx.50um Signal #2 Info : 30mx.32mmx.25um



(50) AR1260-E  
 15.643min 920.342 PPB m  
 response 3527746665

(50) AR1260-E #2  
 18.765min 942.953 PPB m  
 response 1647715642

(+) = Expected Retention Time  
 5PCB2101.M Fri Apr 19 16:15:26 2019

11.6.17.7  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:17:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.955	2.172	217.4E6	262.7E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.557	2.990	2779676	5019552	0.912m	1.038m
Spiked Amount	40.000	Range 30 - 150	Recovery =		2.28%#	2.60%#
26) SA Decachlor...	9.985	11.979	6414277	4522160	1.174	1.407
Spiked Amount	40.000		Recovery =		2.93%	3.52%
Target Compounds						
3) hexachlor...	2.893	3.501	6681254	5475382	0.939	1.069
4) A alpha-BHC	3.037	3.658	4819964	6040906	0.909	0.989
5) MA gamma-BHC	3.336	4.089	4918130	5764720	0.970	1.030
6) MA Heptachlor	3.841	4.672	4925193	6160749	0.909	1.104
7) B beta-BHC	3.409	4.173	2726689	2935876	1.245m	1.097m
8) B delta-BHC	3.599	4.575	3994286	5132282	0.931	1.113
9) MB Aldrin	4.180	5.127	4398559	5474427	0.866	1.084 #
10)alachlor	4.327	4.934	517503	784231	0.867m	1.059m
11) B Heptachlo...	4.906	5.956	6837492	5219849	1.485	1.096 #
12) B gamma-Chl...	5.071	6.243	4461535	5649216	0.948m	1.203 #
13) B alpha-Chl...	5.244	6.470	3398565	5178797	0.725	1.182 #
14) A Endosulfan I	5.426	6.566	4113568	4708577	0.912	1.123
15) B 4,4'-DDE	5.357	6.736	4275045	4585958	0.897	1.056
16) MA Dieldrin	5.752	7.003	4186672	5223456	0.900	1.150 #
17) MA Endrin	6.081	7.509	3970721	4777288	0.919	1.143
18) A 4,4'-DDD	6.202	7.690	3184087	4007034	0.944m	1.135
19) B Endosulfa...	6.402	7.860	5223349	6098486	1.147	1.416
20) MA 4,4'-DDT	6.628	8.224	3193940	3764343	0.939m	1.170
21) B Endrin Al...	7.041	8.433	3839551	3952932	1.035m	1.213
22) B Endosulfa...	7.731	8.906	3632597	4393155	1.123m	1.414 #
23) A Methoxychlor	7.412	9.472	2041585	2331294	0.904m	1.211m#
24) Mirex	7.575	9.804	3836986	4120308	1.048m	1.283
25) B Endrin Ke...	8.170	9.869	3981790	4616100	0.963	1.223 #
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

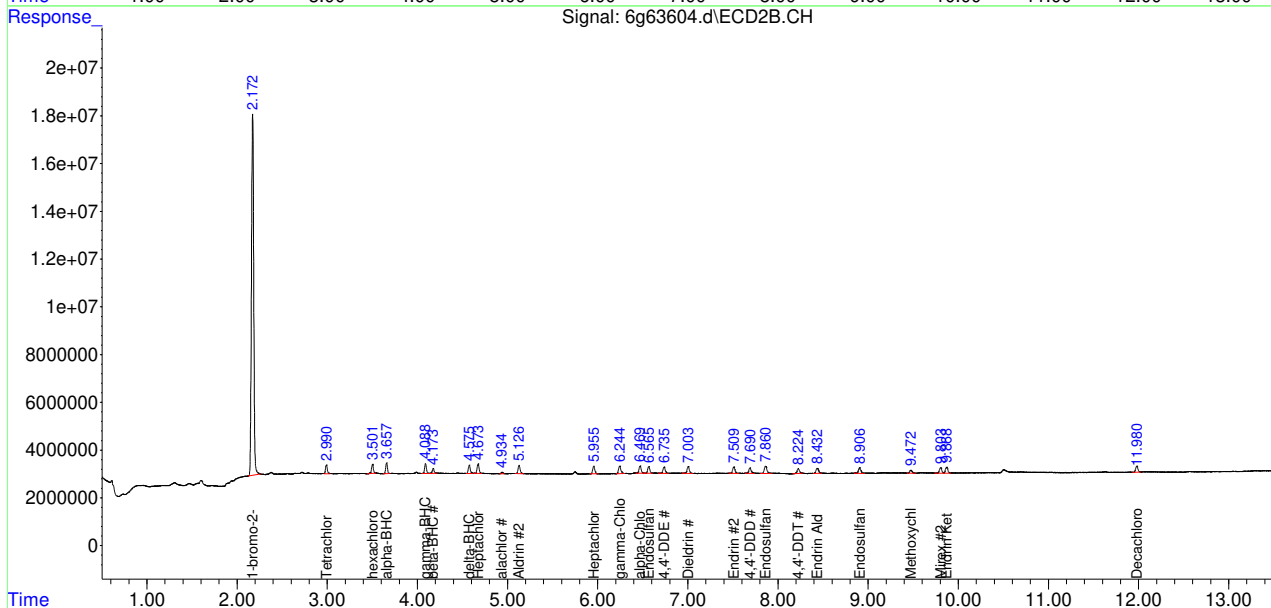
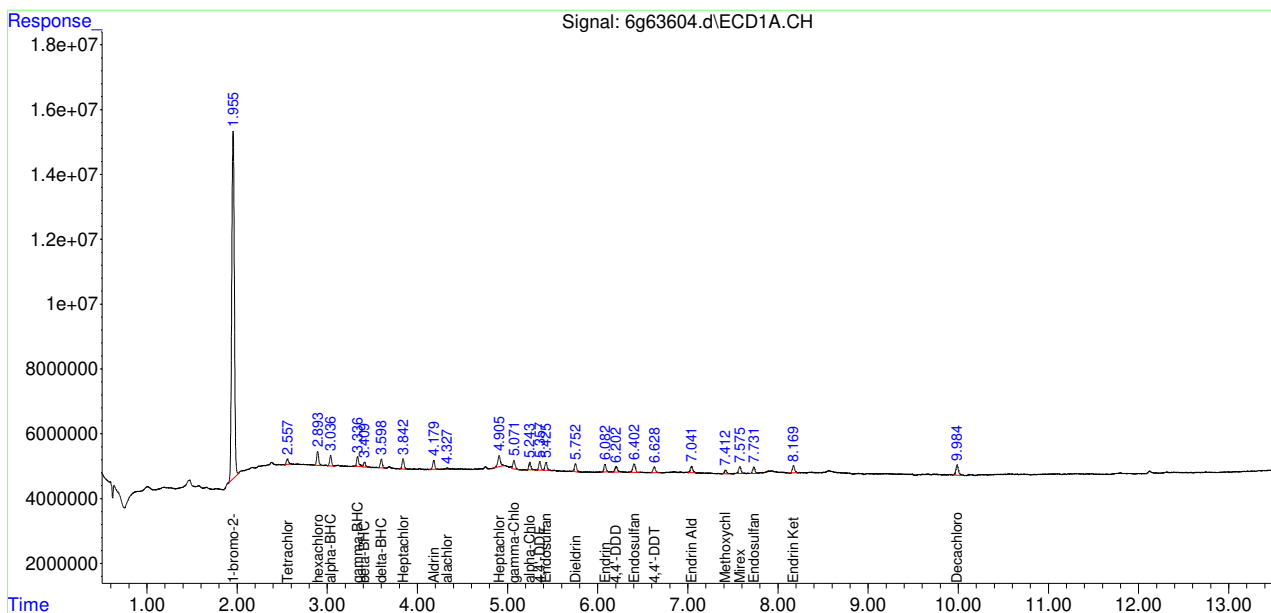
11.6.18  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:17:31 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.18  
11

# Manual Integration Approval Summary

**Sample Number:** G6G1951-IC1951      **Method:** SW846 8081B  
**Lab FileID:** 6G63604.D      **Analyst approved:** 03/13/19 16:29 Mailisi Heshuote  
**Injection Time:** 03/13/19 12:18      **Supervisor approved:** 03/14/19 14:58 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrachloro-m-xylene	877-09-8	1	2.56	Poorly defined baseline
Tetrachloro-m-xylene	877-09-8	2	2.99	Poorly defined baseline
beta-BHC	319-85-7	1	3.41	Poorly defined baseline
beta-BHC	319-85-7	2	4.17	Poorly defined baseline
Alachlor	15972-60-8	1	4.33	Poorly defined baseline
Alachlor	15972-60-8	2	4.93	Poorly defined baseline
gamma-Chlordane	5103-74-2	1	5.07	Poorly defined baseline
4,4'-DDD	72-54-8	1	6.20	Poorly defined baseline
4,4'-DDT	50-29-3	1	6.63	Poorly defined baseline
Endrin aldehyde	7421-93-4	1	7.04	Poorly defined baseline
Methoxychlor	72-43-5	1	7.41	Poorly defined baseline
Mirex	2385-85-5	1	7.57	Poorly defined baseline
Endosulfan sulfate	1031-07-8	1	7.73	Poorly defined baseline
Methoxychlor	72-43-5	2	9.47	Poorly defined baseline

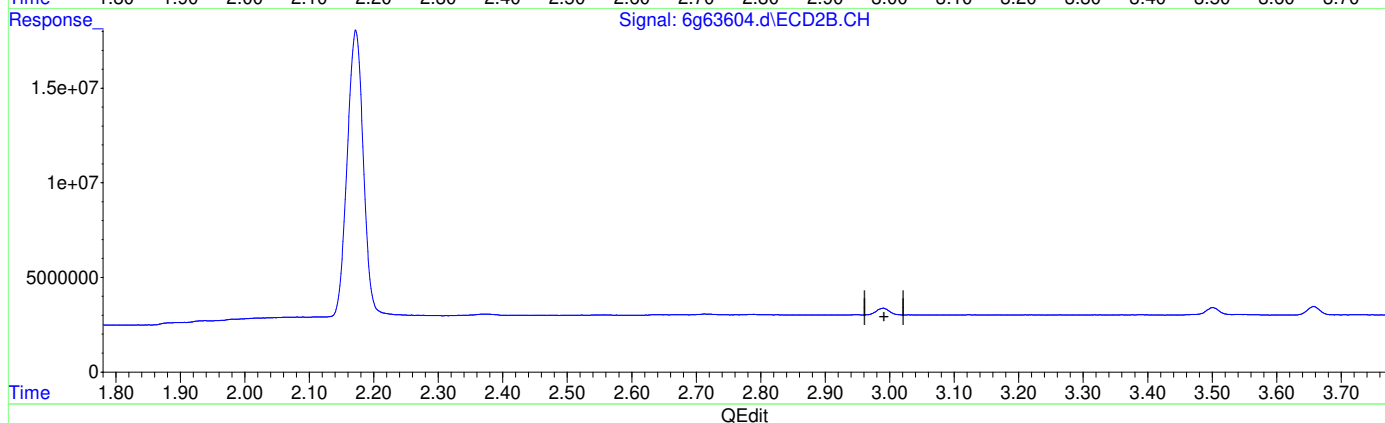
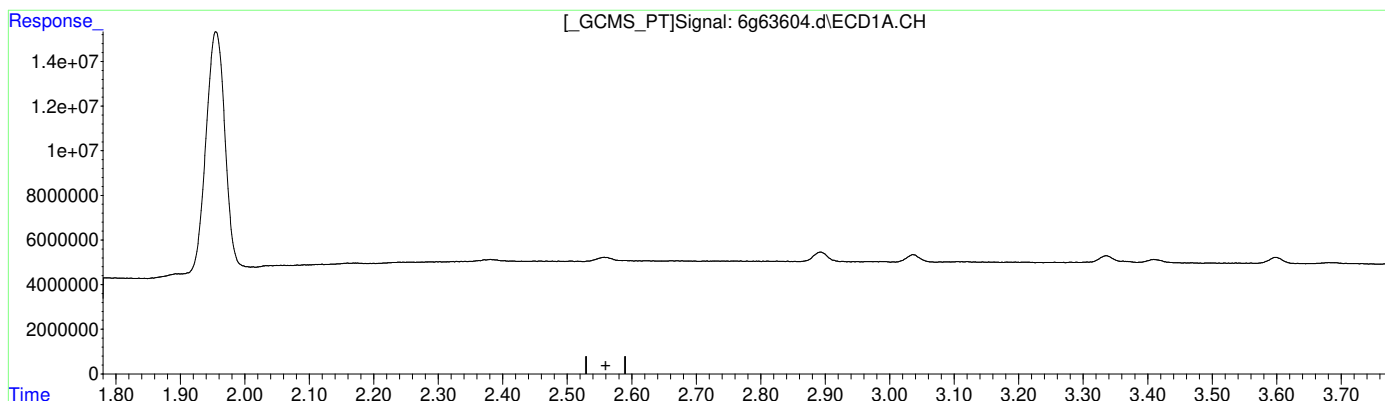
11.6.18.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(2) Tetrachloro-m-xylene (SAB)

0.000min 0.000 PPB

response 0

(2) Tetrachloro-m-xylene #2 (SAB)

0.000min 0.000 PPB

response 0

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:07:34 2019

11.6.18.2  
11

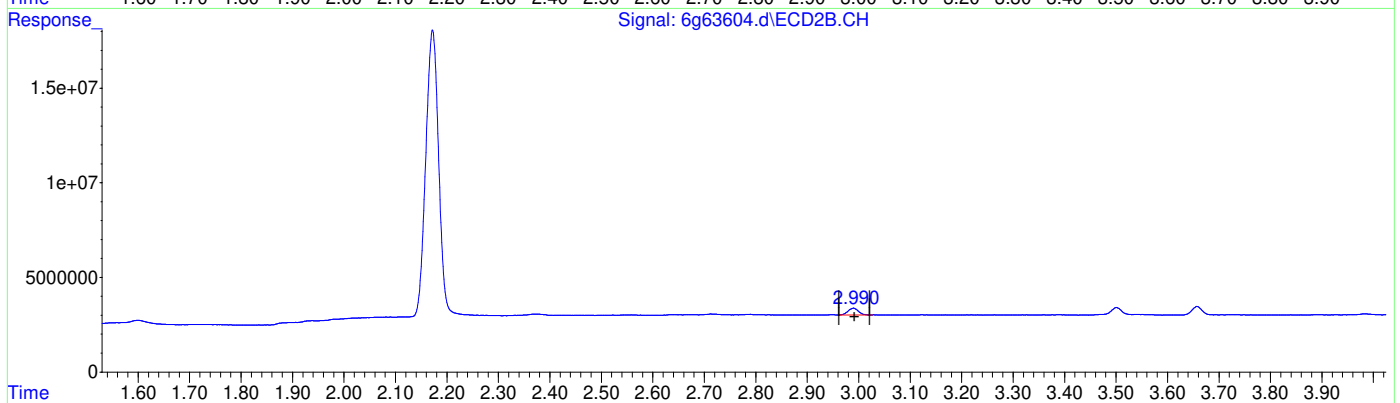
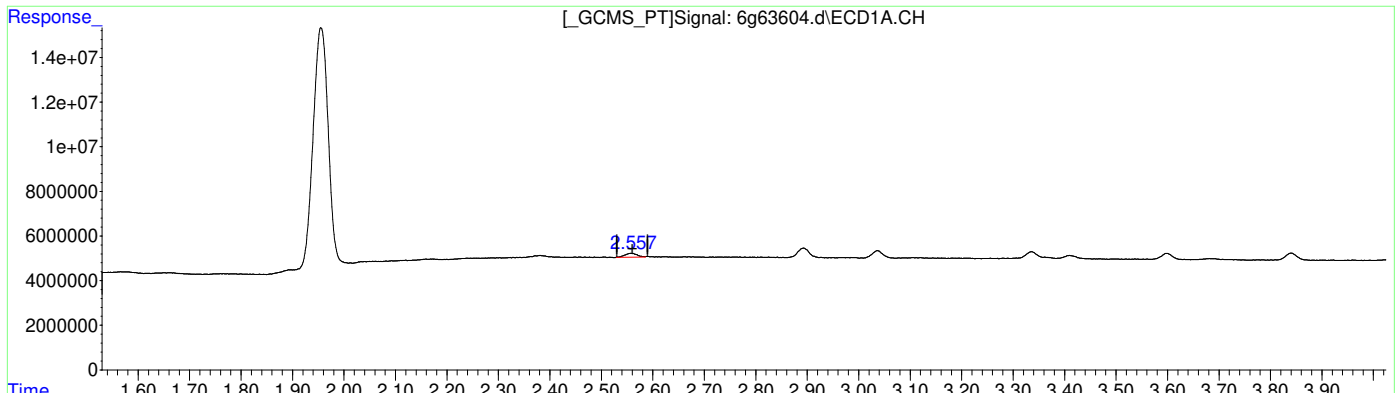


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(2) Tetrachloro-m-xylene (SAB)

2.557min 0.912 PPB m  
 response 2779676

(2) Tetrachloro-m-xylene #2 (SAB)

2.990min 1.038 PPB m  
 response 5019552

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:07:49 2019

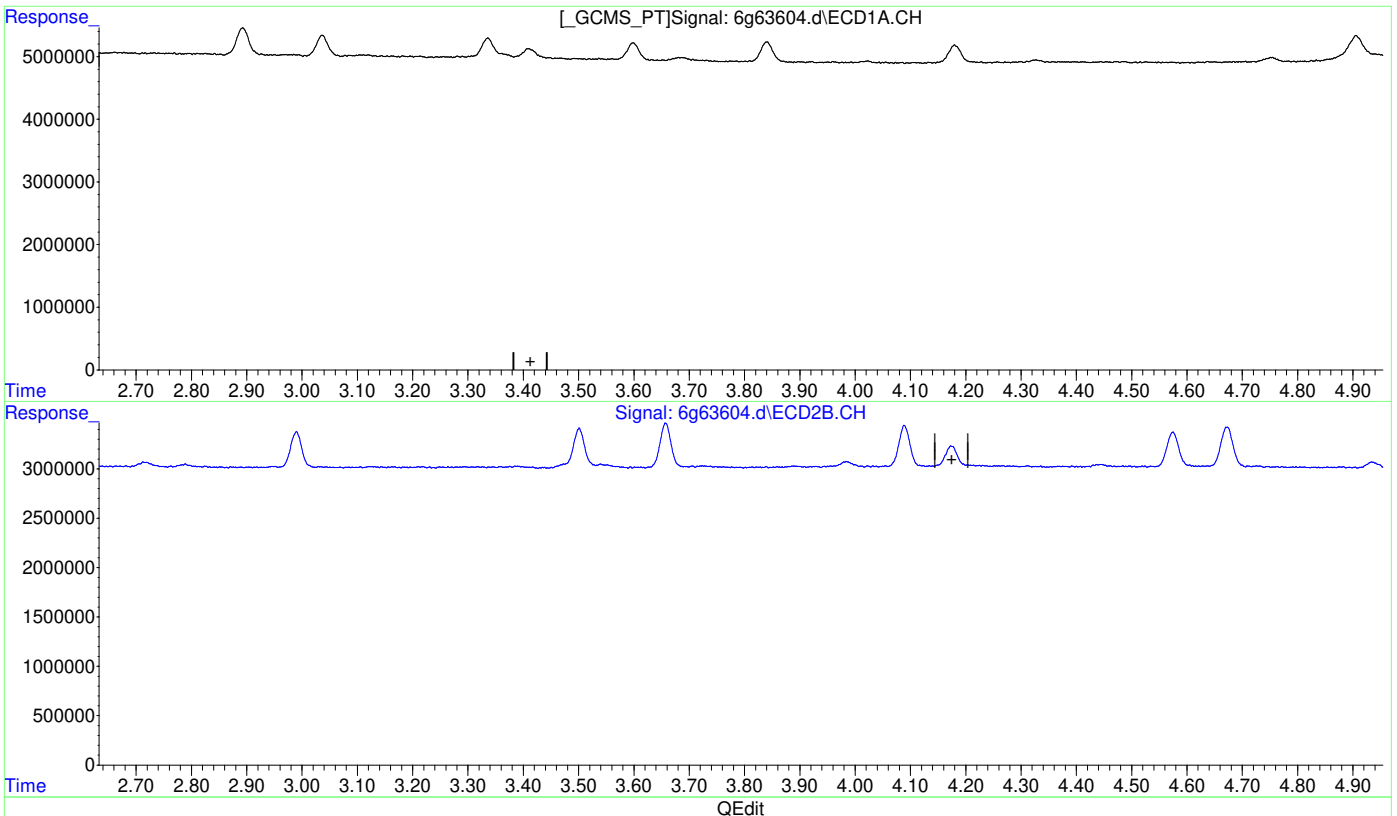
11.6.18.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.18.4  
11

(7) beta-BHC (B)  
 0.000min 0.000 PPB  
 response 0

(7) beta-BHC #2 (B)  
 0.000min 0.000 PPB  
 response 0

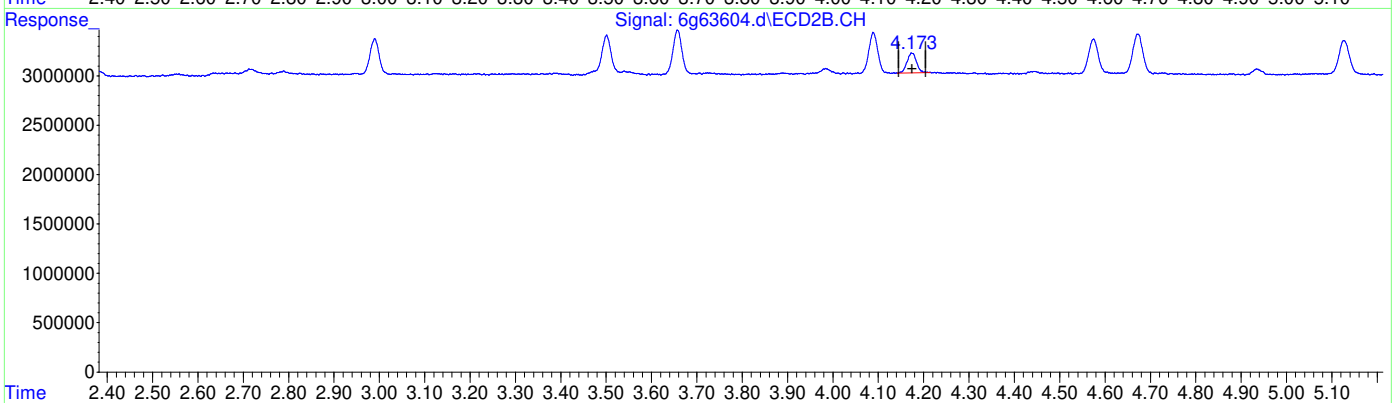
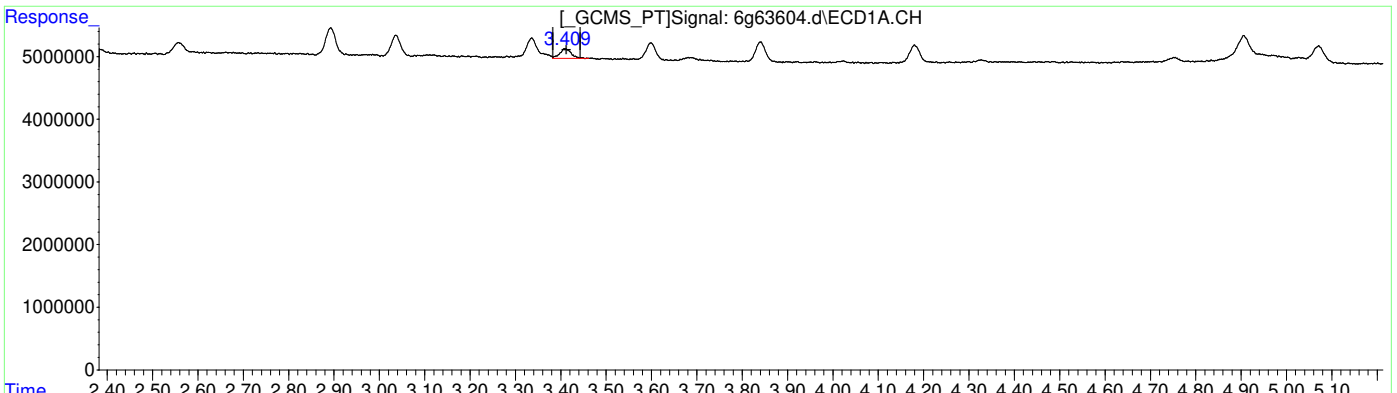
(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:07:57 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



QEdit

(7) beta-BHC (B)	3.409min	1.245 PPB m	response 2726689
(7) beta-BHC #2 (B)	4.173min	1.097 PPB m	response 2935876

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:08:23 2019

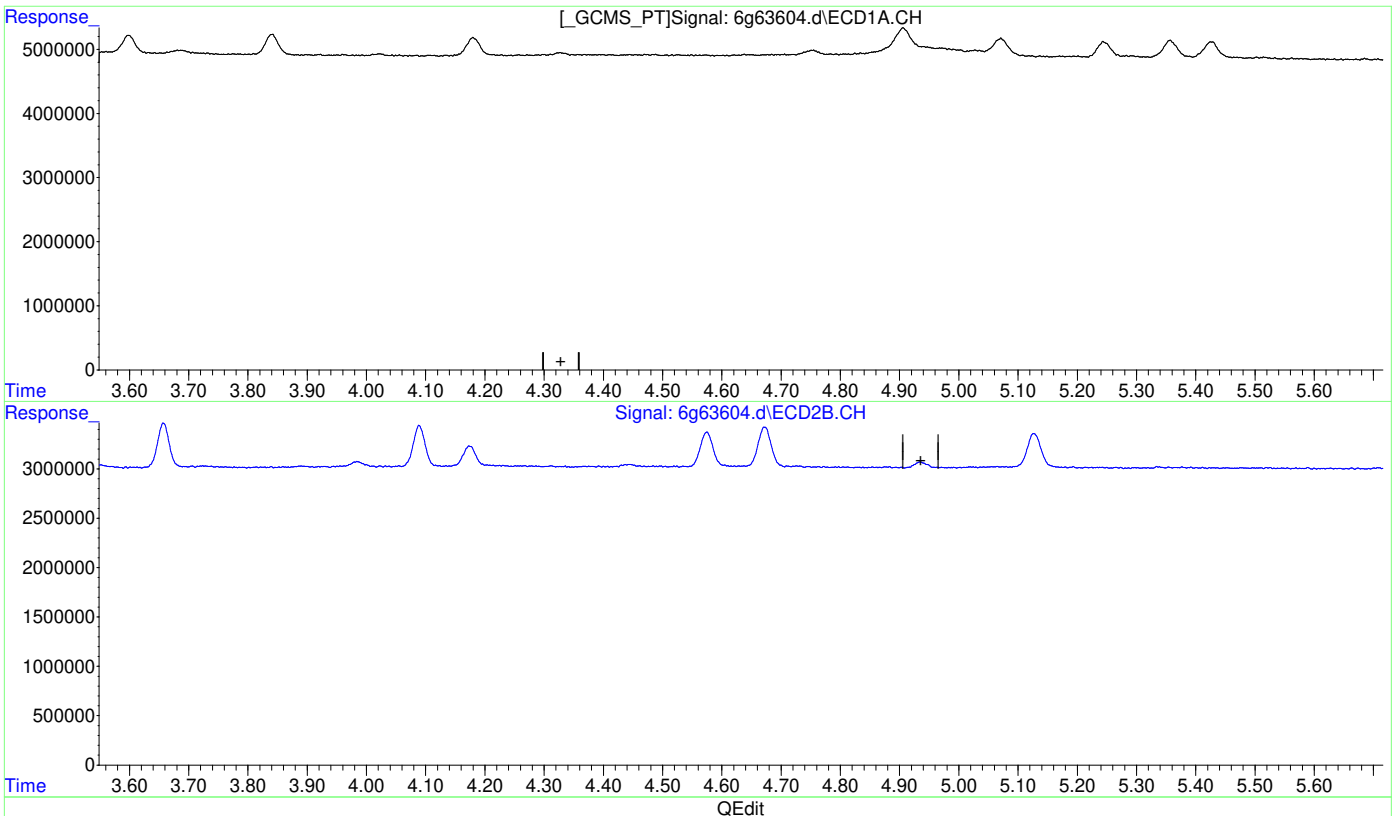
11.6.18.5  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.18.6  
11

(10)alachlor  
 0.000min 0.000 PPB  
 response 0  
  
 (10)alachlor #2  
 0.000min 0.000 PPB  
 response 0

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:08:37 2019

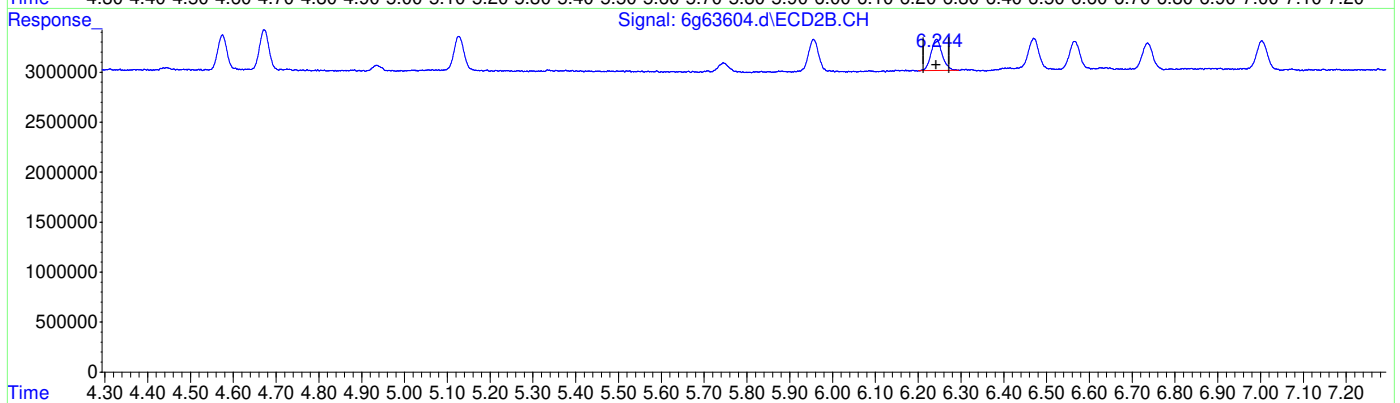
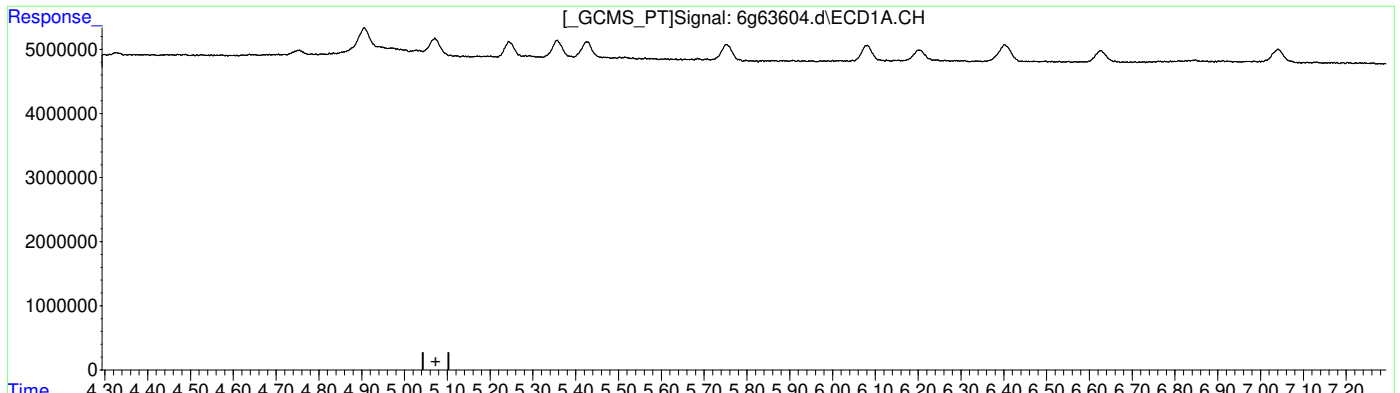


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



Retention Time (min)	Concentration (PPB)	Response
(12) gamma-Chlordane (B)	0.000min 0.000 PPB	response 0
(12) gamma-Chlordane #2 (B)	6.243min 1.203 PPB	response 5649216

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:09:04 2019

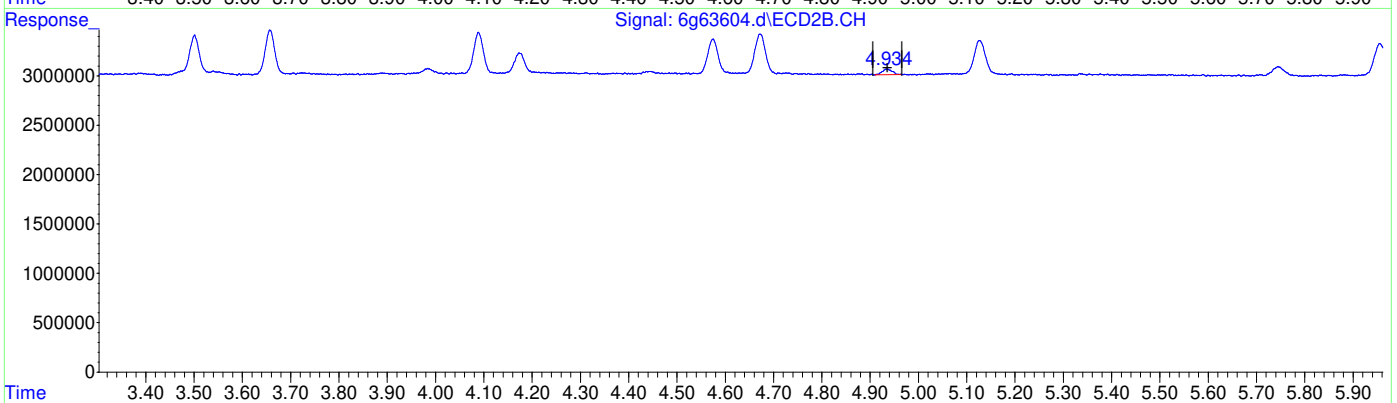
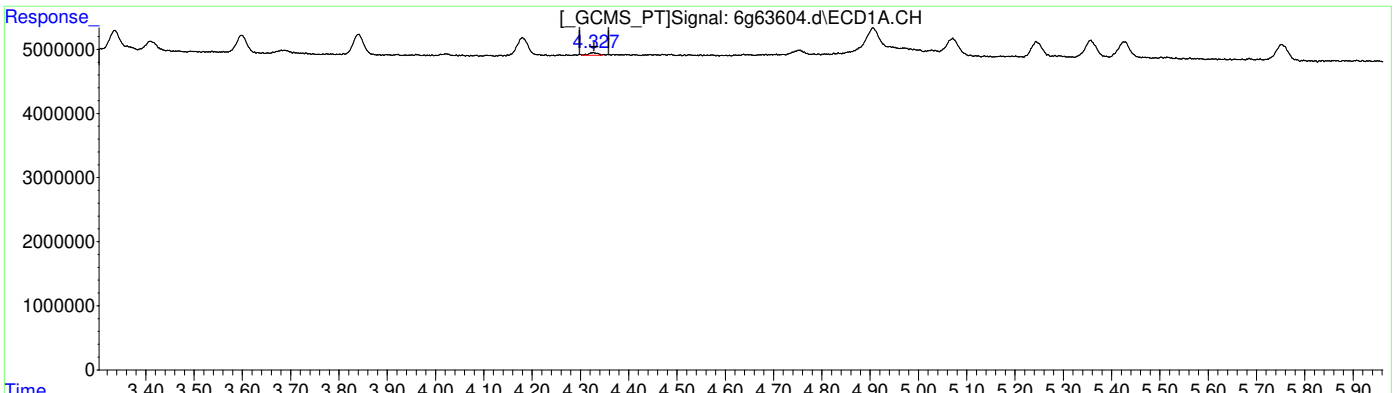
11.6.18.7  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



Retention Time (min)	Concentration (PPB m)	Response
(10) alachlor	4.327min 0.867 PPB m	517503
(10) alachlor #2	4.934min 1.059 PPB m	784231

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:09:22 2019

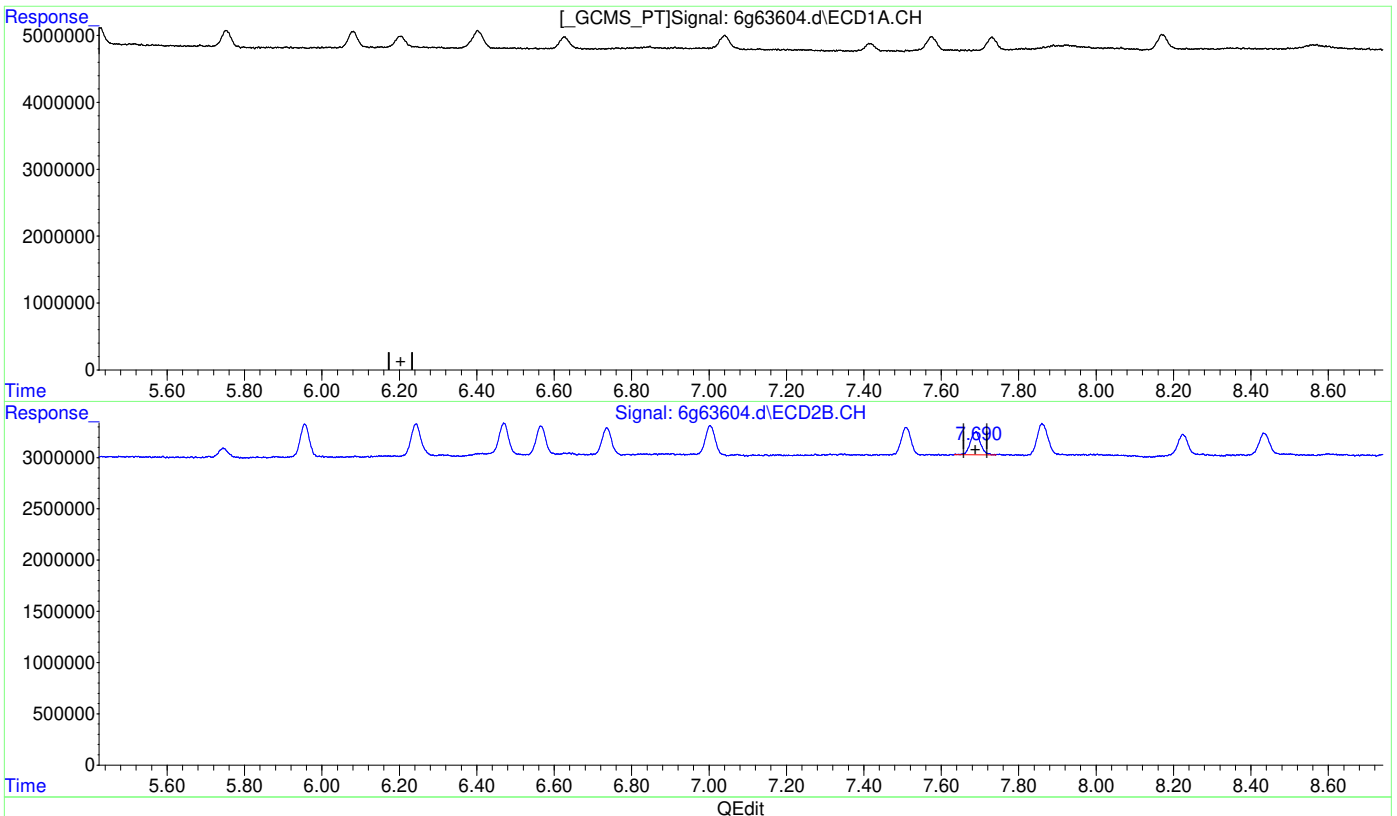
11.6.18.8  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(18) 4,4'-DDD (A)	0.000min	0.000 PPB
response	0	
(18) 4,4'-DDD #2 (A)	7.690min	1.135 PPB
response	4007034	

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:09:32 2019

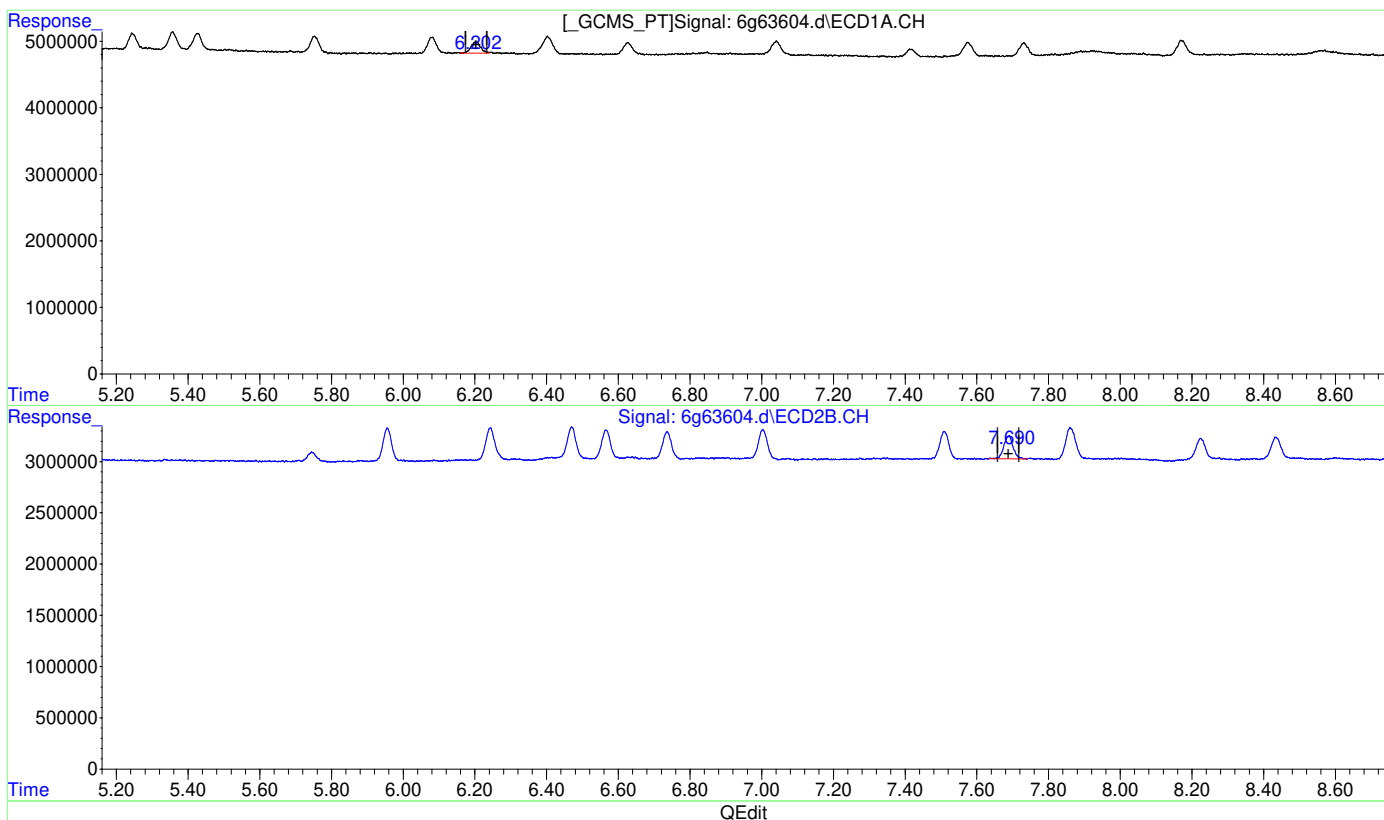
11.6.18.9  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(18) 4,4'-DDD (A)	
6.202min	0.944 PPB m
response	3184087
(18) 4,4'-DDD #2 (A)	
7.690min	1.135 PPB
response	4007034

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:09:41 2019

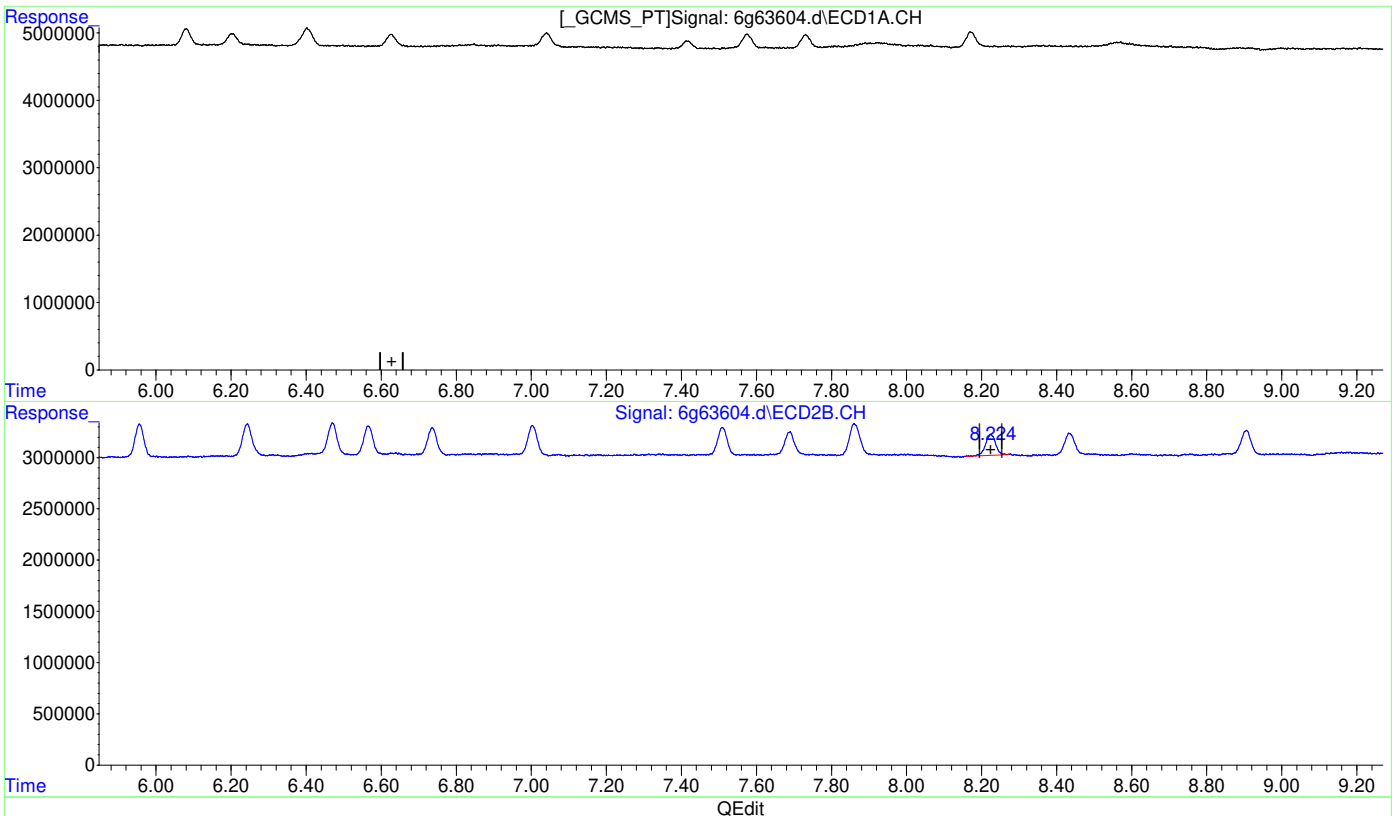


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(20) 4,4'-DDT (MA)  
 0.000min 0.000 PPB  
 response 0

(20) 4,4'-DDT #2 (MA)  
 8.224min 1.170 PPB  
 response 3764343

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:09:45 2019

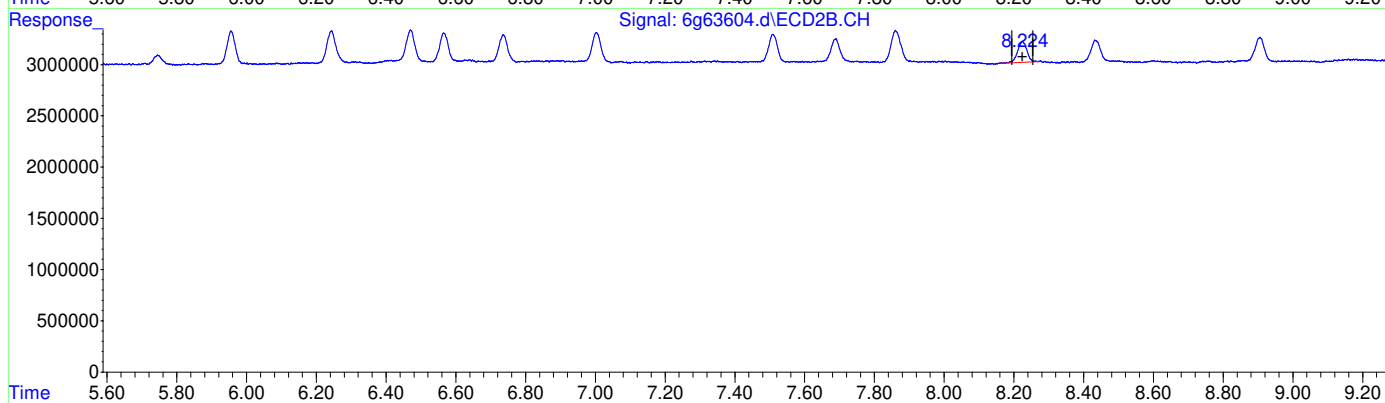
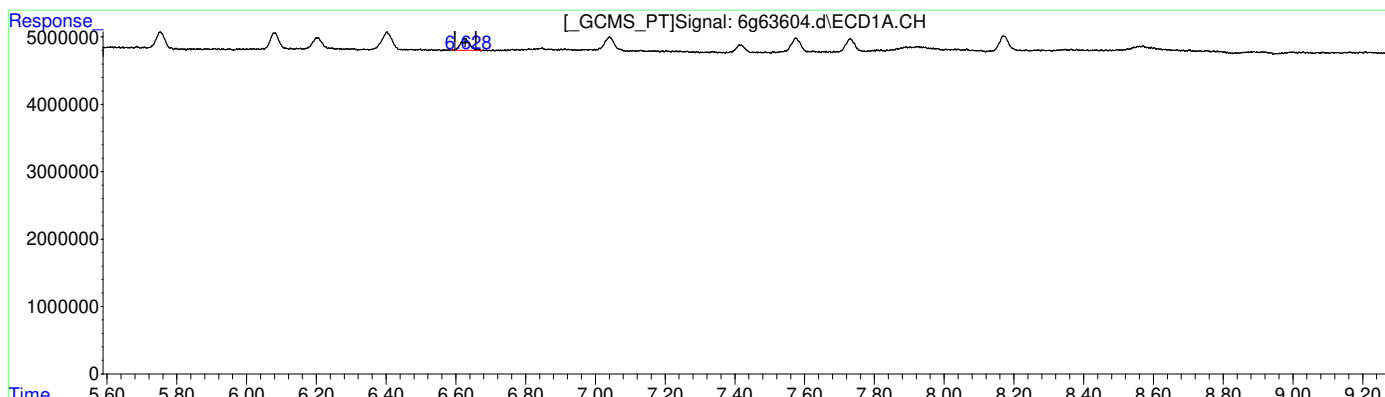
11.6.18.11  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(20) 4,4'-DDT (MA)  
 6.628min 0.939 PPB m  
 response 3193940

(20) 4,4'-DDT #2 (MA)  
 8.224min 1.170 PPB  
 response 3764343

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:09:56 2019

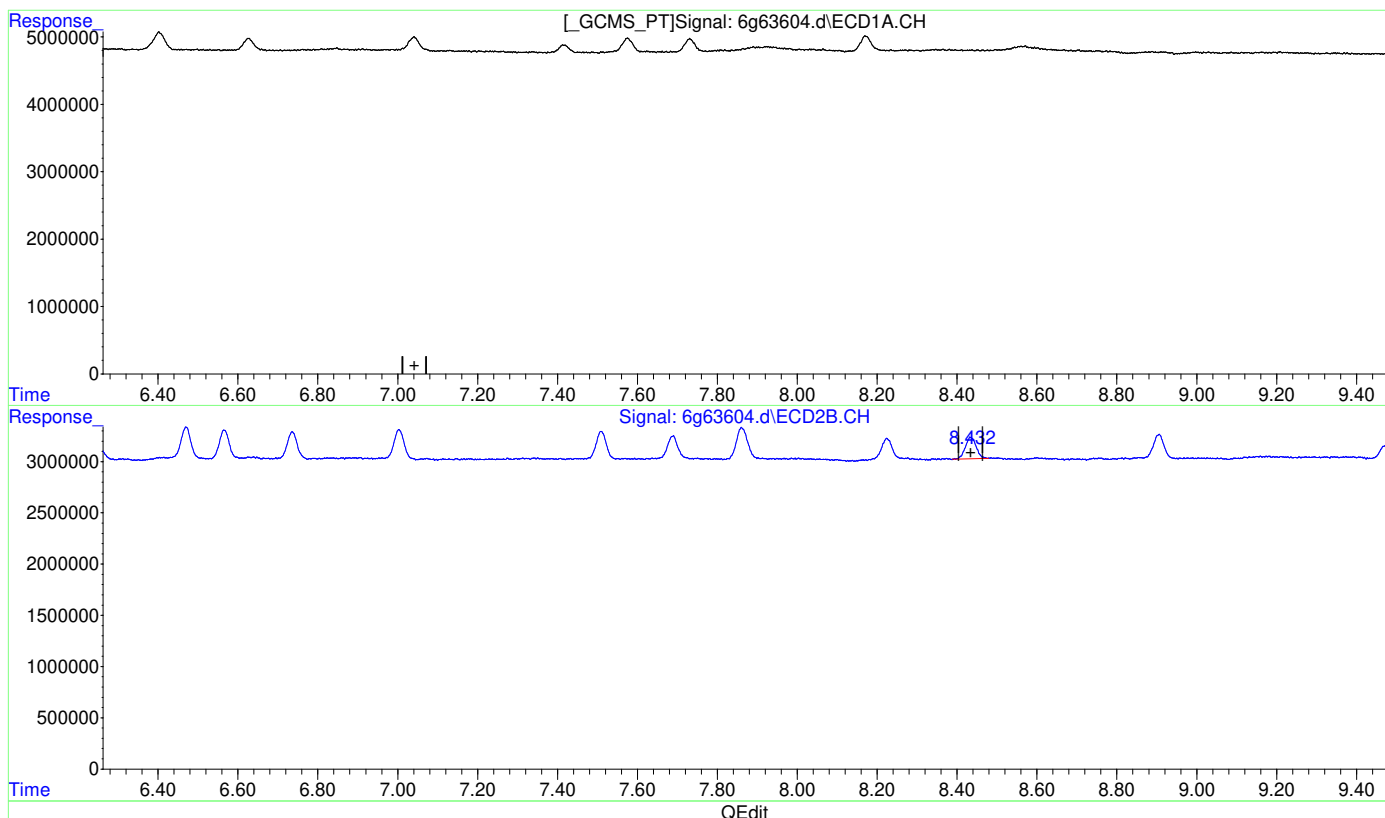
11.6.18.12  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)

0.000min 0.000 PPB

response 0

(21) Endrin Aldehyde #2 (B)

8.433min 1.213 PPB

response 3952932

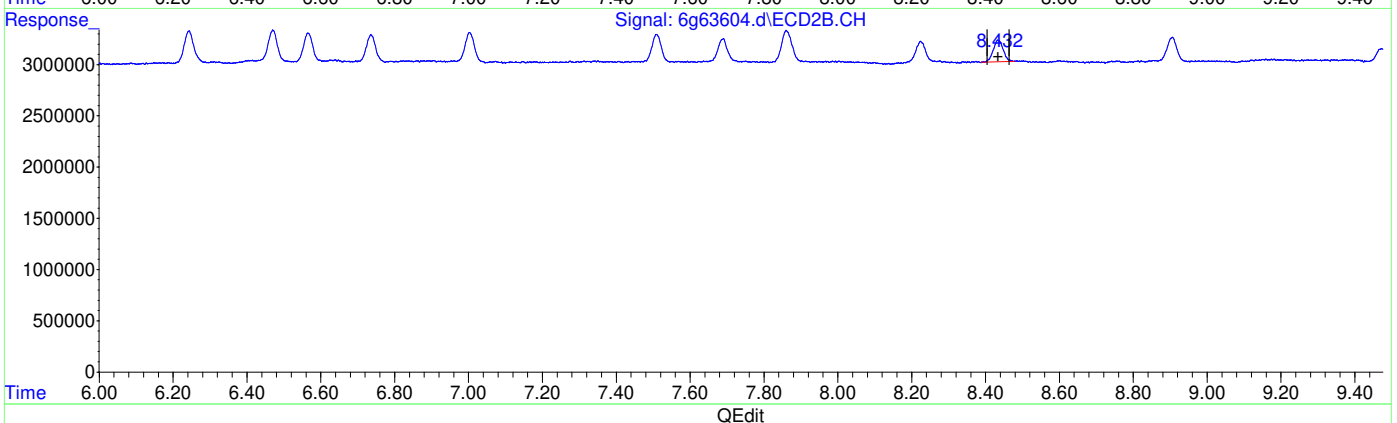
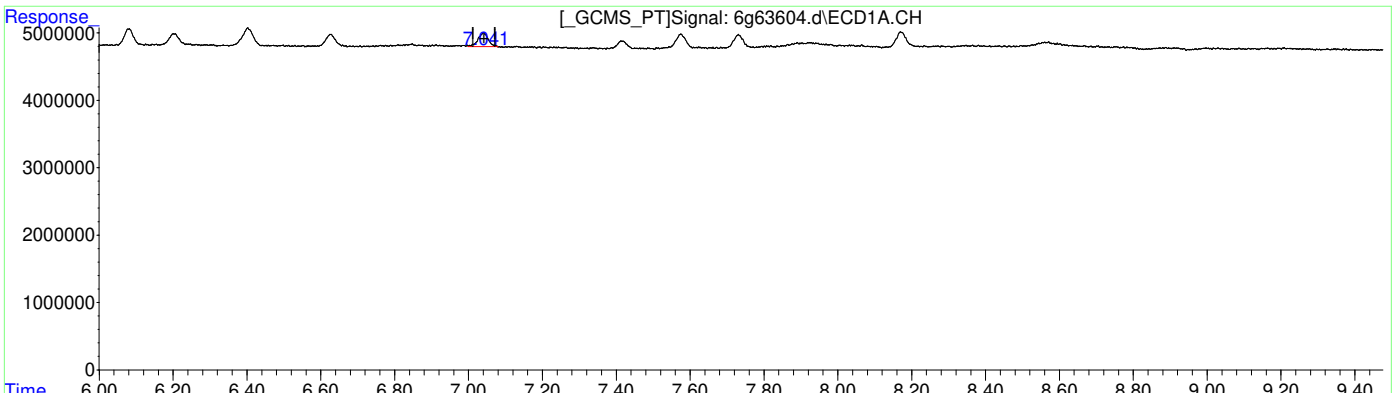
(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:09:59 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(21) Endrin Aldehyde (B)	7.041min	1.035 PPB m	response 3839551
(21) Endrin Aldehyde #2 (B)	8.433min	1.213 PPB	response 3952932

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:10:12 2019

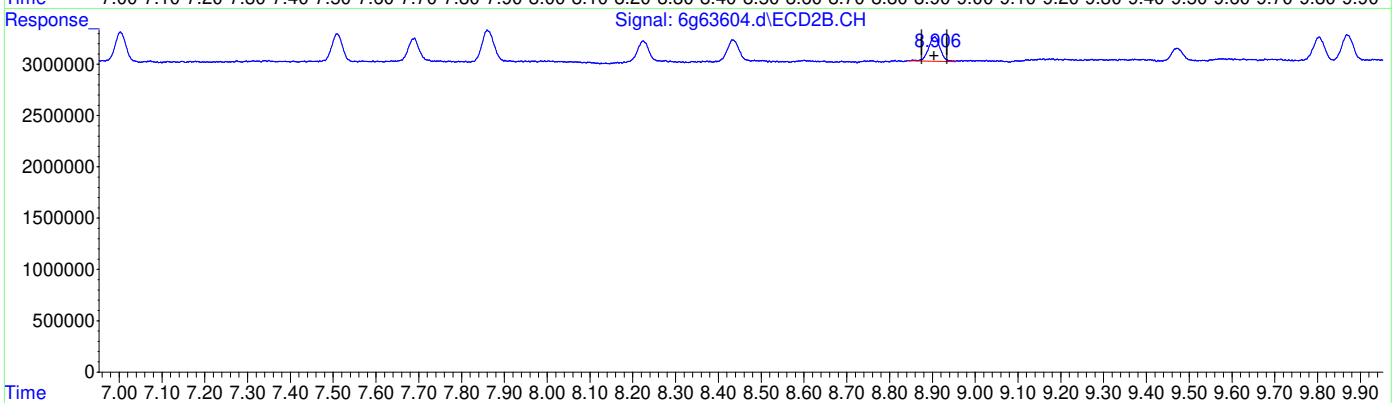
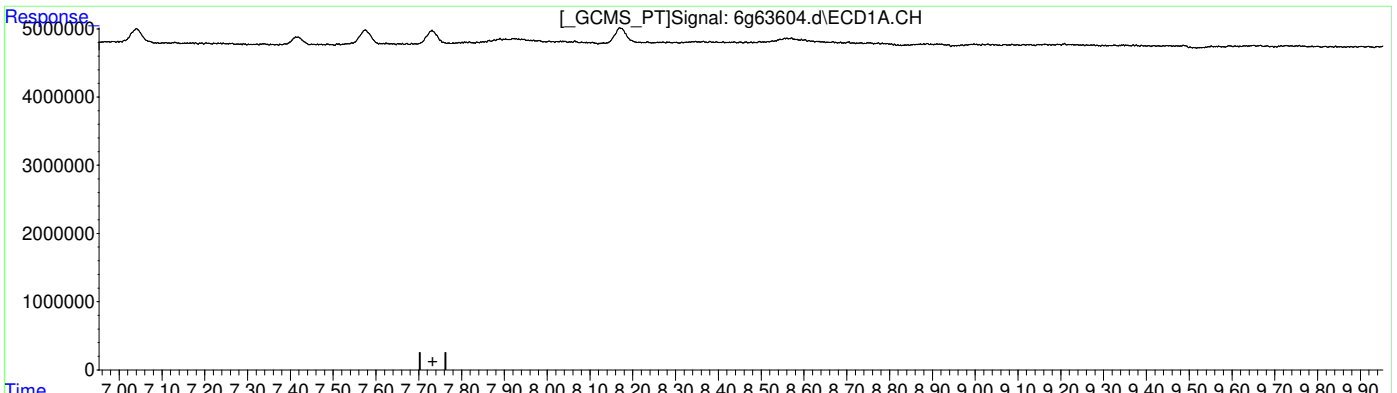
11.6.18.14 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



Retention Time (min)	Concentration (PPB)	Response
(22) Endosulfan Sulfate (B)	0.000min 0.000 PPB	response 0
(22) Endosulfan Sulfate #2 (B)	8.906min 1.414 PPB	response 4393155

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:10:15 2019



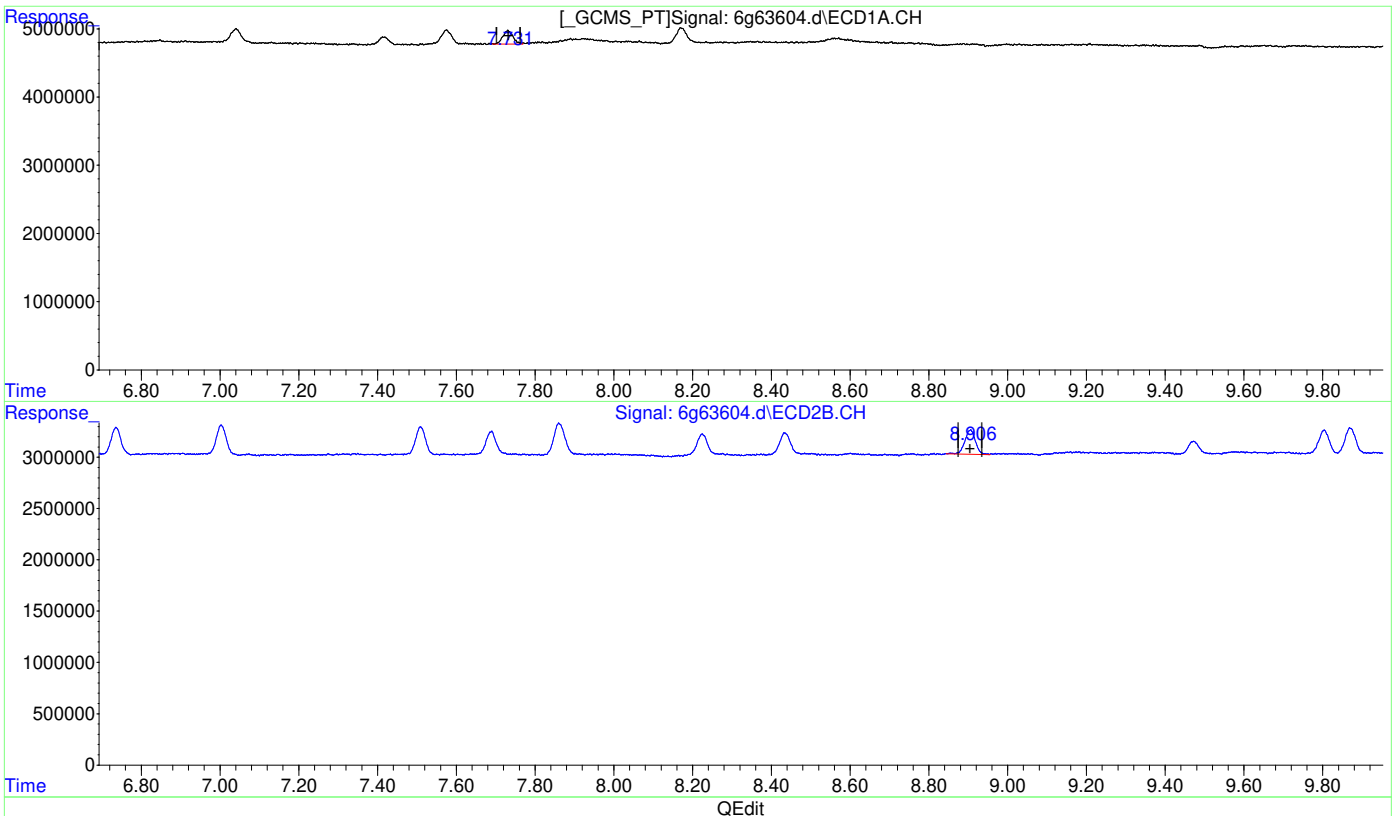
11.6.18.15  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(22) Endosulfan Sulfate (B)

7.731min 1.123 PPB m

response 3632597

(22) Endosulfan Sulfate #2 (B)

8.906min 1.414 PPB

response 4393155

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:10:25 2019

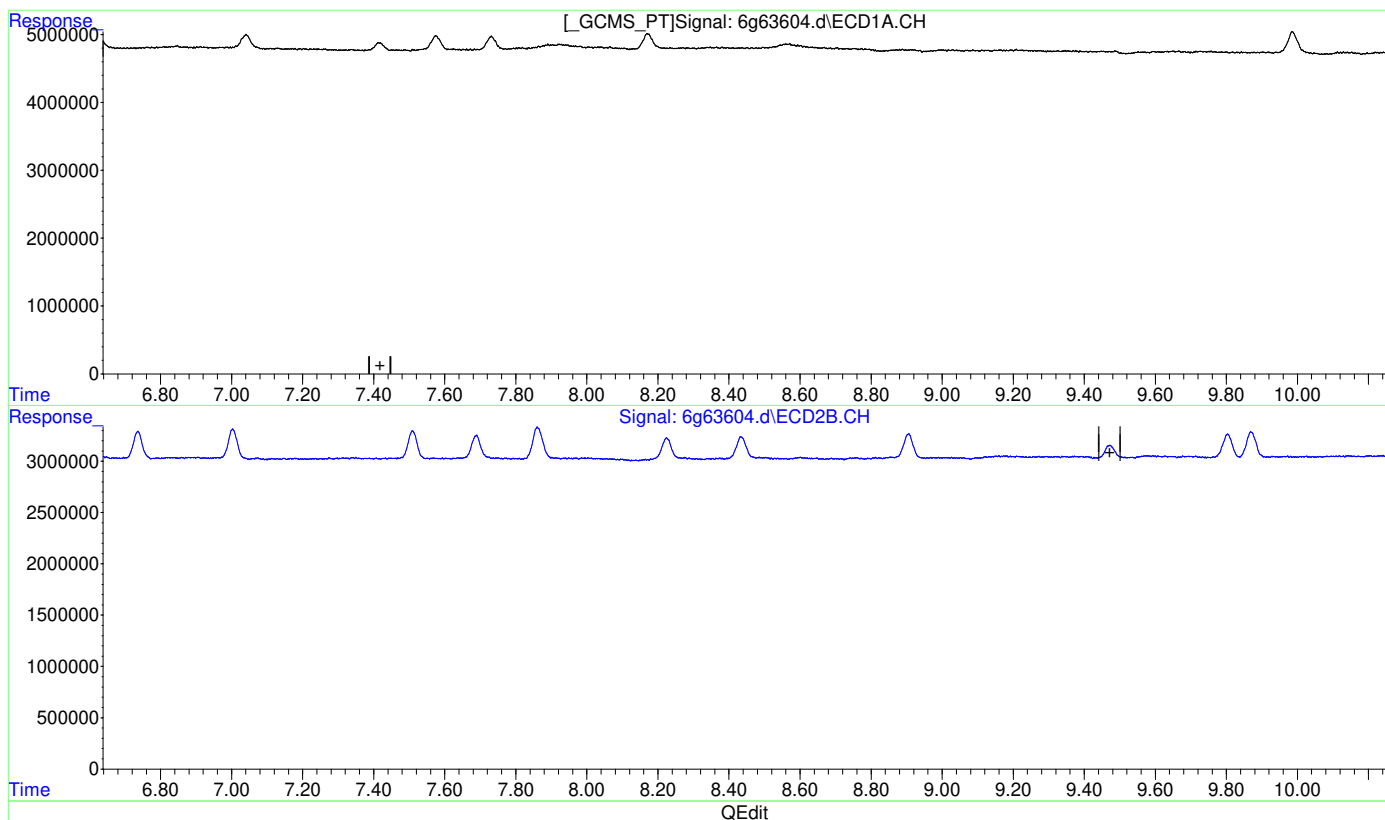
11.6.18.16  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(23) Methoxychlor (A)

0.000min 0.000 PPB

response 0

(23) Methoxychlor #2 (A)

0.000min 0.000 PPB

response 0

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:10:28 2019

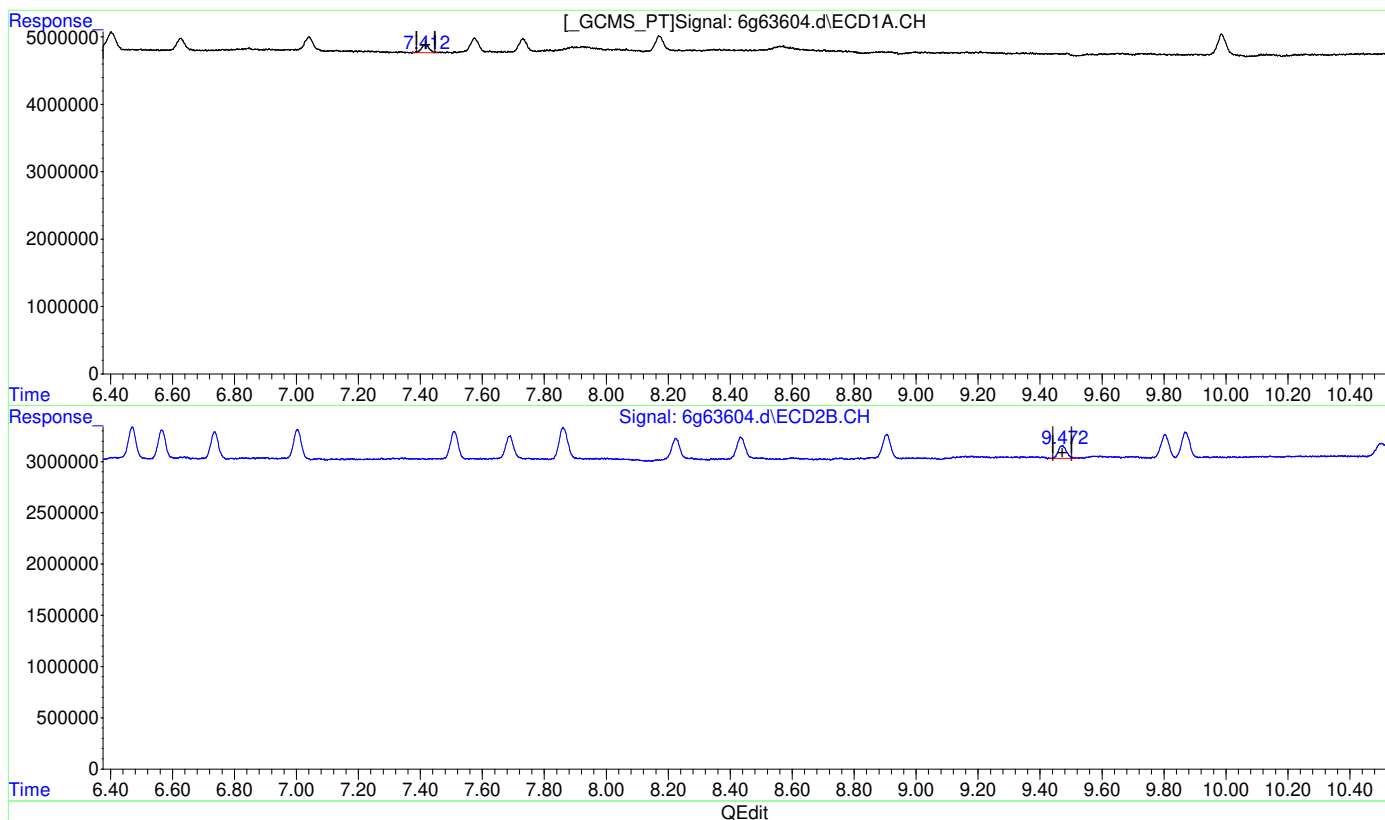
11.6.18.17  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(23) Methoxychlor (A)  
 7.412min 0.904 PPB m  
 response 2041585

(23) Methoxychlor #2 (A)  
 9.472min 1.211 PPB m  
 response 2331294

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:10:41 2019

11.6.18.18  
 11

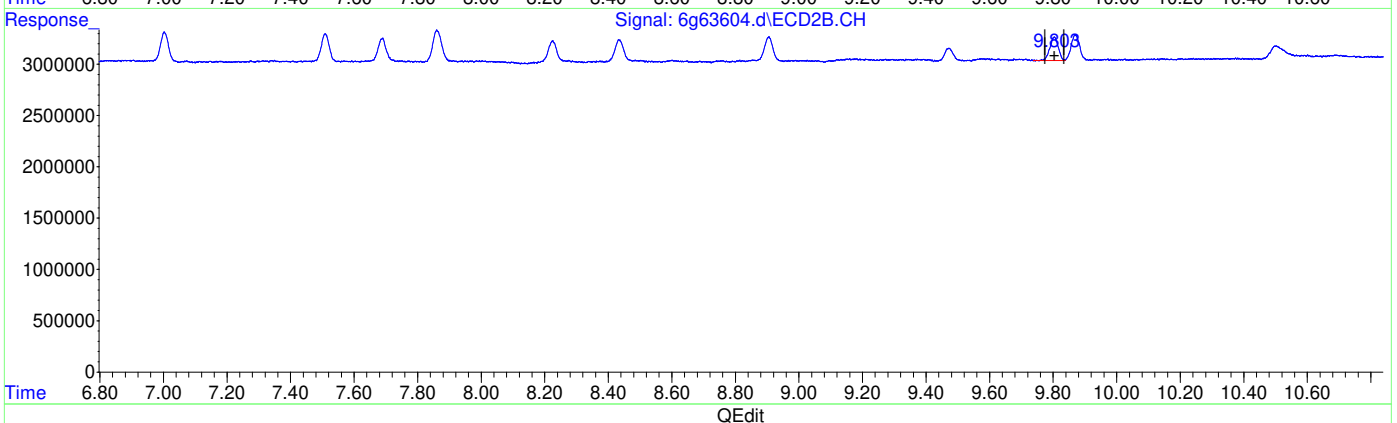
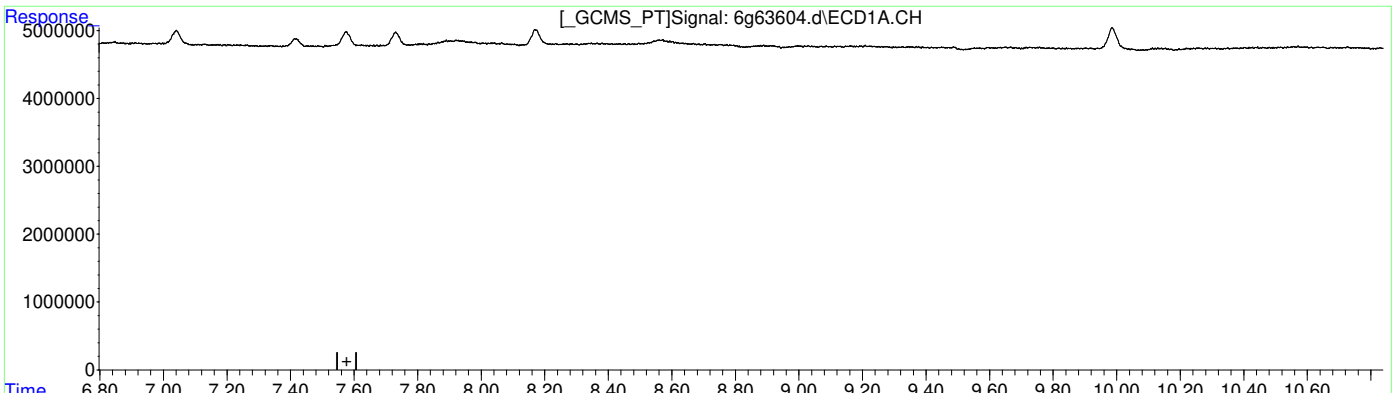


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



Retention Time (min)	Response
(24) Mirex	0.000min 0.000 PPB
	response 0
(24) Mirex #2	9.804min 1.283 PPB
	response 4120308

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:10:44 2019

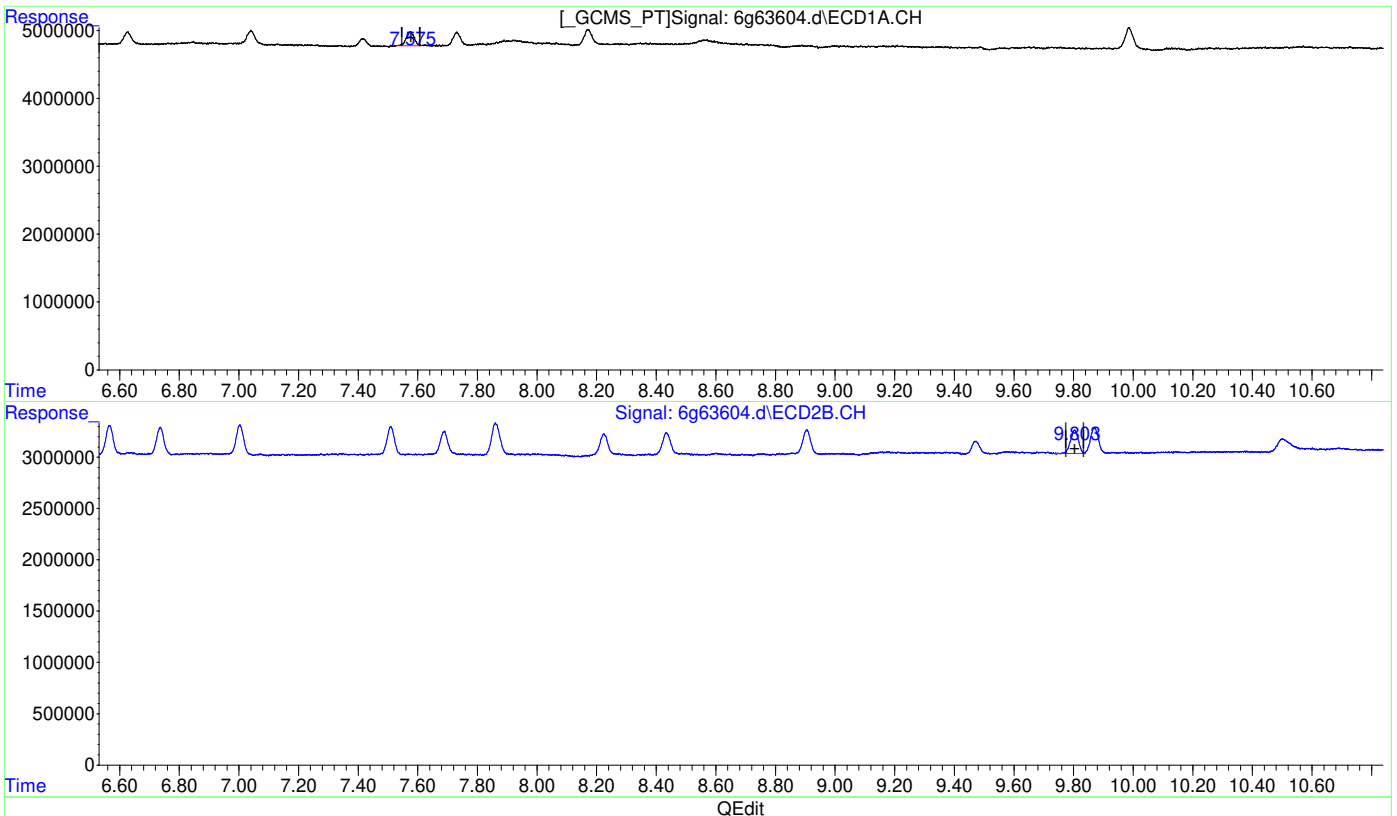
11.6.18.19  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63604.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:18:43  
 Operator : mailisih  
 Sample : ic1951-1  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:07:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.18.20  
11

(24) Mirex	
7.575min	1.048 PPB m
response	3836986
(24) Mirex #2	
9.804min	1.283 PPB
response	4120308

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:10:53 2019

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63605.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:36:30  
 Operator : mailisih  
 Sample : ic1951-2  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:17:42 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards							
1)	I 1-bromo-2...	1.958	2.174	228.2E6	275.6E6	50.000	50.000
System Monitoring Compounds							
2)	SAB Tetrachlo...	2.557	2.991	6195448	9895764	1.935m	1.951
	Spiked Amount	40.000	Range 30 - 150	Recovery =		4.84%#	4.88%#
26)	SA Decachlor...	9.989	11.980	11352158	8457251	1.980	2.508 #
	Spiked Amount	40.000		Recovery =		4.95%	6.27%
Target Compounds							
3)	hexachlor...	2.895	3.502	13778783	10858776	1.845	2.020
4)	A alpha-BHC	3.038	3.658	9441639	12239025	1.696	1.911
5)	MA gamma-BHC	3.337	4.090	9483356	11265981	1.781	1.919
6)	MA Heptachlor	3.841	4.673	9646722	12308296	1.696	2.103
7)	B beta-BHC	3.412	4.174	4355000	5663030	1.895	2.016
8)	B delta-BHC	3.600	4.575	8087416	10276464	1.796	2.124
9)	MB Aldrin	4.182	5.128	8866058	10841204	1.663	2.045
10)	alachlor	4.327	4.937	1295972	1664010	2.068m	2.143m
11)	B Heptachlo...	4.907	5.956	10239450	10591799	2.118	2.120
12)	B gamma-Chl...	5.073	6.243	8410004	10969237	1.701	2.226 #
13)	B alpha-Chl...	5.246	6.471	7821984	10324542	1.589	2.245 #
14)	A Endosulfan I	5.427	6.567	8201347	9635984	1.732	2.190 #
15)	B 4,4'-DDE	5.359	6.736	8525514	8945821	1.703	1.963
16)	MA Dieldrin	5.755	7.005	8176704	9666835	1.674	2.029
17)	MA Endrin	6.082	7.510	8048027	9170394	1.773	2.091
18)	A 4,4'-DDD	6.204	7.690	5839454	7710220	1.649	2.082 #
19)	B Endosulfa...	6.407	7.862	9095248	10478611	1.903	2.319
20)	MA 4,4'-DDT	6.628	8.226	6600848	7759880	1.849	2.299
21)	B Endrin Al...	7.042	8.436	7028819	7373442	1.805	2.156
22)	B Endosulfa...	7.732	8.906	7255000	8068579	2.137	2.475
23)	A Methoxychlor	7.419	9.475	4184716	4481141	1.764	2.219 #
24)	Mirex	7.576	9.806	8054901	7657082	2.095	2.273
25)	B Endrin Ke...	8.174	9.872	8030226	8944133	1.849	2.259
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

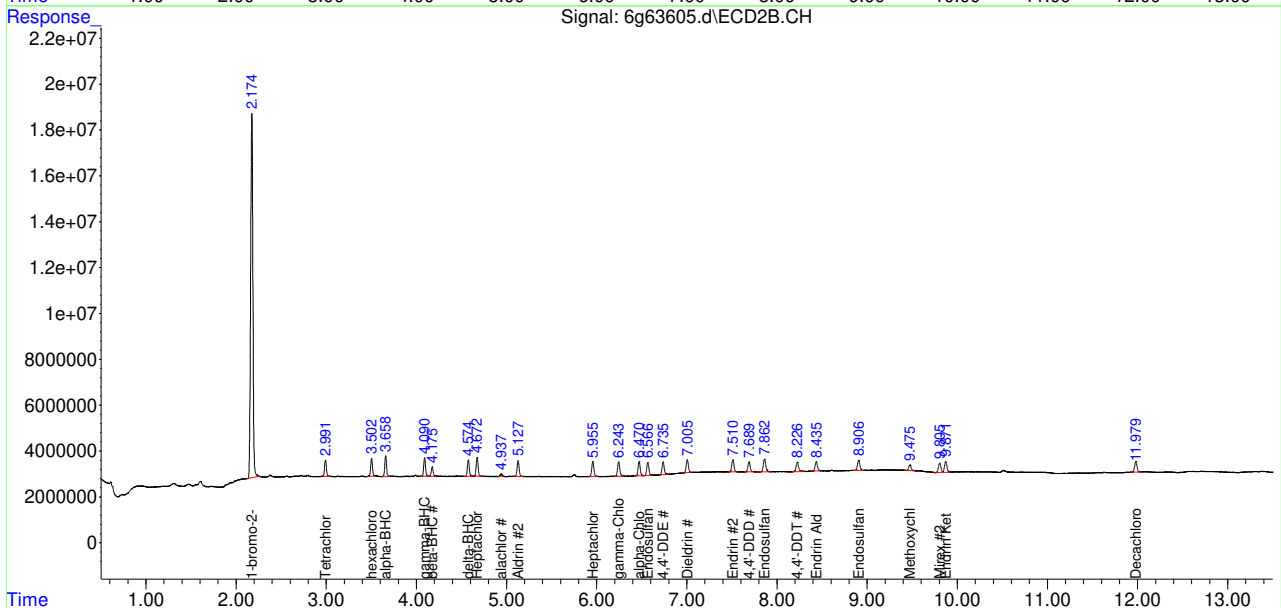
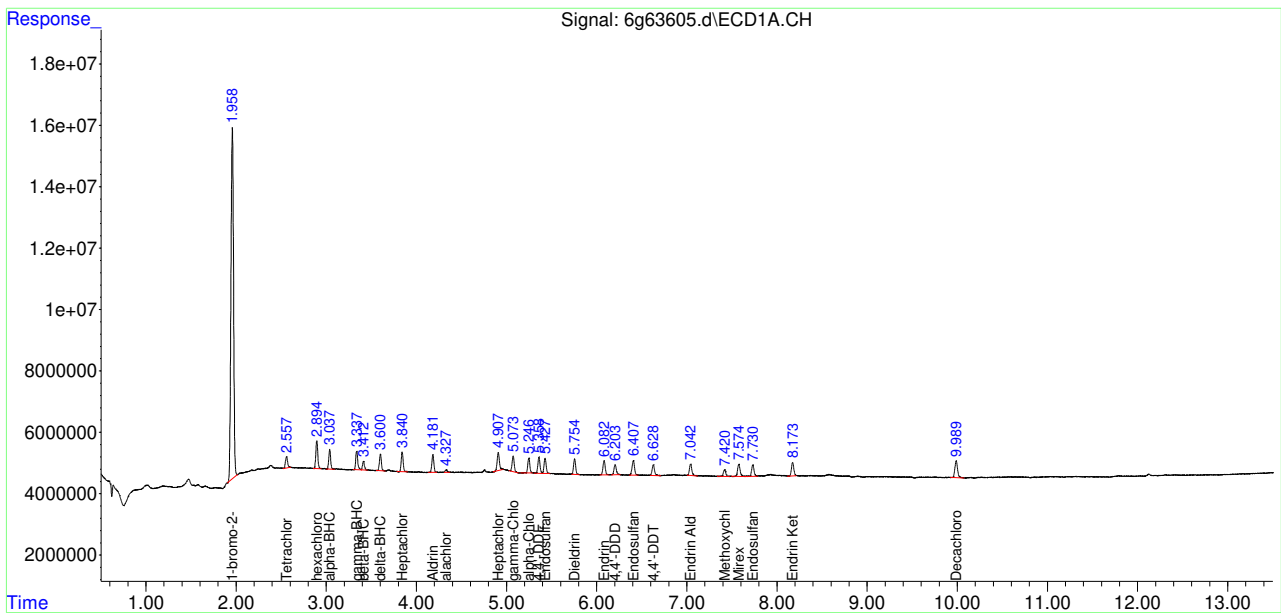
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63605.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:36:30  
 Operator : mailisih  
 Sample : ic1951-2  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:17:42 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



# Manual Integration Approval Summary

Sample Number: G6G1951-IC1951      Method: SW846 8081B  
Lab FileID: 6G63605.D      Analyst approved: 03/13/19 16:29 Mailisi Heshuote  
Injection Time: 03/13/19 12:36      Supervisor approved: 03/14/19 14:58 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrachloro-m-xylene	877-09-8	1	2.56	Poorly defined baseline
Alachlor	15972-60-8	1	4.33	Poorly defined baseline
Alachlor	15972-60-8	2	4.94	Poorly defined baseline

11.6.19.1

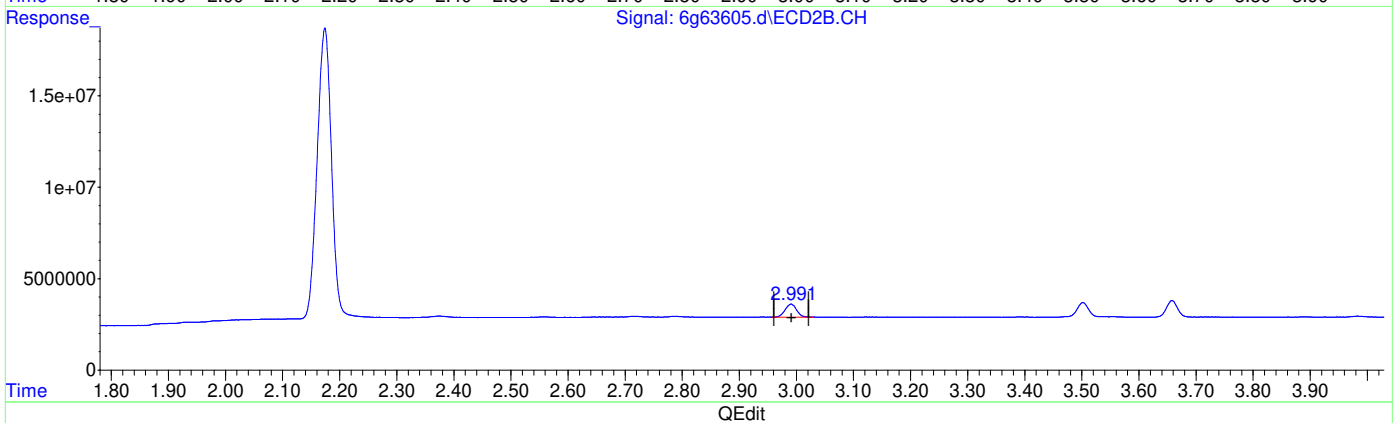
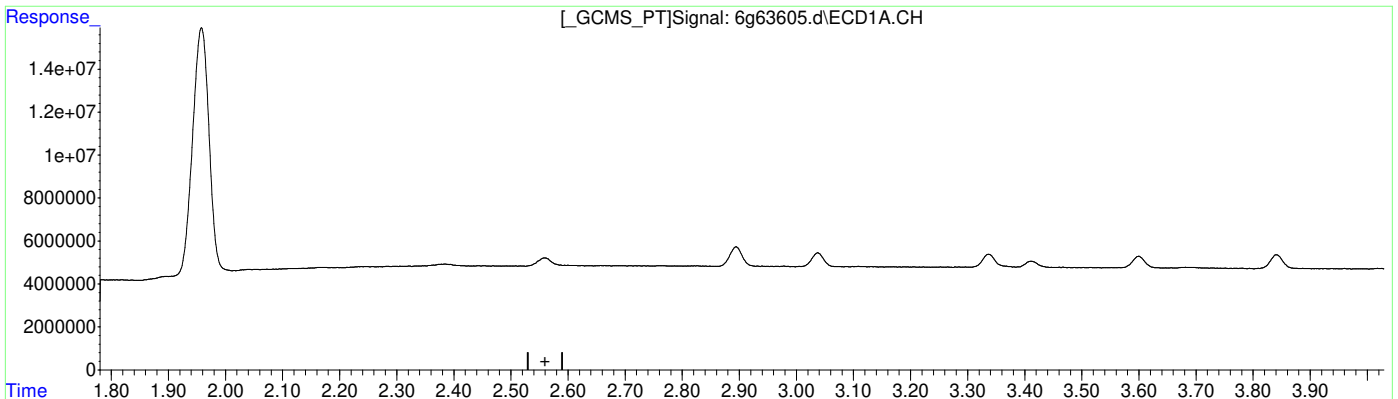
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63605.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:36:30  
 Operator : mailisih  
 Sample : ic1951-2  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:06:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(2) Tetrachloro-m-xylene (SAB)

0.000min 0.000 PPB

response 0

(2) Tetrachloro-m-xylene #2 (SAB)

2.991min 1.951 PPB

response 9895764

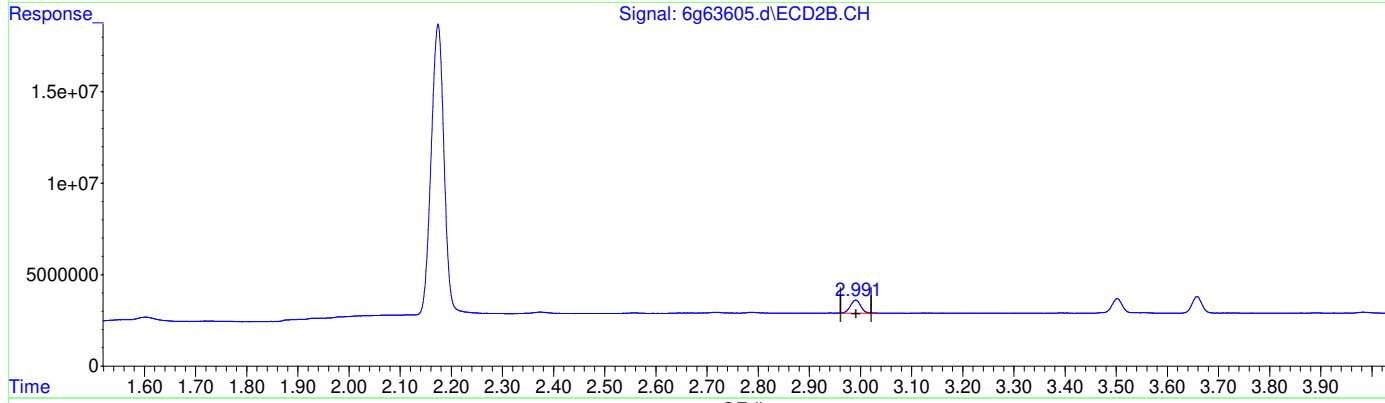
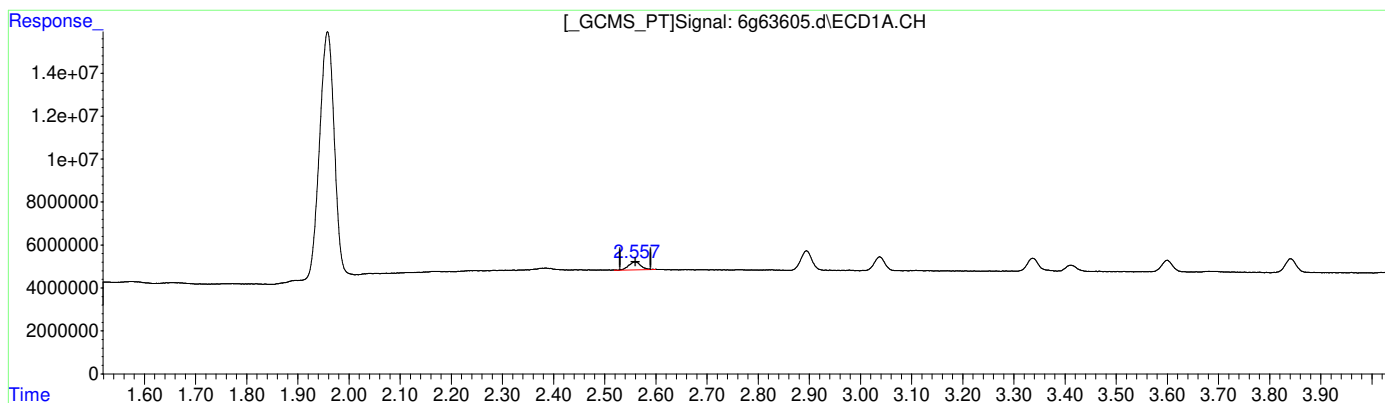
(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:06:17 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63605.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:36:30  
 Operator : mailisih  
 Sample : ic1951-2  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:06:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(2) Tetrachloro-m-xylene (SAB)

2.557min 1.935 PPB m  
 response 6195448

(2) Tetrachloro-m-xylene #2 (SAB)

2.991min 1.951 PPB  
 response 9895764

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:06:24 2019

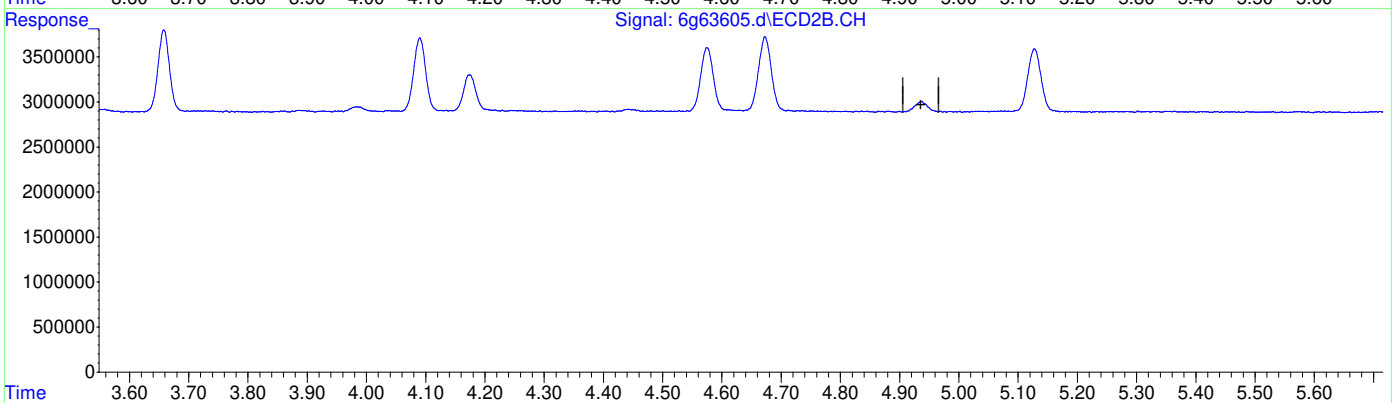
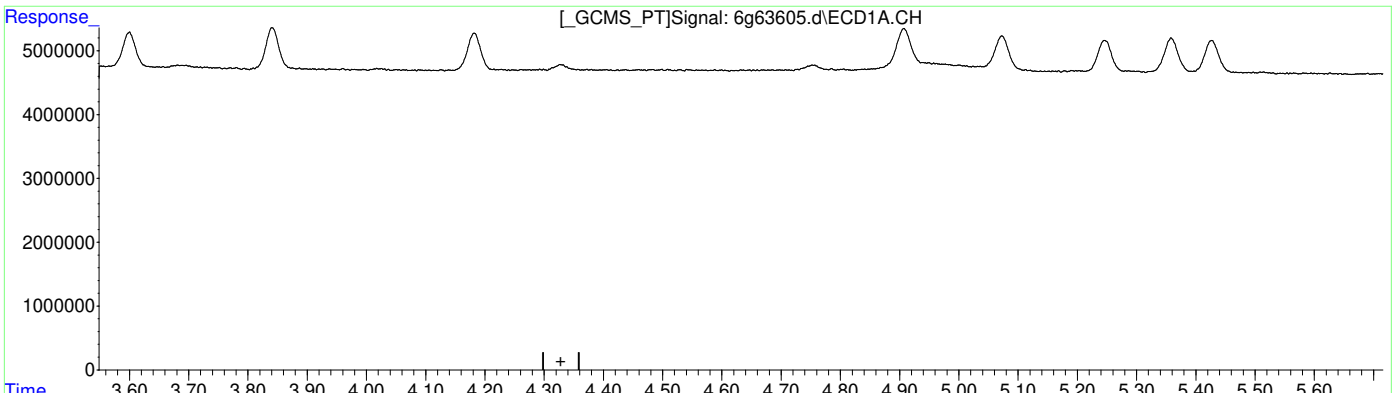
11.6.19.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63605.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:36:30  
 Operator : mailisih  
 Sample : ic1951-2  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:06:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(10) alachlor	0.000min	0.000 PPB	response 0
(10) alachlor #2	0.000min	0.000 PPB	response 0

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:06:32 2019

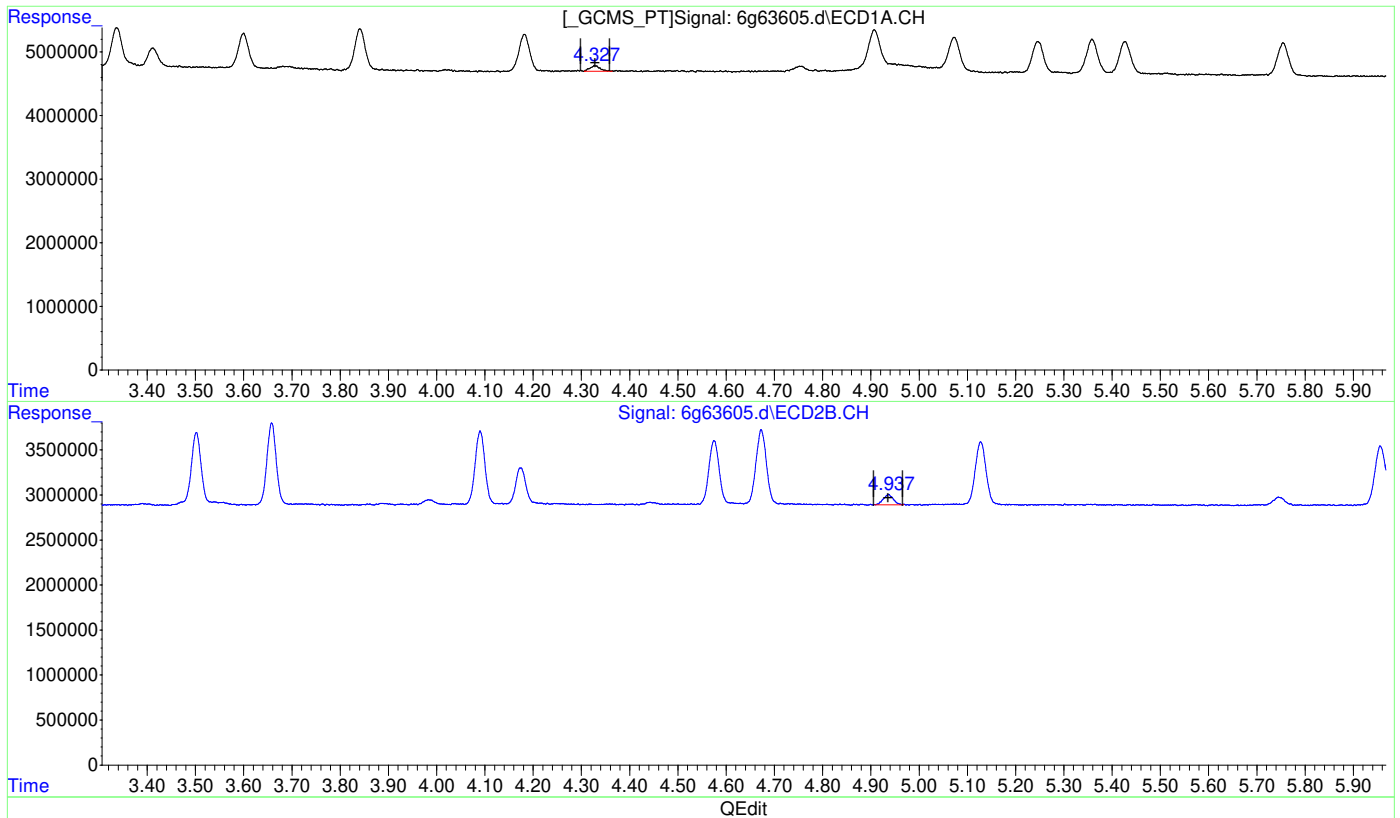


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63605.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:36:30  
 Operator : mailisih  
 Sample : ic1951-2  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:06:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(10) alachlor  
 4.327min 2.068 PPB m  
 response 1295972

(10) alachlor #2  
 4.937min 2.143 PPB m  
 response 1664010

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:06:45 2019

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63606.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:54:24  
 Operator : mailisih  
 Sample : ic1951-5  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:17:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.961	2.176	230.1E6	278.5E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.561	2.991	14759315	24299226	4.573	4.741
Spiked Amount	40.000	Range	30 - 150	Recovery	=	11.43%# 11.85%#
26) SA Decachlor...	9.988	11.981	27686373	20266241	4.789	5.948
Spiked Amount	40.000		Recovery	=	11.97%	14.87%
Target Compounds						
3) hexachlor...	2.896	3.502	34734780	27002347	4.613	4.972
4) A alpha-BHC	3.039	3.659	23024945	29895913	4.103	4.619
5) MA gamma-BHC	3.338	4.090	22149765	28208660	4.126	4.755
6) MA Heptachlor	3.843	4.673	24101548	29729984	4.203	5.027
7) B beta-BHC	3.413	4.175	9887192	14340608	4.266	5.053
8) B delta-BHC	3.601	4.575	20372603	25880095	4.486	5.294
9) MB Aldrin	4.183	5.129	22596257	26487015	4.203	4.946
10)alachlor	4.328	4.936	2857119	4077688	4.522m	5.197
11) B Heptachlo...	4.908	5.957	22426732	25616593	4.601	5.075
12) B gamma-Chl...	5.073	6.244	20317594	25944742	4.077	5.211 #
13) B alpha-Chl...	5.247	6.471	20274004	25128560	4.085	5.408 #
14) A Endosulfan I	5.428	6.567	20937279	23442624	4.386	5.274
15) B 4,4'-DDE	5.360	6.737	21565244	22717896	4.272	4.934
16) MA Dieldrin	5.755	7.005	21411016	24551671	4.348	5.101
17) MA Endrin	6.083	7.511	20145782	22865170	4.403	5.159
18) A 4,4'-DDD	6.205	7.690	14800124	19124808	4.146	5.110
19) B Endosulfa...	6.408	7.862	21297472	24176117	4.419	5.296
20) MA 4,4'-DDT	6.628	8.225	16245358	18993872	4.513	5.569
21) B Endrin Al...	7.042	8.436	17155148	18922642	4.369	5.476 #
22) B Endosulfa...	7.733	8.906	17370936	20815031	5.074	6.319
23) A Methoxychlor	7.419	9.473	9969541	11705136	4.169	5.737 #
24) Mirex	7.577	9.805	18746920	20474761	4.836	6.015
25) B Endrin Ke...	8.173	9.871	20466034	22631624	4.674	5.658
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

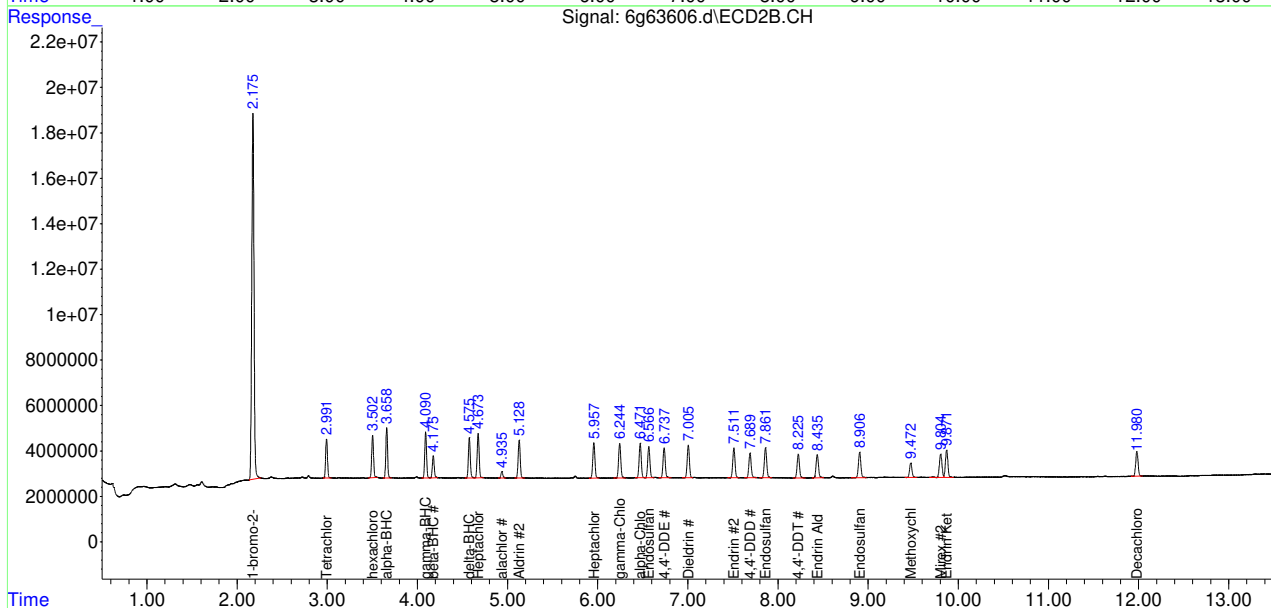
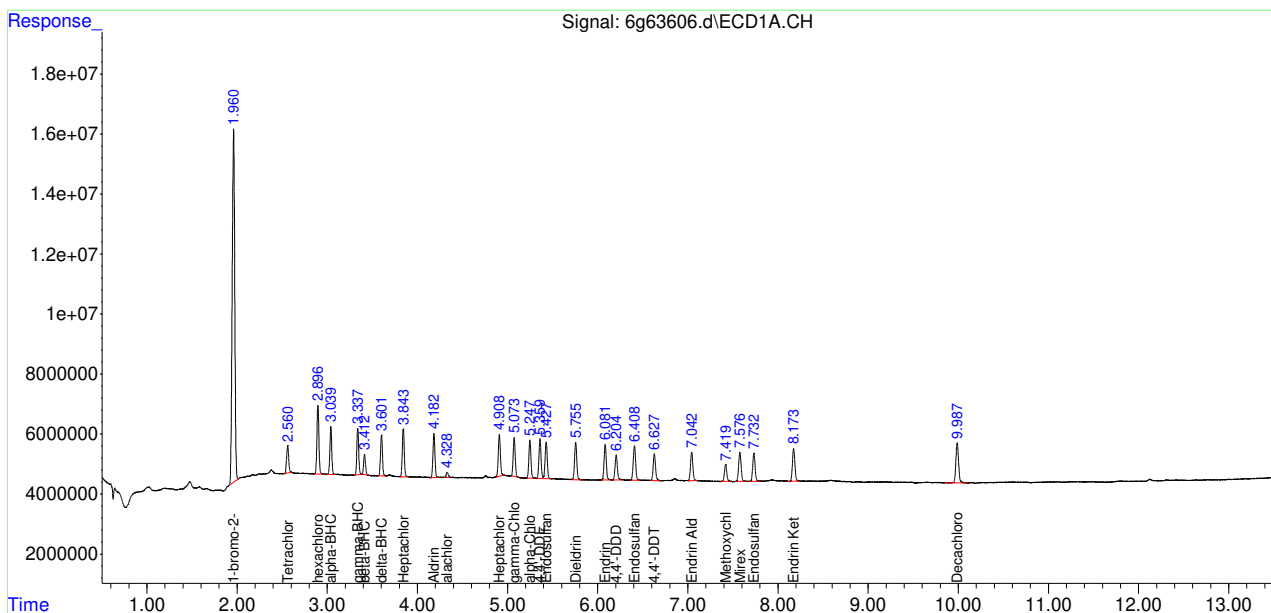
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63606.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:54:24  
 Operator : mailisih  
 Sample : ic1951-5  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:17:52 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.20  
11

# Manual Integration Approval Summary

Sample Number: G6G1951-IC1951      Method: SW846 8081B  
Lab FileID: 6G63606.D      Analyst approved: 03/13/19 16:29 Mailisi Heshuote  
Injection Time: 03/13/19 12:54      Supervisor approved: 03/14/19 14:58 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Alachlor	15972-60-8	1	4.33	Poorly defined baseline

11.6.20.1

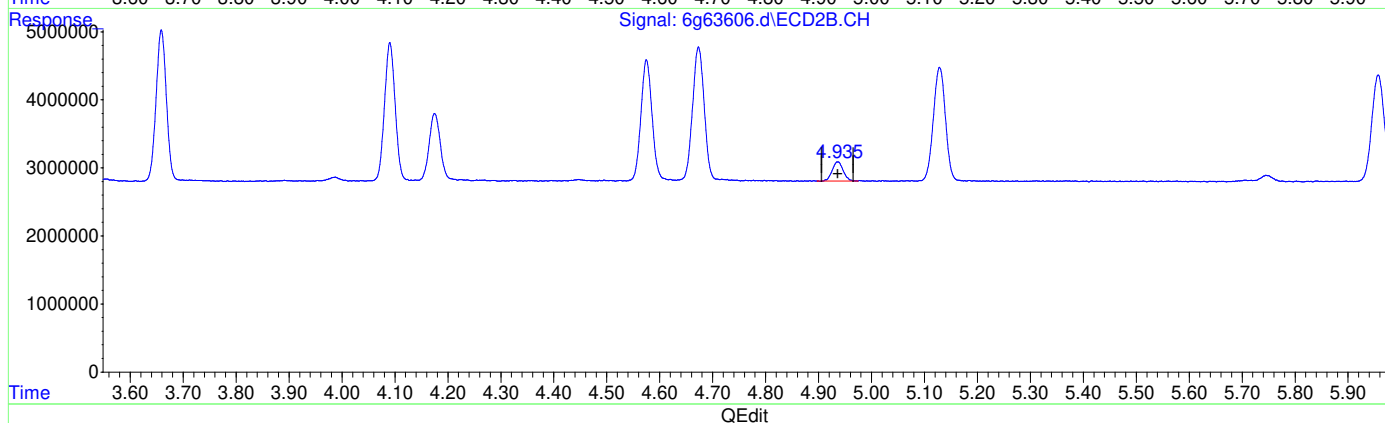
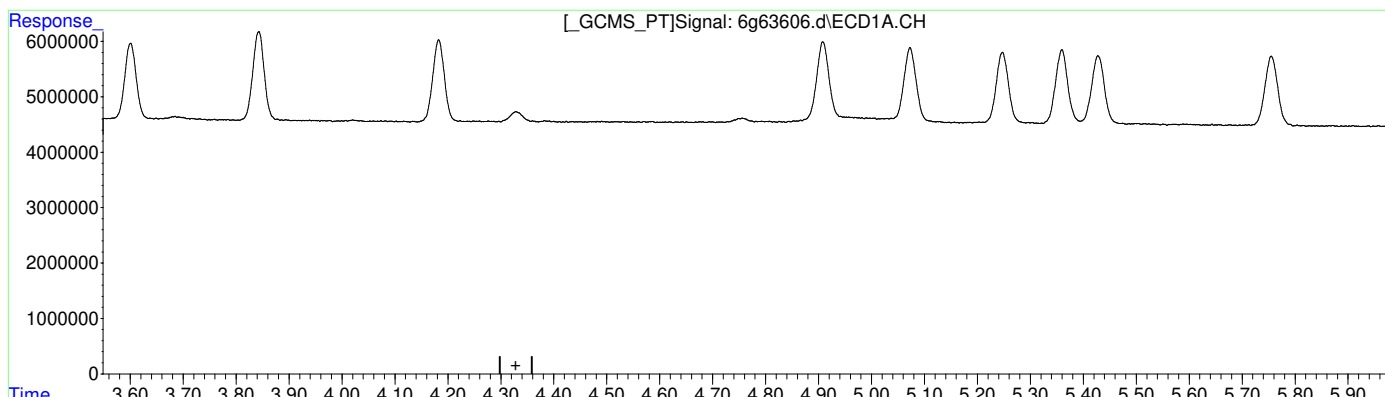
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63606.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:54:24  
 Operator : mailisih  
 Sample : ic1951-5  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:05:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(10)alachlor  
 0.000min 0.000 PPB  
 response 0

(10)alachlor #2  
 4.936min 5.197 PPB  
 response 4077688

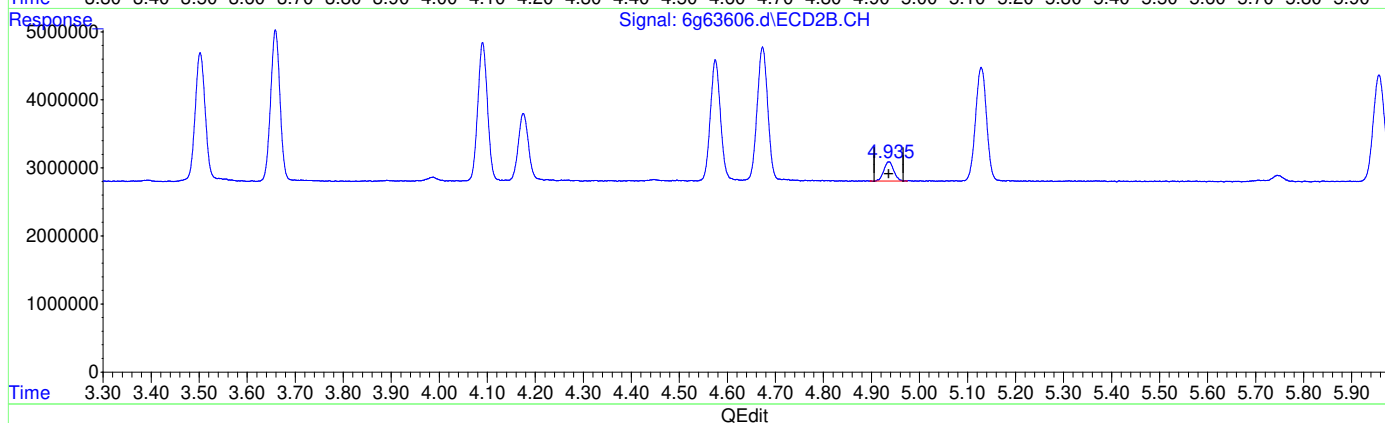
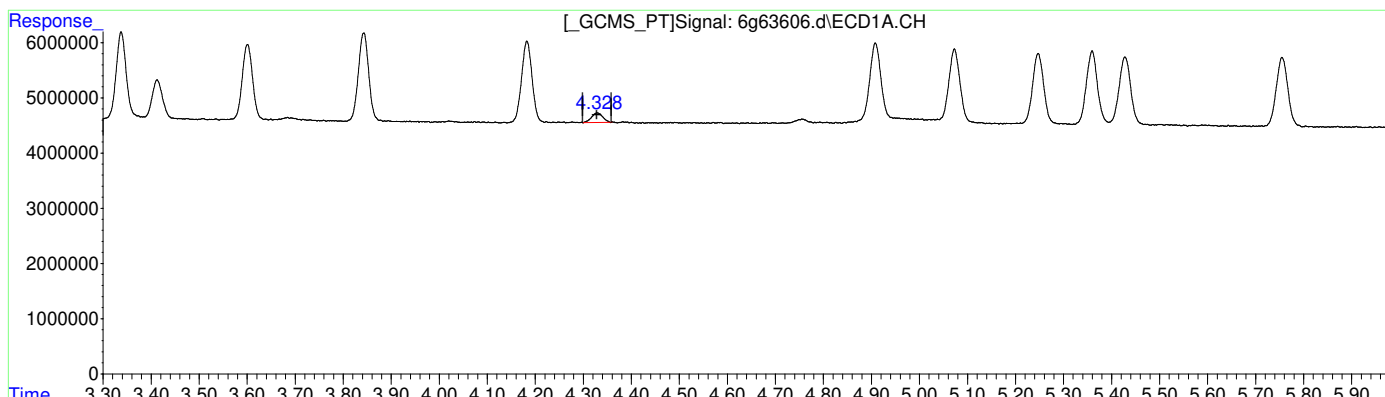
(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:05:08 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63606.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 12:54:24  
 Operator : mailisih  
 Sample : ic1951-5  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:05:00 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(10) alachlor  
 4.328min 4.522 PPB m  
 response 2857119

(10) alachlor #2  
 4.936min 5.197 PPB  
 response 4077688

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:05:17 2019

11.6.203  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63607.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 13:12:11  
 Operator : mailisih  
 Sample : ic1951-10  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----							
Internal Standards							
1)	I 1-bromo-2...	1.960	2.175	230.4E6	279.4E6	50.000	50.000
System Monitoring Compounds							
2)	SAB Tetrachlo...	2.560	2.991	29439536	47547526	9.111	9.246
	Spiked Amount	40.000	Range	30 - 150	Recovery	=	22.78%# 23.12%#
26)	SA Decachlor...	9.988	11.981	53752768	39001069	9.287	11.409
	Spiked Amount	40.000		Recovery	=	23.22%	28.52%
Target Compounds							
3)	hexachlor...	2.895	3.503	68392876	52124758	9.072	9.566
4)	A alpha-BHC	3.038	3.659	47226905	60125434	8.406	9.259
5)	MA gamma-BHC	3.337	4.090	46061006	56327240	8.570	9.463
6)	MA Heptachlor	3.842	4.674	48853412	57344512	8.508	9.664
7)	B beta-BHC	3.412	4.175	21029426	27616947	9.064	9.698
8)	B delta-BHC	3.600	4.576	42241096	51905891	9.291	10.582
9)	MB Aldrin	4.181	5.129	45493474	51626235	8.452	9.607
10)	alachlor	4.329	4.936	5784154	8169312	9.144m	10.376
11)	B Heptachlo...	4.908	5.957	43704175	50195327	8.956	9.911
12)	B gamma-Chl...	5.073	6.243	42698368	49291667	8.557	9.867
13)	B alpha-Chl...	5.247	6.471	41867888	48667486	8.425	10.439
14)	A Endosulfan I	5.427	6.567	42169235	45256345	8.823	10.147
15)	B 4,4'-DDE	5.359	6.737	43125633	44239303	8.534	9.575
16)	MA Dieldrin	5.755	7.005	43073610	47872144	8.737	9.912
17)	MA Endrin	6.082	7.510	41068840	44746433	8.966	10.063
18)	A 4,4'-DDD	6.205	7.690	30518384	37544064	8.538	9.998
19)	B Endosulfa...	6.407	7.862	41470280	45592943	8.594	9.954
20)	MA 4,4'-DDT	6.628	8.226	32418453	37526449	8.996	10.967
21)	B Endrin Al...	7.042	8.435	34151449	36359176	8.687	10.486
22)	B Endosulfa...	7.732	8.907	35046876	39616168	10.225	11.987
23)	A Methoxychlor	7.419	9.473	20664968	23237301	8.631	11.351 #
24)	Mirex	7.576	9.805	36527303	38418721	9.411	11.248
25)	B Endrin Ke...	8.174	9.871	41638020	44453415	9.498	11.076
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

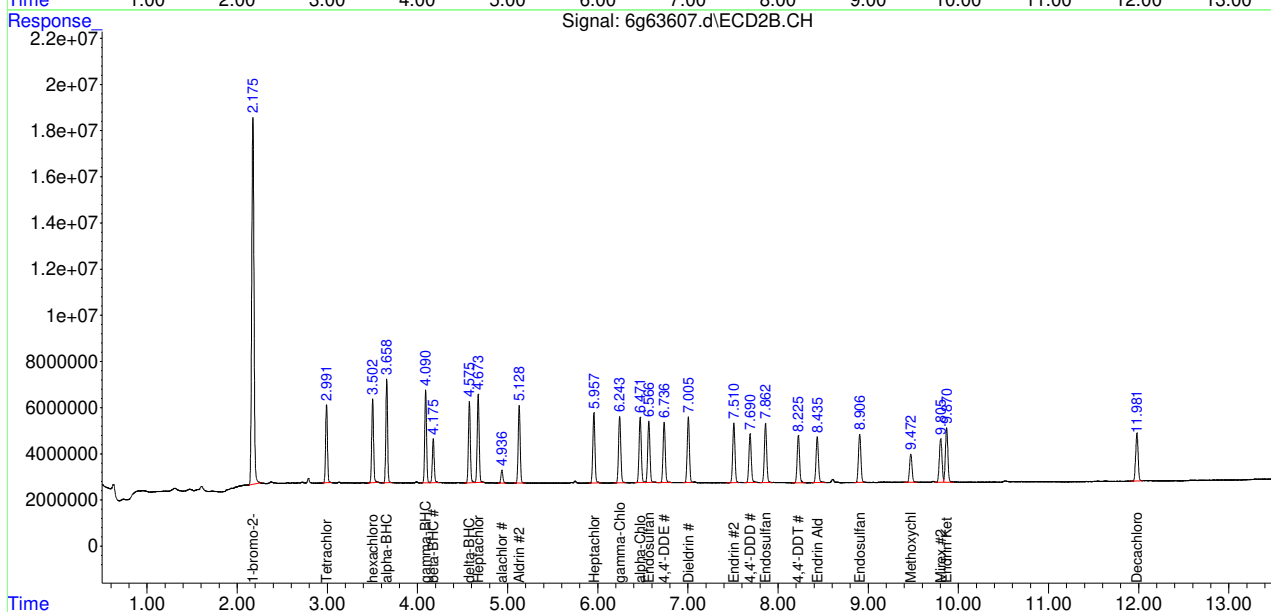
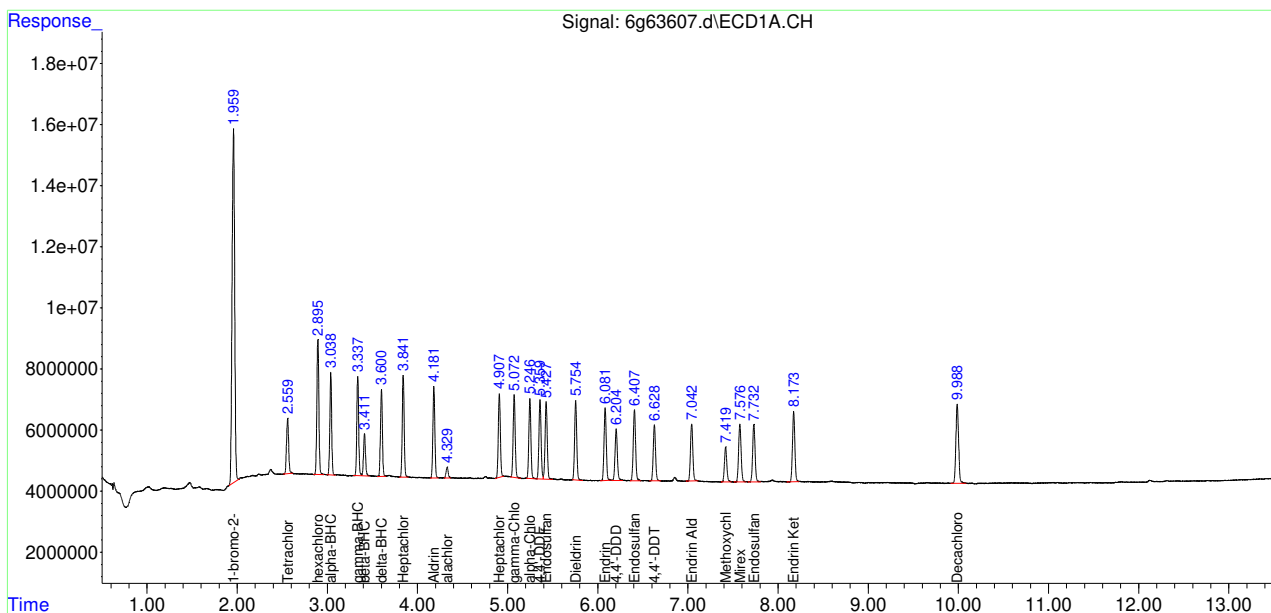
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63607.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 13:12:11  
 Operator : mailisih  
 Sample : ic1951-10  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um





# Manual Integration Approval Summary

Sample Number: G6G1951-IC1951      Method: SW846 8081B  
Lab FileID: 6G63607.D      Analyst approved: 03/13/19 16:29 Mailisi Heshuote  
Injection Time: 03/13/19 13:12      Supervisor approved: 03/14/19 14:58 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Alachlor	15972-60-8	1	4.33	Poorly defined baseline

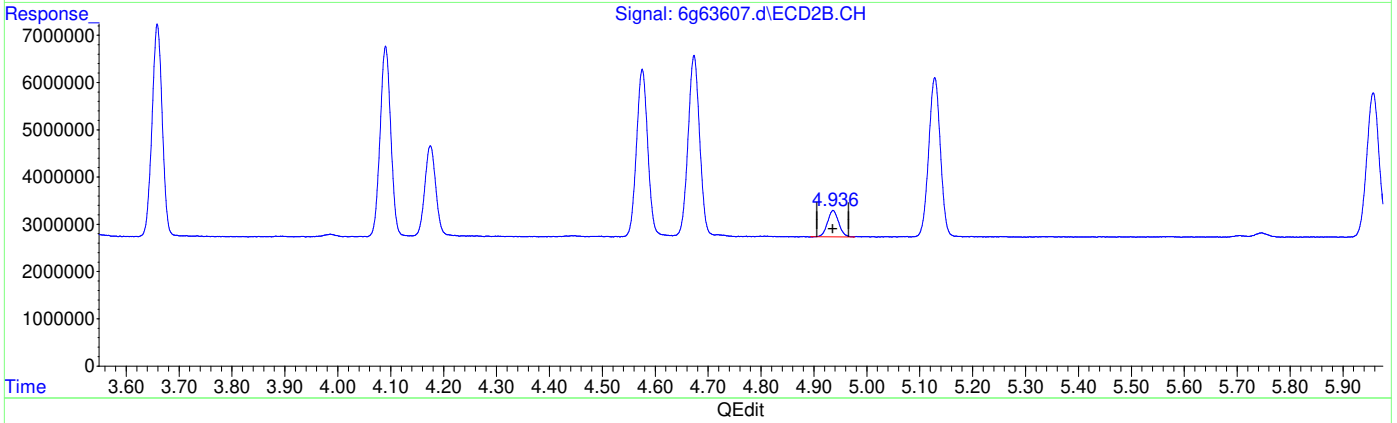
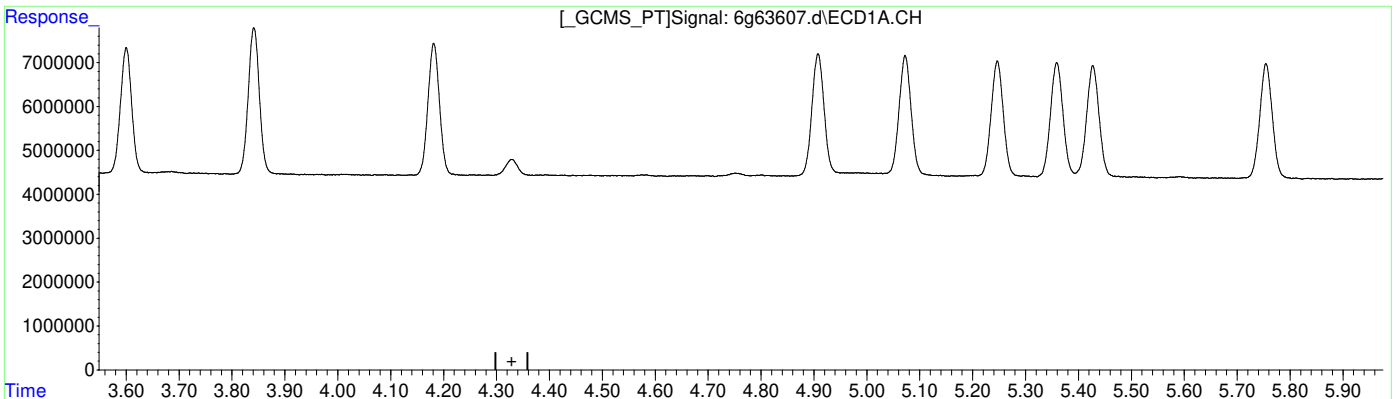
11.6.21.1  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63607.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 13:12:11  
 Operator : mailisih  
 Sample : ic1951-10  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:04:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(10)alachlor	0.000min	0.000 PPB
response	0	
(10)alachlor #2	4.936min	10.376 PPB
response	8169312	

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:04:19 2019

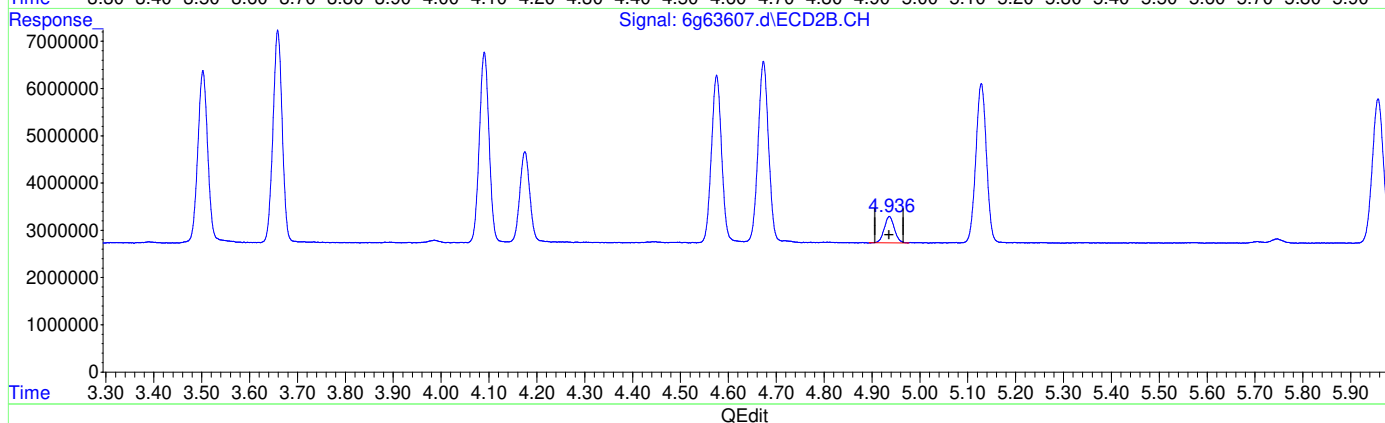
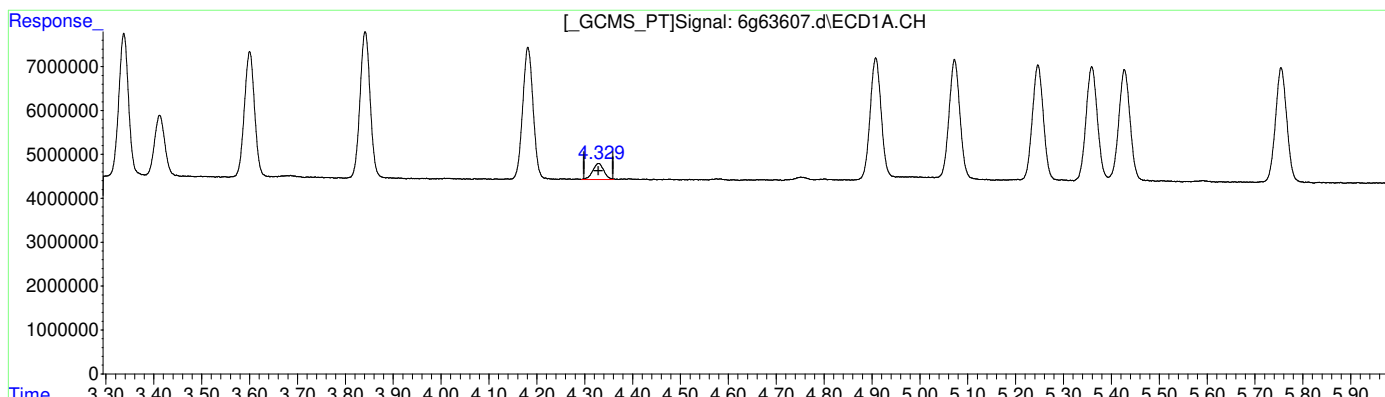
11.6.21.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63607.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 13:12:11  
 Operator : mailisih  
 Sample : ic1951-10  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:04:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(10)alachlor  
 4.329min 9.144 PPB m  
 response 5784154

(10)alachlor #2  
 4.936min 10.376 PPB  
 response 8169312

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:04:27 2019

11.6.21.3  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63608.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 13:29:57  
 Operator : mailisih  
 Sample : icc1951-25  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.958	2.174	231.7E6	280.8E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.559	2.990	76735849	119.4E6	23.609	23.108
Spiked Amount	40.000	Range 30 - 150	Recovery =		59.02%	57.77%
26) SA Decachlor...	9.987	11.980	136.7E6	92198485	23.487	26.833
Spiked Amount	40.000		Recovery =		58.72%	67.08%
Target Compounds						
3) hexachlor...	2.894	3.502	174.1E6	127.6E6	22.956	23.299
4) A alpha-BHC	3.038	3.658	133.0E6	158.2E6	23.529	24.238
5) MA gamma-BHC	3.337	4.090	126.8E6	145.3E6	23.458	24.283
6) MA Heptachlor	3.842	4.673	132.6E6	146.1E6	22.967	24.501
7) B beta-BHC	3.412	4.175	53419361	67663236	22.889	23.640
8) B delta-BHC	3.600	4.575	118.7E6	136.6E6	25.966	27.712
9) MB Aldrin	4.182	5.128	124.7E6	130.4E6	23.040	24.139
10)alachlor	4.328	4.935	14562936	20080571	22.887	25.375
11) B Heptachlo...	4.908	5.957	116.6E6	124.8E6	23.752	24.523
12) B gamma-Chl...	5.072	6.243	116.9E6	123.5E6	23.290	24.596
13) B alpha-Chl...	5.246	6.470	114.3E6	120.2E6	22.867	25.645
14) A Endosulfan I	5.428	6.566	112.2E6	113.1E6	23.330	25.226
15) B 4,4'-DDE	5.358	6.736	115.8E6	114.0E6	22.789	24.539
16) MA Dieldrin	5.754	7.005	117.3E6	120.5E6	23.650	24.822
17) MA Endrin	6.082	7.510	109.5E6	112.0E6	23.771	25.057
18) A 4,4'-DDD	6.204	7.689	80781961	95273006	22.469	25.243
19) B Endosulfa...	6.406	7.860	107.7E6	110.1E6	22.197	23.911
20) MA 4,4'-DDT	6.628	8.225	88155603	95079189	24.320	27.645
21) B Endrin Al...	7.042	8.435	89540927	88877867	22.643	25.502
22) B Endosulfa...	7.731	8.905	92095168	96613671	26.712	29.084
23) A Methoxychlor	7.417	9.473	53175652	56945904	22.080	27.675 #
24) Mirex	7.576	9.805	92086256	90937035	23.587	26.488
25) B Endrin Ke...	8.174	9.871	111.2E6	110.0E6	25.224	27.276
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

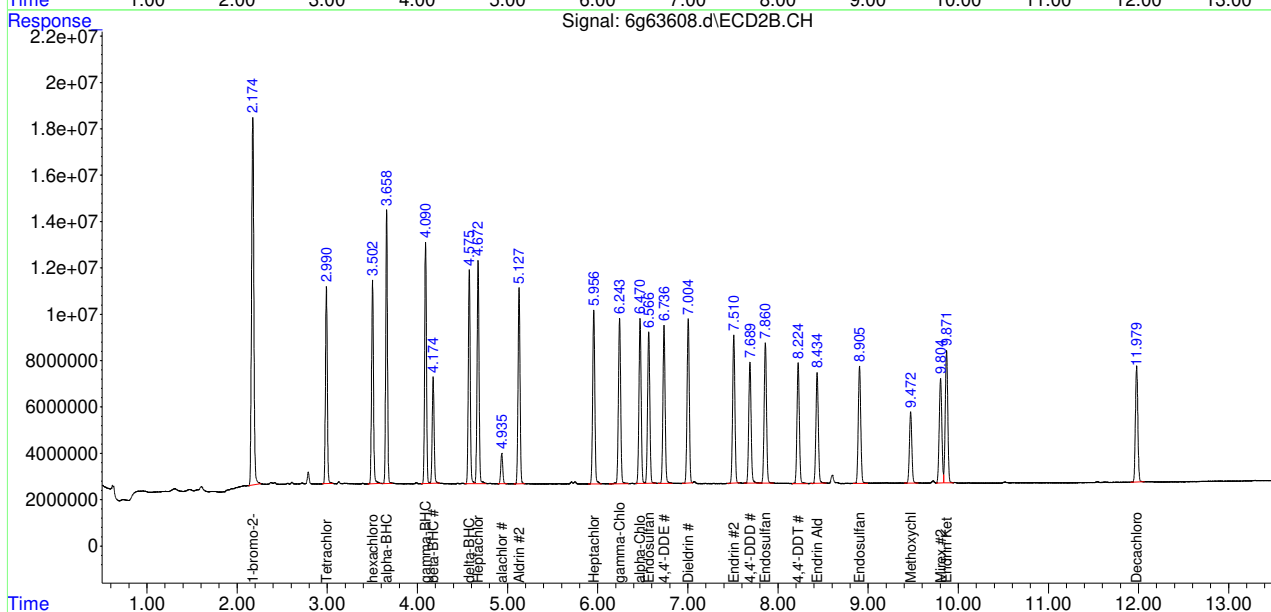
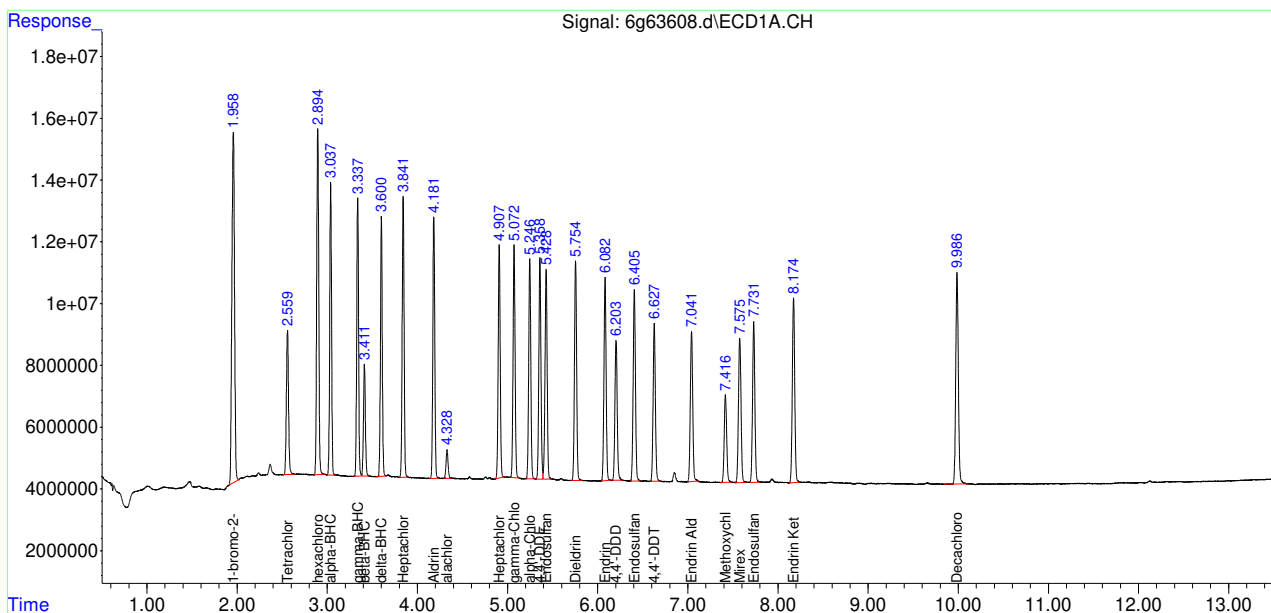
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63608.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 13:29:57  
 Operator : mailisih  
 Sample : icc1951-25  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.22 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63609.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 13:47:44  
 Operator : mailisih  
 Sample : ic1951-50  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
1) I 1-bromo-2...	1.959	2.175	231.8E6	284.7E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.559	2.991	154.9E6	240.2E6	47.656	45.839
Spiked Amount	40.000	Range 30 - 150	Recovery =	119.14%	114.60%	
26) SA Decachlor...	9.987	11.980	278.6E6	177.1E6	47.831	50.840
Spiked Amount	40.000		Recovery =	119.58%	127.10%	
Target Compounds						
3) hexachlor...	2.894	3.502	359.3E6	253.1E6	47.372	45.587
4) A alpha-BHC	3.038	3.659	300.9E6	332.8E6	53.222	50.292
5) MA gamma-BHC	3.338	4.090	282.1E6	302.8E6	52.162	49.928
6) MA Heptachlor	3.842	4.673	290.4E6	294.9E6	50.259	48.786
7) B beta-BHC	3.412	4.174	111.0E6	134.7E6	47.543	46.414
8) B delta-BHC	3.600	4.575	268.4E6	286.4E6	58.662	57.314
9) MB Aldrin	4.182	5.128	274.4E6	265.7E6	50.675	48.538
10)alachlor	4.328	4.935	29448444	38503266	46.268	47.999
11) B Heptachlo...	4.908	5.956	251.1E6	250.0E6	51.133	48.437
12) B gamma-Chl...	5.073	6.242	254.9E6	246.8E6	50.761	48.497
13) B alpha-Chl...	5.247	6.470	248.2E6	240.5E6	49.641	50.636
14) A Endosulfan I	5.428	6.566	240.9E6	226.4E6	50.088	49.820
15) B 4,4'-DDE	5.358	6.736	248.8E6	234.1E6	48.931	49.736
16) MA Dieldrin	5.754	7.004	256.1E6	245.3E6	51.621	49.852
17) MA Endrin	6.082	7.511	237.8E6	227.9E6	51.600	50.304
18) A 4,4'-DDD	6.203	7.690	177.3E6	193.7E6	49.288	50.636
19) B Endosulfa...	6.407	7.860	227.0E6	217.6E6	46.751	46.619
20) MA 4,4'-DDT	6.627	8.225	193.0E6	194.1E6	53.234	55.665
21) B Endrin Al...	7.041	8.435	188.0E6	175.6E6	47.523	49.717
22) B Endosulfa...	7.732	8.906	195.2E6	189.1E6	56.605	56.155
23) A Methoxychlor	7.418	9.473	110.2E6	111.4E6	45.739	53.389
24) Mirex	7.576	9.804	185.3E6	173.1E6	47.456	49.730
25) B Endrin Ke...	8.174	9.870	234.5E6	219.9E6	53.164	53.768
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

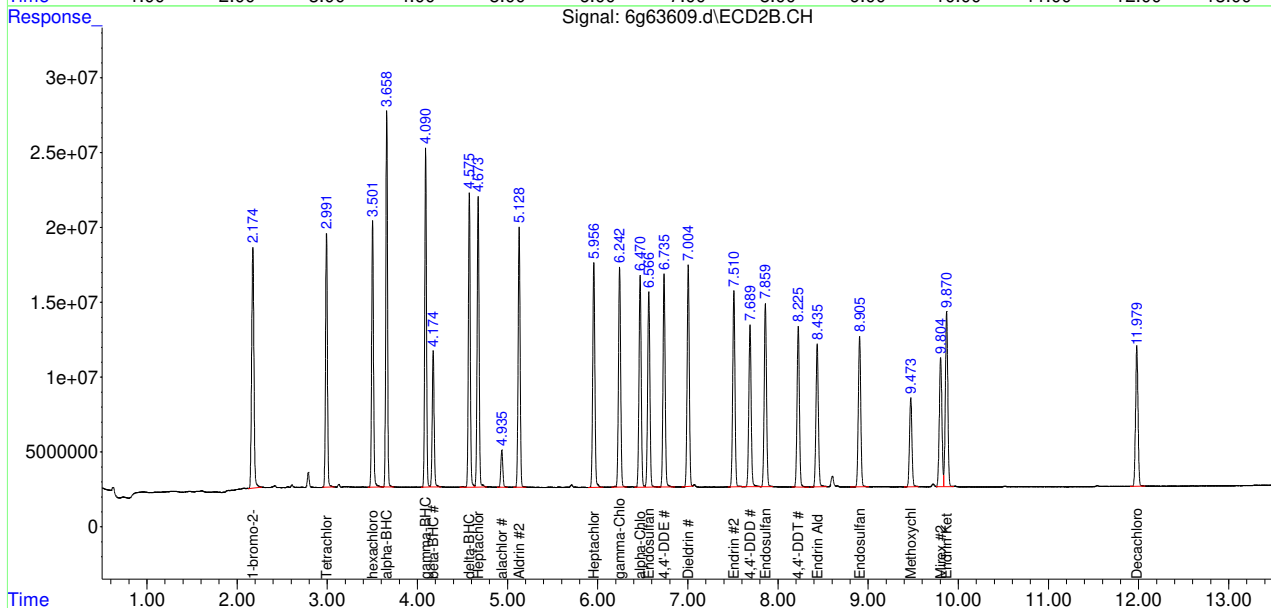
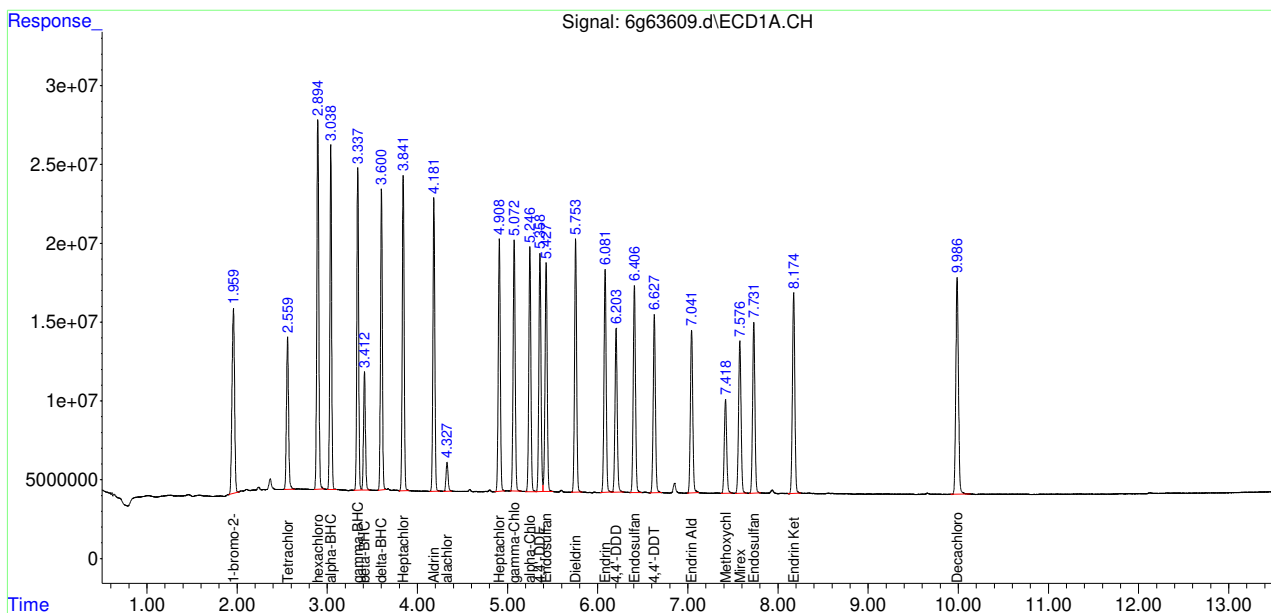
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63609.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 13:47:44  
 Operator : mailisih  
 Sample : ic1951-50  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 8 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.23  
11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63610.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:05:38  
 Operator : mailisih  
 Sample : ic1951-75  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:40 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.960	2.175	232.4E6	283.2E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.560	2.991	242.9E6	373.2E6	74.525	71.599
Spiked Amount	40.000	Range 30 - 150	Recovery =	186.31%#	179.00%#	
26) SA Decachlor...	9.987	11.980	429.4E6	263.1E6	73.548	75.906
Spiked Amount	40.000		Recovery =	183.87%	189.77%	
Target Compounds						
3) hexachlor...	2.895	3.502	554.3E6	387.5E6	72.894	70.145
4) A alpha-BHC	3.039	3.659	489.9E6	524.5E6	86.439	79.675
5) MA gamma-BHC	3.339	4.091	456.1E6	472.3E6	84.119	78.273
6) MA Heptachlor	3.842	4.673	467.1E6	454.4E6	80.649	75.537
7) B beta-BHC	3.413	4.175	172.4E6	203.8E6	73.668	70.605
8) B delta-BHC	3.601	4.575	440.5E6	449.7E6	96.048	90.450
9) MB Aldrin	4.182	5.128	443.7E6	412.4E6	81.718	75.712
10)alachlor	4.328	4.936	44344779	56520754	69.499	70.815
11) B Heptachlo...	4.908	5.956	400.3E6	382.6E6	81.329	74.511
12) B gamma-Chl...	5.073	6.242	411.8E6	379.5E6	81.813	74.941
13) B alpha-Chl...	5.246	6.470	399.1E6	368.4E6	79.617	77.960
14) A Endosulfan I	5.428	6.566	384.3E6	347.6E6	79.704	76.866
15) B 4,4'-DDE	5.360	6.735	399.3E6	363.6E6	78.326	77.634
16) MA Dieldrin	5.755	7.004	412.2E6	382.6E6	82.899	78.145
17) MA Endrin	6.083	7.510	381.5E6	352.1E6	82.567	78.119
18) A 4,4'-DDD	6.204	7.688	287.5E6	300.5E6	79.737	78.948
19) B Endosulfa...	6.406	7.859	359.7E6	332.3E6	73.904	71.561
20) MA 4,4'-DDT	6.628	8.225	312.8E6	301.3E6	86.058	86.864
21) B Endrin Al...	7.042	8.434	295.6E6	266.6E6	74.536	75.849
22) B Endosulfa...	7.733	8.905	308.0E6	286.6E6	89.093	85.547
23) A Methoxychlor	7.418	9.472	170.1E6	168.5E6	70.439	81.202
24) Mirex	7.577	9.804	283.4E6	257.7E6	72.390	74.412
25) B Endrin Ke...	8.174	9.870	367.3E6	335.0E6	83.055	82.342
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

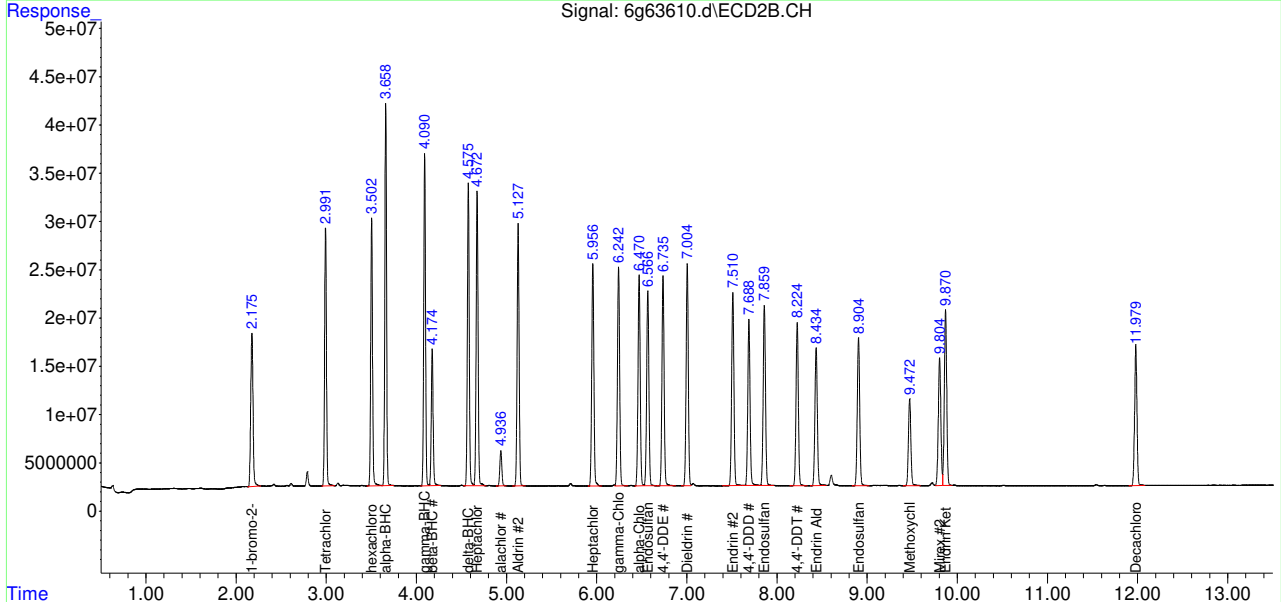
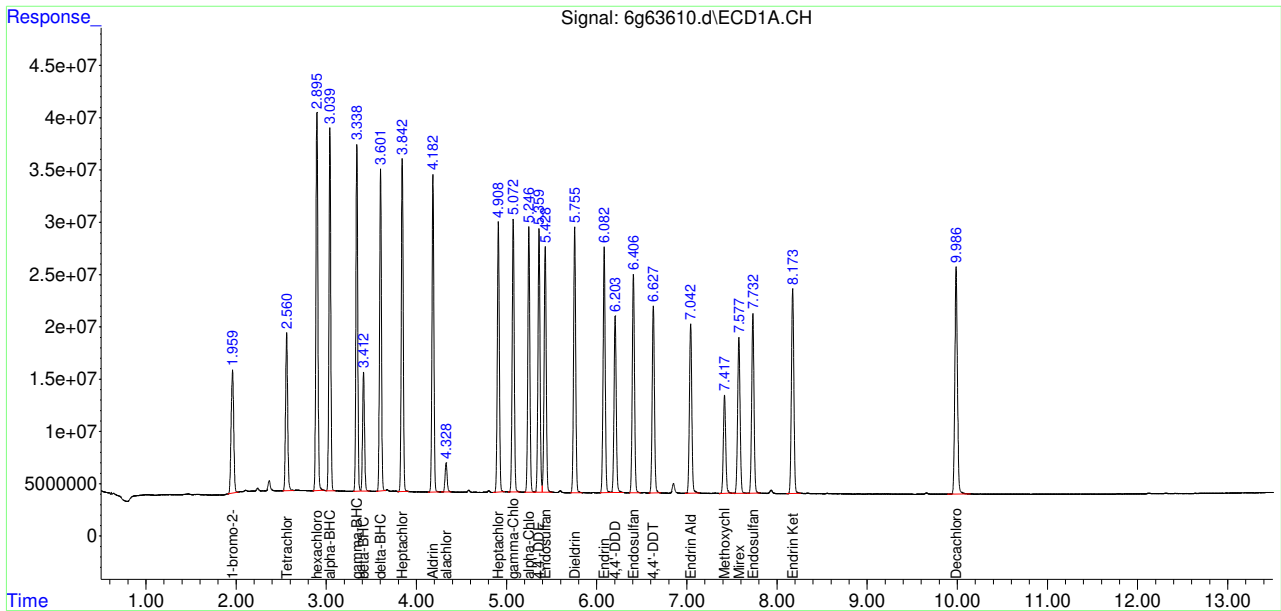


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63610.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:05:38  
 Operator : mailish  
 Sample : ic1951-75  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:40 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.24 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63611.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:23:24  
 Operator : mailisih  
 Sample : ic1951-100  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:53 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
1) I 1-bromo-2...	1.958	2.174	233.8E6	284.9E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.559	2.991	328.2E6	504.1E6	100.090	96.119
Spiked Amount	40.000	Range 30 - 150	Recovery =	250.23%#	240.30%#	
26) SA Decachlor...	9.988	11.980	579.6E6	347.6E6	98.681	99.712
Spiked Amount	40.000		Recovery =	246.70%	249.28%	
Target Compounds						
3) hexachlor...	2.895	3.502	747.7E6	519.0E6	97.727	93.403
4) A alpha-BHC	3.038	3.659	683.3E6	714.6E6	119.845	107.904
5) MA gamma-BHC	3.337	4.090	632.4E6	642.5E6	115.948	105.842
6) MA Heptachlor	3.842	4.673	646.3E6	610.6E6	110.915	100.909
7) B beta-BHC	3.412	4.174	234.5E6	273.0E6	99.579	94.013
8) B delta-BHC	3.600	4.575	616.7E6	613.6E6	133.669	122.673
9) MB Aldrin	4.182	5.128	611.8E6	556.0E6	112.008	101.449
10)alachlor	4.328	4.936	59372064	73771816	92.491	91.878
11) B Heptachlo...	4.908	5.956	550.4E6	513.2E6	111.134	99.348
12) B gamma-Chl...	5.073	6.242	570.1E6	511.6E6	112.590	100.426
13) B alpha-Chl...	5.247	6.471	551.8E6	494.1E6	109.413	103.924
14) A Endosulfan I	5.427	6.567	527.8E6	465.8E6	108.814	102.407
15) B 4,4'-DDE	5.359	6.736	550.4E6	493.1E6	107.334	104.655
16) MA Dieldrin	5.755	7.004	569.4E6	516.3E6	113.808	104.825
17) MA Endrin	6.082	7.510	527.2E6	471.4E6	113.417	103.946
18) A 4,4'-DDD	6.203	7.689	399.7E6	406.4E6	110.202	106.121
19) B Endosulfa...	6.407	7.860	493.2E6	447.1E6	100.715	95.715
20) MA 4,4'-DDT	6.627	8.224	436.1E6	409.4E6	119.253	117.302
21) B Endrin Al...	7.042	8.434	403.4E6	356.5E6	101.105	100.810
22) B Endosulfa...	7.731	8.906	420.7E6	381.8E6	120.956	113.280
23) A Methoxychlor	7.418	9.473	230.5E6	222.0E6	94.863	106.341
24) Mirex	7.576	9.805	378.8E6	339.1E6	96.178	97.349
25) B Endrin Ke...	8.173	9.871	502.2E6	449.6E6	112.879	109.854
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

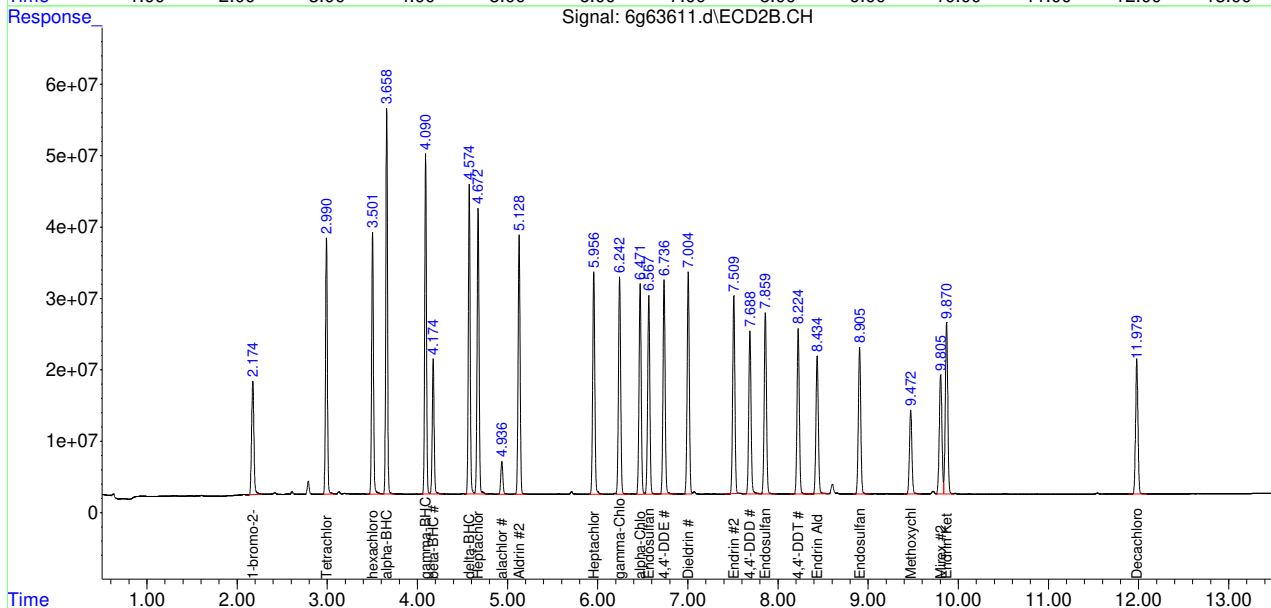
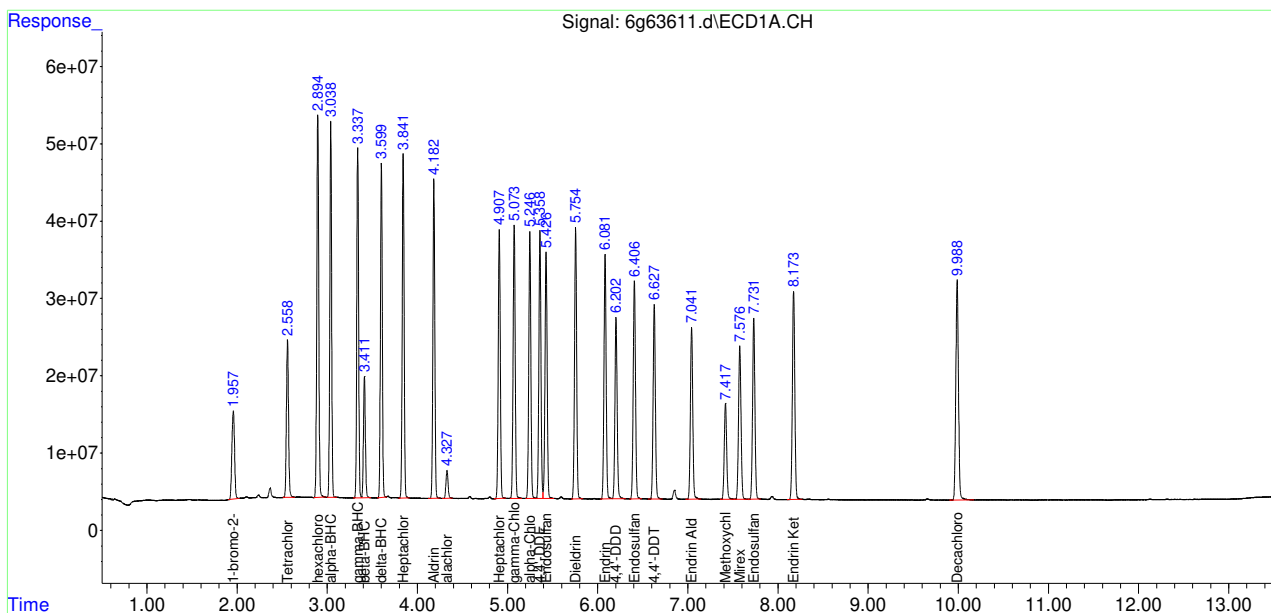
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63611.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:23:24  
 Operator : mailisih  
 Sample : ic1951-100  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:18:53 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.25 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63612.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:41:11  
 Operator : mailisih  
 Sample : ic1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:19:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
33) I 1-bromo-2...	1.961	2.176	234.3E6	285.7E6	50.000	50.000
System Monitoring Compounds						
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
34) Chlordane...	3.843	4.674	149.4E6	167.4E6	443.525	478.887
35) Chlordane...	4.329	5.323	90404965	94021063	422.825	455.715
36) Chlordane...	5.073	6.243	343.8E6	307.0E6	447.821	469.603
37) Chlordane...	5.240	6.471	543.1E6	509.0E6	447.729	474.069m
38) Chlordane...	6.314	7.941	71957157	83000253	444.924	500.957

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

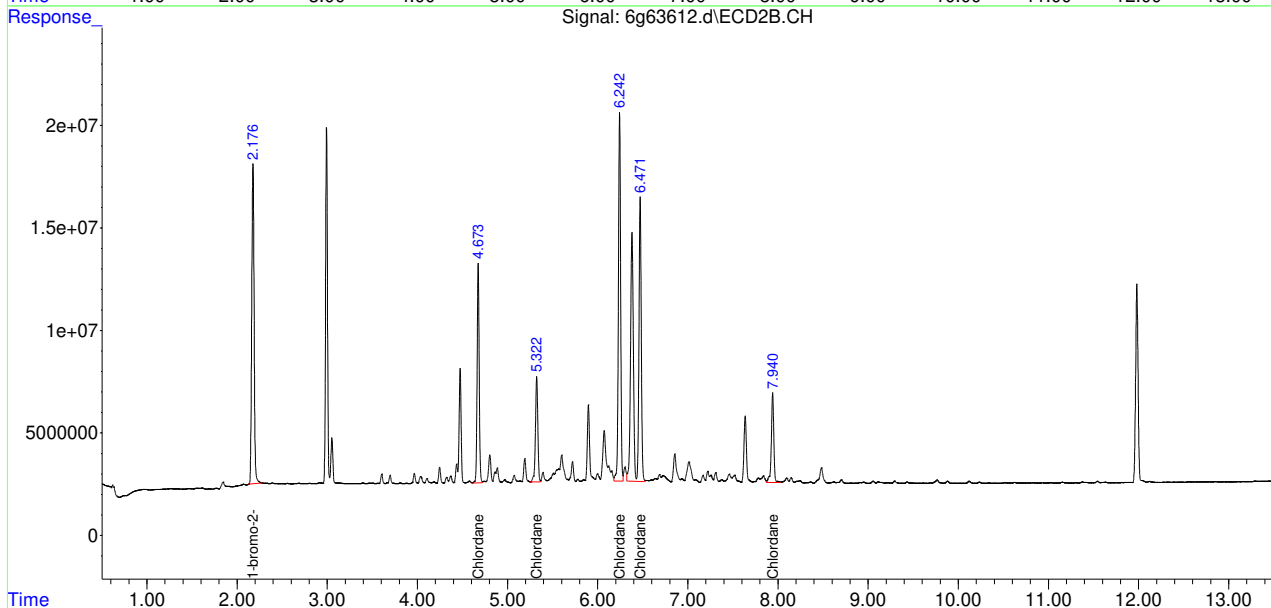
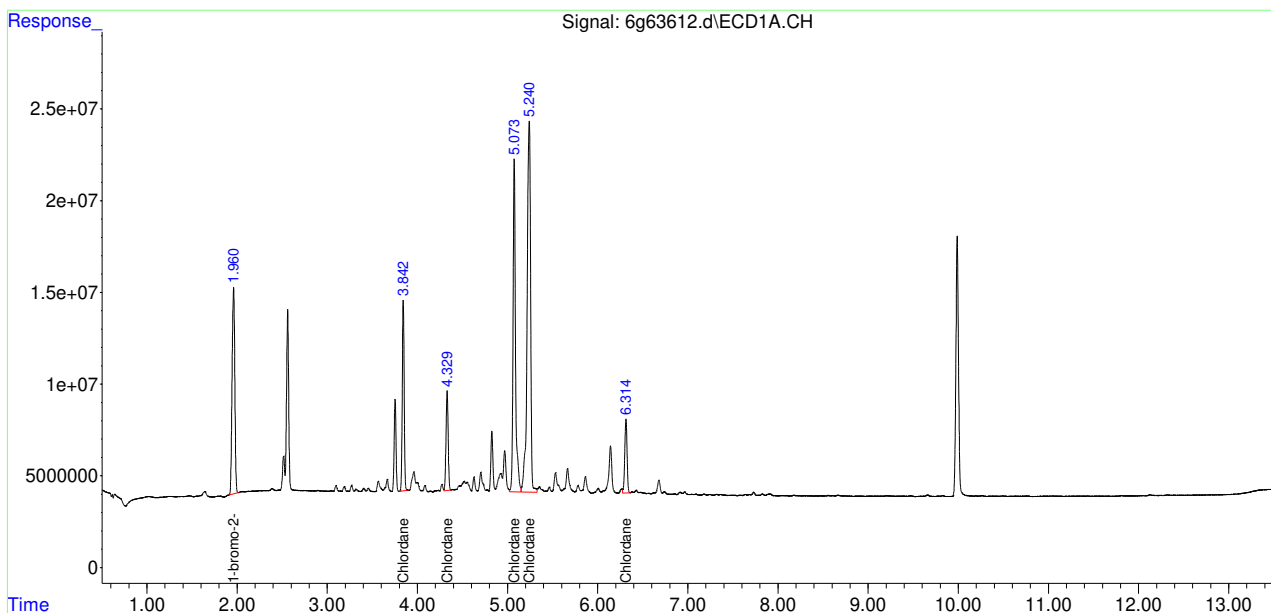
11.6.26  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63612.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:41:11  
 Operator : mailisih  
 Sample : ic1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:19:05 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.26  
 11

# Manual Integration Approval Summary

Sample Number: G6G1951-IC1951      Method: SW846 8081B  
Lab FileID: 6G63612.D      Analyst approved: 03/13/19 16:29 Mailisi Heshuote  
Injection Time: 03/13/19 14:41      Supervisor approved: 03/14/19 14:58 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlordane-D		2	6.47	Split peak

11.6.26.1

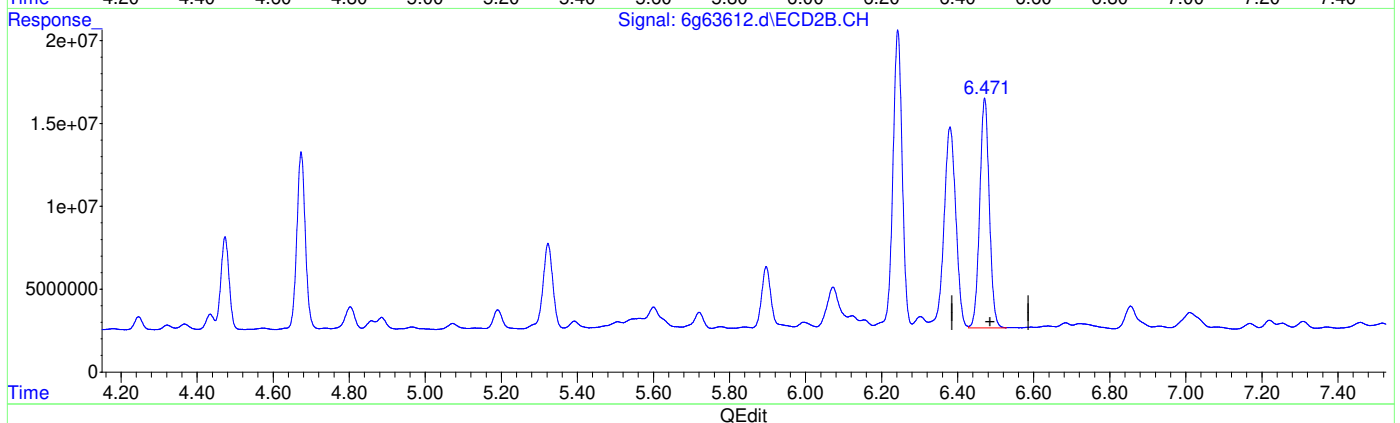
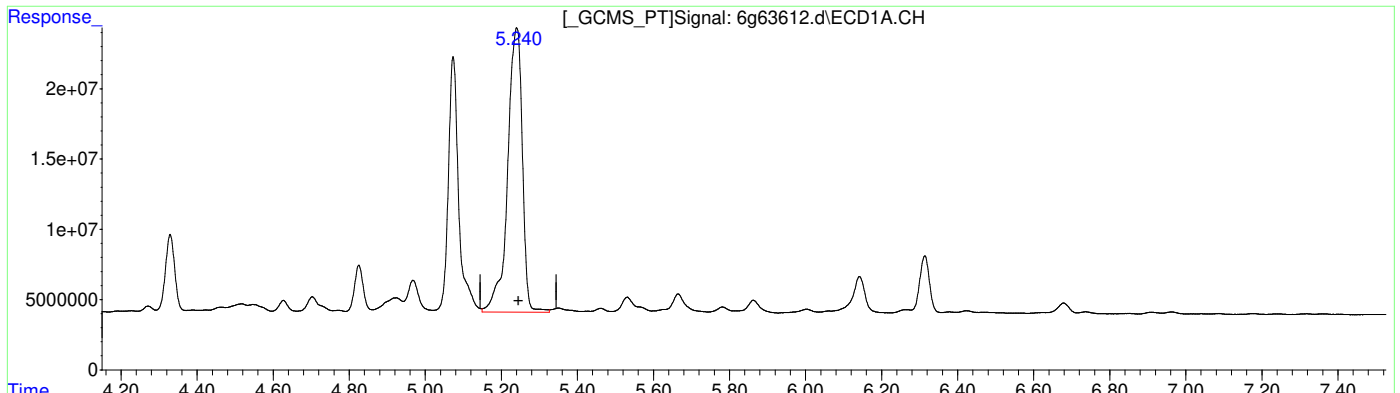
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63612.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:41:11  
 Operator : mailisih  
 Sample : ic1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:11:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(37) Chlordane {D}  
 5.240min 447.729 PPB  
 response 543107928

(37) Chlordane {D} #2  
 6.471min 225.900 PPB  
 response 242522561

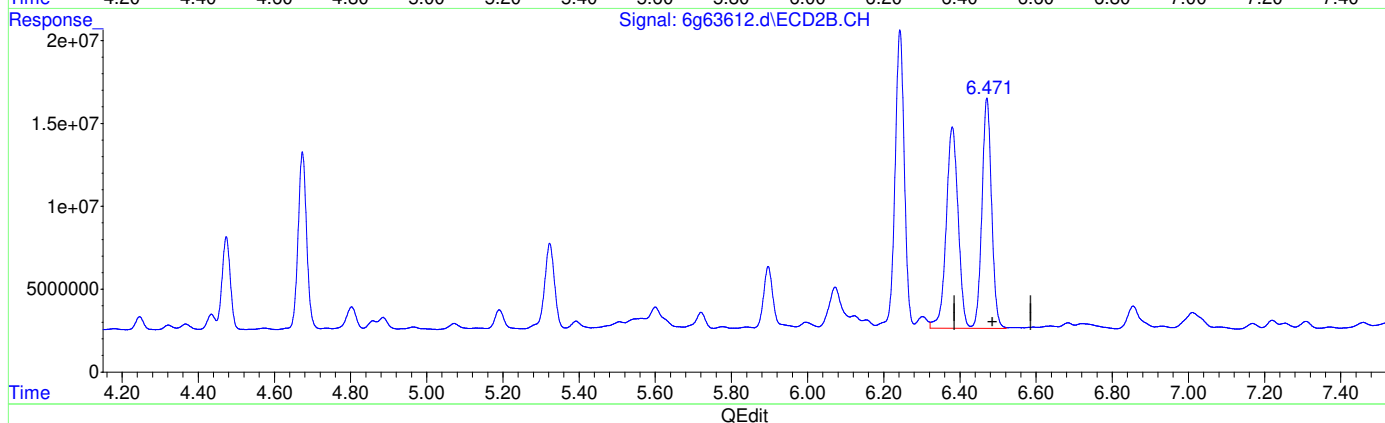
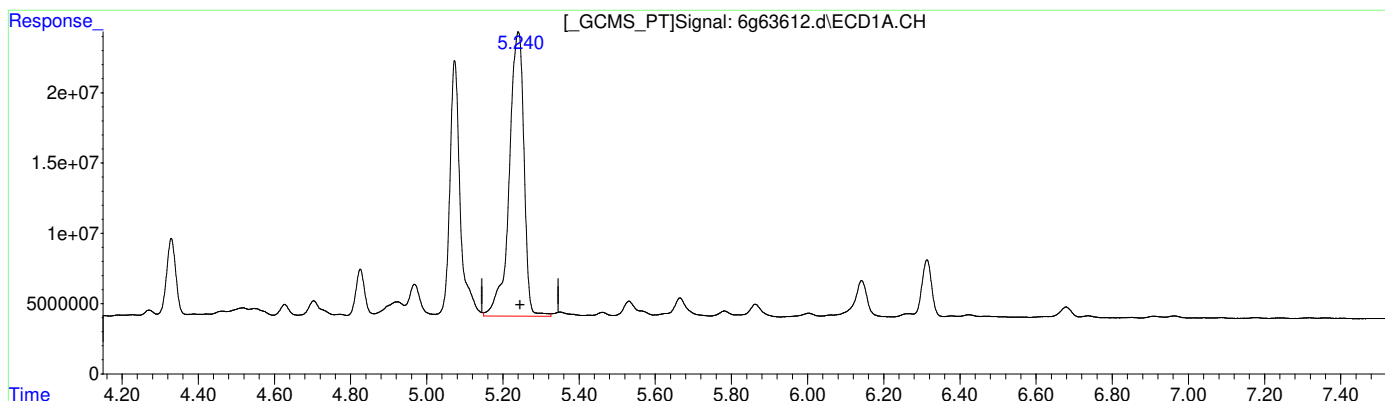
(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:11:40 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63612.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:41:11  
 Operator : mailisih  
 Sample : ic1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:11:28 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(37) Chlordane {D}  
 5.240min 447.729 PPB  
 response 543107928

(37) Chlordane {D} #2  
 6.471min 474.069 PPB m  
 response 508952456

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 15:11:48 2019

11.6.26.3  
 11



## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63613.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 14:58:58  
 Operator : mailisih  
 Sample : ic1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:19:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 14:59:36 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
27) I 1-bromo-2...	1.958	2.175	237.1E6	289.5E6	50.000	50.000

## System Monitoring Compounds

## Target Compounds

28) L8 Toxaphene{A}	5.763	6.970	33672291	60317931	414.528	485.172
29) L8 Toxaphene{B}	6.395	7.831	94650124	69831118	461.660	518.077
30) L8 Toxaphene{C}	6.576	7.994	75966098	124.4E6	476.453	523.136
31) L8 Toxaphene{D}	6.917	8.434	58281077	78662629	475.691	543.825
32) L8 Toxaphene{E}	7.575	9.342	65692188	67518544	498.443	586.101
Sum Toxaphene			328.3E6	400.8E6	N.D.	N.D.
Average Toxaphene					465.355	531.262

## SemiQuant Compounds - Not Calibrated on this Instrument

-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.27

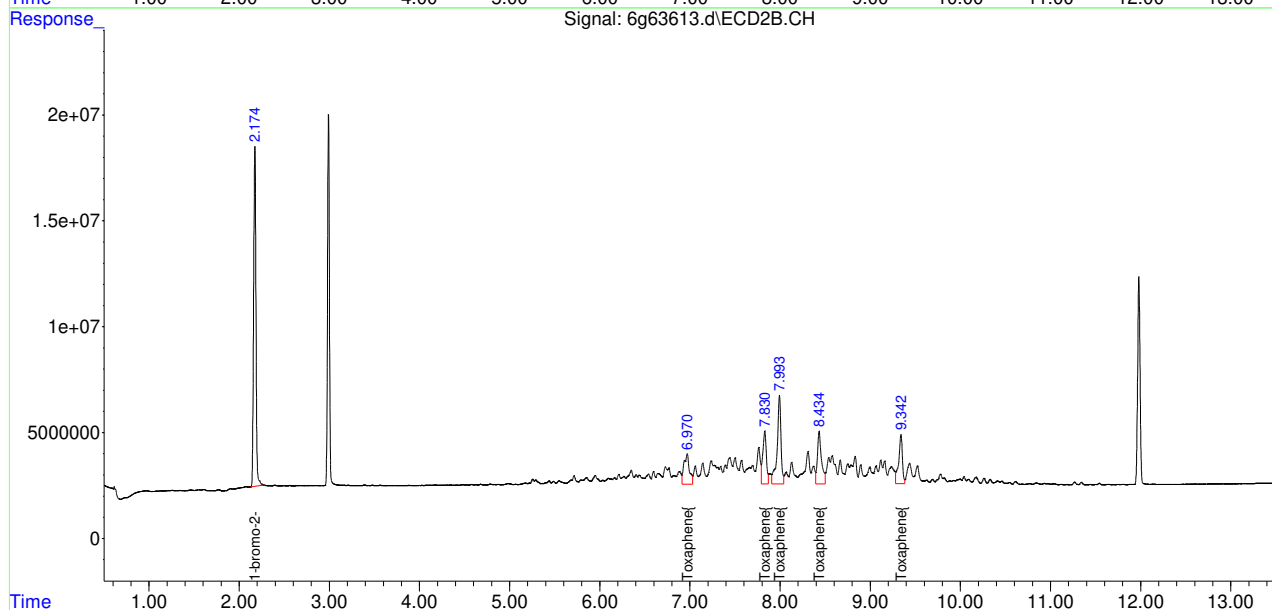
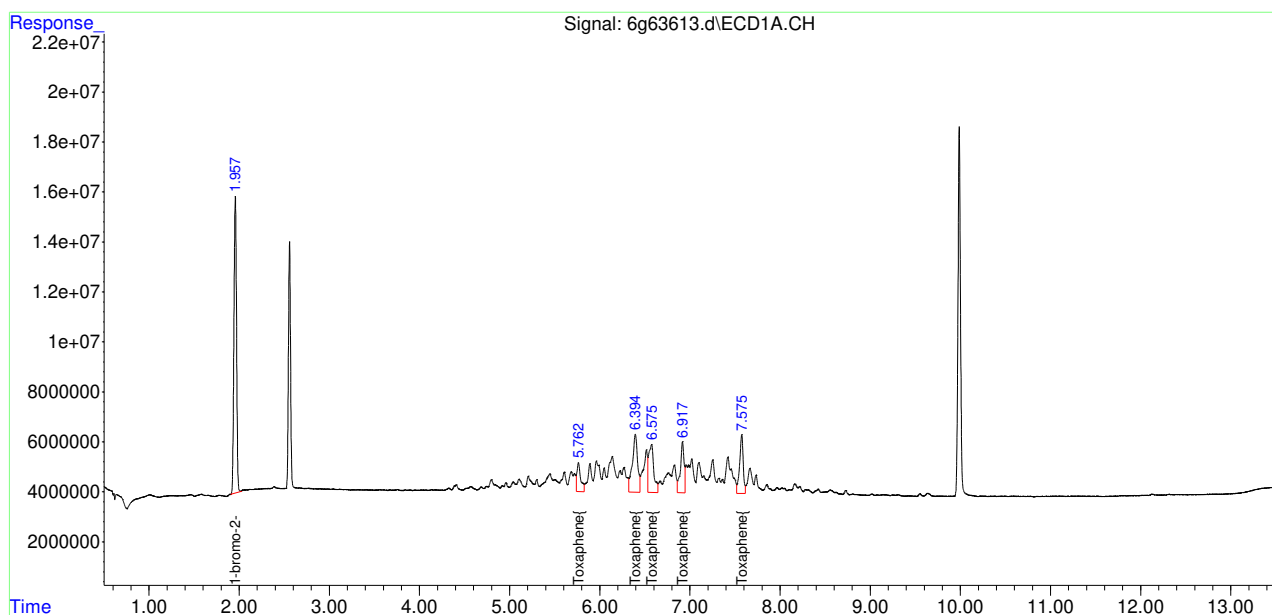
11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
Data File : 6g63613.d  
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
Acq On : 13-Mar-19, 14:58:58  
Operator : mailisih  
Sample : ic1951-500  
Misc : op18954,g6g1951,16.8,,,1,1  
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Mar 13 15:19:18 2019  
Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
Quant Title : PEST/PCB  
QLast Update : Wed Mar 13 14:59:36 2019  
Response via : Initial Calibration  
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63614.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 15:16:31  
 Operator : mailisih  
 Sample : icv1951-25  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:36:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.956	2.173	237.3E6	289.8E6	50.000	50.000
27) I 1-bromo-2...	1.956	2.173	237.3E6	289.8E6	50.000	50.000
33) I 1-bromo-2...	1.956	2.173	237.3E6	289.8E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.557	2.990	76273950	120.3E6	24.132	23.607
Spiked Amount	40.000	Range	30 - 150	Recovery	= 60.33%	59.02%
26) SA Decachlor...	9.988	11.980	135.6E6	94383473	22.986	23.426
Spiked Amount	40.000		Recovery	= 57.46%	58.56%	
Target Compounds						
4) A alpha-BHC	3.037	3.659	153.0E6	182.3E6	27.202	27.374
5) MA gamma-BHC	3.336	4.090	144.1E6	166.4E6	26.676	27.087
6) MA Heptachlor	3.840	4.673	151.1E6	161.1E6	27.046	25.855
7) B beta-BHC	3.411	4.174	60577675	76717757	26.008	26.504
8) B delta-BHC	3.599	4.574	135.0E6	155.1E6	27.172	27.171
9) MB Aldrin	4.181	5.128	143.5E6	150.5E6	27.503	26.943
11) B Heptachlo...	4.906	5.957	133.8E6	142.5E6	24.975	26.798
12) B gamma-Chl...	5.072	6.244	136.2E6	139.9E6	27.777	26.024
13) B alpha-Chl...	5.246	6.471	133.9E6	138.3E6	28.891	26.763
14) A Endosulfan I	5.426	6.566	128.4E6	128.6E6	27.375	26.668
15) B 4,4'-DDE	5.358	6.736	133.5E6	131.4E6	27.492	27.298
16) MA Dieldrin	5.754	7.005	134.9E6	140.3E6	27.582	27.140
17) MA Endrin	6.081	7.510	123.8E6	127.6E6	26.907	26.621
18) A 4,4'-DDD	6.204	7.690	91723815	110.0E6	26.570	27.114
19) B Endosulfa...	6.406	7.861	119.1E6	123.0E6	25.043	24.574
20) MA 4,4'-DDT	6.628	8.226	100.7E6	108.9E6	26.970	27.042
21) B Endrin Al...	7.041	8.435	101.9E6	102.7E6	26.696	26.968
22) B Endosulfa...	7.731	8.906	101.1E6	108.0E6	25.952	26.065
23) A Methoxychlor	7.418	9.474	56288319	62648128	25.472	26.450
24) Mirex	7.575	9.805	92472245	93551783	23.654	24.098
25) B Endrin Ke...	8.173	9.872	126.1E6	126.4E6	27.655	27.133
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.



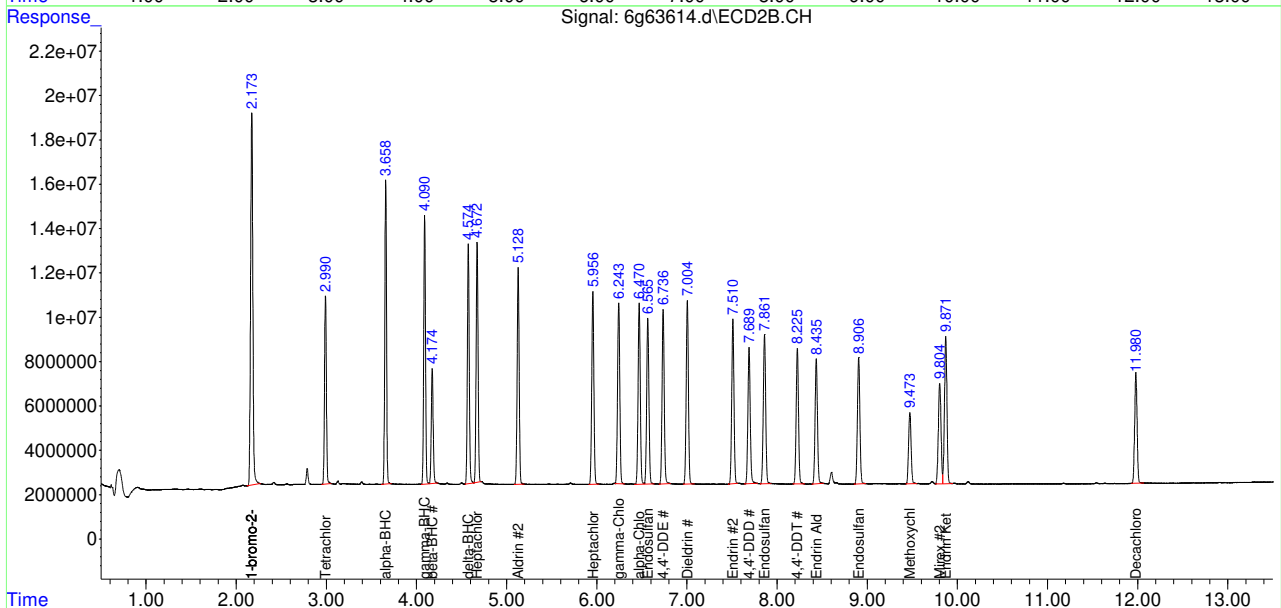
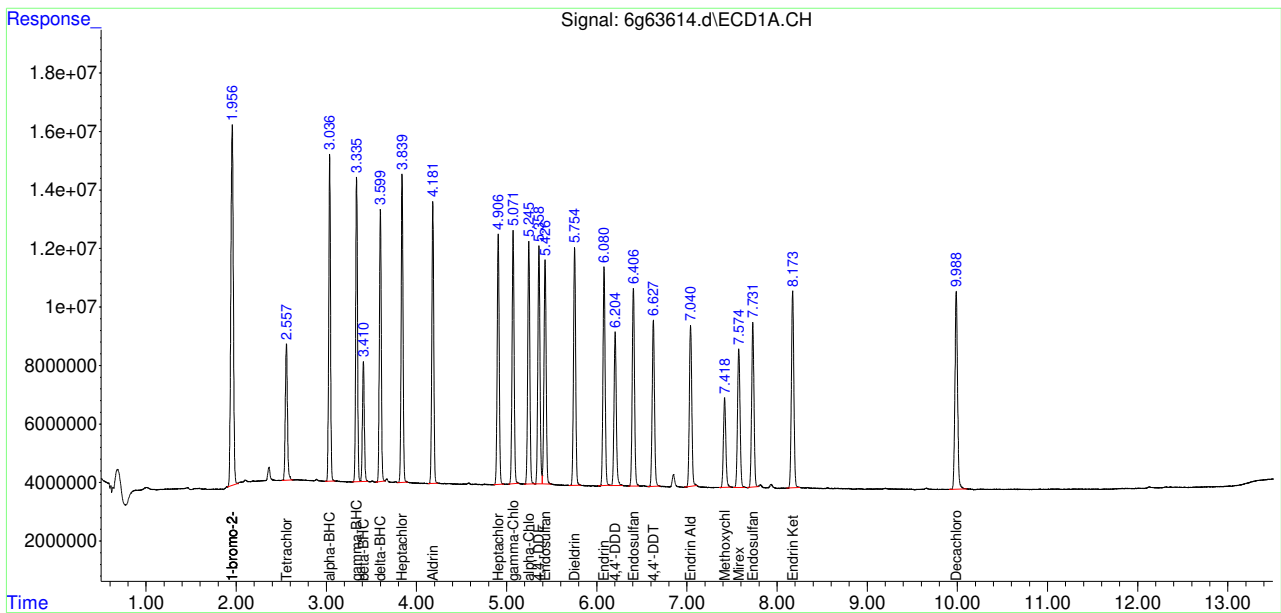
11.6.28  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63614.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 15:16:31  
 Operator : mailisih  
 Sample : icv1951-25  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 15:36:44 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.28  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63615.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 15:34:38  
 Operator : mailisih  
 Sample : icv1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 16:23:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
1) I 1-bromo-2...	1.959	2.174	235.0E6	284.2E6	50.000	50.000
27) I 1-bromo-2...	1.959	2.174	235.0E6	284.2E6	50.000	50.000
33) I 1-bromo-2...	1.959	2.174	235.0E6	284.2E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.560	2.991	147.1E6	229.9E6	46.990	45.991
Spiked Amount	40.000	Range 30 - 150	Recovery =	117.47%	114.98%	
26) SA Decachlor...	9.989	11.982	269.3E6	176.3E6	46.102	44.601
Spiked Amount	40.000		Recovery =	115.26%	111.50%	
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
34) Chlordane...	3.843	4.674	140.6E6	159.0E6	469.137	477.470
35) Chlordane...	4.330	5.324	86604405	89655138	477.599	479.267
36) Chlordane...	5.075	6.243	323.0E6	301.4E6	468.417	493.321
37) Chlordane...	5.239	6.471	523.4E6	504.0E6	480.466	497.718m
38) Chlordane...	6.314	7.942	69919590	78119706	484.441	473.052

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.29

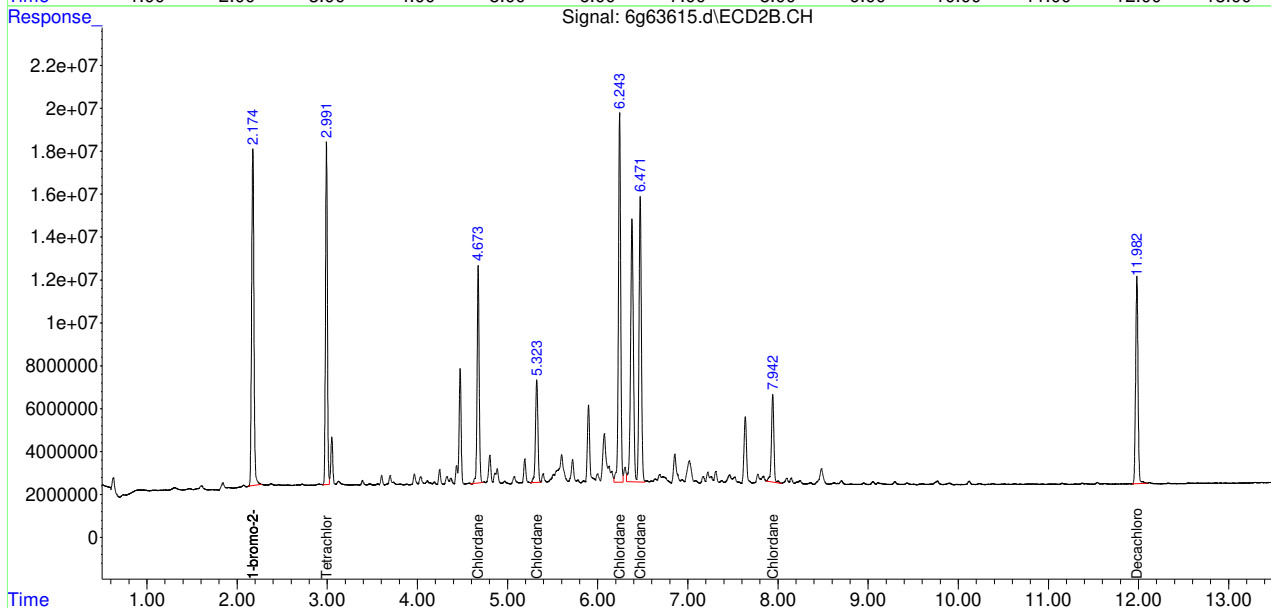
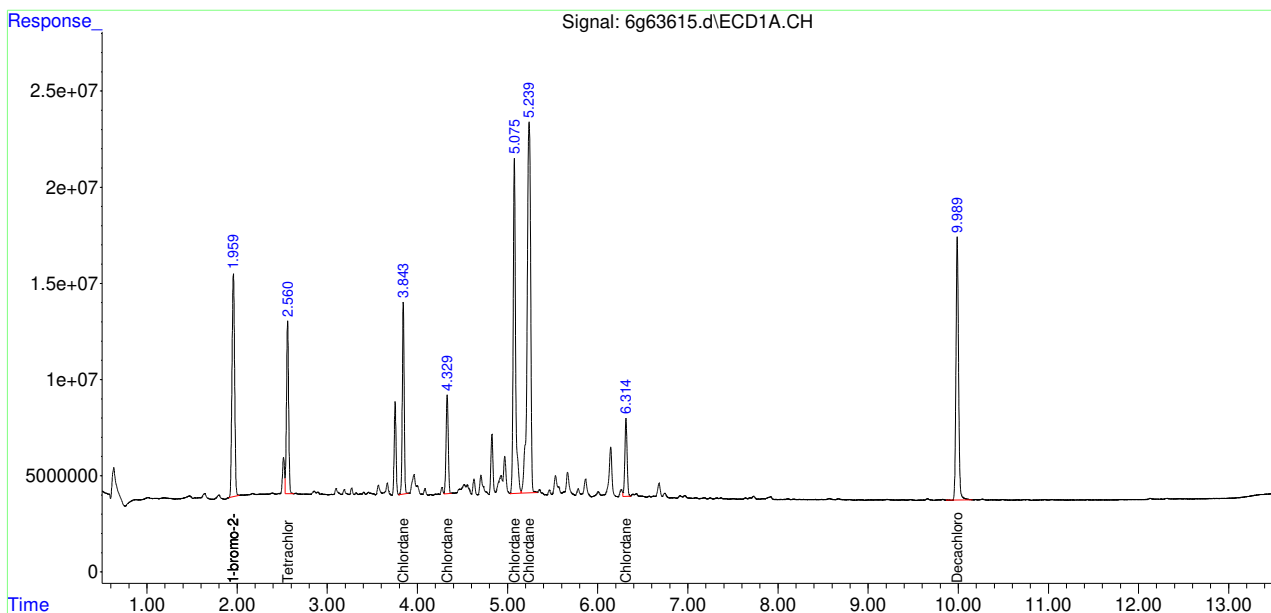
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63615.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 15:34:38  
 Operator : mailisih  
 Sample : icv1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 16:23:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



# Manual Integration Approval Summary

Sample Number: G6G1951-ICV1951      Method: SW846 8081B  
Lab FileID: 6G63615.D      Analyst approved: 03/13/19 16:29 Mailisi Heshuote  
Injection Time: 03/13/19 15:34      Supervisor approved: 03/14/19 14:58 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlordane-D		2	6.47	Split peak

11.6.29.1

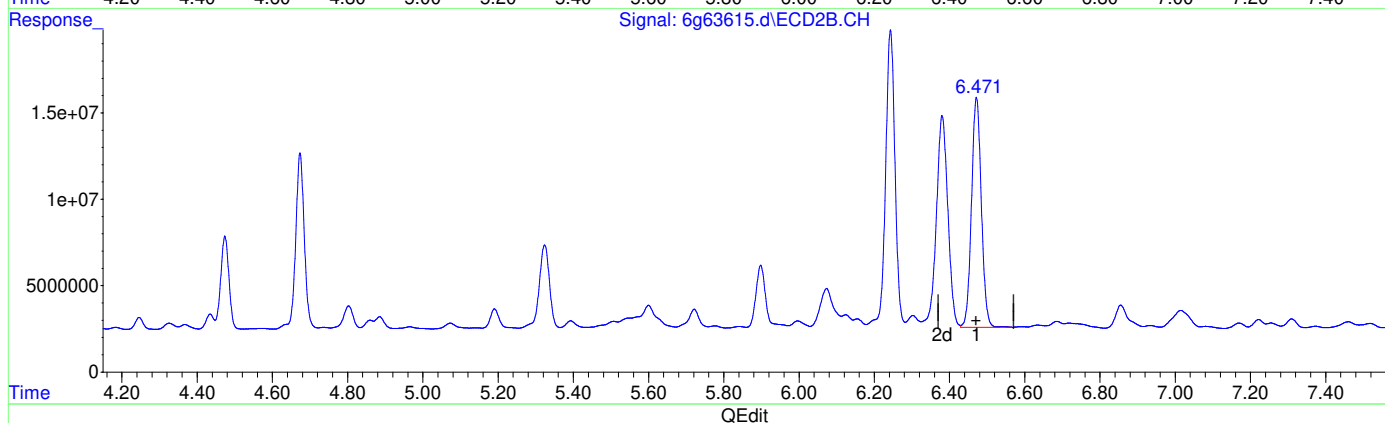
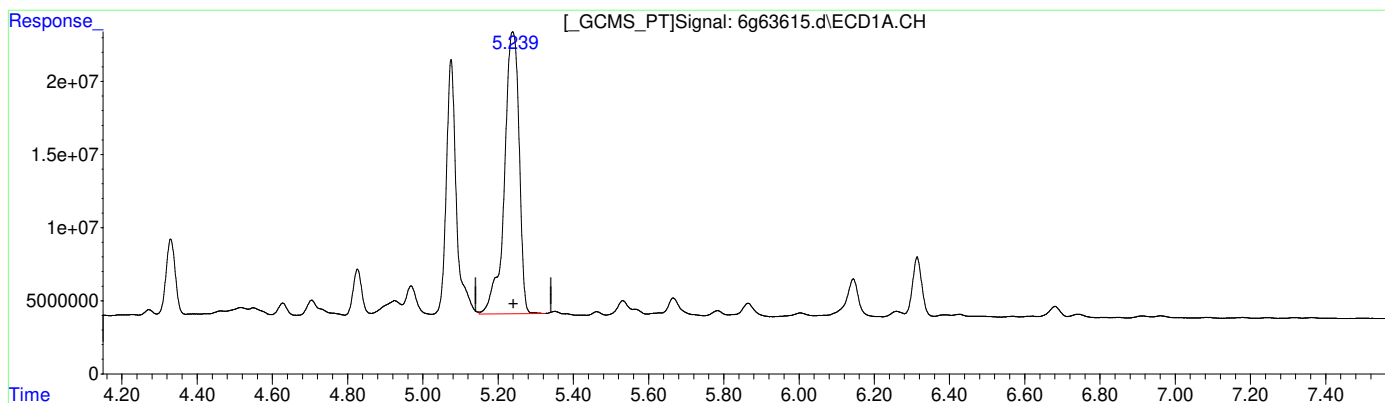
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63615.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 15:34:38  
 Operator : mailisih  
 Sample : icv1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 16:22:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(37) Chlordane {D}  
 5.239min 480.466 PPB  
 response 523399378

(37) Chlordane {D} #2  
 6.472min 237.794 PPB  
 response 240797144

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 16:22:53 2019

11.6.29.2  
 11

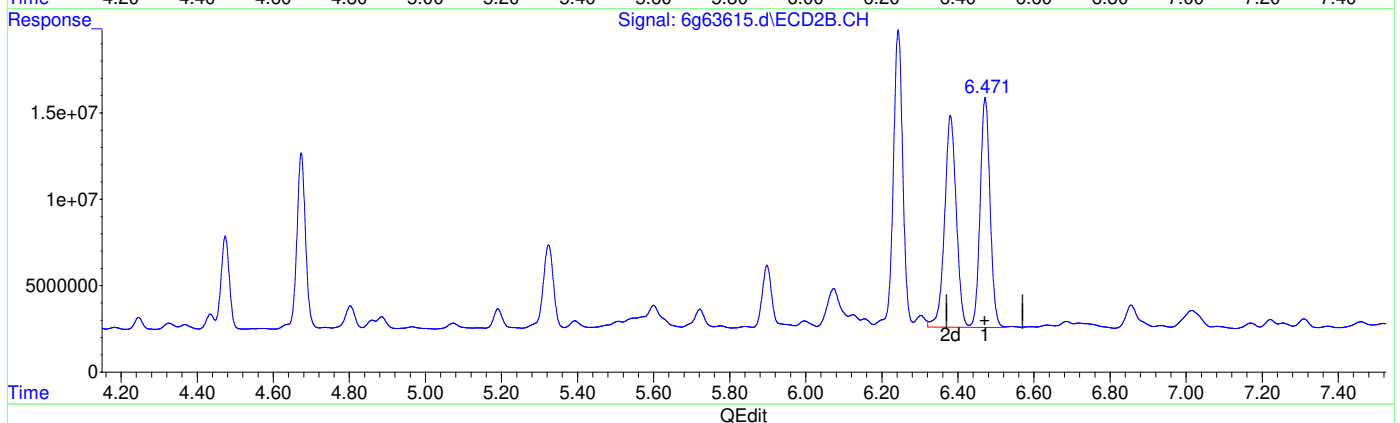
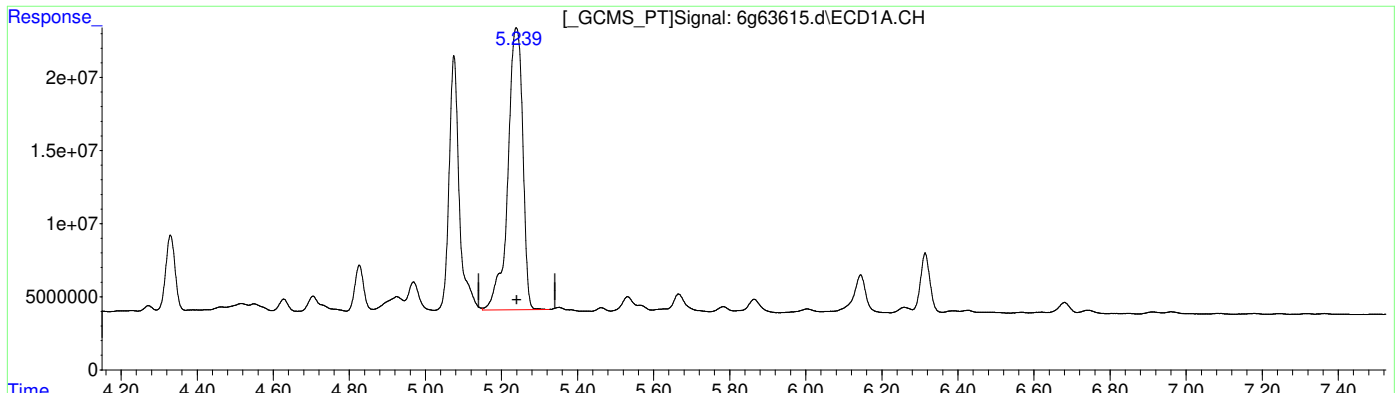


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63615.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 15:34:38  
 Operator : mailisih  
 Sample : icv1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 16:22:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



(37) Chlordane {D}  
 5.239min 480.466 PPB  
 response 523399378

(37) Chlordane {D} #2  
 6.471min 497.718 PPB m  
 response 504002594

(+) = Expected Retention Time  
 6PST1951.M Wed Mar 13 16:23:01 2019

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63616.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 15:52:55  
 Operator : mailisih  
 Sample : icv1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 16:24:41 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.959	2.174	238.7E6	290.1E6	50.000	50.000
27) I 1-bromo-2...	1.959	2.174	238.7E6	290.1E6	50.000	50.000
33) I 1-bromo-2...	1.959	2.174	238.7E6	290.1E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.560	2.991	153.2E6	242.4E6	48.182	47.513
Spiked Amount	40.000	Range 30 - 150	Recovery =	120.46%	118.78%	
26) SA Decachlor...	9.990	11.982	277.9E6	176.4E6	46.836	43.725
Spiked Amount	40.000		Recovery =	117.09%	109.31%	
Target Compounds						
28) L8 Toxaphene{A}	5.767	6.971	27977924	63148439	412.724	522.381 #
29) L8 Toxaphene{B}	6.399	7.832	88377170	83440182	463.805	596.207 #
30) L8 Toxaphene{C}	6.578	7.995	71699036	128.7E6	468.825	516.196
31) L8 Toxaphene{D}	6.921	8.435	52218850	80882302	445.058	513.046
32) L8 Toxaphene{E}	7.577	9.341	62981593	70228213	476.230	518.991
Sum Toxaphene			303.3E6	426.4E6	2266.642	2666.821
Average Toxaphene					453.328	533.364

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

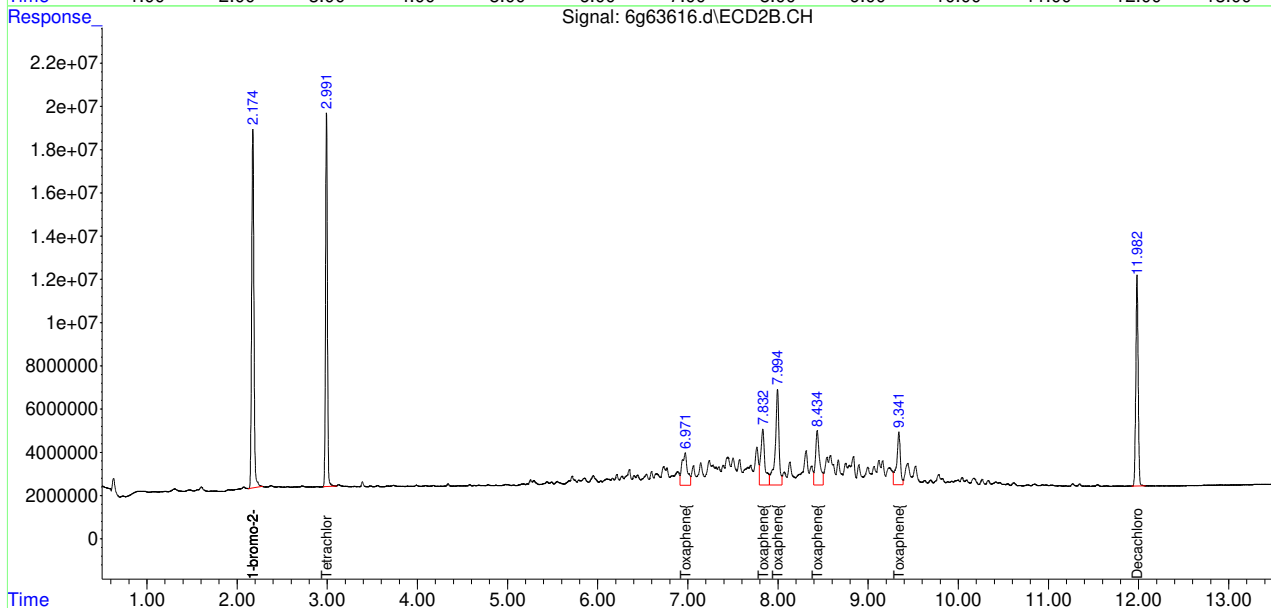
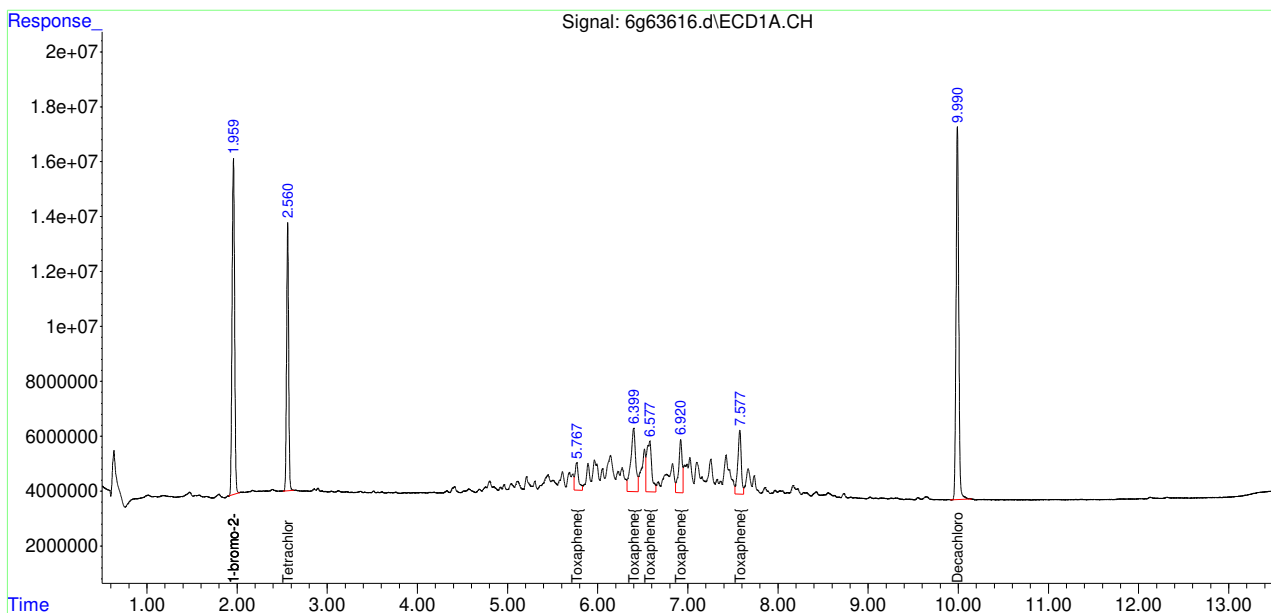
11.6.30  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63616.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 15:52:55  
 Operator : mailisih  
 Sample : icv1951-500  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 15 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 16:24:41 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.30 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63617.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 16:11:10  
 Operator : mailisih  
 Sample : icv1951-50  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 16:26:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
1) I 1-bromo-2...	1.960	2.176	238.2E6	291.9E6	50.000	50.000
27) I 1-bromo-2...	1.960	2.176	238.2E6	291.9E6	50.000	50.000
33) I 1-bromo-2...	1.960	2.176	238.2E6	291.9E6	50.000	50.000

System Monitoring Compounds

Target Compounds	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
3) hexachlor...	2.897	3.503	358.6E6	257.3E6	49.020	46.699
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

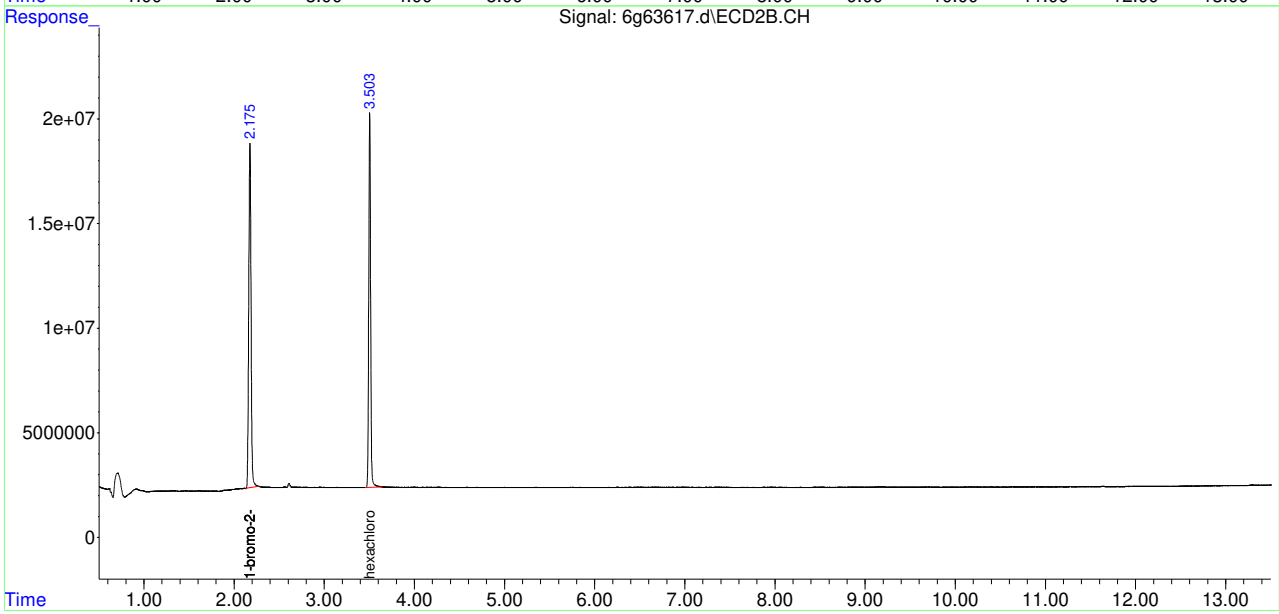
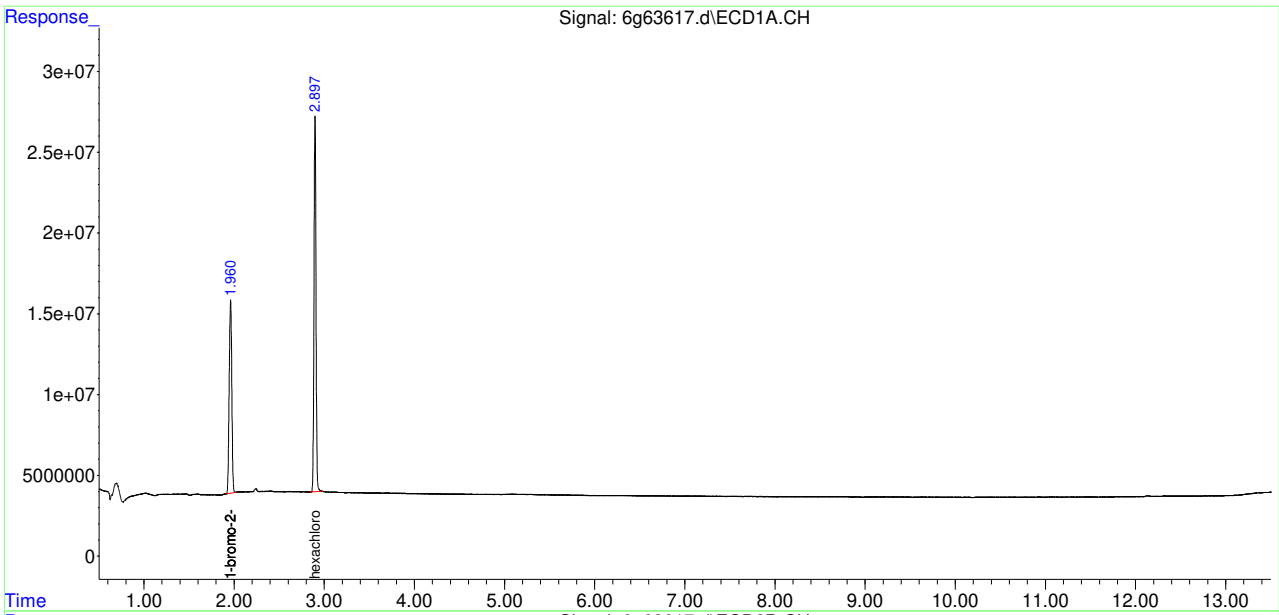
11.6.31  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63617.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 16:11:10  
 Operator : mailisih  
 Sample : icv1951-50  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 13 16:26:43 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.31  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63618.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 16:29:31  
 Operator : mailisih  
 Sample : icv1951-50  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 14 08:27:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
Internal Standards						
1) I 1-bromo-2...	1.961	2.175	236.8E6	288.8E6	50.000	50.000
27) I 1-bromo-2...	1.961	2.175	236.8E6	288.8E6	50.000	50.000
33) I 1-bromo-2...	1.961	2.175	236.8E6	288.8E6	50.000	50.000

System Monitoring Compounds

Target Compounds	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
10)alachlor	4.331	4.937	30633266	40689051	51.287	50.708
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

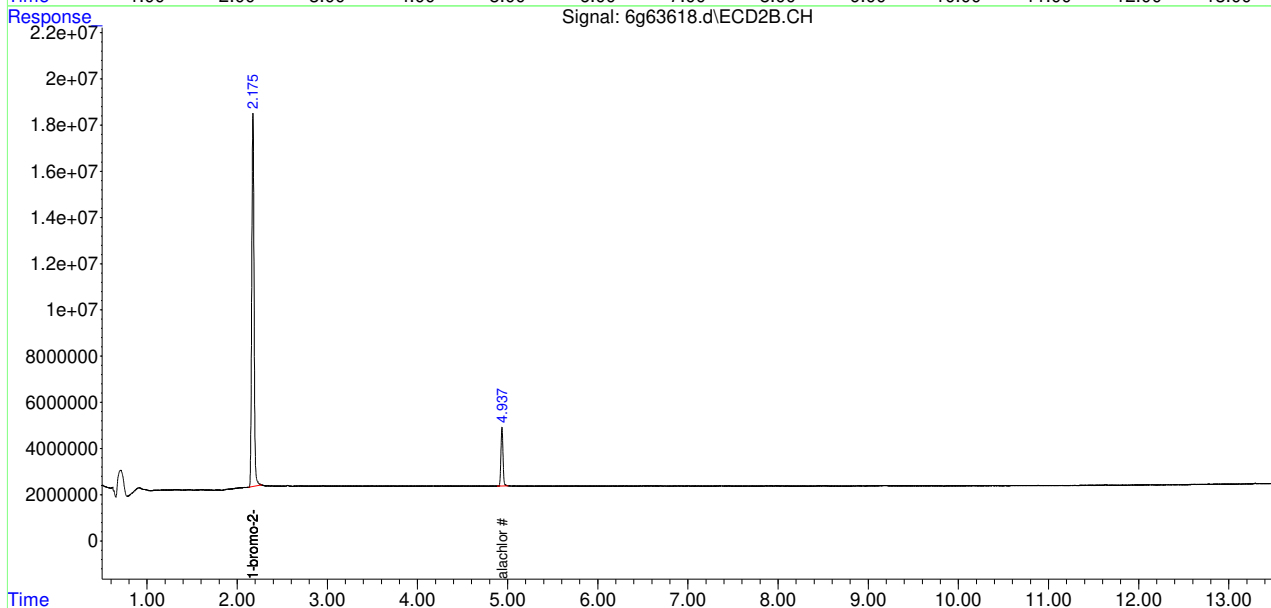
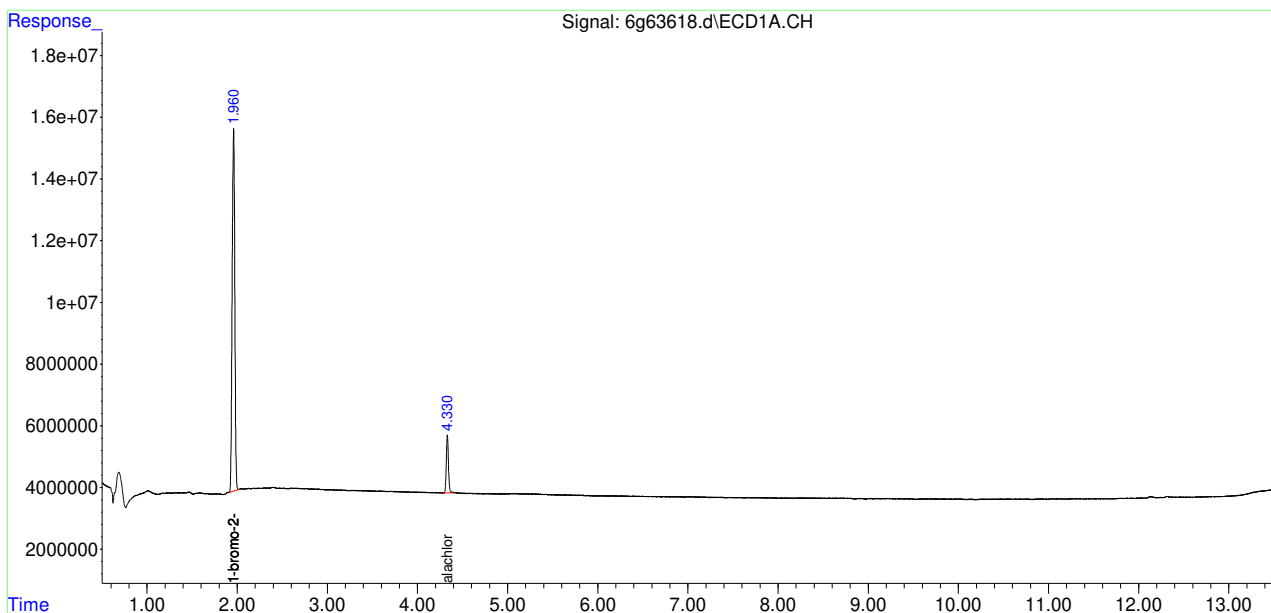
11.6.32  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1951\  
 Data File : 6g63618.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 13-Mar-19, 16:29:31  
 Operator : mailisih  
 Sample : icv1951-50  
 Misc : op18954,g6g1951,16.8,,,1,1  
 ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 14 08:27:55 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Wed Mar 13 15:21:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.32  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64303.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:59:30  
 Operator : thomasl  
 Sample : cc1951-25  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:08:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.954	2.169	311.7E6	280.8E6	50.000	50.000
27) I 1-bromo-2...	1.954	2.169	311.7E6	280.8E6	50.000	50.000
33) I 1-bromo-2...	1.954	2.169	311.7E6	280.8E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.553	2.984	102.2E6	120.8E6	24.611	24.460
Spiked Amount	40.000	Range 30 - 150	Recovery =		61.53%	61.15%
26) SA Decachlor...	9.975	11.962	184.5E6	97239798	23.810	24.907
Spiked Amount	40.000		Recovery =		59.52%	62.27%
Target Compounds						
3) hexachlor...	2.887	3.494	233.9E6	126.9E6	24.439	23.945
4) A alpha-BHC	3.030	3.649	184.1E6	160.6E6	24.923	24.878
5) MA gamma-BHC	3.329	4.079	175.1E6	147.5E6	24.677	24.792
6) MA Heptachlor	3.832	4.659	183.4E6	146.5E6	24.984	24.266
7) B beta-BHC	3.405	4.165	71919930	67774174	23.504	24.164
8) B delta-BHC	3.593	4.564	157.1E6	136.6E6	24.077	24.692
9) MB Aldrin	4.171	5.113	171.7E6	131.7E6	25.047	24.334
10) alachlor	4.318	4.921	19941935	20729790	25.364	26.576
11) B Heptachlo...	4.896	5.939	160.9E6	126.1E6	22.851	24.475
12) B gamma-Chl...	5.060	6.225	150.4E6	123.1E6	23.343	23.629
13) B alpha-Chl...	5.233	6.452	150.7E6	122.0E6	24.757	24.377
14) A Endosulfan I	5.414	6.547	157.1E6	115.3E6	25.492	24.677
15) B 4,4'-DDE	5.349	6.719	149.1E6	114.2E6	23.378	24.469
16) MA Dieldrin	5.740	6.985	161.2E6	123.1E6	25.098	24.572
17) MA Endrin	6.067	7.489	154.8E6	117.5E6	25.608	25.295
18) A 4,4'-DDD	6.196	7.673	107.8E6	96059280	23.774	24.434
19) B Endosulfa...	6.393	7.841	146.9E6	111.9E6	23.509	23.060
20) MA 4,4'-DDT	6.617	8.206	123.7E6	98498328	25.223	25.234
21) B Endrin Al...	7.026	8.415	118.3E6	88242024	23.595	23.923
22) B Endosulfa...	7.715	8.886	132.8E6	102.7E6	25.950	25.561
23) A Methoxychlor	7.412	9.455	75781536	59882984	26.104	26.092
24) Mirex	7.562	9.781	125.8E6	94997984	24.500	25.254
25) B Endrin Ke...	8.158	9.851	151.6E6	114.5E6	25.303	25.349
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

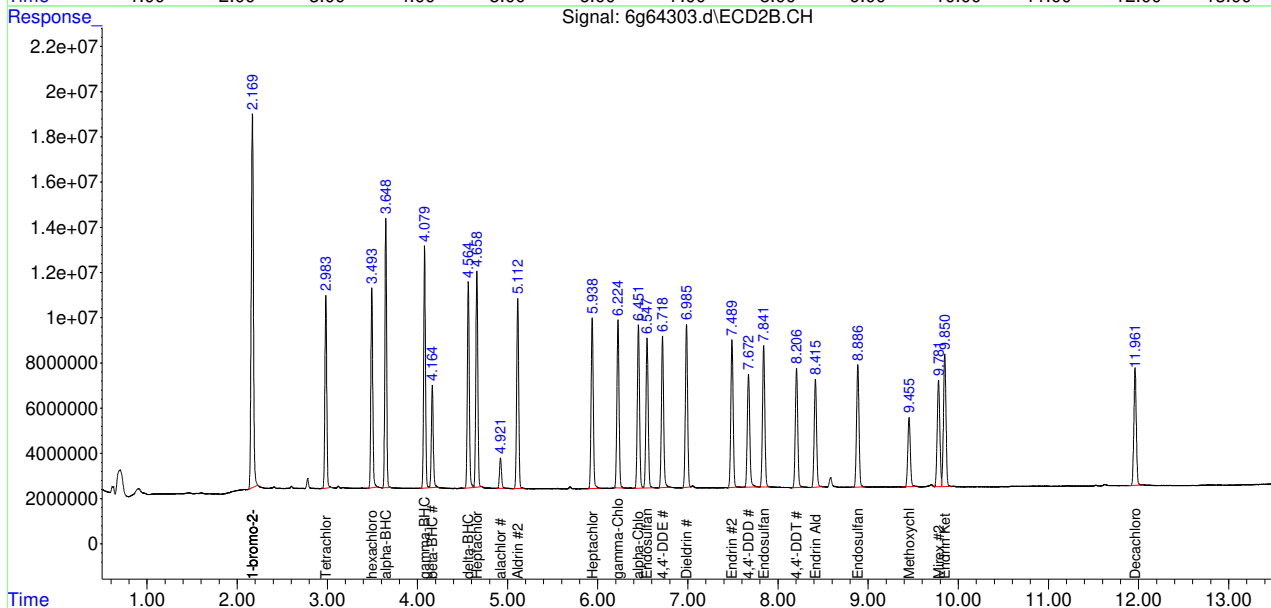
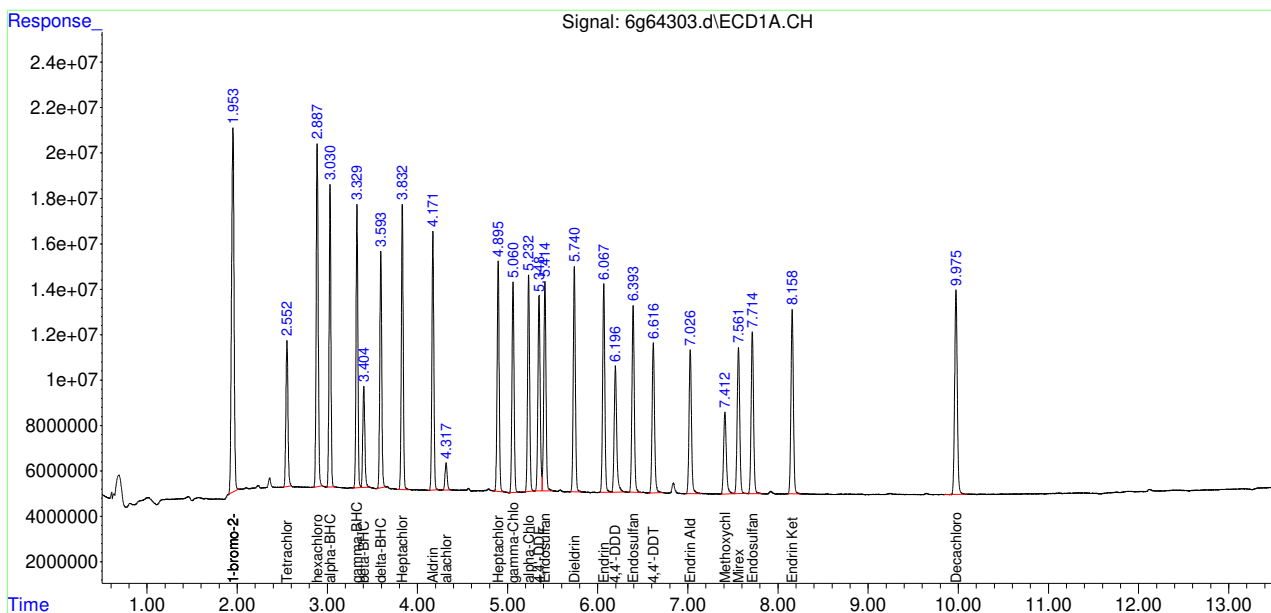


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64303.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 09:59:30  
 Operator : thomas1  
 Sample : cc1951-25  
 Misc : op19802,g6g1984,1000,,,5,1  
 ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:08:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Mon Apr 15 03:55:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.33  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64320.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 16:17:54  
 Operator : thomasl  
 Sample : cc1951-50  
 Misc : op19789,g6g1984,16.8,,,10,1  
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 16:48:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
Internal Standards						
1) I 1-bromo-2...	1.952	2.167	310.3E6	278.5E6	50.000	50.000
27) I 1-bromo-2...	1.952	2.167	310.3E6	278.5E6	50.000	50.000
33) I 1-bromo-2...	1.952	2.167	310.3E6	278.5E6	50.000	50.000
System Monitoring Compounds						
2) SAB Tetrachlo...	2.552	2.983	207.5E6	237.8E6	50.195	48.546
Spiked Amount	40.000	Range	30 - 150	Recovery	= 125.49%	121.36%
26) SA Decachlor...	9.974	11.962	378.5E6	174.9E6	49.075	45.161
Spiked Amount	40.000		Recovery	= 122.69%	112.90%	
Target Compounds						
3) hexachlor...	2.888	3.493	481.2E6	248.0E6	50.503	47.175
4) A alpha-BHC	3.032	3.648	417.0E6	331.8E6	56.698	51.828
5) MA gamma-BHC	3.330	4.079	393.5E6	300.4E6	55.709	50.879
6) MA Heptachlor	3.834	4.659	407.3E6	296.4E6	55.753	49.482
7) B beta-BHC	3.406	4.164	147.5E6	130.1E6	48.435	46.750
8) B delta-BHC	3.595	4.564	362.1E6	284.1E6	55.763	51.753
9) MB Aldrin	4.173	5.113	385.4E6	266.8E6	56.498	49.708
10) alachlor	4.319	4.921	39143358	36881108	50.018	47.663
11) B Heptachlo...	4.896	5.940	336.9E6	250.1E6	48.087	48.927
12) B gamma-Chl...	5.062	6.226	328.3E6	244.4E6	51.196	47.293
13) B alpha-Chl...	5.236	6.453	332.4E6	237.4E6	54.865	47.808
14) A Endosulfan I	5.415	6.548	340.4E6	227.0E6	55.489	48.951
15) B 4,4'-DDE	5.349	6.719	342.2E6	234.3E6	53.892	50.619
16) MA Dieldrin	5.742	6.986	359.9E6	248.3E6	56.303	49.970
17) MA Endrin	6.069	7.492	347.5E6	234.6E6	57.763	50.916
18) A 4,4'-DDD	6.195	7.672	250.3E6	195.2E6	55.457	50.046
19) B Endosulfa...	6.394	7.842	317.1E6	218.3E6	50.982	45.367
20) MA 4,4'-DDT	6.617	8.207	269.2E6	192.6E6	55.165	49.735
21) B Endrin Al...	7.028	8.416	254.5E6	171.8E6	50.985	46.942
22) B Endosulfa...	7.717	8.886	279.3E6	193.4E6	54.829	48.549
23) A Methoxychlor	7.408	9.453	155.4E6	108.1E6	53.773	47.470
24) Mirex	7.564	9.783	249.3E6	171.3E6	48.766	45.894
25) B Endrin Ke...	8.158	9.851	322.1E6	220.4E6	54.014	49.201
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.



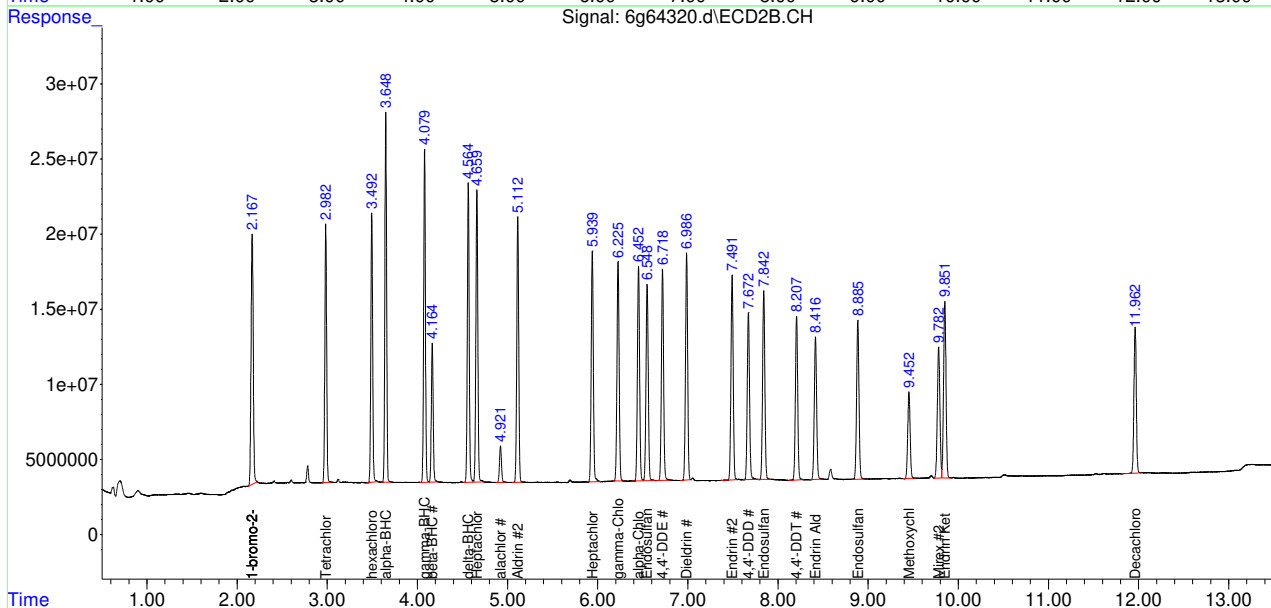
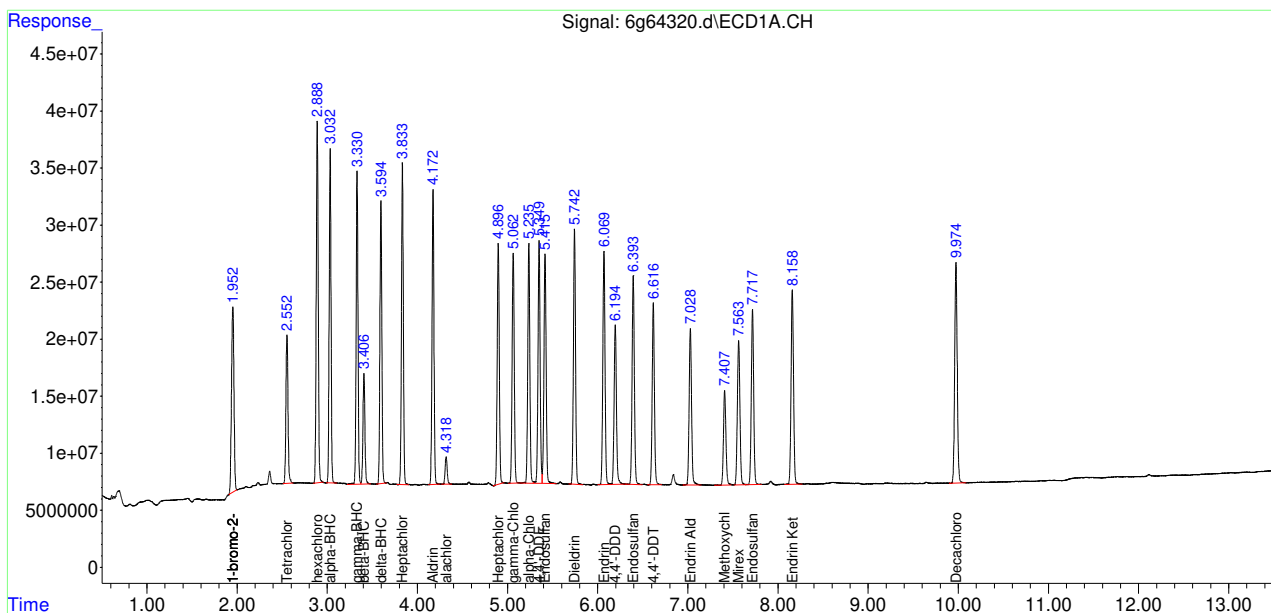
11.6.34  
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\G6G1984\  
 Data File : 6g64320.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18-Apr-19, 16:17:54  
 Operator : thomasl  
 Sample : cc1951-50  
 Misc : op19789,g6g1984,16.8,,,10,1  
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 16:48:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\6PST1951.M  
 Quant Title : PEST/PCB  
 QLast Update : Thu Apr 18 15:15:58 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : RTXCLP I Signal #2 Phase: RTX-CLP II  
 Signal #1 Info : 30mx.32mmx.32um Signal #2 Info : 30m x .32mm x .25um



11.6.34  
11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:32 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.25	28162	32713	2.088	1.980m
Spiked Amount	40.000		Recovery	=	5.22%	4.95%
51) S Decachlorobiphen	14.99	17.34	37055	45358	2.420m	2.609m
Spiked Amount	40.000		Recovery	=	6.05%	6.52%
Target Compounds						
41) AR1016-A	4.18	5.19	27357	25550	65.109	62.073
42) AR1016-B	4.78	6.00	41730	42625	61.144	52.818
43) AR1016-C	5.62	6.95	99785	106769	64.504	62.613
44) AR1016-D	5.87	7.24	36338	43642	63.013	58.703
45) AR1016-E	6.66	8.25	37180	28519	63.261	58.457
46) AR1260-A	10.40	12.35	79901	109266	67.540m	65.731m
47) AR1260-B	10.65	12.55	51789	76066	66.377m	62.031
48) AR1260-C	11.19	13.23	56381	59992	81.573m	60.236 #
49) AR1260-D	11.89	13.80	109340	138256	62.240	57.532
50) AR1260-E	12.59	14.66	108308	150687	62.429m	66.346m

11.6.35  
 11

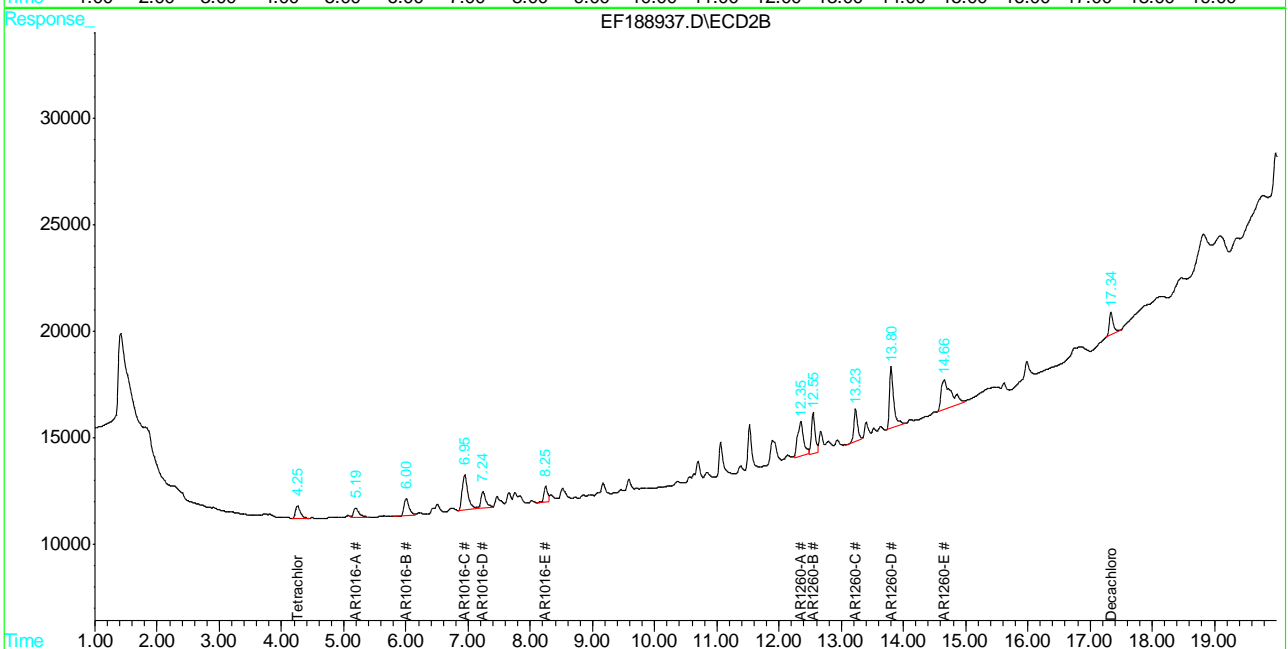
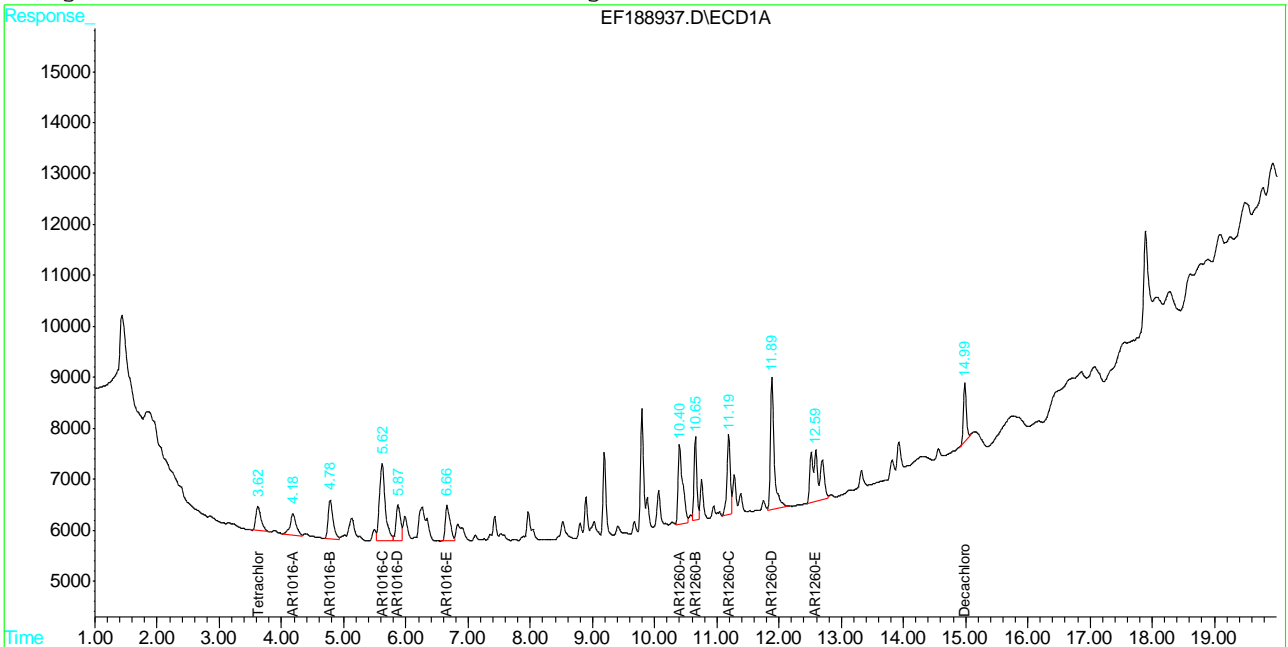
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 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188937.D PCB6419.M Wed Apr 10 08:48:19 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:32 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



# Manual Integration Approval Summary

Sample Number: GEF6419-IC6419      Method: SW846 8082A  
Lab FileID: EF188937.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 17:06      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrachloro-m-xylene	877-09-8	2	4.25	Poorly defined baseline
AR1260-A		1	10.40	Split peak
AR1260-B		1	10.65	Split peak
AR1260-C		1	11.19	Split peak
AR1260-A		2	12.35	Split peak
AR1260-E		1	12.59	Split peak
AR1260-E		2	14.66	Split peak
Decachlorobiphenyl	2051-24-3	1	14.99	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	2	17.34	Poorly defined baseline

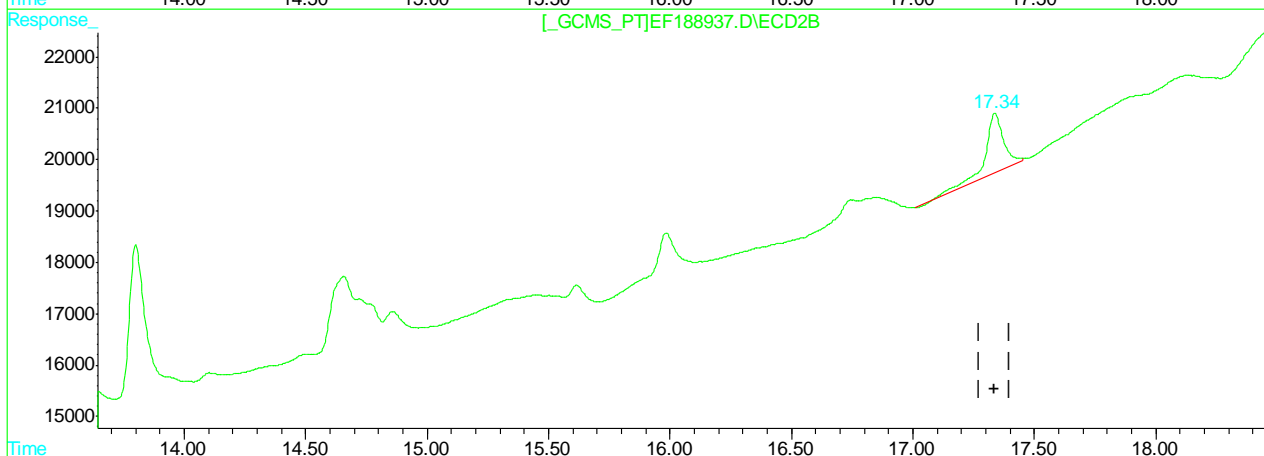
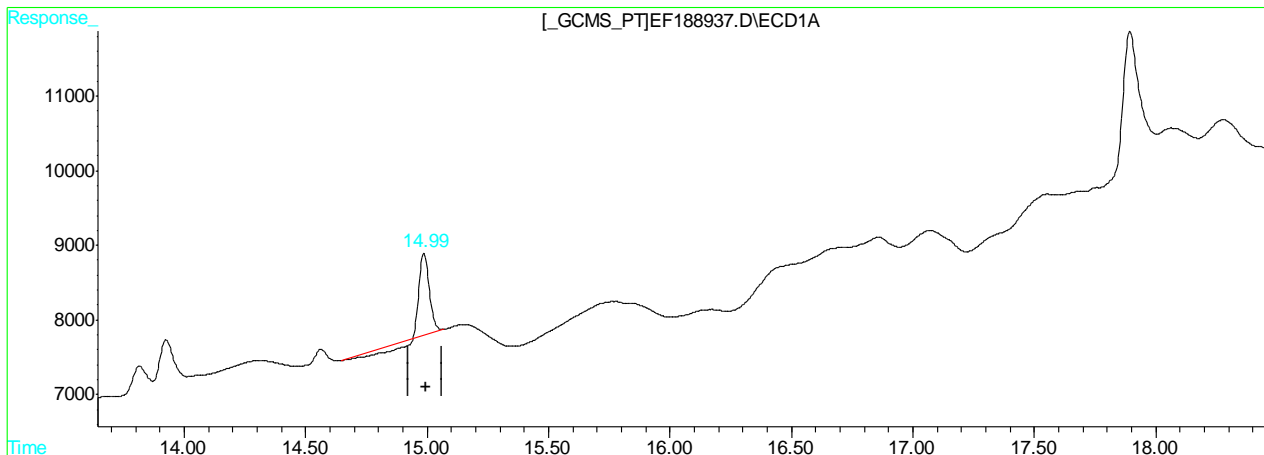
11.6.35.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:22 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Concentration (PPB)	Response
14.99	1.566	23986
17.34	3.503	60887

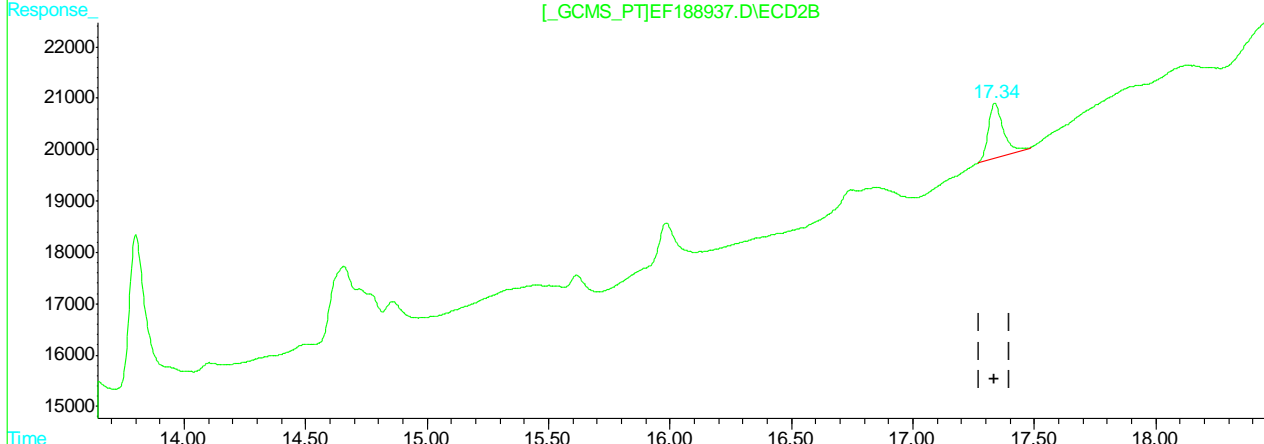
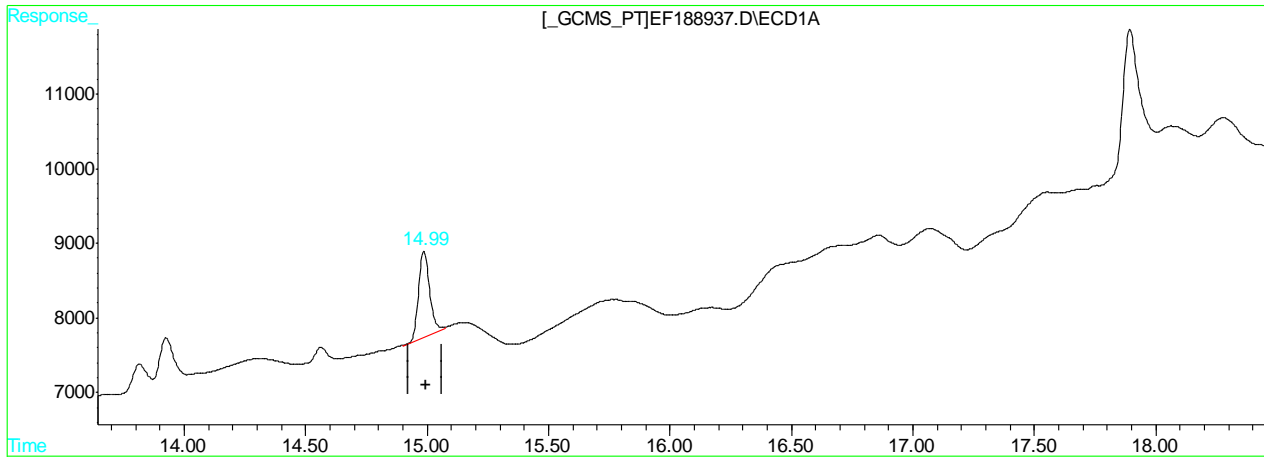
(+) = Expected Retention Time  
 EF188937.D PCB6419.M Wed Apr 10 08:23:19 2019 GCEF

11.6.35.2  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:22 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.99min 2.420PPB m

response 37055

(51) Decachlorobiphenyl #2 (S)

17.34min 2.609PPB m

response 45358

(+) = Expected Retention Time

EF188937.D PCB6419.M

Wed Apr 10 08:23:31 2019

GCEF

11.6.35.3

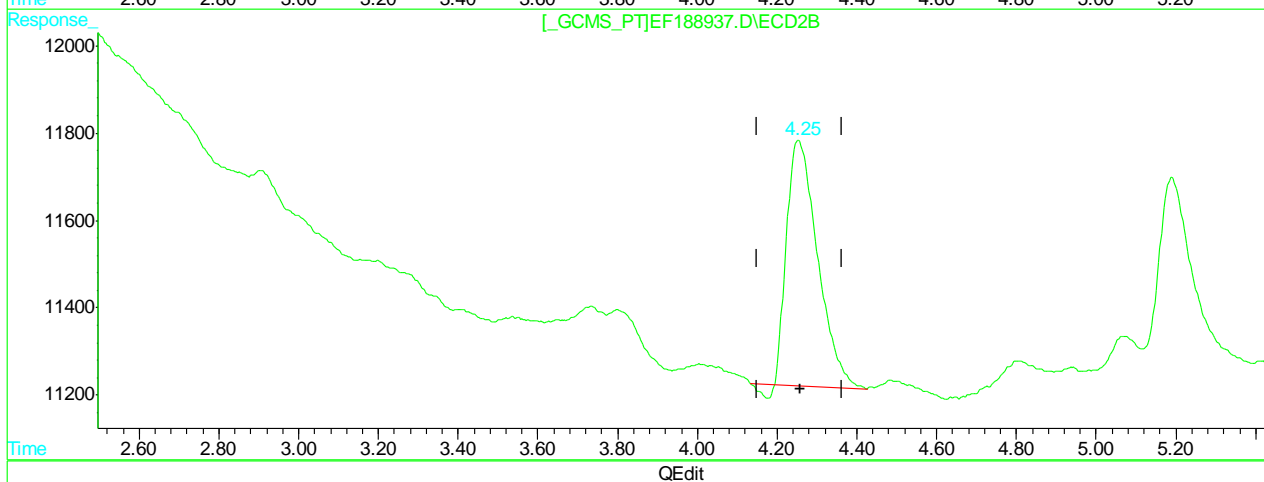
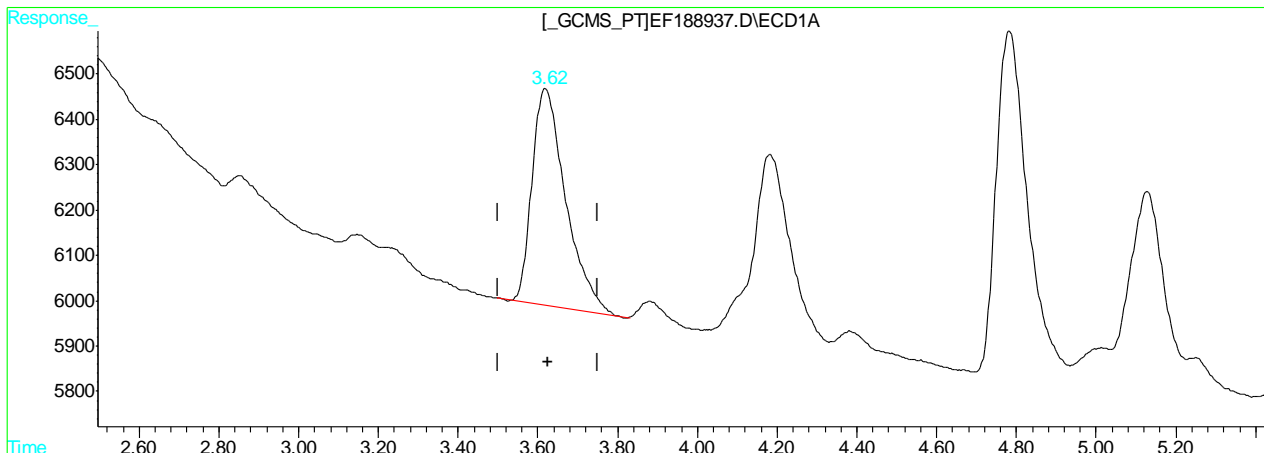
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Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:22 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(1) Tetrachloro-m-xylene (S)

3.62min 2.088PPB

response 28162

(1) Tetrachloro-m-xylene #2 (S)

4.25min 1.810PPB

response 29906

(+) = Expected Retention Time

EF188937.D PCB6419.M

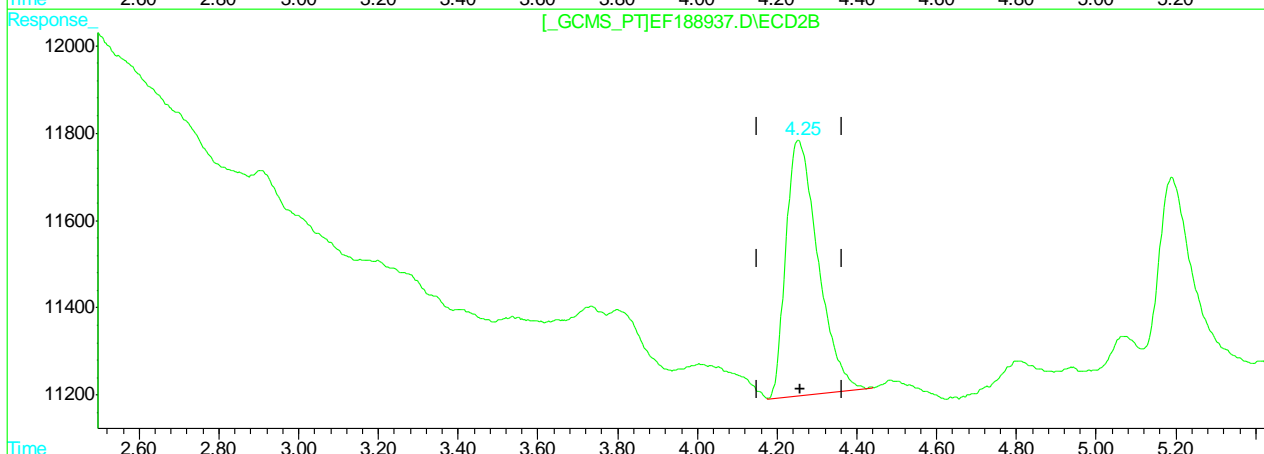
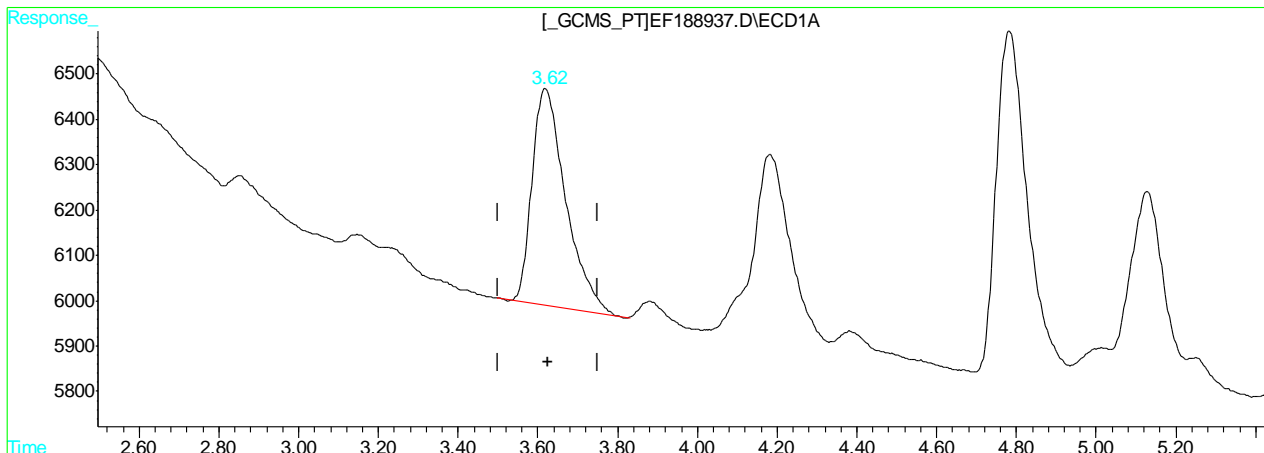
Wed Apr 10 08:23:35 2019

GCEF

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:22 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(1) Tetrachloro-m-xylene (S)

3.62min 2.088PPB

response 28162

(1) Tetrachloro-m-xylene #2 (S)

4.25min 1.980PPB m

response 32713

(+) = Expected Retention Time

EF188937.D PCB6419.M

Wed Apr 10 08:23:39 2019

GCEF

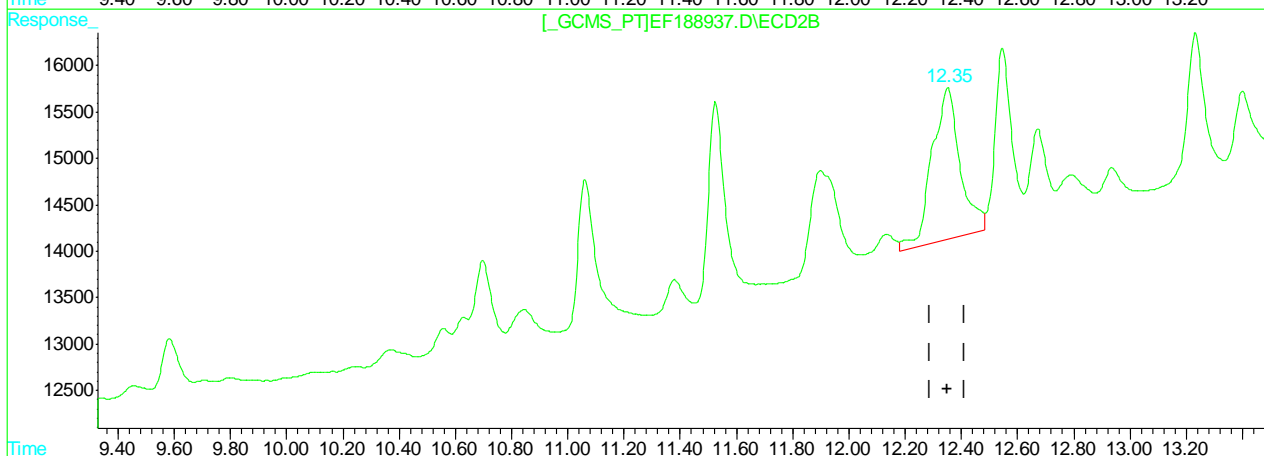
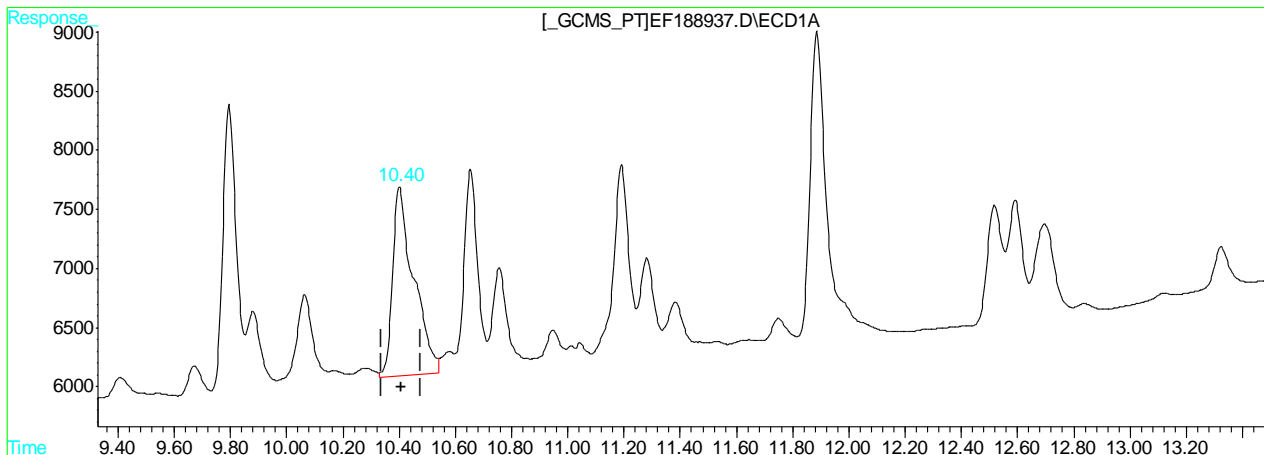
11.6.35.5

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Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:22 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(46) AR1260-A  
 10.40min 70.485PPB  
 response 83384

(46) AR1260-A #2  
 12.35min 68.791PPB  
 response 114352

(+) = Expected Retention Time

EF188937.D PCB6419.M

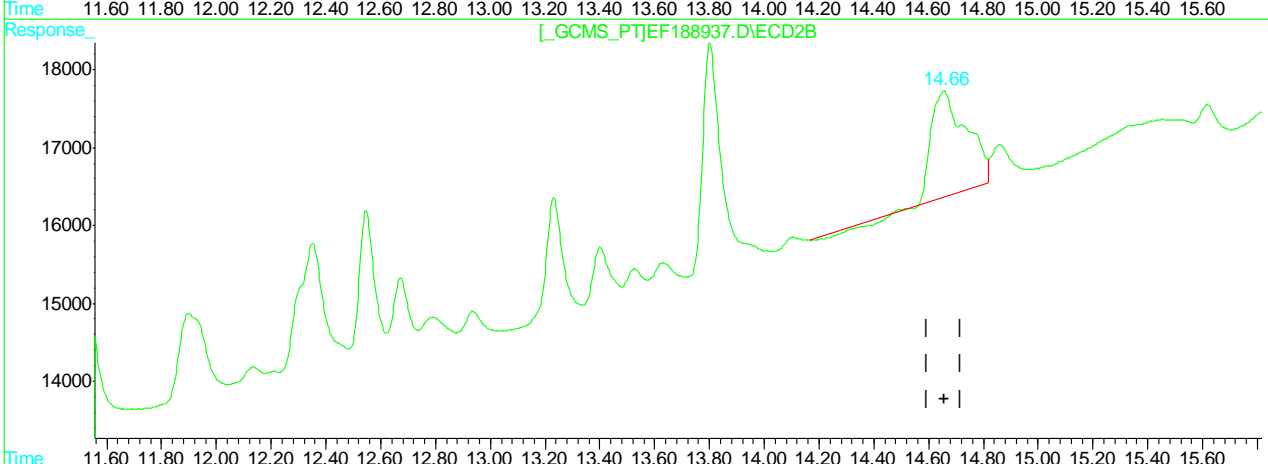
Wed Apr 10 08:23:47 2019

GCEF

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:22 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



QEdit

(50) AR1260-E	
12.59min 19.786PPB	
response 34327	
(50) AR1260-E #2	
14.66min 49.526PPB	
response 112485	

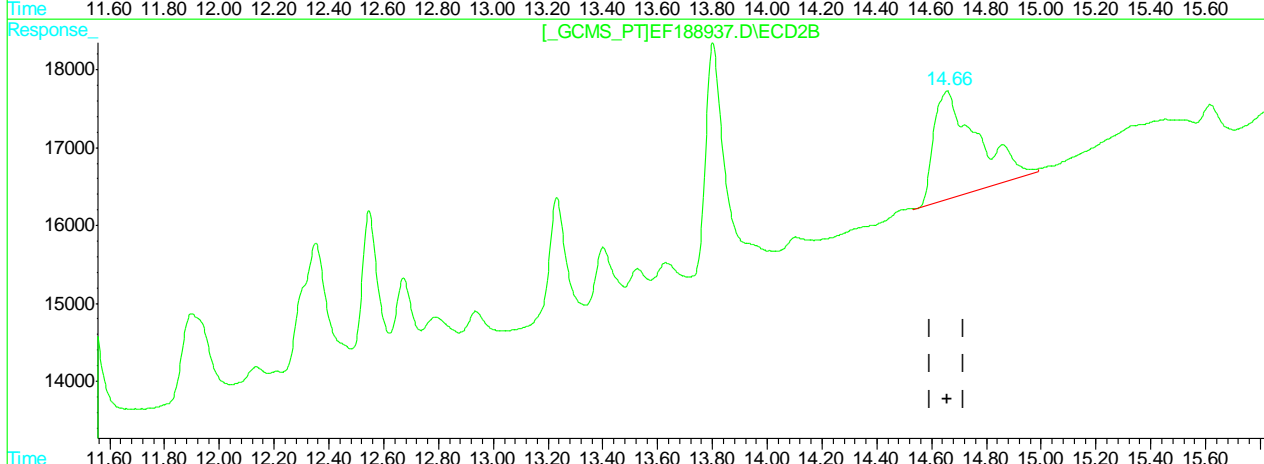
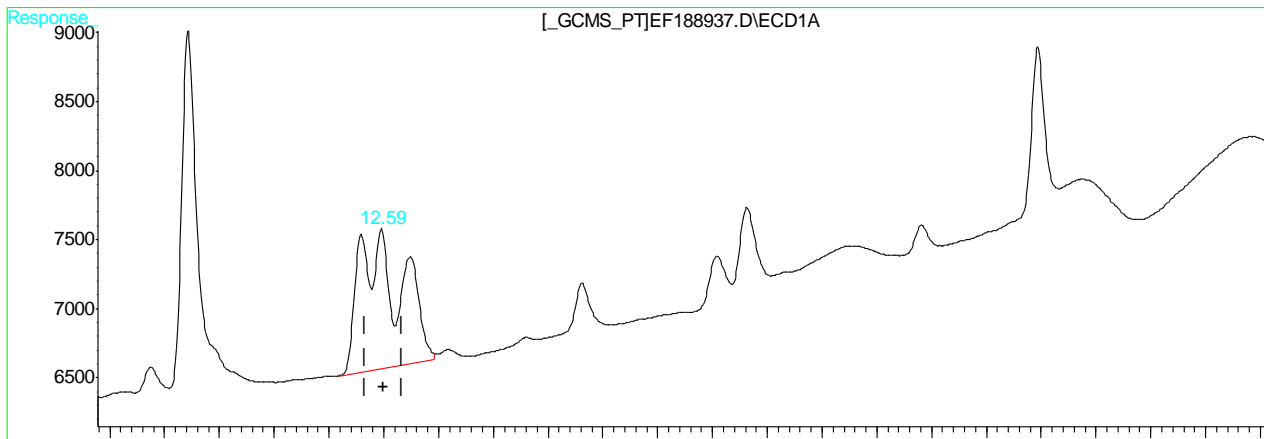
(+) = Expected Retention Time  
 EF188937.D PCB6419.M Wed Apr 10 08:23:58 2019 GCEF

11.6.35.7  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:22 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



QEdit

(50) AR1260-E	
12.59min	62.429PPB m
response	108308
(50) AR1260-E #2	
14.66min	66.346PPB m
response	150687

(+) = Expected Retention Time  
 EF188937.D PCB6419.M Wed Apr 10 08:24:09 2019 GCEF

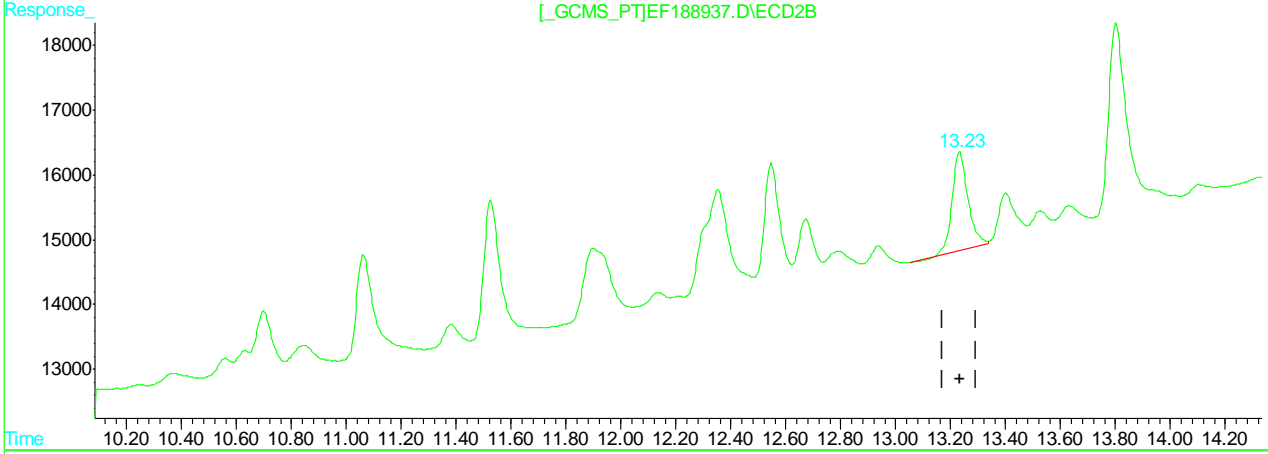
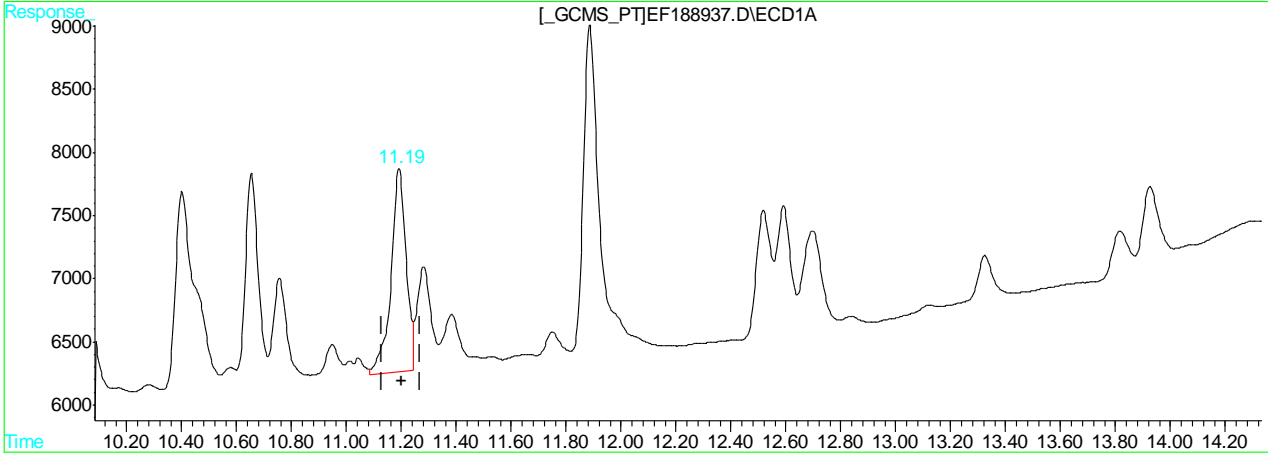
11.6.35.8

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:30:41 2019  
 Response via : Multiple Level Calibration



QEdit

(48) AR1260-C	11.19min	89.510PPB
response	61866	
(48) AR1260-C #2	13.23min	60.236PPB
response	59992	

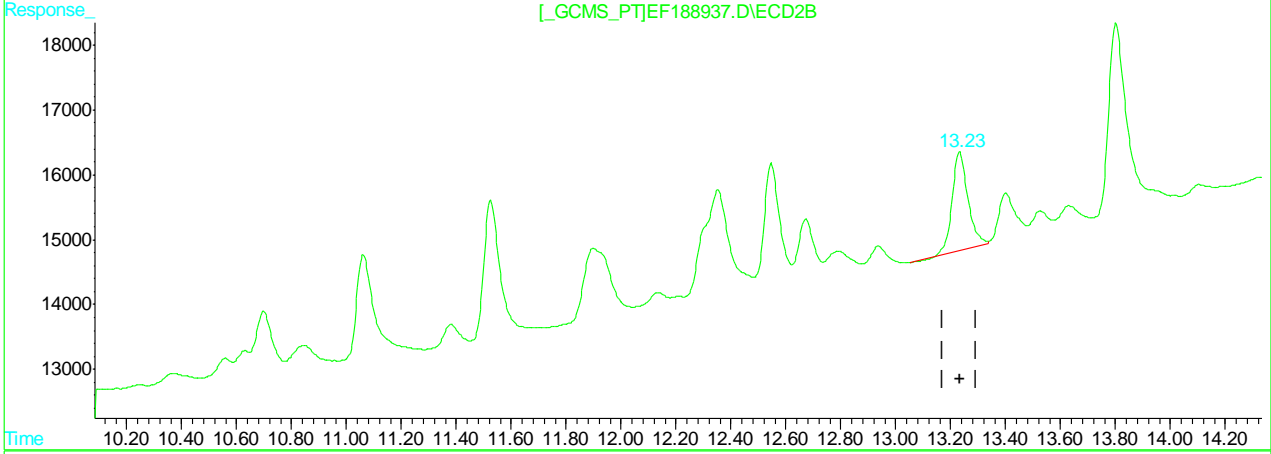
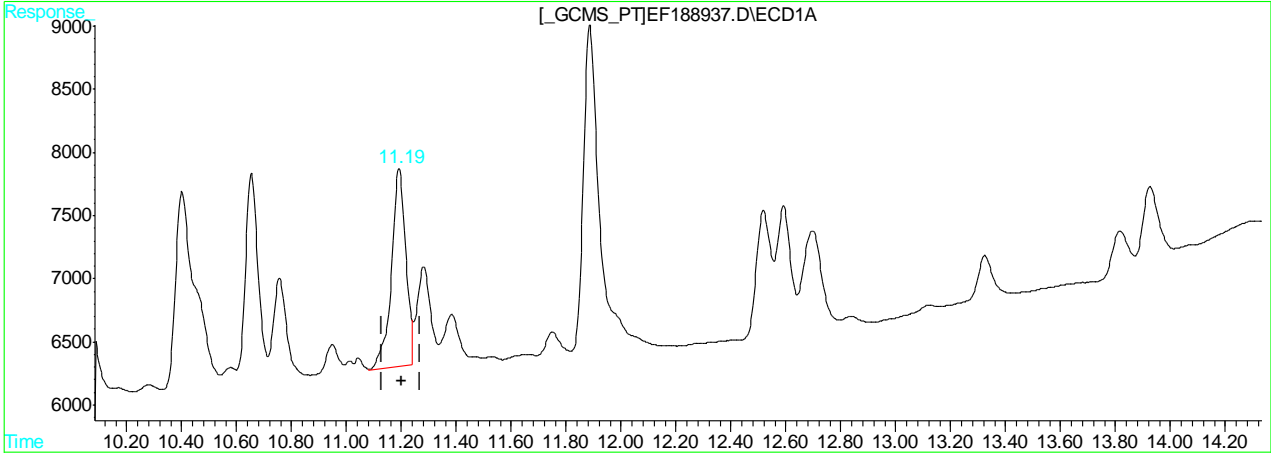
(+) = Expected Retention Time  
 EF188937.D PCB6419.M Wed Apr 10 08:31:31 2019 GCEF

11.6.35.9  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:30:41 2019  
 Response via : Multiple Level Calibration



QEdit

(48) AR1260-C	11.19min	81.573PPB m	response 56381
(48) AR1260-C #2	13.23min	60.236PPB	response 59992

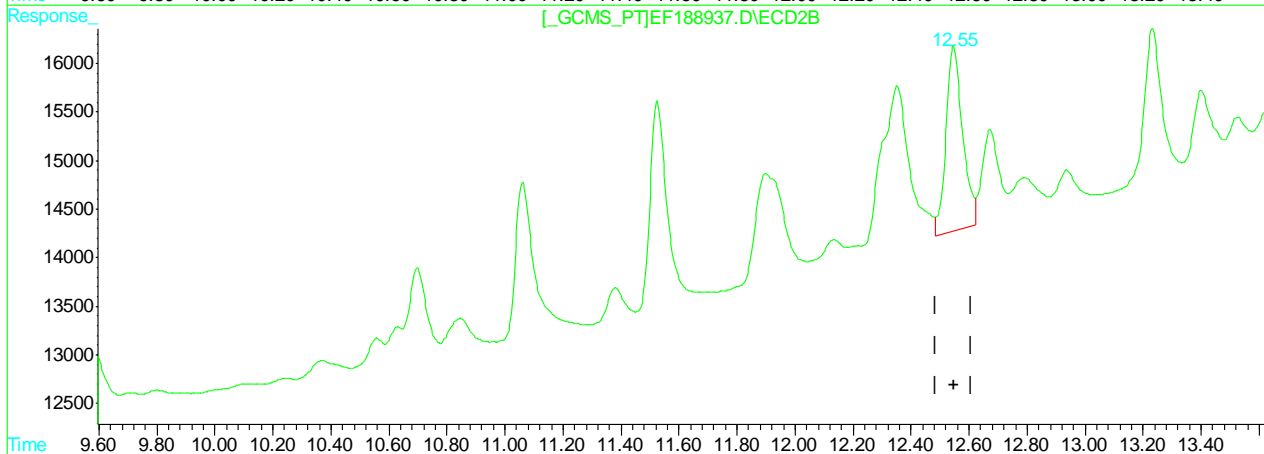
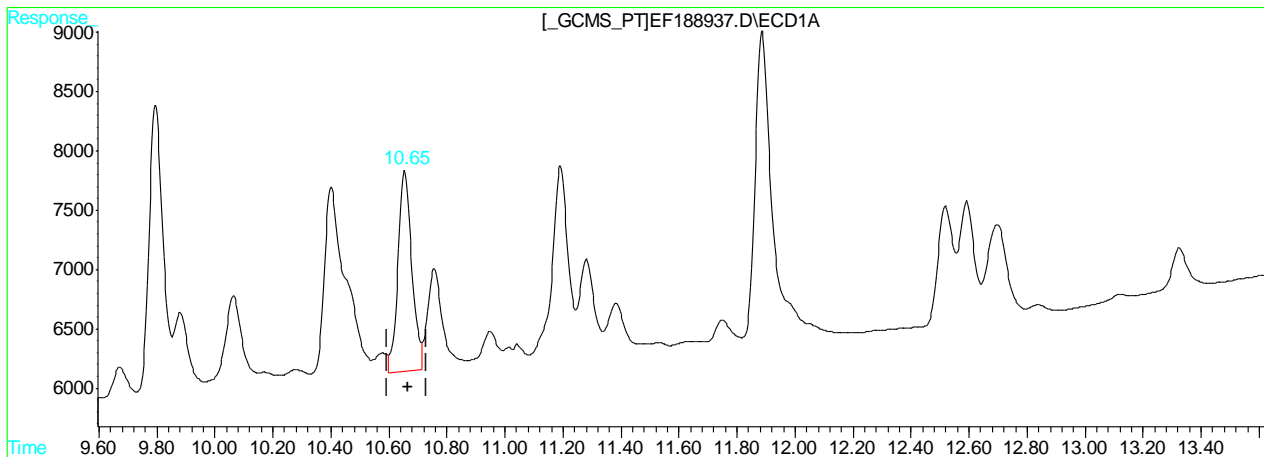
(+) = Expected Retention Time  
 EF188937.D PCB6419.M Wed Apr 10 08:31:40 2019 GCEF

11.6.35.10  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:30:41 2019  
 Response via : Multiple Level Calibration



QEdit

(47) AR1260-B  
 10.65min 71.955PPB  
 response 56141

(47) AR1260-B #2  
 12.55min 62.031PPB  
 response 76066

(+) = Expected Retention Time

EF188937.D PCB6419.M

Wed Apr 10 08:31:45 2019

GCEF

11.6.35.11

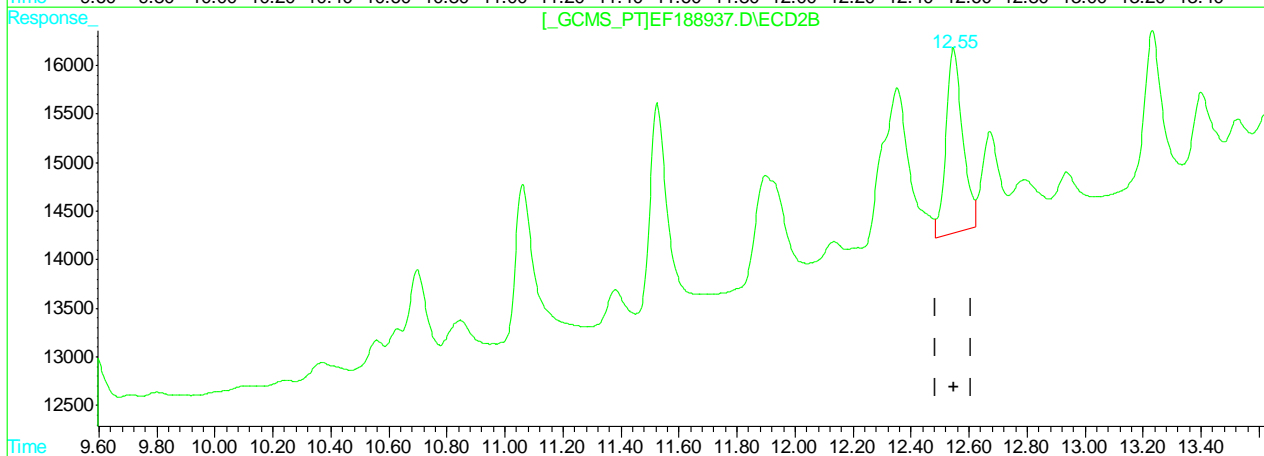
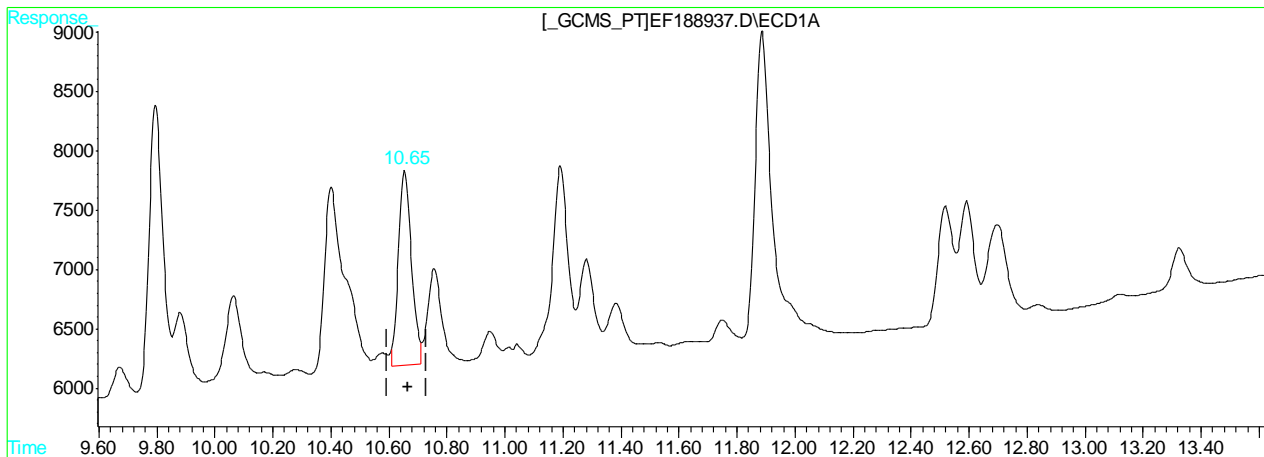
11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:30:41 2019  
 Response via : Multiple Level Calibration



(47) AR1260-B  
 10.65min 66.377PPB m  
 response 51789

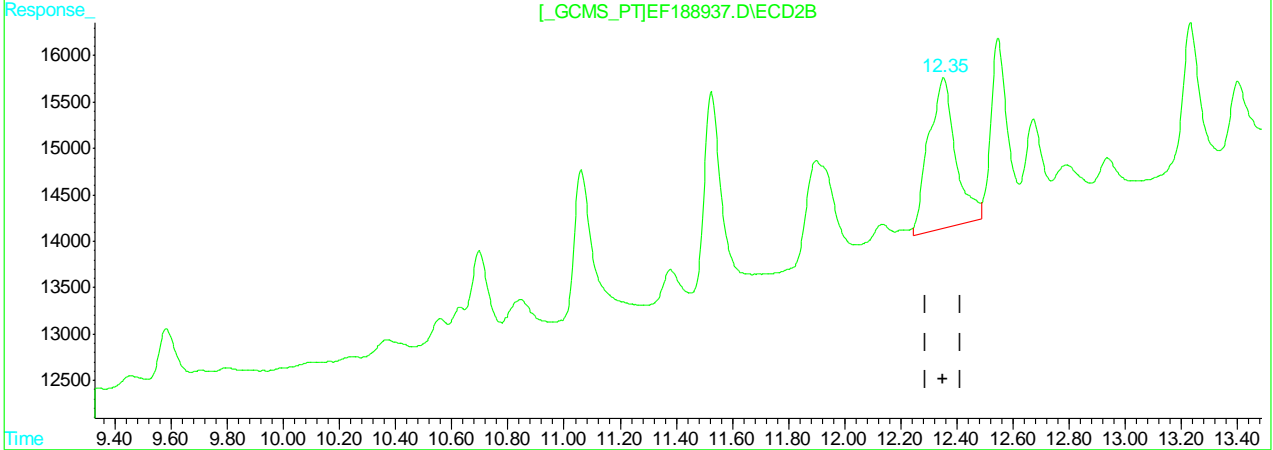
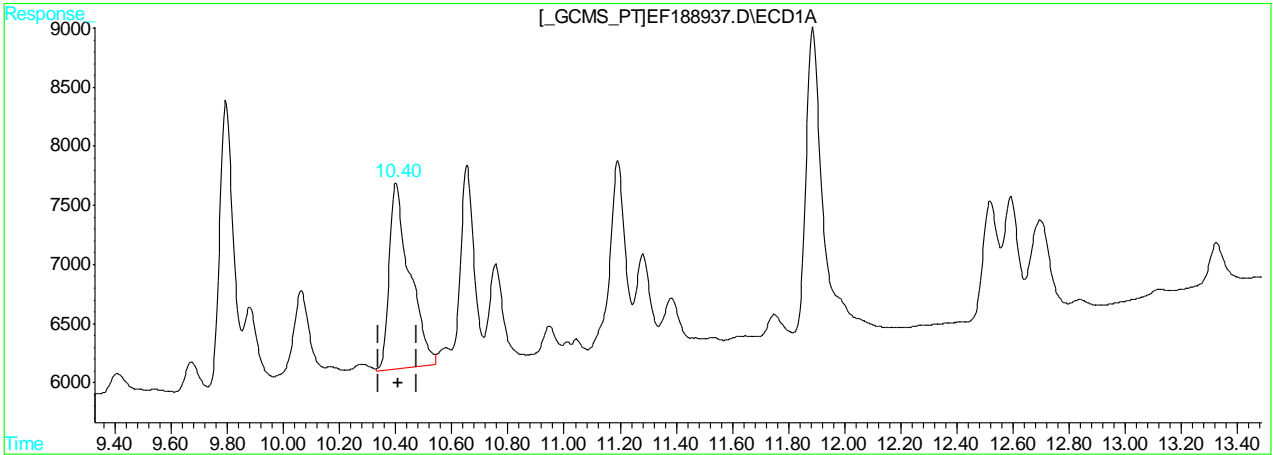
(47) AR1260-B #2  
 12.55min 62.031PPB  
 response 76066

(+) = Expected Retention Time

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD1A.CH Vial: 26  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188937.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:06 pm Operator: tianweir  
 Sample : ic6419-50 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:30:41 2019  
 Response via : Multiple Level Calibration



QEdit

(46) AR1260-A	10.40min	67.540PPB m	response	79901
(46) AR1260-A #2	12.35min	65.731PPB m	response	109266

(+) = Expected Retention Time  
 EF188937.D PCB6419.M Wed Apr 10 08:32:10 2019 GCEF

11.6.35.13  
 11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD1A.CH Vial: 27  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:31 pm Operator: tianweir  
 Sample : ic6419-250 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:25 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	143846	179364	10.666	10.855m
Spiked Amount	40.000		Recovery	=	26.66%	27.14%
51) S Decachlorobiphen	14.99	17.33	185425	201301	12.109m	11.580m
Spiked Amount	40.000		Recovery	=	30.27%	28.95%
Target Compounds						
41) AR1016-A	4.19	5.20	116646	113725	277.613	276.293
42) AR1016-B	4.79	6.01	194727	227437	285.316	281.829
43) AR1016-C	5.62	6.95	458116	500830	296.138	293.705
44) AR1016-D	5.88	7.24	168991	213551	293.049	287.250
45) AR1016-E	6.67	8.25	171095	138942	291.113	284.799
46) AR1260-A	10.41	12.36	376106	504719	317.922	303.624
47) AR1260-B	10.66	12.55	249499	361953	319.778	295.170
48) AR1260-C	11.20	13.24	227843	302168	329.652	303.396
49) AR1260-D	11.89	13.80	535207	705434	304.657	293.551
50) AR1260-E	12.52f	14.66	518482	704650	298.853m	310.251

11.6.36  
 11

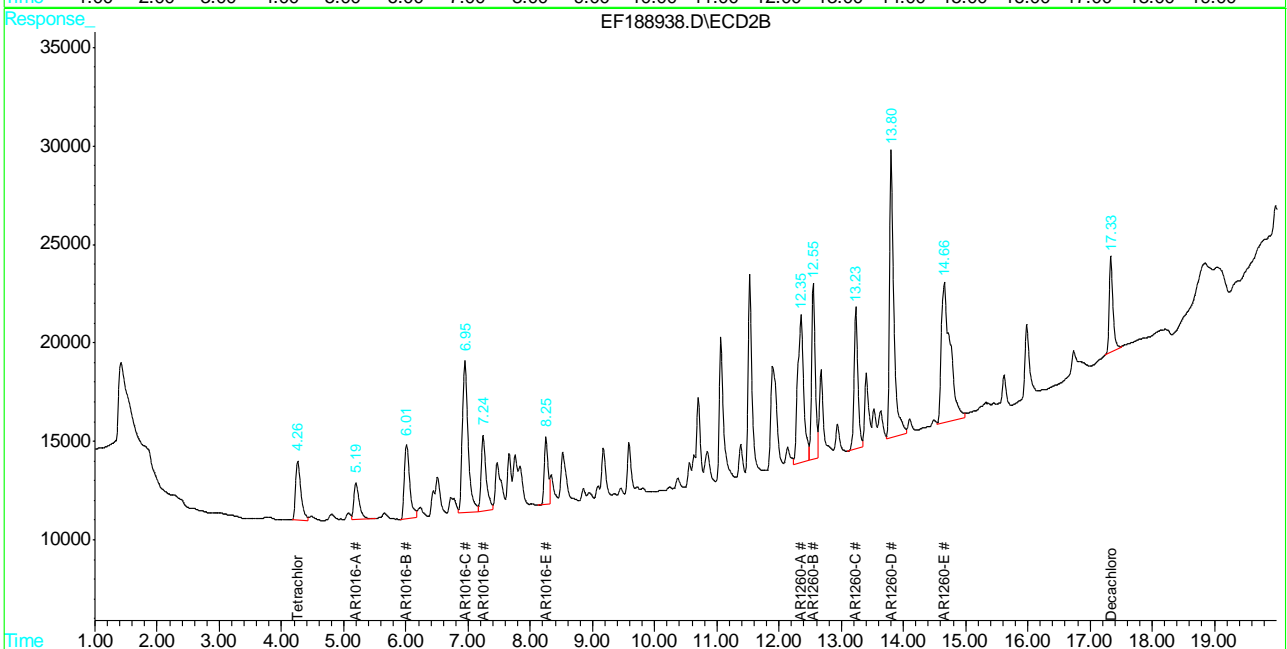
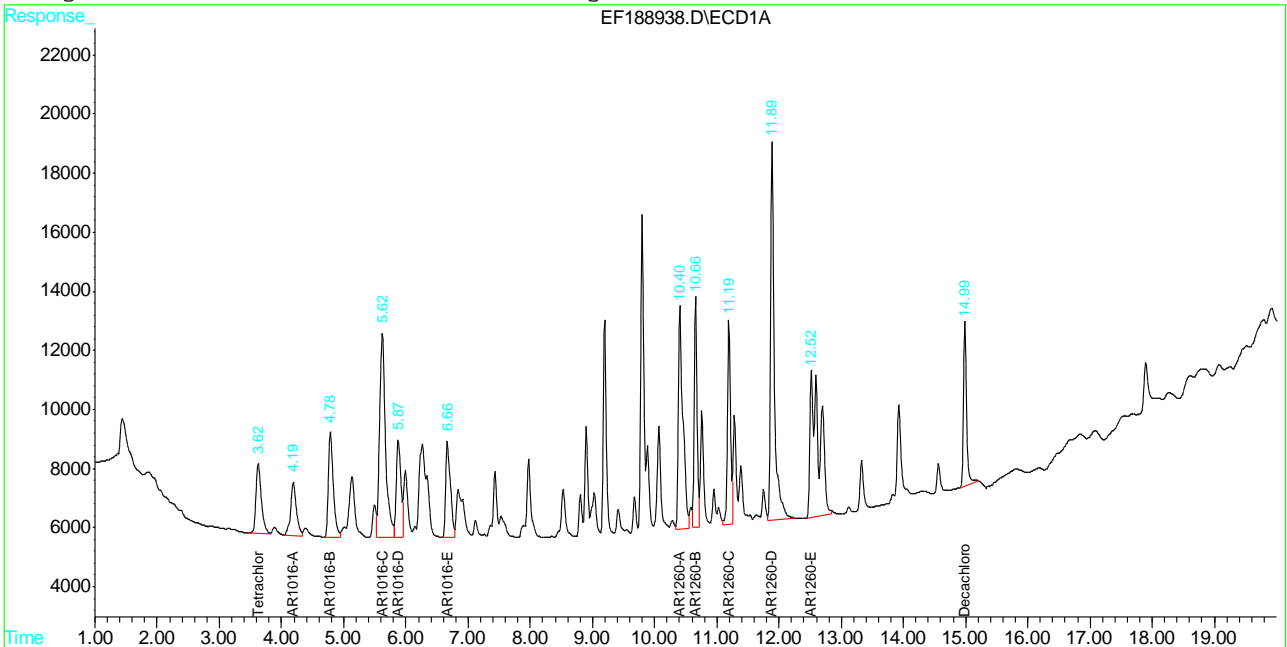
-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188938.D PCB6419.M Wed Apr 10 08:48:24 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD1A.CH Vial: 27  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:31 pm Operator: tianweir  
 Sample : ic6419-250 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:25 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



# Manual Integration Approval Summary

Sample Number: GEF6419-IC6419      Method: SW846 8082A  
Lab FileID: EF188938.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 17:31      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

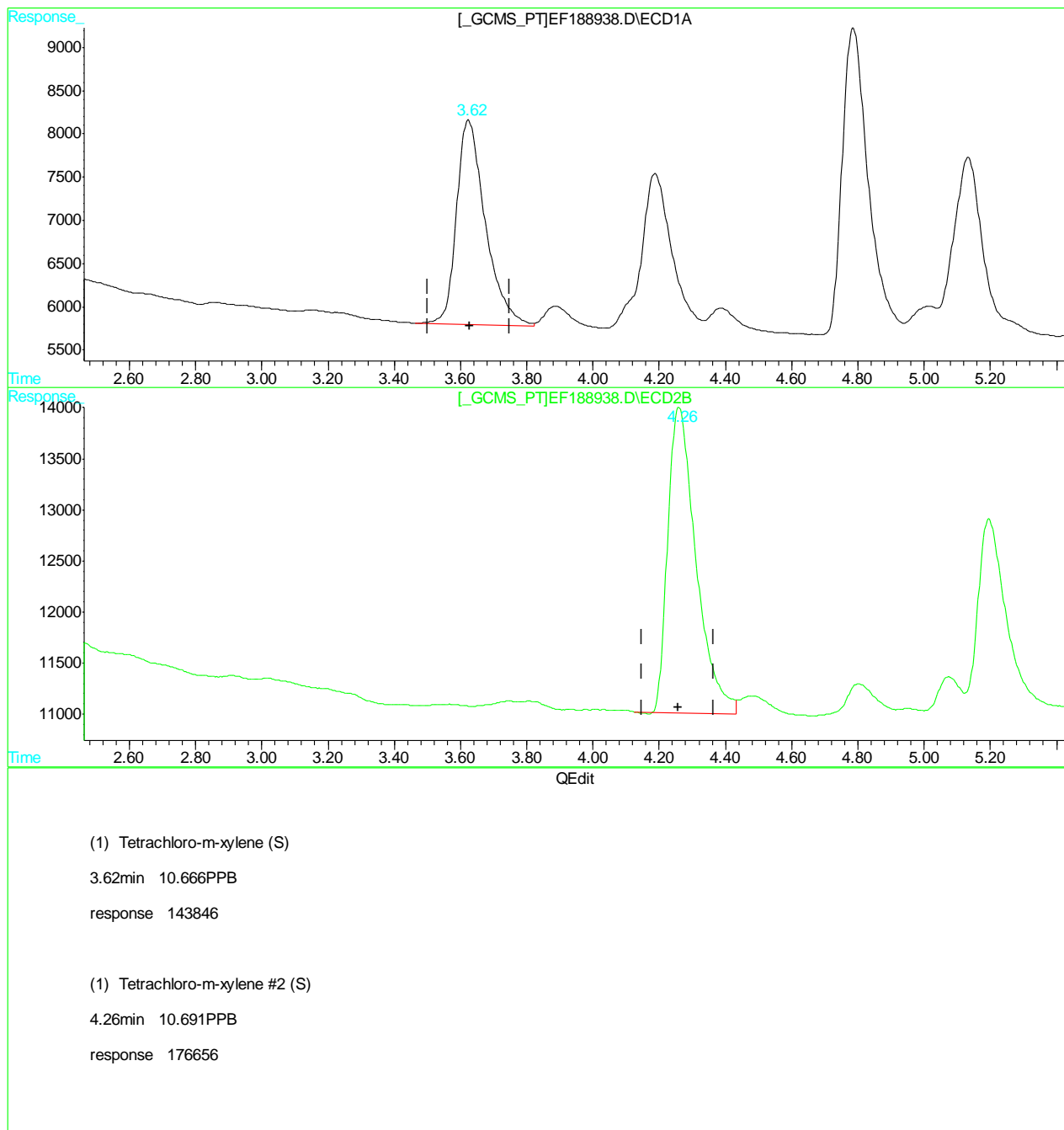
Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrachloro-m-xylene	877-09-8	2	4.26	Poorly defined baseline
AR1260-E		1	12.52	Split peak
Decachlorobiphenyl	2051-24-3	1	14.99	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	2	17.33	Poorly defined baseline

11.6.36.1  
11

## Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD1A.CH Vial: 27  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:31 pm Operator: tianweir  
 Sample : ic6419-250 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(+) = Expected Retention Time

EF188938.D PCB6419.M

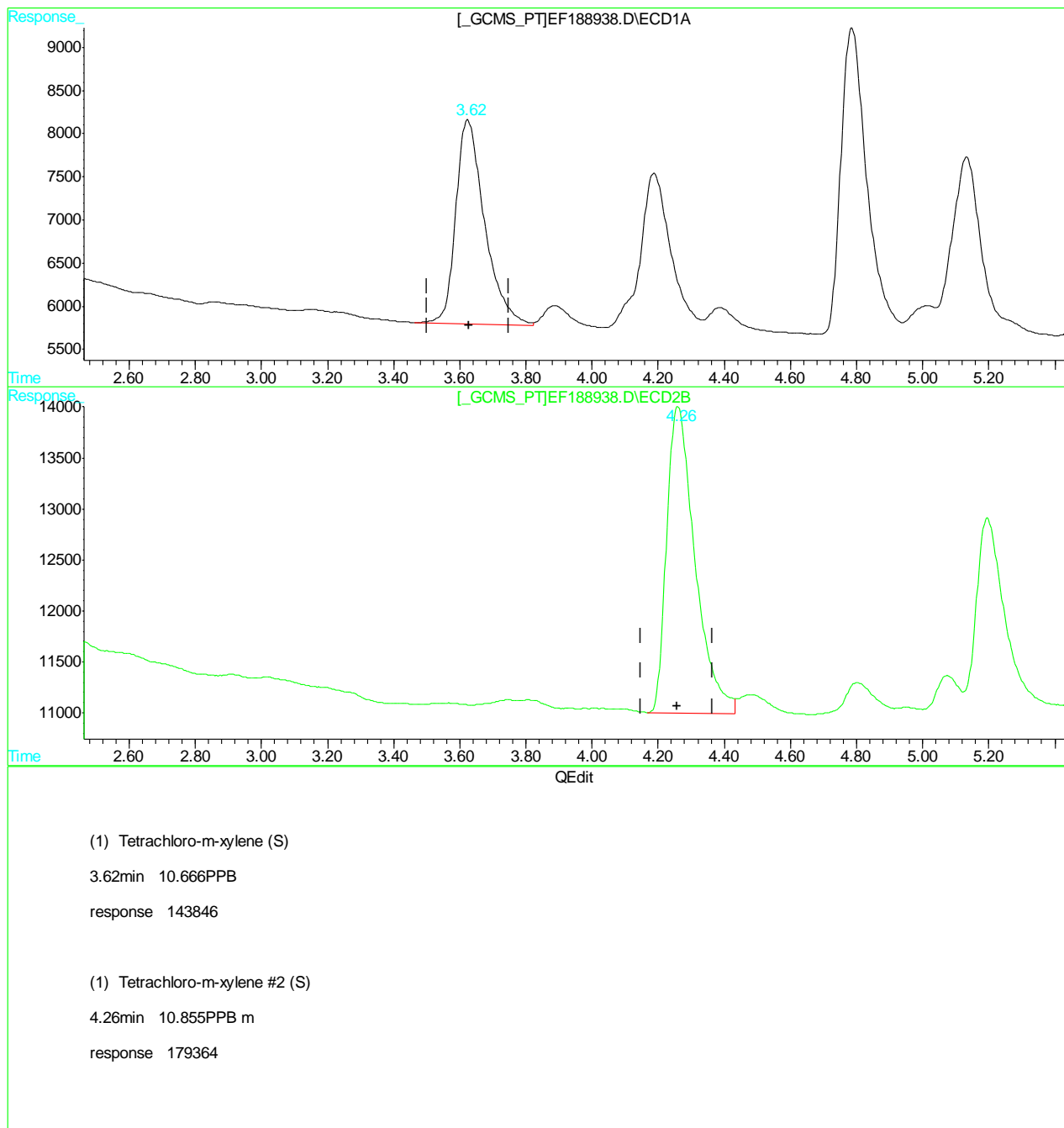
Wed Apr 10 08:24:41 2019

GCEF

## Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD1A.CH Vial: 27  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:31 pm Operator: tianweir  
 Sample : ic6419-250 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(+) = Expected Retention Time

EF188938.D PCB6419.M

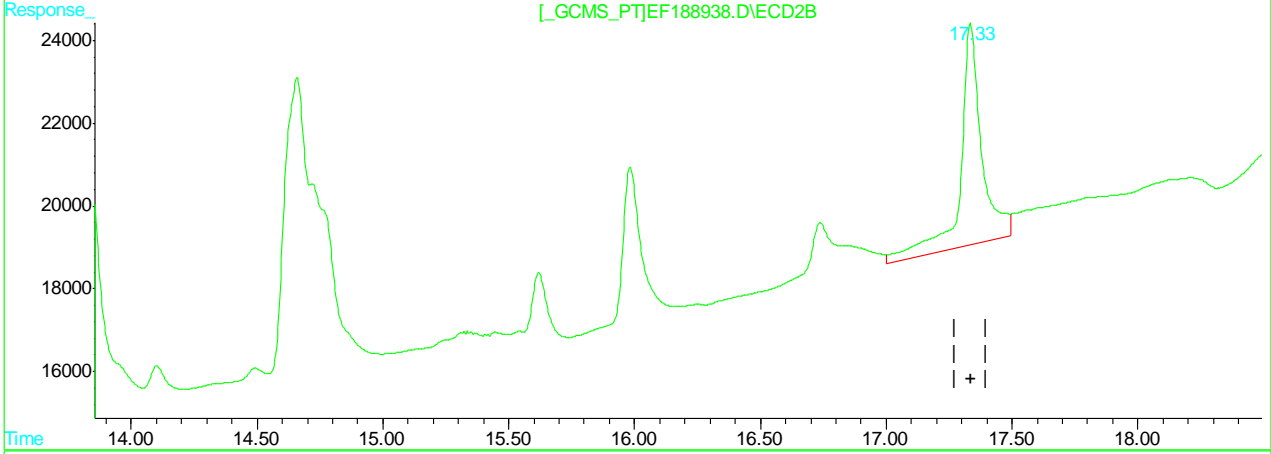
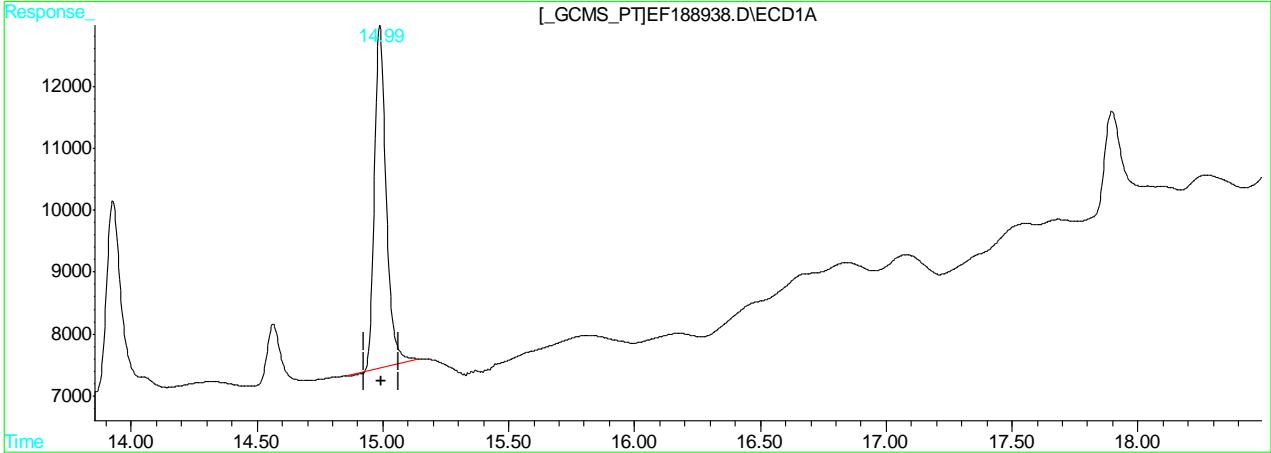
Wed Apr 10 08:24:47 2019

GCEF

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD1A.CH Vial: 27  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:31 pm Operator: tianweir  
 Sample : ic6419-250 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Response	Concentration (PPB)
14.99	177790	11.610
17.34	317162	18.245

(+) = Expected Retention Time  
 EF188938.D PCB6419.M Wed Apr 10 08:24:50 2019 GCEF

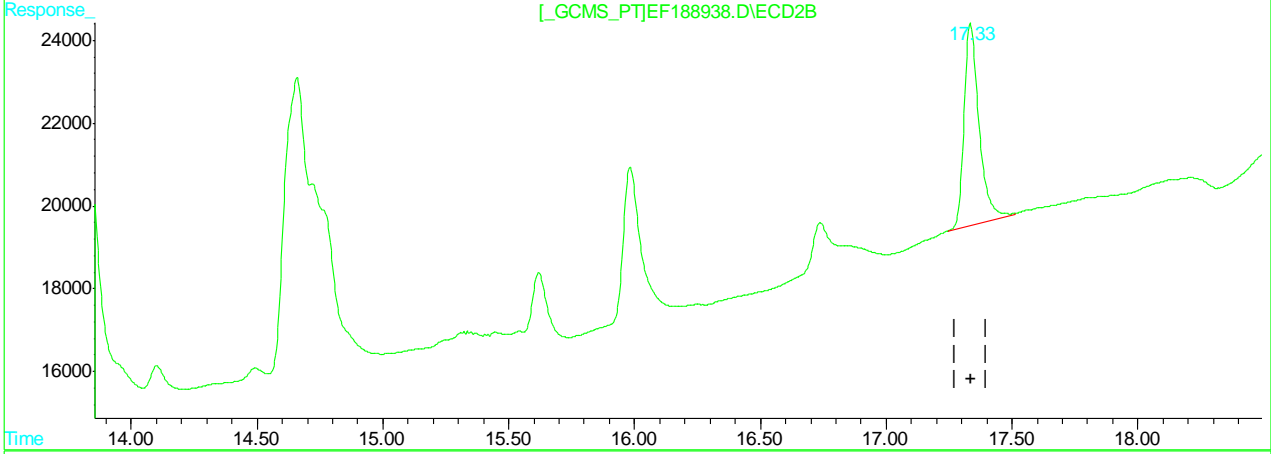
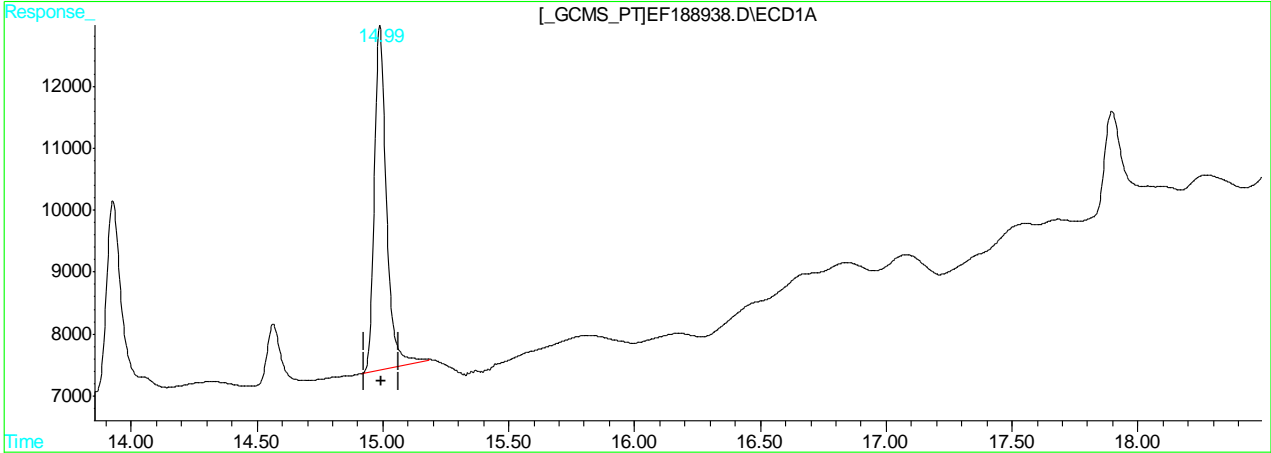
11.6.36.4  
11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD1A.CH Vial: 27  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:31 pm Operator: tianweir  
 Sample : ic6419-250 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Concentration (PPB m)	Response
14.99	12.109	185425
17.33	11.580	201301

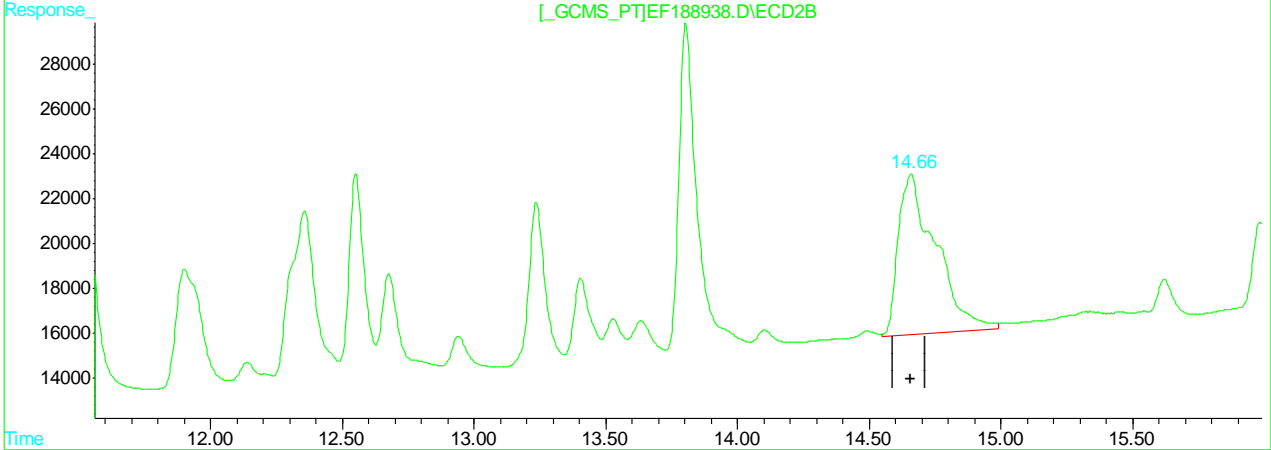
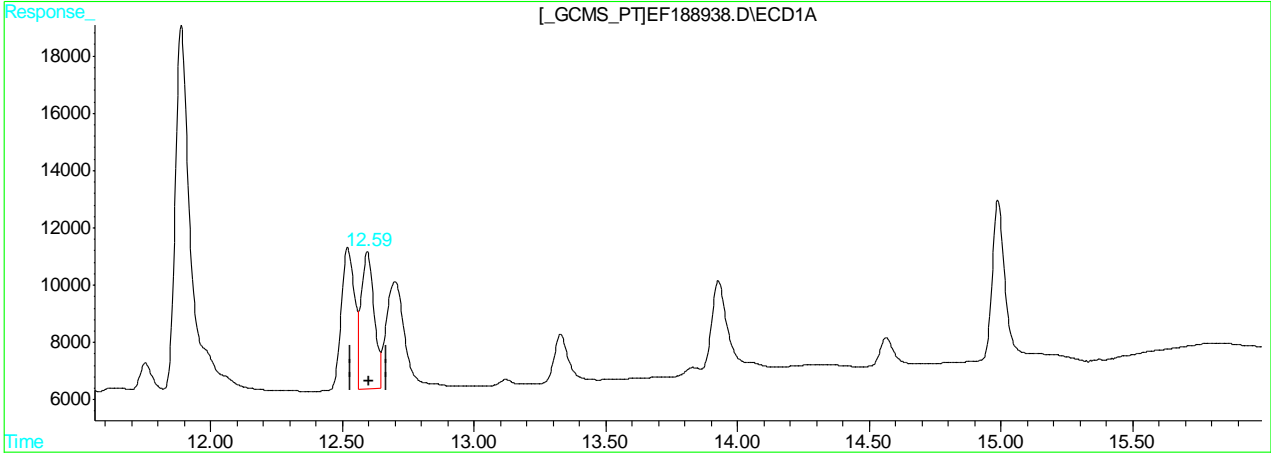
(+) = Expected Retention Time  
 EF188938.D PCB6419.M Wed Apr 10 08:24:59 2019 GCEF

11.6.36.5  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD1A.CH Vial: 27  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:31 pm Operator: tianweir  
 Sample : ic6419-250 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



QEdit

(50) AR1260-E
12.59min 96.177PPB
response 166858
(50) AR1260-E #2
14.66min 310.251PPB
response 704650

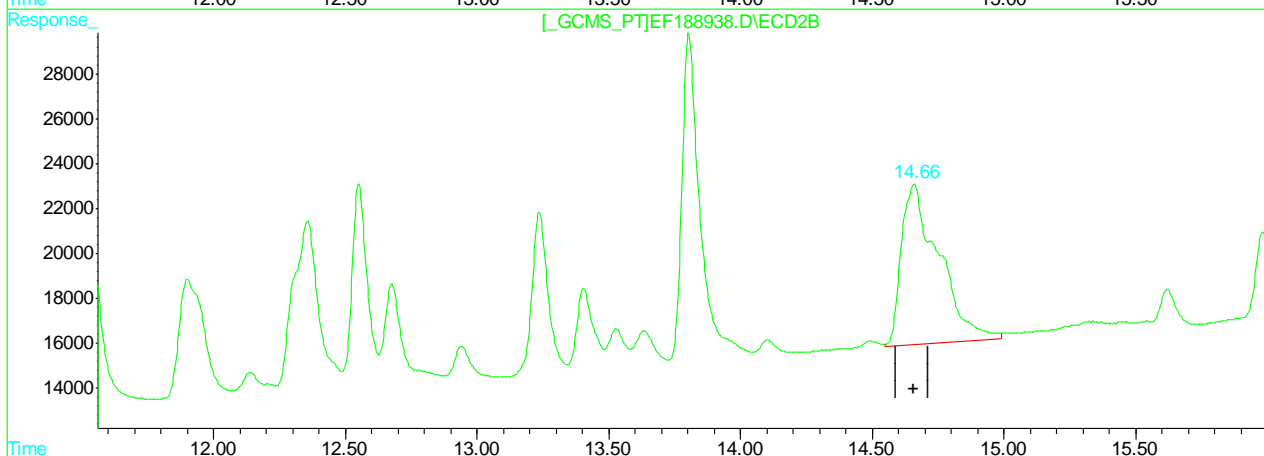
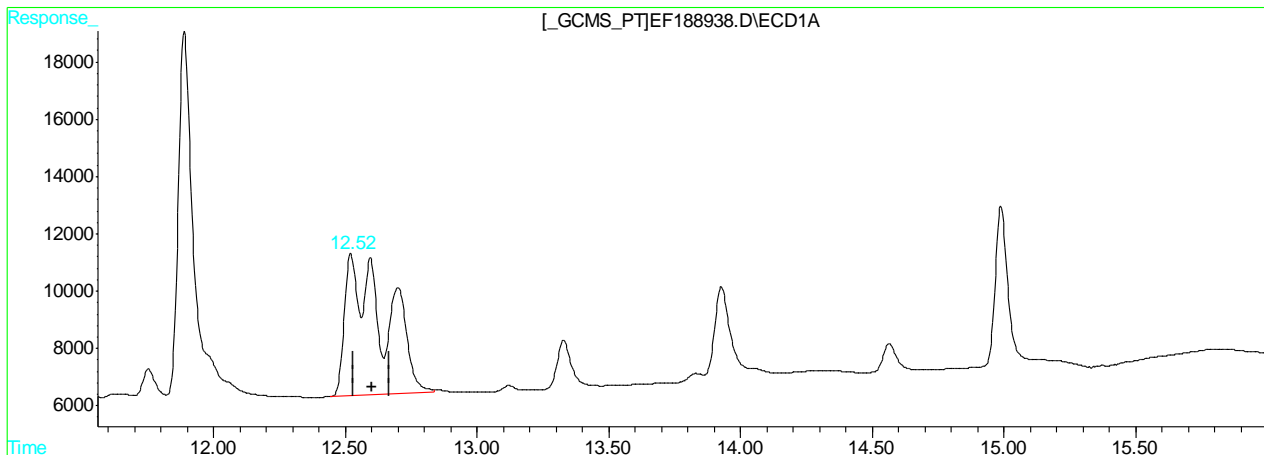
(+) = Expected Retention Time  
 EF188938.D PCB6419.M Wed Apr 10 08:25:13 2019 GCEF

11.6.36.6  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD1A.CH Vial: 27  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188938.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:31 pm Operator: tianweir  
 Sample : ic6419-250 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:24 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



QEdit

(50) AR1260-E
12.52min 298.853PPB m
response 518482
(50) AR1260-E #2
14.66min 310.251PPB
response 704650

(+) = Expected Retention Time  
 EF188938.D PCB6419.M Wed Apr 10 08:25:18 2019 GCEF

11.6.367  
11

## Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD1A.CH Vial: 28  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:56 pm Operator: tianweir  
 Sample : ic6419-500 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:28 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	291872	358595	21.643	21.702
Spiked Amount	40.000		Recovery	=	54.11%	54.26%
51) S Decachlorobiphen	14.98	17.33	401966	381424	26.249m	21.942m
Spiked Amount	40.000		Recovery	=	65.62%	54.85%
Target Compounds						
41) AR1016-A	4.19	5.20	221717	224532	527.679	545.497
42) AR1016-B	4.78	6.01	374080	442026	548.106	547.736
43) AR1016-C	5.62	6.95	865188	945206	559.279	554.304
44) AR1016-D	5.87	7.24	322320	411121	558.935	553.002
45) AR1016-E	6.66	8.25	328279	275348	558.557	564.401
46) AR1260-A	10.40	12.35	717002	982169	606.080	590.844
47) AR1260-B	10.65	12.54	471379	706877	604.159	576.453
48) AR1260-C	11.19	13.23	417415	589401	603.932	591.797
49) AR1260-D	11.88	13.80	1071609	1389648	609.995	578.271
50) AR1260-E	12.51f	14.65	1047149	1332610	603.577m	586.735

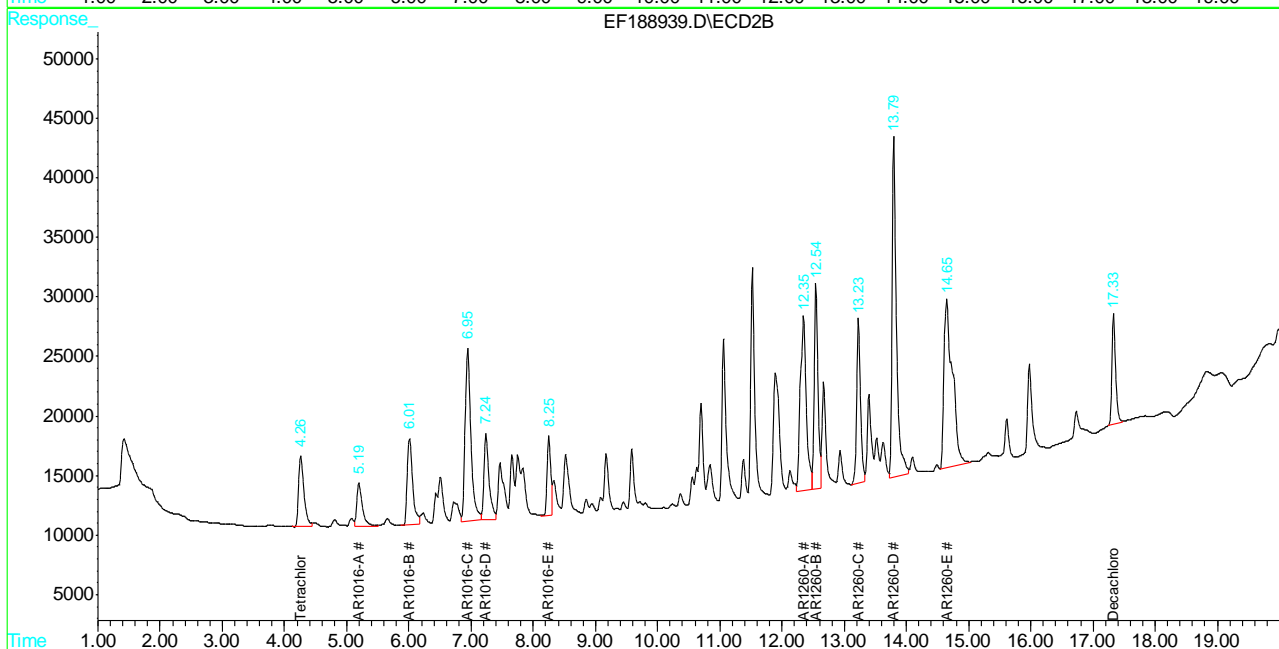
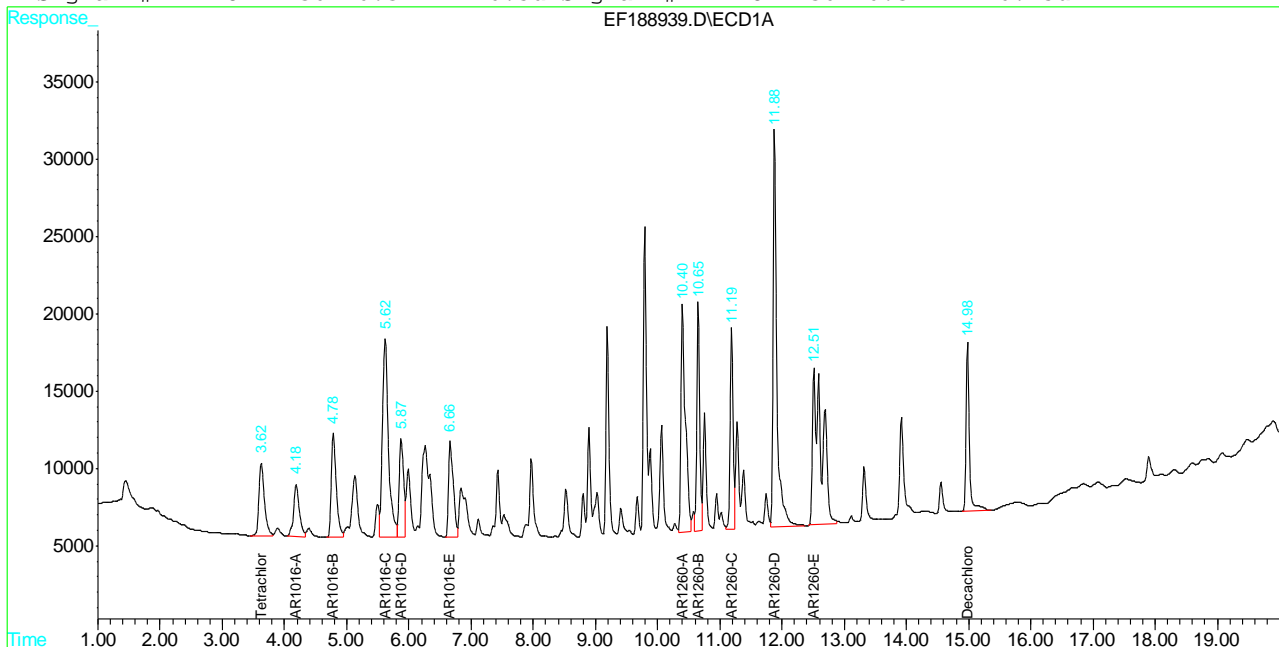
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188939.D PCB6419.M Wed Apr 10 08:48:28 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD1A.CH Vial: 28  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:56 pm Operator: tianweir  
 Sample : ic6419-500 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:28 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.37  
11

# Manual Integration Approval Summary

Sample Number: GEF6419-IC6419      Method: SW846 8082A  
Lab FileID: EF188939.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 17:56      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

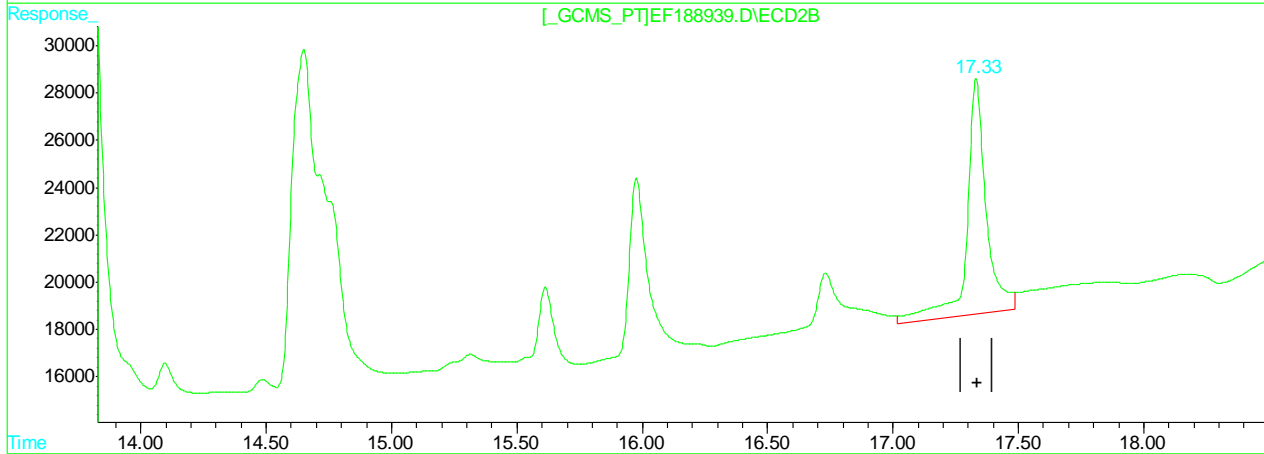
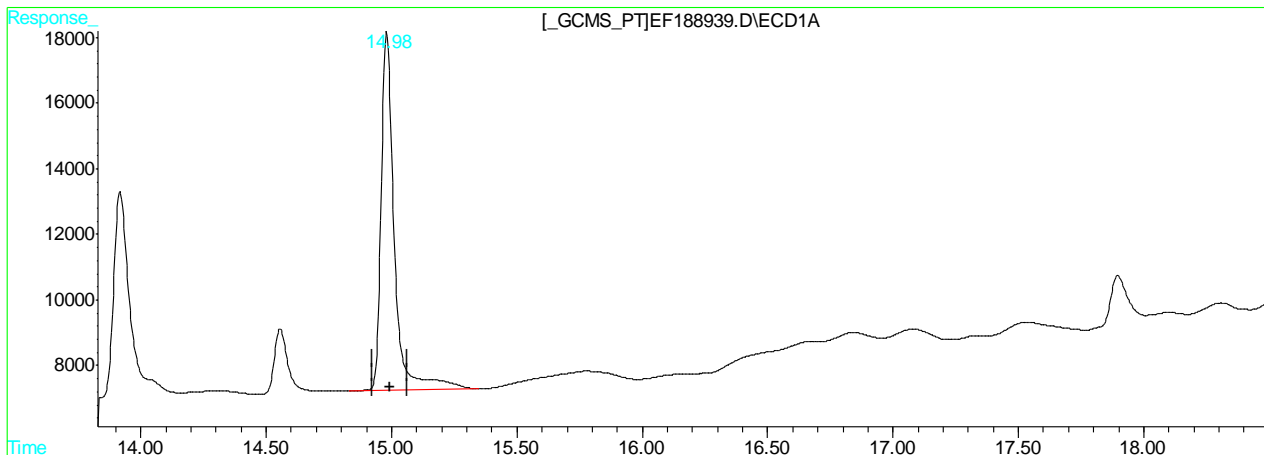
Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	12.51	Split peak
Decachlorobiphenyl	2051-24-3	1	14.98	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	2	17.33	Poorly defined baseline

11.6.37.1  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD1A.CH Vial: 28  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:56 pm Operator: tianweir  
 Sample : ic6419-500 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:25 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



QEdit	
(51) Decachlorobiphenyl (S)	
14.98min 26.050PPB	
response 398927	
(51) Decachlorobiphenyl #2 (S)	
17.33min 30.974PPB	
response 538431	

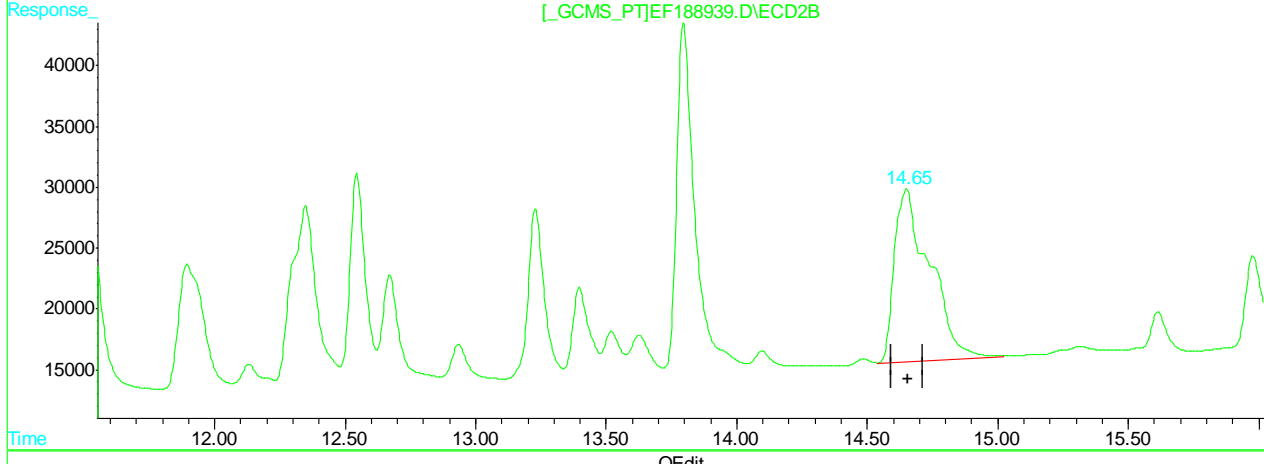
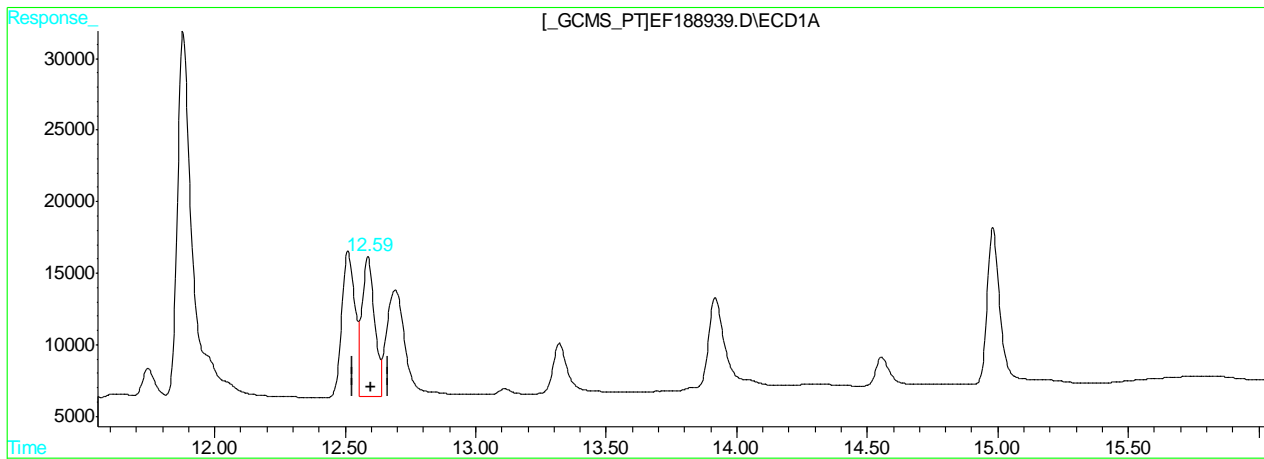
(+) = Expected Retention Time  
 EF188939.D PCB6419.M Wed Apr 10 08:25:38 2019 GCEF

11.6.37.2  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD1A.CH Vial: 28  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:56 pm Operator: tianweir  
 Sample : ic6419-500 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:25 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.59min 189.786PPB  
 response 329262

(50) AR1260-E #2  
 14.65min 586.735PPB  
 response 1332610

(+) = Expected Retention Time

EF188939.D PCB6419.M Wed Apr 10 08:26:00 2019 GCEF

11.6.37.3

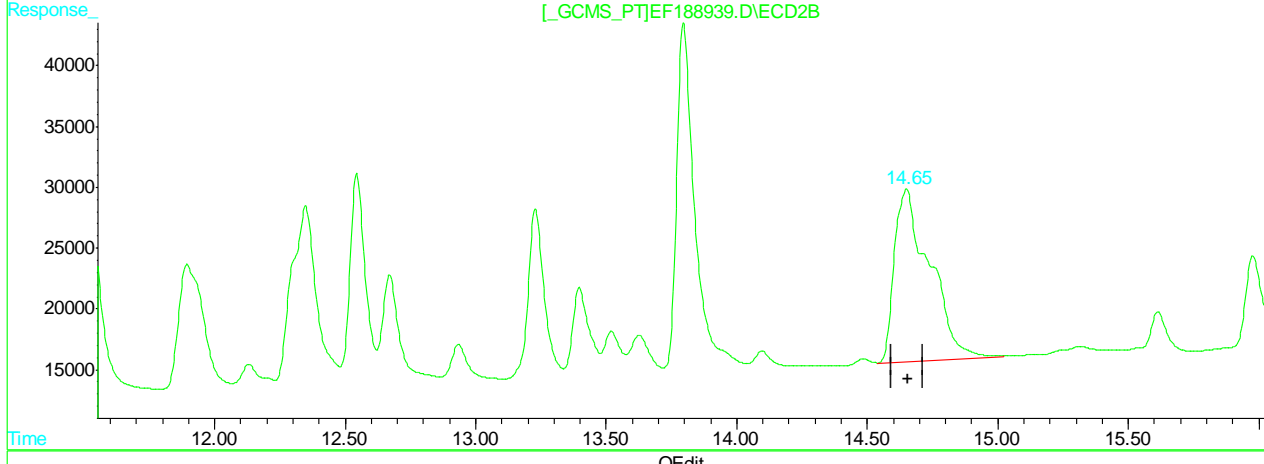
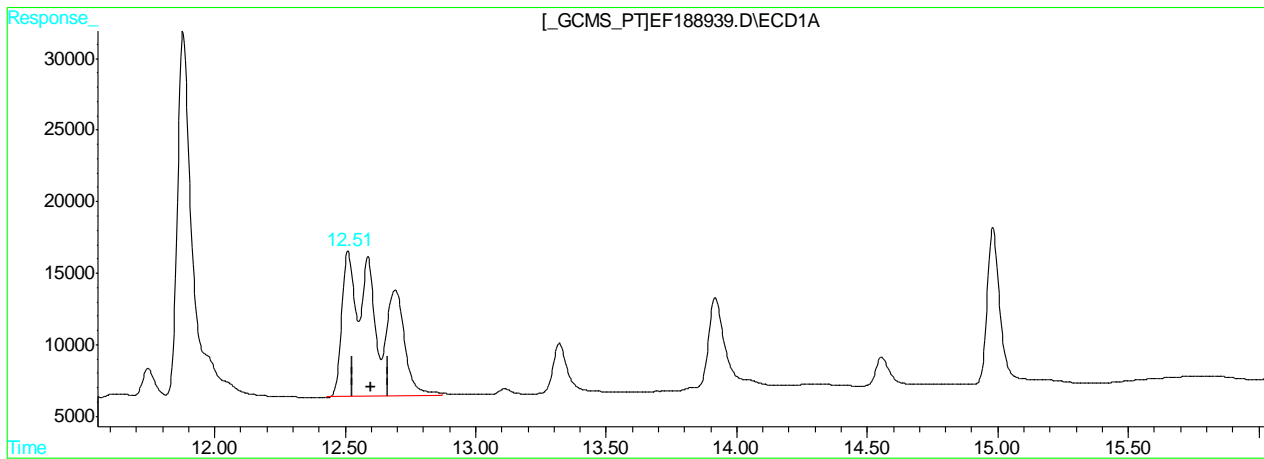
11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD1A.CH Vial: 28  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:56 pm Operator: tianweir  
 Sample : ic6419-500 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:25 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.51min 603.577PPB m  
 response 1047149

(50) AR1260-E #2  
 14.65min 586.735PPB  
 response 1332610

(+) = Expected Retention Time

EF188939.D PCB6419.M Wed Apr 10 08:26:05 2019 GCEF

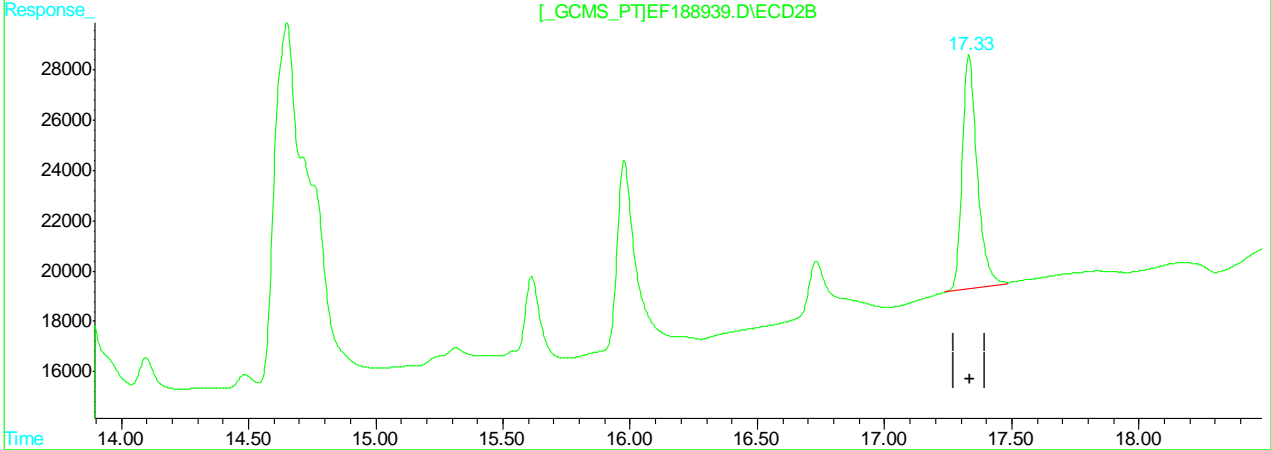
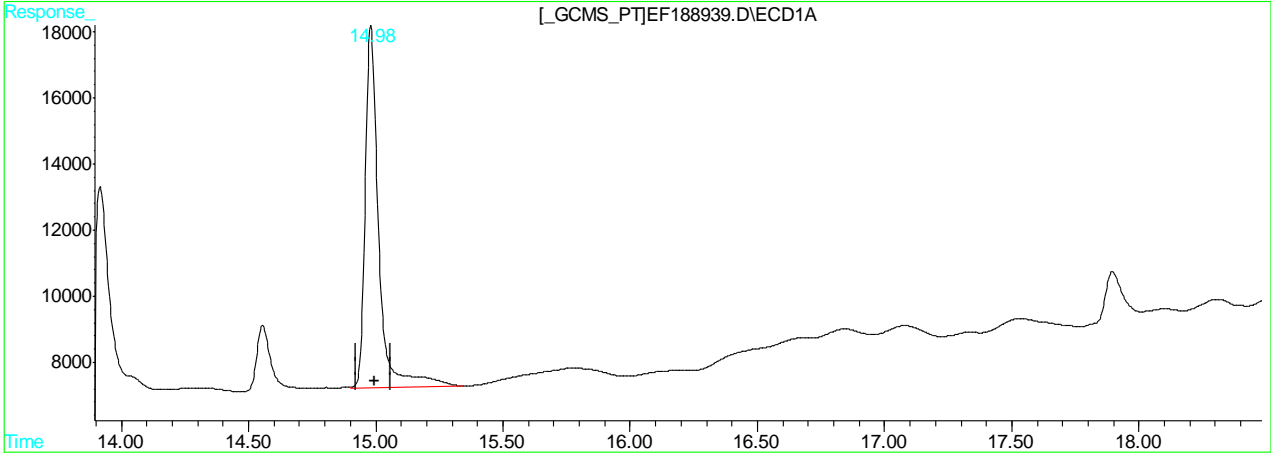
11.6.37.4

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD1A.CH Vial: 28  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188939.D\ECD2B.CH  
 Acq On : 9 Apr 2019 5:56 pm Operator: tianweir  
 Sample : ic6419-500 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:26 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Response
14.98	401966
17.33	381424

(+) = Expected Retention Time

EF188939.D PCB6419.M Wed Apr 10 08:28:15 2019 GCEF

11.6.37.5

11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD1A.CH Vial: 29  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:21 pm Operator: tianweir  
 Sample : icc6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:27 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	591410	724162	43.854	43.827
Spiked Amount	40.000		Recovery	=	109.63%	109.57%
51) S Decachlorobiphen	14.98	17.33	720185	773925	47.029	44.520m
Spiked Amount	40.000		Recovery	=	117.57%	111.30%
Target Compounds						
41) AR1016-A	4.18	5.19	419361	434218	998.065	1054.925
42) AR1016-B	4.78	6.01	703647	846101	1030.991	1048.445
43) AR1016-C	5.61	6.94	1608025	1788110	1039.468	1048.614
44) AR1016-D	5.87	7.23	608958	796609	1055.996	1071.526
45) AR1016-E	6.66	8.24	625434	532785	1064.158	1092.089
46) AR1260-A	10.39	12.34	1363440	1944485	1152.513	1169.745
47) AR1260-B	10.65	12.54	872426	1370002	1118.173	1117.225
48) AR1260-C	11.19	13.23	794073	1150406	1148.893	1155.081
49) AR1260-D	11.88	13.79	2049565	2759386	1166.680	1148.258
50) AR1260-E	12.50f	14.64	2068432	2703738	1192.244m	1190.430

11.6.38  
 11

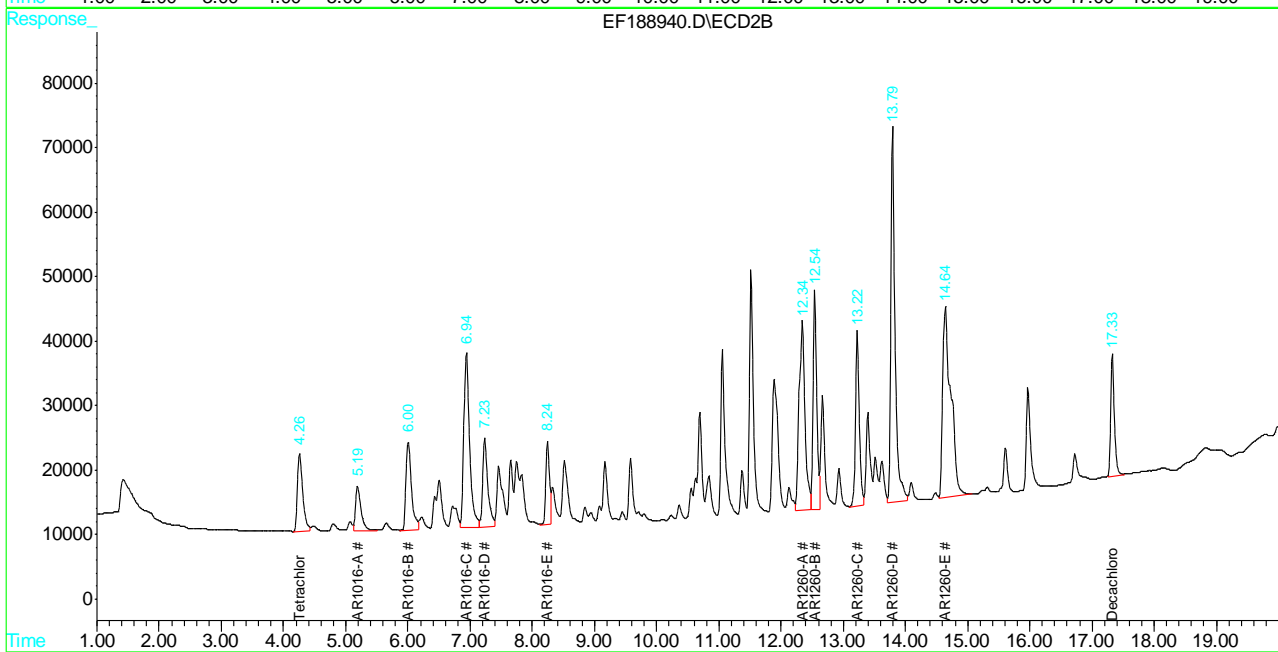
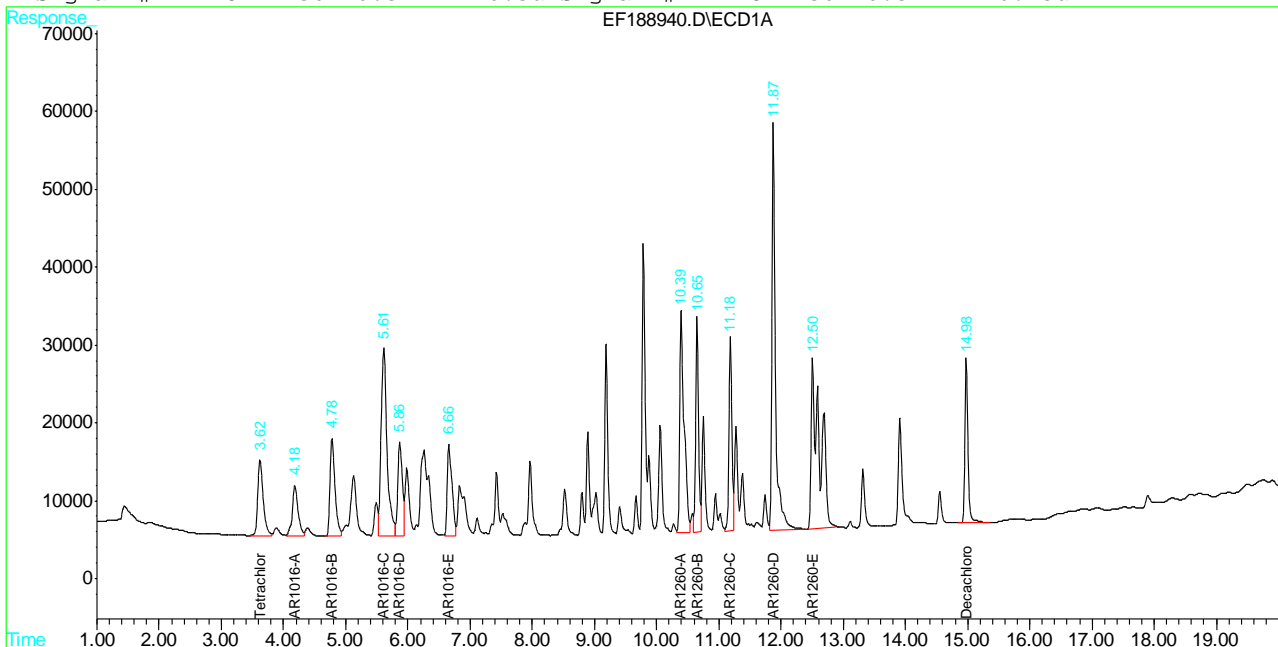
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188940.D PCB6419.M Wed Apr 10 08:48:33 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD1A.CH Vial: 29  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:21 pm Operator: tianweir  
 Sample : icc6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:27 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.38  
11

# Manual Integration Approval Summary

Sample Number: GEF6419-ICC6419      Method: SW846 8082A  
Lab FileID: EF188940.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 18:21      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	12.50	Split peak
Decachlorobiphenyl	2051-24-3	2	17.33	Poorly defined baseline

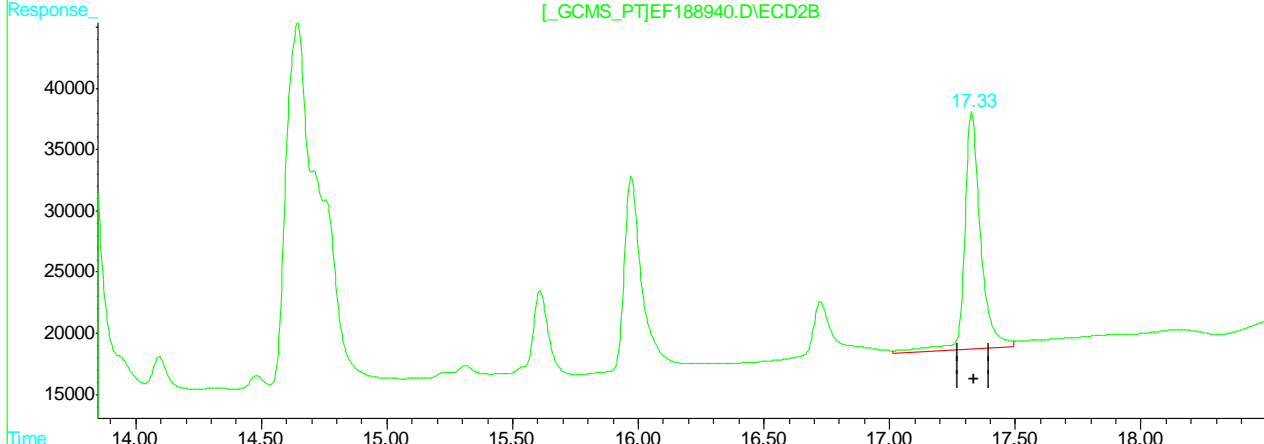
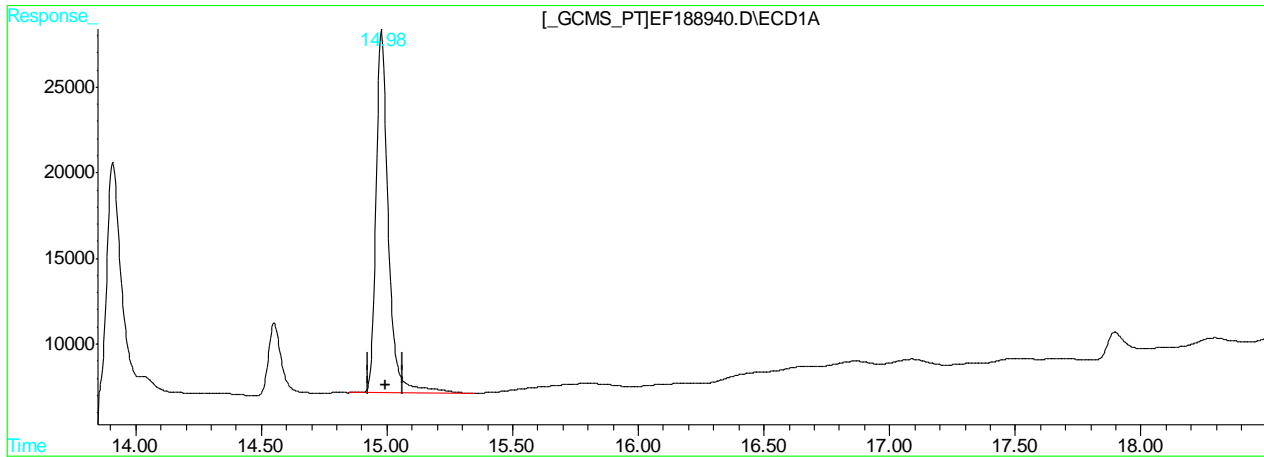
11.6.38.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD1A.CH Vial: 29  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:21 pm Operator: tianweir  
 Sample : icc6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:27 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



QEdit

(51) Decachlorobiphenyl (S)
14.98min 47.029PPB
response 720185
(51) Decachlorobiphenyl #2 (S)
17.33min 50.411PPB
response 876318

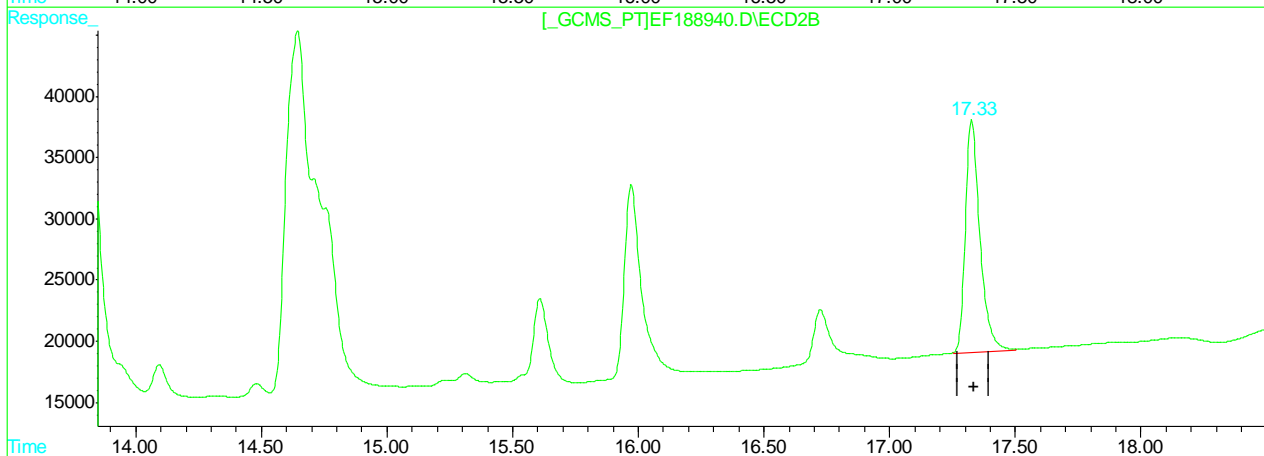
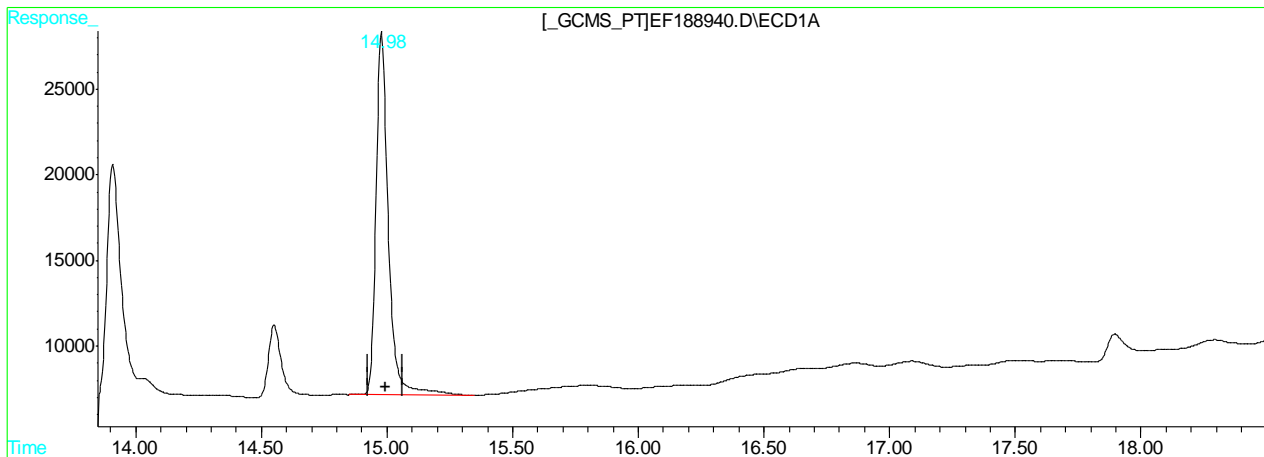
(+) = Expected Retention Time  
 EF188940.D PCB6419.M Wed Apr 10 08:27:25 2019 GCEF

11.6.38.2  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD1A.CH Vial: 29  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:21 pm Operator: tianweir  
 Sample : icc6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:27 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.98min 47.029PPB

response 720185

(51) Decachlorobiphenyl #2 (S)

17.33min 44.520PPB m

response 773925

(+) = Expected Retention Time

EF188940.D PCB6419.M

Wed Apr 10 08:27:31 2019

GCEF

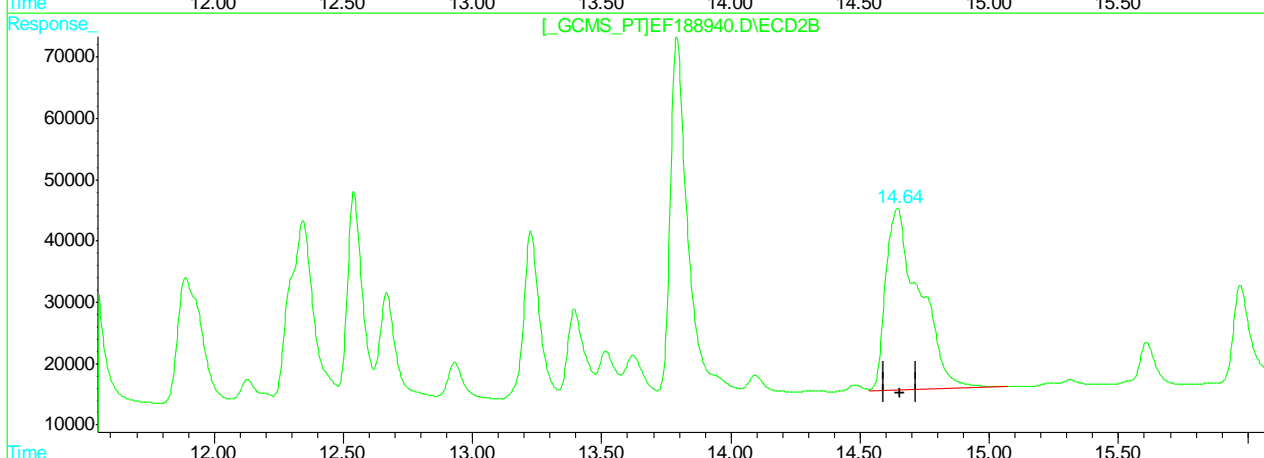
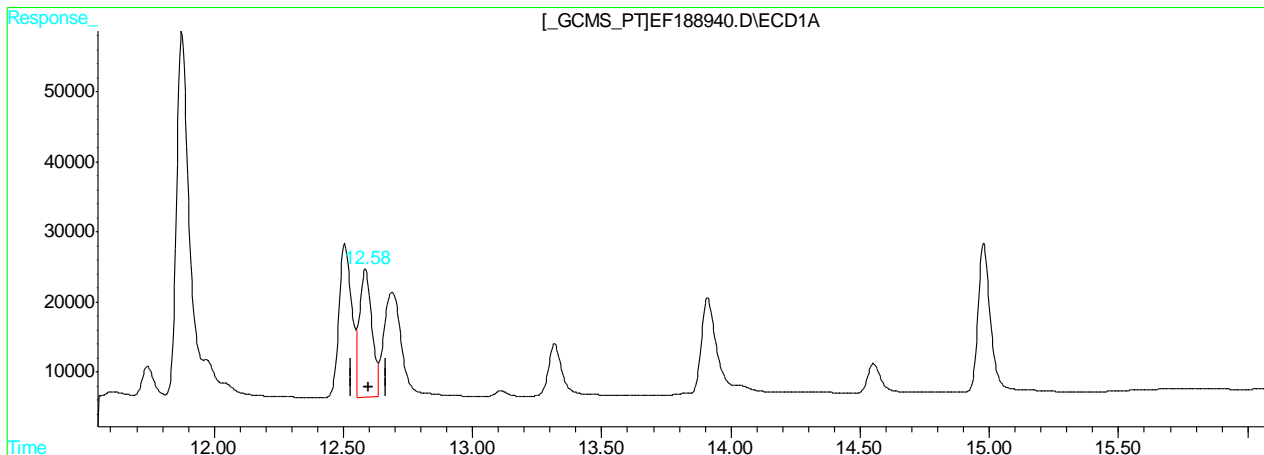
11.6.38.3

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD1A.CH Vial: 29  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:21 pm Operator: tianweir  
 Sample : icc6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:27 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



QEdit

(50) AR1260-E	12.59min	359.261PPB
response	623285	
(50) AR1260-E #2	14.64min	1190.430PPB
response	2703738	

(+) = Expected Retention Time  
 EF188940.D PCB6419.M Wed Apr 10 08:27:48 2019 GCEF

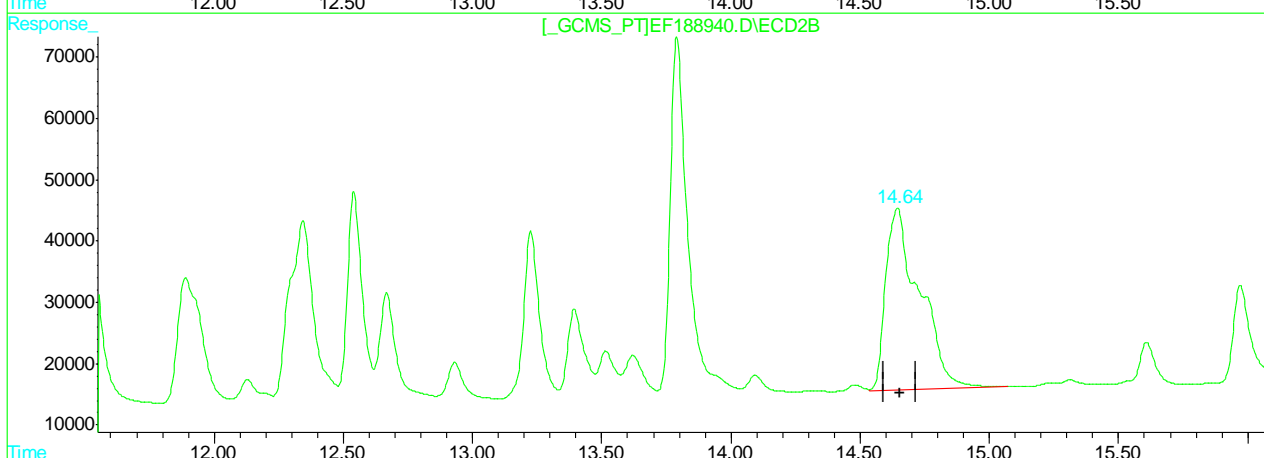
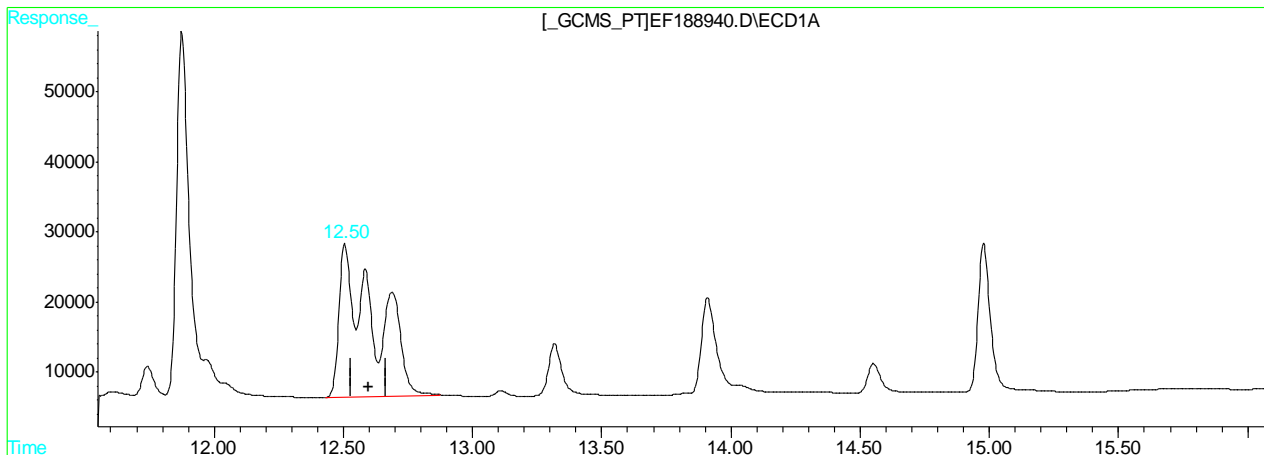
11.6.38.4  
 11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD1A.CH Vial: 29  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188940.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:21 pm Operator: tianweir  
 Sample : icc6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:27 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Response
12.50	2068432
14.64	2703738

(+) = Expected Retention Time  
 EF188940.D PCB6419.M Wed Apr 10 08:27:53 2019 GCEF

11.6.38.5  
 11

## Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188941.D\ECD1A.CH Vial: 30  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188941.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:46 pm Operator: tianweir  
 Sample : ic6419-2000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:28 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	1189203	1443779	88.181	87.378
Spiked Amount	40.000				Recovery = 220.45%	218.44%
51) S Decachlorobiphen	14.98	17.32	1308502	1476318	85.447	84.926
Spiked Amount	40.000				Recovery = 213.62%	212.32%
Target Compounds						
41) AR1016-A	4.18	5.19	777110	809393	1849.495	1966.407
42) AR1016-B	4.78	6.00	1296728	1585252	1899.979	1964.363
43) AR1016-C	5.61	6.94	2941033	3302318	1901.157	1936.602
44) AR1016-D	5.86	7.23	1123855	1497809	1948.880	2014.717
45) AR1016-E	6.65	8.24	1162707	1002318	1978.313	2054.526
46) AR1260-A	10.39	12.34	2544210	3689277	2150.616	2219.360
47) AR1260-B	10.64	12.54	1592752	2573905	2041.403	2098.998
48) AR1260-C	11.18	13.22	1451773	2204088	2100.478	2213.045
49) AR1260-D	11.87	13.79	3839216	5296150	2185.408	2203.875
50) AR1260-E	12.50	14.64	3984127	5272920	2296.451m	2321.616

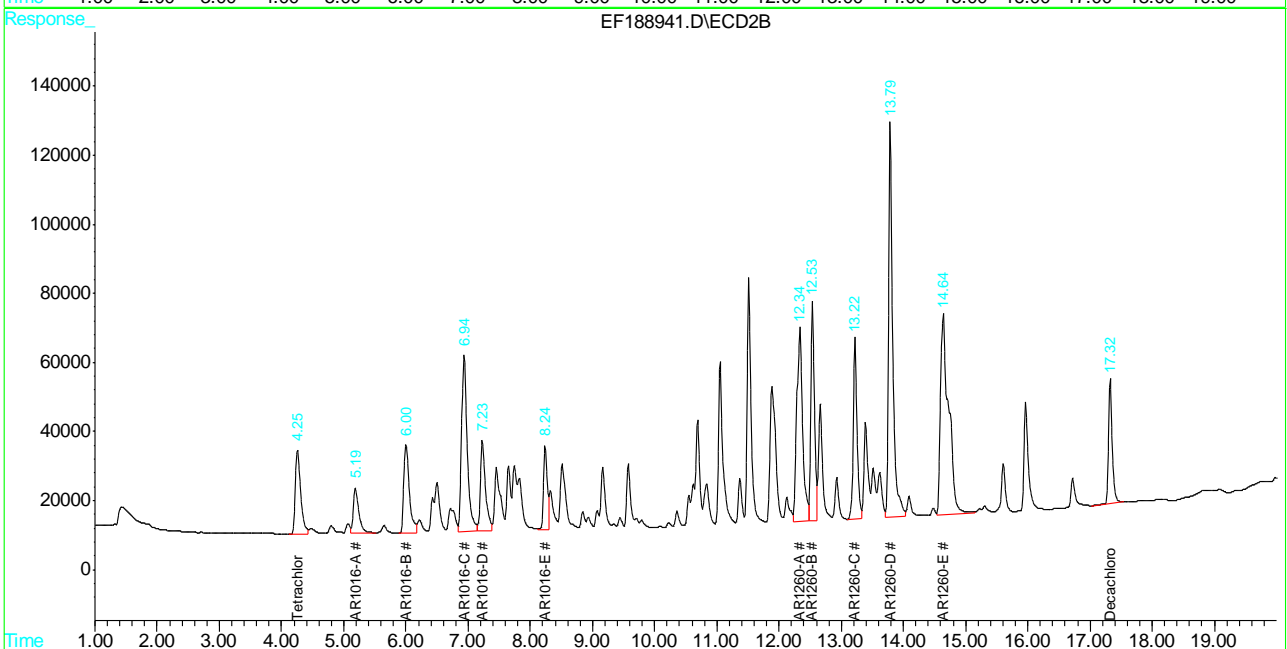
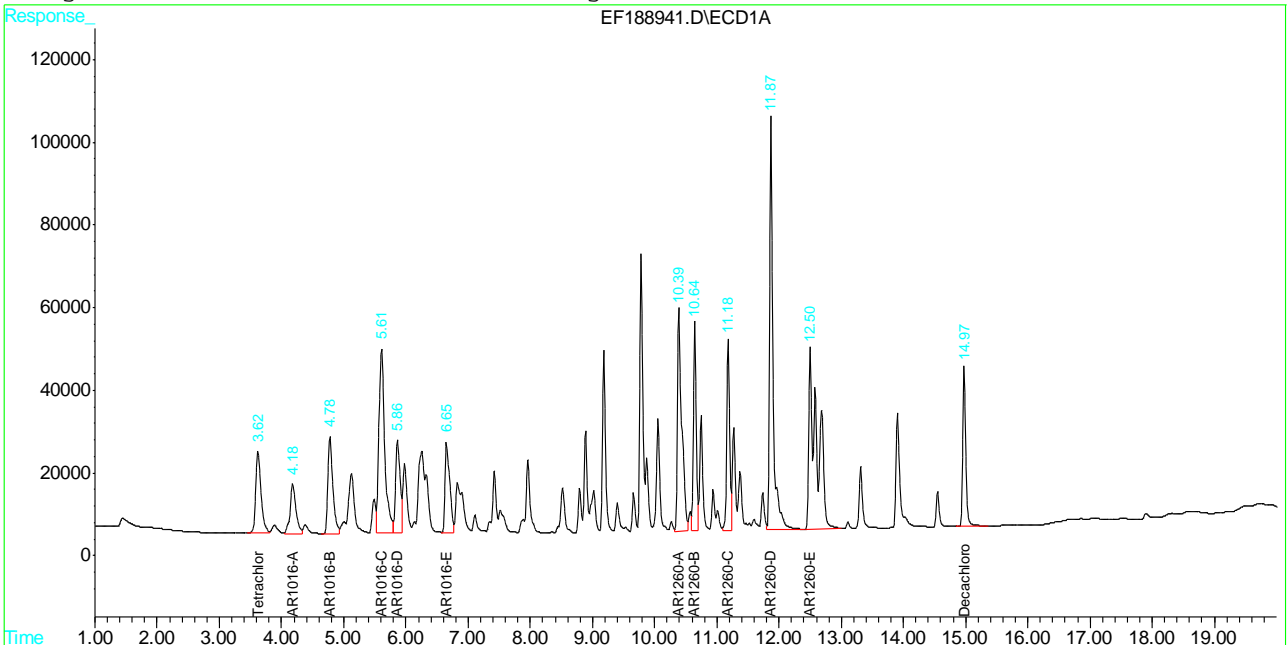
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188941.D PCB6419.M Wed Apr 10 08:48:38 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188941.D\ECD1A.CH Vial: 30  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188941.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:46 pm Operator: tianweir  
 Sample : ic6419-2000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:28 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



# Manual Integration Approval Summary

Sample Number: GEF6419-IC6419      Method: SW846 8082A  
Lab FileID: EF188941.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 18:46      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	12.50	Split peak

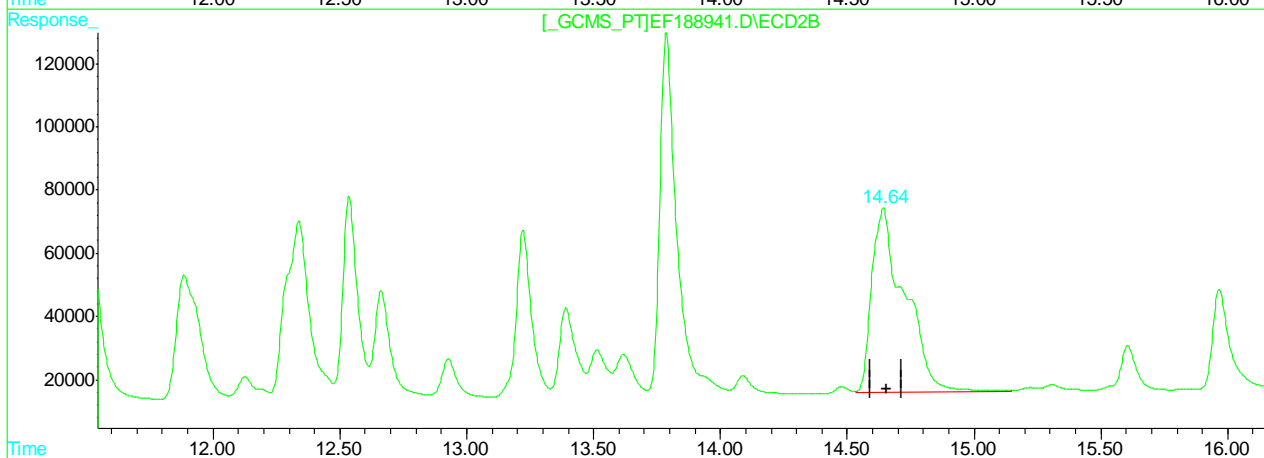
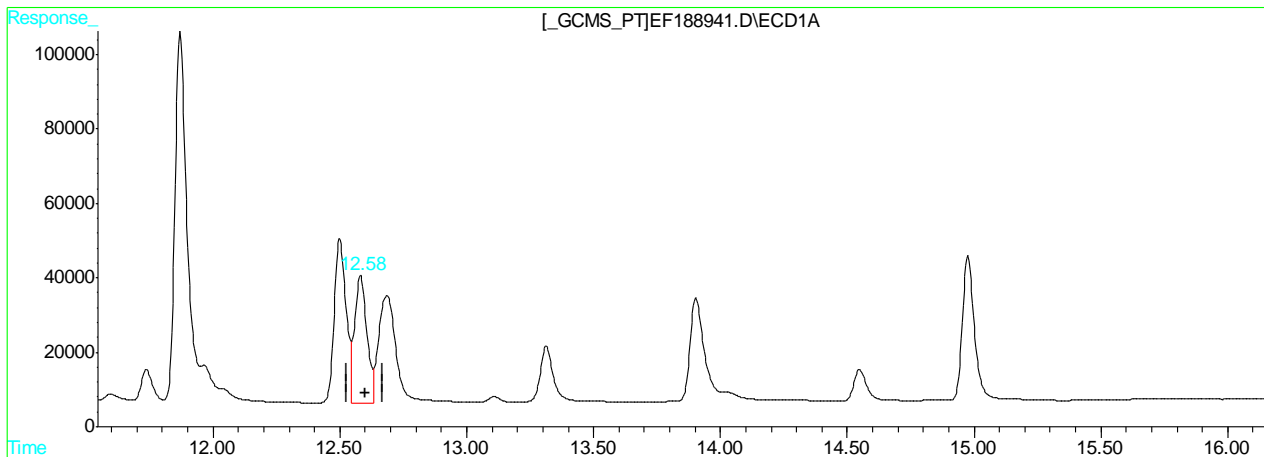
11.6.39.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188941.D\ECD1A.CH Vial: 30  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188941.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:46 pm Operator: tianweir  
 Sample : ic6419-2000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:28 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



QEdit

(50) AR1260-E
12.58min 660.992PPB
response 1146760
(50) AR1260-E #2
14.64min 2321.616PPB
response 5272920

(+) = Expected Retention Time  
 EF188941.D PCB6419.M Wed Apr 10 08:28:48 2019 GCEF

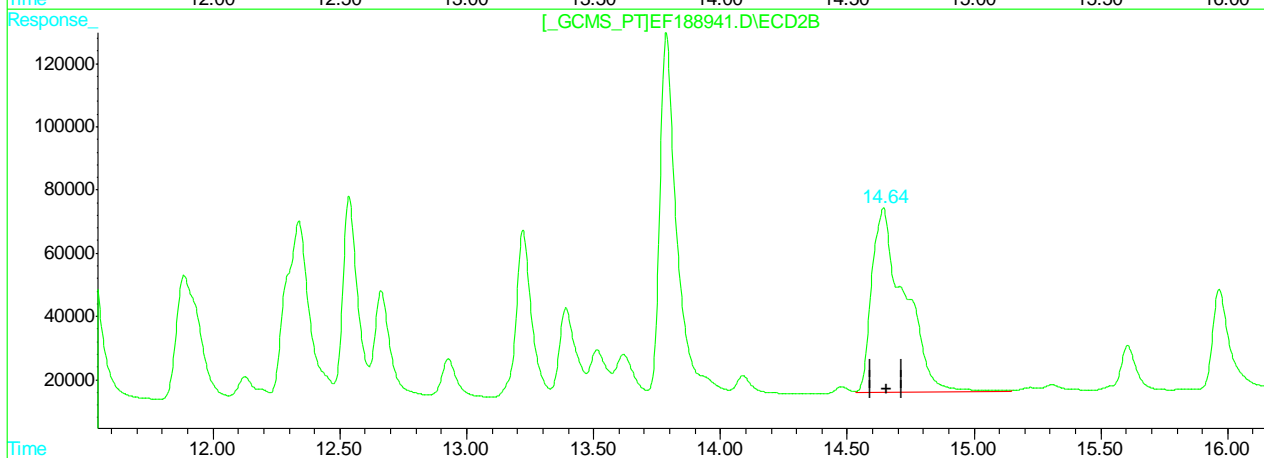
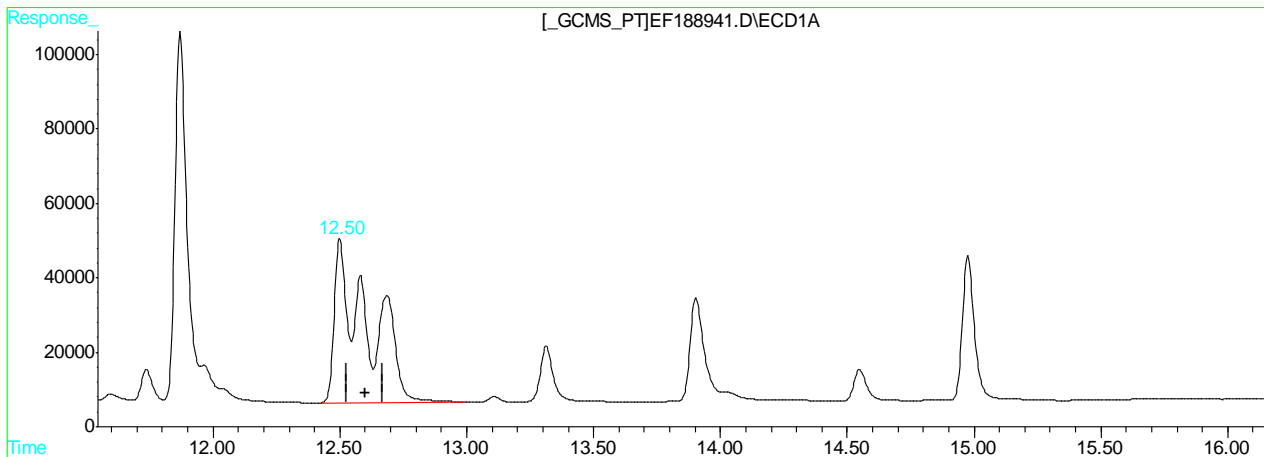
11.6.39.2

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188941.D\ECD1A.CH Vial: 30  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188941.D\ECD2B.CH  
 Acq On : 9 Apr 2019 6:46 pm Operator: tianweir  
 Sample : ic6419-2000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:28 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.50min 2296.451PPB m  
 response 3984127

(50) AR1260-E #2  
 14.64min 2321.616PPB  
 response 5272920

(+) = Expected Retention Time  
 EF188941.D PCB6419.M Wed Apr 10 08:29:06 2019 GCEF

11.6.39.3

11

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

Gwendolyn Burns  
 04/10/19 14:25

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD1A.CH Vial: 31  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:11 pm Operator: tianweir  
 Sample : ic6419-3000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:29 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.25	1810574	2191600	134.256	132.637
Spiked Amount	40.000		Recovery	=	335.64%	331.59%
51) S Decachlorobiphen	14.97	17.32	1863108	2224064	121.663	127.941
Spiked Amount	40.000		Recovery	=	304.16%	319.85%
Target Compounds						
41) AR1016-A	4.18	5.19	1123447	1180101	2673.765	2867.038
42) AR1016-B	4.78	6.00	1863989	2286834	2731.135	2833.727
43) AR1016-C	5.61f	6.94	4204628	4727194	2717.977	2772.202
44) AR1016-D	5.86f	7.23	1609831	2176314	2791.613	2927.381
45) AR1016-E	6.65	8.24	1687072	1441569	2870.504	2954.889
46) AR1260-A	10.39	12.34	3692265	5418789	3121.065	3259.783
47) AR1260-B	10.64	12.53	2272621	3747159	2912.780	3055.776
48) AR1260-C	11.18	13.22	2089847	3264410	3023.666	3277.676
49) AR1260-D	11.87	13.78	5512782	7867448	3138.058m	3273.864
50) AR1260-E	12.49f	14.64	5875433	7924614	3386.600m	3489.131

11.640  
 11

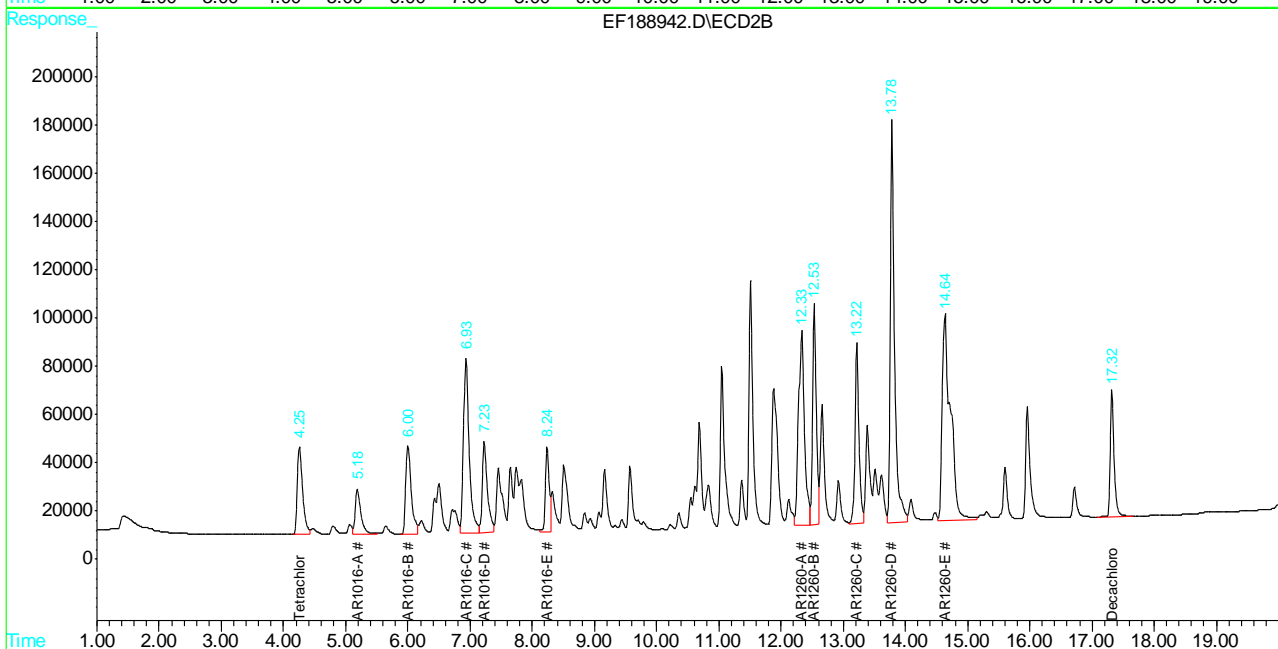
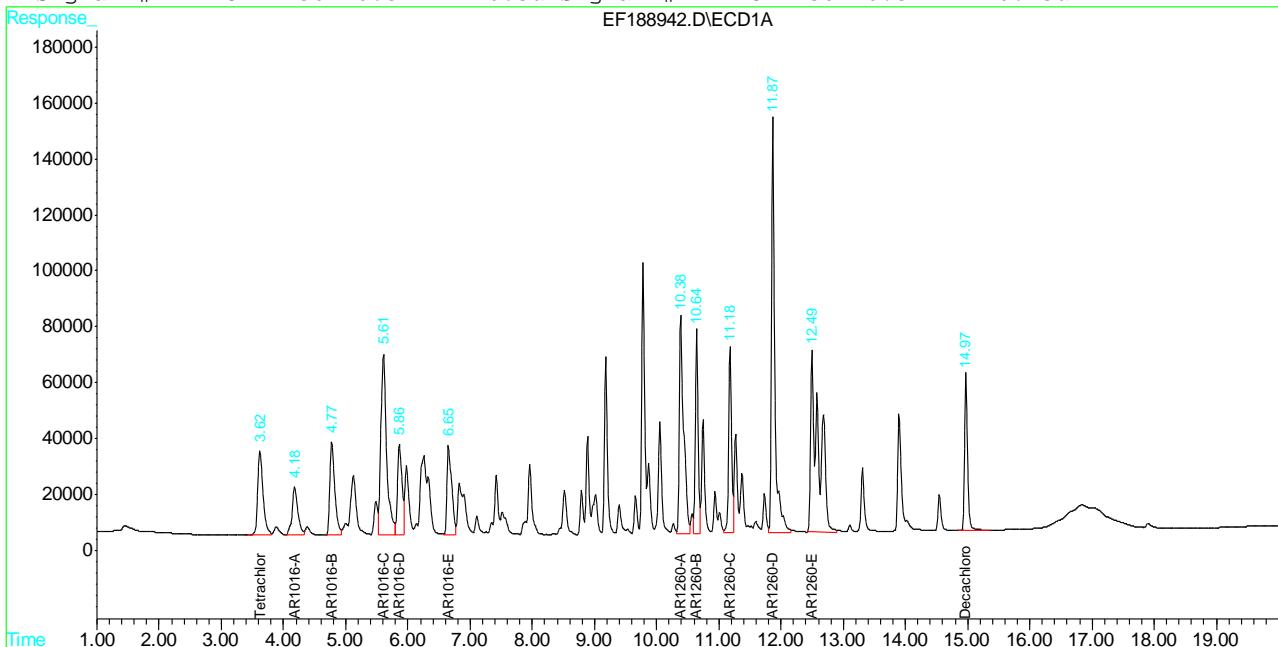
-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188942.D PCB6419.M Wed Apr 10 08:48:44 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD1A.CH Vial: 31  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:11 pm Operator: tianweir  
 Sample : ic6419-3000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:29 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.40  
11



# Manual Integration Approval Summary

Sample Number: GEF6419-IC6419      Method: SW846 8082A  
Lab FileID: EF188942.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 19:11      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-D		1	11.87	Split peak
AR1260-E		1	12.49	Split peak

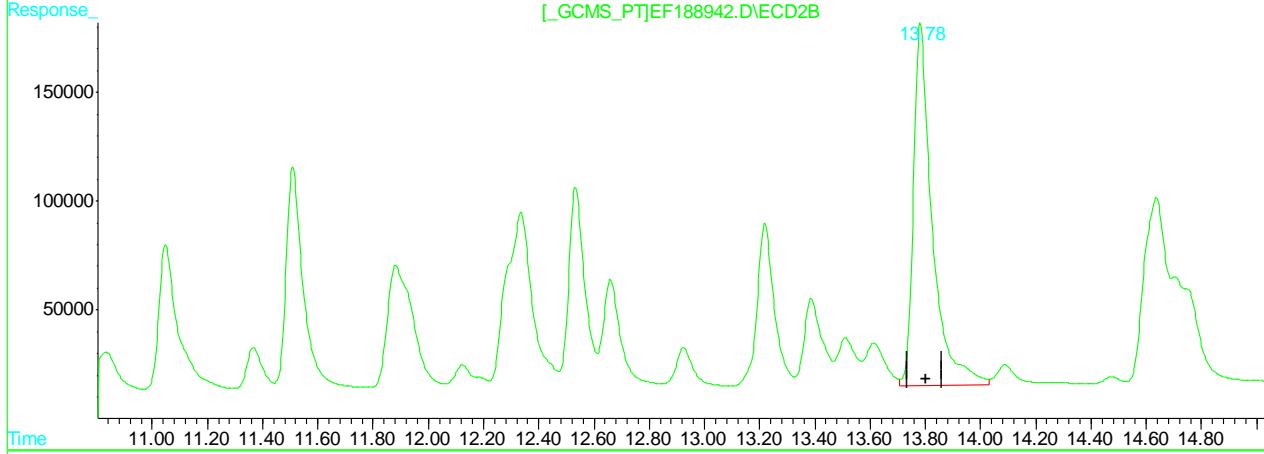
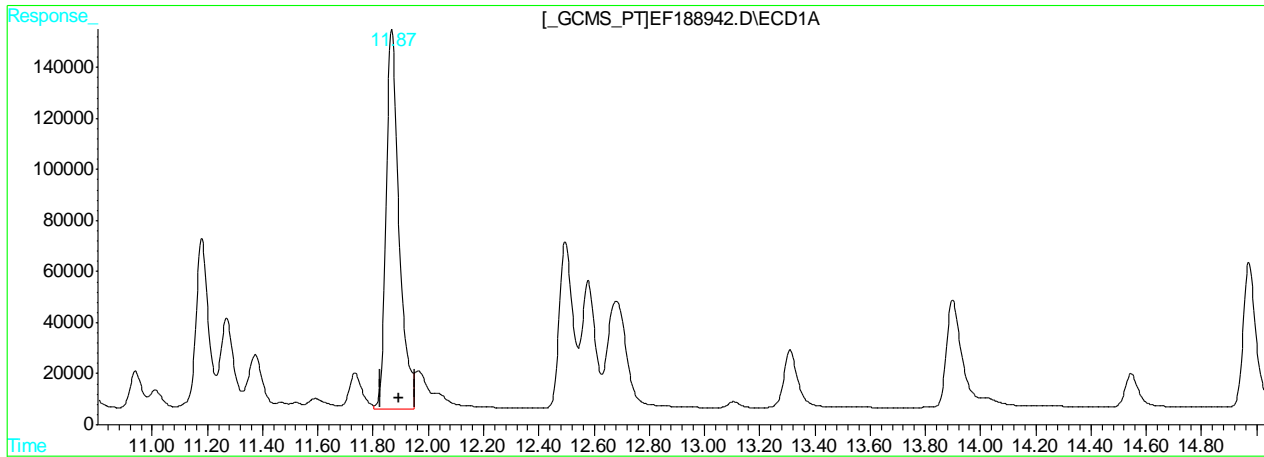
11.6.40.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD1A.CH Vial: 31  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:11 pm Operator: tianweir  
 Sample : ic6419-3000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:29 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(49) AR1260-D  
 11.87min 2744.788PPB  
 response 4821906

(49) AR1260-D #2  
 13.78min 3273.864PPB  
 response 7867448

(+) = Expected Retention Time

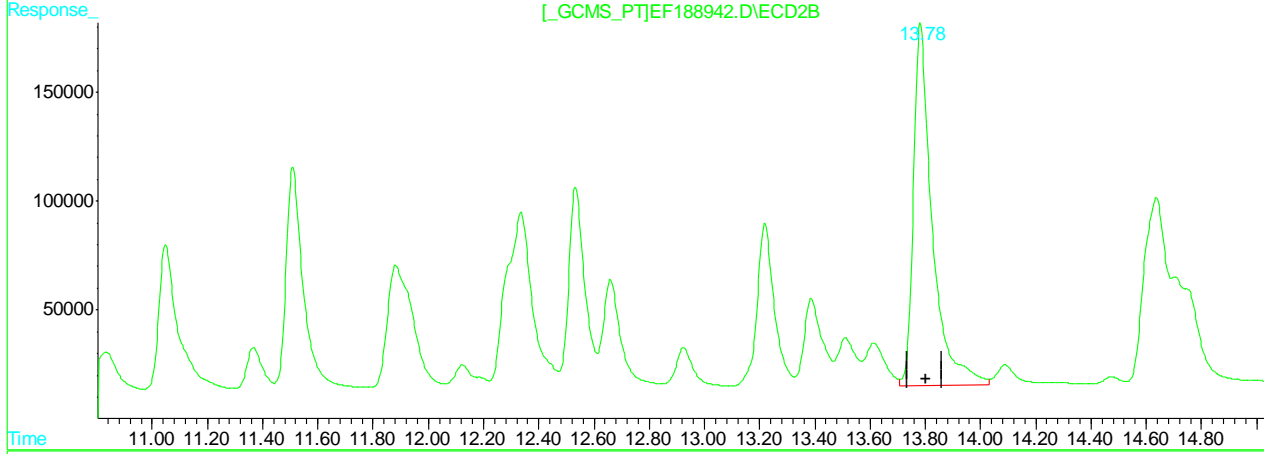
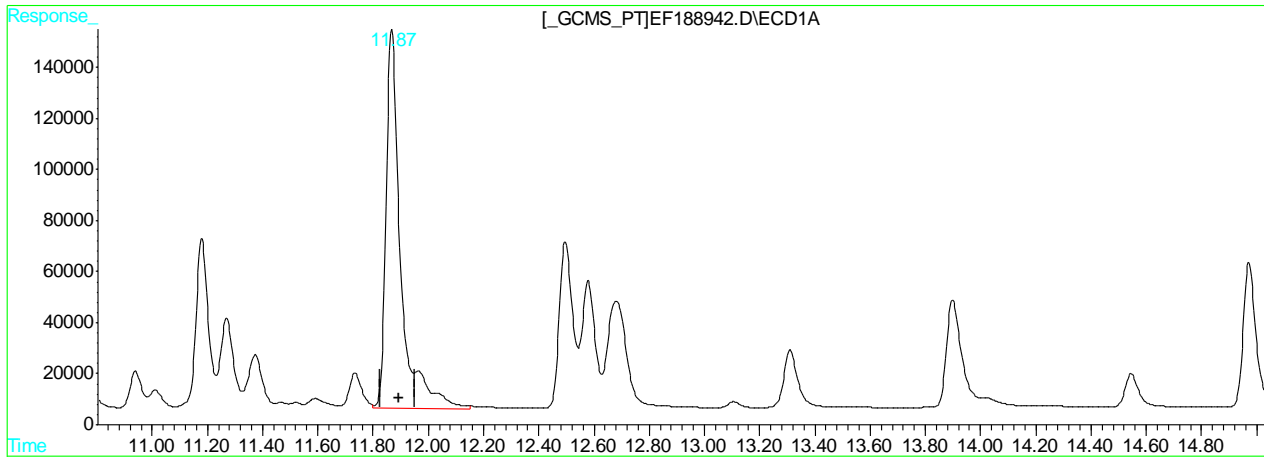
EF188942.D PCB6419.M Wed Apr 10 08:29:36 2019 GCEF

11.6.40.2  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD1A.CH Vial: 31  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:11 pm Operator: tianweir  
 Sample : ic6419-3000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:29 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(49) AR1260-D  
 11.87min 3138.058PPB m  
 response 5512782

(49) AR1260-D #2  
 13.78min 3273.864PPB  
 response 7867448

(+) = Expected Retention Time  
 EF188942.D PCB6419.M Wed Apr 10 08:29:40 2019 GCEF

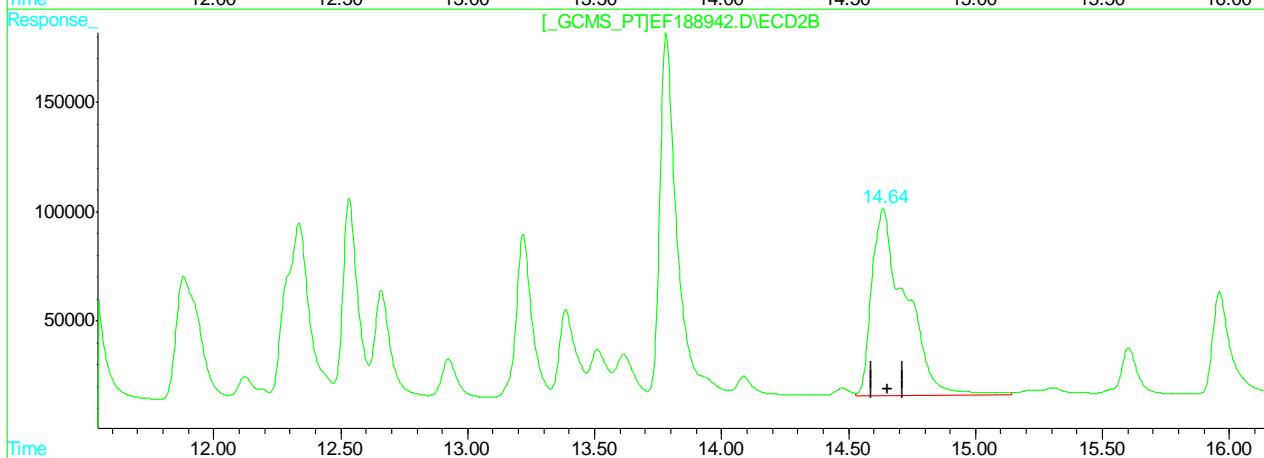
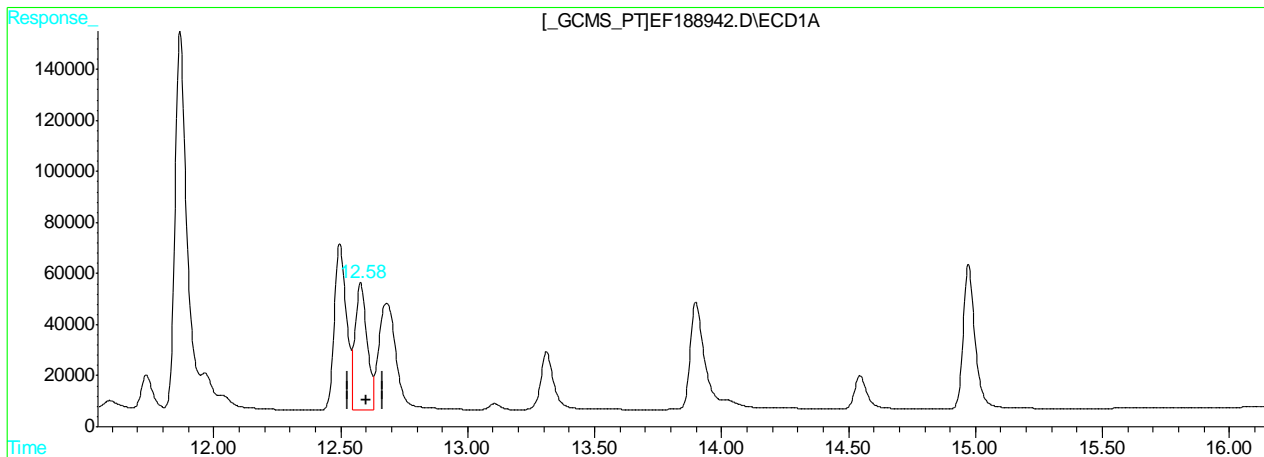
11.6.40.3

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD1A.CH Vial: 31  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:11 pm Operator: tianweir  
 Sample : ic6419-3000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:29 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Concentration (PPB)	Response
(50) AR1260-E		
12.58min	952.833	1653076
(50) AR1260-E #2		
14.64min	3489.131	7924614

(+) = Expected Retention Time  
 EF188942.D PCB6419.M Wed Apr 10 08:29:44 2019 GCEF

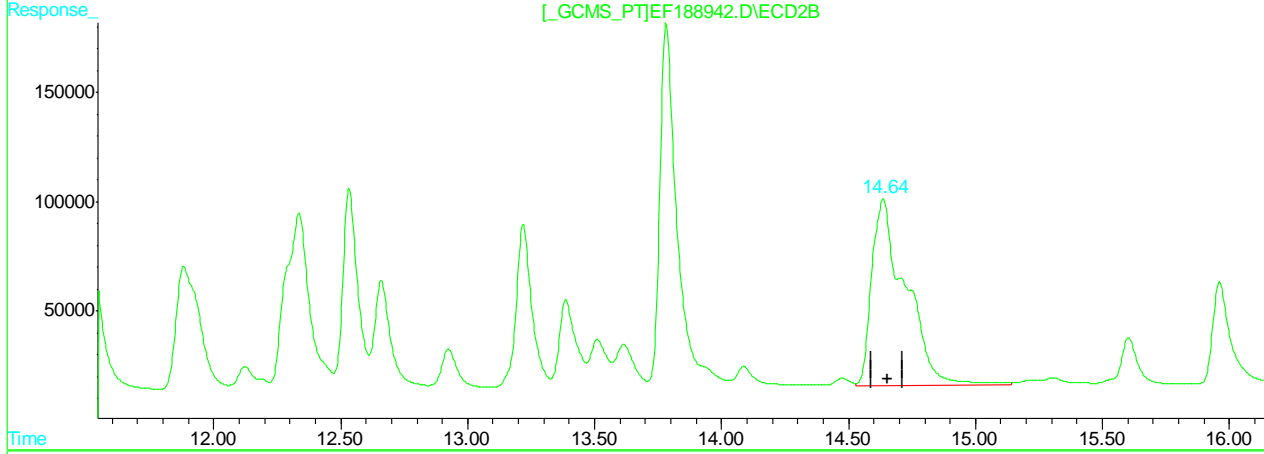
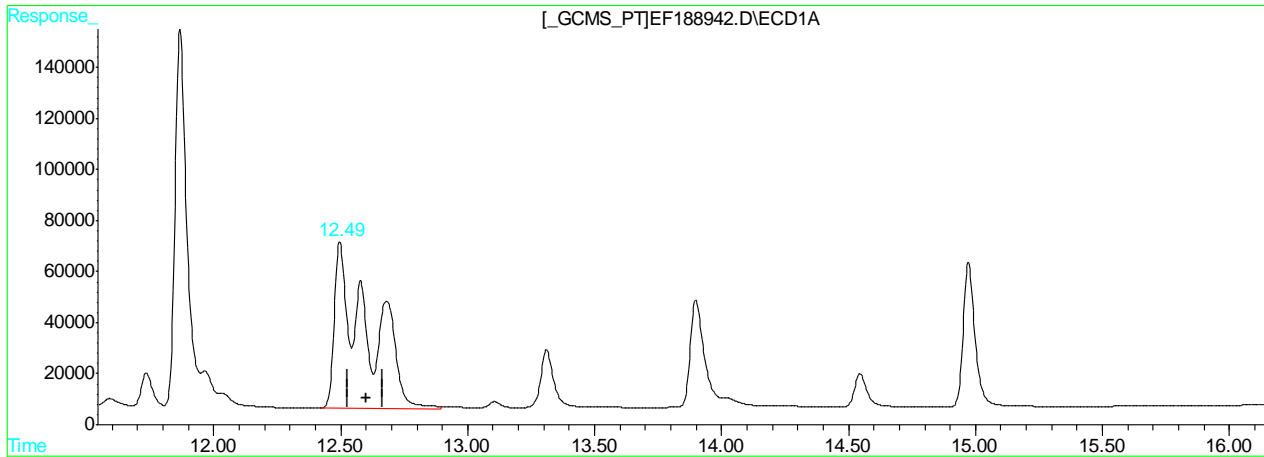
11.6.40.4

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD1A.CH Vial: 31  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188942.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:11 pm Operator: tianweir  
 Sample : ic6419-3000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:29 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.49min 3386.600PPB m  
 response 5875433

(50) AR1260-E #2  
 14.64min 3489.131PPB  
 response 7924614

(+) = Expected Retention Time  
 EF188942.D PCB6419.M Wed Apr 10 08:29:49 2019 GCEF

11.6.40.5  
 11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD1A.CH Vial: 32  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:36 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:32:23 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
----------	------	------	--------	--------	-----	-----

System Monitoring Compounds

1) S	Tetrachloro-m-xy	3.62	4.25	795312	922128	54.351	51.884
	Spiked Amount	40.000			Recovery	=	135.88% 129.71%
51) S	Decachlorobiphen	14.98	17.32	919843	1000731	51.553	50.792
	Spiked Amount	40.000			Recovery	=	128.88% 126.98%

Target Compounds

2)	AR1221-A	2.91	3.50	160053	155179	1042.478	1033.933
3)	AR1221-B	3.88	4.80	225511	269908	1052.548	1098.032
4)	AR1221-C	4.18	5.19	726855	731367	1045.717	1118.573
5)	AR1221-D	4.78	6.00	119711	122792	1065.205m	1107.565m
6)	AR1221-E	5.03	6.13	87499	102732	1027.653	1055.307m
24)	AR1254-A	7.42	9.16	710847	1051277	1200.512	1103.711
25)	AR1254-B	7.96	9.57	897944	1058194	1126.020	1100.606
26)	AR1254-C	8.53	10.36	644382	729170	1112.536	1142.846
27)	AR1254-D	8.79	10.62	1032623	1586540	1118.927	1128.828
28)	AR1254-E	9.40	11.13	990943	1350273	1213.404	1198.084
29)	AR1254-F	9.79	11.88	902081	1076909	1109.013	1210.119m
30)	AR1254-G	10.39	12.35	1146687	1575385	1149.145	1127.478

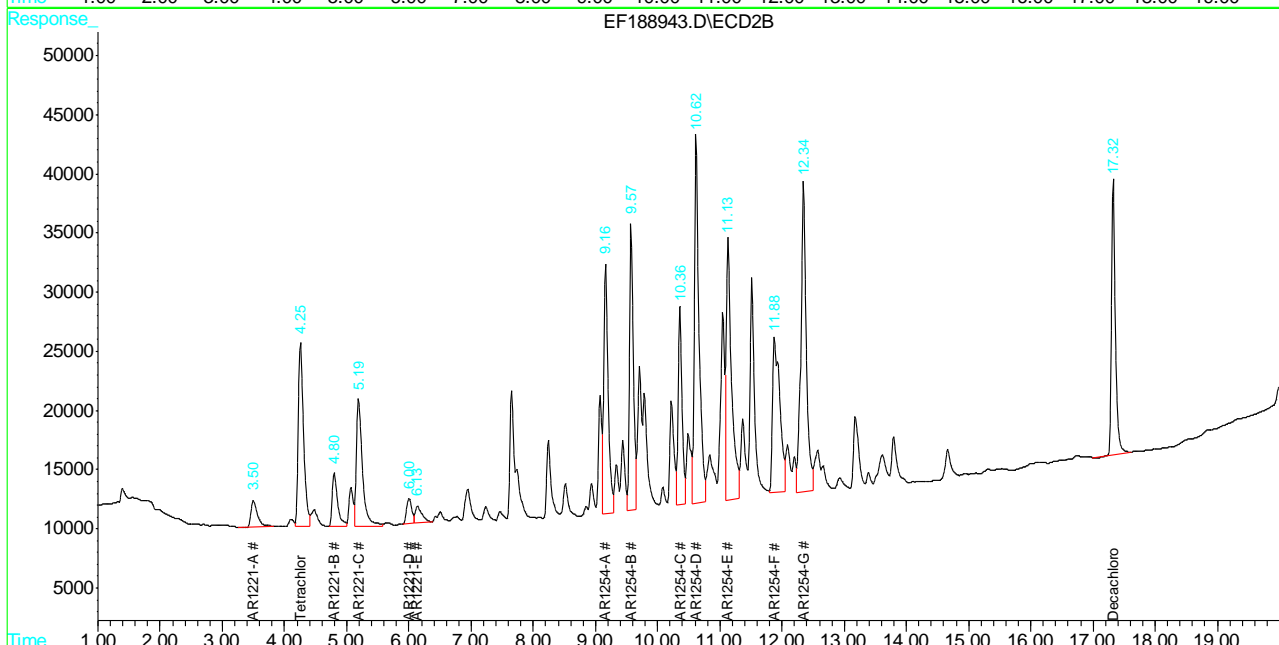
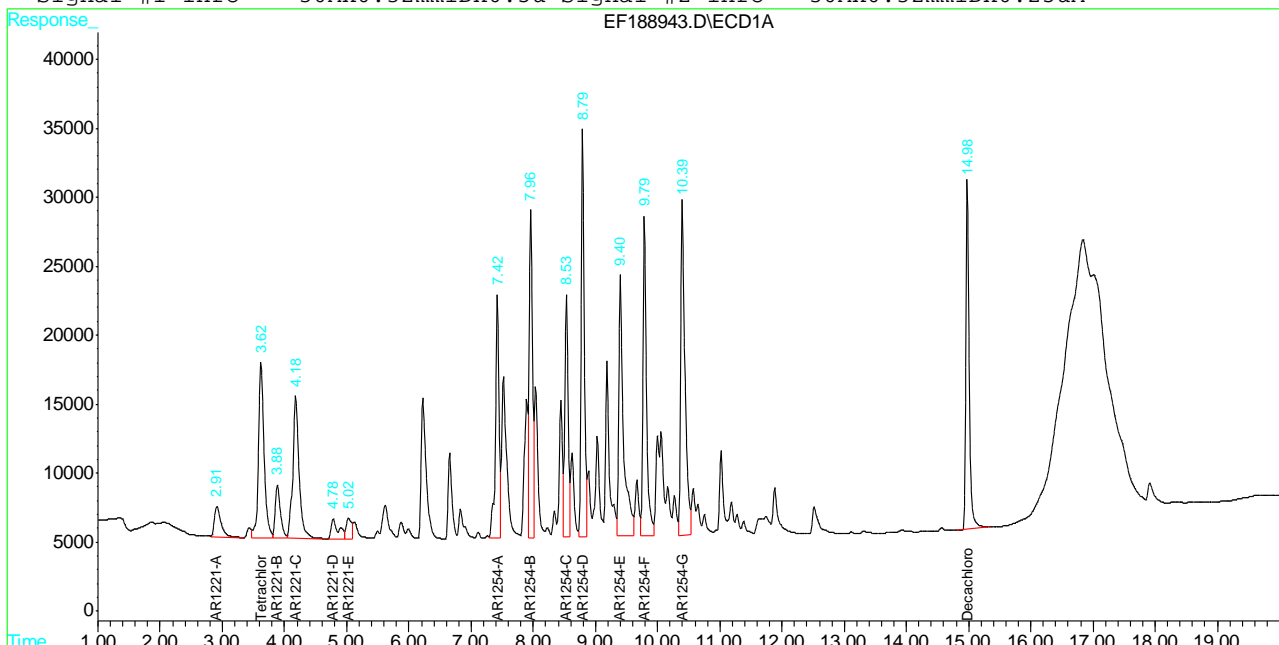
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188943.D PCB6419.M Wed Apr 10 08:48:48 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD1A.CH Vial: 32  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:36 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:32:23 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.641  
11

# Manual Integration Approval Summary

Sample Number: GEF6419-IC6419      Method: SW846 8082A  
Lab FileID: EF188943.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 19:36      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1221-D		1	4.78	Split peak
AR1221-D		2	6.00	Split peak
AR1221-E		2	6.13	Split peak
AR1254-F		2	11.88	Split peak

11.6.41.1

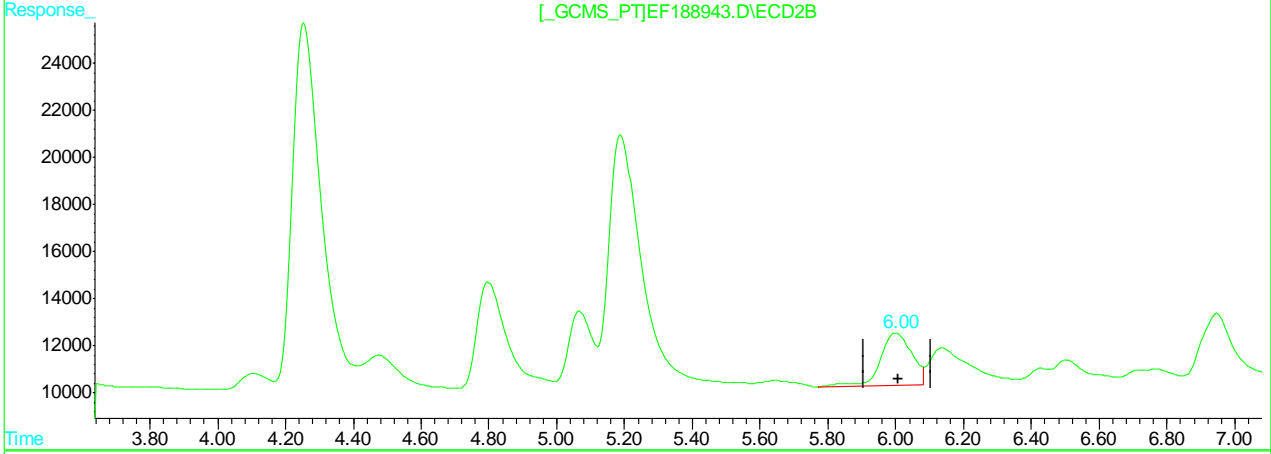
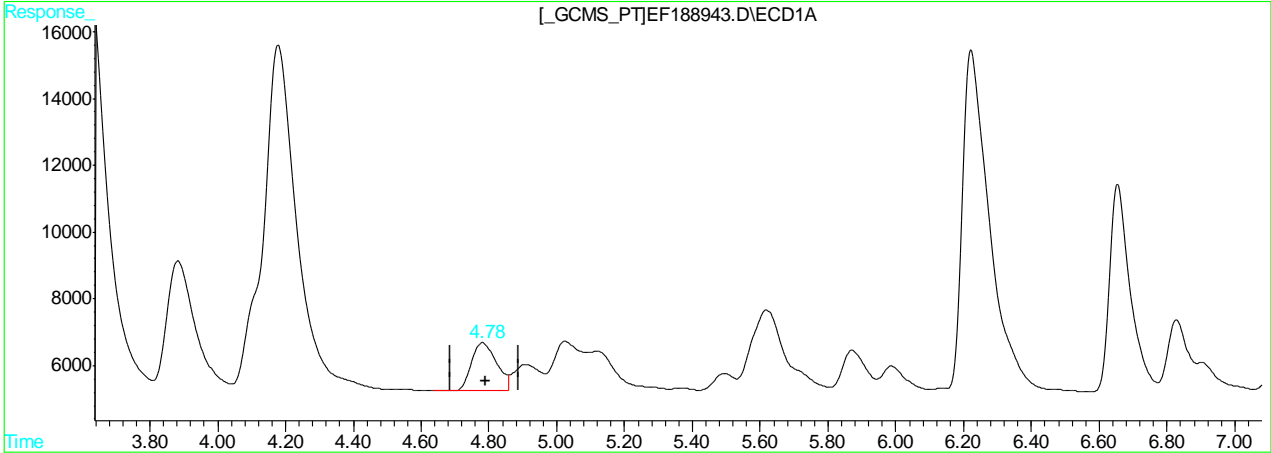
11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD1A.CH Vial: 32  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:36 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:33 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:32:23 2019  
 Response via : Single Level Calibration



QEdit

(5) AR1221-D	4.78min	653.010PPB	response	73387
(5) AR1221-D #2	6.00min	1286.691PPB	response	142651

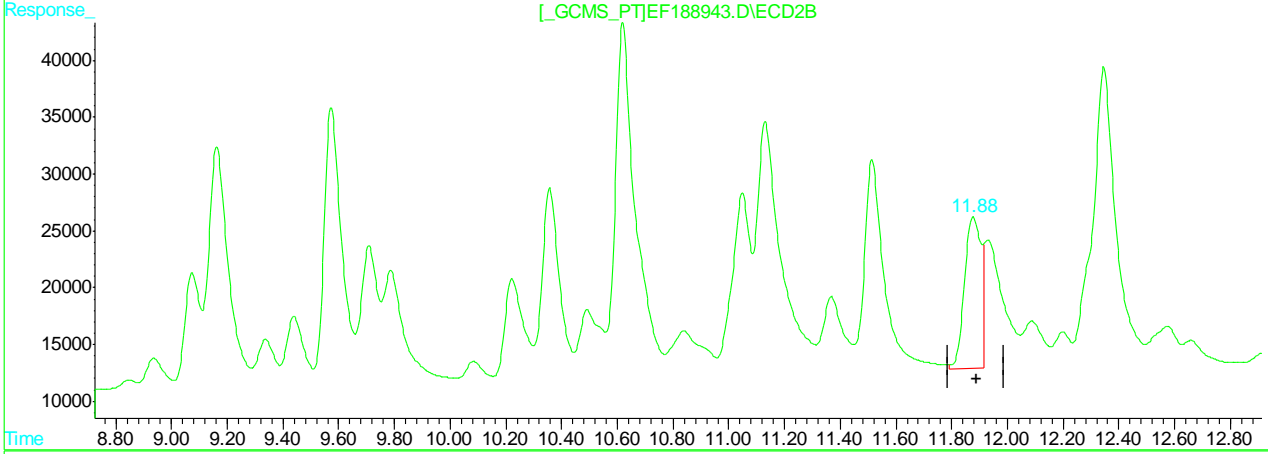
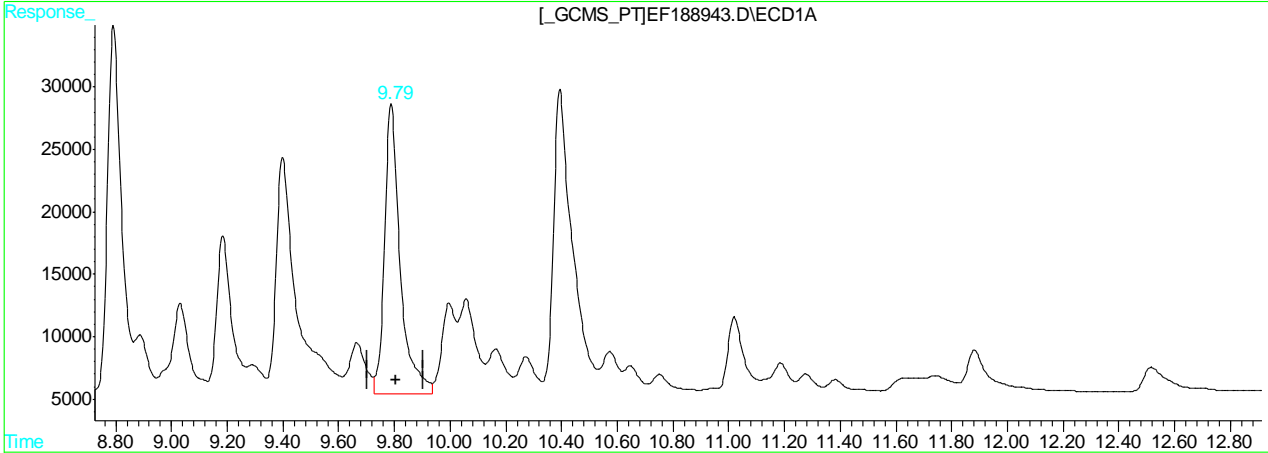
(+) = Expected Retention Time  
 EF188943.D PCB6419.M Wed Apr 10 08:34:08 2019 GCEF

11.6.41.2  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD1A.CH Vial: 32  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:36 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:33 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:32:23 2019  
 Response via : Single Level Calibration



QEdit

(29) AR1254-F
9.79min 1109.013PPB
response 902081
(29) AR1254-F #2
11.88min 610.105PPB
response 542945

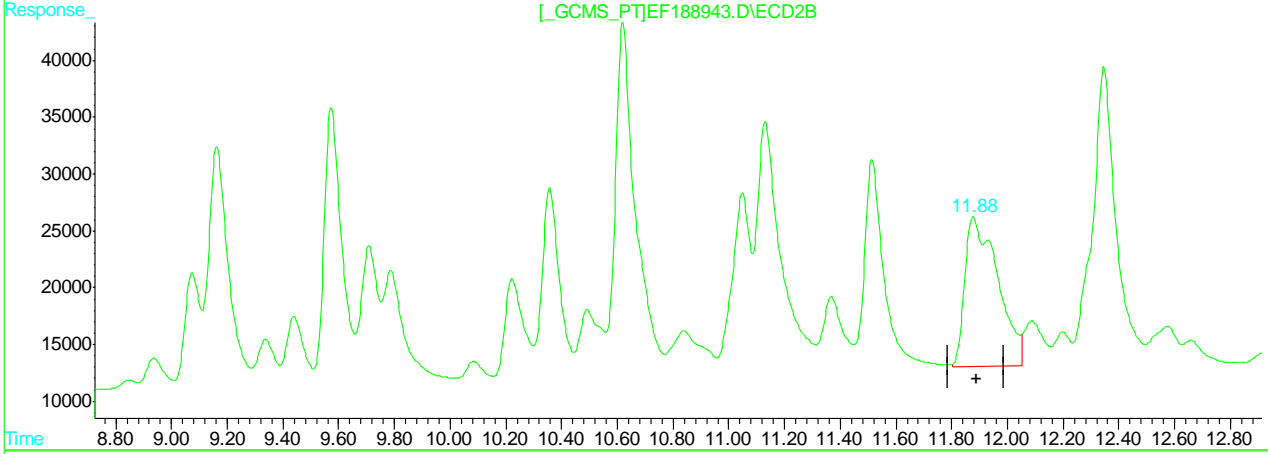
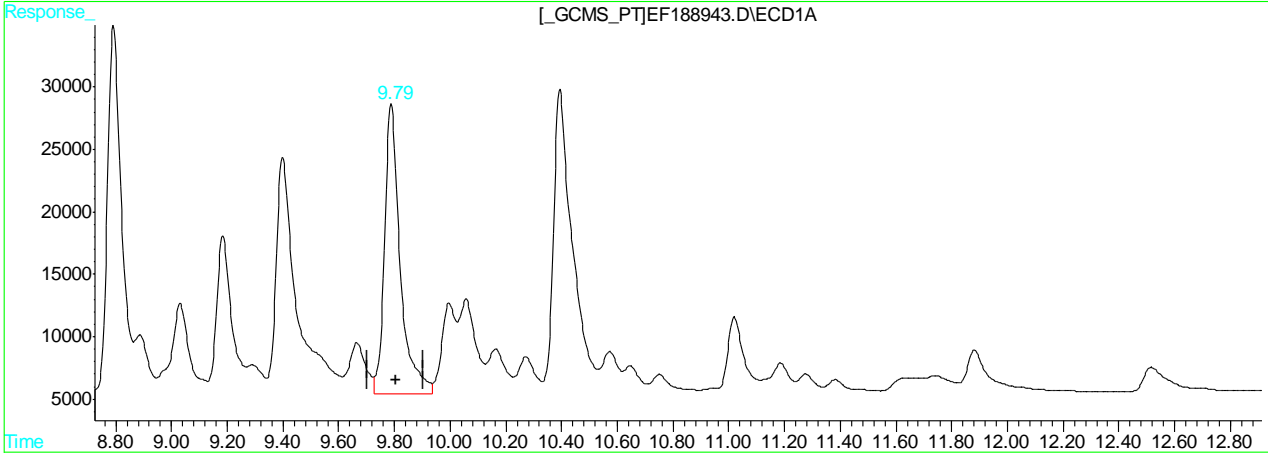
(+) = Expected Retention Time  
 EF188943.D PCB6419.M Wed Apr 10 08:34:27 2019 GCEF

11.6.41.3 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD1A.CH Vial: 32  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:36 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:33 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:32:23 2019  
 Response via : Single Level Calibration



QEdit

(29) AR1254-F
9.79min 1109.013PPB
response 902081
(29) AR1254-F #2
11.88min 1210.119PPB m
response 1076909

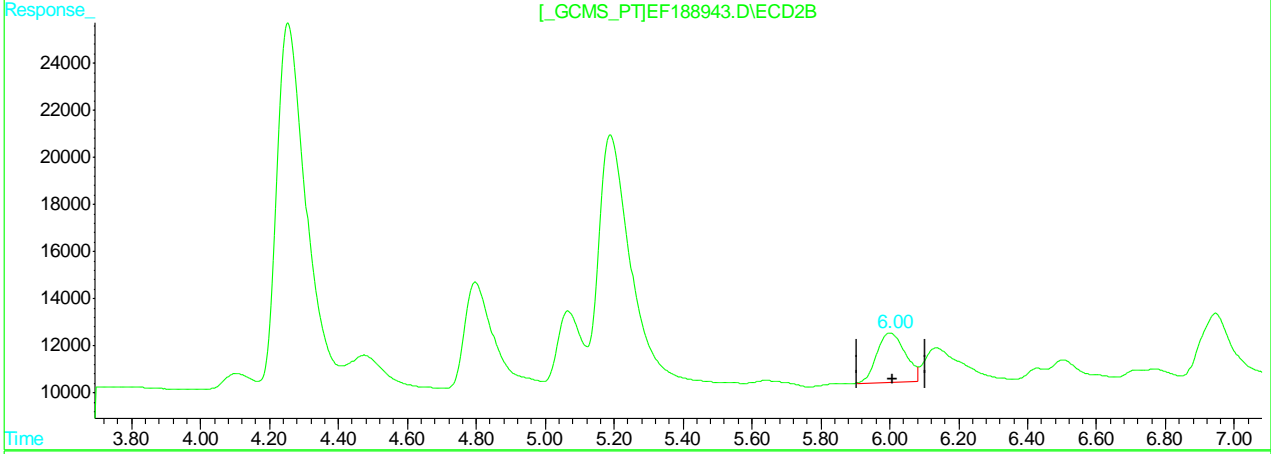
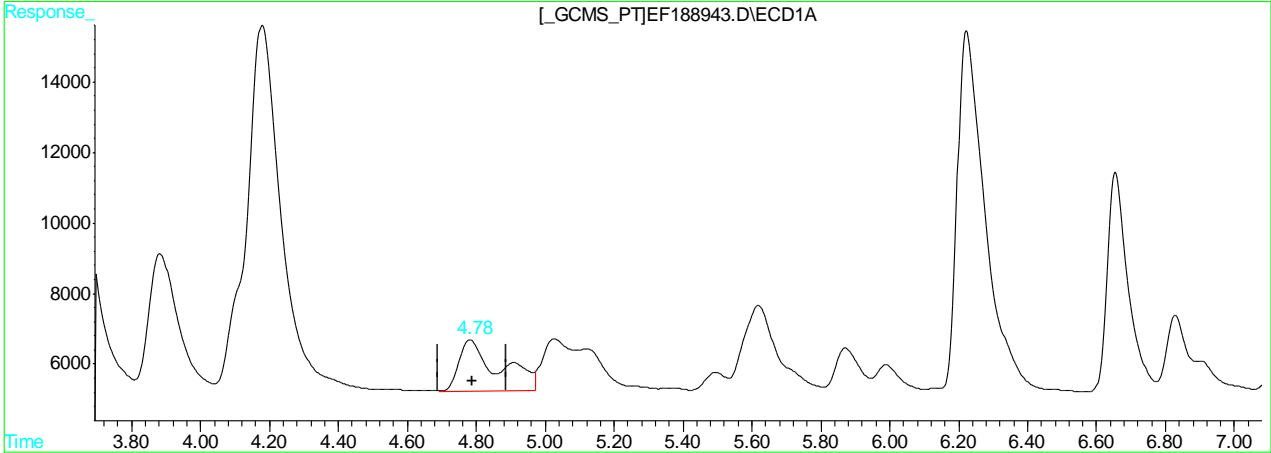
(+) = Expected Retention Time  
 EF188943.D PCB6419.M Wed Apr 10 08:34:38 2019 GCEF

11.6.41.4  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD1A.CH Vial: 32  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:36 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:34 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:38:15 2019  
 Response via : Single Level Calibration



Retention Time (min)	Concentration (PPB m)	Response
(5) AR1221-D 4.78min	1065.205	119711
(5) AR1221-D #2 6.00min	1107.565	122792

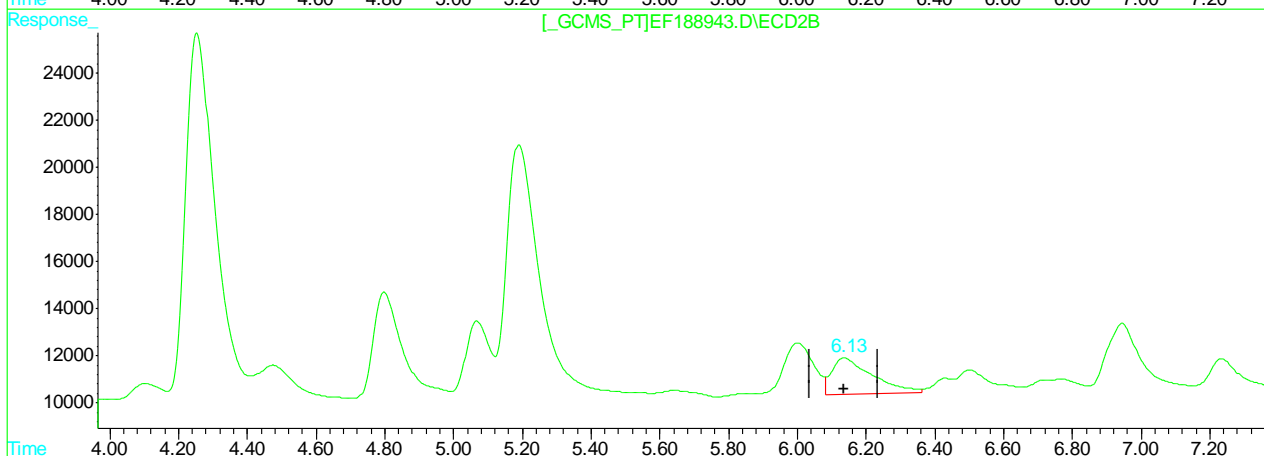
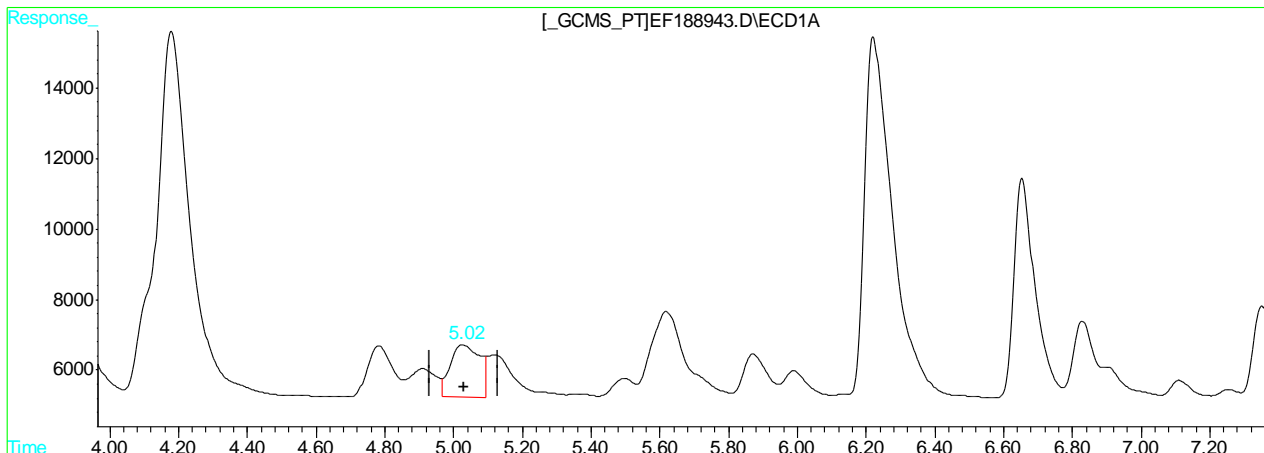
(+) = Expected Retention Time  
 EF188943.D PCB6419.M Wed Apr 10 08:42:00 2019 GCEF

11.6.41.5  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD1A.CH Vial: 32  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:36 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:34 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:38:15 2019  
 Response via : Single Level Calibration



QEdit

(6) AR1221-E
5.03min 1027.653PPB
response 87499
(6) AR1221-E #2
6.14min 1338.355PPB
response 130286

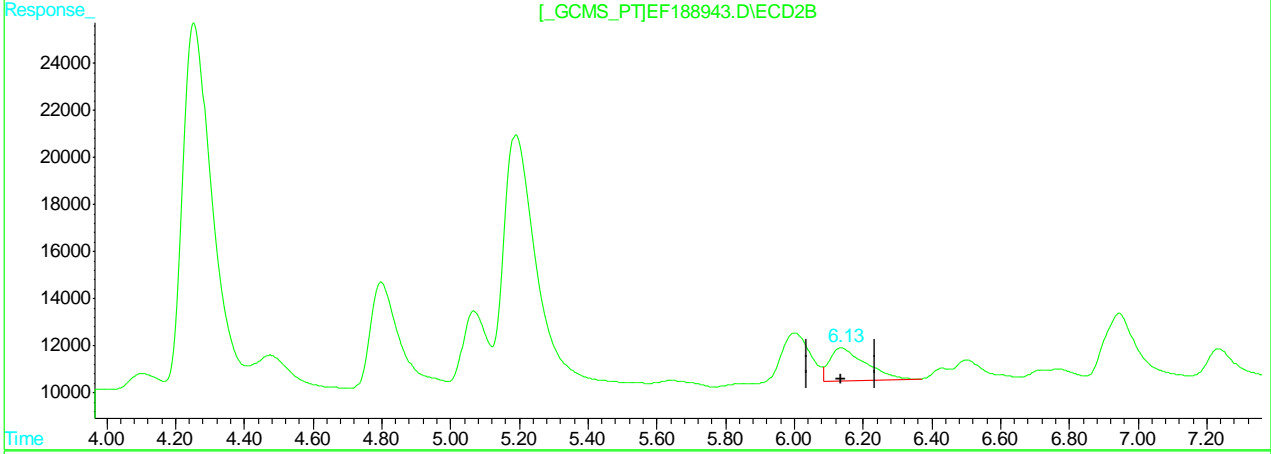
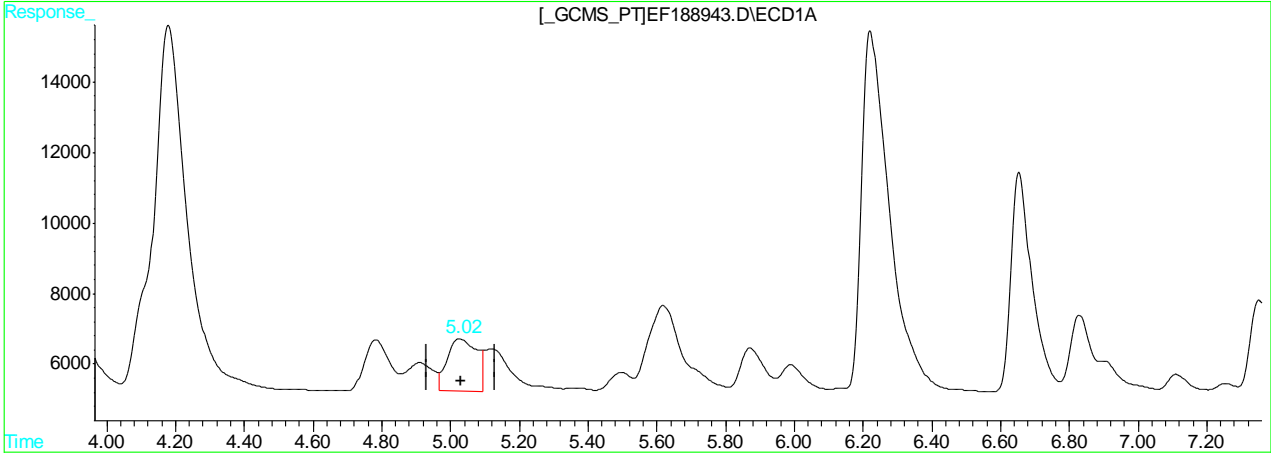
(+) = Expected Retention Time  
 EF188943.D PCB6419.M Wed Apr 10 08:42:03 2019 GCEF

11.6.41.6  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD1A.CH Vial: 32  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188943.D\ECD2B.CH  
 Acq On : 9 Apr 2019 7:36 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:34 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:38:15 2019  
 Response via : Single Level Calibration



QEdit

(6) AR1221-E
5.03min 1027.653PPB
response 87499
(6) AR1221-E #2
6.13min 1055.307PPB m
response 102732

(+) = Expected Retention Time  
 EF188943.D PCB6419.M Wed Apr 10 08:42:19 2019 GCEF

11.6.41.7  
 11

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

Gwendolyn Burns  
 04/10/19 14:25

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188944.D\ECD1A.CH Vial: 33  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188944.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:00 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:35 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:34:55 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	710774	844639	45.908	45.416
Spiked Amount	40.000		Recovery	=	114.77%	113.54%
51) S Decachlorobiphen	14.98	17.32	868152	985126	46.489	47.711
Spiked Amount	40.000		Recovery	=	116.22%	119.28%
Target Compounds						
7) AR1232-A	4.18	5.19	573825	582646	1052.497	1088.722
8) AR1232-B	4.78	6.00	370956	423736	1054.949	936.091
9) AR1232-C	5.62	6.94	806250	895430	1079.284	1078.409
10) AR1232-D	5.87	7.23	300604	394553	1084.705	1082.742
11) AR1232-E	6.66	8.51	283082	298381	1081.422	1118.579
31) AR1262-A	9.79	11.51	928470	1377177	1159.568	1143.304
32) AR1262-B	10.65	12.54	1327385	2014685	1200.526	1113.757
33) AR1262-C	11.18	13.22	999067	1492252	1161.996	1119.086
34) AR1262-D	11.87	13.79	2482870	3263731	1160.196	1142.000
35) AR1262-E	12.58	14.61	2869433	3878333	1151.124m	1177.099m

11.642  
 11

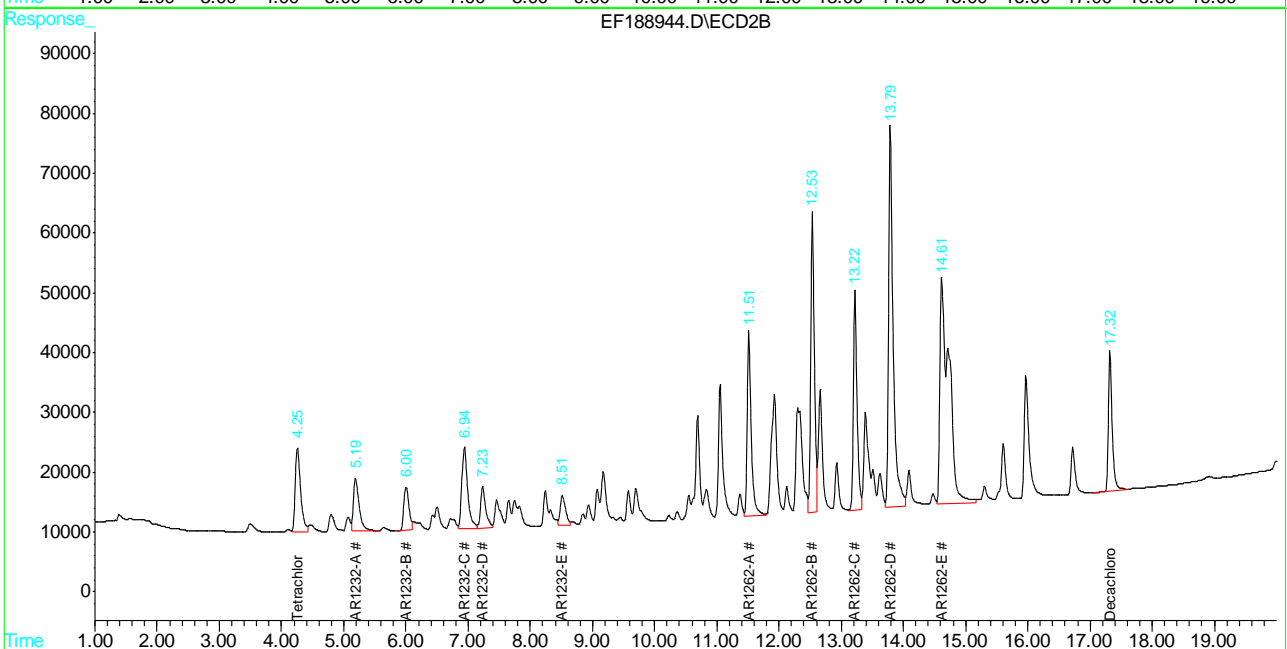
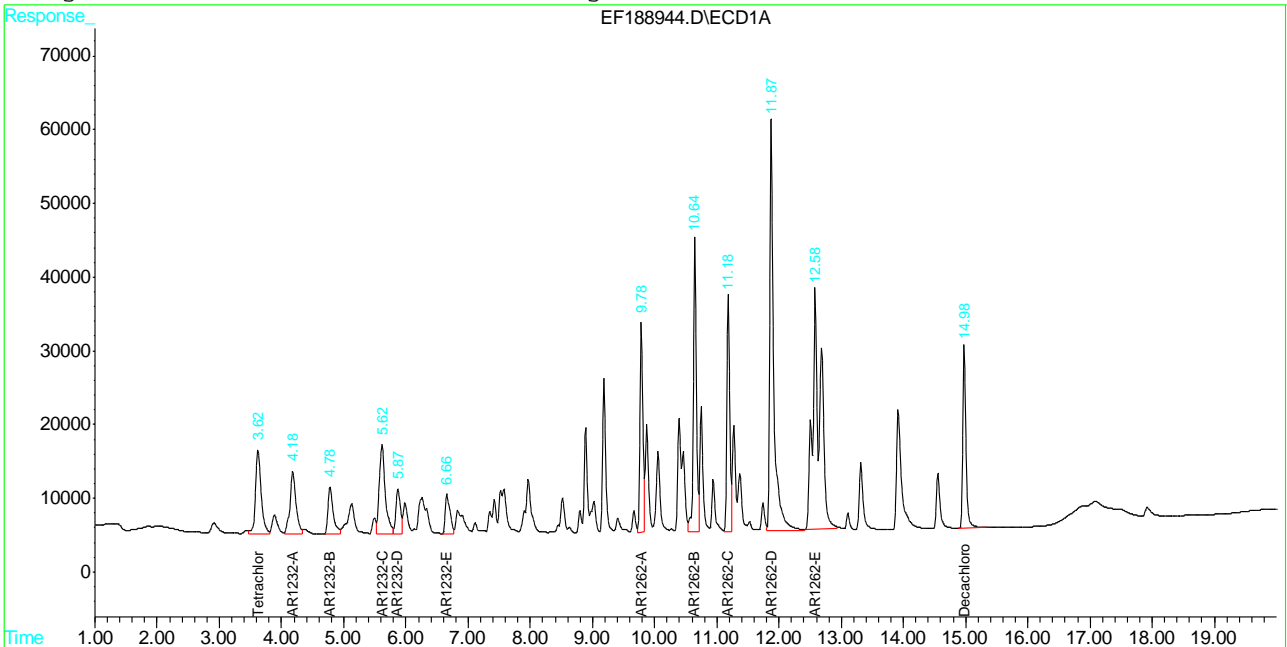
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188944.D PCB6419.M Wed Apr 10 08:48:53 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188944.D\ECD1A.CH Vial: 33  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188944.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:00 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:35 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:34:55 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM





# Manual Integration Approval Summary

Sample Number: GEF6419-IC6419      Method: SW846 8082A  
Lab FileID: EF188944.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 20:00      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ar1262-E		1	12.58	Split peak
Ar1262-E		2	14.61	Split peak

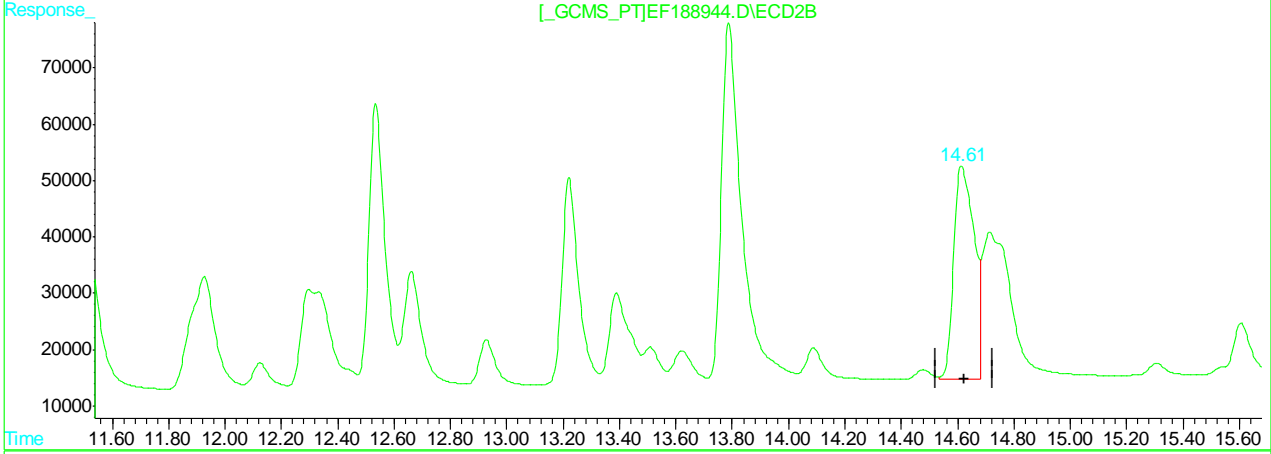
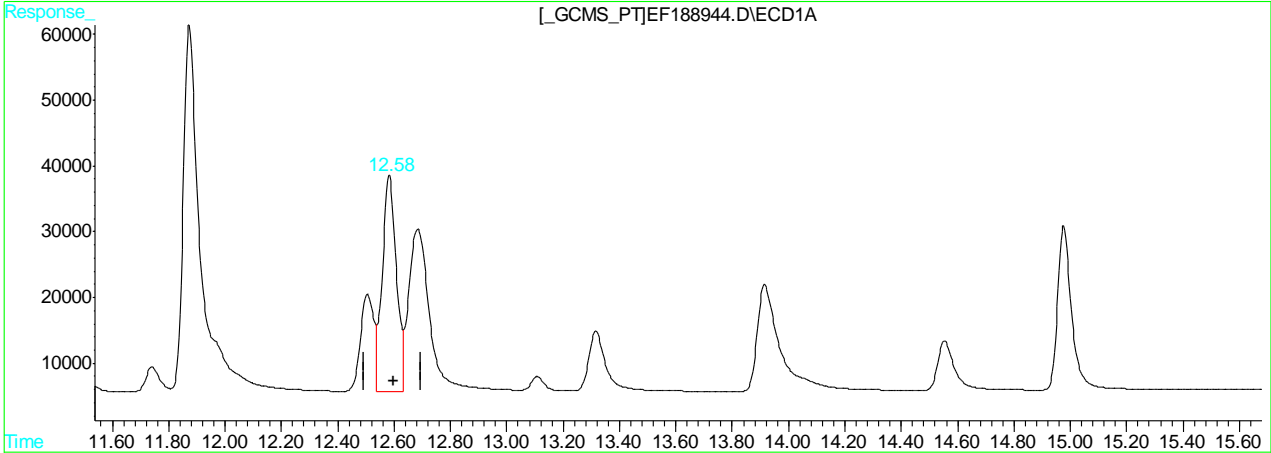
11.6.42.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188944.D\ECD1A.CH Vial: 33  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188944.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:00 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:34 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:34:55 2019  
 Response via : Single Level Calibration



QEdit

(35) AR1262-E
12.58min 459.987PPB
response 1146620
(35) AR1262-E #2
14.61min 578.941PPB
response 1907510

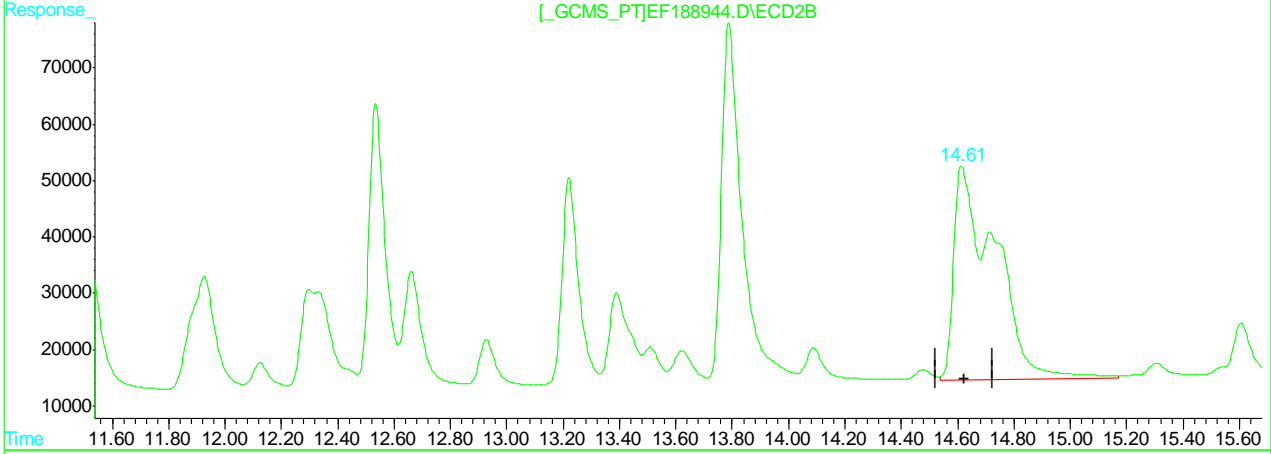
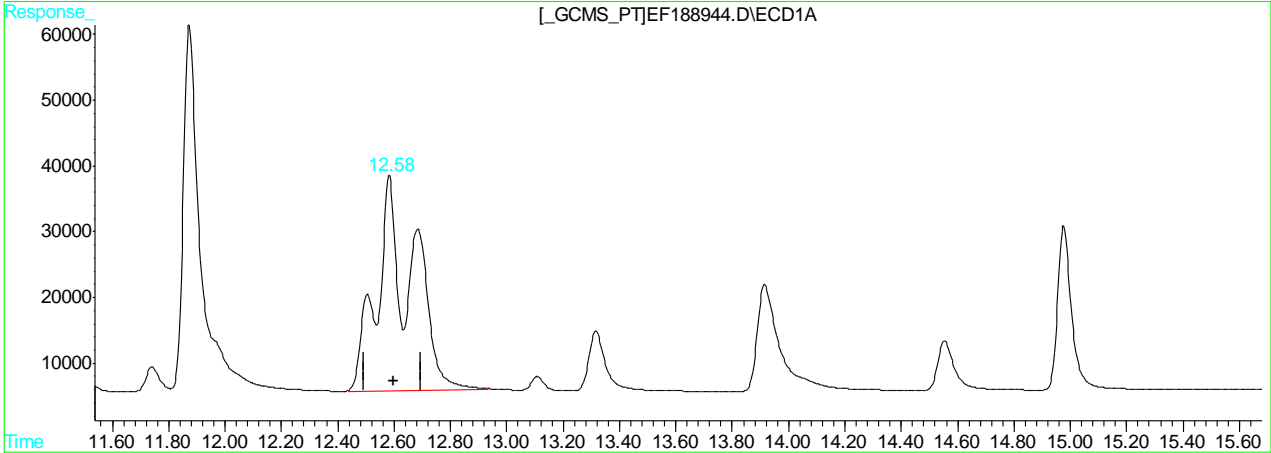
(+) = Expected Retention Time  
 EF188944.D PCB6419.M Wed Apr 10 08:35:34 2019 GCEF

11.6.422  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188944.D\ECD1A.CH Vial: 33  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188944.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:00 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:34 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:34:55 2019  
 Response via : Single Level Calibration



(35) AR1262-E  
 12.58min 1151.124PPB m  
 response 2869433

(35) AR1262-E #2  
 14.61min 1177.099PPB m  
 response 3878333

(+) = Expected Retention Time

EF188944.D PCB6419.M Wed Apr 10 08:35:42 2019 GCEF

11.6.42.3

11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188945.D\ECD1A.CH Vial: 34  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188945.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:25 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:36 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:36:12 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	764432	960769	50.523	52.573
Spiked Amount	40.000		Recovery	=	126.31%	131.43%
51) S Decachlorobiphen	14.97	17.32	2254312	2704336	122.125	131.389
Spiked Amount	40.000		Recovery	=	305.31%	328.47%
Target Compounds						
12) AR1242-A	4.78	6.00	565907	687517	1048.964	1056.481
13) AR1242-B	5.61	6.94	1280518	1410652	1075.302	1075.130
14) AR1242-C	5.87	7.23	483773	636173	1075.574	1089.058
15) AR1242-D	6.66	8.24	509654	420214	1077.873	1092.878
16) AR1242-E	7.57	9.18	551881	621396	1237.631	1120.191
36) AR1268-A	12.58	14.61	2485378	3454641	1172.134	1108.437
37) AR1268-B	12.67	14.72	2924374	4002035	1101.150	1139.643
38) AR1268-C	13.10	15.31	2196112	3014159	1115.933	1136.388
39) AR1268-D	13.91	15.97	982252	1206724	1171.740	1164.557
40) AR1268-E	14.54	16.72	6159644	7736827	1073.909	1084.701

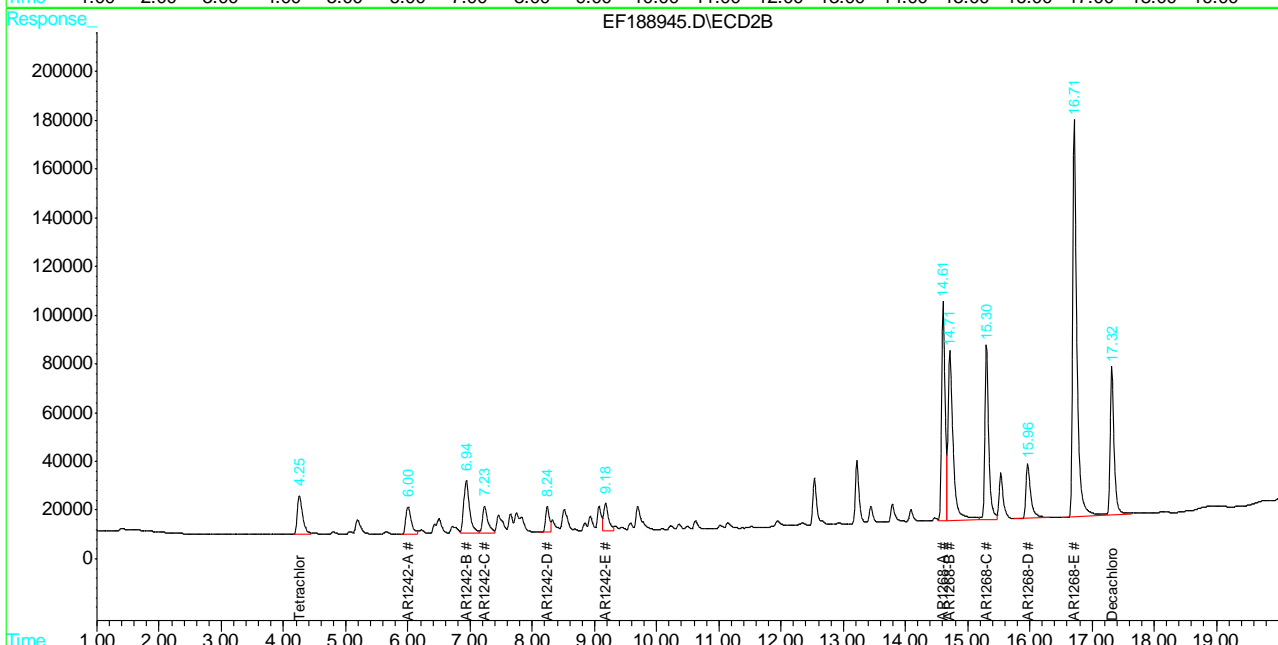
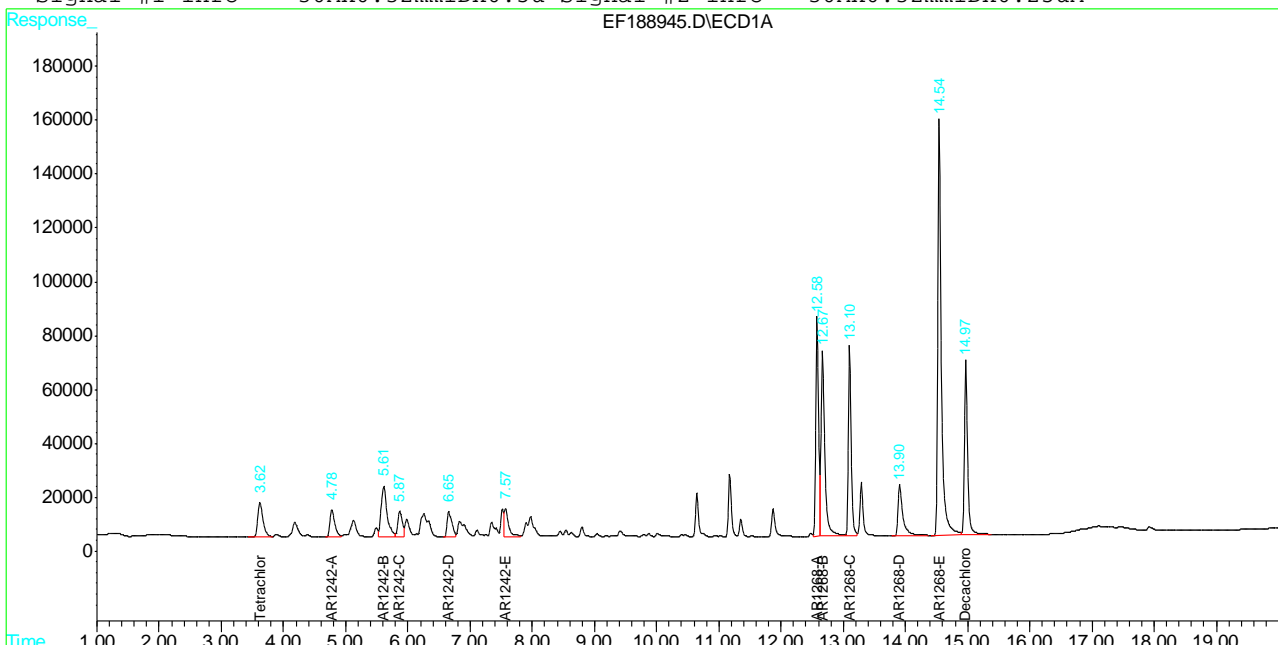
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188945.D PCB6419.M Wed Apr 10 08:48:57 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188945.D\ECD1A.CH Vial: 34  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188945.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:25 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:36 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:36:12 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.43  
11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188946.D\ECD1A.CH Vial: 35  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188946.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:50 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:37 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.25	716903	945428	53.159	57.218
Spiked Amount	40.000		Recovery	=	132.90%	143.04%
51) S Decachlorobiphen	14.98	17.32	953902	1065100	62.291	61.270m
Spiked Amount	40.000		Recovery	=	155.73%	153.18%
Target Compounds						
17) AR1248-A	4.78	6.00	313820	372491	1051.947	1058.609
18) AR1248-B	5.61	6.94	925756	965658	1080.292	1081.592
19) AR1248-C	6.26	7.65	848270	551156	1065.222	1084.207
20) AR1248-D	6.65	8.24	787949	680941	1076.724	1088.304
21) AR1248-E	6.83	8.51	396428	792978	1095.354	1118.312
22) AR1248-F	7.57	9.17	860517	1094235	1139.564	1138.940
23) AR1248-G	7.97	9.70	901926	1179040	1674.414	1770.105

11.6.44  
 11

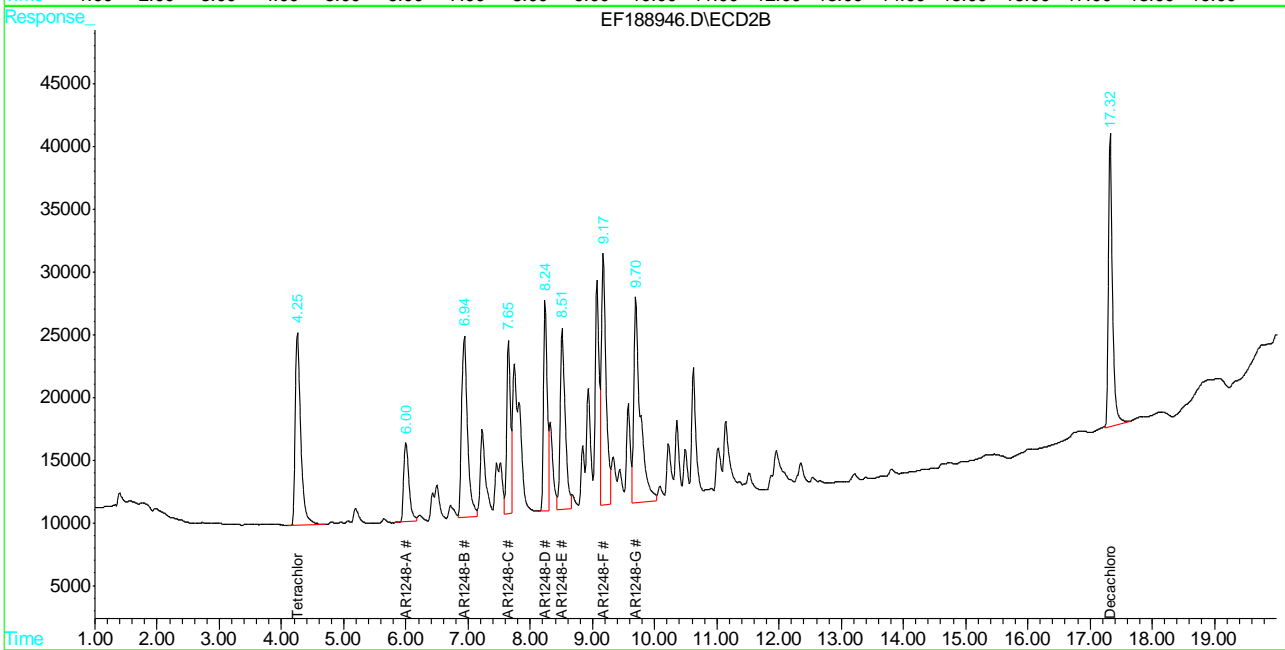
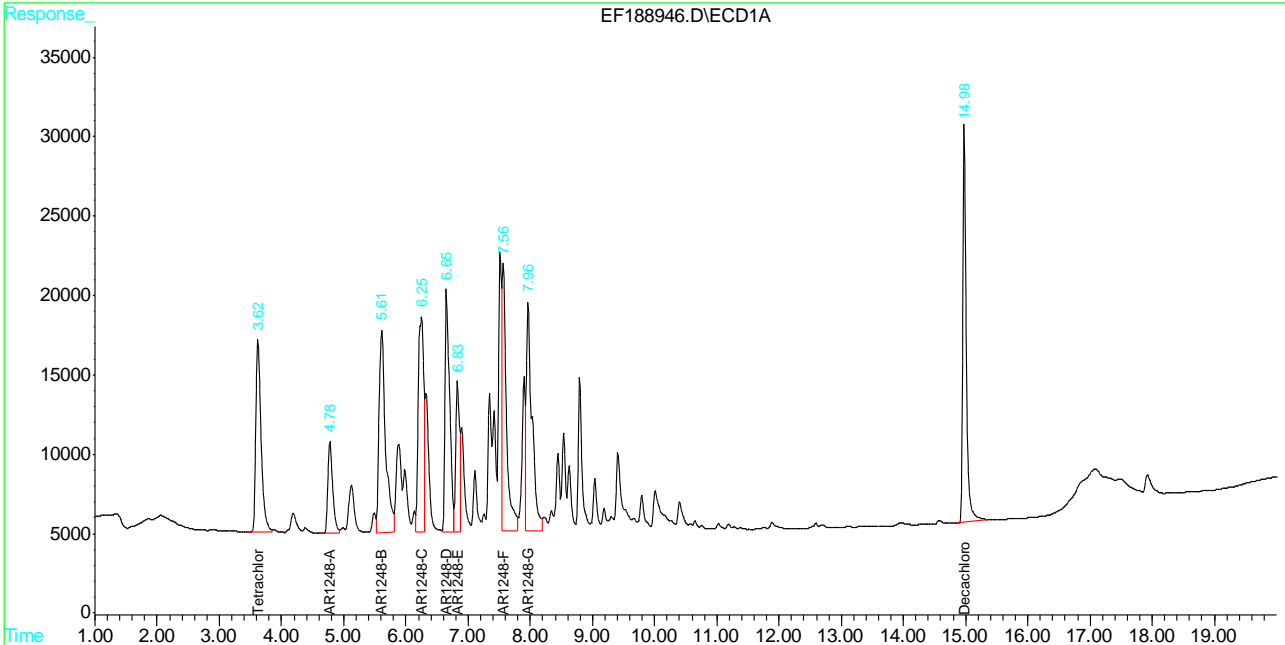
-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188946.D PCB6419.M Wed Apr 10 08:49:02 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188946.D\ECD1A.CH Vial: 35  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188946.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:50 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:37 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Fri Apr 05 08:57:46 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



# Manual Integration Approval Summary

Sample Number: GEF6419-IC6419      Method: SW846 8082A  
Lab FileID: EF188946.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 20:50      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Decachlorobiphenyl	2051-24-3	2	17.32	Poorly defined baseline

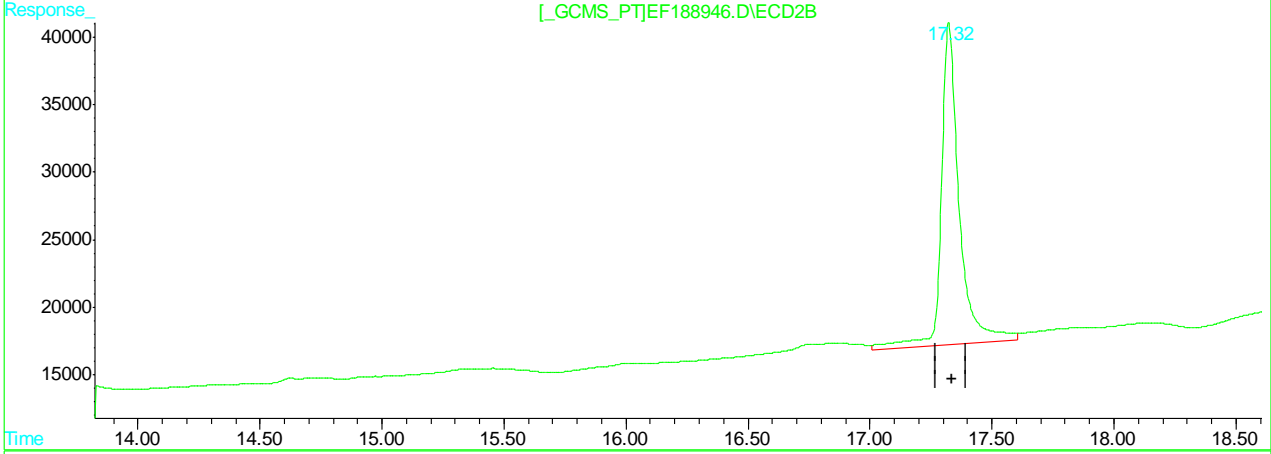
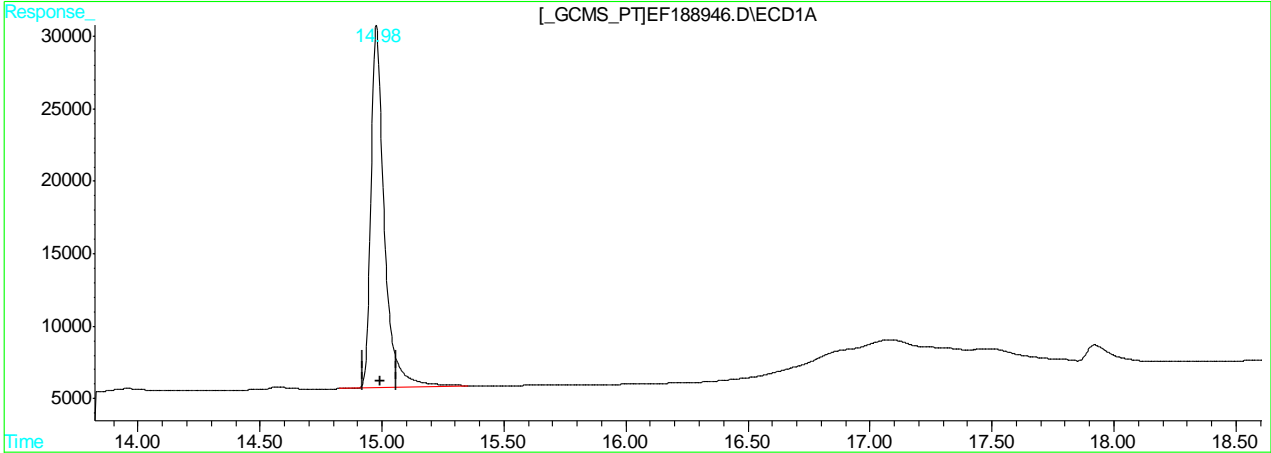
11.6.44.1  
11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188946.D\ECD1A.CH Vial: 35  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188946.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:50 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 9 21:12 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:37:01 2019  
 Response via : Multiple Level Calibration



QEdit

(51) Decachlorobiphenyl (S)
14.98min 62.291PPB
response 953902
(51) Decachlorobiphenyl #2 (S)
17.32min 70.561PPB
response 1226606

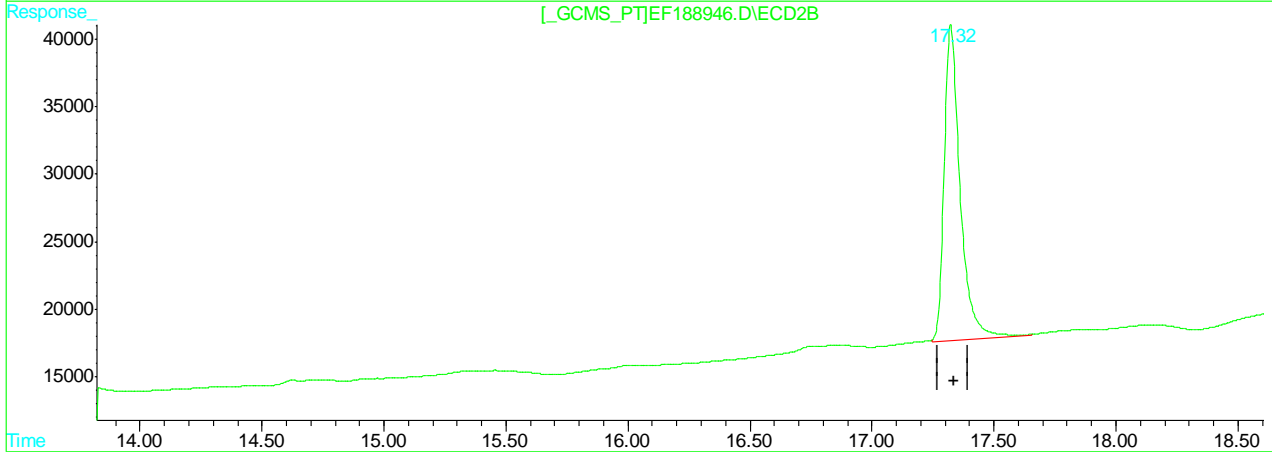
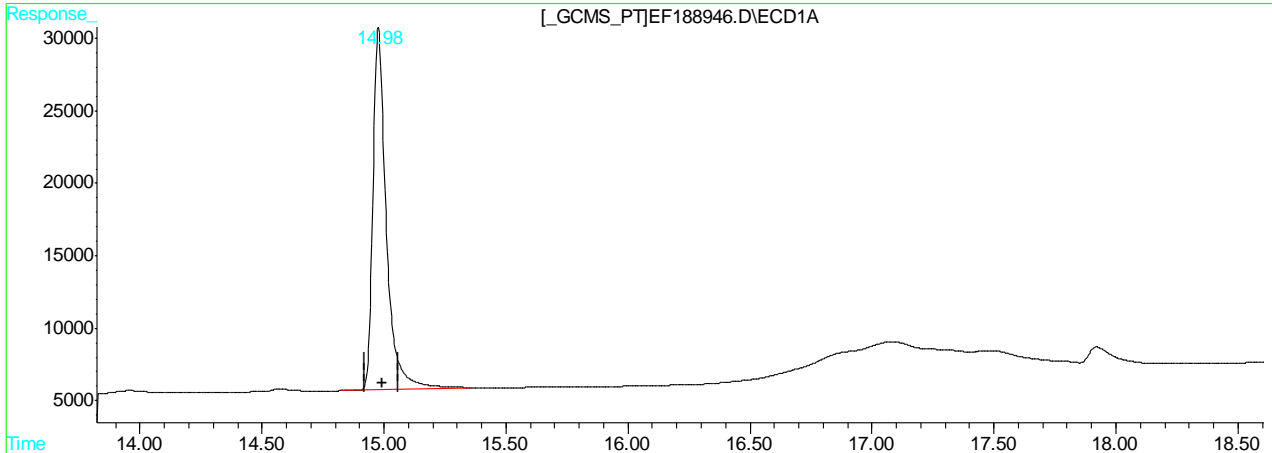
(+) = Expected Retention Time  
 EF188946.D PCB6419.M Wed Apr 10 08:37:10 2019 GCEF

11.6.44.2  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188946.D\ECD1A.CH Vial: 35  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188946.D\ECD2B.CH  
 Acq On : 9 Apr 2019 8:50 pm Operator: tianweir  
 Sample : ic6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 9 21:12 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:37:01 2019  
 Response via : Multiple Level Calibration



QEdit

(51) Decachlorobiphenyl (S)

14.98min 62.291PPB

response 953902

(51) Decachlorobiphenyl #2 (S)

17.32min 61.270PPB m

response 1065100

(+) = Expected Retention Time

EF188946.D PCB6419.M

Wed Apr 10 08:37:14 2019

GCEF

11.6.44.3

11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD1A.CH Vial: 36  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:15 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:46 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	596114	680213	40.738	38.273
Spiked Amount	40.000		Recovery	=	101.85%	95.68%
51) S Decachlorobiphen	14.97	17.32	755394	843471	42.337	42.810m
Spiked Amount	40.000		Recovery	=	105.84%	107.03%
Target Compounds						
41) AR1016-A	4.18	5.19	426574	402052	969.649	911.255
42) AR1016-B	4.78	6.00	681932	769258	943.847	914.459
43) AR1016-C	5.62	6.94	1541280	1605356	921.209	872.151
44) AR1016-D	5.87	7.23	585388	720881	935.411	897.317
45) AR1016-E	6.66	8.24	611074	479950	951.412	902.357
46) AR1260-A	10.39	12.34	1357209	1866928	969.118	952.196
47) AR1260-B	10.64	12.53	906764	1377926	1006.980	997.425
48) AR1260-C	11.18	13.22	793690	1153826	935.515	999.287
49) AR1260-D	11.87	13.78	2159779	2840145	1055.472	1039.324
50) AR1260-E	12.50	14.64	2052732	2663943	997.008m	969.923

11.6.45  
 11

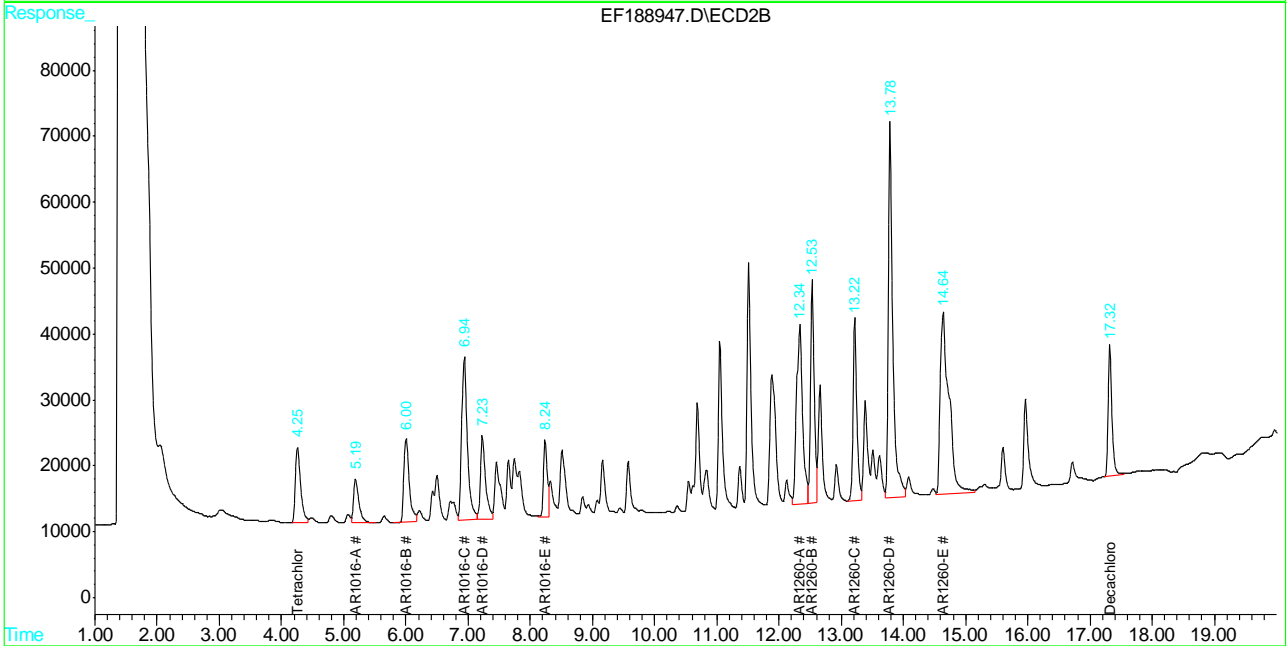
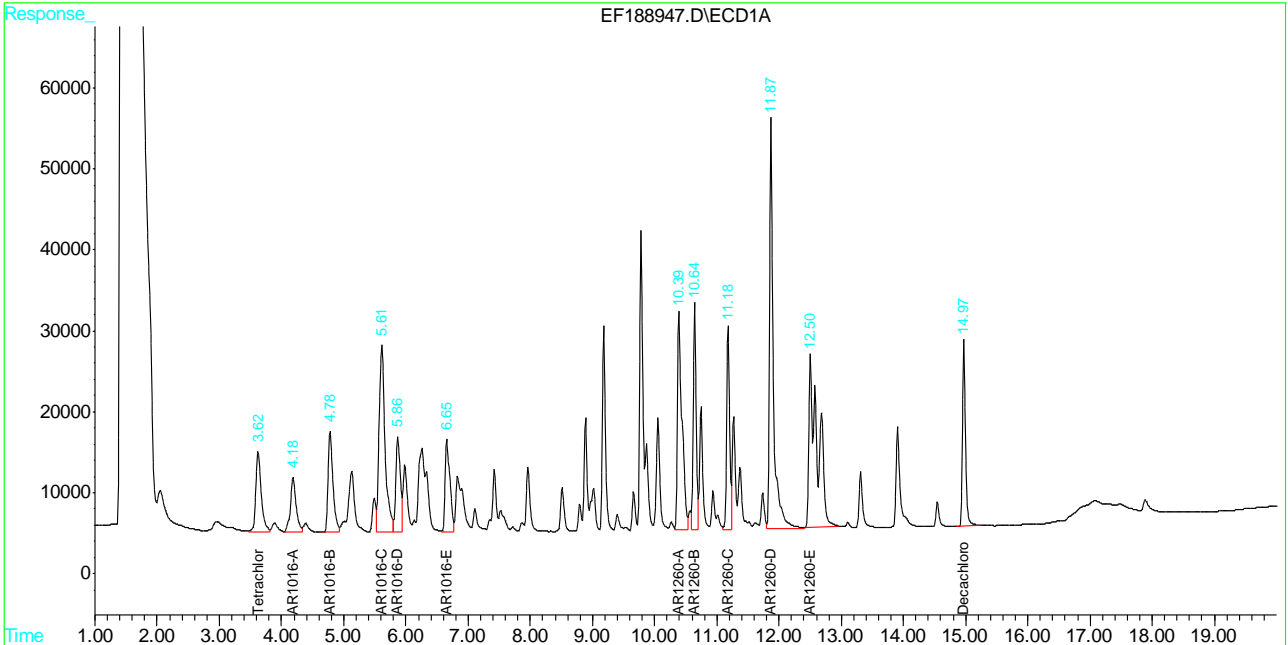
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 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188947.D PCB6419.M Wed Apr 10 08:49:06 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD1A.CH Vial: 36  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:15 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:46 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.45  
11

# Manual Integration Approval Summary

Sample Number: GEF6419-ICV6419      Method: SW846 8082A  
Lab FileID: EF188947.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 21:15      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	12.50	Split peak
Decachlorobiphenyl	2051-24-3	2	17.32	Poorly defined baseline

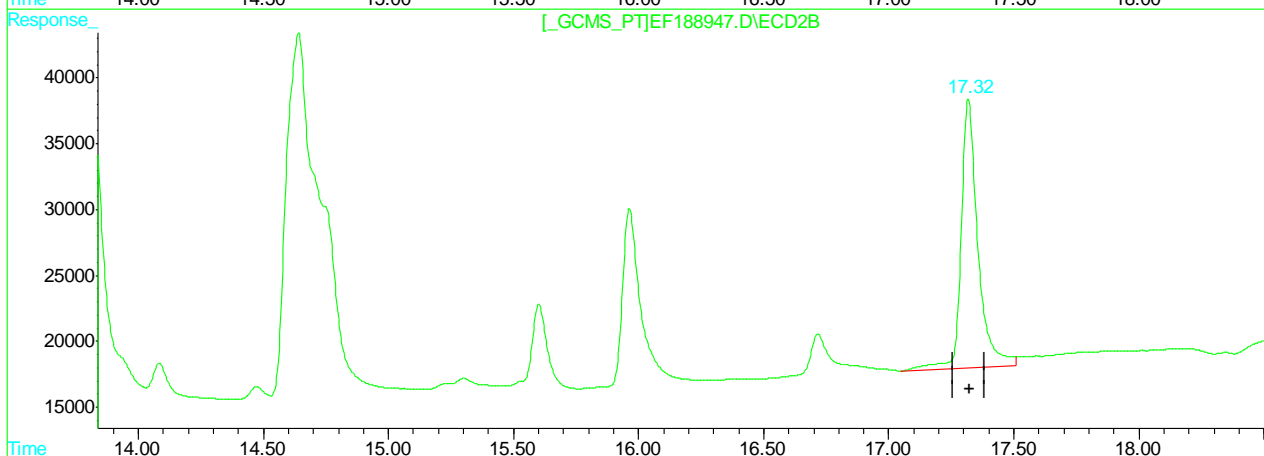
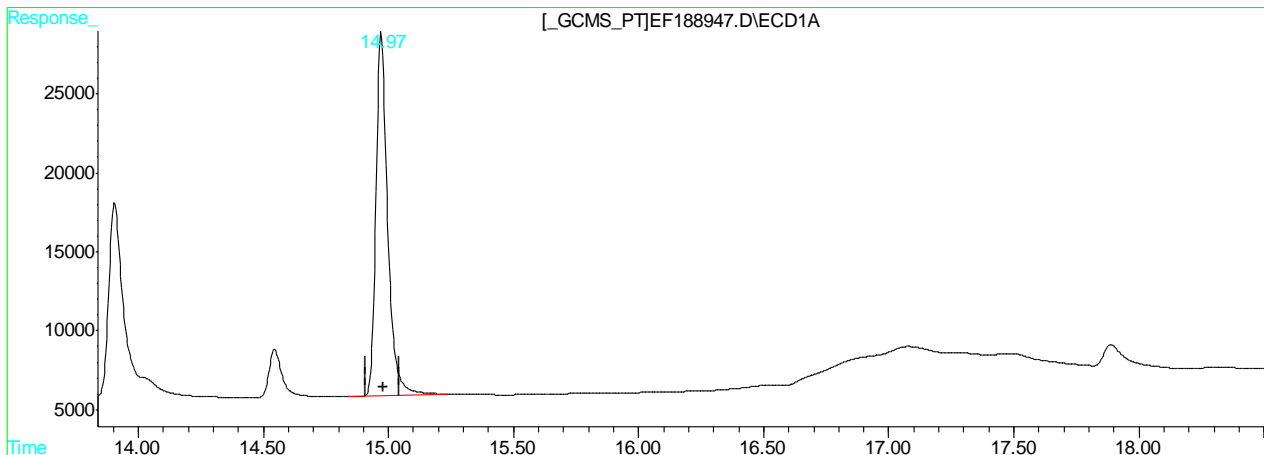
11.6.45.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD1A.CH Vial: 36  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:15 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:45 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.97min 40.451PPB

response 755394

(51) Decachlorobiphenyl #2 (S)

17.32min 46.294PPB

response 955870

(+) = Expected Retention Time

EF188947.D PCB6419.M

Wed Apr 10 08:45:31 2019

GCEF

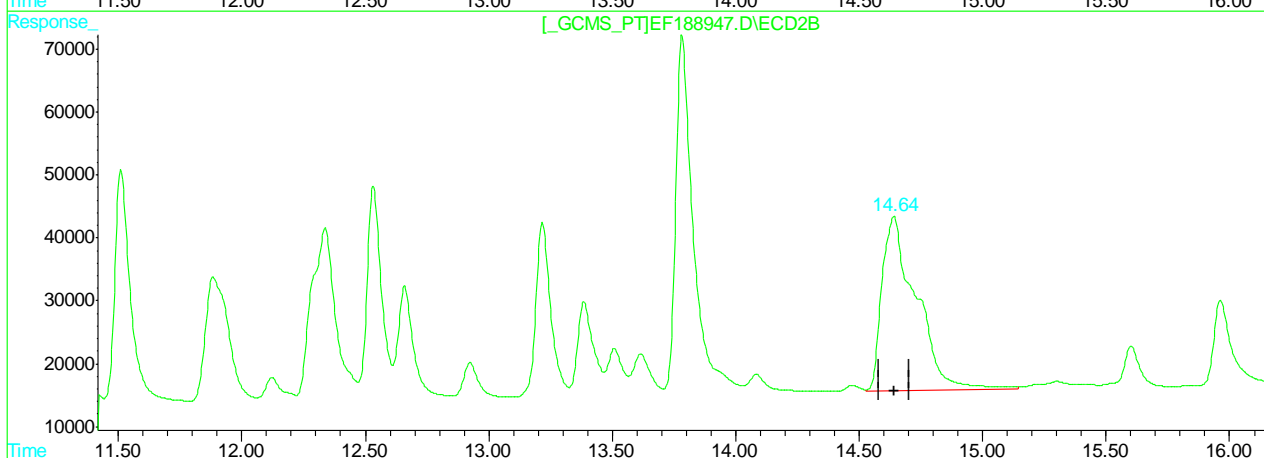
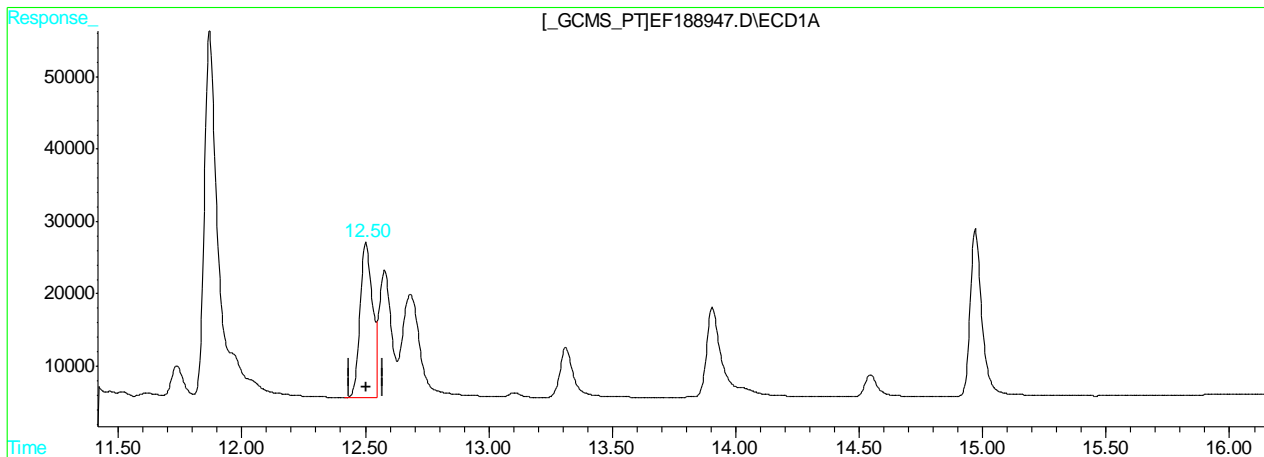
11.6.45.2

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD1A.CH Vial: 36  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:15 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:46 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Concentration (PPB)	Response
(50) AR1260-E		
12.50min	359.567	740310
(50) AR1260-E #2		
14.64min	969.923	2663943

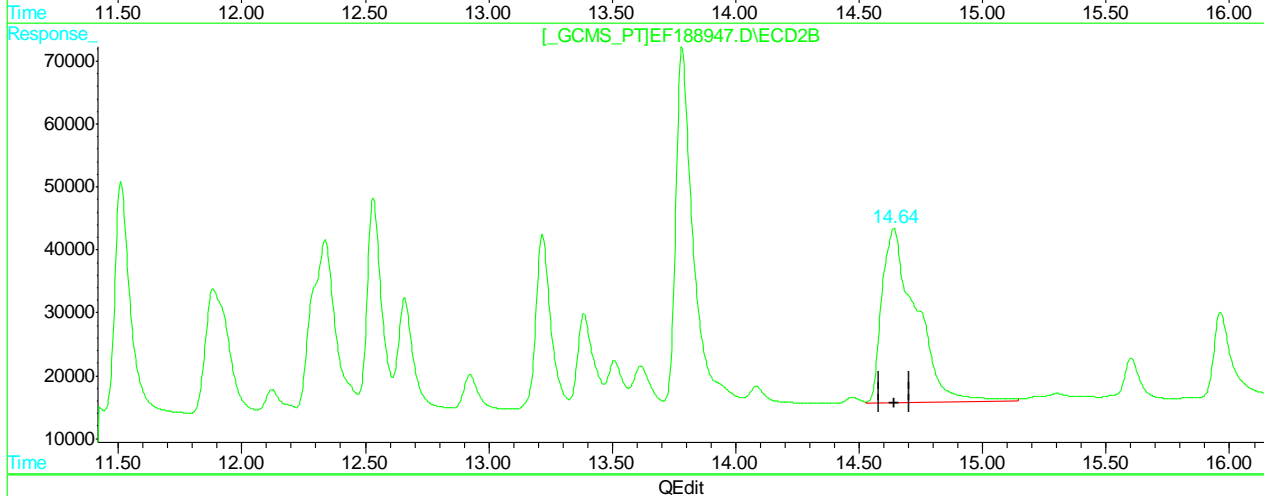
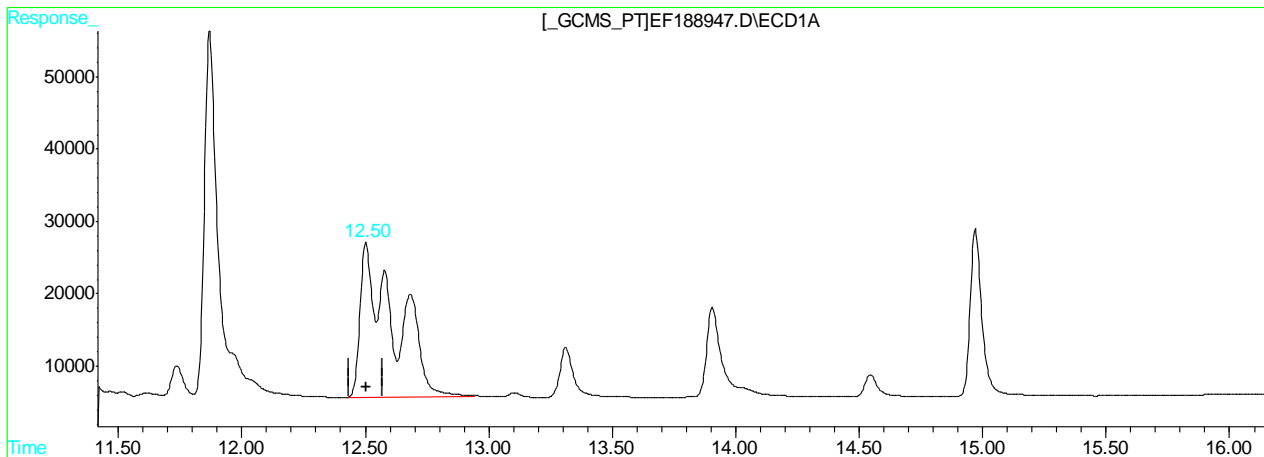
(+) = Expected Retention Time  
 EF188947.D PCB6419.M Wed Apr 10 08:46:29 2019 GCEF

11.6.45.3  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD1A.CH Vial: 36  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:15 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:46 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.50min 997.008PPB m  
 response 2052732

(50) AR1260-E #2  
 14.64min 969.923PPB  
 response 2663943

(+) = Expected Retention Time

EF188947.D PCB6419.M

Wed Apr 10 08:46:34 2019

GCEF

11.6.45.4

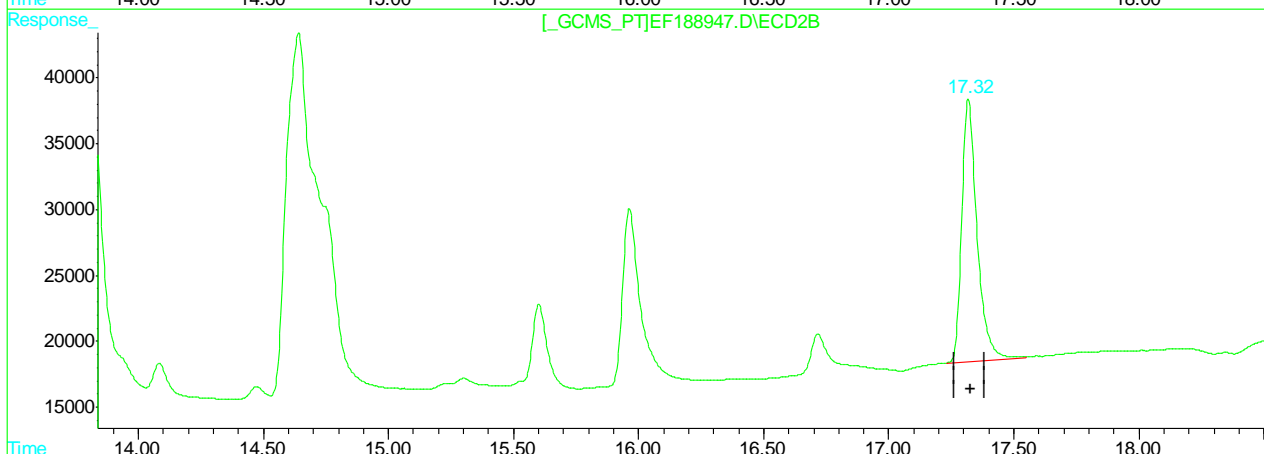
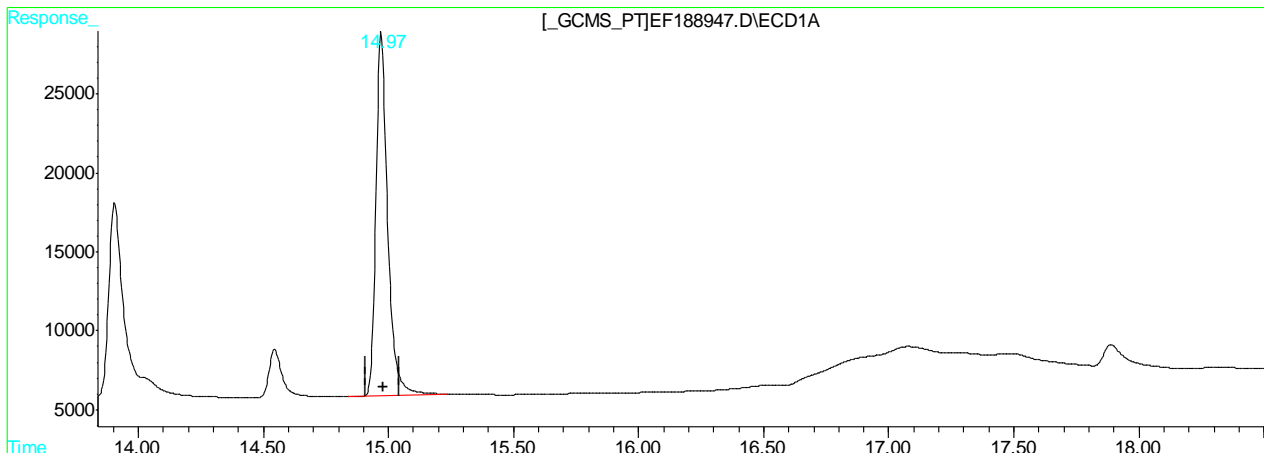
11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD1A.CH Vial: 36  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188947.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:15 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:46 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.97min 42.337PPB

response 755394

(51) Decachlorobiphenyl #2 (S)

17.32min 42.810PPB m

response 843471

(+) = Expected Retention Time

EF188947.D PCB6419.M

Wed Apr 10 08:46:43 2019

GCEF

11.6.45.5

11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:44 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
----------	------	------	--------	--------	-----	-----

System Monitoring Compounds

1) S	Tetrachloro-m-xy	3.62	4.25	828104	968004	53.487	52.050
	Spiked Amount	40.000				Recovery = 133.72%	130.13%
51) S	Decachlorobiphen	14.97	17.32	991042	1085041	53.069	52.550m
	Spiked Amount	40.000				Recovery = 132.67%	131.38%

Target Compounds

2)	AR1221-A	2.91	3.50	168849	162098	1054.953	1044.588
3)	AR1221-B	3.88	4.80	206531	231820	915.835	858.885
4)	AR1221-C	4.18	5.19	664904	643070	914.769	879.272
5)	AR1221-D	4.78	6.00	96764	100560	808.307m	818.944
6)	AR1221-E	5.03	6.14	77168	102978	881.931m	1002.399
24)	AR1254-A	7.42	9.16	708091	1044531	996.123	993.583
25)	AR1254-B	7.96	9.57	896561	1046814	998.459m	989.246
26)	AR1254-C	8.53	10.35	651519	713591	1011.077	978.634
27)	AR1254-D	8.79	10.62	1019155	1558872	986.957m	982.561
28)	AR1254-E	9.40	11.13	968380	1276056	977.231	945.035
29)	AR1254-F	9.79	11.87	917313	1038468	1016.886	964.304
30)	AR1254-G	10.39	12.34	1146172	1560325	999.551	990.441

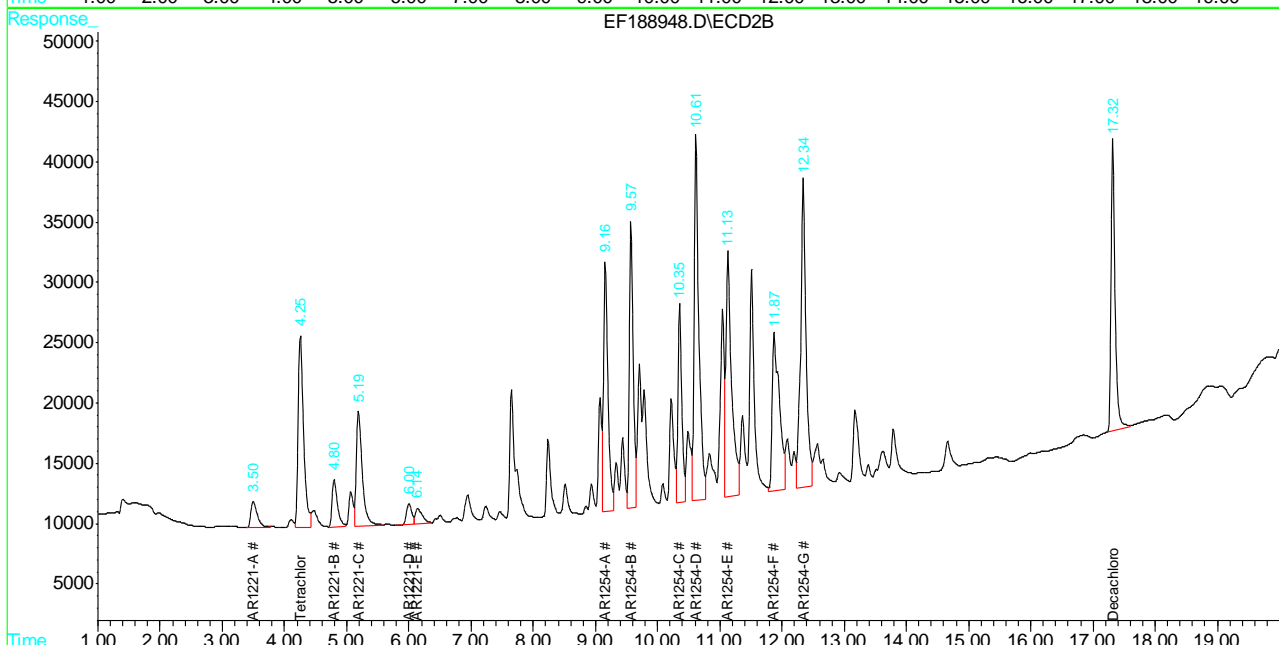
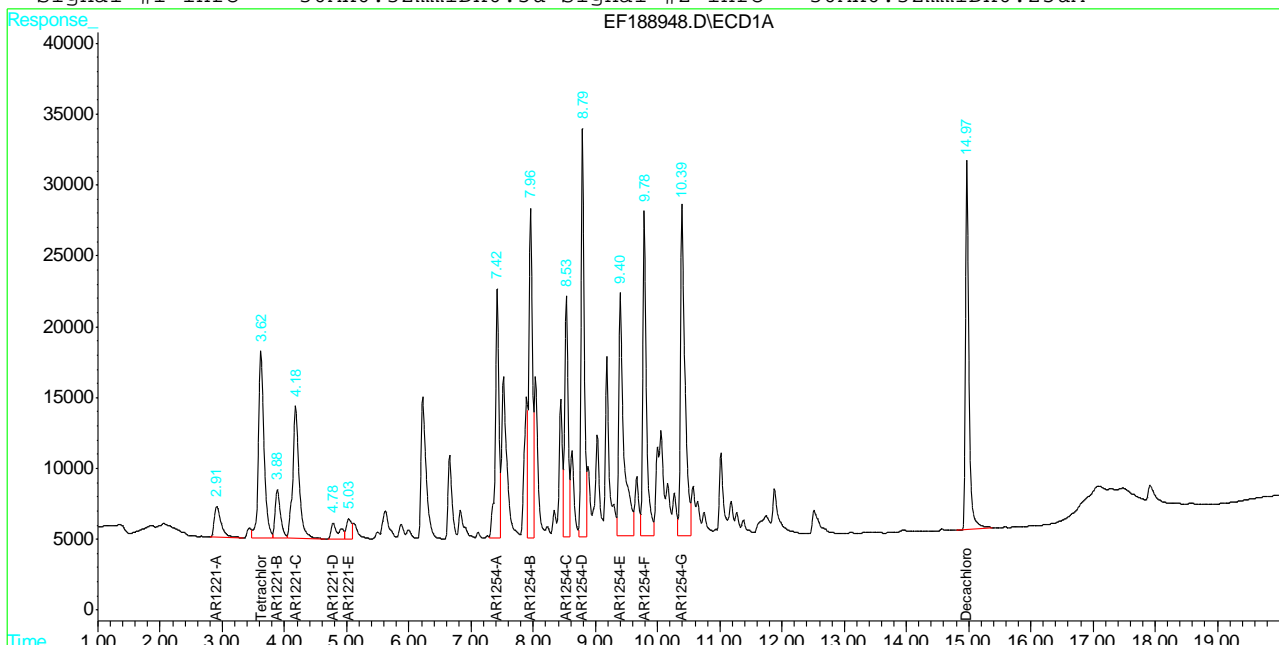
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188948.D PCB6419.M Wed Apr 10 08:49:12 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:44 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.46  
11

# Manual Integration Approval Summary

Sample Number: GEF6419-ICV6419      Method: SW846 8082A  
Lab FileID: EF188948.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 21:40      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

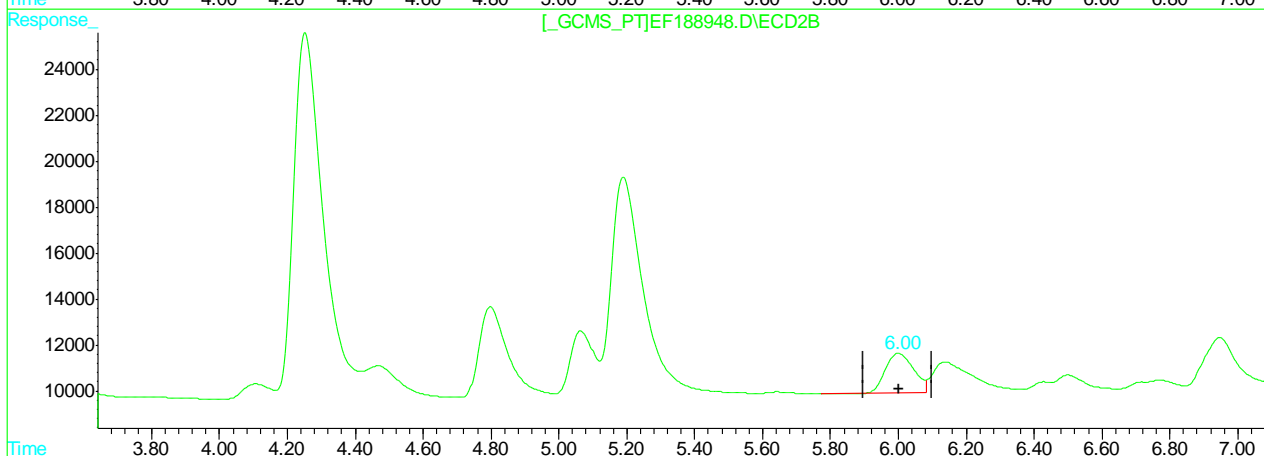
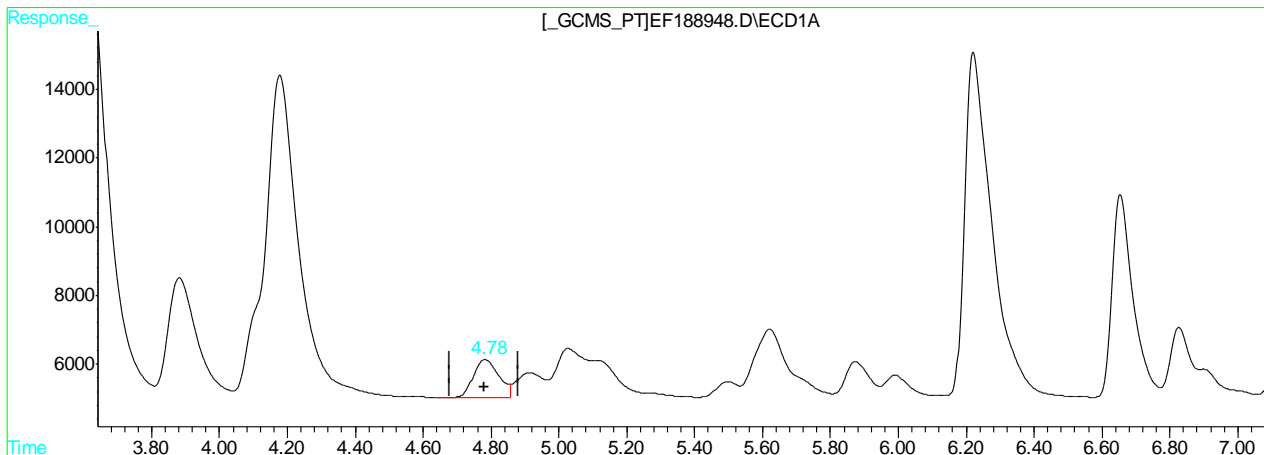
Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1221-D		1	4.78	Split peak
AR1221-E		1	5.03	Split peak
AR1254-B		1	7.96	Split peak
AR1254-D		1	8.79	Split peak
Decachlorobiphenyl	2051-24-3	2	17.32	Poorly defined baseline

11.6.46.1  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



(5) AR1221-D  
 4.78min 474.996PPB  
 response 56862

(5) AR1221-D #2  
 6.00min 818.944PPB  
 response 100560

(+) = Expected Retention Time

EF188948.D PCB6419.M

Wed Apr 10 08:43:09 2019

GCEF

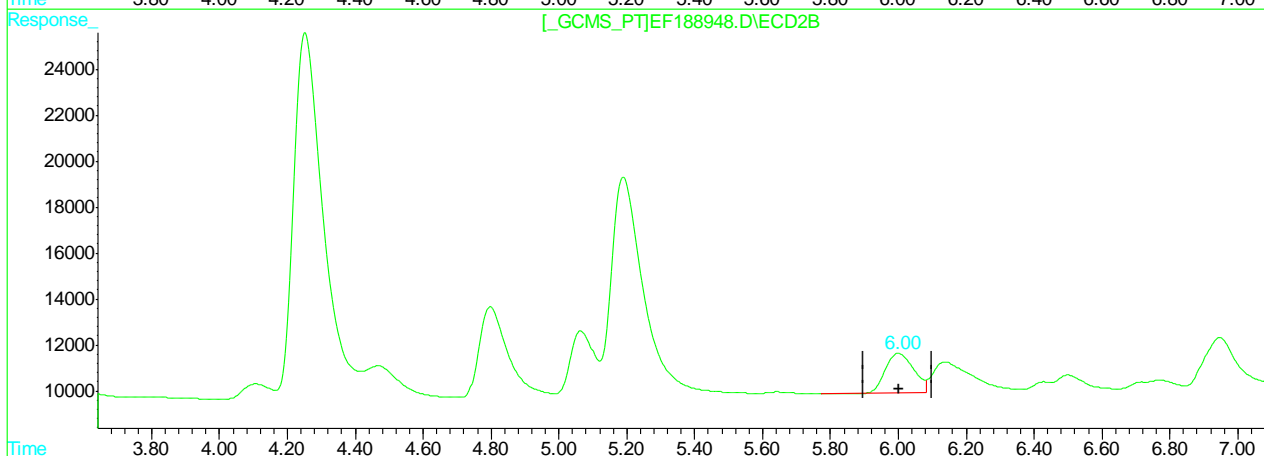
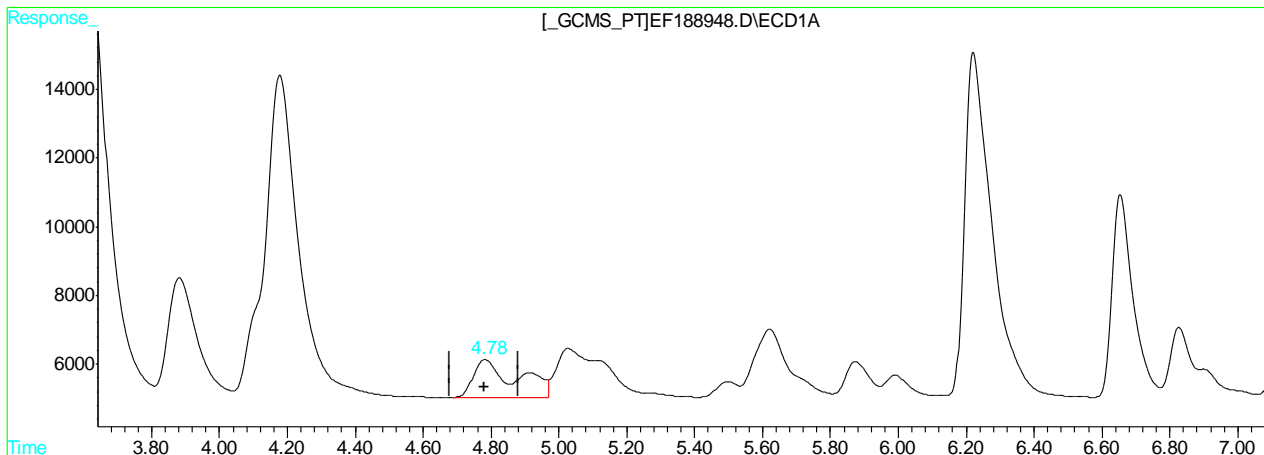
11.6.46.2

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



QEdit

(5) AR1221-D  
 4.78min 808.307PPB m  
 response 96764

(5) AR1221-D #2  
 6.00min 818.944PPB  
 response 100560

(+) = Expected Retention Time

EF188948.D PCB6419.M

Wed Apr 10 08:43:17 2019

GCEF

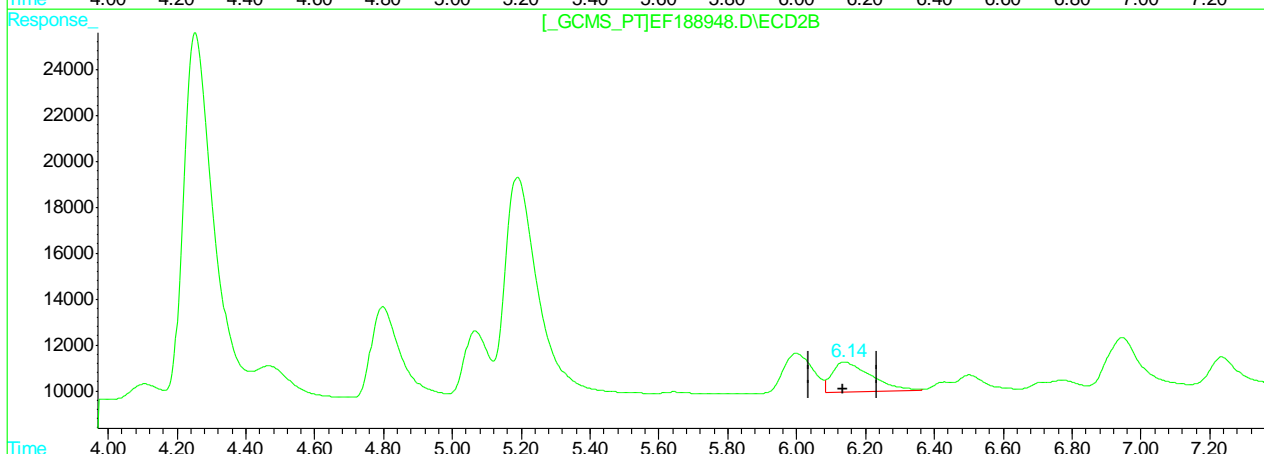
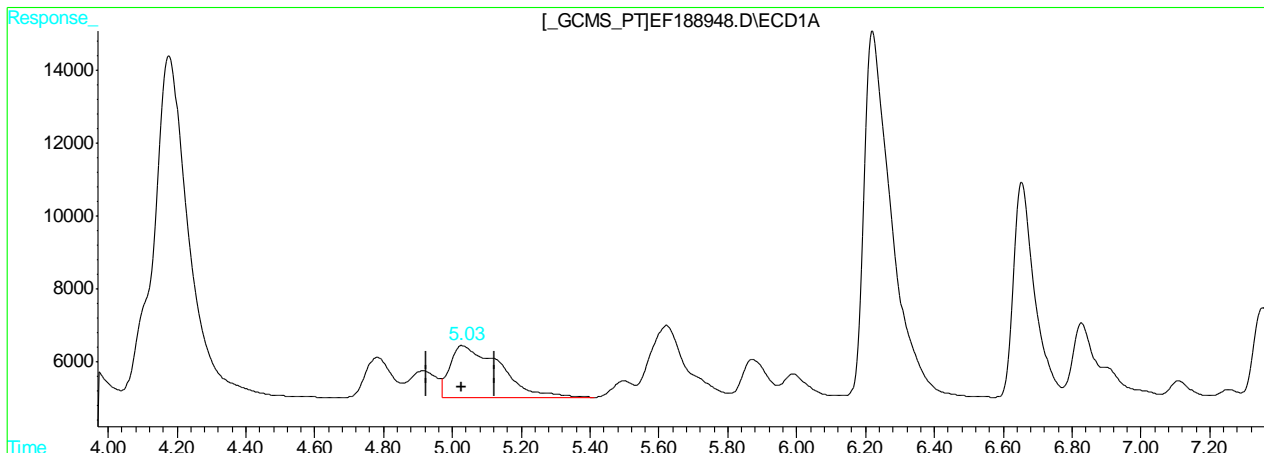
11.6.46.3

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



QEdit

(6) AR1221-E
5.03min 1654.659PPB
response 144781
(6) AR1221-E #2
6.14min 1002.399PPB
response 102978

(+) = Expected Retention Time  
 EF188948.D PCB6419.M Wed Apr 10 08:43:21 2019 GCEF

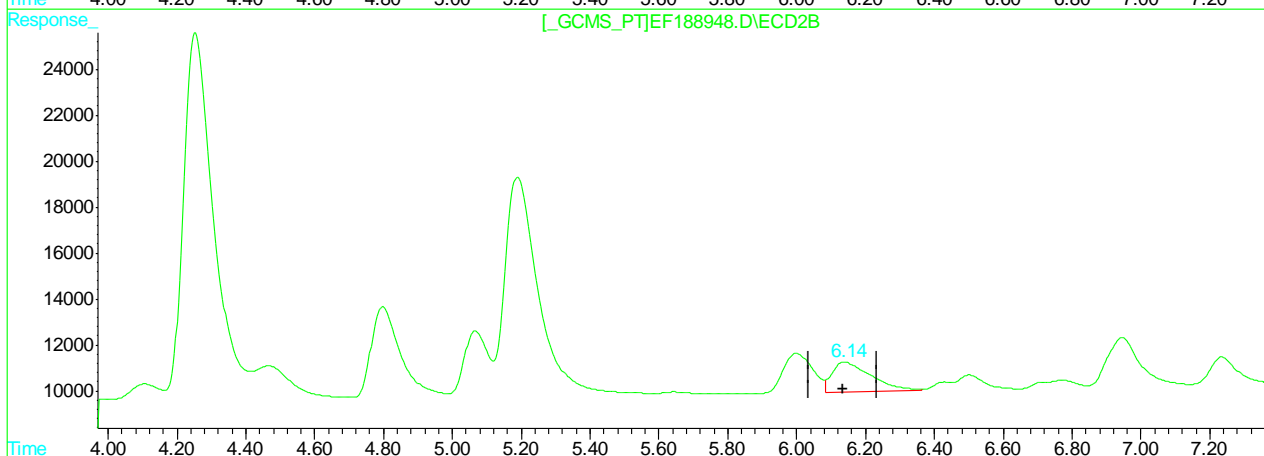
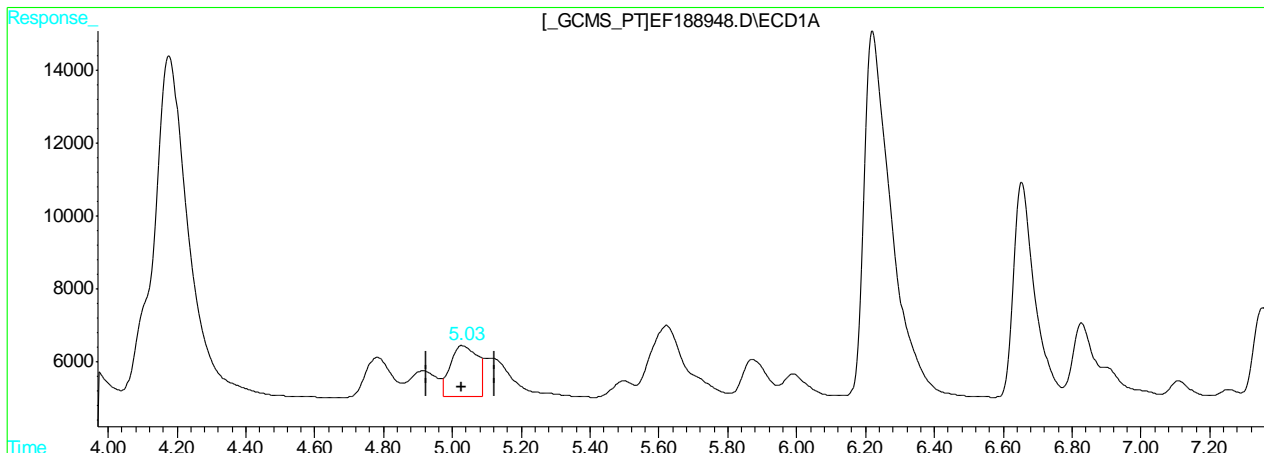
11.6.46.4

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



(6) AR1221-E  
 5.03min 881.931PPB m  
 response 77168

(6) AR1221-E #2  
 6.14min 1002.399PPB  
 response 102978

(+) = Expected Retention Time

EF188948.D PCB6419.M

Wed Apr 10 08:43:28 2019

GCEF

11.6.46.5

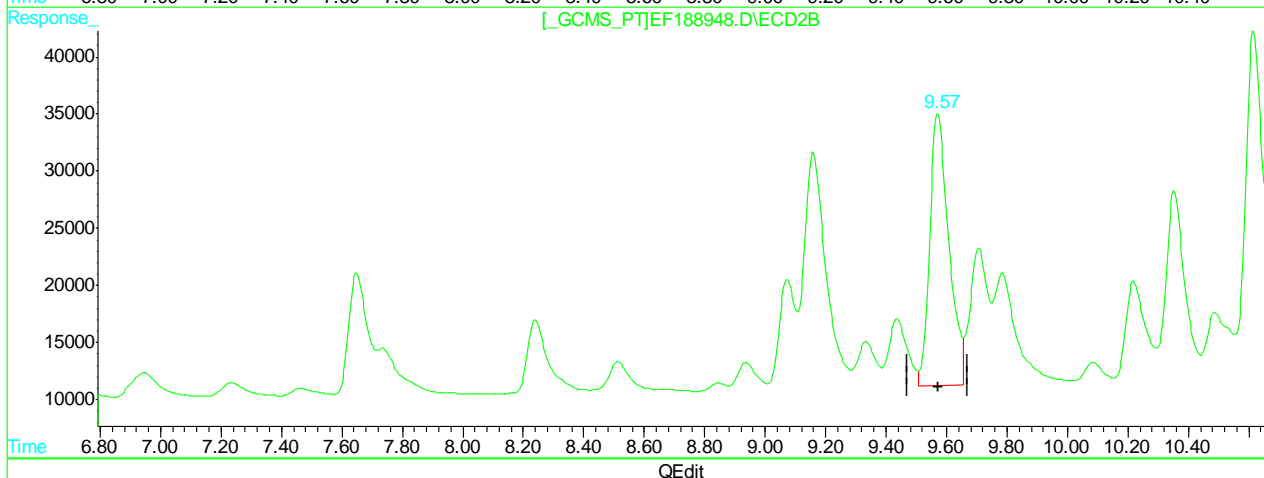
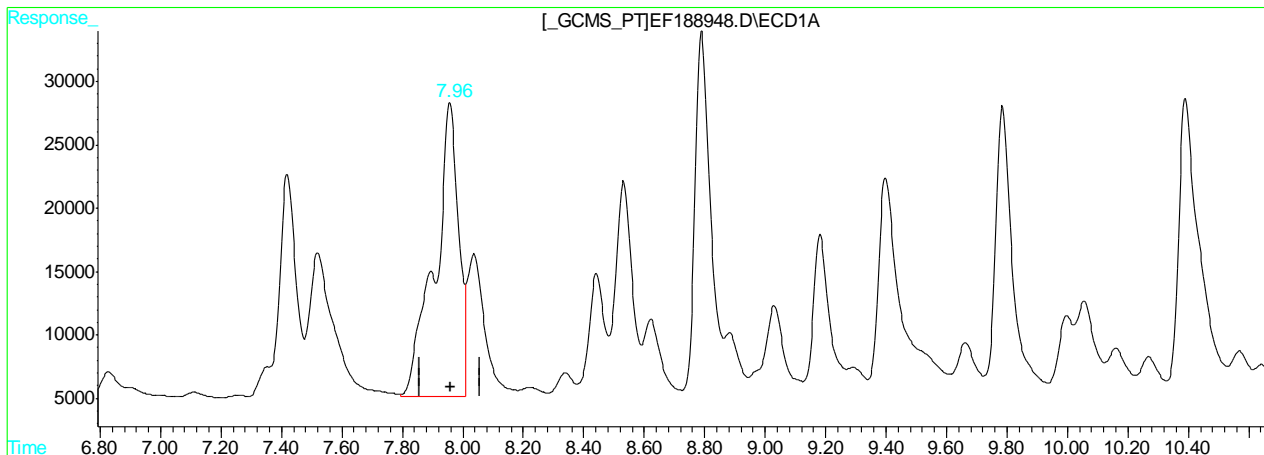
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Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



(25) AR1254-B  
 7.96min 1414.427PPB  
 response 1270076

(25) AR1254-B #2  
 9.57min 989.246PPB  
 response 1046814

(+) = Expected Retention Time  
 EF188948.D PCB6419.M Wed Apr 10 08:43:34 2019 GCEF

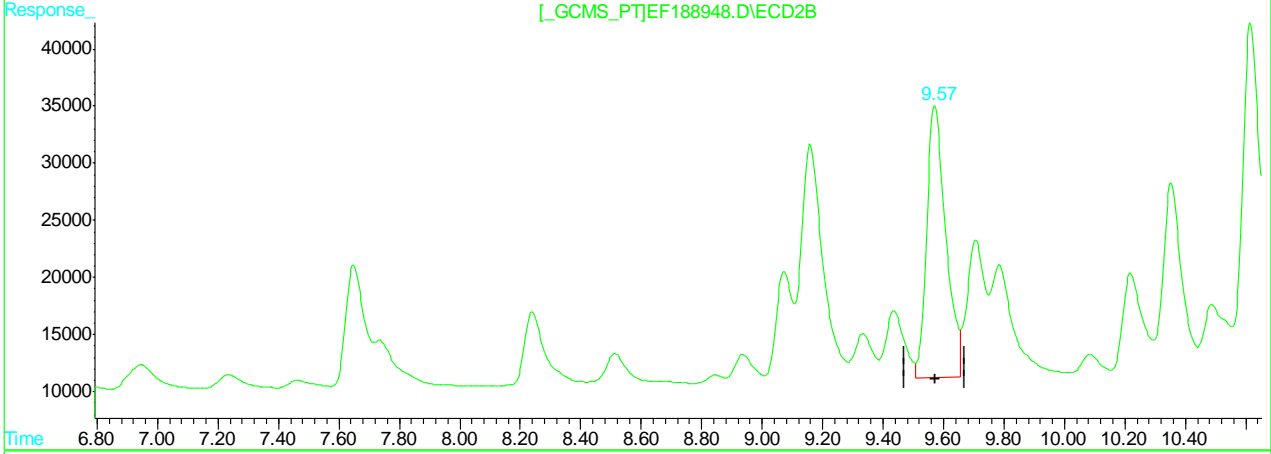
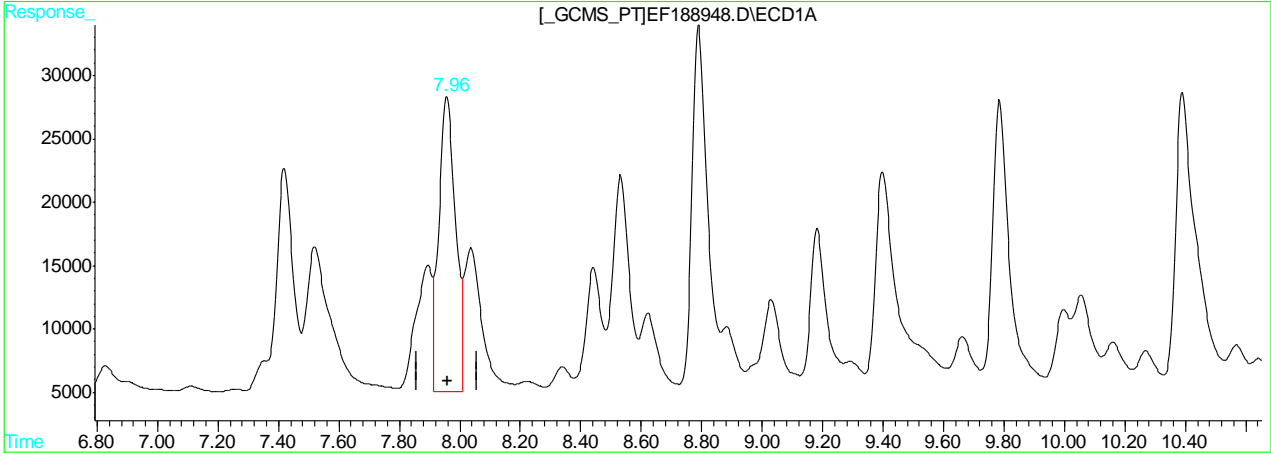
11.6.46.6

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



QEdit

(25) AR1254-B	7.96min	998.459PPB	m	response	896561
(25) AR1254-B #2	9.57min	989.246PPB		response	1046814

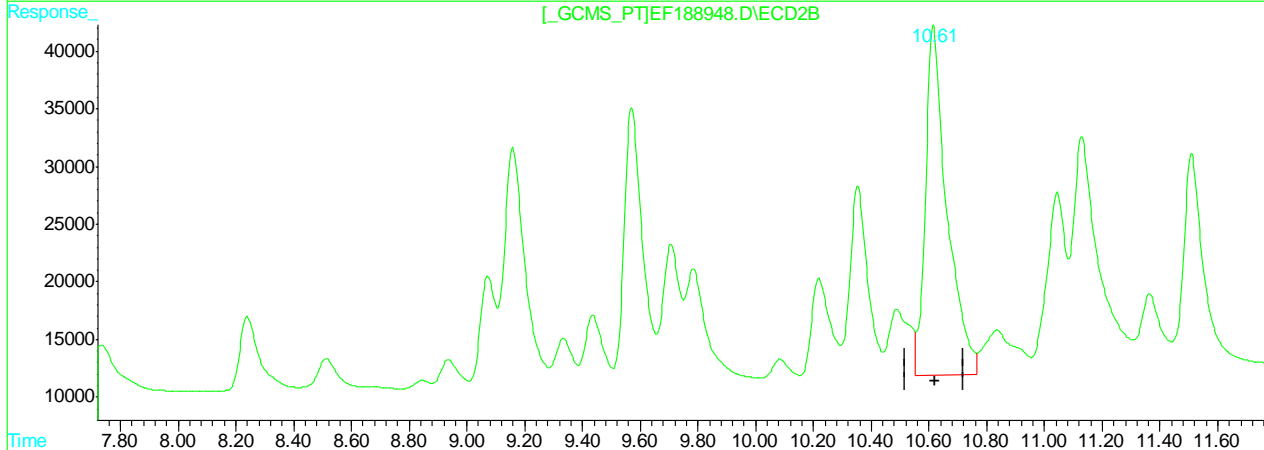
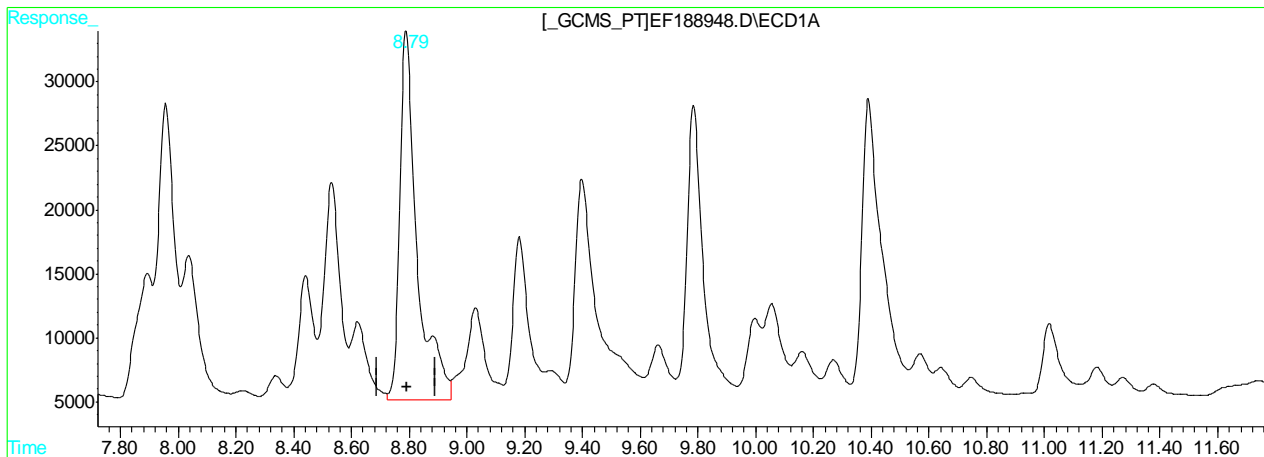
(+) = Expected Retention Time  
 EF188948.D PCB6419.M Wed Apr 10 08:43:40 2019 GCEF

11.6.46.7  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



QEdit

(27) AR1254-D
8.79min 1155.973PPB
response 1193685
(27) AR1254-D #2
10.62min 982.561PPB
response 1558872

(+) = Expected Retention Time  
 EF188948.D PCB6419.M Wed Apr 10 08:43:45 2019 GCEF

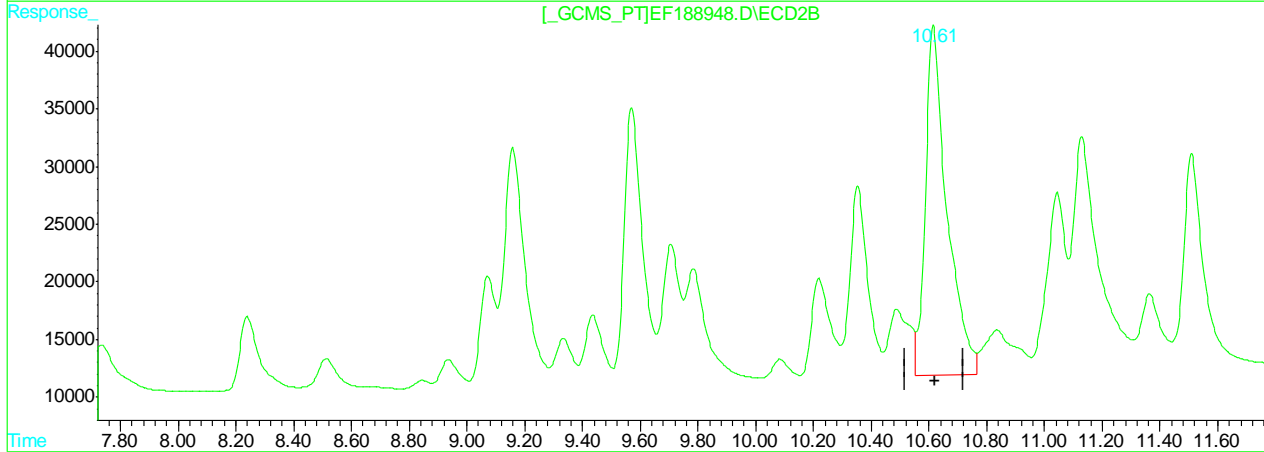
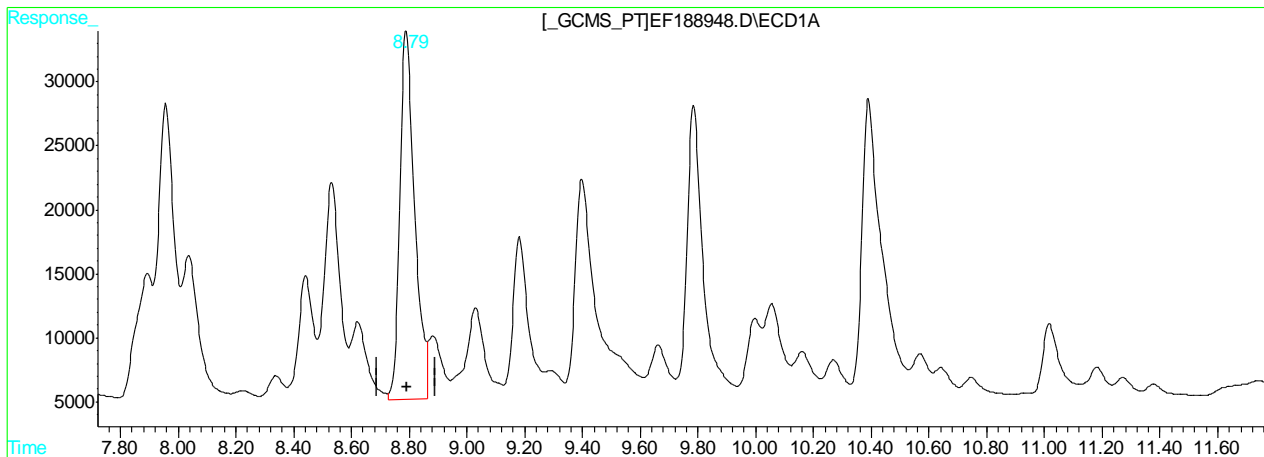
11.6.46.8

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



QEdit

(27) AR1254-D
8.79min 986.957PPB m
response 1019155
(27) AR1254-D #2
10.62min 982.561PPB
response 1558872

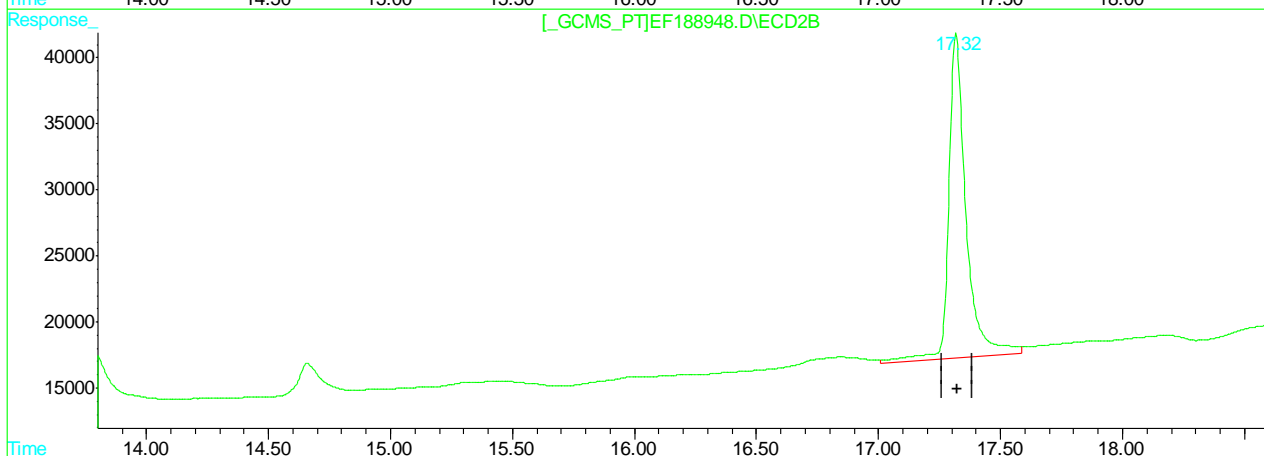
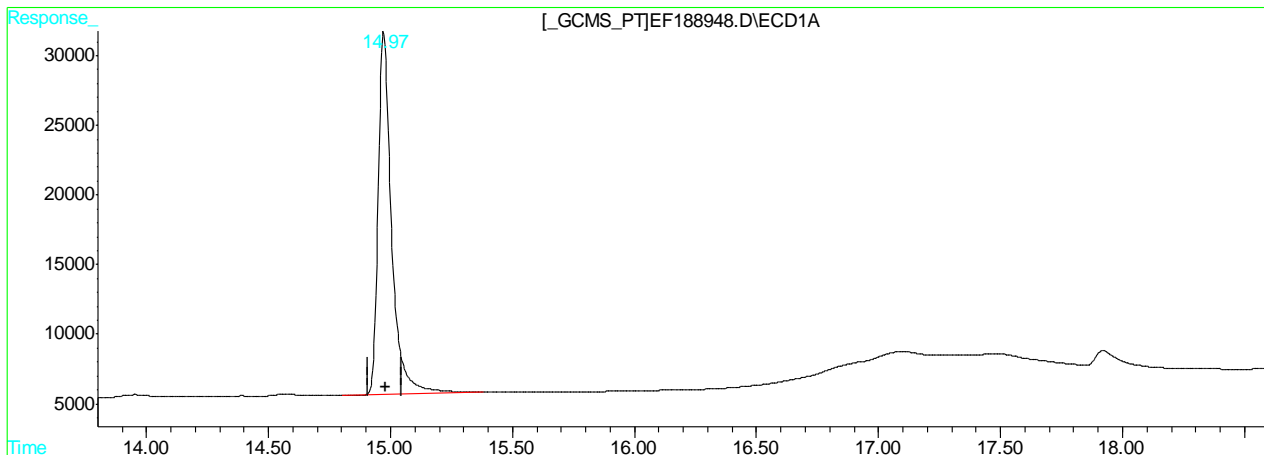
(+) = Expected Retention Time  
 EF188948.D PCB6419.M Wed Apr 10 08:43:55 2019 GCEF

11.6.46.9  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Multiple Level Calibration



QEdit

(51) Decachlorobiphenyl (S)
14.97min 53.069PPB
response 991042
(51) Decachlorobiphenyl #2 (S)
17.32min 58.334PPB
response 1204472

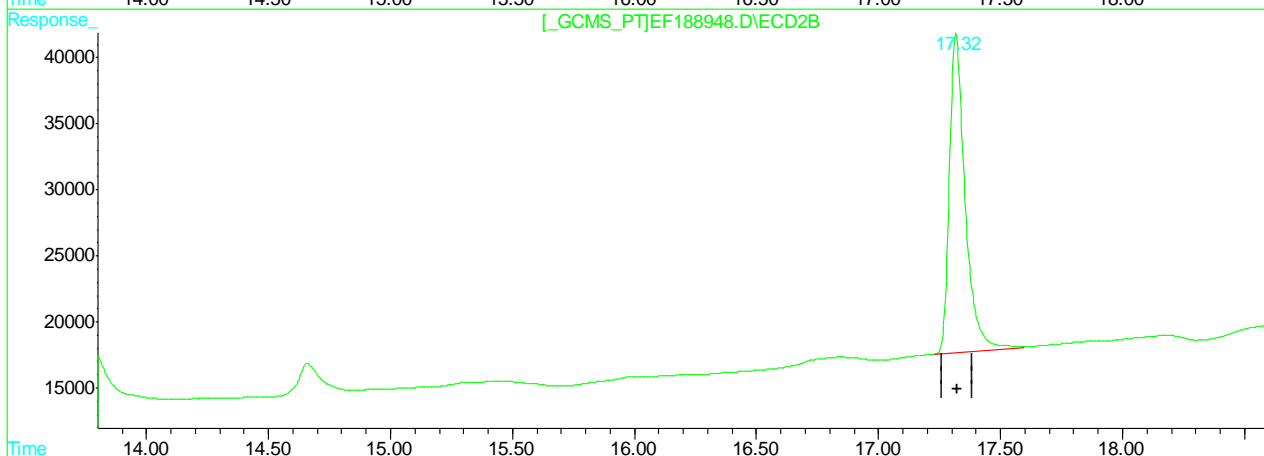
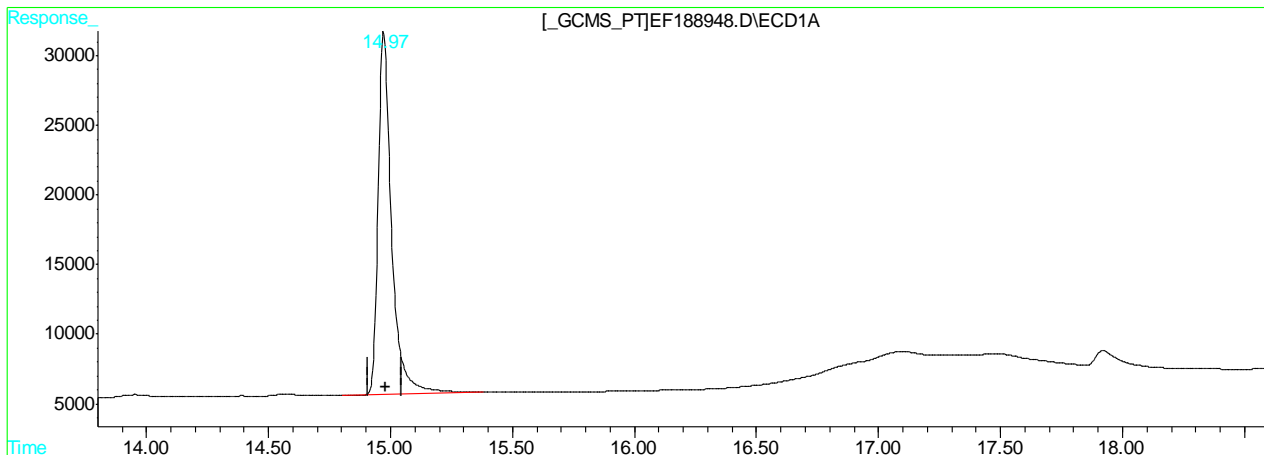
(+) = Expected Retention Time  
 EF188948.D PCB6419.M Wed Apr 10 08:44:02 2019 GCEF

11.6.46.10 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD1A.CH Vial: 37  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188948.D\ECD2B.CH  
 Acq On : 9 Apr 2019 9:40 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Multiple Level Calibration



QEdit

(51) Decachlorobiphenyl (S)

14.97min 53.069PPB

response 991042

(51) Decachlorobiphenyl #2 (S)

17.32min 52.550PPB m

response 1085041

(+) = Expected Retention Time

EF188948.D PCB6419.M

Wed Apr 10 08:44:06 2019

GCEF

11.6.46.11

11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD1A.CH Vial: 38  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:05 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:44 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.25	827521	992950	53.449	53.391
Spiked Amount	40.000		Recovery	=	133.62%	133.48%
51) S Decachlorobiphen	14.98	17.32	1004122	1131369	53.770	54.794m
Spiked Amount	40.000		Recovery	=	134.43%	136.99%
Target Compounds						
7) AR1232-A	4.18	5.19	531927	535840	926.985	919.665
8) AR1232-B	4.78	6.00	347908	394356	937.869	930.663
9) AR1232-C	5.62	6.94	755811	833945	937.440	931.335
10) AR1232-D	5.87	7.23	281186	369624	935.403	936.818
11) AR1232-E	6.66	8.51	264131	290139	933.055	972.378
31) AR1262-A	9.79	11.52	922947	1343919	994.052	975.850
32) AR1262-B	10.65	12.54	1337438	2002501	1007.574	993.952
33) AR1262-C	11.18	13.22	1003021	1471996	1003.957	986.426
34) AR1262-D	11.88	13.79	2518307	3176271	1014.273	973.202
35) AR1262-E	12.58	14.61	2937764	3732991	1023.814m	962.525m

11.647  
 11

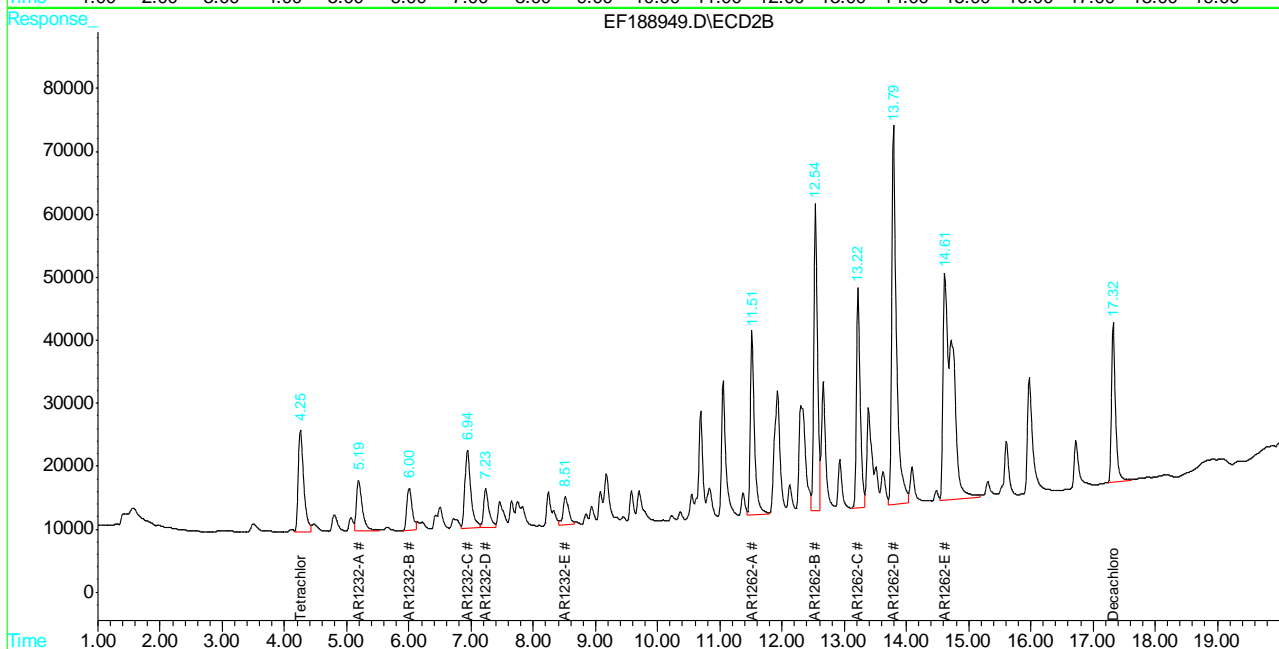
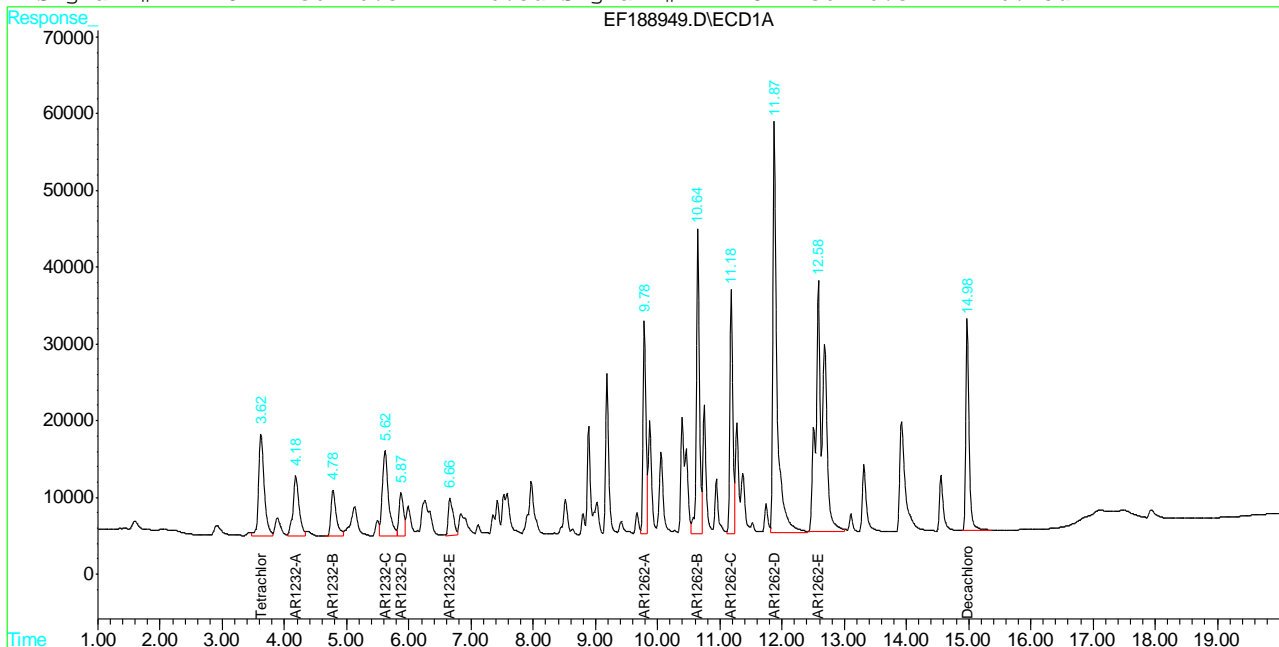
-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188949.D PCB6419.M Wed Apr 10 08:49:16 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD1A.CH Vial: 38  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:05 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:44 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.47  
11



# Manual Integration Approval Summary

Sample Number: GEF6419-ICV6419      Method: SW846 8082A  
Lab FileID: EF188949.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 22:05      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ar1262-E		1	12.58	Split peak
Ar1262-E		2	14.61	Split peak
Decachlorobiphenyl	2051-24-3	2	17.32	Poorly defined baseline

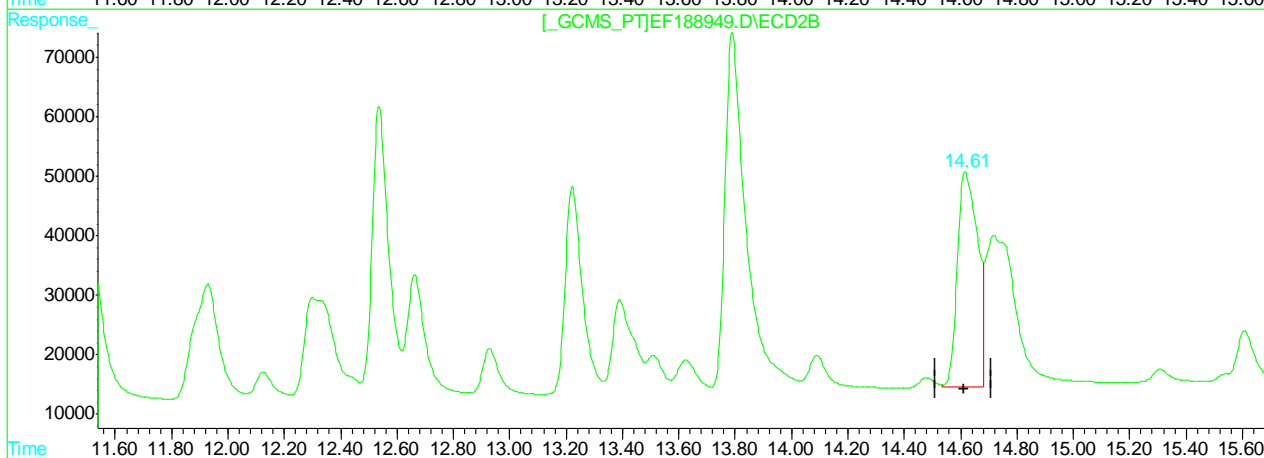
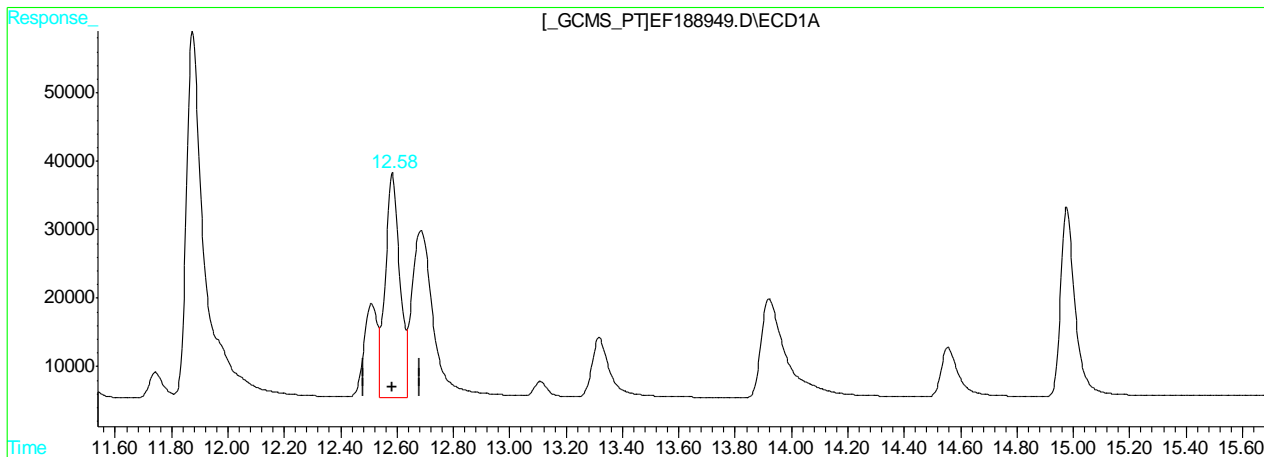
11.6.47.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD1A.CH Vial: 38  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:05 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:44 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



QEdit

(35) AR1262-E	12.58min	406.706PPB	response	1167017
(35) AR1262-E #2	14.62min	468.536PPB	response	1817140

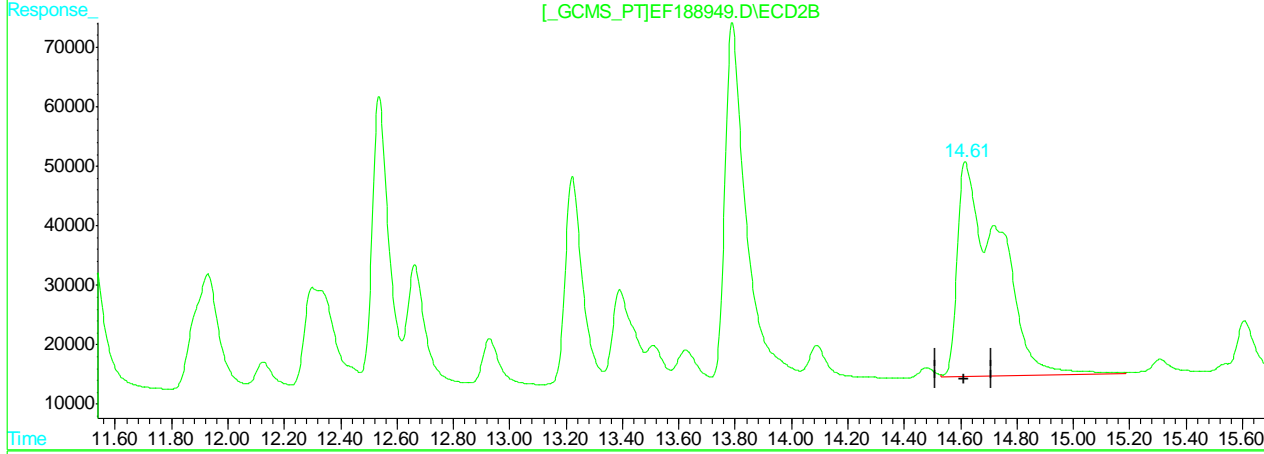
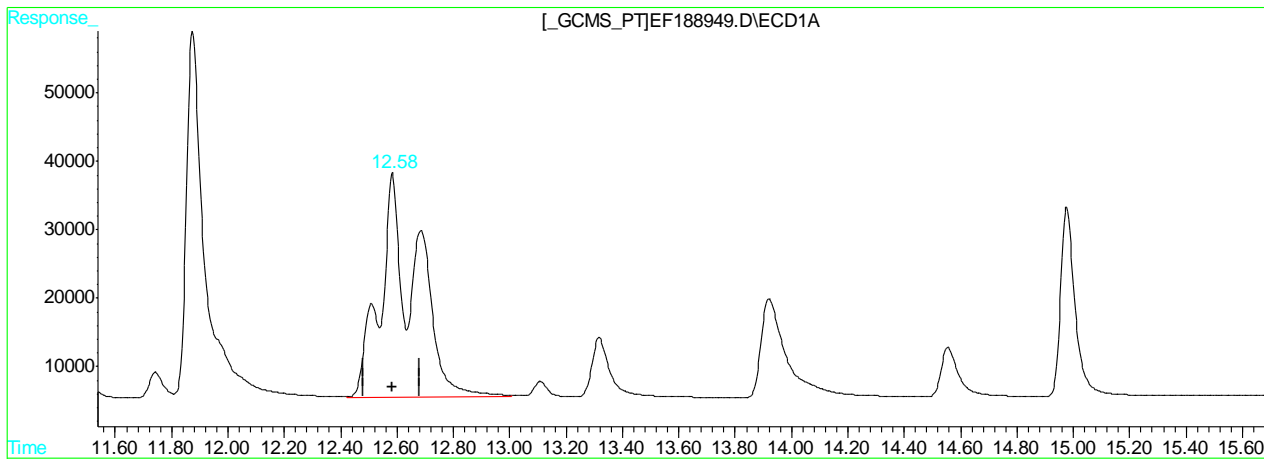
(+) = Expected Retention Time  
 EF188949.D PCB6419.M Wed Apr 10 08:44:44 2019 GCEF

11.6.47.2  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD1A.CH Vial: 38  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:05 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:44 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Single Level Calibration



(35) AR1262-E  
 12.58min 1023.814PPB m  
 response 2937764

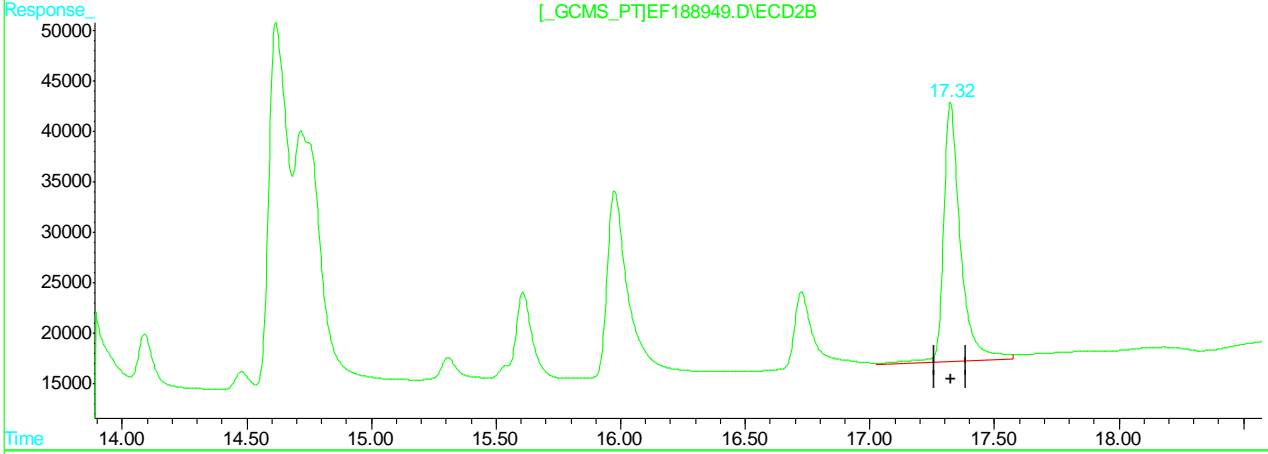
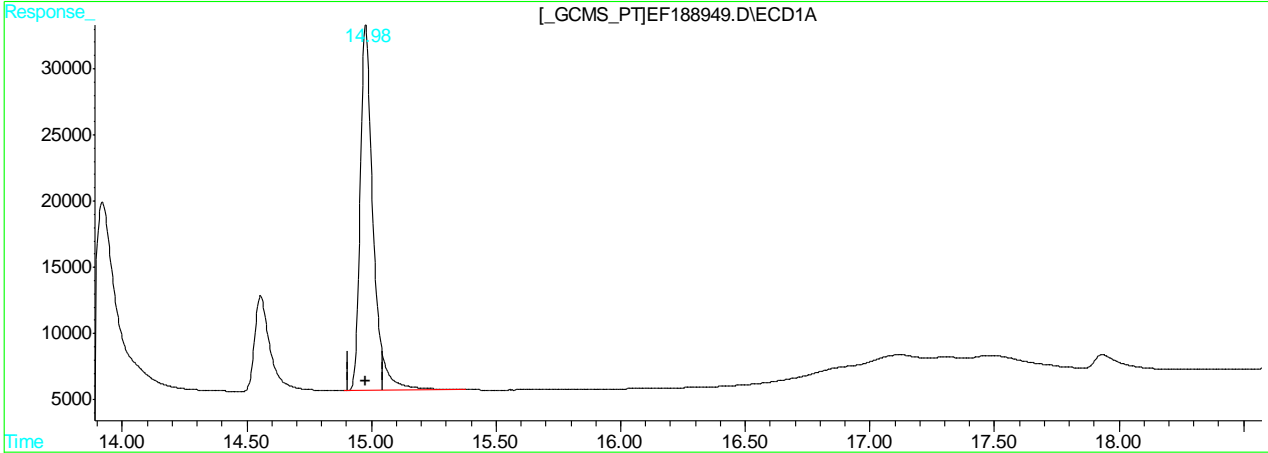
(35) AR1262-E #2  
 14.61min 962.525PPB m  
 response 3732991

(+) = Expected Retention Time

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD1A.CH Vial: 38  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:05 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:44 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Concentration (PPB)	Response
(51) Decachlorobiphenyl (S) 14.98min	53.770	1004122
(51) Decachlorobiphenyl #2 (S) 17.32min	58.952	1217222

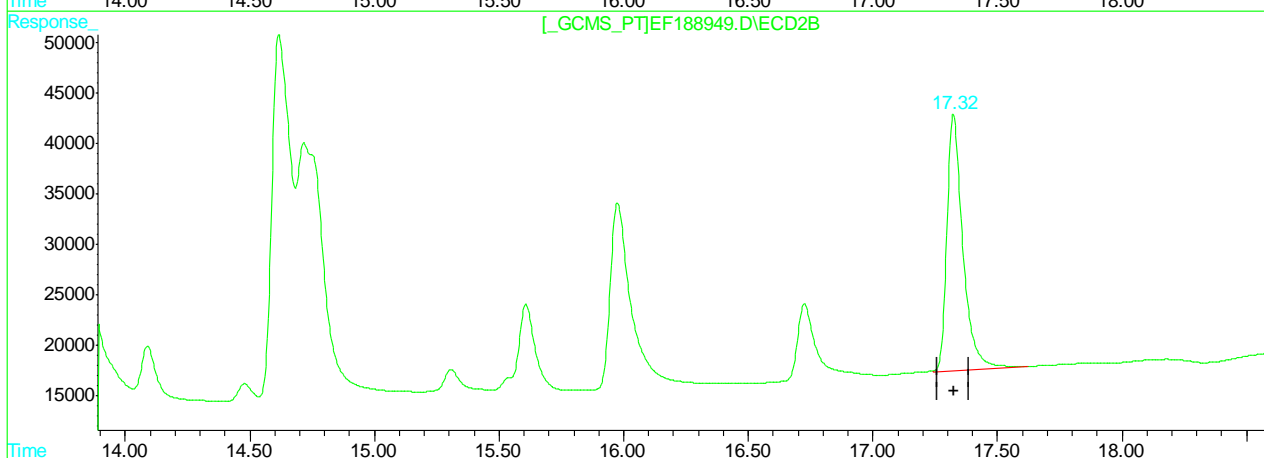
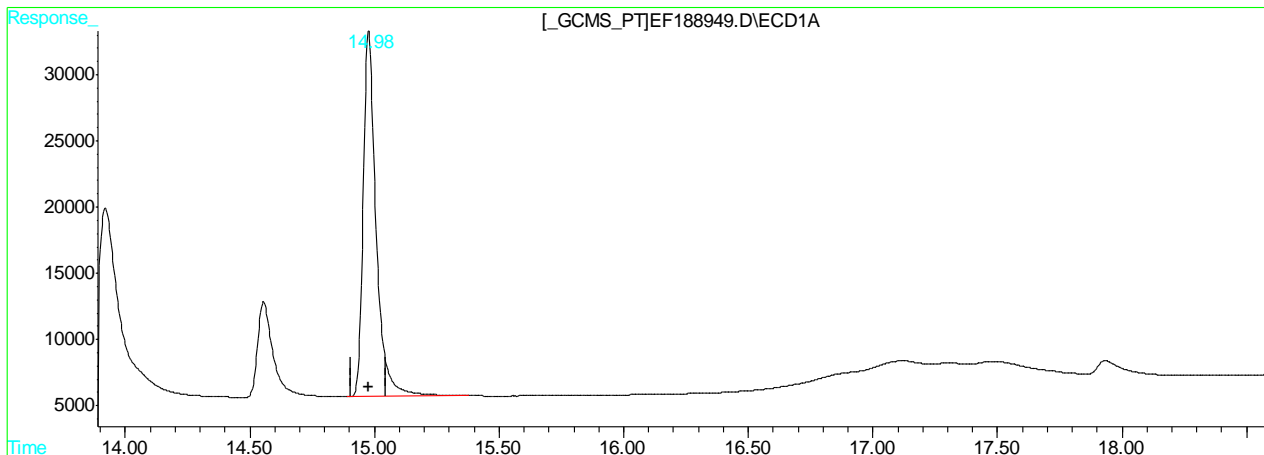
(+) = Expected Retention Time  
 EF188949.D PCB6419.M Wed Apr 10 08:44:55 2019 GCEF

11.6.47.4  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD1A.CH Vial: 38  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188949.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:05 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:44 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:42:25 2019  
 Response via : Multiple Level Calibration



QEdit

(51) Decachlorobiphenyl (S)
14.98min 53.770PPB
response 1004122
(51) Decachlorobiphenyl #2 (S)
17.32min 54.794PPB m
response 1131369

(+) = Expected Retention Time  
 EF188949.D PCB6419.M Wed Apr 10 08:45:00 2019 GCEF

11.6.47.5

11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188950.D\ECD1A.CH Vial: 39  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188950.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:30 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:47 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	810101	998624	55.362	56.188
Spiked Amount	40.000		Recovery	=	138.41%	140.47%
51) S Decachlorobiphen	14.97	17.32	2310067	2765319	129.470	140.352
Spiked Amount	40.000		Recovery	=	323.67%	350.88%
Target Compounds						
12) AR1242-A	4.78	6.01	593088	708518	1048.031	1030.546
13) AR1242-B	5.62	6.94	1331161	1444994	1039.549	1024.345
14) AR1242-C	5.87	7.23	505306	660460	1044.512	1038.176
15) AR1242-D	6.66	8.24	524736	426777	1029.593	1015.619
16) AR1242-E	7.58	9.18	574288	620156	1040.601	998.005
36) AR1268-A	12.58	14.61	2433307	3347800	979.049	969.073
37) AR1268-B	12.67	14.72	2914071	3830716	996.477	957.192
38) AR1268-C	13.11	15.31	2177803	2867395	991.663	951.308
39) AR1268-D	13.91	15.97	965090	1140043	982.528	944.742
40) AR1268-E	14.54	16.72	6131066	7632410	995.360	986.504

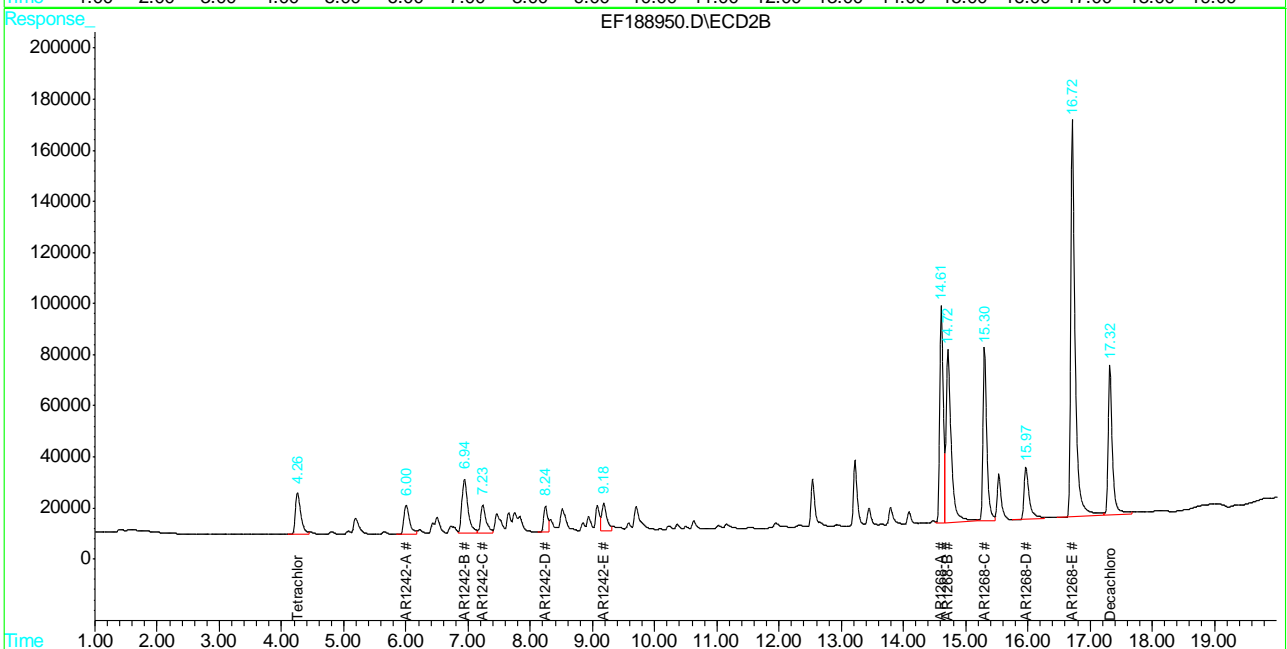
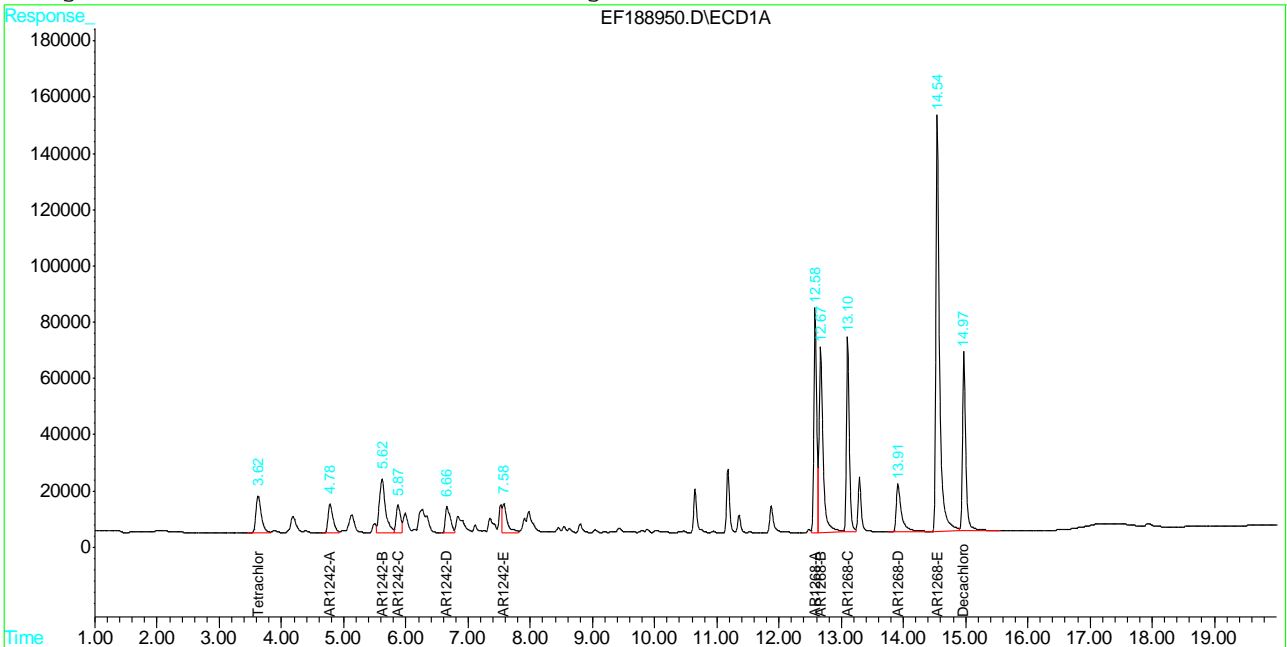
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188950.D PCB6419.M Wed Apr 10 08:49:21 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188950.D\ECD1A.CH Vial: 39  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188950.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:30 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:47 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.48  
11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD1A.CH Vial: 40  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:55 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:47 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.25	801006	1039079	54.740	58.464
Spiked Amount	40.000		Recovery	=	136.85%	146.16%
51) S Decachlorobiphen	14.98	17.32	1046768	1103707	58.667	56.018m
Spiked Amount	40.000		Recovery	=	146.67%	140.04%
Target Compounds						
17) AR1248-A	4.78	6.00	292183	340687	931.052	914.618
18) AR1248-B	5.62	6.94	906801	929271	979.525	962.319
19) AR1248-C	6.26	7.65	855266	548740	1008.248	995.617
20) AR1248-D	6.65	8.24	797373	679599	1011.961	998.030
21) AR1248-E	6.83	8.51	412252	856010	1039.915	1079.488
22) AR1248-F	7.57	9.18	892387	1134403	1037.035	1036.709
23) AR1248-G	7.97	9.70	940000	1248006	1042.214	1058.494

11.649  
 11

-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF188951.D PCB6419.M Wed Apr 10 08:49:26 2019 GCEF

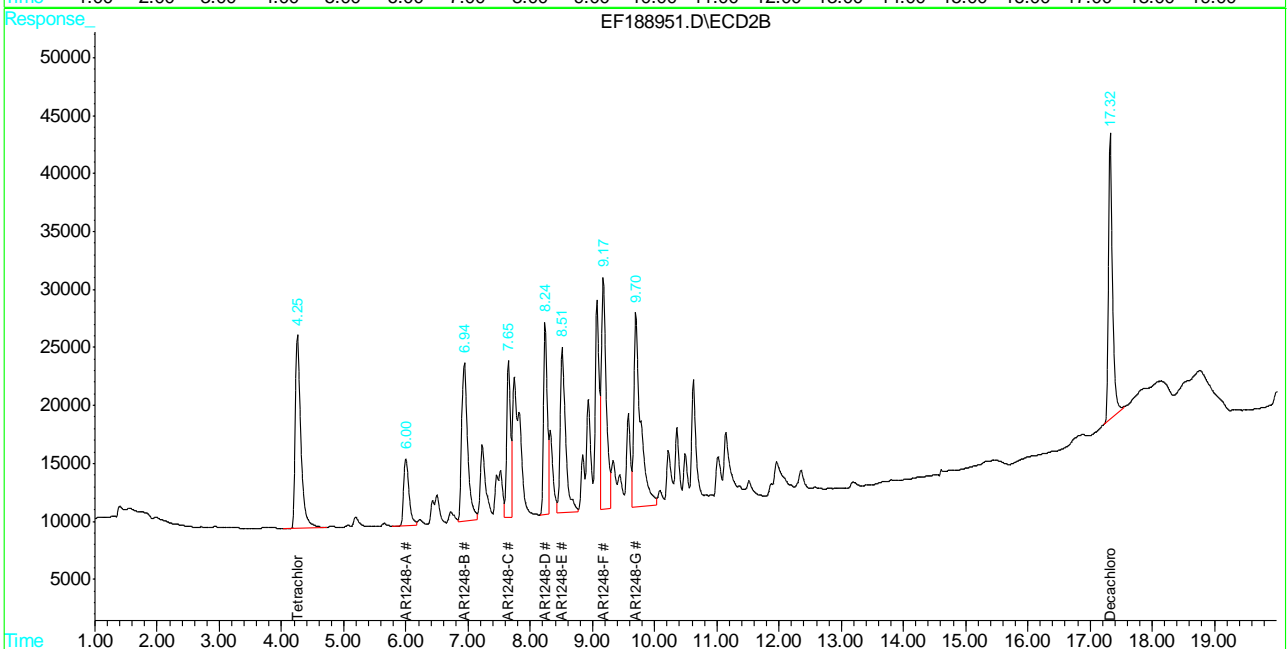
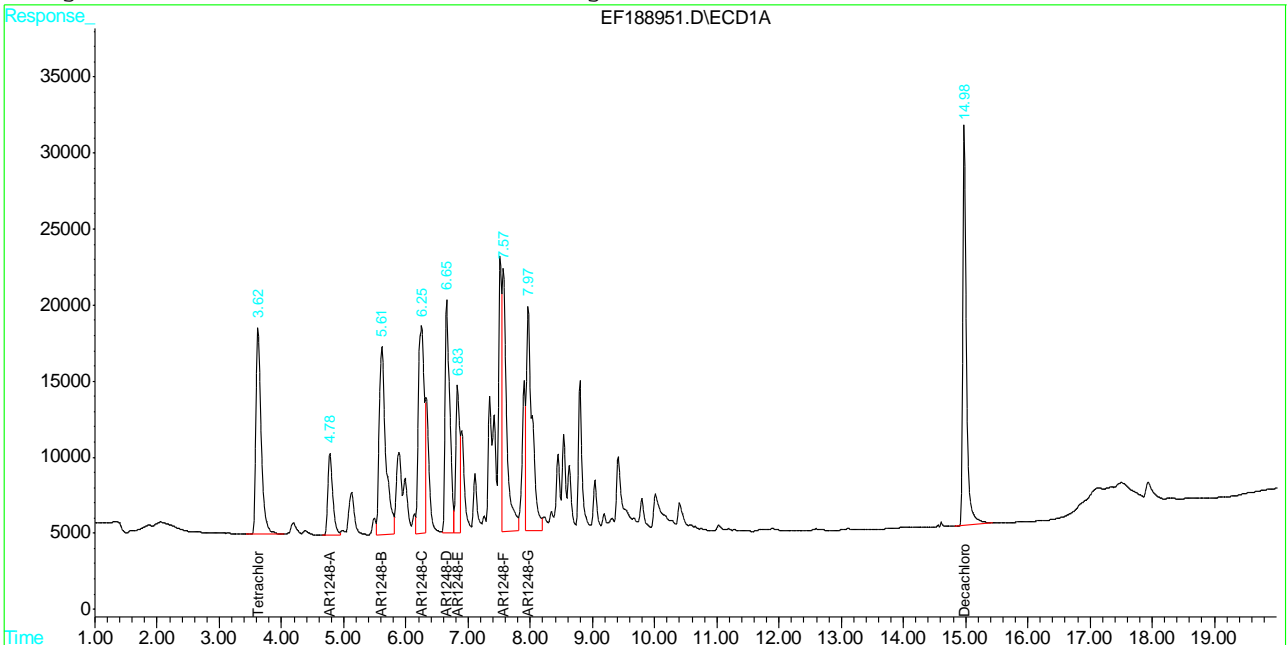


Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD1A.CH Vial: 40  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:55 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:47 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



# Manual Integration Approval Summary

Sample Number: GEF6419-ICV6419      Method: SW846 8082A  
Lab FileID: EF188951.D      Analyst approved: 04/10/19 08:58 Tianwei Ruan  
Injection Time: 04/09/19 22:55      Supervisor approved: 04/10/19 14:25 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
Decachlorobiphenyl	2051-24-3	2	17.32	Poorly defined baseline

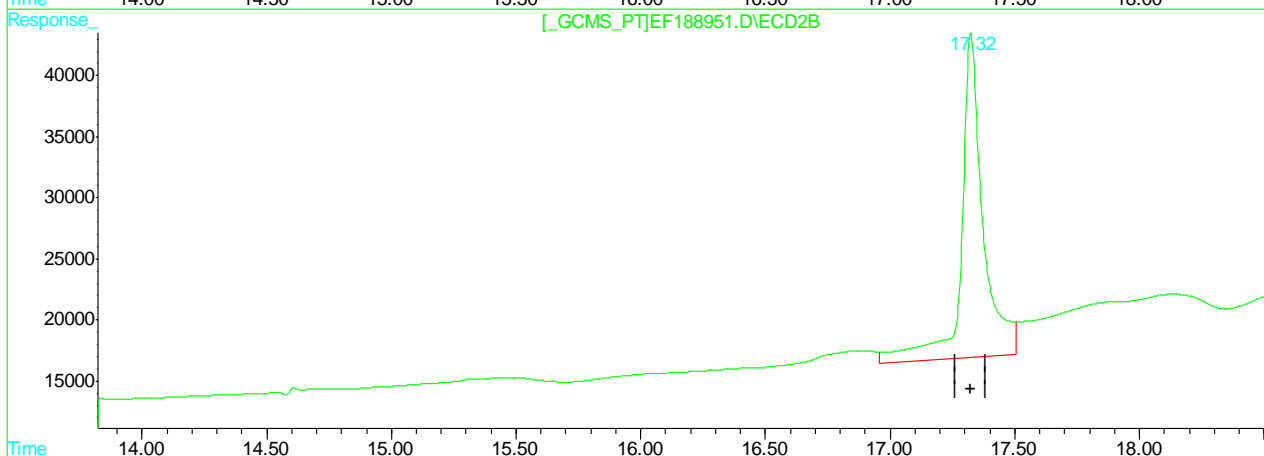
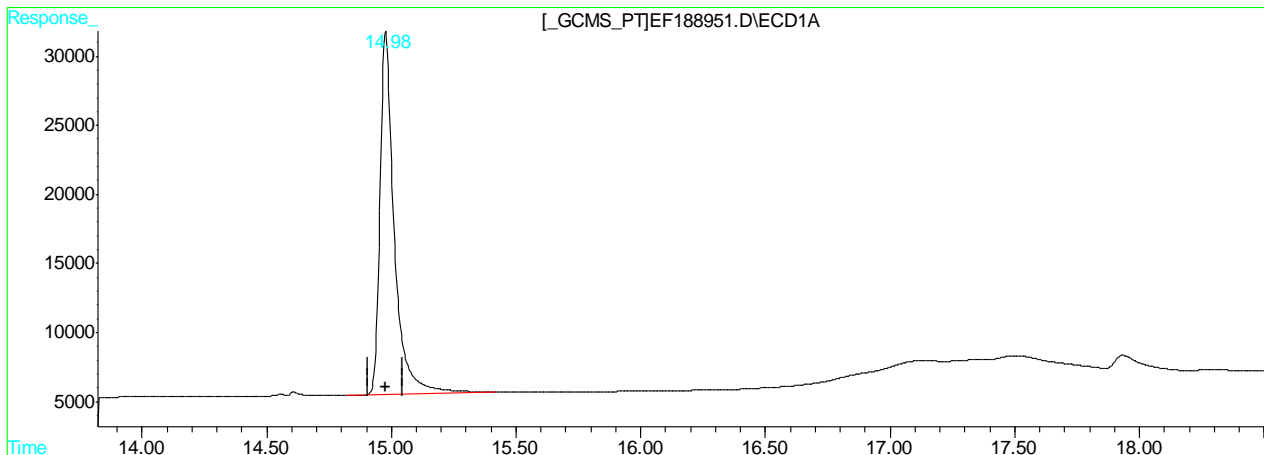
11.6.49.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD1A.CH Vial: 40  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:55 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:47 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.98min 58.667PPB

response 1046768

(51) Decachlorobiphenyl #2 (S)

17.33min 82.497PPB

response 1625414

(+) = Expected Retention Time

EF188951.D PCB6419.M

Wed Apr 10 08:47:45 2019

GCEF

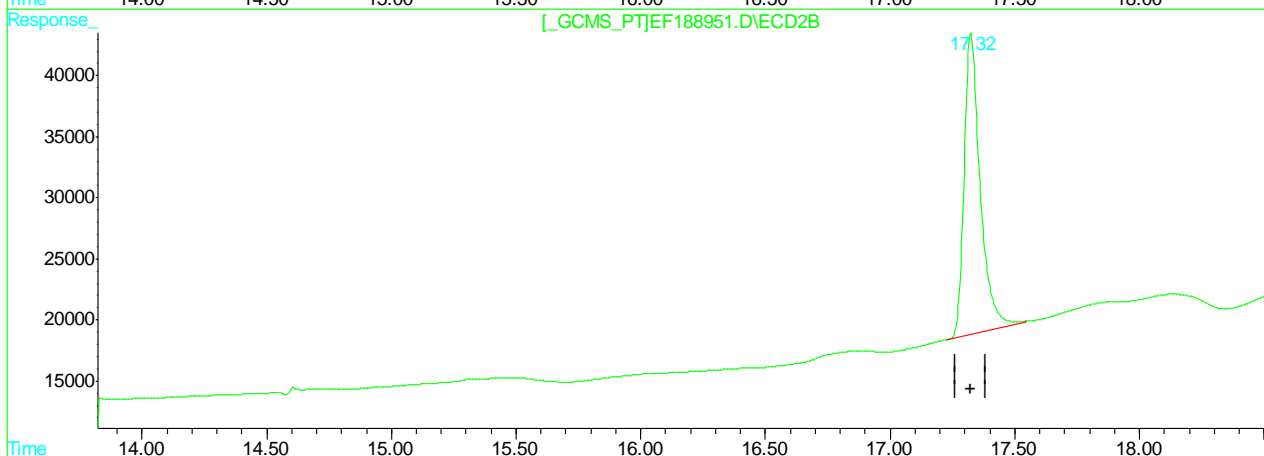
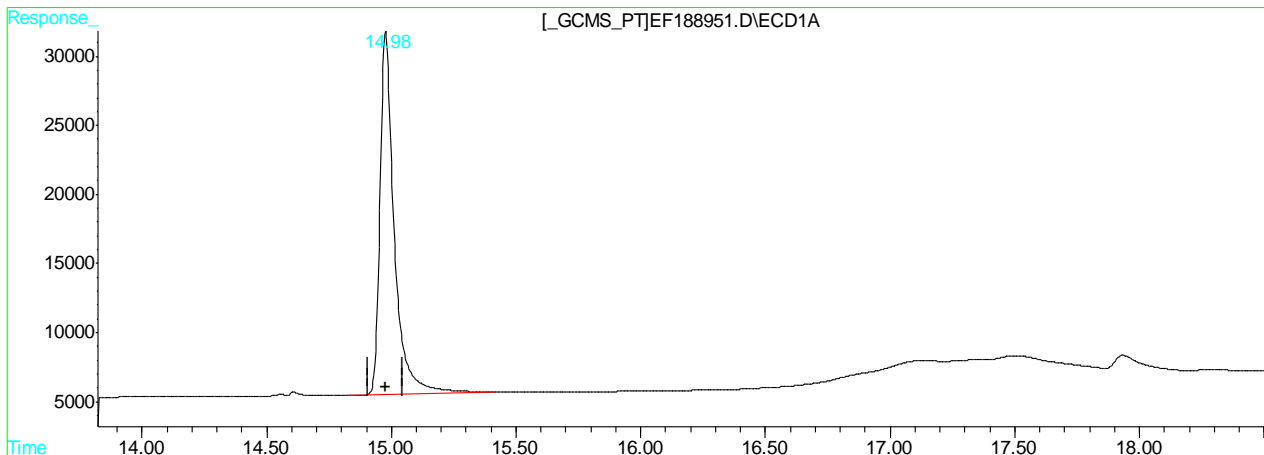
11.6.49.2

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD1A.CH Vial: 40  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6419\EF188951.D\ECD2B.CH  
 Acq On : 9 Apr 2019 10:55 pm Operator: tianweir  
 Sample : icv6419-1000 Inst : gcef  
 Misc : op19570,GEF6419,300,,,2.0,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 10 8:47 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Wed Apr 10 08:45:49 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.98min 58.667PPB

response 1046768

(51) Decachlorobiphenyl #2 (S)

17.32min 56.018PPB m

response 1103707

(+) = Expected Retention Time

EF188951.D PCB6419.M

Wed Apr 10 08:47:49 2019

GCEF

11.6.49.3

11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD1A.CH Vial: 1  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:07 am Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19817,GEF6426,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 10:42 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.64	4.27	306101	398259	20.919	22.408
Spiked Amount	40.000		Recovery	=	52.30%	56.02%
51) S Decachlorobiphen	14.98	17.33	422975	432619	23.706m	21.957m
Spiked Amount	40.000		Recovery	=	59.27%	54.89%
Target Compounds						
41) AR1016-A	4.21	5.21	225471	239122	512.521	541.972
42) AR1016-B	4.80f	6.02	389067	460455	538.498	547.368
43) AR1016-C	5.65f	6.96f	889844	977720	531.852	531.172
44) AR1016-D	5.90f	7.25f	344798	463016	550.963	576.339
45) AR1016-E	6.68f	8.26	349017	285256	543.403	536.311
46) AR1260-A	10.42	12.36	773934	1038087	552.629	529.459
47) AR1260-B	10.67	12.55	541153	802161	600.962	580.653
48) AR1260-C	11.20	13.24	452332	685170	533.160	593.401
49) AR1260-D	11.89	13.81	1229376	1505831	600.789	551.045
50) AR1260-E	12.60f	14.66	1208971	1646850	587.195m	599.607

11.6.50  
 11

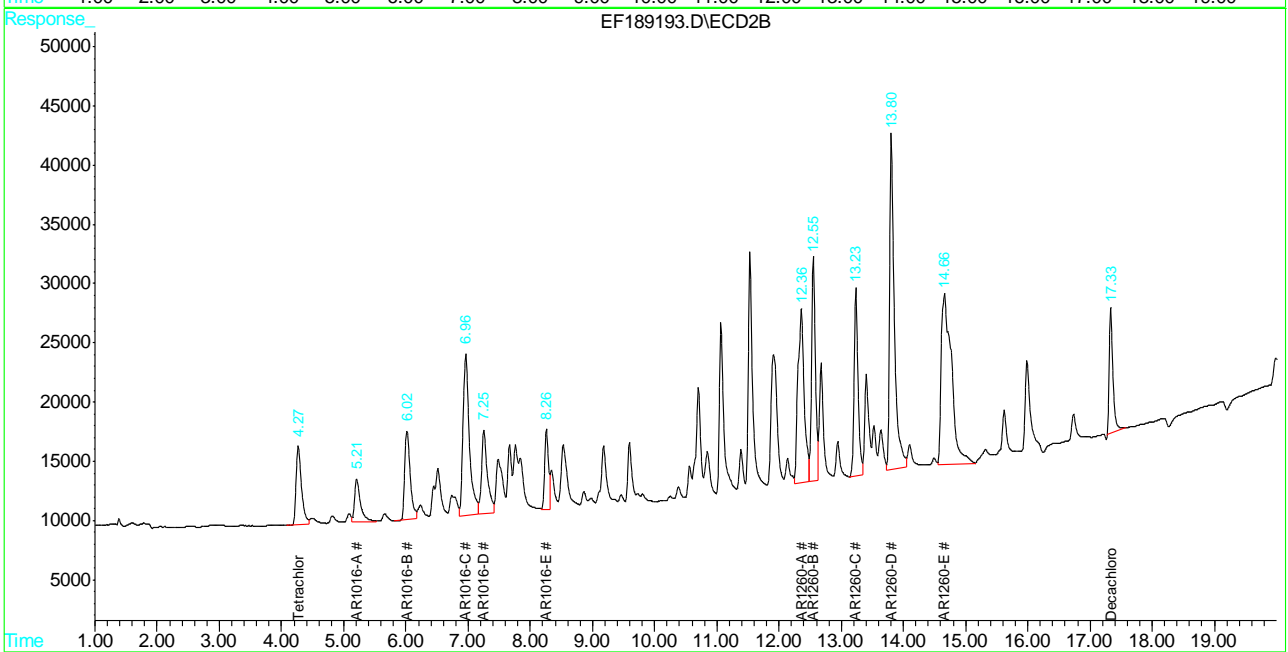
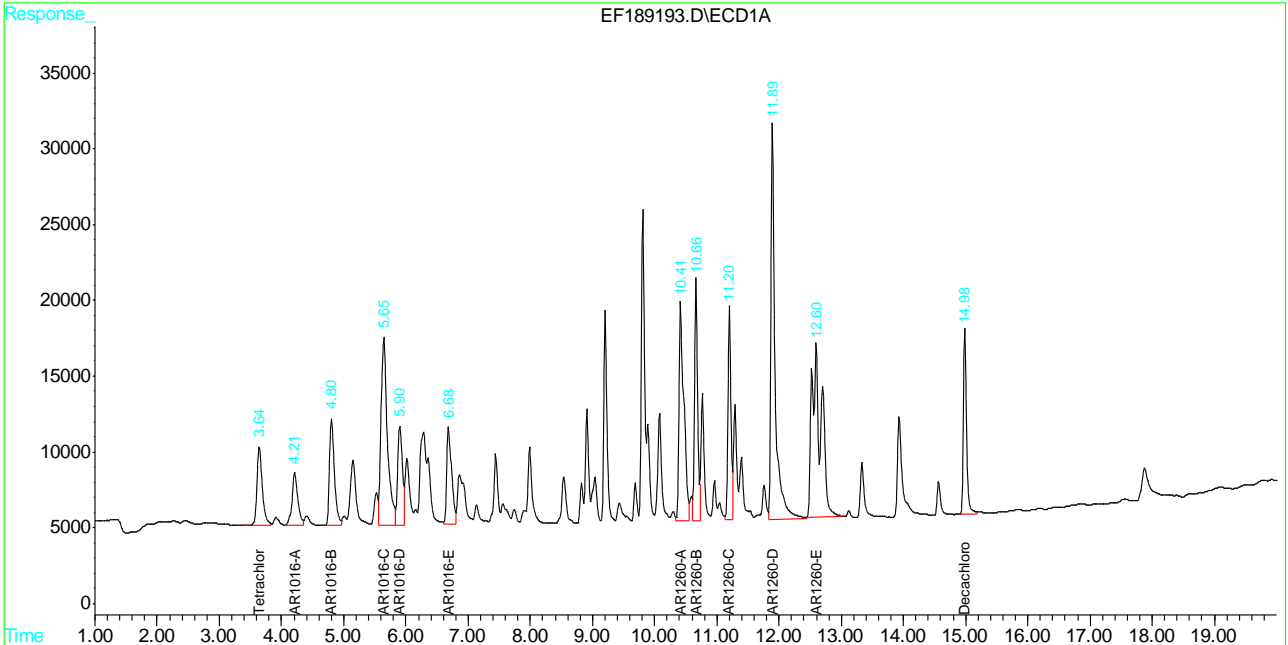
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF189193.D PCB6419.M Fri Apr 19 10:42:59 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD1A.CH Vial: 1  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:07 am Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19817,GEF6426,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 10:42 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.50  
11

# Manual Integration Approval Summary

Sample Number: GEF6426-CC6419      Method: SW846 8082A  
Lab FileID: EF189193.D      Analyst approved: 04/19/19 16:32 Summer Kotb  
Injection Time: 04/19/19 10:07      Supervisor approved: 04/23/19 12:27 Kristi Schollenberger

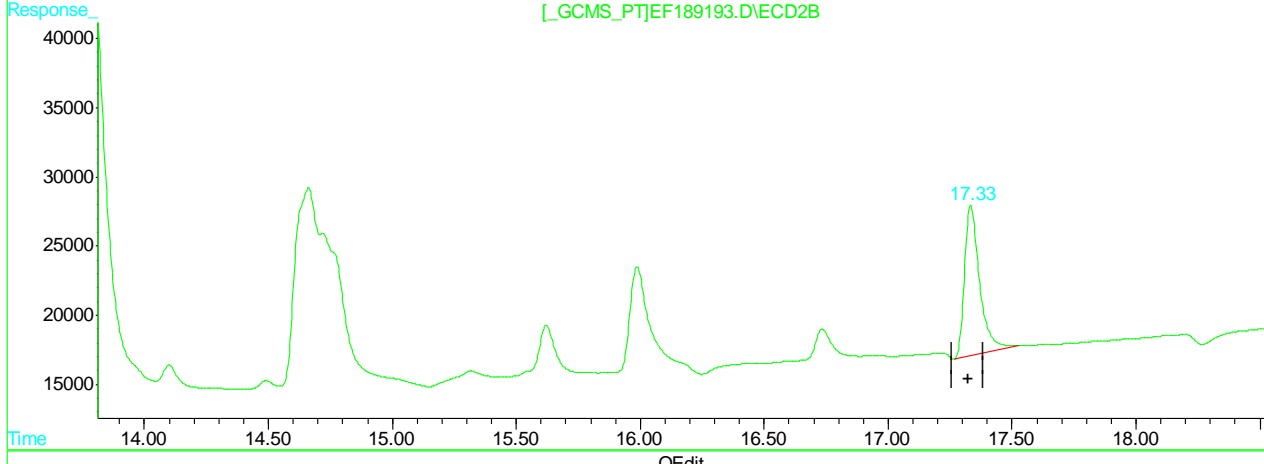
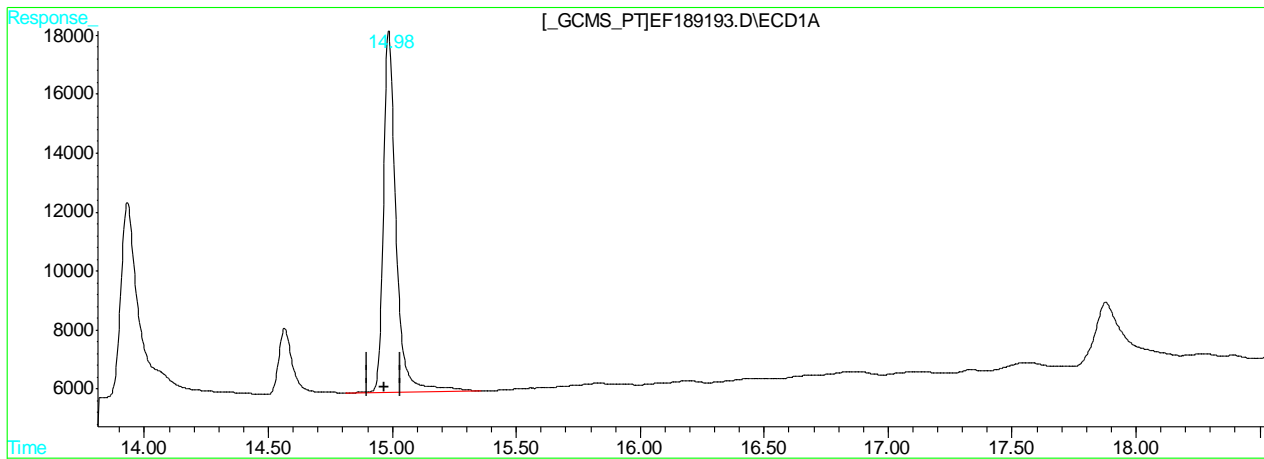
Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	12.60	Split peak
Decachlorobiphenyl	2051-24-3	1	14.98	Poorly defined baseline
Decachlorobiphenyl	2051-24-3	2	17.33	Poorly defined baseline

11.6.50.1  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD1A.CH Vial: 1  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:07 am Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19817,GEF6426,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 10:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.99min 24.229PPB

response 432312

(51) Decachlorobiphenyl #2 (S)

17.33min 23.335PPB

response 459765

(+) = Expected Retention Time

EF189193.D PCB6419.M

Fri Apr 19 10:42:13 2019

GCEF

11.6.50.2

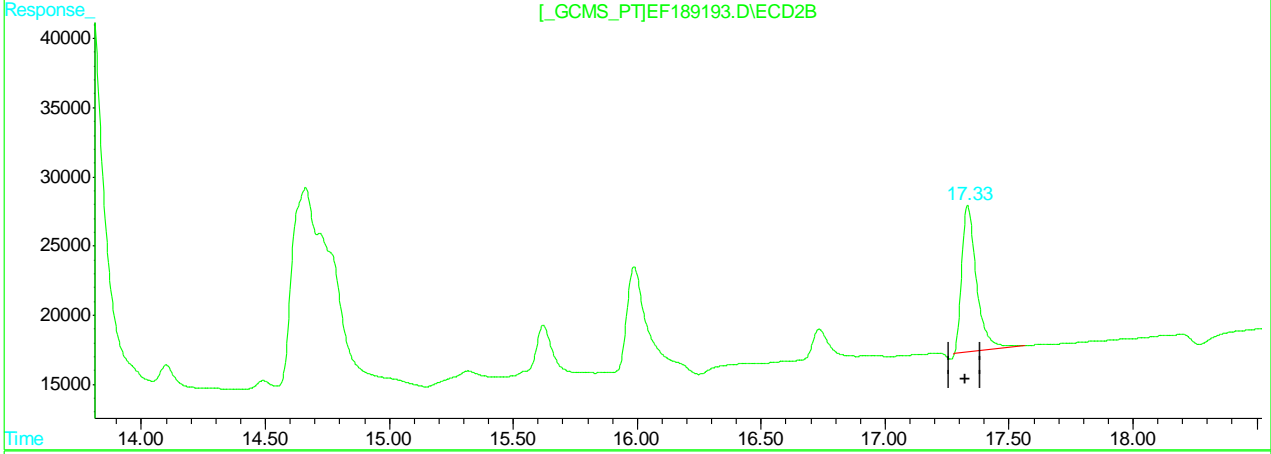
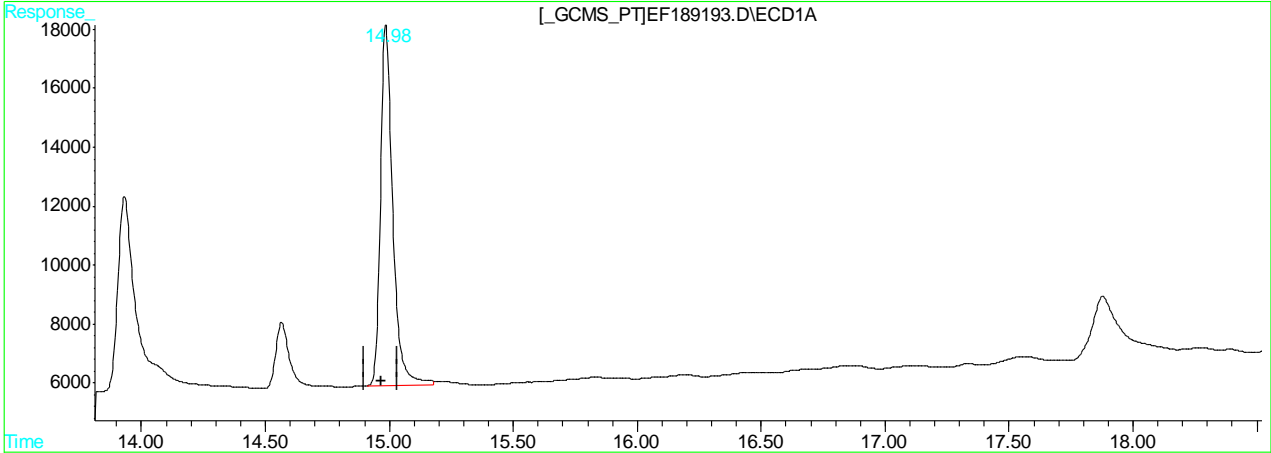
11



Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD1A.CH Vial: 1  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:07 am Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19817,GEF6426,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 10:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(51) Decachlorobiphenyl (S)

14.98min 23.706PPB m

response 422975

(51) Decachlorobiphenyl #2 (S)

17.33min 21.957PPB m

response 432619

(+) = Expected Retention Time

EF189193.D PCB6419.M

Fri Apr 19 10:42:22 2019

GCEF

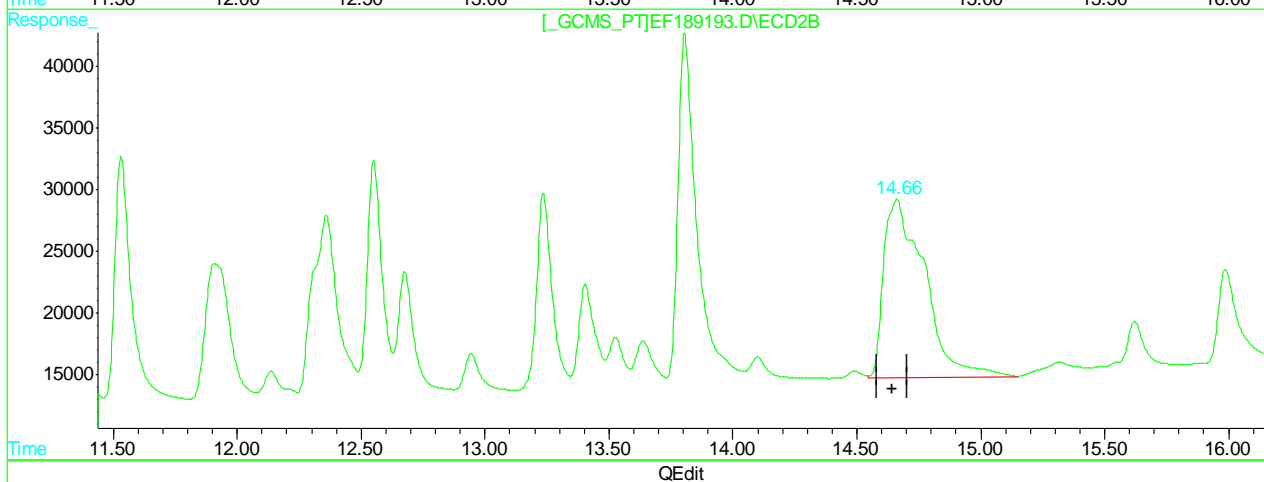
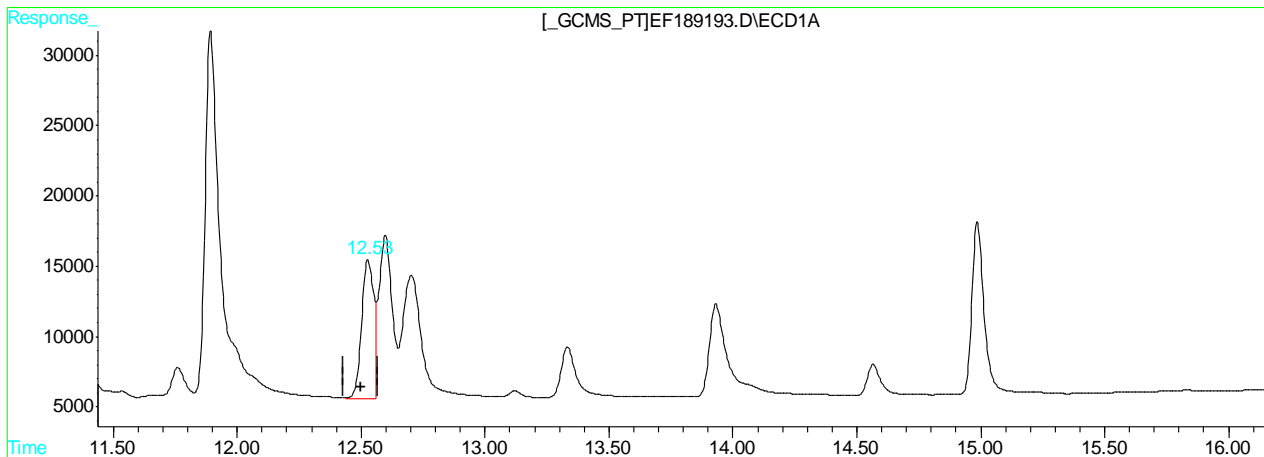
11.6.50.3

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD1A.CH Vial: 1  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:07 am Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19817,GEF6426,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 10:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.53min 164.842PPB  
 response 339392

(50) AR1260-E #2  
 14.66min 599.607PPB  
 response 1646850

(+) = Expected Retention Time

EF189193.D PCB6419.M

Fri Apr 19 10:42:48 2019

GCEF

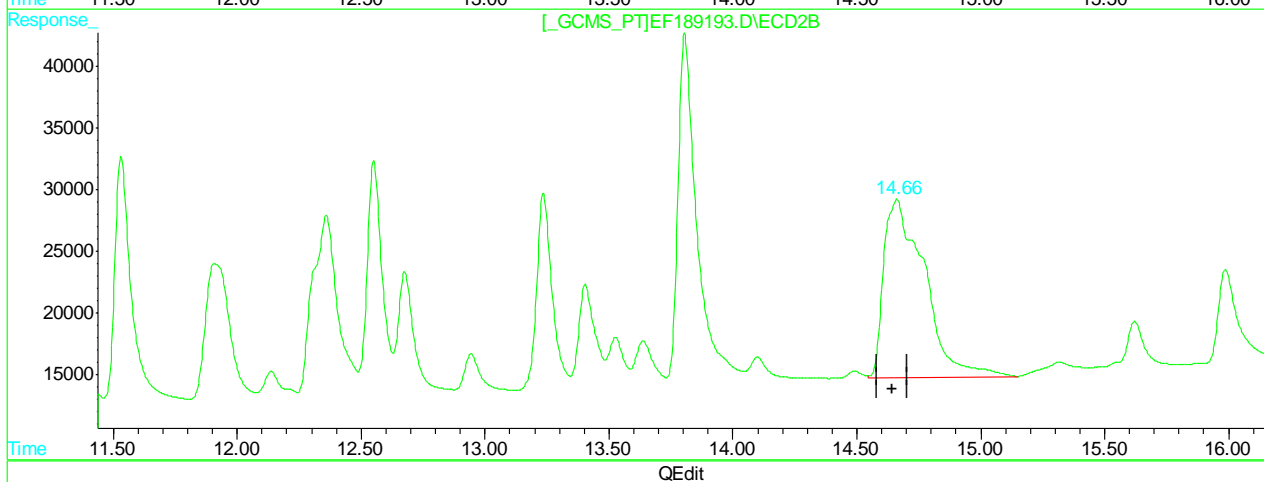
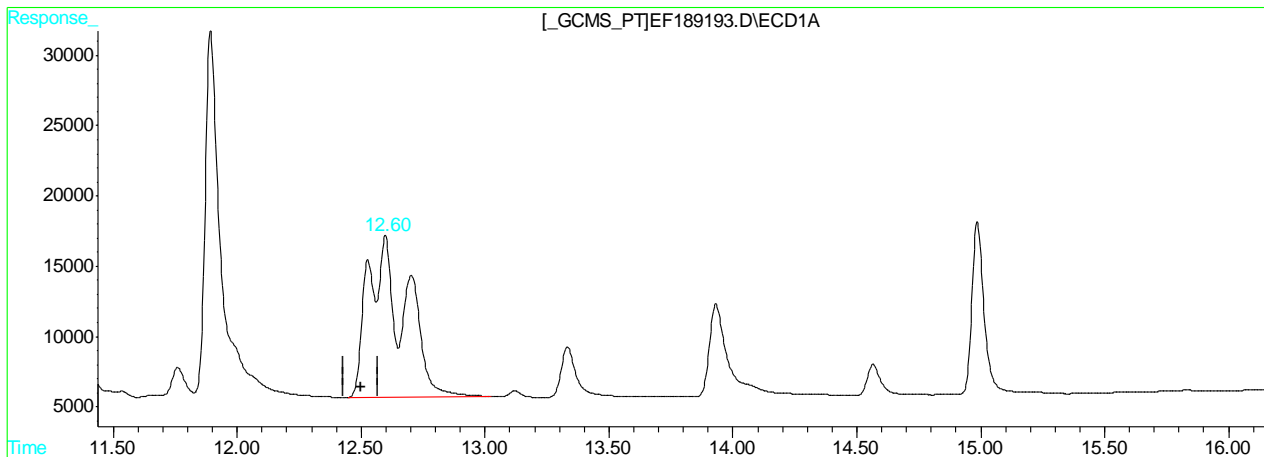
11.6.50.4

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD1A.CH Vial: 1  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189193.D\ECD2B.CH  
 Acq On : 19 Apr 2019 10:07 am Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19817,GEF6426,1000,,,5,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 10:42 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.60min 587.195PPB m  
 response 1208971

(50) AR1260-E #2  
 14.66min 599.607PPB  
 response 1646850

(+) = Expected Retention Time  
 EF189193.D PCB6419.M Fri Apr 19 10:42:53 2019 GCEF

11.6.50.5

11

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD1A.CH Vial: 11  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD2B.CH  
 Acq On : 19 Apr 2019 3:42 pm Operator: tianweir  
 Sample : cc6419-1000 Inst : gcef  
 Misc : op19829,GEF6426,16.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 16:16 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	627727	790761	42.898	44.493
Spiked Amount	40.000		Recovery	=	107.25%	111.23%
51) S Decachlorobiphen	14.97	17.33	732253	821005	41.040	41.670
Spiked Amount	40.000		Recovery	=	102.60%	104.18%
Target Compounds						
41) AR1016-A	4.18	5.19	418148	456658	950.497	1035.020
42) AR1016-B	4.78	6.01	710140	896840	982.889	1066.123
43) AR1016-C	5.61f	6.94	1640038	1893976	980.236	1028.951
44) AR1016-D	5.86f	7.23	582094	772706	930.147	961.827
45) AR1016-E	6.65	8.24	629655	561481	980.343	1055.644
46) AR1260-A	10.38	12.34	1481916	2114109	1058.165	1078.267
47) AR1260-B	10.64	12.54	942690	1472816	1046.877	1066.113
48) AR1260-C	11.17	13.23	846916	1271636	998.253	1101.318
49) AR1260-D	11.86	13.79	1953801	3017577	954.812	1104.254
50) AR1260-E	12.49	14.64	2286979	2923027	1110.781m	1064.254m

11.6.51  
 11

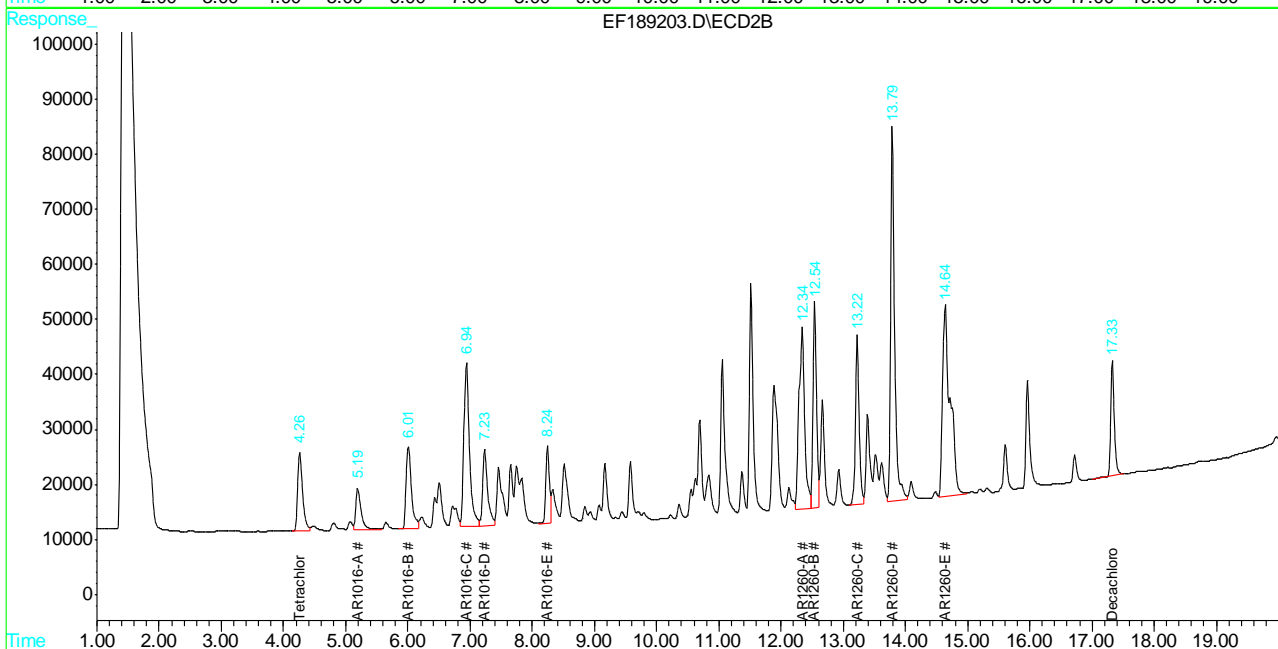
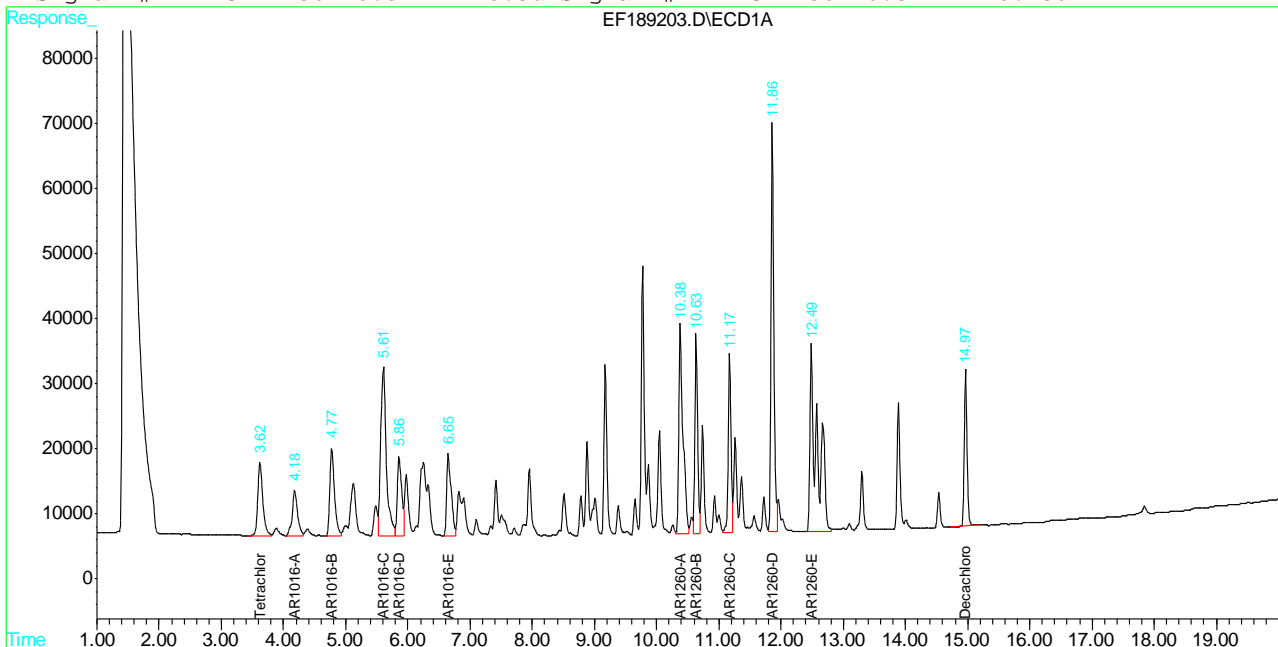
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF189203.D PCB6419.M Fri Apr 19 16:16:31 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD1A.CH Vial: 11  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD2B.CH  
 Acq On : 19 Apr 2019 3:42 pm Operator: tianweir  
 Sample : cc6419-1000 Inst : gcef  
 Misc : op19829,GEF6426,16.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 16:16 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



11.6.51  
11

# Manual Integration Approval Summary

Sample Number: GEF6426-CC6419      Method: SW846 8082A  
Lab FileID: EF189203.D      Analyst approved: 04/19/19 16:32 Summer Kotb  
Injection Time: 04/19/19 15:42      Supervisor approved: 04/22/19 08:43 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	12.49	Split peak
AR1260-E		2	14.64	Split peak

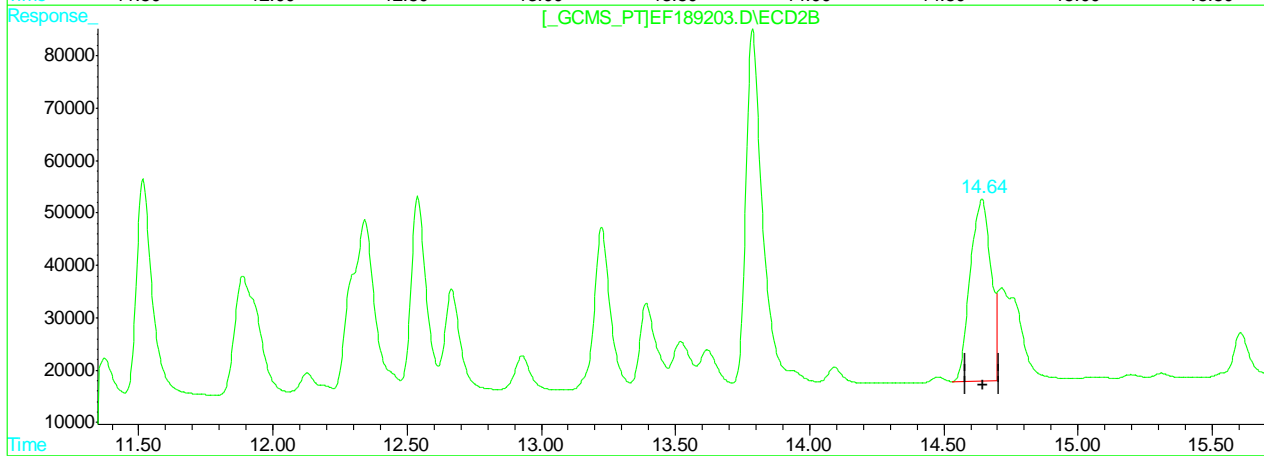
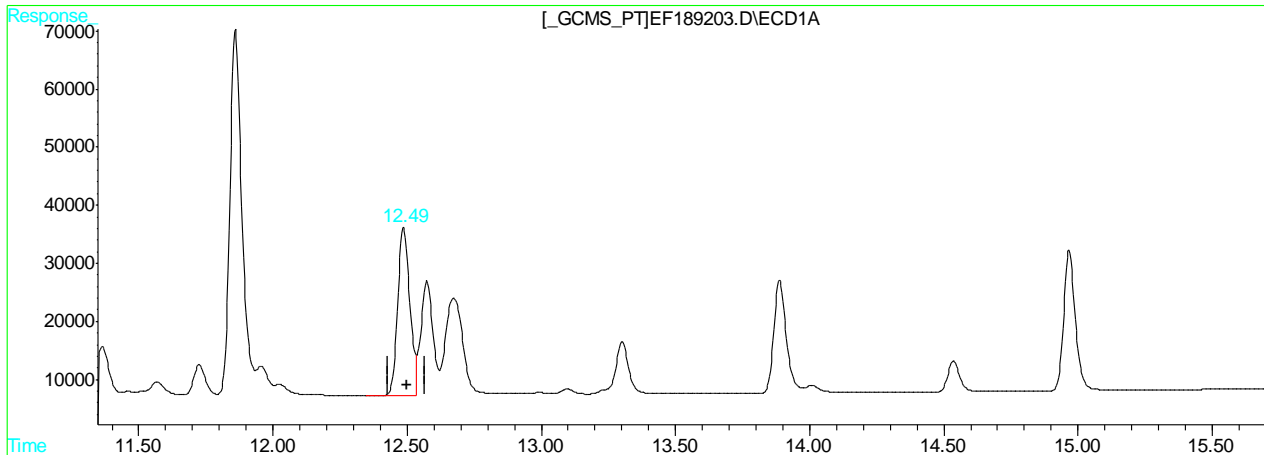
11.6.51.1

11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD1A.CH Vial: 11  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD2B.CH  
 Acq On : 19 Apr 2019 3:42 pm Operator: tianweir  
 Sample : cc6419-1000 Inst : gcef  
 Misc : op19829,GEF6426,16.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 16:15 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.49min 438.547PPB  
 response 902921

(50) AR1260-E #2  
 14.64min 674.144PPB  
 response 1851570

(+) = Expected Retention Time

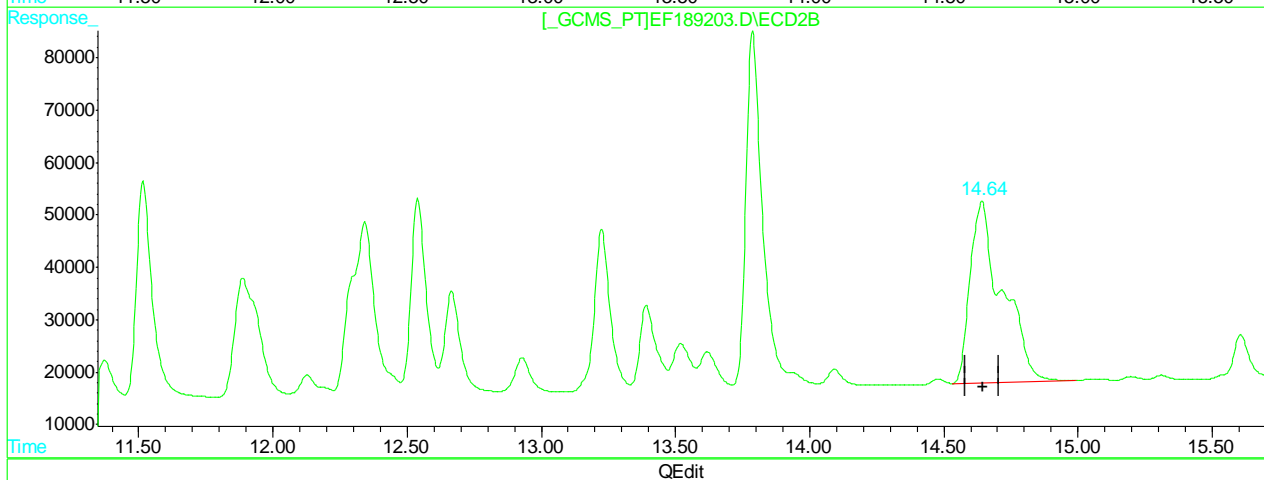
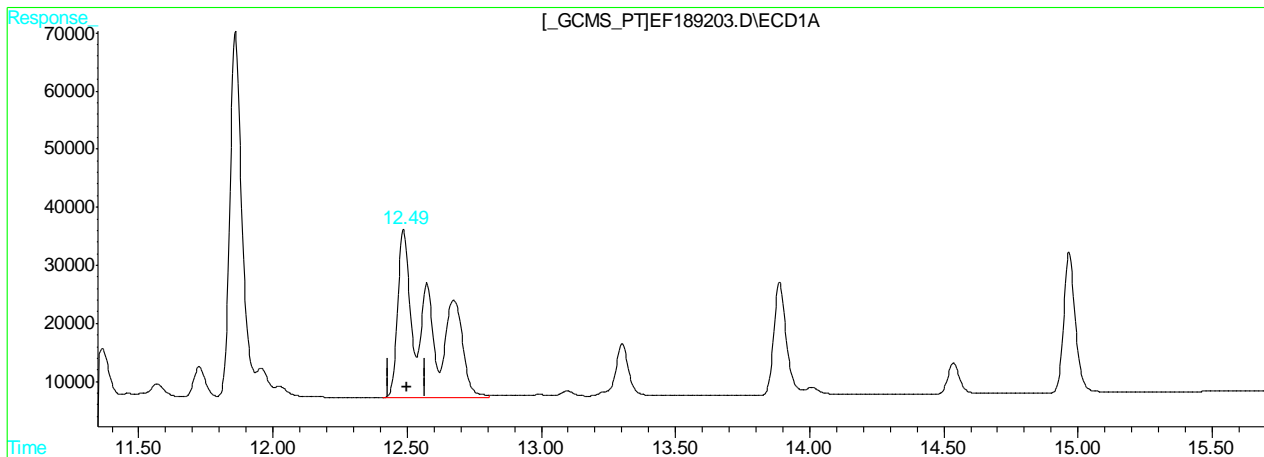
EF189203.D PCB6419.M Fri Apr 19 16:16:12 2019 GCEF

11.6.51.2  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD1A.CH Vial: 11  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189203.D\ECD2B.CH  
 Acq On : 19 Apr 2019 3:42 pm Operator: tianweir  
 Sample : cc6419-1000 Inst : gcef  
 Misc : op19829,GEF6426,16.0,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 19 16:15 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.49min 1110.781PPB m  
 response 2286979

(50) AR1260-E #2  
 14.64min 1064.254PPB m  
 response 2923027

(+) = Expected Retention Time  
 EF189203.D PCB6419.M Fri Apr 19 16:16:22 2019 GCEF

11.6.51.3  
 11



Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD1A.CH Vial: 19  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD2B.CH  
 Acq On : 19 Apr 2019 8:18 pm Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19829,GEF6426,16.1,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:13 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Initial Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
-----						
System Monitoring Compounds						
1) S Tetrachloro-m-xy	3.62	4.26	312609	393355	21.363	22.132
Spiked Amount	40.000		Recovery	=	53.41%	55.33%
51) S Decachlorobiphen	14.97	17.32	374161	387427	20.970	19.664
Spiked Amount	40.000		Recovery	=	52.42%	49.16%
Target Compounds						
41) AR1016-A	4.18	5.19	226574	238640	515.028	540.879
42) AR1016-B	4.78	6.01	386987	473035	535.620	562.322
43) AR1016-C	5.61	6.94	887438	1003857	530.413	545.371
44) AR1016-D	5.86	7.23	336314	432800	537.407	538.728
45) AR1016-E	6.65	8.24	337662	287252	525.724	540.063
46) AR1260-A	10.38	12.34	769608	1022091	549.541	521.301
47) AR1260-B	10.64	12.54	499331	719174	554.517	520.581
48) AR1260-C	11.17	13.22	440903	613973	519.688	531.740
49) AR1260-D	11.86	13.78	996506	1442222	486.987	527.767
50) AR1260-E	12.48	14.64	1144822	1347261	556.038m	490.529

11.6.52  
 11

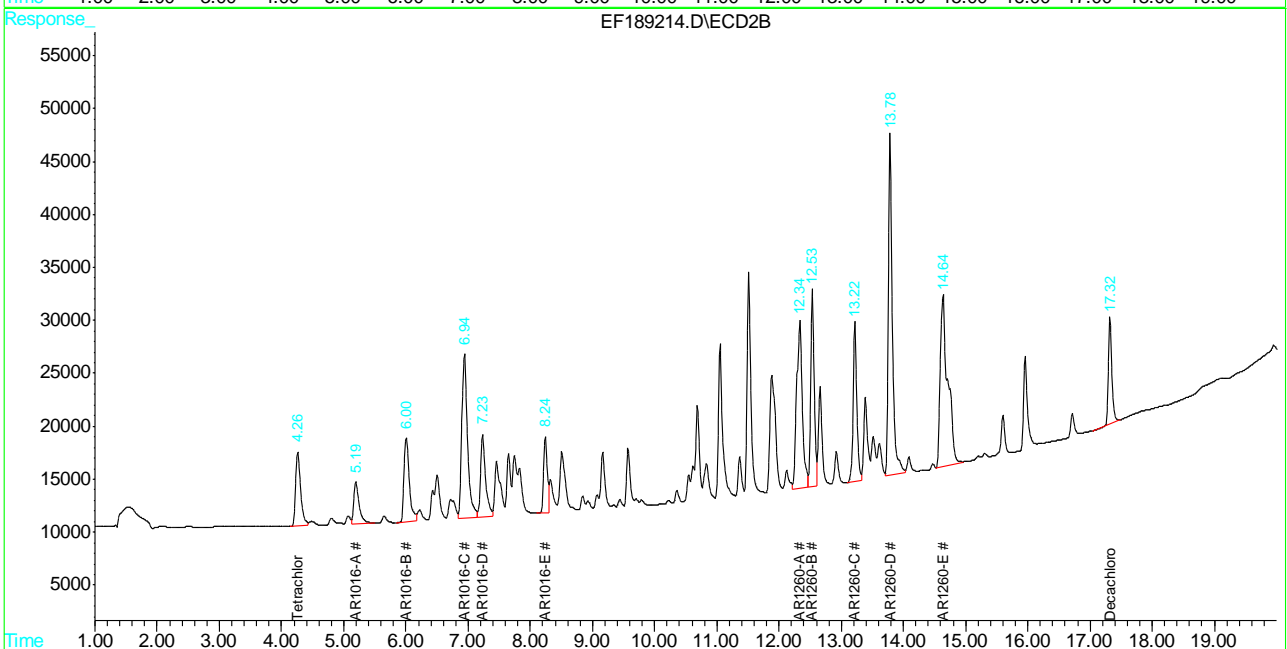
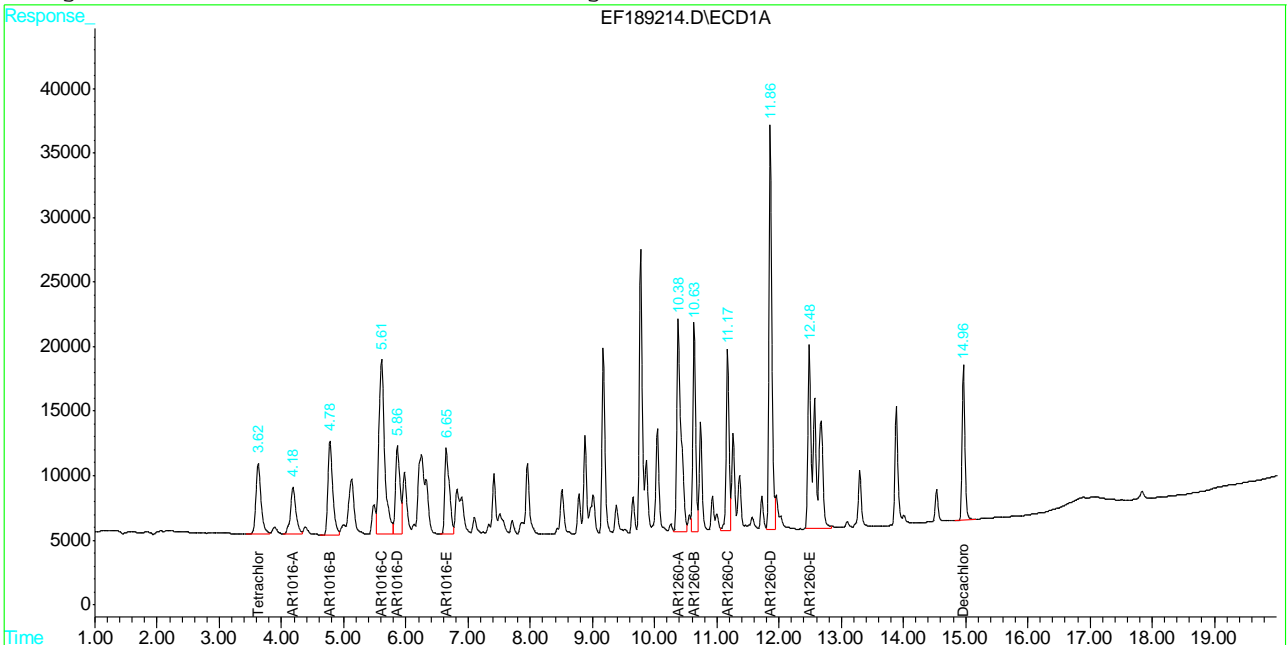
-----  
 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.  
 EF189214.D PCB6419.M Mon Apr 22 08:13:33 2019 GCEF

Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD1A.CH Vial: 19  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD2B.CH  
 Acq On : 19 Apr 2019 8:18 pm Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19829,GEF6426,16.1,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:13 2019 Quant Results File: PCB6419.RES

Quant Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration  
 DataAcq Meth : PCB6419.M

Volume Inj. : 1UL/COLUMN  
 Signal #1 Phase : RTX-CLP1 Signal #2 Phase: RTX-CLP2  
 Signal #1 Info : 30Mx0.32mmIDx0.5u Signal #2 Info : 30Mx0.32mmIDx0.25uM



# Manual Integration Approval Summary

Sample Number: GEF6426-CC6419      Method: SW846 8082A  
Lab FileID: EF189214.D      Analyst approved: 04/22/19 08:27 Tianwei Ruan  
Injection Time: 04/19/19 20:18      Supervisor approved: 04/22/19 08:43 Gwendolyn Burns

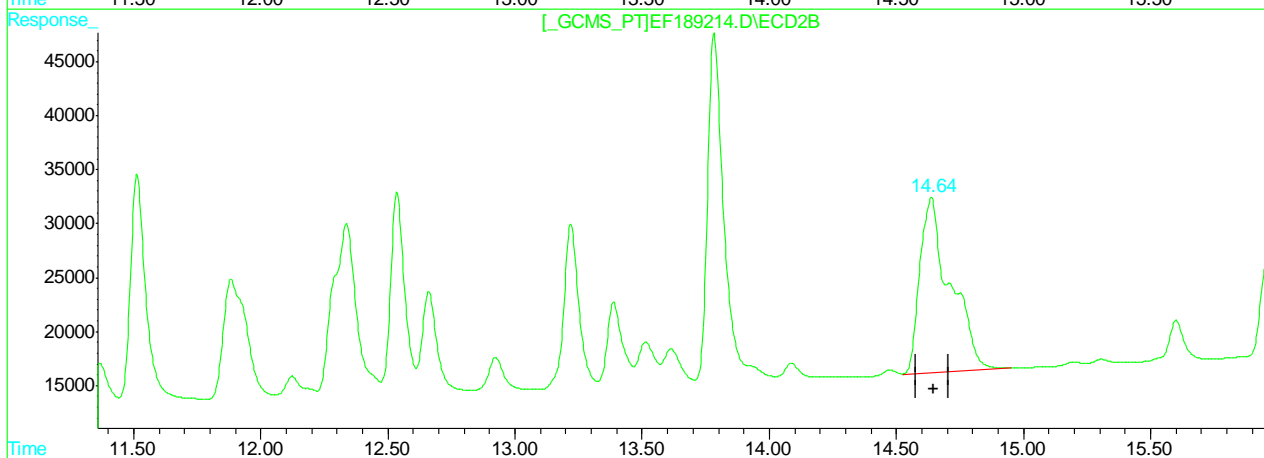
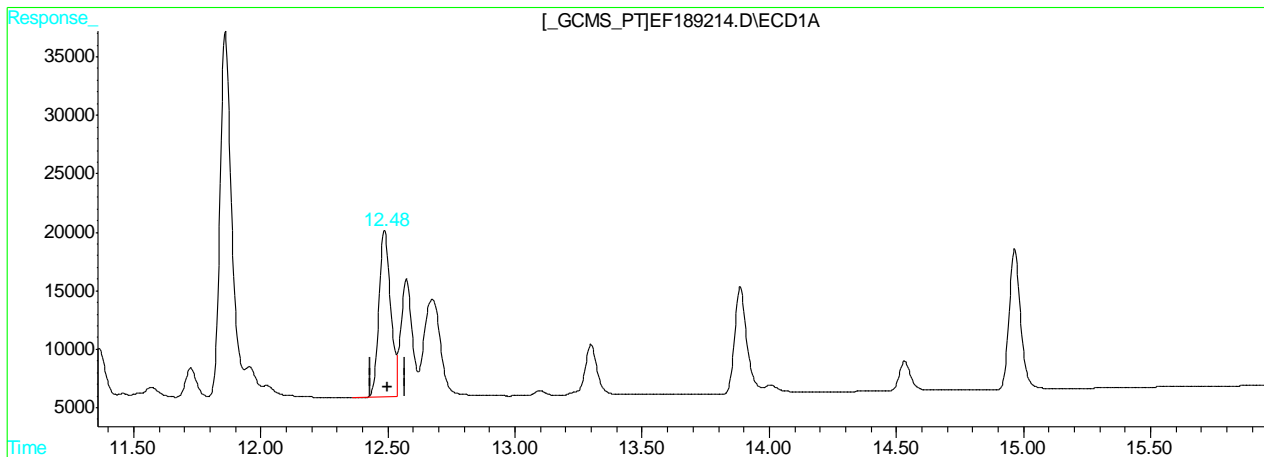
Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	12.48	Split peak

11.6.52.1  
11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD1A.CH Vial: 19  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD2B.CH  
 Acq On : 19 Apr 2019 8:18 pm Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19829,GEF6426,16.1,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:12 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



(50) AR1260-E  
 12.49min 216.155PPB  
 response 445041

(50) AR1260-E #2  
 14.64min 490.529PPB  
 response 1347261

(+) = Expected Retention Time

EF189214.D PCB6419.M

Mon Apr 22 08:13:22 2019

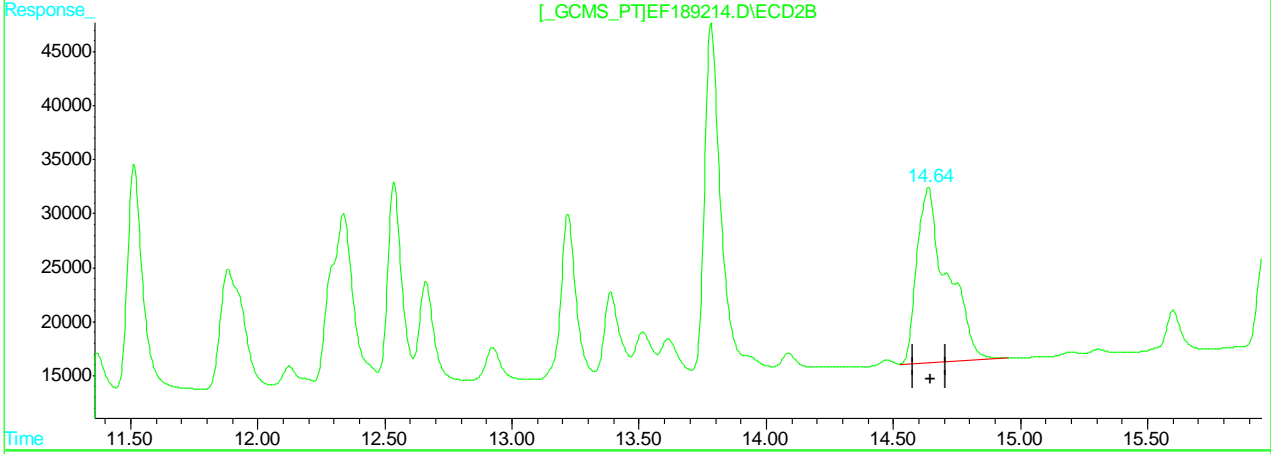
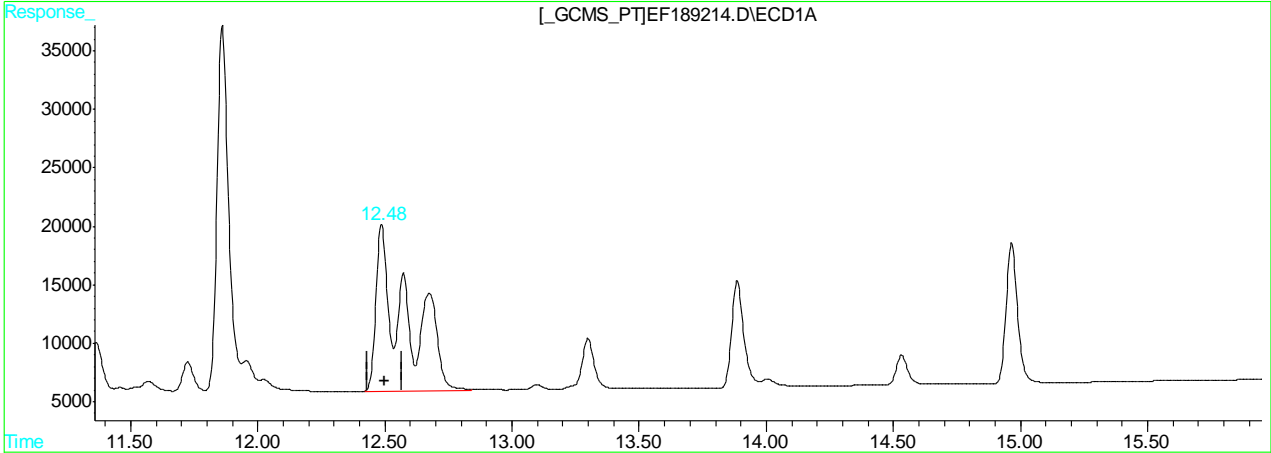
GCEF

11.6.52.2  
 11

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD1A.CH Vial: 19  
 Signal #2 : C:\HPCHEM\1\DATA\GEF6426\EF189214.D\ECD2B.CH  
 Acq On : 19 Apr 2019 8:18 pm Operator: tianweir  
 Sample : cc6419-500 Inst : gcef  
 Misc : op19829,GEF6426,16.1,,,10,1 Multiplr: 1.00  
 IntFile Signal #1: AUTOINT1.E IntFile Signal #2: .E  
 Quant Time: Apr 22 8:12 2019 Quant Results File: PCB6419.RES

Method : C:\HPCHEM\1\METHODS\PCB6419.M (Chemstation Integrator)  
 Title : GC/ECD- PCB  
 Last Update : Thu Apr 18 13:33:26 2019  
 Response via : Multiple Level Calibration



Retention Time (min)	Response
(50) AR1260-E	
12.48min	556.038PPB m
response	1144822
(50) AR1260-E #2	
14.64min	490.529PPB
response	1347261

(+) = Expected Retention Time  
 EF189214.D PCB6419.M Mon Apr 22 08:13:27 2019 GCEF

11.6.52.3  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432202.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:24 am  
 Operator : tianweir  
 Sample : ic6621-50  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:32:58 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.283	4.048	31281622	25234944	1.882	2.024
Spiked Amount	40.000		Recovery	=	4.70%	5.06%
51) S Decachlor...	10.769	12.652	38383963	24716037	2.325	1.840
Spiked Amount	40.000		Recovery	=	5.81%	4.60%
Target Compounds						
41) AR1016-A	3.687	4.743	18724560	10126233	62.993	49.253
42) AR1016-B	4.124	5.331	29728556	24004918	55.871	59.505
43) AR1016-C	4.710	5.977	69526630	49867704	55.594	55.946m
44) AR1016-D	4.886	6.176	26935865	17774752	58.930	49.252
45) AR1016-E	5.423	6.853	29496108	14704818	61.747	55.896
46) AR1260-A	7.861	9.498	71145825	53879172	53.085	48.319m
47) AR1260-B	8.024	9.621	32459987	29155414	55.362	46.415
48) AR1260-C	8.369	10.062	37460906	28932404	58.730	47.077
49) AR1260-D	8.806	10.404	81670728	69880132	52.644	43.318
50) AR1260-E	9.203	10.957	80848051	68076817	51.330m	45.990m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

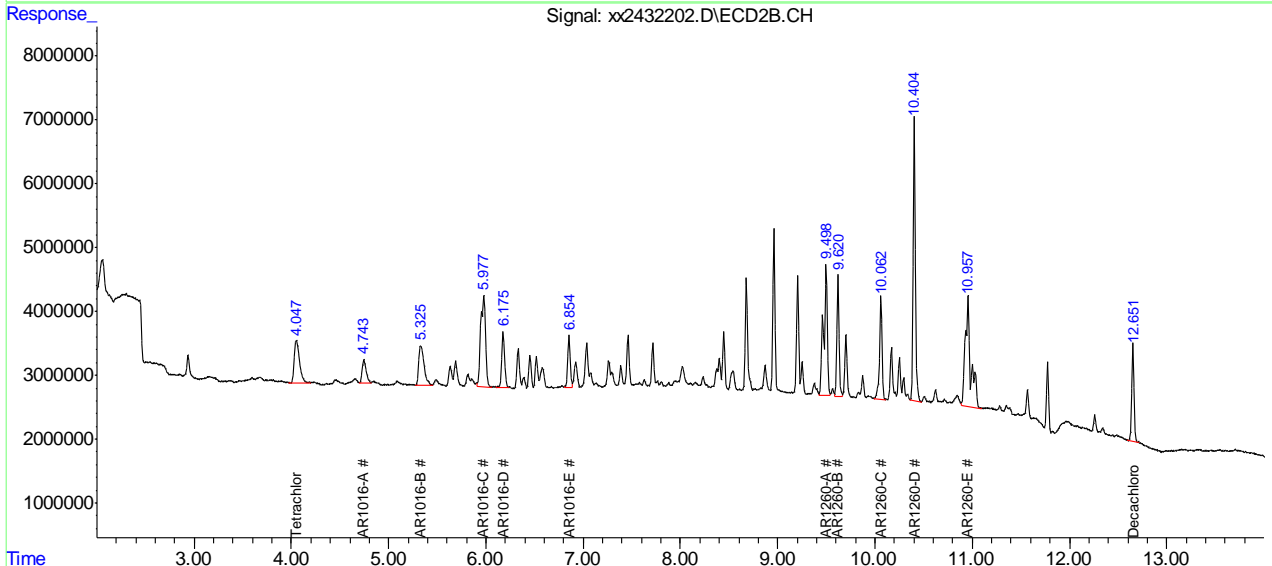
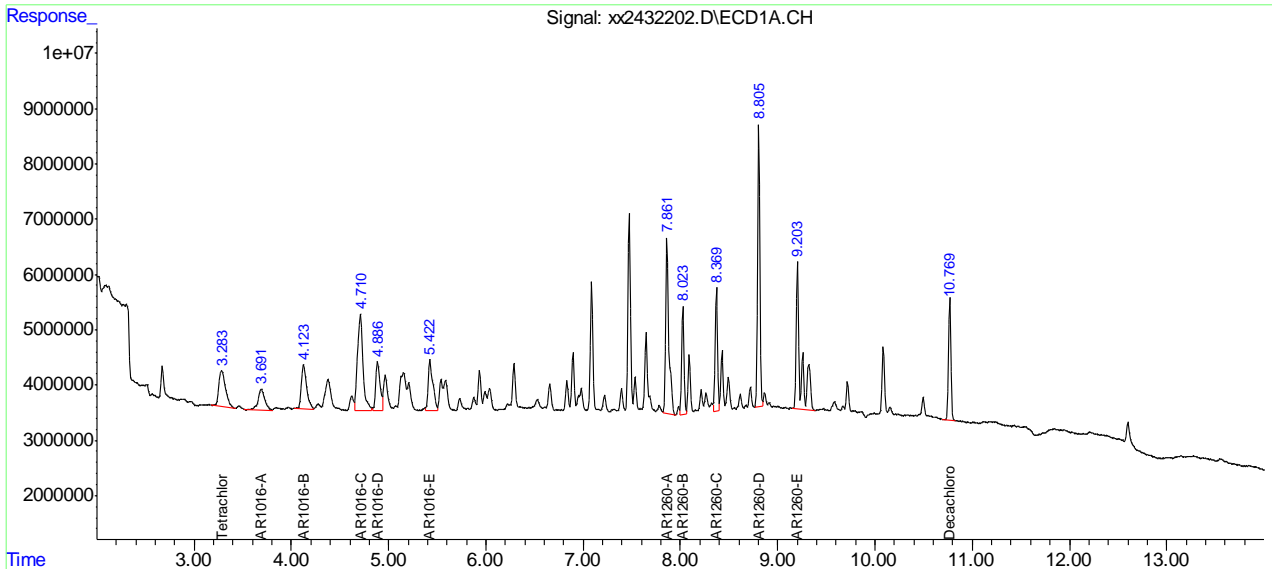
11.6.53  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432202.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:24 am  
 Operator : tianweir  
 Sample : ic6621-50  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:32:58 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432202.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 03:24      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.98	Split peak
AR1260-E		1	9.20	Split peak
AR1260-A		2	9.50	Split peak
AR1260-E		2	10.96	Split peak

11.6.53.1

11

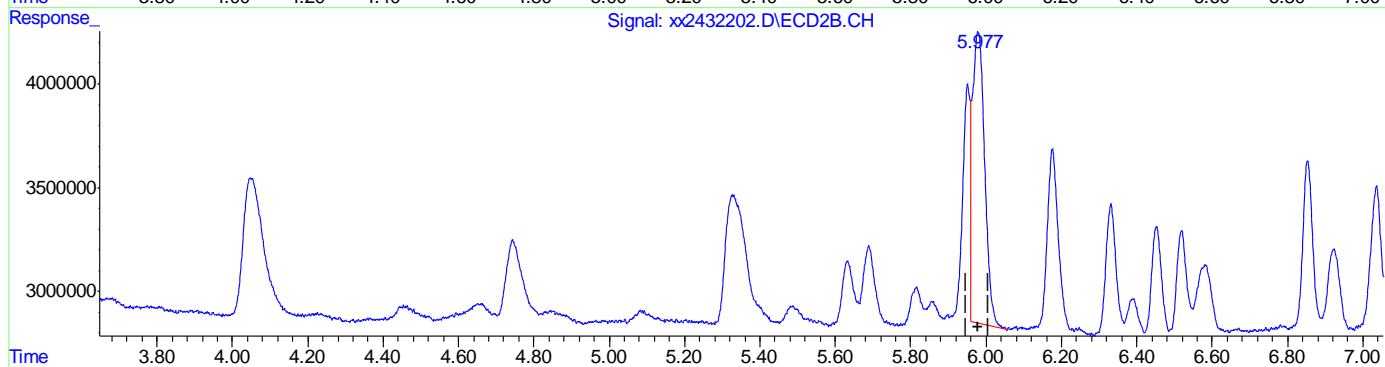
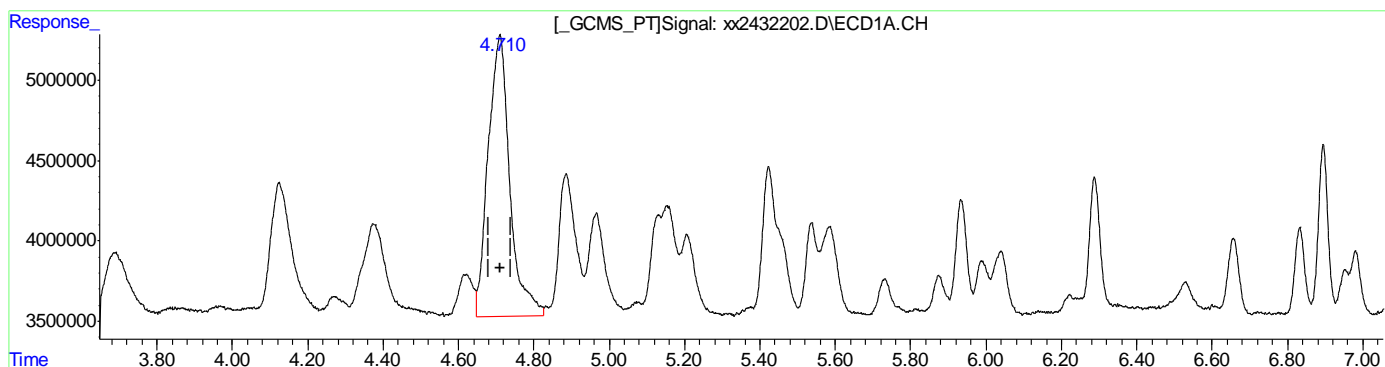


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432202.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:24 am  
 Operator : tianweir  
 Sample : ic6621-50  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:32:07 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.710min 55.594PPB  
 response 69526630

(43) AR1016-C #2  
 5.979min 35.482PPB  
 response 31626838

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 08:32:19 2019

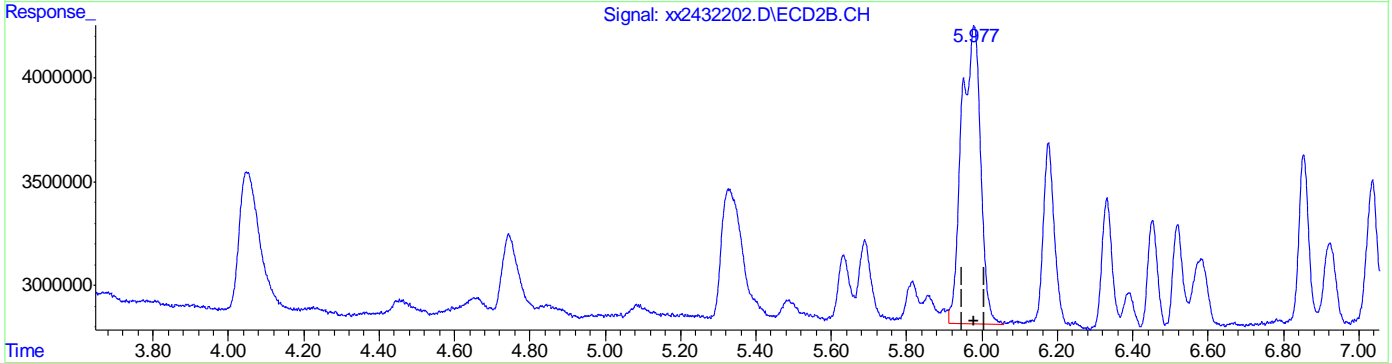
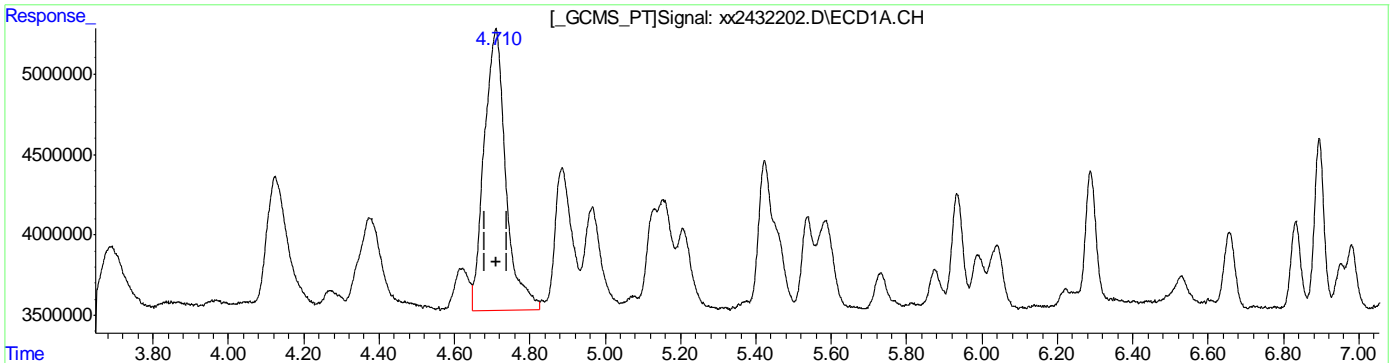
11.6.53.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432202.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:24 am  
 Operator : tianweir  
 Sample : ic6621-50  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:32:07 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



QEdit

(43) AR1016-C
4.710min 55.594PPB
response 69526630
(43) AR1016-C #2
5.977min 55.946PPB m
response 49867704

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 08:32:32 2019

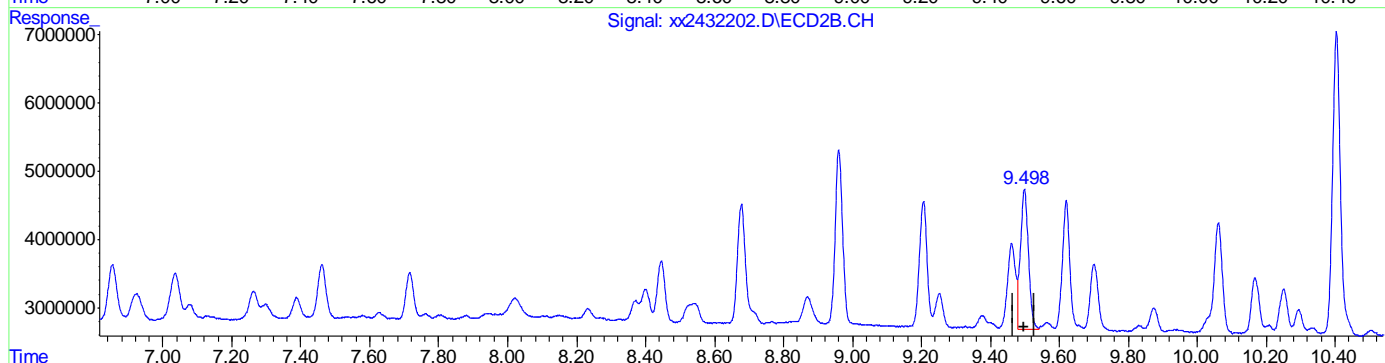
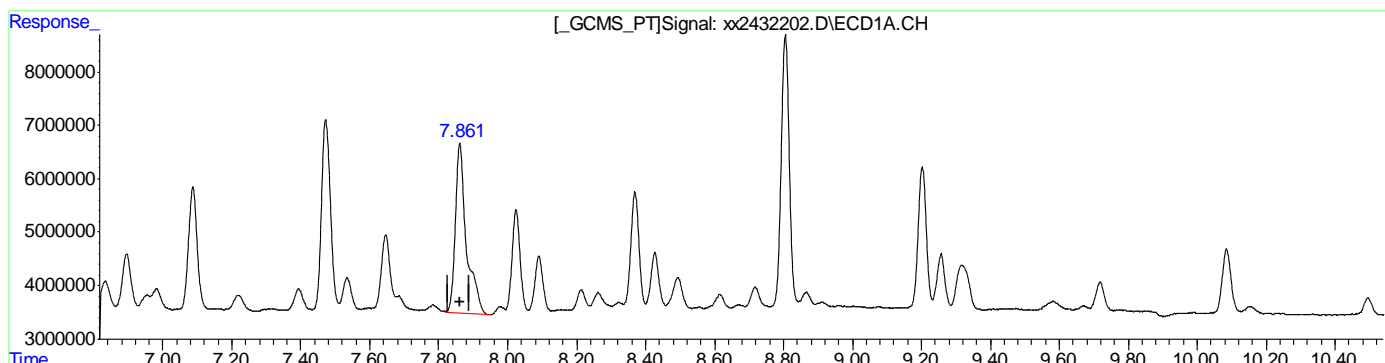
11.6.53.3  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432202.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:24 am  
 Operator : tianweir  
 Sample : ic6621-50  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:32:07 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.861min 53.085PPB  
 response 71145825

(46) AR1260-A #2  
 9.499min 30.133PPB  
 response 33600263

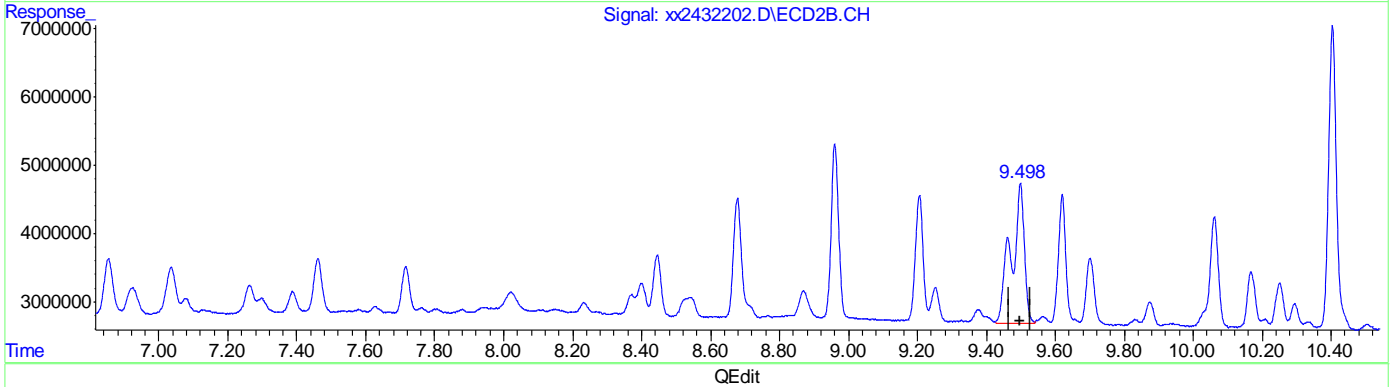
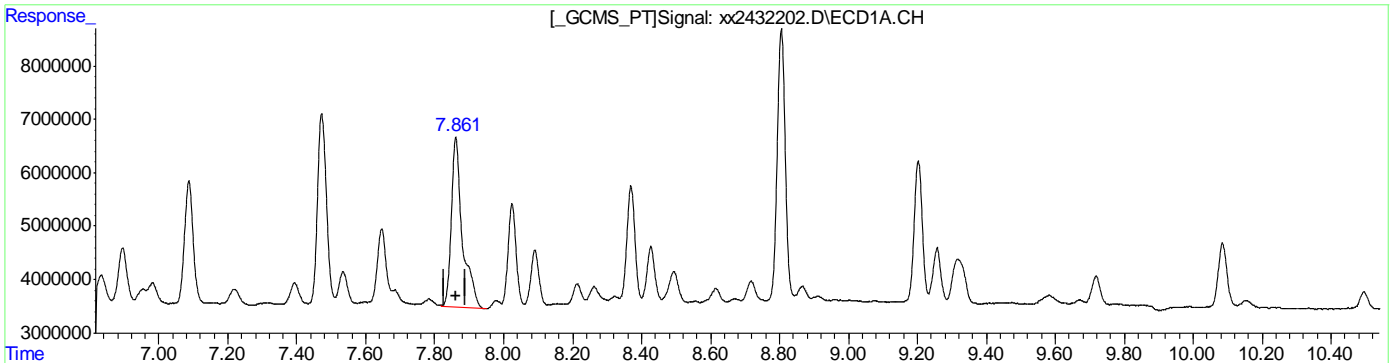
11.6.53.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432202.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:24 am  
 Operator : tianweir  
 Sample : ic6621-50  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:32:07 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.861min 53.085PPB  
 response 71145825

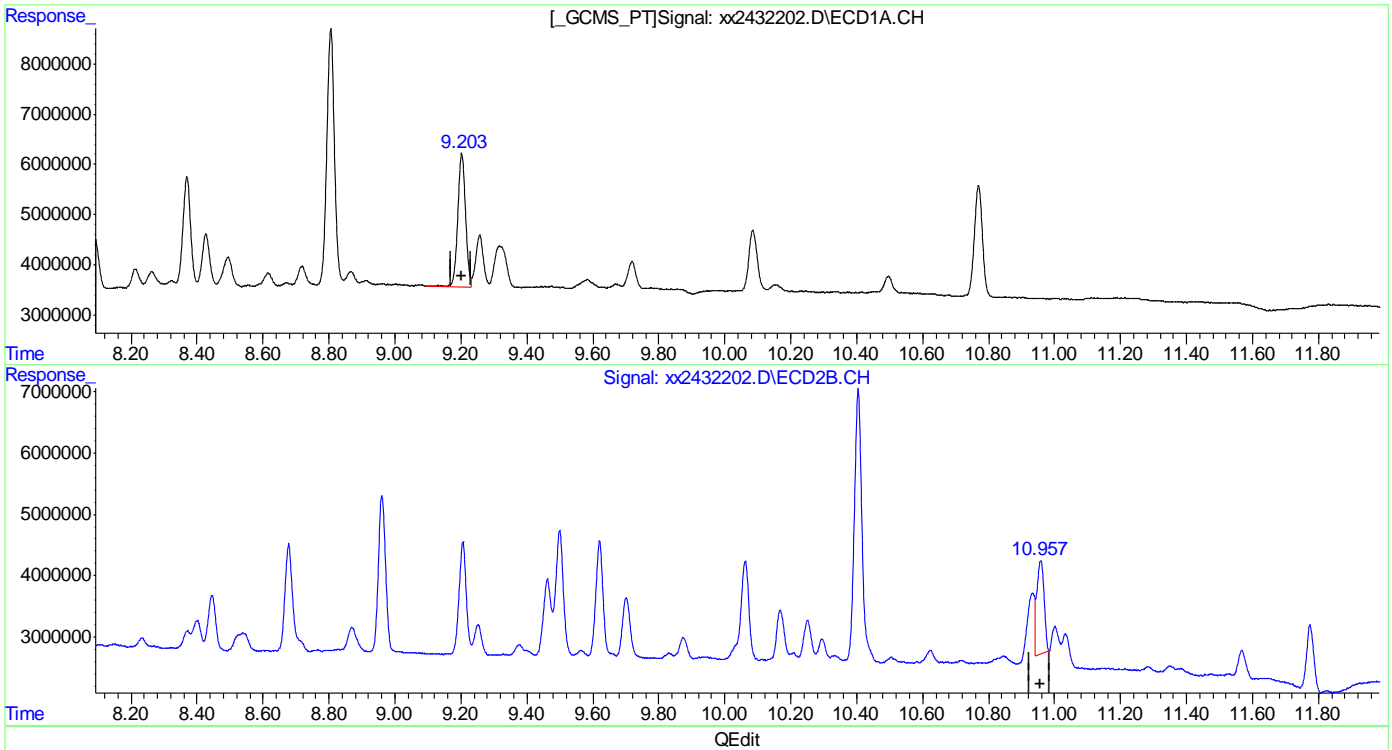
(46) AR1260-A #2  
 9.498min 48.319PPB m  
 response 53879172

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432202.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:24 am  
 Operator : tianweir  
 Sample : ic6621-50  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:32:07 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.203min 27.922PPB  
 response 43979080

(50) AR1260-E #2  
 10.958min 15.375PPB  
 response 22758935

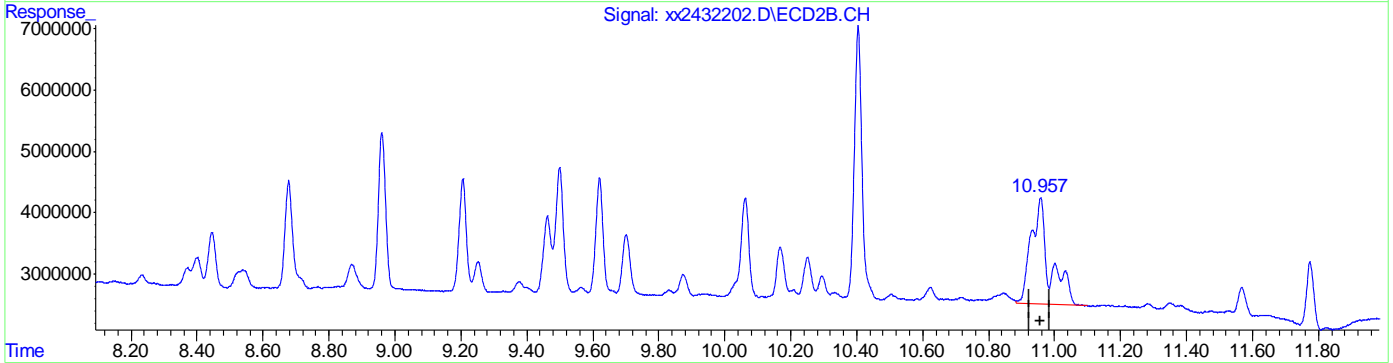
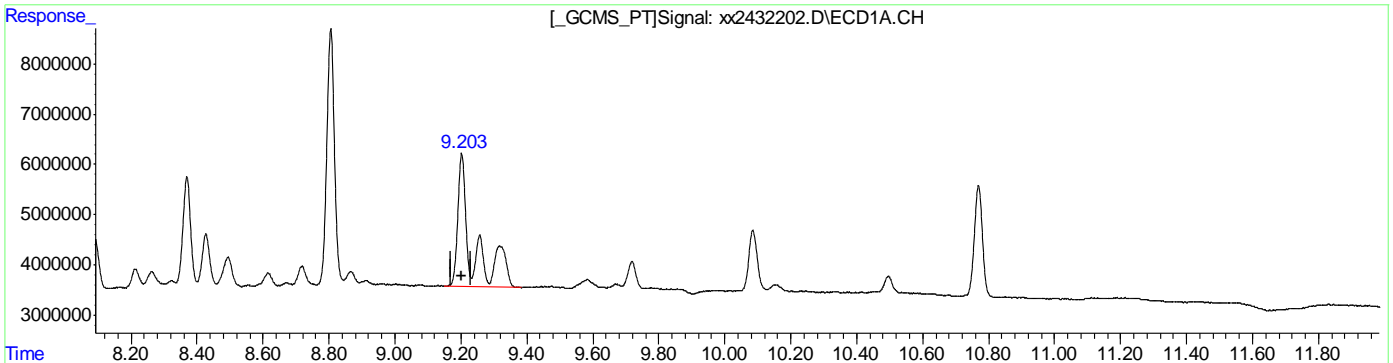
(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 08:32:48 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432202.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:24 am  
 Operator : tianweir  
 Sample : ic6621-50  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:32:07 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.203min 51.330PPB m  
 response 80848051

(50) AR1260-E #2  
 10.957min 45.990PPB m  
 response 68076817

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 08:33:00 2019

11.6.53.7  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432203.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:42 am  
 Operator : tianweir  
 Sample : ic6621-250  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:35:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.280	4.050	168.9E6	117.4E6	10.164	9.419
Spiked Amount	40.000		Recovery	=	25.41%	23.55%
51) S Decachlor...	10.769	12.652	179.9E6	113.1E6	10.897	8.420
Spiked Amount	40.000		Recovery	=	27.24%	21.05%
Target Compounds						
41) AR1016-A	3.690	4.743	84456963	49573596	284.132	241.120
42) AR1016-B	4.127	5.323	148.9E6	104.8E6	279.842	259.675
43) AR1016-C	4.708	5.980	341.6E6	223.7E6	273.133	250.919m
44) AR1016-D	4.885	6.174	127.0E6	84346759	277.890	233.716
45) AR1016-E	5.424	6.854	134.9E6	66529012	282.386	252.892
46) AR1260-A	7.863	9.498	358.4E6	251.8E6	267.409	225.818m
47) AR1260-B	8.026	9.620	156.1E6	137.7E6	266.214	219.188
48) AR1260-C	8.369	10.062	176.7E6	136.2E6	277.022	221.560
49) AR1260-D	8.806	10.405	419.0E6	343.8E6	270.063	213.096
50) AR1260-E	9.204	10.957	413.8E6	316.4E6	262.731m	213.759m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

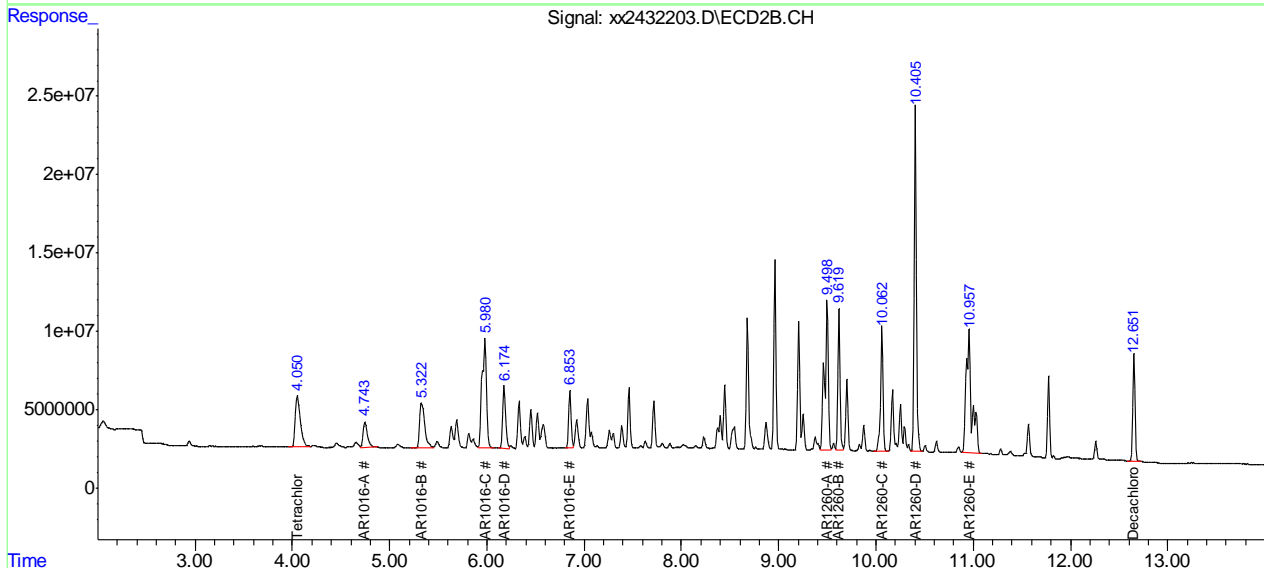
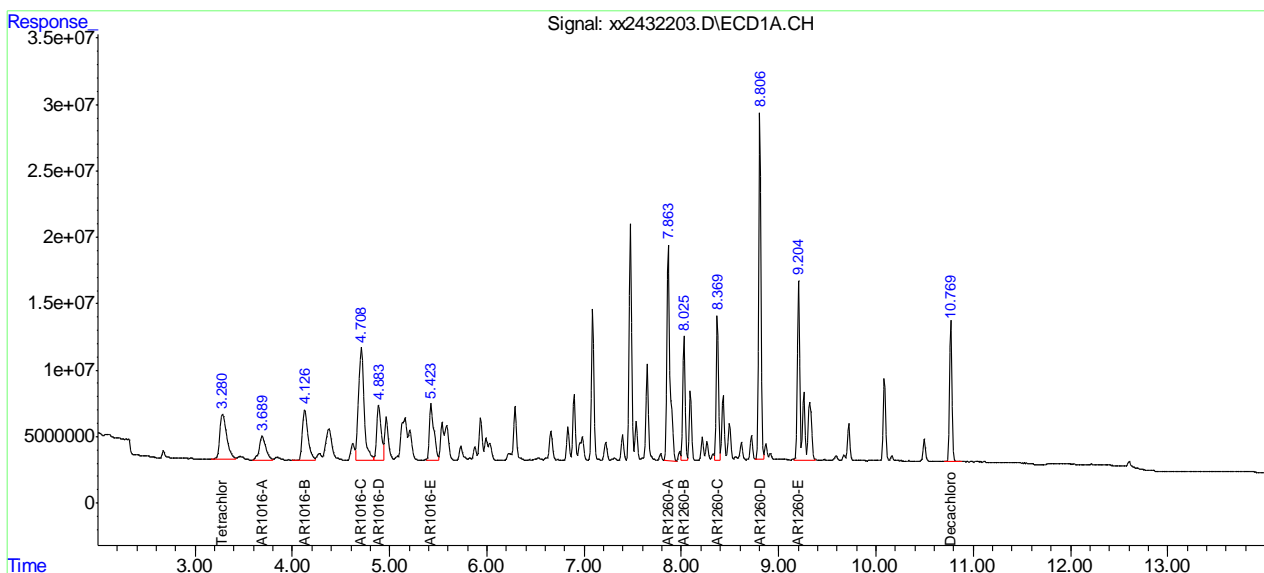
11.6.54  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432203.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:42 am  
 Operator : tianweir  
 Sample : ic6621-250  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:35:21 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.54  
11



# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432203.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 03:42      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.98	Split peak
AR1260-E		1	9.20	Split peak
AR1260-A		2	9.50	Split peak
AR1260-E		2	10.96	Split peak

11.6.54.1

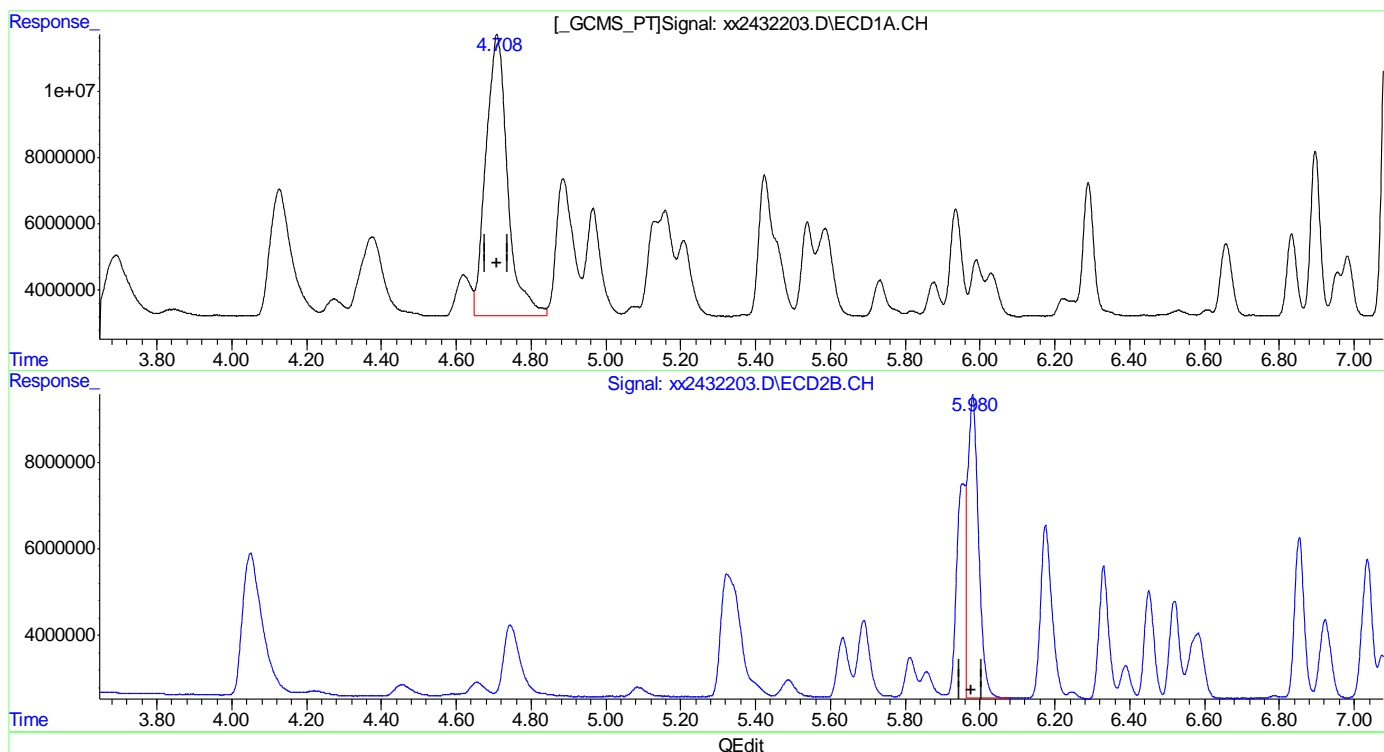
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432203.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:42 am  
 Operator : tianweir  
 Sample : ic6621-250  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:34:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.708min 273.133PPB  
 response 341585364

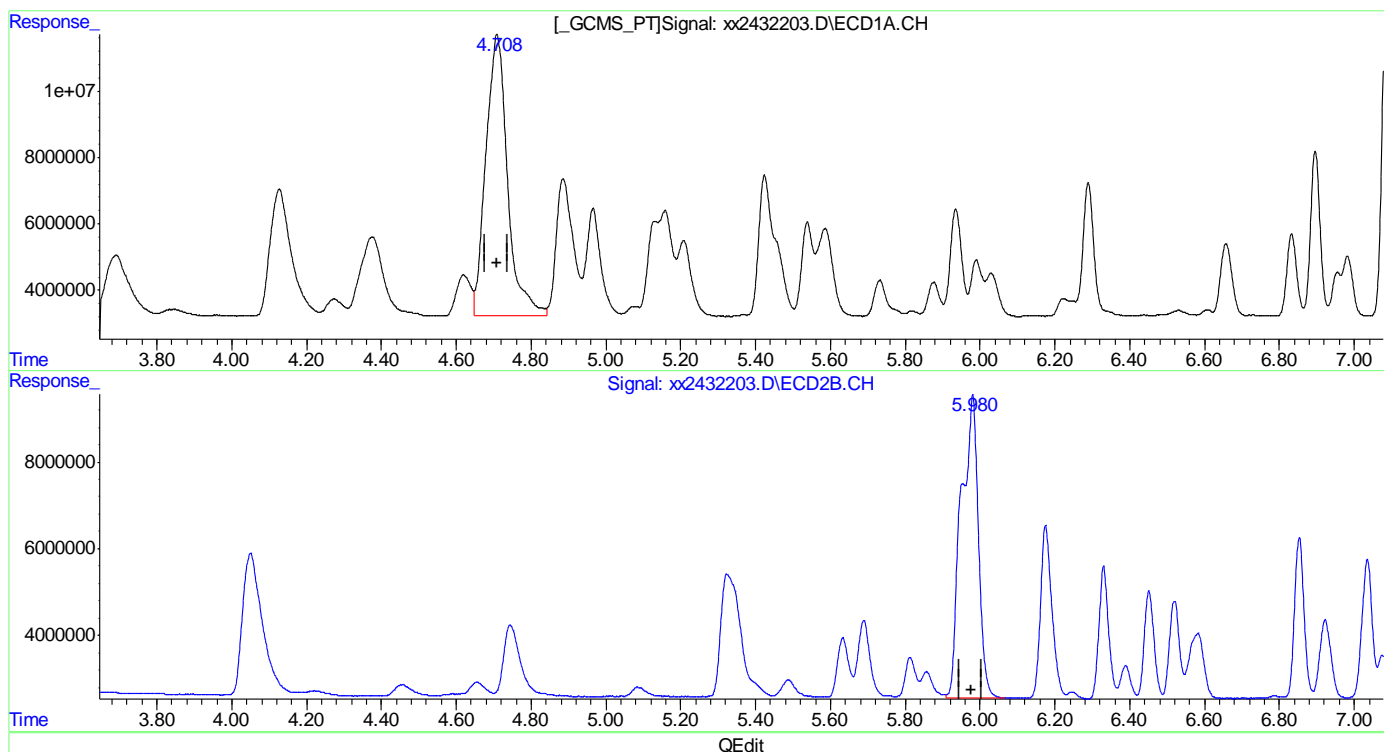
(43) AR1016-C #2  
 5.980min 157.880PPB  
 response 140727176

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432203.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:42 am  
 Operator : tianweir  
 Sample : ic6621-250  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:34:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.708min 273.133PPB  
 response 341585364

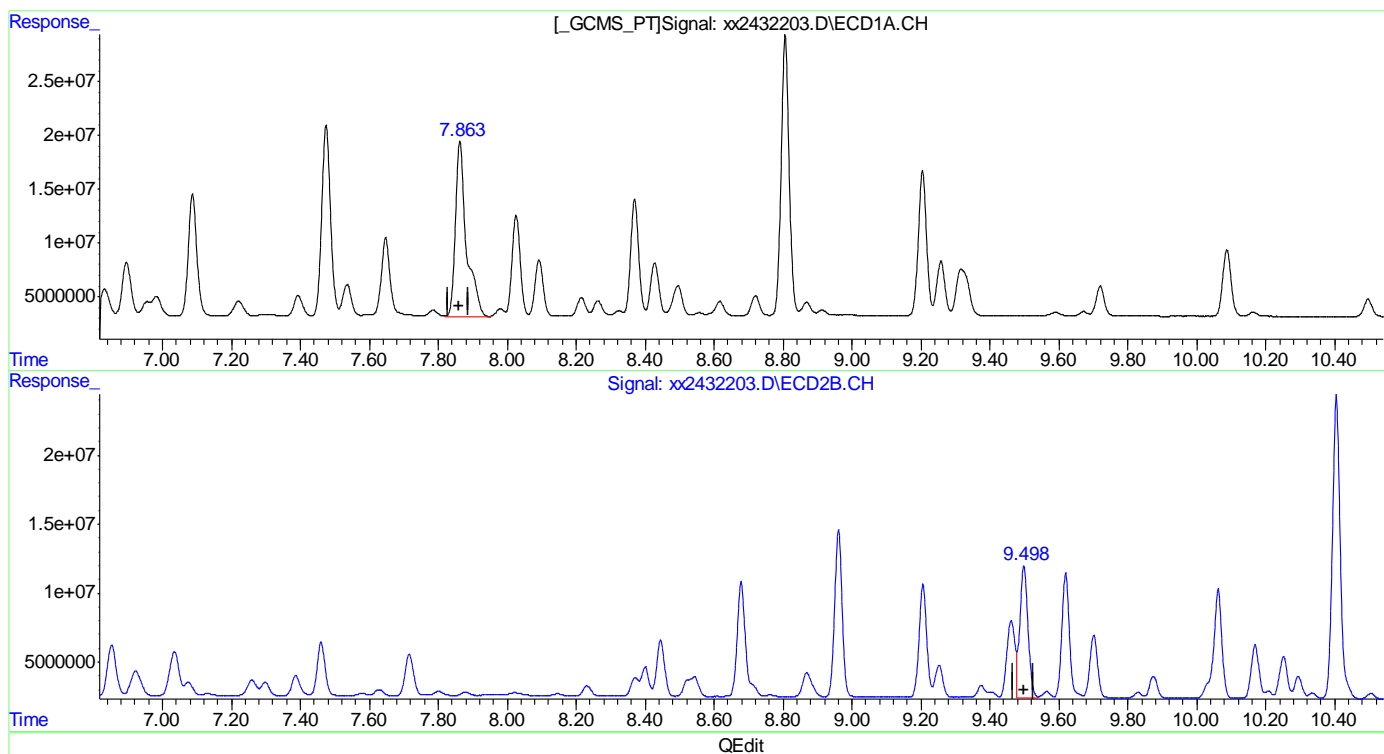
(43) AR1016-C #2  
 5.980min 250.919PPB m  
 response 223658490

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432203.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:42 am  
 Operator : tianweir  
 Sample : ic6621-250  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:34:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 267.409PPB  
 response 358385942

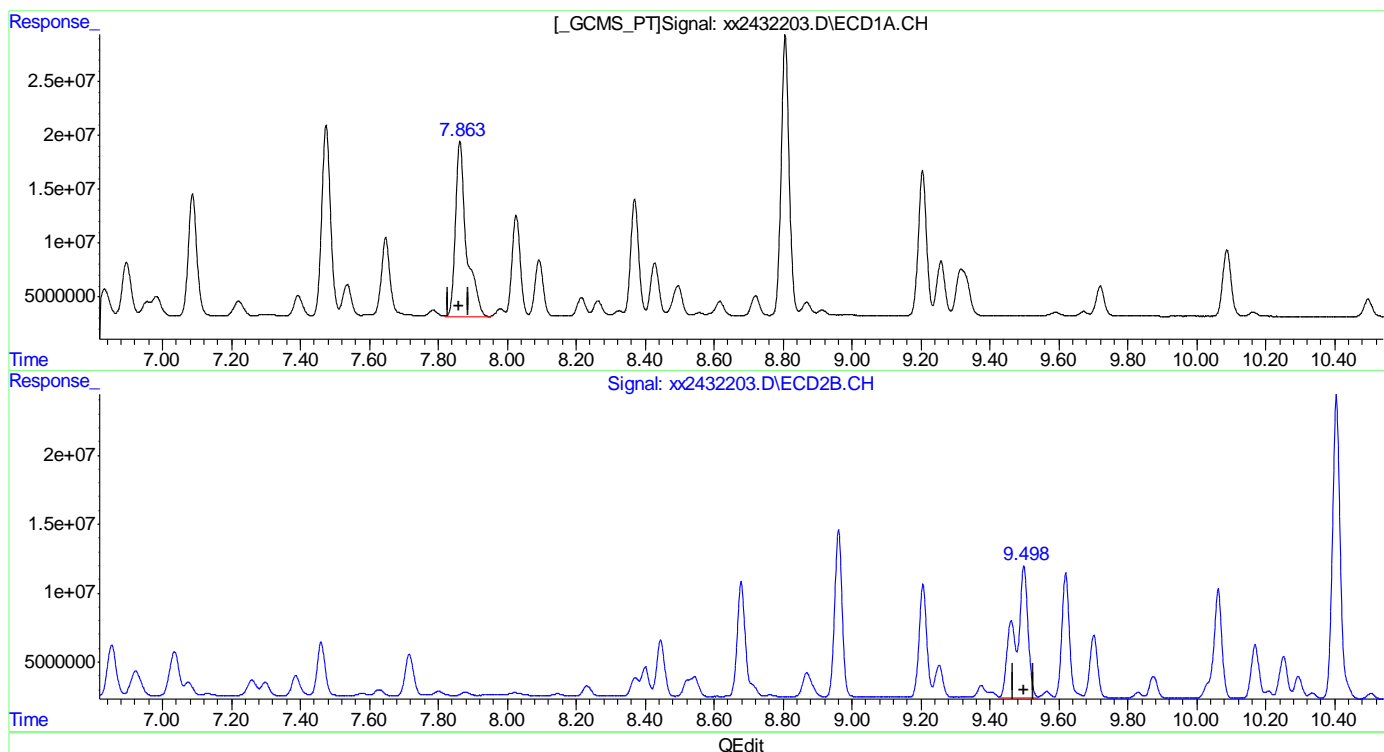
(46) AR1260-A #2  
 9.499min 141.837PPB  
 response 158157225

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432203.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:42 am  
 Operator : tianweir  
 Sample : ic6621-250  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:34:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 267.409PPB  
 response 358385942

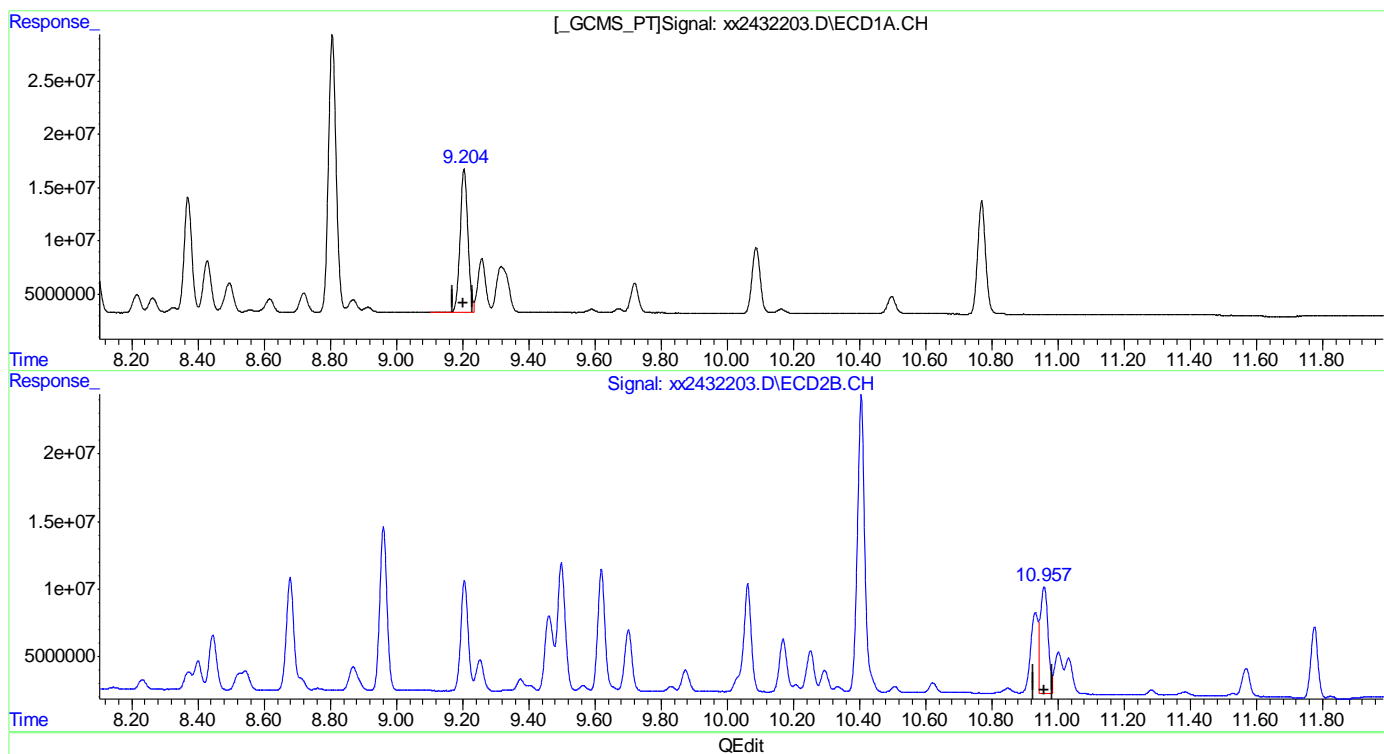
(46) AR1260-A #2  
 9.498min 225.818PPB m  
 response 251801403

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432203.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:42 am  
 Operator : tianweir  
 Sample : ic6621-250  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:34:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.205min 140.972PPB  
 response 222040442

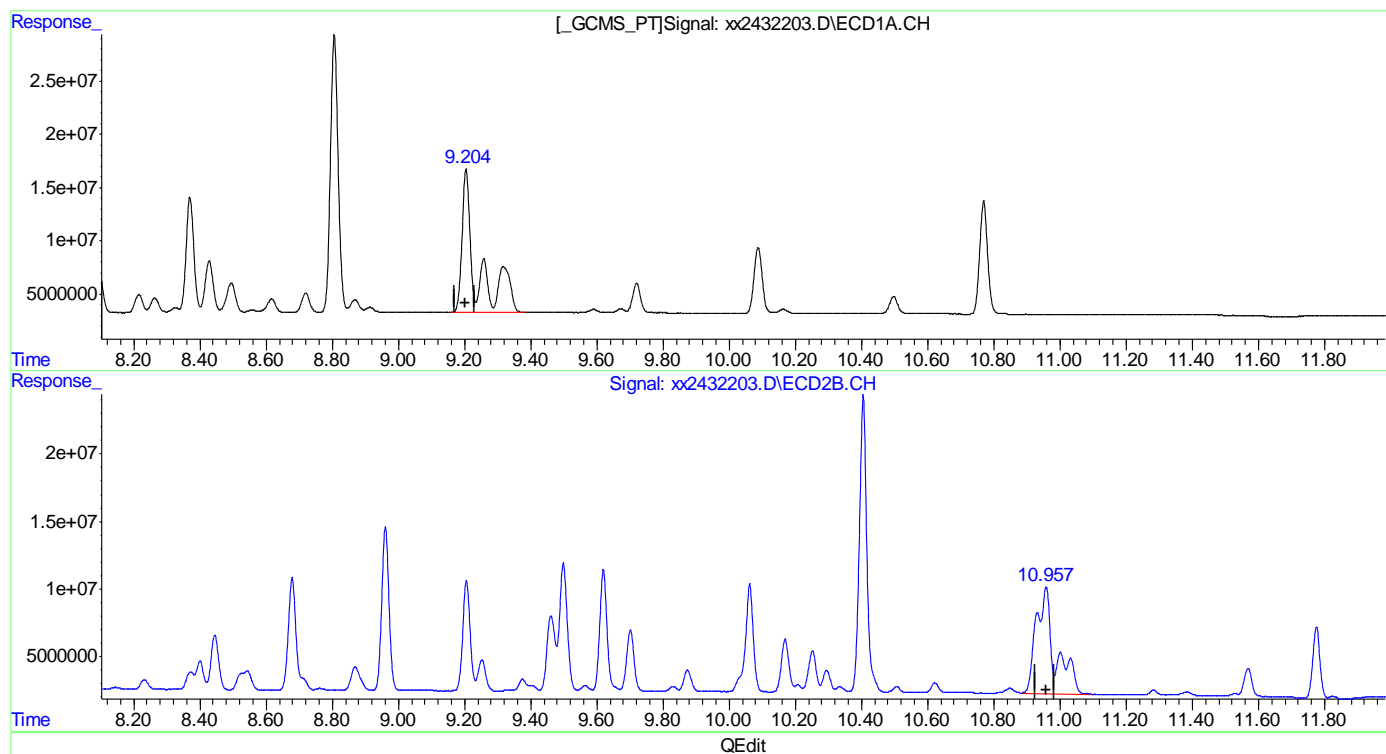
(50) AR1260-E #2  
 10.958min 89.924PPB  
 response 133110000

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432203.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 3:42 am  
 Operator : tianweir  
 Sample : ic6621-250  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:34:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.204min 262.731PPB m  
 response 413817069

(50) AR1260-E #2  
 10.957min 213.759PPB m  
 response 316418131

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432204.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:01 am  
 Operator : tianweir  
 Sample : ic6621-500  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:36:35 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.279	4.049	362.4E6	251.7E6	21.807	20.188
Spiked Amount	40.000		Recovery	=	54.52%	50.47%
51) S Decachlor...	10.770	12.655	363.5E6	232.6E6	22.013	17.323
Spiked Amount	40.000		Recovery	=	55.03%	43.31%
Target Compounds						
41) AR1016-A	3.688	4.746	175.8E6	98671195	591.548	479.925
42) AR1016-B	4.127	5.329	306.8E6	208.9E6	576.601	517.880
43) AR1016-C	4.709	5.981	715.4E6	453.0E6	572.070	508.167
44) AR1016-D	4.887	6.177	262.2E6	170.5E6	573.637	472.526
45) AR1016-E	5.424	6.853	278.0E6	133.8E6	581.873	508.751
46) AR1260-A	7.863	9.499	752.2E6	518.2E6	561.239	464.688m
47) AR1260-B	8.026	9.620	324.0E6	283.7E6	552.541	451.650
48) AR1260-C	8.370	10.063	369.1E6	282.1E6	578.612	459.019
49) AR1260-D	8.807	10.405	890.4E6	723.8E6	573.956	448.698
50) AR1260-E	9.205	10.959	870.3E6	656.8E6	552.558m	443.736m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.55

11

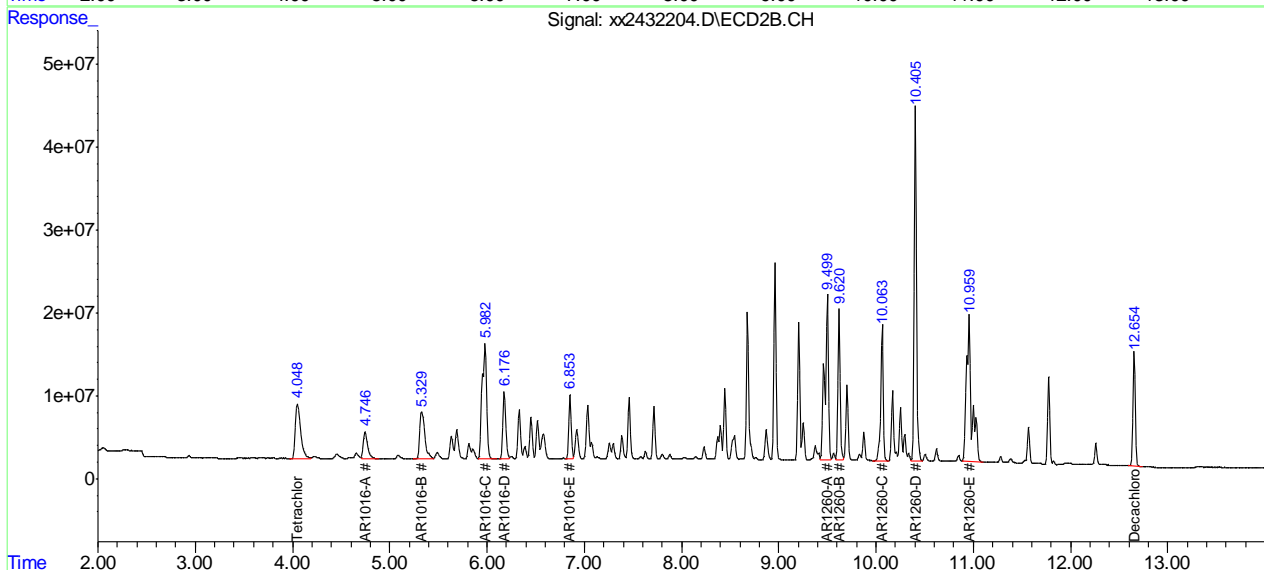
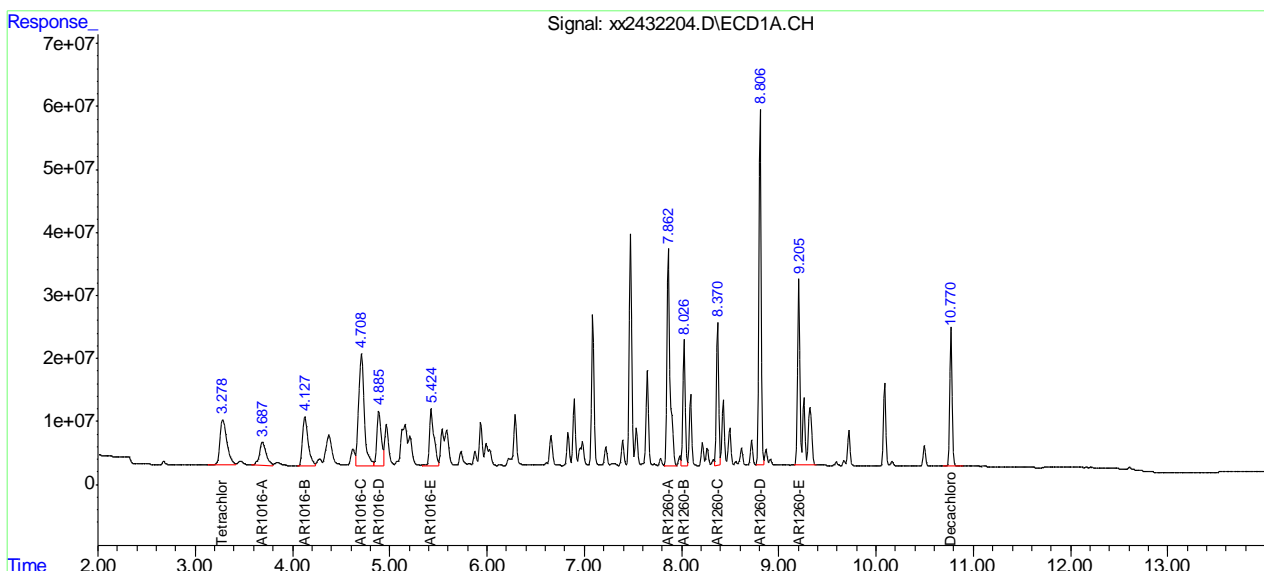


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432204.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:01 am  
 Operator : tianweir  
 Sample : ic6621-500  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:36:35 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.55  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432204.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 04:01      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	9.21	Split peak
AR1260-A		2	9.50	Split peak
AR1260-E		2	10.96	Split peak

11.6.55.1

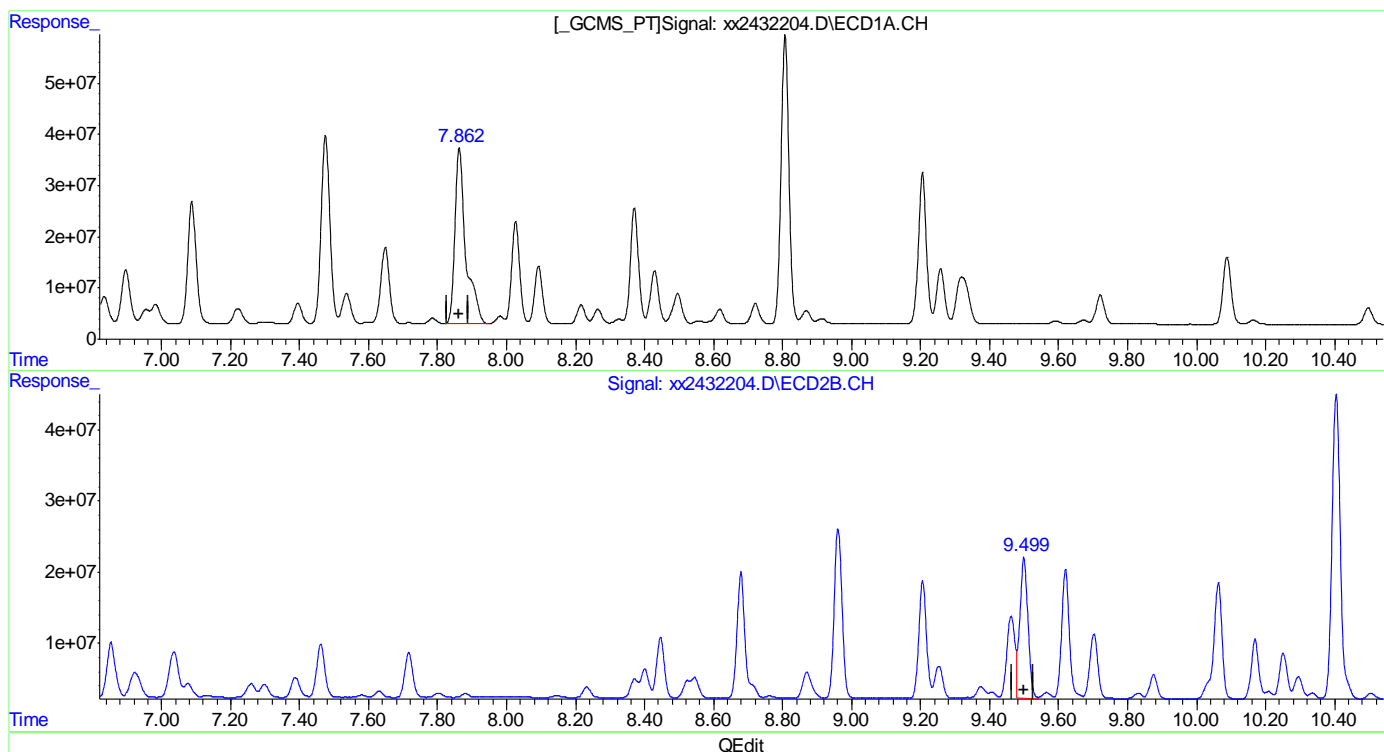
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432204.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:01 am  
 Operator : tianweir  
 Sample : ic6621-500  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:35:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 561.239PPB  
 response 752181147

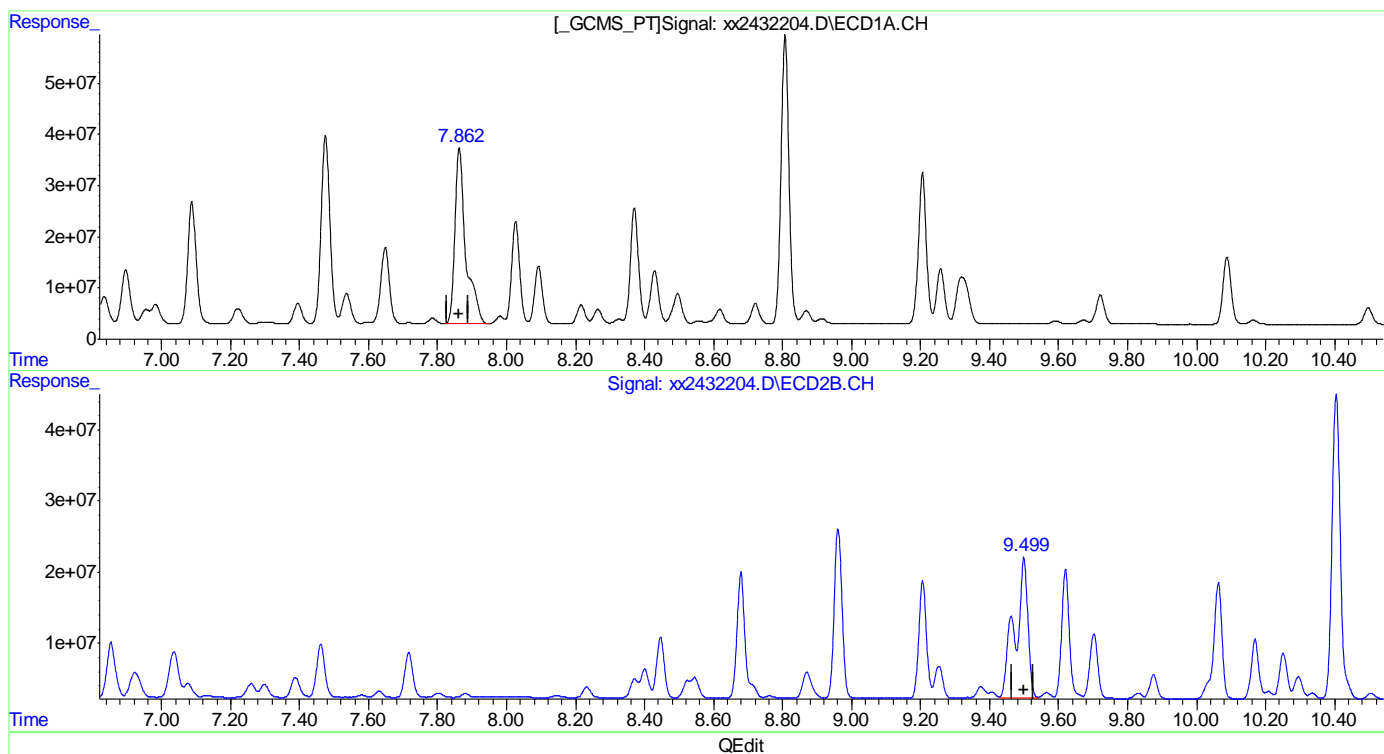
(46) AR1260-A #2  
 9.499min 294.158PPB  
 response 328005782

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432204.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:01 am  
 Operator : tianweir  
 Sample : ic6621-500  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:35:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 561.239PPB  
 response 752181147

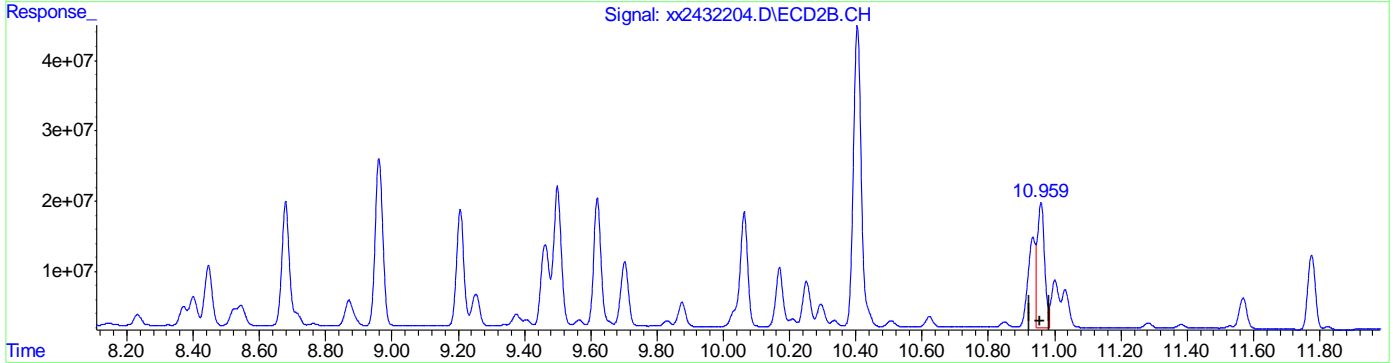
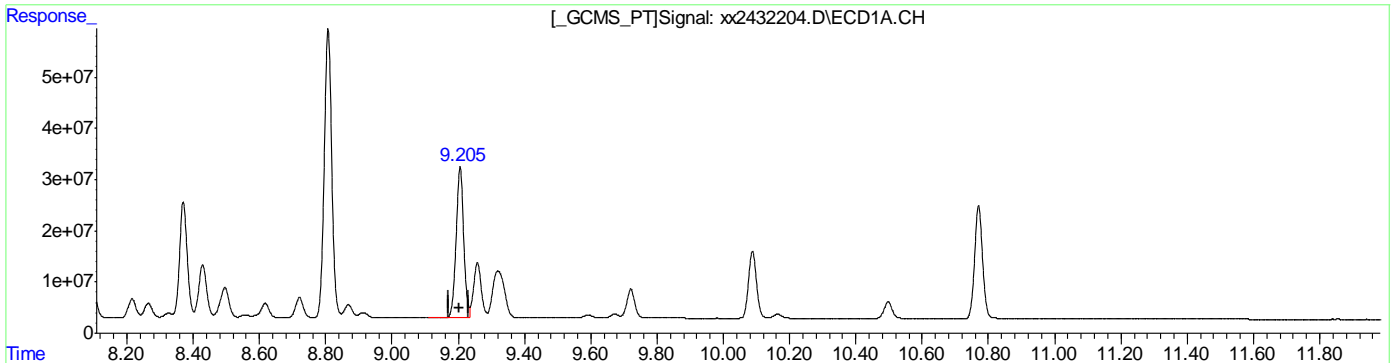
(46) AR1260-A #2  
 9.499min 464.688PPB m  
 response 518157904

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432204.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:01 am  
 Operator : tianweir  
 Sample : ic6621-500  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:35:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.205min 297.998PPB  
 response 469365244

(50) AR1260-E #2  
 10.959min 183.616PPB  
 response 271798152

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 08:36:24 2019

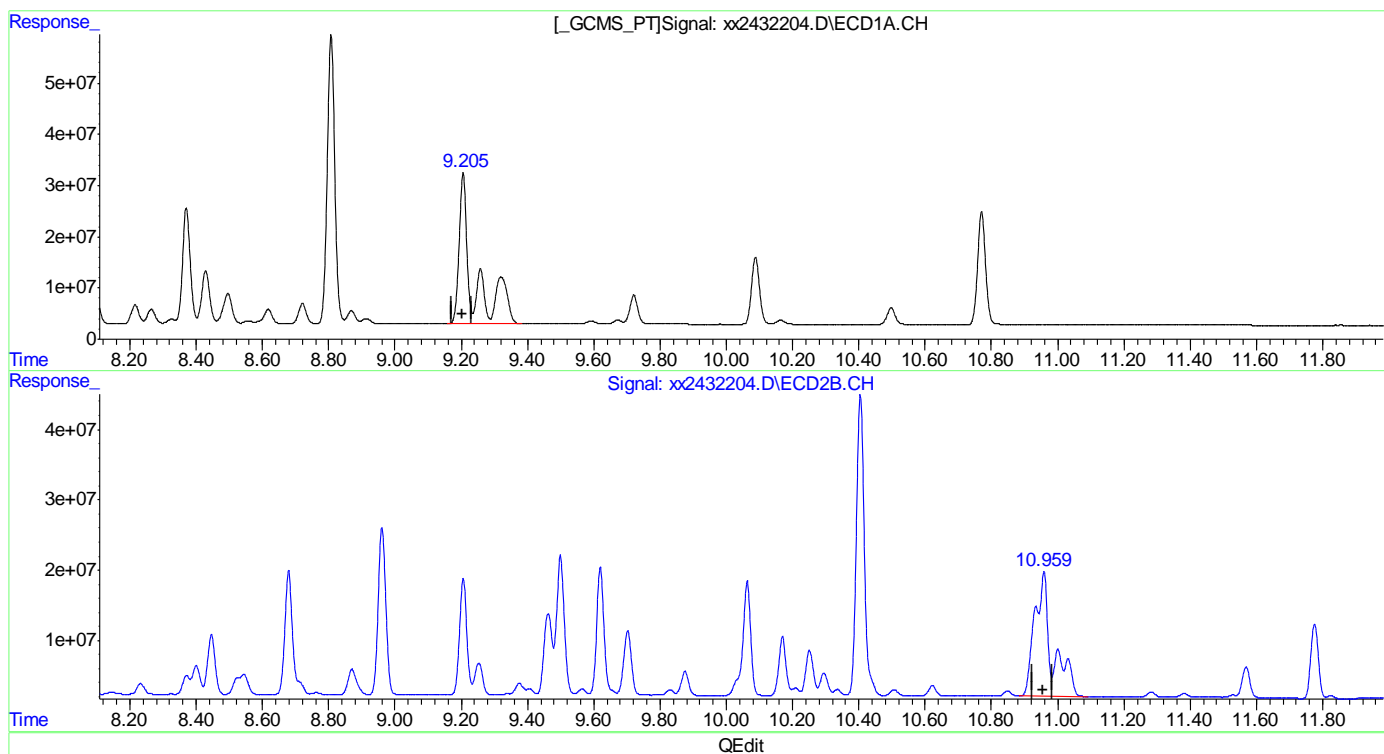
11.6.55.4  
 11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432204.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:01 am  
 Operator : tianweir  
 Sample : ic6621-500  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:35:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.205min 552.558PPB m  
 response 870313813

(50) AR1260-E #2  
 10.959min 443.736PPB m  
 response 656841561

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432205.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:19 am  
 Operator : tianweir  
 Sample : icc6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:38:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
System Monitoring Compounds						
1) S Tetrachlo...	3.284	4.049	761.2E6	512.6E6	45.810	41.120
Spiked Amount	40.000		Recovery	=	114.53%	102.80%
51) S Decachlor...	10.770	12.654	723.1E6	466.4E6	43.797	34.729
Spiked Amount	40.000		Recovery	=	109.49%	86.82%
Target Compounds						
41) AR1016-A	3.690	4.745	350.4E6	195.4E6	1178.656	950.496
42) AR1016-B	4.124	5.322	604.1E6	411.5E6	1135.295	1020.047
43) AR1016-C	4.710	5.979	1447.5E6	905.4E6	1157.440	1015.784m
44) AR1016-D	4.886	6.175	525.6E6	339.4E6	1149.857	940.578
45) AR1016-E	5.424	6.853	553.4E6	265.9E6	1158.563	1010.871
46) AR1260-A	7.863	9.498	1550.3E6	1050.8E6	1156.738	942.367m
47) AR1260-B	8.026	9.620	661.7E6	571.7E6	1128.618	910.133
48) AR1260-C	8.371	10.062	754.2E6	569.8E6	1182.445	927.085
49) AR1260-D	8.807	10.405	1844.0E6	1475.8E6	1188.654	914.811
50) AR1260-E	9.206	10.959	1797.6E6	1330.3E6	1141.264m	898.713m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

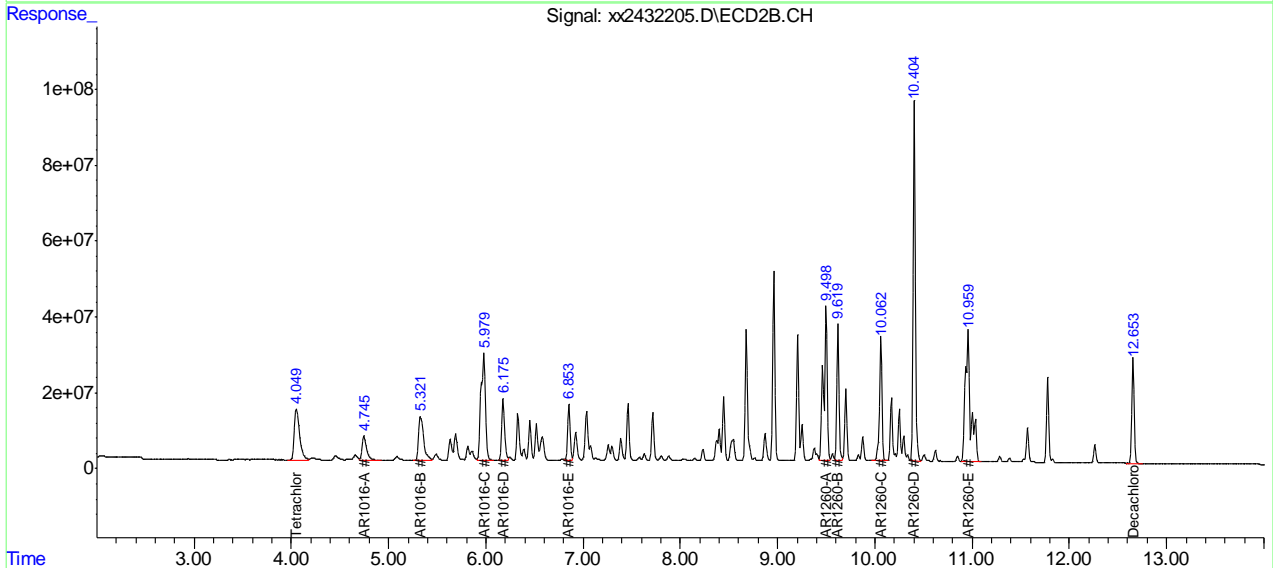
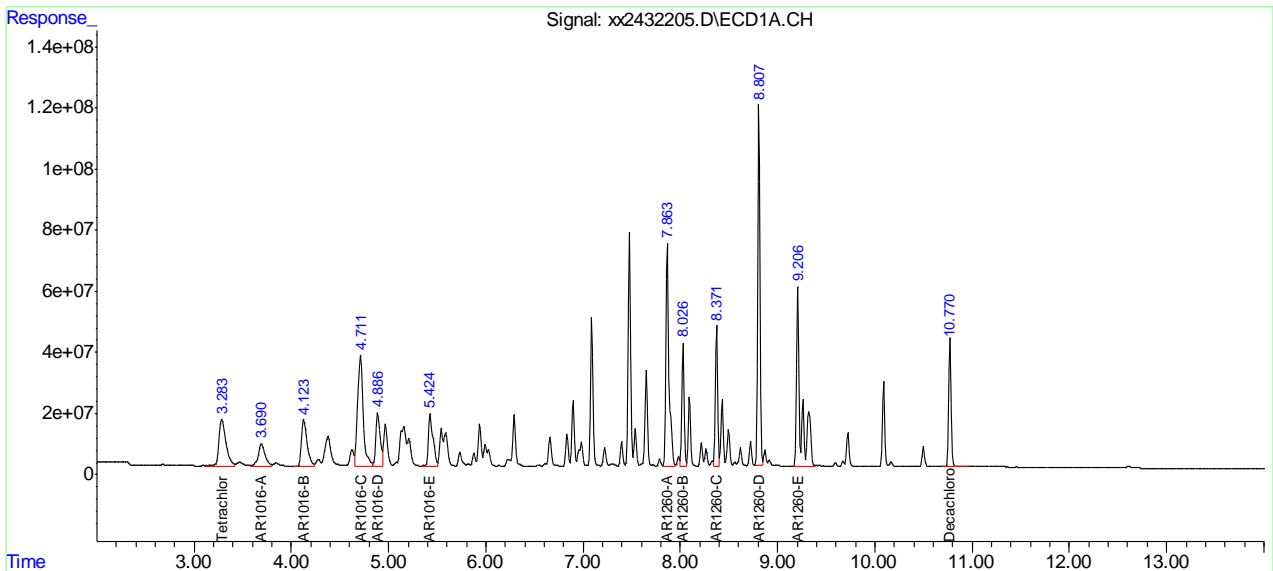
11.6.56  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432205.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:19 am  
 Operator : tianweir  
 Sample : icc6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:38:18 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)





# Manual Integration Approval Summary

Sample Number: GXX6621-ICC6621      Method: SW846 8082A  
Lab FileID: XX2432205.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 04:19      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.98	Split peak
AR1260-E		1	9.21	Split peak
AR1260-A		2	9.50	Split peak
AR1260-E		2	10.96	Split peak

11.6.56.1

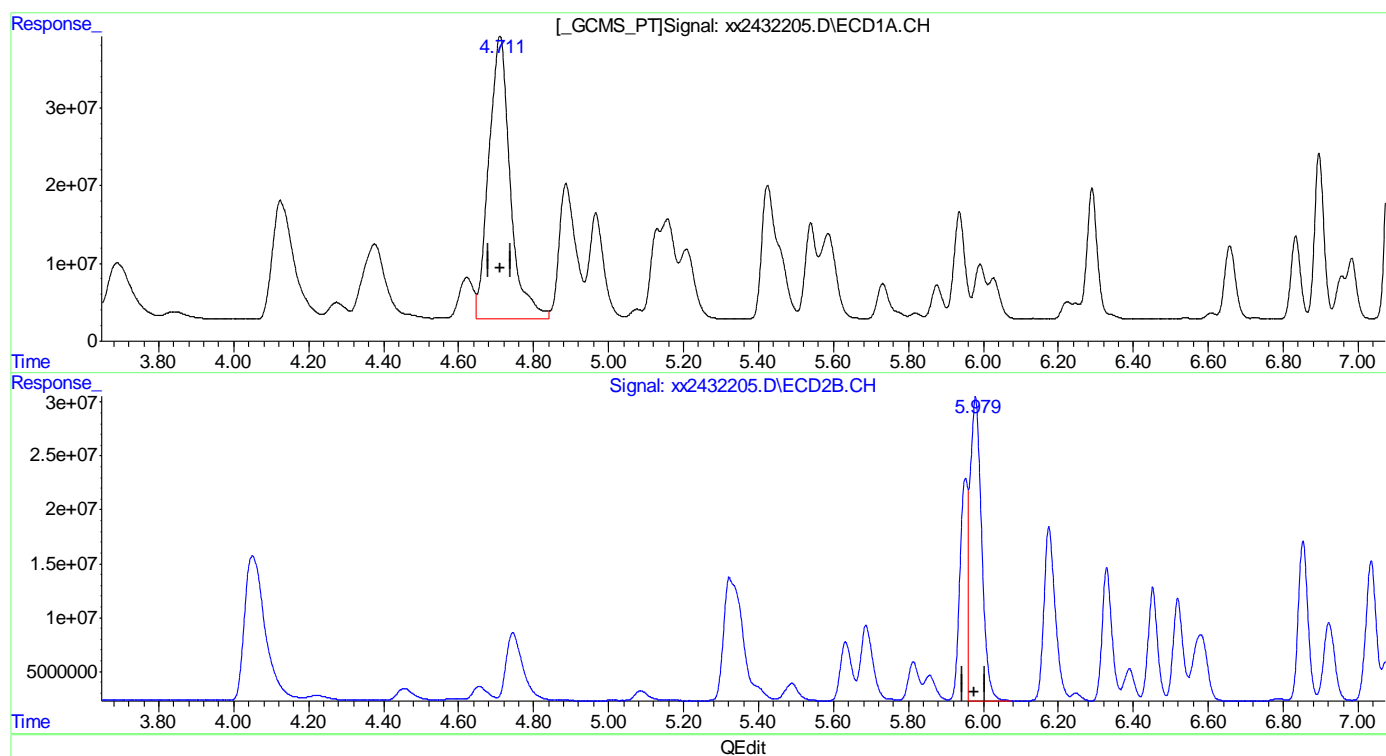
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432205.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:19 am  
 Operator : tianweir  
 Sample : icc6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:37:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.710min 1157.440PPB  
 response 1447518095

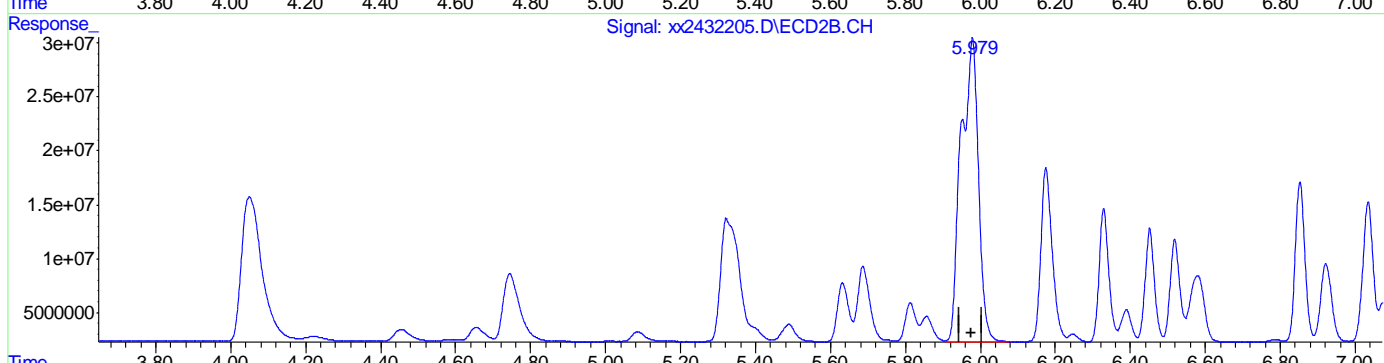
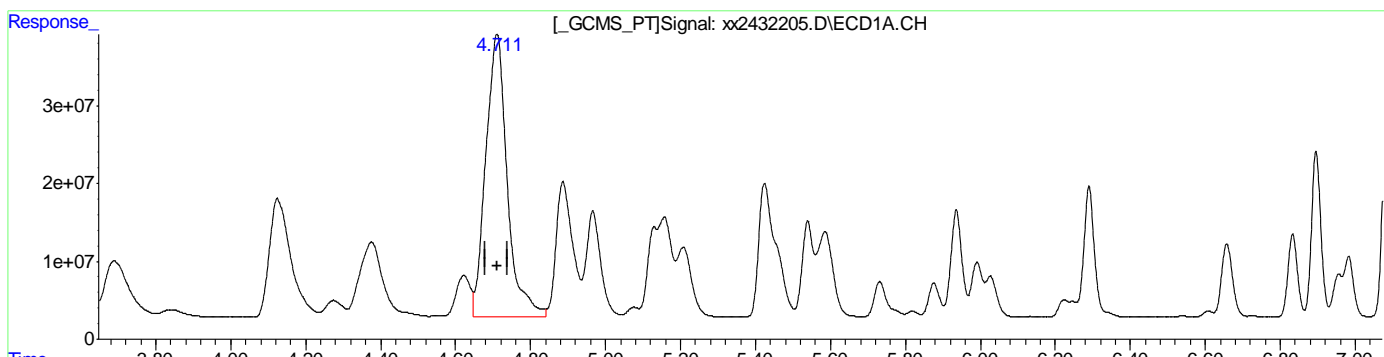
(43) AR1016-C #2  
 5.979min 672.398PPB  
 response 599345775

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432205.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:19 am  
 Operator : tianweir  
 Sample : icc6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:37:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



Time

(43) AR1016-C
4.710min 1157.440PPB
response 1447518095
(43) AR1016-C #2
5.979min 1015.784PPB m
response 905424869

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 08:37:51 2019

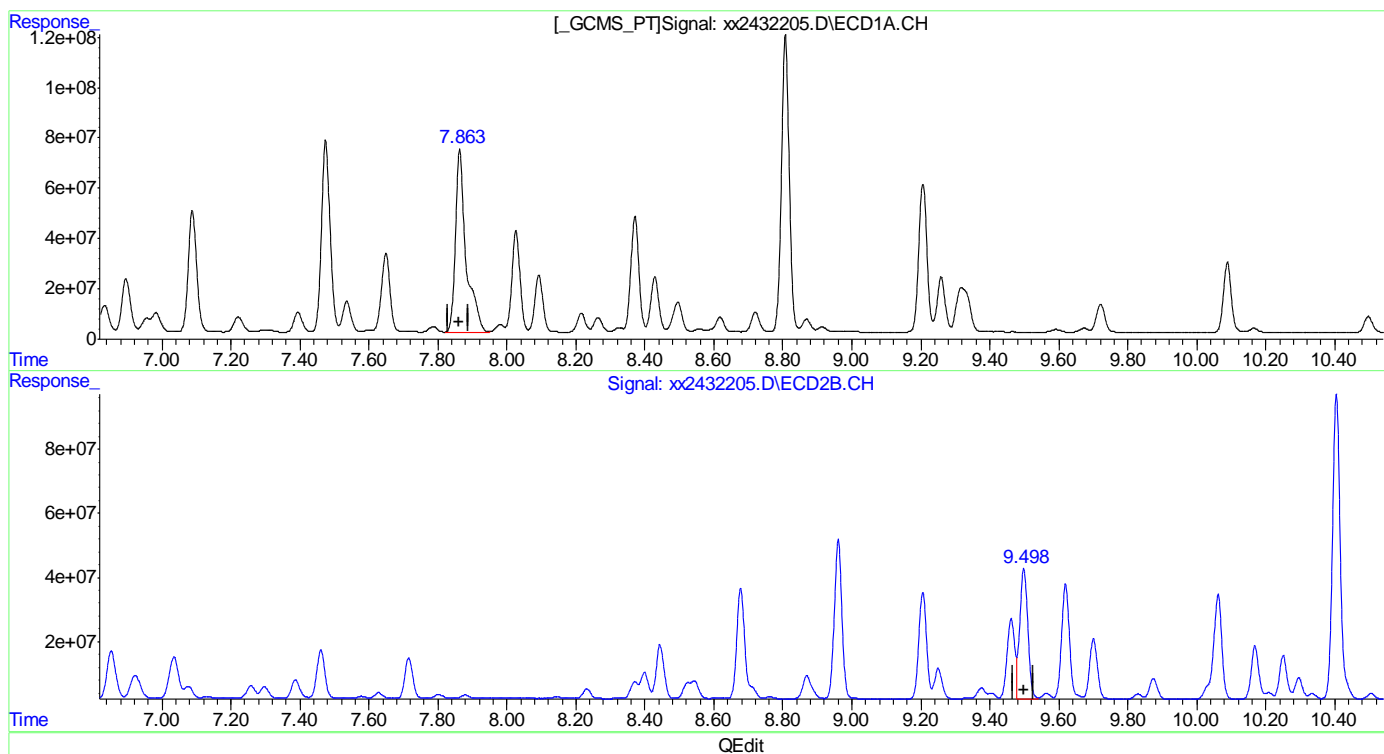
11.6.56.3  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432205.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:19 am  
 Operator : tianweir  
 Sample : icc6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:37:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 1156.738PPB  
 response 1550278123

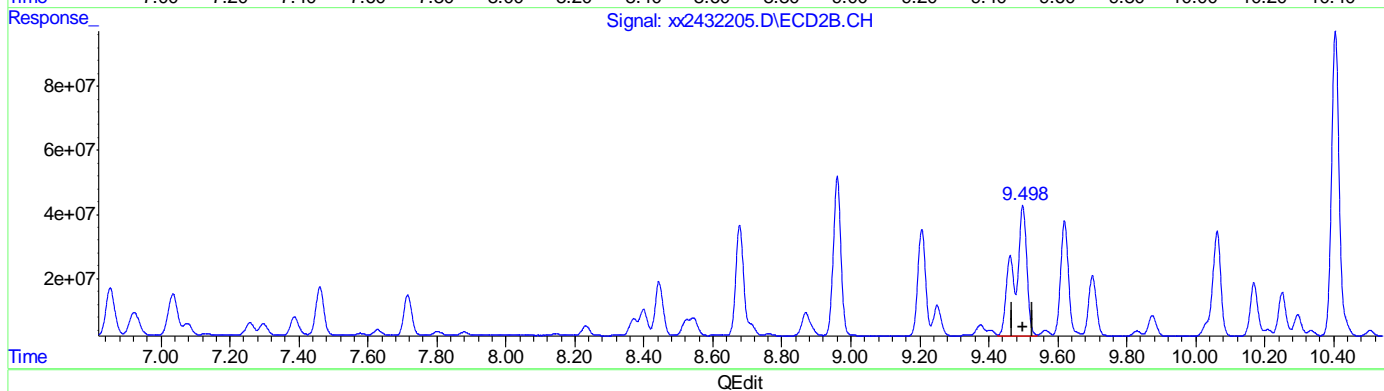
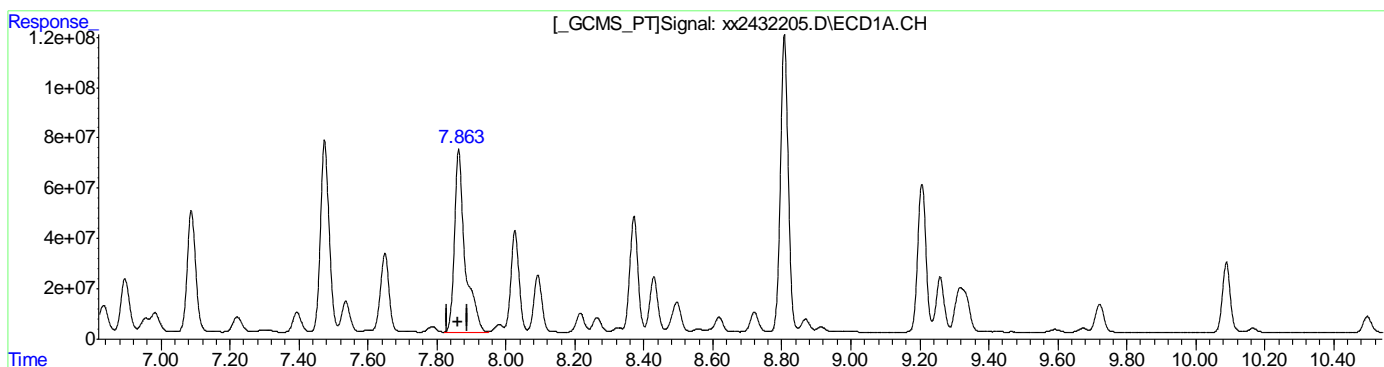
(46) AR1260-A #2  
 9.498min 596.656PPB  
 response 665310341

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432205.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:19 am  
 Operator : tianweir  
 Sample : icc6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:37:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 1156.738PPB  
 response 1550278123

(46) AR1260-A #2  
 9.498min 942.367PPB m  
 response 1050801283

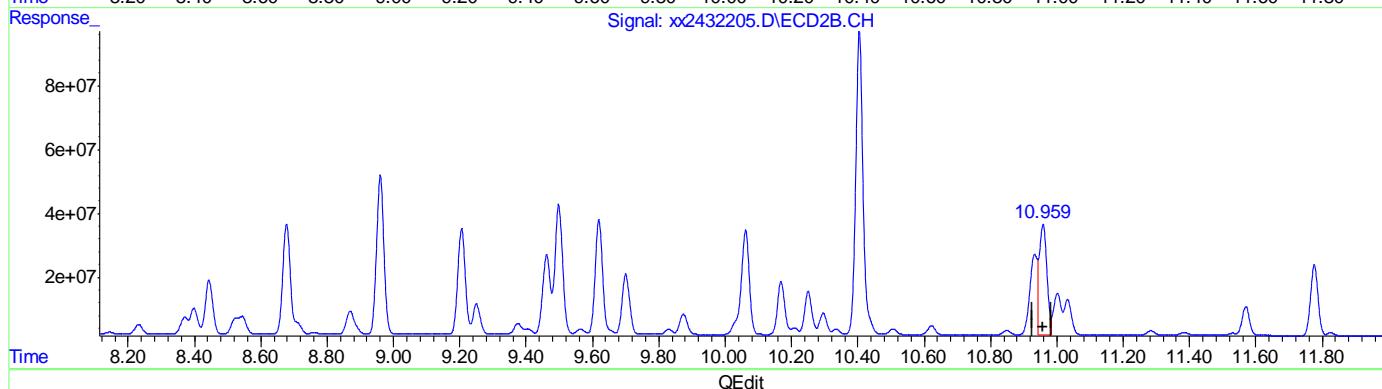
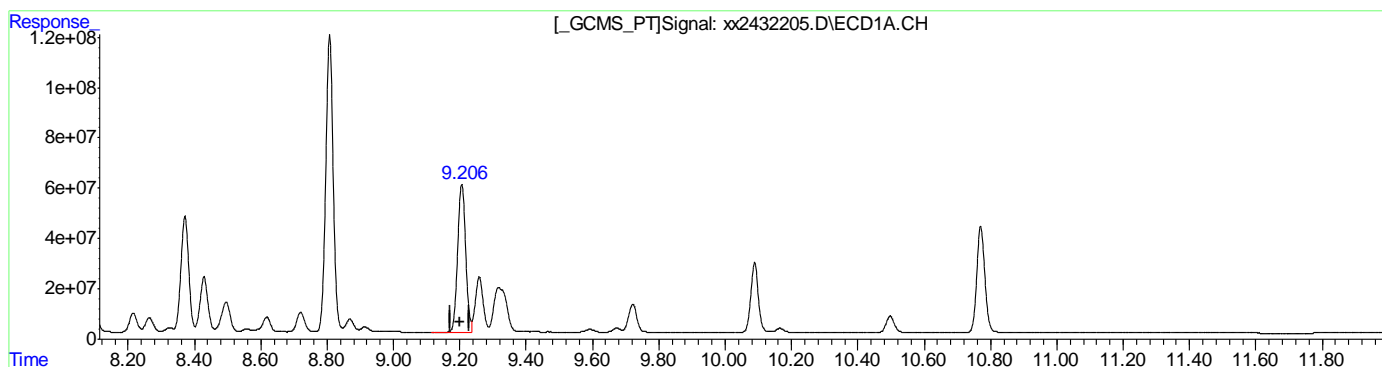
11.6.56.5  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432205.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:19 am  
 Operator : tianweir  
 Sample : icc6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:37:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.206min 618.624PPB  
 response 974370850

(50) AR1260-E #2  
 10.959min 383.758PPB  
 response 568059747

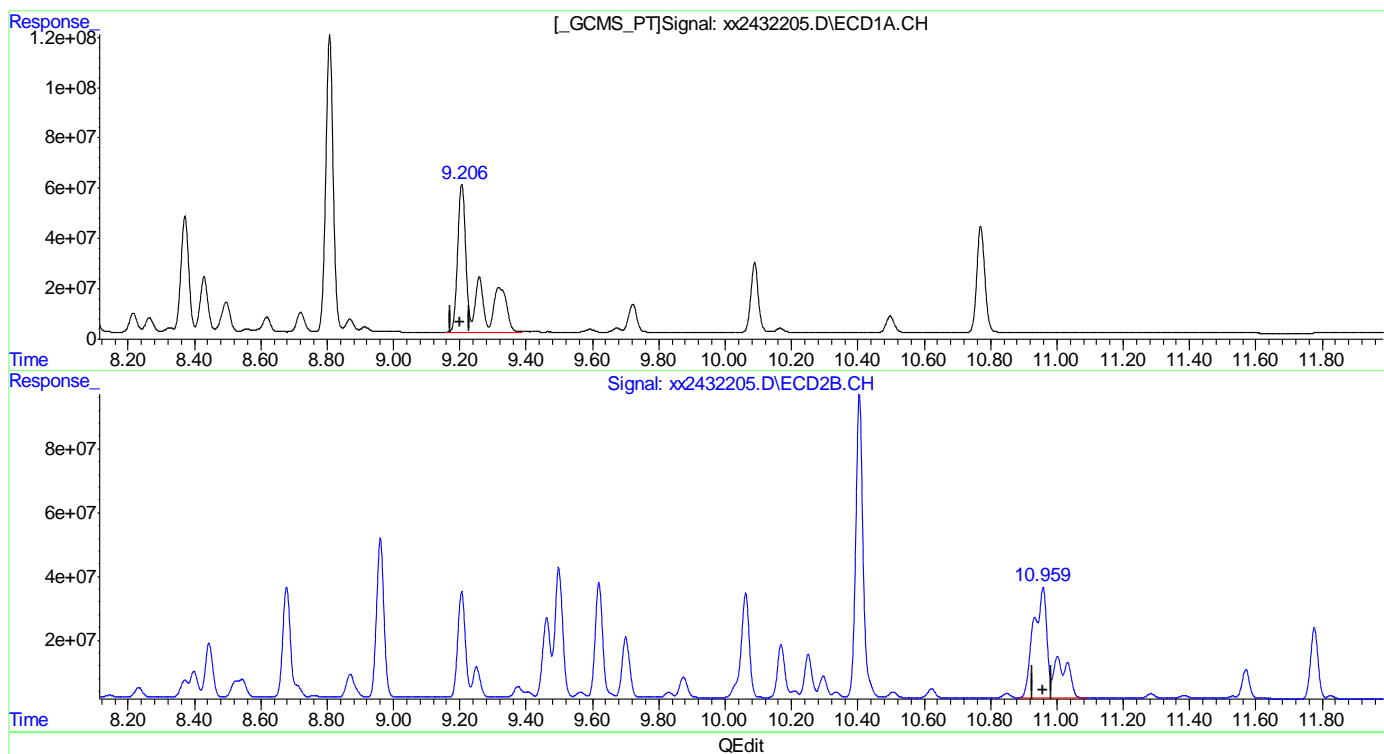
11.6.56.6  
 11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432205.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:19 am  
 Operator : tianweir  
 Sample : icc6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:37:23 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.206min 1141.264PPB m  
 response 1797562725

(50) AR1260-E #2  
 10.959min 898.713PPB m  
 response 1330324184

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432206.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:37 am  
 Operator : tianweir  
 Sample : ic6621-2000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:39:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.280	4.053	1563.1E6	1041.7E6	94.066	83.561
Spiked Amount	40.000		Recovery	=	235.17%	208.90%
51) S Decachlor...	10.771	12.653	1499.9E6	934.0E6	90.848	69.554
Spiked Amount	40.000		Recovery	=	227.12%	173.88%
Target Compounds						
41) AR1016-A	3.690	4.747	680.8E6	379.4E6	2290.459	1845.349
42) AR1016-B	4.127	5.327	1179.4E6	803.8E6	2216.435	1992.447
43) AR1016-C	4.711	5.981	2887.8E6	1788.9E6	2309.085	2006.922m
44) AR1016-D	4.886	6.176	1047.2E6	666.9E6	2290.998	1847.844
45) AR1016-E	5.423	6.853	1103.6E6	526.2E6	2310.215	2000.066
46) AR1260-A	7.863	9.498	3153.2E6	2073.6E6	2352.754	1859.607m
47) AR1260-B	8.027	9.620	1341.2E6	1122.7E6	2287.494	1787.230
48) AR1260-C	8.370	10.063	1533.0E6	1120.0E6	2403.382	1822.345
49) AR1260-D	8.807	10.405	3769.9E6	2863.8E6	2430.039	1775.250 #
50) AR1260-E	9.206	10.958	3676.0E6	2571.5E6	2333.898m	1737.199m#
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.57  
 11

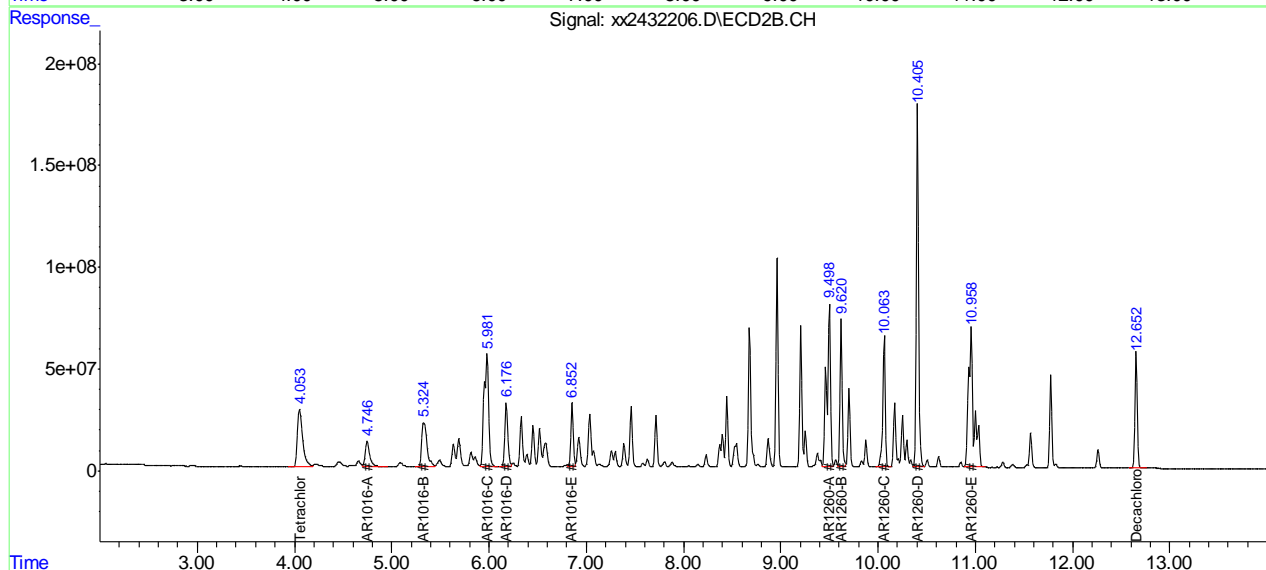
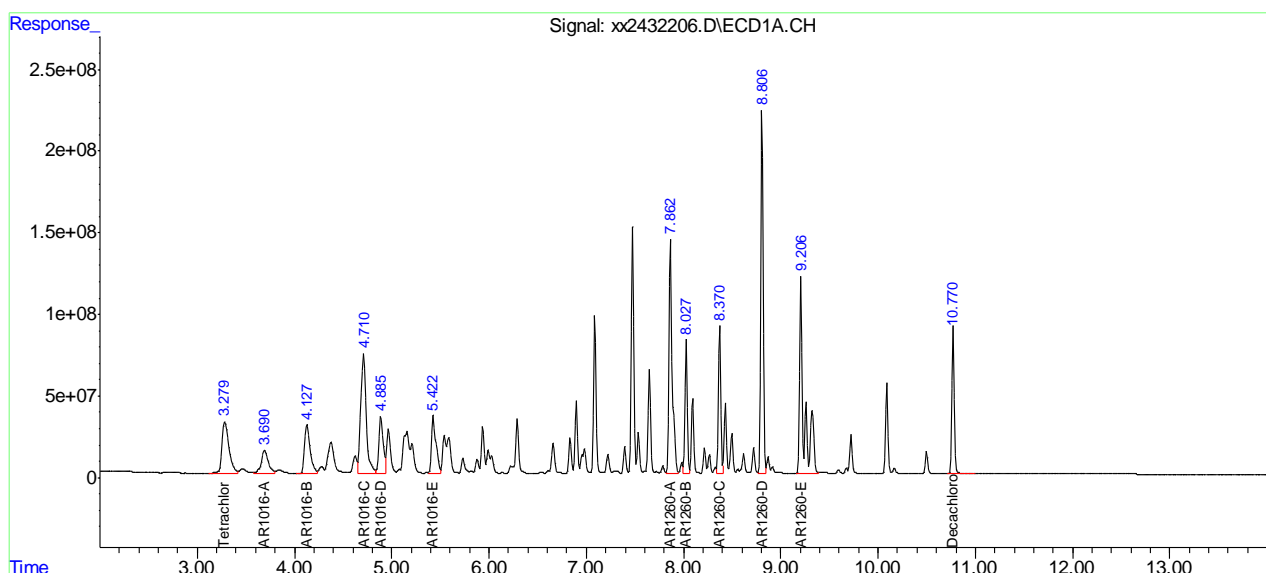


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432206.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:37 am  
 Operator : tianweir  
 Sample : ic6621-2000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:39:48 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.57  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432206.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 04:37      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.98	Split peak
AR1260-E		1	9.21	Split peak
AR1260-A		2	9.50	Split peak
AR1260-E		2	10.96	Split peak

11.6.57.1

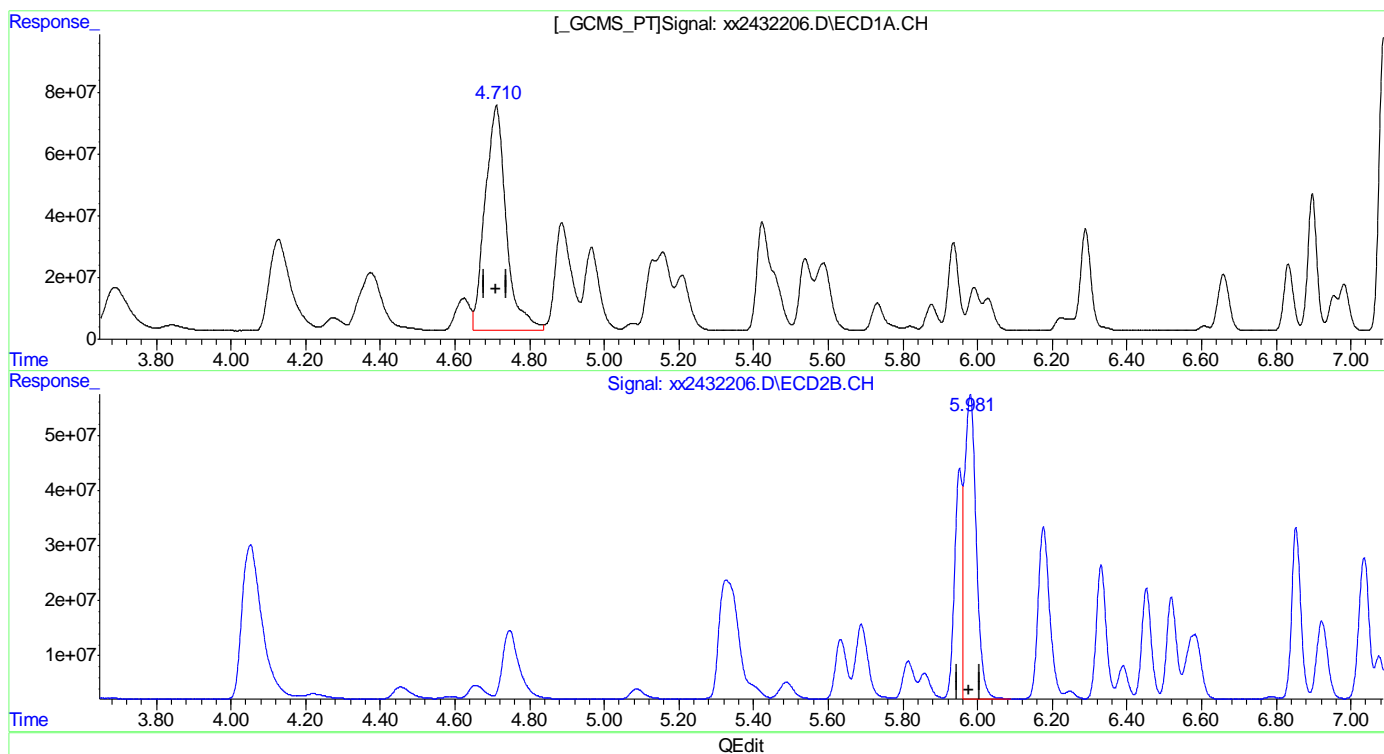
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432206.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:37 am  
 Operator : tianweir  
 Sample : ic6621-2000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:38:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.711min 2309.085PPB  
 response 2887790267

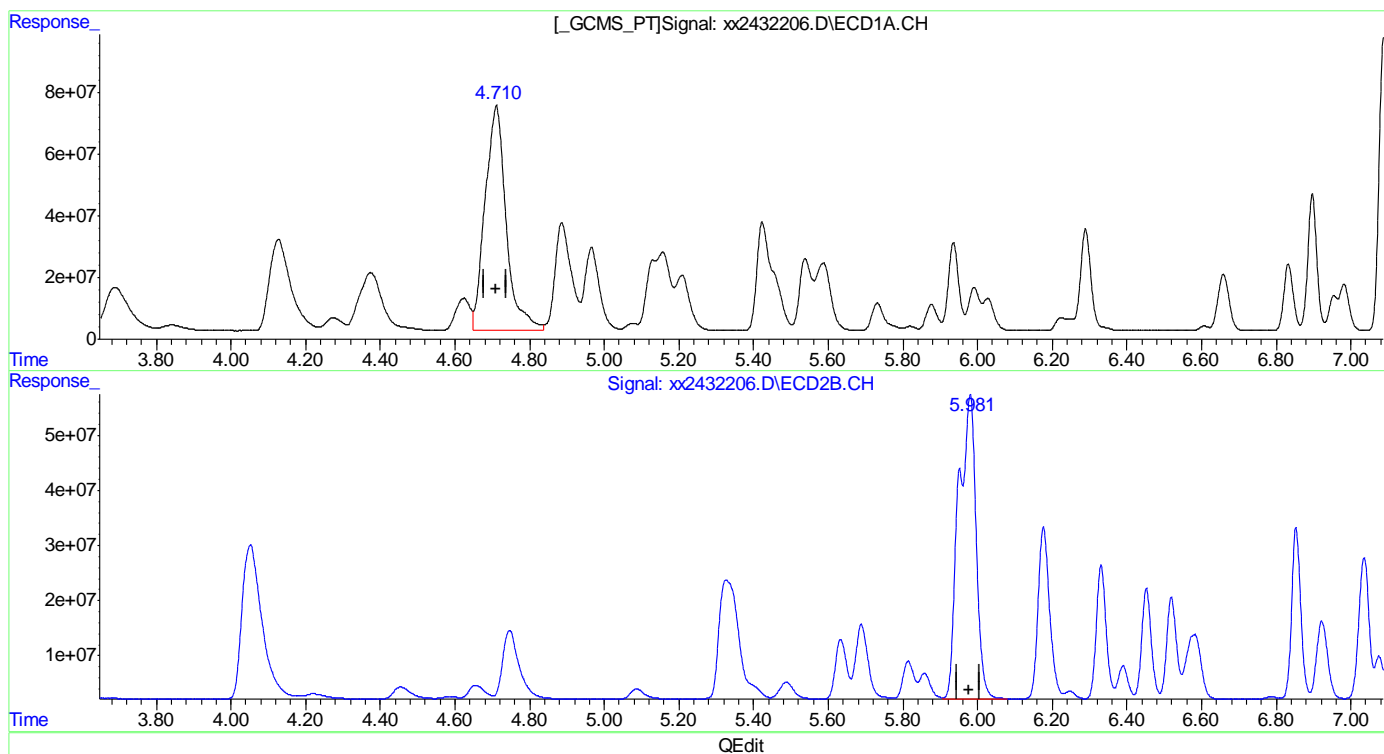
(43) AR1016-C #2  
 5.980min 1352.361PPB  
 response 1205434930

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432206.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:37 am  
 Operator : tianweir  
 Sample : ic6621-2000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:38:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.711min 2309.085PPB  
 response 2887790267

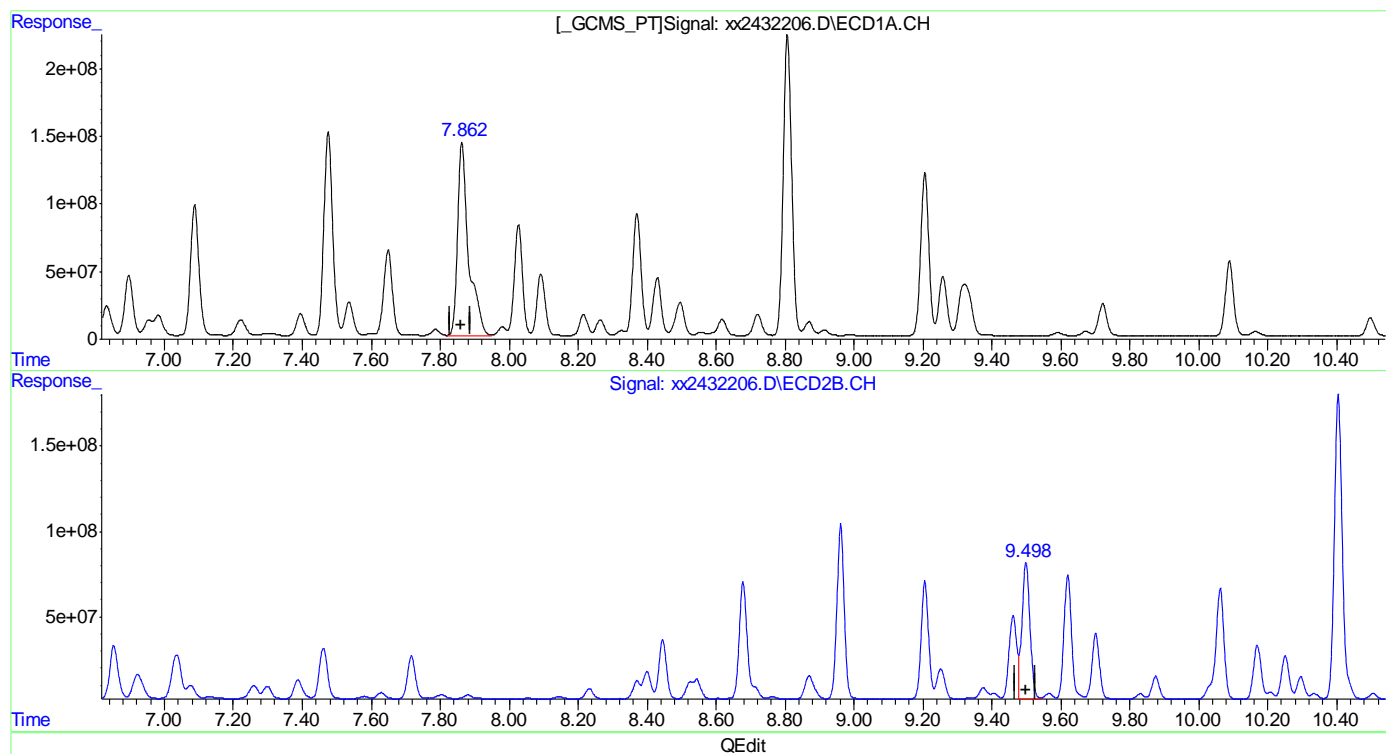
(43) AR1016-C #2  
 5.981min 2006.922PPB m  
 response 1788881903

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432206.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:37 am  
 Operator : tianweir  
 Sample : ic6621-2000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:38:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 2352.754PPB  
 response 3153197035

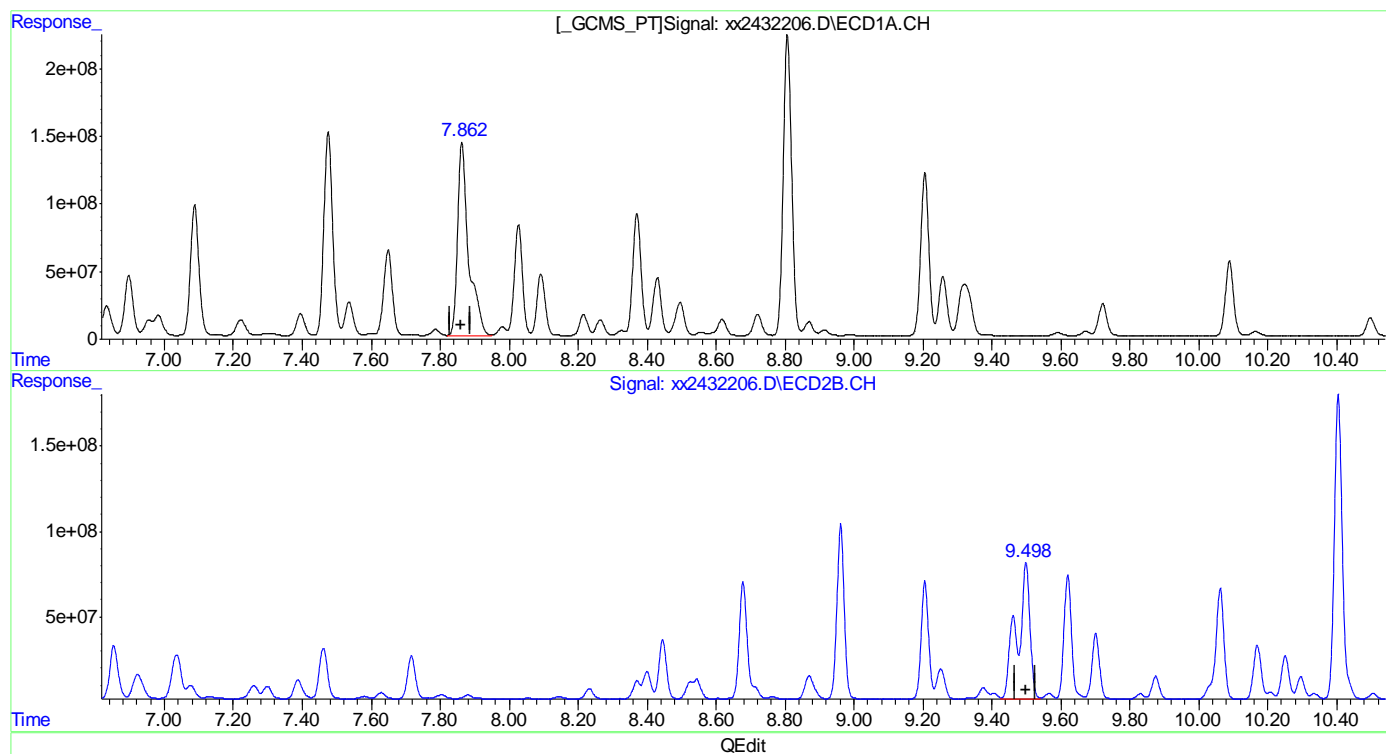
(46) AR1260-A #2  
 9.499min 1175.504PPB  
 response 1310764314

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432206.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:37 am  
 Operator : tianweir  
 Sample : ic6621-2000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:38:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 2352.754PPB  
 response 3153197035

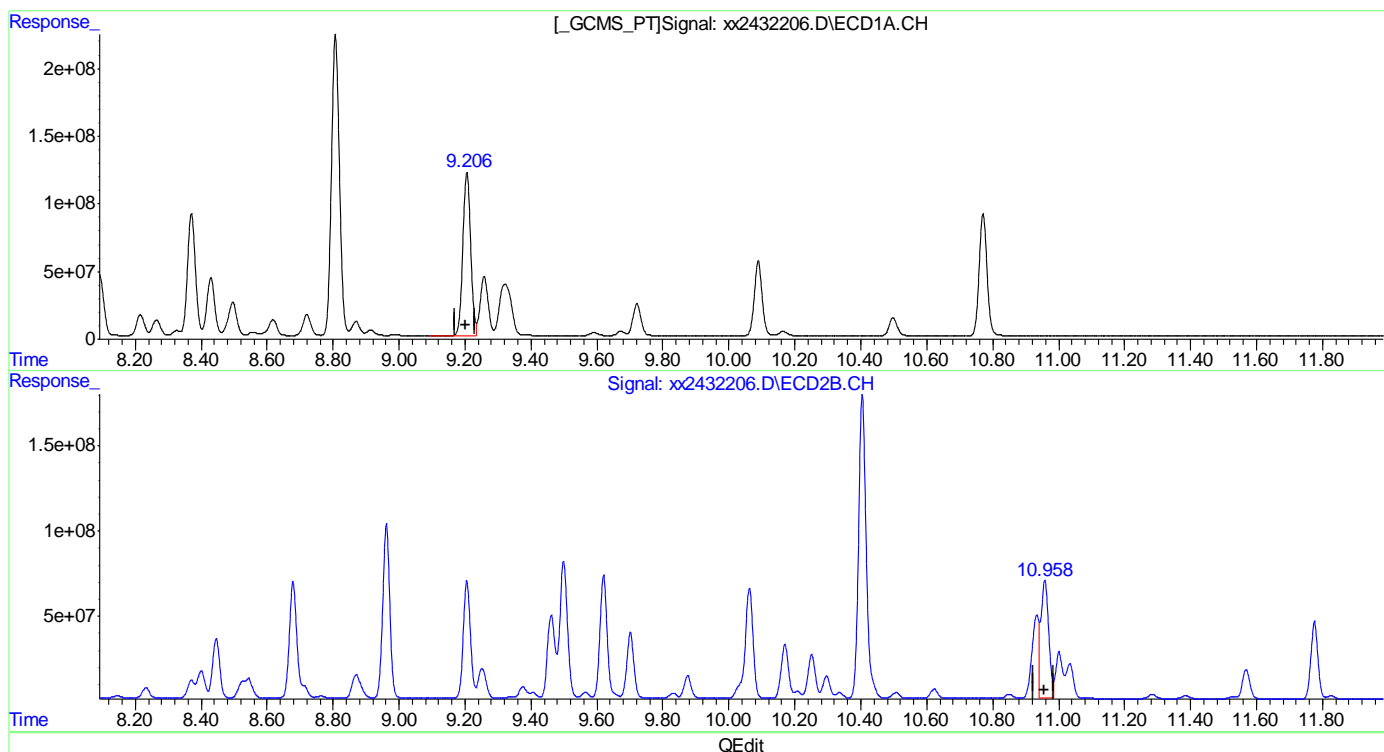
(46) AR1260-A #2  
 9.498min 1859.607PPB m  
 response 2073583326

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432206.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:37 am  
 Operator : tianweir  
 Sample : ic6621-2000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:38:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.206min 1259.978PPB  
 response 1984544562

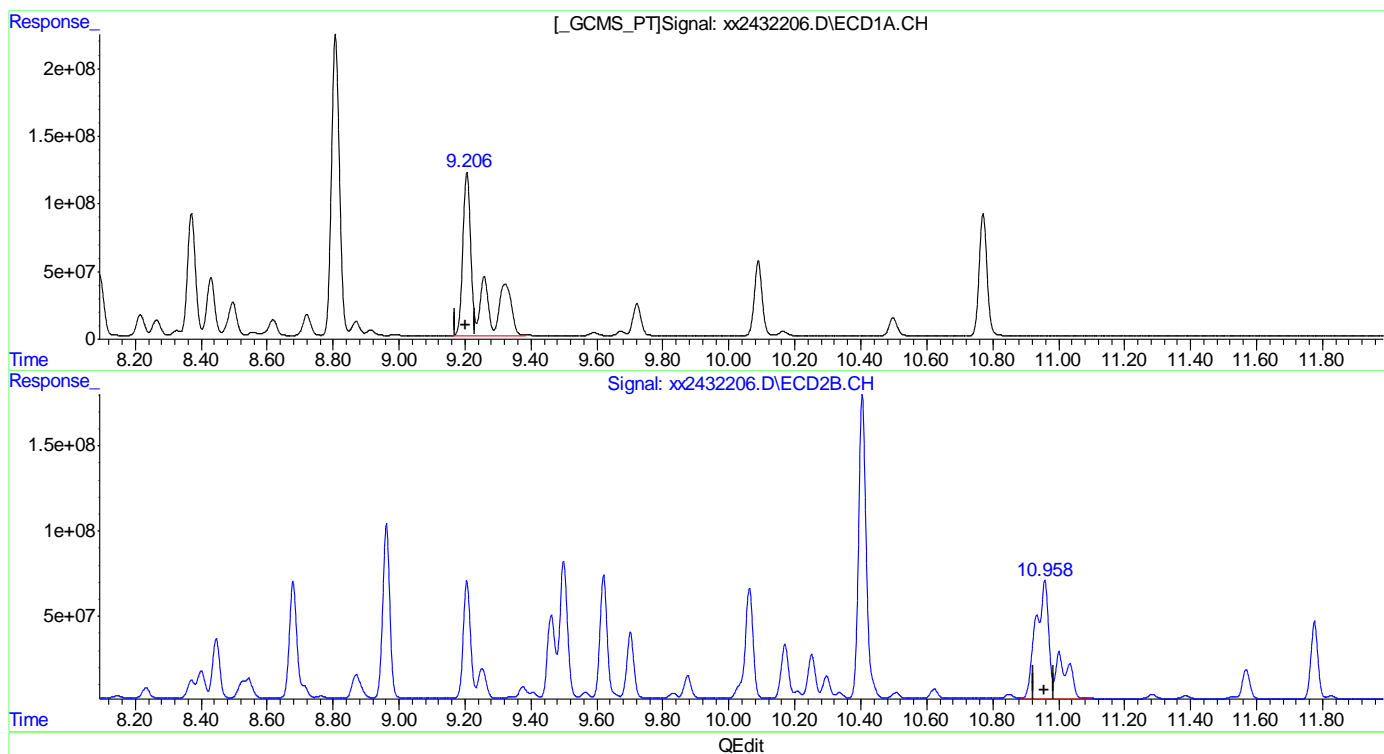
(50) AR1260-E #2  
 10.958min 768.125PPB  
 response 1137020781

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432206.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:37 am  
 Operator : tianweir  
 Sample : ic6621-2000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:38:51 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.206min 2333.898PPB m  
 response 3676036401

(50) AR1260-E #2  
 10.958min 1737.199PPB m  
 response 2571495883



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432207.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:55 am  
 Operator : tianweir  
 Sample : ic6621-3000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:41:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.283	4.052	2384.5E6	1580.8E6	143.496	126.797
Spiked Amount	40.000		Recovery	=	358.74%	316.99%
51) S Decachlor...	10.770	12.655	2256.4E6	1421.1E6	136.666	105.827
Spiked Amount	40.000		Recovery	=	341.66%	264.57%
Target Compounds						
41) AR1016-A	3.689	4.746	1001.8E6	558.9E6	3370.168	2718.267
42) AR1016-B	4.129	5.330	1731.3E6	1188.8E6	3253.665	2946.949
43) AR1016-C	4.711	5.981	4295.2E6	2673.7E6	3434.438	2999.549m
44) AR1016-D	4.887	6.177	1562.8E6	998.5E6	3419.128	2766.679
45) AR1016-E	5.425	6.853	1655.4E6	787.5E6	3465.369	2993.587
46) AR1260-A	7.863	9.499	4739.1E6	3146.9E6	3536.038	2822.183m
47) AR1260-B	8.027	9.620	2018.8E6	1705.8E6	3443.248	2715.518
48) AR1260-C	8.371	10.061	2305.6E6	1714.1E6	3614.649	2789.134
49) AR1260-D	8.807	10.404	5681.5E6	4341.8E6	3662.206	2691.432 #
50) AR1260-E	9.205	10.960	5559.4E6	4010.1E6	3529.668m	2709.094m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

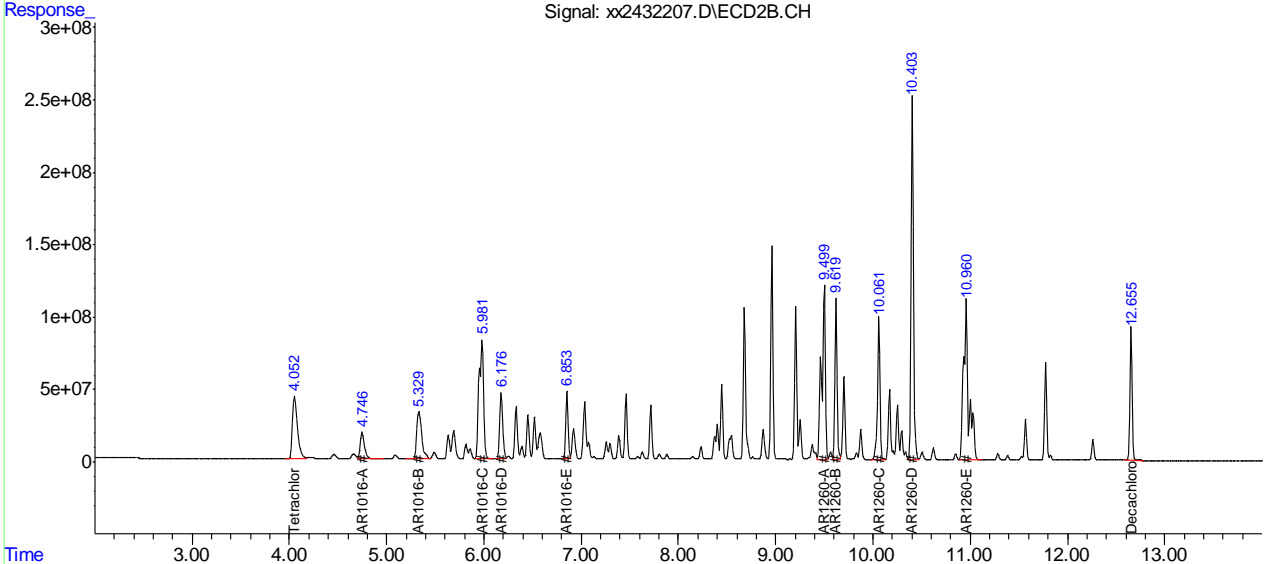
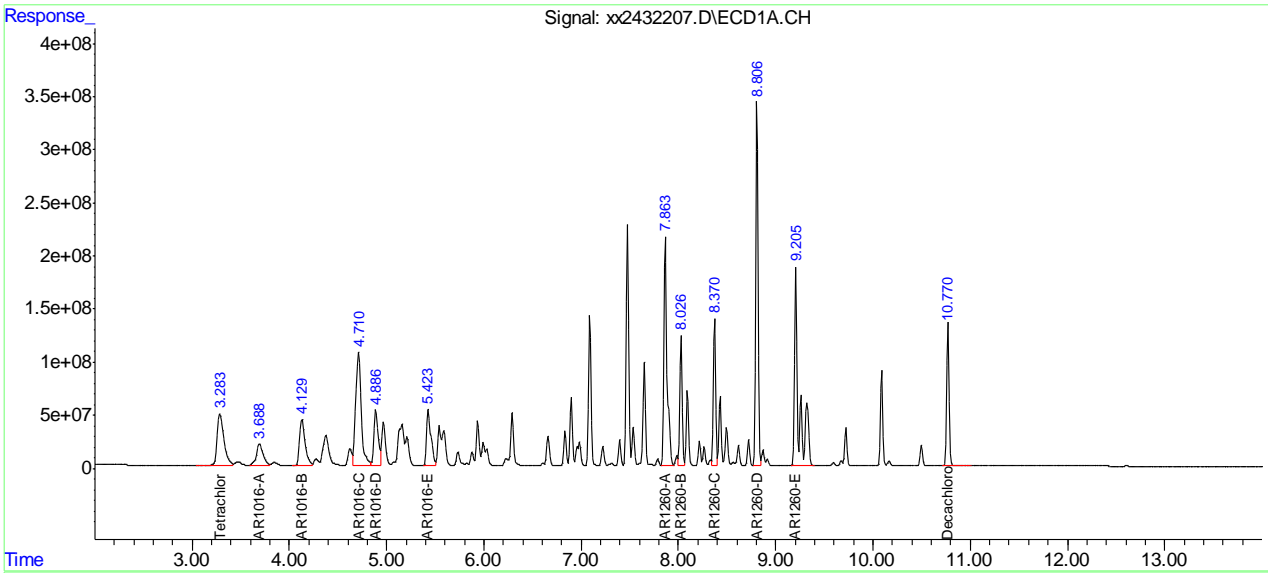
11.6.58  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432207.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:55 am  
 Operator : tianweir  
 Sample : ic6621-3000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:41:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432207.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 04:55      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.98	Split peak
AR1260-E		1	9.21	Split peak
AR1260-A		2	9.50	Split peak
AR1260-E		2	10.96	Split peak

11.6.58.1

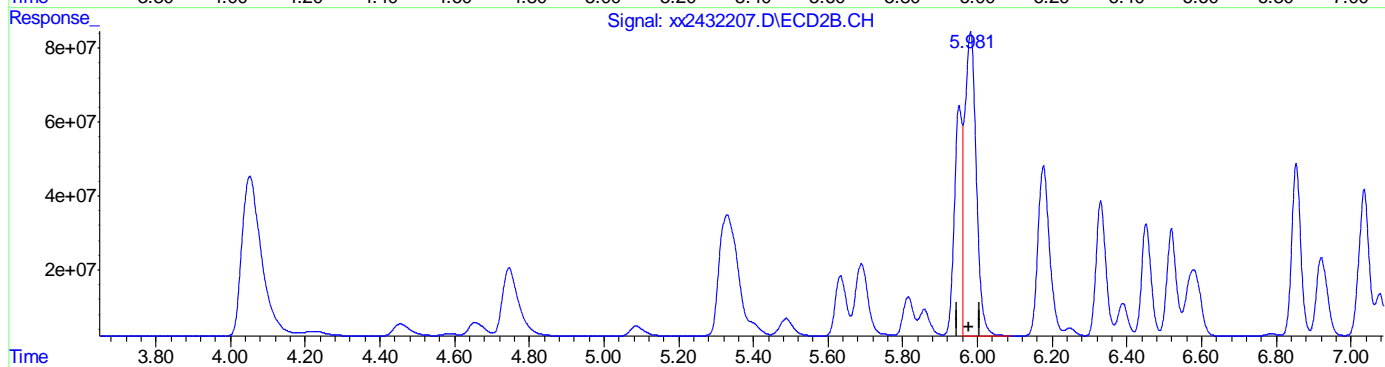
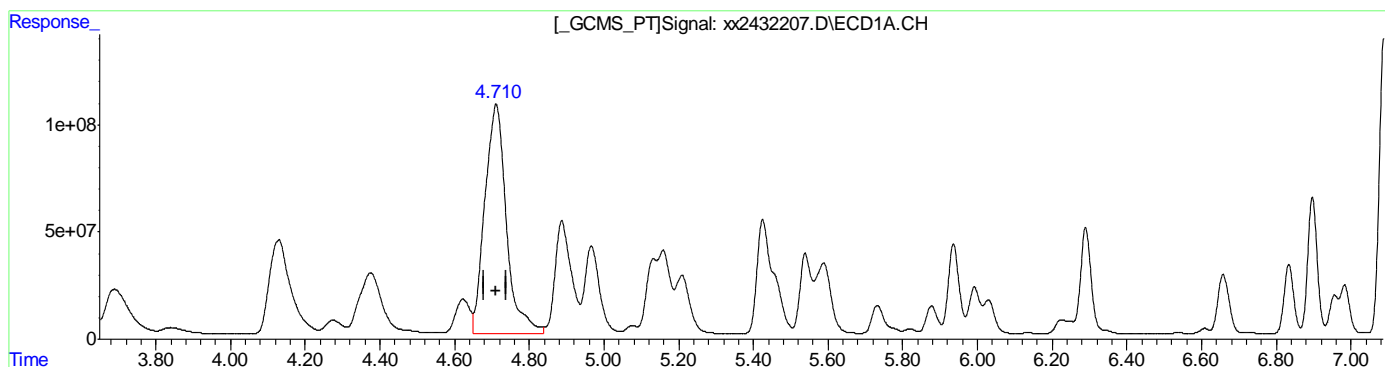
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432207.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:55 am  
 Operator : tianweir  
 Sample : ic6621-3000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:40:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.711min 3434.438PPB  
 response 4295179891

(43) AR1016-C #2  
 5.981min 1986.506PPB  
 response 1770683904

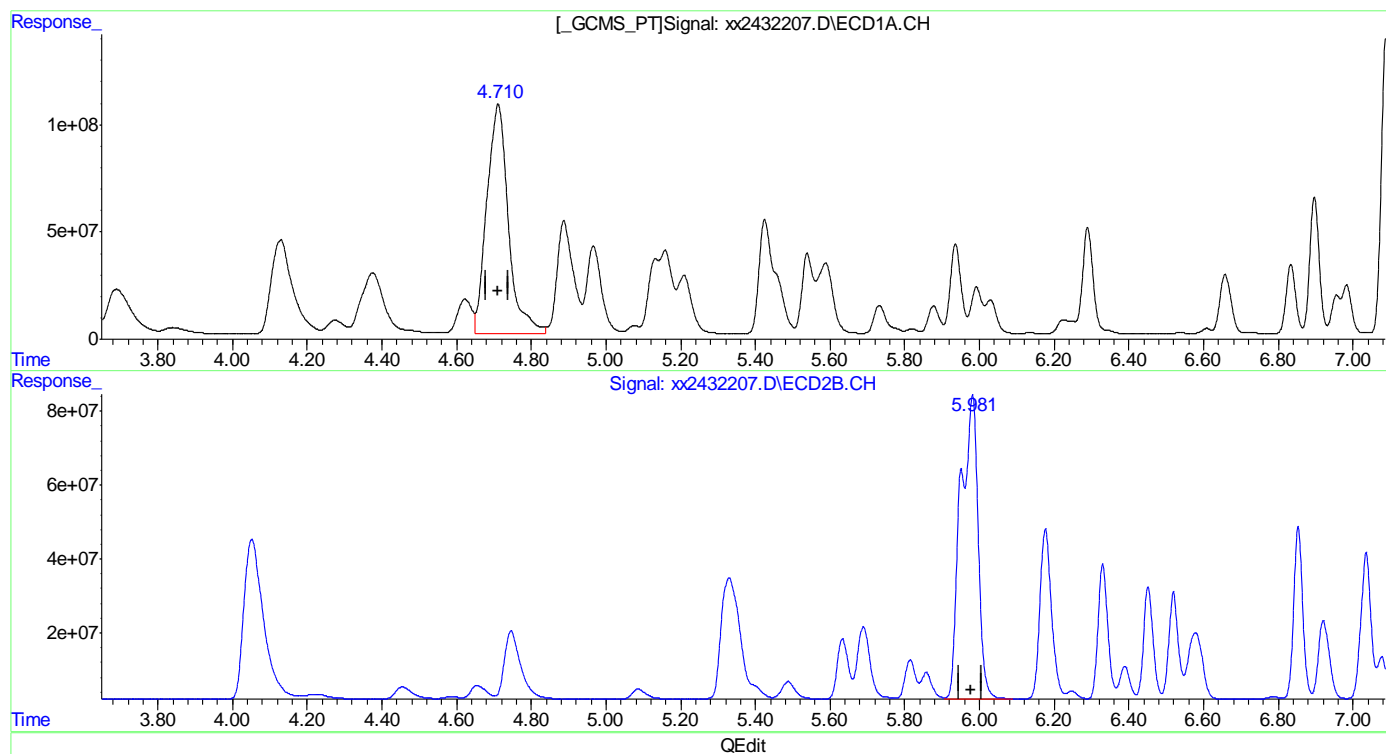
11.6.58.2  
 11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432207.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:55 am  
 Operator : tianweir  
 Sample : ic6621-3000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:40:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.711min 3434.438PPB  
 response 4295179891

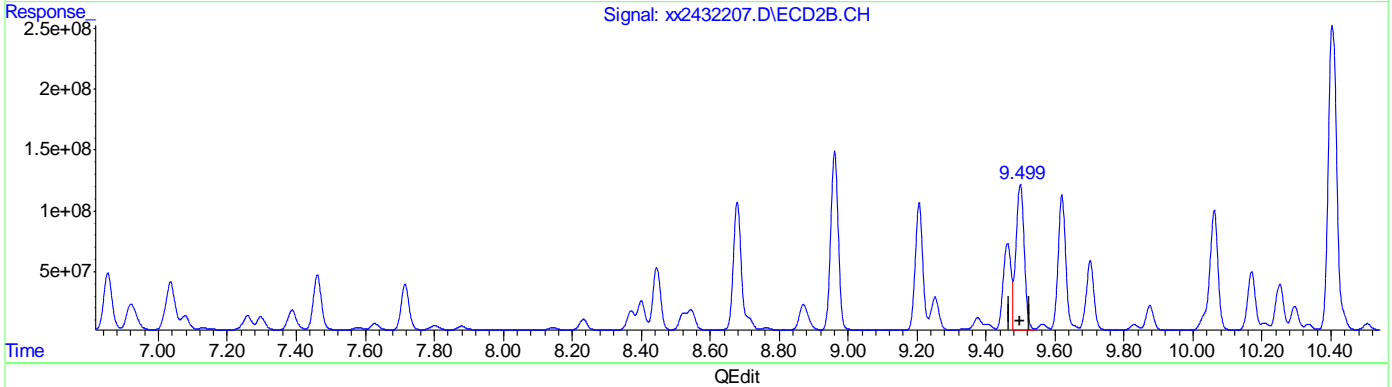
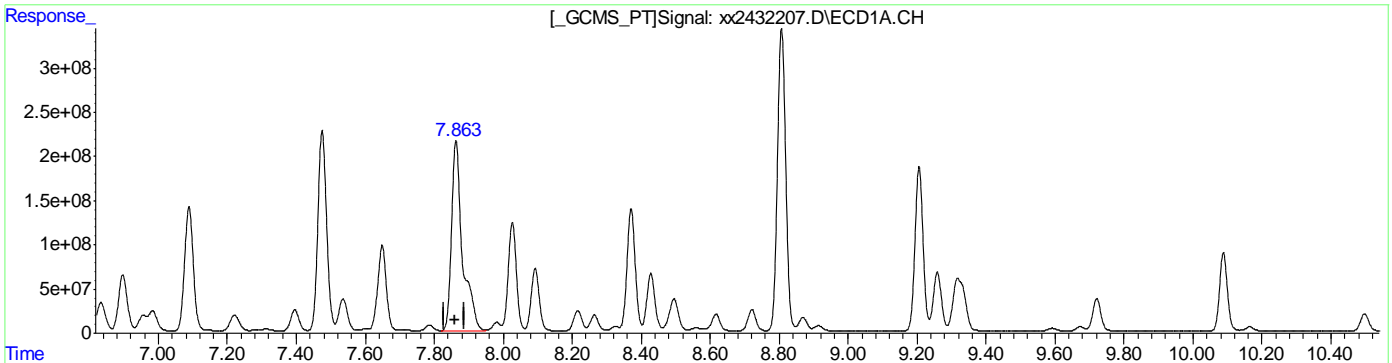
(43) AR1016-C #2  
 5.981min 2999.549PPB m  
 response 2673665933

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432207.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:55 am  
 Operator : tianweir  
 Sample : ic6621-3000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:40:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 3536.038PPB  
 response 4739051615

(46) AR1260-A #2  
 9.499min 1795.648PPB  
 response 2002265632

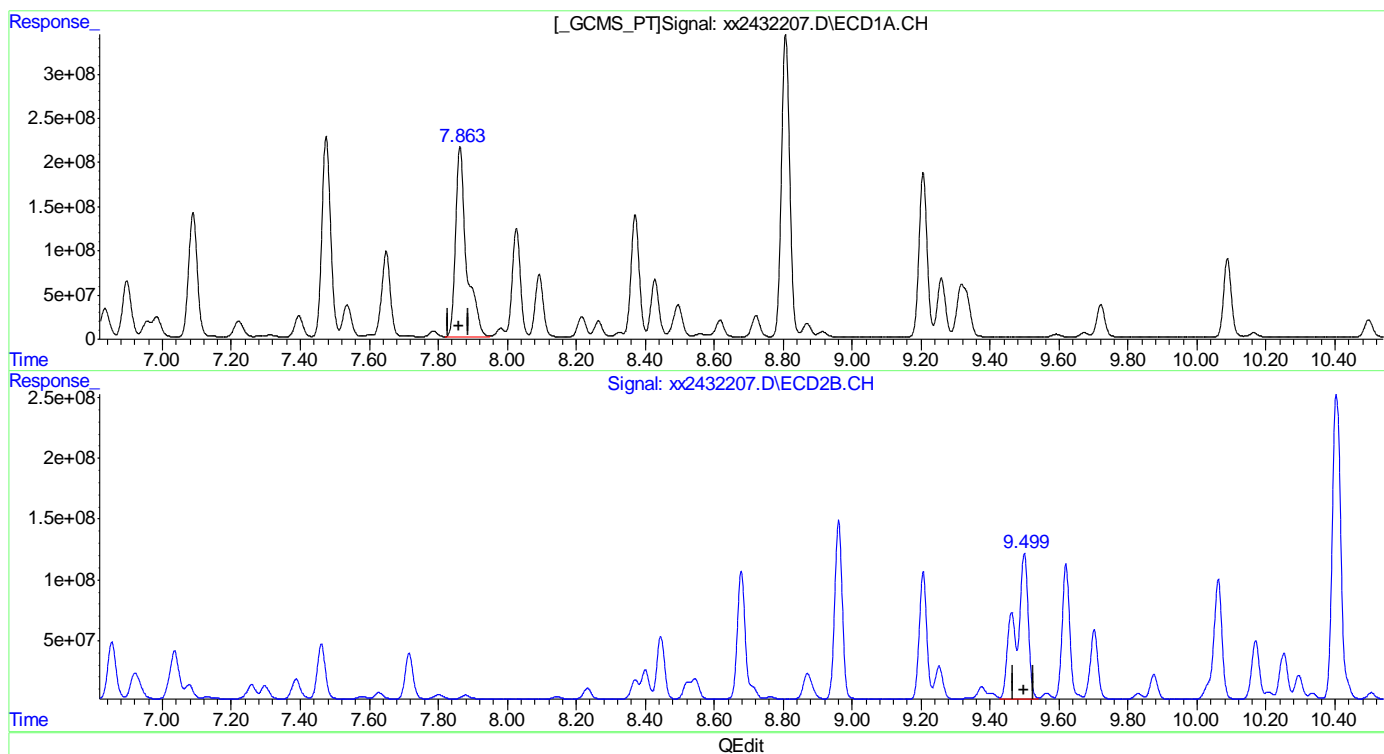
11.6.58.4  
 11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432207.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:55 am  
 Operator : tianweir  
 Sample : ic6621-3000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:40:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.863min 3536.038PPB  
 response 4739051615

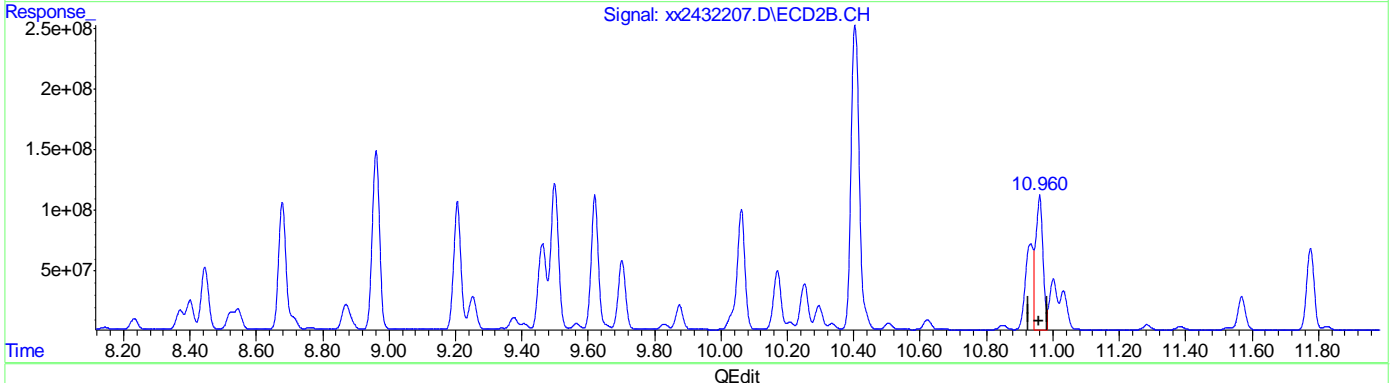
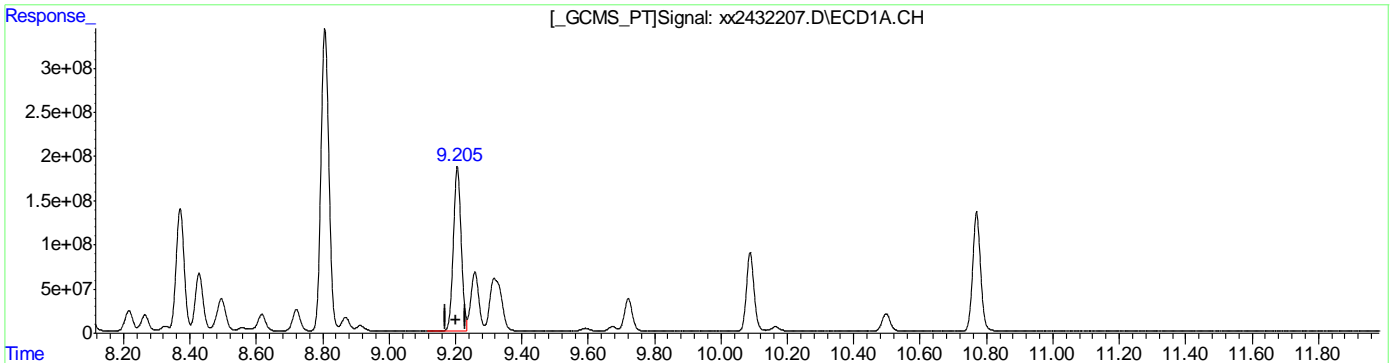
(46) AR1260-A #2  
 9.499min 2822.183PPB m  
 response 3146919221

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432207.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:55 am  
 Operator : tianweir  
 Sample : ic6621-3000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:40:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.206min 1910.864PPB  
 response 3009730848

(50) AR1260-E #2  
 10.960min 1166.385PPB  
 response 1726546891

11.6.58.6  
 11

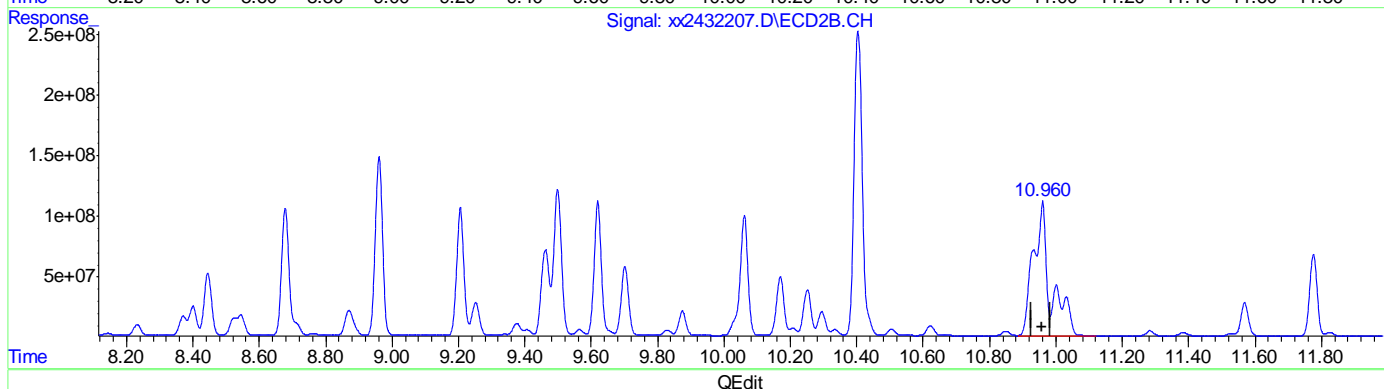
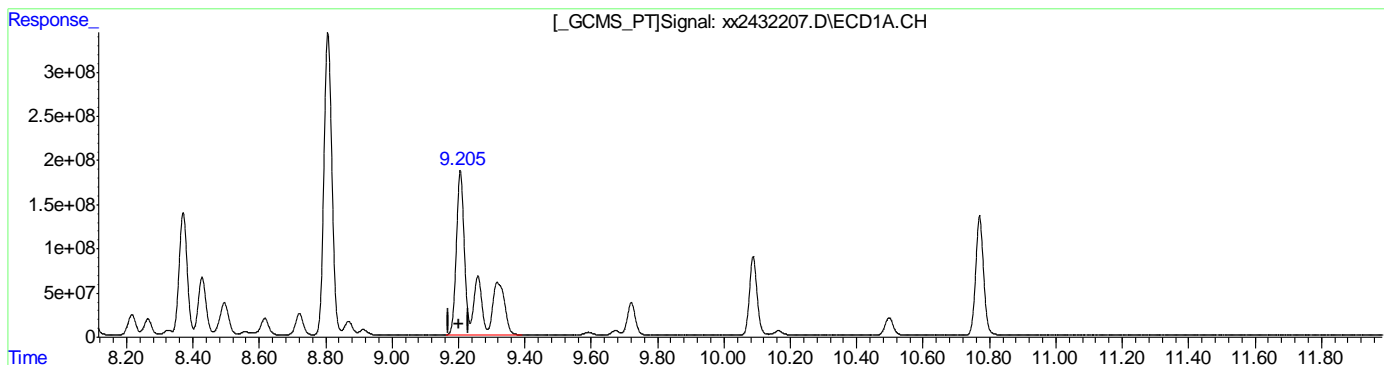


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432207.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 4:55 am  
 Operator : tianweir  
 Sample : ic6621-3000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:40:10 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:29:27 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.205min 3529.668PPB m  
 response 5559448047

(50) AR1260-E #2  
 10.960min 2709.094PPB m  
 response 4010147965

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 08:41:17 2019

11.6.58.7  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:50:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.281	4.051	934.4E6	604.0E6	49.994	47.685
Spiked Amount	40.000		Recovery	=	124.98%	119.21%
51) S Decachlor...	10.771	12.652	884.6E6	551.4E6	47.823	46.940
Spiked Amount	40.000		Recovery	=	119.56%	117.35%
Target Compounds						
2) AR1221-A	2.718	3.439	130.1E6	73842576	1238.856	1003.125
3) AR1221-B	3.466	4.457	206.1E6	135.1E6	1130.647	1055.122
4) AR1221-C	3.687	4.745	619.1E6	325.0E6	1118.975	1009.175
5) AR1221-D	4.128	5.319	103.2E6	66075570	1246.226m	1081.442
6) AR1221-E	4.276	5.400	113.8E6	48704658	1140.182m	1050.812m
24) AR1254-A	5.935	7.460	557.8E6	440.7E6	1141.726	1027.643
25) AR1254-B	6.287	7.717	1187.6E6	498.5E6	1204.752m	1027.016
26) AR1254-C	6.665	8.232	656.6E6	407.5E6	1180.336	1012.060
27) AR1254-D	6.833	8.399	1191.6E6	795.8E6	1195.168	1002.624
28) AR1254-E	7.217	8.711	877.0E6	612.2E6	1199.652	967.387
29) AR1254-F	7.476	9.236	756.4E6	655.2E6	1140.819	981.008m
30) AR1254-G	7.863	9.499	1184.4E6	784.5E6	1171.050	961.023m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.59

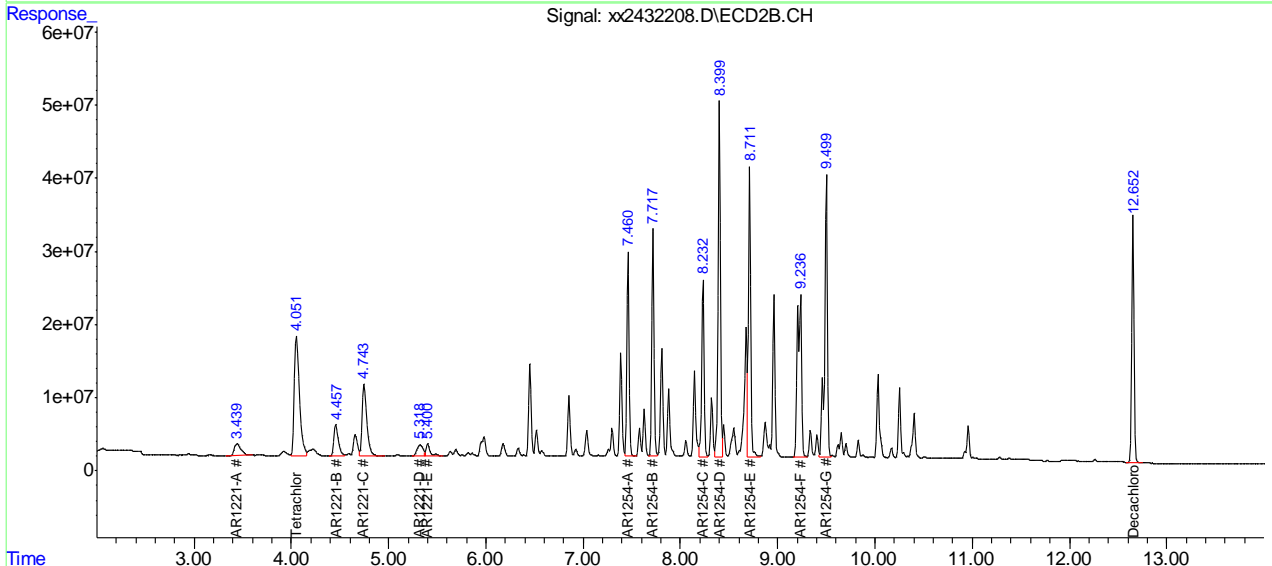
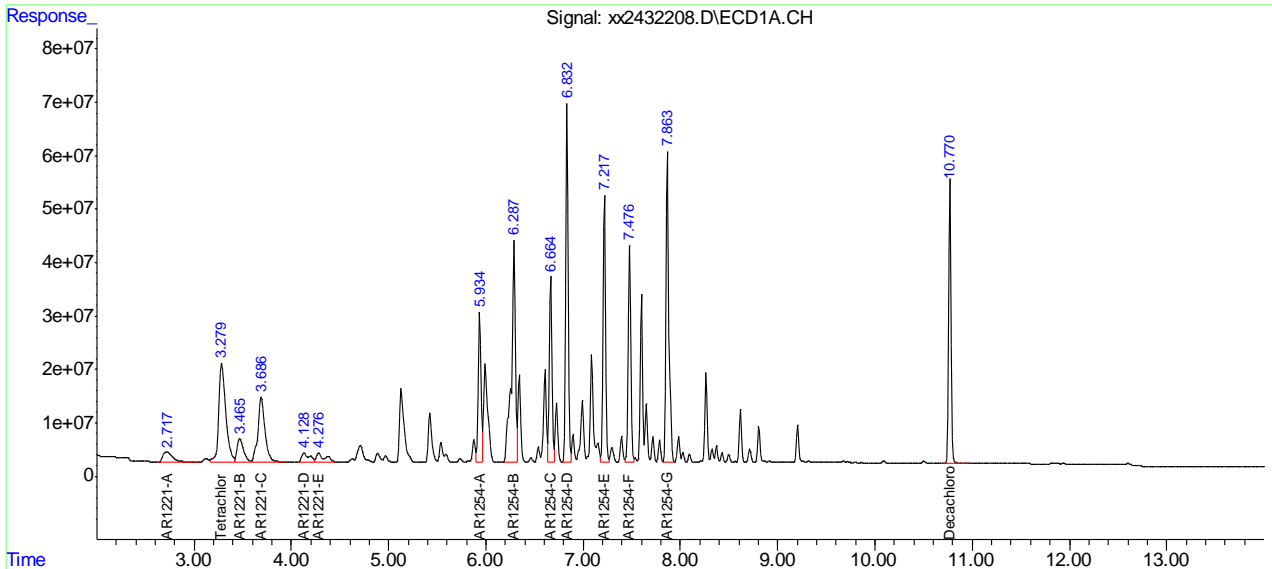
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:50:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.59 11

# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432208.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 05:13      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1221-D		1	4.13	Split peak
AR1221-E		1	4.28	Split peak
AR1221-E		2	5.40	Split peak
AR1254-B		1	6.29	Split peak
AR1254-F		2	9.24	Split peak
AR1254-G		2	9.50	Split peak

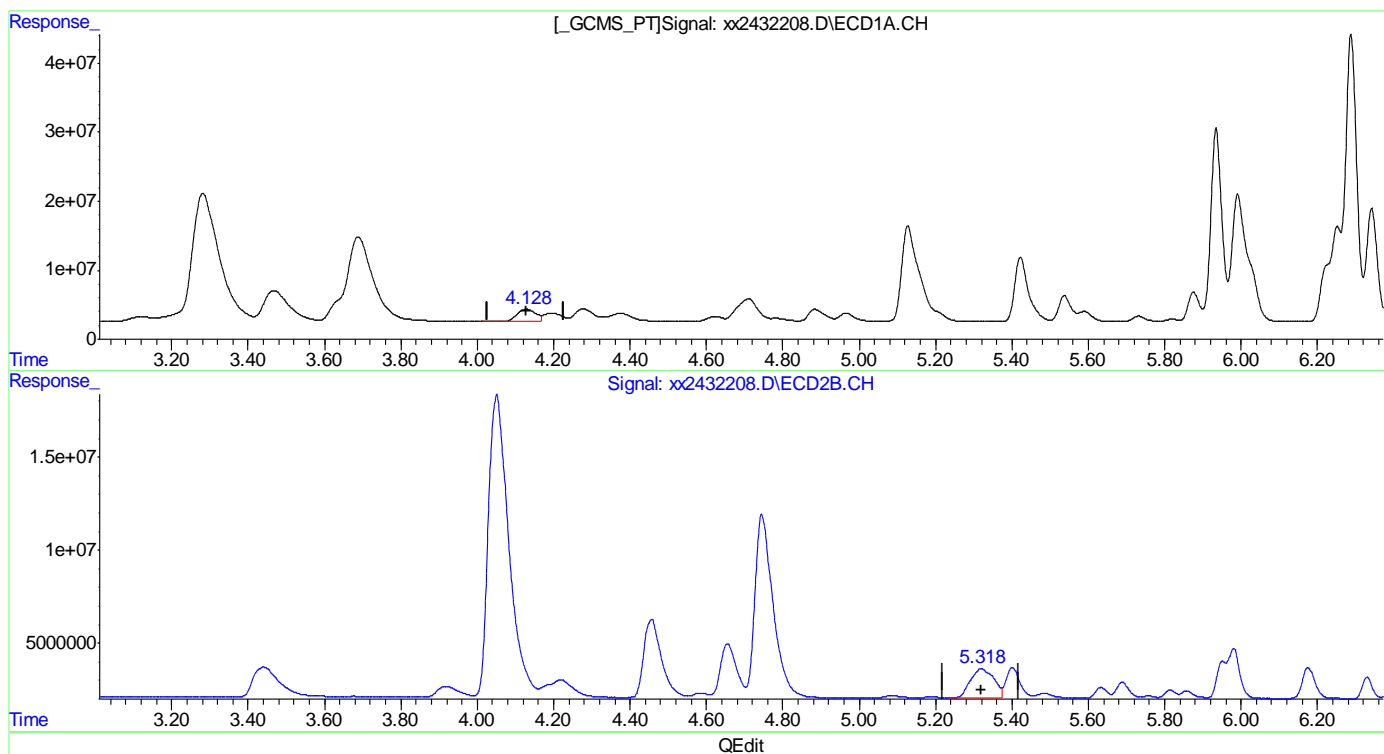
11.6.59.1  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(5) AR1221-D  
 4.128min 738.882PPB  
 response 61201263

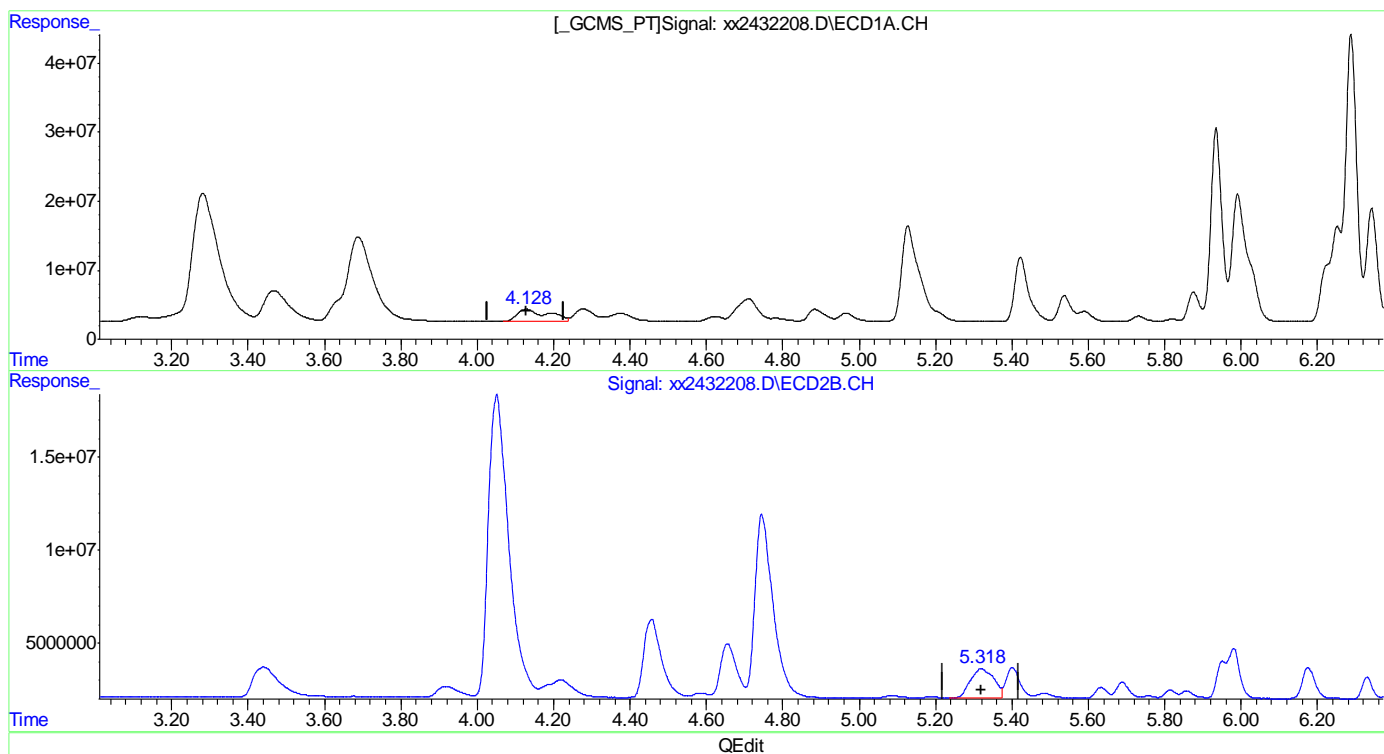
(5) AR1221-D #2  
 5.319min 1081.442PPB  
 response 66075570

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(5) AR1221-D  
 4.128min 1246.226PPB m  
 response 103224296

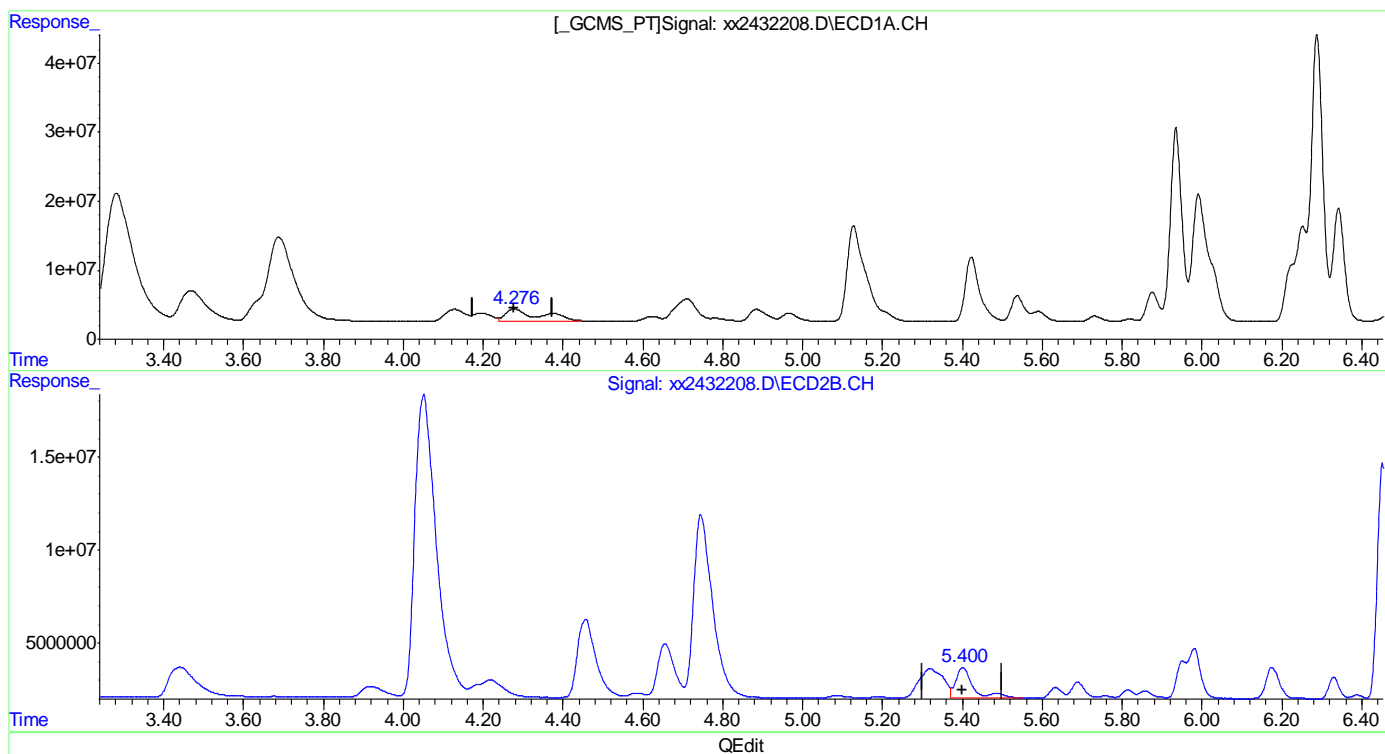
(5) AR1221-D #2  
 5.319min 1081.442PPB  
 response 66075570

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(6) AR1221-E  
 4.276min 1140.182PPB m  
 response 113771039

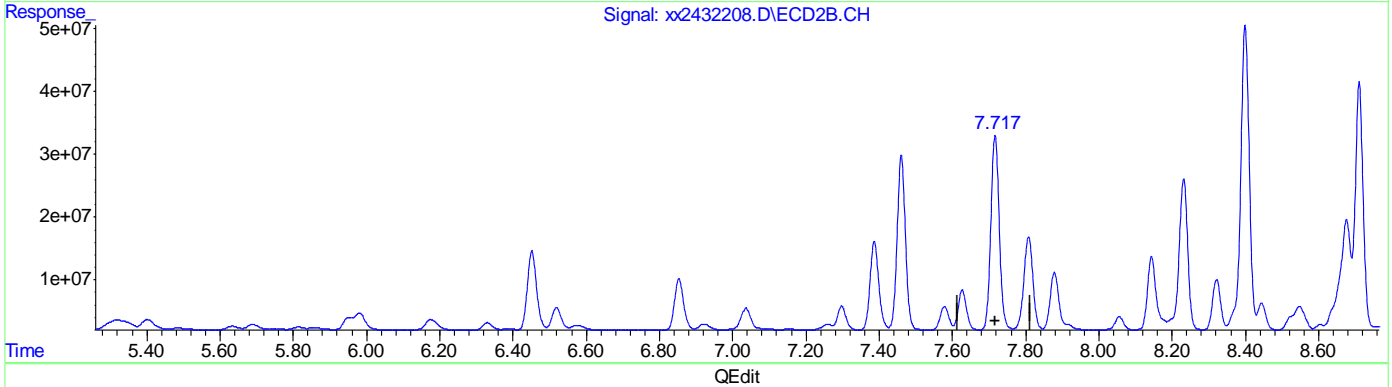
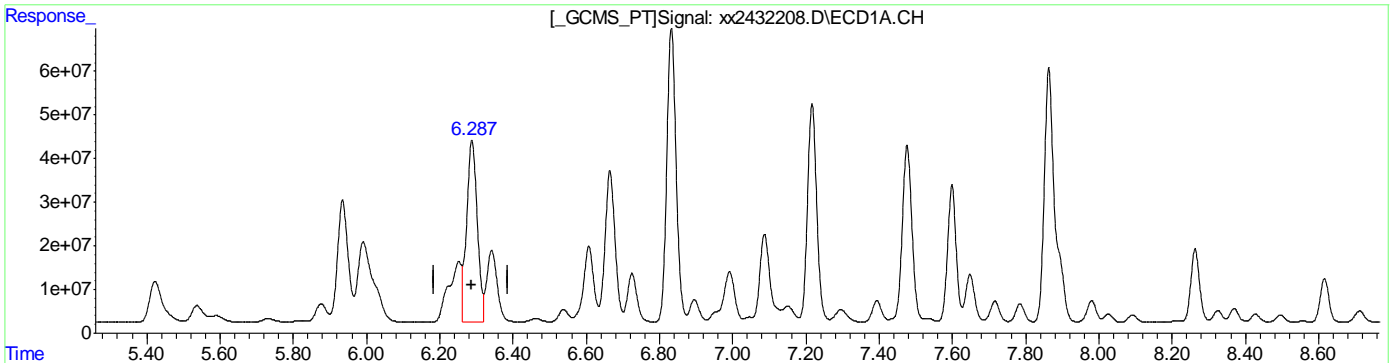
(6) AR1221-E #2  
 5.400min 1050.812PPB m  
 response 48704658

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(25) AR1254-B  
 6.288min 867.523PPB  
 response 855137591

(25) AR1254-B #2  
 7.717min 1027.016PPB  
 response 498463583

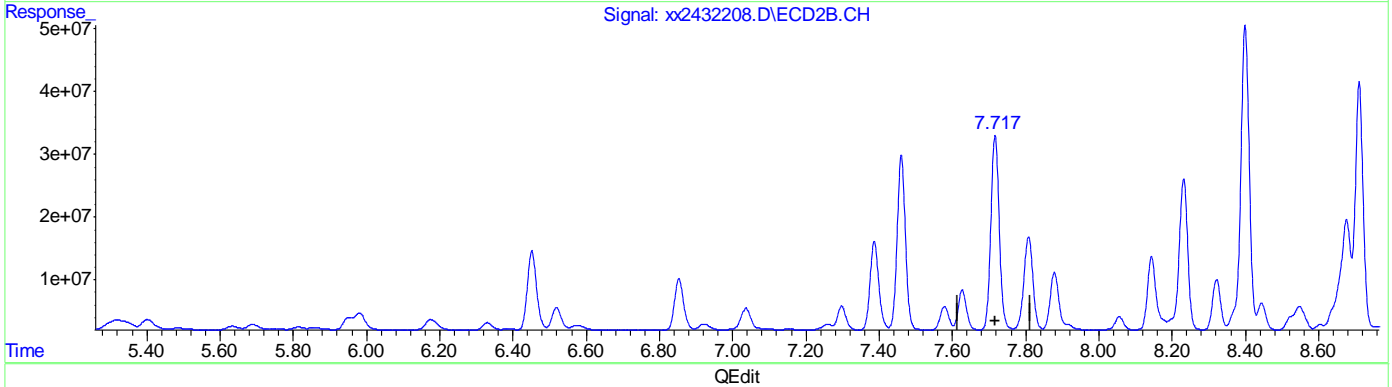
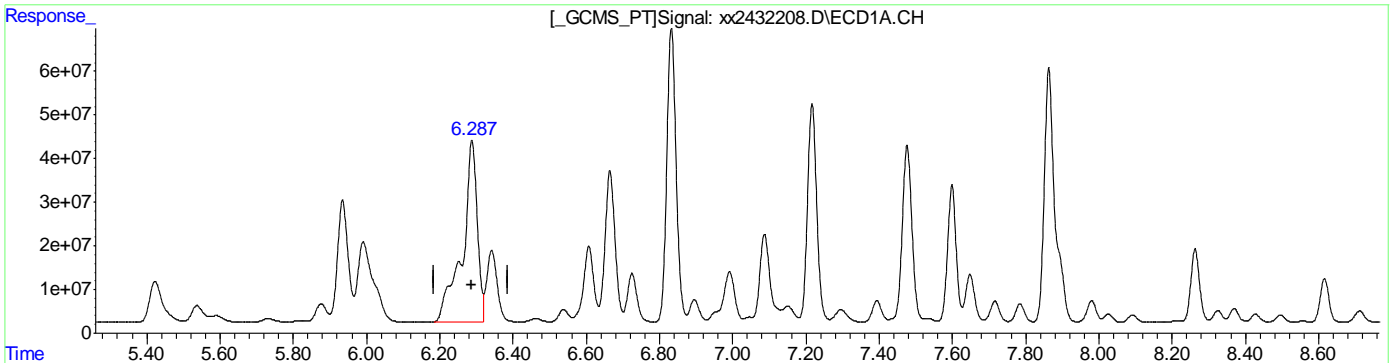


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(25) AR1254-B  
 6.287min 1204.752PPB m  
 response 1187552286

(25) AR1254-B #2  
 7.717min 1027.016PPB  
 response 498463583

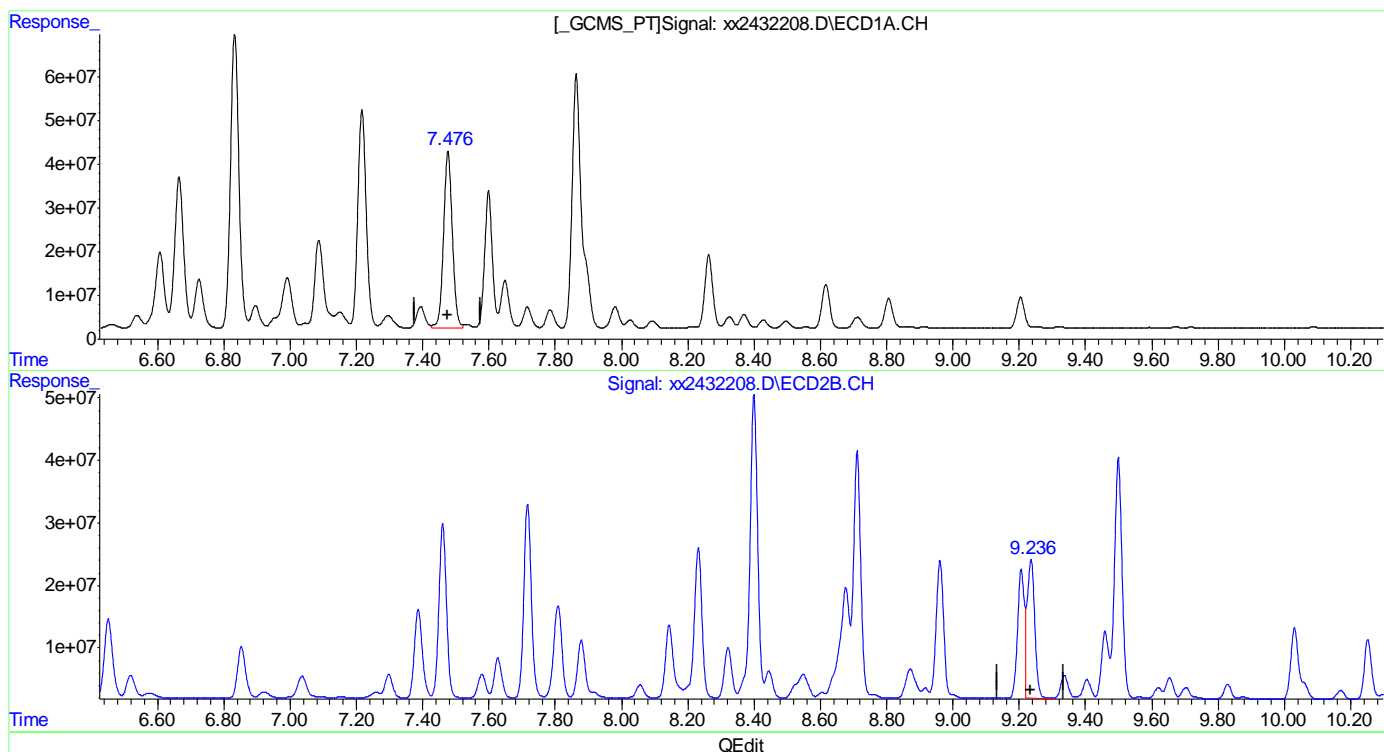
11.6.59.6  
 11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(29) AR1254-F  
 7.476min 1140.819PPB  
 response 756442982

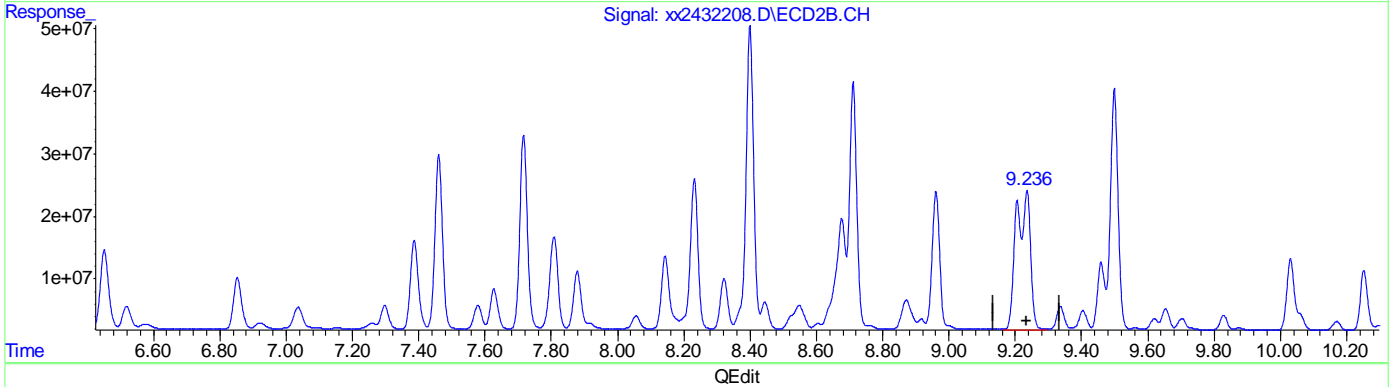
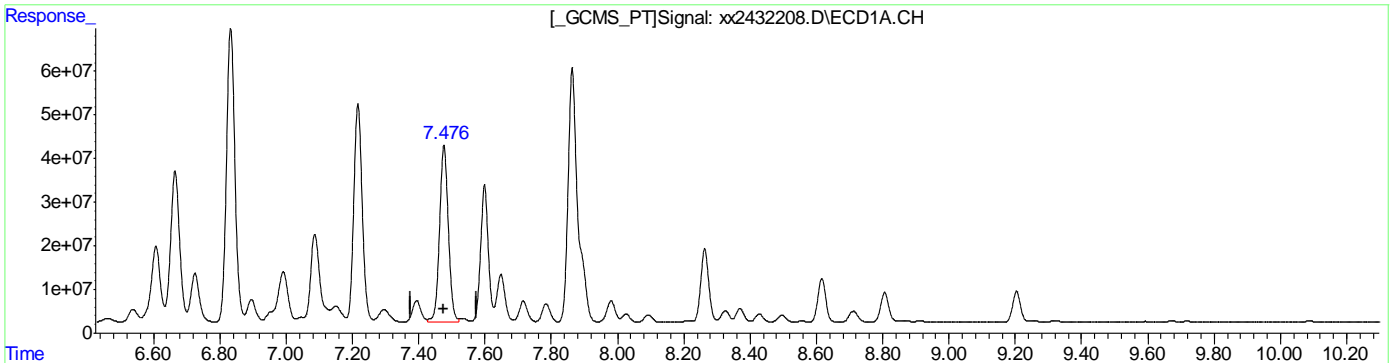
(29) AR1254-F #2  
 9.236min 523.938PPB  
 response 349924158

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(29) AR1254-F  
 7.476min 1140.819PPB  
 response 756442982

(29) AR1254-F #2  
 9.236min 981.008PPB m  
 response 655188340

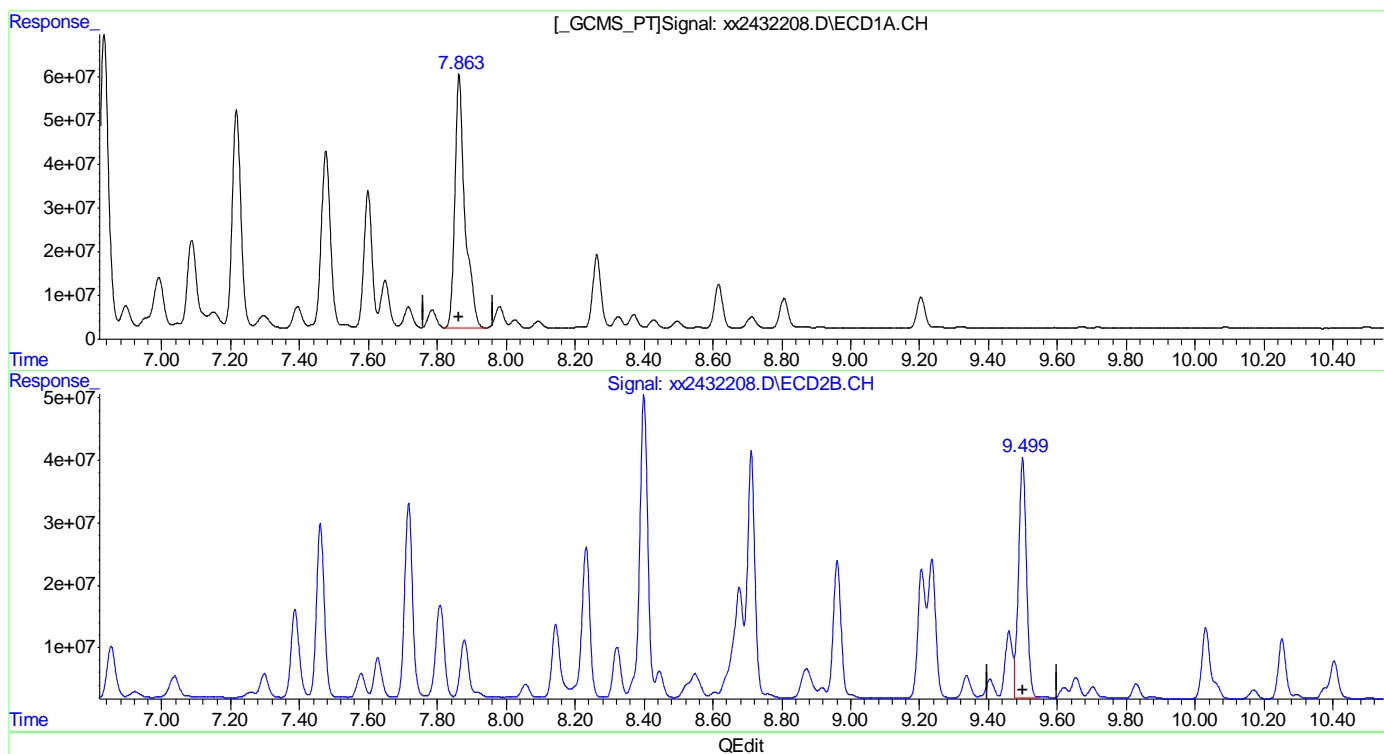
11.6.59.8  
 11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(30) AR1254-G  
 7.863min 1171.050PPB  
 response 1184371178

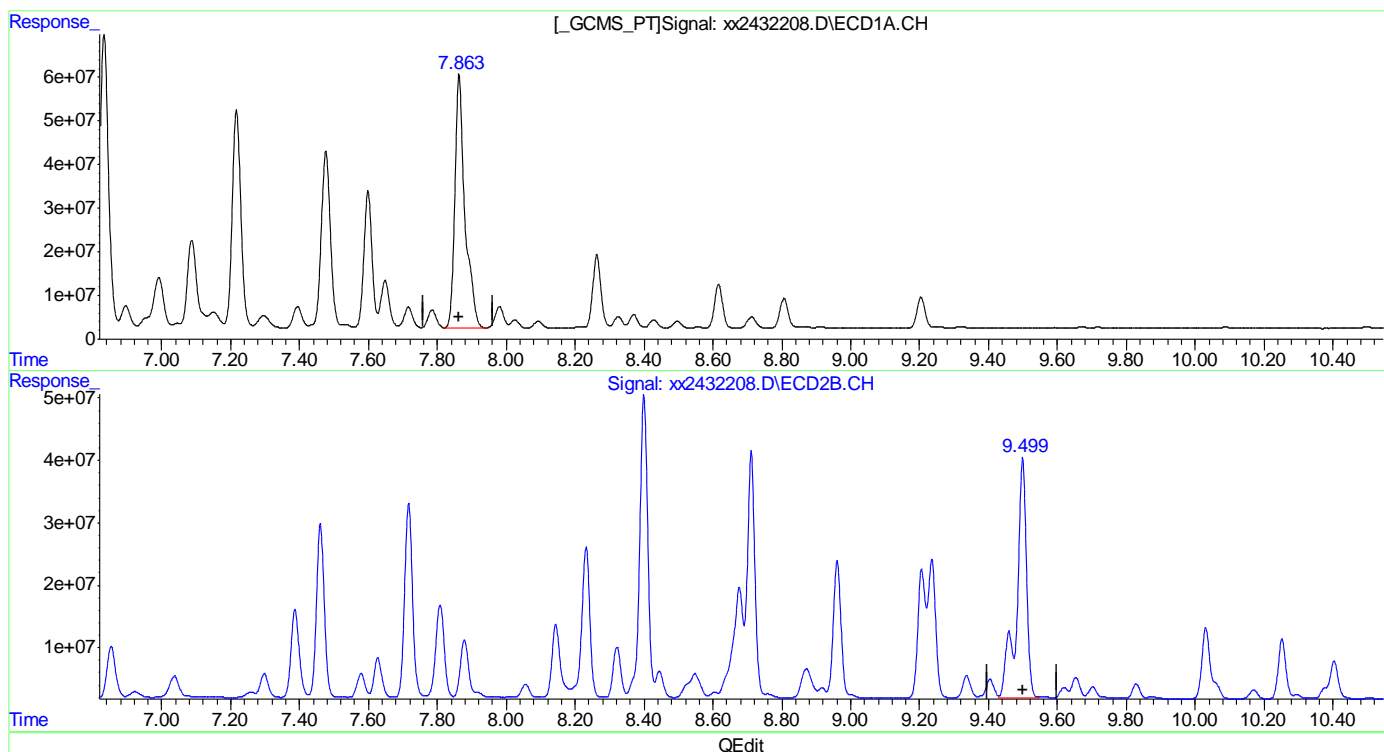
(30) AR1254-G #2  
 9.499min 768.574PPB  
 response 627401835

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432208.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:13 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:48:46 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:48:42 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(30) AR1254-G  
 7.863min 1171.050PPB  
 response 1184371178

(30) AR1254-G #2  
 9.499min 961.023PPB m  
 response 784501267

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

Gwendolyn Burns  
 03/05/19 12:57

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432209.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:32 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:54:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:53:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.284	4.051	822.1E6	542.4E6	43.984	42.817
Spiked Amount	40.000		Recovery	=	109.96%	107.04%
51) S Decachlor...	10.771	12.654	804.7E6	497.3E6	43.502	42.340
Spiked Amount	40.000		Recovery	=	108.76%	105.85%
Target Compounds						
7) AR1232-A	3.689	4.744	480.8E6	263.2E6	1075.484	1016.080
8) AR1232-B	4.128	5.322	324.7E6	210.0E6	1205.557	1078.037
9) AR1232-C	4.711	5.979	704.7E6	453.2E6	1170.193	1039.378m
10) AR1232-D	4.885	6.177	262.1E6	173.7E6	1179.254	960.835
11) AR1232-E	5.425	6.853	255.1E6	123.7E6	1192.437	1034.577
31) AR1262-A	7.474	8.961	893.5E6	578.7E6	1202.279	959.735
32) AR1262-B	8.027	9.621	1092.5E6	918.8E6	1188.571	932.633
33) AR1262-C	8.371	10.062	1054.2E6	737.7E6	1200.203	954.119
34) AR1262-D	8.808	10.404	2316.6E6	1791.3E6	1197.378	912.914
35) AR1262-E	9.259	10.931	2574.6E6	1954.0E6	1172.320m	910.460m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

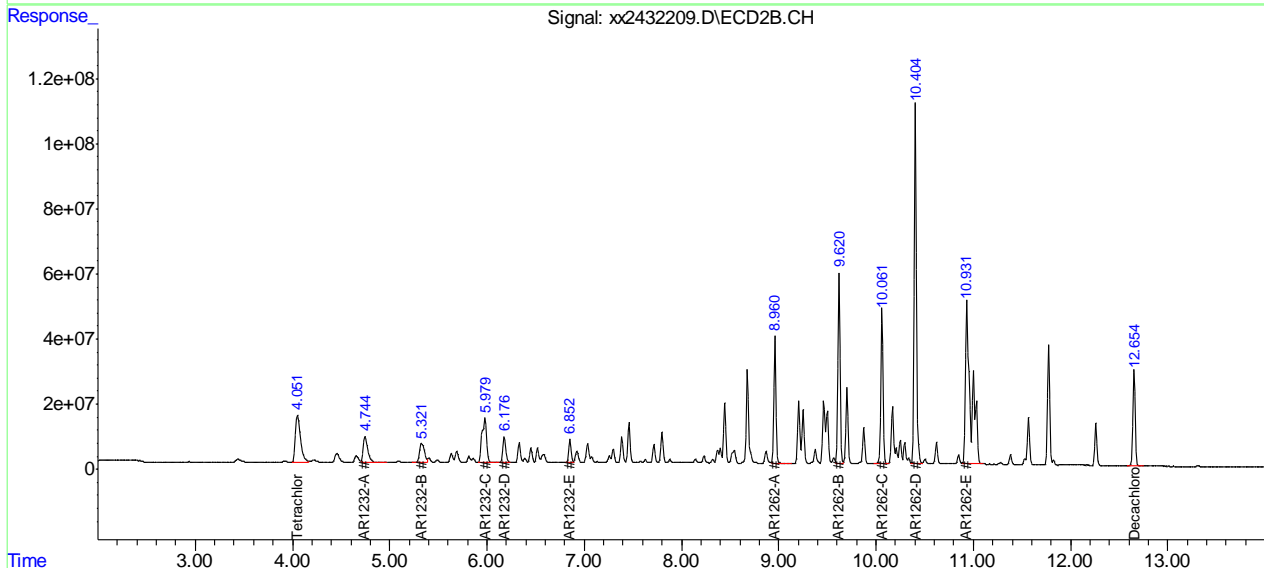
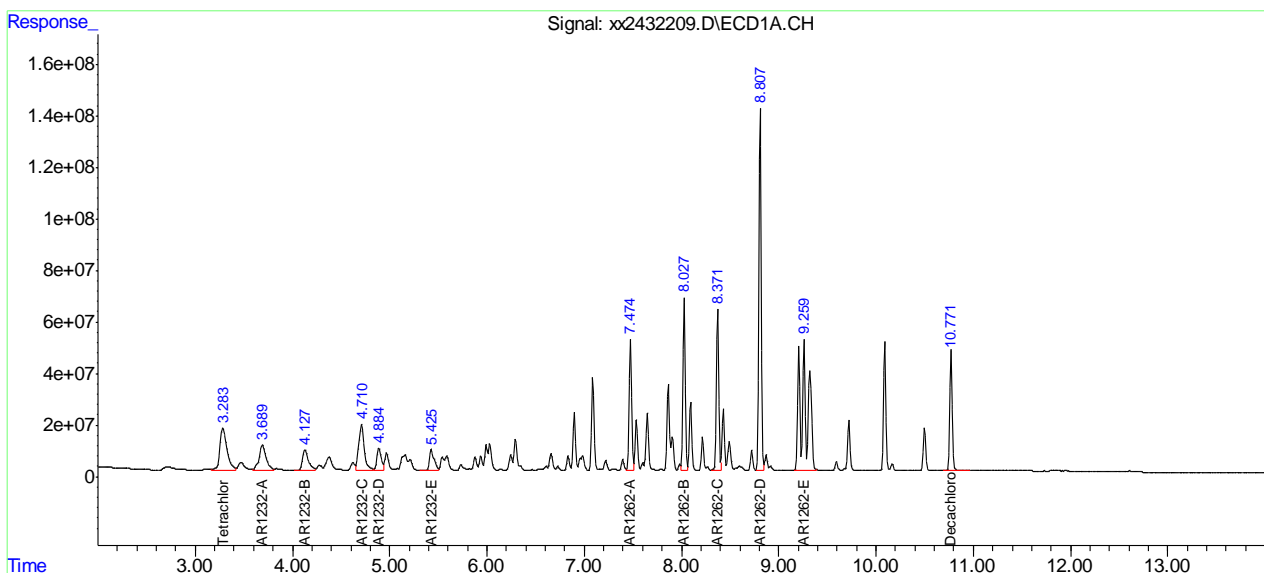
11.660  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432209.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:32 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:54:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:53:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.60  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432209.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 05:32      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1232-C		2	5.98	Split peak
Ar1262-E		1	9.26	Split peak
Ar1262-E		2	10.93	Split peak

11.6.60.1

11

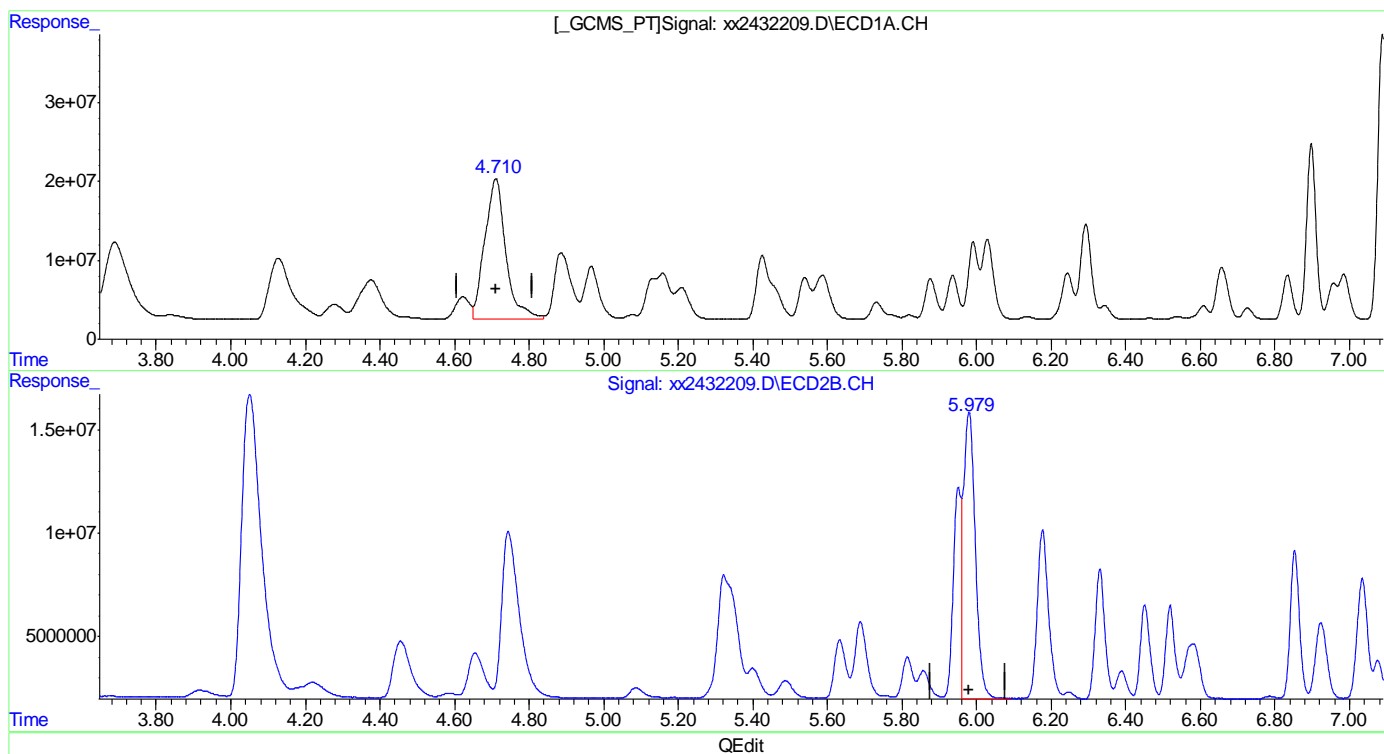


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432209.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:32 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:53:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:53:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(9) AR1232-C  
 4.711min 1170.193PPB  
 response 704652825

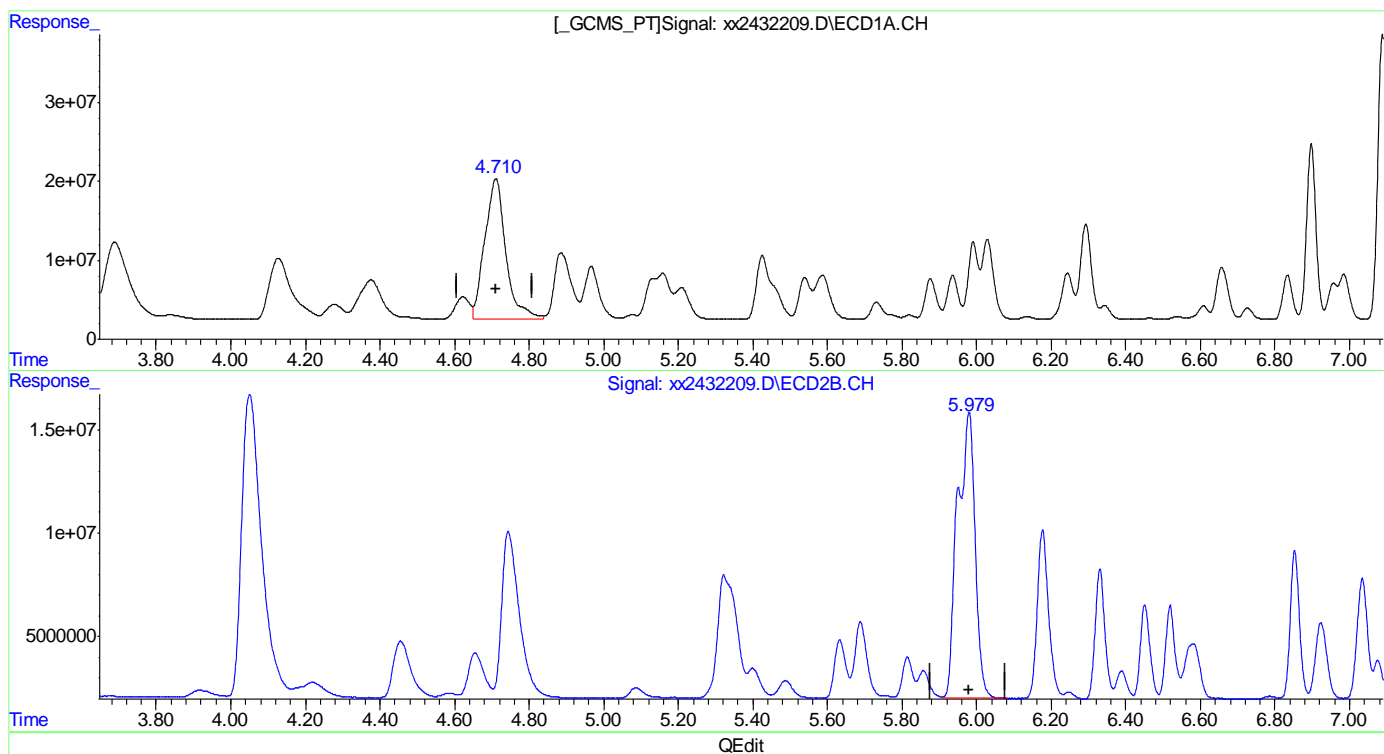
(9) AR1232-C #2  
 5.980min 714.408PPB  
 response 311530548

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432209.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:32 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:53:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:53:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(9) AR1232-C  
 4.711min 1170.193PPB  
 response 704652825

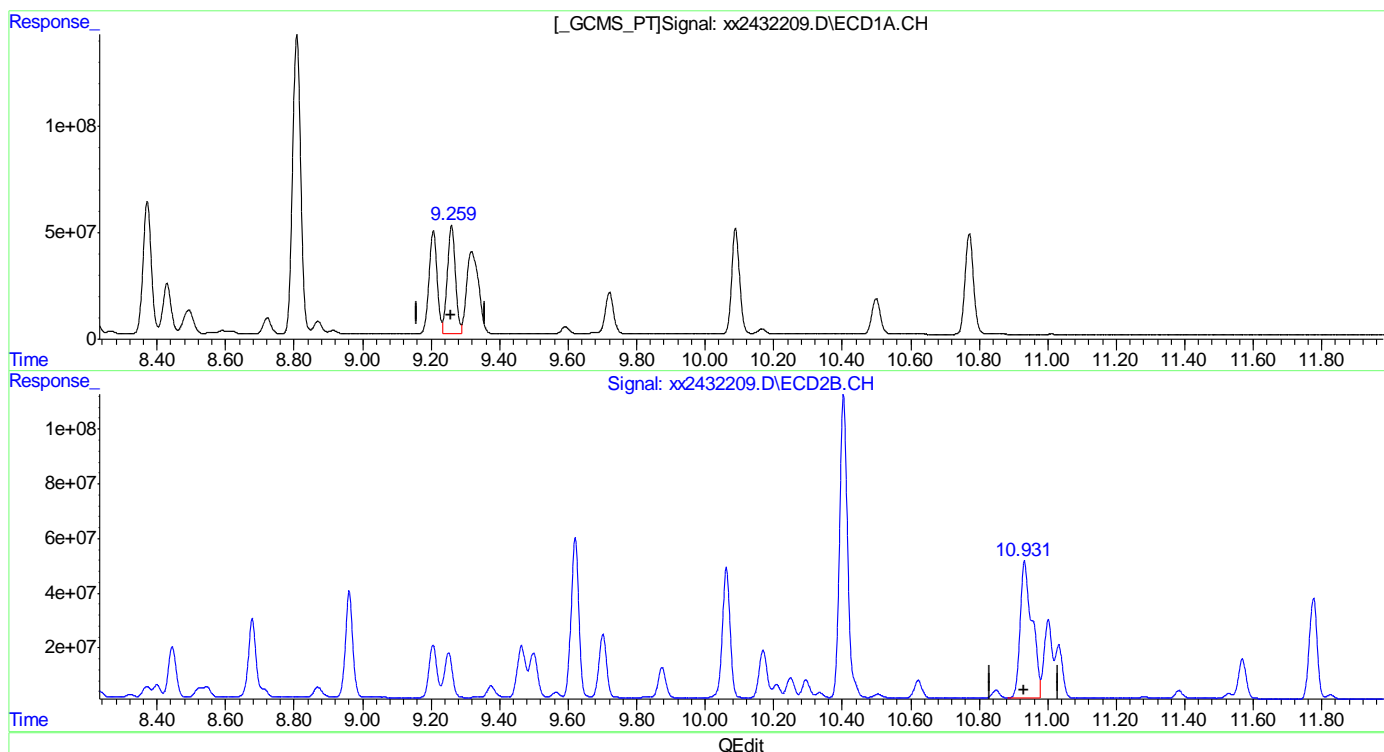
(9) AR1232-C #2  
 5.979min 1039.378PPB m  
 response 453239631

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432209.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:32 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:53:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:53:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(35) AR1262-E  
 9.260min 380.546PPB  
 response 835734483

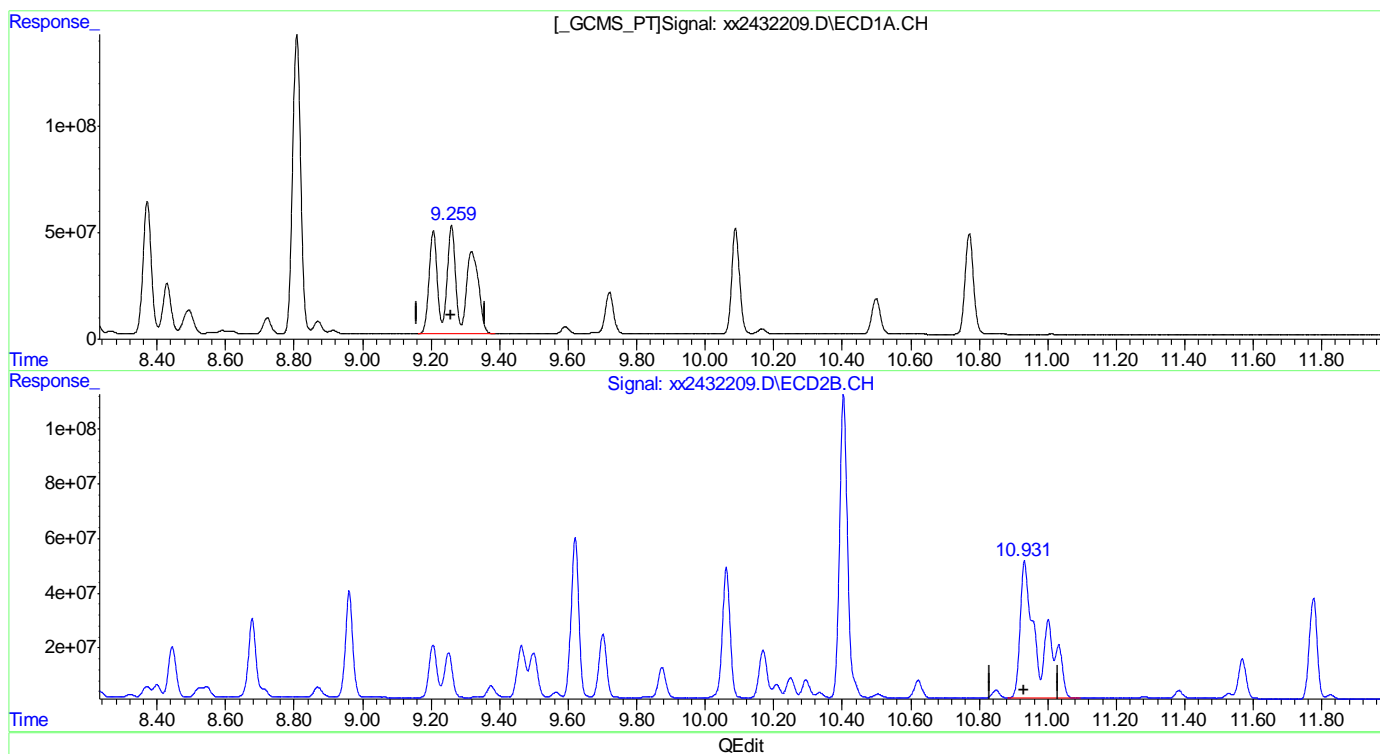
(35) AR1262-E #2  
 10.932min 565.754PPB  
 response 1214180950

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432209.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:32 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 08:53:14 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 08:53:00 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(35) AR1262-E  
 9.259min 1172.320PPB m  
 response 2574587661

(35) AR1262-E #2  
 10.931min 910.460PPB m  
 response 1953965817

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432210.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:50 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:21:04 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:20:24 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.286	4.051	913.2E6	621.9E6	48.860	49.097
Spiked Amount	40.000		Recovery	=	122.15%	122.74%
51) S Decachlor...	10.770	12.652	2346.6E6	1501.8E6	126.859	127.853
Spiked Amount	40.000		Recovery	=	317.15%	319.63%
Target Compounds						
12) AR1242-A	4.125	5.325	501.1E6	346.7E6	1150.546	1069.366
13) AR1242-B	4.710	5.980	1173.1E6	745.9E6	1152.192	1034.381
14) AR1242-C	4.886	6.175	431.1E6	280.2E6	1164.395	959.330
15) AR1242-D	5.424	6.853	462.6E6	223.9E6	1160.828	1033.259
16) AR1242-E	6.027	7.460	734.3E6	279.2E6	1156.012m	994.909
36) AR1268-A	9.259	10.933	2638.7E6	2186.9E6	1185.875	906.549
37) AR1268-B	9.314	11.001	2630.4E6	1974.8E6	1173.129	911.167
38) AR1268-C	9.592	11.382	2195.8E6	1705.0E6	1189.023	908.080
39) AR1268-D	10.088	11.775	888.9E6	695.8E6	1134.980	894.760
40) AR1268-E	10.498	12.261	7686.7E6	5024.4E6	1187.121	907.002
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

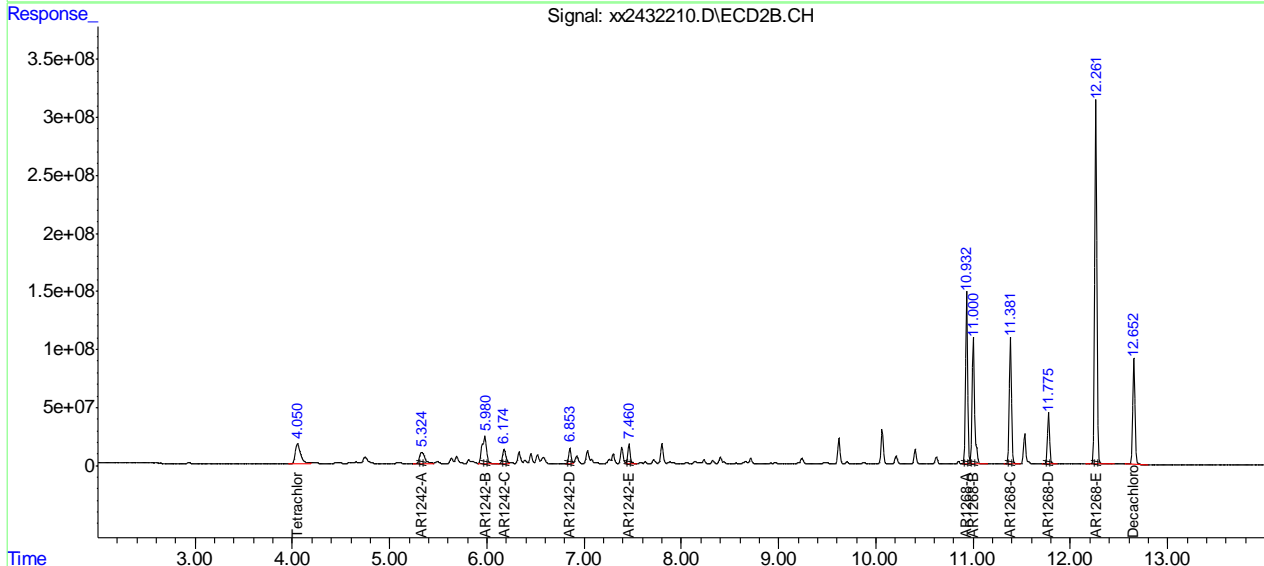
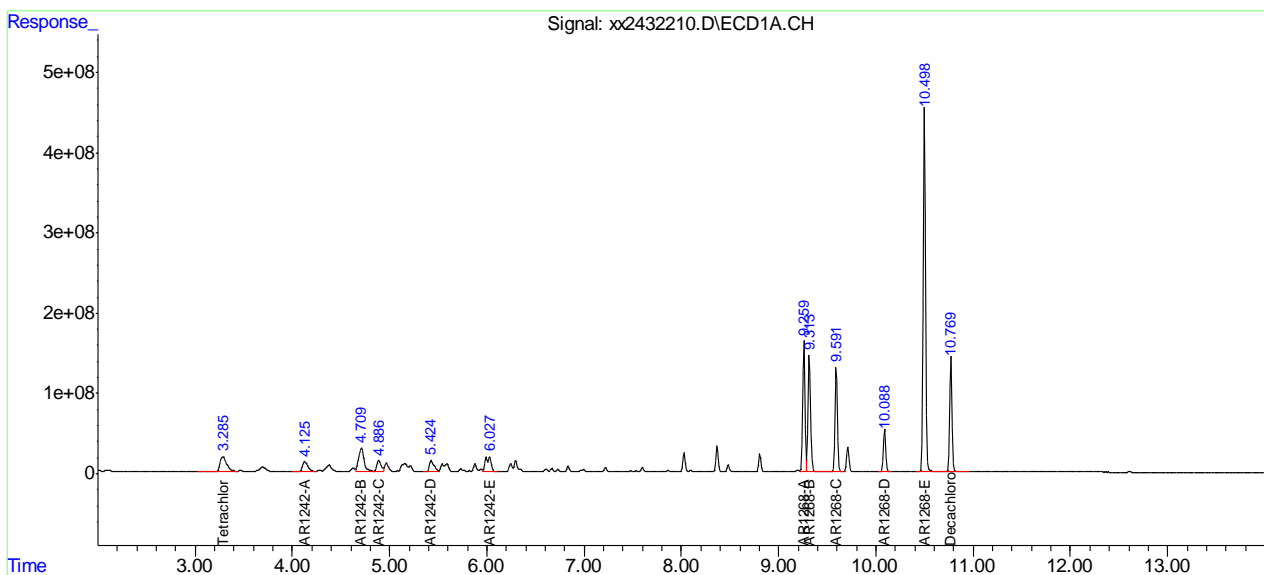
11.661  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432210.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:50 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:21:04 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:20:24 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.61  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432210.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 05:50      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1242-E		1	6.03	Split peak

11.6.61.1

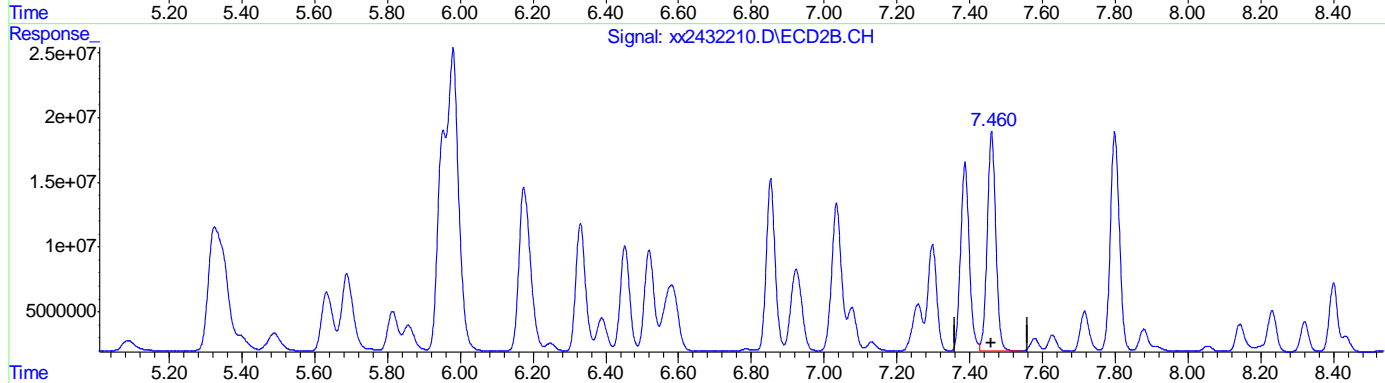
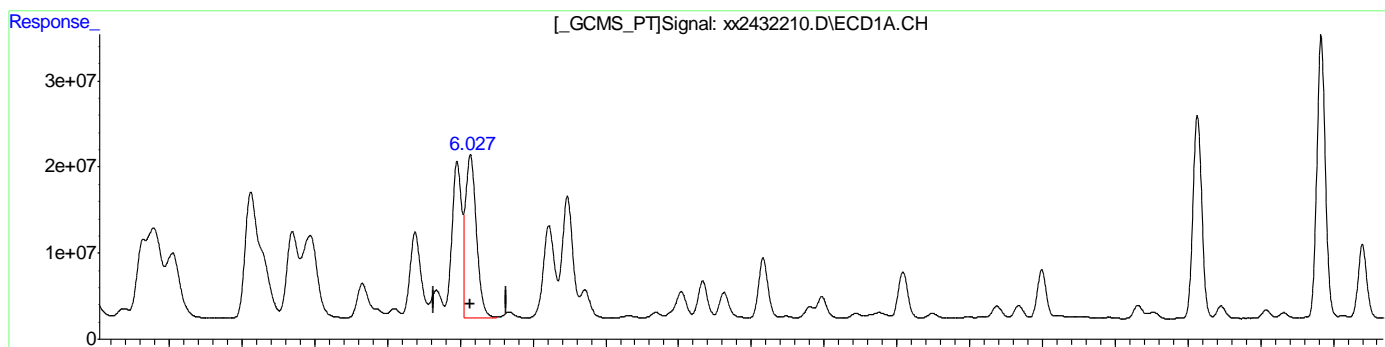
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432210.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:50 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:20:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:20:24 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(16) AR1242-E  
 6.028min 633.942PPB  
 response 402693197

(16) AR1242-E #2  
 7.460min 994.909PPB  
 response 279224578

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 09:20:55 2019

11.6.61.2  
 11

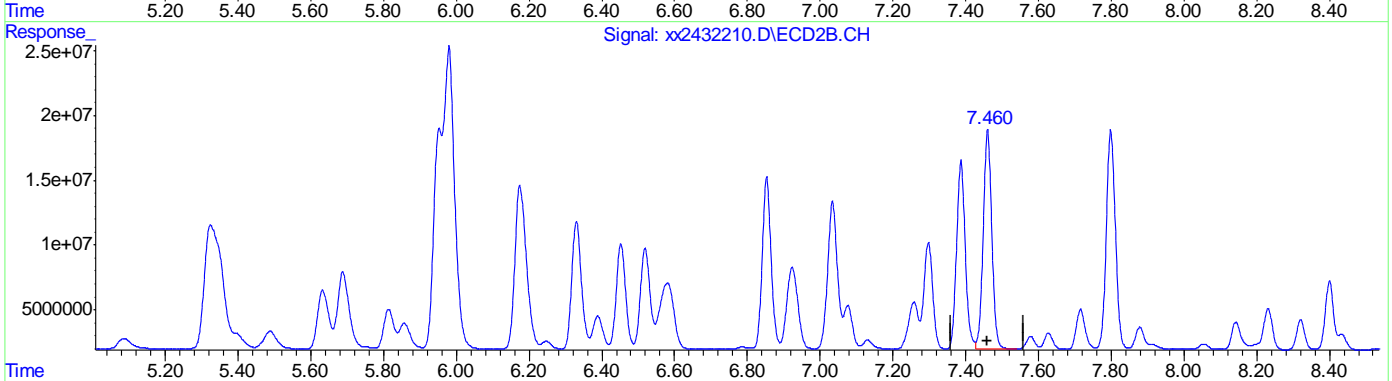
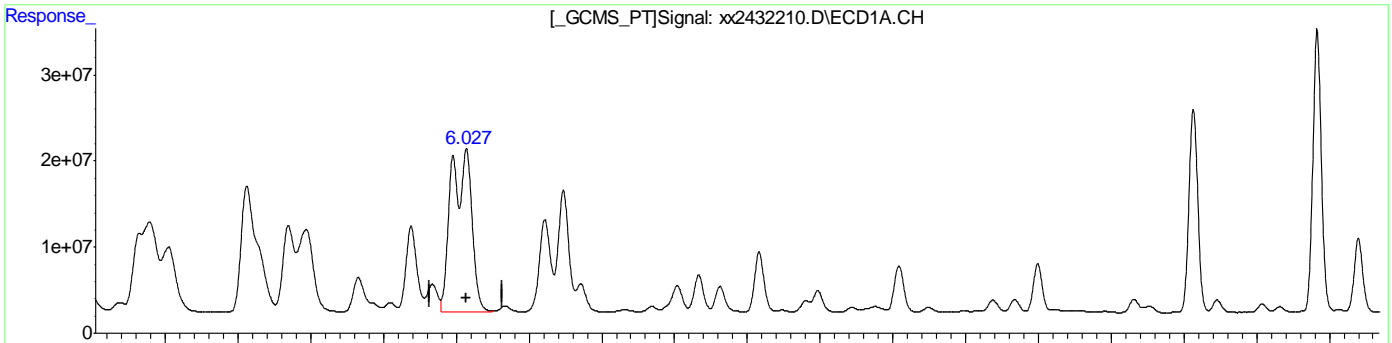


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432210.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 5:50 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:20:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:20:24 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(16) AR1242-E  
 6.027min 1156.012PPB m  
 response 734322957

(16) AR1242-E #2  
 7.460min 994.909PPB  
 response 279224578

11.6.61.3  
 11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:25:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.283	4.050	862.2E6	595.4E6	46.133	46.998
Spiked Amount	40.000		Recovery	=	115.33%	117.49%
51) S Decachlor...	10.770	12.651	860.5E6	554.0E6	46.517	47.168
Spiked Amount	40.000		Recovery	=	116.29%	117.92%
Target Compounds						
17) AR1248-A	4.122	5.325	265.3E6	180.1E6	1146.487	1056.374
18) AR1248-B	4.706	5.980	718.2E6	495.2E6	1042.415	1042.207m
19) AR1248-C	5.156	6.453	729.9E6	274.6E6	1208.693m	1081.405
20) AR1248-D	5.425	6.854	734.4E6	368.7E6	1177.614	1059.096
21) AR1248-E	5.539	7.035	667.4E6	406.6E6	1150.673m	1023.032m
22) AR1248-F	5.991	7.461	1276.1E6	493.0E6	1174.626m	1013.408
23) AR1248-G	6.294	7.800	545.2E6	482.0E6	1103.226	1014.443
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.62

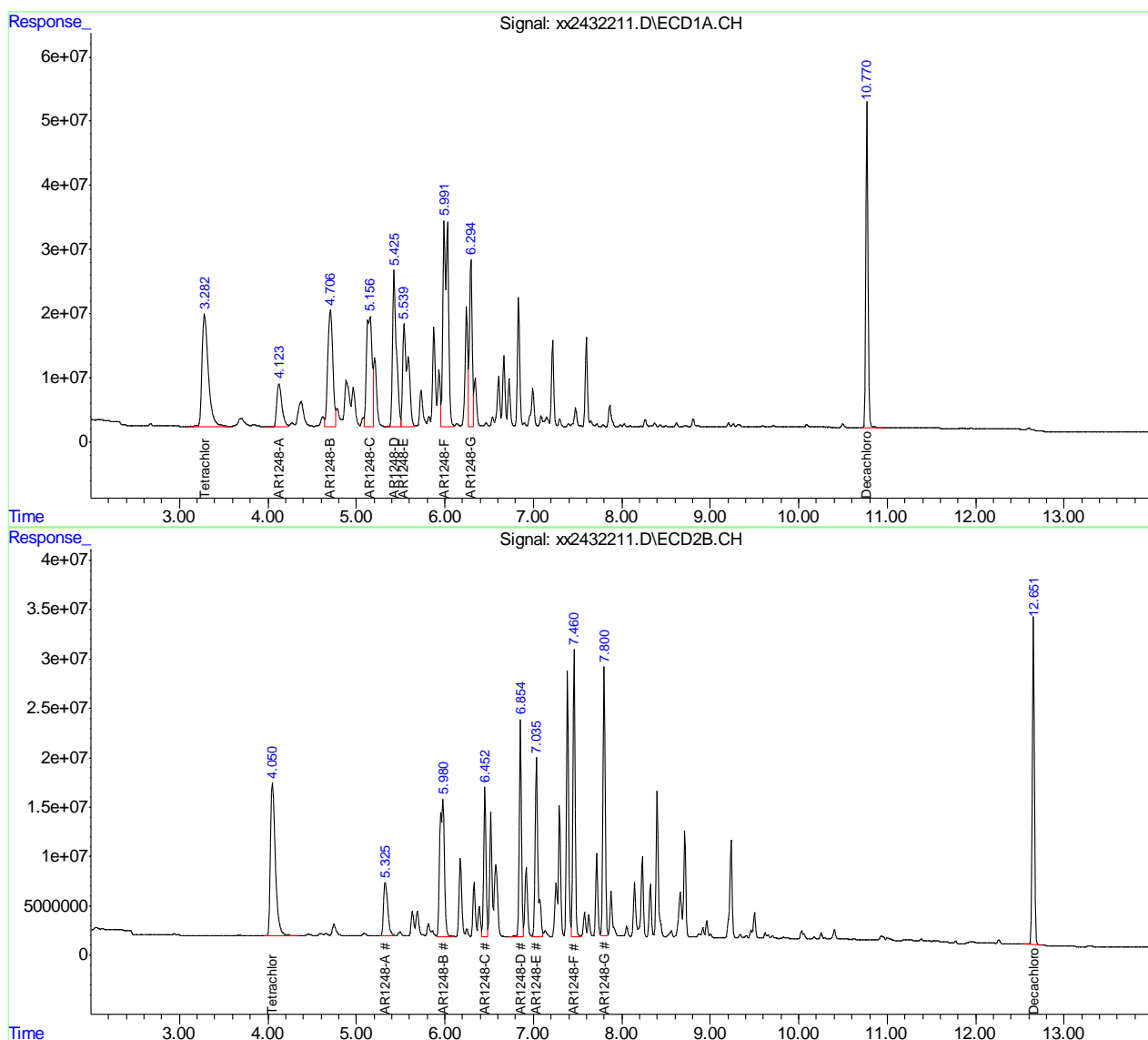
11

## Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:25:32 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

11.6.62  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-IC6621      Method: SW846 8082A  
Lab FileID: XX2432211.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 06:08      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1248-C		1	5.16	Split peak
AR1248-E		1	5.54	Split peak
AR1248-B		2	5.98	Split peak
AR1248-F		1	5.99	Split peak
AR1248-E		2	7.03	Split peak

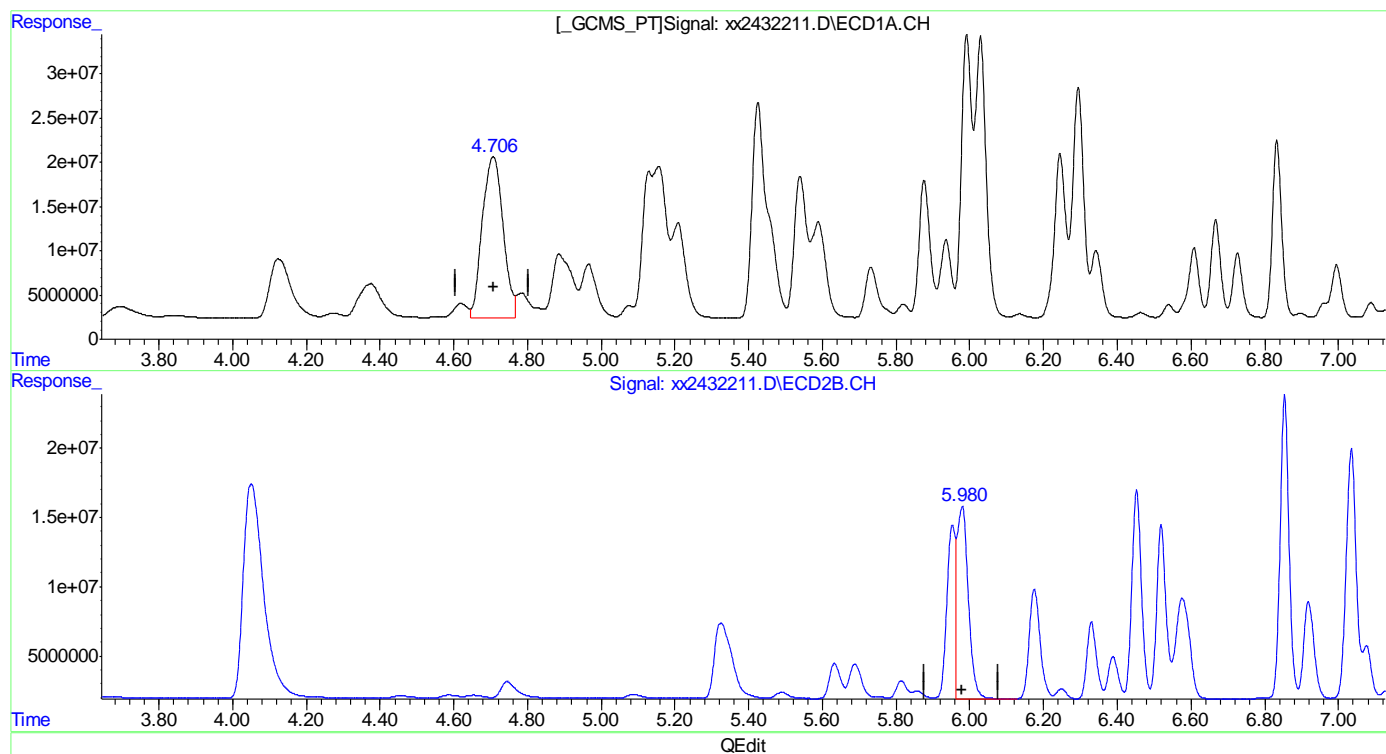
11.6.62.1  
11

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:24:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(18) AR1248-B  
 4.706min 1042.415PPB  
 response 718152165

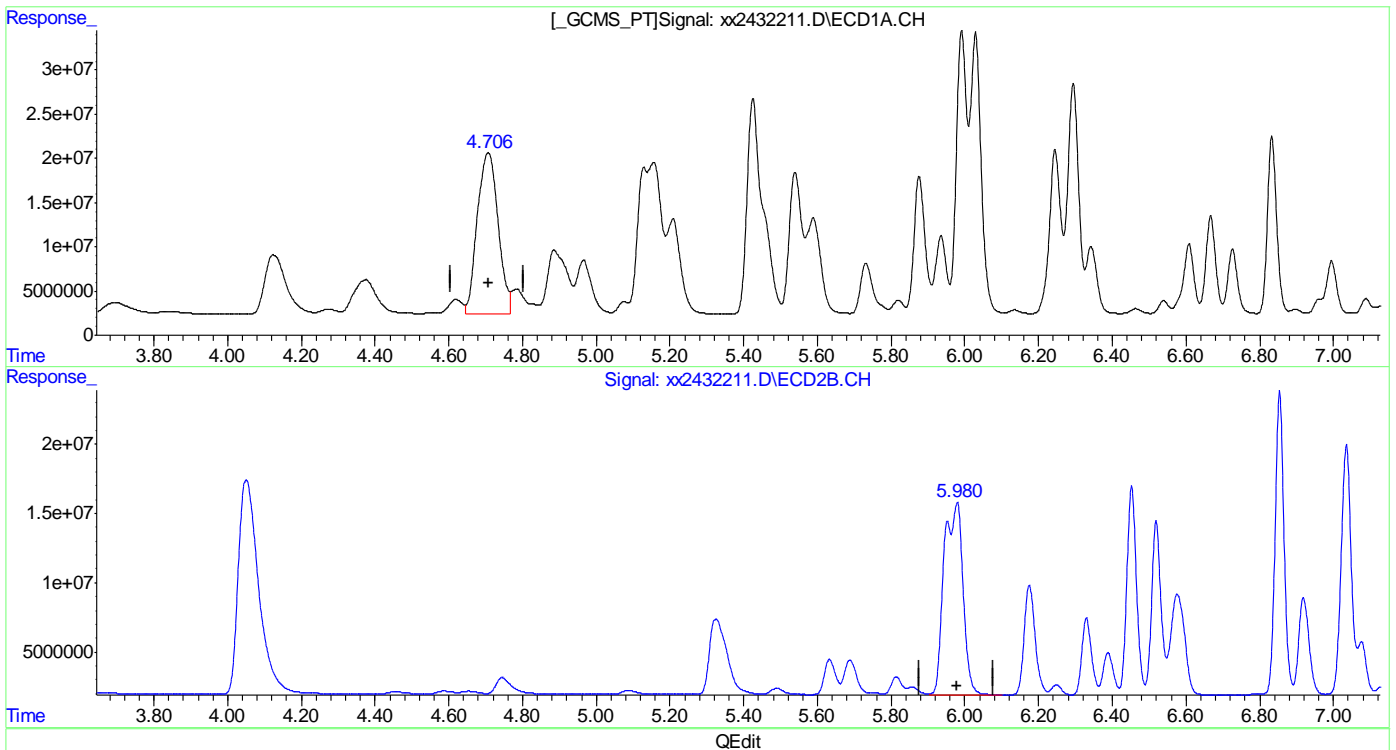
(18) AR1248-B #2  
 5.980min 617.715PPB  
 response 293529914

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:24:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(18) AR1248-B  
 4.706min 1042.415PPB  
 response 718152165

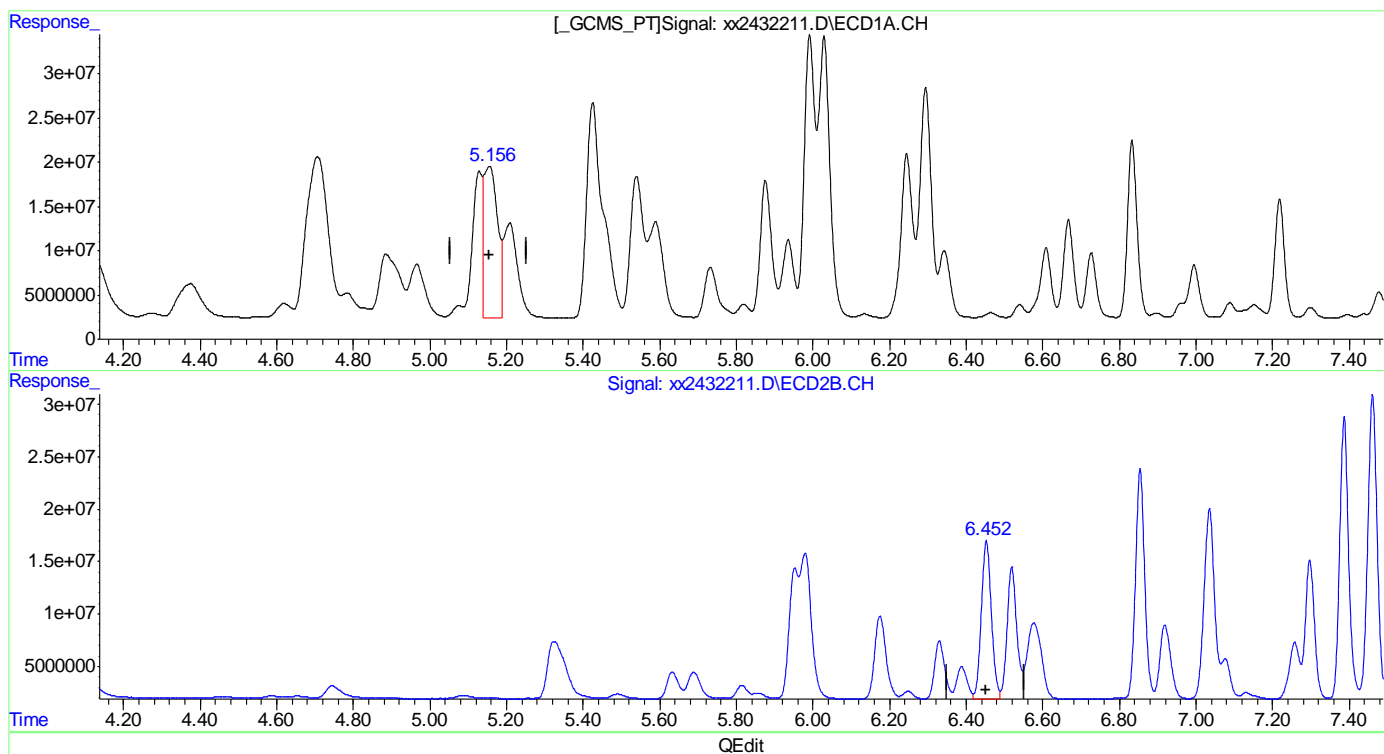
(18) AR1248-B #2  
 5.980min 1042.207PPB m  
 response 495242650

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:24:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(19) AR1248-C  
 5.156min 723.733PPB  
 response 437056887

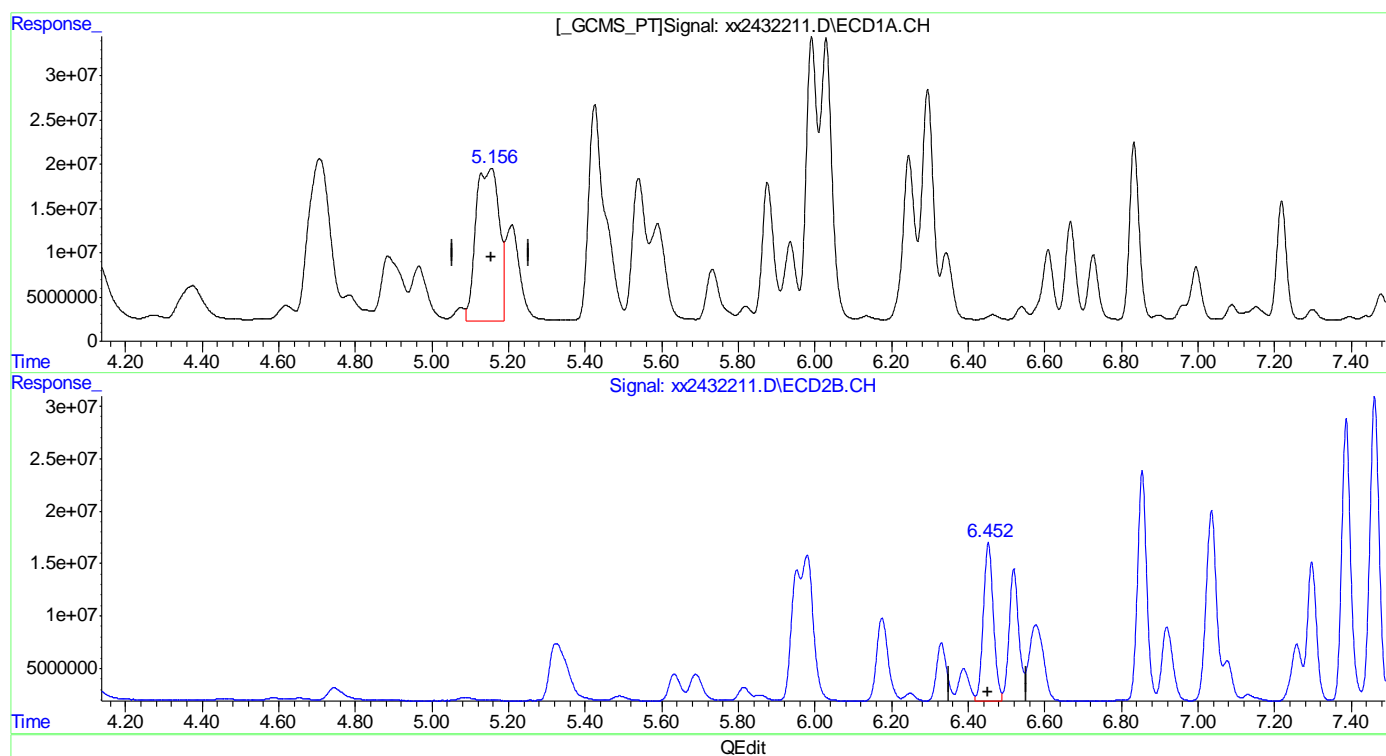
(19) AR1248-C #2  
 6.453min 1081.405PPB  
 response 274642753

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:24:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(19) AR1248-C  
 5.156min 1208.693PPB m  
 response 729920637

(19) AR1248-C #2  
 6.453min 1081.405PPB  
 response 274642753

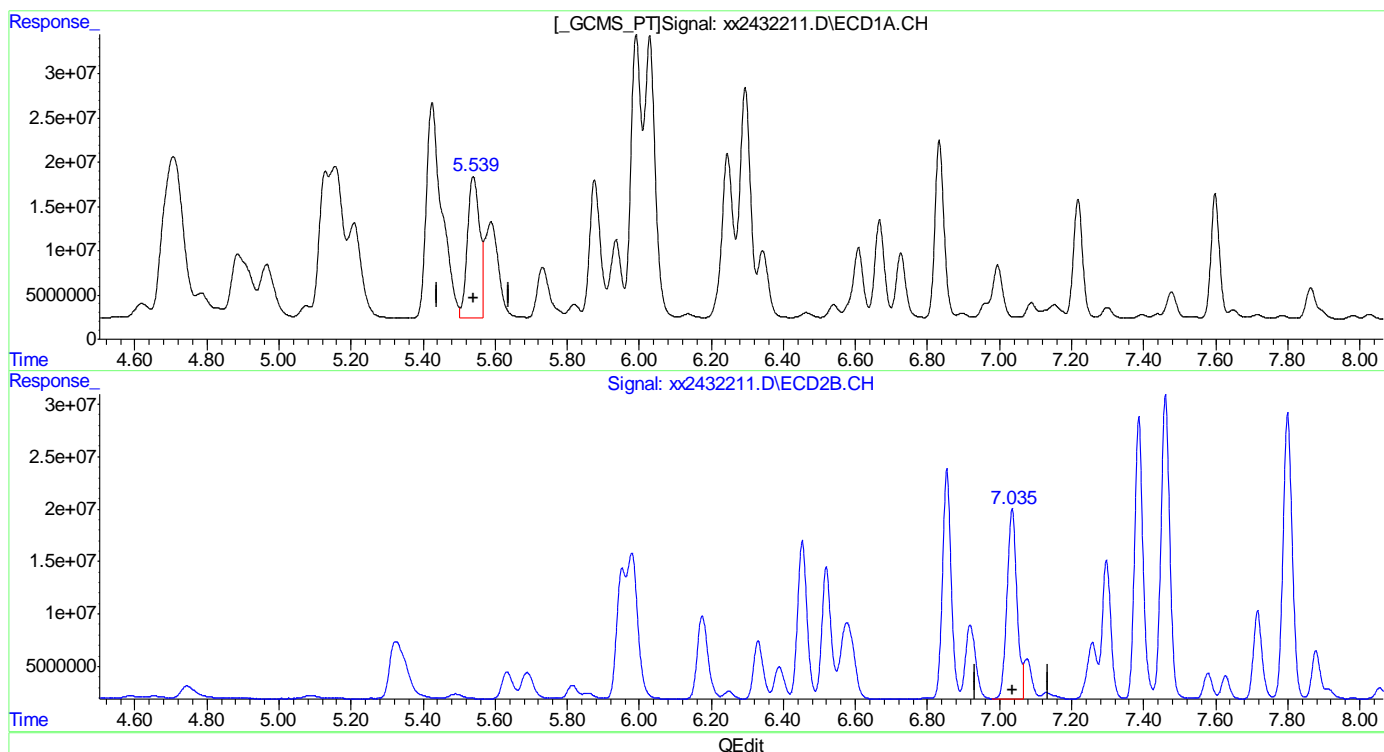


## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:24:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(21) AR1248-E  
 5.539min 655.669PPB  
 response 380278144

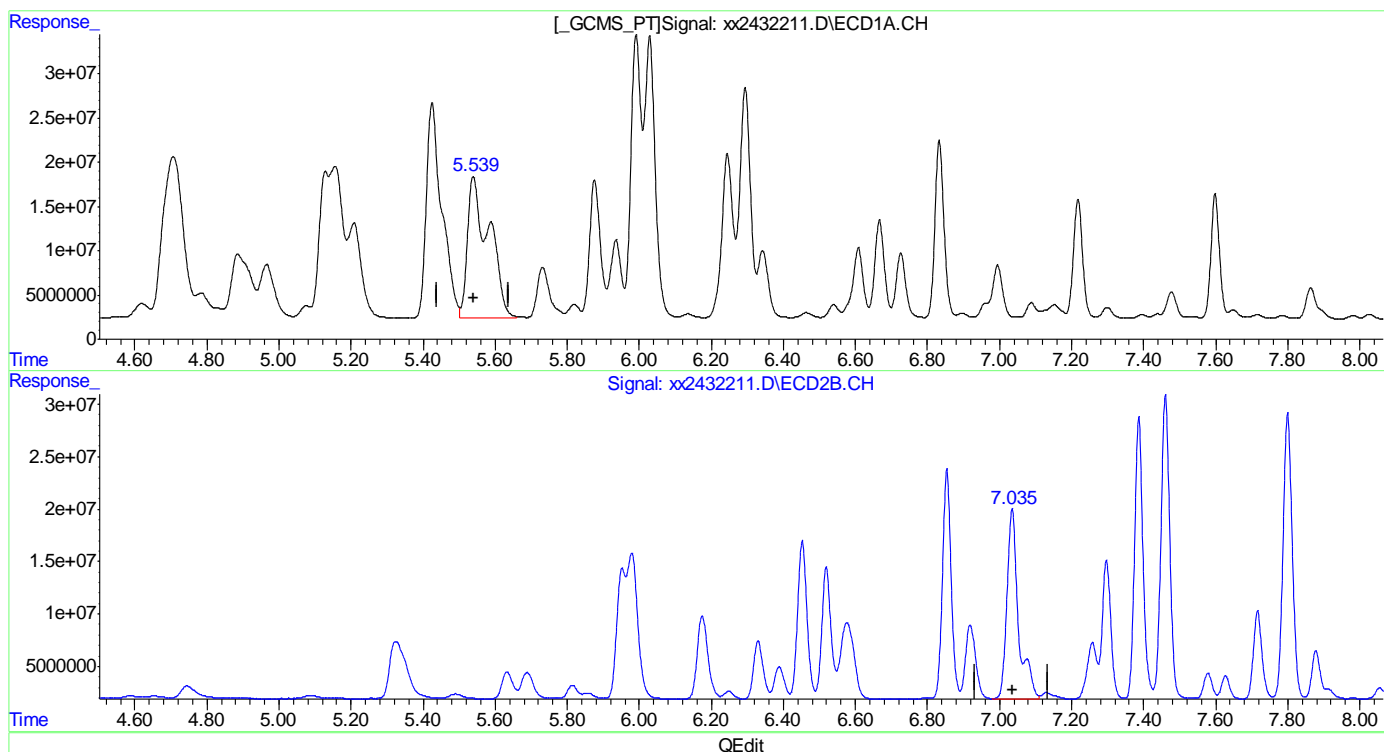
(21) AR1248-E #2  
 7.035min 874.111PPB  
 response 347393816

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:24:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(21) AR1248-E  
 5.539min 1150.673PPB m  
 response 667372706

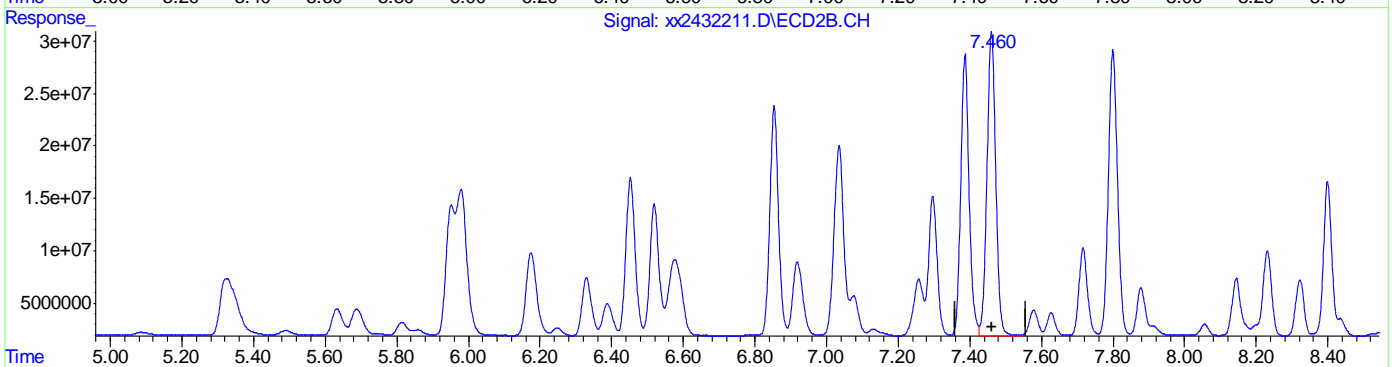
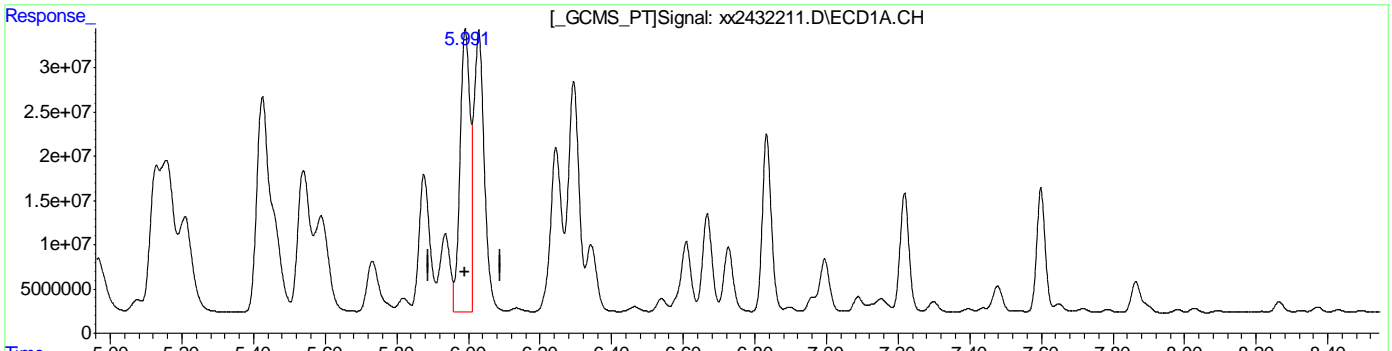
(21) AR1248-E #2  
 7.035min 1023.032PPB m  
 response 406578833

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:24:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(22) AR1248-F  
 5.991min 568.139PPB  
 response 617216880

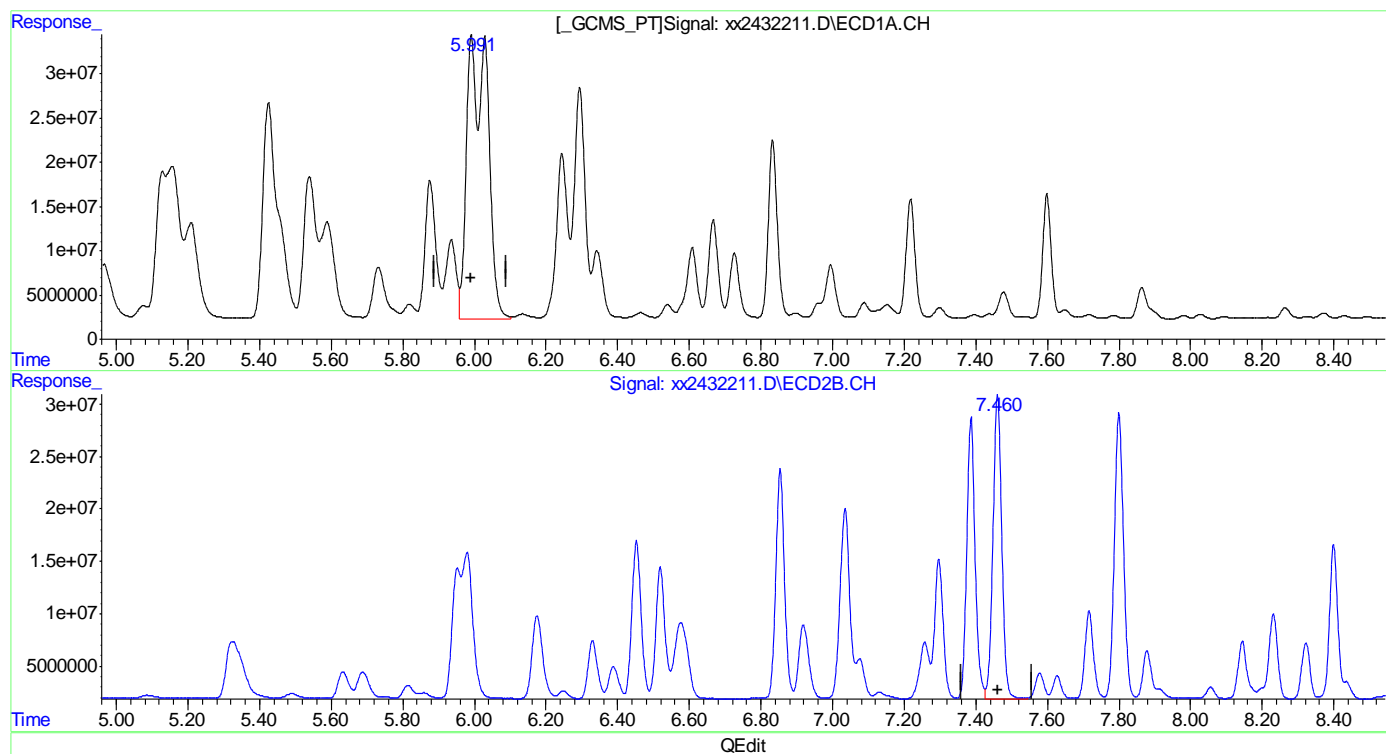
(22) AR1248-F #2  
 7.461min 1013.408PPB  
 response 492956300

## Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432211.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:08 am  
 Operator : tianweir  
 Sample : ic6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:24:12 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:23:56 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(22) AR1248-F  
 5.991min 1174.626PPB m  
 response 1276095644

(22) AR1248-F #2  
 7.461min 1013.408PPB  
 response 492956300

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:32:35 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.284	4.049	978.3E6	635.0E6	52.342	50.129
Spiked Amount	40.000		Recovery	=	130.85%	125.32%
51) S Decachlor...	10.771	12.652	925.4E6	556.1E6	50.029	47.340
Spiked Amount	40.000		Recovery	=	125.07%	118.35%
Target Compounds						
2) AR1221-A	2.715	3.436	131.0E6	77443411	1006.740	1048.764
3) AR1221-B	3.470	4.456	189.3E6	124.8E6	918.255	923.522
4) AR1221-C	3.691	4.747	560.6E6	297.0E6	905.447	913.834
5) AR1221-D	4.130	5.317	86763636	55818672	840.535m	844.770
6) AR1221-E	4.281	5.399	106.6E6	47910566	936.837m	983.696m
24) AR1254-A	5.937	7.461	557.9E6	436.0E6	1000.171	989.353
25) AR1254-B	6.289	7.716	1176.3E6	495.2E6	990.494	993.553
26) AR1254-C	6.667	8.231	652.8E6	404.7E6	994.330	993.185
27) AR1254-D	6.834	8.400	1182.6E6	790.7E6	992.477	993.638
28) AR1254-E	7.218	8.712	868.7E6	605.1E6	990.520	988.443
29) AR1254-F	7.477	9.234	752.5E6	649.7E6	994.813	991.602m
30) AR1254-G	7.864	9.498	1174.4E6	778.8E6	991.584	992.723m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.63

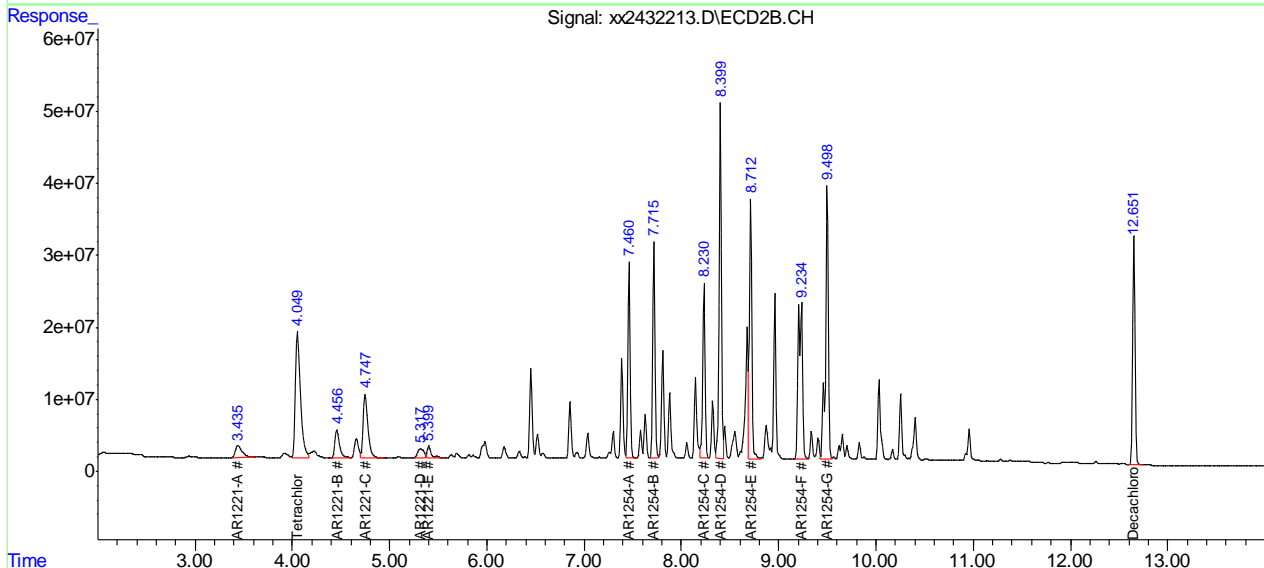
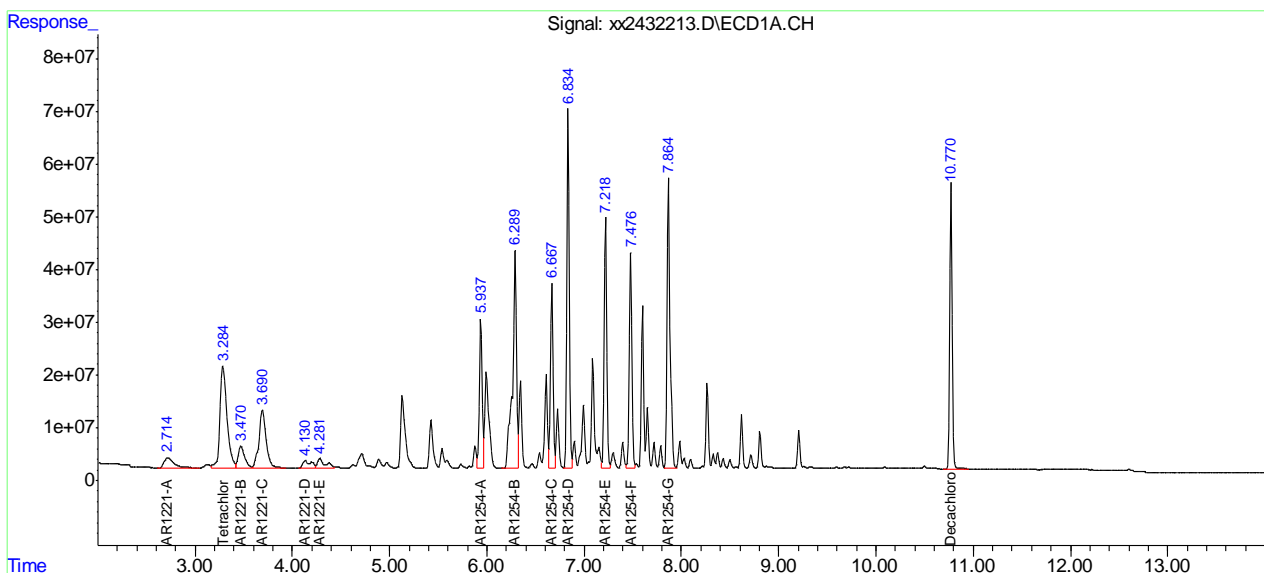
11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:32:35 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.63  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-ICV6621      Method: SW846 8082A  
Lab FileID: XX2432213.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 06:44      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1221-D		1	4.13	Split peak
AR1221-E		1	4.28	Split peak
AR1221-E		2	5.40	Split peak
AR1254-F		2	9.23	Split peak
AR1254-G		2	9.50	Split peak

11.6.63.1

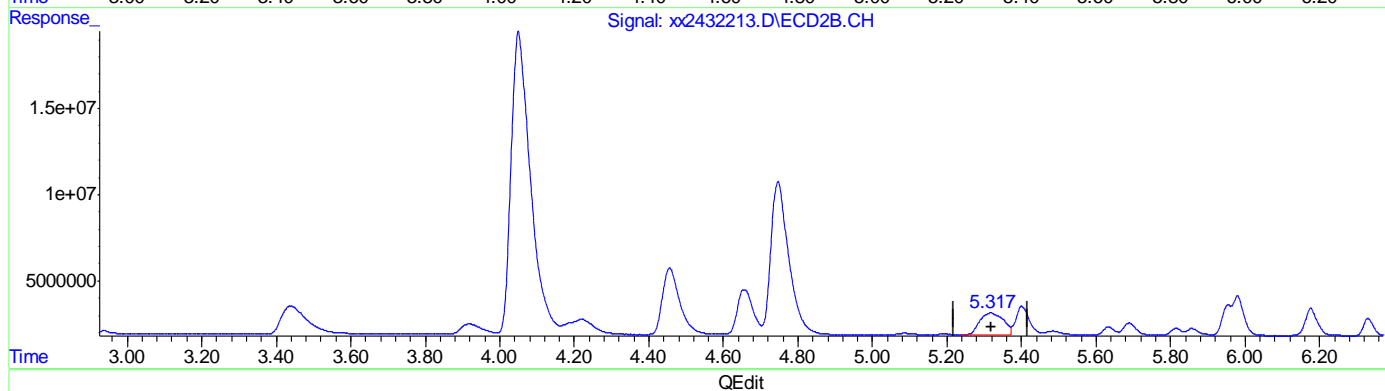
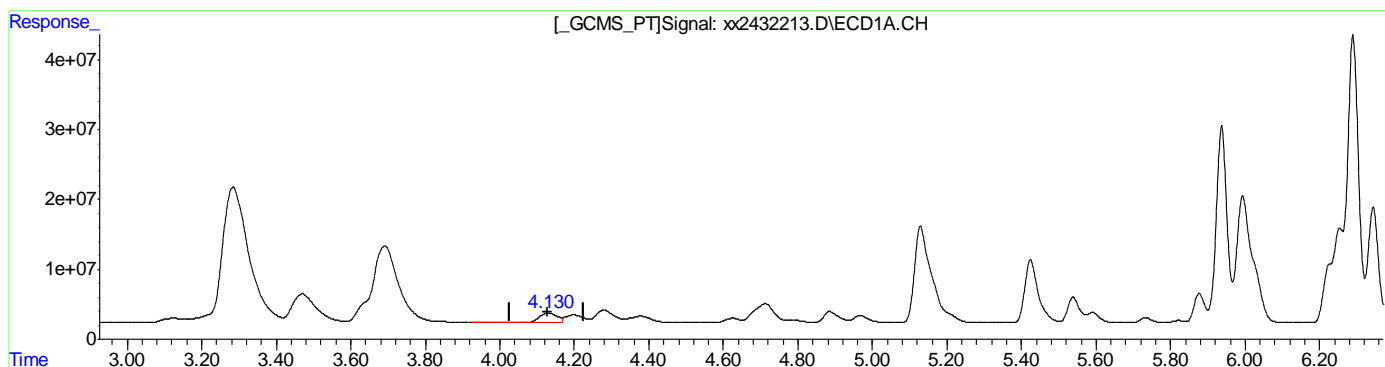
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:31:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(5) AR1221-D  
 4.129min 475.526PPB  
 response 49085794

(5) AR1221-D #2  
 5.317min 844.770PPB  
 response 55818672

11.6.63.2  
 11

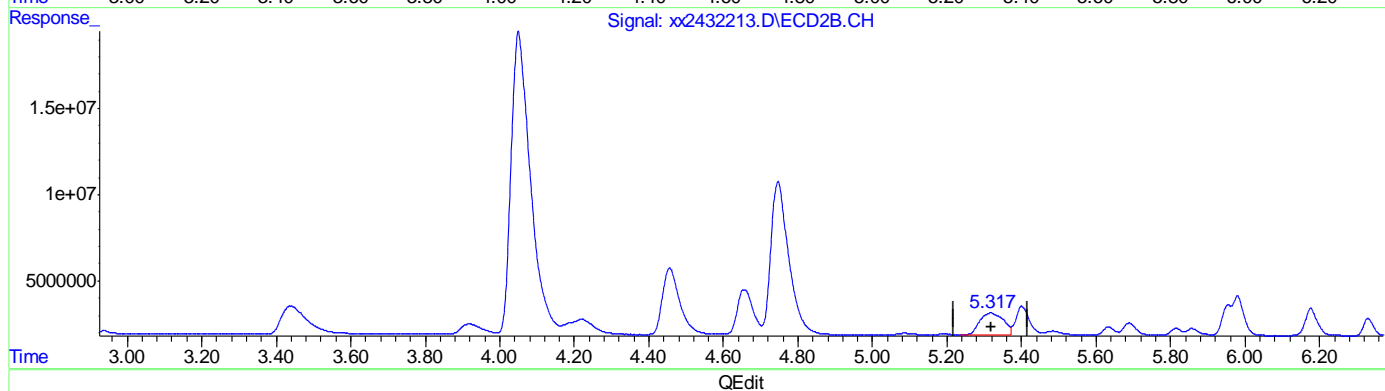
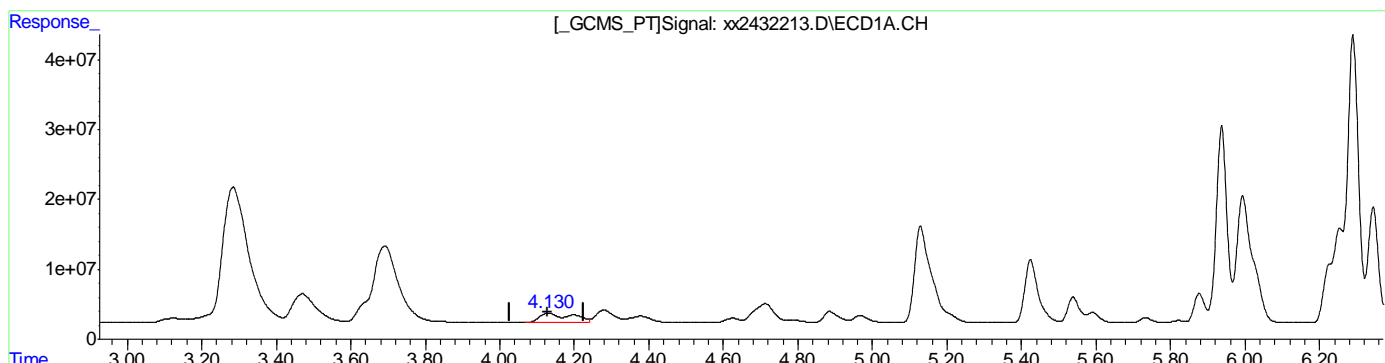


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:31:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(5) AR1221-D  
 4.130min 840.535PPB m  
 response 86763636

(5) AR1221-D #2  
 5.317min 844.770PPB  
 response 55818672

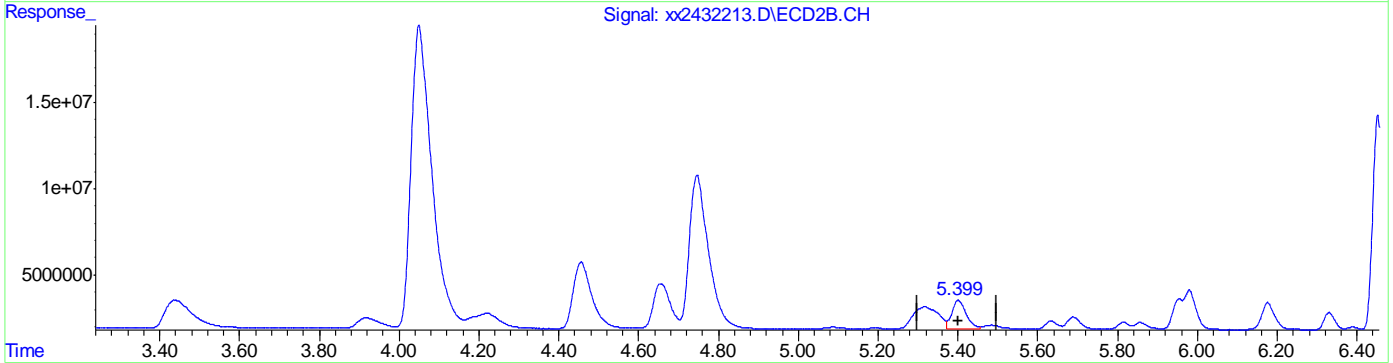
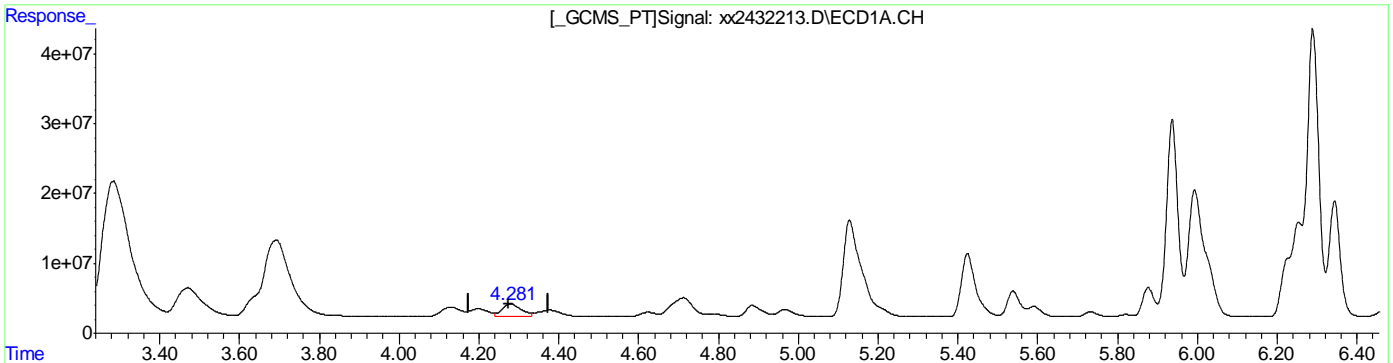
11.6.63.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:31:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



Retention Time (min)	Concentration (PPB)	Response
(6) AR1221-E 4.279min	551.016PPB	62689685
(6) AR1221-E #2 5.400min	853.728PPB	41580507

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 09:32:01 2019

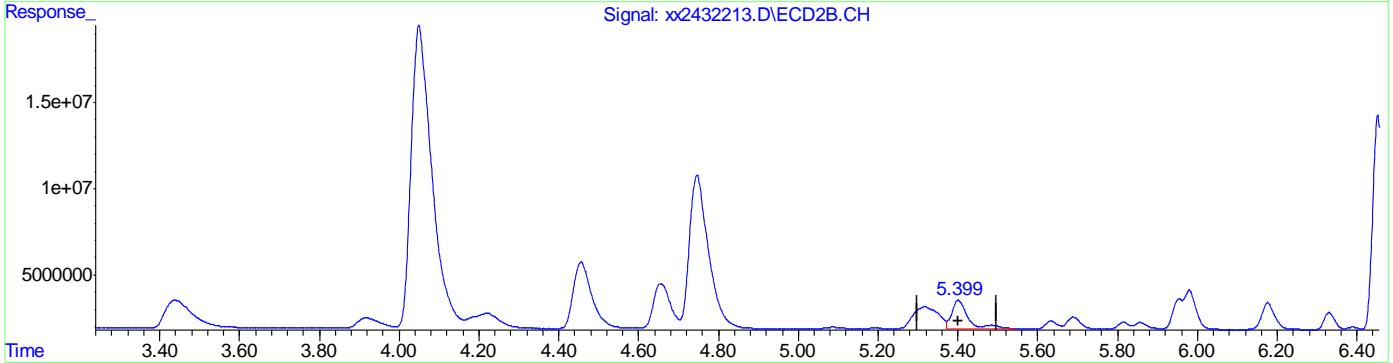
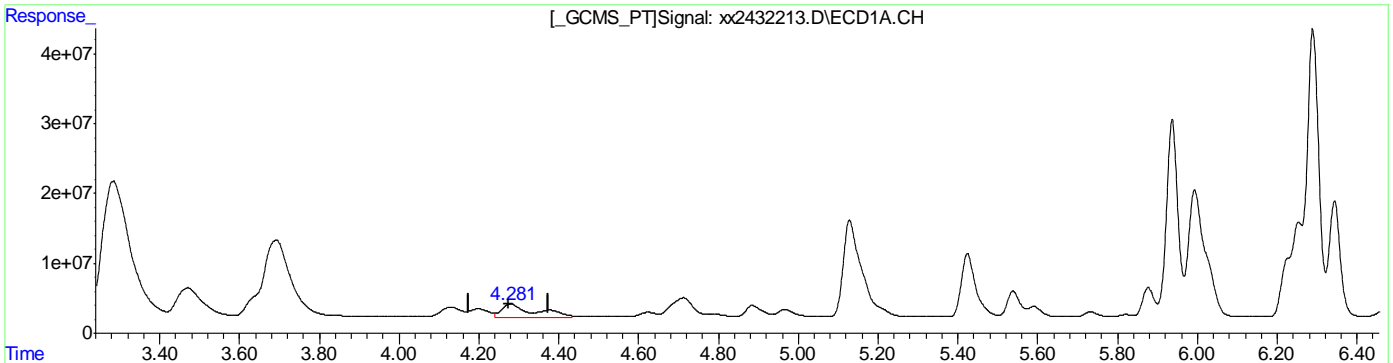
11.6.63.4  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:31:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(6) AR1221-E  
 4.281min 936.837PPB m  
 response 106584883

(6) AR1221-E #2  
 5.399min 983.696PPB m  
 response 47910566

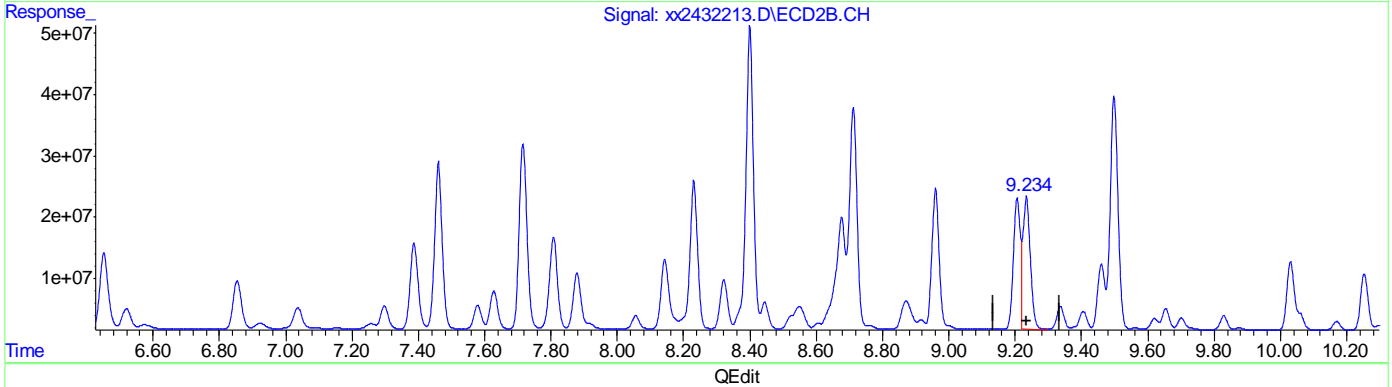
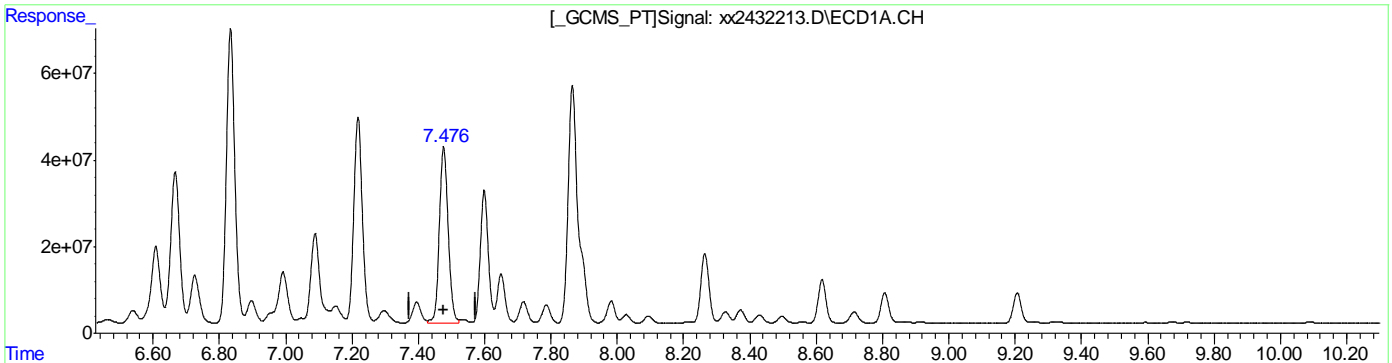
11.6.63.5  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:31:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(29) AR1254-F  
 7.477min 994.813PPB  
 response 752519380

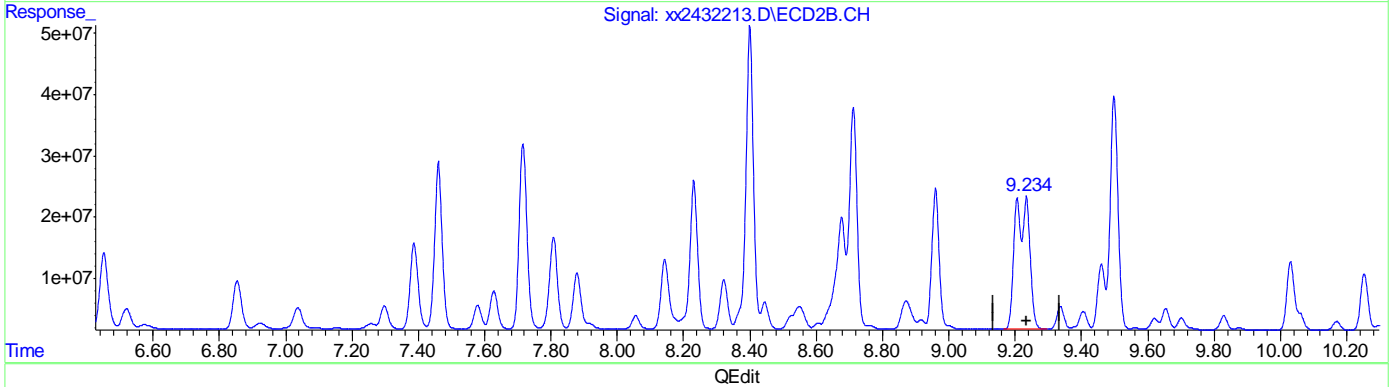
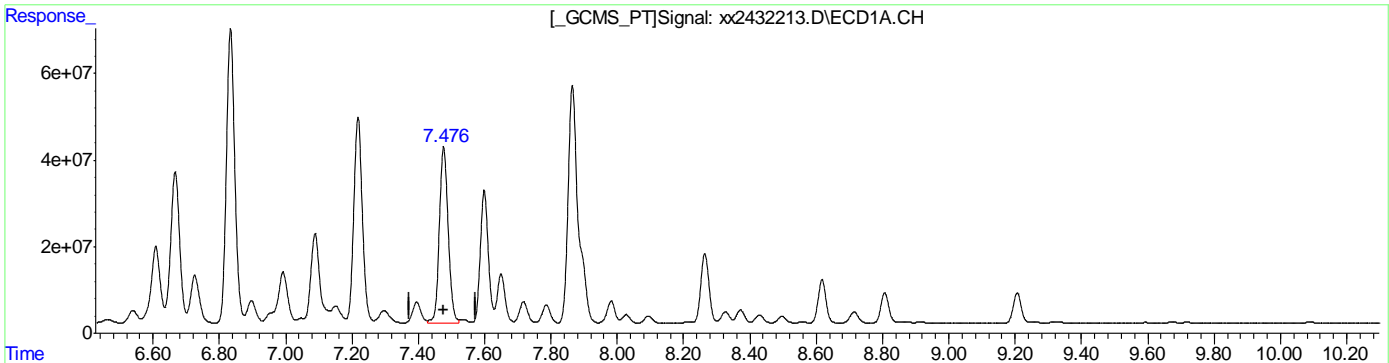
(29) AR1254-F #2  
 9.234min 521.681PPB  
 response 341799278

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:31:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(29) AR1254-F  
 7.477min 994.813PPB  
 response 752519380

(29) AR1254-F #2  
 9.234min 991.602PPB m  
 response 649686242

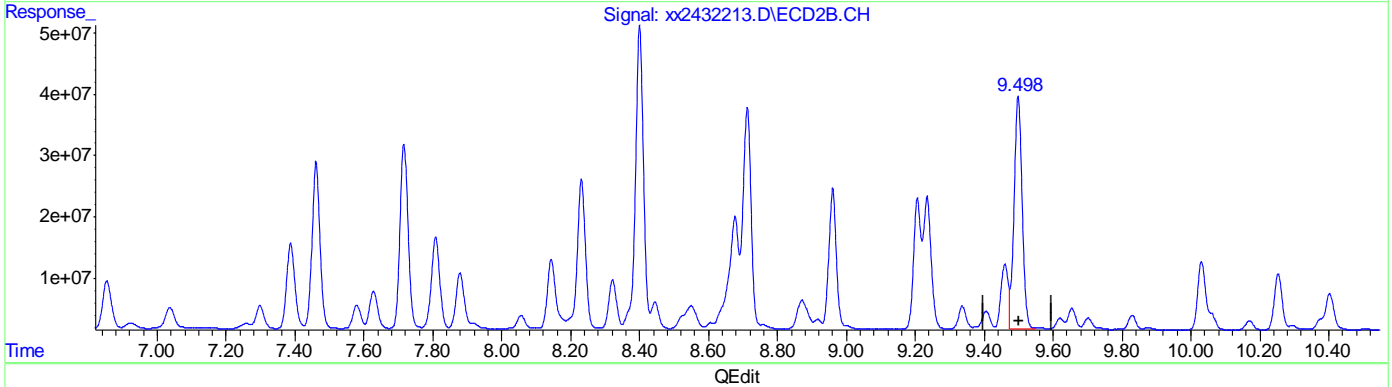
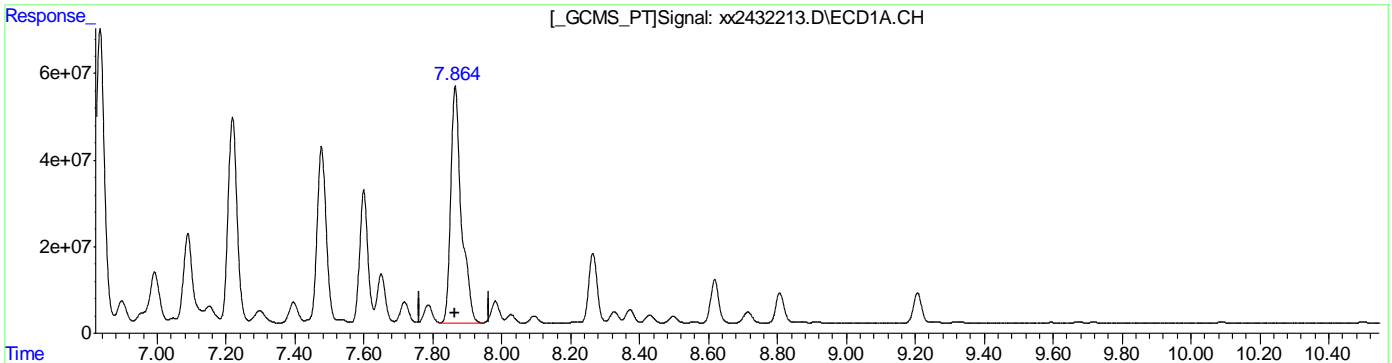
11.6.63.7  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:31:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(30) AR1254-G  
 7.864min 991.584PPB  
 response 1174403832

(30) AR1254-G #2  
 9.498min 791.639PPB  
 response 621041634

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 09:32:31 2019

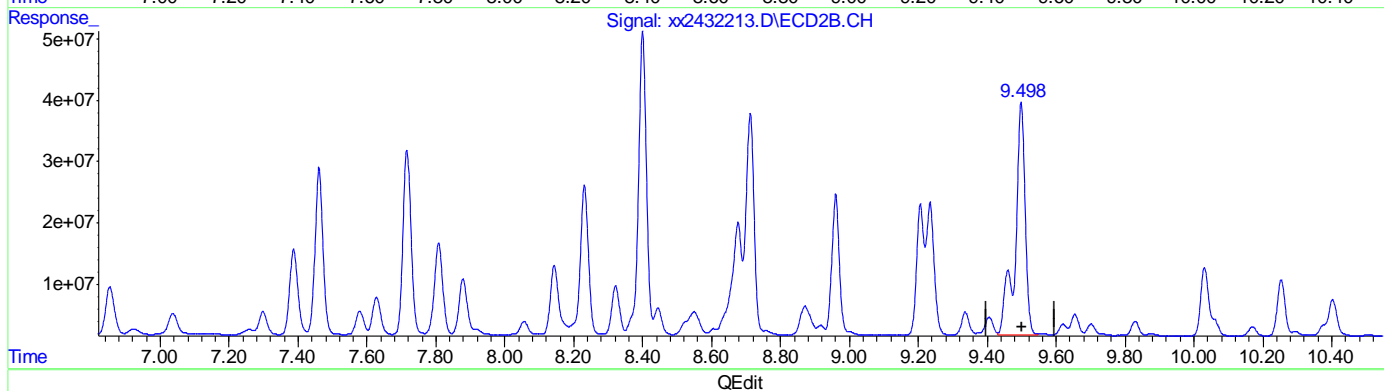
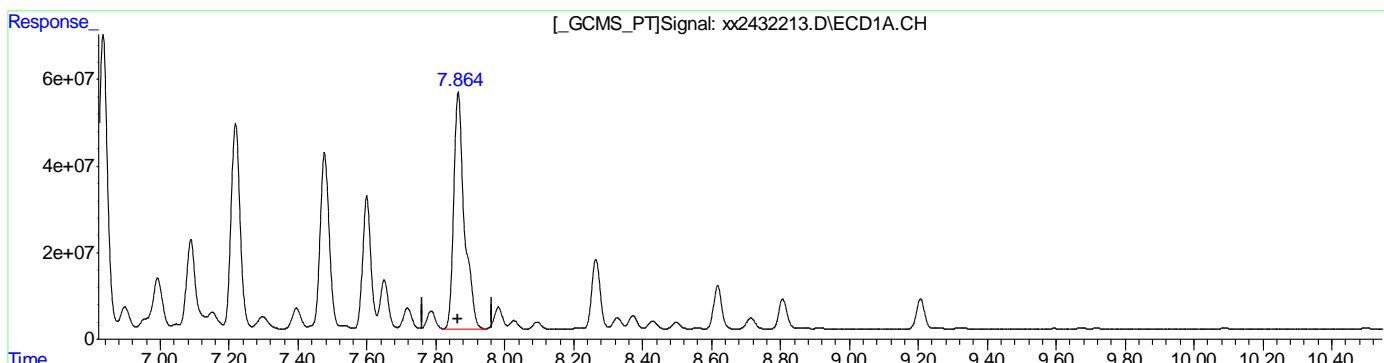
11.6.63.8  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432213.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 6:44 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 09:31:27 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(30) AR1254-G  
 7.864min 991.584PPB  
 response 1174403832

(30) AR1254-G #2  
 9.498min 992.723PPB m  
 response 778792633

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 09:32:37 2019

11.6.63.9  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432214.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:02 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:01:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.285	4.051	985.5E6	654.5E6	52.729	51.665
Spiked Amount	40.000		Recovery	=	131.82%	129.16%
51) S Decachlor...	10.771	12.653	952.4E6	592.6E6	51.488	50.451
Spiked Amount	40.000		Recovery	=	128.72%	126.13%
Target Compounds						
7) AR1232-A	3.688	4.744	452.6E6	249.3E6	941.230	947.027
8) AR1232-B	4.130	5.324	311.9E6	202.2E6	960.615	962.742
9) AR1232-C	4.711	5.980	669.6E6	429.4E6	950.235	947.468m
10) AR1232-D	4.888	6.177	249.8E6	164.6E6	953.043	947.482
11) AR1232-E	5.424	6.854	242.7E6	118.0E6	951.579	953.713
31) AR1262-A	7.474	8.960	910.8E6	588.3E6	1019.383	1016.590
32) AR1262-B	8.027	9.618	1112.1E6	928.5E6	1017.998	1010.573
33) AR1262-C	8.371	10.062	1073.9E6	745.8E6	1018.677	1010.925
34) AR1262-D	8.807	10.404	2353.6E6	1802.1E6	1015.955	1006.049
35) AR1262-E	9.259	10.931	2631.3E6	1973.6E6	1022.034m	1010.063m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.64  
 11

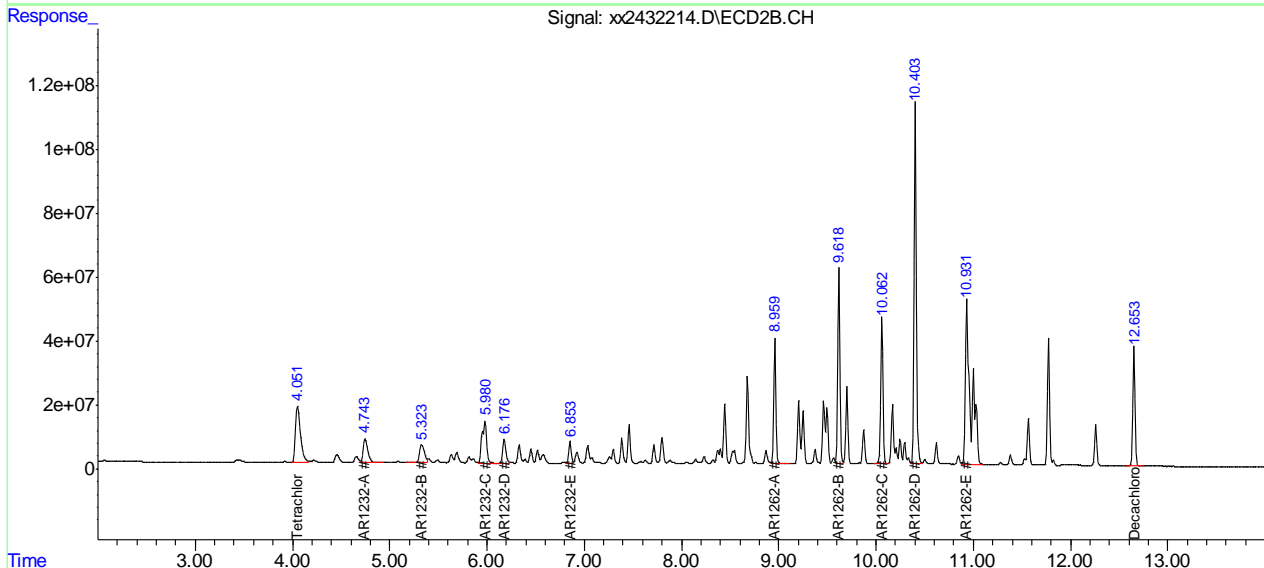
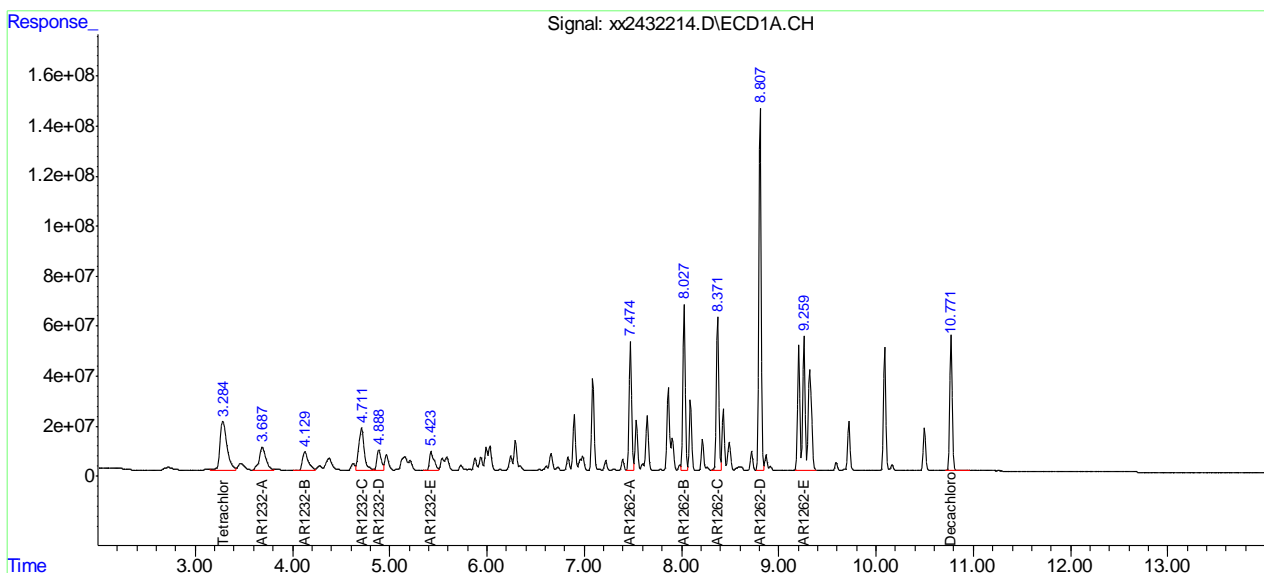


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432214.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:02 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:01:25 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.64  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-ICV6621      Method: SW846 8082A  
Lab FileID: XX2432214.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 07:02      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1232-C		2	5.98	Split peak
Ar1262-E		1	9.26	Split peak
Ar1262-E		2	10.93	Split peak

11.6.64.1

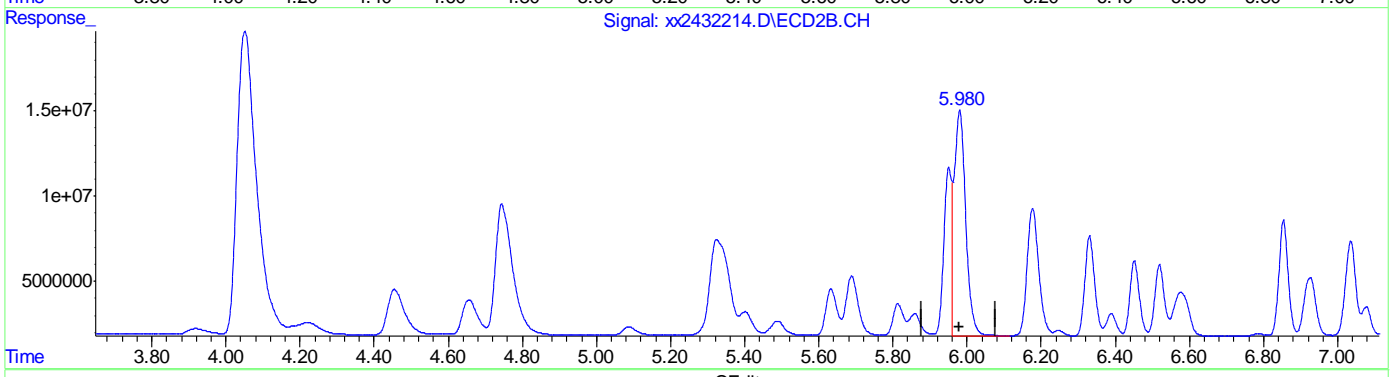
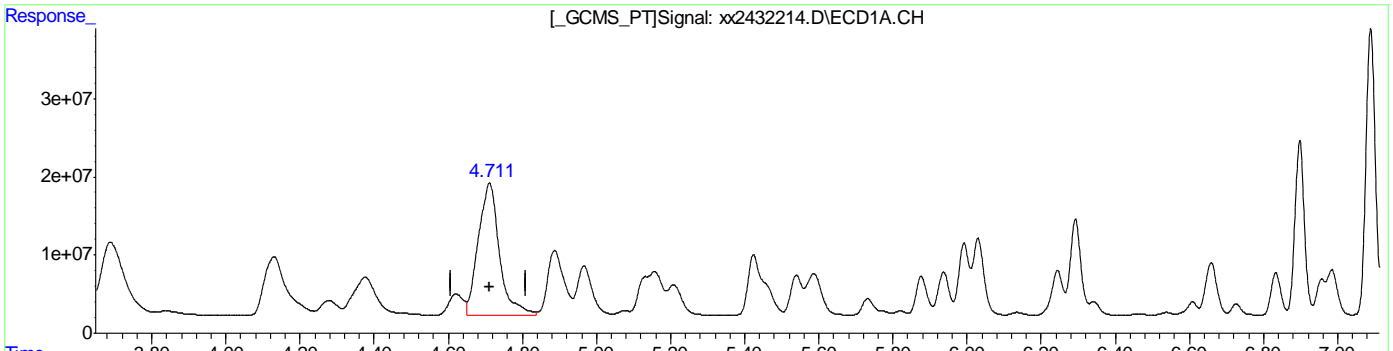
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432214.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:02 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:00:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(9) AR1232-C  
 4.711min 950.235PPB  
 response 669585701

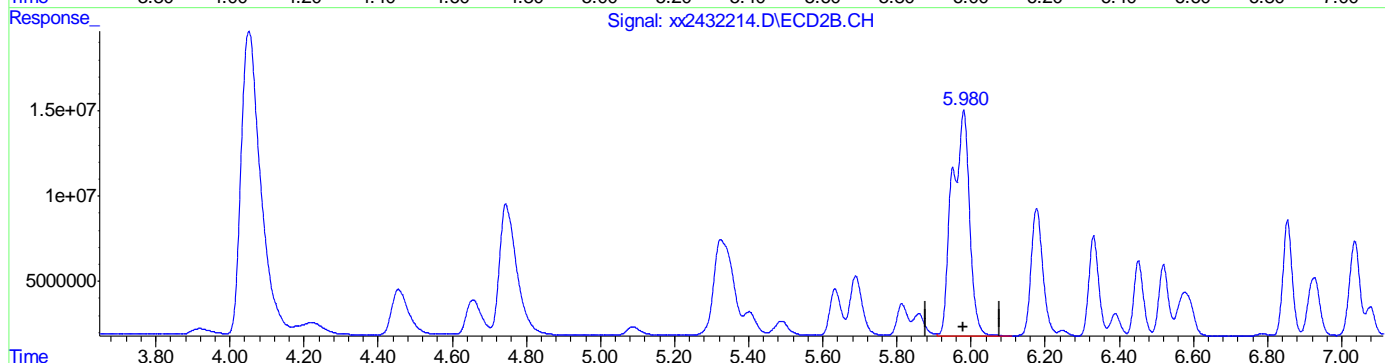
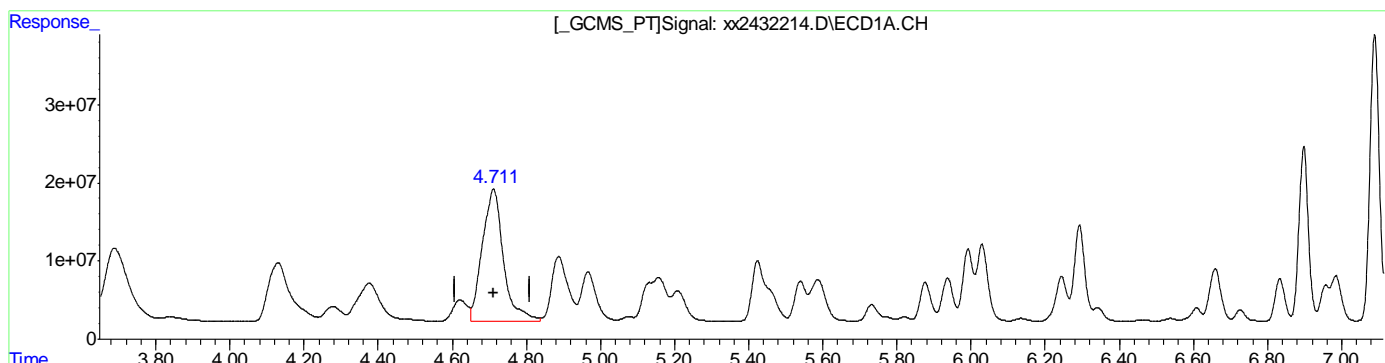
(9) AR1232-C #2  
 5.980min 626.625PPB  
 response 284011471

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432214.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:02 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:00:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(9) AR1232-C  
 4.711min 950.235PPB  
 response 669585701

(9) AR1232-C #2  
 5.980min 947.468PPB m  
 response 429429864

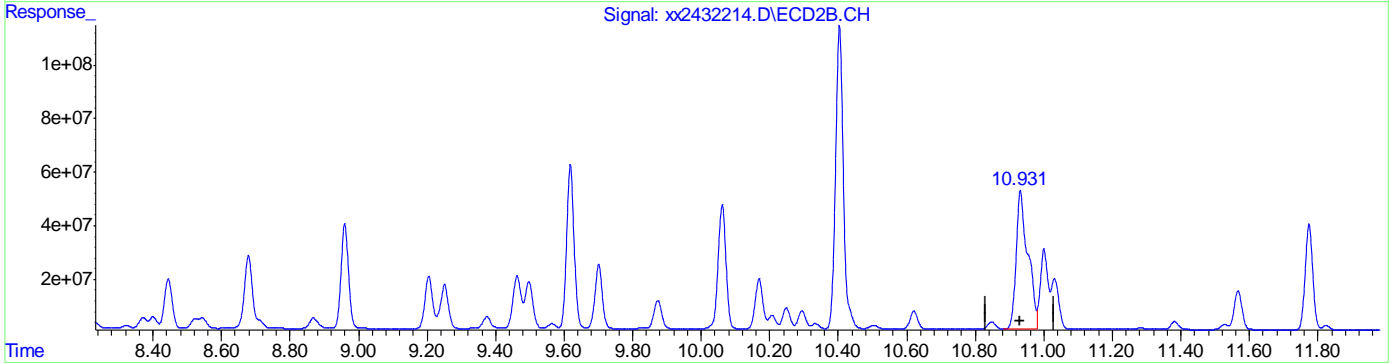
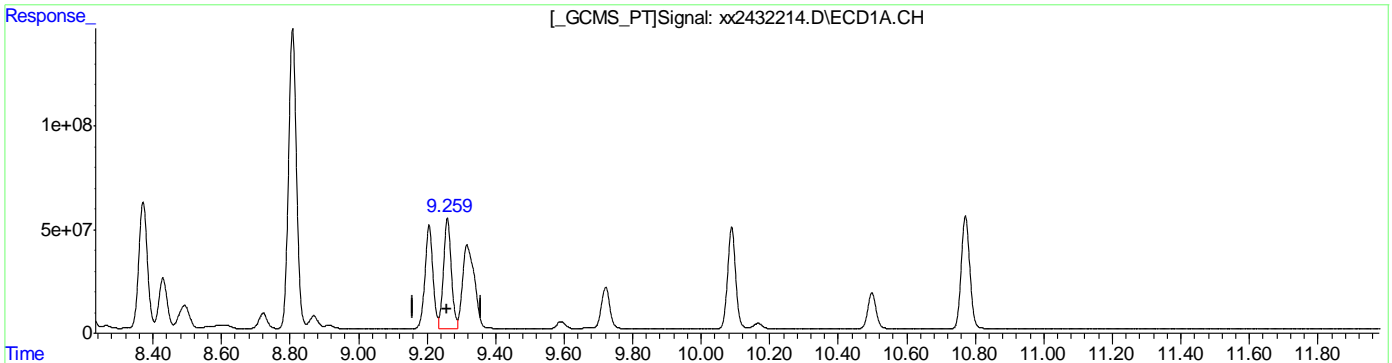
11.6.64.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432214.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:02 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:00:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(35) AR1262-E  
 9.259min 331.073PPB  
 response 852377339

(35) AR1262-E #2  
 10.931min 626.506PPB  
 response 1224170885

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:01:08 2019

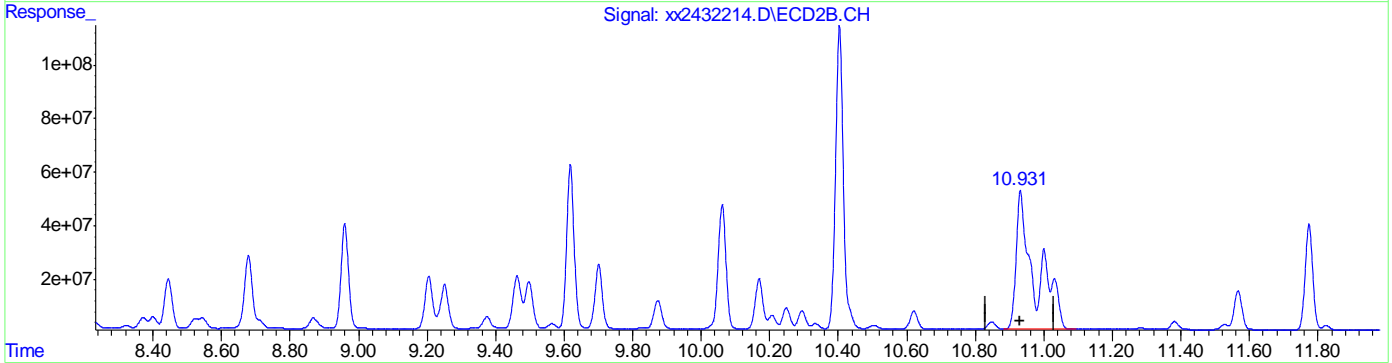
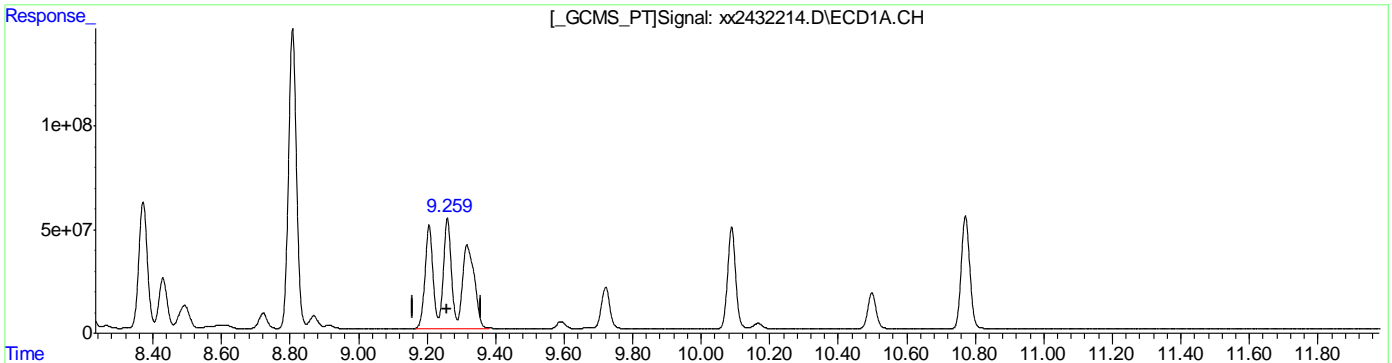
11.6.64.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432214.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:02 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:00:17 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(35) AR1262-E  
 9.259min 1022.034PPB m  
 response 2631315034

(35) AR1262-E #2  
 10.931min 1010.063PPB m  
 response 1973629240

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:01:28 2019

11.6.64.5  
**11**

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432215.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:20 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:02:56 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.281	4.049	986.4E6	665.6E6	52.776	52.540
Spiked Amount	40.000		Recovery	=	131.94%	131.35%
51) S Decachlor...	10.771	12.652	2376.8E6	1489.7E6	128.490	126.830
Spiked Amount	40.000		Recovery	=	321.23%	317.07%
Target Compounds						
12) AR1242-A	4.128	5.324	534.9E6	368.6E6	1067.336	1063.193
13) AR1242-B	4.711	5.978	1245.5E6	787.3E6	1061.696	1055.594m
14) AR1242-C	4.887	6.176	461.7E6	299.1E6	1070.905	1067.372
15) AR1242-D	5.424	6.854	480.9E6	232.0E6	1039.351	1036.374
16) AR1242-E	6.028	7.460	753.1E6	284.6E6	1025.617m	1019.182
36) AR1268-A	9.259	10.932	2600.7E6	2138.2E6	985.599	977.738
37) AR1268-B	9.315	11.002	2580.2E6	1921.5E6	980.918	973.019
38) AR1268-C	9.592	11.384	2152.8E6	1671.7E6	980.428	980.476
39) AR1268-D	10.088	11.775	885.4E6	669.0E6	996.050	961.370
40) AR1268-E	10.497	12.261	7563.1E6	4837.6E6	983.924	962.808
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

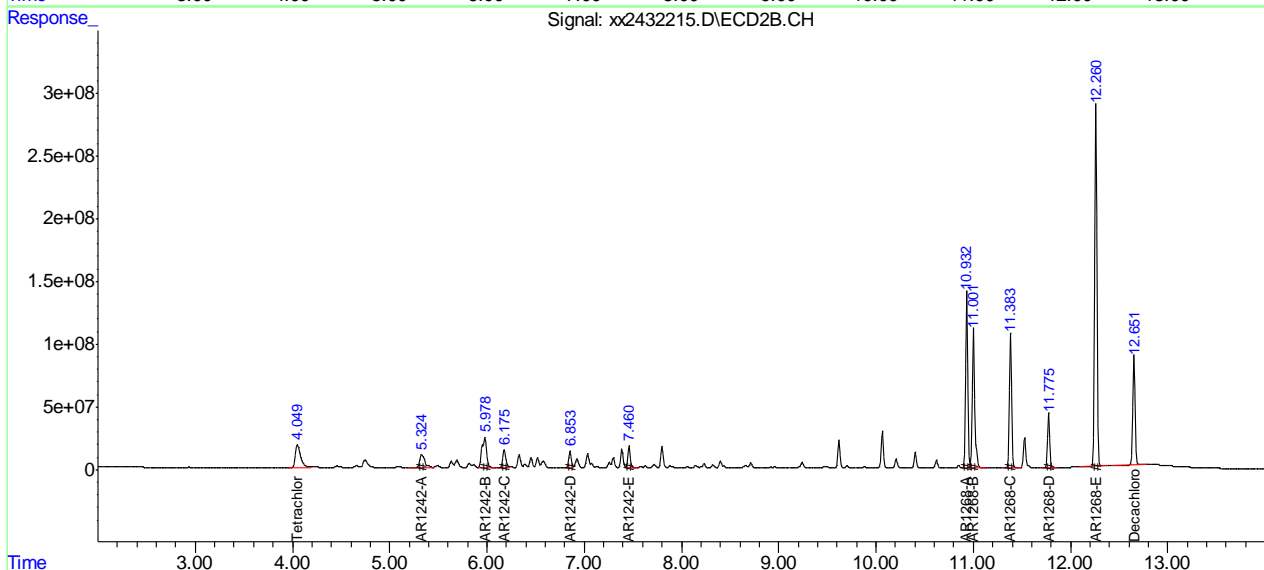
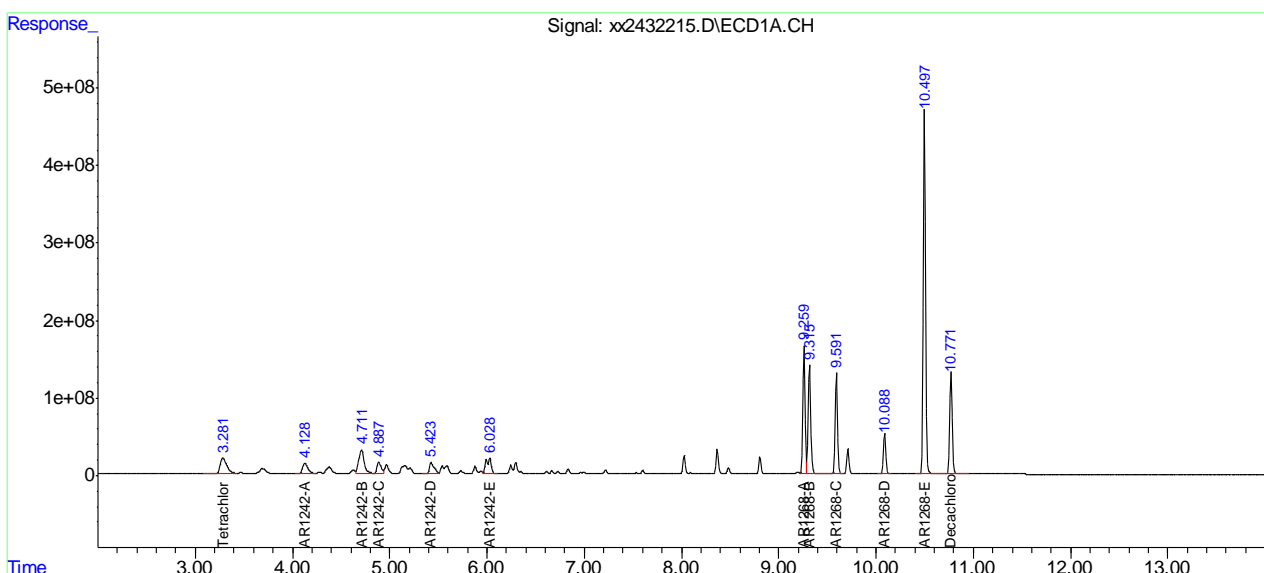
11.6.65  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432215.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:20 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:02:56 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.65  
11



# Manual Integration Approval Summary

Sample Number: GXX6621-ICV6621      Method: SW846 8082A  
Lab FileID: XX2432215.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 07:20      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1242-B		2	5.98	Split peak
AR1242-E		1	6.03	Split peak

11.6.65.1

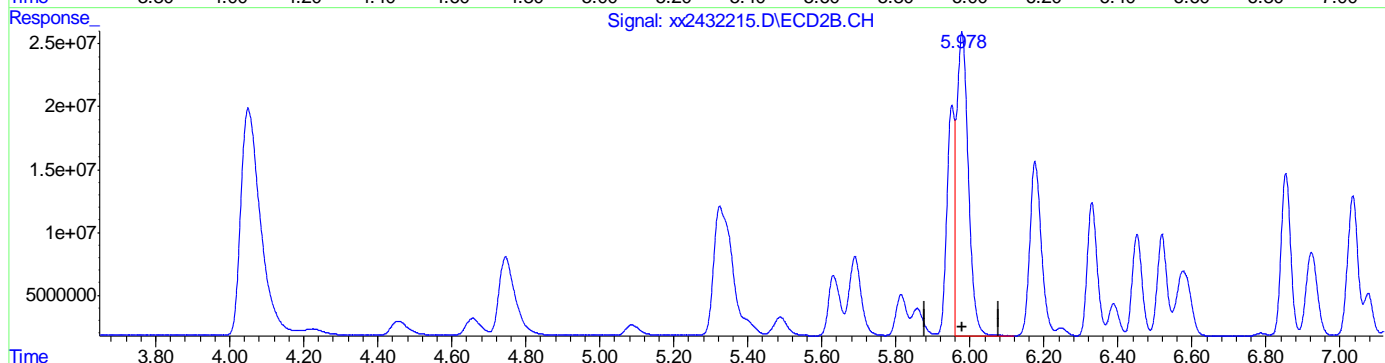
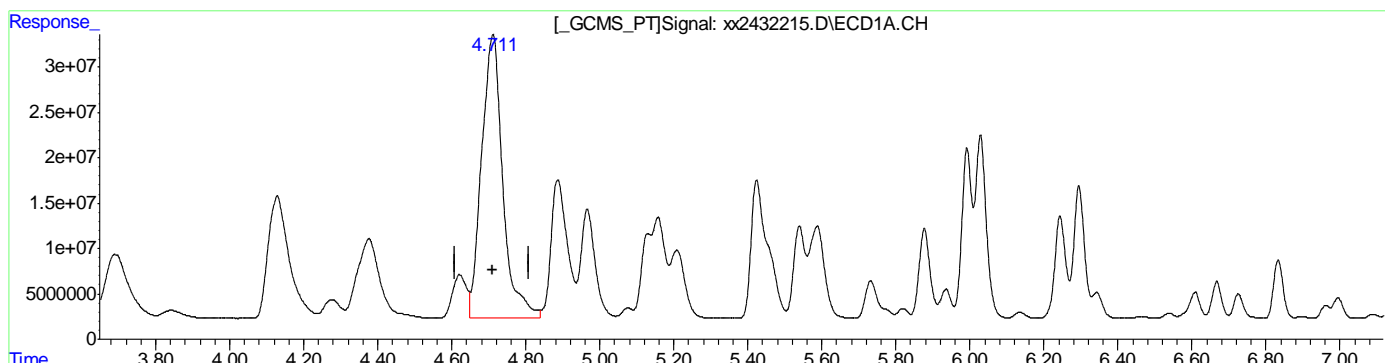
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432215.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:20 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:02:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(13) AR1242-B  
 4.711min 1061.696PPB  
 response 1245497991

(13) AR1242-B #2  
 5.979min 706.290PPB  
 response 526790761

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:02:33 2019

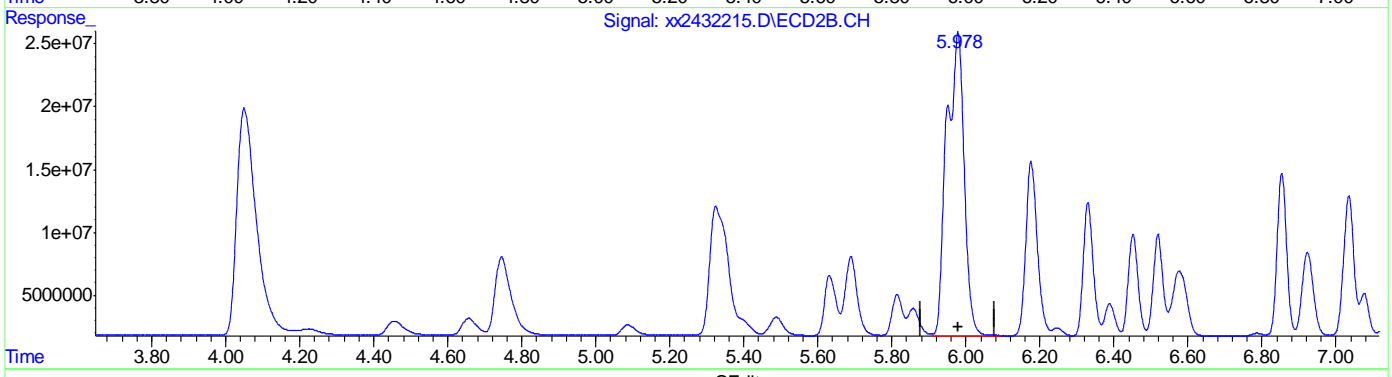
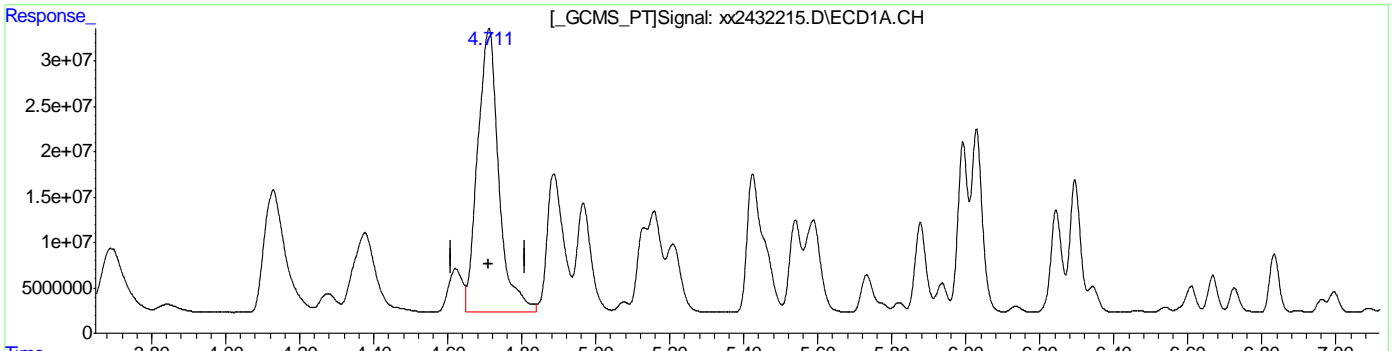
11.6.65.2  
**11**

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432215.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:20 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:02:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



Retention Time (min)	Expected Retention Time (min)	Concentration (PPB)	Response
4.711	1061.696	1061.696	1245497991
5.978	1055.594	1055.594	787321188

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:02:43 2019

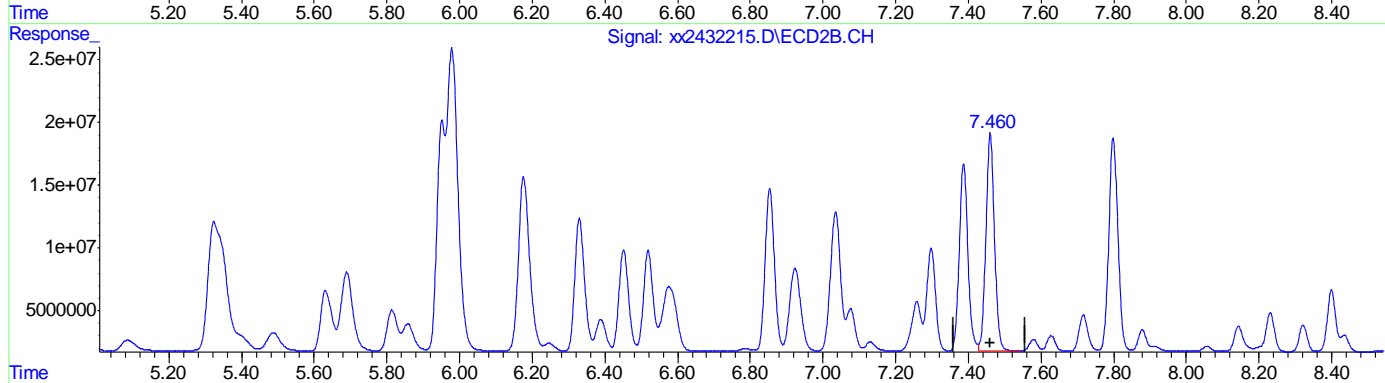
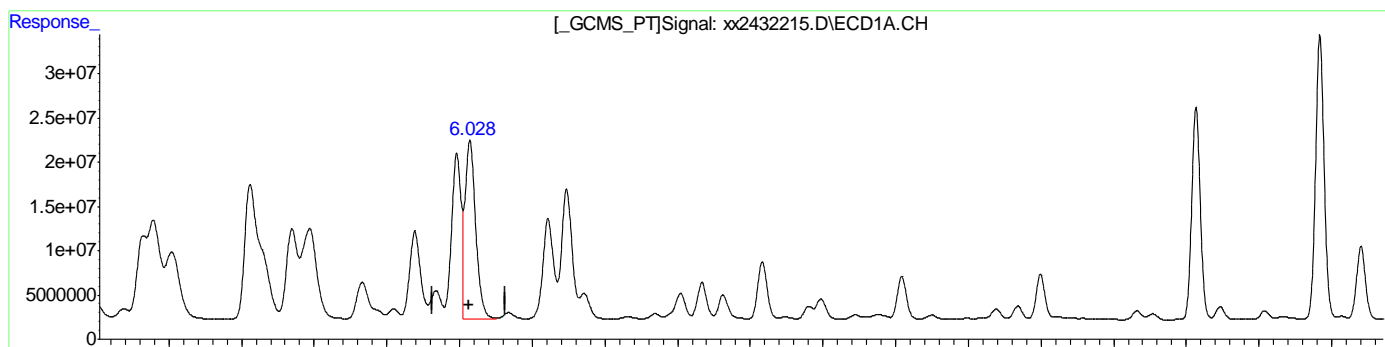
11.6.65.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432215.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:20 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:02:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(16) AR1242-E  
 6.029min 564.420PPB  
 response 414466265

(16) AR1242-E #2  
 7.460min 1019.182PPB  
 response 284580706

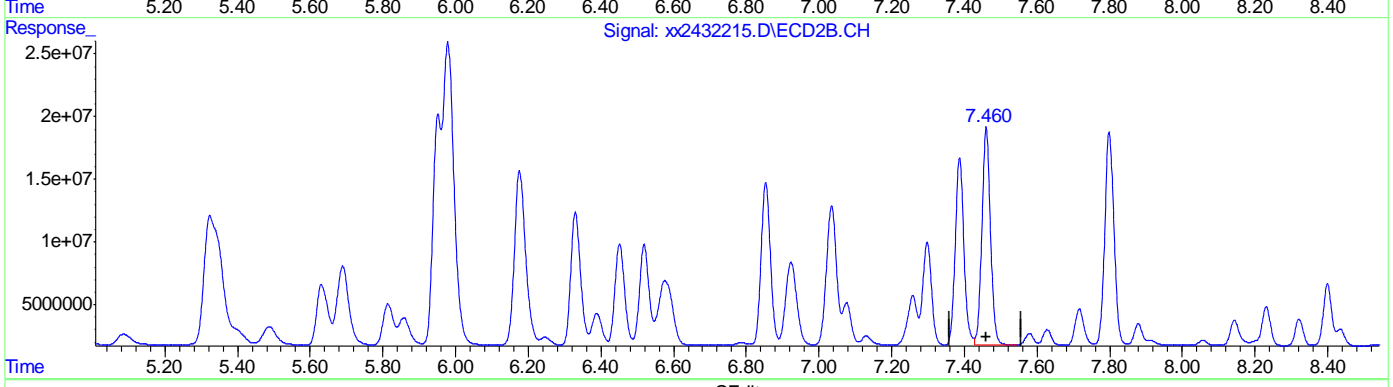
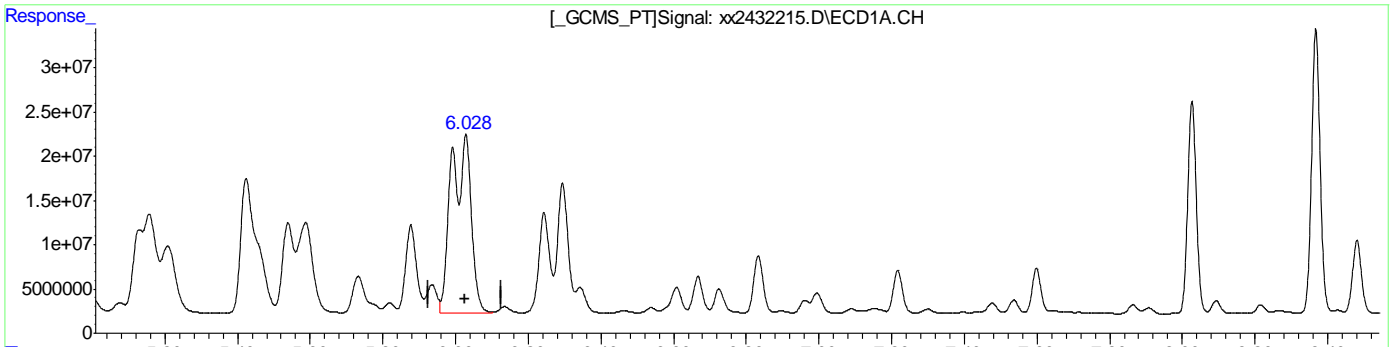
11.6.65.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432215.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:20 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:02:13 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(16) AR1242-E  
 6.028min 1025.617PPB m  
 response 753134452

(16) AR1242-E #2  
 7.460min 1019.182PPB  
 response 284580706

11.6.65.5  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:07:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.283	4.051	992.8E6	676.8E6	53.118	53.430
Spiked Amount	40.000		Recovery	=	132.79%	133.57%
51) S Decachlor...	10.771	12.654	971.8E6	606.3E6	52.536	51.620
Spiked Amount	40.000		Recovery	=	131.34%	129.05%
Target Compounds						
17) AR1248-A	4.125	5.324	253.5E6	171.2E6	955.238	950.609
18) AR1248-B	4.707	5.979	726.8E6	497.5E6	1012.015	1004.498m
19) AR1248-C	5.156	6.452	748.2E6	283.6E6	1025.042m	1032.538
20) AR1248-D	5.424	6.853	770.6E6	384.3E6	1049.221	1042.221
21) AR1248-E	5.538	7.033	705.2E6	435.5E6	1056.697m	1071.173m
22) AR1248-F	5.991	7.461	1397.7E6	535.7E6	1095.271m	1086.769
23) AR1248-G	6.294	7.801	594.9E6	533.3E6	1091.133	1106.458
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

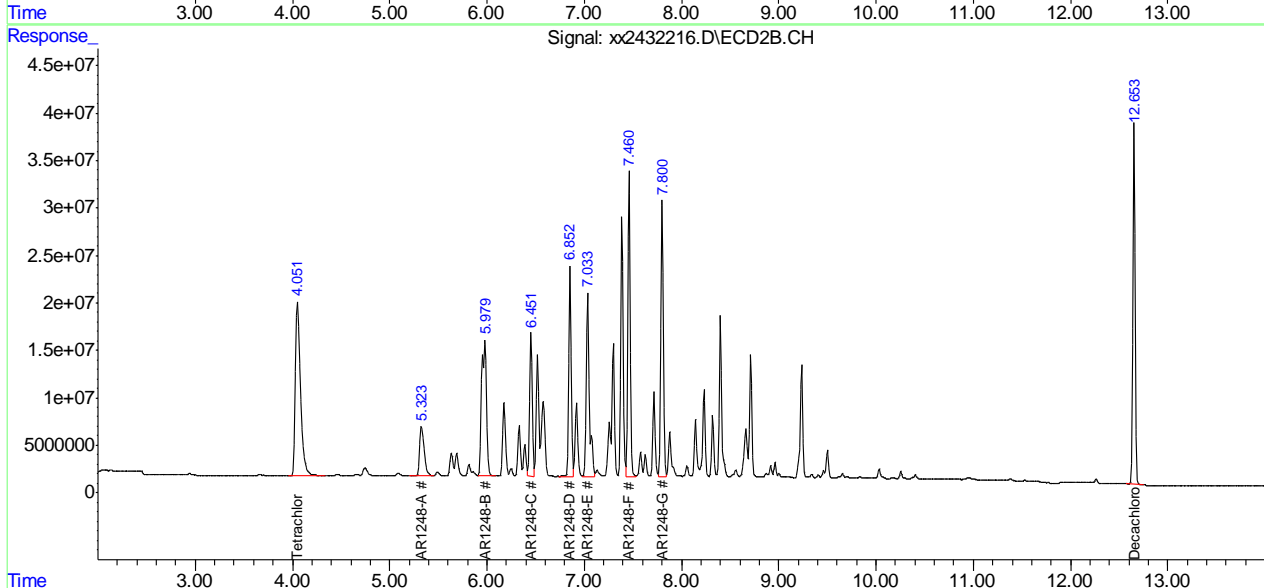
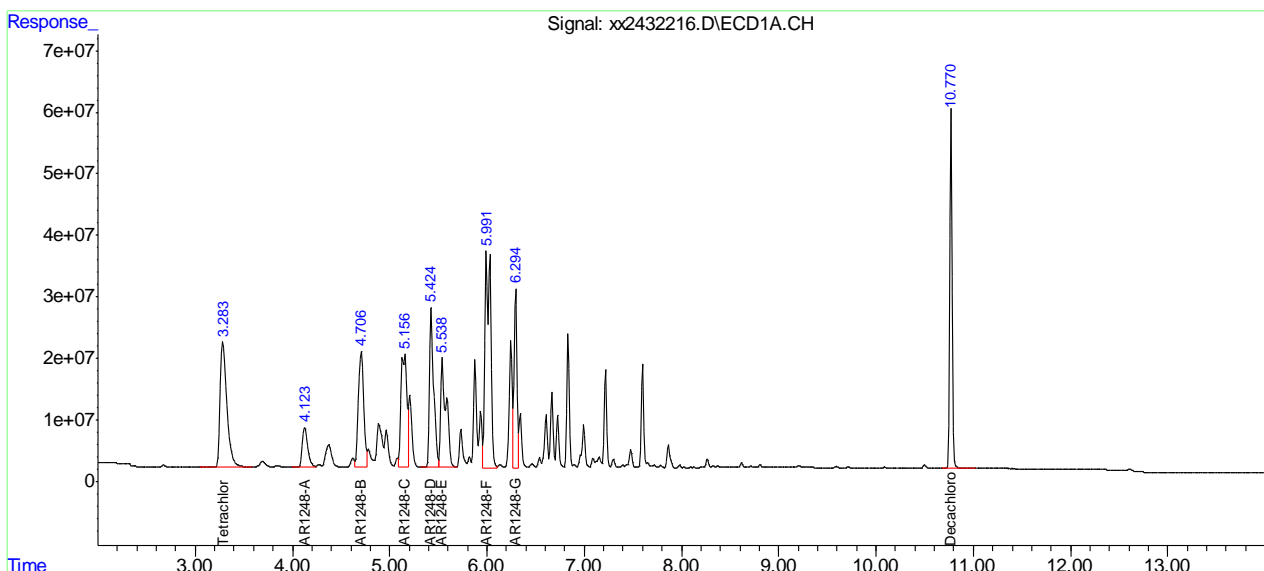
11.6.66  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:07:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.66  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-ICV6621      Method: SW846 8082A  
Lab FileID: XX2432216.D      Analyst approved: 03/05/19 10:28 Summer Kotb  
Injection Time: 03/05/19 07:39      Supervisor approved: 03/05/19 12:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1248-C		1	5.16	Split peak
AR1248-E		1	5.54	Split peak
AR1248-B		2	5.98	Split peak
AR1248-F		1	5.99	Split peak
AR1248-E		2	7.03	Split peak

11.6.66.1

11

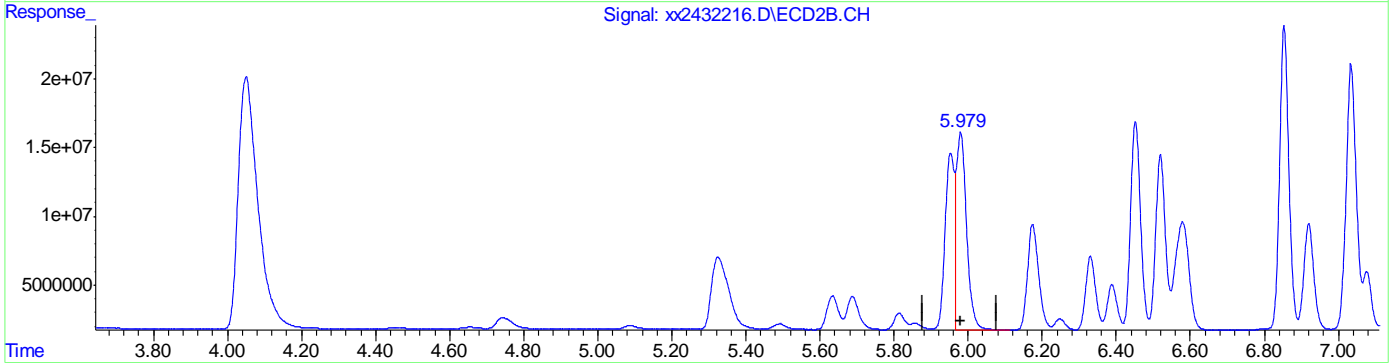
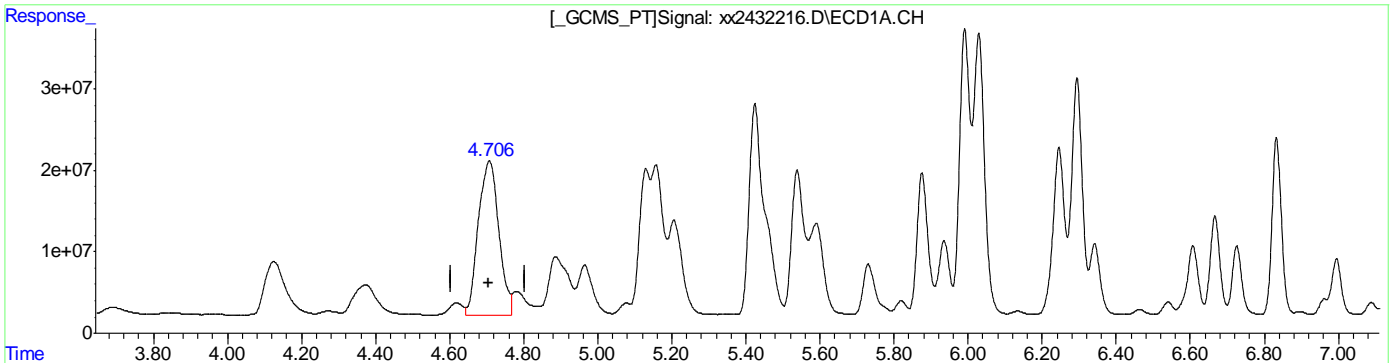


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:04:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



QEdit

(18) AR1248-B
4.707min 1012.015PPB
response 726780544
(18) AR1248-B #2
5.980min 569.874PPB
response 282225804

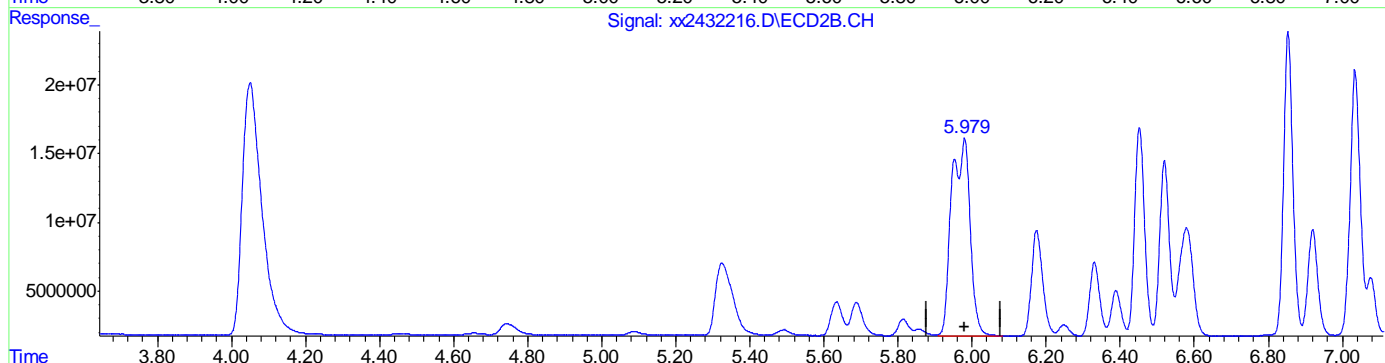
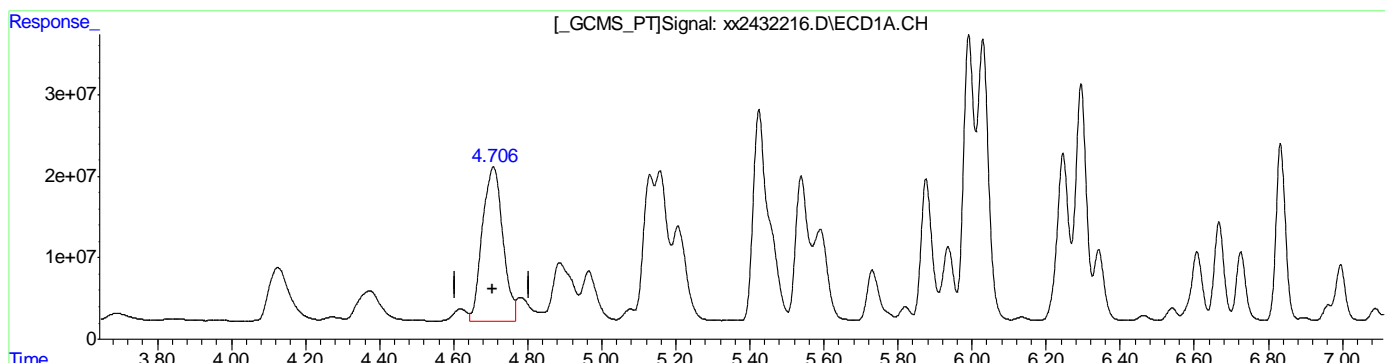
(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:04:18 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:04:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(18) AR1248-B  
 4.707min 1012.015PPB  
 response 726780544

(18) AR1248-B #2  
 5.979min 1004.498PPB m  
 response 497470011

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:04:34 2019

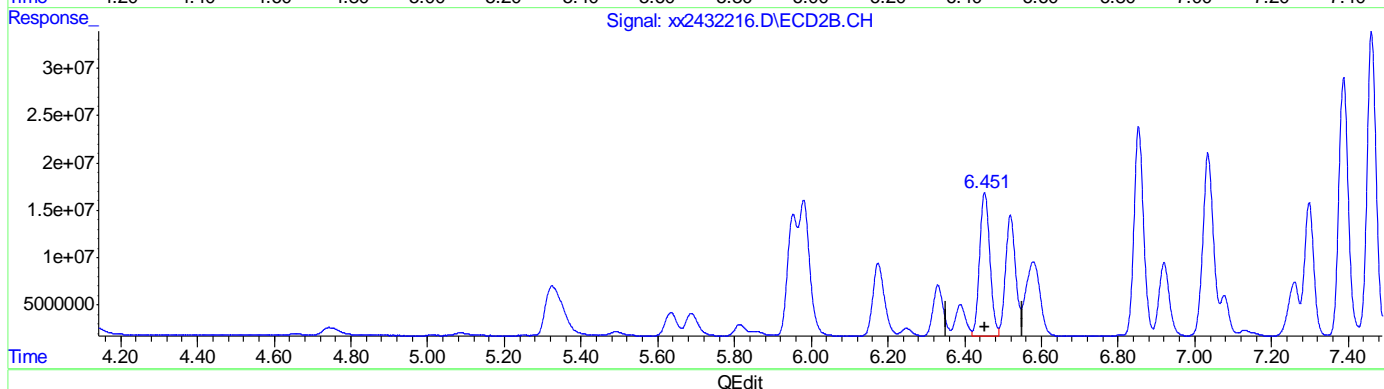
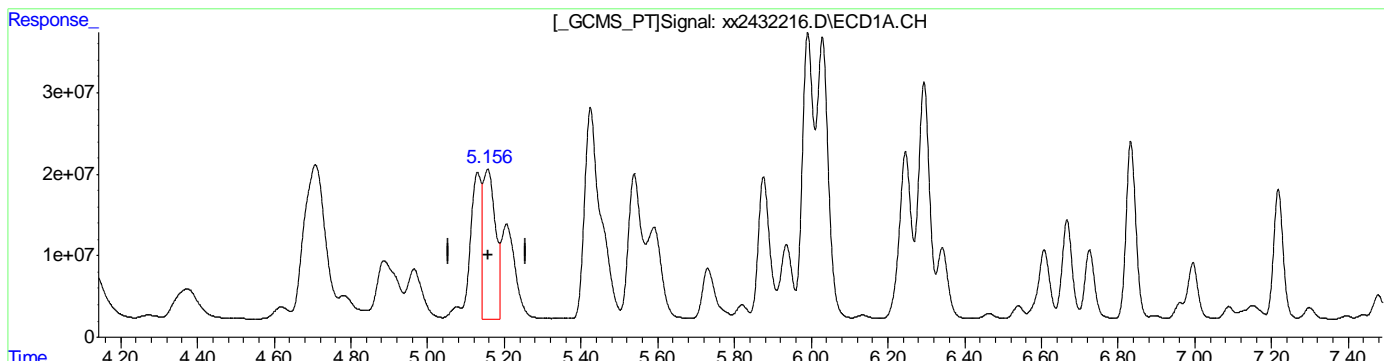
11.6.66.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:04:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(19) AR1248-C  
 5.157min 558.574PPB  
 response 407714790

(19) AR1248-C #2  
 6.452min 1032.538PPB  
 response 283579077

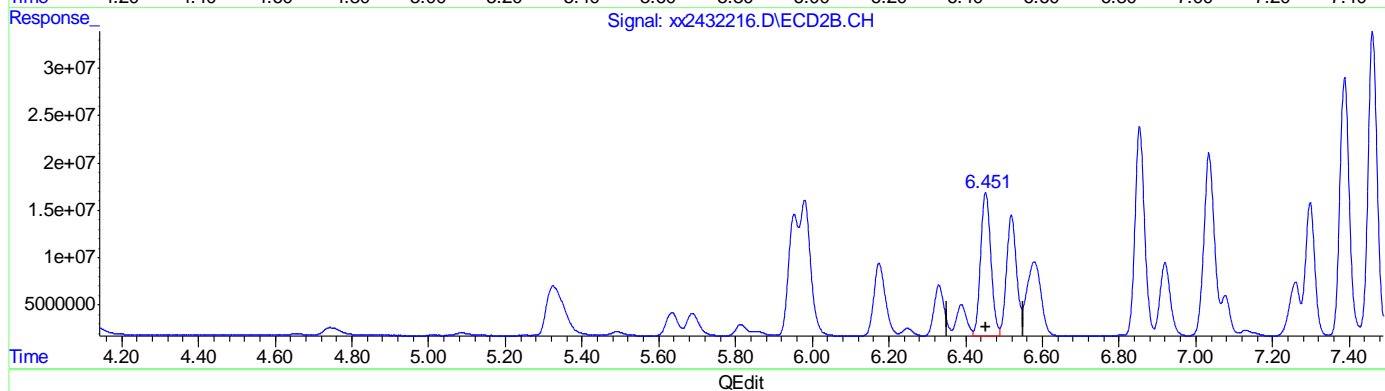
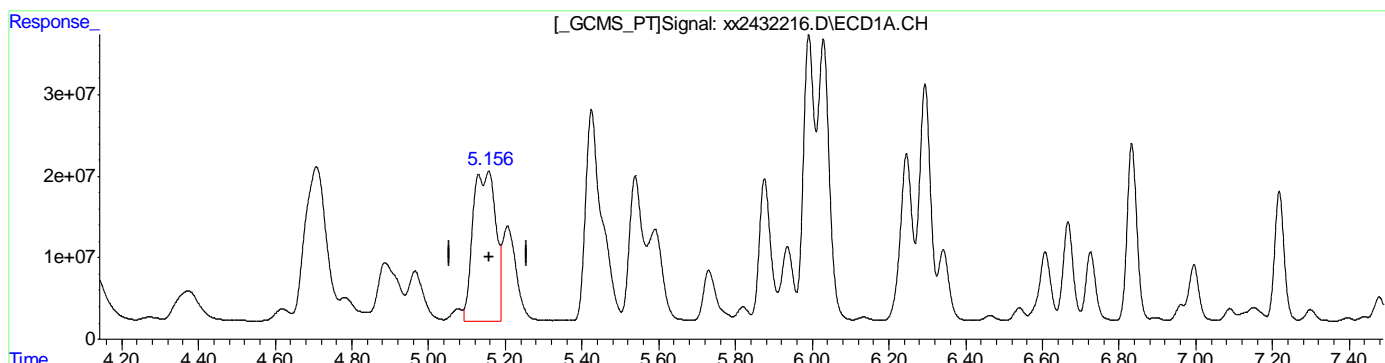
11.6.66.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:04:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(19) AR1248-C  
 5.156min 1025.042PPB m  
 response 748199058

(19) AR1248-C #2  
 6.452min 1032.538PPB  
 response 283579077

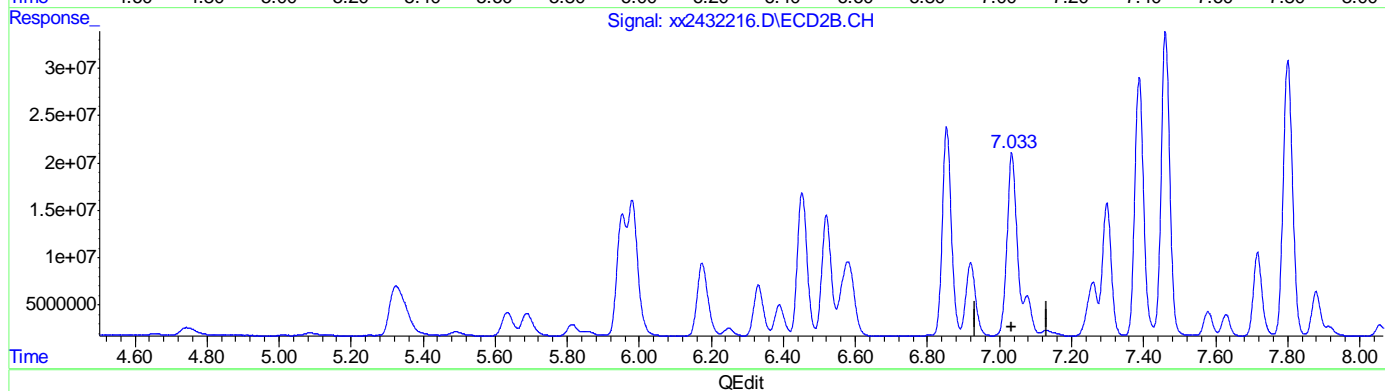
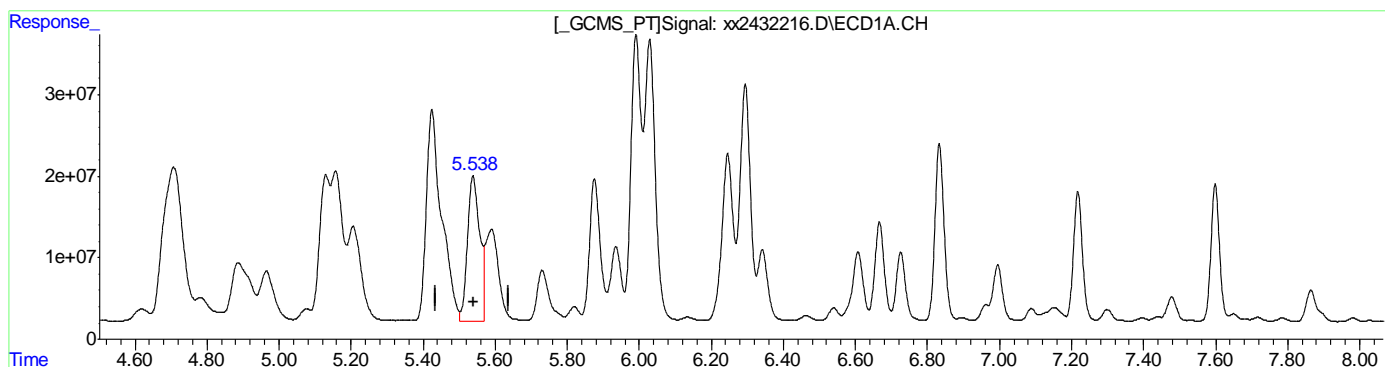
11.6.66.5  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:04:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(21) AR1248-E  
 5.539min 622.957PPB  
 response 415744496

(21) AR1248-E #2  
 7.034min 910.236PPB  
 response 370082604

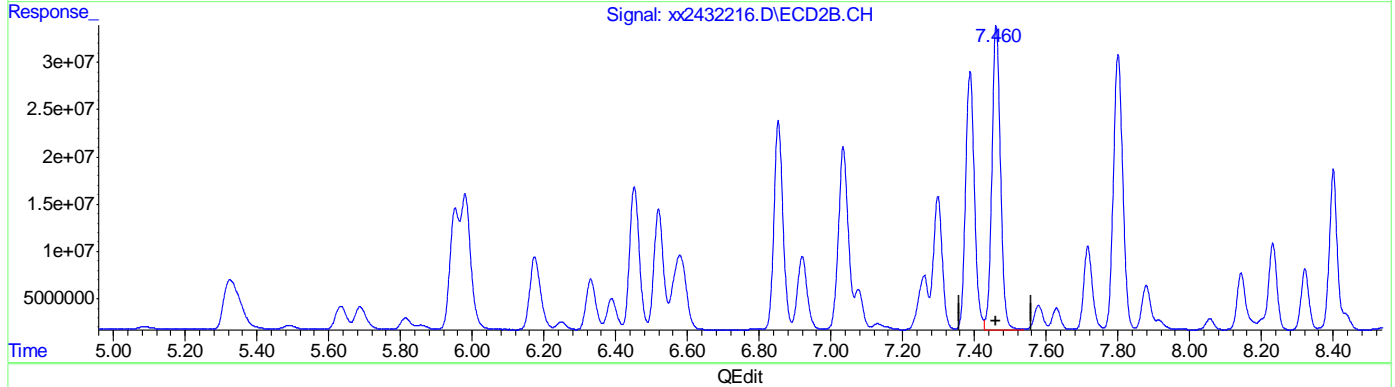
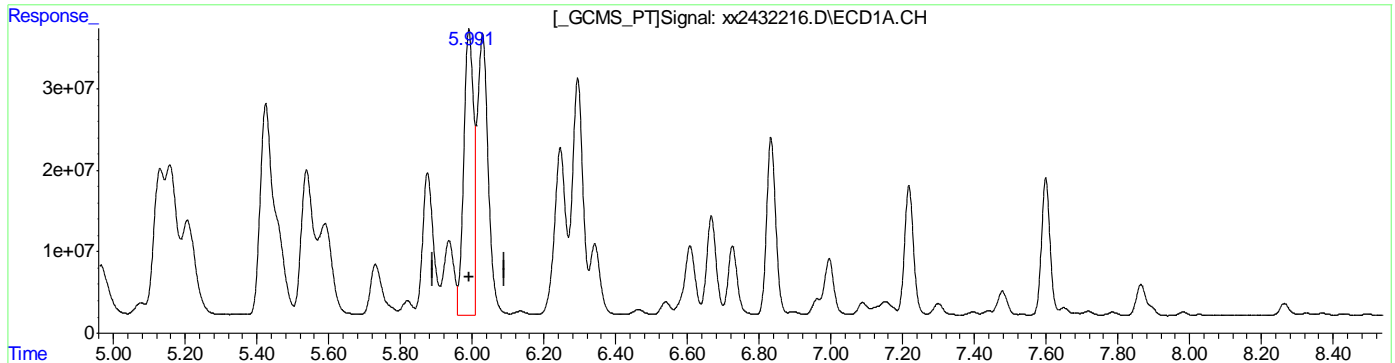
11.6.66.6  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:04:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(22) AR1248-F  
 5.991min 530.901PPB  
 response 677480555

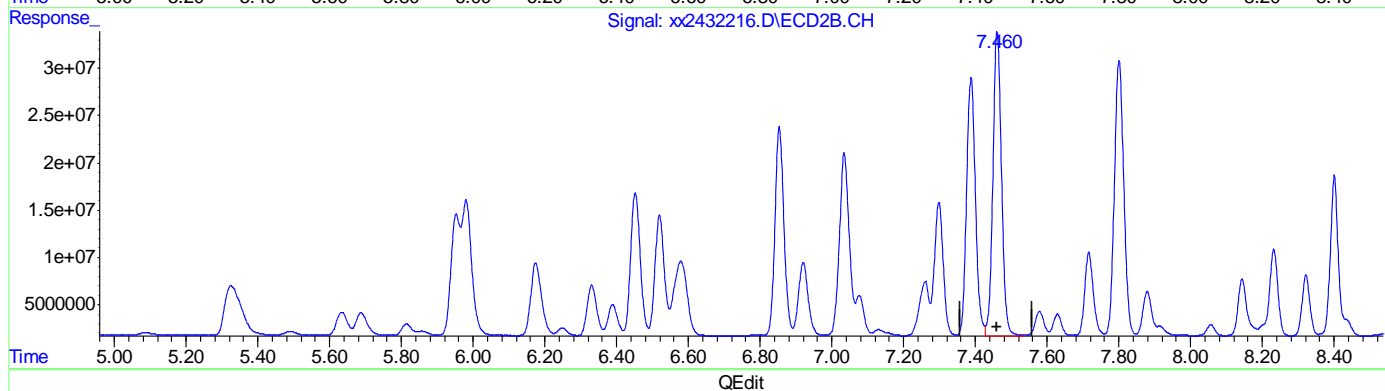
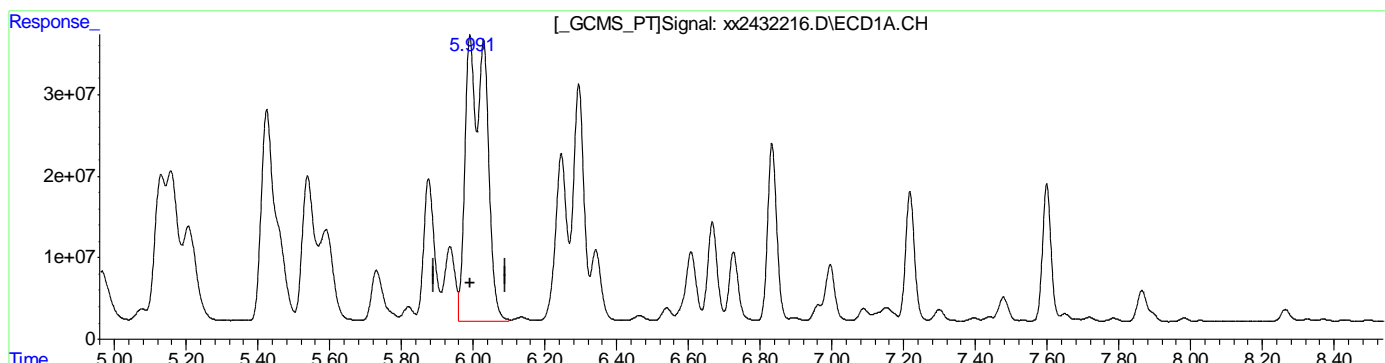
(22) AR1248-F #2  
 7.461min 1086.769PPB  
 response 535729724

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:04:01 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(22) AR1248-F  
 5.991min 1095.271PPB m  
 response 1397670176

(22) AR1248-F #2  
 7.461min 1086.769PPB  
 response 535729724

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:05:29 2019

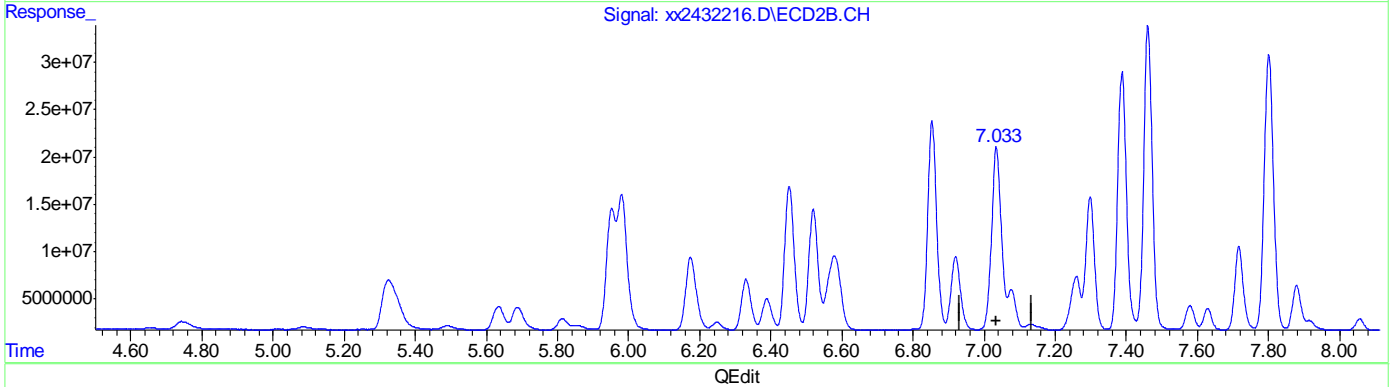
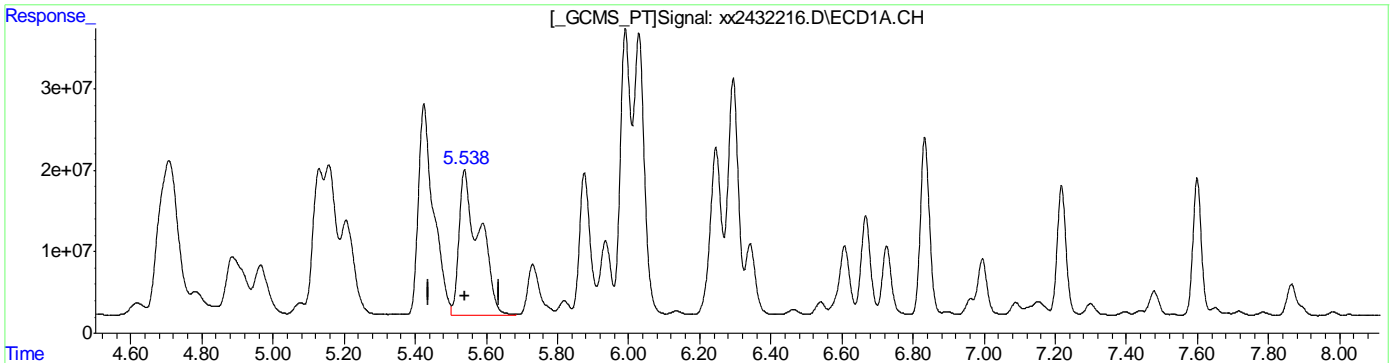
11.6.66.8  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432216.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 7:39 am  
 Operator : tianweir  
 Sample : icv6621-1000  
 Misc : op17615,GXX6621,1000,,,5,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:07:54 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(21) AR1248-E  
 5.538min 1056.697PPB m  
 response 705210416

(21) AR1248-E #2  
 7.033min 1071.173PPB m  
 response 435516320



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432220.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 9:59 am  
 Operator : summerk  
 Sample : icv6621-1000  
 Misc : op18918,GXX6621,1.0,,,10,1  
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:15:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.309f	4.055	659.7E6	463.5E6	35.296	36.592
Spiked Amount	40.000		Recovery	=	88.24%	91.48%
51) S Decachlor...	10.784	12.657	726.2E6	452.3E6	39.257	38.510
Spiked Amount	40.000		Recovery	=	98.14%	96.28%
Target Compounds						
41) AR1016-A	3.716f	4.752	341.1E6	207.4E6	979.903	1064.189
42) AR1016-B	4.150f	5.329	600.0E6	399.2E6	1007.155	947.924
43) AR1016-C	4.735f	5.984	1411.2E6	902.4E6	994.836	986.386
44) AR1016-D	4.909f	6.180	525.6E6	338.9E6	1003.871	997.078
45) AR1016-E	5.445f	6.855	545.9E6	267.5E6	979.951	991.011
46) AR1260-A	7.879f	9.502	1331.1E6	932.2E6	880.798	893.786m
47) AR1260-B	8.043f	9.622	704.1E6	610.9E6	1075.873	1077.151
48) AR1260-C	8.387f	10.065	806.8E6	589.7E6	1079.692	1044.122
49) AR1260-D	8.822f	10.407	1932.4E6	1574.1E6	1082.279	1101.410
50) AR1260-E	9.220	10.962	1876.8E6	1393.4E6	1072.276m	1059.114m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

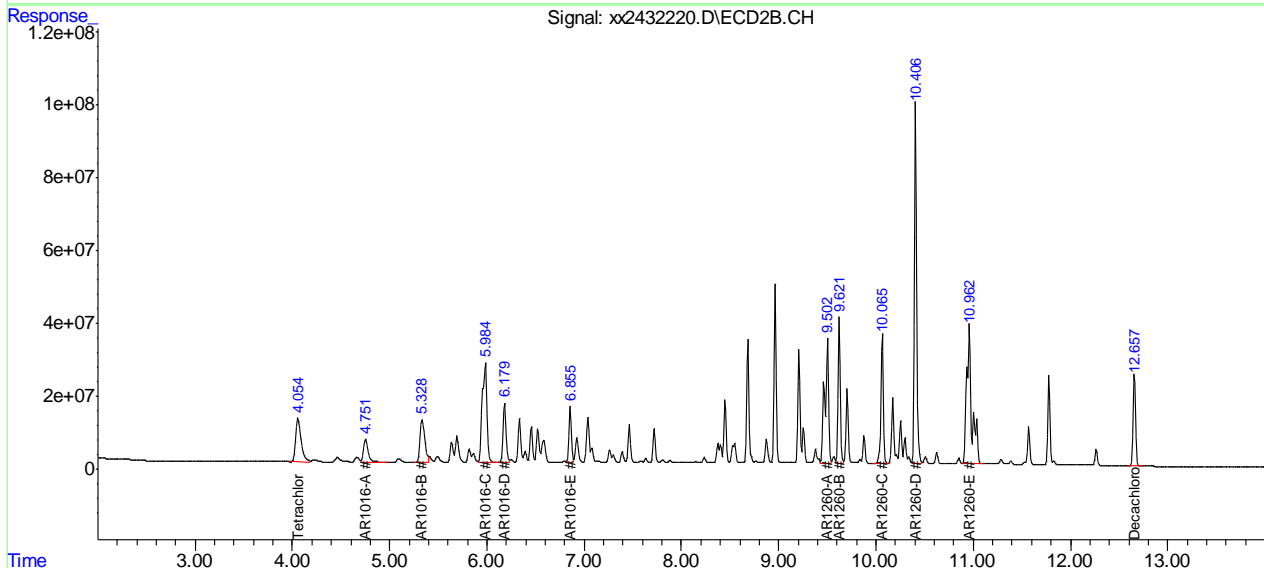
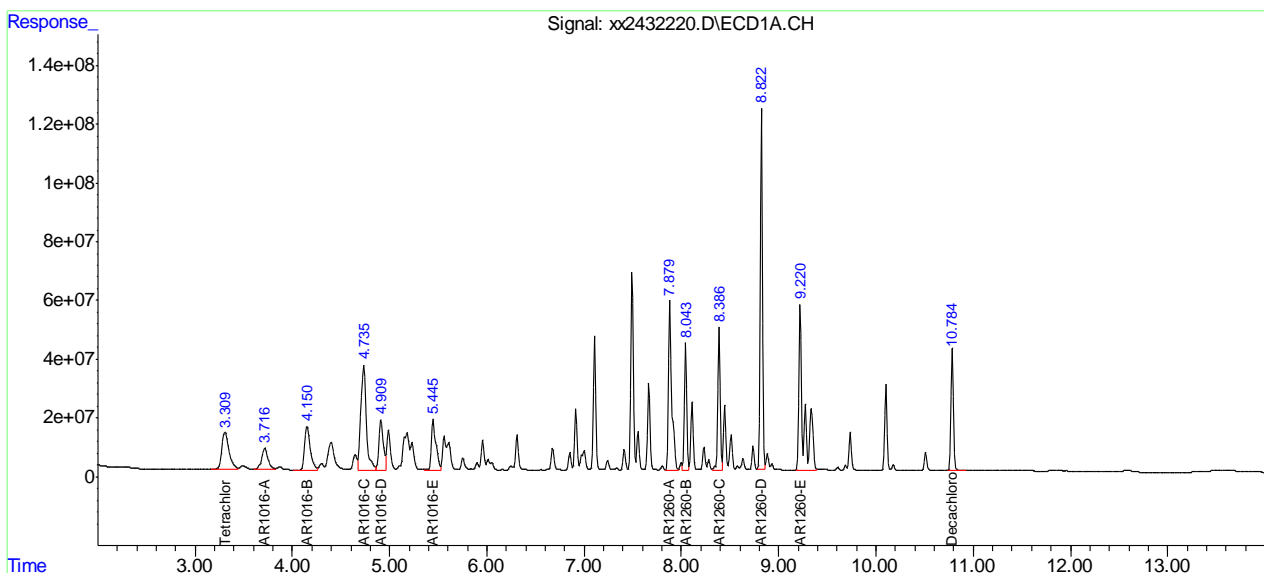
11.6.67  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432220.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 9:59 am  
 Operator : summerk  
 Sample : icv6621-1000  
 Misc : op18918,GXX6621,1.0,,,10,1  
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:15:33 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.67  
11

# Manual Integration Approval Summary

Sample Number: GXX6621-ICV6621      Method: SW846 8082A  
Lab FileID: XX2432220.D      Analyst approved: 03/05/19 13:18 Summer Kotb  
Injection Time: 03/05/19 09:59      Supervisor approved: 03/05/19 15:08 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	9.22	Split peak
AR1260-A		2	9.50	Split peak
AR1260-E		2	10.96	Split peak

11.6.67.1

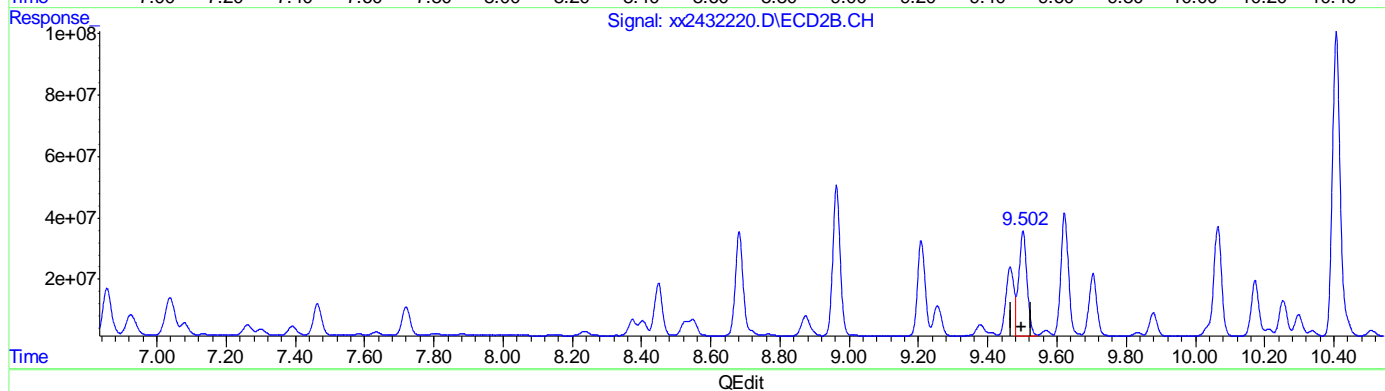
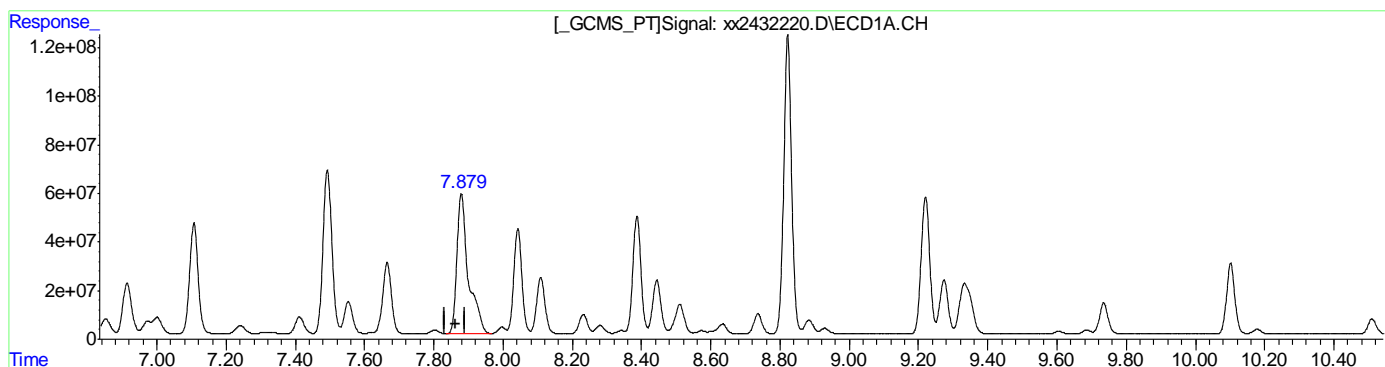
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432220.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 9:59 am  
 Operator : summerk  
 Sample : icv6621-1000  
 Misc : op18918,GXX6621,1.0,,,10,1  
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.879min 880.798PPB  
 response 1331088296

(46) AR1260-A #2  
 9.502min 537.349PPB  
 response 560425158

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:14:57 2019

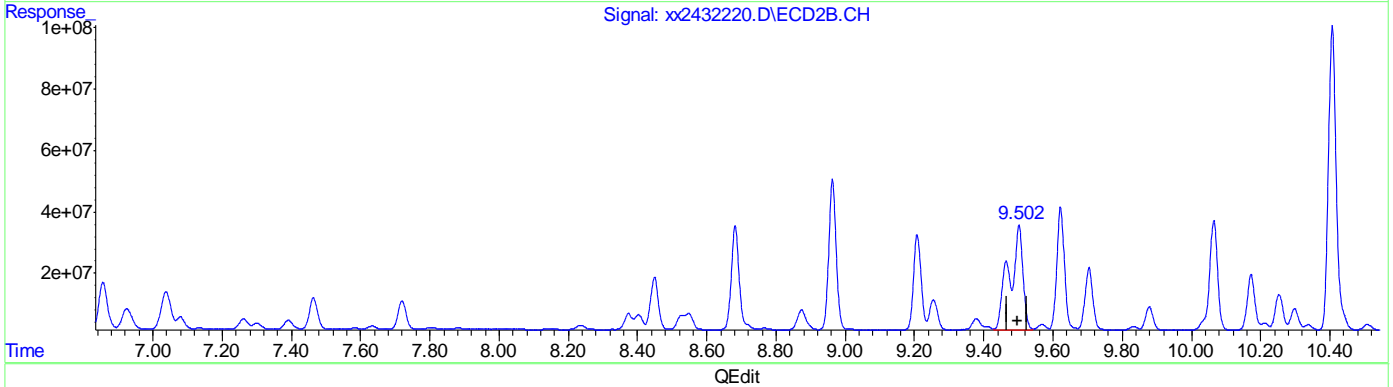
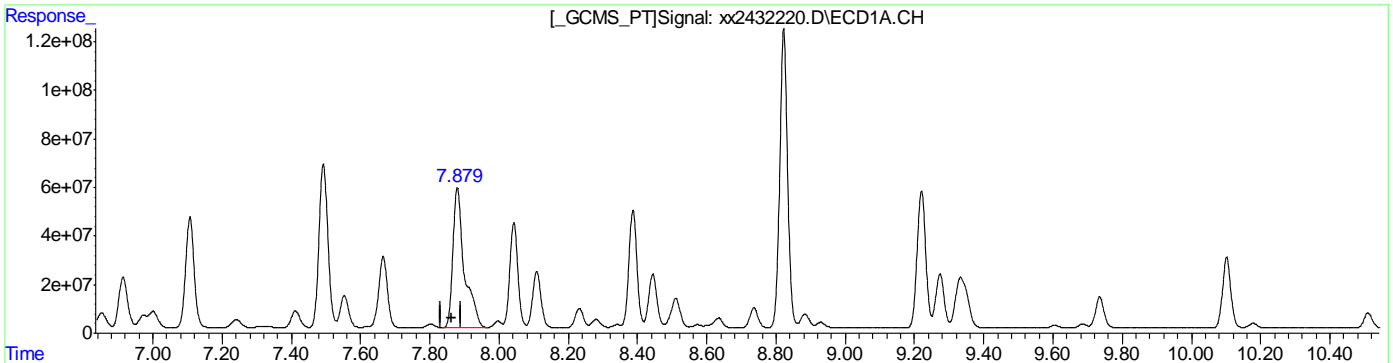
11.6.67.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432220.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 9:59 am  
 Operator : summerk  
 Sample : icv6621-1000  
 Misc : op18918,GXX6621,1.0,,,10,1  
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.879min 880.798PPB  
 response 1331088296

(46) AR1260-A #2  
 9.502min 893.786PPB m  
 response 932169814

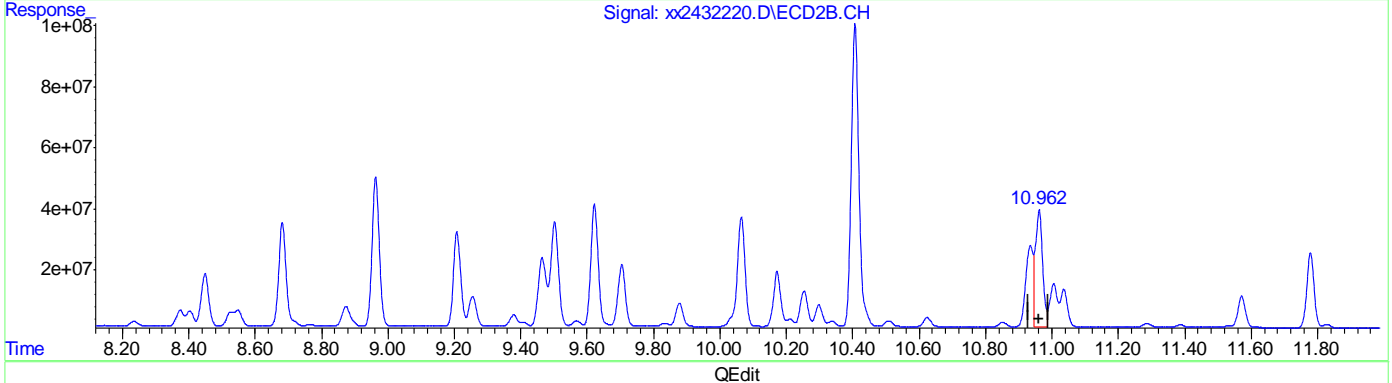
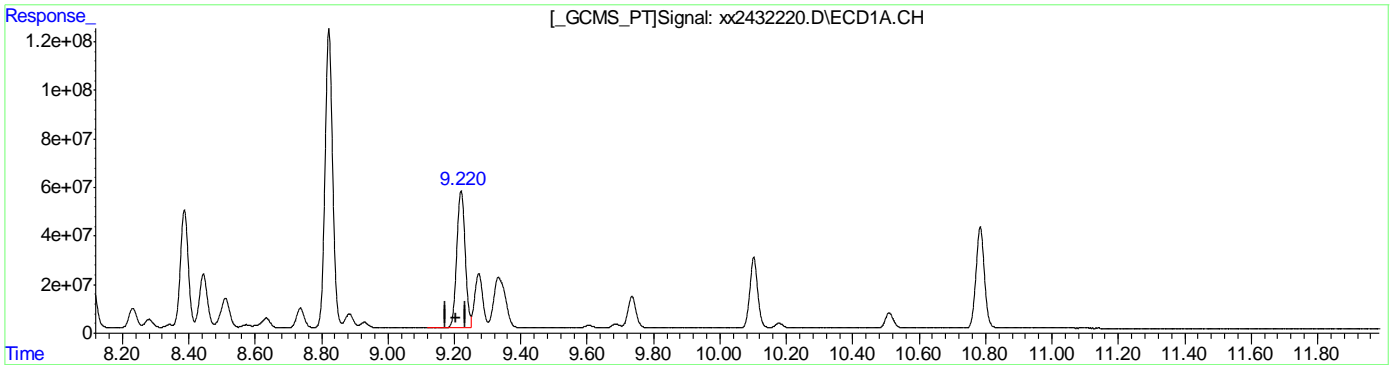
11.6.67.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432220.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 9:59 am  
 Operator : summerk  
 Sample : icv6621-1000  
 Misc : op18918,GXX6621,1.0,,,10,1  
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.220min 560.597PPB  
 response 981193721

(50) AR1260-E #2  
 10.962min 451.865PPB  
 response 594479207

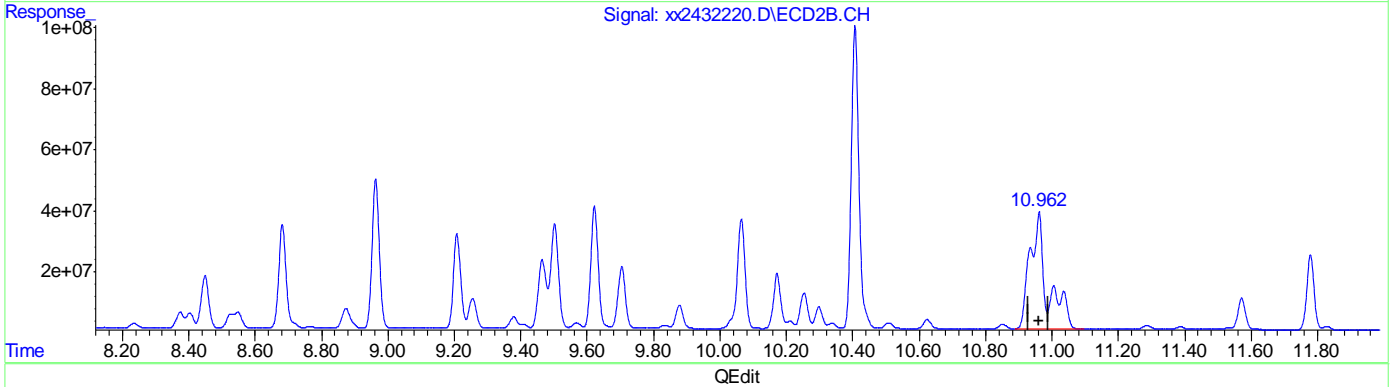
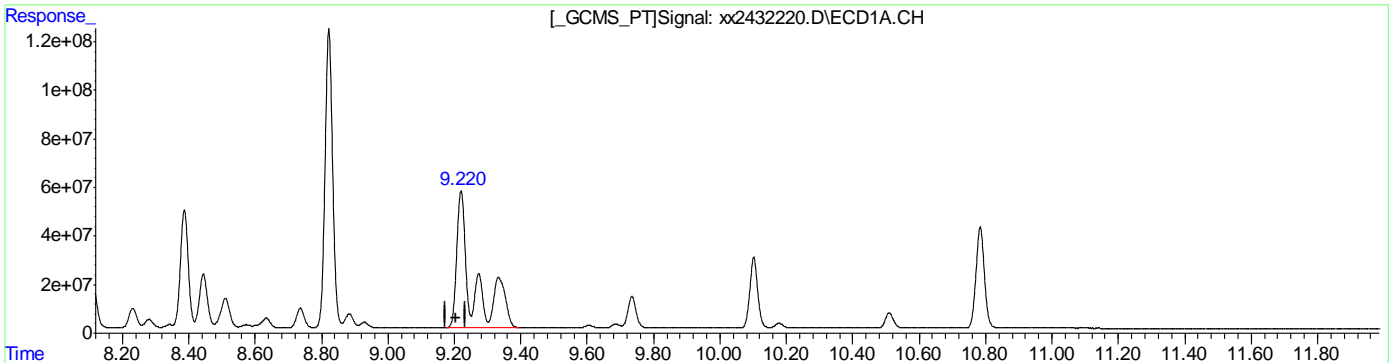
11.6.67.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6621\  
 Data File : xx2432220.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 05 Mar 2019 9:59 am  
 Operator : summerk  
 Sample : icv6621-1000  
 Misc : op18918,GXX6621,1.0,,,10,1  
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Mar 05 10:14:37 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.220min 1072.276PPB m  
 response 1876767141

(50) AR1260-E #2  
 10.962min 1059.114PPB m  
 response 1393384441

(+) = Expected Retention Time  
 PCB6621.M Tue Mar 05 10:15:35 2019

11.6.67.5  
**11**

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:50:16 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.267f	4.042	331.2E6	226.9E6	17.723	17.910
Spiked Amount	40.000		Recovery	=	44.31%	44.77%
51) S Decachlor...	10.747f	12.645	362.9E6	224.2E6	19.618	19.088
Spiked Amount	40.000		Recovery	=	49.04%	47.72%
Target Compounds						
41) AR1016-A	3.674f	4.735	177.3E6	101.2E6	509.210	519.013
42) AR1016-B	4.105f	5.313f	321.5E6	219.1E6	539.643	520.195
43) AR1016-C	4.691f	5.971	740.9E6	469.1E6	522.316	512.813m
44) AR1016-D	4.864f	6.166	272.5E6	176.7E6	520.504	519.875
45) AR1016-E	5.401f	6.843	281.1E6	137.5E6	504.548	509.534
46) AR1260-A	7.840f	9.489	619.2E6	451.7E6	409.762	433.073m
47) AR1260-B	8.001f	9.610	349.1E6	313.5E6	533.388	552.713
48) AR1260-C	8.346f	10.052	374.1E6	295.2E6	500.704	522.749
49) AR1260-D	8.783f	10.395	823.5E6	746.0E6	461.238m	521.983
50) AR1260-E	9.184f	10.950	943.1E6	734.2E6	538.843m	558.076m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

11.6.68  
 11

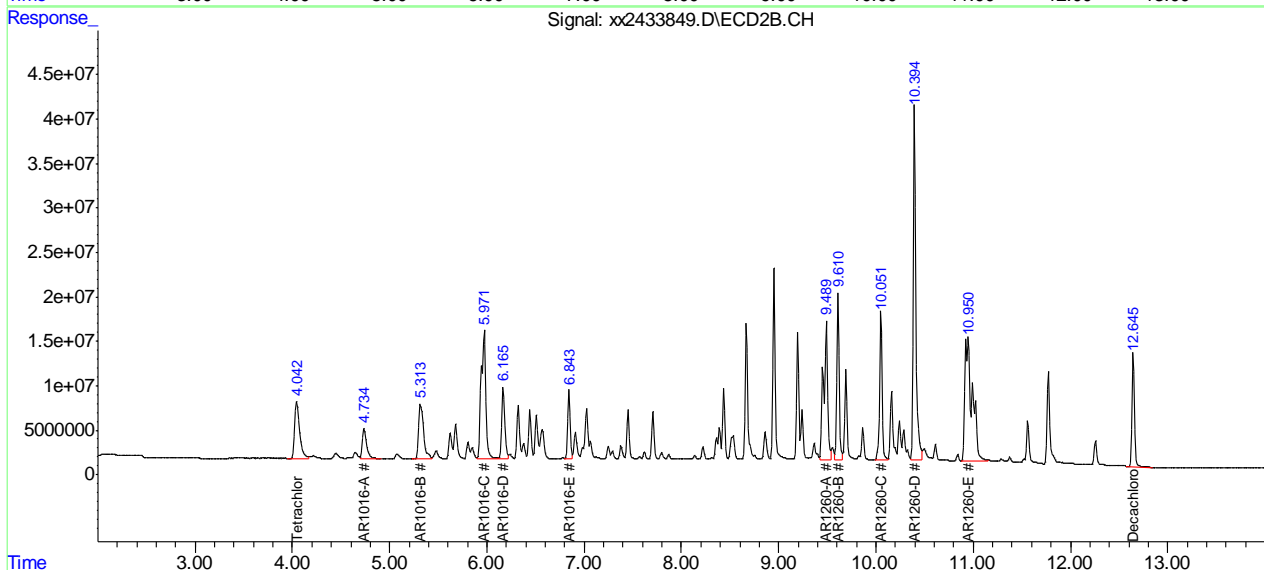
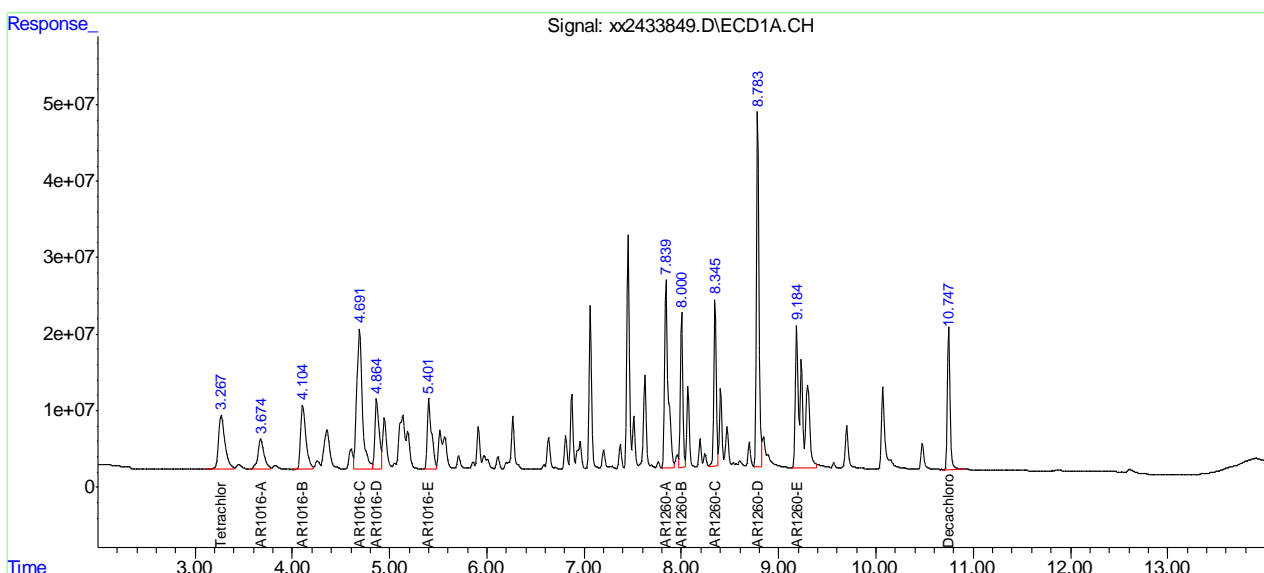


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:50:16 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.68  
11

# Manual Integration Approval Summary

Sample Number: GXX6658-CC6621      Method: EPA 608.3  
Lab FileID: XX2433849.D      Analyst approved: 04/17/19 14:52 Summer Kotb  
Injection Time: 04/17/19 13:25      Supervisor approved: 04/17/19 15:03 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.97	Split peak
AR1260-D		1	8.78	Split peak
AR1260-E		1	9.18	Split peak
AR1260-A		2	9.49	Split peak
AR1260-E		2	10.95	Split peak

11.6.68.1

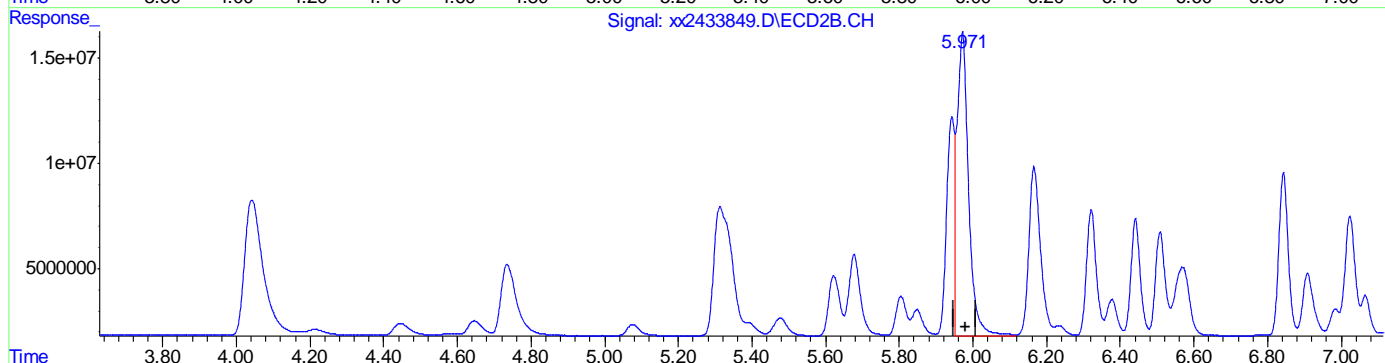
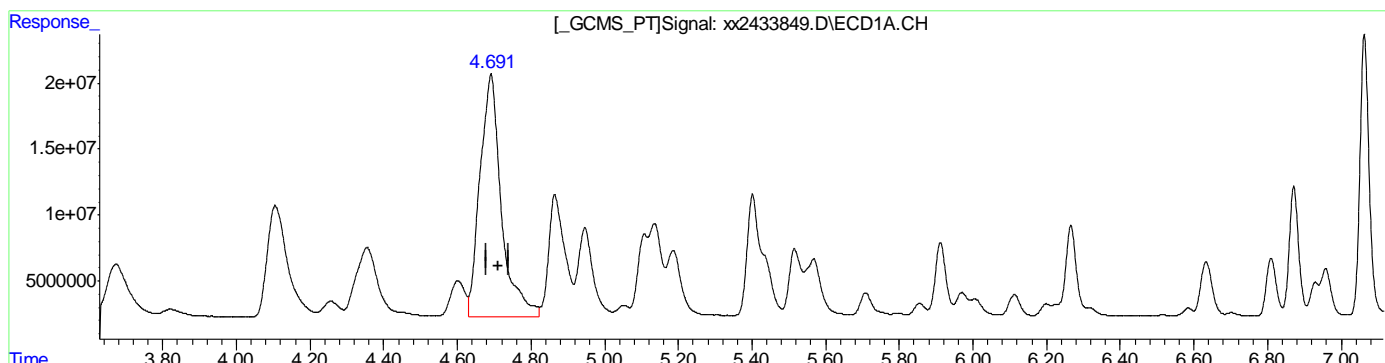
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:49:25 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



QEdit

(43) AR1016-C  
 4.691min 522.316PPB  
 response 740896214

(43) AR1016-C #2  
 5.972min 341.769PPB  
 response 312661105

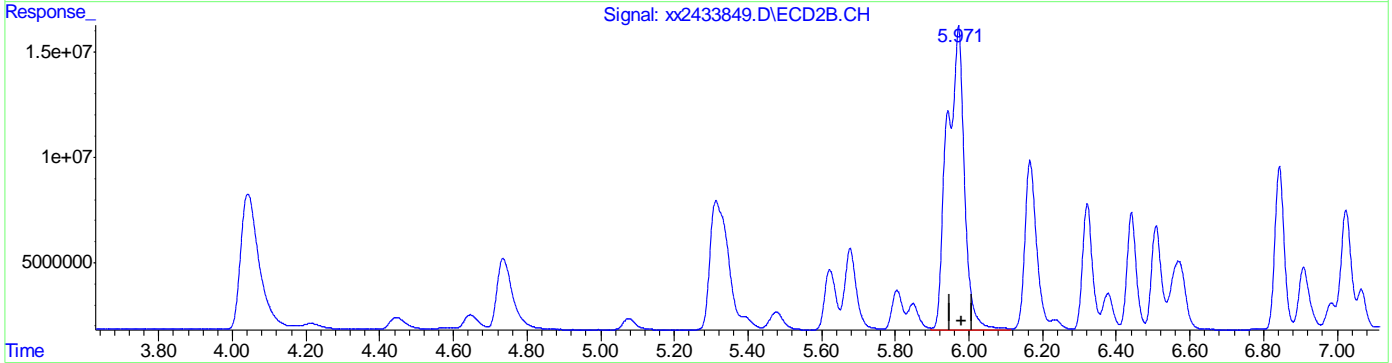
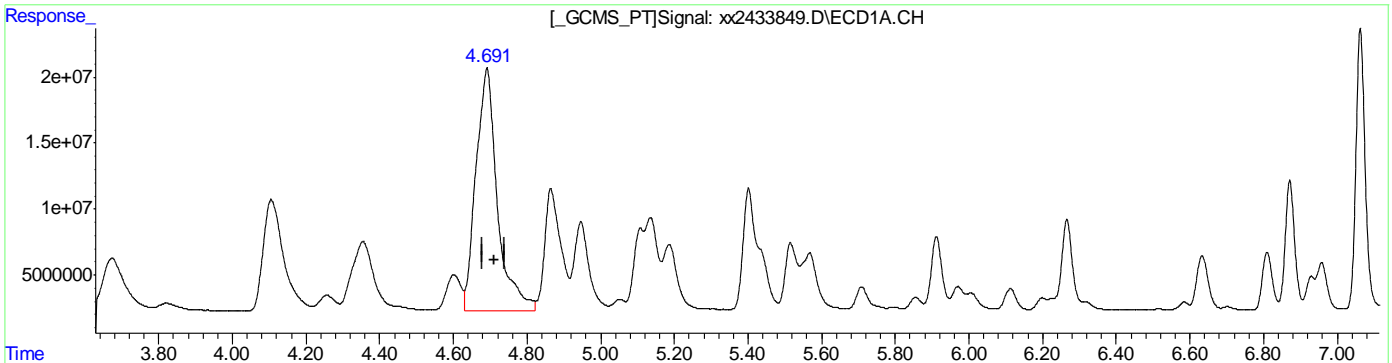
11.6.68.2  
**11**

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:49:25 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



Retention Time (min)	Concentration (PPB)	Response
(43) AR1016-C 4.691min	522.316PPB	740896214
(43) AR1016-C #2 5.971min	512.813PPB m	469137575

(+) = Expected Retention Time  
 PCB6621.M Wed Apr 17 14:49:47 2019

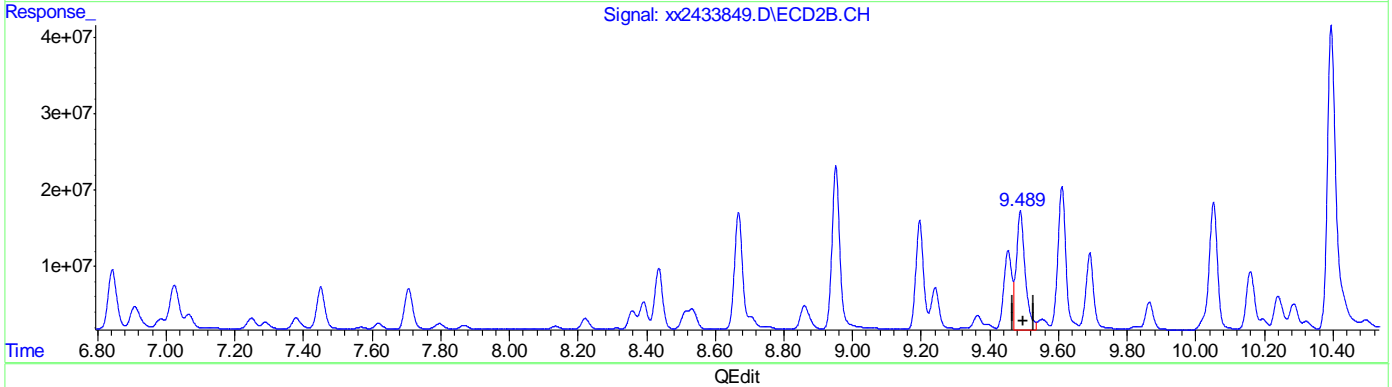
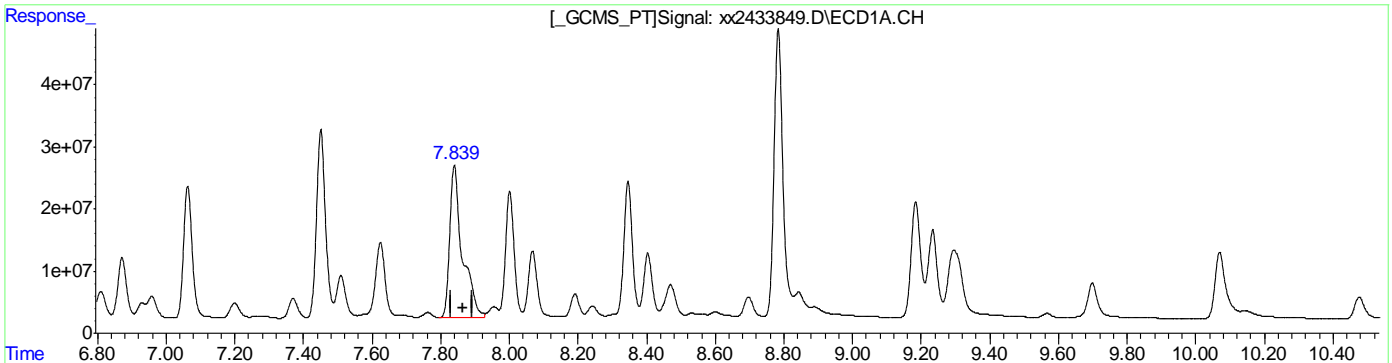
11.6.68.3  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:49:25 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.840min 409.762PPB  
 response 619244438

(46) AR1260-A #2  
 9.489min 271.152PPB  
 response 282796782

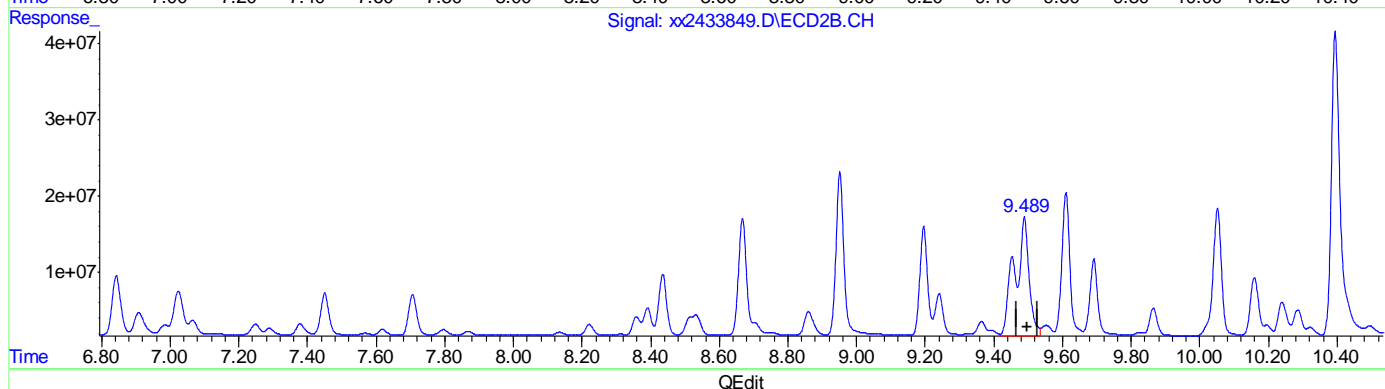
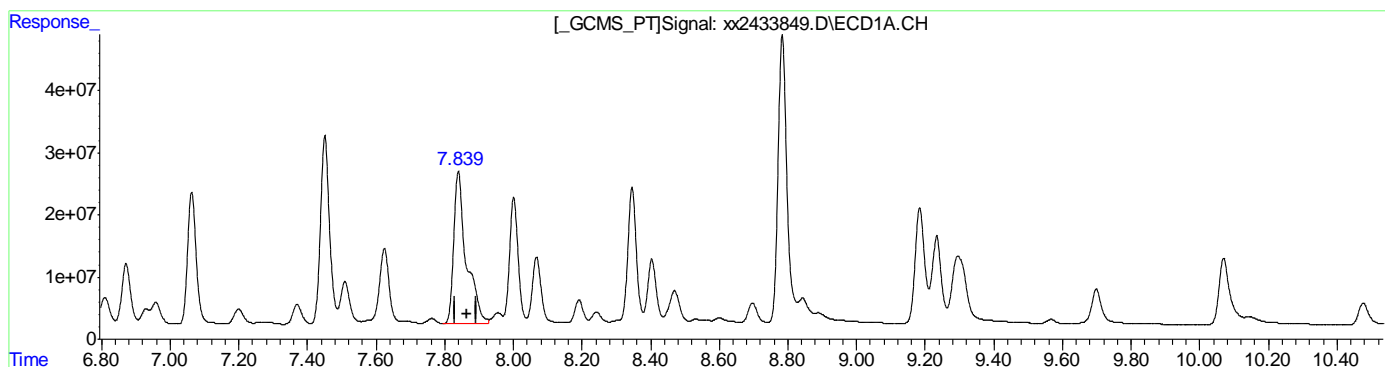
11.6.68.4  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:49:25 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.840min 409.762PPB  
 response 619244438

(46) AR1260-A #2  
 9.489min 433.073PPB m  
 response 451671819

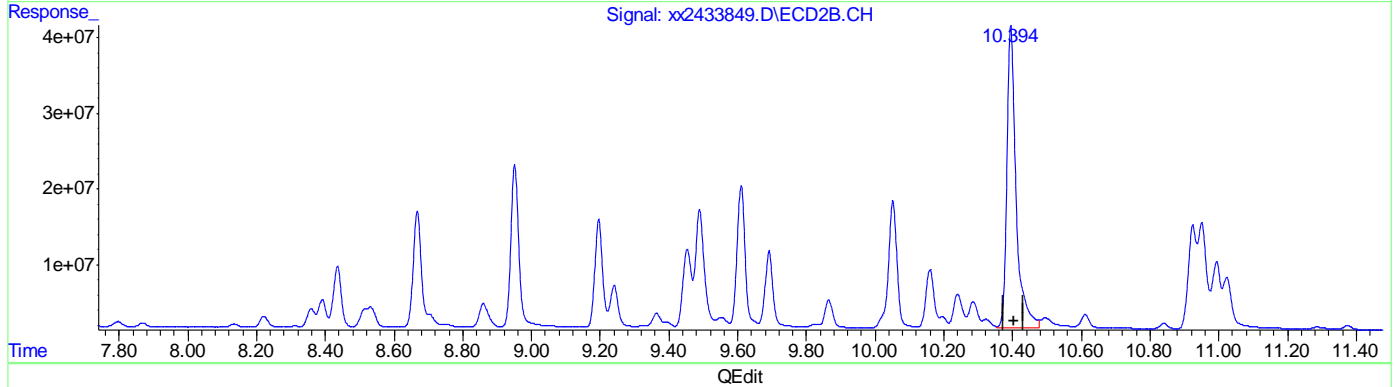
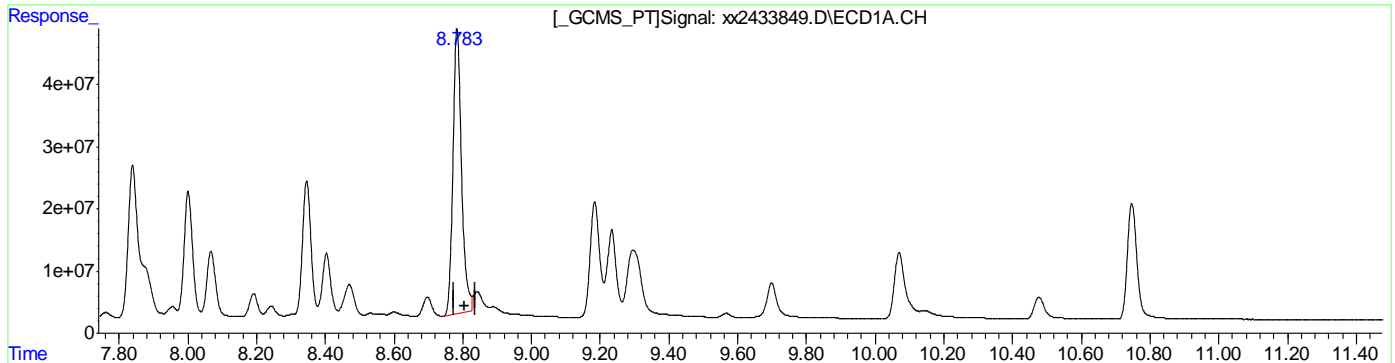
11.6.68.5  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:49:25 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(49) AR1260-D  
 8.783min 448.400PPB  
 response 800614741

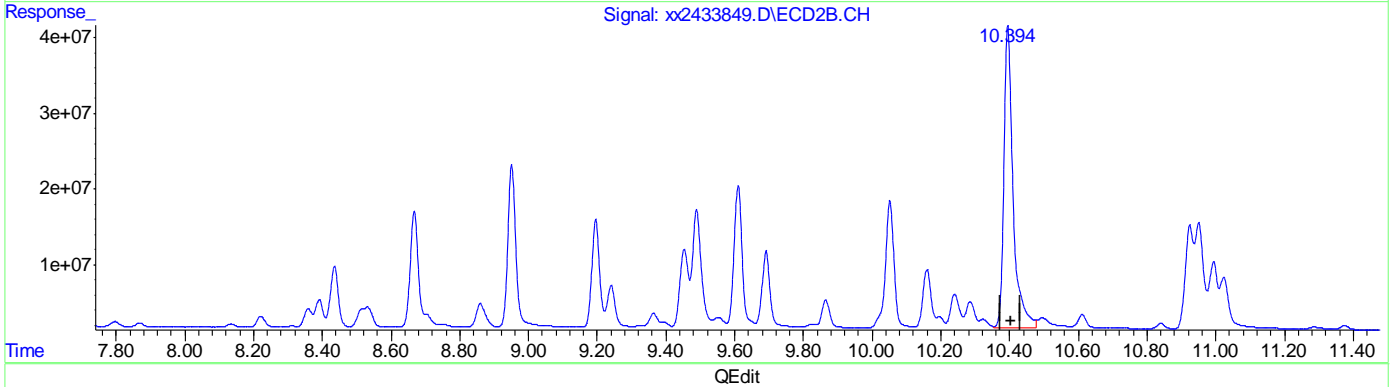
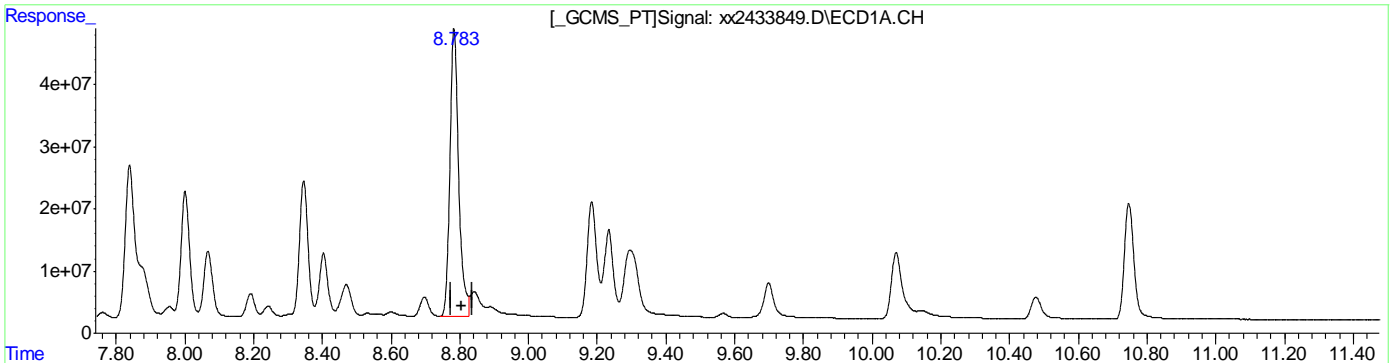
(49) AR1260-D #2  
 10.395min 521.983PPB  
 response 746021084

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:49:25 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(49) AR1260-D  
 8.783min 461.238PPB m  
 response 823535812

(49) AR1260-D #2  
 10.395min 521.983PPB  
 response 746021084

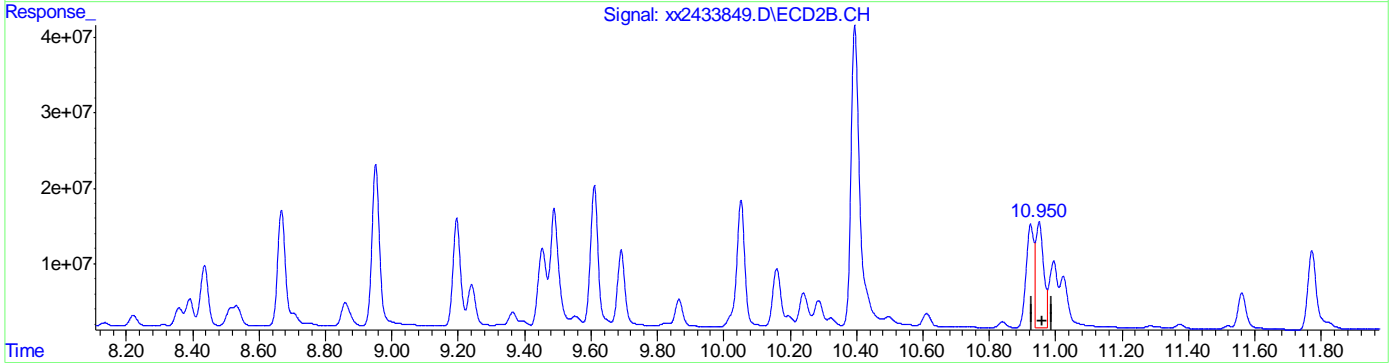
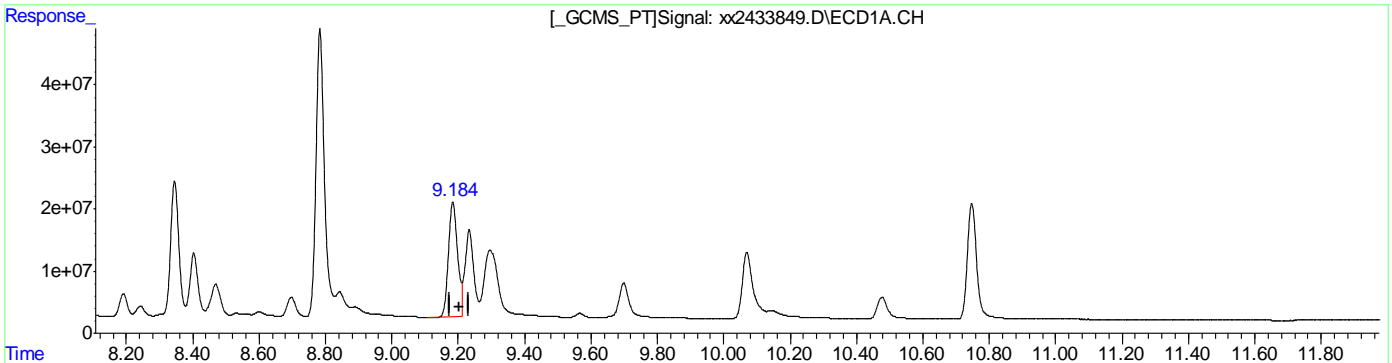


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:49:25 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.184min 200.094PPB  
 response 350217189

(50) AR1260-E #2  
 10.950min 179.331PPB  
 response 235929658

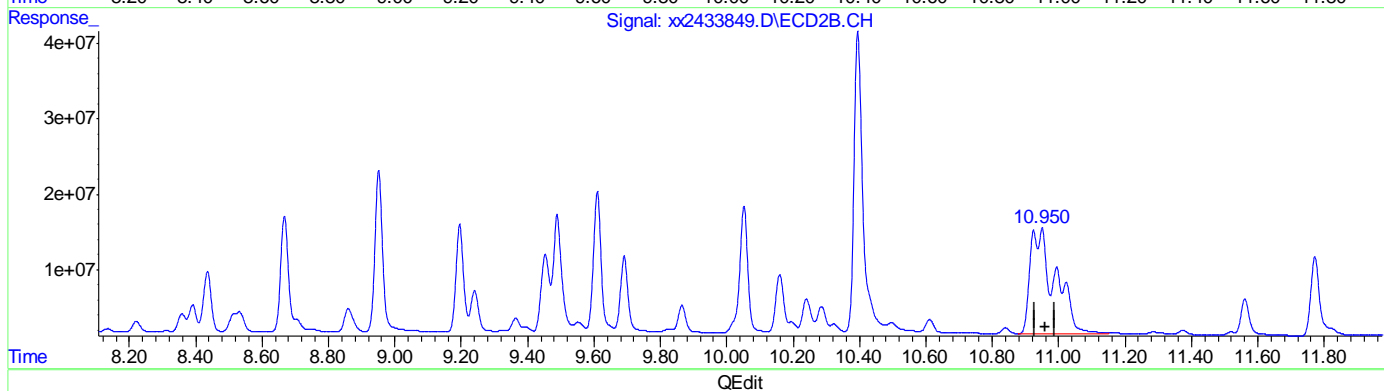
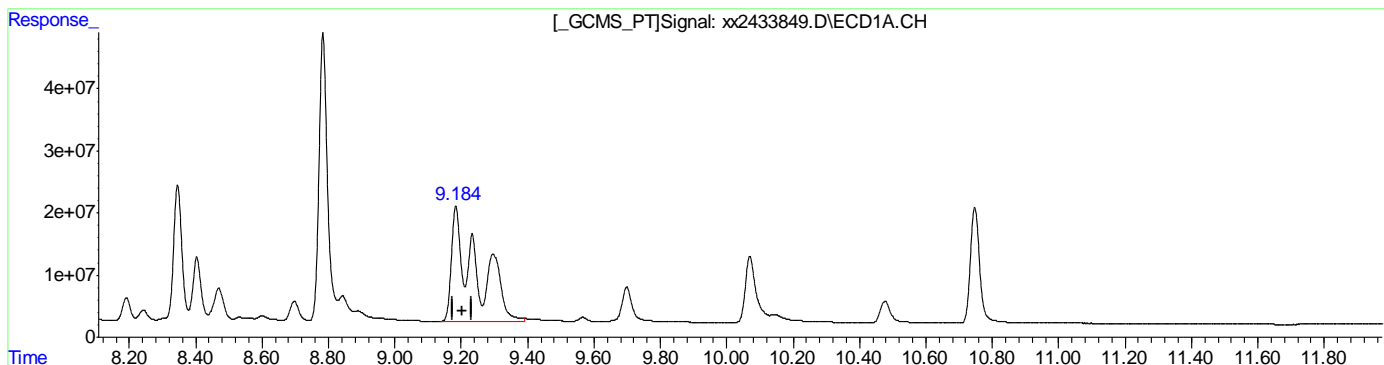
11.6.68.8  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6658\  
 Data File : xx2433849.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 1:25 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19774,gxx6658,1000,,,5.0,1  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 14:49:25 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.184min 538.843PPB m  
 response 943117706

(50) AR1260-E #2  
 10.950min 558.076PPB m  
 response 734212292

11.6.68.9  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\gxx6658\  
 Data File : xx2433860.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 4:46 pm  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 21:52:34 2019  
 Quant Method : C:\msdchem\1\METHODS\pcb6621.m  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----							
System Monitoring Compounds							
1)	S Tetrachlo...	3.269	4.043	662.4E6	446.6E6	35.441	35.254
	Spiked Amount	40.000		Recovery	=	88.60%	88.13%
51)	S Decachlor...	10.755	12.649	703.9E6	436.7E6	38.051	37.181
	Spiked Amount	40.000		Recovery	=	95.13%	92.95%
Target Compounds							
41)	AR1016-A	3.677	4.736	341.5E6	192.6E6	980.944	988.063
42)	AR1016-B	4.112	5.315	611.6E6	419.7E6	1026.514	996.583
43)	AR1016-C	4.698	5.972	1433.5E6	912.5E6	1010.607	997.449
44)	AR1016-D	4.871	6.168	524.6E6	340.7E6	1001.959	1002.203
45)	AR1016-E	5.408	6.844	540.7E6	265.5E6	970.615	983.831
46)	AR1260-A	7.847	9.492	1258.6E6	888.6E6	832.812	852.046m
47)	AR1260-B	8.009	9.614	693.6E6	622.0E6	1059.859	1096.724
48)	AR1260-C	8.354	10.054	777.8E6	602.0E6	1040.886	1065.905
49)	AR1260-D	8.792	10.399	1706.6E6	1510.1E6	955.818	1056.593
50)	AR1260-E	9.191	10.955	1874.6E6	1410.9E6	1071.053m	1072.404m
-----							

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

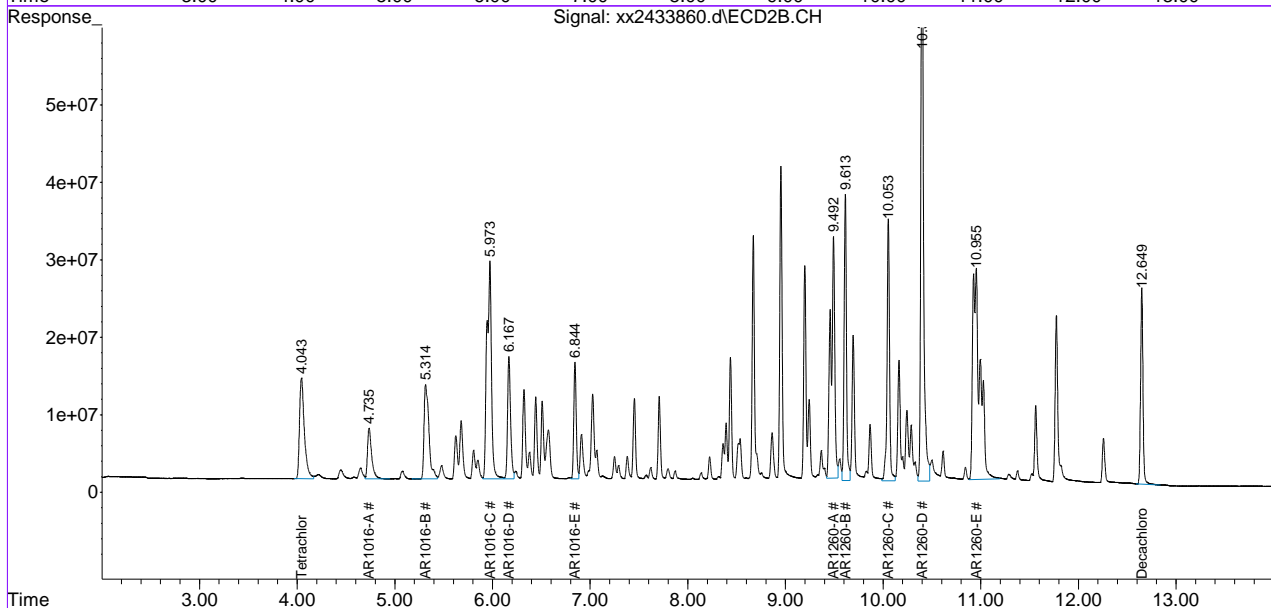
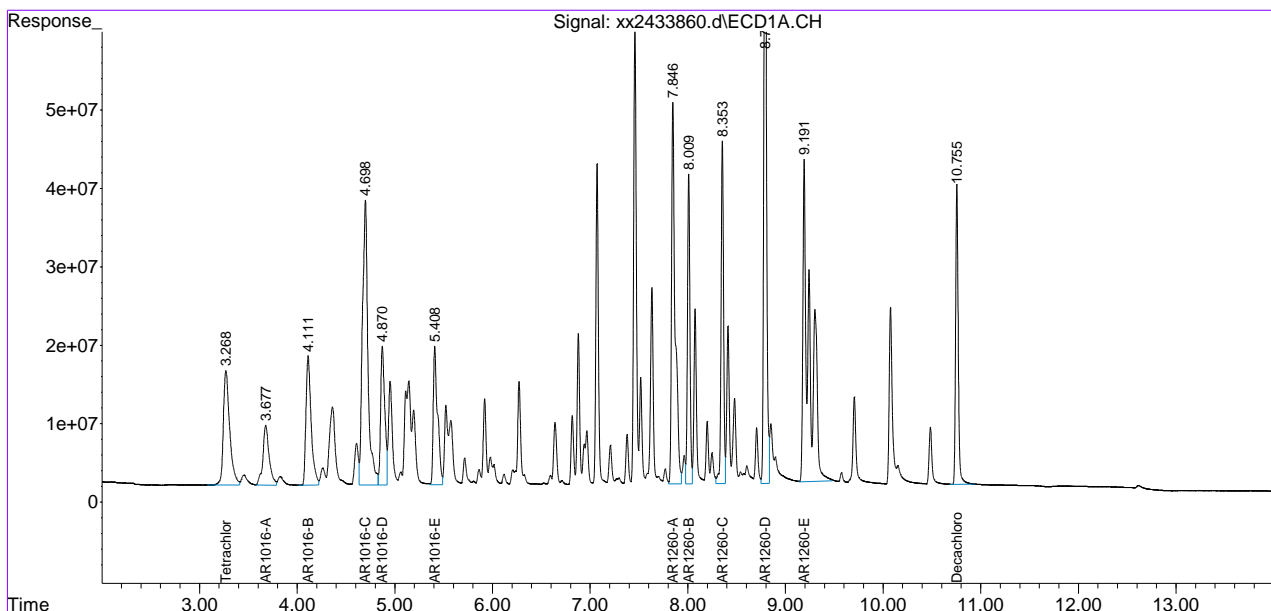
11.6.69  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\gxx6658\  
 Data File : xx2433860.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 4:46 pm  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19788,gxx6658,15.8,,10.0,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 21:52:34 2019  
 Quant Method : C:\msdchem\1\METHODS\pcb6621.m  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.6.69  
11

# Manual Integration Approval Summary

Sample Number: GXX6658-CC6621      Method: SW846 8082A  
Lab FileID: XX2433860.D      Analyst approved: 04/17/19 22:35 Sarah Cruz  
Injection Time: 04/17/19 16:46      Supervisor approved: 04/18/19 06:41 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	9.19	Poorly defined baseline
AR1260-A		2	9.49	Poorly defined baseline
AR1260-E		2	10.95	Poorly defined baseline

11.6.69.1

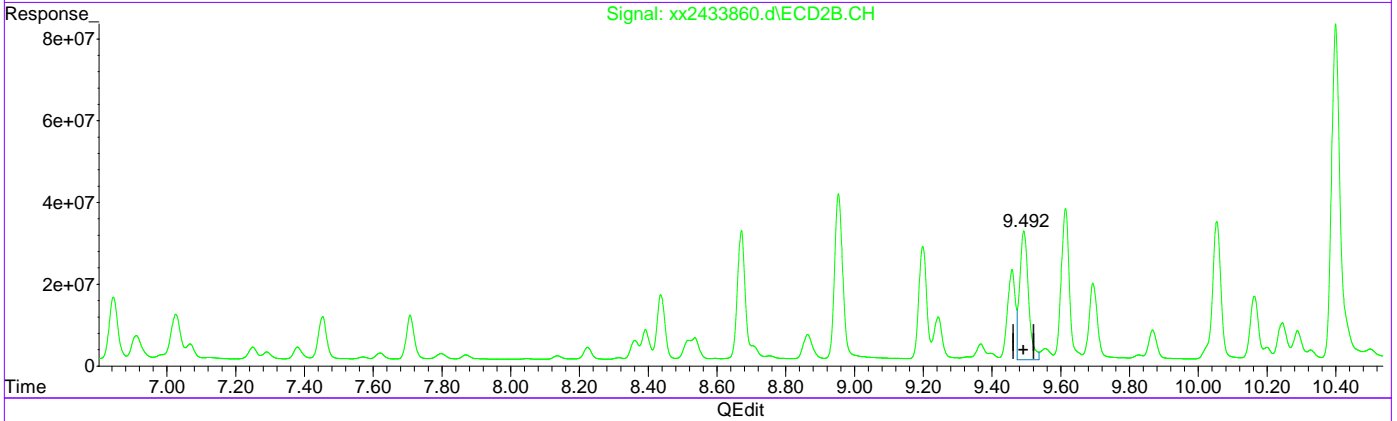
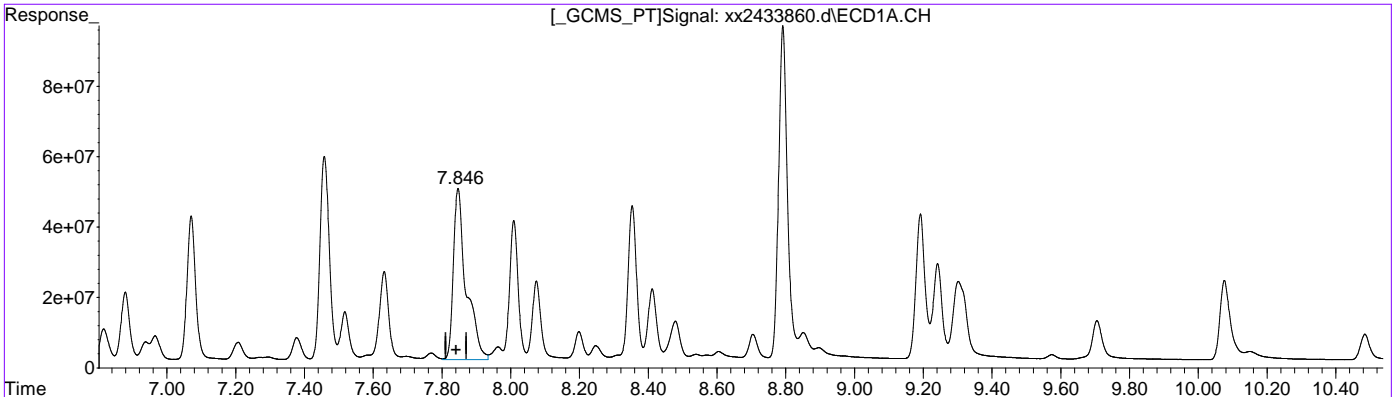
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\gxx6658\  
 Data File : xx2433860.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 4:46 pm  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 21:50:02 2019  
 Quant Method : C:\msdchem\1\METHODS\pcb6621.m  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u) Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.847min 832.812 PPB  
 response 1258571396

(46) AR1260-A #2  
 9.492min 535.951 PPB  
 response 558967926

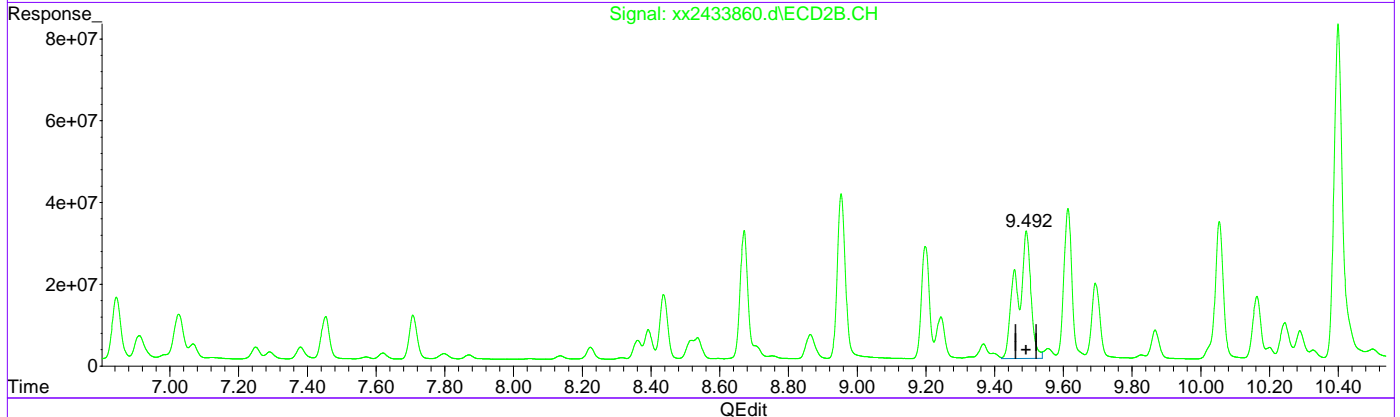
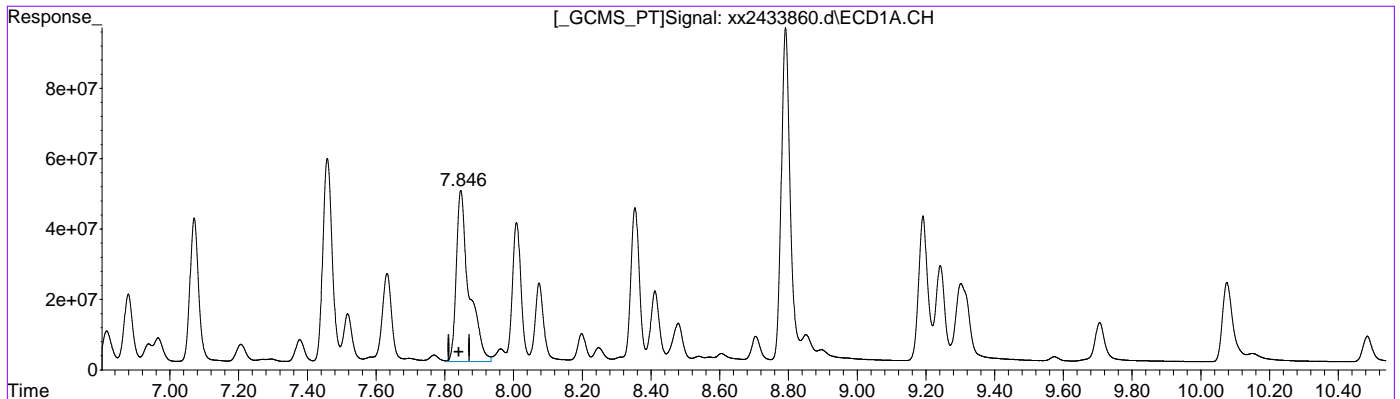
(+) = Expected Retention Time  
 pcb6621.m Wed Apr 17 21:51:48 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\gxx6658\  
 Data File : xx2433860.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 4:46 pm  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 21:50:02 2019  
 Quant Method : C:\msdchem\1\METHODS\pcb6621.m  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u) Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.847min 832.812 PPB  
 response 1258571396

(46) AR1260-A #2  
 9.492min 852.046 PPB m  
 response 888636847

(+) = Expected Retention Time  
 pcb6621.m Wed Apr 17 21:52:10 2019

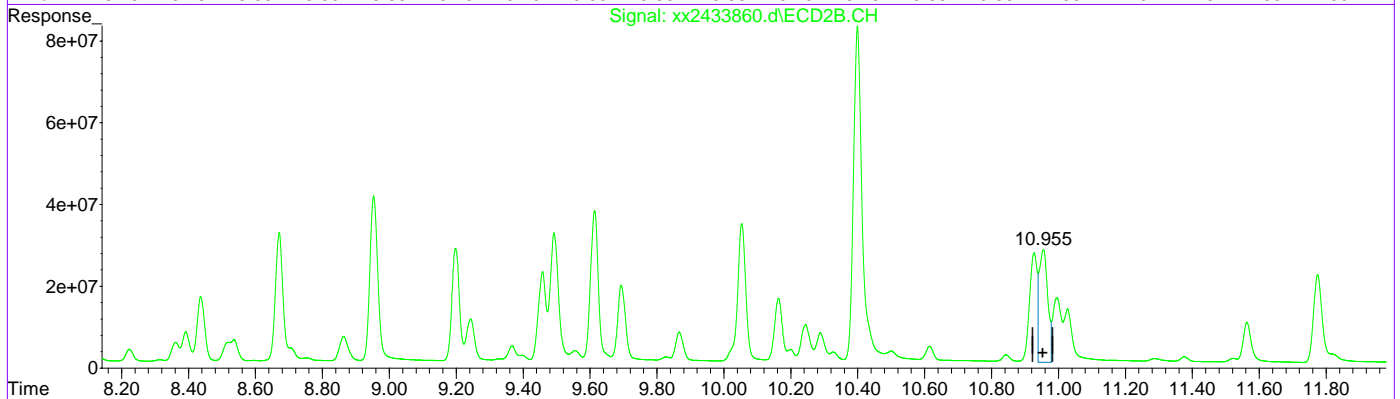
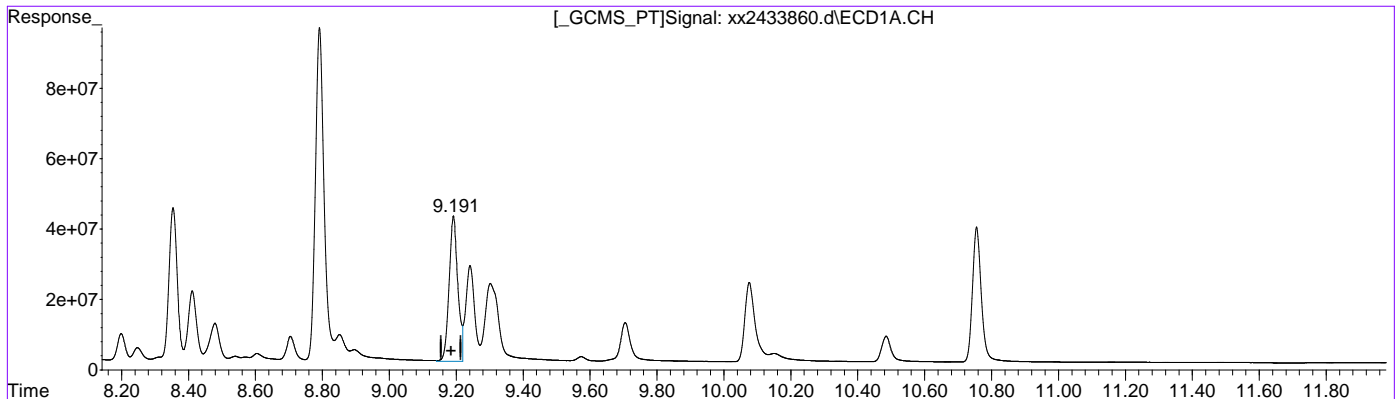
11.6.69.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\gxx6658\  
 Data File : xx2433860.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 4:46 pm  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 21:50:02 2019  
 Quant Method : C:\msdchem\1\METHODS\pcb6621.m  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u) Signal #2 Info : 30m X 0.32 mm (.25um)



Retention Time (min)	Response
(50) AR1260-E 9.192min	433.289 PPB 758370773
(50) AR1260-E #2 10.955min	369.544 PPB 486177432

(+) = Expected Retention Time  
 pcb6621.m Wed Apr 17 21:52:24 2019

11.6.69.4  
 11

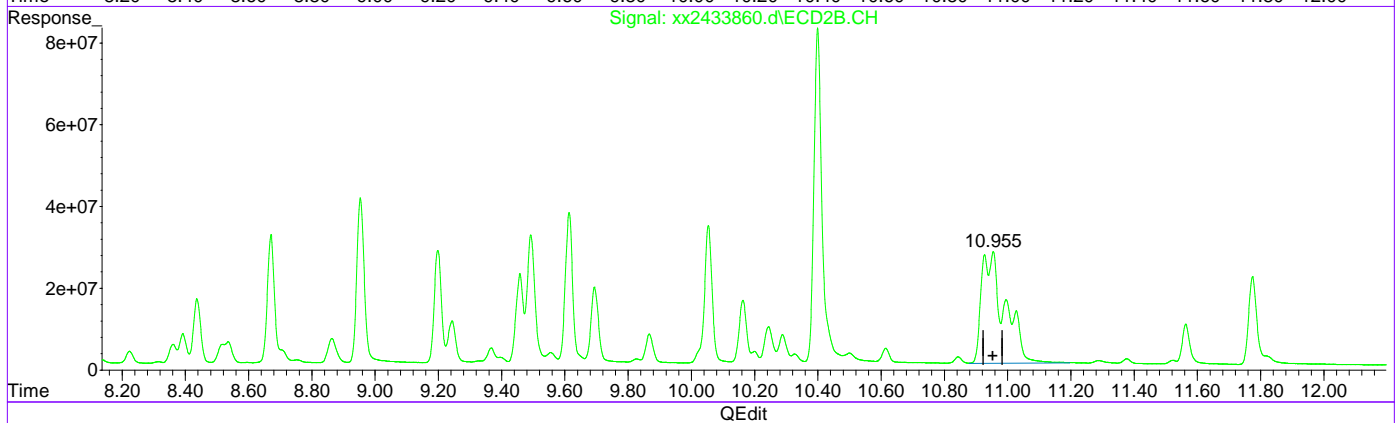
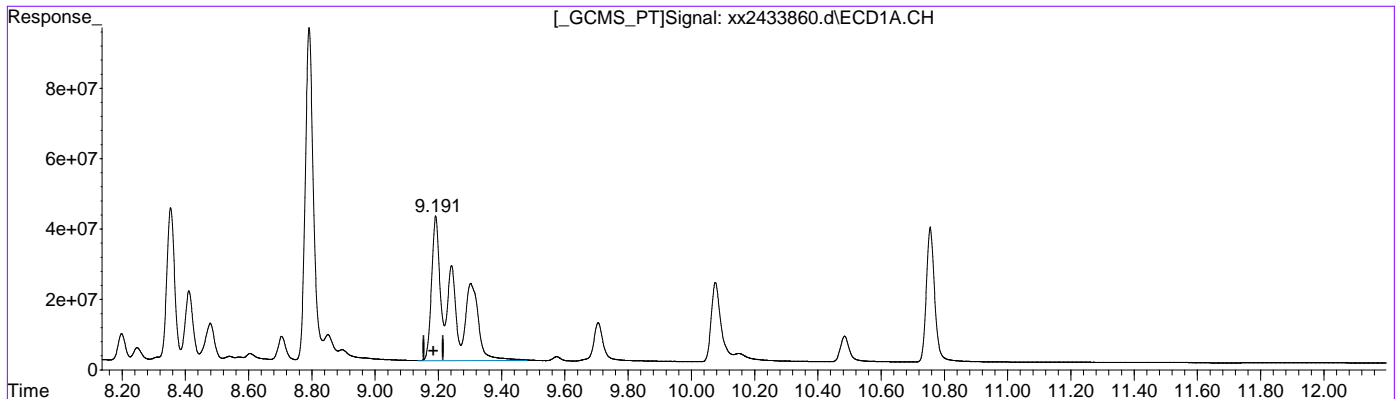


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\gxx6658\  
 Data File : xx2433860.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 17 Apr 2019 4:46 pm  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19788,gxx6658,15.8,,,10.0,1  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 17 21:50:02 2019  
 Quant Method : C:\msdchem\1\METHODS\pcb6621.m  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.191min 1071.053 PPB m  
 response 1874626256

(50) AR1260-E #2  
 10.955min 1072.404 PPB m  
 response 1410868721

(+) = Expected Retention Time  
 pcb6621.m Wed Apr 17 21:52:42 2019

11.6.69.5  
**11**

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:47:21 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.272	4.045	716.1E6	465.6E6	38.314	36.755
Spiked Amount	40.000		Recovery	=	95.78%	91.89%
51) S Decachlor...	10.748f	12.644	759.2E6	459.1E6	41.043	39.087
Spiked Amount	40.000		Recovery	=	102.61%	97.72%
Target Compounds						
41) AR1016-A	3.675	4.738	367.0E6	200.7E6	1054.150	1029.813
42) AR1016-B	4.109f	5.312f	656.3E6	413.4E6	1101.651	981.623
43) AR1016-C	4.695f	5.971	1518.6E6	948.9E6	1070.565	1037.291m
44) AR1016-D	4.868f	6.166	569.3E6	356.4E6	1087.441	1048.368
45) AR1016-E	5.402f	6.843	582.7E6	277.7E6	1046.053	1028.879
46) AR1260-A	7.840f	9.489	1359.0E6	939.0E6	899.270	900.363m
47) AR1260-B	8.002f	9.609	750.2E6	638.2E6	1146.316	1125.324
48) AR1260-C	8.346f	10.051	841.8E6	609.8E6	1126.607	1079.788
49) AR1260-D	8.784f	10.396	1854.8E6	1549.1E6	1038.805	1083.860
50) AR1260-E	9.183f	10.950	1987.6E6	1521.5E6	1135.576m	1156.490m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

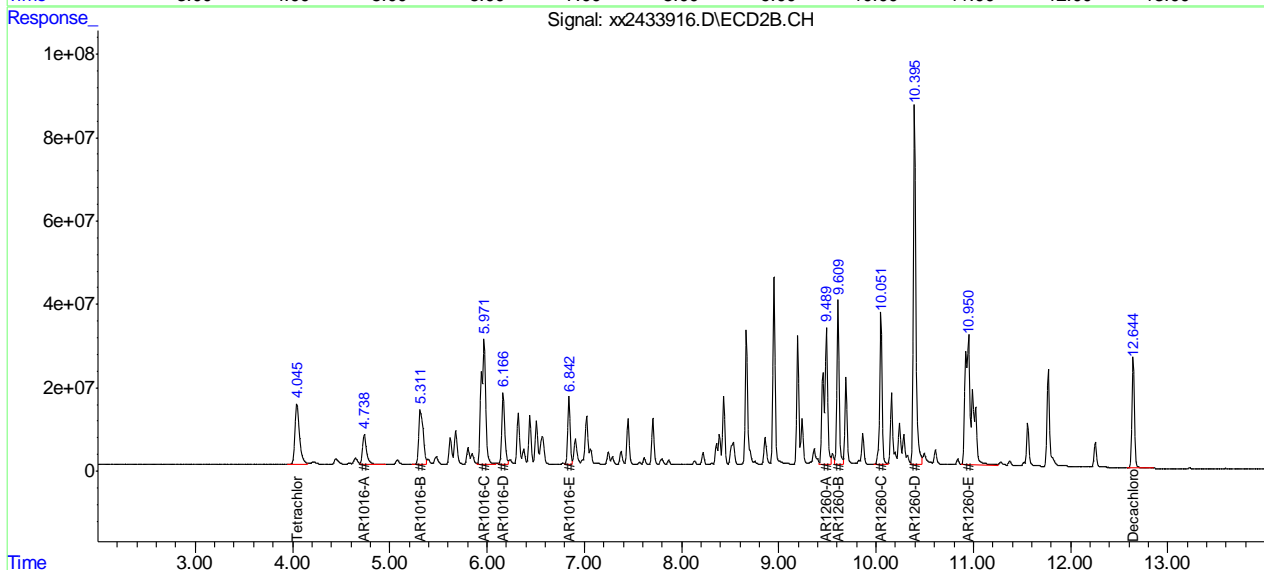
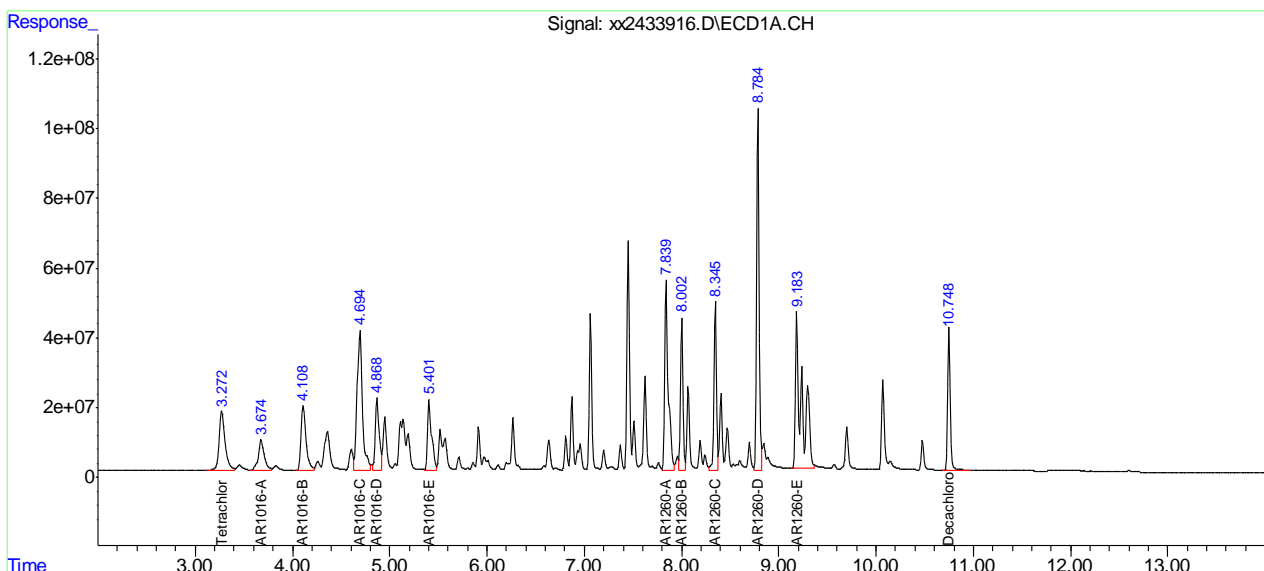
11.670  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:47:21 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.670  
11

# Manual Integration Approval Summary

Sample Number: GXX6659-CC6621      Method: SW846 8082A  
Lab FileID: XX2433916.D      Analyst approved: 04/18/19 11:48 Summer Kotb  
Injection Time: 04/18/19 11:07      Supervisor approved: 04/18/19 12:14 Gwendolyn Burns

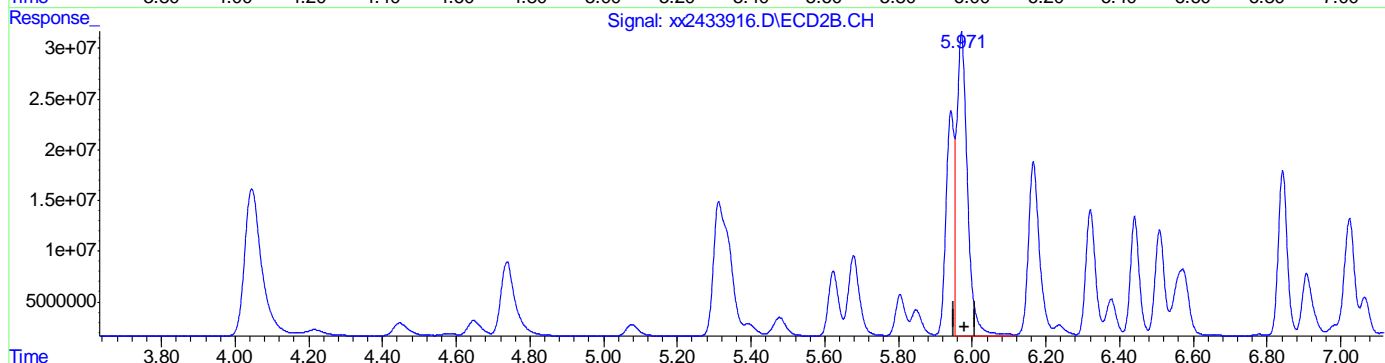
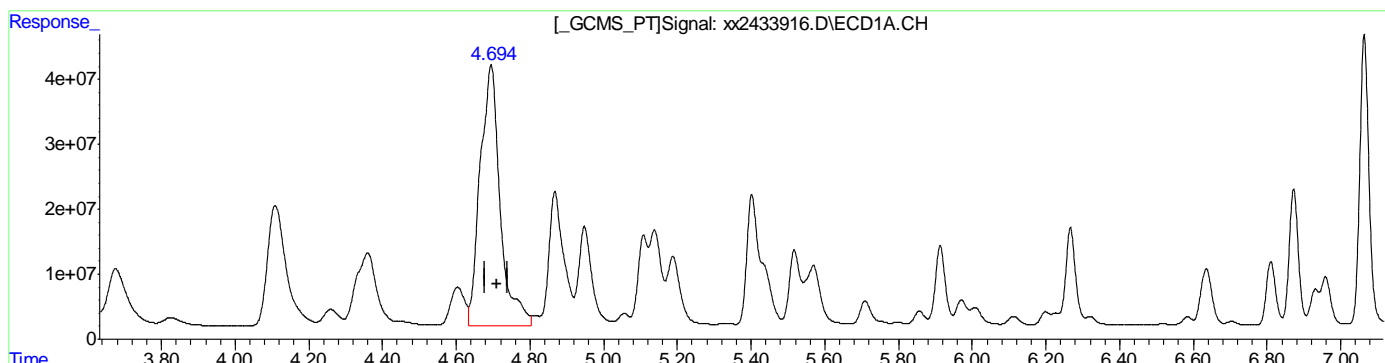
Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1016-C		2	5.97	Split peak
AR1260-E		1	9.18	Split peak
AR1260-A		2	9.49	Split peak
AR1260-E		2	10.95	Split peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:46:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.695min 1070.565PPB  
 response 1518579042

(43) AR1016-C #2  
 5.971min 674.026PPB  
 response 616620626

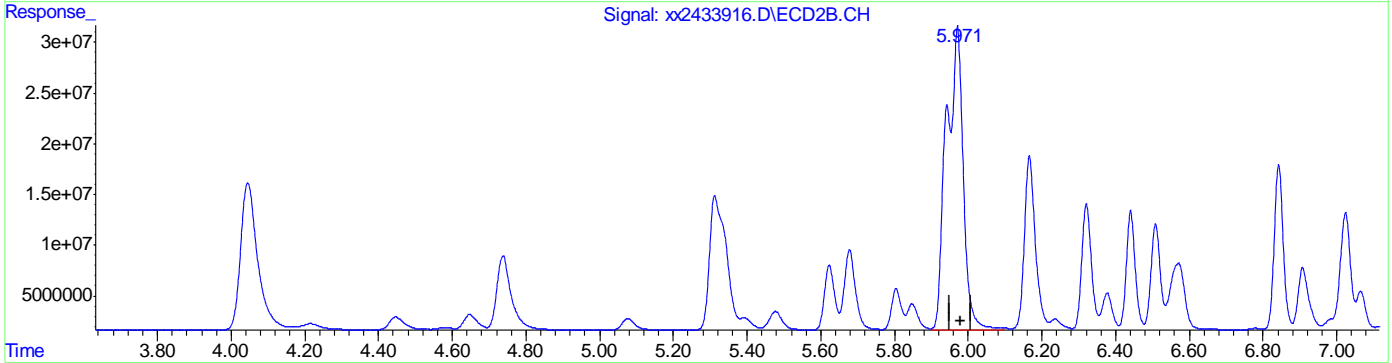
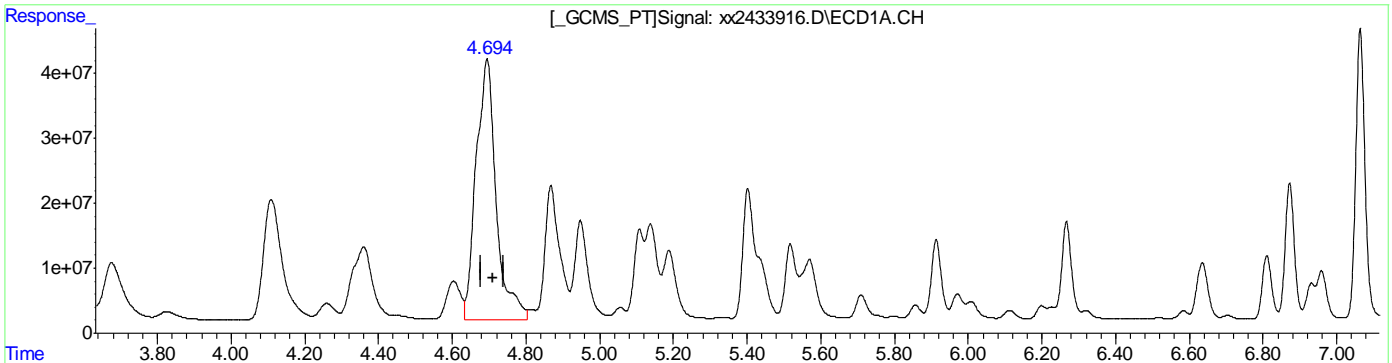
11.6.70.2  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:46:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(43) AR1016-C  
 4.695min 1070.565PPB  
 response 1518579042

(43) AR1016-C #2  
 5.971min 1037.291PPB m  
 response 948946878

(+) = Expected Retention Time  
 PCB6621.M Thu Apr 18 11:46:51 2019

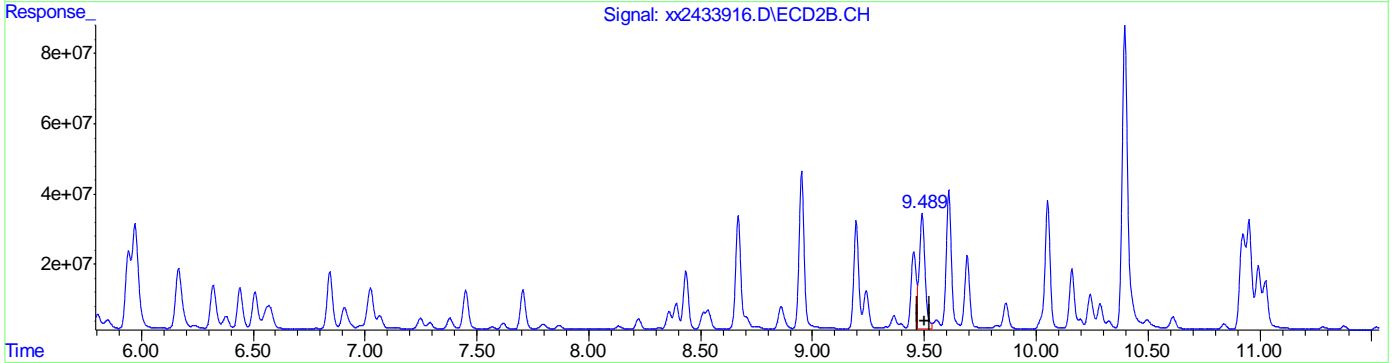
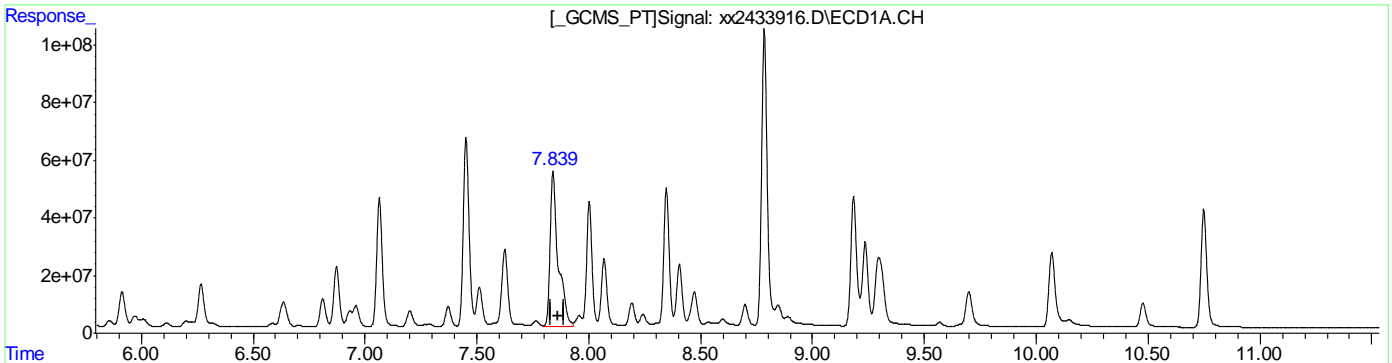
11.6.70.3  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:46:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



Retention Time (min)	Response
(46) AR1260-A 7.840min 899.270PPB	1359004444
(46) AR1260-A #2 9.490min 553.641PPB	577417237

(+) = Expected Retention Time  
 PCB6621.M Thu Apr 18 11:46:56 2019

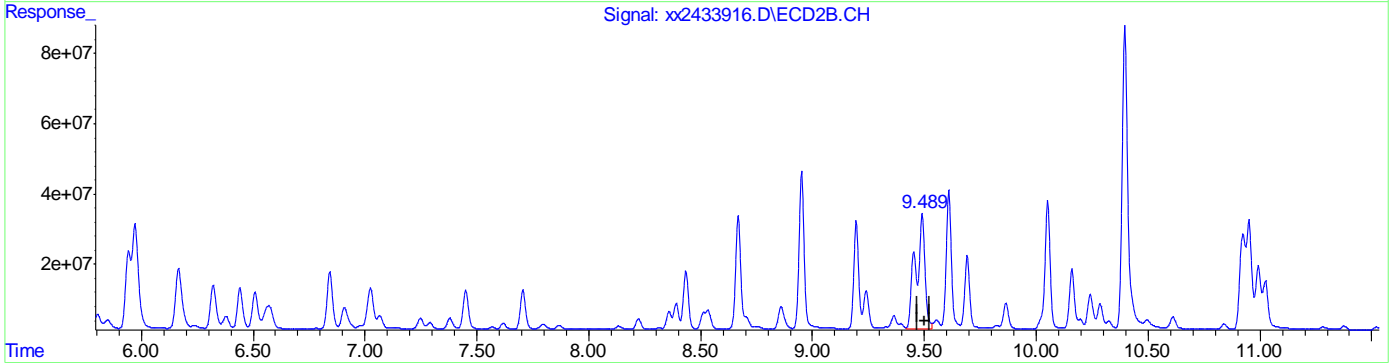
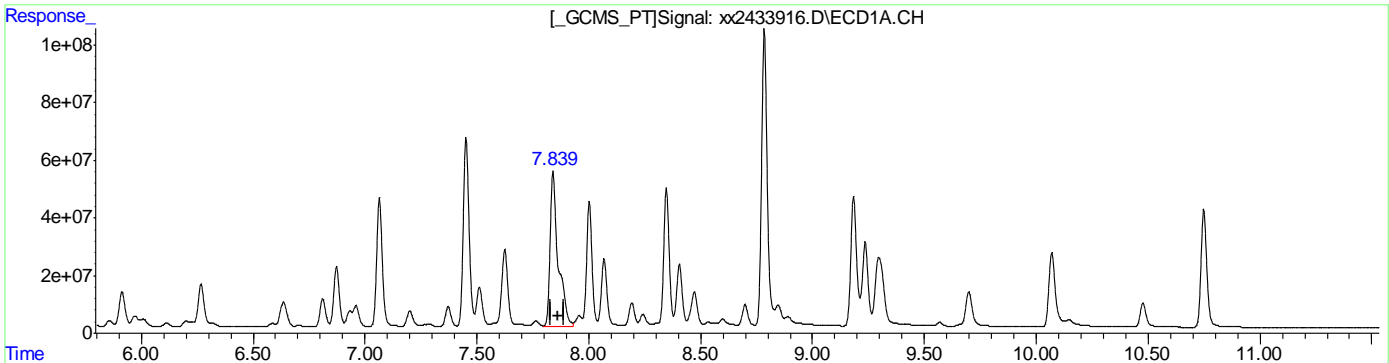
11.6.70.4  
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:46:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



QEdit

(46) AR1260-A	7.840min	899.270PPB	response 1359004444
(46) AR1260-A #2	9.489min	900.363PPB m	response 939028718

11.6.70.5  
 11

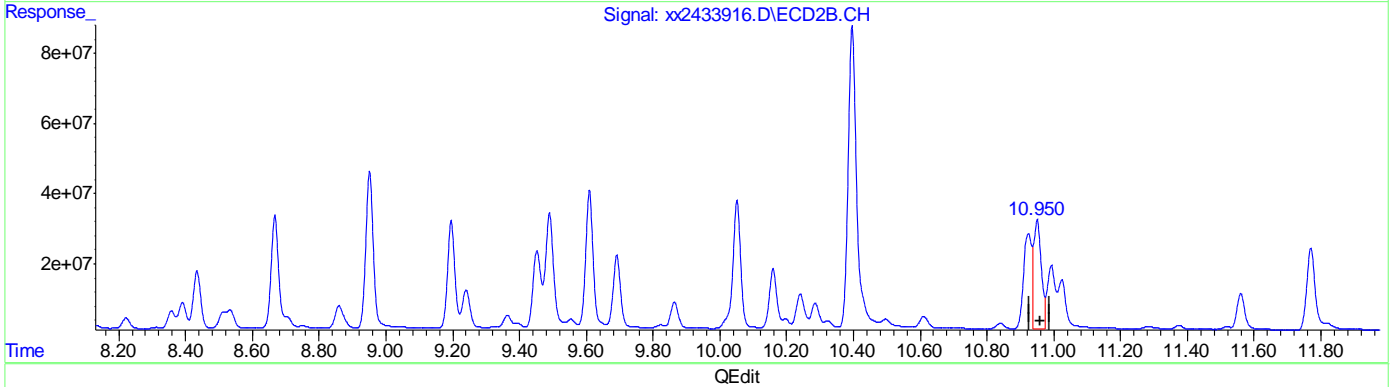
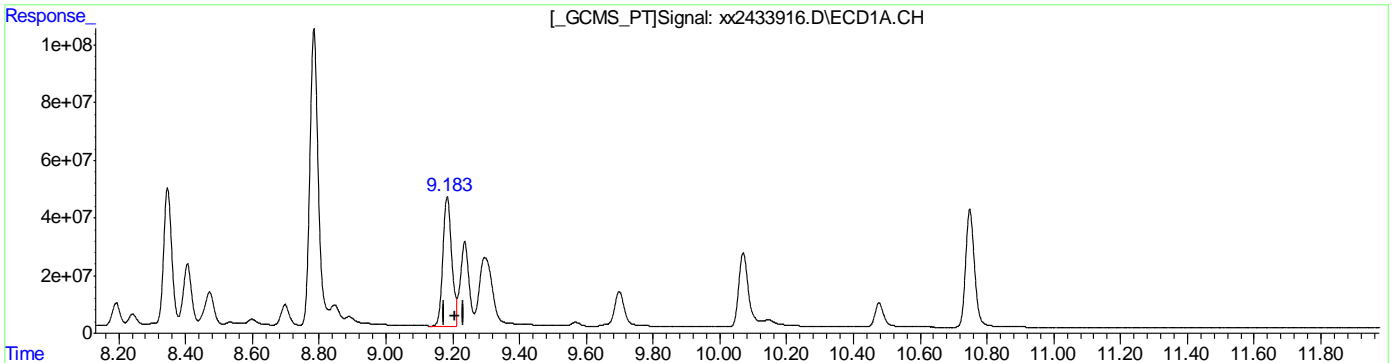


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:46:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.184min 477.907PPB  
 response 836462806

(50) AR1260-E #2  
 10.951min 383.074PPB  
 response 503977334

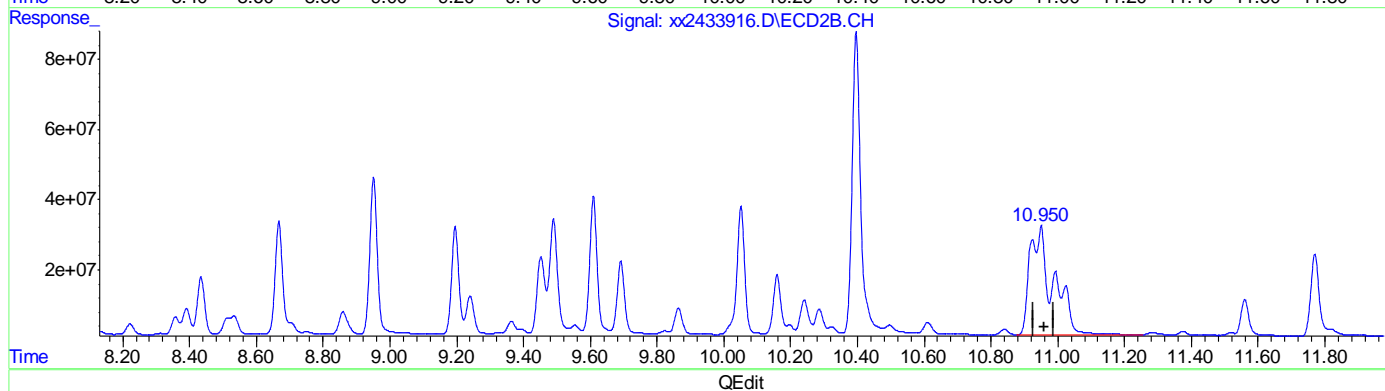
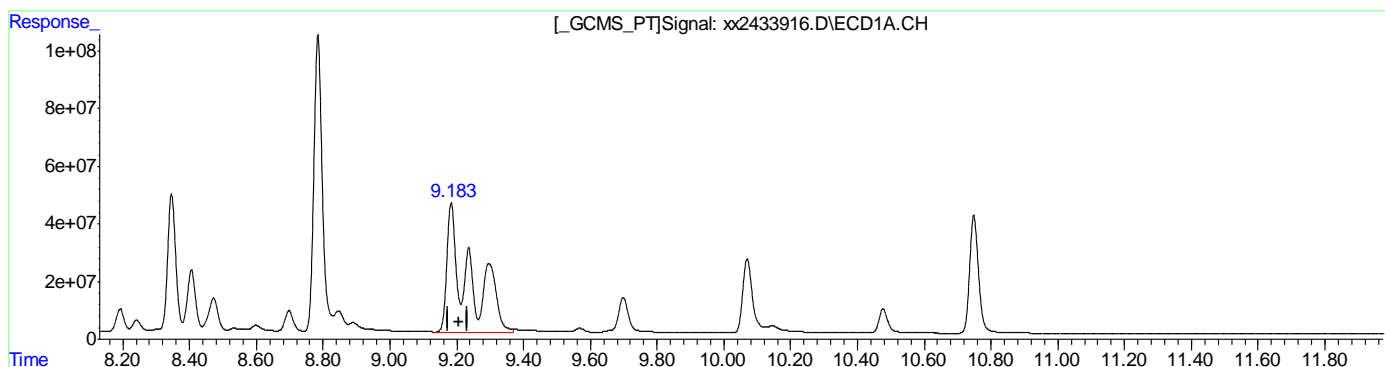
11.6.70.6  
 11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\gxx6659\  
 Data File : xx2433916.D  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 11:07 am  
 Operator : summerk  
 Sample : cc6621-1000  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 58 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 11:46:33 2019  
 Quant Method : C:\msdchem\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Tue Mar 05 09:28:51 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.183min 1135.576PPB m  
 response 1987558869

(50) AR1260-E #2  
 10.950min 1156.490PPB m  
 response 1521493765

(+) = Expected Retention Time  
 PCB6621.M Thu Apr 18 11:47:23 2019

11.6.70.7  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\gxx6659\  
 Data File : xx2433927.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 2:56 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 66 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 23:41:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)

Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
-----						
System Monitoring Compounds						
1) S Tetrachlo...	3.273	4.045	346.4E6	231.1E6	18.533	18.247
Spiked Amount	40.000		Recovery	=	46.33%	45.62%
51) S Decachlor...	10.752	12.646	380.5E6	232.4E6	20.573	19.786
Spiked Amount	40.000		Recovery	=	51.43%	49.47%
Target Compounds						
41) AR1016-A	3.679	4.736	185.0E6	103.9E6	531.534	533.077
42) AR1016-B	4.112	5.313	331.1E6	211.4E6	555.692	502.044
43) AR1016-C	4.699	5.971	742.4E6	475.6E6	523.360	519.855
44) AR1016-D	4.871	6.166	282.4E6	180.4E6	539.358	530.588
45) AR1016-E	5.407	6.843	288.8E6	141.4E6	518.339	523.810
46) AR1260-A	7.844	9.489	652.0E6	454.6E6	431.422	435.911m
47) AR1260-B	8.006	9.610	368.7E6	322.8E6	563.438	569.122
48) AR1260-C	8.351	10.051	408.6E6	306.9E6	546.755	543.464
49) AR1260-D	8.788	10.395	861.8E6	761.3E6	482.654	532.657
50) AR1260-E	9.187	10.952	960.7E6	757.5E6	548.862m	575.803m
-----						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

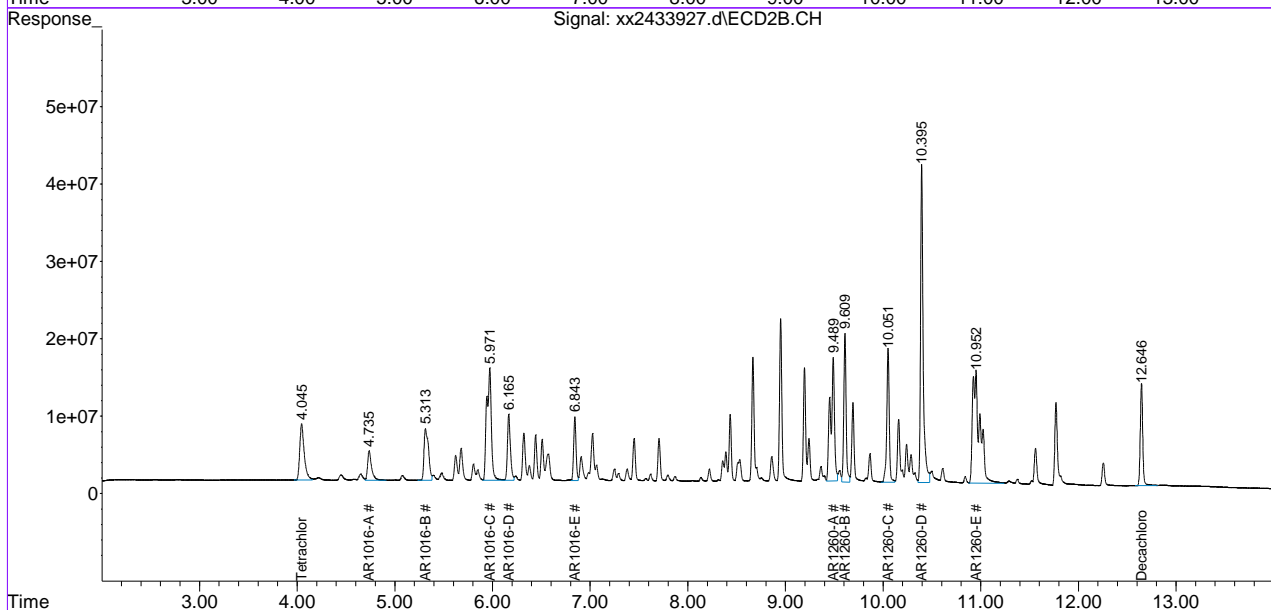
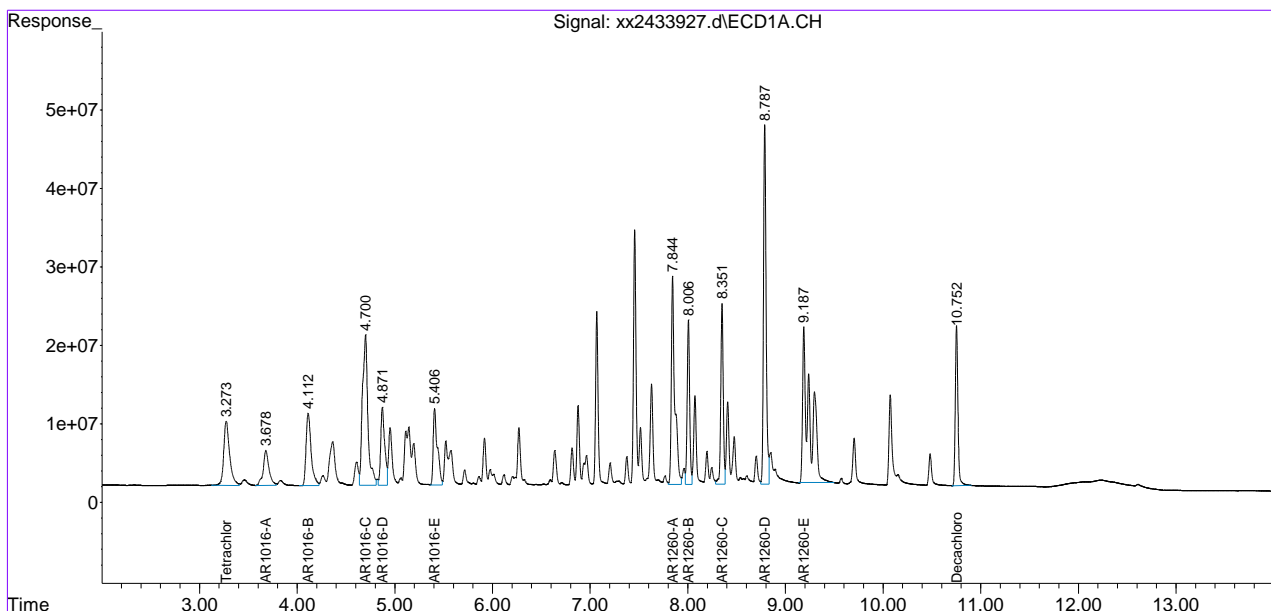
11.671  
 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\sarah\gxx6659\  
 Data File : xx2433927.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 2:56 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 66 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 23:41:30 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



11.671  
11

# Manual Integration Approval Summary

Sample Number: GXX6659-CC6621      Method: SW846 8082A  
Lab FileID: XX2433927.D      Analyst approved: 04/18/19 23:58 Sarah Cruz  
Injection Time: 04/18/19 14:56      Supervisor approved: 04/19/19 06:57 Gwendolyn Burns

Parameter	CAS	Sig#	R.T. (min.)	Reason
AR1260-E		1	9.19	Poorly defined baseline
AR1260-A		2	9.49	Poorly defined baseline
AR1260-E		2	10.95	Poorly defined baseline

11.6.71.1

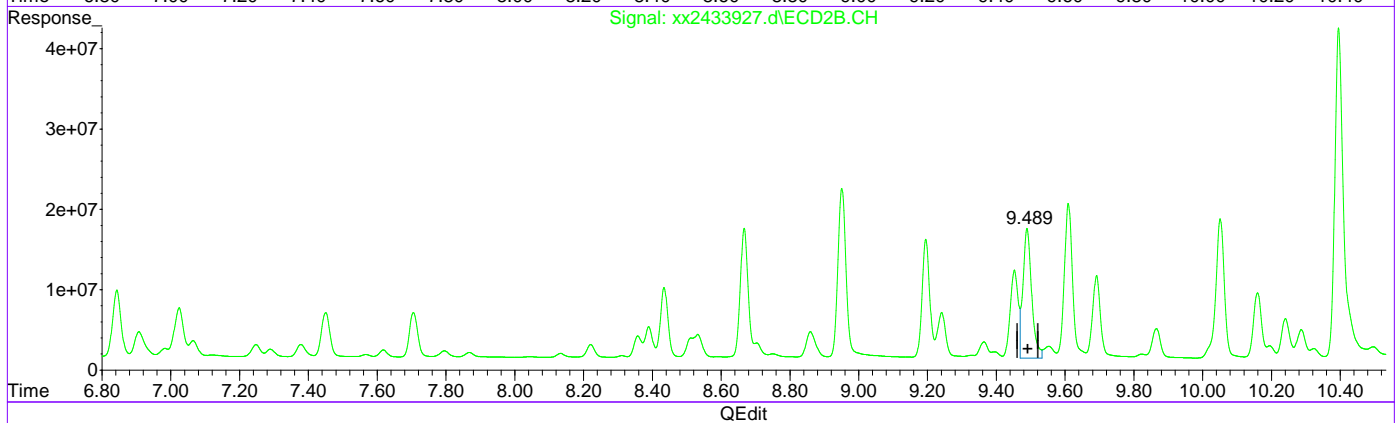
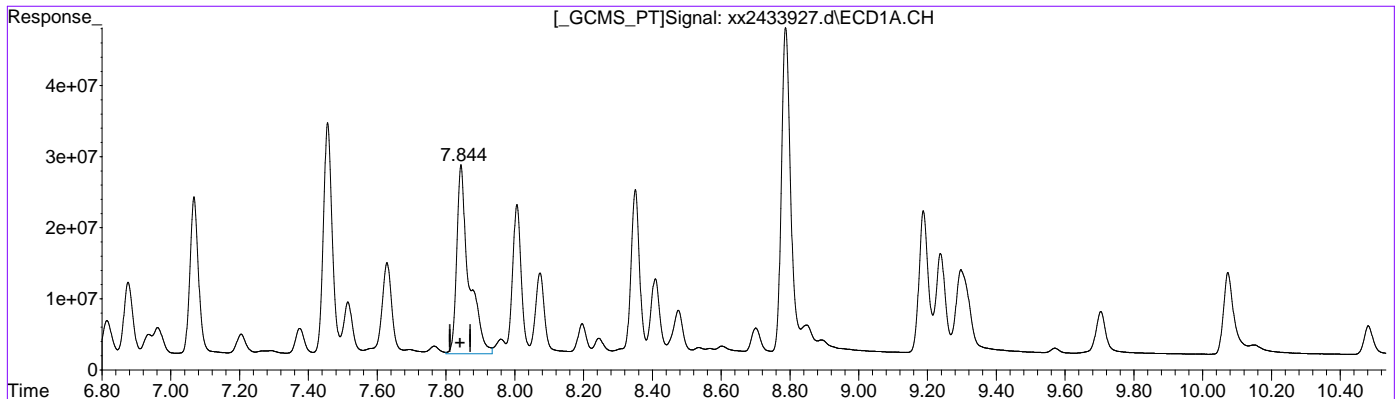
11

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\gxx6659\  
 Data File : xx2433927.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 2:56 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 66 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 23:35:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u) Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.844min 431.422 PPB  
 response 651978834

(46) AR1260-A #2  
 9.489min 274.149 PPB  
 response 285921951

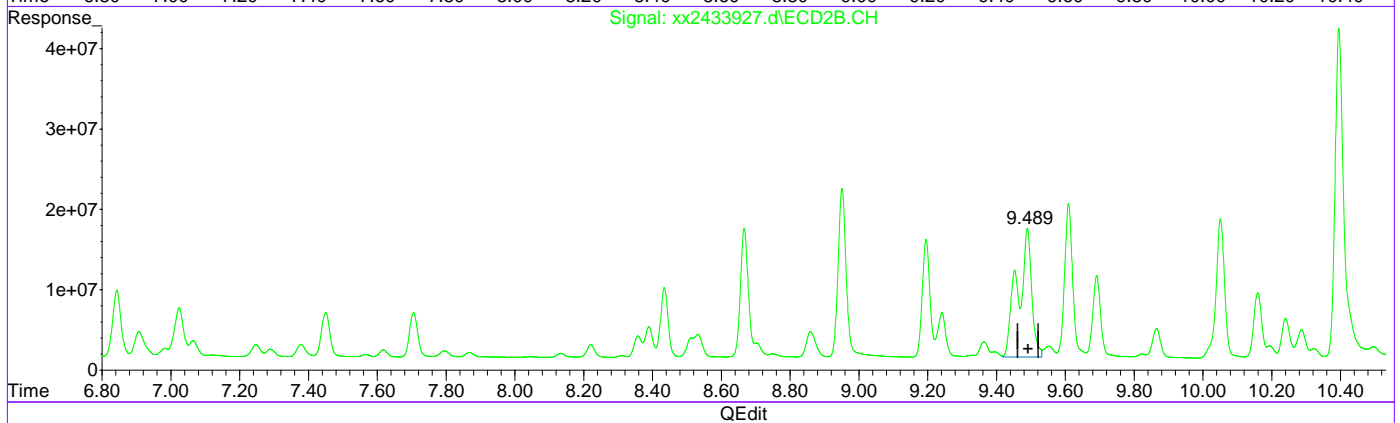
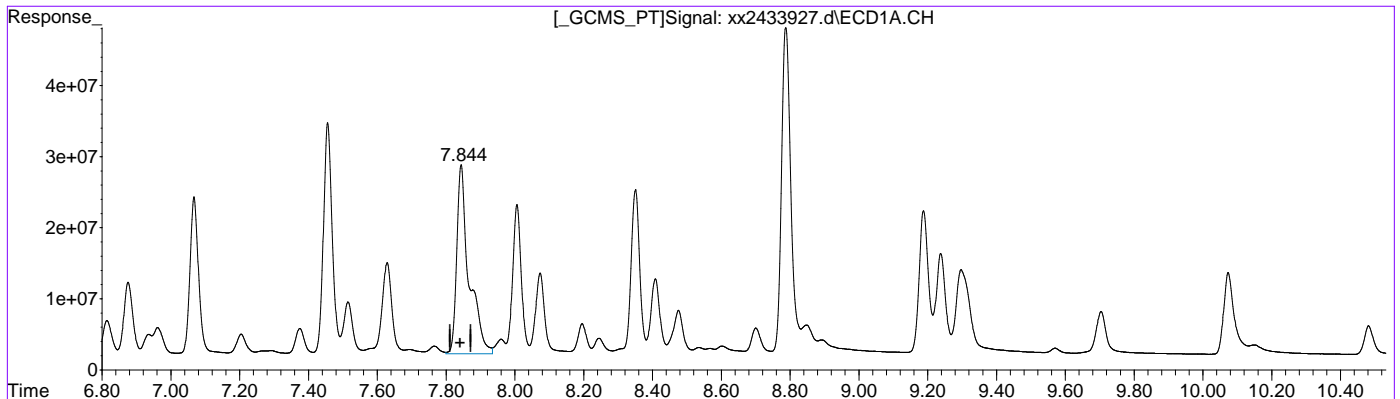
(+) = Expected Retention Time  
 PCB6621.M Thu Apr 18 23:40:48 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\gxx6659\  
 Data File : xx2433927.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 2:56 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 66 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 23:35:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u) Signal #2 Info : 30m X 0.32 mm (.25um)



(46) AR1260-A  
 7.844min 431.422 PPB  
 response 651978834

(46) AR1260-A #2  
 9.489min 435.911 PPB m  
 response 454631336

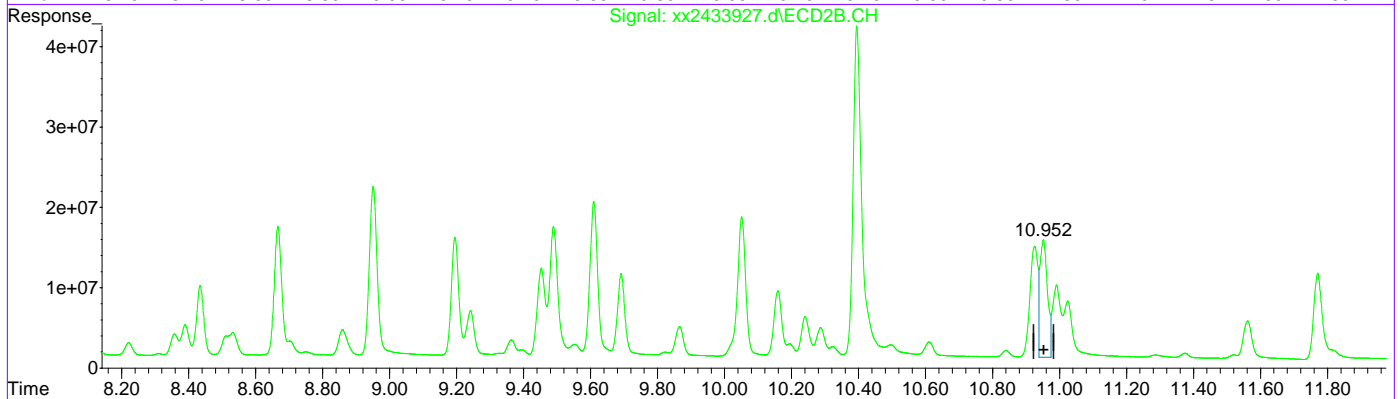
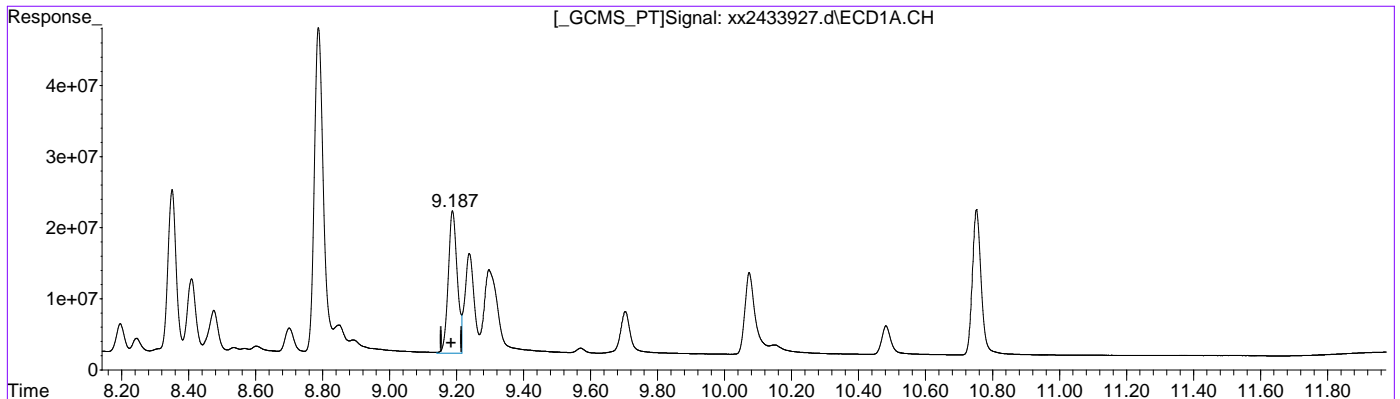
(+) = Expected Retention Time  
 PCB6621.M Thu Apr 18 23:41:09 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\gxx6659\  
 Data File : xx2433927.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 2:56 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 66 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 23:35:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.188min 212.414 PPB  
 response 371781548

(50) AR1260-E #2  
 10.952min 176.586 PPB  
 response 232319002

(+) = Expected Retention Time  
 PCB6621.M Thu Apr 18 23:41:21 2019

11.6.71.4  
 11

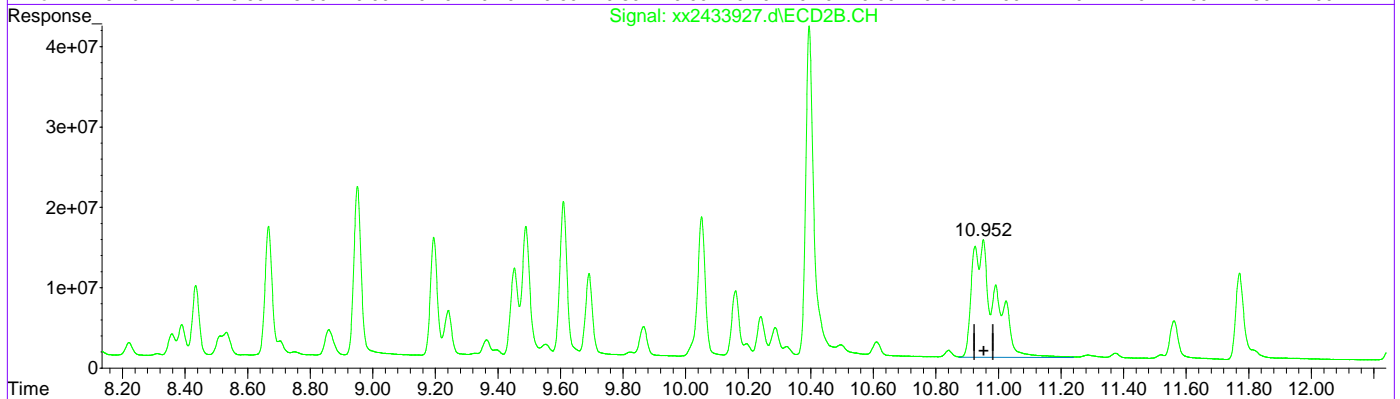
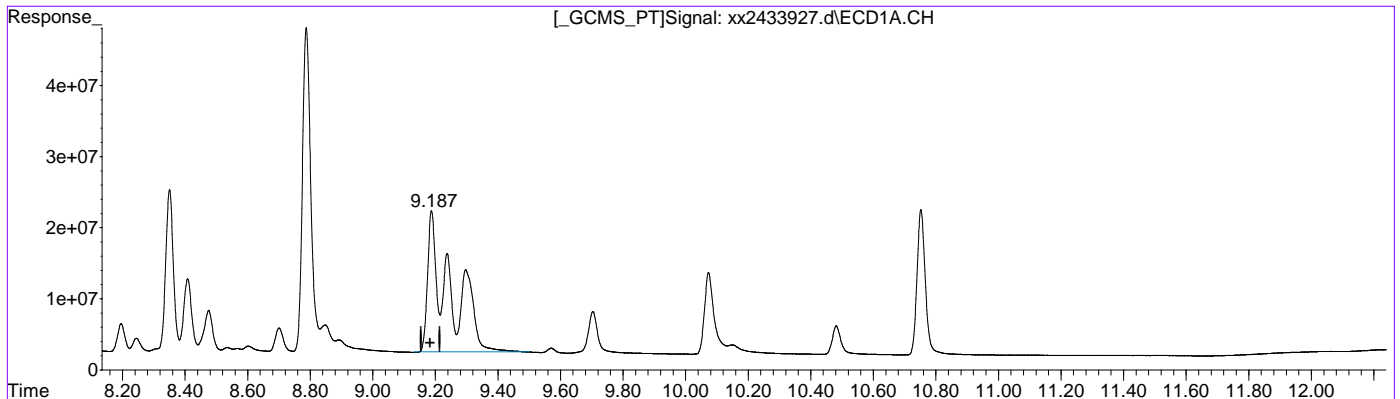


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\sarah\gxx6659\  
 Data File : xx2433927.d  
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH  
 Acq On : 18 Apr 2019 2:56 pm  
 Operator : summerk  
 Sample : cc6621-500  
 Misc : op19811,gxx6659,16.0,,,10,1  
 ALS Vial : 66 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Apr 18 23:35:16 2019  
 Quant Method : C:\MSDCHEM\1\METHODS\PCB6621.M  
 Quant Title :  
 QLast Update : Wed Apr 17 21:47:25 2019  
 Response via : Initial Calibration  
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1ul  
 Signal #1 Phase : ZB-CLP1 Signal #2 Phase: ZB-CLP2  
 Signal #1 Info : 30m X 0.32mm(.32u Signal #2 Info : 30m X 0.32 mm (.25um)



(50) AR1260-E  
 9.187min 548.862 PPB m  
 response 960653773

(50) AR1260-E #2  
 10.952min 575.803 PPB m  
 response 757534689

(+) = Expected Retention Time  
 PCB6621.M Thu Apr 18 23:41:38 2019

11.6.71.5  
**11**

SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G5G2101

Print Analyst Name: Summer Kolb

Date: 4/8/19

Analyst Signature: SK

Standard Data

Lot #	Description	Conc.
88	AR1221/254	100ppb
89	AR1232/262	↓
90	AR1242/268	↓
91	AR1248	↓

Standard Data

Lot #	Description	Conc.	
88A	AR1016/126	50ppb	
88B	↓	50ppb	
88C		50ppb	
88D		100ppb	
88E		200ppb	
88F		300ppb	
76		1B	20ppb

Columns: ZBCUPT/ZBCUPT

Method: 8082

Initial Cal. Method: 5 PCB2101

Injection Volume: 1 uul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: \_\_\_\_\_

Date: 4/11/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X	Dilution	IS	SU	Status (Data)	Comments
	5G187355	1B			2				OK	
	356	Ic2101-50		1st source	3				OK	
	357	-250			4				OK	
	358	-500			5				OK	
	359	Ic2101-1000			6				OK	
	360	Ic2101-2000			7				OK	
	361	-3000			8				OK	
	362	Ic2101-1000	1221/1254		9				OK	
	363	-1000	1232/1262		10				OK	
	364	-1000	1242/1268		11				OK	
	365	-1000	1248	↓	12				OK	
	366	Ic2101-1000	1016/1260	2nd source	13				OK	SWIS 2101-51 (100ppb)
	367	-1000	1221/1254		14				OK	.92 (C)
	368	-1000	1232/1262		15				OK	.93 (C)
	369	-1000	1242/1268		16				OK	.94 (C)
	370	-1000	1248	↓	17				OK	.91 (C)
	371	Test Mix			18				OK	↓ .20 (C) 50ppb

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All peaks must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

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# SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G5G2111

Date: 4/19/19

Print Analyst Name: Summer Koth

Analyst Signature: [Signature]

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
19683	Hexane (fish)	5000pb
1018	Hexane (fish)	10000pb
26	IB	2000pb

Columns: ZBCAPT / ZBCAPT ?

Method: 8082.G08

Initial Cal. Method: 5 PCB2101

Injection Volume: 1 µl

Date Archived:  

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature]

Date: 4/22/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X #	Dilution	IS	SH	Status (Data)	Comments
56	87734	Hexane			1					
	735	CC2101-500			26					
	736	IB			2					
	737	0019829-MS	19829	8082	27					
	738	-BS1			28					
	739	-BS0			29					
	740	JC86047-3A			30					
	741	JC86211-2			31					
	742	0019829-MS			32					
	743	-MS0			33					
	744	CC2101-1000			34					
	745	IB			2					
<u>Challenge</u>										

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate.  
Sample volume/weight refer to extraction log.  
All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09  
Rev. Date: 5/25/17

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Standard Data

Standard Data

Lot #	Description	Conc.
SV 18-288-115	PEST MX	1 ppb
-116		2
-117		5
-118		10
-119		25
-120		50
121		75

Lot #	Description	Conc.
SV 18-288-122	PEST MX	100 ppb
SV 18-288-20	CHL	500 ppb
-33	Tox	500 ppb
-34	PEST STD	5 ppm
-53	IB	20 ppb
-54	PEM	50.250 ppb
180876	Hexane (Fisher)	—

Columns: ZBCUPT/ZBCUPT

Method 8081.608

Initial Cal. Method 6PST1951

Injection Volume: 1.0ul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: \_\_\_\_\_

Date: 3/15/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X	Dilution	IS	SO	Status (Data)	Comments
	6A63602	DPT				1			OK	
	603	IB				2			OK	
	604	IC1951-1	PEST	1st source		3			OK	
	605	-2				4			OK	
	606	-5				5			OK	
	607	-10				6			OK	
	608	IC1951-25				7			OK	
	609	IC1951-50				8			OK	
	610	-75				9			OK	
	611	-100				10			OK	
	612	-500	CHL			11			OK	
	613	-500	Tox			12			OK	
	614	ICV1951-25	PEST	2nd source		13			OK	SV 18-288-108 @ 250 ppb
	615	-500	CHL			14			OK	-114 @ 500 ppb
	616	-500	Tox			15			OK	-113 @ 500 ppb
	617	-50	Hexa			16			OK	-99 @ 1000 ppb
	618	-50	ALC			17			OK	-98 @ 1000 ppb

MTX = Matrix. Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate. Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17



SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G6G1984

Date: 4/18/19

Print Analyst Name: Thomas Lally

Analyst Signature: TL

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
18253485A	Pest Mix	25 ppb
85B	Pest Mix	50 ppb
84	Pest ISTD	5 ppm
53	IB	20 ppb
54	PEM	50-250 ppb
190683	hexane (Fisher)	-

Columns: ZBCLPI/ZBCLPII

Method: 8081, 608

Initial Cal. Method: 615T/1951

Injection Volume: 10ul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: \_\_\_\_\_

Date: 4/22/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X	Dilution	IS	SU	Status (Data)	Comments
	G6G1302	ddt			1			/	OK	
	303	CC1951-25			2			/	OK	
	304	IB			3			/	OK	
	305	OP19789-MB1	19789	8081 tbl, t1	5 61			/	OK	
	306	-BS1			62			/	OK	
	307	JC86146-1			63			/	OK	No Surrogate Spiked
	308	JC86300-2			64			/	OK	
	309	OP19789-M5			65			/	OK	
	310	-MSD			66			/	OK	
	311	JC86300-3			67			/	OK	
	312	-5			68			/	OK	
	313	-6			69			/	OK	
	314	JC86335-1			70			/	OK	
	315	-2			71			/	OK	RR1:5
	316	-3			72			/	OK	RR1:5
	317	JC86337-1			73			/	OK	
	318	-2			74			/	OK	
	319	ddt			1			/	OK	
	320	CC1951-50			41			/	OK	

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate. Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09  
Rev. Date: 5/25/17

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SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G6G1984

Date: 4/18/19

Print Analyst Name: Thomas Lally

Analyst Signature: TL

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
18-2334-85A	Pest Mix	25 ppb
-88B	Pest Mix	50 ppb
-84	Pest ISTD	5 ppm
-53	IB	20 ppb
-54	PEM	50-250ppb
190683	hexane (Fisher)	—

Columns: ZBCLPI/ZBCLPII

Method 8081, 608

Initial Cal. Method 6PST1951

Injection Volume: 1.0uL

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature]

Date: 4/22/19

R	Data File	Sample ID	Ext. Batch	Test	MTX #	Dilution	IS	SU	Status (Data)	Comments
6664321		IB			3				OK	
322	OP19821-111B1	19821		608+sl lvz	W 76				OK	
323		-BS1			77				OK	
324		-BS1D			78				OK	
325		-BS13			79				OK	
326		-BS14			80				OK	
327	JL86397-7				81				OK	
328		-8			82				OK	
329		-9			83				OK	
330		hexane			100				OK	
331	CC1951-25				2				OK	
332		IB			3				OK	
333	JL86335-2	19789		8061 +sl, +cl	S 84	5			OK	
334		-3			85	5			OK	

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All spikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: GEF619

Print Analyst Name: Thomas R. R.

Date: 4/9/19

Analyst Signature: TR

Standard Data

Standard Data

Lot #	Description	Conc.
88	AR121/1264	1000ppb
89	AR122/1262	↓
90	AR124/1268	↓
95	AR148	↓

Lot #	Description	Conc.
88A	AR106/1260	50ppb
88B	↓	250ppb
88C	↓	500ppb
88D	↓	1000ppb
88E	↓	2000ppb
88F	↓	3000ppb
26	IB	20ppb

Columns: ZACPT7/ZACPT8

Method: 8082

Initial Cal. Method: PC86419

Injection Volume: 1.0ul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature]

Date: 4/6/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X	Dilution	IS	IS	Status (Data)	Comments
	EF188935/936	IB			2				OK	
	937	IC6419-50	AR106/1260	IS	26				OK	
	938	-250	↓	↓	27				OK	
	939	-500	↓	↓	28				OK	
	940	IC6419-1000	↓	↓	29				OK	
	941	IC6419-2000	↓	↓	30				OK	
	942	-3000	↓	↓	31				OK	
	943	IC6419-1000	AR121/1264	↓	32				OK	
	944	-1000	AR122/1262	↓	33				OK	
	945	-1000	AR124/1268	↓	34				OK	
	946	-1000	AR148	↓	35				OK	
	947	ICV6419-1000	AR106/1260	2nd	36				OK	SU 18-2984-91 @ 1000ppb
	948	-1000	AR121/1264	↓	37				OK	SU 18-2984-92 @ 1000ppb
	949	-1000	AR122/1262	↓	38				OK	93 @ 1000ppb
	950	-1000	AR124/1268	↓	39				OK	94 @ 1000ppb
	951	-1000	AR148	↓	40				OK	91 @ 1000ppb
	952	Pest Mix			41				OK	20 @ 50ppb

MTX = Matrix. Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

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Date: 4/19/19

Analyst Signature: [Signature]

Standard Data

Standard Data

Lot #	Description	Conc.

Lot #	Description	Conc.
182674-10A	AR1016/1262	500ppb
10B	↓	1000ppb
26	1B	20ppb
190685	hexane (fisher)	—

Columns: 78901/78902

Method: BA

Initial Cal. Method: PCB0417

Injection Volume: 1.0 μl

Date Archived:  

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature]

Date: 4/22/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X	Dilution	IS	SU	Status (Data)	Comments
	FF189193	cc6419-501							OK	126006/15T
	194	1B							OK	
	197	OP19829-MB1	19829	FORV	S	3			OK	
	196	JC86204-1				4			NOT USING	Need TBA cleanup
	197	-4				5			OK	
	198	-17				6			OK	
	199	-18				7			NOT USING	Need TBA Cleanup
	200	-19				8			↓	↓
	201	-20				9			↓	↓
	202	JC86209-1				10			OK	
	203	cc6419-1002				11			OK	
	204	1B				2			OK	
	205	JC86445-2	19829	8082	S	12			RX	↓ surrogate
	206	JC86212-2				13			OK	
	207	JC86446-1				14			OK	
	208	JC86444-28				15			OK	
	209	JC86337-7				16			OK	
	210	-8				17			OK	
	211	JC86271-1				18			OK	

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate. Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17



SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: GEF6426

Print Analyst Name: Summer Koth

Date: 4/19/19

Analyst Signature: SK

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
190883	Hexane (fish)	—

Columns: CBAPT / CBAPT

Method: 8082

Initial Cal. Method: FEB6419

Injection Volume: 1.0ul

Date Archived:  

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature] Date: 4/22/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X	Dilution	IS	SU	Status (Data)	Comments
	EF189212	Hexane			100				OK	
	213	Hexane			100				OK	
	214	CC6419-500			19				OK	
	215	IB			2				OK	

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate. Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09 Rev. Date: 5/25/17

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Date: 3/4/19

Standard Data

Standard Data

Lot #	Description	Conc.
18-2484.84A	AR 1016/1266	500ppb
.84g	AR 1016/1266	250ppb
18-2534.69A	AR 1016/1266	500ppb
.69g	AR 1016/1266	1000ppb
18-2484.84c	AR 1016/1266	2000ppb
.84g	AR 1016/1266	300ppb
18-2534.26	IB	

Lot #	Description	Conc.
18-2484.88	AR 1221/1254	1000ppb
.89	AR 1232/1262	1000ppb
.96	AR 1242/1268	1000ppb
.91	AR 1248	1000ppb
185876	Hexane (fisher)	

Columns: ZBCLO1/ZBCLO11

Method: 8002.608

Initial Cal. Method: PC50621  
PC50617

Injection Volume: 1.0 uL

Date Archived: 3/5/19

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature]

Date: 3/6/19

R	Data File	Sample ID	Ext. Batch	Test	MTX T X	Dilution	IS	SU	Status (Data)	Comments
	XV243201	IB							ok	
	202	Jc6621-500		1st source					ok	
	203	-250							ok	
	204	-500							ok	
	205	Jc6621-1000							ok	
	206	Jc6621-2000							ok	
	207	-3000							ok	
	208	Jc6621-1000	1221/1254						ok	
	209	-1000	1232/1262						ok	
	210	-1000	1242/1268						ok	
	211	-1000	1248						ok	
	212	JcV6621-1000	1016/1260	2nd source					ok	↑
	213	-1000	1221/1254						ok	8v. 18-2484.92 @ 1000ppb
	214	-1000	1232/1262						ok	.93 @ 1000ppb
	215	-1000	1242/1268						ok	.94 @ 1000ppb
	216	-1000	1248						ok	.95 @ 1000ppb
	217	Post flux							ok	
	220	JcV6621-1000	1016/1260						ok	

MTX = Matrix, Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate. Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09  
Rev. Date: 5/25/17

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SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: GXX6658

Print Analyst Name: Summer Kolb

Date: 4/17/19

Analyst Signature: SK

Standard Data

Standard Data

Lot #	Description	Conc.

Lot #	Description	Conc.
182534-101A	AK106/11266	50ppb
101B	↓	100ppb
26	1B	20ppb
190683	Hexane (pinks)	—

Columns: ZBCUPIT/ZBCUPIT

Method: 8082.608

Initial Cal. Method: TC86621

Injection Volume: 1.0ul

Date Archived:  

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature]

Date: 4/18/19

R	Data File	Sample ID	Ext. Batch	Test	MTX	ALS #	Dilution	IS	SU	Status (Data)	Comments
XX2433846	CC6621-1000					3				OK	
841	1B					2				OK	
842	op19774-MB1	19774		608	W	4				OK	
843	-BS1					5				OK	
844	-BS1D					6				OK	
845	TC86266-1					7				OK	
846	TC86287-1					8				OK	
847	TC86251-1					9				OK	
848	Hexane					100				100% run	Cut from sequence
849	CC6621-500					10				OK	
850	1B					2				OK	
851	op19788-MB1	19788		8082	S	11				OK	
852	-BS1					12				OK	
853	TC86334-1					13				OK	
854	op19788-Ms					14				OK	
855	-MSD					15				OK	
856	TC86300-2					16				OK	
857	TC85734-4					17				OK	
858/859	Hexane					100				OK	

MTX = Matrix. Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

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SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: Gixx6658

Print Analyst Name: Summer Korb

Analyst Signature: [Signature]

Date: 4/17/19

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
SV182534	100 AR 1016/1260	50ppb
.1016	↓	100ppb
.26	1B	20ppb
190683	Hexam (fishes)	—

Columns: CBAPT/CBAPT

Method: 8082, 608

Initial Cal. Method: TCB621

Injection Volume: 1.0ul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature]

Date: 4/18/19

R	Data File	Sample ID	Ext. Batch	Test	MTX	ALS #	Dilution	IS	SU	Status (Data)	Comments
XX243386		cc6621-1000				18				cl	
	861	1B				2				cl	
	862	JC86300-3	19788	8082 S		19				cl	
	863	-5				20				cl	
	864	-6				21				cl	
	865	JC86334-2				22				cl	
	866	-3				23				cl	
	867	-4				24				cl	
	868	-5				25				cl	
	869	Hexam				100				cl	
	870	Hexam				100				cl	
	871	cc6621-500				26				cl	
	872	1B				2				cl	
	873	JC86334-6	19788	8082 S		27				cl	
	874	JC86335-1				28				cl	
	875	-2				29				cl	
	876	-3				30				cl	
	877	JC86337-1				31				cl	RR1:5
	878	-2				32				cl	RR1:5

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate. Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09 Rev. Date: 5/25/17

Manila 860 → 878

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SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G1X6658

Print Analyst Name: Summer Ktb

Date: 4/17/19

Analyst Signature: SK

Standard Data

Standard Data

Lot #	Description	Conc.

Lot #	Description	Conc.
182834-161A	190682	100ppb
161B	190682	100ppb
2C	190682	100ppb
190682	Hexam (fishes)	—

Columns: ZBC101/CRAP11

Method: 8082, 608

Initial Cal. Method: PC6621

Injection Volume: 10ul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: \_\_\_\_\_ Date: 4/18/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X #	Dilution	IS	SU	Status (Data)	Comments
880	JC86221-1	Hexam			33				oh	
881	JC86221-1	Hexam			100				oh	
882	JC86221-1000	Hexam			100				oh	
883	JC86221-1000	IB			34				oh	
884	JC86046-1	Hexam	19788	8082 S	2				oh	
885	JC86146-1	Hexam			35				oh	
886	JC85704-8r	Hexam			36				oh	
887	JC85704-8r	Hexam			37				oh	
888	JC85704-8r	Hexam			100				oh	
889	JC85704-8r	Hexam			100				oh	
890	CP19801-MS	Hexam			38				oh	
891	CP19801-MS	IB			2				oh	
892	CP19801-MS	Hexam	19801	608 8082 W	39				oh	
893	CP19801-MS	-BS1			40				oh	
894	CP19801-MS	-BS2			41				oh	
895	JC86201-2R	Hexam			42				XH	Not in lims
896	CP19801-MS	Hexam			43				XH	↓
897	CP19801-MS	Hexam			44				XH	
898	JC86399-1	Hexam			45				oh	

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

Manila 879 → 893

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11.7.8  
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SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G1XX6658

Print Analyst Name: Summer Kith

Date: 4/17/19  
Standard Data

Analyst Signature: SK

Lot #	Description	Conc.

Lot #	Description	Conc.
90182831	win Arz 1016/126	500pp
1013	↓	1000pp
26	13	20pp
90683	Hexamethylen	—

Columns: CBAP1/CBAP11

Method: 8082, 608

Initial Cal. Method: TCB6621

Injection Volume: 10ul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: \_\_\_\_\_ Date: 4/18/19

R	Data File	Sample ID	Ext. Batch	Test	MALS T X #	Dilution	IS	SU	Status (Data)	Comments
Y12433898	899	Hexam			100				OK	
	900	Hexam			100				OK	
	901	CC6621-1000			46			/	OK	
	902	13			2			/	OK	
	903	JC86389-3	19801	608	47			/	OK	
	904	JC86201-4F			48				XH	Not in lims
	905	-6F			49				XH	↓
	906	-8F			50				XH	↓
	907	Hexam			100				OK	
	908	Hexam			100				OK	
	909	CC6621-500			51			/	OK	
	909	13			2			/	OK	

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate. Sample volume/weight refer to extraction log. All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09  
Rev. Date: 5/25/17

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SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G1X6659

Print Analyst Name: Summer Kolb

Date: 4/18/19

Analyst Signature: SK

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
1825341011	AP1011/1260	500ppb
101B	2	1000ppb
26	1B	20ppb
190683	Hexane (fisher)	—

Columns: TRCLPT/2BCLPTT

Method 8082.608

Initial Cal. Method PEB6621

Injection Volume: 1.0 ul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: \_\_\_\_\_

Date: 4/17

Data File	Sample ID	Ext. Batch	Test	MTX	ALS #	Dilution	IS	SU	Status (Data)	Comments
12433916	op19811-MB1	19811	8082	S	52			/	ok	
911	-BS1				53			/	ok	
912	JC86428-1				54			/	ok	
913	op19811-MS				55			/	ok	
914	-MSD				56			/	ok	
915	JC86428-2				57			/	ok	
916	cc6621-1000				58			/	ok	
917	1B				2			/	ok	
918	JC86476-1	19811	8082	S	59			/	ok	
919	JC86444-5				60			/	ok	
920	-9				61			/	ok	
921	-17				62			/	ok	
922	-23				63			/	ok	
923	JC86337-1	19788	8082	S	64	5		/	ok	
924	-2				65	5		/	ok	
925	Hexane				100			/	ok	
926	Hexane				100			/	ok	
927	cc6621-500				66			/	ok	
928	1B				2			/	ok	

MTX = Matrix. Designate W for water, S for soil, O for oil.. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

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SEMIVOLATILE by GC ANALYSIS LOG

Batch ID: G1xx6659

Print Analyst Name: Summer Koth

Date: 4/18/19

Analyst Signature: SK

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
SV182534	101A Ar 1016/1260	50ppb
101B	J	100ppb
101C	1B	20ppb
19c.683	Hexam (fish)	—

Columns: ZBCLOT/ZBCAPT

Method: 8082, 608

Initial Cal. Method: TCB6621

Injection Volume: 1.0 ul

Date Archived: \_\_\_\_\_

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [Signature]

Date: 4-18-19

R	Data File	Sample ID	Ext. Batch	Test	MTX	ALS #	Dilution	IS	SU	Status (Data)	Comments
X12433929	op19815-MBI	19815	TCIP W	67						OK	
930	-BS1			68						OK	
931	-LB38			69						OK	
932	JC86209-1A			70						OK	
933	op19815-LS21			71						OK	
934	op19815-MSD			72						OK	
935	Hexam			100						OK	
936	Hexam			100						OK	
937	CC6621-1000			73						OK	
938	1B			2						OK	
<u>4/19/19</u>											

MTX = Matrix. Designate W for water, S for soil, O for oil. IS = Internal Standard Area. (if used) SU = Surrogate.

Sample volume/weight refer to extraction log.

All strikeouts must be initialed, dated, and reason applied if not transcription error

Form: OR016-09

Rev. Date: 5/25/17

Manila 929 → 938

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LOGBOOK ID: 9-7358  
 Date Started: 4/17/14 Time Started: 0300  
 Date Finished: 4-17-14 Time Finished: 0330

Pest / PCB Extraction Log - Soils  
 Extract Method (CHECK OFF)  DO NOT CIRCLE!  
 Microwave SW3546  
 Waste Dilution SW3560A  
 Sonication SW3550C  
 Soxhlet SW3540

BATCH # GC 19788 RACK# PCB-25  
 Weighed by: SH  
 Extracted by: JF  
 Concentrated by: LT  
 Final Vol. Top-up: LT  
 Viald by: M

Supervisor Review:	Observed Temp (C)	Corrected Temp (C)	Pressure/Evacrate
AB4116119	6.5	-	OK
Equipment Range	10.3	-	OK
Buchi (65-21°C)			
Buchi Chiller			
Waterbath (70-80°C)			
Waterbath Chiller (6PM)			
NEVAP (12-11°C, 1PM)			
Balance	13.45	N/A	N/A
SUBROGATE	LOT#	CONC (ppm)	AMT (mL)
PCB	192336-79	400	1.0
PCB LL			
WITNESS SIGN: CT	SPICE SIGN: JF		
MATRIX SPICE	LOT#	CONC	AMT (mL)
PEST			
PEST LL			
PCB	192336-37	2997	1.0
PCB LL			
WITNESS SIGN: CT	SPICE SIGN: JF		
SOLVENT	LOT#	BRAND	AMT (mL)
2:1 HEXANE/			
ACETONE			
1:1 MFCHELO/	190683	1-SKEC	30
ACETONE	188042		
HEXANE			
REAGENT	LOT#	BAKE BATCH #	BRAND
HYDROMATRIX			
SODIUM SULFATE	178494	4-2-19A	Fisher
FILTER PAPER	1819900		
FLORESIL			
1:1 SULFURIC ACID	280655		Fisher
COPPER	1822760		Acad. Std.
PERMANGANATE (K04)			
HYDROXYLAMINE			
MATRIX	LOT#	BAKE BATCH #	BRAND
SAND	86-1881020A	1-3-19A	Fisher

Sample #	Analysis Type	Sample Bottle #	Sample Description	Wet Wt. (g)	Oil (g)	Liq (mL)	Decant	Microwave ID	Color	Vol (mL)	Final Extract	Extract Cleanup	Comment
1	PCB	1	SAVO	15.0				12	12 CLEAR	10.2			
2	PCB	1	SAVO	15.0				12	12 CLEAR	10.2			
3	PCB	1	SAVO	15.1				12	12 CLEAR	10.2			
4	PCB	1	SAVO	15.8				12	12 CLEAR	10.2			
5	MSD	1	SAVO										
6	MSD	1	SAVO										
7	MSD	1	SAVO										
8	MSD	1	SAVO										
9	MSD	1	SAVO										
10	MSD	1	SAVO										
11	MSD	1	SAVO										
12	MSD	1	SAVO										
13	MSD	1	SAVO										
14	MSD	1	SAVO										
15	MSD	1	SAVO										
16	MSD	1	SAVO										
17	MSD	1	SAVO										
18	MSD	1	SAVO										
19	MSD	1	SAVO										
20	MSD	1	SAVO										

QC ID# for Special Spike	Amt to Spike	Spike ID	Lot #	Conc.	Amt Spiked

WITNESS SIGN: \_\_\_\_\_  
 Manager/Supervisor/Team Lead Approval: \_\_\_\_\_  
 SPECIAL PROCESSING INSTRUCTIONS  
 Rx Reason:  
 Spiking:  
 Weights/Volumes:  
 Required MS/MSD:  
 Final Volume:  
 Other:

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 Form: OP018A-09  
 Rev Date: 8/2/17

OC Samples (MS, MSD, LMK, and/or DUP, Link) Confirmed by:

LOGBOOK ID: 9-2358

Date Started: 4.17.19 Time Started: 0800  
Date Finished: 4.17.19 Time Finished: 0935

Pest / PCB Extraction Log - Soils

Extract Method (CHECK OFF "N" / DO NOT CIRCLE):  
Microwave SW3546  
Waste Dilution SW3580A  
Sonication SW350C  
Soxhlet SW3540

BATCH # GC 19789  
Weighted by: BH  
Extracted by: BT  
Concentrated by: BT  
Final Vol. Top-up: NT  
Viald by: NT  
Supervisor Review: 06411619

Table with columns: Equipment/Reuse, ID, Observed Temp (°C), Corrected Temp (°C), Precision Error (°C), AMT (mL), N/A, N/A, AMT (mL). Includes rows for Bushi Chiller, Washb (70-80°C), Washb Chlr (GFM), and Balance.

Main extraction log table with columns: Sample #, Analysis Type, Sample Description, Sample Bottle #, Decant, Microwave ID, Final Extract (Vol, Color), Excess Cleanup (GPC, KMnO4, Cu, Florisil, H2SO4), Comment.

Table with columns: QC ID#, Amt to Spike, Conc., Lot #, Amt. Spiked. Includes rows for sample 1 and 2.

SPECIAL PROCESSING INSTRUCTIONS  
Spike line: with mp  
Weights/Volumes:  
Required MS/MSD:  
Final Volume:  
Other:

SGS Form: OP018A-08 Rev Date: 8/2/17 87

Comments: QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by:



9-2350

Time Started: 5:30 am  
 Time Finished: 9:30 am

**Pest / PCB Extraction Log - Soils**

Extract Method (CHECK OFF "N" / DO NOT CIRCLE):  
 Microwave SW3546   
 Waste Dilution SW3540A

Microwave SW3546  
 Waste Dilution SW3540A  
 Sonication SW3530C  
 Soxhlet SW3540

BATCH # GC 1989 RACK# PCB-6

Weighted by: 1.0  
 Extracted by: JY  
 Concentrated by: JY  
 Final Vol. Top-up: 50  
 Viald by: JY

Supervisor Review: ag 4/11/11

Equipment / Range	ID	Observed Temp (°C)	Concns. Factor (CF)	Corrected Temp (°C)	Pressure / Flowrate
Buoch (65-71°C)	1	65	-	-	OK
Buoch Chiller	B	10	-	-	OK
Waterbath (70-80°C)					
Washbottle (OPM)					
NEVAP (2-3K, LPM)					
Balance	B-42	N/A	N/A	N/A	N/A

Sample #	Analysis Type	Sample Description	Sample Bottle #	Decant	Microwave ID	Sonicator ID	Final Extract Vol (mL)	Color	Extraction	Final Cleanup	Comment
1	MSD	Soil	1	Y	11	11	10.0	Clear	Florisil	GPC	
2	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
3	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
4	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
5	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
6	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
7	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
8	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
9	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
10	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
11	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
12	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
13	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
14	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
15	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
16	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
17	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
18	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
19	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	
20	MSD	Soil	1	Y	12	12	10.0	Clear	Florisil	GPC	

Team Lead Approval: [Signature]

USING INSTRUCTIONS

due 4/25 RUP

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QC Samples (MS, MSD, LINK and/or DUP, Link) Confirmed by: [Signature]

Substrate	Lot #	Conc. (ppb)	AMT (mL)
PCB	19233674	400	1.0
PCB LL			
WITNESS SIGN: SA			
MATRIX SPIKE			
PEST			
PEST-LL			
PCB	19233632	2000	1.0
PCB LL			
WITNESS SIGN: SA			
MATRIX SPIKE			
SOLVENT			
2:1 HEXANE/ACETONE	140655	5000	20
1:1 METH CHLOR/ACETONE			
HEXANE			
REAGENT			
HYDROMATRIX	6435072	4-2-19B	BRAND
SODIUM SULFATE	103673	4-2-19	Supplier
FILTER PAPER	16819260		Supplier
FLORISIL			
1:1 SULFURIC ACID	280607		Supplier
COPPER	18223720		Supplier
PERMANENT(KMnO4)			
HYDROXYLAMINE			

## Metals Analysis

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### QC Data Summaries

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#### 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: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV Date Analyzed: 04/16/19 Methods: SW846 7471B  
 Analyst: EAL Run ID: MA46516  
 Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:06	MA46516-STD1	1		B=1.3787e-004, C=1.8264e-001, Rho=0.9999834
14:10	MA46516-STD2	1		STDB
14:12	MA46516-STD3	1		STDC
14:14	MA46516-STD4	1		STDD
14:15	MA46516-STD5	1		STDE
14:17	MA46516-STD6	1		STDF
14:21	MA46516-ICV1	1		
14:22	MA46516-ICB1	1		
14:24	MA46516-CCV1	1		
14:26	MA46516-CCB1	1		
14:28	MA46516-CRI1	1		
14:29	ZZZZZZ	1		
14:31	ZZZZZZ	1		
14:32	ZZZZZZ	1		
14:34	ZZZZZZ	1		
14:36	MA46516-CCV2	1		
14:38	MA46516-CCB2	1		
14:40	MP14255-MB1	1		
14:42	MP14255-B1	1		
14:43	MP14255-S1	1		%Sol
14:45	MP14255-S2	1		%Sol
14:47	JC86307-1A	1		(sample used for QC only; not part of login JC86337)
14:49	ZZZZZZ	1		
14:50	ZZZZZZ	1		
14:52	ZZZZZZ	1		
14:53	ZZZZZZ	1		
14:55	MA46516-CCV3	1		
14:56	MA46516-CCB3	1		
14:58	ZZZZZZ	1		
14:59	ZZZZZZ	1		
15:01	ZZZZZZ	1		
15:02	ZZZZZZ	1		
15:03	ZZZZZZ	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV      Date Analyzed: 04/16/19      Methods: SW846 7471B  
Analyst: EAL      Run ID: MA46516  
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:05	ZZZZZZ	1		
15:06	ZZZZZZ	1		
15:07	ZZZZZZ	1		
15:09	ZZZZZZ	1		
15:10	MA46516-CCV4	1		
15:11	MA46516-CCB4	1		
15:13	ZZZZZZ	1		
15:15	ZZZZZZ	1		
15:16	ZZZZZZ	1		
15:17	ZZZZZZ	1		
15:19	ZZZZZZ	1		
15:21	ZZZZZZ	1		
15:23	MP14256-MB1	1		
15:24	MP14256-B1	1		
15:25	ZZZZZZ	1		
15:27	MA46516-CCV5	1		
15:29	MA46516-CCB5	1		
15:31	MP14256-S2	1		%Sol
15:33	JC86337-1	1		%Sol
15:35	JC86337-2	1		%Sol
15:36	JC86337-3	1		%Sol
15:38	JC86337-4	1		%Sol
15:40	JC86337-5	1		%Sol
15:41	JC86337-6	1		%Sol
15:43	ZZZZZZ	1		
15:44	ZZZZZZ	1		
15:45	MA46516-CCV6	1		
15:47	MA46516-CCB6	1		
15:49	ZZZZZZ	1		
15:51	ZZZZZZ	1		
15:52	ZZZZZZ	1		
15:54	ZZZZZZ	1		
15:55	ZZZZZZ	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV      Date Analyzed: 04/16/19      Methods: SW846 7471B  
Analyst: EAL      Run ID: MA46516  
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
------	--------------------	-----------------	----------	----------

-----> 15:57 MP14256-S1      1      %Sol  
Last reportable sample/prep for job JC86337  
16:00 MA46516-CRI2      1  
  
16:01 MA46516-CCV7      1  
  
-----> 16:03 MA46516-CCB7      1  
Last reportable CCB for job JC86337  
Refer to raw data for calibration curve and standards.

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV Date Analyzed: 04/16/19 Methods: SW846 7471B  
 Analyst: EAL Run ID: MA46516  
 Parameters: Hg

Time	Sample Description	Element:	H Dilution g
14:21	MA46516-ICV1	1	X
14:22	MA46516-ICB1	1	X
14:24	MA46516-CCV1	1	X
14:26	MA46516-CCB1	1	X
14:28	MA46516-CRI1	1	X
14:29	ZZZZZZ	1	
14:31	ZZZZZZ	1	
14:32	ZZZZZZ	1	
14:34	ZZZZZZ	1	
14:36	MA46516-CCV2	1	X
14:38	MA46516-CCB2	1	X
14:40	MP14255-MB1	1	X
14:42	MP14255-B1	1	X
14:43	MP14255-S1	1	X
14:45	MP14255-S2	1	X
14:47	JC86307-1A	1	X (a)
14:49	ZZZZZZ	1	
14:50	ZZZZZZ	1	
14:52	ZZZZZZ	1	
14:53	ZZZZZZ	1	
14:55	MA46516-CCV3	1	X
14:56	MA46516-CCB3	1	X
14:58	ZZZZZZ	1	
14:59	ZZZZZZ	1	
15:01	ZZZZZZ	1	
15:02	ZZZZZZ	1	
15:03	ZZZZZZ	1	
15:05	ZZZZZZ	1	
15:06	ZZZZZZ	1	
15:07	ZZZZZZ	1	
15:09	ZZZZZZ	1	
15:10	MA46516-CCV4	1	X
15:11	MA46516-CCB4	1	X
		Element:	H g

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV Date Analyzed: 04/16/19 Methods: SW846 7471B  
 Analyst: EAL Run ID: MA46516  
 Parameters: Hg

Time	Sample Description	Element: H Dilution g
15:13	ZZZZZZ	1
15:15	ZZZZZZ	1
15:16	ZZZZZZ	1
15:17	ZZZZZZ	1
15:19	ZZZZZZ	1
15:21	ZZZZZZ	1
15:23	MP14256-MB1	1 X
15:24	MP14256-B1	1 X
15:25	ZZZZZZ	1
15:27	MA46516-CCV5	1 X
15:29	MA46516-CCB5	1 X
15:31	MP14256-S2	1 X
15:33	JC86337-1	1 X
15:35	JC86337-2	1 X
15:36	JC86337-3	1 X
15:38	JC86337-4	1 X
15:40	JC86337-5	1 X
15:41	JC86337-6	1 X
15:43	ZZZZZZ	1
15:44	ZZZZZZ	1
15:45	MA46516-CCV6	1 X
15:47	MA46516-CCB6	1 X
15:49	ZZZZZZ	1
15:51	ZZZZZZ	1
15:52	ZZZZZZ	1
15:54	ZZZZZZ	1
15:55	ZZZZZZ	1
15:57	MP14256-S1	1 X
16:00	MA46516-CRI2	1 X
16:01	MA46516-CCV7	1 X
16:03	MA46516-CCB7	1 X

(a) Sample used for QC only; not part of login JC86337.

Element: H  
g

12.1.1  
12

BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV Date Analyzed: 04/16/19 Methods: SW846 7471B  
 QC Limits: result < RL Run ID: MA46516 Units: ug/l

Time:			14:22		14:26		14:38		14:56	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	0.20	.048	0.0237	<0.20	0.0270	<0.20	0.0281	<0.20	0.0215	<0.20

(\*) Outside of QC limits  
 (anr) Analyte not requested

12.1.2  
 12

BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV Date Analyzed: 04/16/19 Methods: SW846 7471B  
 QC Limits: result < RL Run ID: MA46516 Units: ug/l

	Time:		15:11		15:29		15:47		16:03	
	Sample ID:		CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Mercury	0.20	.048	0.00860	<0.20	-0.00560	<0.20	0.00240	<0.20	-0.00840	<0.20

(\*) Outside of QC limits  
 (anr) Analyte not requested

12.1.2  
 12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV      Date Analyzed: 04/16/19      Methods: SW846 7471B  
QC Limits: 90 to 110 % Recovery      Run ID: MA46516      Units: ug/l

	Time:		14:21		14:24		14:36		
Sample ID:	ICV	ICV1	ICV1	CCV	CCV1	CCV	CCV2	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3	3.06	102.0	2.5	2.51	100.4	2.5	2.46	98.4

(\*) Outside of QC limits  
(anr) Analyte not requested

12.1.3  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV      Date Analyzed: 04/16/19      Methods: SW846 7471B  
QC Limits: 90 to 110 % Recovery      Run ID: MA46516      Units: ug/l

	Time:	14:55		15:10		15:27			
Sample ID:	CCV	CCV3	CCV	CCV4	CCV	CCV5	Results	% Rec	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	2.5	2.31	92.4	2.5	2.30	92.0	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: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV      Date Analyzed: 04/16/19      Methods: SW846 7471B  
QC Limits: 90 to 110 % Recovery      Run ID: MA46516      Units: ug/l

	Time:	15:45		16:01		
Sample ID:	CCV	CCV6	CCV	CCV7		
Metal	True	Results	% Rec	True	Results	
					% Rec	
Mercury	2.5	2.42	96.8	2.5	2.58	103.2

(\*) Outside of QC limits  
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: H9041619S1.CSV Date Analyzed: 04/16/19 Methods: SW846 7471B  
 QC Limits: 70 to 130 % Recovery Run ID: MA46516 Units: ug/l

	Time:		14:28		16:00	
Sample ID:	CRI	CRIA	CRI1		CRI2	
Metal	True	True	Results	% Rec	Results	% Rec
Mercury	0.20		0.215	107.5	0.228	114.0

(\*) Outside of QC limits  
 (anr) Analyte not requested

12.1.4  
**12**

SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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
11:43	MA46525-STD1	1		STDA
11:48	MA46525-STD2	1		STDB
11:53	ZZZZZZ	1		
11:58	ZZZZZZ	1		
12:03	MA46525-ICV1	1		
12:10	MA46525-ICB1	1		
12:17	MA46525-ICCV1	1		
12:24	MA46525-CCB1	1		
12:32	MA46525-CRI1	1		
12:37	MA46525-CRID1	1		
12:42	MA46525-ICSA1	1		
12:47	MA46525-ICSAB1	1		
12:53	MA46525-HSTD1	1		
12:59	MA46525-HSTD2	1		
13:04	ZZZZZZ	1		
13:10	ZZZZZZ	1		
13:15	ZZZZZZ	1		
13:20	MA46525-CCV1	1		
13:25	MA46525-CCB2	1		
13:30	ZZZZZZ	1		
13:36	ZZZZZZ	3		
13:41	ZZZZZZ	1		
13:46	ZZZZZZ	5		
13:52	MP14152-MB1	1		
13:57	MP14152-B1	1		
14:02	MP14152-S1	1		
14:08	MP14152-S2	1		
14:13	JC86222-1	1		(sample used for QC only; not part of login JC86337)
14:19	MA46525-CCV2	1		
14:25	MA46525-CCB3	1		
14:30	MP14152-SD1	5		
14:35	MP14152-PS1	1		
14:41	ZZZZZZ	1		



SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
Analyst: ND Run ID: MA46525  
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
14:46	ZZZZZZ	1		
14:51	ZZZZZZ	1		
14:57	ZZZZZZ	1		
15:02	ZZZZZZ	1		
15:08	ZZZZZZ	1		
15:13	MP14152-S1	2		
15:18	MA46525-CCV3	1		
15:23	MA46525-CCB4	1		
15:28	MP14152-S2	2		
15:33	JC86222-1	2		(sample used for QC only; not part of login JC86337)
15:38	MP14152-SD1	10		
15:43	ZZZZZZ	2		
15:49	ZZZZZZ	2		
15:54	ZZZZZZ	2		
15:59	ZZZZZZ	2		
16:04	ZZZZZZ	3		
16:10	ZZZZZZ	1		
16:15	MA46525-CCV4	1		
16:20	MA46525-CCB5	1		
16:26	ZZZZZZ	2		
16:31	ZZZZZZ	5		
16:36	ZZZZZZ	2		
16:41	ZZZZZZ	1		
16:46	ZZZZZZ	1		
16:52	ZZZZZZ	5		
16:56	ZZZZZZ	5		
17:01	ZZZZZZ	5		
17:07	ZZZZZZ	25		
17:12	MA46525-CCV5	1		
17:17	MA46525-CCB6	1		
17:22	MA46525-CCV6	1		
17:27	MA46525-CCB7	1		
17:33	MA46525-ICSA2	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
Analyst: ND Run ID: MA46525  
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
17:38	MA46525-ICSAB2	1		
17:43	MP14246-S1	5		
17:49	MP14246-S2	5		
17:54	JC86276-5	5		(sample used for QC only; not part of login JC86337)
17:59	MP14246-SD1	25		
18:05	MA46525-CCV7	1		
18:10	MA46525-CCB8	1		
18:15	ZZZZZZ	1		
18:20	ZZZZZZ	1		
18:25	ZZZZZZ	1		
18:31	ZZZZZZ	1		
18:36	ZZZZZZ	1		
18:41	ZZZZZZ	1		
18:47	ZZZZZZ	1		
18:52	ZZZZZZ	1		
18:57	ZZZZZZ	1		
19:02	ZZZZZZ	1		
19:08	ZZZZZZ	1		
19:13	ZZZZZZ	1		
19:18	MA46525-CCV8	1		
19:23	MA46525-CCB9	1		
19:29	ZZZZZZ	1		
19:34	ZZZZZZ	1		
19:39	ZZZZZZ	1		
19:45	ZZZZZZ	1		
19:50	ZZZZZZ	1		
19:55	ZZZZZZ	1		
20:01	ZZZZZZ	1		
20:06	ZZZZZZ	10		
20:11	ZZZZZZ	5		
20:17	ZZZZZZ	5		
20:22	MA46525-CCV9	1		
20:27	MA46525-CCB10	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
Analyst: ND Run ID: MA46525  
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
20:33	ZZZZZZ	5		
20:38	ZZZZZZ	25		
20:43	ZZZZZZ	5		
20:49	ZZZZZZ	5		
20:54	ZZZZZZ	1		
21:00	MP14241-S1	5		
21:05	MP14241-S2	5		Possible dilution issues.
21:10	JC86267-1	5		(sample used for QC only; not part of login JC86337)
21:15	MP14241-SD1	25		
21:20	ZZZZZZ	1		
21:26	MA46525-CCV10	1		
21:31	MA46525-CCB11	1		
21:36	ZZZZZZ	2		
21:41	ZZZZZZ	1		
21:46	ZZZZZZ	1		
21:51	MP14249-MB1	1		
21:56	MP14249-B1	1		
22:01	MP14249-S1	1		
22:06	MP14249-S2	1		
22:11	JC86190-3	1		(sample used for QC only; not part of login JC86337)
22:17	MP14249-SD1	5		
22:22	ZZZZZZ	1		
22:27	MA46525-CCV11	1		
22:32	MA46525-CCB12	1		
22:37	ZZZZZZ	1		
22:42	ZZZZZZ	1		
22:48	ZZZZZZ	1		
22:53	ZZZZZZ	1		
22:58	ZZZZZZ	1		
23:03	ZZZZZZ	1		
23:09	ZZZZZZ	1		
23:14	ZZZZZZ	1		
23:20	ZZZZZZ	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
Analyst: ND Run ID: MA46525  
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
------	--------------------	-----------------	----------	----------

23:25	ZZZZZZ	1		
23:30	MA46525-CCV12	1		
23:35	MA46525-CCB13	1		
23:40	JC86337-1	1		
23:46	JC86337-2	1		
23:51	JC86337-3	1		
23:56	JC86337-4	1		Ca=400ppm
00:01	JC86337-5	1		
00:07	JC86337-6	1		
----->	Last reportable sample/prep for job JC86337			
00:12	ZZZZZZ	1		
00:17	ZZZZZZ	1		
00:22	ZZZZZZ	1		
00:27	ZZZZZZ	1		
00:32	MA46525-CCV13	1		
00:37	MA46525-CCB14	1		
----->	Last reportable CCB for job JC86337			
00:42	ZZZZZZ	1		
00:48	ZZZZZZ	5		
00:53	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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	A	S	A	B	B	C	C	C	C	F	P	M	M	N	K	S	A	N	T	V	Z
			l	b	s	a	e	d	a	r	o	u	e	b	g	n	i	e	g	a	l	n	
11:53	ZZZZZZ	1																					
11:58	ZZZZZZ	1																					
12:03	MA46525-ICV1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:10	MA46525-ICB1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:17	MA46525-ICCV1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:24	MA46525-CCB1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:32	MA46525-CRI1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:37	MA46525-CRID1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:42	MA46525-ICSA1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:47	MA46525-ICSAB1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12:53	MA46525-HSTD1	1		X	X	X	X		X	X	X		X	X		X	X		X	X		X	X
12:59	MA46525-HSTD2	1	X					X				X	X		X		X		X				
13:04	ZZZZZZ	1																					
13:10	ZZZZZZ	1																					
13:15	ZZZZZZ	1																					
13:20	MA46525-CCV1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13:25	MA46525-CCB2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13:30	ZZZZZZ	1																					
13:36	ZZZZZZ	3																					
13:41	ZZZZZZ	1																					
13:46	ZZZZZZ	5																					
13:52	MP14152-MB1	1							X	X				X				X				X	
13:57	MP14152-B1	1							X	X				X				X				X	
14:02	MP14152-S1	1							X													X	
14:08	MP14152-S2	1							X													X	
14:13	JC86222-1	1							X													X	(a)
14:19	MA46525-CCV2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14:25	MA46525-CCB3	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14:30	MP14152-SD1	5							X													X	
14:35	MP14152-PS1	1		X																			X
14:41	ZZZZZZ	1																					
14:46	ZZZZZZ	1																					
14:51	ZZZZZZ	1																					

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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	A	S	A	B	B	C	C	C	C	F	P	M	M	N	K	S	A	N	T	V	Z	
			l	b	s	a	e	d	a	r	o	u	e	b	g	n	i	e	g	a	l	n		
14:57	ZZZZZZ	1																						
15:02	ZZZZZZ	1																						
15:08	ZZZZZZ	1																						
15:13	MP14152-S1	2			X							X	X		X			X	X		X			
15:18	MA46525-CCV3	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15:23	MA46525-CCB4	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15:28	MP14152-S2	2			X							X	X		X			X	X		X			
15:33	JC86222-1	2			X							X	X		X			X	X		X		(a)	
15:38	MP14152-SD1	10			X							X	X		X			X	X		X			
15:43	ZZZZZZ	2																						
15:49	ZZZZZZ	2																						
15:54	ZZZZZZ	2																						
15:59	ZZZZZZ	2																						
16:04	ZZZZZZ	3																						
16:10	ZZZZZZ	1																						
16:15	MA46525-CCV4	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16:20	MA46525-CCB5	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
16:26	ZZZZZZ	2																						
16:31	ZZZZZZ	5																						
16:36	ZZZZZZ	2																						
16:41	ZZZZZZ	1																						
16:46	ZZZZZZ	1																						
16:52	ZZZZZZ	5																						
16:56	ZZZZZZ	5																						
17:01	ZZZZZZ	5																						
17:07	ZZZZZZ	25																						
17:12	MA46525-CCV5	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17:17	MA46525-CCB6	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17:22	MA46525-CCV6	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17:27	MA46525-CCB7	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17:33	MA46525-ICSA2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17:38	MA46525-ICSA2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
17:43	MP14246-S1	5											X											

12.2.1  
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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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	A	S	A	B	B	C	C	C	C	F	P	M	M	N	K	S	A	N	T	V	Z
			l	b	s	a	e	d	a	r	o	u	e	b	g	n	i	e	g	a	l	n	
17:49	MP14246-S2	5												X									
17:54	JC86276-5	5												X									(a)
17:59	MP14246-SD1	25												X									
18:05	MA46525-CCV7	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18:10	MA46525-CCB8	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18:15	ZZZZZZ	1																					
18:20	ZZZZZZ	1																					
18:25	ZZZZZZ	1																					
18:31	ZZZZZZ	1																					
18:36	ZZZZZZ	1																					
18:41	ZZZZZZ	1																					
18:47	ZZZZZZ	1																					
18:52	ZZZZZZ	1																					
18:57	ZZZZZZ	1																					
19:02	ZZZZZZ	1																					
19:08	ZZZZZZ	1																					
19:13	ZZZZZZ	1																					
19:18	MA46525-CCV8	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19:23	MA46525-CCB9	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19:29	ZZZZZZ	1																					
19:34	ZZZZZZ	1																					
19:39	ZZZZZZ	1																					
19:45	ZZZZZZ	1																					
19:50	ZZZZZZ	1																					
19:55	ZZZZZZ	1																					
20:01	ZZZZZZ	1																					
20:06	ZZZZZZ	10																					
20:11	ZZZZZZ	5																					
20:17	ZZZZZZ	5																					
20:22	MA46525-CCV9	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20:27	MA46525-CCB10	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20:33	ZZZZZZ	5																					
20:38	ZZZZZZ	25																					

Element: A S A B B C C C C F P M M N K S A N T V Z  
 l b s a e d a r o u e b g n i e g a l n

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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	Element:	A	S	A	B	B	C	C	C	C	F	P	M	N	K	S	A	N	T	V	Z	
			Dilution	l	b	s	a	e	d	a	r	o	u	e	b	g	n	i	e	g	a	l	n	
20:43	ZZZZZZ	5																						
20:49	ZZZZZZ	5																						
20:54	ZZZZZZ	1																						
21:00	MP14241-S1	5				X								X										
21:05	MP14241-S2	5	Possible dilution issues.																					
21:10	JC86267-1	5												X										(a)
21:15	MP14241-SD1	25				X								X										
21:20	ZZZZZZ	1																						
21:26	MA46525-CCV10	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21:31	MA46525-CCB11	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21:36	ZZZZZZ	2																						
21:41	ZZZZZZ	1																						
21:46	ZZZZZZ	1																						
21:51	MP14249-MB1	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21:56	MP14249-B1	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22:01	MP14249-S1	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22:06	MP14249-S2	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22:11	JC86190-3	1				X	X	X	X				X						X	X				(a)
22:17	MP14249-SD1	5		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22:22	ZZZZZZ	1																						
22:27	MA46525-CCV11	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22:32	MA46525-CCB12	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22:37	ZZZZZZ	1																						
22:42	ZZZZZZ	1																						
22:48	ZZZZZZ	1																						
22:53	ZZZZZZ	1																						
22:58	ZZZZZZ	1																						
23:03	ZZZZZZ	1																						
23:09	ZZZZZZ	1																						
23:14	ZZZZZZ	1																						
23:20	ZZZZZZ	1																						
23:25	ZZZZZZ	1																						
23:30	MA46525-CCV12	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			Element:	A	S	A	B	B	C	C	C	C	F	P	M	N	K	S	A	N	T	V	Z	
			Dilution	l	b	s	a	e	d	a	r	o	u	e	b	g	n	i	e	g	a	l	n	

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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	A	S	A	B	B	C	C	C	C	F	P	M	N	K	S	A	N	T	V	Z	
			l	b	s	a	e	d	a	r	o	u	e	b	g	n	i	e	g	a	l	n	
23:35	MA46525-CCB13	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
23:40	JC86337-1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
23:46	JC86337-2	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
23:51	JC86337-3	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
23:56	JC86337-4	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
00:01	JC86337-5	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
00:07	JC86337-6	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
00:12	ZZZZZ	1																					
00:17	ZZZZZ	1																					
00:22	ZZZZZ	1																					
00:27	ZZZZZ	1																					
00:32	MA46525-CCV13	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
00:37	MA46525-CCB14	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
00:42	ZZZZZ	1																					
00:48	ZZZZZ	5																					
00:53	ZZZZZ	1																					

(a) Sample used for QC only; not part of login JC86337.

Element: A S A B B C C C C F P M N K S A N T V Z  
 l b s a e d a r o u e b g n i e g a l n

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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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
11:43	MA46525-STD1	3864 R	138510 R	31270 R	7467 R
11:48	MA46525-STD2	3702	131820	30781	6700
11:53	ZZZZZZ	3809	134890	31115	6913
11:58	ZZZZZZ	3890	139010	31240	7498
12:03	MA46525-ICV1	3816	134860	31431	6911
12:10	MA46525-ICB1	3890	139210	31075	7496
12:17	MA46525-ICCV1	3805	135750	30952	6889
12:24	MA46525-CCB1	3925	139880	31143	7568
12:32	MA46525-CRI1	3757	136320	30612	7191
12:37	MA46525-CRID1	3855	138010	31006	7419
12:42	MA46525-ICSA1	3549	125240	30567	6184
12:47	MA46525-ICSAB1	3566	125550	30422	6248
12:53	MA46525-HSTD1	3801	136070	31479	7363
12:59	MA46525-HSTD2	3572	125920	30421	6214
13:04	ZZZZZZ	3794	136470	30946	7489
13:10	ZZZZZZ	3785	138790	31035	7456
13:15	ZZZZZZ	3903	139770	31419	7499
13:20	MA46525-CCV1	3842	136490	31247	6922
13:25	MA46525-CCB2	3886	139010	31134	7485
13:30	ZZZZZZ	3943	141120	31870	7646
13:36	ZZZZZZ	3590	129500	30278	6469
13:41	ZZZZZZ	3857	138880	31101	7425
13:46	ZZZZZZ	3711	134000	30826	6922
13:52	MP14152-MB1	3831	137590	30950	7391
13:57	MP14152-B1	3758	133570	31155	6914
14:02	MP14152-S1	3973	139510	33725	6641
14:08	MP14152-S2	3925	138170	33192	6658
14:13	JC86222-1	4041	142960	33889	6792
14:19	MA46525-CCV2	3779	132890	30673	6833
14:25	MA46525-CCB3	3871	137760	30611	7454
14:30	MP14152-SD1	3894	137470	31301	7091
14:35	MP14152-PS1	3935	139970	33235	6690
14:41	ZZZZZZ	4101	143260	33065	7176

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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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
14:46	ZZZZZZ	4024	141770	33094	7127
14:51	ZZZZZZ	4017	140790	32866	7163
14:57	ZZZZZZ	3950	140120	33321	6818
15:02	ZZZZZZ	3941	139820	32729	6837
15:08	ZZZZZZ	4021	140460	32662	7024
15:13	MP14152-S1	3913	138350	32680	6773
15:18	MA46525-CCV3	3765	132090	30695	6797
15:23	MA46525-CCB4	3862	138270	30786	7424
15:28	MP14152-S2	3876	137750	31987	6785
15:33	JC86222-1	3942	139050	32227	6906
15:38	MP14152-SD1	3889	138160	31062	7219
15:43	ZZZZZZ	3946	139210	31445	7120
15:49	ZZZZZZ	3922	138530	31734	7128
15:54	ZZZZZZ	3897	137150	31831	6894
15:59	ZZZZZZ	3866	136420	31544	6878
16:04	ZZZZZZ	3873	137660	31523	6990
16:10	ZZZZZZ	3785	135410	30584	7281
16:15	MA46525-CCV4	3751	132590	30017	6751
16:20	MA46525-CCB5	3847	136640	30482	7374
16:26	ZZZZZZ	3898	141650	31960	7005
16:31	ZZZZZZ	3738	132700	30361	6909
16:36	ZZZZZZ	4161	146790	33369	7031
16:41	ZZZZZZ	4002	140360	30935	7702
16:46	ZZZZZZ	3804	135540	31104	6990
16:52	ZZZZZZ	3665	132470	30548	6566
16:56	ZZZZZZ	3686	133920	30730	6593
17:01	ZZZZZZ	3637	131910	30304	6566
17:07	ZZZZZZ	3777	134660	30509	7050
17:12	MA46525-CCV5	3736	131480	30394	6747
17:17	MA46525-CCB6	3849	136330	30406	7388
17:22	MA46525-CCV6	3763	132320	30208	6775
17:27	MA46525-CCB7	3836	137900	30266	7354
17:33	MA46525-ICSA2	3496	122440	29685	6085

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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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
17:38	MA46525-ICSAB2	3446	122970	29911	6054
17:43	MP14246-S1	3680	132420	30306	6607
17:49	MP14246-S2	3677	132450	30179	6604
17:54	JC86276-5	3675	132770	30423	6652
17:59	MP14246-SD1	3804	135960	30653	7128
18:05	MA46525-CCV7	3735	132810	30436	6747
18:10	MA46525-CCB8	3878	137930	30790	7442
18:15	ZZZZZZ	3834	138320	31034	7380
18:20	ZZZZZZ	3859	137650	30775	7384
18:25	ZZZZZZ	3837	137560	30747	7363
18:31	ZZZZZZ	3844	138790	30962	7369
18:36	ZZZZZZ	3862	138440	30645	7410
18:41	ZZZZZZ	3837	136260	30347	7357
18:47	ZZZZZZ	3813	135440	30408	7355
18:52	ZZZZZZ	3823	136620	30450	7444
18:57	ZZZZZZ	3811	136790	30661	7403
19:02	ZZZZZZ	4000	129850	31726	6654
19:08	ZZZZZZ	3518	128200	29624	6420
19:13	ZZZZZZ	3575	127640	30093	6446
19:18	MA46525-CCV8	3765	132710	30782	6812
19:23	MA46525-CCB9	3860	138100	30720	7422
19:29	ZZZZZZ	3874	138570	31312	7465
19:34	ZZZZZZ	3541	127160	30660	6186
19:39	ZZZZZZ	3786	135020	31347	6937
19:45	ZZZZZZ	3926	138610	31175	7534
19:50	ZZZZZZ	3726	131470	30976	6836
19:55	ZZZZZZ	3681	131840	30794	6835
20:01	ZZZZZZ	3551	130250	30816	6414
20:06	ZZZZZZ	3568	130090	30086	6432
20:11	ZZZZZZ	3646	131090	30192	6619
20:17	ZZZZZZ	3700	133340	30744	6769
20:22	MA46525-CCV9	3780	132450	30637	6844
20:27	MA46525-CCB10	3843	136950	30492	7398

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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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
20:33	ZZZZZZ	3271	118630	29134	5737
20:38	ZZZZZZ	3580	129440	29756	6443
20:43	ZZZZZZ	3665	131270	30186	6646
20:49	ZZZZZZ	3614	130570	30272	6525
20:54	ZZZZZZ	3821	135150	31264	7044
21:00	MP14241-S1	3595	129760	30104	6460
21:05	MP14241-S2	No results reported for the elements associated with this internal standard.			
21:10	JC86267-1	3610	131230	30287	6530
21:15	MP14241-SD1	3783	135000	30682	7058
21:20	ZZZZZZ	3880	138760	31239	7479
21:26	MA46525-CCV10	3742	131780	30424	6773
21:31	MA46525-CCB11	3861	138590	30893	7431
21:36	ZZZZZZ	3842	137470	32156	7029
21:41	ZZZZZZ	3814	136370	30573	7378
21:46	ZZZZZZ	3877	137900	30802	7445
21:51	MP14249-MB1	3902	138210	30465	7509
21:56	MP14249-B1	3827	133940	31015	7033
22:01	MP14249-S1	3790	134960	31281	6980
22:06	MP14249-S2	3804	135100	31236	7007
22:11	JC86190-3	3904	139640	31698	7534
22:17	MP14249-SD1	3886	139850	31407	7480
22:22	ZZZZZZ	3893	120540	33194	7522
22:27	MA46525-CCV11	3780	133840	30732	6833
22:32	MA46525-CCB12	3870	137440	30807	7446
22:37	ZZZZZZ	3844	118650	32863	7442
22:42	ZZZZZZ	3865	138950	31357	7463
22:48	ZZZZZZ	4217	145590	33928	7023
22:53	ZZZZZZ	4097	140980	33076	7068
22:58	ZZZZZZ	4127	144400	33477	7044
23:03	ZZZZZZ	3957	139200	32530	6905
23:09	ZZZZZZ	4450	158170	37461	6465
23:14	ZZZZZZ	3911	136350	31890	7165
23:20	ZZZZZZ	4043	140880	32677	6990

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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46525  
 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
23:25	ZZZZZZ	3967	138350	32758	6823
23:30	MA46525-CCV12	3730	132000	30697	6750
23:35	MA46525-CCB13	3853	137080	30883	7404
23:40	JC86337-1	3886	139540	32309	7085
23:46	JC86337-2	3902	137050	31647	7159
23:51	JC86337-3	4052	142770	33199	7022
23:56	JC86337-4	3697	130840	30890	6552
00:01	JC86337-5	3953	139060	31952	7208
00:07	JC86337-6	3849	136800	31072	7294
00:12	ZZZZZZ	3732	132810	30671	6881
00:17	ZZZZZZ	3810	137640	31082	7353
00:22	ZZZZZZ	3824	136560	31645	6904
00:27	ZZZZZZ	3849	138060	31893	6898
00:32	MA46525-CCV13	3708	131420	30212	6720
00:37	MA46525-CCB14	3818	136160	30604	7347
00:42	ZZZZZZ	3921	138530	31704	7199
00:48	ZZZZZZ	3878	137650	30836	7309
00:53	ZZZZZZ	3745	133880	31142	7359

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 %

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BLANK RESULTS SUMMARY  
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
QC Limits: result < RL Run ID: MA46525 Units: ug/l

Time: Sample ID:	12:10 ICB1	12:24 CCB1	13:25 CCB2	14:25 CCB3	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	0.00	<200	-2.80	<200	-8.10	<200	-5.30	<200				
Antimony	6.0	1.3	0.600	<6.0	0.400	<6.0	0.300	<6.0	0.400	<6.0				
Arsenic	3.0	1.5	0.200	<3.0	0.600	<3.0	0.100	<3.0	-0.400	<3.0				
Barium	200	.3	-0.100	<200	-0.100	<200	0.200	<200	0.00	<200				
Beryllium	1.0	.1	0.100	<1.0	0.100	<1.0	0.200	<1.0	0.100	<1.0				
Bismuth	20	3.3												
Boron	100	.8	anr											
Cadmium	3.0	.1	0.00	<3.0	0.100	<3.0	0.00	<3.0	0.00	<3.0				
Calcium	5000	2.3	-0.700	<5000	0.00	<5000	1.40	<5000	-1.80	<5000				
Chromium	10	.5	-0.100	<10	0.00	<10	-0.200	<10	-0.300	<10				
Cobalt	50	.4	0.200	<50	0.100	<50	0.200	<50	0.300	<50				
Copper	10	.8	0.00	<10	-0.100	<10	0.00	<10	0.100	<10				
Iron	100	4.4	1.80	<100	1.90	<100	3.30	<100	1.00	<100				
Lead	3.0	1.1	-0.100	<3.0	0.100	<3.0	-0.100	<3.0	-0.300	<3.0				
Lithium	50	4.4												
Magnesium	5000	14	0.400	<5000	-4.20	<5000	-2.50	<5000	-8.20	<5000				
Manganese	15	.1	0.100	<15	0.100	<15	0.200	<15	0.100	<15				
Molybdenum	20	.7												
Nickel	10	.3	-0.100	<10	0.00	<10	-0.100	<10	-0.200	<10				
Phosphorus	50	2.4												
Potassium	10000	140	-27.1	<10000	15.9	<10000	6.80	<10000	-2.00	<10000				
Selenium	10	1.8	-2.00	<10	-2.20	<10	-0.500	<10	-0.600	<10				
Silicon	200	2.2	anr											
Silver	10	.5	-0.300	<10	-0.400	<10	0.00	<10	-0.200	<10				
Sodium	10000	34	14.0	<10000	1.70	<10000	14.2	<10000	12.7	<10000				
Strontium	10	.1												
Sulfur	50	9.8												
Thallium	10	1.3	-0.300	<10	-0.100	<10	0.500	<10	0.300	<10				
Tin	10	.9												
Titanium	10	.3												
Tungsten	50	3.9												
Vanadium	50	.3	0.500	<50	0.500	<50	0.500	<50	0.400	<50				
Zinc	20	1.3	0.00	<20	0.100	<20	0.200	<20	0.200	<20				

12.2.3  
12

BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

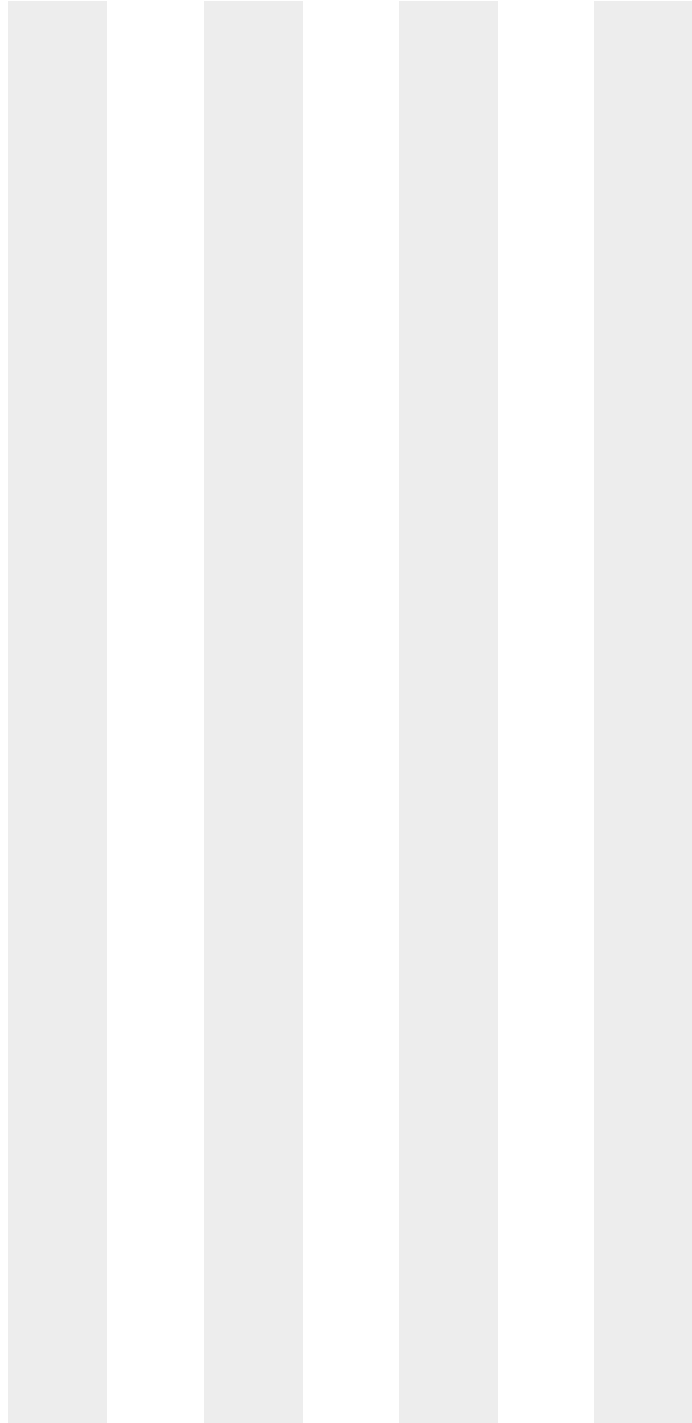
Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: result < RL Run ID: MA46525 Units: ug/l

Time:	12:10	12:24	13:25	14:25				
Sample ID:	ICB1	CCB1	CCB2	CCB3				
Metal	RL	IDL	raw	final	raw	final	raw	final

Zirconium 10 .2

(\*) Outside of QC limits  
 (anr) Analyte not requested



12.2.3  
 12



BLANK RESULTS SUMMARY  
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
QC Limits: result < RL Run ID: MA46525 Units: ug/l

Time: Sample ID:	RL	IDL	15:23 CCB4	final	16:20 CCB5	final	17:17 CCB6	final	17:27 CCB7	final
Metal			raw		raw		raw		raw	
Aluminum	200	14	-0.100	<200	3.60	<200	-2.20	<200	1.90	<200
Antimony	6.0	1.3	0.00	<6.0	0.200	<6.0	-0.300	<6.0	0.800	<6.0
Arsenic	3.0	1.5	-1.40	<3.0	-0.200	<3.0	-0.900	<3.0	0.100	<3.0
Barium	200	.3	0.100	<200	0.200	<200	0.200	<200	0.300	<200
Beryllium	1.0	.1	0.100	<1.0	0.100	<1.0	0.100	<1.0	0.200	<1.0
Bismuth	20	3.3								
Boron	100	.8	anr							
Cadmium	3.0	.1	0.00	<3.0	0.00	<3.0	0.00	<3.0	0.100	<3.0
Calcium	5000	2.3	0.500	<5000	-1.20	<5000	-0.100	<5000	2.50	<5000
Chromium	10	.5	-0.200	<10	-0.300	<10	-0.400	<10	-0.100	<10
Cobalt	50	.4	0.200	<50	0.200	<50	0.400	<50	0.200	<50
Copper	10	.8	0.00	<10	-0.100	<10	0.00	<10	0.100	<10
Iron	100	4.4	3.40	<100	1.10	<100	3.20	<100	4.40	<100
Lead	3.0	1.1	-0.100	<3.0	-0.300	<3.0	-0.400	<3.0	-0.400	<3.0
Lithium	50	4.4								
Magnesium	5000	14	12.0	<5000	-0.100	<5000	-2.30	<5000	10.4	<5000
Manganese	15	.1	0.200	<15	0.100	<15	0.100	<15	0.200	<15
Molybdenum	20	.7								
Nickel	10	.3	-0.100	<10	-0.200	<10	0.100	<10	-0.200	<10
Phosphorus	50	2.4								
Potassium	10000	140	-13.0	<10000	-16.7	<10000	-27.0	<10000	-22.1	<10000
Selenium	10	1.8	-1.10	<10	-1.20	<10	-2.10	<10	-1.30	<10
Silicon	200	2.2	anr							
Silver	10	.5	-0.200	<10	-0.300	<10	-0.500	<10	-0.200	<10
Sodium	10000	34	10.0	<10000	0.500	<10000	9.30	<10000	11.9	<10000
Strontium	10	.1								
Sulfur	50	9.8								
Thallium	10	1.3	0.100	<10	0.500	<10	1.10	<10	0.600	<10
Tin	10	.9								
Titanium	10	.3								
Tungsten	50	3.9								
Vanadium	50	.3	0.300	<50	0.400	<50	0.500	<50	0.500	<50
Zinc	20	1.3	0.200	<20	0.00	<20	0.00	<20	0.100	<20

12.2.3  
12

BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

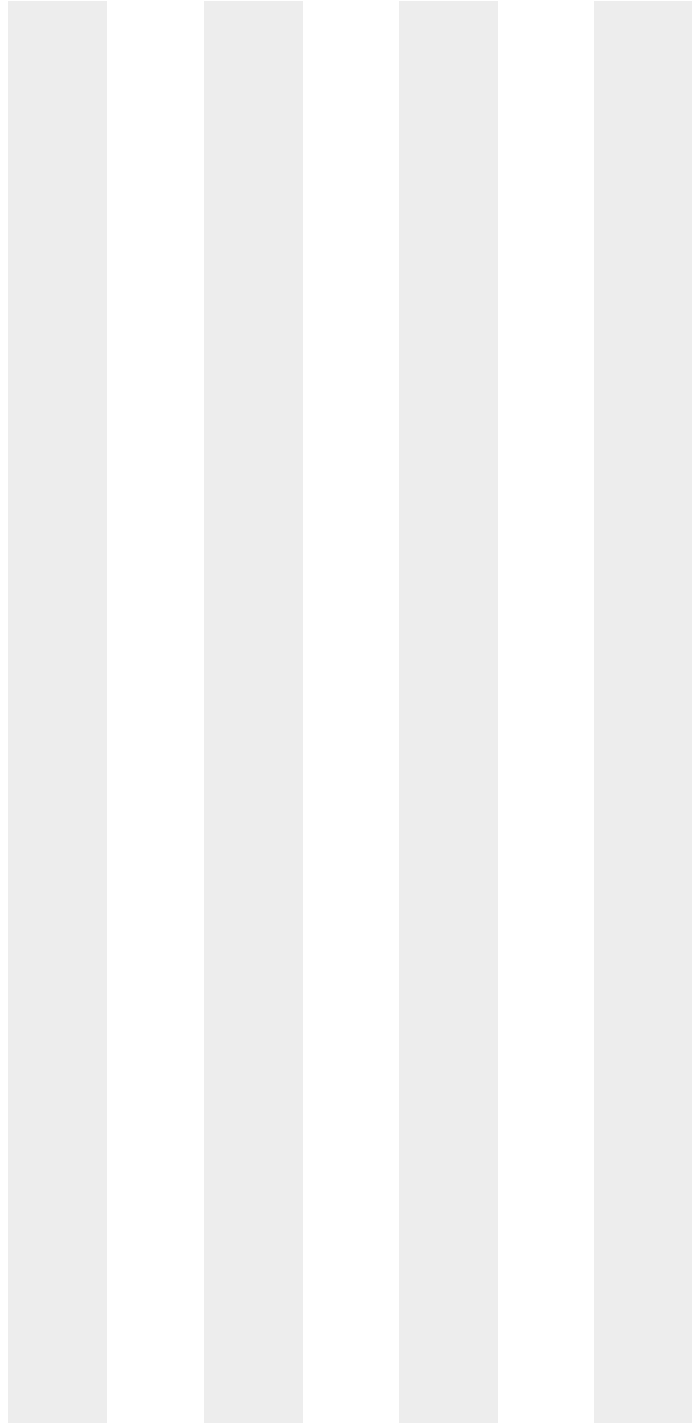
Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: result < RL Run ID: MA46525 Units: ug/l

Time:			15:23		16:20		17:17		17:27	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zirconium 10 .2

(\*) Outside of QC limits  
 (anr) Analyte not requested



12.2.3  
 12

BLANK RESULTS SUMMARY  
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
QC Limits: result < RL Run ID: MA46525 Units: ug/l

Metal	Time:		18:10		19:23		20:27		21:31	
	Sample ID:	RL	IDL	CCB8	CCB9	CCB10	CCB11	raw	final	raw
Aluminum	200	14	-2.40	<200	-1.30	<200	-2.80	<200	-3.30	<200
Antimony	6.0	1.3	-0.300	<6.0	0.100	<6.0	0.600	<6.0	0.300	<6.0
Arsenic	3.0	1.5	-0.800	<3.0	-0.500	<3.0	0.600	<3.0	-0.200	<3.0
Barium	200	.3	0.00	<200	0.00	<200	0.200	<200	0.00	<200
Beryllium	1.0	.1	0.00	<1.0	0.100	<1.0	0.200	<1.0	0.100	<1.0
Bismuth	20	3.3								
Boron	100	.8	anr							
Cadmium	3.0	.1	0.00	<3.0	-0.100	<3.0	0.00	<3.0	0.00	<3.0
Calcium	5000	2.3	-4.50	<5000	-0.600	<5000	0.600	<5000	1.20	<5000
Chromium	10	.5	-0.200	<10	-0.200	<10	-0.300	<10	-0.100	<10
Cobalt	50	.4	0.300	<50	0.200	<50	0.100	<50	0.400	<50
Copper	10	.8	-0.300	<10	-0.200	<10	0.200	<10	0.100	<10
Iron	100	4.4	1.60	<100	1.90	<100	3.20	<100	3.20	<100
Lead	3.0	1.1	-0.100	<3.0	-0.600	<3.0	-0.500	<3.0	-0.100	<3.0
Lithium	50	4.4								
Magnesium	5000	14	3.00	<5000	-5.60	<5000	1.00	<5000	7.20	<5000
Manganese	15	.1	0.100	<15	0.100	<15	0.100	<15	0.100	<15
Molybdenum	20	.7								
Nickel	10	.3	0.100	<10	-0.100	<10	0.00	<10	0.00	<10
Phosphorus	50	2.4								
Potassium	10000	140	-24.8	<10000	-20.8	<10000	-1.20	<10000	1.10	<10000
Selenium	10	1.8	-2.60	<10	-2.20	<10	-2.70	<10	-1.70	<10
Silicon	200	2.2	anr							
Silver	10	.5	-0.100	<10	-0.200	<10	-0.200	<10	0.300	<10
Sodium	10000	34	9.60	<10000	3.20	<10000	27.6	<10000	27.3	<10000
Strontium	10	.1								
Sulfur	50	9.8								
Thallium	10	1.3	0.400	<10	1.40	<10	0.400	<10	0.500	<10
Tin	10	.9								
Titanium	10	.3								
Tungsten	50	3.9								
Vanadium	50	.3	0.300	<50	0.300	<50	0.300	<50	0.600	<50
Zinc	20	1.3	-0.100	<20	0.00	<20	0.100	<20	0.100	<20

12.2.3  
12

BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

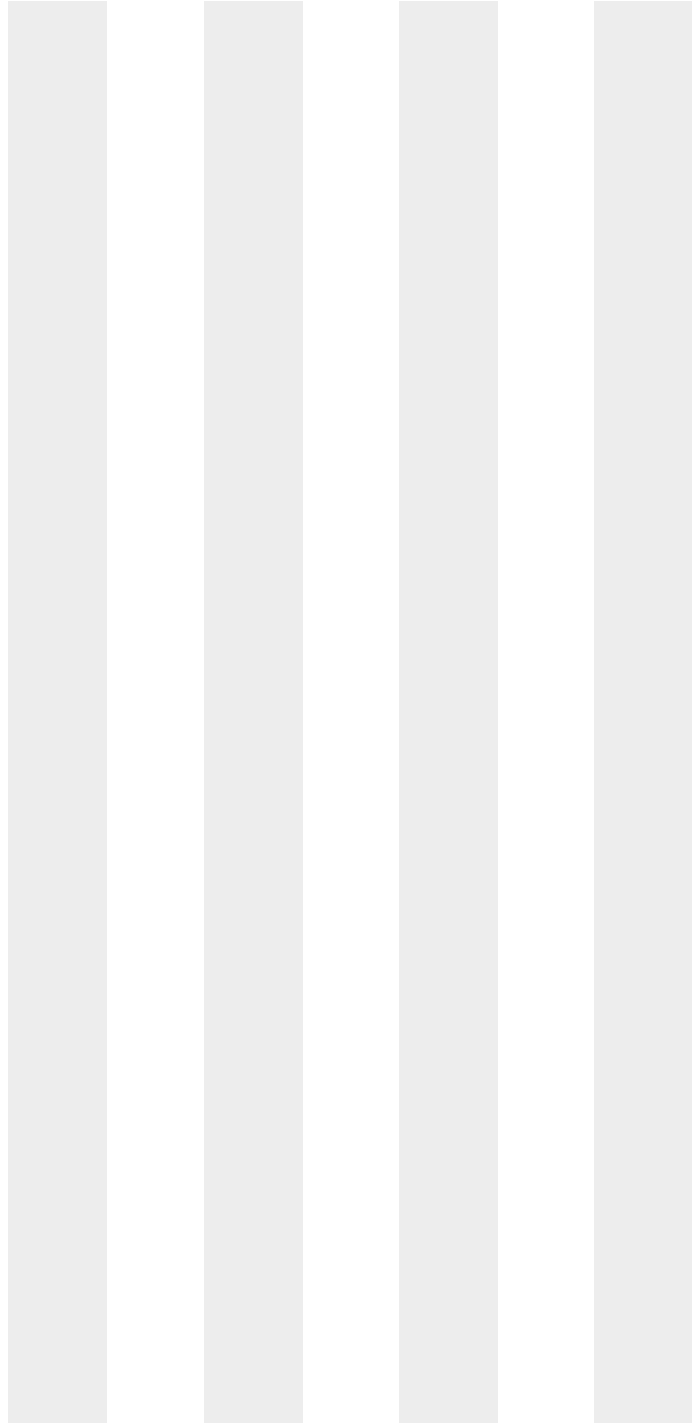
Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
 QC Limits: result < RL      Run ID: MA46525      Units: ug/l

Time:	18:10	19:23	20:27	21:31						
Sample ID:	CCB8	CCB9	CCB10	CCB11						
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zirconium      10      .2

(\*) Outside of QC limits  
 (anr) Analyte not requested



12.2.3  
**12**

BLANK RESULTS SUMMARY  
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
QC Limits: result < RL Run ID: MA46525 Units: ug/l

Metal	Time:		22:32		23:35		00:37		
	Sample ID:	RL	IDL	CCB12	final	CCB13	final	CCB14	
			raw			raw		raw	final
Aluminum	200	14	-2.60	<200		-3.80	<200	-0.400	<200
Antimony	6.0	1.3	0.300	<6.0		0.400	<6.0	0.500	<6.0
Arsenic	3.0	1.5	-0.300	<3.0		0.00	<3.0	0.800	<3.0
Barium	200	.3	0.00	<200		0.100	<200	0.00	<200
Beryllium	1.0	.1	0.00	<1.0		0.100	<1.0	0.100	<1.0
Bismuth	20	3.3							
Boron	100	.8	anr						
Cadmium	3.0	.1	-0.100	<3.0		0.00	<3.0	0.00	<3.0
Calcium	5000	2.3	-1.00	<5000		-2.00	<5000	-0.800	<5000
Chromium	10	.5	-0.300	<10		-0.200	<10	-0.200	<10
Cobalt	50	.4	0.200	<50		0.200	<50	0.200	<50
Copper	10	.8	0.100	<10		0.00	<10	0.00	<10
Iron	100	4.4	1.60	<100		1.90	<100	0.800	<100
Lead	3.0	1.1	-0.800	<3.0		0.800	<3.0	-0.100	<3.0
Lithium	50	4.4							
Magnesium	5000	14	-1.30	<5000		13.5	<5000	-3.60	<5000
Manganese	15	.1	0.100	<15		0.100	<15	0.100	<15
Molybdenum	20	.7							
Nickel	10	.3	-0.200	<10		0.00	<10	-0.400	<10
Phosphorus	50	2.4							
Potassium	10000	140	-0.700	<10000		1.20	<10000	-34.0	<10000
Selenium	10	1.8	-2.30	<10		-2.40	<10	-2.00	<10
Silicon	200	2.2	anr						
Silver	10	.5	-0.400	<10		-0.300	<10	-0.700	<10
Sodium	10000	34	11.1	<10000		8.10	<10000	6.60	<10000
Strontium	10	.1							
Sulfur	50	9.8							
Thallium	10	1.3	0.700	<10		0.700	<10	0.800	<10
Tin	10	.9							
Titanium	10	.3							
Tungsten	50	3.9							
Vanadium	50	.3	0.400	<50		0.500	<50	0.500	<50
Zinc	20	1.3	-0.100	<20		0.100	<20	0.00	<20

12.2.3  
12

BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: result < RL Run ID: MA46525 Units: ug/l

Time:	22:32	23:35	00:37					
Sample ID:	CCB12	CCB13	CCB14					
Metal	RL	IDL	raw	final	raw	final	raw	final

Zirconium 10 .2

(\*) Outside of QC limits  
 (anr) Analyte not requested



12.2.3  
 12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial Continuing Calibration Check

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
QC Limits: to % Recovery Run ID: MA46525 Units: ug/l

Time:	Sample ID:	ICCV	12:17 ICCV1	Results	% Rec
Metal	True				
Aluminum	40000	40200		100.5	
Antimony	2000	2010		100.5	
Arsenic	2000	1990		99.5	
Barium	2000	2030		101.5	
Beryllium	2000	2080		104.0	
Bismuth					
Boron	anr				
Cadmium	2000	2020		101.0	
Calcium	40000	40700		101.8	
Chromium	2000	2000		100.0	
Cobalt	2000	2010		100.5	
Copper	2000	1960		98.0	
Iron	40000	41000		102.5	
Lead	2000	2050		102.5	
Lithium					
Magnesium	40000	40500		101.3	
Manganese	2000	2050		102.5	
Molybdenum					
Nickel	2000	2040		102.0	
Phosphorus					
Potassium	40000	40200		100.5	
Selenium	2000	2000		100.0	
Silicon	anr				
Silver	250	245		98.0	
Sodium	40000	40400		101.0	
Strontium					
Sulfur					
Thallium	2000	2090		104.5	
Tin					
Titanium					
Tungsten					
Vanadium	2000	1990		99.5	
Zinc	2000	2030		101.5	

12.2.4  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial Continuing Calibration Check

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: to % Recovery      Run ID: MA46525      Units: ug/l

Time:	12:17
Sample ID:	ICCV      ICCV1
Metal	True      Results      % Rec

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested

12.2.4  
12



CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

Metal	Time:	12:03			13:20			14:19		
	Sample ID:	ICV	ICV1	CCV	CCV1	CCV	CCV2	Results	% Rec	
	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec	
Aluminum	40000	39100	97.8	40000	39700	99.3	40000	40500	101.3	
Antimony	2000	1940	97.0	2000	1990	99.5	2000	2040	102.0	
Arsenic	2000	1940	97.0	2000	1980	99.0	2000	2020	101.0	
Barium	2000	1990	99.5	2000	2010	100.5	2000	2050	102.5	
Beryllium	2000	2010	100.5	2000	2050	102.5	2000	2090	104.5	
Bismuth										
Boron	anr									
Cadmium	2000	1970	98.5	2000	2000	100.0	2000	2040	102.0	
Calcium	40000	39000	97.5	40000	40200	100.5	40000	40800	102.0	
Chromium	2000	1940	97.0	2000	1990	99.5	2000	2050	102.5	
Cobalt	2000	2000	100.0	2000	2000	100.0	2000	2030	101.5	
Copper	2000	1920	96.0	2000	1950	97.5	2000	2000	100.0	
Iron	40000	39700	99.3	40000	40400	101.0	40000	41200	103.0	
Lead	2000	1970	98.5	2000	2050	102.5	2000	2080	104.0	
Lithium										
Magnesium	40000	39400	98.5	40000	40100	100.3	40000	40800	102.0	
Manganese	2000	2010	100.5	2000	2050	102.5	2000	2110	105.5	
Molybdenum										
Nickel	2000	1980	99.0	2000	2040	102.0	2000	2070	103.5	
Phosphorus										
Potassium	40000	39400	98.5	40000	39800	99.5	40000	40600	101.5	
Selenium	2000	1920	96.0	2000	2000	100.0	2000	2040	102.0	
Silicon	anr									
Silver	250	257	102.8	250	244	97.6	250	250	100.0	
Sodium	40000	39400	98.5	40000	39800	99.5	40000	40700	101.8	
Strontium										
Sulfur										
Thallium	2000	2010	100.5	2000	2100	105.0	2000	2130	106.5	
Tin										
Titanium										
Tungsten										
Vanadium	2000	1960	98.0	2000	1980	99.0	2000	2030	101.5	
Zinc	2000	1950	97.5	2000	2020	101.0	2000	2060	103.0	

12.2.5 12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

	Time:		12:03		13:20		14:19		
Sample ID:	ICV	ICV1	ICV1	CCV	CCV1	CCV1	CCV2	CCV2	CCV2
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested



12.2.5  
**12**

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

Metal	Time:	15:18			16:15			17:12		
	Sample ID:	CCV	CCV3	% Rec	CCV	CCV4	% Rec	CCV	CCV5	% Rec
Aluminum		40000	40500	101.3	40000	41800	104.5	40000	41200	103.0
Antimony		2000	2040	102.0	2000	2060	103.0	2000	2060	103.0
Arsenic		2000	2020	101.0	2000	2050	102.5	2000	2050	102.5
Barium		2000	2050	102.5	2000	2110	105.5	2000	2080	104.0
Beryllium		2000	2090	104.5	2000	2150	107.5	2000	2120	106.0
Bismuth										
Boron		anr								
Cadmium		2000	2040	102.0	2000	2070	103.5	2000	2060	103.0
Calcium		40000	40700	101.8	40000	41900	104.8	40000	41400	103.5
Chromium		2000	2060	103.0	2000	2060	103.0	2000	2080	104.0
Cobalt		2000	2030	101.5	2000	2050	102.5	2000	2050	102.5
Copper		2000	2020	101.0	2000	2020	101.0	2000	2030	101.5
Iron		40000	40900	102.3	40000	41700	104.3	40000	41300	103.3
Lead		2000	2090	104.5	2000	2130	106.5	2000	2120	106.0
Lithium										
Magnesium		40000	40900	102.3	40000	42200	105.5	40000	41600	104.0
Manganese		2000	2130	106.5	2000	2150	107.5	2000	2160	108.0
Molybdenum										
Nickel		2000	2080	104.0	2000	2110	105.5	2000	2100	105.0
Phosphorus										
Potassium		40000	40700	101.8	40000	41700	104.3	40000	41100	102.8
Selenium		2000	2030	101.5	2000	2060	103.0	2000	2050	102.5
Silicon		anr								
Silver		250	251	100.4	250	252	100.8	250	254	101.6
Sodium		40000	40500	101.3	40000	41300	103.3	40000	40900	102.3
Strontium										
Sulfur										
Thallium		2000	2110	105.5	2000	2130	106.5	2000	2130	106.5
Tin										
Titanium										
Tungsten										
Vanadium		2000	2040	102.0	2000	2050	102.5	2000	2060	103.0
Zinc		2000	2060	103.0	2000	2080	104.0	2000	2080	104.0

12.2.5 12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

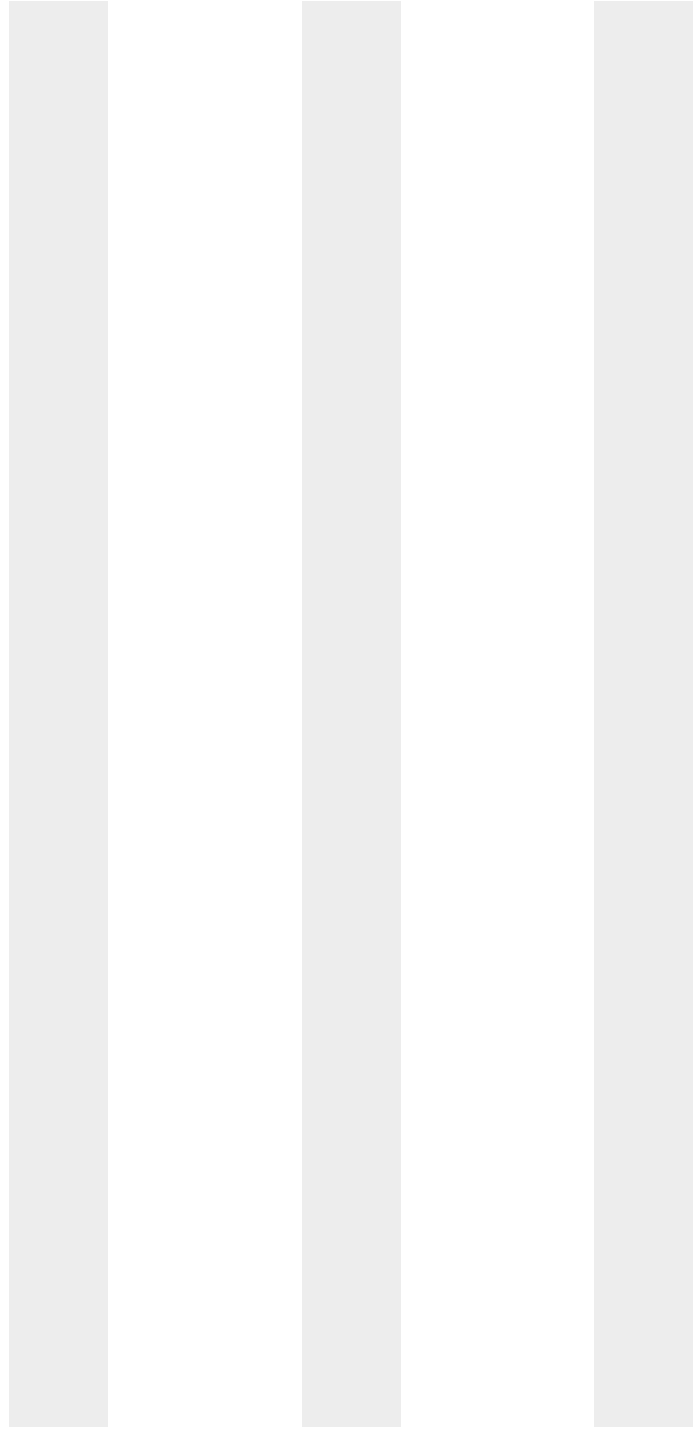
Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

	Time:		15:18		16:15		17:12		
Sample ID:	CCV	CCV3	CCV	CCV4	CCV	CCV5			
Metal	True	Results	% Rec	True <td>Results</td> <td>% Rec</td> <th>True <td>Results</td> <td>% Rec</td> </th>	Results	% Rec	True <td>Results</td> <td>% Rec</td>	Results	% Rec

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested



12.2.5  
**12**

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

Metal	Sample ID:	17:22			18:05			19:18		
		CCV	CCV6	% Rec	CCV	CCV7	% Rec	CCV	CCV8	% Rec
Aluminum	40000	41200	103.0	40000	40800	102.0	40000	40000	100.0	
Antimony	2000	2060	103.0	2000	2070	103.5	2000	2030	101.5	
Arsenic	2000	2060	103.0	2000	2060	103.0	2000	2020	101.0	
Barium	2000	2080	104.0	2000	2070	103.5	2000	2020	101.0	
Beryllium	2000	2130	106.5	2000	2110	105.5	2000	2060	103.0	
Bismuth										
Boron	anr									
Cadmium	2000	2060	103.0	2000	2070	103.5	2000	2040	102.0	
Calcium	40000	41200	103.0	40000	41000	102.5	40000	40400	101.0	
Chromium	2000	2070	103.5	2000	2060	103.0	2000	2040	102.0	
Cobalt	2000	2050	102.5	2000	2060	103.0	2000	2030	101.5	
Copper	2000	2030	101.5	2000	2010	100.5	2000	1990	99.5	
Iron	40000	41400	103.5	40000	41200	103.0	40000	40500	101.3	
Lead	2000	2120	106.0	2000	2120	106.0	2000	2080	104.0	
Lithium										
Magnesium	40000	41600	104.0	40000	41100	102.8	40000	40300	100.8	
Manganese	2000	2160	108.0	2000	2130	106.5	2000	2100	105.0	
Molybdenum										
Nickel	2000	2110	105.5	2000	2110	105.5	2000	2070	103.5	
Phosphorus										
Potassium	40000	41300	103.3	40000	41000	102.5	40000	40000	100.0	
Selenium	2000	2070	103.5	2000	2070	103.5	2000	2030	101.5	
Silicon	anr									
Silver	250	252	100.8	250	252	100.8	250	250	100.0	
Sodium	40000	41100	102.8	40000	40800	102.0	40000	40000	100.0	
Strontium										
Sulfur										
Thallium	2000	2160	108.0	2000	2150	107.5	2000	2110	105.5	
Tin										
Titanium										
Tungsten										
Vanadium	2000	2050	102.5	2000	2040	102.0	2000	2030	101.5	
Zinc	2000	2080	104.0	2000	2090	104.5	2000	2060	103.0	

12.2.5  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

	Time:								
	Sample ID:	CCV	17:22 CCV6	CCV	18:05 CCV7	CCV	19:18 CCV8	CCV	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested



12.2.5  
**12**

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

Metal	Time:	20:22			21:26			22:27		
	Sample ID:	CCV	CCV9	% Rec	CCV	CCV10	% Rec	CCV	CCV11	% Rec
Aluminum	40000	40000	100.0	40000	40200	100.5	40000	40100	100.3	
Antimony	2000	2010	100.5	2000	2030	101.5	2000	2020	101.0	
Arsenic	2000	1990	99.5	2000	2010	100.5	2000	2010	100.5	
Barium	2000	2030	101.5	2000	2030	101.5	2000	2030	101.5	
Beryllium	2000	2070	103.5	2000	2060	103.0	2000	2060	103.0	
Bismuth										
Boron	anr									
Cadmium	2000	2020	101.0	2000	2040	102.0	2000	2030	101.5	
Calcium	40000	40400	101.0	40000	40600	101.5	40000	40300	100.8	
Chromium	2000	2040	102.0	2000	2040	102.0	2000	2020	101.0	
Cobalt	2000	2000	100.0	2000	2030	101.5	2000	2020	101.0	
Copper	2000	1990	99.5	2000	1990	99.5	2000	1980	99.0	
Iron	40000	40700	101.8	40000	40600	101.5	40000	40300	100.8	
Lead	2000	2050	102.5	2000	2070	103.5	2000	2070	103.5	
Lithium										
Magnesium	40000	40300	100.8	40000	40400	101.0	40000	40200	100.5	
Manganese	2000	2090	104.5	2000	2090	104.5	2000	2090	104.5	
Molybdenum										
Nickel	2000	2040	102.0	2000	2070	103.5	2000	2060	103.0	
Phosphorus										
Potassium	40000	40200	100.5	40000	40100	100.3	40000	40000	100.0	
Selenium	2000	2000	100.0	2000	2020	101.0	2000	2020	101.0	
Silicon	anr									
Silver	250	249	99.6	250	250	100.0	250	248	99.2	
Sodium	40000	40200	100.5	40000	40100	100.3	40000	40000	100.0	
Strontium										
Sulfur										
Thallium	2000	2090	104.5	2000	2120	106.0	2000	2110	105.5	
Tin										
Titanium										
Tungsten										
Vanadium	2000	2020	101.0	2000	2030	101.5	2000	2010	100.5	
Zinc	2000	2040	102.0	2000	2060	103.0	2000	2040	102.0	

12.2.5 12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

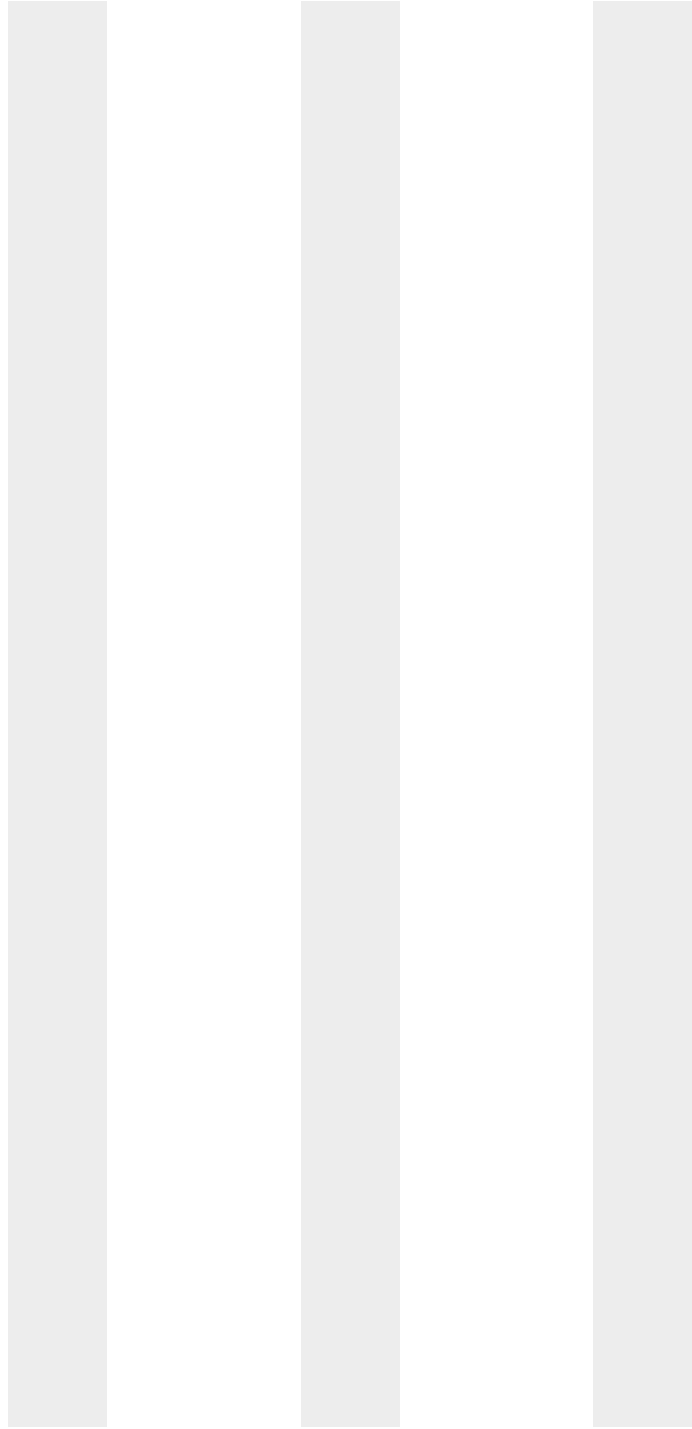
Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

	Time:				20:22			21:26		22:27	
Sample ID:	CCV	CCV9	CCV	CCV10	CCV	CCV11					
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec		

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested



12.2.5  
**12**



CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

Metal	Time: 23:30		% Rec	Time: 00:32		% Rec
	Sample ID: CCV	CCV12 Results		Sample ID: CCV	CCV13 Results	
Aluminum	40000	40300	100.8	40000	40700	101.8
Antimony	2000	2040	102.0	2000	2060	103.0
Arsenic	2000	2020	101.0	2000	2040	102.0
Barium	2000	2050	102.5	2000	2060	103.0
Beryllium	2000	2070	103.5	2000	2090	104.5
Bismuth						
Boron	anr					
Cadmium	2000	2050	102.5	2000	2070	103.5
Calcium	40000	40500	101.3	40000	41000	102.5
Chromium	2000	2050	102.5	2000	2060	103.0
Cobalt	2000	2030	101.5	2000	2060	103.0
Copper	2000	2000	100.0	2000	2010	100.5
Iron	40000	40500	101.3	40000	41000	102.5
Lead	2000	2090	104.5	2000	2100	105.0
Lithium						
Magnesium	40000	40400	101.0	40000	40900	102.3
Manganese	2000	2110	105.5	2000	2120	106.0
Molybdenum						
Nickel	2000	2070	103.5	2000	2100	105.0
Phosphorus						
Potassium	40000	40400	101.0	40000	40700	101.8
Selenium	2000	2030	101.5	2000	2050	102.5
Silicon	anr					
Silver	250	251	100.4	250	253	101.2
Sodium	40000	40200	100.5	40000	40700	101.8
Strontium						
Sulfur						
Thallium	2000	2120	106.0	2000	2150	107.5
Tin						
Titanium						
Tungsten						
Vanadium	2000	2030	101.5	2000	2050	102.5
Zinc	2000	2070	103.5	2000	2090	104.5

12.2.5  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

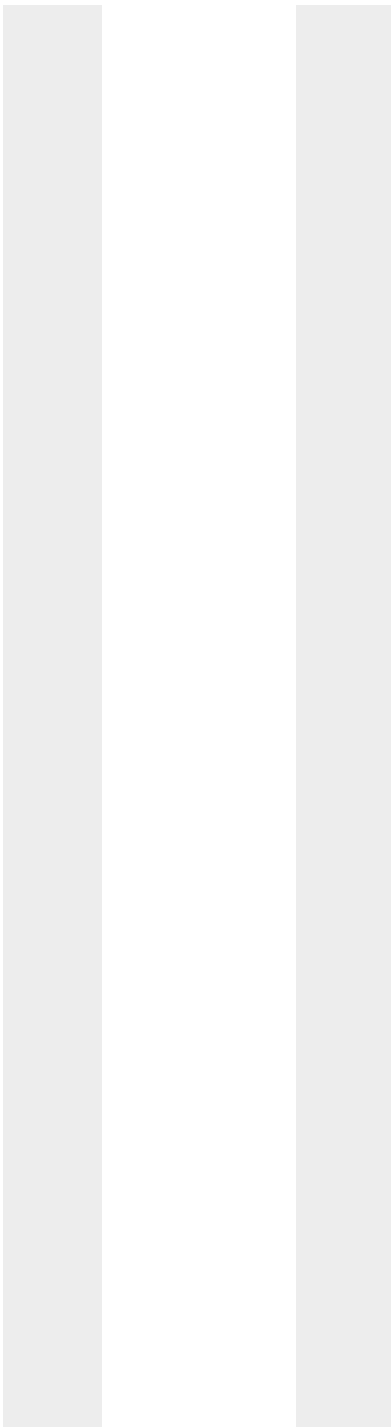
Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46525      Units: ug/l

	Time:				00:32		
	Sample ID:	CCV	23:30	CCV12	CCV	CCV13	
Metal	True	Results	% Rec	True	Results	% Rec	

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested



12.2.5  
12

HIGH STANDARD CHECK SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: 90 to 110 % Recovery Run ID: MA46525 Units: ug/l

Metal	Time: 12:53		% Rec	Time: 12:59		% Rec
	HSTD	HSTD1		HSTD	HSTD2	
Aluminum				300000	314000	104.7
Antimony	8000	8360	104.5			
Arsenic	8000	8260	103.3			
Barium	8000	8140	101.8			
Beryllium	8000	8280	103.5			
Bismuth						
Boron	anr					
Cadmium	8000	7760	97.0			
Calcium				200000	198000	99.0
Chromium	8000	8280	103.5			
Cobalt	8000	7990	99.9			
Copper	8000	7850	98.1			
Iron				200000	197000	98.5
Lead	8000	8140	101.8			
Lithium						
Magnesium				300000	318000	106.0
Manganese	8000	8160	102.0			
Molybdenum						
Nickel	8000	8020	100.3			
Phosphorus						
Potassium				200000	206000	103.0
Selenium	8000	8220	102.8			
Silicon	anr					
Silver	625	674	107.8			
Sodium				200000	203000	101.5
Strontium						
Sulfur						
Thallium	8000	8360	104.5			
Tin						
Titanium						
Tungsten						
Vanadium	8000	8160	102.0			
Zinc	8000	8340	104.3			

12.2.6  
12

HIGH STANDARD CHECK SUMMARY

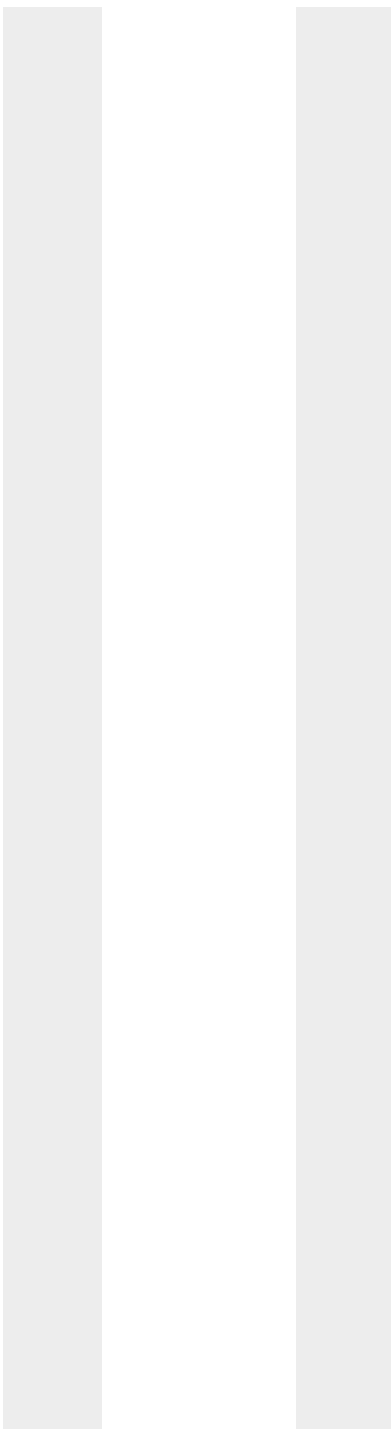
Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: 90 to 110 % Recovery Run ID: MA46525 Units: ug/l

	Time:	12:53		12:59		
	Sample ID:	HSTD	HSTD1	HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec

Zirconium

(\*) Outside of QC limits  
 (anr) Analyte not requested



12.2.6  
**12**

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46525 Units: ug/l

Time:	12:32	12:37						
Sample ID:	CRI	CRIA	CRID	CRID1	CRID1	CRID1	CRID1	CRID1
Metal	True	True	True	Results	% Rec	Results	% Rec	Results
Aluminum	200	500	100	211	105.5	111	111.0	
Antimony	6.0	20	3.0	7.10	118.3	0.00U	0.0* (a)	
Arsenic	8.0	20	3.0	7.60	95.0	3.30	110.0	
Barium	200		4.0	211	105.5	4.60	115.0	
Beryllium	2.0		1.0	2.10	105.0	1.20	120.0	
Bismuth	20							
Boron	100		10	anr				
Cadmium	3.0		1.0	3.30	110.0	1.20	120.0	
Calcium	5000	2000	1000	5280	105.6	1170	117.0	
Chromium	10		2.0	10.8	108.0	2.00	100.0	
Cobalt	50		3.0	50.8	101.6	3.40	113.3	
Copper	10		2.0	9.60	96.0	0.100U	0.0* (a)	
Iron	100	500		112	112.0			
Lead	3.0	20	2.5	2.70	90.0	-0.200U	0.0* (a)	
Lithium	50							
Magnesium	5000	2000	100	5390	107.8	135	135.0*(a)	
Manganese	15		3.0	16.4	109.3	3.60	120.0	
Molybdenum	20							
Nickel	10		4.0	10.3	103.0	4.40	110.0	
Phosphorus	50							
Potassium	5000		2000	5120	102.4	2260	113.0	
Selenium	10	20	5.0	10.0	100.0	3.00	60.0*(a)	
Silicon	200			anr				
Silver	5.0		2.0	4.90	98.0	-0.200U	0.0* (a)	
Sodium	5000		1000	5250	105.0	1140	114.0	
Strontium	10							
Sulfur	50							
Thallium	10		2.0	10.7	107.0	2.90	145.0*(a)	
Tin	10							
Titanium	10							
Tungsten	50							
Vanadium	50		2.0	52.7	105.4	2.50	125.0*(a)	
Zinc	20		10	21.5	107.5	12.8	128.0*(a)	

12.2.7  
12

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46525 Units: ug/l

Time:				12:32				12:37
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
- (a) No samples reported for this element at this RL in the area bracketed by this QC.

12.2.7  
12

INTERFERING ELEMENT CHECK STANDARDS SUMMARY  
Part 1 - ICSA and ICSAB Standards

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP      Date Analyzed: 04/17/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 80 to 120 % Recovery      Run ID: MA46525      Units: ug/l

Metal	Time:		12:42		12:47		17:33		17:38	
	Sample ID:	ICSA	ICSAB	ICSAL	ICSAB1	ICSAB2	ICSAB2	ICSAB2	ICSAB2	ICSAB2
	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	508000	101.6	502000	100.4	521000	104.2	513000	102.6
Antimony		1000	1.40		1060	106.0	-1.40		1110	111.0
Arsenic		1000	-1.80		1040	104.0	2.40		1090	109.0
Barium		500	0.800		502	100.4	1.00		519	103.8
Beryllium		500	0.00		494	98.8	0.00		509	101.8
Bismuth		500	2.70		512	102.4	3.20		540	108.0
Boron		500	-2.10		466	93.2	-0.900		489	97.8
Cadmium		1000	-0.100		1010	101.0	-0.300		1060	106.0
Calcium	400000	400000	374000	93.5	370000	92.5	378000	94.5	381000	95.3
Chromium		500	-0.300		474	94.8	-0.500		488	97.6
Cobalt		500	0.200		468	93.6	0.100		488	97.6
Copper		500	-4.80		507	101.4	-4.40		520	104.0
Iron	200000	200000	185000	92.5	191000	95.5	188000	94.0	194000	97.0
Lead		1000	1.20		951	95.1	0.800		995	99.5
Lithium		500	1.50		505	101.0	1.30		518	103.6
Magnesium	500000	500000	512000	102.4	517000	103.4	523000	104.6	532000	106.4
Manganese		500	2.10		502	100.4	1.70		520	104.0
Molybdenum		500	-4.00		469	93.8	-4.10		492	98.4
Nickel		1000	-0.200		953	95.3	-0.400		997	99.7
Phosphorus		500	4.10		510	102.0	7.40		531	106.2
Potassium			2.90		22.5		19.9		41.8	
Selenium		1000	-2.70		1020	102.0	-2.40		1070	107.0
Silicon		500	-12.3		476	95.2	-10.1		504	100.8
Silver		1000	0.00		1140	114.0	-1.70		1170	117.0
Sodium			-5.00		6.50		-2.40		-0.100	
Strontium		500	-6.60		500	100.0	-6.60		513	102.6
Sulfur		500	15.1		518	103.6	22.3		536	107.2
Thallium		1000	-2.00		948	94.8	-0.100		968	96.8
Tin		500	-0.800		465	93.0	-0.300		485	97.0
Titanium		500	-0.800		494	98.8	-0.700		509	101.8
Tungsten		500	-4.60		466	93.2	-3.70		491	98.2
Vanadium		500	-1.00		486	97.2	-0.700		498	99.6
Zinc		1000	-0.200		920	92.0	-0.300		966	96.6

12.2.8 12

INTERFERING ELEMENT CHECK STANDARDS SUMMARY  
 Part 1 - ICSA and ICSAB Standards

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SD041719M1.ICP Date Analyzed: 04/17/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: 80 to 120 % Recovery Run ID: MA46525 Units: ug/l

Time:		12:42		12:47		17:33		17:38		
Sample ID:	ICSA	ICSAB	ICSAB1	ICSAB1	ICSAB1	ICSAB2	ICSAB2	ICSAB2	ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec

Zirconium		500	7.20		491	98.2	6.90		503	100.6
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(\*) Outside of QC limits  
 (anr) Analyte not requested

12.2.8  
 12



SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:44	MA46535-STD1	1		STDA
10:50	MA46535-STD2	1		STDB
10:55	ZZZZZZ	1		
11:00	ZZZZZZ	1		
11:05	MA46535-ICV1	1		
11:18	MA46535-ICB1	1		
11:25	MA46535-ICCV1	1		
11:37	MA46535-CCB1	1		
11:47	ZZZZZZ	1		
11:52	ZZZZZZ	1		
11:58	MA46535-CRI1	1		
12:03	MA46535-CRID1	1		See rerun
12:09	MA46535-ICSA1	1		
12:14	MA46535-ICSAB1	1		
12:19	MA46535-HSTD1	1		
12:24	MA46535-HSTD2	1		
12:30	ZZZZZZ	1		
12:35	ZZZZZZ	1		
12:41	MA46535-CCV1	1		
12:46	MA46535-CCB2	1		
12:51	MA46535-CRID2	1		
12:57	ZZZZZZ	1		
13:02	ZZZZZZ	1		
13:08	ZZZZZZ	1		
13:13	ZZZZZZ	1		
13:19	ZZZZZZ	1		
13:24	ZZZZZZ	1		
13:30	ZZZZZZ	1		
13:35	ZZZZZZ	1		
13:41	MA46535-CCV2	1		
13:46	MA46535-CCB3	1		
13:51	ZZZZZZ	1		
13:57	ZZZZZZ	1		

SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
Analyst: ND      Run ID: MA46535  
Parameters: Ca

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:02	JC86015-21	1		(sample used for QC only; not part of login JC86337)
14:07	MP14171-SD1	5		
14:13	ZZZZZZ	1		
14:18	ZZZZZZ	1		
14:24	MP14241-S2	5		
14:29	ZZZZZZ	1		
14:35	ZZZZZZ	25		
14:40	MA46535-CCV3	1		
14:45	MA46535-CCB4	1		
14:51	ZZZZZZ	25		
14:56	ZZZZZZ	2		
15:01	ZZZZZZ	2		
15:07	ZZZZZZ	2		
15:12	ZZZZZZ	5		
15:17	ZZZZZZ	1		
15:23	ZZZZZZ	1		
15:28	JC86337-4	5		
----->	Last reportable sample/prep for job JC86337			
15:33	MP14317-B1	1		
15:39	MA46535-CCV4	1		
15:44	MA46535-CCB5	1		
15:49	MP14317-MB1	1		
15:55	ZZZZZZ	1		
16:00	MP14317-S1	1		Need PS for sb
16:05	MP14317-S2	1		Need PS for sb
16:10	JC86331-5	1		(sample used for QC only; not part of login JC86337)
16:16	MP14317-SD1	5		
16:21	ZZZZZZ	1		
16:26	ZZZZZZ	1		
16:32	MA46535-CCV5	1		
16:37	MA46535-CCB6	1		
16:42	MA46535-ICSA2	1		
16:48	MA46535-ICSAB2	1		
16:53	ZZZZZZ	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
Analyst: ND Run ID: MA46535  
Parameters: Ca

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:58	ZZZZZZ	1		
17:04	ZZZZZZ	1		
17:09	ZZZZZZ	1		
17:14	ZZZZZZ	1		
17:20	ZZZZZZ	1		
17:25	ZZZZZZ	1		
17:30	MA46535-CCV6	1		
17:35	MA46535-CCB7	1		
----->	Last reportable CCB for job JC86337			
17:41	ZZZZZZ	1		
17:46	ZZZZZZ	1		
17:52	ZZZZZZ	1		
17:57	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:08	ZZZZZZ	1		
18:14	ZZZZZZ	1		
18:19	ZZZZZZ	1		
18:25	ZZZZZZ	1		
18:30	ZZZZZZ	1		
18:36	ZZZZZZ	1		
18:41	ZZZZZZ	1		
18:47	MA46535-CCV7	1		(All reps within ranges)
18:52	MA46535-CCB8	1		
18:57	ZZZZZZ	1		
19:03	ZZZZZZ	1		
19:08	ZZZZZZ	1		
19:13	ZZZZZZ	1		
19:18	ZZZZZZ	1		
19:24	ZZZZZZ	1		
19:29	ZZZZZZ	1		
19:34	ZZZZZZ	1		
19:40	ZZZZZZ	1		
19:45	ZZZZZZ	1		
19:50	MA46535-CCV8	1		Be, Ca, Fe and Na out of ranges.

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
Analyst: ND      Run ID: MA46535  
Parameters: Ca

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:55	MA46535-CCB9	1		
20:01	MP14275-MB1	1		CCV high RSD
20:06	MP14275-B1	1		CCV high RSD
20:11	MP14275-S1	1		CCV high RSD. Need PS for Sb
20:16	MP14275-S2	1		CCV high RSD. Need PS for Sb
20:21	JC86246-10	1		(sample used for QC only; not part of login JC86337)
20:26	MP14275-SD1	5		CCV high RSD
20:32	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:42	ZZZZZZ	1		
20:47	ZZZZZZ	1		
20:53	MA46535-CCV9	1		
20:58	MA46535-CCB10	1		
21:03	ZZZZZZ	1		
21:08	ZZZZZZ	1		
21:14	ZZZZZZ	1		
21:19	ZZZZZZ	1		
21:24	ZZZZZZ	1		
21:30	ZZZZZZ	1		
21:35	ZZZZZZ	1		
21:40	ZZZZZZ	1		
21:45	ZZZZZZ	1		
21:51	ZZZZZZ	1		
21:56	MA46535-CCV10	1		
22:01	MA46535-CCB11	1		
22:07	ZZZZZZ	1		
22:12	ZZZZZZ	1		
22:17	ZZZZZZ	1		
22:22	ZZZZZZ	1		
22:27	ZZZZZZ	1		
22:33	MP14303-B1	1		
22:38	ZZZZZZ	1		
22:43	MP14303-S1	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
Analyst: ND      Run ID: MA46535  
Parameters: Ca

Time	Sample Description	Dilution Factor	PS Recov	Comments
22:48	MP14303-S2	1		
22:53	JC86497-1	1		(sample used for QC only; not part of login JC86337)
22:59	MA46535-CCV11	1		
23:04	MA46535-CCB12	1		
23:09	MP14303-SD1	5		
23:15	ZZZZZZ	1		
23:20	ZZZZZZ	1		
23:25	ZZZZZZ	1		
23:31	ZZZZZZ	1		
23:36	ZZZZZZ	1		
23:42	ZZZZZZ	1		
23:47	ZZZZZZ	1		
23:52	ZZZZZZ	1		
23:58	ZZZZZZ	1		
00:03	MA46535-CCV12	1		
00:08	MA46535-CCB13	1		
00:14	ZZZZZZ	1		
00:19	MP14319-B1	1		
00:24	MP14319-MB1	1		
00:30	MP14319-B2	1		
00:35	JC86180-1	1		(sample used for QC only; not part of login JC86337)
00:41	MP14319-SD1	5		
00:46	ZZZZZZ	1		
00:52	ZZZZZZ	1		
00:57	ZZZZZZ	1		
01:03	ZZZZZZ	1		
01:08	MA46535-CCV13	1		
01:13	MA46535-CCB14	1		
01:19	ZZZZZZ	1		
01:24	ZZZZZZ	1		
01:29	ZZZZZZ	1		
01:35	ZZZZZZ	1		
01:40	ZZZZZZ	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
Analyst: ND      Run ID: MA46535  
Parameters: Ca

Time	Sample Description	Dilution Factor	PS Recov	Comments
01:46	ZZZZZZ	1		
01:51	ZZZZZZ	1		
01:57	ZZZZZZ	1		
02:02	ZZZZZZ	1		
02:07	ZZZZZZ	1		
02:13	MA46535-CCV14	1		
02:18	MA46535-CCB15	1		
02:23	ZZZZZZ	1		
02:29	ZZZZZZ	1		
02:35	ZZZZZZ	1		
02:40	ZZZZZZ	1		
02:46	ZZZZZZ	1		
02:51	MP14276-B1	1		
02:56	MP14276-MB1	1		Saturation, see rerun
03:02	MP14276-S1	1		
03:07	MP14276-S2	1		
03:12	JC86246-7	1		(sample used for QC only; not part of login JC86337)
03:17	MA46535-CCV15	1		
03:22	MA46535-CCB16	1		
03:27	MP14276-SD1	5		
03:33	ZZZZZZ	1		
03:38	ZZZZZZ	1		
03:43	ZZZZZZ	1		
03:48	ZZZZZZ	1		
03:54	ZZZZZZ	1		
03:59	ZZZZZZ	1		
04:04	ZZZZZZ	1		
04:09	ZZZZZZ	1		
04:15	ZZZZZZ	1		
04:20	MA46535-CCV16	1		
04:25	MA46535-CCB17	1		
04:30	ZZZZZZ	1		
04:36	ZZZZZZ	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
Analyst: ND      Run ID: MA46535  
Parameters: Ca

Time	Sample Description	Dilution Factor	PS Recov	Comments
04:41	ZZZZZZ	1		
04:46	ZZZZZZ	1		
04:51	ZZZZZZ	1		
04:57	ZZZZZZ	1		
05:02	ZZZZZZ	1		
05:07	ZZZZZZ	1		
05:12	ZZZZZZ	1		
05:18	ZZZZZZ	1		
05:23	MA46535-CCV17	1		
05:28	MA46535-CCB18	1		
05:33	MP14277-MB1	1		
05:39	MP14277-B1	1		
05:44	MP14277-S1	1		
05:49	MP14277-S2	1		
05:54	JC86246-35	1		(sample used for QC only; not part of login JC86337)
05:59	MP14277-SD1	5		
06:05	ZZZZZZ	1		
06:10	ZZZZZZ	1		
06:15	ZZZZZZ	1		
06:20	ZZZZZZ	1		
06:26	MA46535-CCV18	1		
06:31	MA46535-CCB19	1		
06:36	ZZZZZZ	1		
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:52	ZZZZZZ	1		
06:57	ZZZZZZ	1		
07:02	ZZZZZZ	1		
07:08	ZZZZZZ	1		
07:13	ZZZZZZ	1		
07:18	ZZZZZZ	1		
07:23	MA46535-CCV19	1		
07:29	MA46535-CCB20	1		

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SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
Analyst: ND      Run ID: MA46535  
Parameters: Ca

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:34	ZZZZZZ	1		
07:39	ZZZZZZ	1		
07:45	ZZZZZZ	1		
07:50	ZZZZZZ	1		
07:55	ZZZZZZ	1		
08:00	ZZZZZZ	1		
08:08	MP14303-MB1	1		
08:13	MP14276-MB1	1		
08:19	MA46535-CCV20	1		
08:24	MA46535-CCB21	1		
08:30	ZZZZZZ	1		
08:35	ZZZZZZ	1		
08:41	ZZZZZZ	1		
08:46	ZZZZZZ	1		
08:57	MP14246-MB2	1		
09:02	MP14246-B2	1		
09:07	ZZZZZZ	1		
09:13	MA46535-CCV21	1		
09:18	MA46535-CCB22	1		
09:23	ZZZZZZ	1		
09:29	ZZZZZZ	1		
09:34	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Element: C Dilution a	
10:55	ZZZZZZ	1	
11:00	ZZZZZZ	1	
11:05	MA46535-ICV1	1	X
11:18	MA46535-ICB1	1	X
11:25	MA46535-ICCV1	1	X
11:37	MA46535-CCB1	1	X
11:47	ZZZZZZ	1	
11:52	ZZZZZZ	1	
11:58	MA46535-CRI1	1	X
12:03	MA46535-CRID1	1	See rerun
12:09	MA46535-ICSA1	1	X
12:14	MA46535-ICSAB1	1	X
12:19	MA46535-HSTD1	1	
12:24	MA46535-HSTD2	1	X
12:30	ZZZZZZ	1	
12:35	ZZZZZZ	1	
12:41	MA46535-CCV1	1	X
12:46	MA46535-CCB2	1	X
12:51	MA46535-CRID2	1	X
12:57	ZZZZZZ	1	
13:02	ZZZZZZ	1	
13:08	ZZZZZZ	1	
13:13	ZZZZZZ	1	
13:19	ZZZZZZ	1	
13:24	ZZZZZZ	1	
13:30	ZZZZZZ	1	
13:35	ZZZZZZ	1	
13:41	MA46535-CCV2	1	X
13:46	MA46535-CCB3	1	X
13:51	ZZZZZZ	1	
13:57	ZZZZZZ	1	
14:02	JC86015-21	1	(a)
14:07	MP14171-SD1	5	
		Element: C a	

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Element: C Dilution a
14:13	ZZZZZZ	1
14:18	ZZZZZZ	1
14:24	MP14241-S2	5
14:29	ZZZZZZ	1
14:35	ZZZZZZ	25
14:40	MA46535-CCV3	1 X
14:45	MA46535-CCB4	1 X
14:51	ZZZZZZ	25
14:56	ZZZZZZ	2
15:01	ZZZZZZ	2
15:07	ZZZZZZ	2
15:12	ZZZZZZ	5
15:17	ZZZZZZ	1
15:23	ZZZZZZ	1
15:28	JC86337-4	5 X
15:33	MP14317-B1	1 X
15:39	MA46535-CCV4	1 X
15:44	MA46535-CCB5	1 X
15:49	MP14317-MB1	1 X
15:55	ZZZZZZ	1
16:00	MP14317-S1	1 X
16:05	MP14317-S2	1 X
16:10	JC86331-5	1 X (a)
16:16	MP14317-SD1	5 X
16:21	ZZZZZZ	1
16:26	ZZZZZZ	1
16:32	MA46535-CCV5	1 X
16:37	MA46535-CCB6	1 X
16:42	MA46535-ICSA2	1 X
16:48	MA46535-ICSAB2	1 X
16:53	ZZZZZZ	1
16:58	ZZZZZZ	1
17:04	ZZZZZZ	1

Element: C  
a

REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Element: C Dilution a
17:09	ZZZZZZ	1
17:14	ZZZZZZ	1
17:20	ZZZZZZ	1
17:25	ZZZZZZ	1
17:30	MA46535-CCV6	1 X
17:35	MA46535-CCB7	1 X
17:41	ZZZZZZ	1
17:46	ZZZZZZ	1
17:52	ZZZZZZ	1
17:57	ZZZZZZ	1
18:03	ZZZZZZ	1
18:08	ZZZZZZ	1
18:14	ZZZZZZ	1
18:19	ZZZZZZ	1
18:25	ZZZZZZ	1
18:30	ZZZZZZ	1
18:36	ZZZZZZ	1
18:41	ZZZZZZ	1
18:47	MA46535-CCV7	1 X
18:52	MA46535-CCB8	1 X
18:57	ZZZZZZ	1
19:03	ZZZZZZ	1
19:08	ZZZZZZ	1
19:13	ZZZZZZ	1
19:18	ZZZZZZ	1
19:24	ZZZZZZ	1
19:29	ZZZZZZ	1
19:34	ZZZZZZ	1
19:40	ZZZZZZ	1
19:45	ZZZZZZ	1
19:50	MA46535-CCV8	1 X
19:55	MA46535-CCB9	1 X
20:01	MP14275-MB1	1

Element: C  
a

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Element: C Dilution a
20:06	MP14275-B1	1
20:11	MP14275-S1	1
20:16	MP14275-S2	1
20:21	JC86246-10	1 (a)
20:26	MP14275-SD1	5
20:32	ZZZZZZ	1
20:37	ZZZZZZ	1
20:42	ZZZZZZ	1
20:47	ZZZZZZ	1
20:53	MA46535-CCV9	1 X
20:58	MA46535-CCB10	1 X
21:03	ZZZZZZ	1
21:08	ZZZZZZ	1
21:14	ZZZZZZ	1
21:19	ZZZZZZ	1
21:24	ZZZZZZ	1
21:30	ZZZZZZ	1
21:35	ZZZZZZ	1
21:40	ZZZZZZ	1
21:45	ZZZZZZ	1
21:51	ZZZZZZ	1
21:56	MA46535-CCV10	1 X
22:01	MA46535-CCB11	1 X
22:07	ZZZZZZ	1
22:12	ZZZZZZ	1
22:17	ZZZZZZ	1
22:22	ZZZZZZ	1
22:27	ZZZZZZ	1
22:33	MP14303-B1	1
22:38	ZZZZZZ	1
22:43	MP14303-S1	1
22:48	MP14303-S2	1
22:53	JC86497-1	1 (a)

Element: C  
a

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Element: C Dilution a
22:59	MA46535-CCV11	1 X
23:04	MA46535-CCB12	1 X
23:09	MP14303-SD1	5
23:15	ZZZZZZ	1
23:20	ZZZZZZ	1
23:25	ZZZZZZ	1
23:31	ZZZZZZ	1
23:36	ZZZZZZ	1
23:42	ZZZZZZ	1
23:47	ZZZZZZ	1
23:52	ZZZZZZ	1
23:58	ZZZZZZ	1
00:03	MA46535-CCV12	1 X
00:08	MA46535-CCB13	1 X
00:14	ZZZZZZ	1
00:19	MP14319-B1	1
00:24	MP14319-MB1	1
00:30	MP14319-B2	1
00:35	JC86180-1	1 (a)
00:41	MP14319-SD1	5
00:46	ZZZZZZ	1
00:52	ZZZZZZ	1
00:57	ZZZZZZ	1
01:03	ZZZZZZ	1
01:08	MA46535-CCV13	1 X
01:13	MA46535-CCB14	1 X
01:19	ZZZZZZ	1
01:24	ZZZZZZ	1
01:29	ZZZZZZ	1
01:35	ZZZZZZ	1
01:40	ZZZZZZ	1
01:46	ZZZZZZ	1
01:51	ZZZZZZ	1

Element: C  
a

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Element: C Dilution a
01:57	ZZZZZZ	1
02:02	ZZZZZZ	1
02:07	ZZZZZZ	1
02:13	MA46535-CCV14	1 X
02:18	MA46535-CCB15	1 X
02:23	ZZZZZZ	1
02:29	ZZZZZZ	1
02:35	ZZZZZZ	1
02:40	ZZZZZZ	1
02:46	ZZZZZZ	1
02:51	MP14276-B1	1
02:56	MP14276-MB1	1 Saturation, see rerun
03:02	MP14276-S1	1
03:07	MP14276-S2	1
03:12	JC86246-7	1 (a)
03:17	MA46535-CCV15	1 X
03:22	MA46535-CCB16	1 X
03:27	MP14276-SD1	5
03:33	ZZZZZZ	1
03:38	ZZZZZZ	1
03:43	ZZZZZZ	1
03:48	ZZZZZZ	1
03:54	ZZZZZZ	1
03:59	ZZZZZZ	1
04:04	ZZZZZZ	1
04:09	ZZZZZZ	1
04:15	ZZZZZZ	1
04:20	MA46535-CCV16	1 X
04:25	MA46535-CCB17	1 X
04:30	ZZZZZZ	1
04:36	ZZZZZZ	1
04:41	ZZZZZZ	1
04:46	ZZZZZZ	1

Element: C  
a

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Element: C Dilution a
04:51	ZZZZZZ	1
04:57	ZZZZZZ	1
05:02	ZZZZZZ	1
05:07	ZZZZZZ	1
05:12	ZZZZZZ	1
05:18	ZZZZZZ	1
05:23	MA46535-CCV17	1 X
05:28	MA46535-CCB18	1 X
05:33	MP14277-MB1	1
05:39	MP14277-B1	1
05:44	MP14277-S1	1
05:49	MP14277-S2	1
05:54	JC86246-35	1 (a)
05:59	MP14277-SD1	5
06:05	ZZZZZZ	1
06:10	ZZZZZZ	1
06:15	ZZZZZZ	1
06:20	ZZZZZZ	1
06:26	MA46535-CCV18	1 X
06:31	MA46535-CCB19	1 X
06:36	ZZZZZZ	1
06:41	ZZZZZZ	1
06:47	ZZZZZZ	1
06:52	ZZZZZZ	1
06:57	ZZZZZZ	1
07:02	ZZZZZZ	1
07:08	ZZZZZZ	1
07:13	ZZZZZZ	1
07:18	ZZZZZZ	1
07:23	MA46535-CCV19	1 X
07:29	MA46535-CCB20	1 X
07:34	ZZZZZZ	1
07:39	ZZZZZZ	1

Element: C  
a

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REPORTED ELEMENTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Element: C Dilution a
07:45	ZZZZZZ	1
07:50	ZZZZZZ	1
07:55	ZZZZZZ	1
08:00	ZZZZZZ	1
08:08	MP14303-MB1	1
08:13	MP14276-MB1	1
08:19	MA46535-CCV20	1 X
08:24	MA46535-CCB21	1 X
08:30	ZZZZZZ	1
08:35	ZZZZZZ	1
08:41	ZZZZZZ	1
08:46	ZZZZZZ	1
08:57	MP14246-MB2	1
09:02	MP14246-B2	1
09:07	ZZZZZZ	1
09:13	MA46535-CCV21	1 X
09:18	MA46535-CCB22	1 X
09:23	ZZZZZZ	1
09:29	ZZZZZZ	1
09:34	ZZZZZZ	1

(a) Sample used for QC only; not part of login JC86337.

Element: C  
a

12.3.1  
12



INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:44	MA46535-STD1	3789 R	100380 R	5052 R	8544 R
10:50	MA46535-STD2	3530	91602	4931	7287
10:55	ZZZZZZ	3606	94306	4969	7531
11:00	ZZZZZZ	3714	98779	4978	8370
11:05	MA46535-ICV1	3597	93498	4881	7517
11:18	MA46535-ICB1	3709	98275	5003	8365
11:25	MA46535-ICCV1	3604	94565	4897	7513
11:37	MA46535-CCB1	3707	98802	4974	8355
11:47	ZZZZZZ	3613	96663	4887	8003
11:52	ZZZZZZ	3690	98233	4960	8276
11:58	MA46535-CRI1	3619	96743	4936	8014
12:03	MA46535-CRID1	No results reported for the elements associated with this internal standard.			
12:09	MA46535-ICSA1	3324	87110	4828	6608
12:14	MA46535-ICSAB1	3314	86968	4838	6611
12:19	MA46535-HSTD1	3616	95673	5032	8018
12:24	MA46535-HSTD2	3306	87490	4830	6573
12:30	ZZZZZZ	10859 !	999999 !	8741 !	23883 !
12:35	ZZZZZZ	10922 !	999999 !	8805 !	24002 !
12:41	MA46535-CCV1	3543	93225	4874	7391
12:46	MA46535-CCB2	3654	98112	4940	8240
12:51	MA46535-CRID2	3670	98651	5008	8236
12:57	ZZZZZZ	3671	98829	5022	8284
13:02	ZZZZZZ	3586	96350	4967	8136
13:08	ZZZZZZ	3600	98531	4990	8262
13:13	ZZZZZZ	3674	99126	5082	8296
13:19	ZZZZZZ	3560	96788	5071	7801
13:24	ZZZZZZ	3707	100900	5163	8386
13:30	ZZZZZZ	3703	99990	5356	7638
13:35	ZZZZZZ	3691	100220	5145	8313
13:41	MA46535-CCV2	3606	95178	5027	7510
13:46	MA46535-CCB3	3704	100270	5111	8338
13:51	ZZZZZZ	3650	100110	5174	8190
13:57	ZZZZZZ	3712	101340	5190	8377

12.3.2  
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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:02	JC86015-21	3664	100420	5171	8205
14:07	MP14171-SD1	3693	100440	5135	8266
14:13	ZZZZZZ	3653	99986	5145	8175
14:18	ZZZZZZ	3716	100820	5164	8455
14:24	MP14241-S2	3430	93092	4985	7145
14:29	ZZZZZZ	3674	98037	5136	8284
14:35	ZZZZZZ	No results reported for the elements associated with this internal standard.			
14:40	MA46535-CCV3	3563	95319	5041	7419
14:45	MA46535-CCB4	3698	100190	5055	8308
14:51	ZZZZZZ	No results reported for the elements associated with this internal standard.			
14:56	ZZZZZZ	3690	99192	5248	7676
15:01	ZZZZZZ	3679	99124	5186	7815
15:07	ZZZZZZ	3696	98873	5215	7560
15:12	ZZZZZZ	3628	98306	5112	7682
15:17	ZZZZZZ	3737	79676	5218	8320
15:23	ZZZZZZ	3685	79524	5210	8204
15:28	JC86337-4	3650	98873	5185	7781
15:33	MP14317-B1	3589	97243	5149	7616
15:39	MA46535-CCV4	3584	96209	5081	7454
15:44	MA46535-CCB5	3701	100860	5117	8325
15:49	MP14317-MB1	3688	101240	5167	8302
15:55	ZZZZZZ	3698	99017	5144	8308
16:00	MP14317-S1	3628	99799	5413	7362
16:05	MP14317-S2	3698	99455	5402	7492
16:10	JC86331-5	3784	102130	5459	7830
16:16	MP14317-SD1	3744	101260	5249	8144
16:21	ZZZZZZ	10269 !	234490 !	8543 !	22572 !
16:26	ZZZZZZ	3737	100840	5291	7811
16:32	MA46535-CCV5	3542	95555	5051	7367
16:37	MA46535-CCB6	3654	99826	5064	8207
16:42	MA46535-ICSA2	3283	88189	4919	6515
16:48	MA46535-ICSAB2	3284	88439	4918	6527
16:53	ZZZZZZ	3187	86513	4720	6101

12.3.2  
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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
 Analyst: ND      Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:58	ZZZZZZ	3485	93476	5178	6450
17:04	ZZZZZZ	3698	99554	5294	7800
17:09	ZZZZZZ	3662	99892	5269	7605
17:14	ZZZZZZ	3696	99909	5241	7887
17:20	ZZZZZZ	3707	101140	5175	8178
17:25	ZZZZZZ	3625	99504	5293	7579
17:30	MA46535-CCV6	3557	95708	5025	7399
17:35	MA46535-CCB7	3673	100570	5053	8258
17:41	ZZZZZZ	3353	91855	4889	7031
17:46	ZZZZZZ	3336	92125	4891	7024
17:52	ZZZZZZ	3779	95619	5318	7314
17:57	ZZZZZZ	3696	100750	5050	8352
18:03	ZZZZZZ	3667	100830	5076	8215
18:08	ZZZZZZ	3677	100910	5071	8232
18:14	ZZZZZZ	10118 !	227180 !	8326 !	22265 !
18:19	ZZZZZZ	3668	99679	4994	8238
18:25	ZZZZZZ	3681	100930	5069	8281
18:30	ZZZZZZ	3693	101950	5093	8269
18:36	ZZZZZZ	3670	100290	5074	8297
18:41	ZZZZZZ	3664	99580	5048	8250
18:47	MA46535-CCV7	3616	97309	5097	7515
18:52	MA46535-CCB8	3676	101070	5087	8273
18:57	ZZZZZZ	3726	101290	5270	7947
19:03	ZZZZZZ	3762	102170	5416	7920
19:08	ZZZZZZ	3723	101470	5332	7815
19:13	ZZZZZZ	3706	100590	5259	7875
19:18	ZZZZZZ	3695	100940	5305	7836
19:24	ZZZZZZ	3722	102340	5273	7874
19:29	ZZZZZZ	3704	100710	5245	7891
19:34	ZZZZZZ	3636	99381	5207	7842
19:40	ZZZZZZ	3686	100650	5340	7727
19:45	ZZZZZZ	3685	101260	5366	7593
19:50	MA46535-CCV8	3556	96395	4929	7388

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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:55	MA46535-CCB9	3682	100900	5095	8273
20:01	MP14275-MB1	3663	101430	5193	8272
20:06	MP14275-B1	3593	97951	5113	7621
20:11	MP14275-S1	3621	99612	5322	7363
20:16	MP14275-S2	3645	99889	5329	7391
20:21	JC86246-10	3717	101330	5431	7747
20:26	MP14275-SD1	3659	101870	5180	7961
20:32	ZZZZZ	3727	102140	5345	7626
20:37	ZZZZZ	3767	103330	5433	7518
20:42	ZZZZZ	3719	101610	5385	7657
20:47	ZZZZZ	3749	101790	5428	7656
20:53	MA46535-CCV9	3563	96835	5059	7420
20:58	MA46535-CCB10	3685	101370	5121	8293
21:03	ZZZZZ	3967	107970	5704	7758
21:08	ZZZZZ	3764	101530	5363	7745
21:14	ZZZZZ	3776	101940	5291	7707
21:19	ZZZZZ	3773	102300	5356	7766
21:24	ZZZZZ	3773	102380	5307	7892
21:30	ZZZZZ	3782	102050	5403	7816
21:35	ZZZZZ	3802	103320	5363	7704
21:40	ZZZZZ	3785	102910	5401	7706
21:45	ZZZZZ	3798	102870	5254	7782
21:51	ZZZZZ	3609	100300	5272	7567
21:56	MA46535-CCV10	3582	96673	5065	7475
22:01	MA46535-CCB11	3684	100810	5104	8323
22:07	ZZZZZ	3811	101880	5376	7775
22:12	ZZZZZ	3597	99904	5360	7727
22:17	ZZZZZ	3738	101940	5378	7709
22:22	ZZZZZ	3674	100310	5294	7884
22:27	ZZZZZ	3682	100120	5231	7351
22:33	MP14303-B1	3604	97980	5136	7661
22:38	ZZZZZ	3677	100780	5239	8321
22:43	MP14303-S1	3569	96858	5132	7476

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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
22:48	MP14303-S2	3565	97118	5116	7476
22:53	JC86497-1	3603	98987	5195	7862
22:59	MA46535-CCV11	3573	96673	5091	7463
23:04	MA46535-CCB12	3682	101350	5155	8318
23:09	MP14303-SD1	3655	100270	5092	8190
23:15	ZZZZZZ	3698	101520	5170	8171
23:20	ZZZZZZ	3461	96072	5067	7339
23:25	ZZZZZZ	3564	99390	5078	7665
23:31	ZZZZZZ	3680	101080	5164	7999
23:36	ZZZZZZ	3330	92194	4971	6953
23:42	ZZZZZZ	3098	84875	4837	6164
23:47	ZZZZZZ	3523	96454	5099	7456
23:52	ZZZZZZ	No results reported for the elements associated with this internal standard.			
23:58	ZZZZZZ	3650	101200	5087	8222
00:03	MA46535-CCV12	3573	96581	5028	7469
00:08	MA46535-CCB13	3706	100510	5055	8361
00:14	ZZZZZZ	3624	100880	5121	8172
00:19	MP14319-B1	3594	98278	5109	7654
00:24	MP14319-MB1	3679	102660	5148	8337
00:30	MP14319-B2	3594	98179	5119	7648
00:35	JC86180-1	3639	101040	5148	8266
00:41	MP14319-SD1	3673	101280	5103	8293
00:46	ZZZZZZ	3637	101140	5144	8261
00:52	ZZZZZZ	3641	101360	5117	8272
00:57	ZZZZZZ	3645	101450	5138	8279
01:03	ZZZZZZ	No results reported for the elements associated with this internal standard.			
01:08	MA46535-CCV13	3546	95882	4957	7404
01:13	MA46535-CCB14	3664	100910	5005	8256
01:19	ZZZZZZ	3522	98018	5036	7924
01:24	ZZZZZZ	3559	98980	5083	7938
01:29	ZZZZZZ	3636	100590	5102	8236
01:35	ZZZZZZ	3601	99990	5117	8116
01:40	ZZZZZZ	No results reported for the elements associated with this internal standard.			

12.3.2  
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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
01:46	ZZZZZZ	3605	100190	5062	8083
01:51	ZZZZZZ	3550	98948	5085	7726
01:57	ZZZZZZ	3479	99272	5084	7956
02:02	ZZZZZZ	3630	101070	5125	8184
02:07	ZZZZZZ	3629	101340	5116	8239
02:13	MA46535-CCV14	3536	96496	4997	7375
02:18	MA46535-CCB15	3671	101350	5015	8284
02:23	ZZZZZZ	3636	101470	5122	8257
02:29	ZZZZZZ	3628	101660	5151	8233
02:35	ZZZZZZ	3645	101920	5130	8275
02:40	ZZZZZZ	3640	101760	5146	8268
02:46	ZZZZZZ	3645	101810	5154	8261
02:51	MP14276-B1	3595	98592	5065	7633
02:56	MP14276-MB1	No results reported for the elements associated with this internal standard.			
03:02	MP14276-S1	3641	99656	5272	7345
03:07	MP14276-S2	3631	99098	5287	7324
03:12	JC86246-7	3711	102380	5354	7636
03:17	MA46535-CCV15	3564	96955	5022	7427
03:22	MA46535-CCB16	3674	101820	5047	8280
03:27	MP14276-SD1	3719	102870	5206	8034
03:33	ZZZZZZ	3707	98474	5345	7633
03:38	ZZZZZZ	3720	102320	5282	7745
03:43	ZZZZZZ	3731	102630	5345	7689
03:48	ZZZZZZ	3726	102360	5310	7745
03:54	ZZZZZZ	3737	102680	5230	7707
03:59	ZZZZZZ	3731	102920	5406	7695
04:04	ZZZZZZ	3708	102480	5337	7756
04:09	ZZZZZZ	3703	102330	5314	7767
04:15	ZZZZZZ	3710	103140	5376	7624
04:20	MA46535-CCV16	3583	97719	5041	7462
04:25	MA46535-CCB17	3697	102560	5035	8336
04:30	ZZZZZZ	3733	102870	5360	7685
04:36	ZZZZZZ	3749	102400	5336	7760

12.3.2  
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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
04:41	ZZZZZZ	3714	103020	5377	7665
04:46	ZZZZZZ	3694	103380	5327	7605
04:51	ZZZZZZ	3722	102730	5354	7678
04:57	ZZZZZZ	3731	103440	5363	7638
05:02	ZZZZZZ	3720	98572	5268	7837
05:07	ZZZZZZ	3718	102460	5293	7865
05:12	ZZZZZZ	3728	102310	5226	7908
05:18	ZZZZZZ	3742	103000	5286	7789
05:23	MA46535-CCV17	3563	97405	5016	7420
05:28	MA46535-CCB18	3686	102150	5058	8299
05:33	MP14277-MB1	3690	103010	5163	8352
05:39	MP14277-B1	3575	99280	5102	7598
05:44	MP14277-S1	3663	101070	5318	7333
05:49	MP14277-S2	3645	101130	5368	7322
05:54	JC86246-35	3706	102780	5368	7592
05:59	MP14277-SD1	3719	102580	5156	8012
06:05	ZZZZZZ	3712	102170	5219	7869
06:10	ZZZZZZ	3708	102680	5315	7709
06:15	ZZZZZZ	3705	102570	5327	7651
06:20	ZZZZZZ	3704	102350	5308	7637
06:26	MA46535-CCV18	3569	97361	4987	7435
06:31	MA46535-CCB19	3681	102230	5015	8300
06:36	ZZZZZZ	3690	102110	5223	7760
06:41	ZZZZZZ	3717	102730	5317	7725
06:47	ZZZZZZ	3693	102500	5266	7760
06:52	ZZZZZZ	3689	102320	5305	7656
06:57	ZZZZZZ	3718	103020	5349	7637
07:02	ZZZZZZ	3716	100340	5348	7789
07:08	ZZZZZZ	3702	102560	5322	7694
07:13	ZZZZZZ	3736	102720	5351	7710
07:18	ZZZZZZ	3735	103450	5404	7624
07:23	MA46535-CCV19	3577	97897	5015	7450
07:29	MA46535-CCB20	3678	102570	5038	8294

12.3.2  
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INTERNAL STANDARD SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 Analyst: ND Run ID: MA46535  
 Parameters: Ca

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
07:34	ZZZZZZ	3722	102910	5300	7813
07:39	ZZZZZZ	3723	102820	5316	7798
07:45	ZZZZZZ	3721	103100	5358	7712
07:50	ZZZZZZ	3726	103420	5142	7710
07:55	ZZZZZZ	3734	105700	5376	7731
08:00	ZZZZZZ	3677	103050	5351	7589
08:08	MP14303-MB1	3690	103260	5118	8349
08:13	MP14276-MB1	3731	104060	5184	8466
08:19	MA46535-CCV20	3594	97887	4988	7509
08:24	MA46535-CCB21	3702	102460	5026	8377
08:30	ZZZZZZ	3712	102380	5069	8365
08:35	ZZZZZZ	3752	103650	5131	8594
08:41	ZZZZZZ	3674	101880	5130	7846
08:46	ZZZZZZ	3737	104060	5155	8564
08:57	MP14246-MB2	3779	103960	5198	8660
09:02	MP14246-B2	3669	100660	5166	7867
09:07	ZZZZZZ	3686	102020	5181	8225
09:13	MA46535-CCV21	3586	97328	5069	7514
09:18	MA46535-CCB22	3692	103470	5059	8387
09:23	ZZZZZZ	3733	103530	5154	8572
09:29	ZZZZZZ	3739	103260	5123	8582
09:34	ZZZZZZ	3734	103110	5158	8576

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 %

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BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: result < RL Run ID: MA46535 Units: ug/l

Metal	Time:		11:18		11:37		12:46		13:46		
	Sample ID:	RL	IDL	ICB1	final	CCB1	final	CCB2	final	CCB3	final
Aluminum	200	13	anr								
Antimony	6.0	1.1	anr								
Arsenic	3.0	1.2	anr								
Barium	200	.2	anr								
Beryllium	1.0	.1	anr								
Bismuth	20	1.8									
Boron	100	1.2	anr								
Cadmium	3.0	.2	anr								
Calcium	5000	3.7	4.60	<5000	4.80	<5000	6.20	<5000	2.20	<5000	
Chromium	10	.4	anr								
Cobalt	50	.3	anr								
Copper	10	1	anr								
Iron	100	2.4	anr								
Lead	3.0	1.5	anr								
Lithium	50	1.5									
Magnesium	5000	17	anr								
Manganese	15	.1	anr								
Molybdenum	20	.3									
Nickel	10	.3	anr								
Phosphorus	50	2									
Potassium	10000	40	anr								
Selenium	10	1.8	anr								
Silicon	200	.9									
Silver	10	.5	anr								
Sodium	10000	13	anr								
Strontium	10	.2									
Sulfur	50	3.5									
Thallium	10	1.6	anr								
Tin	10	.6									
Titanium	10	.6									
Tungsten	50	1.1									
Vanadium	50	.4	anr								
Zinc	20	.2	anr								

12.3.3  
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BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

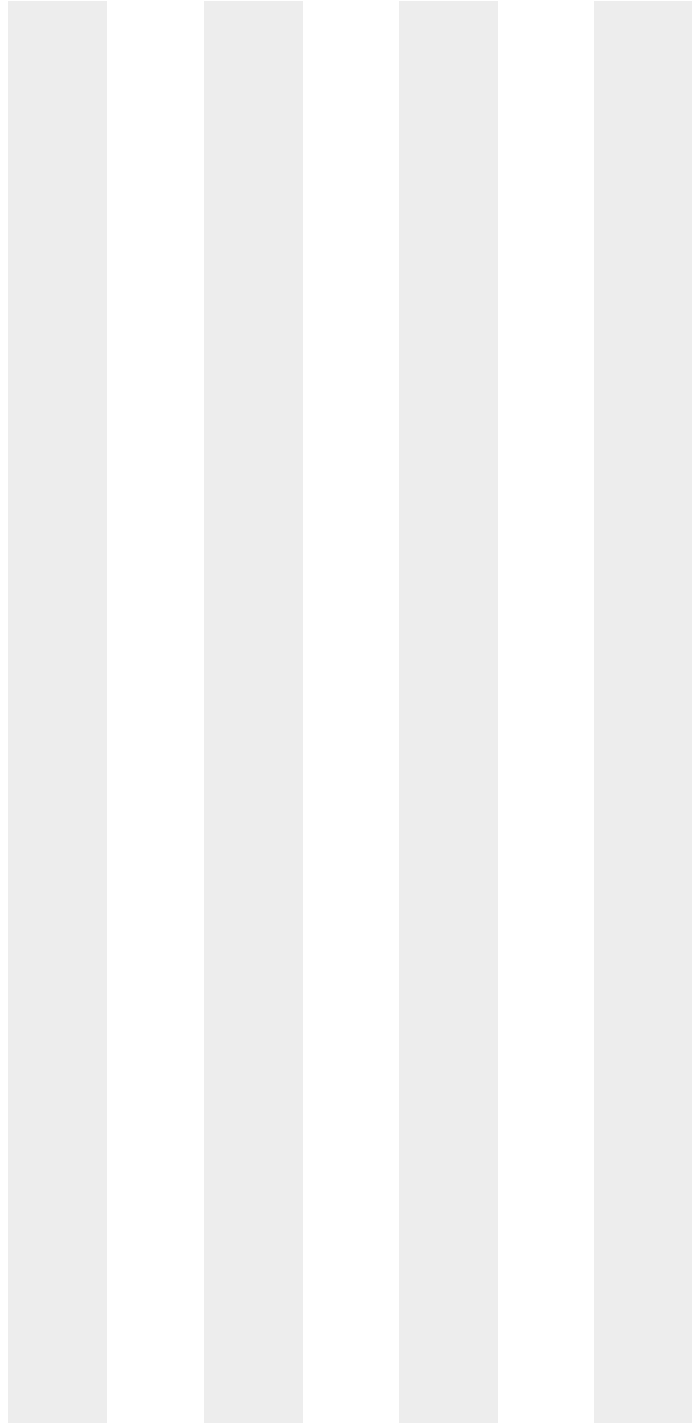
Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:			11:18		11:37		12:46		13:46	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zirconium 10 .2

(\*) Outside of QC limits  
 (anr) Analyte not requested



12.3.3  
 12

BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: result < RL Run ID: MA46535 Units: ug/l

Metal	RL	IDL	14:45	15:44		16:37		17:35		
			CCB4	raw	final	raw	final	raw	final	raw
Aluminum	200	13	anr							
Antimony	6.0	1.1	anr							
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	1.8								
Boron	100	1.2	anr							
Cadmium	3.0	.2	anr							
Calcium	5000	3.7	1.20	<5000	-3.70	<5000	-1.50	<5000	0.500	<5000
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	1	anr							
Iron	100	2.4	anr							
Lead	3.0	1.5	anr							
Lithium	50	1.5								
Magnesium	5000	17	anr							
Manganese	15	.1	anr							
Molybdenum	20	.3								
Nickel	10	.3	anr							
Phosphorus	50	2								
Potassium	10000	40	anr							
Selenium	10	1.8	anr							
Silicon	200	.9								
Silver	10	.5	anr							
Sodium	10000	13	anr							
Strontium	10	.2								
Sulfur	50	3.5								
Thallium	10	1.6	anr							
Tin	10	.6								
Titanium	10	.6								
Tungsten	50	1.1								
Vanadium	50	.4	anr							
Zinc	20	.2	anr							

12.3.3  
 12

BLANK RESULTS SUMMARY  
 Part 1 - Initial and Continuing Calibration Blanks

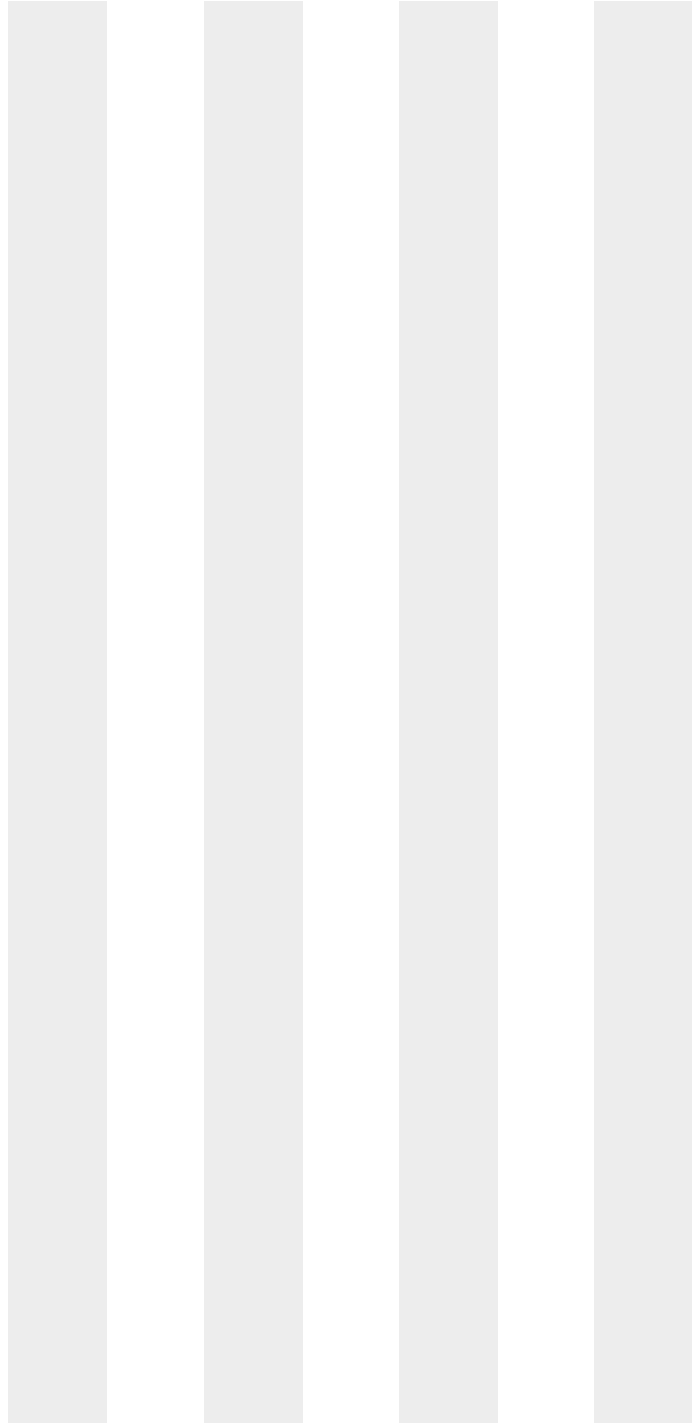
Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: result < RL Run ID: MA46535 Units: ug/l

Time:	14:45	15:44	16:37	17:35						
Sample ID:	CCB4	CCB5	CCB6	CCB7						
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final

Zirconium 10 .2

(\*) Outside of QC limits  
 (anr) Analyte not requested



12.3.3  
 12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial Continuing Calibration Check

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
QC Limits: to % Recovery Run ID: MA46535 Units: ug/l

Time:	11:25		
Sample ID:	ICCV ICCV1		
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron	anr		
Cadmium	anr		
Calcium	40000	41500	103.8
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium	anr		
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

12.3.4  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial Continuing Calibration Check

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: to % Recovery      Run ID: MA46535      Units: ug/l

Time:	11:25
Sample ID:	ICCV      ICCV1
Metal	True      Results      % Rec

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested

12.3.4  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46535      Units: ug/l

Metal	Sample ID: ICV True	11:05		CCV True	12:41		CCV True	13:41	
		ICV1 Results	% Rec		CCV1 Results	% Rec		CCV2 Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	40000	40600	101.5	40000	42200	105.5	40000	40600	101.5
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

12.3.5  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46535      Units: ug/l

	Time:		11:05		12:41		13:41		
Sample ID:	ICV	ICV1		CCV		CCV		CCV2	
Metal	True	Results	% Rec	True <td>Results</td> <td>% Rec</td> <th>True <td>Results</td> <td>% Rec</td> </th>	Results	% Rec	True <td>Results</td> <td>% Rec</td>	Results	% Rec

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested



12.3.5  
**12**



CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46535      Units: ug/l

Metal	Sample ID: CCV	14:40		CCV	15:39		CCV	16:32	
		CCV3	Results		% Rec	CCV4		Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	40000	40900	102.3	40000	40500	101.3	40000	40700	101.8
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

12.3.5  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46535      Units: ug/l

	Time:		14:40		15:39		16:32		
Sample ID:	CCV	CCV3	CCV	CCV4	CCV	CCV5			
Metal	True	Results	% Rec	True <td>Results</td> <td>% Rec</td> <th>True <td>Results</td> <td>% Rec</td> </th>	Results	% Rec	True <td>Results</td> <td>% Rec</td>	Results	% Rec

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested



12.3.5  
**12**

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46535      Units: ug/l

	Time:	17:30		
Sample ID:	CCV	CCV6		
Metal	True	Results	% Rec	

Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron	anr		
Cadmium	anr		
Calcium	40000	40300	100.8
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium	anr		
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

12.3.5  
12

CALIBRATION CHECK STANDARDS SUMMARY  
Initial and Continuing Calibration Checks

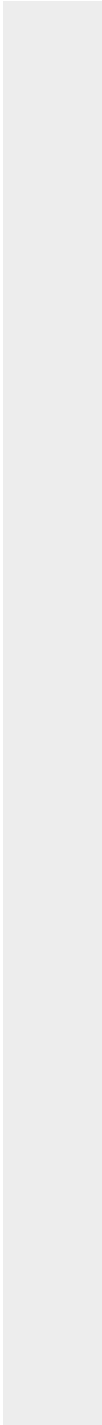
Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP      Date Analyzed: 04/18/19      Methods: EPA 200.7, SW846 6010D  
QC Limits: 95 to 105 % Recovery      Run ID: MA46535      Units: ug/l

Time:	17:30		
Sample ID: CCV	CCV6		
Metal	True	Results	% Rec

Zirconium

(\*) Outside of QC limits  
(anr) Analyte not requested



12.3.5  
12

HIGH STANDARD CHECK SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: 90 to 110 % Recovery Run ID: MA46535 Units: ug/l

	Time:	12:19		12:24		
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron	anr					
Cadmium	anr					
Calcium				200000	207000	103.5
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron						
Lead	anr					
Lithium						
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

12.3.6  
12

HIGH STANDARD CHECK SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: 90 to 110 % Recovery Run ID: MA46535 Units: ug/l

	Time:	12:19		12:24	
Sample ID:	HSTD	HSTD1	HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results

Zirconium

(\*) Outside of QC limits  
 (anr) Analyte not requested

12.3.6  
**12**

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46535 Units: ug/l

Time:	11:58	12:51		
Sample ID:	CRI1	CRID2		
Metal	True	True	True	
	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr
Antimony	6.0	20	3.0	anr
Arsenic	8.0	20	3.0	anr
Barium	200		4.0	anr
Beryllium	2.0		1.0	anr
Bismuth	20			
Boron	100		10	anr
Cadmium	3.0		1.0	anr
Calcium	5000	2000	1000	5470 109.4 1190 119.0
Chromium	10		2.0	anr
Cobalt	50		3.0	anr
Copper	10		2.0	anr
Iron	100	500		anr
Lead	3.0	20	2.5	anr
Lithium	50			
Magnesium	5000	2000	100	anr
Manganese	15		3.0	anr
Molybdenum	20			
Nickel	10		4.0	anr
Phosphorus	50			
Potassium	5000		2000	anr
Selenium	10	20	5.0	anr
Silicon	200			
Silver	5.0		2.0	anr
Sodium	5000		1000	anr
Strontium	10			
Sulfur	50			
Thallium	10		2.0	anr
Tin	10			
Titanium	10			
Tungsten	50			
Vanadium	50		2.0	anr
Zinc	20		10	anr

12.3.7  
12

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA46535 Units: ug/l

Time:				11:58			12:51
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

12.3.7  
**12**



INTERFERING ELEMENT CHECK STANDARDS SUMMARY  
Part 1 - ICSA and ICSAB Standards

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
QC Limits: 80 to 120 % Recovery Run ID: MA46535 Units: ug/l

Time:	12:09		12:14		16:42		16:48			
Sample ID:	ICSA	ICSAB	ICSAL	% Rec	ICSAB1	% Rec	ICSA2	% Rec	ICSAB2	% Rec
Metal	True	True	Results		Results		Results		Results	
Aluminum	500000	500000	519000	103.8	518000	103.6	503000	100.6	501000	100.2
Antimony		1000	-2.60		1090	109.0	-2.40		1110	111.0
Arsenic		1000	0.900		1080	108.0	1.00		1090	109.0
Barium		500	-0.400		521	104.2	-0.800		508	101.6
Beryllium		500	0.200		508	101.6	0.100		499	99.8
Bismuth		500	8.80		533	106.6	5.50		539	107.8
Boron		500	-4.60		481	96.2	-4.60		484	96.8
Cadmium		1000	0.00		1030	103.0	-0.600		1010	101.0
Calcium	400000	400000	390000	97.5	389000	97.3	381000	95.3	379000	94.8
Chromium		500	0.600		485	97.0	0.800		476	95.2
Cobalt		500	-1.20		493	98.6	-1.10		498	99.6
Copper		500	-0.700		508	101.6	0.400		502	100.4
Iron	200000	200000	192000	96.0	197000	98.5	186000	93.0	193000	96.5
Lead		1000	0.600		975	97.5	2.50		978	97.8
Lithium		500	-7.40		529	105.8	-6.80		520	104.0
Magnesium	500000	500000	506000	101.2	511000	102.2	489000	97.8	496000	99.2
Manganese		500	2.50		502	100.4	1.10		489	97.8
Molybdenum		500	-1.90		487	97.4	-1.40		487	97.4
Nickel		1000	-0.600		985	98.5	-0.600		974	97.4
Phosphorus		500	2.70		524	104.8	9.10		516	103.2
Potassium			-336		-408		-329		-362	
Selenium		1000	2.70		1060	106.0	0.800		1060	106.0
Silicon		500	-14.1		515	103.0	-14.9		521	104.2
Silver		1000	-0.100		1110	111.0	-2.20		1080	108.0
Sodium			1.80		21.1		16.7		31.0	
Strontium		500	-2.70		521	104.2	-2.60		518	103.6
Sulfur		500	-30.7		490	98.0	-25.0		498	99.6
Thallium		1000	-0.500		983	98.3	-1.10		974	97.4
Tin		500	-2.20		475	95.0	-2.20		472	94.4
Titanium		500	-0.900		501	100.2	-0.700		487	97.4
Tungsten		500	8.40		491	98.2	9.20		484	96.8
Vanadium		500	0.800		495	99.0	1.60		484	96.8
Zinc		1000	-1.50		950	95.0	-1.60		939	93.9

12.3.8  
12

INTERFERING ELEMENT CHECK STANDARDS SUMMARY  
 Part 1 - ICSA and ICSAB Standards

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

File ID: SE041819M1.ICP Date Analyzed: 04/18/19 Methods: EPA 200.7, SW846 6010D  
 QC Limits: 80 to 120 % Recovery Run ID: MA46535 Units: ug/l

Time:			12:09			12:14			16:42			16:48
Sample ID:	ICSA	ICSAB	ICSAB1	% Rec	ICSAB1	% Rec	ICSAB2	% Rec	ICSAB2	% Rec		

Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-1.40		488	97.6	-1.90		479	95.8

(\*) Outside of QC limits  
 (anr) Analyte not requested

12.3.8  
**12**

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
Matrix Type: SOLID

Methods: SW846 6010D  
Units: mg/kg

Prep Date: 04/16/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	48	1.3	7.7	0.82	<48
Antimony	1.9	.12	.39	-0.048	<1.9
Arsenic	1.9	.14	.27	-0.057	<1.9
Barium	19	.029	1.8	0.029	<19
Beryllium	0.19	.0096	.077	0.0	<0.19
Bismuth	1.9	.32	.5		
Boron	9.6	.077	1.4		
Cadmium	0.48	.0096	.067	0.0	<0.48
Calcium	480	.22	42	6.0	<480
Chromium	0.96	.048	.35	0.096	<0.96
Cobalt	4.8	.038	.27	0.019	<4.8
Copper	2.4	.077	.8	0.086	<2.4
Iron	48	.42	18	2.1	<48
Lead	1.9	.11	.39	-0.029	<1.9
Lithium	4.8	.42	.88		
Magnesium	480	1.3	13	0.47	<480
Manganese	1.4	.0096	.39	0.038	<1.4
Molybdenum	1.9	.067	.31		
Nickel	3.8	.029	.33	0.048	<3.8
Phosphorus	19	.23	3.1		
Potassium	960	13	30	3.5	<960
Selenium	1.9	.17	.62	-0.18	<1.9
Silicon	19	.21	10		
Silver	0.48	.048	.16	-0.019	<0.48
Sodium	960	3.2	74	10.0	<960
Strontium	4.8	.0096	.17		
Sulfur	9.6	.94	9		
Thallium	0.96	.12	.56	0.096	<0.96
Tin	19	.086	3.7		
Titanium	0.96	.029	.33		
Tungsten	4.8	.37	1.7		
Vanadium	4.8	.029	.18	0.029	<4.8
Zinc	4.8	.12	2.2	0.62	<4.8

12.4.1  
12

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
Matrix Type: SOLID

Methods: SW846 6010D  
Units: mg/kg

Prep Date: 04/16/19

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Zirconium 1.9 .019 .22

Associated samples MP14249: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

12.4.1  
12

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
 Matrix Type: SOLID

Methods: SW846 6010D  
 Units: mg/kg

Prep Date: 04/16/19

Metal	JC86190-3 Original MS	Spikelot MPSPK2	% Rec	QC Limits	
Aluminum	0.0	2440	2510	97.2	75-125
Antimony	0.0	201	201	100.1	75-125
Arsenic	0.0	198	201	98.6	75-125
Barium	0.0	199	201	99.1	75-125
Beryllium	0.0099	203	201	101.1	75-125
Bismuth					
Boron					
Cadmium	0.0	199	201	99.1	75-125
Calcium	4.8	2470	2510	98.2	75-125
Chromium	0.099	199	201	99.1	75-125
Cobalt	0.040	196	201	97.6	75-125
Copper	0.0	196	201	97.6	75-125
Iron	1.6	2490	2510	99.1	75-125
Lead	0.0	202	201	100.6	75-125
Lithium					
Magnesium	1.7	2450	2510	97.5	75-125
Manganese	0.040	205	201	102.1	75-125
Molybdenum					
Nickel	0.0	200	201	99.6	75-125
Phosphorus					
Potassium	0.0	2460	2510	98.0	75-125
Selenium	0.0	196	201	97.6	75-125
Silicon					
Silver	0.0	26.4	25.1	105.2	75-125
Sodium	8.4	2480	2510	98.5	75-125
Strontium					
Sulfur					
Thallium	0.0	209	201	104.1	75-125
Tin					
Titanium					
Tungsten					
Vanadium	0.059	196	201	97.6	75-125
Zinc	0.39	201	201	99.9	75-125

12.4.2  
12

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
Matrix Type: SOLID

Methods: SW846 6010D  
Units: mg/kg

Prep Date: 04/16/19

Metal	JC86190-3 Original MS	Spike lot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP14249: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

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

12.4.2  
12

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
 Matrix Type: SOLID

Methods: SW846 6010D  
 Units: mg/kg

Prep Date: 04/16/19

Metal	JC86190-3 Original MSD		SpikeLot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	0.0	2390	2430	98.3	2.1	20
Antimony	0.0	194	195	99.7	3.5	20
Arsenic	0.0	192	195	98.7	3.1	20
Barium	0.0	194	195	99.7	2.5	20
Beryllium	0.0099	199	195	102.3	2.0	20
Bismuth						
Boron						
Cadmium	0.0	192	195	98.7	3.6	20
Calcium	4.8	2410	2430	98.9	2.5	20
Chromium	0.099	194	195	99.7	2.5	20
Cobalt	0.040	189	195	97.1	3.6	20
Copper	0.0	190	195	97.7	3.1	20
Iron	1.6	2440	2430	100.3	2.0	20
Lead	0.0	194	195	99.7	4.0	20
Lithium						
Magnesium	1.7	2400	2430	98.6	2.1	20
Manganese	0.040	200	195	102.8	2.5	20
Molybdenum						
Nickel	0.0	193	195	99.2	3.6	20
Phosphorus						
Potassium	0.0	2400	2430	98.7	2.5	20
Selenium	0.0	189	195	97.1	3.6	20
Silicon						
Silver	0.0	25.7	24.3	105.7	2.7	20
Sodium	8.4	2410	2430	98.8	2.9	20
Strontium						
Sulfur						
Thallium	0.0	201	195	103.3	3.9	20
Tin						
Titanium						
Tungsten						
Vanadium	0.059	191	195	98.1	2.6	20
Zinc	0.39	194	195	99.5	3.5	20

12.4.2  
12

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
 Matrix Type: SOLID

Methods: SW846 6010D  
 Units: mg/kg

Prep Date: 04/16/19

Metal	JC86190-3 Original MSD	Spike/lot MPSPK2	% Rec	MSD RPD	QC Limit
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Zirconium

Associated samples MP14249: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

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

12.4.2  
 12



SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
 Matrix Type: SOLID

Methods: SW846 6010D  
 Units: mg/kg

Prep Date: 04/16/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	2480	2540	97.7	80-120
Antimony	202	203	99.5	80-120
Arsenic	200	203	98.5	80-120
Barium	201	203	99.0	80-120
Beryllium	206	203	101.5	80-120
Bismuth				
Boron				
Cadmium	200	203	98.5	80-120
Calcium	2510	2540	98.9	80-120
Chromium	205	203	101.0	80-120
Cobalt	199	203	98.0	80-120
Copper	199	203	98.0	80-120
Iron	2530	2540	99.7	80-120
Lead	204	203	100.5	80-120
Lithium				
Magnesium	2500	2540	98.5	80-120
Manganese	210	203	103.4	80-120
Molybdenum				
Nickel	203	203	100.0	80-120
Phosphorus				
Potassium	2500	2540	98.5	80-120
Selenium	197	203	97.0	80-120
Silicon				
Silver	26.9	25.4	106.0	80-120
Sodium	2500	2540	98.5	80-120
Strontium				
Sulfur				
Thallium	209	203	102.9	80-120
Tin				
Titanium				
Tungsten				
Vanadium	202	203	99.5	80-120
Zinc	203	203	100.0	80-120

12.4.3  
 12

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
Matrix Type: SOLID

Methods: SW846 6010D  
Units: mg/kg

Prep Date: 04/16/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP14249: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

12.4.3  
12

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
 Matrix Type: SOLID

Methods: SW846 6010D  
 Units: ug/l

Prep Date: 04/16/19

Metal	JC86190-3 Original	SDL 1:5	%DIF	QC Limits
Aluminum	0.00	0.00	NC	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	0.00	0.00	NC	0-10
Beryllium	0.100	0.00	100.0(a)	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	48.9	46.6	4.7	0-10
Chromium	1.00	0.00	100.0(a)	0-10
Cobalt	0.400	0.00	100.0(a)	0-10
Copper	0.00	0.00	NC	0-10
Iron	16.1	26.8	66.5 (a)	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	16.8	0.00	100.0(a)	0-10
Manganese	0.400	0.00	100.0(a)	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Phosphorus				
Potassium	0.00	0.00	NC	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	84.3	0.00	100.0(a)	0-10
Strontium				
Sulfur				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	0.600	1.70	183.3(a)	0-10
Zinc	3.90	0.00	100.0(a)	0-10

12.4.4  
12

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14249  
Matrix Type: SOLID

Methods: SW846 6010D  
Units: ug/l

Prep Date: 04/16/19

Metal	JC86190-3	QC
	Original SDL 1:5	%DIF Limits

Zirconium

Associated samples MP14249: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

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).

12.4.4

12

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14256  
Matrix Type: SOLID

Methods: SW846 7471B  
Units: mg/kg

Prep Date: 04/16/19

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.008	.015	-0.00017	<0.033

Associated samples MP14256: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

12.5.1  
12

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14256  
 Matrix Type: SOLID

Methods: SW846 7471B  
 Units: mg/kg

Prep Date: 04/16/19

Metal	JC86337-1 Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit	
Mercury	0.23	0.56	0.374	88.3	1.8	20

Associated samples MP14256: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

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

12.5.2  
 12

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14256  
 Matrix Type: SOLID

Methods: SW846 7471B  
 Units: mg/kg

Prep Date: 04/16/19

Metal	JC86337-1 Original MS	Spikelot HGPWS1	% Rec	QC Limits
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Mercury 0.23 0.57 0.384 88.5 80-120

Associated samples MP14256: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

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

12.5.2  
 12

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC86337  
 Account: BBLNYS - Arcadis  
 Project: National Grid, Philly Coke, Philadelphia, PA

QC Batch ID: MP14256  
 Matrix Type: SOLID

Methods: SW846 7471B  
 Units: mg/kg

Prep Date: 04/16/19

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.31	0.333	93.0	80-120

Associated samples MP14256: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

12.5.3  
 12



# Instrument Detection Limits

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA

<b>Instrument ID:</b> LEEMANHG9	<b>Effective Date:</b> 01/18/19
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Analyte	IDL ug/l
Mercury	.047814

The above applies to the following instrument runs:  
MA46516

12.6  
12

# Instrument Detection Limits

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Instrument ID: SSTRACE4	Effective Date: 01/16/19
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Analyte	IDL ug/l
Aluminum	13.7
Antimony	1.3
Arsenic	1.5
Barium	.3
Beryllium	.1
Bismuth	3.3
Boron	.8
Cadmium	.1
Calcium	2.3
Chromium	.5
Cobalt	.4
Copper	.8
Iron	4.4
Lead	1.1
Lithium	4.4
Magnesium	13.6
Manganese	.1
Molybdenum	.7
Nickel	.3
Phosphorus	2.4
Potassium	135.6
Selenium	1.8
Silicon	2.2
Silver	.5
Sodium	33.9
Sulfur	9.8
Strontium	.1
Thallium	1.3
Tin	.9
Titanium	.3
Tungsten	3.9
Vanadium	.3
Zinc	1.3
Zirconium	.2

The above applies to the following instrument runs:  
MA46525

12.6  
12

# Instrument Detection Limits

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Instrument ID: SSTRACE5	Effective Date: 01/16/19
-------------------------	--------------------------

Analyte	IDL ug/l
Aluminum	13.3
Antimony	1.1
Arsenic	1.2
Barium	.2
Beryllium	.1
Bismuth	1.8
Boron	1.2
Cadmium	.2
Calcium	3.7
Chromium	.4
Cobalt	.3
Copper	1
Iron	2.4
Lead	1.5
Lithium	1.5
Magnesium	17
Manganese	.1
Molybdenum	.3
Nickel	.3
Phosphorus	2
Potassium	39.9
Selenium	1.8
Silicon	.9
Silver	.5
Sodium	13
Sulfur	3.5
Strontium	.2
Thallium	1.6
Tin	.6
Titanium	.6
Tungsten	1.1
Vanadium	.4
Zinc	.2
Zirconium	.2

The above applies to the following instrument runs:  
MA46535

12.6  
12

# Instrument Linear Ranges

**Job Number:** JC86337  
**Account:** BBLNYS Arcadis  
**Project:** National Grid, Philly Coke, Philadelphia, PA

<b>Instrument ID:</b> LEEMANHG9	<b>Effective Date:</b> 02/26/18
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Analyte	Linear Range ug/l
Mercury	5

The above applies to the following instrument runs:  
MA46516

12.6  
12

# Instrument Linear Ranges

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Instrument ID: SSTRACE4	Effective Date: 07/16/18
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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:  
MA46525

12.6  
12

# Instrument Linear Ranges

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Instrument ID: SSTRACE5	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:  
MA46535

12.6  
12

**Metals Analysis**

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**Raw Data**

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## MA46516

Method: Accutest

Operator: Admin

Date of Analysis: 16 Apr 2019 14:03:12

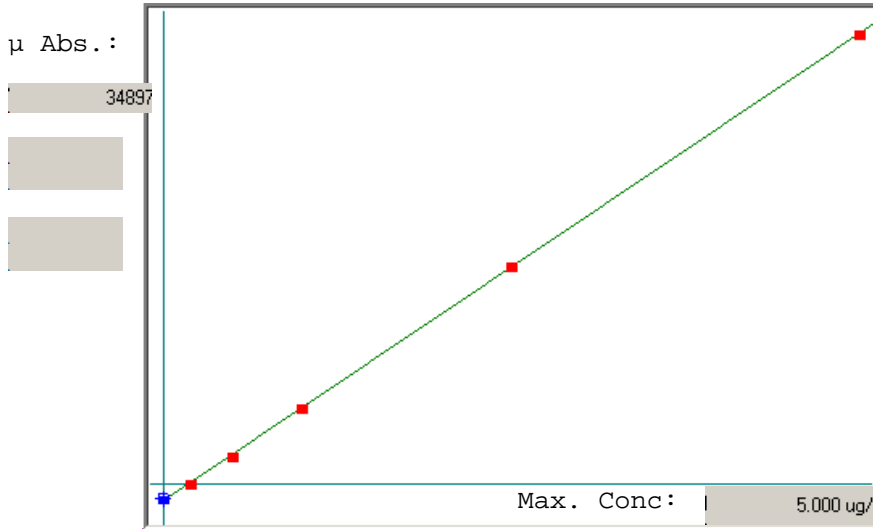
Sample ID	Date	Type	Units	Conc.	µ Abs.	Wt.	Vol.
STDA - 1	16 Apr 2019 14:06:27	Std	ug/l	-	-1245	1.000	1.000
STDB - 1	16 Apr 2019 14:10:56	Std	ug/l	-	22	1.000	1.000
STDC - 1	16 Apr 2019 14:12:18	Std	ug/l	-	2245	1.000	1.000
STDD - 1	16 Apr 2019 14:14:02	Std	ug/l	-	5960	1.000	1.000
STDE - 1	16 Apr 2019 14:15:57	Std	ug/l	-	16902	1.000	1.000
STDF - 1	16 Apr 2019 14:17:52	Std	ug/l	-	34897	1.000	1.000
ICV - 1	16 Apr 2019 14:21:23	CK STND	ug/l	101.8% 3.0553	20836	1.000	1.000
ICB - 1	16 Apr 2019 14:22:59	CK STND	ug/l	0.0237	-1153	1.000	1.000
CCV - 1	16 Apr 2019 14:24:59	CK STND	ug/l	100.4% 2.5096	16878	1.000	1.000
CCB - 1	16 Apr 2019 14:26:40	CK STND	ug/l	0.0270	-1129	1.000	1.000
CRI - 1	16 Apr 2019 14:28:34	CK STND	ug/l	107.4% 0.2148	233	1.000	1.000
MB1CONF - 1	16 Apr 2019 14:29:56	SMPL	ug/l	0.0165	-1205	1.000	1.000
B1CONF - 1	16 Apr 2019 14:31:28	SMPL	ug/l	1.8909	12390	1.000	1.000
LODCONF - 1	16 Apr 2019 14:32:48	SMPL	ug/l	0.1548	-202	1.000	1.000
LOQCONF - 1	16 Apr 2019 14:34:47	SMPL	ug/l	0.2359	386	1.000	1.000
CCV - 1	16 Apr 2019 14:36:35	CK STND	ug/l	98.3% 2.4587	16509	1.000	1.000
CCB - 1	16 Apr 2019 14:38:06	CK STND	ug/l	0.0281	-1121	1.000	1.000
MP14255-MB1 - 1	16 Apr 2019 14:40:59	SMPL	ug/l	0.0631	-867	1.000	1.000
MP14255-B1 - 1	16 Apr 2019 14:42:18	SMPL	ug/l	1.9285	12663	1.000	1.000
MP14255-S1 - 1	16 Apr 2019 14:43:43	SMPL	ug/l	1.6195	10422	1.000	1.000
MP14255-S2 - 1	16 Apr 2019 14:45:33	SMPL	ug/l	1.7276	11206	1.000	1.000
JC86307-1A - 1	16 Apr 2019 14:47:29	SMPL	ug/l	0.0020	-1310	1.000	1.000
JC86307-2A - 1	16 Apr 2019 14:49:21	SMPL	ug/l	0.0410	-1027	1.000	1.000
JC86307-3A - 1	16 Apr 2019 14:50:53	SMPL	ug/l	0.0402	-1033	1.000	1.000
JC86307-4A - 1	16 Apr 2019 14:52:17	SMPL	ug/l	0.0238	-1152	1.000	1.000
JC86307-5A - 1	16 Apr 2019 14:53:46	SMPL	ug/l	0.0499	-963	1.000	1.000
CCV - 1	16 Apr 2019 14:55:04	CK STND	ug/l	92.3% 2.3078	15414	1.000	1.000
CCB - 1	16 Apr 2019 14:56:26	CK STND	ug/l	0.0215	-1169	1.000	1.000
JC86307-6A - 1	16 Apr 2019 14:58:18	SMPL	ug/l	0.0308	-1101	1.000	1.000
JC86307-7A - 1	16 Apr 2019 14:59:40	SMPL	ug/l	0.0325	-1089	1.000	1.000
JC86307-8A - 1	16 Apr 2019 15:01:02	SMPL	ug/l	0.0422	-1019	1.000	1.000
JC86307-9A - 1	16 Apr 2019 15:02:30	SMPL	ug/l	0.0136	-1226	1.000	1.000
JC86307-10A - 1	16 Apr 2019 15:03:48	SMPL	ug/l	0.0358	-1065	1.000	1.000
JC86307-11A - 1	16 Apr 2019 15:05:07	SMPL	ug/l	0.0249	-1144	1.000	1.000
JC86307-12A - 1	16 Apr 2019 15:06:27	SMPL	ug/l	0.0237	-1153	1.000	1.000
JC86307-13A - 1	16 Apr 2019 15:07:47	SMPL	ug/l	0.0274	-1126	1.000	1.000
JC86307-14A - 1	16 Apr 2019 15:09:06	SMPL	ug/l	0.0256	-1139	1.000	1.000
CCV - 1	16 Apr 2019 15:10:24	CK STND	ug/l	91.9% 2.2987	15348	1.000	1.000
CCB - 1	16 Apr 2019 15:11:59	CK STND	ug/l	0.0086	-1262	1.000	1.000
JC86307-15A - 1	16 Apr 2019 15:13:49	SMPL	ug/l	0.0249	-1144	1.000	1.000
JC86307-16A - 1	16 Apr 2019 15:15:10	SMPL	ug/l	0.0610	-882	1.000	1.000
JC86335-1 - 1	16 Apr 2019 15:16:30	SMPL	ug/l	0.2273	324	1.000	1.000
JC86335-2 - 1	16 Apr 2019 15:17:51	SMPL	ug/l	2.2617	15080	1.000	1.000
JC86335-3 - 1	16 Apr 2019 15:19:21	SMPL	ug/l	1.9249	12637	1.000	1.000
JC86310-1A - 1	16 Apr 2019 15:21:13	SMPL	ug/l	0.0388	-1043	1.000	1.000
MP14256-MB1 - 1	16 Apr 2019 15:23:11	SMPL	ug/l	-0.0010	-1332	1.000	1.000
MP14256-B1 - 1	16 Apr 2019 15:24:31	SMPL	ug/l	1.8562	12139	1.000	1.000
SAMPLECONF - 1	16 Apr 2019 15:25:51	SMPL	ug/l	2.5998	17532	1.000	1.000
CCV - 1	16 Apr 2019 15:27:49	CK STND	ug/l	97.9% 2.4481	16432	1.000	1.000
CCB - 1	16 Apr 2019 15:29:45	CK STND	ug/l	-0.0056	-1365	1.000	1.000
MP14256-S2 - 1	16 Apr 2019 15:31:39	SMPL	ug/l	3.0206	20584	1.000	1.000
JC86337-1 - 1	16 Apr 2019 15:33:05	SMPL	ug/l	1.2276	7579	1.000	1.000
JC86337-2 - 1	16 Apr 2019 15:35:02	SMPL	ug/l	0.2844	738	1.000	1.000
JC86337-3 - 1	16 Apr 2019 15:36:56	SMPL	ug/l	1.0053	5967	1.000	1.000
JC86337-4 - 1	16 Apr 2019 15:38:31	SMPL	ug/l	0.0240	-1151	1.000	1.000
JC86337-5 - 1	16 Apr 2019 15:40:19	SMPL	ug/l	0.0621	-874	1.000	1.000
JC86337-6 - 1	16 Apr 2019 15:41:42	SMPL	ug/l	0.0160	-1209	1.000	1.000
JC86300-1 - 1	16 Apr 2019 15:43:03	SMPL	ug/l	0.0333	-1083	1.000	1.000
JC86300-2 - 1	16 Apr 2019 15:44:24	SMPL	ug/l	2.0338	13427	1.000	1.000
CCV - 1	16 Apr 2019 15:45:58	CK STND	ug/l	97.0% 2.4247	16262	1.000	1.000
CCB - 1	16 Apr 2019 15:47:49	CK STND	ug/l	0.0024	-1307	1.000	1.000
JC86300-3 - 1	16 Apr 2019 15:49:43	SMPL	ug/l	0.0541	-932	1.000	1.000
JC86300-5 - 1	16 Apr 2019 15:51:04	SMPL	ug/l	0.1859	24	1.000	1.000
JC86300-6 - 1	16 Apr 2019 15:52:26	SMPL	ug/l	0.1694	-96	1.000	1.000
JC86300-7 - 1	16 Apr 2019 15:54:04	SMPL	ug/l	0.0781	-758	1.000	1.000
JC86300-8 - 1	16 Apr 2019 15:55:40	SMPL	ug/l	0.0581	-903	1.000	1.000
MP14256-S1 - 1	16 Apr 2019 15:57:05	SMPL	ug/l	2.9684	20206	1.000	1.000
CRI - 1	16 Apr 2019 16:00:32	CK STND	ug/l	113.9% 0.2277	327	1.000	1.000
CCV - 1	16 Apr 2019 16:01:49	CK STND	ug/l	103.3% 2.5832	17412	1.000	1.000
CCB - 1	16 Apr 2019 16:03:21	CK STND	ug/l	-0.0084	-1386	1.000	1.000

13.1  
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Accutest

Linear



A= 0.0000e+000  
 B= 1.3787e-004  
 C= 1.8264e-001  
 Rho= 0.9999834  
 Accept=Accepted  
 Accepted  Date= 04/16/19 14:21

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
STDA	0.000	0.011	0.011	-1245	0.000	-1245				
STDB	0.200	0.186	-0.014	22	0.0 %	22				
STDC	0.500	0.492	-0.008	2245	0.0 %	2245				
STDD	1.000	1.004	0.004	5960	0.0 %	5960				
STDE	2.500	2.513	0.013	16902	0.0 %	16902				
STDF	5.000	4.994	-0.006	34897	0.0 %	34897				

Sample Name: STDA Acquired: 4/17/2019 11:43:05 Type: Cal  
Method: SGS No Valve3(v403) Mode: IR Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
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	.0037	.0007	.0010	-0.0006	-0.0000	.0041	.0000	.0002	-0.0002
Stddev	.0001	.0001	.0000	.0001	.0000	.0000	.0000	.0001	.0000
%RSD	3.413	7.463	3.691	17.06	102.3	.9046	65.24	54.56	8.170
#1	.0036	.0007	.0010	-0.0005	-0.0000	.0042	.0000	.0003	-0.0003
#2	.0038	.0008	.0011	-0.0005	-0.0000	.0042	.0000	.0001	-0.0002
#3	.0038	.0007	.0010	-0.0007	-0.0000	.0041	.0001	.0002	-0.0002
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	.0001	.0001	-0.0003	-0.0000	.0003	.0005	.0001	.0007	.0044
Stddev	.0000	.0001	.0000	.0001	.0001	.0002	.0001	.0001	.0001
%RSD	30.46	67.24	8.044	211.4	46.70	39.43	114.3	15.40	1.548
#1	.0001	.0000	-0.0003	-0.0001	.0003	.0006	.0002	.0007	.0044
#2	.0001	.0001	-0.0003	.0001	.0005	.0003	.0002	.0007	.0043
#3	.0002	.0002	-0.0003	-0.0001	.0002	.0005	-0.0000	.0006	.0044
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	-0.0000	-0.0001	.0012	-0.0033	.0009	-0.0005	.0050	.0003	-0.0022
Stddev	.0001	.0001	.0003	.0001	.0001	.0002	.0002	.0000	.0001
%RSD	1150.	170.1	24.60	3.699	11.36	31.99	4.640	15.53	3.727
#1	.0000	-0.0002	.0015	-0.0032	.0010	-0.0005	.0049	.0002	-0.0022
#2	.0001	.0001	.0013	-0.0034	.0009	-0.0007	.0053	.0002	-0.0021
#3	-0.0001	-0.0001	.0009	-0.0034	.0008	-0.0004	.0049	.0003	-0.0022
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	.0000	-0.0004	-0.0008	-0.0000	.0023	-0.0086		
Stddev	.0000	.0005	.0001	.0001	.0003	.0004	.0001		
%RSD	14.95	1510.	13.27	10.27	1850.	17.50	1.251		
#1	.0001	.0004	-0.0005	-0.0007	.0003	.0027	-0.0085		
#2	.0001	-0.0005	-0.0004	-0.0008	-0.0000	.0024	-0.0087		
#3	.0001	.0002	-0.0004	-0.0008	-0.0003	.0019	-0.0086		

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Sample Name: STDA Acquired: 4/17/2019 11:43:05 Type: Cal  
Method: SGS No Valve3(v403) Mode: IR Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138510.	31270.	3863.6	7466.8
Stddev	1975.	524.	13.0	26.1
%RSD	1.4258	1.6743	.33656	.34970
#1	137050.	31381.	3867.6	7483.7
#2	137720.	31730.	3849.0	7436.7
#3	140750.	30700.	3874.0	7480.0

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Sample Name: STDB Acquired: 4/17/2019 11:48:18 Type: Cal  
Method: SGS No Valve3(v403) Mode: IR Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
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	6.834	10.73	5.613	3.258	4.884	1.179	2.643	2.327	0.727
Stddev	.044	.13	.010	.009	.0010	.003	.009	.005	.0001
%RSD	.6423	1.223	.1781	.2848	.2019	.2556	.3561	.2035	.1008
#1	6.852	10.88	5.624	3.267	4.875	1.182	2.637	2.331	.0727
#2	6.866	10.63	5.606	3.260	4.894	1.176	2.654	2.328	.0727
#3	6.784	10.69	5.607	3.248	4.882	1.178	2.638	2.322	.0726
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	.7198	5.122	3.961	2.463	8.670	3.122	.7271	2.796	5.671
Stddev	.0014	.016	.0008	.0007	.0025	.0006	.0003	.008	.017
%RSD	.1989	.3133	.1966	.2966	.2940	.1871	.0402	.2861	.3007
#1	.7193	5.138	3.960	2.466	8.686	3.120	.7272	2.802	5.690
#2	.7214	5.120	3.969	2.469	8.684	3.129	.7268	2.787	5.657
#3	.7186	5.106	3.954	2.455	8.641	3.118	.7273	2.798	5.667
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	4.051	5.130	1.664	6.776	1.067	3.083	2.803	.7202	15.38
Stddev	.002	.0013	.003	.008	.001	.005	.001	.0022	.16
%RSD	.0402	.2500	.2039	.1171	.1118	.1736	.0499	.3031	1.027
#1	4.053	5.143	1.662	6.770	1.069	3.089	2.803	.7212	15.50
#2	4.050	5.117	1.662	6.774	1.066	3.084	2.805	.7217	15.45
#3	4.050	5.130	1.668	6.785	1.067	3.078	2.802	.7177	15.20
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	.7853	1.478	1.583	1.830	8.076	2.250	.4543		
Stddev	.0023	.001	.002	.0008	.0015	.003	.0014		
%RSD	.2977	.0657	.1308	.4435	.1874	.1457	.2987		
#1	.7850	1.479	1.586	.1832	8.061	2.253	.4551		
#2	.7877	1.479	1.583	.1836	8.077	2.246	.4550		
#3	.7831	1.477	1.582	.1821	8.091	2.251	.4527		

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Sample Name: STDB Acquired: 4/17/2019 11:48:18 Type: Cal  
Method: SGS No Valve3(v403) Mode: IR Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	131820.	30781.	3701.7	6700.0
Stddev	630.	95.	15.0	25.4
%RSD	4.7807	3.0847	4.0577	.37885
#1	132160.	30671.	3685.0	6673.9
#2	131090.	30835.	3706.2	6701.5
#3	132200.	30836.	3714.0	6724.6

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Sample Name: cvconf Acquired: 4/17/2019 11:53:41 Type: QC  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for various elements like Ba4554, Be3130, Cd2288, etc.

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for elements like V\_2924, Zn2062, As1890, etc.

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for elements like Fe2599, Mg2790, K\_7664, etc.

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: cvconf Acquired: 4/17/2019 11:53:41 Type: QC  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for various elements like Ti3349, W\_2079, Zr3391, etc.

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Table with 10 columns (Int. Std. Units, Avg, Stddev, %RSD) and 10 rows of data for elements like Y\_3600, Y\_3710, Y\_2243, etc.

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for elements like Fe2599, Mg2790, K\_7664, etc.

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: cbcconf Acquired: 4/17/2019 11:58:42 Type: QC  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for various elements like Ba4554, Be3130, Cd2288, etc.

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for elements like V\_2924, Zn2062, As1890, etc.

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for elements like Fe2599, Mg2790, K\_7664, etc.

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: cbcconf Acquired: 4/17/2019 11:58:42 Type: QC  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for various elements like Ti3349, W\_2079, Zr3391, etc.

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Table with 10 columns (Int. Std. Units, Avg, Stddev, %RSD) and 10 rows of data for elements like Y\_3600, Y\_3710, Y\_2243, etc.

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Table with 10 columns (Elem, Units, Avg, Stddev, %RSD) and 10 rows of data for elements like Fe2599, Mg2790, K\_7664, etc.

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: icv 1 Acquired: 4/17/2019 12:03:59 Type: QC  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.989</b>	<b>2.013</b>	<b>1.966</b>	<b>1.998</b>	<b>1.938</b>	<b>1.916</b>	<b>2.007</b>	<b>1.976</b>	<b>2.573</b>
Stddev	.005	.007	.013	.012	.012	.006	.016	.014	.0010
%RSD	.2394	.3259	.6507	.6089	.5911	.3202	.7925	.7226	.3853
#1	1.985	2.008	1.979	2.011	1.928	1.913	1.989	1.991	2.566
#2	1.994	2.021	1.966	1.998	1.951	1.923	2.020	1.975	2.584
#3	1.988	2.011	1.953	1.987	1.935	1.913	2.010	1.963	2.568

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	<b>1.957</b>	<b>1.946</b>	<b>1.943</b>	<b>2.006</b>	<b>1.967</b>	<b>1.923</b>	<b>1.935</b>	<b>39.10</b>	<b>38.96</b>
Stddev	.009	.011	.015	.019	.014	.015	.014	.04	.04
%RSD	.4571	.5542	.7712	.9578	.7051	.7994	.7406	.0904	.0997
#1	1.947	1.956	1.960	2.026	1.982	1.940	1.950	39.07	38.92
#2	1.964	1.947	1.936	2.005	1.966	1.915	1.936	39.14	39.00
#3	1.959	1.934	1.933	1.987	1.955	1.912	1.921	39.10	38.96

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	<b>39.66</b>	<b>39.39</b>	<b>39.42</b>	<b>39.43</b>	<b>1.970</b>	<b>1.967</b>	<b>5.038</b>	<b>1.976</b>	<b>1.992</b>
Stddev	.10	.12	.16	.10	.010	.018	.038	.017	.048
%RSD	.2537	.3168	.4080	.2532	.5198	.8914	.7598	.8531	2.408
#1	39.57	39.35	39.28	39.33	1.981	1.986	5.078	1.993	2.014
#2	39.77	39.53	39.60	39.53	1.969	1.964	5.035	1.977	2.025
#3	39.63	39.29	39.39	39.43	1.961	1.952	5.002	1.959	1.937

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: icv 1 Acquired: 4/17/2019 12:03:59 Type: QC  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.976</b>	<b>1.943</b>	<b>1.948</b>	<b>1.965</b>	<b>1.987</b>	<b>1.989</b>	<b>1.991</b>
Stddev	.012	.015	.008	.021	.013	.005	.026
%RSD	.6207	.7625	.3901	1.075	.6541	.2410	1.316
#1	1.962	1.959	1.940	1.988	2.001	1.984	2.019
#2	1.986	1.941	1.956	1.963	1.983	1.991	1.987
#3	1.979	1.929	1.948	1.946	1.976	1.992	1.968

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Int. Std. Units	Y_3600 Cts/S	Y_3710 Cts/S	Y_2243 Cts/S	In2306 Cts/S
Avg	<b>134860.</b>	<b>31431.</b>	<b>3815.8</b>	<b>6911.0</b>
Stddev	836.	85.	19.9	40.8
%RSD	.61977	.27020	.52126	.59030
#1	135750.	31457.	3798.5	6871.3
#2	134090.	31335.	3811.4	6908.7
#3	134750.	31499.	3837.5	6952.8

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: icb 7 Acquired: 4/17/2019 12:10:36 Type: QC  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.001</b>	<b>.0001</b>	<b>-0.000</b>	<b>.0002</b>	<b>-0.001</b>	<b>.0000</b>	<b>.0001</b>	<b>-0.001</b>	<b>-0.003</b>
Stddev	.0002	.0000	.0001	.0002	.0001	.0004	.0000	.0003	.0002
%RSD	234.2	27.16	330.5	121.5	63.54	2595.	5.713	314.5	63.85
#1	-0.002	.0001	-0.001	.0004	-0.001	.0004	.0001	-0.003	-0.003
#2	-0.002	.0001	-0.000	.0001	-0.000	-0.003	.0001	.0003	-0.004
#3	.0001	.0001	-0.001	-0.000	-0.002	-0.001	.0001	-0.003	-0.001

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	<b>.0005</b>	<b>.0000</b>	<b>.0002</b>	<b>-0.003</b>	<b>-0.001</b>	<b>-0.020</b>	<b>.0006</b>	<b>.0000</b>	<b>-0.007</b>
Stddev	.0001	.0001	.0007	.0015	.0008	.0015	.0015	.0033	.0020
%RSD	14.27	308.2	349.1	535.4	673.5	75.42	256.2	6673.	271.8
#1	.0004	-0.000	.0011	.0015	-0.010	-0.013	.0023	-0.007	-0.000
#2	.0006	.0001	-0.002	-0.014	.0006	-0.037	-0.001	-0.028	.0008
#3	.0005	.0000	-0.002	-0.010	-0.000	-0.009	-0.004	.0036	-0.029

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	<b>.0018</b>	<b>.0004</b>	<b>-0.0271</b>	<b>.0140</b>	<b>.0012</b>	<b>.0003</b>	<b>.0006</b>	<b>-0.006</b>	<b>.0001</b>
Stddev	.0004	.0080	.0163	.0068	.0001	.0002	.0006	.0011	.0000
%RSD	22.06	1802.	60.36	48.31	10.54	59.73	95.98	200.2	34.66
#1	.0015	-0.0061	-0.0157	.0154	.0010	.0005	.0004	.0007	.0001
#2	.0017	-0.0019	-0.0458	.0200	.0012	.0002	.0002	-0.010	.0001
#3	.0023	.0093	-0.0198	.0067	.0013	.0002	.0013	-0.014	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Sample Name: icb 7 Acquired: 4/17/2019 12:10:36 Type: QC  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0002</b>	<b>.0027</b>	<b>.0002</b>	<b>-0.016</b>	<b>.0003</b>	<b>.0017</b>	<b>.0001</b>
Stddev	.0002	.0004	.0003	.0030	.0003	.0009	.0002
%RSD	63.14	15.07	154.8	183.2	115.7	51.16	450.3
#1	.0003	.0029	.0002	-0.011	.0002	.0013	-0.001
#2	.0003	.0023	-0.001	-0.011	.0000	.0011	.0003
#3	.0001	.0030	.0004	-0.048	.0006	.0027	-0.000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Int. Std. Units	Y_3600 Cts/S	Y_3710 Cts/S	Y_2243 Cts/S	In2306 Cts/S
Avg	<b>139210.</b>	<b>31075.</b>	<b>3889.9</b>	<b>7496.3</b>
Stddev	238.	126.	3.9	7.7
%RSD	.17110	.40492	.09936	.10225
#1	139410.	30992.	3891.7	7499.8
#2	138950.	31220.	3885.5	7487.5
#3	139270.	31014.	3892.6	7501.5

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Sample Name: iccv 1 Acquired: 4/17/2019 12:17:18 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.030</b>	<b>2.082</b>	<b>2.019</b>	<b>2.006</b>	<b>2.003</b>	<b>1.955</b>	<b>2.052</b>	<b>2.042</b>	<b>2.450</b>
Stddev	.057	.059	.015	.014	.070	.073	.070	.014	.0085
%RSD	2.789	2.826	.7635	.6772	3.495	3.713	3.386	.6652	3.479
#1	2.085	2.140	2.022	2.012	2.032	1.997	2.086	2.045	2506
#2	1.960	2.009	2.039	2.023	2.036	1.987	2.084	2.061	2474
#3	2.065	2.118	2.006	1.995	1.898	1.847	1.948	2.031	2324
#4	2.011	2.061	2.007	1.995	2.046	1.992	2.089	2.033	2496

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.988</b>	<b>2.031</b>	<b>1.985</b>	<b>2.089</b>	<b>2.047</b>	<b>2.002</b>	<b>2.007</b>	<b>40.16</b>	<b>40.67</b>
Stddev	.070	.014	.019	.026	.013	.021	.017	1.12	1.13
%RSD	3.502	.6786	.9676	1.248	.6124	1.065	.8261	2.781	2.767
#1	2.020	2.032	1.985	2.111	2.049	2.015	2.013	41.25	41.78
#2	2.024	2.050	2.011	2.110	2.064	2.026	2.028	38.74	39.23
#3	1.883	2.018	1.974	2.077	2.036	1.984	1.994	40.81	41.30
#4	2.024	2.024	1.968	2.058	2.038	1.984	1.995	39.84	40.36

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: iccv 1 Acquired: 4/17/2019 12:17:18 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>41.01</b>	<b>40.48</b>	<b>40.21</b>	<b>40.44</b>	<b>2.019</b>	<b>2.032</b>	<b>5.120</b>	<b>2.052</b>	<b>2.052</b>
Stddev	1.22	1.10	1.05	1.14	.017	.018	.039	.019	.043
%RSD	2.977	2.705	2.611	2.807	.8544	.8802	.7610	.9169	2.072
#1	42.14	41.57	41.19	41.50	2.019	2.036	5.130	2.058	2.064
#2	39.46	39.12	38.90	38.99	2.043	2.056	5.170	2.076	1.994
#3	41.82	41.13	40.91	41.16	2.006	2.018	5.096	2.037	2.096
#4	40.62	40.11	39.85	40.10	2.008	2.019	5.083	2.036	2.055

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.992</b>	<b>2.007</b>	<b>1.988</b>	<b>1.975</b>	<b>2.015</b>	<b>1.997</b>	<b>2.013</b>
Stddev	.072	.019	.074	.025	.023	.056	.028
%RSD	3.612	.9317	3.735	1.280	1.127	2.785	1.413
#1	2.030	2.009	2.028	1.989	2.020	2.050	2.030
#2	2.029	2.033	2.021	2.002	2.043	1.925	2.043
#3	1.884	1.992	1.877	1.961	1.989	2.031	1.996
#4	2.026	1.994	2.026	1.947	2.007	1.984	1.982

Check ? Value Range Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: iccv 1 Acquired: 4/17/2019 12:17:18 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>135750.</b>	<b>30952.</b>	<b>3805.0</b>	<b>6888.9</b>
Stddev	3971.	804.	24.8	39.2
%RSD	2.9256	2.5978	.65247	.56929
#1	134160.	30184.	3802.9	6878.5
#2	133890.	31974.	3770.8	6857.8
#3	141680.	30455.	3825.2	6920.7
#4	133260.	31194.	3821.3	6918.7

Sample Name: ccb 7 Acquired: 4/17/2019 12:24:28 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.001</b>	<b>.0001</b>	<b>.0001</b>	<b>.0001</b>	<b>-0.000</b>	<b>-0.001</b>	<b>.0001</b>	<b>.0000</b>	<b>-0.004</b>
Stddev	.0001	.0000	.0001	.0001	.0003	.0003	.0000	.0002	.0003
%RSD	102.3	6.807	155.1	108.4	517.8	212.4	21.54	5507.	67.91
#1	-0.001	.0001	.0001	.0003	-0.002	-0.005	.0002	-0.002	-0.002
#2	-0.000	.0001	.0001	-0.000	-0.002	-0.000	.0001	-0.002	-0.003
#3	-0.001	.0001	-0.000	.0001	.0002	.0001	.0001	-0.000	-0.008

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0005</b>	<b>.0001</b>	<b>.0006</b>	<b>-0.001</b>	<b>.0001</b>	<b>-0.022</b>	<b>.0004</b>	<b>-0.028</b>	<b>-0.000</b>
Stddev	.0000	.0001	.0016	.0002	.0003	.0013	.0003	.0005	.0011
%RSD	9.118	157.4	282.5	171.2	240.7	61.53	73.96	18.17	2767.
#1	.0004	.0000	.0024	-0.002	.0001	-0.016	.0004	-0.027	.0012
#2	.0005	.0002	.0001	.0001	.0004	-0.012	.0002	-0.023	-0.006
#3	.0004	.0000	-0.007	-0.003	-0.002	-0.037	.0008	-0.033	-0.008

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0019</b>	<b>-0.042</b>	<b>.0159</b>	<b>.0017</b>	<b>.0010</b>	<b>.0003</b>	<b>.0014</b>	<b>-0.005</b>	<b>.0001</b>
Stddev	.0008	.0024	.0406	.0046	.0011	.0002	.0006	.0006	.0001
%RSD	41.26	57.43	255.6	269.0	112.1	73.18	44.41	121.7	59.26
#1	.0020	-0.060	.0613	.0070	.0015	.0006	.0008	-0.011	.0002
#2	.0011	-0.015	-0.169	-0.006	-0.018	.0002	.0020	-0.001	.0001
#3	.0027	-0.051	.0033	-0.013	.0002	.0002	.0013	-0.002	.0001

Check ? High Limit Low Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ccb 7 Acquired: 4/17/2019 12:24:28 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0009	.0002	.0001	.0006	.0002	.0019
Stddev	.0002	.0005	.0001	.0028	.0025	.0009	.0009
%RSD	246.0	51.17	54.30	2150.	421.0	503.5	45.63

#1	.0000	.0014	.0001	-.0029	.0034	-.0002	.0010
#2	-.0001	.0009	.0003	.0027	-.0003	.0012	.0028
#3	.0003	.0005	.0001	.0006	-.0013	-.0005	.0019

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	139880.	31143.	3924.6	7568.3
Stddev	690.	54.	33.4	71.8
%RSD	.49337	.17363	.85229	.94829

#1	140130.	31120.	3961.7	7645.8
#2	139100.	31104.	3915.1	7555.0
#3	140410.	31204.	3896.8	7504.2

Sample Name: cri Acquired: 4/17/2019 12:32:03 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2106	.0021	.0033	.0508	.0108	.0096	.0164	.0103	.0049
Stddev	.0004	.0000	.0001	.0001	.0002	.0002	.0001	.0002	.0002
%RSD	.1702	.9649	3.783	.1587	2.237	2.127	.7956	1.568	3.556

#1	.2110	.0021	.0034	.0507	.0110	.0096	.0164	.0102	.0051
#2	.2104	.0021	.0032	.0508	.0109	.0098	.0165	.0105	.0049
#3	.2103	.0021	.0032	.0509	.0105	.0094	.0162	.0103	.0047

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	.0527	.0215	.0076	.0107	.0027	.0100	.0071	.2106	5.281
Stddev	.0003	.0001	.0004	.0014	.0009	.0010	.0001	.0098	.017
%RSD	.6037	.5136	4.973	12.65	33.12	10.20	1.925	4.650	.3256

#1	.0526	.0214	.0080	.0110	.0032	.0108	.0072	.2212	5.297
#2	.0530	.0215	.0072	.0092	.0016	.0105	.0072	.2088	5.263
#3	.0524	.0216	.0076	.0118	.0032	.0089	.0070	.2018	5.282

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	.1118	5.385	5.118	5.247	.1033	.0220	.2216	.0119	.0105
Stddev	.0014	.012	.017	.011	.0006	.0003	.0005	.0007	.0000
%RSD	1.263	.2311	.3371	.2096	5.473	1.531	.2099	6.061	.4303

#1	.1124	5.399	5.122	5.252	.1032	.0217	.2215	.0111	.0105
#2	.1127	5.375	5.132	5.255	.1040	.0223	.2211	.0123	.0105
#3	.1101	5.381	5.099	5.235	.1028	.0220	.2221	.0124	.0104

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: cri Acquired: 4/17/2019 12:32:03 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0109	.0542	.0094	.0526	.0230	.0548	.0528
Stddev	.0001	.0012	.0001	.0014	.0007	.0002	.0020
%RSD	.7435	2.159	1.495	2.591	2.910	.4264	3.803

#1	.0109	.0549	.0096	.0510	.0222	.0545	.0506
#2	.0110	.0528	.0094	.0532	.0234	.0549	.0534
#3	.0108	.0548	.0093	.0535	.0234	.0549	.0545

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	136320.	30612.	3758.8	7191.4
Stddev	512.	93.	10.4	20.8
%RSD	.37565	.30523	.27649	.28943

#1	135920.	30505.	3762.9	7195.5
#2	136150.	30680.	3744.8	7168.9
#3	136900.	30651.	3762.8	7209.9

Sample Name: crid Acquired: 4/17/2019 12:37:15 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046	.0012	.0012	.0034	.0020	.0001	F .0036	.0044	-.0002
Stddev	.0001	.0000	.0001	.0002	.0002	.0002	.0000	.0002	.0004
%RSD	2.942	1.854	6.572	5.017	8.544	182.4	1.147	4.943	189.3

#1	.0046	.0012	.0013	.0032	.0020	-.0000	.0037	.0045	-.0007
#2	.0045	.0011	.0011	.0035	.0022	.0003	.0036	.0046	-.0002
#3	.0048	.0012	.0011	.0035	.0019	.0000	.0036	.0042	.0002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass None Chk Fail Chk Pass None  
 Value Range .0030 20.00%

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0025	F .0128	.0032	F .0029	-.0002	F .0030	-.0000	.1110	1.174
Stddev	.0001	.0001	.0008	.0005	.0003	.0027	.0010	.0050	.004
%RSD	4.793	.5298	24.93	16.34	180.6	88.71	18850.	4.474	.3143

#1	.0024	.0129	.0035	.0032	.0001	.0001	-.0008	.1164	1.170
#2	.0026	.0128	.0039	.0024	-.0005	.0054	-.0004	.1098	1.173
#3	.0025	.0128	.0024	.0032	-.0001	.0036	.0011	.1067	1.178

Check ? Chk Fail Chk Fail Chk Pass Chk Fail Chk Pass None Chk Fail Chk Pass Chk Pass  
 Value Range .0020 .0100 20.00% .0020 20.00% .0050 -20.00%

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	F .1354	2.264	1.140	.0006	.0001	.0020	.0001	.0001
Stddev	.0009	.0059	.021	.003	.0004	.0002	.0007	.0003	.0000
%RSD	93.29	4.320	.9202	.2473	71.33	214.0	33.82	317.1	54.17

#1	.0004	.1422	2.251	1.137	.0003	.0001	.0014	-.0002	.0000
#2	.0005	.1325	2.252	1.143	.0004	-.0001	.0019	.0001	.0000
#3	.0020	.1316	2.288	1.139	.0010	.0002	.0028	.0003	.0001

Check ? None Chk Fail Chk Pass Chk Pass None None None None  
 Value Range .1000 20.00%

Sample Name: crid Acquired: 4/17/2019 12:37:15 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0000	-0.0000	.0006	-0.0009	-0.0003	.0013
Stddev	.0001	.0010	.0000	.0015	.0012	.0015	.0007
%RSD	129.1	6942.	340.1	267.1	130.8	440.7	54.49

#1	-0.0000	-0.0004	-0.0000	-0.0011	.0004	-0.0019	.0005
#2	.0002	.0012	-0.0001	.0009	-0.0018	.0012	.0017
#3	.0001	-0.0007	.0000	.0019	-0.0014	-0.0004	.0016

Check ? Value Range  
 None None None None None None None

Int. Std. Units	Y_3600 Cts/S	Y_3710 Cts/S	Y_2243 Cts/S	In2306 Cts/S
Avg	138010.	31006.	3855.3	7419.0
Stddev	326.	176.	5.3	12.5
%RSD	23586	.56900	.13756	.16838

#1	137770.	31207.	3854.5	7422.8
#2	137880.	30931.	3860.9	7429.2
#3	138380.	30879.	3850.4	7405.0

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Sample Name: icsa Acquired: 4/17/2019 12:42:30 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-0.0000	-0.0001	.0002	-0.0003	-0.0048	.0021	-0.0002	.0000
Stddev	.0001	.0000	.0002	.0001	.0004	.0002	.0001	.0003	.0002
%RSD	14.59	240.5	355.7	46.38	108.0	3.669	2.534	137.5	21700.

#1	.0008	-0.0001	.0001	.0001	-0.0001	-0.0050	.0021	.0000	-0.0002
#2	.0009	.0000	-0.0003	.0003	-0.0002	-0.0047	.0020	-0.0005	.0000
#3	.0007	-0.0000	.0000	.0002	-0.0008	-0.0046	.0021	-0.0001	.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	-0.0010	-0.0002	-0.0018	-0.0020	.0012	-0.0027	.0014	507.5	374.3
Stddev	.0001	.0003	.0037	.0012	.0029	.0034	.0034	3.1	3.2
%RSD	14.12	139.1	202.4	60.41	243.5	124.1	245.0	.6065	.8638

#1	-0.0012	-0.0000	-0.0020	-0.0020	.0017	-0.0000	.0046	508.7	372.6
#2	-0.0009	-0.0000	-0.0019	-0.0032	.0038	-0.0017	-0.0022	509.8	378.0
#3	-0.0010	-0.0005	-0.0054	-0.0008	-0.0019	-0.0065	.0018	504.0	372.3

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	184.5	511.7	.0029	-0.0050	-0.0021	-0.0040	-0.0123	-0.0008	-0.0066
Stddev	.7	.9	.0397	.0036	.0004	.0006	.0011	.0015	.0001
%RSD	4.008	.1830	1361.	72.28	17.64	16.01	9.232	192.7	2.276

#1	185.0	512.7	.0300	-0.0037	-0.0025	-0.0038	-0.0113	-0.0024	-0.0066
#2	184.8	511.3	.0214	-0.0022	-0.0022	-0.0035	-0.0136	-0.0003	-0.0067
#3	183.6	511.0	-0.0426	-0.0091	-0.0017	-0.0047	-0.0121	.0004	-0.0064

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit  
 Low Limit

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Sample Name: icsa Acquired: 4/17/2019 12:42:30 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0008	-0.0046	.0072	.0151	.0027	.0015	.0041
Stddev	.0002	.0019	.0001	.0034	.0004	.0013	.0022
%RSD	29.13	42.48	1.908	22.59	13.17	85.84	54.26

#1	-0.0008	-0.0047	.0071	.0177	.0026	.0025	.0038
#2	-0.0006	-0.0064	.0073	.0164	.0025	.0000	.0065
#3	-0.0010	-0.0026	.0073	.0113	.0031	.0021	.0021

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit  
 Low Limit

Int. Std. Units	Y_3600 Cts/S	Y_3710 Cts/S	Y_2243 Cts/S	In2306 Cts/S
Avg	125240.	30567.	3549.1	6183.8
Stddev	248.	109.	4.0	3.0
%RSD	.19826	.35568	.11303	.04779

#1	125470.	30475.	3544.5	6180.5
#2	124980.	30540.	3550.9	6186.3
#3	125280.	30687.	3551.8	6184.6

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Sample Name: ICSAB Acquired: 4/17/2019 12:47:59 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5019	.4942	1.008	.4679	.4743	.5071	.5016	.9526	1.142
Stddev	.0008	.0005	.004	.0020	.0026	.0028	.0013	.0026	.006
%RSD	.1524	.1101	.3517	.4208	.5567	.5552	.2658	.2776	.5015

#1	.5022	.4949	1.009	.4686	.4756	.5091	.5028	.9550	1.145
#2	.5010	.4938	1.010	.4694	.4761	.5084	.5019	.9531	1.146
#3	.5025	.4941	1.004	.4657	.4713	.5039	.5001	.9498	1.136

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	.4862	.9197	1.038	.9482	.9513	1.020	1.057	501.6	369.7
Stddev	.0013	.0024	.004	.0036	.0020	.003	.002	4.2	2.8
%RSD	.2599	.2647	.3614	.3797	.2149	.2686	.1787	.8312	.7524

#1	.4865	.9211	1.041	.9471	.9531	1.022	1.058	496.8	372.9
#2	.4873	.9211	1.037	.9454	.9517	1.016	1.058	503.7	367.8
#3	.4849	.9169	1.034	.9523	.9491	1.021	1.055	504.3	368.5

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	191.0	517.0	.0225	.0065	.4664	.4694	.4763	.4645	.4996
Stddev	.4	1.3	.0269	.0009	.0025	.0007	.0005	.0021	.0003
%RSD	.2121	.2498	119.9	13.28	.5366	.1418	.1153	.4606	.0555

#1	191.1	518.5	-0.0067	.0067	.4684	.4698	.4770	.4666	.4998
#2	191.3	516.4	.0463	.0056	.4672	.4686	.4760	.4645	.4993
#3	190.5	516.1	.0278	.0073	.4636	.4697	.4760	.4623	.4996

Check ? Chk Pass Chk Pass None None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

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Sample Name: ICSAB Acquired: 4/17/2019 12:47:59 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>4941</b>	<b>4658</b>	<b>4908</b>	<b>5177</b>	<b>5124</b>	<b>5053</b>	<b>5101</b>
Stddev	.0011	.0020	.0018	.0072	.0022	.0006	.0020
%RSD	.2278	.4296	.3636	1.388	.4209	.1152	.3846

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Int. Std. Units	Y_3600	Y_3710	Y_2243	In2306
Cts/S				
Avg	<b>125550.</b>	<b>30422.</b>	<b>3566.0</b>	<b>6247.5</b>
Stddev	528.	137.	6.3	12.0
%RSD	.42022	.44956	.17549	.19271

Check ? 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	<b>.0862</b>	<b>.1518</b>	<b>.2178</b>	<b>.0679</b>	<b>8.143</b>	<b>8.486</b>	<b>25.71</b>	<b>8.685</b>	<b>8.125</b>
Stddev	.0130	.0293	.0121	.0032	.005	.006	.01	.014	.012
%RSD	15.06	19.31	5.542	4.651	.0588	.0694	.0528	.1631	.1414

Check ? None None None None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: hstd Acquired: 4/17/2019 12:53:17 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>8.138</b>	<b>8.277</b>	<b>7.763</b>	<b>7.992</b>	<b>8.280</b>	<b>7.853</b>	<b>8.159</b>	<b>8.020</b>	<b>6.737</b>
Stddev	.051	.062	.007	.013	.032	.031	.076	.011	.0020
%RSD	.6245	.7468	.0909	.1678	.3802	.4005	.9302	.1364	.2960

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	<b>8.159</b>	<b>8.344</b>	<b>8.255</b>	<b>8.361</b>	<b>8.142</b>	<b>8.215</b>	<b>8.364</b>	<b>-1.258</b>	<b>-1.412</b>
Stddev	.030	.011	.011	.028	.008	.015	.007	.0340	.0244
%RSD	.3686	.1271	.1279	.3354	.1004	.1812	.0854	27.06	17.29

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	<b>.0862</b>	<b>.1518</b>	<b>.2178</b>	<b>.0679</b>	<b>8.143</b>	<b>8.486</b>	<b>25.71</b>	<b>8.685</b>	<b>8.125</b>
Stddev	.0130	.0293	.0121	.0032	.005	.006	.01	.014	.012
%RSD	15.06	19.31	5.542	4.651	.0588	.0694	.0528	.1631	.1414

Check ? None None None None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: hstd Acquired: 4/17/2019 12:53:17 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>8.309</b>	<b>8.709</b>	<b>8.142</b>	<b>104.8</b>	<b>8.418</b>	<b>8.015</b>	<b>8.157</b>
Stddev	.021	.002	.041	.3	.016	.029	.023
%RSD	.2526	.0187	.4978	.3235	.1939	.3623	.2848

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Int. Std. Units	Y_3600	Y_3710	Y_2243	In2306
Cts/S				
Avg	<b>136070.</b>	<b>31479.</b>	<b>3801.1</b>	<b>7362.7</b>
Stddev	264.	37.	2.2	7.4
%RSD	.19365	.11761	.05669	.10057

Check ? 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	<b>197.1</b>	<b>317.8</b>	<b>206.3</b>	<b>202.9</b>	<b>0.011</b>	<b>-0.017</b>	<b>0.027</b>	<b>.0004</b>	<b>-0.0035</b>
Stddev	1.5	.8	.7	1.1	.0007	.0002	.0003	.0008	.0001
%RSD	.7698	.2408	.3378	.5183	69.12	13.01	10.44	180.7	1.799

Check ? Chk Pass Chk Pass Chk Pass Chk Pass None None None None None  
 Value Range

Sample Name: hstd Acquired: 4/17/2019 12:59:09 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0007</b>	<b>.0005</b>	<b>.0000</b>	<b>.0002</b>	<b>-0.0005</b>	<b>-0.0038</b>	<b>.0022</b>	<b>.0000</b>	<b>.0012</b>
Stddev	.0000	.0000	.0001	.0001	.0001	.0004	.0001	.0003	.0009
%RSD	5.854	4.440	872.6	42.77	10.59	10.33	4.049	1038.	76.00

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	<b>-0.015</b>	<b>.0025</b>	<b>-0.004</b>	<b>.0016</b>	<b>-0.016</b>	<b>-0.021</b>	<b>-0.013</b>	<b>313.9</b>	<b>197.9</b>
Stddev	.0001	.0004	.0016	.0019	.0009	.0019	.0022	1.2	.0
%RSD	4.865	16.30	385.8	117.8	54.28	92.90	173.2	.3891	.0205

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	<b>197.1</b>	<b>317.8</b>	<b>206.3</b>	<b>202.9</b>	<b>0.011</b>	<b>-0.017</b>	<b>0.027</b>	<b>.0004</b>	<b>-0.0035</b>
Stddev	1.5	.8	.7	1.1	.0007	.0002	.0003	.0008	.0001
%RSD	.7698	.2408	.3378	.5183	69.12	13.01	10.44	180.7	1.799

Check ? Chk Pass Chk Pass Chk Pass Chk Pass None None None None None  
 Value Range



Sample Name: hstd Acquired: 4/17/2019 12:59:09 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.002	0.035	0.079	0.068	0.046	0.042	0.001
Stddev	.002	.002	.003	.004	.005	.007	.006
%RSD	86.28	34.45	3.285	60.79	11.72	16.02	456.7

#1	-0.004	.0047	.0078	.0106	.0044	.0035	-0.004
#2	-0.001	.0034	.0078	.0074	.0041	.0048	.0007
#3	-0.001	.0023	.0082	.0024	.0052	.0044	.0001

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	125920.	30421.	3571.6	6213.9
Stddev	342.	80.	8.9	8.8
%RSD	.27137	.26345	.24875	.14229

#1	125700.	30445.	3581.1	6224.0
#2	126310.	30486.	3563.5	6210.1
#3	125740.	30331.	3570.2	6207.6

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Sample Name: feconf Acquired: 4/17/2019 13:04:50 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.001	0.000	-0.001	0.007	-0.010	-0.051	0.022	-0.002
Stddev	.002	.000	.001	.002	.003	.004	.001	.002
%RSD	213.9	74.60	127.1	22.86	30.66	6.988	4.020	111.3

#1	-0.002	.001	-0.002	.0005	-0.011	-0.053	.0022	.000
#2	-0.002	.000	-0.001	.0008	-0.007	-0.053	.0022	-0.004
#3	-0.003	.000	.000	.0007	-0.013	-0.047	.0023	-0.002

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.029	-0.023	0.053	-0.005	0.008	F -0.032	-0.044	-0.009
Stddev	.008	.002	.001	.003	.007	.016	.011	.010
%RSD	27.43	8.343	1.927	64.82	81.56	49.41	24.38	112.9

#1	.0029	-0.021	.0053	-0.003	.0003	-0.051	-0.043	-0.019
#2	.0022	-0.023	.0052	-0.008	.0016	-0.024	-0.055	.0001
#3	.0038	-0.025	.0054	-0.003	.0006	-0.023	-0.034	-0.009

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.167	-0.275	F 218.2	-0.126	-0.224	0.280	-0.006	0.002
Stddev	.009	.002	1.7	.0073	.0192	.0040	.008	.002
%RSD	5.628	4.500	7.858	58.36	85.40	14.43	133.1	105.3

#1	-0.166	-0.267	216.8	-0.048	-0.024	.0286	-0.014	.0003
#2	-0.177	-0.267	217.6	-0.194	-0.243	.0317	-0.004	-0.000
#3	-0.158	-0.289	220.1	-0.136	-0.406	.0237	.0001	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.057	0.012	0.001	0.000	0.014	0.093	-0.015	0.100
Stddev	.005	.003	.000	.003	.004	.002	.027	.018
%RSD	9.440	26.39	41.11	824.8	30.45	1.714	179.4	18.12

#1	.0055	.0009	.0001	.0004	.0017	.0092	-0.044	.0106
#2	.0053	.0016	.0001	-0.002	.0017	.0092	-0.010	.0114
#3	.0063	.0012	.0000	-0.001	.0009	.0095	.0009	.0079

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Sample Name: feconf Acquired: 4/17/2019 13:04:50 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	0.029	-0.0104
Stddev	.0004	.0009
%RSD	12.57	9.032

#1	.0027	-0.0102
#2	.0027	-0.0115
#3	.0034	-0.0097

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136470.	30946.	3793.7	7489.3
Stddev	1019.	122.	11.9	21.3
%RSD	.74667	.39381	.31253	.28375

#1	137400.	31063.	3788.2	7484.5
#2	135380.	30955.	3807.3	7512.6
#3	136630.	30819.	3785.6	7470.9

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Sample Name: crconf Acquired: 4/17/2019 13:10:11 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.005	0.000	0.004	-0.007	F 10.02	0.010	0.009	0.000	-0.003
Stddev	.0001	.0001	.0001	.0001	.01	.0001	.0000	.0000	.0004
%RSD	22.52	374.3	21.24	17.24	.0717	10.23	4.859	169.5	123.2

#1	.0005	-0.001	.0003	-0.008	10.03	.0009	.0010	-0.000	.0001
#2	.0007	.0000	.0003	-0.009	10.03	.0010	.0009	.0001	-0.003
#3	.0004	.0001	.0004	-0.006	10.02	.0011	.0009	.0000	-0.007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.177	0.066	0.020	-0.000	0.009	-0.003	0.041	-0.044	0.167
Stddev	.002	.002	.010	.008	.009	.017	.008	.048	.020
%RSD	.9495	2.538	47.41	2136.	98.49	674.0	20.72	109.3	12.02

#1	-0.175	.0064	.0024	-0.008	.0018	-0.021	.0049	-0.017	.0188
#2	-0.177	.0068	.0027	-0.001	.0009	.0012	.0032	-0.016	.0148
#3	-0.179	.0066	.0009	.008	.0000	.0001	.0041	-0.009	.0167

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.191	-0.048	0.261	0.010	0.004	0.048	0.009	0.009	0.002
Stddev	.0019	.0124	.0063	.0065	.0003	.0002	.0005	.0003	.0000
%RSD	9.955	255.1	78.69	24.75	24.92	39.71	9.905	35.20	13.79

#1	.0212	-0.161	-0.082	.0318	.0007	.0006	.0044	.0013	.0002
#2	.0176	.0084	-0.141	.0191	.0012	.0002	.0053	.0006	.0002
#3	.0185	-0.068	-0.016	.0273	.0012	.0005	.0047	.0008	.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.005	0.074	-0.010	0.008	-0.059	0.014	-0.016
Stddev	.002	.0013	.0001	.004	.0009	.0005	.004
%RSD	43.54	18.16	6.764	52.38	15.66	38.54	25.98

#1	-0.003	.0071	-0.011	.0010	-0.050	.0020	-0.018
#2	-0.007	.0062	-0.010	.0010	-0.058	.0010	-0.019
#3	-0.004	.0089	-0.011	.0003	-0.068	.0012	-0.011

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Sample Name: crconf Acquired: 4/17/2019 13:10:11 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138790.	31035.	3784.6	7455.9
Stddev	143.	120.	5.9	9.1
%RSD	.10293	.38550	.15643	.12145
#1	138850.	30993.	3782.1	7448.3
#2	138620.	30941.	3791.4	7465.9
#3	138880.	31170.	3780.4	7453.4

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Sample Name: asconf Acquired: 4/17/2019 13:15:26 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-0.0000	.0021	.0003	.0000	.0001	.0002	-0.0000	-0.0003
Stddev	.0002	.0000	.0004	.0001	.0001	.0002	.0000	.0000	.0002
%RSD	1930.	79.95	16.76	31.43	235.9	109.8	2.700	660.5	74.25
#1	.0001	-0.0000	.0019	.0005	.0001	.0002	.0002	-0.0000	-0.0003
#2	-0.0002	-0.0001	.0020	.0002	-0.0000	-0.0000	.0002	-0.0000	-0.0005
#3	.0001	-0.0000	.0025	.0003	.0000	.0003	.0002	.0000	-0.0001
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-0.0018	5.443	.0002	-0.0002	-0.0029	.0006	-0.0081	-0.0128
Stddev	.0002	.0001	.006	.0011	.0004	.0010	.0008	.0052	.0012
%RSD	78.04	5.198	.1126	694.7	232.6	33.05	140.2	64.84	9.432
#1	.0000	-0.0017	5.450	.0014	.0001	-0.0019	.0015	-0.0038	-0.0114
#2	.0005	-0.0019	5.440	-0.0002	.0001	-0.0031	.0003	-0.0139	-0.0132
#3	.0003	-0.0018	5.439	-0.0007	-0.0007	-0.0038	-0.0001	-0.0065	-0.0137
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022	.0040	-0.0231	.0165	.0007	.0001	.0016	-0.0002	.0001
Stddev	.0001	.0081	.0262	.0083	.0004	.0001	.0007	.0004	.0000
%RSD	4.752	203.4	113.1	50.43	62.21	58.53	43.44	189.8	40.26
#1	.0022	.0036	-0.0294	.0069	.0011	.0001	.0022	-0.0001	.0001
#2	.0021	.0122	.0056	.0208	.0003	.0001	.0016	-0.0007	.0002
#3	.0023	-0.0039	-0.0456	.0218	.0006	.0002	.0009	.0001	.0001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	-0.0001	.0029	.0001	-0.0012	-0.0008	.0008	-0.0000		
Stddev	.0003	.0002	.0001	.0039	.0018	.0011	.0005		
%RSD	621.4	6.893	119.8	337.0	215.3	127.1	4025.		
#1	-0.0003	.0030	.0002	-0.0054	.0004	.0007	.0001		
#2	-0.0003	.0026	-0.0000	.0024	-0.0029	-0.0001	.0004		
#3	-0.0002	.0030	.0001	-0.0005	-0.0000	.0020	-0.0006		

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Sample Name: asconf Acquired: 4/17/2019 13:15:26 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139770.	31419.	3902.9	7499.3
Stddev	572.	278.	4.4	22.3
%RSD	.40953	.88583	.11320	.29684
#1	139910.	31238.	3899.2	7485.5
#2	139140.	31740.	3901.6	7487.4
#3	140260.	31281.	3907.8	7525.0

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Sample Name: ccv Acquired: 4/17/2019 13:20:40 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.011	2.053	1.999	1.997	1.992	1.945	2.048	2.038	2.439
Stddev	.002	.002	.004	.002	.027	.031	.028	.004	.0035
%RSD	.1055	.1128	.1900	.1142	1.361	1.586	1.362	.2216	1.438
#1	2.009	2.051	2.003	2.000	1.962	1.911	2.017	2.042	2.401
#2	2.012	2.055	1.996	1.995	2.002	1.953	2.056	2.037	2.446
#3	2.012	2.052	1.998	1.996	2.014	1.970	2.071	2.033	2.470
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	2.019	1.984	2.096	2.046	1.995	1.992	39.74	40.15
Stddev	.026	.007	.002	.004	.006	.006	.006	.09	.07
%RSD	1.321	.3674	.1186	.2039	.2967	.2923	.2970	.2237	.1688
#1	1.950	2.028	1.986	2.097	2.050	2.001	1.997	39.72	40.14
#2	1.988	2.013	1.983	2.092	2.049	1.989	1.993	39.84	40.22
#3	2.001	2.017	1.982	2.100	2.039	1.994	1.985	39.67	40.09
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	40.38	40.13	39.82	39.82	2.001	2.024	5.073	2.050	2.012
Stddev	.02	.07	.05	.03	.002	.006	.014	.005	.041
%RSD	.0387	.1801	.1316	.0781	.0807	.2784	.2691	.2279	2.054
#1	40.38	40.15	39.77	39.84	2.002	2.030	5.089	2.054	2.052
#2	40.37	40.19	39.80	39.84	1.999	2.022	5.064	2.045	2.015
#3	40.40	40.05	39.87	39.79	2.000	2.019	5.066	2.050	1.969
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range									

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Sample Name: ccv Acquired: 4/17/2019 13:20:40 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.989	1.999	1.982	1.981	2.007	1.969	2.018
Stddev	.028	.005	.029	.010	.005	.003	.004
%RSD	1.414	.2543	1.483	.5130	.2330	.1631	.2038

#1	1.958	2.004	1.949	1.980	2.010	1.967	2.021
#2	1.997	1.994	1.991	1.971	2.009	1.972	2.013
#3	2.012	1.997	2.006	1.991	2.002	1.967	2.019

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136490.	31247.	3842.4	6921.5
Stddev	1674.	38.	9.3	12.6
%RSD	1.2268	.12222	.24188	.18149

#1	138400.	31210.	3831.7	6910.0
#2	135830.	31286.	3846.8	6919.4
#3	135250.	31243.	3848.7	6934.9

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Sample Name: ccb Acquired: 4/17/2019 13:25:40 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	F .0002	.0000	.0002	-.0002	-.0000	.0002	-.0001	-.0000
Stddev	.0002	.0001	.0001	.0001	.0001	.0002	.0001	.0003	.0002
%RSD	82.78	33.94	323.1	36.17	59.50	401.2	40.80	302.4	726.8

#1	.0004	.0002	.0001	.0003	-.0001	-.0002	.0002	.0002	.0002
#2	.0002	.0001	.0000	.0001	-.0002	.0001	.0001	-.0001	.0000
#3	.0000	.0003	-.0000	.0003	-.0004	-.0001	.0001	-.0003	-.0003

Check ? Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	.0005	.0002	.0001	.0005	-.0001	-.0005	.0003	-.0081	.0014
Stddev	.0001	.0001	.0005	.0005	.0003	.0017	.0004	.0058	.0006
%RSD	15.06	96.77	383.3	114.8	254.1	336.9	118.2	71.09	43.92

#1	.0005	.0001	.0006	-.0001	.0001	.0012	.0008	-.0139	.0014
#2	.0005	.0003	.0003	.0005	-.0005	-.0005	.0000	-.0080	.0008
#3	.0004	.0000	-.0005	.0010	-.0000	-.0021	.0002	-.0024	.0020

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033	-.0025	.0068	.0142	.0017	.0003	.0009	-.0004	.0002
Stddev	.0013	.0106	.0170	.0051	.0002	.0002	.0006	.0001	.0001
%RSD	38.07	433.2	249.8	35.62	11.85	64.43	70.36	18.14	21.20

#1	.0022	-.0148	.0263	.0188	.0017	.0002	.0012	-.0004	.0002
#2	.0030	.0035	-.0049	.0088	.0016	.0002	.0014	-.0004	.0003
#3	.0047	.0039	-.0010	.0150	.0020	.0005	.0002	-.0003	.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

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Sample Name: ccb Acquired: 4/17/2019 13:25:40 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0004	.0002	-.0013	-.0002	.0013	.0009
Stddev	.0002	.0005	.0002	.0018	.0008	.0003	.0005
%RSD	118.1	123.3	88.89	141.3	434.9	22.79	53.90

#1	.0003	-.0001	.0003	-.0022	.0006	.0010	.0008
#2	-.0001	.0009	.0003	-.0025	-.0009	.0013	.0005
#3	.0004	.0005	-.0000	.0008	-.0002	.0016	.0015

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139010.	31134.	3885.9	7484.8
Stddev	633.	193.	43.7	78.9
%RSD	.45552	.61964	1.1238	1.0542

#1	139420.	30987.	3852.4	7424.1
#2	139320.	31352.	3870.0	7456.4
#3	138280.	31062.	3935.3	7574.0

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Sample Name: mp14116-mb1conf Acquired: 4/17/2019 13:30:55 Type: Nck  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 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	.0003	-.0003	.0001	.0000	.0001	-.0000
Stddev	.0002	.0000	.0001	.0000	.0001	.0002	.0000	.0002	.0003
%RSD	358.1	193.0	38.22	15.19	42.34	259.3	88.01	353.4	801.4

#1	-.0003	.0000	-.0001	.0002	-.0003	.0003	.0001	-.0001	-.0002
#2	.0001	.0000	-.0002	.0002	-.0004	.0002	.0000	-.0000	-.0002
#3	.0000	-.0000	-.0003	.0003	-.0002	-.0002	.0000	.0003	.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	.0007	.0005	.0011	-.0005	-.0028	-.0011	-.0040	.0109
Stddev	.0001	.0001	.0009	.0003	.0003	.0013	.0011	.0032	.0019
%RSD	62.95	14.18	177.0	29.76	55.58	44.49	107.8	80.38	17.09

#1	.0004	.0008	-.0003	.0014	-.0006	-.0020	-.0010	-.0032	.0126
#2	.0001	.0006	.0015	.0008	-.0007	-.0022	-.0022	-.0075	.0111
#3	.0002	.0007	.0003	.0010	-.0002	-.0043	.0001	-.0013	.0089

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052	-.0018	-.0254	-.0010	.0006	-.0000	.0032	-.0003	.0001
Stddev	.0002	.0074	.0114	.0029	.0003	.0001	.0012	.0003	.0000
%RSD	3.707	418.6	45.13	300.1	59.69	825.5	37.45	104.5	25.25

#1	.0051	.0000	-.0274	-.0004	.0002	.0001	.0019	-.0001	.0001
#2	.0050	-.0099	-.0356	-.0042	.0007	-.0001	.0033	-.0006	.0001
#3	.0054	.0046	-.0130	.0016	.0008	-.0000	.0043	-.0001	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0005	-.0000	.0010	.0004	-.0008	-.0021
Stddev	.0001	.0009	.0001	.0020	.0011	.0007	.0005
%RSD	82.80	181.3	530.0	194.1	278.1	86.84	25.54

#1	.0002	-.0003	.0000	-.0013	-.0005	-.0006	-.0015
#2	.0000	-.0015	.0000	.0018	.0000	-.0003	-.0025
#3	.0001	.0003	-.0001	.0026	.0017	-.0016	-.0024

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Sample Name: mp14116-mb1conf Acquired: 4/17/2019 13:30:55 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	141120.	31870.	3942.6	7645.8
Stddev	1300.	333.	17.5	30.7
%RSD	.92098	1.0436	.44484	.40096
#1	142560.	31643.	3960.1	7676.5
#2	140740.	31715.	3942.8	7645.7
#3	140050.	32251.	3925.0	7615.2

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Sample Name: jc85156-18 1 Acquired: 4/17/2019 13:36:09 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 3.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0151	.0002	-0.001	.0183	.0038	.0047	15.05	.0181	.0002
Stddev	.0019	.0001	.0002	.0002	.0005	.0013	.46	.0010	.0004
%RSD	12.55	53.25	212.3	1.250	14.14	28.37	3.077	5.334	171.7
#1	.0130	.0003	.0001	.0183	.0042	.0038	14.55	.0170	.0002
#2	.0156	.0002	-0.002	.0185	.0032	.0040	15.16	.0189	-0.002
#3	.0167	.0001	-0.003	.0180	.0041	.0063	15.45	.0184	.0007
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0141	.0439	.0023	.0151	-0.0063	-0.0087	-0.0006	.1429	454.5
Stddev	.0005	.0012	.0070	.0012	.0027	.0087	.0045	.0179	46.9
%RSD	3.579	2.632	300.4	7.605	42.90	99.79	738.6	12.56	10.32
#1	.0136	.0427	-0.025	.0143	-0.0085	.0007	-0.016	.1365	408.8
#2	.0145	.0440	.0103	.0165	-0.0070	-0.0165	.0043	.1290	452.2
#3	.0144	.0450	-0.008	.0146	-0.0033	-0.0105	-0.0046	.1631	502.5
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.980	21.87	10.29	390.4	.1218	-0.0003	8.376	-0.0050	.7538
Stddev	.196	2.16	.94	40.8	.0036	.0007	.191	.0023	.0740
%RSD	9.886	9.874	9.122	10.44	2.962	214.7	2.279	46.47	9.812
#1	1.786	19.73	9.373	355.2	.1182	-0.001	8.171	-0.023	.6804
#2	1.976	21.83	10.26	380.9	.1254	.0003	8.409	-0.062	.7526
#3	2.177	24.04	11.25	435.0	.1217	-0.0011	8.548	-0.064	.8283
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0012	.0029	-0.0002	F 509.8	.0022	.0074	-0.0506		
Stddev	.0004	.0037	.0003	12.4	.0023	.0029	.0082		
%RSD	34.00	125.8	151.8	2.435	103.0	38.78	16.19		
#1	.0012	.0014	-0.001	495.8	-0.0003	.0045	-.0411		
#2	.0016	.0003	-0.0006	514.1	.0040	.0076	-.0553		
#3	.0008	.0071	.0000	519.4	.0029	.0102	-.0552		

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Sample Name: jc85156-18 1 Acquired: 4/17/2019 13:36:09 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 3.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	129500.	30278.	3589.5	6469.2
Stddev	843.	62.	17.6	33.7
%RSD	.65131	.20583	.49130	.52098
#1	129110.	30345.	3609.2	6507.8
#2	128930.	30221.	3575.1	6445.7
#3	130470.	30267.	3584.2	6454.1

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Sample Name: mp14154-mb1conf Acquired: 4/17/2019 13:41:43 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.000	.0000	-0.001	.0001	.0002	-0.0002	.0001	-0.0000	-0.0003
Stddev	.0002	.0000	.0000	.0001	.0001	.0001	.0000	.0001	.0002
%RSD	504.1	93.56	10.73	71.72	48.90	87.47	19.66	284.4	77.12
#1	-0.001	.0000	-0.001	.0001	.0003	-0.0002	.0001	-0.0001	-0.0005
#2	-0.002	.0001	-0.001	.0001	.0002	-0.0003	.0001	-0.0001	-0.0004
#3	-0.001	.0000	-0.001	.0002	.0001	-0.0000	.0001	.0001	-0.0000
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0032	-0.016	-0.006	-0.011	-0.015	.0008	-0.0019	.0077
Stddev	.0001	.0001	.0003	.0004	.0006	.0008	.0003	.0027	.0010
%RSD	35.57	3.250	18.10	74.57	50.29	50.04	33.27	141.1	13.23
#1	.0003	.0033	-0.015	-0.011	-0.016	-0.023	.0008	-0.015	.0089
#2	.0004	.0031	-0.014	-0.005	-0.013	-0.007	.0010	-0.049	.0074
#3	.0005	.0032	-0.020	-0.002	-0.005	-0.015	.0005	.0005	.0069
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	.0024	-0.017	.0216	.0009	.0001	.0081	-0.0004	.0001
Stddev	.0014	.0188	.0166	.0033	.0006	.0001	.0008	.0003	.0001
%RSD	104.8	774.5	141.9	15.05	65.03	109.1	10.16	88.68	64.96
#1	.0011	-.0149	.0070	.0211	.0009	.0002	.0084	-0.0006	.0001
#2	.0029	-.0225	-.0247	.0187	.0015	.0002	.0071	.0000	.0002
#3	.0001	-.0002	-.0175	.0251	.0003	-0.0000	.0087	-0.0005	.0000
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0001	.0005	.0002	.0032	-0.0004	.0008	.0018		
Stddev	.0001	.0009	.0002	.0032	.0015	.0006	.0005		
%RSD	201.8	157.5	78.38	100.5	407.9	70.13	29.92		
#1	.0002	.0003	.0002	-0.0005	-0.0020	.0014	.0021		
#2	-0.0001	.0015	.0001	.0055	-0.0000	.0003	.0012		
#3	.0001	-0.0002	.0004	.0047	.0010	.0007	.0021		

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Sample Name: mp14154-mb1conf Acquired: 4/17/2019 13:41:43 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138880.	31101.	3857.3	7424.9
Stddev	650.	202.	14.6	28.1
%RSD	.46824	.64955	.37877	.37889
#1	138230.	30877.	3843.2	7399.0
#2	138870.	31157.	3856.3	7420.7
#3	139540.	31270.	3872.4	7454.8

Sample Name: jc86178-11 7 Acquired: 4/17/2019 13:46:58 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>6327</b>	<b>.0001</b>	<b>.0001</b>	<b>.0011</b>	<b>.0140</b>	<b>.0097</b>	<b>.0038</b>	<b>.0076</b>	<b>.0009</b>
Stddev	.0017	.0001	.0005	.0009	.0007	.0010	.0001	.0004	.0014
%RSD	.2686	87.34	586.9	84.54	4.757	10.42	3.591	5.236	151.8
#1	.6315	.0001	-.0004	.0005	.0146	.0086	.0036	.0078	-.0003
#2	.6319	.0001	.0002	.0021	.0140	.0106	.0038	.0072	.0006
#3	.6346	.0000	.0005	.0006	.0133	.0099	.0039	.0079	.0024
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0026</b>	<b>.0186</b>	<b>.0050</b>	<b>.0030</b>	<b>.0032</b>	<b>-.0062</b>	<b>-.0030</b>	<b>.5765</b>	<b>463.1</b>
Stddev	.0014	.0003	.0068	.0060	.0020	.0067	.0040	.0095	2.6
%RSD	54.08	1.541	134.3	203.3	61.37	108.8	132.4	1.653	.5709
#1	.0017	.0185	.0080	.0020	.0040	-.0039	-.0031	.5872	460.2
#2	.0042	.0184	.0098	-.0025	.0047	-.0009	-.0069	.5734	463.6
#3	.0019	.0189	-.0027	.0094	.0010	-.0138	.0010	.5690	465.4
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.2898</b>	<b>.0557</b>	<b>12.59</b>	<b>48.92</b>	<b>-.0030</b>	<b>.0446</b>	<b>.7153</b>	<b>-.0008</b>	<b>.002</b>
Stddev	.0040	.0454	.11	.15	.0032	.0016	.0027	.0008	.002
%RSD	1.378	81.42	.8572	.3083	105.7	3.697	.3801	99.60	2025
#1	.2857	.0791	12.46	48.75	.0007	.0465	.7153	-.0011	1.060
#2	.2900	.0034	12.63	49.04	-.0050	.0433	.7126	-.0015	1.062
#3	.2937	.0846	12.66	48.98	-.0048	.0440	.7181	.0001	1.065
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.0064</b>	<b>.0035</b>	<b>-.0002</b>	<b>3.247</b>	<b>-.0049</b>	<b>.0482</b>	<b>.0142</b>		
Stddev	.0006	.0071	.0008	.009	.0041	.0029	.0079		
%RSD	10.08	203.2	522.4	.2721	83.64	5.926	55.38		
#1	.0071	.0096	-.0002	3.257	-.0055	.0514	.0057		
#2	.0060	-.0043	.0007	3.241	-.0088	.0474	.0212		
#3	.0060	.0052	-.0010	3.244	-.0006	.0459	.0157		

Sample Name: jc86178-11 7 Acquired: 4/17/2019 13:46:58 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	134000.	30825.	3711.0	6922.0
Stddev	296.	62.	12.3	25.0
%RSD	.22118	.20190	.33057	.36091
#1	133840.	30897.	3700.1	6899.3
#2	134340.	30780.	3724.3	6948.8
#3	133810.	30802.	3708.8	6917.8

Sample Name: mp14152-mb1 7 Acquired: 4/17/2019 13:52:20 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0003</b>	<b>.0001</b>	<b>.0001</b>	<b>.0004</b>	<b>.0010</b>	<b>.0018</b>	<b>.0004</b>	<b>.0003</b>	<b>-.0002</b>
Stddev	.0001	.0000	.0001	.0001	.0002	.0001	.0000	.0002	.0003
%RSD	41.30	25.11	128.4	29.73	17.77	7.411	5.525	62.17	116.1
#1	.0004	.0001	-.0000	.0005	.0008	.0019	.0004	.0005	.0000
#2	.0003	.0002	.0001	.0004	.0009	.0018	.0004	.0002	-.0005
#3	.0001	.0001	.0002	.0003	.0011	.0017	.0004	.0002	-.0002
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0006</b>	<b>.0080</b>	<b>-.0004</b>	<b>.0010</b>	<b>-.0001</b>	<b>-.0013</b>	<b>-.0006</b>	<b>.0036</b>	<b>.0577</b>
Stddev	.0002	.0002	.0007	.0009	.0006	.0016	.0003	.0068	.0016
%RSD	38.64	2.359	166.1	89.18	567.6	122.7	41.49	187.1	2.858
#1	.0004	.0082	-.0005	.0015	-.0008	-.0027	-.0008	.0104	.0566
#2	.0008	.0080	.0003	.0014	.0005	.0005	-.0003	-.0031	.0569
#3	.0005	.0078	-.0011	-.0000	-.0001	-.0017	-.0007	.0036	.0596
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0196</b>	<b>.0027</b>	<b>-.0149</b>	<b>.0530</b>	<b>.0009</b>	<b>.0004</b>	<b>.0084</b>	<b>.0243</b>	<b>.0003</b>
Stddev	.0007	.0041	.0240	.0008	.0002	.0003	.0016	.0005	.0000
%RSD	3.737	148.8	161.3	1.582	19.45	93.28	19.06	1.925	6.999
#1	.0202	.0066	-.0186	.0525	.0007	.0007	.0085	.0241	.0003
#2	.0198	-.0015	-.0369	.0525	.0009	.0004	.0099	.0239	.0003
#3	.0188	.0031	.0108	.0539	.0010	.0000	.0067	.0248	.0003
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.0005</b>	<b>.0003</b>	<b>.0002</b>	<b>.0086</b>	<b>-.0004</b>	<b>.0006</b>	<b>.0240</b>		
Stddev	.0001	.0010	.0001	.0028	.0007	.0011	.0000		
%RSD	17.35	370.5	80.82	32.05	154.2	188.8	.1583		
#1	.0004	-.0005	.0002	.0117	-.0007	-.0005	.0241		
#2	.0006	.0013	.0000	.0064	-.0009	.0005	.0240		
#3	.0005	-.0001	.0003	.0077	.0003	.0017	.0240		

Sample Name: mp14152-mb1 7    Acquired: 4/17/2019 13:52:20    Type: Unk  
 Method: SGS No Vlave3(v403)    Mode: CONC    Corr. Factor: 1.000000  
 User: admin    Custom ID1:    :    :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137590.	30950.	3830.8	7391.3
Stddev	328.	159.	9.4	12.6
%RSD	.23856	.51530	.24634	.16979
#1	137770.	30779.	3837.1	7397.8
#2	137210.	31095.	3835.5	7399.3
#3	137790.	30977.	3820.0	7376.8

Sample Name: mp14152-b1    Acquired: 4/17/2019 13:57:34    Type: Unk  
 Method: SGS No Vlave3(v403)    Mode: CONC    Corr. Factor: 1.000000  
 User: admin    Custom ID1:    :    :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.025</b>	<b>2.077</b>	<b>2.031</b>	<b>2.013</b>	<b>2.039</b>	<b>1.997</b>	<b>2.098</b>	<b>2.055</b>	<b>2.711</b>
Stddev	.019	.021	.003	.004	.015	.006	.007	.002	.0014
%RSD	.9433	.9856	.1538	.1802	.7250	.3242	.3568	.1096	.5021
#1	2.003	2.053	2.034	2.017	2.046	2.002	2.101	2.057	2.719
#2	2.039	2.089	2.031	2.012	2.022	1.990	2.089	2.054	2.696
#3	2.032	2.089	2.028	2.010	2.049	2.000	2.103	2.053	2.719
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.010</b>	<b>2.068</b>	<b>2.032</b>	<b>2.148</b>	<b>2.065</b>	<b>2.003</b>	<b>2.057</b>	<b>25.37</b>	<b>25.83</b>
Stddev	.009	.002	.004	.008	.002	.011	.003	.18	.15
%RSD	.4375	.1046	.2177	.3564	.0929	.5624	.1648	.6902	.5671
#1	2.016	2.070	2.036	2.146	2.065	2.010	2.056	25.18	25.67
#2	2.000	2.068	2.033	2.156	2.067	2.010	2.061	25.44	25.85
#3	2.014	2.065	2.028	2.141	2.063	1.990	2.054	25.50	25.96
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>25.93</b>	<b>25.63</b>	<b>25.40</b>	<b>25.64</b>	<b>1.954</b>	<b>2.081</b>	<b>-0.127</b>	<b>2.156</b>	<b>2.014</b>
Stddev	.27	.18	.28	.26	.002	.004	.0017	.004	.060
%RSD	1.041	.7160	1.095	1.004	.0780	.1793	13.39	.1662	3.005
#1	25.62	25.44	25.08	25.34	1.954	2.081	-.0145	2.154	1.949
#2	26.06	25.64	25.56	25.80	1.956	2.085	-.0111	2.160	2.068
#3	26.10	25.81	25.55	25.77	1.953	2.078	-.0126	2.154	2.026
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>2.064</b>	<b>1.393</b>	<b>2.069</b>	<b>2.225</b>	<b>.0101</b>	<b>.0005</b>	<b>2.058</b>		
Stddev	.004	.007	.009	.007	.0014	.0003	.006		
%RSD	.2020	.5246	.4333	.2953	14.31	65.50	.2868		
#1	2.067	1.385	2.075	2.230	.0112	.0003	2.059		
#2	2.059	1.398	2.058	2.227	.0106	.0009	2.063		
#3	2.066	1.398	2.073	2.217	.0085	.0003	2.052		

Sample Name: mp14152-b1    Acquired: 4/17/2019 13:57:34    Type: Unk  
 Method: SGS No Vlave3(v403)    Mode: CONC    Corr. Factor: 1.000000  
 User: admin    Custom ID1:    :    :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	133570.	31155.	3757.8	6913.5
Stddev	798.	262.	3.7	9.6
%RSD	.59717	.84188	.09870	.13936
#1	133190.	31419.	3753.5	6902.6
#2	134490.	31151.	3759.7	6920.6
#3	133030.	30895.	3760.1	6917.5

Sample Name: mp14152-s1    Acquired: 4/17/2019 14:02:33    Type: Unk  
 Method: SGS No Vlave3(v403)    Mode: CONC    Corr. Factor: 1.000000  
 User: admin    Custom ID1:    :    :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>3.128</b>	<b>1.816</b>	<b>1.772</b>	<b>1.906</b>	<b>2.298</b>	<b>2.350</b>	<b>4.170</b>	<b>2.153</b>	<b>2.480</b>
Stddev	.059	.005	.008	.008	.010	.011	.032	.007	.0008
%RSD	1.894	.2816	.4644	.4172	.4340	.4695	.7594	.3474	.3272
#1	3.078	1.811	1.780	1.914	2.291	2.337	4.155	2.161	.2473
#2	3.114	1.819	1.773	1.906	2.310	2.358	4.206	2.153	.2479
#3	3.193	1.820	1.764	1.898	2.294	2.354	4.149	2.146	.2489
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.405</b>	<b>2.550</b>	<b>1.984</b>	<b>1.805</b>	<b>2.147</b>	<b>1.720</b>	<b>9.179</b>	<b>185.7</b>	<b>170.3</b>
Stddev	.009	.007	.009	.007	.008	.008	.0039	2.3	.8
%RSD	.3640	.2841	.4725	.4117	.3606	.4815	.4252	1.249	.4674
#1	2.399	2.558	1.985	1.810	2.154	1.729	9.223	188.4	170.1
#2	2.415	2.548	1.992	1.808	2.150	1.718	9.167	184.3	171.2
#3	2.401	2.544	1.974	1.796	2.139	1.713	9.148	184.4	169.7
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>F 233.5</b>	<b>71.11</b>	<b>41.22</b>	<b>73.05</b>	<b>2.622</b>	<b>1.739</b>	<b>5.066</b>	<b>1.782</b>	<b>2.940</b>
Stddev	3.2	.30	.11	.12	.016	.007	.030	.005	.032
%RSD	1.367	.4258	.2618	.1693	.6029	.4005	.5968	.3046	1.092
#1	233.3	70.99	41.10	72.90	2.637	1.745	5.091	1.787	2.964
#2	230.4	70.89	41.28	73.11	2.625	1.740	5.074	1.783	2.903
#3	236.7	71.46	41.29	73.13	2.605	1.731	5.032	1.776	2.952
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>F 8.821</b>	<b>1.248</b>	<b>1.947</b>	<b>5.871</b>	<b>.0116</b>	<b>.1657</b>	<b>6.936</b>		
Stddev	.068	.005	.006	.031	.0096	.0009	.035		
%RSD	.7728	.3964	.3364	.5268	82.93	.5184	.5106		
#1	8.767	1.253	1.941	5.889	.0027	.1652	6.945		
#2	8.898	1.249	1.954	5.889	.0218	.1652	6.965		
#3	8.798	1.243	1.946	5.836	.0104	.1667	6.896		

Sample Name: mp14152-s1 Acquired: 4/17/2019 14:02:33 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139510.	33725.	3972.6	6641.3
Stddev	601.	74.	16.6	25.9
%RSD	.43113	.21838	.41767	.39074
#1	139890.	33644.	3955.5	6615.4
#2	138810.	33789.	3973.5	6641.2
#3	139810.	33742.	3988.7	6667.3

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Sample Name: mp14152-s2 Acquired: 4/17/2019 14:08:22 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.848</b>	<b>1.829</b>	<b>1.782</b>	<b>1.900</b>	<b>2.237</b>	<b>2.373</b>	<b>4.304</b>	<b>2.151</b>	<b>2.484</b>
Stddev	.011	.004	.016	.016	.017	.015	.013	.018	.0013
%RSD	.3753	.1978	.9206	.8343	.7504	.6453	.2963	.8619	.5209
#1	2.852	1.825	1.790	1.906	2.236	2.372	4.308	2.156	2.489
#2	2.836	1.832	1.763	1.882	2.255	2.388	4.314	2.131	2.494
#3	2.857	1.830	1.792	1.911	2.221	2.358	4.289	2.167	2.469
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.325</b>	<b>2.763</b>	<b>1.953</b>	<b>1.793</b>	<b>2.102</b>	<b>1.731</b>	<b>1.004</b>	<b>175.7</b>	<b>154.2</b>
Stddev	.018	.030	.017	.015	.015	.016	.009	.2	.7
%RSD	.7780	1.079	.8914	.8190	.7229	.9133	.9129	.1228	.4834
#1	2.323	2.775	1.962	1.802	2.107	1.737	1.009	175.5	153.5
#2	2.344	2.729	1.933	1.776	2.085	1.713	.9938	175.9	155.0
#3	2.308	2.784	1.965	1.802	2.113	1.743	1.010	175.7	154.1
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>F 224.6</b>	<b>78.94</b>	<b>38.77</b>	<b>69.37</b>	<b>1.904</b>	<b>1.762</b>	<b>6.062</b>	<b>1.800</b>	<b>2.756</b>
Stddev	2.0	.25	.03	.13	.017	.018	.056	.017	.032
%RSD	.9001	.3177	.0869	.1813	.8654	.9932	.9155	.9606	1.167
#1	225.7	78.67	38.73	69.25	1.911	1.767	6.092	1.803	2.726
#2	222.3	79.16	38.78	69.50	1.885	1.742	5.998	1.781	2.790
#3	225.9	79.01	38.80	69.37	1.915	1.776	6.095	1.815	2.750
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>F 9.311</b>	<b>1.296</b>	<b>1.955</b>	<b>5.181</b>	<b>.0157</b>	<b>.1666</b>	<b>6.603</b>		
Stddev	.063	.013	.015	.051	.0136	.0005	.075		
%RSD	.6807	1.009	.7626	.9771	86.80	.3209	1.137		
#1	9.312	1.301	1.954	5.207	.0054	.1665	6.634		
#2	9.375	1.281	1.970	5.122	.0311	.1672	6.518		
#3	9.248	1.306	1.941	5.212	.0105	.1662	6.658		

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Sample Name: mp14152-s2 Acquired: 4/17/2019 14:08:22 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138170.	33192.	3924.8	6657.8
Stddev	759.	121.	33.0	48.2
%RSD	.54909	.36575	.84101	.72354
#1	138230.	33327.	3907.8	6638.0
#2	137380.	33091.	3962.8	6712.7
#3	138890.	33159.	3903.7	6622.7

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Sample Name: jc86222-1 Acquired: 4/17/2019 14:13:57 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.074</b>	<b>.0105</b>	<b>.0033</b>	<b>.1017</b>	<b>.4534</b>	<b>.5746</b>	<b>2.644</b>	<b>.3443</b>	<b>.0032</b>
Stddev	.006	.0001	.0002	.0004	.0014	.0025	.026	.0012	.0002
%RSD	.5435	1.111	6.512	4.357	.3164	.4438	.9841	.3486	7.654
#1	1.068	.0104	.0035	.1016	.4526	.5721	2.643	.3452	.0034
#2	1.080	.0106	.0031	.1022	.4550	.5772	2.670	.3447	.0029
#3	1.075	.0104	.0033	.1013	.4525	.5744	2.618	.3429	.0033
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.4979</b>	<b>1.071</b>	<b>.1883</b>	<b>.0042</b>	<b>.3363</b>	<b>.0038</b>	<b>-0.004</b>	<b>128.4</b>	<b>98.98</b>
Stddev	.0019	.003	.0018	.0010	.0020	.0015	.0008	.6	1.64
%RSD	.3862	.2890	.9674	23.89	.5860	40.25	211.7	.4300	1.659
#1	.4963	1.073	.1865	.0034	.3378	.0055	-.0003	127.9	97.44
#2	.5000	1.072	.1901	.0053	.3370	.0031	-.0012	129.0	98.79
#3	.4974	1.068	.1882	.0038	.3341	.0028	-.0003	128.3	100.7
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>F 214.0</b>	<b>43.37</b>	<b>15.32</b>	<b>41.97</b>	<b>2.665</b>	<b>.0253</b>	<b>3.452</b>	<b>.0797</b>	<b>.8853</b>
Stddev	.5	.23	.10	.21	.0021	.0002	.021	.0010	.0048
%RSD	.2186	.5262	.6401	.4896	.8012	.9728	.5969	1.290	.5416
#1	214.0	43.13	15.21	41.75	.2675	.0251	3.475	.8802	.8803
#2	214.5	43.59	15.40	42.16	.2679	.0253	3.438	.8805	.8898
#3	213.6	43.38	15.35	41.99	.2640	.0256	3.441	.8786	.8860
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>6.008</b>	<b>.0055</b>	<b>.1246</b>	<b>8.975</b>	<b>-.0151</b>	<b>.1584</b>	<b>4.477</b>		
Stddev	.018	.0014	.0002	.032	.0041	.0005	.017		
%RSD	.2990	26.11	.1802	.3515	26.94	.2864	.3718		
#1	6.001	.0040	.1245	9.009	-.0147	.1579	4.496		
#2	6.028	.0055	.1248	8.967	-.0113	.1588	4.469		
#3	5.995	.0069	.1244	8.948	-.0193	.1584	4.466		

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Sample Name: jc86222-1 Acquired: 4/17/2019 14:13:57 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	142960.	33889.	4040.6	6792.4
Stddev	500.	170.	5.8	9.5
%RSD	.34975	.50033	.14430	.14002
#1	143030.	34037.	4038.0	6788.0
#2	142430.	33704.	4036.6	6785.9
#3	143420.	33924.	4047.3	6803.3

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Sample Name: ccv 7 Acquired: 4/17/2019 14:19:24 Type: QC  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.046</b>	<b>2.090</b>	<b>2.041</b>	<b>2.027</b>	<b>2.049</b>	<b>1.999</b>	<b>2.110</b>	<b>2.073</b>	<b>2.501</b>
Stddev	.003	.002	.010	.005	.009	.005	.004	.006	.0004
%RSD	.1391	.0900	.4746	.2697	.4487	.2705	.1913	.2753	.1416
#1	2.049	2.092	2.030	2.021	2.043	2.000	2.107	2.067	2.499
#2	2.043	2.090	2.045	2.031	2.044	1.994	2.108	2.077	2.499
#3	2.047	2.088	2.048	2.030	2.059	2.004	2.114	2.077	2.505

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	<b>2.033</b>	<b>2.055</b>	<b>2.023</b>	<b>2.128</b>	<b>2.080</b>	<b>2.037</b>	<b>2.038</b>	<b>40.46</b>	<b>40.81</b>
Stddev	.007	.006	.010	.014	.006	.013	.011	.04	.09
%RSD	.3493	.2805	.4960	.6669	.3094	.6549	.5355	.1000	.2123
#1	2.029	2.048	2.012	2.115	2.073	2.021	2.025	40.50	40.90
#2	2.029	2.057	2.031	2.127	2.086	2.043	2.044	40.42	40.80
#3	2.041	2.059	2.028	2.143	2.079	2.045	2.044	40.46	40.72

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	<b>41.16</b>	<b>40.78</b>	<b>40.58</b>	<b>40.68</b>	<b>2.043</b>	<b>2.068</b>	<b>5.186</b>	<b>2.089</b>	<b>2.057</b>
Stddev	.05	.15	.10	.07	.011	.008	.029	.011	.023
%RSD	.1106	.3743	.2528	.1597	.5229	.4015	.5542	.5202	1.102
#1	41.14	40.88	40.64	40.73	2.031	2.058	5.153	2.077	2.081
#2	41.21	40.86	40.63	40.70	2.050	2.074	5.203	2.092	2.052
#3	41.12	40.61	40.46	40.61	2.048	2.072	5.203	2.099	2.036

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

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Sample Name: ccv 7 Acquired: 4/17/2019 14:19:24 Type: QC  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.045</b>	<b>2.042</b>	<b>2.034</b>	<b>2.016</b>	<b>2.057</b>	<b>2.012</b>	<b>2.062</b>
Stddev	.004	.006	.007	.017	.006	.004	.011
%RSD	.1868	.2773	.3623	.8182	.2826	.2178	.5463
#1	2.044	2.036	2.031	1.999	2.050	2.016	2.049
#2	2.042	2.043	2.029	2.017	2.059	2.007	2.065
#3	2.049	2.048	2.043	2.032	2.060	2.013	2.071

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	132890.	30673.	3779.2	6832.6
Stddev	584.	153.	11.9	14.3
%RSD	.43926	.49990	.31535	.20896
#1	133440.	30666.	3791.9	6846.1
#2	132940.	30524.	3768.3	6817.7
#3	132280.	30830.	3777.3	6833.9

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Sample Name: ccb Acquired: 4/17/2019 14:25:21 Type: QC  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.000</b>	<b>0.001</b>	<b>-0.000</b>	<b>0.003</b>	<b>-0.003</b>	<b>0.001</b>	<b>0.001</b>	<b>-0.002</b>	<b>-0.002</b>
Stddev	.0001	.0000	.0001	.0001	.0001	.0001	.0000	.0001	.0003
%RSD	149.0	23.48	2824.	44.20	40.80	36.74	31.74	49.78	136.5
#1	.0000	.0001	.0001	.0002	-.0002	.0002	.0001	-.0004	-.0004
#2	.0001	.0001	-.0002	.0004	-.0002	.0001	.0001	-.0002	-.0002
#3	-.0000	.0001	.0001	.0002	-.0004	.0002	.0001	-.0002	.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	<b>0.004</b>	<b>0.002</b>	<b>-0.004</b>	<b>0.003</b>	<b>-0.003</b>	<b>-0.006</b>	<b>0.004</b>	<b>-0.053</b>	<b>-0.018</b>
Stddev	.0002	.0001	.0012	.0004	.0010	.0006	.0004	.0031	.0007
%RSD	59.95	48.21	281.1	130.5	317.1	94.92	103.2	57.69	41.63
#1	.0002	.0003	-.0001	-.0001	-.0003	-.0012	.0006	-.0067	-.0009
#2	.0004	.0002	-.0018	.0003	-.0007	-.0007	.0006	-.0018	-.0023
#3	.0007	.0001	.0005	.0007	-.0014	-.0000	-.0001	-.0075	-.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	<b>0.010</b>	<b>-0.082</b>	<b>-0.020</b>	<b>0.127</b>	<b>0.012</b>	<b>0.002</b>	<b>0.028</b>	<b>0.004</b>	<b>0.001</b>
Stddev	.0013	.0013	.0215	.0023	.0004	.0001	.0011	.0003	.0000
%RSD	129.7	16.38	1058.	17.85	35.37	47.20	39.99	97.79	39.61
#1	.0008	-.0095	-.0267	.0152	.0015	.0003	.0030	.0005	.0001
#2	.0024	-.0082	.0087	.0111	.0007	.0001	.0016	.0006	.0001
#3	-.0002	-.0068	.0119	.0117	.0014	.0002	.0038	-.0000	.0002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

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Sample Name: ccb Acquired: 4/17/2019 14:25:21 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.000	0.027	0.001	0.001	-0.005	0.007	-0.008
Stddev	0.001	0.013	0.000	0.031	0.006	0.010	0.005
%RSD	618.1	46.89	55.59	3001.	108.8	157.6	58.69
#1	0.000	0.039	0.001	0.037	-0.005	0.007	-0.003
#2	0.000	0.014	0.001	-0.015	0.000	0.016	-0.012
#3	-0.001	0.028	0.000	-0.019	-0.011	-0.004	-0.010

Check ?  
High Limit  
Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137760.	30611.	3870.5	7454.1
Stddev	362.	17.	8.8	14.5
%RSD	.26284	.05582	.22721	.19426
#1	137590.	30623.	3870.7	7458.3
#2	138180.	30618.	3861.5	7438.0
#3	137520.	30592.	3879.1	7466.0

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Sample Name: mp14152-sd1 Acquired: 4/17/2019 14:30:37 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.174	0.114	0.033	0.177	0.041	5.900	2.987	3.599	0.064
Stddev	0.35	0.004	0.005	0.004	0.021	0.001	0.11	0.015	0.008
%RSD	2.948	3.444	14.94	3.524	4.130	0.234	3.733	4.242	12.90
#1	1.134	0.110	0.038	0.176	0.062	5.900	2.993	3.588	0.054
#2	1.196	0.118	0.030	0.182	0.041	5.901	2.993	3.592	0.069
#3	1.192	0.113	0.030	0.175	0.020	5.899	2.974	3.616	0.068

Elem V\_2924 Zn2062 As1890 Tl1908 Pb2203 Se1960 Sb2068 Al3961 Ca3179

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.460	1.227	2.049	0.131	3.532	0.026	-0.018	138.0	111.7
Stddev	0.023	0.003	0.021	0.028	0.054	0.051	0.036	4.2	3.3
%RSD	4.268	2.506	1.013	2.939	1.529	198.2	196.6	3.033	2.917
#1	5.486	1.229	2.029	0.174	3.594	0.002	-0.030	133.2	108.0
#2	5.452	1.224	2.048	0.116	3.507	-0.009	-0.047	141.0	114.0
#3	5.442	1.229	2.071	0.102	3.494	0.085	0.022	139.9	113.0

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	249.5	48.37	16.34	45.33	2.951	0.284	3.709	0.862	9.614
Stddev	7.4	1.43	.44	1.34	0.044	0.006	0.19	0.027	0.281
%RSD	2.967	2.948	2.667	2.959	1.504	2.064	5.094	3.142	2.921
#1	240.9	46.75	15.84	43.78	2.980	0.287	3.704	0.851	9.290
#2	254.2	49.45	16.65	46.08	2.973	0.277	3.692	0.893	9.786
#3	253.2	48.91	16.52	46.12	2.900	0.287	3.729	0.843	9.767

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.534	0.116	1.159	9.575	0.044	1.755	4.871
Stddev	0.14	0.023	0.009	0.43	0.112	0.058	0.26
%RSD	2.092	19.88	6.933	4.455	17.40	3.287	5.336
#1	6.539	0.136	1.163	9.611	-0.0749	1.689	4.886
#2	6.544	0.091	1.165	9.528	-0.0526	1.776	4.841
#3	6.518	0.122	1.148	9.587	-0.0657	1.798	4.886

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Sample Name: mp14152-sd1 Acquired: 4/17/2019 14:30:37 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137470.	31301.	3894.1	7090.8
Stddev	784.	843.	4.2	4.7
%RSD	.57037	2.6933	.10705	.06591
#1	136820.	32268.	3890.4	7085.4
#2	137240.	30722.	3898.6	7093.6
#3	138340.	30912.	3893.4	7093.4

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Sample Name: mp14152-ps1 Acquired: 4/17/2019 14:35:41 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.932	1.899	1.863	1.986	2.270	2.473	4.383	2.253	2.318
Stddev	0.23	0.12	0.09	0.07	0.19	0.19	0.13	0.09	0.017
%RSD	7.813	6.103	4.949	3.374	8.456	7.806	2.951	3.787	0.746
#1	2.906	1.891	1.872	1.992	2.249	2.453	4.375	2.260	2.299
#2	2.940	1.894	1.864	1.988	2.276	2.473	4.398	2.255	2.320
#3	2.950	1.912	1.854	1.979	2.286	2.492	4.376	2.243	2.334

Elem V\_2924 Zn2062 As1890 Tl1908 Pb2203 Se1960 Sb2068 Al3961 Ca3179

Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.308	2.812	2.076	1.846	2.240	1.840	1.879	149.6	120.0
Stddev	0.12	0.12	0.03	0.02	0.10	0.08	0.09	6	7
%RSD	.5090	.4411	.1570	.0853	.4431	.4272	4.566	.3945	.5626
#1	2.295	2.821	2.080	1.945	2.244	1.847	1.889	149.5	119.3
#2	2.313	2.818	2.075	1.948	2.248	1.842	1.875	149.1	120.0
#3	2.317	2.798	2.074	1.945	2.229	1.831	1.875	150.3	120.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	231.2	65.90	39.19	64.98	2.064	1.867	2.904	1.929	2.730
Stddev	1.3	.39	.24	.20	.009	.006	.016	.001	.013
%RSD	.5554	.5860	.6204	.3137	.4137	.3129	.5331	.0677	.4702
#1	229.8	65.63	38.99	64.85	2.074	1.873	2.911	1.931	2.736
#2	232.4	65.74	39.13	64.88	2.059	1.867	2.915	1.928	2.739
#3	231.3	66.34	39.46	65.22	2.059	1.861	2.886	1.929	2.715

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.607	1.744	2.014	8.695	0.176	1.549	6.197
Stddev	0.70	0.04	0.13	0.28	0.099	0.006	0.11
%RSD	9.267	2.025	6.386	3.241	56.50	3.888	1.761
#1	7.525	1.744	2.000	8.683	0.062	1.548	6.190
#2	7.653	1.747	2.015	8.675	0.220	1.543	6.191
#3	7.641	1.740	2.026	8.728	0.245	1.555	6.209

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Sample Name: mp14152-ps1 Acquired: 4/17/2019 14:35:41 Type: Unk
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: : :
Comment:

Table with 5 columns: Int. Std., Y\_3600, Y\_3710, Y\_2243, ln2306. Rows include Units, Avg, Stddev, %RSD and sample results #1, #2, #3.

Sample Name: jc86146-1 Acquired: 4/17/2019 14:41:19 Type: Unk
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: : :
Comment:

Table with 10 columns: Elem, Ba4554, Be3130, Cd2288, Co2286, Cr2677, Cu3247, Mn2576, Ni2316. Rows include Units, Avg, Stddev, %RSD and sample results #1, #2, #3.

Sample Name: jc86146-1 Acquired: 4/17/2019 14:41:19 Type: Unk
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: : :
Comment:

Table with 3 columns: Elem, Li6707, P\_1774. Rows include Units, Avg, Stddev, %RSD and sample results #1, #2, #3. Also includes Int. Std. section.

Sample Name: jc86195-1 Acquired: 4/17/2019 14:46:37 Type: Unk
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: : :
Comment:

Table with 11 columns: Elem, Ba4554, Be3130, Cd2288, Co2286, Cr2677, Cu3247, Mn2576, Ni2316, Ag3280. Rows include Units, Avg, Stddev, %RSD and sample results #1, #2, #3. Also includes Int. Std. section.

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Sample Name: jc86195-1 Acquired: 4/17/2019 14:46:37 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	141770.	33094.	4023.5	7127.0
Stddev	314.	246.	10.3	15.7
%RSD	.22121	.74243	.25576	.21966
#1	141430.	33134.	4031.8	7140.3
#2	141820.	32831.	4026.6	7131.0
#3	142050.	33317.	4012.0	7109.8

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Sample Name: jc86195-2 Acquired: 4/17/2019 14:51:55 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9968	.0047	.0006	.0917	.1271	.1798	F 8.105	.1980	.0003
Stddev	.0012	.0000	.0001	.0004	.0004	.0002	.033	.0004	.0007
%RSD	.1154	.3463	13.41	4.054	.3372	.1067	.4082	.2151	268.0
#1	.9958	.0047	.0005	.0915	.1269	.1799	8.070	.1984	-.0005
#2	.9965	.0047	.0007	.0914	.1268	.1795	8.135	.1980	.0003
#3	.9980	.0047	.0007	.0921	.1276	.1798	8.109	.1975	.0010

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1208	.6923	.0791	.0013	.1342	-.0083	-.0005	111.3	14.38
Stddev	.0002	.0012	.0002	.0008	.0003	.0003	.0007	.1	.02
%RSD	.1479	.1747	2363	61.83	.2077	3.698	161.9	.0920	.1592
#1	.1207	.6929	.0793	.0009	.1343	-.0086	-.0013	111.3	14.40
#2	.1207	.6909	.0792	.0008	.1339	-.0084	-.0002	111.2	14.35
#3	.1210	.6930	.0789	.0023	.1343	-.0080	.0001	111.4	14.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 247.9	43.00	9.816	1.228	.0108	.0027	1.202	.0282	.0894
Stddev	2.1	.03	.020	.003	.0007	.0003	.002	.0003	.0001
%RSD	.8500	.0713	.1996	.2255	6.539	12.80	.1768	1.033	.0596
#1	246.9	43.03	9.799	1.225	.0101	.0023	1.203	.0281	.0894
#2	246.5	42.97	9.812	1.229	.0108	.0030	1.200	.0286	.0894
#3	250.3	43.00	9.838	1.230	.0115	.0026	1.204	.0281	.0895

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.470	.0061	.0933	.3515	.0012	.2419	4.551
Stddev	.001	.0014	.0001	.0036	.0010	.0003	.014
%RSD	.0558	23.73	.1075	1.012	88.00	.1398	.3021
#1	1.469	.0053	.0933	.3553	.0018	.2423	4.563
#2	1.471	.0077	.0933	.3482	-.0000	.2416	4.536
#3	1.469	.0051	.0935	.3509	.0017	.2419	4.554

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Sample Name: jc86195-2 Acquired: 4/17/2019 14:51:55 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140790.	32866.	4016.6	7162.5
Stddev	170.	84.	2.9	5.8
%RSD	.12052	.25437	.07301	.08121
#1	140630.	32770.	4013.9	7157.3
#2	140970.	32902.	4019.7	7161.5
#3	140770.	32925.	4016.3	7168.8

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Sample Name: jc86196-1 Acquired: 4/17/2019 14:57:15 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.224	.0083	.0009	.1205	.2218	.3519	7.396	.3084	-.0011
Stddev	.002	.0000	.0002	.0005	.0010	.0005	.046	.0005	.0005
%RSD	.1239	.4620	24.65	4.308	.4370	.1417	.6199	.1753	47.55
#1	1.223	.0083	.0010	.1210	.2223	.3518	7.438	.3081	-.0016
#2	1.226	.0083	.0007	.1200	.2225	.3516	7.402	.3081	-.0009
#3	1.224	.0082	.0011	.1204	.2207	.3525	7.347	.3090	-.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2544	.7344	.0864	-.0001	.1489	-.0037	-.0015	161.3	137.6
Stddev	.0016	.0024	.0004	.0010	.0006	.0014	.0010	.1	1.2
%RSD	.6390	.3273	.5112	925.3	.4262	38.59	66.08	.0763	.8655
#1	.2562	.7328	.0859	.0009	.1489	-.0042	-.0009	161.2	136.4
#2	.2531	.7332	.0864	-.0009	.1495	-.0048	-.0026	161.2	138.8
#3	.2538	.7371	.0868	-.0003	.1482	-.0021	-.0009	161.4	137.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 287.7	88.04	28.71	8675	.0743	.0088	1.929	.0249	.5286
Stddev	1.9	.18	.10	.0013	.0002	.0001	.007	.0007	.0015
%RSD	.6462	.1999	.3538	.1540	.2519	1.433	.3720	2.942	.2847
#1	285.6	88.01	28.66	8690	.0744	.0088	1.932	.0248	.5285
#2	288.4	88.23	28.83	8664	.0741	.0087	1.921	.0242	.5301
#3	289.1	87.88	28.65	8670	.0745	.0090	1.934	.0257	.5271

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5112	.0042	.1218	5.914	.0051	.3075	4.297
Stddev	.0013	.0008	.0001	.001	.0018	.0007	.001
%RSD	.2591	17.98	.1094	.0131	35.95	.2366	.0290
#1	.5127	.0033	.1220	5.913	.0057	.3081	4.296
#2	.5106	.0046	.1217	5.914	.0066	.3067	4.296
#3	.5103	.0047	.1217	5.915	.0030	.3079	4.298

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Sample Name: jc86196-1 Acquired: 4/17/2019 14:57:15 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

	Y_3600	Y_3710	Y_2243	In2306
Int. Std. Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140120.	33321.	3950.4	6818.0
Stddev	943.	133.	6.9	9.9
%RSD	.67333	.39996	.17477	.14503
#1	139160.	33381.	3954.5	6813.4
#2	140160.	33168.	3954.2	6829.4
#3	141050.	33414.	3942.4	6811.3

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Sample Name: jc86196-2 Acquired: 4/17/2019 15:02:39 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9920	.0066	.0011	.1305	.1715	.2903	8.615	.2981	.0002
Stddev	.0087	.0001	.0001	.0001	.0013	.0010	.051	.0013	.0005
%RSD	.8808	.7989	5.169	.0824	.7730	.3572	.5946	4.274	241.9
#1	1.002	.0067	.0010	.1306	.1730	.2913	8.615	.2982	-.0001
#2	.9866	.0066	.0011	.1304	.1707	.2905	8.649	.2968	-.0001
#3	.9874	.0066	.0011	.1305	.1708	.2892	8.548	.2993	.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2008	.6506	.0751	.0001	.1603	-.0077	-.0001	130.6	148.7
Stddev	.0012	.0016	.0014	.0008	.0012	.0028	.0015	1.3	2.9
%RSD	.5972	2.424	1.923	662.0	.7211	36.54	244.2	.9580	1.977
#1	.2021	.6492	.0748	-.0007	.1616	-.0054	-.0016	132.0	150.1
#2	.2004	.6503	.0738	.0008	.1597	-.0069	.0000	129.6	145.3
#3	.1998	.6523	.0766	.0003	.1595	-.0108	.0014	130.1	150.6

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 241.7	58.79	22.08	.6955	.0539	.0082	1.681	.0236	.4797
Stddev	.8	.46	.14	.0038	.0009	.0005	.004	.0006	.0034
%RSD	.3202	.7871	.6249	.5482	1.675	5.876	.2194	2.687	.7040
#1	241.0	59.27	22.24	.6967	.0536	.0087	1.685	.0239	.4835
#2	242.5	58.35	21.97	.6987	.0532	.0078	1.677	.0241	.4781
#3	241.7	58.74	22.03	.6913	.0549	.0082	1.681	.0229	.4773

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4489	.0042	.0973	1.059	.0026	2.414	3.767
Stddev	.0012	.0012	.0002	.006	.0014	.0024	.023
%RSD	.2772	28.64	2.557	5.442	53.65	1.003	.6138
#1	.4499	.0030	.0976	1.058	.0039	2.441	3.761
#2	.4492	.0054	.0971	1.053	.0011	2.395	3.748
#3	.4475	.0043	.0973	1.065	.0028	2.406	3.793

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Sample Name: jc86196-2 Acquired: 4/17/2019 15:02:39 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

	Y_3600	Y_3710	Y_2243	In2306
Int. Std. Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139820.	32729.	3941.3	6836.8
Stddev	438.	225.	6.3	16.4
%RSD	.31342	.68743	.15995	.23978
#1	139360.	32500.	3939.8	6835.7
#2	140230.	32950.	3948.3	6853.7
#3	139870.	32737.	3936.0	6820.9

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Sample Name: jc86197-1 Acquired: 4/17/2019 15:08:07 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1907	.0020	.0007	.0223	.0546	.1183	.7276	.0404	.0004
Stddev	.0002	.0000	.0002	.0002	.0006	.0010	.0009	.0003	.0003
%RSD	.0941	2.181	22.94	.8230	1.011	.8554	.1195	.6397	65.86
#1	.1906	.0020	.0007	.0224	.0540	.1171	.7266	.0403	.0004
#2	.1907	.0020	.0005	.0223	.0551	.1187	.7280	.0407	.0001
#3	.1909	.0020	.0008	.0221	.0547	.1190	.7282	.0402	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1725	.2437	.0270	.0015	.2250	-.0018	-.0009	62.06	52.23
Stddev	.0003	.0009	.0006	.0012	.0011	.0018	.0021	.11	.05
%RSD	.1595	.3565	2.168	84.30	5.063	100.5	229.6	.1768	.0904
#1	.1726	.2430	.0275	.0027	.2249	-.0028	-.0032	62.16	52.23
#2	.1728	.2446	.0264	.0002	.2240	-.0029	-.0006	61.94	52.18
#3	.1722	.2434	.0272	.0014	.2262	-.0003	.0010	62.08	52.27

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	84.55	16.45	2.592	.9386	.0097	.0037	2.269	.0321	.1616
Stddev	.28	.01	.020	.0030	.0002	.0001	.007	.0009	.0003
%RSD	.3267	.0864	.7874	.3218	1.799	3.901	.3175	2.650	.1699
#1	84.32	16.43	2.574	.9376	.0099	.0036	2.269	.0320	.1614
#2	84.46	16.46	2.587	.9420	.0096	.0037	2.276	.0329	.1616
#3	84.86	16.45	2.614	.9363	.0098	.0039	2.261	.0312	.1619

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.551	.0028	.0061	3.108	-.0178	.0408	4.056
Stddev	.002	.0020	.0001	.012	.0017	.0004	.015
%RSD	.0914	72.12	2.350	.3853	9.619	.9427	.3644
#1	2.549	.0011	.0062	3.109	-.0191	.0404	4.054
#2	2.554	.0022	.0060	3.120	-.0185	.0412	4.071
#3	2.551	.0050	.0059	3.096	-.0159	.0408	4.042

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Zoom In  
Zoom Out

Sample Name: jc86197-1 Acquired: 4/17/2019 15:08:07 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140460.	32662.	4021.4	7024.1
Stddev	282.	82.	7.0	9.3
%RSD	.20076	.25077	.17464	.13271
#1	140580.	32727.	4016.8	7016.7
#2	140670.	32691.	4017.8	7021.0
#3	140140.	32570.	4029.5	7034.6

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Zoom In  
Zoom Out

Sample Name: mp14152-s1 Acquired: 4/17/2019 15:13:10 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.217	1.897	1.851	1.953	2.374	2.332	4.412	2.239	2.499
Stddev	.025	.013	.009	.007	.005	.007	.030	.008	.0014
%RSD	.7750	.6624	.4834	.3541	.2058	.2967	.6774	.3703	.5688
#1	3.242	1.909	1.842	1.945	2.372	2.327	4.442	2.229	2.516
#2	3.192	1.884	1.853	1.956	2.380	2.340	4.413	2.243	2.489
#3	3.218	1.899	1.859	1.958	2.371	2.329	4.382	2.244	2.493
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.476	2.756	2.052	1.880	2.254	1.787	.9516	196.2	180.5
Stddev	.006	.012	.005	.007	.006	.005	.0039	.9	2.1
%RSD	.2588	.4172	.2230	.3929	.2698	.2807	.4121	.4577	1.160
#1	2.478	2.744	2.052	1.888	2.248	1.782	.9471	197.0	180.4
#2	2.481	2.758	2.048	1.875	2.254	1.792	.9541	195.2	178.4
#3	2.469	2.767	2.057	1.877	2.260	1.788	.9536	196.3	182.6
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	250.6	74.78	42.30	74.89	2.777	1.839	5.425	1.902	3.063
Stddev	1.2	.20	.34	.60	.016	.008	.029	.011	.026
%RSD	.4925	.2729	.8131	.8040	.5665	.4539	.5362	.5865	.8393
#1	251.9	74.88	42.59	75.39	2.759	1.829	5.391	1.891	3.087
#2	250.3	74.54	41.92	74.22	2.784	1.842	5.437	1.903	3.036
#3	249.5	74.91	42.40	75.06	2.788	1.845	5.445	1.913	3.067
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	9.249	1.315	1.986	5.928	.0002	1.666	7.166		
Stddev	.011	.004	.005	.036	.0135	.0012	.021		
%RSD	.1136	.3342	.2751	.6106	8957.	.7305	.2946		
#1	9.258	1.311	1.984	5.886	.0147	1.663	7.142		
#2	9.252	1.316	1.993	5.946	-.0021	1.655	7.174		
#3	9.237	1.319	1.982	5.951	-.0121	1.679	7.182		

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Zoom In  
Zoom Out

Sample Name: mp14152-s1 Acquired: 4/17/2019 15:13:10 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138350.	32680.	3912.9	6772.6
Stddev	338.	75.	11.8	11.5
%RSD	.24425	.22802	.30279	.16948
#1	138010.	32650.	3925.7	6783.8
#2	138380.	32765.	3910.8	6773.1
#3	138680.	32625.	3902.3	6760.8

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Zoom In  
Zoom Out

Sample Name: ccv 7 Acquired: 4/17/2019 15:18:26 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.052	2.092	2.044	2.030	2.064	2.015	2.131	2.077	2.514
Stddev	.012	.011	.004	.005	.014	.014	.013	.006	.0019
%RSD	.5963	.5391	.1807	.2679	.6814	.6874	.6163	.3135	.7508
#1	2.047	2.090	2.040	2.023	2.070	2.015	2.137	2.070	2.511
#2	2.044	2.082	2.047	2.034	2.048	2.001	2.116	2.078	2.496
#3	2.066	2.105	2.045	2.031	2.074	2.029	2.141	2.083	2.534
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	2.042	2.060	2.021	2.108	2.089	2.028	2.038	40.49	40.68
Stddev	.012	.006	.004	.004	.006	.005	.005	.16	.14
%RSD	.6067	.2716	.1915	.1966	.2981	.2314	.2703	.3845	.3530
#1	2.043	2.054	2.017	2.103	2.084	2.023	2.032	40.37	40.55
#2	2.029	2.062	2.024	2.111	2.088	2.029	2.040	40.42	40.67
#3	2.053	2.065	2.023	2.110	2.096	2.032	2.043	40.66	40.83
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	40.88	40.92	40.68	40.47	2.048	2.069	5.193	2.089	2.054
Stddev	.22	.12	.21	.20	.003	.004	.005	.004	.017
%RSD	.5262	.2892	.5255	.5060	.1321	.1875	.1041	.2140	.8445
#1	40.84	40.87	40.66	40.41	2.045	2.065	5.188	2.085	2.073
#2	40.69	40.84	40.47	40.30	2.047	2.070	5.199	2.088	2.040
#3	41.12	41.06	40.90	40.70	2.050	2.073	5.193	2.094	2.048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range									

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Sample Name: ccv 7 Acquired: 4/17/2019 15:18:26 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.060	2.051	2.050	1.981	2.072	2.007	2.037
Stddev	.013	.005	.012	.006	.003	.009	.004
%RSD	.6245	.2685	.5973	.3187	.1445	.4726	.1899

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	132090.	30695.	3764.9	6797.3
Stddev	757.	30.	5.9	18.4
%RSD	.57316	.09631	.15739	.27053

#1	131950.	30719.	3771.5	6817.5
#2	132900.	30705.	3762.9	6792.9
#3	131410.	30662.	3760.2	6781.5

Sample Name: ccb Acquired: 4/17/2019 15:23:26 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0000	.0002	-.0002	.0000	.0002	-.0001	-.0002
Stddev	.0001	.0001	.0001	.0001	.0001	.0001	.0001	.0002	.0003
%RSD	85.97	56.11	2554.	37.01	47.27	177.7	38.61	290.5	162.9

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit  
Low Limit

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0002	-.0014	.0001	-.0001	-.0011	-.0000	-.0001	.0005
Stddev	.0003	.0001	.0006	.0013	.0004	.0019	.0011	.0035	.0002
%RSD	79.25	35.25	45.07	870.9	708.0	171.9	16060.	3677.	41.49

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	.0034	.0120	-.0130	.0100	.0004	.0005	.0026	-.0001	.0020
Stddev	.0013	.0114	.0164	.0054	.0005	.0002	.0003	.0005	.0000
%RSD	39.05	94.65	126.1	54.29	111.6	45.08	9.718	996.9	21.00

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit  
Low Limit

#1	.0048	.0214	-.0143	.0155	.0003	.0005	.0025	.0005	.0002
#2	.0035	-.0006	-.0288	.0096	.0000	.0008	.0029	-.0001	.0003
#3	.0021	.0153	.0040	.0047	.0010	.0003	.0024	-.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

Sample Name: ccb Acquired: 4/17/2019 15:23:26 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0027	.0003	.0000	.0002	.0003	.0022
Stddev	.0002	.0003	.0000	.0024	.0007	.0004	.0003
%RSD	50.64	12.74	10.81	6633.	334.7	110.6	15.32

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	138270.	30786.	3861.9	7424.4
Stddev	264.	81.	17.1	28.2
%RSD	.19099	.26195	.44333	.38049

#1	138570.	30860.	3842.4	7393.1
#2	138150.	30799.	3868.9	7432.2
#3	138090.	30700.	3874.4	7448.0

Sample Name: mp14152-s2 Acquired: 4/17/2019 15:28:42 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.978	1.916	1.825	1.908	2.269	2.322	4.478	2.196	2.481
Stddev	.046	.029	.006	.006	.005	.008	.017	.005	.0014
%RSD	1.547	1.501	.3060	.3392	.2033	.3406	.3806	.2342	.5704

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	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.351	2.919	1.980	1.834	2.167	1.762	1.020	181.2	162.1
Stddev	.004	.011	.013	.015	.003	.010	.001	2.7	2.2
%RSD	.1752	.3780	.6468	.8244	.1516	.5536	.0490	1.483	1.342

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit  
Low Limit

#1	2.355	2.924	1.980	1.833	2.166	1.763	1.019	184.1	164.5
#2	2.348	2.906	1.968	1.819	2.163	1.752	1.020	180.4	161.3
#3	2.349	2.927	1.993	1.849	2.170	1.771	1.020	179.0	160.4

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	242.1	82.78	39.98	71.38	1.976	1.825	6.220	1.882	2.905
Stddev	3.5	1.09	.59	1.07	.002	.005	.016	.009	.047
%RSD	1.432	1.311	1.487	1.498	.0758	.2508	.2527	.5029	1.602

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit  
Low Limit

#1	246.0	84.03	40.64	72.56	1.978	1.826	6.227	1.882	2.957
#2	241.1	82.22	39.82	71.12	1.975	1.820	6.202	1.873	2.892
#3	239.3	82.09	39.48	70.47	1.975	1.829	6.232	1.892	2.867

Sample Name: mp14152-s2 Acquired: 4/17/2019 15:28:42 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137750.	31987.	3876.4	6784.6
Stddev	419.	82.	6.2	13.9
%RSD	.30402	.25715	.16062	.20476
#1	137800.	31892.	3873.4	6779.6
#2	138140.	32042.	3883.5	6800.3
#3	137310.	32027.	3872.2	6773.8

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Sample Name: jc86222-1 Acquired: 4/17/2019 15:33:40 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.101	.0109	.0033	.1004	.4652	.5596	2.782	.3420	.0043
Stddev	.009	.0000	.0002	.0006	.0046	.0028	.007	.0018	.0002
%RSD	.8046	.0643	6.328	.5674	.9825	.4937	.2560	.5370	4.063
#1	1.098	.0109	.0034	.1010	.4613	.5603	2.776	.3428	.0045
#2	1.095	.0109	.0034	.0999	.4641	.5566	2.779	.3433	.0043
#3	1.111	.0108	.0030	.1002	.4702	.5620	2.790	.3399	.0041
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5060	1.119	.1875	.0053	.3374	.0077	-.0042	130.2	103.4
Stddev	.0022	.005	.0027	.0020	.0017	.0057	.0015	.9	.7
%RSD	.4409	.4437	1.455	38.10	.4968	73.83	35.70	.6943	.6549
#1	.5041	1.122	.1890	.0050	.3394	.0045	-.0054	129.7	103.0
#2	.5056	1.123	.1892	.0074	.3364	.0043	-.0047	129.7	103.0
#3	.5085	1.114	.1844	.0034	.3366	.0142	-.0025	131.3	104.2
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	228.3	44.95	15.61	42.44	2.718	.0263	4.270	.0796	.9008
Stddev	2.0	.32	.15	.32	.0015	.0008	.009	.0009	.0073
%RSD	.8564	.7182	.9562	.7582	.5397	3.044	.2089	1.174	.8132
#1	227.9	44.76	15.56	42.34	2.734	.0256	4.281	.0793	.8995
#2	226.6	44.77	15.50	42.18	2.716	.0272	4.265	.0807	.8941
#3	230.5	45.32	15.78	42.80	2.705	.0261	4.266	.0789	.9086
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	6.142	.0063	.1284	8.864	-.0242	.1578	4.485		
Stddev	.017	.0025	.0005	.028	.0047	.0007	.014		
%RSD	.2793	40.38	.3523	.3191	19.21	.4539	.3160		
#1	6.123	.0092	.1280	8.893	-.0276	.1579	4.500		
#2	6.157	.0046	.1284	8.862	-.0261	.1571	4.482		
#3	6.146	.0050	.1289	8.836	-.0189	.1585	4.472		

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Sample Name: jc86222-1 Acquired: 4/17/2019 15:33:40 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139050.	32227.	3942.2	6905.7
Stddev	908.	324.	12.4	17.1
%RSD	.65270	1.0054	.31360	.24757
#1	139980.	32354.	3936.4	6898.0
#2	139010.	32469.	3933.9	6893.8
#3	138170.	31859.	3956.4	6925.3

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Sample Name: mp14152-sd1 Acquired: 4/17/2019 15:38:43 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 10.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.081	.0108	.0028	.0991	.4613	.5369	2.764	.3299	.0029
Stddev	.001	.0005	.0010	.0027	.0019	.0049	.008	.0012	.0034
%RSD	.0927	5.087	37.23	2.735	4.188	.9095	.2819	.3785	114.2
#1	1.081	.0114	.0024	.0998	.4599	.5317	2.759	.3294	.0067
#2	1.082	.0106	.0040	.1013	.4605	.5376	2.760	.3314	.0003
#3	1.080	.0104	.0021	.0961	.4635	.5414	2.773	.3290	.0018
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5037	1.161	.1914	.0148	.3308	-.0164	-.0061	125.5	101.6
Stddev	.0005	.003	.0042	.0101	.0094	.0069	.0078	.1	.2
%RSD	.0908	.2615	2.199	68.25	2.854	41.73	126.3	.0676	.1596
#1	.5043	1.158	.1962	.0197	.3324	-.0113	-.0025	125.5	101.5
#2	.5035	1.163	.1883	.0032	.3393	-.0137	-.0125	125.6	101.6
#3	.5035	1.163	.1897	.0214	.3206	-.0242	-.0085	125.4	101.8
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	228.1	44.87	14.95	41.03	2.693	.0279	4.164	.0796	.8762
Stddev	.2	.07	.06	.08	.0048	.0030	.041	.0065	.0028
%RSD	.0666	.1521	.4262	.1938	1.790	10.86	.9893	8.158	.3203
#1	228.0	44.80	14.99	41.07	2.651	.0304	4.206	.0848	.8769
#2	228.2	44.94	14.88	41.09	2.682	.0245	4.160	.0723	.8786
#3	227.9	44.87	14.97	40.94	2.746	.0287	4.124	.0817	.8731
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	6.007	.0221	.1258	8.674	-.0745	.1671	4.461		
Stddev	.007	.0109	.0011	.020	.0110	.0051	.029		
%RSD	.1121	49.18	.8689	.2330	14.72	3.034	.6536		
#1	6.005	.0178	.1271	8.657	-.0701	.1710	4.463		
#2	6.002	.0344	.1252	8.667	-.0870	.1690	4.431		
#3	6.015	.0140	.1251	8.696	-.0664	.1614	4.489		

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Sample Name: mp14152-sd1 Acquired: 4/17/2019 15:38:43 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 10.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138160.	31062.	3888.5	7218.5
Stddev	510.	83.	5.0	1.3
%RSD	.36940	.26830	.12828	.01847
#1	138600.	31132.	3890.7	7218.9
#2	138270.	31085.	3882.8	7217.0
#3	137600.	30970.	3891.9	7219.5

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Sample Name: jc86195-1 Acquired: 4/17/2019 15:43:52 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6021	0044	0004	1077	1400	1970	7415	2227	-0036
Stddev	0143	0001	0000	0006	0041	0050	256	0011	0010
%RSD	2.369	2.705	10.51	5.319	2.962	2.550	3.448	4.768	26.46
#1	5875	0043	0005	1071	1358	1917	7152	2215	-0027
#2	6028	0045	0004	1078	1403	1976	7433	2234	-0036
#3	6160	0045	0004	1082	1440	2016	7662	2232	-0046
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1337	6667	0643	-0002	1168	-0104	-0012	114.1	12.29
Stddev	0039	0025	0034	0018	0008	0069	0008	2.4	2.7
%RSD	2.909	3.740	5.299	1056.	6.483	65.84	68.57	2.099	2.177
#1	1295	6638	0661	-0001	1176	-0054	-0015	111.6	12.02
#2	1345	6684	0603	-0020	1160	-0077	-0018	114.3	12.29
#3	1371	6679	0664	0016	1169	-0183	-0003	116.4	12.56
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	237.4	45.68	9.364	9733	0116	0021	1.436	0327	0735
Stddev	4.9	1.03	2.39	0326	0015	0004	010	0012	0017
%RSD	2.062	2.255	2.556	3.354	12.98	20.62	6.984	3.711	2.290
#1	232.7	44.67	9.139	9461	0125	0025	1.425	0317	0719
#2	237.1	45.63	9.338	9643	0125	0016	1.445	0340	0735
#3	242.5	46.73	9.615	1.009	0099	0021	1.438	0323	0753
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	2.132	0000	1127	1865	-0119	2606	4.448		
Stddev	051	0036	0029	0011	0039	0052	016		
%RSD	2.369	240900.	2.539	5.751	32.70	2.007	3.684		
#1	2.079	-0010	1096	1866	-0158	2556	4.431		
#2	2.137	0040	1132	1876	-0116	2602	4.449		
#3	2.179	-0029	1152	1854	-0081	2660	4.463		

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Sample Name: jc86195-1 Acquired: 4/17/2019 15:43:52 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139210.	31445.	3946.3	7119.7
Stddev	640.	199.	4.8	2.5
%RSD	.45941	.63341	.12111	.03510
#1	139620.	31221.	3948.2	7122.6
#2	139530.	31510.	3940.9	7118.7
#3	138470.	31604.	3949.9	7117.9

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Sample Name: jc86195-2 Acquired: 4/17/2019 15:49:04 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1043	0049	0007	0960	1333	1850	8713	2075	0007
Stddev	001	0001	0003	0003	0008	0003	006	0012	0008
%RSD	1.004	2.059	41.64	2.750	6.224	1.705	7.547	5.887	119.8
#1	1.044	0049	0004	0963	1338	1849	8.651	2061	0015
#2	1.043	0050	0010	0957	1323	1848	8.707	2080	0007
#3	1.042	0048	0007	0959	1337	1854	8.782	2084	-0002
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1287	7410	0843	0009	1411	-0079	-0012	116.0	15.02
Stddev	0006	0018	0021	0015	0023	0035	0014	1	02
%RSD	4.305	2.374	2.479	167.8	1.624	44.13	122.7	1.278	1.004
#1	1294	7398	0830	0017	1384	-0068	-0023	116.0	15.01
#2	1293	7402	0868	0019	1425	-0051	-0016	116.1	15.03
#3	1303	7431	0833	-0009	1424	-0118	0004	115.8	15.01
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	263.8	45.23	10.22	1.275	0098	0022	1.317	0305	0936
Stddev	9	02	04	011	0008	0011	010	0010	0001
%RSD	3.555	0.388	3.750	8.517	8.641	48.13	7.466	3.128	0.682
#1	264.7	45.24	10.25	1.288	0094	0033	1.322	0297	0936
#2	262.8	45.21	10.18	1.272	0092	0021	1.323	0315	0937
#3	264.0	45.23	10.23	1.267	0107	0012	1.305	0301	0936
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	1.534	0016	0976	3727	-0005	2518	4.823		
Stddev	003	0007	0000	0050	0021	0022	015		
%RSD	2.115	41.28	0.389	1.336	454.8	8.577	3.008		
#1	1.531	0022	0976	3752	-0009	2528	4.833		
#2	1.533	0009	0976	3760	0018	2533	4.830		
#3	1.537	0017	0977	3670	-0023	2493	4.806		

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Sample Name: jc86195-2 Acquired: 4/17/2019 15:49:04 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138530.	31734.	3921.8	7127.6
Stddev	280.	32.	3.9	6.3
%RSD	.20206	.10152	.10005	.08856
#1	138390.	31697.	3924.2	7134.5
#2	138850.	31757.	3924.0	7126.4
#3	138350.	31748.	3917.3	7122.0

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Sample Name: jc86196-1 Acquired: 4/17/2019 15:54:23 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.274	.0088	.0009	.1281	.2376	.3630	8.100	.3294	-0.005
Stddev	.011	.0001	.0006	.0011	.0019	.0032	.033	.0022	.0016
%RSD	.8555	.9249	64.52	.8348	.7983	.8867	.4019	.6612	290.3
#1	1.264	.0087	.0015	.1291	.2383	.3593	8.065	.3310	-0.022
#2	1.272	.0088	.0009	.1283	.2390	.3653	8.130	.3304	-0.003
#3	1.286	.0088	.0003	.1270	.2355	.3644	8.104	.3270	.0009
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2745	.8155	.0906	-0.008	.1612	-0.0031	-0.0011	167.1	146.5
Stddev	.0011	.0031	.0016	.0012	.0009	.0042	.0020	1.1	1.4
%RSD	.3978	.3780	1.735	147.1	5.815	134.9	182.9	.6356	.9358
#1	.2742	.8181	.0891	.0005	.1623	-.0079	-.0032	166.3	145.4
#2	.2757	.8162	.0905	-.0016	.1608	-.0009	-.0007	166.6	146.1
#3	.2736	.8121	.0923	-.0013	.1605	-.0004	-.0008	168.3	148.0
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	311.3	92.07	29.37	.8875	.0792	.0099	2.102	.0272	.5483
Stddev	7.9	.95	.40	.0203	.0019	.0005	.011	.0005	.0045
%RSD	2.543	1.035	1.358	2.290	2.446	4.935	.5182	1.954	.8127
#1	302.5	91.31	28.99	.8644	.0812	.0094	2.108	.0268	.5442
#2	313.6	91.75	29.32	.8955	.0774	.0102	2.108	.0278	.5477
#3	317.8	93.14	29.79	.9026	.0790	.0103	2.089	.0271	.5530
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.5482	.0011	.1295	6.286	.0042	.3150	4.618		
Stddev	.0024	.0035	.0005	.045	.0028	.0026	.014		
%RSD	.4404	315.2	.4203	.7137	66.18	.8267	.2933		
#1	.5454	-.0028	.1289	6.260	.0044	.3121	4.611		
#2	.5499	.0041	.1299	6.337	.0068	.3155	4.634		
#3	.5492	.0020	.1297	6.259	.0013	.3173	4.610		

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Sample Name: jc86196-1 Acquired: 4/17/2019 15:54:23 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137150.	31831.	3896.5	6894.4
Stddev	649.	191.	19.9	28.9
%RSD	.47302	.59933	.51005	.41910
#1	136720.	31695.	3880.7	6870.6
#2	136830.	32049.	3890.0	6886.0
#3	137900.	31749.	3918.8	6926.6

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Sample Name: jc86196-2 Acquired: 4/17/2019 15:59:40 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.026	.0070	.0010	.1359	.1801	.2957	9.407	.3127	-0.008
Stddev	.002	.0001	.0004	.0010	.0007	.0005	.093	.0005	.0007
%RSD	.1851	1.181	44.71	.7194	.4145	.1565	.9909	.1588	86.83
#1	1.027	.0069	.0014	.1358	.1802	.2953	9.325	.3123	-0.016
#2	1.024	.0070	.0005	.1370	.1794	.2957	9.508	.3132	-0.004
#3	1.027	.0070	.0010	.1350	.1809	.2962	9.388	.3124	-0.005
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2142	.7012	.0807	.0028	.1715	-0.0054	.0019	133.7	156.8
Stddev	.0010	.0037	.0031	.0014	.0024	.0070	.0019	.3	.4
%RSD	.4465	.5272	3.875	50.17	1.405	129.2	101.4	.1901	.2361
#1	.2131	.7015	.0786	.0038	.1697	-.0062	.0039	133.7	157.0
#2	.2149	.7048	.0792	.0012	.1742	-.0119	.0000	133.4	156.4
#3	.2147	.6974	.0843	.0033	.1706	.0019	.0018	133.9	157.1
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	256.3	61.38	22.70	.7150	.0539	.0089	1.786	.0242	.4950
Stddev	4.7	.19	.12	.0098	.0006	.0004	.015	.0007	.0017
%RSD	1.828	.3151	.5335	1.372	1.040	4.714	.8176	3.014	.3414
#1	251.2	61.55	22.81	.7261	.0541	.0087	1.784	.0234	.4969
#2	257.0	61.17	22.57	.7112	.0544	.0087	1.802	.0248	.4943
#3	260.5	61.42	22.72	.7076	.0533	.0094	1.773	.0245	.4937
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.4736	.0019	.1020	1.104	.0043	.2456	3.997		
Stddev	.0017	.0039	.0006	.002	.0028	.0017	.016		
%RSD	.3580	209.7	.5722	.1955	64.29	.6939	.3950		
#1	.4716	.0053	.1014	1.105	.0014	.2441	4.008		
#2	.4744	.0027	.1025	1.105	.0069	.2474	3.978		
#3	.4747	-.0024	.1022	1.101	.0047	.2452	4.004		

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Sample Name: jc86196-2 Acquired: 4/17/2019 15:59:40 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136420.	31544.	3865.7	6877.6
Stddev	712.	292.	14.9	18.6
%RSD	.52171	.92711	.38652	.26997
#1	137200.	31208.	3866.0	6878.4
#2	135810.	31681.	3850.6	6858.6
#3	136260.	31743.	3880.5	6895.7

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Sample Name: jc86221-1 Acquired: 4/17/2019 16:04:59 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 3.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.233	.0041	.0019	1.330	1.250	6416	17.73	.2399	.0020
Stddev	.003	.0001	.0001	.0003	.0016	.0012	.12	.0019	.0005
%RSD	.2092	2.899	6.026	.2029	1.280	.1801	.6714	.7838	24.33
#1	1.235	.0042	.0019	1.333	1.246	6412	17.86	.2414	.0024
#2	1.234	.0040	.0021	1.330	1.267	6430	17.71	.2378	.0015
#3	1.230	.0042	.0018	1.327	1.236	6408	17.62	.2404	.0022
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5956	.6463	.0510	.0059	.0476	-.0131	-.0050	100.4	83.14
Stddev	.0012	.0019	.0026	.0105	.0058	.0069	.0009	.2	.19
%RSD	.2097	.2985	5.018	177.0	12.24	52.32	18.16	.2411	.2339
#1	.5968	.6465	.0485	.0152	.0422	-.0201	-.0055	100.7	83.31
#2	.5958	.6482	.0536	-.0055	.0469	-.0130	-.0055	100.3	82.93
#3	.5943	.6443	.0509	.0081	.0538	-.0063	-.0040	100.3	83.17
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	273.3	62.93	7.783	14.25	4.378	.0119	1.538	.0670	.3940
Stddev	.1	.12	.046	.01	.0008	.0005	.007	.0033	.0011
%RSD	.0193	.1967	.5893	.0943	.1827	4.318	.4260	4.893	2.678
#1	273.3	63.04	7.735	14.27	4.380	.0125	1.535	.0662	.3947
#2	273.3	62.80	7.827	14.25	4.370	.0119	1.545	.0707	.3944
#3	273.4	62.96	7.787	14.24	4.385	.0114	1.533	.0643	.3927
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	13.84	.0047	.1723	1.876	-.0509	.0996	4.171		
Stddev	.01	.0055	.0006	.008	.0059	.0030	.008		
%RSD	.1056	116.2	.3752	.4124	11.65	2.968	.1831		
#1	13.84	.0098	.1717	1.885	-.0574	.1028	4.176		
#2	13.85	-.0011	.1730	1.872	-.0457	.0989	4.173		
#3	13.82	.0055	.1722	1.871	-.0497	.0971	4.162		

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Sample Name: jc86221-1 Acquired: 4/17/2019 16:04:59 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 3.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137660.	31523.	3872.8	6990.1
Stddev	390.	193.	4.8	5.8
%RSD	.28332	.61324	.12421	.08232
#1	137220.	31651.	3868.8	6986.3
#2	137940.	31617.	3871.5	6987.2
#3	137830.	31300.	3878.2	6996.7

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Sample Name: mp14142-mb1conf Acquired: 4/17/2019 16:10:11 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 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	.0002	.0001	.0004	.0001	-.0001	-.0004
Stddev	.0001	.0000	.0001	.0002	.0002	.0003	.0000	.0001	.0004
%RSD	106.2	1188.	93.47	70.09	309.1	98.03	16.95	128.8	95.50
#1	-.0001	-.0000	-.0000	.0002	.0001	.0007	.0001	-.0002	-.0008
#2	-.0000	-.0000	-.0001	.0001	-.0001	.0000	.0001	-.0001	-.0003
#3	-.0002	.0000	-.0000	.0004	.0003	.0003	.0001	-.0002	-.0001
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0020	-.0018	-.0012	.0004	-.0027	.0001	-.0014	.0082
Stddev	.0001	.0001	.0007	.0002	.0005	.0019	.0019	.0031	.0013
%RSD	28.02	3.414	37.98	17.12	119.9	70.06	1376.	220.0	15.97
#1	.0007	.0020	-.0024	-.0013	.0009	-.0020	.0019	.0014	.0083
#2	.0004	.0020	-.0010	-.0014	.0005	-.0012	.0005	-.0009	.0068
#3	.0005	.0021	-.0020	-.0010	-.0001	-.0047	-.0020	-.0047	.0094
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084	-.0179	-.0071	.0089	.0007	.0002	.0116	.0001	.0001
Stddev	.0006	.0016	.0243	.0026	.0003	.0002	.0014	.0002	.0001
%RSD	7.213	8.715	341.2	29.21	38.57	107.1	11.75	148.2	49.74
#1	.0086	-.0162	.0188	.0111	.0009	.0004	.0100	.0003	.0001
#2	.0088	-.0193	-.0294	.0097	.0004	.0002	.0124	.0002	.0002
#3	.0077	-.0182	-.0108	.0060	.0006	-.0000	.0123	-.0001	.0001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0001	.0014	.0003	.0054	-.0008	-.0003	.0059		
Stddev	.0001	.0002	.0001	.0018	.0015	.0005	.0012		
%RSD	94.89	11.07	23.21	33.15	187.4	168.9	20.14		
#1	.0001	.0014	.0003	.0036	-.0002	-.0001	.0070		
#2	-.0000	.0015	.0004	.0072	-.0025	-.0001	.0062		
#3	.0001	.0012	.0003	.0054	-.0001	-.0009	.0046		

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Sample Name: mp14142-mb1conf Acquired: 4/17/2019 16:10:11 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	135410.	30584.	3784.9	7280.5
Stddev	1110.	178.	4.2	15.8
%RSD	.81994	.58036	.11169	.21752
#1	134170.	30489.	3789.8	7297.3
#2	135750.	30474.	3782.2	7265.8
#3	136310.	30788.	3782.7	7278.6

Sample Name: ccv 7 Acquired: 4/17/2019 16:15:26 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.106</b>	<b>2.150</b>	<b>2.065</b>	<b>2.052</b>	<b>2.059</b>	<b>2.018</b>	<b>2.153</b>	<b>2.108</b>	<b>2.519</b>
Stddev	.022	.024	.009	.009	.003	.009	.006	.010	.0016
%RSD	1.024	1.091	.4129	.4308	.1644	.4483	.2681	.4606	.6496
#1	2.095	2.140	2.066	2.048	2.061	2.023	2.157	2.104	2.533
#2	2.131	2.176	2.056	2.047	2.060	2.023	2.156	2.102	2.523
#3	2.091	2.133	2.073	2.063	2.055	2.007	2.146	2.120	2.501

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	<b>2.045</b>	<b>2.082</b>	<b>2.050</b>	<b>2.131</b>	<b>2.126</b>	<b>2.058</b>	<b>2.062</b>	<b>41.79</b>	<b>41.86</b>
Stddev	.006	.009	.011	.009	.009	.017	.010	.44	.48
%RSD	.3194	.4251	.5477	.4246	.4301	.8136	.5012	1.059	1.155
#1	2.048	2.083	2.052	2.130	2.120	2.060	2.062	41.63	41.67
#2	2.049	2.072	2.038	2.122	2.121	2.040	2.052	42.29	42.41
#3	2.037	2.090	2.061	2.140	2.136	2.074	2.073	41.46	41.50

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	<b>41.70</b>	<b>42.24</b>	<b>41.69</b>	<b>41.34</b>	<b>2.069</b>	<b>2.097</b>	<b>5.249</b>	<b>2.113</b>	<b>2.115</b>
Stddev	.55	.52	.42	.43	.014	.014	.029	.012	.045
%RSD	1.310	1.226	.9987	1.051	.6636	.6677	.5583	.5714	2.146
#1	41.42	42.08	41.48	41.12	2.070	2.099	5.251	2.115	2.093
#2	42.33	42.83	42.17	41.84	2.055	2.082	5.219	2.100	2.167
#3	41.35	41.83	41.43	41.06	2.082	2.110	5.278	2.124	2.085

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: ccv 7 Acquired: 4/17/2019 16:15:26 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.074</b>	<b>2.082</b>	<b>2.056</b>	<b>2.003</b>	<b>2.100</b>	<b>2.062</b>	<b>2.069</b>
Stddev	.008	.009	.008	.014	.015	.021	.014
%RSD	.3969	.4385	.4030	.6853	.6884	.9926	.6679
#1	2.078	2.084	2.060	2.006	2.101	2.057	2.071
#2	2.080	2.071	2.062	1.988	2.085	2.085	2.055
#3	2.065	2.089	2.047	2.015	2.114	2.045	2.082

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	132590.	30017.	3751.0	6750.7
Stddev	198.	411.	11.3	19.2
%RSD	.14915	1.3695	.30051	.28476
#1	132460.	30270.	3746.9	6760.2
#2	132490.	29542.	3763.7	6763.4
#3	132820.	30238.	3742.3	6728.6

Sample Name: ccb Acquired: 4/17/2019 16:20:53 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0002</b>	<b>.0001</b>	<b>.0000</b>	<b>.0002</b>	<b>-0.0003</b>	<b>-0.0001</b>	<b>.0001</b>	<b>-0.0002</b>	<b>-0.0003</b>
Stddev	.0002	.0000	.0001	.0003	.0001	.0002	.0000	.0001	.0003
%RSD	99.32	46.56	448.2	130.4	27.76	165.1	17.13	32.42	84.68
#1	.0003	.0001	.0000	.0005	-0.0002	-0.0004	.0001	-0.0002	-0.0006
#2	.0002	.0001	-0.0001	.0000	-0.0004	.0001	.0001	-0.0003	-0.0004
#3	-0.0000	.0000	.0002	.0001	-0.0003	-0.0001	.0001	-0.0001	-0.0000

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	<b>.0004</b>	<b>.0000</b>	<b>-0.0002</b>	<b>.0005</b>	<b>-0.0003</b>	<b>-0.0012</b>	<b>.0002</b>	<b>.0036</b>	<b>-0.0012</b>
Stddev	.0003	.0001	.0005	.0005	.0009	.0017	.0006	.0045	.0014
%RSD	68.60	398.6	293.6	98.31	339.7	143.3	384.5	122.9	117.6
#1	.0003	-0.0000	-0.0001	.0007	-0.0001	-0.0018	.0001	-0.0006	-0.0028
#2	.0006	.0001	.0003	-0.0000	-0.0013	-0.0024	-0.0005	.0083	-0.0006
#3	.0001	.0000	-0.0006	.0010	.0005	.0007	.0008	.0033	-0.0002

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	<b>.0011</b>	<b>-0.0001</b>	<b>-0.0167</b>	<b>.0005</b>	<b>.0004</b>	<b>.0003</b>	<b>.0052</b>	<b>.0003</b>	<b>.0002</b>
Stddev	.0005	.0007	.0116	.0050	.0005	.0001	.0031	.0005	.0001
%RSD	43.27	669.2	69.43	943.0	116.5	53.54	58.80	147.6	50.19
#1	.0009	-0.0009	-0.0035	-0.0047	.0005	.0003	.0074	.0001	.0001
#2	.0017	.0003	-0.0251	.0052	-0.0001	.0003	.0065	-0.0000	.0002
#3	.0008	.0003	-0.0216	.0011	.0009	.0001	.0017	.0009	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Sample Name: ccb Acquired: 4/17/2019 16:20:53 Type: QC  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0007	.0001	.0003	.0000	.0005	.0020
Stddev	.0002	.0013	.0001	.0015	.0006	.0008	.0005
%RSD	83.87	202.2	86.62	518.3	3798.	155.0	26.89

#1	.0002	.0007	.0002	.0017	.0002	.0014	.0026
#2	.0000	-.0007	.0000	-.0013	.0005	.0005	.0018
#3	.0003	.0019	.0002	.0005	-.0006	-.0003	.0015

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	136640.	30482.	3846.5	7374.3
Stddev	597.	170.	10.3	21.6
%RSD	.43670	.55825	.26876	.29233

#1	136160.	30329.	3834.6	7349.4
#2	137310.	30665.	3853.4	7385.5
#3	136450.	30451.	3851.4	7387.9

Sample Name: jc86215-2 7 Acquired: 4/17/2019 16:26:09 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0187	.0390	.0114	.3739	.0022	.0072	8.270	.3653	-.0001
Stddev	.0001	.0001	.0001	.0017	.0004	.0003	.060	.0023	.0002
%RSD	.7461	.1819	.7428	.4533	19.82	4.441	.7284	.6204	138.1

#1	.0186	.0391	.0113	.3723	.0024	.0075	8.238	.3628	-.0003
#2	.0188	.0389	.0115	.3739	.0026	.0072	8.233	.3671	-.0002
#3	.0185	.0389	.0114	.3756	.0017	.0069	8.340	.3661	.0001

Elem V\_2924 Zn2062 As1890 Tl1908 Pb2203 Se1960 Sb2068 Al3961 Ca3179  
 Units ppm ppm ppm ppm ppm ppm ppm ppm  
 Avg .0076 1.235 .0062 .0014 -.0021 -.0001 -.0009 11.31 73.25  
 Stddev .0004 .008 .0022 .0019 .0006 .0041 .0002 .06 .53  
 %RSD 5.179 .6570 36.22 132.1 28.28 4171. 20.91 .5473 .7227

#1	.0072	1.226	.0088	-.0003	-.0019	-.0005	-.0008	11.36	73.66
#2	.0080	1.240	.0049	.0011	-.0016	-.0040	-.0011	11.33	73.42
#3	.0076	1.239	.0049	.0034	-.0028	.0042	-.0008	11.24	72.65

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	59.15	35.65	1.550	29.71	.0186	.0000	9.740	-.0004	.2037
Stddev	.11	.22	.064	.05	.0015	.0006	.058	.0008	.0003
%RSD	.1924	.6238	4.099	.1657	7.895	1813.	.5988	206.8	.1401

#1	59.27	35.86	1.544	29.76	.0202	.0003	9.673	-.0013	.2037
#2	59.05	35.68	1.616	29.68	.0179	.0005	9.775	-.0004	.2035
#3	59.11	35.41	1.489	29.67	.0176	-.0007	9.772	.0004	.2040

Elem Ti3349 W\_2079 Zr3391 S\_1820 Bi2230 Li6707 P\_1774  
 Units ppm ppm ppm ppm ppm ppm ppm  
 Avg .0005 .0018 .0037 177.3 .0020 .1763 .0386  
 Stddev .0006 .0011 .0002 1.4 .0013 .0015 .0010  
 %RSD 121.8 65.16 4.090 .7668 62.80 8.667 2.654

#1	-.0002	.0012	.0037	175.8	.0020	.1754	.0393
#2	.0009	.0010	.0035	177.9	.0033	.1781	.0391
#3	.0008	.0031	.0038	178.4	.0008	.1755	.0375

Sample Name: jc86215-2 7 Acquired: 4/17/2019 16:26:09 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	141650.	31960.	3897.7	7005.1
Stddev	462.	241.	23.7	35.1
%RSD	.32637	.75311	.60739	.50094

#1	142160.	31700.	3925.0	7045.2
#2	141530.	32006.	3884.8	6990.0
#3	141260.	32174.	3883.3	6980.0

Sample Name: jc86215-4 Acquired: 4/17/2019 16:31:22 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0832	.0001	-.0006	.0030	.0029	.0033	5.530	.0061	.0001
Stddev	.0006	.0002	.0002	.0000	.0014	.0009	.010	.0007	.0010
%RSD	.7432	233.9	27.68	1.648	46.95	26.07	.1870	11.92	658.5

#1	.0838	.0003	-.0007	.0031	.0038	.0026	5.523	.0069	.0012
#2	.0826	-.0001	-.0005	.0030	.0037	.0031	5.525	.0056	-.0000
#3	.0832	.0000	-.0004	.0030	.0014	.0042	5.542	.0058	-.0007

Elem V\_2924 Zn2062 As1890 Tl1908 Pb2203 Se1960 Sb2068 Al3961 Ca3179  
 Units ppm ppm ppm ppm ppm ppm ppm ppm  
 Avg .0128 .0384 .0051 -.0017 .0024 -.0103 .0053 3.134 80.19  
 Stddev .0005 .0006 .0056 .0023 .0071 .0094 .0042 .022 .27  
 %RSD 3.960 1.531 108.5 138.3 303.6 90.69 79.53 .6895 .3391

#1	.0124	.0391	-.0005	-.0042	-.0035	-.0021	.0093	3.157	80.31
#2	.0131	.0383	.0052	.0003	-.0002	-.0206	.0054	3.132	79.88
#3	.0122	.0379	.0106	-.0011	.0102	-.0084	.0010	3.114	80.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	73.84	19.47	7.300	288.2	.2021	.0017	13.49	-.0002	.5999
Stddev	.51	.07	.052	1.8	.0027	.0006	.05	.0043	.0046
%RSD	.6899	.3382	.7168	.6362	1.314	36.42	.3827	2244.	.7720

#1	74.29	19.54	7.310	289.7	.2000	.0018	13.55	-.0043	.6039
#2	73.29	19.41	7.347	286.2	.2051	.0010	13.46	.0042	.5948
#3	73.95	19.46	7.244	288.8	.2013	.0022	13.47	-.0005	.6011

Elem Ti3349 W\_2079 Zr3391 S\_1820 Bi2230 Li6707 P\_1774  
 Units ppm ppm ppm ppm ppm ppm ppm  
 Avg .0286 .0055 .0051 35.14 -.0030 .0209 .0425  
 Stddev .0012 .0058 .0004 .15 .0017 .0052 .0001  
 %RSD 4.261 105.1 7.350 .4400 58.11 24.99 .3099

#1	.0291	.0117	.0047	35.21	-.0044	.0227	.0424
#2	.0295	.0046	.0053	34.97	-.0011	.0151	.0426
#3	.0273	.0002	.0054	35.25	-.0034	.0251	.0424

Sample Name: jc86215-4 Acquired: 4/17/2019 16:31:22 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132700.	30361.	3738.1	6908.6
Stddev	207.	204.	4.2	9.6
%RSD	.15581	.67100	.11190	.13832
#1	132920.	30293.	3733.3	6897.6
#2	132680.	30590.	3740.7	6913.5
#3	132510.	30199.	3740.3	6914.6

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Sample Name: jc86215-16 Acquired: 4/17/2019 16:36:31 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0220	.0138	.0009	.3605	.0069	.0090	10.34	.3548	-0.015
Stddev	.0006	.0000	.0001	.0021	.0002	.0003	.07	.0025	.0003
%RSD	2.533	.3147	10.12	.5768	2.641	3.290	.6574	.7023	19.44
#1	.0216	.0137	.0009	.3587	.0070	.0087	10.37	.3520	-0.013
#2	.0226	.0137	.0008	.3628	.0067	.0090	10.40	.3565	-0.018
#3	.0217	.0138	.0009	.3601	.0070	.0093	10.27	.3560	-0.013
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0097	.6986	.0051	.0037	.0028	-0.0060	-0.0033	35.07	73.12
Stddev	.0001	.0057	.0012	.0017	.0009	.0039	.0018	.03	.03
%RSD	.8147	.8137	23.43	47.67	32.11	64.91	55.10	.0786	.0403
#1	.0096	.6923	.0041	.0020	.0019	-.0062	-.0054	35.04	73.12
#2	.0096	.7034	.0048	.0055	.0037	-.0020	-.0021	35.10	73.10
#3	.0097	.7000	.0064	.0035	.0027	-.0099	-.0025	35.06	73.15
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8511	24.94	2.306	26.91	.0109	.0006	23.41	-0.0009	4298
Stddev	.0020	.07	.053	.04	.0004	.0003	.16	.0005	.0014
%RSD	.2325	.2717	2.298	.1383	3.909	47.88	.7008	51.79	.3295
#1	.8490	24.97	2.248	26.91	.0114	.0008	23.22	-.0005	4305
#2	.8530	24.86	2.320	26.95	.0106	.0003	23.47	-.0009	4307
#3	.8514	24.99	2.351	26.88	.0108	.0007	23.53	-.0014	4281
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0019	.0020	.0026	145.3	-0.0001	.1893	-0.0464		
Stddev	.0007	.0015	.0002	.7	.0023	.0004	.0012		
%RSD	37.22	73.59	6.176	4649	1864.	.2027	2.674		
#1	.0028	.0025	.0028	144.6	.0020	.1894	-.0477		
#2	.0016	.0032	.0027	145.5	.0002	.1889	-.0452		
#3	.0014	.0004	.0025	145.9	-.0025	.1897	-.0465		

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Sample Name: jc86215-16 Acquired: 4/17/2019 16:36:31 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	146790.	33369.	4160.9	7030.6
Stddev	643.	94.	32.7	49.7
%RSD	.43828	.28182	.78633	.70687
#1	146170.	33348.	4198.7	7087.5
#2	146750.	33472.	4141.8	6995.5
#3	147450.	33287.	4142.3	7009.0

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Sample Name: mp14246-mb1conf Acquired: 4/17/2019 16:41:45 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.0000	-0.0002	.0002	-0.0004	.0003	.0002	.0001	-0.0003
Stddev	.0001	.0000	.0000	.0003	.0001	.0002	.0000	.0002	.0001
%RSD	77.07	76.84	28.66	156.0	18.47	74.48	13.31	367.7	52.38
#1	.0000	-0.0000	-0.0001	.0005	-0.0004	.0005	.0002	.0002	-0.0004
#2	.0003	-0.0000	-0.0002	-0.0000	-0.0005	.0001	.0002	.0002	-0.0001
#3	.0003	-0.0000	-0.0002	.0001	-0.0003	.0003	.0002	-0.0002	-0.0003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0016	.0021	.0010	-0.0002	-0.0020	-0.0004	.0023	.0074
Stddev	.0001	.0000	.0013	.0008	.0007	.0018	.0015	.0056	.0016
%RSD	16.29	.6942	61.57	80.06	395.6	91.65	429.4	240.1	21.49
#1	.0004	.0016	.0009	.0001	-0.0007	-0.0017	.0012	-0.0009	.0066
#2	.0003	.0016	.0020	.0015	.0007	-0.0003	-0.0019	-0.0009	.0064
#3	.0004	.0016	.0035	.0014	-0.0005	-0.0040	-0.0003	.0088	.0093
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019	-0.0097	-0.0299	-0.0081	-0.0006	.0002	.0042	-0.0002	.0001
Stddev	.0006	.0041	.0224	.0056	.0003	.0002	.0009	.0002	.0001
%RSD	33.22	42.49	74.78	68.94	47.87	110.9	22.11	90.34	67.86
#1	.0026	-.0135	-.0512	-.0142	-0.0007	-0.0000	.0047	-0.0001	.0001
#2	.0015	-.0102	-.0320	-.0072	-0.0002	.0002	.0031	-0.0001	.0001
#3	.0016	-.0053	-.0066	-.0031	-0.0007	.0004	.0046	-0.0005	.0000
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0001	.0015	.0001	.0044	.0005	-0.0016	.0020		
Stddev	.0001	.0009	.0002	.0025	.0019	.0004	.0009		
%RSD	186.4	64.09	200.3	56.27	361.9	28.29	42.93		
#1	.0002	.0004	.0003	.0016	.0027	-0.0011	.0012		
#2	-.0000	.0020	.0000	.0061	-0.0002	-0.0017	.0029		
#3	.0000	.0020	-0.0001	.0056	-0.0009	-0.0019	.0018		

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Sample Name: mp14246-mb1conf Acquired: 4/17/2019 16:41:45 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140360.	30935.	4001.8	7701.7
Stddev	789.	216.	115.2	195.0
%RSD	.56190	.69864	2.8784	2.5315

#1	139880.	30944.	3911.8	7550.0
#2	139920.	30715.	4131.6	7921.6
#3	141270.	31147.	3961.9	7633.4

Sample Name: mp14246-b1conf Acquired: 4/17/2019 16:46:59 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.063</b>	<b>2.098</b>	<b>2.136</b>	<b>2.054</b>	<b>2.049</b>	<b>1.985</b>	<b>2.145</b>	<b>2.116</b>
Stddev	.016	.016	.048	.040	.004	.008	.006	.043
%RSD	.7645	.7568	2.225	1.956	.2098	.3914	.2997	2.051

#1	2.050	2.087	2.111	2.030	2.044	1.978	2.138	2.089
#2	2.059	2.092	2.106	2.032	2.053	1.993	2.150	2.093
#3	2.081	2.116	2.191	2.101	2.049	1.984	2.147	2.166

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0869</b>	<b>2.023</b>	<b>2.137</b>	<b>2.115</b>	<b>2.193</b>	<b>2.156</b>	<b>2.184</b>	<b>2.147</b>
Stddev	.0002	.003	.045	.052	.047	.046	.053	.049
%RSD	.2115	.1658	2.120	2.469	2.122	2.114	2.422	2.284

#1	.0868	2.019	2.111	2.083	2.160	2.128	2.157	2.123
#2	.0871	2.026	2.111	2.086	2.171	2.130	2.151	2.114
#3	.0868	2.023	2.190	2.175	2.246	2.208	2.245	2.203

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>25.54</b>	<b>25.59</b>	<b>25.68</b>	<b>25.96</b>	<b>25.81</b>	<b>25.53</b>	<b>2.143</b>	<b>2.117</b>
Stddev	.14	.09	.18	.12	.18	.18	.051	.049
%RSD	.5304	.3583	.6933	.4797	.7049	.6910	2.367	2.306

#1	25.42	25.52	25.58	25.91	25.71	25.42	2.116	2.088
#2	25.53	25.56	25.58	25.87	25.70	25.44	2.111	2.089
#3	25.69	25.69	25.89	26.10	26.02	25.73	2.201	2.173

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.126</b>	<b>2.184</b>	<b>2.044</b>	<b>2.064</b>	<b>2.036</b>	<b>2.039</b>	<b>F-.1060</b>	<b>.0227</b>
Stddev	.0041	.049	.027	.002	.048	.006	.0059	.0022
%RSD	32.60	2.249	1.308	.1098	2.364	.3153	5.595	9.586

#1	-.0141	2.157	2.042	2.062	2.008	2.033	-.1006	.0225
#2	-.0158	2.154	2.018	2.066	2.008	2.046	-.1052	.0250
#3	-.0080	2.240	2.071	2.064	2.091	2.038	-.1124	.0207

Sample Name: mp14246-b1conf Acquired: 4/17/2019 16:46:59 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	<b>-0.004</b>	<b>2.123</b>
Stddev	.0009	.053
%RSD	208.1	2.477

#1	-.0010	2.088
#2	-.0006	2.097
#3	-.0008	2.183

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>135540.</b>	<b>31104.</b>	<b>3804.1</b>	<b>6990.2</b>
Stddev	227.	173.	75.3	124.0
%RSD	.16715	.55494	1.9797	1.7741

#1	135640.	30978.	3841.9	7057.5
#2	135700.	31301.	3853.0	7066.0
#3	135280.	31033.	3717.4	6847.1

Sample Name: mp14246-s1conf Acquired: 4/17/2019 16:52:00 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.267</b>	<b>1.192</b>	<b>2.287</b>	<b>2.212</b>	<b>1.662</b>	<b>1.561</b>	<b>1.823</b>	<b>2.300</b>	<b>.0665</b>
Stddev	.228	.218	.250	.245	.106	.110	.120	.253	.0043
%RSD	18.01	18.32	10.92	11.09	6.347	7.031	6.568	11.00	6.458

#1	1.034	.9680	2.039	1.972	1.552	1.450	1.700	2.052	.0616
#2	1.278	1.204	2.284	2.201	1.670	1.565	1.830	2.292	.0686
#3	1.490	1.404	2.538	2.462	1.762	1.669	1.939	2.557	.0695

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.657</b>	<b>2.293</b>	<b>2.249</b>	<b>2.261</b>	<b>2.307</b>	<b>2.229</b>	<b>2.268</b>	<b>15.53</b>	<b>312.0</b>
Stddev	.111	.251	.259	.257	.255	.250	.251	2.96	56.9
%RSD	6.722	10.93	11.51	11.35	11.04	11.24	11.05	19.05	18.23

#1	1.543	2.047	1.994	2.008	2.058	1.981	2.019	12.51	254.0
#2	1.663	2.284	2.242	2.255	2.297	2.223	2.266	15.67	314.3
#3	1.765	2.548	2.511	2.521	2.567	2.482	2.520	18.42	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	<b>16.19</b>	<b>15.78</b>	<b>23.72</b>	<b>291.4</b>	<b>2.236</b>	<b>2.311</b>	<b>4.983</b>	<b>2.290</b>	<b>3.353</b>
Stddev	2.95	2.88	3.90	49.6	.240	.256	.528	.256	.604
%RSD	18.22	18.28	16.43	17.02	10.72	11.08	10.60	11.18	18.02

#1	13.17	12.87	19.81	240.8	2.002	2.058	4.463	2.045	2.733
#2	16.34	15.82	23.76	293.4	2.225	2.304	4.966	2.269	3.386
#3	19.06	18.64	27.60	339.9	2.481	2.481	5.519	2.555	3.941

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.718</b>	<b>2.209</b>	<b>1.637</b>	<b>14.37</b>	<b>-0.189</b>	<b>0.199</b>	<b>2.375</b>
Stddev	.110	.246	.104	1.70	.0065	.0052	.266
%RSD	6.417	11.13	6.329	11.80	34.45	26.21	11.22

#1	1.604	1.967	1.530	12.74	-.0115	.0141	2.108
#2	1.726	2.202	1.645	14.26	-.0213	.0212	2.375
#3	1.824	2.459	1.737	16.13	-.0238	.0242	2.641

Sample Name: mp14246-s1conf Acquired: 4/17/2019 16:52:00 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132470.	30548.	3665.4	6566.4
Stddev	549.	97.	9.0	32.5
%RSD	.41406	.31605	.24544	.49538
#1	132450.	30647.	3675.2	6601.3
#2	131930.	30543.	3663.6	6561.0
#3	133030.	30454.	3657.4	6537.0

Sample Name: mp14246-s2conf Acquired: 4/17/2019 16:56:58 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8229	7654	2353	2287	1339	1254	1472	2380	0535
Stddev	.1857	.1740	.339	.319	.208	.203	.229	.333	.0089
%RSD	22.57	22.73	14.42	13.96	15.56	16.17	15.58	13.99	16.62
#1	.6391	.5932	2.006	1.959	1.126	1.053	1.241	2.038	.0448
#2	.8192	.7621	2.368	2.304	1.347	1.249	1.477	2.397	.0531
#3	1.010	.9411	2.684	2.597	1.543	1.459	1.699	2.703	.0625
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1339	2359	2306	2298	2367	2284	2335	9771	201.2
Stddev	.210	.322	.329	.323	.334	.351	.335	2.267	45.9
%RSD	15.66	13.63	14.26	14.07	14.12	15.37	14.33	23.20	22.80
#1	1.128	2.030	1.970	1.971	2.025	1.926	2.002	7.543	155.8
#2	1.341	2.374	2.322	2.307	2.384	2.298	2.332	9.697	200.1
#3	1.548	2.673	2.627	2.617	2.693	2.628	2.672	12.07	247.5
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.33	10.23	16.49	195.3	2.294	2.362	5.093	2.345	2.162
Stddev	2.32	2.27	3.53	43.1	.335	.327	.694	.316	.490
%RSD	22.43	22.22	21.41	22.09	14.62	13.84	13.62	13.47	22.68
#1	8.042	8.023	13.02	152.6	1.954	2.028	4.384	2.025	1.676
#2	10.28	10.11	16.37	194.5	2.303	2.376	5.125	2.353	2.154
#3	12.68	12.57	20.08	238.9	2.624	2.681	5.770	2.656	2.657
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	1.378	2.260	1.289	14.56	-0.577	0.112	2.418		
Stddev	.216	.317	.208	2.17	.0053	.0045	.362		
%RSD	15.69	14.01	16.17	14.93	9.200	39.93	14.97		
#1	1.162	1.938	1.081	12.40	-0.0516	.0067	2.053		
#2	1.378	2.271	1.289	14.54	-0.0600	.0156	2.423		
#3	1.594	2.571	1.497	16.74	-0.0615	.0111	2.777		

Sample Name: mp14246-s2conf Acquired: 4/17/2019 16:56:58 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	133920.	30730.	3685.6	6593.1
Stddev	512.	113.	22.1	63.4
%RSD	.38245	.36781	.60083	.96169
#1	133920.	30859.	3710.2	6665.0
#2	133400.	30685.	3679.5	6569.3
#3	134430.	30646.	3667.2	6545.0

Sample Name: jc86276-5conf Acquired: 4/17/2019 17:01:56 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1643	0002	0003	0027	0034	0178	1150	0060	-0007
Stddev	.0062	.0001	.0009	.0013	.0003	.0010	.0033	.0010	.0007
%RSD	3.775	69.63	313.4	48.30	7.561	5.436	2.886	15.92	107.5
#1	.1581	.0000	.0011	.0014	.0037	.0168	.1115	.0070	.0002
#2	.1642	.0003	.0005	.0040	.0032	.0187	.1157	.0051	-0.0011
#3	.1705	.0002	-.0007	.0027	.0032	.0181	.1180	.0058	-0.0011
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0049	0233	0084	0008	0057	-0061	0003	1285	449.6
Stddev	.0011	.0020	.0030	.0051	.0020	.0089	.0066	.085	9.5
%RSD	23.42	8.402	35.11	646.6	35.21	146.5	2581.	6.619	2.114
#1	.0049	.0214	.0065	-.0026	.0080	-.0154	.0074	1.191	438.7
#2	.0060	.0231	.0069	-.0067	.0047	-.0054	-.0009	1.309	453.8
#3	.0038	.0253	.0118	-.0017	.0044	-.0025	-.0057	1.356	456.3
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2487	1959	15.21	425.8	0048	0144	3515	-0057	3340
Stddev	.091	.108	.47	11.5	.0032	.0010	.133	.0024	.130
%RSD	3.661	5.486	3.109	2.708	67.01	6.801	3.775	41.73	3.882
#1	2.392	1.849	14.72	415.1	.0043	0.133	3.369	-.0082	3.211
#2	2.494	1.963	15.24	424.1	.0083	0.151	3.547	-.0056	3.339
#3	2.574	2.064	15.66	438.0	.0019	0.149	3.628	-.0034	3.471
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	0350	0143	0015	14.56	-0090	0270	0926		
Stddev	.0014	.0037	.0004	.76	.0038	.0060	.0051		
%RSD	4.020	25.91	25.92	5.219	42.30	22.15	5.528		
#1	.0347	.0157	.0020	13.75	-.0054	.0203	.0873		
#2	.0338	.0171	.0014	14.66	-.0087	.0286	.0928		
#3	.0366	.0101	.0012	15.26	-.0130	.0319	.0976		

Sample Name: jc86276-5conf Acquired: 4/17/2019 17:01:56 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	131910.	30304.	3636.6	6566.1
Stddev	720.	101.	20.6	46.7
%RSD	.54614	.33237	.56553	.71109
#1	132030.	30245.	3659.7	6619.4
#2	131130.	30247.	3620.3	6532.3
#3	132560.	30420.	3629.7	6546.7

Sample Name: mp14246-sd1conf Acquired: 4/17/2019 17:07:14 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 25.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2290</b>	<b>.0004</b>	<b>-0.032</b>	<b>0.017</b>	<b>0.019</b>	<b>0.237</b>	<b>1.145</b>	<b>0.085</b>	<b>-0.055</b>
Stddev	.0058	.0005	.0052	.0019	.0036	.0046	.0009	.0008	.0027
%RSD	2.529	119.7	161.0	114.5	187.6	19.57	.6175	9.673	49.00
#1	.2353	.0008	-.0013	.0024	.0026	.0184	.1440	.0086	-.0044
#2	.2276	-.0002	-.0091	.0031	-.0020	.0269	.1440	.0093	-.0035
#3	.2240	.0007	.0007	-.0005	.0051	.0258	.1455	.0077	-.0086
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.118</b>	<b>0.0290</b>	<b>0.011</b>	<b>-0.142</b>	<b>0.086</b>	<b>-0.490</b>	<b>0.059</b>	<b>1.755</b>	<b>623.8</b>
Stddev	.0015	.0024	.0249	.0200	.0167	.0880	.0224	.106	1.9
%RSD	12.69	8.312	2207.	141.1	194.6	179.5	379.6	6.055	3036
#1	.0107	.0312	-.0170	-.0212	.0126	.0227	.0217	1.662	621.7
#2	.0135	.0295	-.0092	-.0084	.0229	-.1473	.0157	1.871	624.2
#3	.0112	.0264	.0296	-.0296	-.0098	-.0225	-.0197	1.733	625.4
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>3.485</b>	<b>2.725</b>	<b>19.27</b>	<b>586.9</b>	<b>-0.017</b>	<b>0.155</b>	<b>3.873</b>	<b>-0.209</b>	<b>4.539</b>
Stddev	.028	.332	.48	1.3	.0157	.0067	.046	.0122	.014
%RSD	.8091	12.18	2.500	2.204	903.9	43.46	1.178	58.09	2989
#1	3.483	2.376	18.74	585.4	.0140	.0163	3.926	-.0174	4.524
#2	3.514	3.037	19.39	587.4	-.0018	.0217	3.844	-.0109	4.544
#3	3.457	2.764	19.68	587.8	-.0174	.0083	3.850	-.0344	4.550
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>0.443</b>	<b>0.0417</b>	<b>0.039</b>	<b>15.27</b>	<b>-0.067</b>	<b>0.386</b>	<b>1.170</b>		
Stddev	.0037	.0174	.0019	.10	.0182	.0110	.0543		
%RSD	8.278	41.78	49.83	.6415	274.0	28.49	46.42		
#1	.0411	.0618	.0018	15.39	.0135	.0273	.0758		
#2	.0483	.0312	.0056	15.21	-.0219	.0493	.0966		
#3	.0434	.0321	.0041	15.23	-.0116	.0394	.1786		

Sample Name: mp14246-sd1conf Acquired: 4/17/2019 17:07:14 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 25.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>134660.</b>	<b>30509.</b>	<b>3777.4</b>	<b>7050.4</b>
Stddev	227.	119.	9.9	15.3
%RSD	.16875	.39096	.26200	.21691
#1	134660.	30492.	3766.2	7032.7
#2	134890.	30399.	3781.3	7059.3
#3	134430.	30636.	3784.8	7059.1

Sample Name: ccv 7 Acquired: 4/17/2019 17:12:28 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.081</b>	<b>2.122</b>	<b>2.064</b>	<b>2.049</b>	<b>2.079</b>	<b>2.034</b>	<b>2.158</b>	<b>2.098</b>	<b>2.540</b>
Stddev	.007	.009	.006	.006	.015	.014	.019	.005	.0020
%RSD	.3495	.4310	.2893	.2766	.7258	.6762	.8674	.2585	.7909
#1	2.085	2.126	2.057	2.045	2.073	2.031	2.151	2.093	2.537
#2	2.072	2.112	2.068	2.055	2.068	2.022	2.143	2.103	2.522
#3	2.085	2.129	2.067	2.046	2.096	2.049	2.179	2.097	2.562
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	<b>2.061</b>	<b>2.081</b>	<b>2.050</b>	<b>2.133</b>	<b>2.115</b>	<b>2.052</b>	<b>2.058</b>	<b>41.21</b>	<b>41.36</b>
Stddev	.015	.010	.012	.024	.005	.005	.006	.16	.20
%RSD	.7343	.4629	.5929	1.107	.2542	.2696	.2750	.3815	.4722
#1	2.056	2.071	2.036	2.106	2.109	2.046	2.051	41.29	41.49
#2	2.049	2.090	2.058	2.146	2.119	2.055	2.061	41.03	41.13
#3	2.078	2.082	2.056	2.147	2.116	2.055	2.062	41.31	41.45
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	<b>41.32</b>	<b>41.59</b>	<b>41.12</b>	<b>40.86</b>	<b>2.065</b>	<b>2.092</b>	<b>5.239</b>	<b>2.111</b>	<b>2.056</b>
Stddev	.24	.25	.16	.17	.004	.006	.009	.008	.033
%RSD	.5741	.6045	.3938	.4114	.1700	.3117	.1627	.3955	1.623
#1	41.56	41.74	41.18	40.99	2.062	2.085	5.229	2.101	2.074
#2	41.09	41.30	40.93	40.67	2.065	2.095	5.244	2.114	2.017
#3	41.31	41.73	41.23	40.92	2.069	2.097	5.243	2.116	2.076
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 7 Acquired: 4/17/2019 17:12:28 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.084</b>	<b>2.073</b>	<b>2.071</b>	<b>2.010</b>	<b>2.093</b>	<b>2.036</b>	<b>2.075</b>
Stddev	.018	.004	.015	.022	.004	.008	.020
%RSD	.8498	.1938	.7216	1.105	.1996	.3916	.9598
#1	2.079	2.069	2.068	1.985	2.093	2.038	2.052
#2	2.070	2.077	2.058	2.019	2.089	2.027	2.085
#3	2.104	2.071	2.088	2.027	2.097	2.043	2.087

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>131480.</b>	<b>30394.</b>	<b>3736.2</b>	<b>6747.4</b>
Stddev	837.	234.	9.8	19.0
%RSD	.63677	.76899	.26097	.28091
#1	131970.	30185.	3746.1	6762.1
#2	131960.	30646.	3726.6	6726.0
#3	130510.	30350.	3735.9	6754.1

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Zoom In  
Zoom Out

Sample Name: ccb Acquired: 4/17/2019 17:17:28 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0002</b>	<b>.0001</b>	<b>-0.0000</b>	<b>.0004</b>	<b>-0.0004</b>	<b>.0000</b>	<b>.0001</b>	<b>.0001</b>	<b>-0.0005</b>
Stddev	.0001	.0000	.0001	.0001	.0002	.0001	.0000	.0001	.0003
%RSD	51.88	31.34	1813.	25.69	45.61	274.1	27.13	174.1	47.83
#1	.0002	.0001	.0000	.0003	-.0002	-.0001	.0002	.0001	-.0005
#2	.0003	.0001	-.0001	.0004	-.0005	.0001	.0001	.0002	-.0008
#3	.0001	.0001	.0000	.0005	-.0005	.0001	.0001	-.0001	-.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	<b>.0005</b>	<b>.0000</b>	<b>-0.0009</b>	<b>.0011</b>	<b>-0.0004</b>	<b>-0.0021</b>	<b>-0.0003</b>	<b>-0.0022</b>	<b>-0.0001</b>
Stddev	.0001	.0001	.0010	.0004	.0005	.0034	.0001	.0049	.0023
%RSD	15.98	267.9	108.5	35.84	140.9	163.6	47.19	224.4	286.6
#1	.0006	.0001	-.0007	.0010	.0001	-.0011	-.0002	.0027	-.0005
#2	.0004	.0000	-.0021	.0016	-.0003	.0007	-.0002	-.0022	.0024
#3	.0005	-.0000	-.0001	.0008	-.0010	-.0059	-.0004	-.0001	-.0021

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	<b>.0032</b>	<b>-0.0023</b>	<b>-0.0270</b>	<b>.0093</b>	<b>.0000</b>	<b>.0005</b>	<b>.0013</b>	<b>-0.0003</b>	<b>-0.0022</b>
Stddev	.0007	.0125	.0132	.0049	.0004	.0001	.0009	.0008	.0000
%RSD	21.91	543.0	49.03	52.61	2326.	23.86	66.01	299.0	9.772
#1	.0036	.0117	-.0191	.0081	.0004	.0005	.0004	-.0000	.0002
#2	.0024	-.0123	-.0197	.0051	-.0002	.0007	.0021	-.0012	.0002
#3	.0036	-.0062	-.0423	.0146	-.0002	.0004	.0014	.0004	.0002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

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Zoom In  
Zoom Out

Sample Name: ccb Acquired: 4/17/2019 17:17:28 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0001</b>	<b>.0014</b>	<b>.0002</b>	<b>.0014</b>	<b>-0.0007</b>	<b>.0008</b>	<b>.0012</b>
Stddev	.0001	.0010	.0001	.0023	.0006	.0007	.0008
%RSD	70.31	69.01	58.98	161.5	83.54	85.01	69.44
#1	.0000	.0014	.0001	.0036	-.0000	.0016	.0002
#2	.0001	.0024	.0002	.0018	-.0011	.0009	.0017
#3	.0001	.0005	.0004	-.0011	-.0011	.0001	.0016

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>136330.</b>	<b>30406.</b>	<b>3848.9</b>	<b>7388.0</b>
Stddev	100.	70.	5.3	5.0
%RSD	.07324	.23022	.13714	.06824
#1	136260.	30472.	3844.7	7383.6
#2	136290.	30333.	3847.0	7393.5
#3	136450.	30414.	3854.8	7386.9

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Zoom In  
Zoom Out

Sample Name: CCV Acquired: 4/17/2019 17:22:46 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.083</b>	<b>2.130</b>	<b>2.063</b>	<b>2.054</b>	<b>2.071</b>	<b>2.028</b>	<b>2.160</b>	<b>2.109</b>	<b>.2524</b>
Stddev	.003	.003	.002	.002	.005	.008	.005	.001	.0005
%RSD	.1347	.1318	.0936	.0991	.2559	.3724	.2165	.0594	.2081
#1	2.080	2.128	2.064	2.056	2.073	2.024	2.162	2.109	.2525
#2	2.084	2.129	2.063	2.052	2.076	2.037	2.163	2.108	.2530
#3	2.085	2.133	2.060	2.055	2.065	2.024	2.155	2.111	.2519

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	<b>2.052</b>	<b>2.083</b>	<b>2.060</b>	<b>2.160</b>	<b>2.121</b>	<b>2.071</b>	<b>2.064</b>	<b>41.15</b>	<b>41.19</b>
Stddev	.003	.004	.001	.004	.002	.004	.002	.11	.14
%RSD	.1197	.2078	.0468	.1662	.0884	.1823	.0941	.2591	.3417
#1	2.053	2.078	2.061	2.164	2.120	2.074	2.065	41.07	41.16
#2	2.054	2.084	2.059	2.160	2.120	2.073	2.065	41.11	41.07
#3	2.049	2.086	2.061	2.157	2.123	2.067	2.062	41.27	41.35

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	<b>41.40</b>	<b>41.60</b>	<b>41.32</b>	<b>41.07</b>	<b>2.070</b>	<b>2.104</b>	<b>5.255</b>	<b>2.126</b>	<b>2.108</b>
Stddev	.07	.26	.07	.05	.004	.003	.005	.002	.036
%RSD	.1734	.6246	.1709	.1107	.1720	.1263	.1013	.0963	1.731
#1	41.43	41.54	41.30	41.09	2.069	2.103	5.261	2.124	2.142
#2	41.32	41.37	41.26	41.02	2.074	2.107	5.254	2.128	2.113
#3	41.46	41.88	41.39	41.10	2.068	2.102	5.251	2.126	2.070

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

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Sample Name: CCV Acquired: 4/17/2019 17:22:46 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.078	2.079	2.066	2.043	2.099	2.040	2.101
Stddev	.003	.005	.005	.005	.007	.003	.006
%RSD	.1360	.2405	.2460	.2466	.3323	.1391	.3088

#1	2.081	2.077	2.064	2.047	2.105	2.037	2.108
#2	2.079	2.076	2.072	2.037	2.101	2.040	2.095
#3	2.075	2.085	2.063	2.044	2.091	2.043	2.100

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132320.	30208.	3762.5	6775.0
Stddev	607.	163.	2.3	6.4
%RSD	.45898	.54086	.06173	.09439

#1	131680.	30123.	3761.6	6768.1
#2	132390.	30396.	3760.7	6780.8
#3	132890.	30104.	3765.1	6776.0

Sample Name: CCB Acquired: 4/17/2019 17:27:46 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	F .0002	.0001	.0002	-.0001	.0001	.0002	-.0002	-.0002
Stddev	.0002	.0001	.0000	.0001	.0001	.0002	.0000	.0000	.0001
%RSD	91.98	32.64	23.93	57.40	101.9	253.7	19.48	17.49	56.39

#1	.0006	.0003	.0002	.0001	-.0001	.0002	.0002	-.0002	-.0002
#2	.0002	.0002	.0002	.0002	.0000	.0002	.0002	-.0002	-.0003
#3	.0001	.0002	.0001	.0003	-.0002	-.0001	.0003	-.0001	-.0001

Check ? Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	.0005	.0001	.0001	.0006	-.0004	-.0013	.0008	.0019	.0025
Stddev	.0002	.0000	.0014	.0005	.0008	.0021	.0005	.0018	.0016
%RSD	43.63	33.61	1207.	82.45	219.2	162.5	65.95	91.20	62.54

#1	.0004	.0001	-.0013	.0011	-.0001	-.0016	.0002	.0019	.0043
#2	.0003	.0002	.0002	.0001	-.0013	-.0032	.0009	.0037	.0018
#3	.0007	.0001	.0015	.0005	.0003	.0009	.0012	.0002	.0014

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	.0044	.0104	-.0221	.0119	.0009	.0004	.0020	-.0003	.0003
Stddev	.0015	.0117	.0159	.0050	.0004	.0002	.0009	.0006	.0001
%RSD	34.28	112.3	72.02	41.78	49.95	40.97	46.17	231.6	22.70

#1	.0061	.0191	-.0049	.0088	.0012	.0005	.0027	.0004	.0004
#2	.0042	-.0029	-.0363	.0176	.0004	.0002	.0010	-.0007	.0003
#3	.0031	.0150	-.0252	.0092	.0011	.0006	.0024	-.0005	.0002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Sample Name: CCB Acquired: 4/17/2019 17:27:46 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0005	.0002	-.0019	.0002	.0012	.0014
Stddev	.0001	.0008	.0001	.0022	.0013	.0007	.0011
%RSD	60.76	153.7	50.85	117.9	593.4	59.15	79.06

#1	.0003	.0014	.0004	.0007	.0017	.0014	.0018
#2	.0001	.0000	.0001	-.0033	-.0005	.0018	.0002
#3	.0002	.0001	.0002	-.0029	-.0005	.0004	.0024

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137900.	30266.	3835.7	7353.9
Stddev	400.	896.	14.9	28.3
%RSD	.28986	2.9594	.38955	.38440

#1	138200.	29232.	3848.6	7377.6
#2	138050.	30752.	3819.3	7322.6
#3	137440.	30814.	3839.1	7361.6

Sample Name: ICESA Acquired: 4/17/2019 17:33:02 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	-.0000	-.0003	.0001	-.0005	-.0044	.0017	-.0004	-.0017
Stddev	.0001	.0000	.0002	.0002	.0002	.0006	.0002	.0003	.0009
%RSD	4.907	449.0	64.52	211.5	30.34	14.02	8.801	83.17	56.02

#1	.0010	-.0000	-.0003	.0003	-.0006	-.0042	.0019	-.0000	-.0014
#2	.0010	-.0000	-.0001	-.0002	-.0003	-.0051	.0016	-.0007	-.0027
#3	.0011	.0000	-.0004	.0002	-.0006	-.0040	.0017	-.0005	-.0009

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	-.0007	-.0003	.0024	-.0001	.0008	-.0024	-.0014	521.4	378.2
Stddev	.0005	.0001	.0012	.0008	.0013	.0053	.0019	6.6	2.0
%RSD	84.22	49.54	47.08	698.5	154.4	225.4	129.8	1.257	.5416

#1	-.0010	-.0004	.0016	.0006	-.0003	.0035	-.0031	525.5	380.4
#2	-.0000	-.0002	.0019	-.0009	-.0006	-.0036	.0006	524.9	376.4
#3	-.0010	-.0002	.0038	.0001	.0022	-.0070	-.0018	513.8	377.7

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	187.9	523.2	.0199	-.0024	-.0009	-.0041	-.0101	-.0003	-.0066
Stddev	3.2	2.7	.0274	.0079	.0008	.0004	.0024	.0007	.0001
%RSD	1.701	.5160	137.7	330.3	86.54	8.899	23.19	214.1	1.465

#1	190.7	526.2	-.0117	-.0106	-.0018	-.0044	-.0126	-.0005	-.0067
#2	184.4	521.0	.0369	.0050	-.0004	-.0041	-.0079	.0005	-.0065
#3	188.5	522.3	.0346	-.0015	-.0005	-.0037	-.0099	-.0010	-.0066

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Zoom In  
Zoom Out

Sample Name: ICSA Acquired: 4/17/2019 17:33:02 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.007</b>	<b>-0.037</b>	<b>0.069</b>	<b>0.223</b>	<b>0.032</b>	<b>0.013</b>	<b>0.074</b>
Stddev	.0002	.0029	.0001	.0120	.0009	.0003	.0008
%RSD	36.81	76.58	1.780	53.50	28.13	21.23	10.32
#1	-0.005	-0.029	0.070	0.334	0.039	0.015	0.082
#2	-0.010	-0.069	0.068	0.096	0.034	0.010	0.066
#3	-0.006	-0.014	0.069	0.240	0.022	0.014	0.074

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	<b>122440.</b>	<b>29685.</b>	<b>3496.1</b>	<b>6084.8</b>
Stddev	338.	344.	2.5	3.4
%RSD	.27585	1.1591	.07174	.05653
#1	122280.	29288.	3496.7	6083.9
#2	122210.	29886.	3498.3	6088.6
#3	122830.	29881.	3493.4	6081.9

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Zoom In  
Zoom Out

Sample Name: ICSAB Acquired: 4/17/2019 17:38:30 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>5.187</b>	<b>.5094</b>	<b>1.056</b>	<b>4.878</b>	<b>4.876</b>	<b>5.198</b>	<b>5.204</b>	<b>.9974</b>	<b>1.169</b>
Stddev	.0017	.0020	.038	.0148	.0007	.0003	.0006	.0293	.002
%RSD	.3202	.3946	3.567	3.036	.1420	.0503	.1089	2.940	.1298
#1	5.202	.5117	1.036	4.790	4.869	5.199	5.198	.9805	1.168
#2	5.169	.5080	1.033	4.795	4.875	5.195	5.205	.9804	1.168
#3	5.189	.5087	1.100	5.049	4.883	5.201	5.210	1.031	1.170

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	<b>4.982</b>	<b>.9657</b>	<b>1.088</b>	<b>.9683</b>	<b>9.949</b>	<b>1.071</b>	<b>1.113</b>	<b>512.8</b>	<b>380.9</b>
Stddev	.0009	.0357	.039	.0318	.0296	.034	.035	4.9	4.2
%RSD	.1792	3.698	3.626	3.286	2.972	3.211	3.108	.9469	1.108
#1	4.972	.9459	1.063	.9498	9.792	1.047	1.096	517.9	384.2
#2	4.985	.9444	1.067	.9501	9.765	1.056	1.091	512.1	376.1
#3	4.990	1.007	1.133	1.005	1.029	1.111	1.153	508.3	382.5

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	<b>194.3</b>	<b>531.5</b>	<b>0.418</b>	<b>-0.001</b>	<b>4.889</b>	<b>4.923</b>	<b>5.043</b>	<b>.4851</b>	<b>5.132</b>
Stddev	2.0	.8	.0345	.0009	.0175	.0172	.0184	.0182	.0029
%RSD	1.046	.1471	82.36	871.3	3.578	3.492	3.645	3.757	.5611
#1	194.2	532.1	.0468	-.0011	4.802	4.821	4.922	.4738	5.164
#2	192.3	530.6	.0052	.0005	4.776	4.826	4.953	.4753	5.109
#3	196.3	531.9	.0735	.0003	5.091	5.121	5.255	.5061	5.122

Check ? Chk Pass Chk Pass None None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

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Zoom In  
Zoom Out

Sample Name: ICSAB Acquired: 4/17/2019 17:38:30 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>5.090</b>	<b>4.911</b>	<b>5.032</b>	<b>5.357</b>	<b>5.396</b>	<b>5.183</b>	<b>5.310</b>
Stddev	.0010	.0220	.0002	.0133	.0180	.0011	.0177
%RSD	.1994	4.482	.0482	2.490	3.332	.2195	3.340
#1	.5084	.4780	.5033	5.247	5.271	5.191	5.194
#2	.5085	.4787	.5029	5.319	5.315	5.187	5.222
#3	.5102	.5165	.5033	5.506	5.603	5.170	5.514

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	<b>122970.</b>	<b>29911.</b>	<b>3446.1</b>	<b>6053.9</b>
Stddev	330.	165.	111.9	159.1
%RSD	.26846	.55230	3.2471	2.6284
#1	123310.	29727.	3511.4	6145.9
#2	122650.	30047.	3510.0	6145.7
#3	122940.	29958.	3316.9	5870.2

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Zoom In  
Zoom Out

Sample Name: MP14246-S1 1 Acquired: 4/17/2019 17:43:49 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.241</b>	<b>2.091</b>	<b>2.166</b>	<b>2.092</b>	<b>2.034</b>	<b>1.945</b>	<b>2.229</b>	<b>2.179</b>	<b>0.869</b>
Stddev	.007	.009	.018	.022	.015	.015	.018	.023	.0013
%RSD	.3153	.4242	.8161	1.050	.7334	.7626	.7989	1.038	1.540
#1	2.233	2.082	2.146	2.069	2.020	1.934	2.217	2.157	.0854
#2	2.247	2.094	2.171	2.097	2.033	1.940	2.220	2.178	.0875
#3	2.243	2.099	2.180	2.112	2.049	1.962	2.250	2.202	.0879

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	<b>2.043</b>	<b>2.186</b>	<b>2.130</b>	<b>2.169</b>	<b>2.183</b>	<b>2.115</b>	<b>2.137</b>	<b>27.20</b>	<b>544.2</b>
Stddev	.016	.018	.018	.027	.016	.015	.017	.09	4.6
%RSD	.7892	.8455	.8345	1.253	.7079	.6995	.7776	.3401	.8371
#1	2.030	2.165	2.109	2.139	2.166	2.102	2.120	27.10	541.0
#2	2.038	2.190	2.138	2.175	2.189	2.112	2.136	27.24	549.4
#3	2.061	2.201	2.142	2.192	2.195	2.131	2.153	27.27	542.2

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	<b>2.101</b>	<b>2.101</b>	<b>2.031</b>	<b>13.71</b>	<b>0.163</b>	<b>0.330</b>	<b>2.238</b>
Stddev	.017	.015	.016	.15	.0113	.0041	.026
%RSD	.8256	.7036	.7680	1.100	69.51	12.40	1.149
#1	2.092	2.085	2.020	13.56	.0080	.0293	2.211
#2	2.090	2.101	2.024	13.71	.0117	.0323	2.241
#3	2.121	2.115	2.049	13.86	.0292	.0374	2.262

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Sample Name: MP14246-S1 1 Acquired: 4/17/2019 17:43:49 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132420.	30306.	3679.5	6606.5
Stddev	682.	218.	2.6	13.2
%RSD	.51498	.71975	.06965	.19964
#1	132880.	30557.	3681.5	6619.7
#2	132750.	30173.	3680.4	6606.5
#3	131640.	30187.	3676.6	6593.4

Sample Name: MP14246-S2 Acquired: 4/17/2019 17:49:04 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.238	2.085	2.249	2.172	2.075	1.980	2.273	2.258	0.874
Stddev	.031	.031	.023	.020	.034	.031	.036	.023	.0021
%RSD	1.370	1.508	1.035	.9086	1.619	1.545	1.594	1.027	2.376
#1	2.214	2.060	2.224	2.152	2.059	1.969	2.252	2.234	.0850
#2	2.226	2.075	2.253	2.173	2.053	1.957	2.252	2.259	.0886
#3	2.272	2.121	2.270	2.192	2.114	2.015	2.315	2.281	.0886
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.084	2.259	2.196	2.256	2.269	2.202	2.205	27.05	538.8
Stddev	.033	.023	.016	.026	.017	.021	.024	.39	15.2
%RSD	1.604	1.029	.7150	1.138	.7647	.9486	1.104	1.443	2.825
#1	2.070	2.238	2.178	2.232	2.254	2.180	2.178	26.71	522.3
#2	2.061	2.255	2.202	2.252	2.264	2.204	2.214	26.97	541.9
#3	2.123	2.284	2.207	2.283	2.288	2.221	2.224	27.48	552.2
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.28	27.50	43.09	513.0	2.208	2.247	4.679	2.225	5.906
Stddev	.43	.43	.58	7.6	.027	.024	.054	.027	.082
%RSD	1.535	1.572	1.351	1.472	1.234	1.046	1.163	1.199	1.382
#1	27.94	27.21	42.58	505.0	2.177	2.222	4.627	2.199	5.842
#2	28.12	27.29	42.97	514.0	2.219	2.250	4.673	2.222	5.879
#3	28.77	28.00	43.73	520.0	2.228	2.269	4.736	2.252	5.998
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	2.134	2.164	2.060	14.17	0.104	0.0376	2.320		
Stddev	.036	.022	.034	.15	.0055	.0039	.024		
%RSD	1.667	1.029	1.642	1.084	53.09	10.34	1.012		
#1	2.113	2.139	2.045	14.03	.0042	.0379	2.294		
#2	2.115	2.176	2.036	14.14	.0147	.0414	2.327		
#3	2.175	2.178	2.098	14.33	.0122	.0336	2.340		

Sample Name: MP14246-S2 Acquired: 4/17/2019 17:49:04 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132450.	30179.	3676.6	6603.6
Stddev	1179.	96.	3.1	8.1
%RSD	.89048	.31879	.08445	.12200
#1	132300.	30068.	3679.4	6598.0
#2	133690.	30245.	3677.2	6612.8
#3	131350.	30223.	3673.3	6599.9

Sample Name: JC86276-5 Acquired: 4/17/2019 17:54:19 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.866	.0001	-0.001	.0024	.0048	.0229	.1217	.0097	-0.0002
Stddev	.0020	.0002	.0003	.0003	.0012	.0005	.0011	.0006	.0010
%RSD	1.048	233.3	559.2	11.61	25.77	2.301	.9277	6.007	579.7
#1	.1846	-.0001	-.0004	.0026	.0034	.0223	.1207	.0099	-.0012
#2	.1866	.0002	.0002	.0026	.0053	.0232	.1213	.0101	-.0002
#3	.1885	.0002	-.0000	.0021	.0056	.0232	.1229	.0090	.0008
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.053	0.0313	0.095	0.043	0.009	-0.0130	-0.0039	1.549	506.3
Stddev	.0014	.0007	.0021	.0048	.0034	.0077	.0048	.034	4.8
%RSD	25.40	2.244	22.28	111.5	378.4	59.37	124.4	2.190	.9503
#1	.0067	.0306	.0075	-.0007	-.0010	-.0201	-.0042	1.572	501.5
#2	.0040	.0311	.0117	.0048	-.0048	-.0048	.0011	1.510	511.1
#3	.0054	.0320	.0092	.0087	-.0011	-.0141	-.0086	1.565	506.3
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.834	2.221	17.15	481.2	0.017	0.124	3.683	-0.077	3.784
Stddev	.032	.049	.21	7.7	.0025	.0006	.031	.0028	.038
%RSD	1.143	2.202	1.230	1.597	149.3	4.610	.8444	36.46	.9977
#1	2.809	2.176	16.92	473.7	-.0012	.0125	3.647	-.0045	3.754
#2	2.823	2.215	17.19	480.8	.0032	.0118	3.706	-.0099	3.773
#3	2.871	2.273	17.34	489.1	.0030	.0129	3.695	-.0088	3.826
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	0.409	0.140	0.014	14.28	0.003	0.0359	0.735		
Stddev	.0028	.0046	.0005	.26	.0028	.0018	.0087		
%RSD	6.771	33.05	35.18	1.800	883.6	5.123	11.82		
#1	.0436	.0087	.0016	13.99	.0024	.0350	.0720		
#2	.0381	.0170	.0008	14.34	-.0028	.0380	.0656		
#3	.0411	.0163	.0017	14.50	.0013	.0347	.0828		

Sample Name: JC86276-5 Acquired: 4/17/2019 17:54:19 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132770.	30423.	3674.8	6652.0
Stddev	685.	219.	10.6	11.1
%RSD	.51578	.71936	.28838	.16707
#1	132070.	30671.	3682.2	6664.1
#2	133440.	30256.	3679.5	6649.8
#3	132800.	30342.	3662.6	6642.2

Sample Name: MP14246-SD1 Acquired: 4/17/2019 17:59:48 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 25.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.074</b>	<b>-0.007</b>	<b>-0.037</b>	<b>0.044</b>	<b>0.010</b>	<b>0.0256</b>	<b>.1351</b>	<b>.0038</b>	<b>-0.082</b>
Stddev	.0050	.0007	.0013	.0014	.0015	.0044	.0008	.0052	.0084
%RSD	2.403	99.73	36.41	32.81	156.0	17.28	.6263	136.6	102.0
#1	.2106	-.0011	-.0026	.0060	.0024	.0263	.1349	-.0022	-.0102
#2	.2017	-.0001	-.0033	.0035	-.0006	.0209	.1343	.0073	-0.0154
#3	.2100	-.0010	-.0051	.0035	.0012	.0297	.1360	.0064	-.0010
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.149</b>	<b>0.027</b>	<b>0.098</b>	<b>0.117</b>	<b>0.122</b>	<b>-0.0579</b>	<b>0.122</b>	<b>1.652</b>	<b>570.6</b>
Stddev	.0059	.0026	.0110	.0124	.0113	.0185	.0193	.013	1.9
%RSD	39.25	6.063	111.5	106.3	92.84	32.01	158.6	.7691	.3353
#1	.0167	.0430	.0223	-.0013	.0249	-.0384	.0029	1.666	568.6
#2	.0196	.0400	.0057	.0234	.0086	-.0602	-.0007	1.642	572.5
#3	.0084	.0451	.0016	.0130	.0031	-.0752	.0343	1.648	570.8
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>3.182</b>	<b>2.416</b>	<b>18.54</b>	<b>537.5</b>	<b>-0.135</b>	<b>0.172</b>	<b>3.912</b>	<b>-0.158</b>	<b>4.154</b>
Stddev	.028	.324	.47	2.5	.0055	.0093	.075	.0166	.022
%RSD	.8798	13.39	2.522	4.672	40.56	54.01	1.909	104.7	.5280
#1	3.161	2.261	18.05	534.7	-.0124	.0138	3.892	-.0328	4.129
#2	3.214	2.199	18.98	539.5	-.0087	.0101	3.994	-.0151	4.164
#3	3.172	2.788	18.60	538.4	-.0195	.0277	3.848	.0003	4.168
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>0.0513</b>	<b>0.0493</b>	<b>0.061</b>	<b>14.12</b>	<b>-0.0246</b>	<b>0.0357</b>	<b>0.1076</b>		
Stddev	.0145	.0154	.0025	.14	.0406	.0139	.0170		
%RSD	28.29	31.35	40.48	1.004	165.1	39.04	15.78		
#1	.0669	.0370	.0055	14.12	-.0087	.0212	.1088		
#2	.0487	.0441	.0039	14.27	-.0707	.0490	.0901		
#3	.0382	.0666	.0088	13.98	.0056	.0369	.1240		

Sample Name: MP14246-SD1 Acquired: 4/17/2019 17:59:48 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 25.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	135960.	30653.	3804.1	7128.3
Stddev	445.	135.	6.8	14.6
%RSD	.32765	.43922	.17991	.20430
#1	135570.	30776.	3806.0	7129.2
#2	135850.	30509.	3809.7	7142.5
#3	136440.	30674.	3796.5	7113.4

Sample Name: CCV 7 Acquired: 4/17/2019 18:05:03 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.069</b>	<b>2.107</b>	<b>2.071</b>	<b>2.061</b>	<b>2.058</b>	<b>2.010</b>	<b>2.128</b>	<b>2.108</b>	<b>.2518</b>
Stddev	.004	.008	.011	.012	.010	.011	.008	.015	.0006
%RSD	.1940	.3619	.5349	.6039	.4773	.5262	.3752	.7033	.2437
#1	2.066	2.106	2.065	2.054	2.054	2.009	2.125	2.101	.2519
#2	2.068	2.099	2.064	2.053	2.070	2.022	2.137	2.097	.2524
#3	2.074	2.114	2.084	2.075	2.051	2.001	2.122	2.125	.2512
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	<b>2.040</b>	<b>2.092</b>	<b>2.056</b>	<b>2.150</b>	<b>2.115</b>	<b>2.069</b>	<b>2.069</b>	<b>40.80</b>	<b>41.01</b>
Stddev	.011	.011	.014	.017	.010	.018	.013	.10	.12
%RSD	.5456	.5361	.6734	.7921	.4912	.8696	.6484	.2476	.3019
#1	2.040	2.087	2.044	2.134	2.111	2.052	2.064	40.77	41.00
#2	2.052	2.083	2.052	2.148	2.106	2.069	2.060	40.72	40.89
#3	2.029	2.104	2.071	2.168	2.126	2.088	2.085	40.91	41.13
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	<b>41.22</b>	<b>41.13</b>	<b>40.98</b>	<b>40.78</b>	<b>2.072</b>	<b>2.097</b>	<b>5.268</b>	<b>2.119</b>	<b>2.052</b>
Stddev	.16	.23	.19	.14	.013	.015	.033	.015	.011
%RSD	.3992	.5701	.4741	.3329	.6009	.7133	.6240	.6905	.5184
#1	41.24	41.14	40.96	40.75	2.064	2.086	5.247	2.110	2.049
#2	41.05	40.89	40.79	40.67	2.066	2.092	5.252	2.111	2.043
#3	41.37	41.35	41.18	40.93	2.087	2.114	5.306	2.136	2.063
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 7 Acquired: 4/17/2019 18:05:03 Type: QC  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Table with 8 columns: Elem, Units, W\_2079, Zr3391, S\_1820, Bi2230, Li6707, P\_1774. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value High Limit Low Limit

Table with 4 columns: Int. Std. Units, Y\_3600, Y\_3710, Y\_2243, In2306. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Table with 4 columns: #1, #2, #3. Rows include 132880, 132370, 133180 and 30337, 30737, 30233.

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Zoom In  
Zoom Out

Sample Name: CCB Acquired: 4/17/2019 18:10:03 Type: QC  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Table with 11 columns: Elem, Units, Ba4554, Be3130, Cd2288, Co2286, Cr2677, Cu3247, Mn2576, Ni2316, Ag3280. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit Low Limit

Table with 11 columns: Elem, Units, V\_2924, Zn2062, As1890, Ti1908, Pb2203, Se1960, Sb2068, Al3961, Ca3179. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Table with 11 columns: #1, #2, #3. Rows include .0005, .0003, .0002 and -.0000, -.0001, -.0002.

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit Low Limit

Table with 11 columns: Elem, Units, Fe2599, Mg2790, K\_7664, Na5895, B\_2089, Mo2020, Si2124, Sn1899, Sr4077. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Table with 11 columns: #1, #2, #3. Rows include .0012, .0019, .0015 and .0042, .0207, -.0157.

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit Low Limit

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Zoom In  
Zoom Out

Sample Name: CCB Acquired: 4/17/2019 18:10:03 Type: QC  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Table with 8 columns: Elem, Units, W\_2079, Zr3391, S\_1820, Bi2230, Li6707, P\_1774. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit Low Limit

Table with 4 columns: Int. Std. Units, Y\_3600, Y\_3710, Y\_2243, In2306. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Table with 4 columns: #1, #2, #3. Rows include 137670, 137520, 138590 and 30776, 30899, 30696.

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Zoom In  
Zoom Out

Sample Name: moconf Acquired: 4/17/2019 18:15:20 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Table with 11 columns: Elem, Units, Ba4554, Be3130, Cd2288, Co2286, Cr2677, Cu3247, Mn2576, Ni2316, Ag3280. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit Low Limit

Table with 11 columns: Elem, Units, V\_2924, Zn2062, As1890, Ti1908, Pb2203, Se1960, Sb2068, Al3961, Ca3179. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Table with 11 columns: #1, #2, #3. Rows include .0008, .0004, .0003 and -.0015, -.0014, -.0015.

Table with 11 columns: Elem, Units, Fe2599, Mg2790, K\_7664, Na5895, B\_2089, Mo2020, Si2124, Sn1899, Sr4077. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Table with 11 columns: Elem, Units, Ti3349, W\_2079, Zr3391, S\_1820, Bi2230, Li6707, P\_1774. Rows include Avg, Stddev, %RSD and sample results #1, #2, #3.

Table with 11 columns: #1, #2, #3. Rows include -.0052, -.0057, -.0056 and .0047, .0033, .0040.

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Sample Name: moconf Acquired: 4/17/2019 18:15:20 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138320.	31034.	3833.8	7380.0
Stddev	177.	115.	42.9	70.8
%RSD	.12777	.36923	1.1202	.95878
#1	138320.	30906.	3876.8	7454.9
#2	138490.	31126.	3790.9	7314.3
#3	138140.	31070.	3833.8	7370.8

Sample Name: ticonf Acquired: 4/17/2019 18:20:31 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-0.0005	-0.0001	.0012	.0004	-0.0034	.0001	.0001
Stddev	.0000	.0001	.0002	.0003	.0004	.0002	.0000	.0001
%RSD	39.63	27.95	423.4	25.95	88.35	6.005	16.56	143.5
#1	.0001	-0.0003	.0001	.0008	-0.0000	-0.0035	.0001	.0002
#2	.0001	-0.0006	-0.0003	.0013	.0006	-0.0036	.0001	.0000
#3	.0001	-0.0006	.0001	.0014	.0006	-0.0032	.0001	-0.0000
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0006	-0.0005	-0.0015	.0058	.0012	-0.0024	-0.0000
Stddev	.0002	.0001	.0001	.0010	.0010	.0008	.0006	.0012
%RSD	76.49	11.15	18.07	70.34	18.09	62.21	25.37	4712.
#1	.0001	.0007	-0.0005	-0.0027	.0065	.0021	-0.0023	-0.0014
#2	.0006	.0006	-0.0005	-0.0009	.0062	.0006	-0.0030	.0008
#3	.0002	.0005	-0.0007	-0.0009	.0046	.0011	-0.0018	.0006
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0070	.0075	.0067	.1221	.0088	.0110	.0008	.0012
Stddev	.0022	.0007	.0009	.0115	.0227	.0031	.0004	.0003
%RSD	30.59	9.916	13.78	9.402	259.1	28.47	49.40	20.70
#1	.0046	.0067	.0077	.1098	.0335	.0096	.0007	.0009
#2	.0088	.0082	.0060	.1239	.0036	.0087	.0013	.0014
#3	.0076	.0077	.0062	.1325	-0.109	.0145	.0005	.0013
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0926	.0334	.0001	F 10.70	.0010	-0.0090	-0.0063	F -.2183
Stddev	.0025	.0002	.0000	.07	.0002	.0001	.0021	.0090
%RSD	2.675	.6915	18.96	.6206	15.88	1.101	33.60	4.144
#1	.0898	.0335	.0001	10.77	.0012	-0.0091	-0.0053	-2.098
#2	.0945	.0335	.0001	10.71	.0010	-0.0091	-0.0048	-2.278
#3	.0935	.0331	.0002	10.64	.0009	-0.0089	-0.0087	-2.173

Sample Name: ticonf Acquired: 4/17/2019 18:20:31 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	.0005	.0012		
Stddev	.0011	.0014		
%RSD	220.8	116.1		
#1	-0.0007	.0010		
#2	.0011	-0.0001		
#3	.0011	.0026		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137650.	30775.	3858.8	7383.8
Stddev	669.	152.	18.9	32.4
%RSD	.48600	.49249	.49051	.43852
#1	137080.	30821.	3873.9	7411.1
#2	137480.	30605.	3837.5	7348.1
#3	138390.	30898.	3864.9	7392.3

Sample Name: vconf Acquired: 4/17/2019 18:25:55 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0013	-0.0002	.0004	-0.0009	-0.0021	-0.0007	.0002	-0.0033
Stddev	.0002	.0000	.0001	.0001	.0001	.0002	.0000	.0000	.0004
%RSD	46.12	2.415	53.25	24.04	11.74	8.096	3.104	11.30	11.51
#1	.0002	.0013	-0.0001	.0003	-0.0008	-0.0021	-0.0008	.0003	-0.0032
#2	.0005	.0013	-0.0002	.0004	-0.0010	-0.0023	-0.0007	.0003	-0.0030
#3	.0006	.0013	-0.0003	.0005	-0.0008	-0.0019	-0.0007	.0002	-0.0037
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 11.26	.0012	.0008	.0013	-0.0000	-0.0009	.0102	.0112	.0184
Stddev	.07	.0001	.0010	.0021	.0001	.0010	.0008	.0026	.0014
%RSD	.6315	9.903	118.6	164.5	7812.	111.0	7.797	23.53	7.839
#1	11.26	.0012	-0.0003	.0011	.0001	.0010	.0110	.0087	.0194
#2	11.33	.0010	.0011	.0035	-0.0001	-0.0018	.0102	.0139	.0190
#3	11.19	.0013	.0017	-0.0007	-0.0000	-0.0010	.0094	.0110	.0167
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068	-0.0042	.0136	.0839	.0263	-0.0051	-0.0141	.0028	.0000
Stddev	.0012	.0105	.0157	.0058	.0003	.0003	.0086	.0004	.0000
%RSD	17.47	251.1	115.4	6.899	1.238	5.369	60.93	14.54	30.11
#1	.0060	.0079	-0.0042	.0774	.0267	-0.0054	-0.0162	.0023	.0000
#2	.0082	-0.0116	.0254	.0858	.0261	-0.0049	-0.0213	.0029	.0000
#3	.0063	-0.0089	.0196	.0885	.0261	-0.0051	-0.0046	.0031	.0001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0006	.0039	-0.0004	-0.0030	-0.0002	-0.0001	-0.0019		
Stddev	.0001	.0004	.0000	.0037	.0007	.0003	.0009		
%RSD	17.85	10.75	4.714	123.0	362.6	351.4	45.15		
#1	.0005	.0041	-0.0004	-0.0063	-0.0006	-0.0001	-0.0025		
#2	.0006	.0042	-0.0004	.0010	.0006	-0.0003	-0.0009		
#3	.0007	.0034	-0.0005	-0.0036	-0.0007	.0002	-0.0024		

Sample Name: vconf Acquired: 4/17/2019 18:25:55 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137560.	30747.	3837.4	7362.7
Stddev	654.	119.	16.8	22.0
%RSD	4.7536	.38664	.43731	.29833
#1	136890.	30849.	3837.7	7354.1
#2	137600.	30616.	3854.1	7387.7
#3	138190.	30775.	3820.5	7346.4

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Sample Name: mnconf Acquired: 4/17/2019 18:31:18 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	-0.0002	.0005	.0019	-0.0019	F 10.11	.0002	.0001
Stddev	.0001	.0000	.0001	.0001	.0004	.0004	.03	.0001	.0002
%RSD	225.3	10.89	77.03	10.42	21.77	205.4	.2887	71.56	193.7
#1	.0002	.0001	-0.0004	.0005	.0016	-0.0005	10.10	.0003	.0001
#2	-0.0000	.0002	-0.0002	.0006	.0024	-0.0002	10.14	.0001	-0.0001
#3	.0000	.0001	-0.0001	.0005	.0017	.0002	10.08	.0001	.0003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045	-0.0002	.0002	-0.0006	.0001	-0.0035	-0.0009	-0.0041	.0038
Stddev	.0003	.0001	.0009	.0009	.0010	.0019	.0010	.0030	.0016
%RSD	7.251	40.98	473.1	144.5	922.6	53.78	118.1	72.02	41.75
#1	.0041	-0.0001	-0.0008	-0.0008	.0007	-0.0050	-0.0018	-0.0072	.0054
#2	.0046	-0.0002	.0007	.0004	-0.0010	-0.0042	-0.0011	-0.0012	.0022
#3	.0047	-0.0002	.0007	-0.0013	.0006	-0.0014	.0002	-0.0039	.0039
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0031	-0.0377	-0.0325	.0070	-0.0004	-0.0006	.0104	.0004	.0001
Stddev	.0012	.0031	.0095	.0049	.0002	.0002	.0005	.0004	.0001
%RSD	39.51	8.251	29.12	70.31	43.81	26.20	4.474	112.0	129.2
#1	-0.0025	-0.0375	-0.0228	.0072	-0.0004	-0.0007	.0106	.0006	-0.0000
#2	-0.0022	-0.0346	-0.0417	.0020	-0.0006	-0.0007	.0108	-0.0001	.0002
#3	-0.0045	-0.0408	-0.0330	.0118	-0.0002	-0.0004	.0099	.0007	.0001
Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0002	.0011	.0000	-0.0023	.0008	-0.0006	-0.0595		
Stddev	.0001	.0007	.0000	.0013	.0002	.0002	.0010		
%RSD	34.80	60.00	463.8	57.60	25.48	30.00	1.611		
#1	.0002	.0005	.0000	-0.0015	.0009	-0.0007	-0.0591		
#2	.0001	.0010	.0000	-0.0015	.0005	-0.0004	-0.0607		
#3	.0003	.0018	-0.0000	-0.0038	.0009	-0.0005	-0.0589		

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Sample Name: mnconf Acquired: 4/17/2019 18:31:18 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138790.	30962.	3843.6	7368.8
Stddev	70.	278.	34.9	60.9
%RSD	.05016	.89632	.90877	.82687
#1	138850.	30814.	3872.3	7419.0
#2	138720.	31282.	3804.7	7301.0
#3	138790.	30789.	3853.9	7386.3

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Sample Name: snconf Acquired: 4/17/2019 18:36:42 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-0.0000	-0.0001	.0002	-0.0002	-0.0012	.0002	.0001	-0.0013
Stddev	.0000	.0000	.0000	.0001	.0002	.0002	.0000	.0001	.0001
%RSD	149.1	135.8	76.90	44.98	145.3	19.20	18.97	97.21	6.560
#1	.0000	.0000	-0.0001	.0003	-0.0001	-0.0011	.0001	.0002	-0.0014
#2	.0000	-0.0000	-0.0000	.0001	.0000	-0.0014	.0002	-0.0000	-0.0013
#3	.0001	-0.0000	-0.0000	.0003	-0.0004	-0.0010	.0002	.0001	-0.0013
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-0.0000	-0.0004	.0019	-0.0007	-0.0019	.0008	.0029	.0069
Stddev	.0004	.0001	.0008	.0016	.0005	.0005	.0005	.0065	.0025
%RSD	141.2	420.5	192.9	85.73	72.94	26.19	56.37	227.8	35.52
#1	.0005	-0.0001	.0004	.0030	-0.0001	-0.0019	.0004	.0103	.0046
#2	.0005	.0001	-0.0012	.0026	-0.0009	-0.0025	.0013	.0001	.0068
#3	-0.0002	-0.0001	-0.0005	.0000	-0.0011	-0.0014	.0007	-0.0018	.0095
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	-0.0050	.0281	.0003	.0043	.0002	-0.0201	F 10.91	.0000
Stddev	.0006	.0018	.0062	.0016	.0007	.0002	.0008	.01	.0000
%RSD	33.26	36.60	22.13	466.6	16.86	109.9	3.895	.0776	93.05
#1	.0022	-0.0062	.0211	.0017	.0037	.0003	-0.0192	10.91	.0000
#2	.0011	-0.0029	.0330	-0.0014	.0040	.0003	-0.0206	10.92	.0000
#3	.0018	-0.0059	.0303	.0007	.0051	-0.0000	-0.0205	10.91	.0001
Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0001	-0.0136	.0009	-0.0030	-0.0017	-0.0003	-0.0006		
Stddev	.0002	.0006	.0001	.0029	.0006	.0002	.0006		
%RSD	255.8	4.274	14.24	96.23	36.42	68.76	99.62		
#1	.0002	-0.0142	.0010	-0.0010	-0.0023	-0.0001	-0.0002		
#2	-0.0001	-0.0132	.0008	-0.0063	-0.0010	-0.0005	-0.0003		
#3	.0002	-0.0132	.0008	-0.0017	-0.0018	-0.0004	-0.0013		

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Sample Name: snconf Acquired: 4/17/2019 18:36:42 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138440.	30645.	3861.8	7409.8
Stddev	695.	163.	8.1	4.9
%RSD	.50191	.53301	.21102	.06621
#1	137630.	30709.	3870.6	7405.4
#2	138840.	30767.	3860.1	7415.1
#3	138830.	30460.	3854.5	7408.9

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Sample Name: siconf Acquired: 4/17/2019 18:41:56 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0000	.0000	.0001	-0.0004	.0002	-0.0001	-0.0002	-0.0001
Stddev	.0001	.0001	.0002	.0002	.0001	.0002	.0000	.0003	.0003
%RSD	1287.	1395.	371.5	116.5	25.05	115.0	15.46	175.4	382.3
#1	.0001	.0000	-0.0001	.0001	-0.0003	.0001	-0.0001	-0.0003	.0001
#2	-0.0001	-0.0001	.0002	.0003	-0.0005	-0.0000	-0.0001	-0.0002	-0.0004
#3	.0001	.0000	-0.0000	.0000	-0.0005	.0003	-0.0001	-0.0004	.0000
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0002	-0.0004	-0.0013	.0004	-0.0001	-0.0011	-0.0021	-0.0011
Stddev	.0001	.0001	.0003	.0004	.0009	.0003	.0002	.0020	.0008
%RSD	58.35	39.47	72.34	34.32	208.4	292.0	15.33	93.95	77.21
#1	.0001	.0002	-0.0002	-0.0017	.0013	-0.0003	-0.0009	-0.0016	-0.0001
#2	.0003	.0002	-0.0003	-0.0009	-0.0004	.0003	-0.0012	-0.0043	-0.0014
#3	.0003	.0004	-0.0008	-0.0011	.0004	-0.0003	-0.0012	-0.0004	-0.0017
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.0110	.0235	.0008	-0.0000	-0.0001	11.63	.0006	.0000
Stddev	.0004	.0009	.0231	.0007	.0002	.0002	.03	.0005	.0000
%RSD	26.84	7.901	98.43	99.09	2589.	194.2	2.544	76.59	37.58
#1	.0017	.0119	.0421	.0013	.0002	-0.0001	11.61	.0006	.0001
#2	.0018	.0102	.0307	.0011	.0000	.0001	11.66	.0011	.0001
#3	.0011	.0108	-0.0024	-0.0001	-0.0002	-0.0003	11.61	.0002	.0000
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	-0.0003	.0011	-0.0005	-0.0057	-0.0010	-0.0003	-0.0004		
Stddev	.0001	.0004	.0001	.0011	.0018	.0002	.0007		
%RSD	46.65	40.75	10.39	19.73	191.5	50.37	159.4		
#1	-0.0002	.0016	-0.0006	-0.0056	-0.0019	-0.0001	-0.0012		
#2	-0.0002	.0008	-0.0005	-0.0046	.0012	-0.0005	.0002		
#3	-0.0004	.0009	-0.0005	-0.0069	-0.0021	-0.0004	-0.0004		

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Sample Name: siconf Acquired: 4/17/2019 18:41:56 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136260.	30347.	3837.3	7356.6
Stddev	825.	248.	6.8	13.6
%RSD	.60541	.81590	.17627	.18466
#1	136390.	30612.	3829.5	7341.1
#2	135380.	30305.	3841.6	7366.5
#3	137020.	30122.	3840.7	7362.1

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Sample Name: siconf Acquired: 4/17/2019 18:47:11 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0001	.0000	-0.0001	-0.0000	-0.0000	.0002	.0000	-0.0002	-0.0001
Stddev	.0002	.0000	.0001	.0001	.0001	.0001	.0000	.0001	.0002
%RSD	187.1	59.86	119.2	1866.	1778.	42.45	86.65	42.91	291.3
#1	.0001	.0000	-0.0001	-0.0001	-0.0001	.0002	.0000	-0.0002	.0001
#2	-0.0000	.0000	.0000	.0001	.0001	.0002	.0000	-0.0001	-0.0003
#3	-0.0003	.0000	-0.0002	.0000	-0.0000	.0001	.0001	-0.0003	-0.0000
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0003	-0.0016	.0013	-0.0010	.0007	.0005	-0.0044	-0.0014
Stddev	.0001	.0001	.0007	.0003	.0005	.0013	.0008	.0032	.0005
%RSD	44.18	49.01	43.47	21.82	50.95	169.6	138.4	72.99	33.59
#1	.0002	.0004	-0.0022	.0016	-0.0005	.0008	-0.0003	-0.0049	-0.0014
#2	.0004	.0004	-0.0008	.0010	-0.0009	-0.0005	.0010	-0.0010	-0.0018
#3	.0004	.0001	-0.0019	.0012	-0.0015	.0020	.0009	-0.0073	-0.0009
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0031	-0.286	.0049	-0.0004	.0003	.0046	-0.0003	.0000
Stddev	.0016	.0107	.0086	.0050	.0001	.0001	.0012	.0003	.0000
%RSD	224.8	345.8	30.13	102.1	23.28	42.87	26.39	81.49	234.3
#1	.0023	-0.0005	-0.288	.0026	-0.0005	.0002	.0059	-0.0001	-0.0000
#2	.0007	-0.0054	-0.371	.0107	-0.0005	.0003	.0043	-0.0003	.0000
#3	-0.0008	.0151	-0.199	.0015	-0.0003	.0005	.0036	-0.0006	.0001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0001	.0009	.0001	F 105.3	.0001	-0.0003	-0.0010		
Stddev	.0002	.0003	.0001	.1	.0006	.0012	.0007		
%RSD	159.4	34.62	138.4	.0665	570.8	436.6	67.23		
#1	.0003	.0008	.0001	105.3	.0009	.0001	-0.0015		
#2	-0.0001	.0012	-0.0000	105.4	-0.0003	-0.0016	-0.0012		
#3	.0002	.0006	.0001	105.3	-0.0002	.0007	-0.0002		

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Sample Name: sconf Acquired: 4/17/2019 18:47:11 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	135440.	30408.	3812.7	7355.3
Stddev	277.	47.	2.5	1.7
%RSD	.20415	.15477	.06485	.02375
#1	135330.	30358.	3814.6	7354.1
#2	135230.	30451.	3809.9	7354.6
#3	135750.	30415.	3813.7	7357.3

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Sample Name: niconf Acquired: 4/17/2019 18:52:25 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0006	.0003	.0007	.0000	.0001	.0002	F 10.75	-.0004
Stddev	.0000	.0000	.0001	.0000	.0000	.0001	.0000	.02	.0001
%RSD	57.85	2.708	21.64	5.783	14860.	85.13	20.62	.1817	29.96
#1	.0001	.0005	.0003	.0007	.0000	.0000	-.0002	10.77	-.0002
#2	.0001	.0006	.0003	.0008	-.0000	.0003	-.0002	10.75	-.0004
#3	.0001	.0006	.0004	.0007	.0000	.0001	-.0001	10.74	-.0004
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0006	-.0005	-.0000	.0010	-.0029	-.0012	-.0029	-.0131
Stddev	.0003	.0000	.0009	.0008	.0006	.0013	.0012	.0002	.0002
%RSD	74.78	7.276	204.7	4710.	67.58	46.17	100.5	5.661	1.652
#1	.0004	.0006	-.0015	.0002	.0004	-.0022	-.0011	-.0027	-.0129
#2	.0001	.0005	.0001	.0007	.0009	-.0044	-.0024	-.0030	-.0132
#3	.0007	.0006	.0001	-.0009	.0017	-.0020	-.0000	-.0029	-.0133
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0035	.0069	.1095	.0029	-.0007	.0002	.0024	-.0006	.0000
Stddev	.0012	.0201	.0150	.0008	.0003	.0001	.0002	.0002	.0000
%RSD	33.66	291.3	13.70	25.58	43.96	29.52	8.570	34.31	146.1
#1	.0036	.0132	.1246	.0022	-.0010	.0002	.0025	-.0006	-.0000
#2	.0022	.0231	.1092	.0037	-.0004	.0002	.0022	-.0009	.0001
#3	.0046	-.0156	.0946	.0030	-.0008	.0001	.0026	-.0005	.0000
Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0000	.0038	-.0001	-.0155	-.0052	-.0008	.0137		
Stddev	.0001	.0002	.0002	.0020	.0012	.0012	.0010		
%RSD	162.0	4.032	289.3	12.84	23.63	161.8	7.138		
#1	.0000	.0039	-.0000	-.0134	-.0038	.0005	.0146		
#2	.0001	.0040	-.0003	-.0173	-.0059	-.0019	.0139		
#3	-.0000	.0037	.0001	-.0159	-.0059	-.0009	.0127		

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Sample Name: niconf Acquired: 4/17/2019 18:52:25 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136620.	30450.	3822.8	7444.1
Stddev	556.	124.	8.5	3.0
%RSD	4.0707	4.0667	.22164	.04014
#1	136800.	30315.	3832.5	7446.3
#2	136000.	30558.	3817.4	7445.3
#3	137070.	30477.	3818.4	7440.7

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Sample Name: coconf Acquired: 4/17/2019 18:57:40 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0015	F 11.19	.0000	.0005	.0001	-.0008	-.0001
Stddev	.0001	.0000	.0000	.03	.0000	.0002	.0000	.0003	.0003
%RSD	147.7	16.17	2.565	.2731	289.8	49.32	28.27	38.79	224.2
#1	-.0001	.0001	.0015	11.17	-.0000	.0006	.0001	-.0010	-.0004
#2	-.0002	.0002	.0014	11.18	-.0000	.0002	.0001	-.0009	.0000
#3	.0001	.0001	.0014	11.23	-.0000	.0007	.0001	-.0004	.0001
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0010	.0007	-.0004	-.0009	-.0023	-.0002	-.0047	-.0035
Stddev	.0003	.0002	.0011	.0004	.0008	.0029	.0003	.0048	.0024
%RSD	112.7	15.81	161.9	117.0	93.15	125.0	122.3	102.5	68.39
#1	.0007	.0011	-.0005	.0000	-.0018	-.0021	-.0006	.0008	-.0019
#2	.0001	.0009	.0010	-.0008	-.0002	-.0054	-.0001	-.0067	-.0062
#3	.0001	.0008	.0016	-.0003	-.0007	.0004	-.0001	-.0082	-.0024
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0008	-.0175	.0002	-.0016	-.0001	.0036	.0004	-.0000
Stddev	.0005	.0053	.0133	.0032	.0004	.0001	.0002	.0002	.0000
%RSD	131.8	656.3	76.08	1587.	27.61	165.6	6.469	40.79	679.3
#1	.0007	-.0068	-.0326	.0003	-.0019	-.0001	.0038	.0004	.0000
#2	-.0002	.0027	-.0118	-.0030	-.0017	.0001	.0033	.0003	-.0000
#3	.0005	.0018	-.0079	.0033	-.0011	-.0002	.0037	.0006	.0000
Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	-.0001	-.0004	.0001	-.0081	.1065	-.0004	-.0012		
Stddev	.0002	.0009	.0001	.0025	.0015	.0006	.0027		
%RSD	149.5	221.0	96.86	30.96	1.374	144.6	226.3		
#1	-.0003	-.0011	-.0000	-.0053	.1073	.0001	-.0020		
#2	-.0002	-.0007	.0002	-.0088	.1073	-.0011	-.0033		
#3	.0001	.0006	.0002	-.0102	.1048	-.0003	.0018		

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Sample Name: coconf Acquired: 4/17/2019 18:57:40 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136790.	30661.	3810.9	7402.7
Stddev	241.	525.	11.4	17.0
%RSD	.17638	1.7121	.30026	.22923
#1	136650.	30245.	3812.0	7399.3
#2	136650.	30487.	3821.8	7421.1
#3	137070.	31251.	3799.0	7387.6

Sample Name:alconf Acquired: 4/17/2019 19:02:55 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.001	-0.000	-0.001	0.000	-0.001	-0.014	-0.005	-0.005	-0.003
Stddev	.0002	.0000	.0001	.0001	.0001	.0002	.0001	.0000	.0003
%RSD	369.5	1220.	84.35	110.1	44.61	12.02	12.55	8.615	99.42
#1	-0.003	-0.000	-0.000	.0001	-0.001	-0.015	-0.004	-0.005	.0000
#2	-0.001	.0000	-0.002	.0000	-0.001	-0.016	-0.005	-0.006	-0.007
#3	.0002	.0000	-0.002	.0000	-0.002	-0.013	-0.005	-0.005	-0.003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.000	-0.001	-0.003	0.011	0.010	-0.013	0.013	F 523.2	0.292
Stddev	.0003	.0001	.0013	.0018	.0005	.0009	.0020	10.9	.0012
%RSD	1742.	63.07	422.4	153.0	49.57	66.71	150.8	2.081	4.083
#1	-0.001	-0.000	.0008	-0.009	.0005	-0.009	.0015	520.9	.0279
#2	-0.002	-0.002	-0.017	.0024	.0015	-0.008	.0032	535.1	.0295
#3	.0003	-0.002	.0001	.0019	.0011	-0.023	-0.007	513.7	.0303
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.074	0.092	-0.082	-0.011	0.011	-0.038	-0.068	-0.008	-0.002
Stddev	.0007	.0124	.0036	.0020	.0007	.0003	.0007	.0011	.0000
%RSD	10.11	134.4	43.08	24.52	58.48	8.338	10.59	140.4	5.760
#1	.0078	.0224	-0.042	-0.093	.0019	-0.041	-0.060	.0003	.0001
#2	.0065	-0.023	-0.099	-0.095	.0007	-0.035	-0.074	-0.008	.0002
#3	.0078	.0076	-0.107	-0.059	.0008	-0.039	-0.071	-0.018	.0002
Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	0.003	-0.051	0.003	0.220	-0.046	0.001	0.042		
Stddev	.0000	.0009	.0001	.0074	.0010	.0003	.0019		
%RSD	15.03	17.73	21.28	33.76	22.26	227.9	44.35		
#1	.0003	-0.051	.0002	.0174	-0.047	.0004	.0025		
#2	.0004	-0.042	.0002	.0306	-0.036	-0.000	.0039		
#3	.0003	-0.060	.0003	.0181	-0.056	-0.001	.0062		

Sample Name:alconf Acquired: 4/17/2019 19:02:55 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	129850.	31726.	4000.3	6654.0
Stddev	652.	122.	11.6	9.7
%RSD	.50199	.38432	.28978	.14603
#1	129220.	31789.	3987.2	6642.8
#2	129800.	31586.	4009.1	6660.3
#3	130520.	31804.	4004.7	6658.9

Sample Name:caconf Acquired: 4/17/2019 19:08:13 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.002	-0.000	-0.001	0.002	-0.002	0.007	0.004	-0.001	0.010
Stddev	.0001	.0000	.0001	.0003	.0002	.0002	.0000	.0002	.0003
%RSD	32.96	306.7	118.2	148.1	135.3	28.09	6.850	160.0	28.49
#1	.0003	.0000	-0.001	.0001	.0001	.0007	.0004	-0.002	.0013
#2	.0001	.0000	-0.000	.0005	-0.003	.0006	.0004	-0.003	.0008
#3	.0002	-0.000	-0.000	-0.001	-0.003	.0010	.0004	.0001	.0008
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.002	0.004	0.011	-0.002	-0.018	-0.029	-0.001	0.012	F 412.5
Stddev	.0003	.0002	.0014	.0011	.0005	.0019	.0007	.0023	.3
%RSD	166.2	35.69	121.8	480.9	29.10	67.29	602.8	4.553	.0841
#1	.0005	.0006	-0.005	-0.011	-0.024	-0.012	.0004	.0485	412.3
#2	.0001	.0003	.0019	.0010	-0.014	-0.025	-0.009	.0521	412.3
#3	-0.001	.0004	.0020	-0.007	-0.017	-0.050	.0002	.0529	412.9
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.107	0.044	0.192	-0.104	-0.012	0.003	0.014	-0.017	-0.005
Stddev	.0009	.0115	.0083	.0065	.0007	.0002	.0012	.0008	.0000
%RSD	8.493	260.7	43.19	63.07	60.26	82.06	87.85	51.23	.4921
#1	.0117	-0.086	.0097	-0.045	-0.009	.0000	.0020	-0.021	-0.076
#2	.0102	.0086	.0233	-0.174	-0.020	.0004	-0.000	-0.007	-0.075
#3	.0102	.0133	.0246	-0.091	-0.007	.0003	.0021	-0.022	-0.075
Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	-0.008	0.013	-0.000	0.003	-0.002	-0.010	0.097		
Stddev	.0001	.0004	.0001	.0041	.0005	.0005	.0007		
%RSD	16.05	28.92	211.8	1256.	242.7	45.80	7.293		
#1	-0.009	.0009	-0.001	-0.026	.0001	-0.007	.0105		
#2	-0.009	.0014	.0001	-0.013	-0.008	-0.015	.0092		
#3	-0.007	.0017	-0.001	.0050	.0001	-0.008	.0095		

Sample Name: caconf Acquired: 4/17/2019 19:08:13 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	128200.	29624.	3518.1	6419.5
Stddev	608.	139.	5.2	10.5
%RSD	4.7449	.46816	.14858	.16416
#1	127520.	29546.	3522.6	6431.3
#2	128380.	29785.	3512.3	6411.0
#3	128700.	29543.	3519.3	6416.2

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Sample Name: mgconf Acquired: 4/17/2019 19:13:38 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-0.000	.0001	.0004	-0.0007	.0013	.0012	.0003	-0.001
Stddev	.0001	.0000	.0001	.0001	.0003	.0005	.0001	.0002	.0002
%RSD	34.94	380.1	95.18	37.24	39.11	36.29	7.116	78.90	292.9
#1	.0002	-0.000	.0000	.0003	-0.0005	.0010	.0011	.0005	.0001
#2	.0002	-0.000	.0002	.0003	-0.0006	.0019	.0013	.0002	-0.001
#3	.0004	-0.000	.0001	.0005	-0.0011	.0011	.0012	.0001	-0.003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	.0006	-0.0016	.0012	-0.0022	-0.0001	-0.0008	-0.0028	.0296
Stddev	.0002	.0002	.0012	.0003	.0006	.0013	.0014	.0026	.0013
%RSD	17.54	33.14	78.78	21.06	28.79	145.2	172.9	90.75	4.470
#1	.0017	.0004	-0.0019	.0010	-0.0015	.0014	-0.0010	-0.0036	.0290
#2	.0014	.0007	-0.0026	.0015	-0.0026	-0.0008	.0007	.0000	.0311
#3	.0012	.0007	-0.0002	.0012	-0.0026	-0.0008	-0.0021	-0.0049	.0287
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0020	F 579.2	-0.0148	.0059	.0001	-0.0001	.0034	-0.0010	.0001
Stddev	.0009	2.4	.0152	.0020	.0006	.0002	.0002	.0007	.0000
%RSD	44.41	.4136	103.3	33.08	105.6	281.5	7.002	67.93	18.92
#1	-0.0022	580.8	-0.0226	.0044	-0.0003	-0.0001	.0036	-0.0003	.0001
#2	-0.0010	576.5	-0.0245	.0081	.0007	.0002	.0035	-0.0016	.0001
#3	-0.0028	580.4	-0.0028	.0053	-0.0003	-0.0003	.0031	-0.0011	.0001
Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0003	.0006	.0001	-0.0025	-0.0005	-0.0002	.0046		
Stddev	.0001	.0002	.0001	.0024	.0009	.0004	.0018		
%RSD	48.30	35.59	82.04	96.78	189.3	174.7	38.73		
#1	.0004	.0005	.0001	-0.0039	-0.0015	-0.0003	.0028		
#2	.0004	.0009	.0001	-0.0039	-0.0001	-0.0005	.0047		
#3	.0001	.0005	.0000	.0003	.0002	.0002	.0064		

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Sample Name: mgconf Acquired: 4/17/2019 19:13:38 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	127640.	30093.	3575.0	6445.5
Stddev	4218.	154.	3.0	2.6
%RSD	3.3043	.51066	.08318	.03973
#1	131400.	30106.	3577.8	6448.4
#2	123080.	30241.	3571.9	6443.7
#3	128450.	29934.	3575.4	6444.5

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Sample Name: CCV Acquired: 4/17/2019 19:18:54 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.023	2.059	2.035	2.029	2.039	1.988	2.100	2.088	2.504
Stddev	.021	.019	.002	.004	.008	.005	.005	.004	.0010
%RSD	1.043	.9343	.1177	.2194	.3878	.2319	.2312	.2039	.3796
#1	2.023	2.056	2.037	2.032	2.040	1.989	2.103	2.071	2.509
#2	2.002	2.041	2.036	2.031	2.046	1.992	2.101	2.070	2.509
#3	2.044	2.079	2.032	2.024	2.030	1.983	2.094	2.063	2.493
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	2.060	2.015	2.114	2.076	2.029	2.028	39.95	40.40
Stddev	.004	.003	.002	.006	.002	.004	.003	.48	.50
%RSD	.2209	.1335	.0862	.2673	.0902	.2188	.1285	1.199	1.242
#1	2.030	2.060	2.013	2.120	2.077	2.032	2.029	39.93	40.40
#2	2.032	2.062	2.017	2.114	2.078	2.030	2.030	39.48	39.89
#3	2.023	2.057	2.015	2.109	2.074	2.024	2.025	40.43	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	40.48	40.29	40.02	40.00	2.035	2.054	5.170	2.078	2.074
Stddev	.43	.37	.38	.38	.002	.002	.006	.005	.053
%RSD	1.071	.9283	.9595	.9496	.1155	.1053	.1163	.2351	2.537
#1	40.52	40.24	39.95	39.98	2.034	2.056	5.164	2.081	2.074
#2	40.03	39.94	39.67	39.63	2.038	2.054	5.176	2.081	2.021
#3	40.89	40.68	40.43	40.39	2.034	2.051	5.170	2.073	2.126
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Sample Name: CCV Acquired: 4/17/2019 19:18:54 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.039</b>	<b>2.032</b>	<b>2.025</b>	<b>2.005</b>	<b>2.039</b>	<b>1.975</b>	<b>2.045</b>
Stddev	.005	.005	.005	.011	.000	.023	.008
%RSD	.2348	.2469	.2554	.5376	.0205	1.175	.3706

#1	2.044	2.033	2.025	2.009	2.039	1.974	2.054
#2	2.040	2.036	2.031	2.014	2.039	1.952	2.042
#3	2.034	2.027	2.021	1.993	2.040	1.999	2.039

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	<b>132710.</b>	<b>30782.</b>	<b>3764.9</b>	<b>6812.3</b>
Stddev	271.	302.	4.0	13.1
%RSD	.20419	.98065	.10582	.19170

#1	132510.	30735.	3763.5	6800.2
#2	132600.	31104.	3761.8	6810.7
#3	133020.	30506.	3769.4	6826.1

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Sample Name: CCB Acquired: 4/17/2019 19:23:53 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.000</b>	<b>0.001</b>	<b>-0.001</b>	<b>0.002</b>	<b>-0.002</b>	<b>-0.002</b>	<b>0.001</b>	<b>-0.001</b>	<b>-0.002</b>
Stddev	.0002	.0000	.0001	.0001	.0001	.0001	.0001	.0001	.0000
%RSD	95580.	24.54	108.8	24.35	61.01	35.24	60.98	251.9	10.26

#1	-0.001	.0001	-0.001	.0003	-0.002	-0.001	.0002	-0.000	-0.003
#2	-0.001	.0000	.0000	.0002	-0.001	-0.003	.0001	.0001	-0.002
#3	.0002	.0001	-0.002	.0002	-0.004	-0.002	.0000	-0.002	-0.002

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	<b>0.003</b>	<b>0.000</b>	<b>-0.005</b>	<b>0.014</b>	<b>-0.006</b>	<b>-0.022</b>	<b>0.001</b>	<b>-0.013</b>	<b>-0.006</b>
Stddev	.0001	.0001	.0018	.0009	.0010	.0012	.0006	.0029	.0017
%RSD	27.31	176.3	388.2	63.27	152.5	54.49	502.6	220.9	277.9

#1	.0004	.0000	-0.025	.0007	-0.017	-0.035	-0.000	.0020	-0.016
#2	.0004	.0001	.0007	.0024	-0.002	-0.012	.0008	-0.034	-0.017
#3	.0002	-0.000	.0005	.0011	-0.004	-0.019	-0.004	-0.025	.0014

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	<b>0.019</b>	<b>-0.056</b>	<b>-0.208</b>	<b>0.032</b>	<b>0.001</b>	<b>0.001</b>	<b>0.008</b>	<b>-0.002</b>	<b>0.001</b>
Stddev	.0007	.0020	.0035	.0030	.0003	.0002	.0003	.0007	.0000
%RSD	38.93	35.05	16.73	94.04	235.9	138.0	37.87	410.3	43.28

#1	.0012	-0.064	-0.202	.0023	.0001	-0.000	.0006	-0.009	.0001
#2	.0018	-0.070	-0.245	.0007	.0005	.0001	.0011	-0.001	.0001
#3	.0026	-0.033	-0.176	.0065	-0.001	.0004	.0006	.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

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Sample Name: CCB Acquired: 4/17/2019 19:23:53 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.002</b>	<b>0.016</b>	<b>0.001</b>	<b>-0.007</b>	<b>0.007</b>	<b>0.006</b>	<b>-0.006</b>
Stddev	.0002	.0007	.0001	.0017	.0009	.0007	.0008
%RSD	108.6	46.03	86.05	239.4	135.2	113.7	151.4

#1	.0000	.0017	.0001	-0.001	.0009	.0002	-0.0015
#2	.0001	.0008	.0000	-0.026	.0015	.0002	-0.0001
#3	.0004	.0023	.0000	.0006	-0.003	.0013	-0.0001

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	<b>138100.</b>	<b>30720.</b>	<b>3860.4</b>	<b>7422.1</b>
Stddev	548.	370.	34.8	56.2
%RSD	.39691	1.2053	.90199	.75759

#1	138220.	30421.	3864.1	7422.1
#2	137510.	30605.	3893.2	7478.4
#3	138580.	31134.	3823.8	7365.9

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Sample Name: MP14184-MB1CONF Acquired: 4/17/2019 19:29:10 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.002</b>	<b>0.000</b>	<b>0.001</b>	<b>0.002</b>	<b>0.011</b>	<b>0.007</b>	<b>0.004</b>	<b>0.005</b>	<b>-0.001</b>
Stddev	.0002	.0000	.0000	.0002	.0003	.0002	.0000	.0001	.0001
%RSD	123.6	68.54	50.76	86.77	29.53	29.77	4.055	26.11	93.71

#1	.0003	.0001	.0000	.0000	.0014	.0005	.0003	.0006	-0.001
#2	-0.001	.0001	.0001	.0002	.0007	.0007	.0004	.0005	-0.000
#3	.0003	.0000	.0001	.0004	.0011	.0010	.0004	.0003	-0.002

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	<b>0.005</b>	<b>0.048</b>	<b>-0.015</b>	<b>-0.001</b>	<b>-0.003</b>	<b>-0.009</b>	<b>0.002</b>	<b>0.018</b>	<b>0.084</b>
Stddev	.0004	.0001	.0019	.0014	.0007	.0014	.0011	.0075	.0023
%RSD	71.11	3.096	125.3	931.7	253.4	147.8	523.5	411.9	3.317

#1	.0002	.0047	-0.025	.0010	.0003	-0.009	.0014	.0072	.072
#2	.0005	.0048	-0.026	.0002	-0.010	.0004	-0.008	.0068	.0691
#3	.0009	.0050	.0007	-0.017	-0.001	-0.023	.0000	.0050	.0659

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.205</b>	<b>0.083</b>	<b>0.228</b>	<b>0.877</b>	<b>-0.002</b>	<b>0.007</b>	<b>0.113</b>	<b>0.034</b>	<b>0.005</b>
Stddev	.0010	.0044	.0118	.0033	.0002	.0002	.0009	.0009	.0000
%RSD	4.890	52.86	51.63	3.720	126.9	21.90	7.947	2.613	6.585

#1	.0215	.0033	.0364	.0842	-0.002	.0005	.0106	.0333	.0005
#2	.0204	.0117	.0154	.0907	.0000	.0008	.0110	.0326	.0005
#3	.0195	.0099	.0166	.0880	-0.004	.0008	.0123	.0344	.0006

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.005</b>	<b>0.026</b>	<b>0.002</b>	<b>0.085</b>	<b>-0.002</b>	<b>0.001</b>	<b>0.030</b>
Stddev	.0001	.0004	.0001	.0030	.0005	.0004	.0009
%RSD	17.44	15.47	40.27	35.51	210.2	298.0	2.864

#1	.0005	.0031	.0003	.0051	-0.005	.0003	.0339
#2	.0005	.0024	.0001	.0092	.0003	.0003	.0331
#3	.0006	.0023	.0003	.0110	-0.006	-0.003	.0320

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Sample Name: MP14184-MB1CONF Acquired: 4/17/2019 19:29:10 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138570.	31312.	3873.7	7464.6
Stddev	833.	430.	5.7	10.5
%RSD	.60124	1.3734	.14724	.14109
#1	139010.	30853.	3880.2	7474.9
#2	139090.	31378.	3869.6	7453.9
#3	137610.	31705.	3871.2	7464.9

Sample Name: TD37021-1-1 Acquired: 4/17/2019 19:34:25 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0343	.0000	.0001	.0007	.0008	.2071	.0399	.0054
Stddev	.0003	.0001	.0001	.0001	.0001	.0004	.0002	.0001
%RSD	.9105	539.1	129.7	16.56	17.34	.1710	.3858	2.197
#1	.0347	.0001	.0002	.0008	.0010	.2076	.0400	.0052
#2	.0342	-.0001	.0001	.0006	.0009	.2070	.0397	.0054
#3	.0342	.0000	-.0000	.0007	.0007	.2069	.0398	.0055
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0043	.1899	.0002	.0103	F -.0041	.0127	.0070
Stddev	.0002	.0003	.0020	.0011	.0006	.0008	.0011	.0006
%RSD	28.25	6.942	1.050	687.2	5.446	20.39	8.493	8.019
#1	.0006	.0046	.1922	.0002	.0109	-.0035	.0121	.0076
#2	.0004	.0041	.1887	.0013	.0099	-.0038	.0140	.0065
#3	.0008	.0041	.1888	-.0010	.0100	-.0050	.0121	.0069
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0521	F 260.8	.7564	67.22	38.44	F 475.6	.8551	.0080
Stddev	.0030	1.3	.0031	.27	.21	1.5	.0082	.0002
%RSD	5.754	.5169	.4032	.3954	.5469	.3212	.9615	1.940
#1	.0552	262.4	.7592	67.50	38.63	477.3	.8646	.0078
#2	.0492	260.1	.7532	66.97	38.21	474.5	.8500	.0081
#3	.0517	259.9	.7570	67.19	38.48	474.9	.8508	.0080
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.86	-.0008	3.318	.0012	.0014	-.0012	F 427.5	-.0014
Stddev	.17	.0006	.023	.0004	.0017	.0002	4.2	.0006
%RSD	.9794	73.28	.6916	3.894	124.4	12.87	.9932	47.14
#1	17.05	-.0014	3.343	.0012	.0006	-.0014	432.4	-.0007
#2	16.78	-.0007	3.298	.0011	.0033	-.0012	425.2	-.0015
#3	16.76	-.0003	3.314	.0012	.0002	-.0011	424.9	-.0019

Sample Name: TD37021-1-1 Acquired: 4/17/2019 19:34:25 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	.0555	4.004		
Stddev	.0003	.039		
%RSD	.4801	.9672		
#1	.0556	4.049		
#2	.0551	3.981		
#3	.0556	3.983		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	127160.	30660.	3540.6	6185.5
Stddev	371.	130.	27.3	39.3
%RSD	.29201	.42512	.77148	.63563
#1	126730.	30516.	3509.3	6140.1
#2	127360.	30770.	3559.3	6209.5
#3	127390.	30693.	3553.3	6206.9

Sample Name: FA63126-1-1 Acquired: 4/17/2019 19:39:57 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0098	.0000	.0000	.0005	.0001	.0657	.0261	.0036	-.0003
Stddev	.0000	.0000	.0000	.0003	.0003	.0007	.0001	.0001	.0004
%RSD	.3822	217.7	232.3	60.27	389.0	1.061	.5596	3.413	137.9
#1	.0098	.0000	-.0000	.0007	-.0002	.0650	.0260	.0037	-.0003
#2	.0099	-.0000	.0001	.0005	.0004	.0664	.0263	.0036	.0001
#3	.0099	.0000	-.0000	.0002	.0001	.0657	.0260	.0035	-.0007
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	.1578	.0013	.0016	.0222	-.0040	.0003	.0098	34.72
Stddev	.0001	.0005	.0011	.0011	.0003	.0006	.0014	.0029	.08
%RSD	4.126	.3292	82.68	67.23	1.223	14.75	476.5	29.72	.2420
#1	.0013	.1581	.0002	.0011	.0224	-.0033	.0014	.0115	34.67
#2	.0014	.1581	.0013	.0008	.0224	-.0044	-.0013	.0115	34.81
#3	.0014	.1572	.0024	.0028	.0219	-.0042	.0007	.0065	34.67
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0724	23.62	10.95	91.99	3.561	.0024	6.349	-.0005	2.580
Stddev	.0005	.10	.05	.37	.0006	.0001	.008	.0009	.0002
%RSD	.7510	.4021	.4127	.3976	.1614	3.957	.1252	160.5	.0776
#1	.0728	23.58	10.99	92.05	.3557	.0023	6.354	-.0002	2.582
#2	.0718	23.73	10.95	92.32	.3558	.0023	6.352	-.0015	2.580
#3	.0727	23.55	10.90	91.59	.3568	.0025	6.339	.0001	2.578
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0002	-.0010	-.0003	23.40	.0003	.0062	.6885		
Stddev	.0004	.0004	.0001	.10	.0014	.0008	.0025		
%RSD	177.8	45.09	20.92	.4138	511.7	12.97	.3676		
#1	-.0001	-.0013	-.0003	23.47	-.0018	.0054	.6914		
#2	.0007	-.0011	-.0003	23.29	-.0004	.0070	.6873		
#3	.0001	-.0005	-.0002	23.44	-.0006	.0060	.6868		

Sample Name: FA63126-1 1 Acquired: 4/17/2019 19:39:57 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	135020.	31347.	3785.9	6936.9
Stddev	894.	123.	7.4	2.4
%RSD	.66184	.39307	.19451	.03407
#1	135050.	31406.	3791.8	6938.5
#2	134110.	31206.	3788.3	6934.2
#3	135890.	31430.	3777.7	6937.9

Sample Name: FA63126-3 Acquired: 4/17/2019 19:45:13 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0000	.0000	.0002	-0.0005	.0041	.0016	-0.0000	-0.0002
Stddev	.0001	.0000	.0001	.0002	.0000	.0002	.0000	.0001	.0004
%RSD	141.2	143.5	168.8	95.63	3.714	3.824	1.561	260.8	217.2
#1	.0001	.0000	.0000	-0.0000	-0.0005	.0039	.0016	-0.0001	-0.0000
#2	.0003	.0000	-0.0000	.0003	-0.0005	.0041	.0016	-0.0000	-0.0006
#3	-0.0000	.0000	-0.0002	.0004	-0.0005	.0042	.0017	.0000	.0001
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0201	.0019	.0014	-0.0001	-0.0041	-0.0002	.0007	.5730
Stddev	.0002	.0001	.0007	.0004	.0005	.0007	.0004	.0028	.0010
%RSD	71.60	.4971	37.25	29.79	588.6	16.88	262.3	423.3	.1760
#1	.0003	.0200	.0028	.0010	.0000	-0.0033	-0.0004	.0014	.5730
#2	.0005	.0202	.0016	.0015	.0004	-0.0046	.0003	-0.0025	.5721
#3	.0001	.0202	.0015	.0018	-0.0007	-0.0044	-0.0004	.0031	.5741
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0165	.4096	.4354	7.039	.1041	.0003	.3174	-0.0007	.0044
Stddev	.0006	.0080	.0028	.003	.0006	.0001	.0018	.0007	.0001
%RSD	3.668	1.963	.6329	.0448	.5595	25.33	.5516	104.0	1.784
#1	.0166	.4184	.4345	7.037	.1036	.0002	.3154	.0001	.0044
#2	.0159	.4026	.4332	7.043	.1039	.0004	.3188	-0.0014	.0043
#3	.0171	.4078	.4385	7.038	.1047	.0003	.3180	-0.0009	.0044
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0000	.0001	-0.0001	.6454	-0.0004	-0.0005	.0224		
Stddev	.0001	.0007	.0001	.0036	.0020	.0004	.0013		
%RSD	1836.	538.5	208.6	.5539	540.9	75.99	5.818		
#1	.0000	-0.0007	.0000	.6415	-0.0016	-0.0001	.0238		
#2	.0000	.0005	-0.0002	.6464	.0020	-0.0007	.0212		
#3	-0.0001	.0006	-0.0000	.6485	-0.0015	-0.0008	.0224		

Sample Name: FA63126-3 Acquired: 4/17/2019 19:45:13 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138610.	31175.	3926.1	7533.5
Stddev	535.	11.	16.8	38.4
%RSD	.38578	.03637	.42903	.50953
#1	139140.	31162.	3945.4	7577.3
#2	138070.	31180.	3914.2	7505.8
#3	138620.	31183.	3918.8	7517.4

Sample Name: FA63126-4 Acquired: 4/17/2019 19:50:26 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0123	.0000	-0.0002	.0004	-0.0002	.0088	.0266	.0026	-0.0003
Stddev	.0002	.0000	.0000	.0000	.0002	.0006	.0007	.0002	.0002
%RSD	1.401	93.87	21.94	9.210	64.81	6.313	2.714	8.363	66.74
#1	.0124	.0000	-0.0001	.0004	-0.0002	.0091	.0273	.0029	-0.0004
#2	.0121	.0000	-0.0002	.0005	-0.0001	.0082	.0258	.0025	-0.0005
#3	.0124	.0001	-0.0002	.0004	-0.0004	.0092	.0268	.0025	-0.0001
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0220	.0021	.0014	.0001	-0.0015	-0.0009	.0344	35.96
Stddev	.0001	.0001	.0012	.0008	.0011	.0027	.0009	.0027	.07
%RSD	9.892	.3981	59.23	57.08	1060.	178.0	92.13	7.991	.1884
#1	.0012	.0221	.0011	.0023	-0.0007	-0.0045	-0.0012	.0373	35.91
#2	.0010	.0220	.0035	.0014	-0.0003	-0.0008	.0000	.0319	36.04
#3	.0010	.0219	.0017	.0007	.0013	-0.0008	-0.0016	.0340	35.94
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0608	24.57	11.66	99.06	3.739	.0024	8.111	-0.0004	.2725
Stddev	.0005	.06	.03	1.31	.0007	.0002	.013	.0006	.0010
%RSD	.8708	.2620	.2532	1.320	.1938	9.193	.1598	168.8	.3790
#1	.0608	24.56	11.68	99.00	.3731	.0024	8.097	.0003	.2729
#2	.0613	24.64	11.67	100.4	.3746	.0022	8.122	-0.0006	.2732
#3	.0602	24.51	11.63	97.78	.3740	.0027	8.114	-0.0008	.2713
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0003	.0001	-0.0003	24.85	.0002	.0066	1.255		
Stddev	.0002	.0011	.0001	.12	.0015	.0002	.006		
%RSD	85.08	1464.	33.75	.4898	759.8	2.396	.5178		
#1	.0001	-0.0008	-0.0003	24.79	-0.0008	.0067	1.253		
#2	.0002	.0014	-0.0005	24.99	.0019	.0067	1.263		
#3	.0006	-0.0004	-0.0003	24.76	-0.0005	.0065	1.250		

Sample Name: FA63126-4 Acquired: 4/17/2019 19:50:26 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	131470.	30976.	3725.6	6835.8
Stddev	2744.	179.	3.6	8.4
%RSD	2.0872	.57943	.09560	.12269
#1	128960.	31181.	3724.2	6835.8
#2	134400.	30844.	3722.9	6827.4
#3	131050.	30904.	3729.6	6844.2

Sample Name: JC86200-3 Acquired: 4/17/2019 19:55:43 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1010</b>	<b>-0000</b>	<b>-0002</b>	<b>0005</b>	<b>0001</b>	<b>0015</b>	<b>9340</b>	<b>0012</b>	<b>0003</b>
Stddev	.0005	.0000	.0000	.0003	.0002	.0000	.0063	.0001	.0001
%RSD	.4818	67.85	18.47	60.06	375.6	2.614	.6745	12.12	34.27
#1	.1005	.0001	-.0002	.0008	.0002	.0014	.9317	.0011	.0004
#2	.1012	.0000	-.0001	.0003	-.0002	.0015	.9292	.0012	.0003
#3	.1014	.0001	-.0002	.0004	.0002	.0015	.9411	.0014	.0002
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0020</b>	<b>0057</b>	<b>0021</b>	<b>0008</b>	<b>0004</b>	<b>-0044</b>	<b>-0007</b>	<b>0197</b>	<b>107.0</b>
Stddev	.0002	.0001	.0013	.0012	.0009	.0007	.0007	.0051	1.9
%RSD	12.23	2.062	59.87	161.6	231.8	15.67	90.09	25.84	1.761
#1	.0021	.0056	.0028	.0021	.0008	-.0050	-.0003	.0255	105.5
#2	.0021	.0059	.0006	.0005	.0010	-.0046	-.0004	.0177	109.1
#3	.0017	.0057	.0029	-.0003	-.0006	-.0037	-.0015	.0159	106.4
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>3366</b>	<b>29.10</b>	<b>3.591</b>	<b>39.34</b>	<b>1.637</b>	<b>0006</b>	<b>6.268</b>	<b>-0009</b>	<b>2626</b>
Stddev	.0018	.14	.015	.08	.0009	.0004	.012	.0006	.0005
%RSD	.5397	.4862	.4211	.2081	.5543	76.98	.1931	70.60	.1838
#1	.3362	29.08	3.593	39.25	.1643	.0010	6.266	-.0015	2621
#2	.3386	29.25	3.605	39.41	.1627	.0004	6.281	-.0009	2630
#3	.3350	28.96	3.575	39.35	.1642	.0002	6.257	-.0002	2628
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>-0003</b>	<b>-0002</b>	<b>-0004</b>	<b>36.94</b>	<b>0005</b>	<b>0159</b>	<b>0199</b>		
Stddev	.0002	.0005	.0000	.23	.0005	.0005	.0011		
%RSD	55.59	210.5	2.903	.6199	95.70	3.027	5.365		
#1	-.0002	-.0001	-.0005	37.01	.0009	.0163	.0189		
#2	-.0005	-.0007	-.0004	37.12	-.0000	.0153	.0210		
#3	-.0002	.0001	-.0004	36.68	.0007	.0160	.0197		

Sample Name: JC86200-3 Acquired: 4/17/2019 19:55:43 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	131840.	30794.	3680.9	6835.0
Stddev	669.	193.	5.5	16.3
%RSD	.50757	.62514	.14868	.23778
#1	132180.	30921.	3678.7	6823.2
#2	132270.	30573.	3676.8	6828.3
#3	131070.	30890.	3687.1	6853.6

Sample Name: JC86266-1 Acquired: 4/17/2019 20:01:02 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0510</b>	<b>-0000</b>	<b>-0001</b>	<b>0004</b>	<b>0004</b>	<b>0017</b>	<b>0001</b>	<b>0006</b>	<b>0006</b>
Stddev	.0001	.0000	.0001	.0001	.0001	.0001	.0000	.0003	.0003
%RSD	.2172	564.0	80.49	29.49	13.85	3.741	17.32	54.87	61.21
#1	.0510	.0000	-.0002	.0005	.0003	.0017	.0001	.0009	.0002
#2	.0511	-.0000	-.0000	.0003	.0004	.0016	.0001	.0002	.0007
#3	.0509	.0000	-.0001	.0003	.0004	.0016	.0001	.0006	.0008
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0010</b>	<b>0042</b>	<b>0015</b>	<b>0037</b>	<b>-0016</b>	<b>-0028</b>	<b>0004</b>	<b>0235</b>	<b>F 215.7</b>
Stddev	.0003	.0002	.0006	.0016	.0006	.0010	.0018	.0071	3.6
%RSD	28.73	5.880	39.43	43.00	39.04	37.14	430.7	30.09	1.674
#1	.0007	.0040	.0009	.0045	-.0017	-.0026	.0002	.0315	215.9
#2	.0013	.0040	.0016	.0048	-.0009	-.0039	.0024	.0208	219.2
#3	.0009	.0044	.0020	.0019	-.0022	-.0019	-.0013	.0182	211.9
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0726</b>	<b>61.00</b>	<b>20.83</b>	<b>172.9</b>	<b>6.131</b>	<b>0071</b>	<b>14.97</b>	<b>-0016</b>	<b>1.650</b>
Stddev	.0004	.19	.11	.3	.0084	.0001	.18	.0008	.005
%RSD	.5060	.3146	.5229	.1586	1.378	1.990	1.170	47.43	.2888
#1	.0722	61.12	20.87	173.0	.6148	.0072	15.00	-.0013	1.648
#2	.0725	61.09	20.90	173.0	.6039	.0071	14.78	-.0010	1.656
#3	.0729	60.78	20.70	172.6	.6205	.0069	15.12	-.0024	1.647
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>-0007</b>	<b>0006</b>	<b>-0010</b>	<b>F 149.8</b>	<b>0004</b>	<b>1520</b>	<b>0039</b>		
Stddev	.0004	.0010	.0002	1.2	.0011	.0003	.0019		
%RSD	57.68	158.6	22.21	.8113	250.6	.2177	49.21		
#1	-.0011	.0010	-.0010	150.1	.0015	.1522	.0019		
#2	-.0003	-.0005	-.0007	148.5	.0004	.1516	.0039		
#3	-.0007	.0013	-.0012	150.8	-.0006	.1521	.0057		



Sample Name: JC86266-1 Acquired: 4/17/2019 20:01:02 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	130250.	30816.	3551.4	6413.9
Stddev	382.	159.	42.8	63.7
%RSD	.29345	.51603	1.2061	.99327

#1	129900.	30698.	3542.3	6398.7
#2	130200.	30753.	3598.0	6483.8
#3	130660.	30997.	3513.8	6359.1

Sample Name: jc86276-1 Acquired: 4/17/2019 20:06:28 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 10.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.478	-0.001	-0.006	0.018	0.013	0.091	1.374	0.235	0.043
Stddev	.020	.0004	.0003	.0010	.0017	.0019	.0009	.0014	.0016
%RSD	1.324	272.0	45.79	54.05	132.5	20.77	.6508	5.800	36.74

#1	1.466	.0003	-.0008	.0008	.0025	.0111	.1370	.0247	.0029
#2	1.468	-.0003	-.0003	.0019	.0021	.0073	.1368	.0239	.0040
#3	1.501	-.0004	-.0008	.0028	-.0007	.0088	.1385	.0220	.0060

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.054	0.140	0.034	0.106	-0.121	-0.268	-0.016	4.451	2365.
Stddev	.0017	.0027	.0077	.0066	.0054	.0083	.0122	.0479	34.
%RSD	32.09	19.12	226.1	62.76	44.70	30.82	766.2	10.76	1.446

#1	.0044	.0164	-.0054	.0182	-.0141	-.0242	-.0062	.3901	2333.
#2	.0045	.0147	.0065	.0057	-.0162	-.0361	.0123	.4776	2360.
#3	.0074	.0111	.0091	.0078	-.0060	-.0202	-.0109	.4677	2401.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.490	5.233	59.36	1057.	0.344	0.153	1.190	-0.085	14.23
Stddev	.0111	.074	1.03	24.	.0028	.0017	.010	.0038	.20
%RSD	1.167	1.421	1.729	2.227	8.031	11.10	.8213	45.47	1.372

#1	.9573	5.270	58.34	1052.	.0331	.0134	1.201	-.0128	14.12
#2	.9364	5.281	59.34	1036.	.0376	.0165	1.183	-.0056	14.12
#3	.9534	5.147	60.40	1082.	.0326	.0161	1.185	-.0069	14.46

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.024	0.050	-0.011	17.31	0.078	3.014	0.336
Stddev	.0008	.0091	.0013	.08	.0135	.0039	.0106
%RSD	33.07	181.9	118.1	4.683	174.0	1.281	31.48

#1	-.0018	.0098	-.0016	17.39	-.0068	.3058	.0354
#2	-.0021	.0107	.0004	17.32	.0199	.2999	.0431
#3	-.0033	-.0055	-.0022	17.22	.0102	.2986	.0222

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Sample Name: jc86276-1 Acquired: 4/17/2019 20:06:28 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 10.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	130090.	30086.	3567.7	6432.4
Stddev	442.	394.	9.4	14.8
%RSD	.33978	1.3108	.26279	.23062

#1	130490.	30270.	3557.5	6415.7
#2	130170.	30354.	3569.8	6443.9
#3	129610.	29633.	3575.9	6437.5

Sample Name: jc86276-2 Acquired: 4/17/2019 20:11:57 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.621	0.001	-0.005	0.003	0.019	0.083	0.946	0.058	0.004
Stddev	.0023	.0001	.0002	.0004	.0008	.0011	.0002	.0010	.0020
%RSD	8.756	114.1	32.41	116.3	40.22	13.60	.1960	17.32	470.1

#1	.2596	.0002	-.0006	-.0001	.0026	.0087	.0944	.0055	.0014
#2	.2628	-.0000	-.0006	.0005	.0019	.0092	.0947	.0069	-.0019
#3	.2640	.0001	-.0003	.0006	.0011	.0070	.0946	.0049	.0018

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.009	0.093	0.085	0.043	0.073	-0.213	0.022	4.409	634.7
Stddev	.0008	.0001	.0008	.0065	.0009	.0083	.0056	.0228	9.0
%RSD	93.70	1.226	8.858	149.9	12.34	38.96	253.3	5.170	1.418

#1	.0006	.0092	.0093	.0060	.0083	-.0178	-.0034	.4578	624.9
#2	.0003	.0093	.0085	.0098	.0066	-.0153	.0078	.4149	642.5
#3	.0018	.0095	.0078	-.0028	.0070	-.0308	.0023	.4498	636.9

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.339	1.711	26.41	460.4	0.009	0.079	1.647	-0.045	4.936
Stddev	.0061	.051	.02	2.4	.0028	.0004	.004	.0019	.007
%RSD	4.562	2.987	.0749	5.115	313.3	5.548	.2358	41.00	.1483

#1	1.375	1.658	26.43	458.0	.0005	.0078	1.642	-.0027	4.935
#2	1.373	1.716	26.39	462.7	-.0038	.0083	1.648	-.0064	4.930
#3	1.268	1.759	26.41	460.4	-.0017	.0074	1.650	-.0044	4.944

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.007	0.100	0.001	10.15	0.004	0.631	0.194
Stddev	.0002	.0032	.0004	.09	.0066	.0019	.0060
%RSD	24.30	32.30	278.8	861.9	1688.	2.985	31.15

#1	-.0005	.0064	-.0003	10.06	-.0069	.0610	.0252
#2	-.0006	.0125	.0003	10.16	.0022	.0640	.0132
#3	-.0008	.0111	.0004	10.24	.0059	.0644	.0198

Sample Name: jc86276-2 Acquired: 4/17/2019 20:11:57 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	131090.	30192.	3645.8	6619.2
Stddev	160.	57.	6.4	8.2
%RSD	.12177	.18809	.17601	.12419
#1	130910.	30256.	3645.5	6618.7
#2	131160.	30148.	3639.6	6611.2
#3	131210.	30171.	3652.4	6627.7

Sample Name: td37021-1 1 Acquired: 4/17/2019 20:17:25 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0346</b>	<b>0002</b>	<b>-0003</b>	<b>0015</b>	<b>-0001</b>	<b>2004</b>	<b>0402</b>	<b>0048</b>	<b>-0003</b>
Stddev	.0012	.0004	.0003	.0003	.0005	.0008	.0002	.0009	.0004
%RSD	3.392	241.8	77.93	17.59	566.0	4.119	.4835	19.59	118.8
#1	.0359	.0003	-.0006	.0018	-.0004	.1994	.0401	.0054	-.0001
#2	.0338	-.0003	-.0004	.0014	-.0007	.2007	.0401	.0053	-.0001
#3	.0340	.0005	-.0001	.0013	.0000	.2010	.0404	.0037	-.0007
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0053</b>	<b>1981</b>	<b>-0014</b>	<b>0066</b>	<b>-0023</b>	<b>-0044</b>	<b>0058</b>	<b>0577</b>	<b>269.1</b>
Stddev	.0009	.0004	.0049	.0060	.0023	.0194	.0042	.0115	.9
%RSD	16.94	.1869	336.5	90.26	99.32	445.5	73.26	19.94	3485
#1	.0057	.1982	.0002	.0135	-.0046	.0173	.0098	.0455	268.2
#2	.0043	.1985	.0024	.0039	.0000	-.0099	.0014	.0592	269.0
#3	.0059	.1977	-.0069	.0026	-.0024	-.0204	.0061	.0683	270.1
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>7603</b>	<b>67.45</b>	<b>36.47</b>	<b>476.4</b>	<b>8492</b>	<b>0082</b>	<b>16.56</b>	<b>-0038</b>	<b>3.329</b>
Stddev	.0007	.10	.28	4.3	.0044	.0006	.05	.0008	.010
%RSD	.0873	.1463	.7616	.9080	5.213	7.267	.3133	20.55	2943
#1	.7596	67.43	36.76	473.5	8524	.0083	16.62	-.0029	3.336
#2	.7608	67.36	36.44	481.4	8442	.0087	16.53	-.0042	3.333
#3	.7606	67.56	36.20	474.5	8511	.0075	16.53	-.0044	3.318
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>0019</b>	<b>0046</b>	<b>-0004</b>	<b>421.7</b>	<b>-0058</b>	<b>0565</b>	<b>3.783</b>		
Stddev	.0025	.0038	.0006	1.4	.0060	.0013	.015		
%RSD	130.9	82.19	164.9	.3431	102.9	2.215	.3862		
#1	-.0009	.0078	-.0005	423.3	-.0059	.0555	3.800		
#2	.0037	.0057	-.0010	420.8	.0002	.0579	3.774		
#3	.0029	.0004	.0003	420.8	-.0118	.0562	3.776		

Sample Name: td37021-1 1 Acquired: 4/17/2019 20:17:25 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	133340.	30744.	3700.1	6768.9
Stddev	265.	54.	4.9	9.3
%RSD	.19879	.17419	.13295	.13764
#1	133640.	30705.	3694.8	6758.3
#2	133120.	30805.	3701.1	6772.7
#3	133270.	30722.	3704.5	6775.8

Sample Name: ccv 7 Acquired: 4/17/2019 20:22:45 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2034</b>	<b>2068</b>	<b>2015</b>	<b>2004</b>	<b>2036</b>	<b>1985</b>	<b>2085</b>	<b>2043</b>	<b>2492</b>
Stddev	.023	.025	.020	.018	.004	.009	.005	.019	.0008
%RSD	1.139	1.189	.9931	.8829	.1713	.4329	.2435	.9470	.3369
#1	2.044	2.079	2.027	2.013	2.037	1.975	2.086	2.054	2.482
#2	2.008	2.040	2.027	2.014	2.040	1.992	2.090	2.054	2.498
#3	2.051	2.085	1.992	1.983	2.033	1.986	2.080	2.020	2.495
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	<b>2021</b>	<b>2036</b>	<b>1390</b>	<b>2088</b>	<b>2049</b>	<b>2001</b>	<b>2005</b>	<b>40.02</b>	<b>40.40</b>
Stddev	.004	.020	.025	.018	.016	.019	.023	.38	.35
%RSD	.2224	.9608	1.246	.8409	.7752	.9415	1.159	.9535	.8761
#1	2.020	2.047	2.003	2.094	2.060	2.009	2.018	40.23	40.57
#2	2.026	2.047	2.006	2.101	2.056	2.015	2.020	39.58	40.00
#3	2.017	2.013	1.962	2.068	2.031	1.980	1.979	40.26	40.65
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	<b>40.71</b>	<b>40.28</b>	<b>40.22</b>	<b>40.18</b>	<b>2.015</b>	<b>2.030</b>	<b>5.108</b>	<b>2.052</b>	<b>2.031</b>
Stddev	.48	.31	.49	.44	.022	.021	.054	.022	.028
%RSD	1.191	.7633	1.216	1.089	1.074	1.055	1.049	1.095	1.378
#1	40.85	40.41	40.43	40.31	2.028	2.040	5.139	2.062	2.034
#2	40.17	39.93	39.66	39.69	2.028	2.045	5.138	2.067	2.002
#3	41.11	40.50	40.57	40.54	1.990	2.005	5.046	2.026	2.057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range									

Sample Name: ccv 7 Acquired: 4/17/2019 20:22:45 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.028	2.007	2.022	1.979	2.014	1.983	2.011
Stddev	.005	.024	.006	.024	.023	.021	.024
%RSD	.2342	1.189	.2885	1.209	1.141	1.057	1.205

#1	2.027	2.019	2.016	1.985	2.026	1.995	2.022
#2	2.032	2.022	2.028	2.000	2.028	1.958	2.028
#3	2.023	1.980	2.022	1.953	1.988	1.995	1.983

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132450.	30637.	3779.9	6843.5
Stddev	437.	293.	29.6	50.7
%RSD	.32979	.95491	.78224	.74031

#1	132190.	30628.	3766.4	6819.7
#2	132210.	30934.	3759.4	6809.1
#3	132950.	30349.	3813.8	6901.7

Sample Name: ccb Acquired: 4/17/2019 20:27:45 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	F .0002	.0000	.0001	-.0003	.0002	.0001	.0000	-.0002
Stddev	.0001	.0001	.0002	.0001	.0001	.0004	.0000	.0002	.0001
%RSD	55.52	34.90	730.7	33.84	17.67	196.5	14.31	522.1	47.33

#1	.0003	.0001	.0001	.0001	-.0003	-.0000	.0001	-.0002	-.0001
#2	.0004	.0002	.0001	.0002	-.0002	.0007	.0001	.0000	-.0001
#3	.0001	.0002	-.0002	.0001	-.0004	-.0000	.0001	.0003	-.0003

Check ? Chk Pass Chk Fail 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	.0004	-.0005	-.0027	.0006	-.0028	.0006
Stddev	.0002	.0000	.0005	.0008	.0009	.0008	.0010	.0065	.0016
%RSD	52.81	20.15	80.78	184.7	173.6	31.02	165.9	233.7	258.4

#1	.0003	.0002	.0009	-.0005	.0004	-.0036	-.0005	-.0080	.0004
#2	.0001	.0001	.0000	.0007	-.0014	-.0025	.0009	.0045	.0023
#3	.0005	.0001	.0010	.0011	-.0006	-.0020	.0013	-.0048	-.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	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032	.0010	-.0012	.0276	.0000	.0004	.0013	-.0002	.0002
Stddev	.0006	.0130	.0151	.0036	.0004	.0001	.0003	.0006	.0000
%RSD	18.96	1336.	1244.	12.93	1654.	28.08	26.83	366.7	20.55

#1	.0039	.0092	.0047	.0250	-.0000	.0005	.0010	-.0006	.0003
#2	.0028	-.0141	.0101	.0262	-.0003	.0003	.0016	-.0004	.0003
#3	.0029	.0078	-.0184	.0317	.0004	.0003	.0012	.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

Sample Name: ccb Acquired: 4/17/2019 20:27:45 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0008	.0003	.0007	-.0002	.0017	-.0003
Stddev	.0000	.0006	.0002	.0017	.0003	.0011	.0006
%RSD	11.17	69.91	78.60	227.3	147.5	64.63	204.2

#1	.0003	.0003	.0003	.0015	.0000	.0004	-.0004
#2	.0004	.0007	.0005	.0019	-.0005	.0024	-.0006
#3	.0004	.0014	.0001	-.0012	-.0001	.0023	-.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	136950.	30492.	3842.6	7397.8
Stddev	438.	136.	1.2	8.8
%RSD	.32010	.44677	.03251	.11933

#1	136730.	30611.	3841.2	7387.6
#2	136670.	30522.	3843.1	7402.9
#3	137460.	30343.	3843.5	7402.9

Sample Name: jc86276-3-1 Acquired: 4/17/2019 20:33:01 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.134	-.0003	-.0009	.0018	.0283	.0120	5.384	.0256	.0106
Stddev	.024	.0002	.0006	.0008	.0003	.0016	.099	.0004	.0021
%RSD	1.107	57.09	68.00	44.09	.9969	13.26	1.842	1.528	19.54

#1	2.123	-.0004	-.0014	.0011	.0286	.0137	5.496	.0252	.0086
#2	2.117	-.0004	-.0002	.0017	.0284	.0105	5.305	.0260	.0128
#3	2.161	-.0001	-.0011	.0027	.0281	.0119	5.353	.0255	.0103

Elem V\_2924 Zn2062 As1890 Tl1908 Pb2203 Se1960 Sb2068 Al3961 Ca3179  
 Units ppm ppm ppm ppm ppm ppm ppm ppm ppm  
 Avg .0143 .0069 .0142 .0058 .0143 .0024 .0010 .0113 F 4049.  
 Stddev .0008 .0009 .0086 .0071 .0020 .0095 .0054 .0223 .80.  
 %RSD 5.784 12.59 60.28 123.5 13.98 391.5 544.6 3.655 1.964

#1	.0151	.0079	.0076	-.0021	-.0123	.0039	.0051	.5992	4034.
#2	.0134	.0067	.0111	.0117	-.0143	.0112	-.0051	.6371	3978.
#3	.0144	.0062	.0239	.0077	-.0163	-.0077	.0030	.5977	4135.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.62	65.65	74.39	F 2907.	.2127	.0077	20.99	-.0052	18.61
Stddev	.22	.76	1.15	.28	.0039	.0008	.04	.0067	.44
%RSD	.9279	1.156	1.541	.9762	1.830	10.93	.1914	129.5	2.378

#1	23.58	65.33	73.40	2912.	.2159	.0084	20.97	-.0034	18.28
#2	23.43	65.11	74.14	2876.	.2084	.0079	20.96	-.0125	18.44
#3	23.86	66.52	75.65	2932.	.2139	.0068	21.03	.0005	19.12

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0062	.0103	.0006	47.96	.0064	.5252	.2215
Stddev	.0005	.0031	.0004	.11	.0069	.0111	.0091
%RSD	7.525	30.11	63.17	2356.	107.4	2.112	4.116

#1	-.0066	.0072	.0009	47.98	.0075	.5172	.2171
#2	-.0064	.0103	.0008	47.83	-.0009	.5205	.2319
#3	-.0057	.0134	.0002	48.06	.0128	.5378	.2154

Sample Name: jc86276-3 1 Acquired: 4/17/2019 20:33:01 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	118630.	29134.	3271.1	5736.9
Stddev	2162.	179.	6.9	13.3
%RSD	1.8225	.61348	.21117	.23168

#1	116170.	29140.	3271.6	5739.4
#2	120250.	29310.	3277.7	5748.8
#3	119460.	28953.	3263.9	5722.5

Sample Name: jc86276-3 Acquired: 4/17/2019 20:38:34 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 25.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.613	-0.001	-0.067	0.051	0.366	0.240	6.400	0.338	0.093
Stddev	.008	.0011	.0029	.0077	.0037	.0026	.029	.0046	.0043
%RSD	.3092	1537.	43.09	150.9	10.05	10.94	.4504	13.54	46.05

#1	2.622	.0003	-0.056	0.140	.0337	.0269	6.371	0.390	.0137
#2	2.609	.0008	-0.099	0.016	.0407	.0232	6.428	0.306	.0091
#3	2.608	-0.014	-0.044	-0.002	.0354	.0218	6.400	0.317	.0051

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.190	0.319	0.273	-0.028	-0.0229	-0.0238	0.078	1.224	5319.
Stddev	.0029	.0032	.0067	.0284	.0270	.0042	.0303	.208	110.
%RSD	15.43	10.01	24.49	1008.	117.9	17.72	390.2	16.96	2.063

#1	.0204	.0295	.0251	-0.294	.0048	-0.196	.0324	.9952	5356.
#2	.0157	.0355	.0219	.0271	-0.243	-0.238	.0171	1.276	5405.
#3	.0210	.0306	.0347	-0.061	-0.492	-0.281	-0.261	1.401	5195.

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.40	82.18	87.91	3601.	.2190	0.157	24.20	-0.136	23.00
Stddev	.11	.22	.84	6.	.0172	.0028	.12	.0072	.09
%RSD	.3741	.2702	.9572	.1791	7.852	18.10	.5161	53.11	.3697

#1	29.53	82.43	88.83	3593.	.1992	.0124	24.06	-0.056	23.09
#2	29.35	82.01	87.74	3604.	.2298	.0175	24.21	-0.197	22.93
#3	29.33	82.10	87.17	3605.	.2281	.0172	24.31	-0.156	22.96

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.076	-0.004	0.070	53.08	-0.051	0.6236	0.3069
Stddev	.0037	.0375	.0044	.52	.0283	.0163	.0277
%RSD	48.83	9828.	62.93	9709	550.0	2.619	9.027

#1	-0.086	-0.124	.0066	52.56	.0243	.6139	.2804
#2	-0.0035	.0416	.0028	53.08	-0.077	.6425	.3046
#3	-0.107	-0.304	.0116	53.59	-0.320	.6145	.3356

Sample Name: jc86276-3 Acquired: 4/17/2019 20:38:34 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 25.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	129440.	29756.	3580.1	6442.6
Stddev	721.	148.	8.5	9.9
%RSD	.55664	.49862	.23838	.15303

#1	129850.	29753.	3589.5	6451.6
#2	128610.	29609.	3577.8	6444.0
#3	129870.	29906.	3572.9	6432.1

Sample Name: jc86276-4 Acquired: 4/17/2019 20:43:59 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.583	0.001	-0.004	0.004	0.025	0.070	0.102	0.039	0.016
Stddev	.0004	.0001	.0008	.0006	.0006	.0008	.0001	.0012	.0013
%RSD	.2762	103.5	175.3	149.3	23.75	11.99	1.160	29.74	83.91

#1	.1581	.0000	-0.012	-0.003	.0028	.0063	.0103	.0027	.0030
#2	.1588	.0002	.0004	.0008	.0029	.0079	.0100	.0050	.0013
#3	.1580	.0000	-0.006	.0006	.0018	.0066	.0102	.0040	.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.015	0.231	0.029	0.061	-0.005	-0.112	0.074	2.872	669.9
Stddev	.0016	.0002	.0053	.0042	.0013	.0066	.0011	.0076	3.1
%RSD	105.0	1.053	183.0	70.12	260.2	59.27	14.66	2.656	.4645

#1	0.010	.0233	.0060	0.057	-0.018	-0.162	.0066	.2943	666.7
#2	0.002	.0231	-0.033	.0105	.0008	-0.037	.0086	.2882	670.2
#3	.0033	.0228	.0060	0.020	-0.005	-0.136	.0069	.2791	672.9

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.569	8.974	14.81	467.5	0.031	0.127	8.710	-0.052	4.020
Stddev	.0016	.0440	.17	8.3	.0030	.0000	.0154	.0052	.018
%RSD	2.830	4.899	1.130	1.766	96.99	.2705	1.764	101.2	.4469

#1	.0562	.9480	14.68	464.3	-0.028	.0127	.8808	-0.065	4.000
#2	.0587	.8689	14.75	461.4	-0.003	.0127	.8790	-0.096	4.026
#3	.0557	.8752	15.00	476.9	-0.062	.0126	.8533	.0006	4.034

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.005	-0.074	-0.005	13.18	-0.017	0.462	0.193
Stddev	.0001	.0028	.0001	.13	.0042	.0028	.0024
%RSD	23.81	37.93	24.17	958.3	243.1	6.169	12.27

#1	-0.007	.0050	-0.005	13.12	-0.063	.0429	.0196
#2	-0.005	.0105	-0.004	13.33	-0.005	.0478	.0168
#3	-0.004	.0068	-0.007	13.10	.0017	.0479	.0215

Sample Name: jc86276-4 Acquired: 4/17/2019 20:43:59 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	131270.	30186.	3665.4	6645.5
Stddev	371.	112.	34.0	52.4
%RSD	.28248	.37198	.92764	.78873
#1	131220.	30171.	3664.4	6632.9
#2	130920.	30305.	3631.9	6600.5
#3	131660.	30082.	3699.9	6703.0

Sample Name: jc86276-6 Acquired: 4/17/2019 20:49:28 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>3859</b>	<b>-0.001</b>	<b>-0.012</b>	<b>0.021</b>	<b>0.012</b>	<b>0.070</b>	<b>0.517</b>	<b>0.041</b>	<b>0.007</b>
Stddev	.001	.000	.003	.007	.002	.011	.013	.002	.001
%RSD	.0227	35.73	25.02	34.86	179.9	15.41	.2529	54.72	149.3
#1	.3858	-0.001	-0.014	0.020	0.033	0.067	0.509	0.040	0.000
#2	.3858	-0.001	-0.013	0.028	-0.010	0.061	0.509	0.019	0.002
#3	.3860	-0.001	-0.008	0.014	0.013	0.082	0.531	0.064	0.020
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.020</b>	<b>0.102</b>	<b>0.085</b>	<b>-0.018</b>	<b>-0.008</b>	<b>-0.0251</b>	<b>0.032</b>	<b>0.2659</b>	<b>728.7</b>
Stddev	.0013	.0007	.0134	.0036	.0024	.0142	.0046	.0340	5.8
%RSD	61.57	6.954	157.1	198.4	288.7	56.53	142.4	12.77	8.006
#1	.0032	.0101	.0234	.0021	-0.017	-0.302	-0.020	.2753	727.9
#2	.0022	.0110	.0045	-0.050	-0.027	-0.359	.0065	.2283	723.3
#3	.0007	.0096	-0.024	-0.025	0.019	-0.090	.0051	.2942	734.9
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.013</b>	<b>6.414</b>	<b>24.15</b>	<b>605.1</b>	<b>0.033</b>	<b>0.120</b>	<b>1.734</b>	<b>-0.075</b>	<b>5.298</b>
Stddev	.010	.072	.12	5.7	.0029	.0010	.002	.0015	.005
%RSD	.9550	1.119	.5148	.9440	86.75	8.215	.1216	19.52	.0879
#1	1.015	6.368	24.01	610.3	.0067	.0132	1.732	-.0073	5.294
#2	1.021	6.378	24.23	599.0	.0021	.0113	1.736	-.0091	5.303
#3	1.002	6.497	24.22	605.9	.0013	.0116	1.734	-.0062	5.296
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>-0.001</b>	<b>0.052</b>	<b>0.000</b>	<b>15.51</b>	<b>0.018</b>	<b>0.495</b>	<b>0.182</b>		
Stddev	.0010	.0028	.0005	.13	.0012	.0025	.0081		
%RSD	104.3	54.01	116.3	.8534	69.43	5.091	44.68		
#1	-.0008	.0026	.0004	15.46	.0028	.0523	.0220		
#2	-.0005	.0049	.0002	15.40	.0022	.0484	.0088		
#3	-.0010	.0082	-.0005	15.66	.0004	.0476	.0236		

Sample Name: jc86276-6 Acquired: 4/17/2019 20:49:28 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 5.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	130570.	30272.	3613.6	6525.2
Stddev	581.	263.	9.1	16.8
%RSD	.44472	.86924	.25173	.25795
#1	131130.	30025.	3619.6	6534.5
#2	130590.	30548.	3603.1	6505.8
#3	129970.	30242.	3618.0	6535.3

Sample Name: mp14241-b1conf Acquired: 4/17/2019 20:54:56 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.050</b>	<b>2.077</b>	<b>2.130</b>	<b>2.057</b>	<b>2.079</b>	<b>2.013</b>	<b>2.119</b>	<b>2.104</b>
Stddev	.006	.006	.014	.009	.009	.005	.021	.010
%RSD	.2903	.3120	.6395	.4444	.4376	.2403	1.007	4.858
#1	2.048	2.076	2.124	2.051	2.071	2.010	2.095	2.097
#2	2.046	2.071	2.145	2.068	2.089	2.019	2.125	2.115
#3	2.057	2.084	2.120	2.054	2.076	2.010	2.136	2.098
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.0886</b>	<b>2.055</b>	<b>2.141</b>	<b>2.115</b>	<b>2.209</b>	<b>2.133</b>	<b>2.170</b>	<b>2.150</b>
Stddev	.0007	.007	.011	.017	.021	.010	.019	.014
%RSD	.7478	.3610	.5265	.8104	.9398	.4736	.8636	.6483
#1	.0883	2.048	2.136	2.117	2.203	2.131	2.164	2.143
#2	.0894	2.063	2.153	2.131	2.232	2.143	2.191	2.166
#3	.0882	2.055	2.132	2.097	2.191	2.124	2.155	2.141
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>25.53</b>	<b>25.85</b>	<b>25.98</b>	<b>25.91</b>	<b>25.76</b>	<b>25.68</b>	<b>2.130</b>	<b>2.108</b>
Stddev	.08	.09	.10	.06	.08	.09	.013	.015
%RSD	.3286	.3541	.4003	.2348	.3000	.3480	.5894	.6888
#1	25.49	25.82	25.96	25.90	25.77	25.68	2.122	2.102
#2	25.47	25.77	25.88	25.86	25.67	25.59	2.144	2.125
#3	25.63	25.95	26.09	25.98	25.83	25.77	2.123	2.097
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.0164</b>	<b>2.186</b>	<b>2.051</b>	<b>2.086</b>	<b>1.973</b>	<b>2.072</b>	<b>F -1.084</b>	<b>0.107</b>
Stddev	.0007	.019	.023	.007	.010	.004	.0017	.0013
%RSD	4.022	.8727	1.138	.3575	5.054	.1974	1.584	11.90
#1	-.0163	2.180	2.025	2.079	1.965	2.069	-.1075	0.092
#2	-.0158	2.208	2.059	2.094	1.984	2.077	-.1104	0.117
#3	-.0171	2.171	2.070	2.085	1.969	2.072	-.1073	0.110

Zoom In  
Zoom Out

Sample Name: mp14241-b1conf Acquired: 4/17/2019 20:54:56 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	-0009	2.117		
Stddev	.0005	.019		
%RSD	52.26	.8864		
#1	-0012	2.115		
#2	-0004	2.137		
#3	-0011	2.100		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	135150.	31264.	3821.4	7043.5
Stddev	928.	121.	18.5	32.7
%RSD	.68671	.38812	.48470	.46492
#1	136130.	31320.	3833.2	7065.7
#2	134280.	31348.	3800.1	7005.9
#3	135030.	31125.	3830.9	7058.9

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Zoom In  
Zoom Out

Sample Name: mp14241-s1 1 Acquired: 4/17/2019 21:00:02 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.487	2.028	2.094	2.004	1.977	1.909	2.320	2.083	0.880
Stddev	.005	.002	.007	.002	.009	.006	.007	.004	.0005
%RSD	.1903	.0908	.3455	.1168	.4308	.3035	.2996	.1880	.5969
#1	2.488	2.026	2.102	2.006	1.986	1.915	2.328	2.087	.0883
#2	2.491	2.030	2.091	2.005	1.977	1.908	2.316	2.079	.0874
#3	2.482	2.029	2.089	2.002	1.969	1.903	2.316	2.083	.0883
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.999	2.079	2.063	2.079	2.081	2.039	2.057	25.63	988.3
Stddev	.007	.005	.004	.012	.009	.013	.008	.02	3.8
%RSD	.3474	.2603	.2011	.5746	.4198	.6291	.3726	.0884	.3875
#1	2.006	2.083	2.066	2.067	2.090	2.053	2.060	25.63	986.8
#2	1.998	2.080	2.059	2.080	2.081	2.028	2.063	25.65	985.4
#3	1.993	2.073	2.065	2.091	2.072	2.037	2.048	25.61	992.7
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.78	30.06	56.66	579.0	2.053	2.065	2.490	2.070	8.512
Stddev	.04	.08	.11	6.0	.003	.005	.014	.007	.021
%RSD	.1414	.2651	.1960	1.041	.1336	.2634	.5408	.3259	.2454
#1	26.83	29.97	56.67	585.7	2.050	2.071	2.504	2.064	8.522
#2	26.77	30.09	56.55	574.0	2.053	2.062	2.477	2.077	8.525
#3	26.76	30.12	56.77	577.3	2.056	2.061	2.488	2.071	8.488
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	2.020	1.961	1.984	11.64	0.169	0.968	2.150		
Stddev	.006	.010	.006	.02	.0125	.0025	.009		
%RSD	.2919	.5101	.3170	.1790	.0731	2.608	.4188		
#1	2.026	1.972	1.989	11.62	.0040	.0938	2.140		
#2	2.014	1.952	1.986	11.63	.0175	.0981	2.150		
#3	2.020	1.958	1.977	11.66	.0290	.0984	2.158		

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Zoom In  
Zoom Out

Sample Name: mp14241-s1 1 Acquired: 4/17/2019 21:00:02 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	129760.	30104.	3595.0	6459.6
Stddev	488.	196.	9.3	15.2
%RSD	.37621	.65191	.25816	.23525
#1	129200.	30134.	3584.8	6446.8
#2	130090.	30283.	3597.4	6455.6
#3	129960.	29894.	3602.9	6476.4

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Zoom In  
Zoom Out

Sample Name: mp14241-s2 Acquired: 4/17/2019 21:05:17 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.735	1.423	2.433	2.334	1.813	1.729	2.118	2.423	0.777
Stddev	.229	.189	.134	.128	.118	.121	.139	.127	.0068
%RSD	13.18	13.29	5.518	5.491	6.510	6.974	6.553	5.240	8.742
#1	1.509	1.234	2.284	2.191	1.696	1.610	1.980	2.281	.0718
#2	1.729	1.423	2.472	2.372	1.810	1.727	2.116	2.463	.0761
#3	1.967	1.613	2.544	2.439	1.932	1.851	2.257	2.526	.0851
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.825	2.412	2.405	2.404	2.425	2.378	2.412	18.02	649.9
Stddev	.117	.126	.141	.132	.134	.125	.131	2.39	85.9
%RSD	6.397	5.210	5.841	5.486	5.511	5.252	5.444	13.25	13.22
#1	1.707	2.271	2.247	2.253	2.274	2.239	2.266	15.66	562.3
#2	1.827	2.453	2.452	2.458	2.473	2.412	2.449	17.96	653.3
#3	1.940	2.512	2.515	2.500	2.529	2.482	2.521	20.43	734.0
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.89	21.30	39.15	394.6	2.374	2.393	2.833	2.405	5.934
Stddev	2.53	2.73	4.72	41.1	.137	.126	.153	.122	.776
%RSD	13.41	12.81	12.04	10.40	5.760	5.248	5.416	5.084	13.08
#1	16.39	18.53	34.46	351.5	2.223	2.253	2.666	2.267	5.163
#2	18.84	21.37	39.11	399.1	2.412	2.428	2.865	2.449	5.924
#3	21.45	23.99	43.89	433.3	2.488	2.497	2.968	2.500	6.714
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	1.846	2.246	1.791	13.46	-0.218	0.706	2.514		
Stddev	.119	.120	.117	.80	.0084	.0093	.141		
%RSD	6.450	5.361	6.562	5.926	38.73	13.11	5.629		
#1	1.728	2.112	1.675	12.56	-0.126	0.610	2.356		
#2	1.844	2.282	1.788	13.76	-0.291	0.712	2.556		
#3	1.966	2.345	1.910	14.06	-0.237	0.795	2.629		

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Sample Name: mp14241-s2 Acquired: 4/17/2019 21:05:17 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	131800.	30408.	3622.1	6467.6
Stddev	886.	102.	12.7	15.3
%RSD	.67218	.33491	.35036	.23669
#1	132810.	30291.	3609.9	6456.2
#2	131170.	30454.	3635.2	6485.0
#3	131420.	30478.	3621.3	6461.6

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Sample Name: jc86267-1 Acquired: 4/17/2019 21:10:25 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3488	.0001	-.0015	.0016	.0037	.0117	.2327	.0114	-.0004
Stddev	.0158	.0002	.0005	.0011	.0009	.0005	.0060	.0016	.0013
%RSD	4.518	213.5	33.03	70.38	23.40	4.543	2.561	14.41	341.4
#1	.3328	-.0001	-.0012	.0015	.0037	.0117	.2261	.0096	-.0018
#2	.3492	.0001	-.0021	.0005	.0028	.0111	.2344	.0129	-.0000
#3	.3643	.0002	-.0013	.0027	.0046	.0122	.2377	.0116	.0007
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	.0220	.0041	.0026	.0108	-.0241	.0027	.5397	683.6
Stddev	.0009	.0022	.0019	.0113	.0034	.0013	.0030	.0265	27.5
%RSD	21.25	9.952	46.16	436.9	31.11	5.237	108.8	4.916	4.021
#1	.0032	.0199	.0046	.0156	.0085	-.0227	-.0004	.5102	654.7
#2	.0045	.0220	.0056	-.0035	.0147	-.0247	.0032	.5470	686.5
#3	.0049	.0242	.0020	-.0043	.0093	-.0250	.0055	.5618	709.4
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.265	3.991	22.20	398.0	.0108	.0087	2.112	-.0056	4.693
Stddev	.053	.171	.82	16.1	.0008	.0016	.181	.0026	.201
%RSD	4.193	4.283	3.696	4.045	7.563	17.91	8.568	46.82	4.278
#1	1.214	3.835	21.41	381.9	.0112	.0104	1.944	-.0058	4.488
#2	1.260	3.963	22.15	398.1	.0099	.0073	2.089	-.0029	4.701
#3	1.320	4.174	23.05	414.1	.0113	.0085	2.304	-.0082	4.889
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0036	.0173	.0008	11.13	-.0001	.0702	.0433		
Stddev	.0023	.0034	.0005	.94	.0027	.0019	.0065		
%RSD	63.72	19.81	67.08	8.411	2408.	2.725	14.90		
#1	.0043	.0136	.0014	10.23	-.0022	.0686	.0400		
#2	.0010	.0203	.0003	11.05	-.0011	.0696	.0392		
#3	.0055	.0181	.0008	12.10	.0030	.0723	.0507		

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Sample Name: jc86267-1 Acquired: 4/17/2019 21:10:25 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	131230.	30287.	3609.7	6530.2
Stddev	497.	218.	11.2	9.9
%RSD	.37876	.71858	.31057	.15213
#1	131510.	30039.	3603.8	6536.0
#2	131530.	30375.	3602.7	6518.8
#3	130660.	30446.	3622.7	6535.9

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Sample Name: mp14241-sd1 Acquired: 4/17/2019 21:15:44 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 25.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5417	-.0007	-.0036	.0025	.0041	.0207	.3259	.0131	-.0015
Stddev	.0075	.0004	.0066	.0033	.0038	.0021	.0015	.0023	.0079
%RSD	1.381	54.73	186.2	133.2	93.11	10.26	4.701	17.57	513.0
#1	.5496	-.0005	-.0106	.0018	.0004	.0225	.3244	.0136	.0052
#2	.5409	-.0012	.0026	-.0004	.0080	.0213	.3260	.0151	-.0102
#3	.5347	-.0004	-.0028	.0061	.0040	.0184	.3274	.0106	.0004
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084	.0408	-.0041	.0174	-.0136	-.0651	-.0141	.8534	1104.
Stddev	.0044	.0011	.0131	.0315	.0168	.0410	.0386	.0456	3.
%RSD	51.89	2.768	321.6	181.0	123.8	62.92	274.0	5.345	.2453
#1	.0116	.0419	.0074	-.0140	.0058	-.0774	.0031	.8064	1107.
#2	.0102	.0408	-.0013	.0172	-.0220	-.0194	.0129	.8563	1104.
#3	.0034	.0397	-.0183	.0489	-.0244	-.0985	-.0582	.8974	1102.
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.012	6.388	34.25	615.9	-.0189	.0179	2.511	-.0301	7.249
Stddev	.022	.274	.19	2.0	.0095	.0039	.016	.0087	.031
%RSD	1.113	4.290	.5626	.3259	50.62	21.96	.6519	29.01	.4299
#1	2.035	6.379	34.06	617.9	-.0223	.0135	2.494	-.0306	7.283
#2	1.990	6.666	34.44	615.9	-.0081	.0211	2.527	-.0211	7.243
#3	2.012	6.118	34.25	613.9	-.0262	.0191	2.512	-.0386	7.221
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0170	.0519	.0017	12.55	.0184	.1267	.0728		
Stddev	.0036	.0250	.0022	.08	.0521	.0101	.0313		
%RSD	21.43	48.26	125.9	5996	284.0	7.985	43.04		
#1	.0135	.0745	.0040	12.60	.0743	.1220	.0773		
#2	.0208	.0561	.0014	12.46	.0097	.1383	.0395		
#3	.0167	.0250	-.0003	12.58	-.0289	.1198	.1017		

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Sample Name: mp14241-sd1 Acquired: 4/17/2019 21:15:44 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 25.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	135000.	30682.	3783.2	7057.6
Stddev	846.	265.	6.4	7.0
%RSD	.62672	.86446	.16955	.09882
#1	135930.	30422.	3776.2	7058.8
#2	134270.	30673.	3784.6	7050.0
#3	134820.	30952.	3788.8	7063.8

Sample Name: mp14099-mb1conf Acquired: 4/17/2019 21:20:56 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
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	.0003	.0011	.0013	.0006	.0004	-.0003
Stddev	.0001	.0000	.0001	.0001	.0001	.0002	.0000	.0001	.0000
%RSD	108.3	43.42	99.44	26.65	8.861	11.82	1.646	22.62	1.368
#1	.0002	.0000	-.0000	.0002	.0010	.0013	.0006	.0004	-.0003
#2	-.0000	.0001	.0001	.0003	.0012	.0014	.0006	.0006	-.0003
#3	.0002	.0001	.0002	.0004	.0011	.0012	.0006	.0004	-.0003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0044	-.0001	.0004	.0005	-.0008	.0008	.0051	.0630
Stddev	.0002	.0001	.0013	.0018	.0002	.0012	.0009	.0027	.0014
%RSD	64.12	1.810	2522.	436.3	46.64	143.9	108.8	52.71	2.302
#1	.0001	.0045	.0007	.0004	.0008	-.0000	.0001	.0020	.0619
#2	.0004	.0043	.0007	-.0014	.0005	-.0003	.0006	.0066	.0646
#3	.0006	.0044	-.0016	.0022	.0003	-.0021	.0018	.0068	.0624
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0518	.0073	.0143	.0768	.0005	.0001	.0109	.0222	.0002
Stddev	.0021	.0046	.0446	.0063	.0003	.0002	.0010	.0012	.0001
%RSD	4.066	63.05	311.8	8.244	55.07	264.4	9.273	5.348	29.27
#1	.0530	.0055	.0657	.0804	.0005	.0003	.0117	.0212	.0003
#2	.0494	.0125	-.0109	.0806	.0002	-.0000	.0113	.0235	.0002
#3	.0531	.0039	-.0120	.0695	.0007	-.0000	.0098	.0219	.0002
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0005	.0008	.0002	.0115	.0003	.0000	.0212		
Stddev	.0001	.0006	.0001	.0007	.0006	.0011	.0019		
%RSD	15.24	68.77	22.53	6.171	229.5	788.1	9.135		
#1	.0005	.0012	.0003	.0110	-.0004	.0005	.0190		
#2	.0005	.0011	.0002	.0123	.0007	.0008	.0217		
#3	.0006	.0002	.0002	.0111	.0006	-.0012	.0228		

Sample Name: mp14099-mb1conf Acquired: 4/17/2019 21:20:56 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138760.	31239.	3879.5	7478.5
Stddev	595.	93.	2.5	8.4
%RSD	4.2901	.29803	.06382	.11223
#1	138890.	31148.	3881.1	7488.0
#2	138110.	31233.	3876.6	7472.0
#3	139260.	31334.	3880.7	7475.6

Sample Name: ccv 7 Acquired: 4/17/2019 21:26:11 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.029	2.064	2.042	2.033	2.042	1.991	2.091	2.067	2.499
Stddev	.006	.007	.002	.002	.008	.005	.002	.002	.0010
%RSD	.3091	.3175	.1125	.1001	4.008	.2443	.0931	.0758	.4086
#1	2.029	2.063	2.044	2.032	2.035	1.986	2.088	2.066	2.489
#2	2.023	2.057	2.040	2.035	2.040	1.991	2.092	2.069	2.499
#3	2.036	2.070	2.040	2.031	2.051	1.996	2.091	2.066	2.510
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	2.026	2.059	2.013	2.119	2.068	2.023	2.028	40.17	40.59
Stddev	.004	.003	.006	.009	.004	.003	.003	.03	.03
%RSD	.1954	.1348	.2994	.4036	.1913	.1692	.1410	.0861	.0787
#1	2.022	2.060	2.010	2.120	2.071	2.019	2.030	40.14	40.60
#2	2.027	2.061	2.020	2.127	2.069	2.026	2.024	40.17	40.62
#3	2.030	2.056	2.009	2.110	2.064	2.025	2.029	40.21	40.56
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	40.62	40.39	40.06	40.14	2.040	2.054	5.169	2.077	2.038
Stddev	.13	.01	.14	.14	.004	.001	.008	.005	.032
%RSD	.3232	.0358	.3381	.3422	.1890	.0335	.1464	.2196	1.556
#1	40.72	40.37	40.06	40.19	2.037	2.054	5.164	2.079	2.054
#2	40.48	40.40	39.92	39.99	2.040	2.053	5.164	2.081	2.060
#3	40.68	40.39	40.19	40.25	2.044	2.054	5.177	2.072	2.002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range									



Sample Name: ccv 7 Acquired: 4/17/2019 21:26:11 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.033</b>	<b>2.029</b>	<b>2.025</b>	<b>2.000</b>	<b>2.038</b>	<b>1.987</b>	<b>2.044</b>
Stddev	.002	.007	.003	.008	.004	.006	.009
%RSD	.0877	.3235	.1614	.4093	.1819	.2817	.4361

#1	2.033	2.033	2.021	2.000	2.041	1.987	2.047
#2	2.035	2.033	2.025	2.008	2.034	1.981	2.052
#3	2.031	2.022	2.028	1.992	2.038	1.993	2.034

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value High Limit  
Range Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>131780.</b>	<b>30424.</b>	<b>3742.0</b>	<b>6773.2</b>
Stddev	458.	83.	6.0	12.0
%RSD	.34733	.27442	.16156	.17761

#1	132270.	30339.	3735.3	6763.2
#2	131710.	30428.	3743.9	6769.8
#3	131370.	30505.	3746.9	6786.6

Sample Name: ccb Acquired: 4/17/2019 21:31:11 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0000</b>	<b>.0001</b>	<b>-0.0000</b>	<b>.0004</b>	<b>-0.0001</b>	<b>.0001</b>	<b>.0001</b>	<b>-0.0000</b>	<b>.0003</b>
Stddev	.0001	.0000	.0001	.0002	.0003	.0002	.0000	.0003	.0006
%RSD	951.9	9.047	610.7	50.89	286.3	226.2	14.61	1971.	200.6

#1	.0000	.0001	-0.0001	.0002	-0.0004	-0.0000	.0002	.0004	.0008
#2	-0.0001	.0001	.0001	.0005	.0002	.0003	.0001	-0.0003	.0003
#3	.0001	.0001	-0.0001	.0005	-0.0001	-0.0000	.0001	-0.0001	-0.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value High Limit  
Range Low Limit

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0006</b>	<b>.0001</b>	<b>-0.0002</b>	<b>.0005</b>	<b>-0.0001</b>	<b>-0.0017</b>	<b>.0003</b>	<b>-0.0033</b>	<b>.0012</b>
Stddev	.0003	.0002	.0008	.0005	.0003	.0004	.0006	.0036	.0007
%RSD	47.71	112.6	310.5	113.4	436.3	26.06	182.1	108.5	52.64

#1	.0004	.0002	-0.0001	.0004	.0001	-.0015	.0010	-.0050	.0005
#2	.0009	.0002	-0.0011	.0011	.0001	-.0022	-.0001	-.0058	.0016
#3	.0005	-0.0000	.0004	-0.0000	-0.0004	-.0015	.0001	.0008	.0016

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value High Limit  
Range 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	<b>.0032</b>	<b>.0072</b>	<b>.0011</b>	<b>.0273</b>	<b>.0003</b>	<b>.0002</b>	<b>.0010</b>	<b>.0000</b>	<b>.0001</b>
Stddev	.0010	.0099	.0236	.0030	.0003	.0003	.0009	.0002	.0000
%RSD	30.20	136.5	2112.	10.98	123.8	167.2	85.09	466.7	29.64

#1	.0043	.0039	-.0204	.0283	.0005	-.0001	.0019	.0001	.0002
#2	.0024	.0184	.0263	.0239	.0004	.0005	.0002	.0002	.0001
#3	.0029	-.0005	-.0026	.0296	-0.0001	.0001	.0010	-0.0002	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value High Limit  
Range Low Limit

Sample Name: ccb Acquired: 4/17/2019 21:31:11 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0002</b>	<b>.0006</b>	<b>.0002</b>	<b>-0.0039</b>	<b>-0.0010</b>	<b>.0000</b>	<b>.0002</b>
Stddev	.0001	.0007	.0001	.0013	.0018	.0005	.0007
%RSD	60.54	117.1	25.09	34.48	183.3	33070.	364.8

#1	.0002	.0005	.0003	-.0042	-.0009	.0006	.0010
#2	.0002	-0.0000	.0002	-.0050	-.0011	-.0001	-.0001
#3	.0001	.0014	.0002	-.0024	-.0027	-.0004	-.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value High Limit  
Range Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>138590.</b>	<b>30893.</b>	<b>3860.9</b>	<b>7430.6</b>
Stddev	281.	62.	2.5	3.9
%RSD	.20283	.19922	.06493	.05230

#1	138820.	30958.	3861.7	7427.0
#2	138680.	30835.	3862.9	7434.7
#3	138280.	30885.	3858.1	7430.0

Sample Name: jc85964-24 Acquired: 4/17/2019 21:36:27 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.8254</b>	<b>.0051</b>	<b>.0461</b>	<b>.2502</b>	<b>6.461</b>	<b>1.225</b>	<b>2.798</b>	<b>1.021</b>
Stddev	.0462	.0001	.0018	.0116	.191	.040	.081	.045
%RSD	5.593	1.015	3.840	4.645	2.962	3.292	2.885	4.366

#1	.7769	.0050	.0442	.2380	6.248	1.180	2.709	.9740
#2	.8304	.0051	.0465	.2514	6.518	1.236	2.817	1.027
#3	.8688	.0051	.0477	.2611	6.618	1.258	2.867	1.063

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value High Limit  
Range Low Limit

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0188</b>	<b>1.954</b>	<b>5.165</b>	<b>.1077</b>	<b>F-.0043</b>	<b>2.812</b>	<b>F-.0201</b>	<b>.0257</b>
Stddev	.0024	.057	.216	.0043	.0040	.118	.0034	.0037
%RSD	12.56	2.908	4.182	4.017	92.21	4.187	17.05	14.21

#1	.0167	1.891	4.935	.1032	-.0080	2.685	-.0207	.0231
#2	.0183	1.966	5.196	.1081	-.0049	2.833	-.0232	.0241
#3	.0213	2.003	5.364	.1118	-.0001	2.918	-.0164	.0299

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>87.82</b>	<b>78.95</b>	<b>215.0</b>	<b>64.46</b>	<b>13.30</b>	<b>19.06</b>	<b>1.294</b>	<b>.0210</b>
Stddev	4.85	4.14	11.5	3.42	.69	1.04	.0064	.0006
%RSD	5.518	5.245	5.338	5.305	5.221	5.459	4.909	2.912

#1	82.72	74.58	203.1	60.80	12.56	17.98	.1233	.0203
#2	88.37	79.48	216.0	65.03	13.40	19.14	.1288	.0212
#3	92.37	82.81	226.0	67.56	13.94	20.06	.1360	.0215

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.183</b>	<b>.4621</b>	<b>.7329</b>	<b>5.340</b>	<b>.0100</b>	<b>.0751</b>	<b>69.42</b>	<b>F-.1234</b>
Stddev	.090	.0190	.0424	.162	.0016	.0030	2.85	.0095
%RSD	4.125	4.102	5.783	3.032	15.59	3.933	4.110	7.711

#1	2.088	.4411	.6885	5.165	.0098	.0718	66.31	-.1192
#2	2.195	.4673	.7371	5.371	.0116	.0760	70.04	-.1168
#3	2.267	.4779	.7729	5.484	.0085	.0776	71.91	-.1343

Sample Name: jc85964-24 7 Acquired: 4/17/2019 21:36:27 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 2.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>1.283</b>	<b>F 18.00</b>		
Stddev	.0071	.70		
%RSD	5.538	3.895		
#1	.1205	17.23		
#2	.1298	18.16		
#3	.1345	18.61		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137470.	32156.	3842.4	7029.0
Stddev	503.	242.	6.7	17.7
%RSD	.36568	.75181	.17408	.25181
#1	137530.	32365.	3845.0	7045.2
#2	136940.	31892.	3847.5	7031.8
#3	137940.	32212.	3834.8	7010.1

Sample Name: mp015-1159conf Acquired: 4/17/2019 21:41:27 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.985</b>	<b>2.018</b>	<b>2.003</b>	<b>1.957</b>	<b>2.013</b>	<b>1.915</b>	<b>2.078</b>	<b>1.998</b>	<b>-0.004</b>
Stddev	.005	.007	.003	.001	.014	.010	.011	.002	.0001
%RSD	.2630	.3304	.1228	.0614	.7038	.5132	.5303	.1015	12.32
#1	1.980	2.011	2.003	1.957	1.997	1.905	2.066	2.000	-0.004
#2	1.985	2.017	2.001	1.957	2.023	1.924	2.088	1.996	-0.004
#3	1.991	2.025	2.006	1.955	2.018	1.917	2.079	1.997	-0.005
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.973</b>	<b>2.065</b>	<b>-0.003</b>	<b>2.128</b>	<b>2.026</b>	<b>1.955</b>	<b>.0010</b>	<b>-0.069</b>	<b>-0.161</b>
Stddev	.012	.005	.0004	.007	.002	.010	.0006	.0042	.0010
%RSD	.5888	.2375	.1164	.3141	.0735	.4938	57.13	61.14	6.510
#1	1.959	2.070	-0.007	2.135	2.028	1.963	.0017	-0.020	-0.151
#2	1.981	2.061	-0.004	2.122	2.026	1.944	.0006	-0.091	-0.160
#3	1.977	2.065	.0001	2.126	2.025	1.957	.0007	-0.095	-0.172
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0293</b>	<b>.0014</b>	<b>.0278</b>	<b>.0261</b>	<b>2.001</b>	<b>-0.0006</b>	<b>-0.0940</b>	<b>-0.001</b>	<b>1.983</b>
Stddev	.0039	.0088	.0059	.0061	.006	.0001	.0007	.0004	.055
%RSD	13.39	615.6	21.28	23.45	.3071	23.24	.7265	342.8	2.777
#1	.0337	-0.028	.0307	.0324	1.998	-0.005	-0.935	-0.001	1.934
#2	.0278	-0.045	.0318	.0258	1.996	-0.007	-0.948	.0003	1.972
#3	.0263	.0116	.0210	.0202	2.008	-0.007	-0.938	-0.005	2.042
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>-0.001</b>	<b>.0066</b>	<b>-0.002</b>	<b>-0.045</b>	<b>.0137</b>	<b>.0001</b>	<b>1.960</b>		
Stddev	.0001	.0002	.0001	.0007	.0010	.0004	.007		
%RSD	70.84	2.308	45.36	15.82	7.170	261.2	.3525		
#1	-0.001	.0066	-0.002	-0.050	.0130	.0001	1.966		
#2	-0.000	.0068	-0.003	-0.047	.0148	-0.002	1.953		
#3	-0.002	.0065	-0.001	-0.037	.0132	.0006	1.963		

Sample Name: mp015-1159conf Acquired: 4/17/2019 21:41:27 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136370.	30573.	3814.2	7377.6
Stddev	831.	111.	4.9	5.6
%RSD	.60958	.36351	.12946	.07542
#1	137320.	30579.	3811.2	7371.2
#2	135740.	30681.	3819.9	7381.1
#3	136060.	30459.	3811.5	7380.5

Sample Name: mp015-1160conf Acquired: 4/17/2019 21:46:34 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0014</b>	<b>.0001</b>	<b>.0004</b>	<b>.0000</b>	<b>.0011</b>	<b>.0003</b>	<b>.0007</b>	<b>-0.005</b>
Stddev	.0002	.0000	.0001	.0002	.0002	.0003	.0000	.0001
%RSD	13.33	23.17	24.37	446.9	22.10	79.82	3.084	10.04
#1	.0014	.0001	.0003	-0.001	.0012	.0001	.0007	-0.005
#2	.0016	.0001	.0005	-0.000	.0012	.0006	.0007	-0.005
#3	.0012	.0001	.0005	.0003	.0008	.0003	.0007	-0.006
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.004</b>	<b>.0005</b>	<b>.0002</b>	<b>1.957</b>	<b>.0014</b>	<b>F -.0062</b>	<b>.0163</b>	<b>2.004</b>
Stddev	.0002	.0002	.0001	.017	.0012	.0006	.0018	.011
%RSD	53.46	42.20	53.58	.8572	86.79	10.42	11.33	5.272
#1	-0.002	.0007	.0003	1.948	.0027	-0.055	.0143	1.997
#2	-0.004	.0003	.0001	1.976	.0006	-0.067	.0165	2.016
#3	-0.005	.0006	.0003	1.946	.0007	-0.064	.0180	1.999
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.0390</b>	<b>-0.082</b>	<b>.0055</b>	<b>.0271</b>	<b>-0.2272</b>	<b>.0263</b>	<b>.0071</b>	<b>2.066</b>
Stddev	.0043	.0004	.0001	.0103	.0158	.0020	.0010	.014
%RSD	11.07	4.448	2.068	38.03	58.33	7.530	13.82	6.537
#1	-0.0399	-0.081	.0054	.0207	-0.295	.0241	.0072	2.059
#2	-0.0343	-0.086	.0055	.0390	-0.103	.0280	.0080	2.082
#3	-0.0427	-0.079	.0056	.0215	-0.417	.0268	.0061	2.058
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1339</b>	<b>2.134</b>	<b>.0001</b>	<b>2.001</b>	<b>2.008</b>	<b>1.981</b>	<b>F -.0977</b>	<b>-0.152</b>
Stddev	.0021	.015	.0000	.010	.012	.010	.0008	.0010
%RSD	1.571	.7231	30.93	.5085	.5945	.5270	.8257	6.370
#1	.1321	2.125	.0001	1.990	1.999	1.969	-.0987	-0.147
#2	.1362	2.152	.0001	2.009	2.022	1.990	-.0973	-0.163
#3	.1334	2.126	.0002	2.004	2.004	1.983	-.0972	-0.145

Zoom In  
Zoom Out

Sample Name: mp015-1160conf Acquired: 4/17/2019 21:46:34 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	-0.001	0.049		
Stddev	.0003	.0005		
%RSD	266.4	10.04		
#1	-0.003	0.052		
#2	-0.003	0.044		
#3	0.002	0.052		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137900.	30802.	3877.3	7444.7
Stddev	762.	68.	21.2	29.3
%RSD	.55281	.22230	.54659	.39316
#1	138760.	30866.	3893.5	7462.2
#2	137330.	30730.	3853.3	7410.9
#3	137600.	30809.	3885.1	7461.1

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Zoom In  
Zoom Out

Sample Name: MP14249-MB1 Acquired: 4/17/2019 21:51:39 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.003	0.000	0.000	0.002	0.010	0.009	0.004	0.005	-0.002
Stddev	.0000	.0000	.0001	.0002	.0000	.0002	.0000	.0001	.0002
%RSD	13.49	162.7	5904.	93.06	5.078	23.23	4.386	27.38	98.08
#1	0.003	0.000	0.000	0.003	0.010	0.011	0.004	0.006	-0.002
#2	0.004	-0.000	-0.001	-0.000	0.009	0.008	0.004	0.004	0.000
#3	0.003	0.001	0.000	0.002	0.010	0.008	0.004	0.004	-0.003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.003	0.065	-0.006	0.010	-0.003	-0.019	-0.005	0.086	0.622
Stddev	.0001	.0002	.0008	0.010	.0004	.0022	.0007	.0022	.0011
%RSD	28.51	2.444	144.4	105.2	157.1	112.1	139.6	25.48	1.733
#1	0.004	0.063	0.004	0.016	-0.007	-0.039	-0.008	0.107	0.631
#2	0.004	0.065	-0.013	0.016	0.001	-0.023	0.003	0.063	0.624
#3	0.002	0.066	-0.008	-0.002	-0.002	0.004	-0.011	0.088	0.610
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.220	0.049	0.365	1.046	0.008	0.007	0.101	0.0273	0.004
Stddev	.0017	.0092	.0225	.0034	.0006	.0003	.0008	.0011	.0000
%RSD	7.692	186.1	61.82	3.251	80.53	45.30	7.913	3.859	10.36
#1	0.225	0.139	0.612	1.039	0.002	0.009	0.093	0.264	0.004
#2	0.233	0.053	0.310	1.016	0.007	0.008	0.110	0.271	0.003
#3	0.201	-0.044	0.171	1.083	0.014	0.003	0.101	0.284	0.004
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	0.006	0.004	0.003	0.082	0.012	0.002	0.262		
Stddev	.0002	.0006	.0001	.0009	.0016	.0003	.0019		
%RSD	38.69	140.0	20.48	10.92	132.7	148.8	7.334		
#1	0.008	0.001	0.002	0.082	0.023	0.004	0.251		
#2	0.008	0.011	0.004	0.091	0.021	0.002	0.250		
#3	0.004	0.001	0.003	0.073	-0.007	-0.001	0.284		

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Zoom In  
Zoom Out

Sample Name: MP14249-MB1 Acquired: 4/17/2019 21:51:39 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138210.	30465.	3902.3	7508.9
Stddev	1723.	641.	84.9	147.1
%RSD	1.2465	2.1034	2.1769	1.9586
#1	137020.	29734.	3984.6	7654.0
#2	137430.	30931.	3907.5	7512.8
#3	140190.	30730.	3814.9	7359.9

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Zoom In  
Zoom Out

Sample Name: MP14249-B1 Acquired: 4/17/2019 21:56:52 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.982	2.028	1.972	1.959	2.019	1.965	2.072	1.998
Stddev	.049	.050	.018	.015	.007	.009	.004	.016
%RSD	2.493	2.443	8916	7.877	3.269	4.752	2.157	8.142
#1	1.925	1.971	1.992	1.976	2.026	1.969	2.077	2.017
#2	2.011	2.055	1.963	1.952	2.012	1.954	2.069	1.989
#3	2.011	2.059	1.960	1.948	2.020	1.972	2.071	1.988
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2646	1.986	1.998	1.972	2.063	2.011	1.943	1.993
Stddev	.0007	.005	.015	.021	.025	.015	.016	.020
%RSD	.2664	.2322	.7485	1.070	1.228	.7475	.8334	.9798
#1	2646	1.991	2.015	1.996	2.092	2.027	1.962	2.015
#2	2639	1.982	1.989	1.959	2.054	2.006	1.932	1.978
#3	2653	1.984	1.990	1.960	2.044	1.998	1.935	1.987
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.38	24.73	24.92	24.65	24.62	24.67	1.924	2.027
Stddev	.61	.56	.64	.57	.58	.58	.018	.020
%RSD	2.506	2.285	2.578	2.295	2.368	2.354	.9271	.9738
#1	23.68	24.07	24.18	24.01	23.95	24.00	1.945	2.050
#2	24.71	25.03	25.25	24.89	24.92	24.96	1.912	2.014
#3	24.76	25.07	25.32	25.06	25.00	25.04	1.915	2.018
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.516	2.081	1.978	2.032	1.586	2.032	F -0.793	0.184
Stddev	.0010	.018	.039	.003	.016	.007	.0005	.0006
%RSD	1.919	.8749	1.972	.1248	1.027	.3479	.6862	3.073
#1	-0.505	2.102	1.942	2.035	1.605	2.037	-0.798	0.188
#2	-0.523	2.069	2.019	2.031	1.577	2.024	-0.788	0.177
#3	-0.519	2.071	1.973	2.031	1.577	2.036	-0.791	0.186

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Zoom In  
Zoom Out

Sample Name: MP14249-B1 Acquired: 4/17/2019 21:56:52 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.0005</b>	<b>1.977</b>		
Stddev	.0014	.022		
%RSD	302.2	1.133		
#1	-.0001	2.003		
#2	-.0006	1.965		
#3	.0020	1.963		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	133940.	31015.	3827.1	7033.1
Stddev	487.	703.	28.5	51.3
%RSD	.36364	2.2667	.74548	.72973
#1	133450.	31816.	3794.2	6974.1
#2	133930.	30728.	3845.1	7057.9
#3	134430.	30501.	3842.1	7067.3

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Zoom In  
Zoom Out

Sample Name: MP14249-S1 Acquired: 4/17/2019 22:01:53 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.983</b>	<b>2.025</b>	<b>1.983</b>	<b>1.953</b>	<b>1.986</b>	<b>1.948</b>	<b>2.041</b>	<b>1.994</b>
Stddev	.005	.007	.006	.005	.001	.006	.003	.005
%RSD	.2581	.3345	.2982	.2394	.0678	.3033	.1445	.2563
#1	1.989	2.033	1.980	1.952	1.985	1.946	2.038	1.990
#2	1.981	2.020	1.980	1.949	1.985	1.944	2.044	1.992
#3	1.980	2.022	1.990	1.958	1.987	1.955	2.042	2.000
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.633</b>	<b>1.955</b>	<b>2.002</b>	<b>1.977</b>	<b>2.078</b>	<b>2.009</b>	<b>1.951</b>	<b>2.003</b>
Stddev	.0009	.001	.004	.002	.003	.005	.005	.005
%RSD	.3552	.0703	.1953	.1012	.1597	.2397	.2355	.2736
#1	2.631	1.954	2.003	1.976	2.076	2.008	1.945	1.996
#2	2.625	1.955	1.998	1.979	2.076	2.004	1.954	2.005
#3	2.644	1.957	2.006	1.975	2.082	2.014	1.952	2.006
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>24.28</b>	<b>24.56</b>	<b>24.84</b>	<b>24.42</b>	<b>24.49</b>	<b>24.67</b>	<b>1.928</b>	<b>2.020</b>
Stddev	.07	.11	.10	.16	.11	.09	.007	.005
%RSD	.2907	.4580	.3944	.6674	.4334	.3514	.3701	.2417
#1	24.33	24.66	24.94	24.61	24.61	24.77	1.924	2.014
#2	24.30	24.56	24.82	24.36	24.40	24.62	1.924	2.020
#3	24.20	24.44	24.75	24.30	24.47	24.61	1.936	2.024
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.316</b>	<b>2.083</b>	<b>1.970</b>	<b>2.004</b>	<b>1.530</b>	<b>2.006</b>	<b>F-.0722</b>	<b>.0119</b>
Stddev	.0015	.003	.009	.003	.005	.002	.0019	.0009
%RSD	4.637	.1193	.4666	.1680	.3220	.1199	2.586	7.158
#1	-.0313	2.080	1.961	2.000	1.525	2.007	-.0740	.0115
#2	-.0332	2.085	1.969	2.006	1.531	2.003	-.0723	.0128
#3	-.0304	2.084	1.980	2.007	1.535	2.008	-.0703	.0113

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Zoom In  
Zoom Out

Sample Name: MP14249-S1 Acquired: 4/17/2019 22:01:53 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>-0.0005</b>	<b>1.994</b>		
Stddev	.0004	.005		
%RSD	75.35	.2604		
#1	-.0009	1.989		
#2	-.0005	1.999		
#3	-.0001	1.993		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	134960.	31281.	3790.3	6980.0
Stddev	146.	170.	8.1	16.7
%RSD	.10819	.54491	.21402	.23904
#1	135120.	31084.	3795.0	6989.7
#2	134950.	31373.	3795.0	6989.4
#3	134830.	31385.	3781.0	6960.7

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Zoom In  
Zoom Out

Sample Name: MP14249-S2 Acquired: 4/17/2019 22:06:53 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.997</b>	<b>2.041</b>	<b>1.972</b>	<b>1.948</b>	<b>1.994</b>	<b>1.953</b>	<b>2.054</b>	<b>1.988</b>
Stddev	.002	.003	.011	.009	.009	.007	.009	.008
%RSD	.1079	.1565	.5474	.4432	.4667	.3795	.4161	.3909
#1	1.998	2.044	1.981	1.958	1.985	1.947	2.046	1.996
#2	1.999	2.040	1.960	1.941	1.994	1.950	2.052	1.981
#3	1.995	2.038	1.975	1.946	2.004	1.961	2.063	1.987
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.637</b>	<b>1.966</b>	<b>1.998</b>	<b>1.970</b>	<b>2.068</b>	<b>1.999</b>	<b>1.943</b>	<b>1.996</b>
Stddev	.0009	.007	.015	.013	.010	.007	.011	.010
%RSD	.3283	.3543	.7659	.6675	.4793	.3424	.5381	.5158
#1	2.629	1.959	2.014	1.985	2.076	2.003	1.953	2.003
#2	2.637	1.965	1.983	1.959	2.057	1.991	1.932	1.984
#3	2.646	1.973	1.997	1.967	2.071	2.003	1.943	2.001
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>24.53</b>	<b>24.81</b>	<b>25.06</b>	<b>24.70</b>	<b>24.70</b>	<b>24.80</b>	<b>1.917</b>	<b>2.019</b>
Stddev	.05	.02	.04	.05	.04	.03	.011	.011
%RSD	.2110	.0776	.1576	.1875	.1591	.1377	.5906	.5185
#1	24.52	24.81	25.09	24.72	24.74	24.83	1.930	2.027
#2	24.58	24.83	25.07	24.73	24.70	24.81	1.908	2.007
#3	24.48	24.79	25.01	24.65	24.67	24.77	1.914	2.022
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.452</b>	<b>2.078</b>	<b>1.992</b>	<b>2.019</b>	<b>1.579</b>	<b>2.016</b>	<b>F-.0807</b>	<b>.0149</b>
Stddev	.010	.015	.027	.006	.008	.007	.0032	.0022
%RSD	2.138	.6978	1.364	.3231	.5078	.3704	3.929	14.54
#1	-.0443	2.090	2.020	2.012	1.586	2.010	-.0843	.0125
#2	-.0462	2.062	1.989	2.018	1.570	2.014	-.0782	.0167
#3	-.0451	2.083	1.966	2.025	1.580	2.025	-.0797	.0156

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Sample Name: MP14249-S2 Acquired: 4/17/2019 22:06:53 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>-0.009</b>	<b>1.988</b>		
Stddev	.003	.004		
%RSD	28.70	.1792		
#1	-.0008	1.988		
#2	-.0007	1.985		
#3	-.0012	1.992		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	135100.	31236.	3803.9	7006.9
Stddev	430.	56.	5.3	7.7
%RSD	.31832	.17813	.13820	.10981
#1	135540.	31194.	3803.7	7015.7
#2	135090.	31216.	3809.3	7003.7
#3	134680.	31299.	3798.8	7001.3

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Sample Name: JC86190-3 Acquired: 4/17/2019 22:11:54 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0001</b>	<b>-0.0001</b>	<b>-0.0000</b>	<b>.0004</b>	<b>.0010</b>	<b>.0007</b>	<b>.0004</b>	<b>.0002</b>	<b>-0.0003</b>
Stddev	.0002	.0000	.0001	.0001	.0002	.0002	.0000	.0001	.0001
%RSD	202.5	32.32	308.2	28.80	20.31	32.60	7.009	85.54	32.92
#1	.0001	.0001	-.0001	.0002	.0010	.0010	.0004	.0001	-.0002
#2	.0002	.0001	.0001	.0004	.0012	.0007	.0004	.0003	-.0004
#3	-.0001	.0001	-.0002	.0004	.0008	.0005	.0003	.0000	-.0004
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0006</b>	<b>.0039</b>	<b>-0.0005</b>	<b>.0010</b>	<b>.0009</b>	<b>-0.0005</b>	<b>.0001</b>	<b>.0050</b>	<b>.0489</b>
Stddev	.0001	.0001	.0010	.0003	.0006	.0024	.0015	.0039	.0013
%RSD	20.97	3.336	228.7	36.19	68.67	504.5	1465.	76.67	2.671
#1	.0006	.0037	.0007	.0008	.0013	-.0030	.0018	.0089	.0477
#2	.0004	.0039	-.0009	.0013	.0013	.0018	-.0012	.0012	.0486
#3	.0006	.0040	-.0012	.0007	.0002	-.0018	-.0002	.0049	.0503
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0161</b>	<b>.0168</b>	<b>-0.0010</b>	<b>.0843</b>	<b>.0011</b>	<b>.0009</b>	<b>.0243</b>	<b>.0237</b>	<b>.0004</b>
Stddev	.0014	.0071	.0185	.0030	.0005	.0001	.0005	.0003	.0001
%RSD	8.847	42.12	1804.	3.610	.0005	15.70	2.060	1.076	18.85
#1	.0177	.0224	.0032	.0838	.0017	.0007	.0245	.0240	.0005
#2	.0156	.0192	.0150	.0815	.0008	.0009	.0237	.0236	.0004
#3	.0149	.0088	-.0213	.0875	.0007	.0010	.0246	.0235	.0004
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.0012</b>	<b>.0103</b>	<b>.0002</b>	<b>.0083</b>	<b>.0000</b>	<b>-0.0004</b>	<b>.0254</b>		
Stddev	.0001	.0008	.0002	.0019	.0007	.0002	.0002		
%RSD	6.444	8.173	150.9	22.57	1919.	36.79	.9780		
#1	.0012	.0107	.0003	.0104	.0007	-.0003	.0253		
#2	.0012	.0109	-.0001	.0068	-.0006	-.0004	.0257		
#3	.0013	.0094	.0003	.0077	-.0000	-.0006	.0252		

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Sample Name: JC86190-3 Acquired: 4/17/2019 22:11:54 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>139640.</b>	<b>31698.</b>	<b>3904.4</b>	<b>7533.8</b>
Stddev	364.	197.	6.6	15.5
%RSD	.26058	.62283	.16936	.20523
#1	139850.	31926.	3899.1	7517.0
#2	139220.	31584.	3911.9	7547.5
#3	139850.	31584.	3902.3	7536.9

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Sample Name: MP14249-SD1 Acquired: 4/17/2019 22:17:08 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.0007</b>	<b>.0001</b>	<b>-0.0005</b>	<b>.0008</b>	<b>.0009</b>	<b>.0008</b>	<b>.0004</b>	<b>-0.0006</b>	<b>-0.0014</b>
Stddev	.0012	.0003	.0004	.0010	.0006	.0006	.0001	.0004	.0011
%RSD	164.9	341.8	94.86	122.7	67.79	67.58	29.92	62.22	79.17
#1	.0002	.0001	-.0003	.0009	.0015	.0002	.0005	-.0002	-.0003
#2	-.0021	.0004	-.0001	-.0002	.0007	.0012	.0003	-.0006	-.0014
#3	-.0003	-.0002	-.0010	.0018	.0004	.0011	.0004	-.0009	-.0026
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0017</b>	<b>.0054</b>	<b>-0.0004</b>	<b>.0013</b>	<b>-0.0045</b>	<b>-0.0037</b>	<b>-0.0001</b>	<b>-0.0265</b>	<b>.0466</b>
Stddev	.0007	.0002	.0086	.0005	.0028	.0106	.0026	.0097	.0052
%RSD	42.03	3.926	2435.	36.76	61.25	288.7	3023.	36.39	11.10
#1	.0012	.0052	.0084	.0013	-.0077	-.0036	.0025	-.0186	.0523
#2	.0015	.0056	-.0006	.0008	-.0033	-.0144	-.0028	-.0373	.0423
#3	.0026	.0054	-.0088	.0018	-.0026	-.0069	.0001	-.0237	.0451
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0268</b>	<b>-0.186</b>	<b>-10.38</b>	<b>.1370</b>	<b>.0017</b>	<b>.0019</b>	<b>.0486</b>	<b>.0244</b>	<b>.0008</b>
Stddev	.0034	.0190	.0485	.0272	.0023	.0002	.0045	.0002	.0002
%RSD	12.61	102.6	46.67	19.85	131.9	11.66	9.227	.9964	22.28
#1	.0296	-.0086	-.1565	.1506	-.0009	.0021	.0467	.0241	.0006
#2	.0231	-.0065	-.0612	.1546	.0033	.0018	.0537	.0244	.0008
#3	.0279	-.0405	-.0937	.1057	.0028	.0017	.0454	.0245	.0009
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.0017</b>	<b>.0309</b>	<b>.0003</b>	<b>.0028</b>	<b>.0039</b>	<b>.0014</b>	<b>.0282</b>		
Stddev	.0005	.0034	.0003	.0109	.0049	.0032	.0013		
%RSD	28.96	10.98	102.0	383.8	127.1	233.9	4.634		
#1	.0016	.0331	.0006	.0100	.0072	.0018	.0284		
#2	.0012	.0326	.0002	.0081	.0062	-.0020	.0268		
#3	.0022	.0270	.0001	-.0097	-.0018	.0044	.0294		

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Sample Name: MP14249-SD1 Acquired: 4/17/2019 22:17:08 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 5.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139850.	31407.	3885.7	7479.9
Stddev	548.	30.	27.5	58.0
%RSD	.39153	.09637	.70890	.77491
#1	139700.	31422.	3906.1	7526.5
#2	140460.	31372.	3896.6	7498.2
#3	139400.	31426.	3854.4	7415.0

Sample Name: JC86190-4 Acquired: 4/17/2019 22:22:23 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0929</b>	<b>.0011</b>	<b>-0.021</b>	<b>.5297</b>	<b>-0.023</b>	<b>0.0004</b>	<b>.0521</b>	<b>-0.032</b>
Stddev	.0004	.0001	.0002	.0016	.0002	----	.0001	.0002
%RSD	.4688	5.181	9.670	.3056	9.078	----	.2592	5.594
#1	.0925	.0010	-0.020	.5315	-0.021	----	.0523	-0.031
#2	.0929	.0012	-0.023	.5294	-0.023	----	.0520	-0.031
#3	.0934	.0011	-0.019	.5283	-0.025	----	.0521	-0.034
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>F 1.039</b>	<b>.0029</b>	<b>.1379</b>	<b>.0036</b>	<b>F -.0048</b>	<b>.0052</b>	<b>F -.0245</b>	<b>F -.0684</b>
Stddev	.005	.0001	.0001	.0011	.0005	.0018	.0003	.0010
%RSD	.4648	1.754	.0399	29.59	10.39	33.81	1.224	1.414
#1	1.036	.0029	.1379	.0048	-.0047	.0069	-.0249	-.0695
#2	1.037	.0028	.1379	.0031	-.0054	.0052	-.0245	-.0678
#3	1.045	.0028	.1378	.0028	-.0044	.0034	-.0243	-.0679
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.0004</b>	<b>.2444</b>	<b>10.03</b>	<b>.0364</b>	<b>.2233</b>	<b>.7859</b>	<b>.0054</b>	<b>.0672</b>
Stddev	----	.0010	.03	.0120	.0220	.0074	.0004	.0004
%RSD	----	.4201	.2840	33.06	9.836	.9423	8.120	5.281
#1	----	.2435	10.01	.0259	.2130	.7775	.0058	.0669
#2	----	.2455	10.07	.0496	.2085	.7889	.0049	.0670
#3	----	.2441	10.03	.0337	.2486	.7913	.0054	.0676
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.6835</b>	<b>.0799</b>	<b>.0008</b>	<b>.5317</b>	<b>.0092</b>	<b>0.0004</b>	<b>5.469</b>	<b>F -.0654</b>
Stddev	.0004	.0005	.0001	.0011	.0005	----	.028	.0007
%RSD	.0561	.6596	6.932	2.115	5.430	----	.5022	1.036
#1	.6834	.0797	.0008	.5321	.0095	----	5.494	-.0661
#2	.6839	.0796	.0008	.5304	.0086	----	5.440	-.0647
#3	.6832	.0805	.0009	.5325	.0094	----	5.474	-.0655

Sample Name: JC86190-4 Acquired: 4/17/2019 22:22:23 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.0025</b>	<b>F -.2069</b>		
Stddev	.0010	.0039		
%RSD	39.02	1.899		
#1	.0015	-.2110		
#2	.0025	-.2065		
#3	.0035	-.2031		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>120540.</b>	<b>33194.</b>	<b>3893.3</b>	<b>7522.2</b>
Stddev	291.	119.	1.8	7.3
%RSD	.24149	.35741	.04751	.09700
#1	120570.	33150.	3891.1	7516.9
#2	120810.	33104.	3894.5	7519.1
#3	120230.	33329.	3894.2	7530.5

Sample Name: ccv Acquired: 4/17/2019 22:27:34 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.027</b>	<b>2.061</b>	<b>2.032</b>	<b>2.016</b>	<b>2.020</b>	<b>1.981</b>	<b>2.086</b>	<b>2.057</b>	<b>.2484</b>
Stddev	.003	.004	.007	.002	.010	.008	.011	.002	.0008
%RSD	.1534	.1898	.3411	.1009	4.846	.3986	.5482	.0907	.3111
#1	2.026	2.059	2.039	2.018	2.010	1.973	2.073	2.058	.2477
#2	2.031	2.066	2.025	2.014	2.022	1.983	2.088	2.055	.2492
#3	2.025	2.059	2.030	2.017	2.029	1.989	2.096	2.058	.2484
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	<b>2.007</b>	<b>2.043</b>	<b>2.006</b>	<b>2.108</b>	<b>2.066</b>	<b>2.023</b>	<b>2.023</b>	<b>40.08</b>	<b>40.29</b>
Stddev	.010	.005	.003	.013	.006	.011	.005	.06	.09
%RSD	.4790	.2702	.1704	.6278	.3043	.5284	.2389	.1607	.2212
#1	1.996	2.047	2.008	2.122	2.073	2.035	2.026	40.00	40.19
#2	2.010	2.037	2.008	2.106	2.060	2.014	2.017	40.12	40.34
#3	2.015	2.044	2.002	2.095	2.065	2.019	2.025	40.10	40.34
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	<b>40.28</b>	<b>40.17</b>	<b>40.04</b>	<b>40.00</b>	<b>2.033</b>	<b>2.046</b>	<b>5.160</b>	<b>2.070</b>	<b>2.014</b>
Stddev	.11	.13	.09	.10	.004	.004	.015	.008	.013
%RSD	.2693	.3237	.2369	.2576	.1779	.1986	.2829	.3675	.6511
#1	40.20	40.02	39.95	39.90	2.036	2.050	5.172	2.079	2.027
#2	40.40	40.27	40.14	40.11	2.029	2.042	5.143	2.065	2.001
#3	40.24	40.21	40.02	40.00	2.033	2.045	5.163	2.066	2.016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: ccv Acquired: 4/17/2019 22:27:34 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.022	2.030	2.017	1.997	2.040	1.990	2.038
Stddev	.012	.008	.009	.013	.003	.004	.016
%RSD	.5701	.3785	.4684	.6694	.1572	.1790	.8006
#1	2.009	2.034	2.006	2.011	2.042	1.987	2.057
#2	2.024	2.021	2.021	1.998	2.036	1.994	2.032
#3	2.032	2.035	2.023	1.984	2.041	1.988	2.026

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	ln2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	133840.	30732.	3779.7	6832.6
Stddev	520.	94.	10.6	13.2
%RSD	.38883	.30737	.28175	.19390
#1	134340.	30841.	3768.5	6817.6
#2	133890.	30689.	3789.8	6842.7
#3	133300.	30667.	3780.6	6837.6

Sample Name: ccb Acquired: 4/17/2019 22:32:33 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.000	-0.000	-0.001	0.002	-0.003	0.001	0.001	-0.002	-0.004
Stddev	.0001	.0000	.0001	.0002	.0001	.0002	.0000	.0004	.0002
%RSD	488.8	124.3	98.52	86.88	30.17	293.5	22.61	265.0	57.01
#1	-0.002	0.001	-0.002	0.004	-0.004	0.000	0.001	0.003	-0.001
#2	-0.000	0.000	-0.001	0.002	-0.002	-0.001	0.001	-0.002	-0.004
#3	0.001	-0.000	0.000	0.000	-0.003	0.003	0.001	-0.006	-0.006

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	0.004	-0.001	-0.003	0.007	-0.008	-0.023	0.003	-0.026	-0.001
Stddev	.0001	.0001	.0004	.0011	.0004	.0026	.0016	.0063	.0009
%RSD	17.24	116.1	125.9	143.0	53.64	112.1	500.6	248.5	88.52
#1	0.003	0.000	-0.004	-0.003	-0.011	-0.042	-0.010	-0.094	-0.019
#2	0.004	-0.002	0.001	0.007	-0.003	-0.035	.0021	-0.015	-0.007
#3	0.004	-0.002	-0.007	0.018	-0.008	0.007	-0.001	0.032	-0.003

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	0.016	-0.013	-0.007	0.111	0.008	0.003	0.026	-0.003	0.001
Stddev	.0010	.0050	.0312	.0009	.0006	.0000	.0005	.0004	.0000
%RSD	62.68	383.9	4490.	8.326	76.21	15.83	18.35	143.1	27.86
#1	0.015	-0.043	-0.062	0.112	0.014	0.002	0.027	0.000	0.002
#2	0.007	-0.042	0.329	0.101	0.007	0.003	0.021	-0.008	0.001
#3	0.027	0.045	-0.288	0.120	0.002	0.003	0.031	-0.001	0.001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit  
Low Limit

Sample Name: ccb Acquired: 4/17/2019 22:32:33 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.002	0.036	0.002	-0.004	-0.003	0.010	0.003
Stddev	.0003	.0004	.0001	.0024	.0008	.0007	.0004
%RSD	122.0	11.48	45.15	592.1	311.3	66.05	110.8
#1	-0.001	0.041	0.001	-0.009	-0.011	0.018	-0.001
#2	0.003	0.034	0.003	0.022	0.006	0.006	0.007
#3	0.004	0.034	0.003	-0.026	-0.003	0.007	0.004

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	ln2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137440.	30807.	3870.0	7446.2
Stddev	2671.	251.	41.8	79.4
%RSD	1.9436	.81561	1.0797	1.0658
#1	139830.	30975.	3908.2	7514.8
#2	137930.	30927.	3876.3	7464.6
#3	134560.	30518.	3825.4	7359.3

Sample Name: JC86190-5 Acquired: 4/17/2019 22:37:49 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.887	0.011	-0.019	4.728	-0.035	****	0.425	-0.042
Stddev	.0004	.0000	.0001	.0010	.0003	----	.0001	.0002
%RSD	4736	3.387	5.733	2.181	9.653	----	.2888	4.961
#1	.0886	.0012	-0.018	.4716	-.0031	----	.0424	-0.044
#2	.0884	.0011	-0.020	.4731	-.0036	----	.0426	-0.040
#3	.0892	.0011	-0.020	.4736	-.0037	----	.0424	-0.041

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	F 1.059	0.029	1.176	0.057	F -0.047	0.018	F -0.0259	F -0.0697
Stddev	.003	.002	.003	.0012	.0004	.0011	.0015	.0005
%RSD	27.10	6.193	2230	21.80	7.825	58.24	5.704	74.16
#1	1.060	0.028	1.173	0.049	-0.043	0.008	-0.243	-0.691
#2	1.060	0.028	1.177	0.051	-0.046	0.018	-0.263	-0.699
#3	1.055	0.031	1.179	0.071	-0.051	0.029	-0.272	-0.700

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.011	0.037	0.031	0.130	0.044	0.006	0.005	0.005
Stddev	----	.5167	4.102	8.517	7.508	.7326	28.62	.9699
#1	0.011	0.037	0.031	0.130	0.044	0.006	0.005	0.005
#2	0.011	0.037	0.031	0.130	0.044	0.006	0.005	0.005
#3	0.011	0.037	0.031	0.130	0.044	0.006	0.005	0.005

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.1616	0.811	0.004	4.836	0.099	0.009	4.470	F -0.0618
Stddev	.0013	.0009	.0000	.0008	.0012	----	.008	.0004
%RSD	7.828	1.068	8.946	1.568	11.63	----	.1867	7.164
#1	.1601	.802	.004	.4828	.0086	----	4.476	-0.619
#2	.1624	.819	.004	.4843	.0103	----	4.473	-0.622
#3	.1622	.811	.003	.4837	.0109	----	4.460	-0.613

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Sample Name: JC86190-5 Acquired: 4/17/2019 22:37:49 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.0023</b>	<b>F -.2205</b>		
Stddev	.0003	.0018		
%RSD	14.31	.8259		
#1	.0022	-2197		
#2	.0020	-2226		
#3	.0027	-2192		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	118650.	32863.	3844.4	7442.2
Stddev	230.	334.	5.0	14.2
%RSD	.19348	1.0172	.12894	.19019
#1	118540.	33089.	3847.6	7447.9
#2	118490.	33021.	3838.7	7426.1
#3	118910.	32479.	3846.9	7452.6

Sample Name: JC86190-6 Acquired: 4/17/2019 22:42:59 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0003</b>	<b>.0000</b>	<b>-0.001</b>	<b>.0003</b>	<b>.0008</b>	<b>.0008</b>	<b>.0010</b>	<b>.0003</b>	<b>.0001</b>
Stddev	.0001	.0000	.0000	.0002	.0003	.0002	.0001	.0001	.0002
%RSD	30.36	632.8	30.48	71.14	40.84	30.07	6.786	29.35	257.8
#1	.0003	.0000	-0.001	.0001	.0010	.0009	.0010	.0004	.0001
#2	.0004	-0.000	-0.002	.0002	.0009	.0010	.0009	.0003	.0003
#3	.0002	-0.000	-0.001	.0006	.0004	.0005	.0009	.0003	-0.001
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0005</b>	<b>.0116</b>	<b>-0.004</b>	<b>.0007</b>	<b>-0.001</b>	<b>-0.0025</b>	<b>.0003</b>	<b>.0763</b>	<b>.0622</b>
Stddev	.0002	.0001	.0007	.0010	.0009	.0026	.0002	.0060	.0019
%RSD	34.20	.7939	173.5	149.6	695.1	105.3	59.43	7.879	3.133
#1	.0006	.0115	.0002	-0.003	-0.012	-0.048	.0003	.0702	.0604
#2	.0003	.0117	-0.003	.0006	.0002	.0003	.0004	.0764	.0618
#3	.0006	.0117	-0.011	.0016	.0006	-0.030	.0001	.0823	.0643
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0778</b>	<b>.0250</b>	<b>.0098</b>	<b>.0932</b>	<b>.0004</b>	<b>.0005</b>	<b>.2838</b>	<b>.0236</b>	<b>.0004</b>
Stddev	.0008	.0148	.0137	.0040	.0003	.0001	.0005	.0003	.0000
%RSD	1.051	59.26	140.5	4.242	60.85	11.76	.1929	1.149	6.344
#1	.0775	.0172	.0247	.0930	.0003	.0005	.2842	.0238	.0004
#2	.0788	.0422	-0.023	.0973	.0007	.0006	.2840	.0236	.0005
#3	.0772	.0158	.0070	.0894	.0003	.0004	.2832	.0233	.0004
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.0035</b>	<b>.0032</b>	<b>.0109</b>	<b>.0085</b>	<b>-0.006</b>	<b>.0001</b>	<b>.0249</b>		
Stddev	.0001	.0007	.0009	.0014	.0016	.0006	.0010		
%RSD	3.610	23.58	8.301	17.05	288.0	454.6	4.061		
#1	.0035	.0025	.0118	.0097	.0008	-0.000	.0247		
#2	.0037	.0031	.0108	.0089	-0.002	.0009	.0241		
#3	.0034	.0039	.0100	.0069	-0.023	-0.004	.0261		

Sample Name: JC86190-6 Acquired: 4/17/2019 22:42:59 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138950.	31357.	3864.5	7463.3
Stddev	354.	280.	7.8	8.1
%RSD	.25501	.89424	.20284	.10811
#1	139240.	31636.	3871.0	7471.7
#2	139050.	31075.	3866.6	7462.4
#3	138550.	31359.	3855.8	7455.7

Sample Name: JC86302-1 Acquired: 4/17/2019 22:48:11 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.4599</b>	<b>.0029</b>	<b>.0001</b>	<b>.0412</b>	<b>.3064</b>	<b>.0696</b>	<b>.6951</b>	<b>.1064</b>
Stddev	.0010	.0001	.0000	.0003	.0020	.0006	.0007	.0001
%RSD	2.200	2.749	68.57	.6752	6.390	.7952	.1066	.0778
#1	.4589	.0030	.0001	.0409	.3072	.0697	.6958	.1063
#2	.4598	.0029	.0000	.0414	.3078	.0690	.6951	.1065
#3	.4609	.0028	.0001	.0412	.3042	.0701	.6943	.1065
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.0006</b>	<b>.3103</b>	<b>.1801</b>	<b>.0191</b>	<b>.0047</b>	<b>.1209</b>	<b>-0.0023</b>	<b>-0.0022</b>
Stddev	.0002	.0008	.0008	.0028	.0001	.0023	.0012	.0012
%RSD	23.93	.2576	.4188	14.80	2.176	1.912	53.64	53.81
#1	-0.0008	.3106	.1809	.0160	.0046	.1224	-0.0033	-0.0033
#2	-0.0007	.3110	.1800	.0198	.0048	.1222	-0.0009	-0.0009
#3	-0.0005	.3094	.1794	.0215	.0047	.1183	-0.0028	-0.0024
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>97.63</b>	<b>3.366</b>	<b>59.13</b>	<b>20.42</b>	<b>14.21</b>	<b>.4355</b>	<b>.0134</b>	<b>.0005</b>
Stddev	.17	.011	.12	.04	.06	.0052	.0005	.0001
%RSD	.1744	.3270	.1984	.1993	.4400	1.188	4.091	30.34
#1	97.66	3.376	59.00	20.46	14.16	.4377	.0139	.0003
#2	97.44	3.354	59.22	20.38	14.20	.4391	.0128	.0006
#3	97.78	3.368	59.16	20.40	14.28	.4295	.0134	.0004
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.786</b>	<b>.0473</b>	<b>.0500</b>	<b>6.758</b>	<b>.0026</b>	<b>.0583</b>	<b>.1714</b>	<b>F -.0718</b>
Stddev	.018	.0005	.0002	.006	.0008	.0002	.0012	.0039
%RSD	.9779	1.115	.3014	.0888	29.25	.4125	.7232	5.369
#1	1.802	.0469	.0498	6.760	.0032	.0584	.1725	-.0762
#2	1.789	.0471	.0500	6.762	.0017	.0585	.1717	-.0693
#3	1.767	.0479	.0501	6.751	.0029	.0580	.1700	-.0698



Zoom In  
Zoom Out

Sample Name: JC86302-1 Acquired: 4/17/2019 22:48:11 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.0806</b>	<b>.6134</b>		
Stddev	.0007	.0042		
%RSD	.9270	.6820		
#1	.0800	.6168		
#2	.0804	.6087		
#3	.0815	.6146		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	145590.	33928.	4216.8	7023.1
Stddev	345.	84.	9.2	13.7
%RSD	.23727	.24723	.21804	.19572
#1	145430.	33831.	4207.6	7011.2
#2	145340.	33968.	4216.8	7020.0
#3	145980.	33984.	4226.0	7038.2

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Zoom In  
Zoom Out

Sample Name: JC86302-2 Acquired: 4/17/2019 22:53:17 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>4.381</b>	<b>.0047</b>	<b>-0.000</b>	<b>0.238</b>	<b>3.086</b>	<b>.0312</b>	<b>.3851</b>	<b>.0655</b>	<b>.0002</b>
Stddev	.0014	.0000	.0002	.0004	.0028	.0003	.0026	.0001	.0005
%RSD	.3187	.5223	1363.	1.825	.8967	.9001	.6621	.1582	286.4
#1	4.367	.0047	-0.003	0.234	3.054	.0309	.3822	.0656	.0004
#2	4.395	.0047	.0002	0.242	3.096	.0314	.3862	.0654	.0006
#3	4.382	.0046	-0.000	0.239	3.107	.0312	.3870	.0655	-0.004
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>4.515</b>	<b>.1551</b>	<b>.0322</b>	<b>.0007</b>	<b>.0877</b>	<b>.0001</b>	<b>-0.0011</b>	<b>197.1</b>	<b>8.171</b>
Stddev	.0037	.0002	.0015	.0020	.0010	.0017	.0022	.9	.031
%RSD	.8218	.1500	4.641	266.0	1.103	1717.	198.5	.4550	.3792
#1	4.472	.1553	.0317	.0016	.0875	.0018	.0015	196.8	8.141
#2	4.533	.1551	.0339	-0.015	.0868	.0002	-0.022	196.4	8.203
#3	4.539	.1549	.0310	.0022	.0887	-0.017	-0.026	198.1	8.169
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>171.9</b>	<b>14.45</b>	<b>10.69</b>	<b>1.023</b>	<b>0.262</b>	<b>-0.0003</b>	<b>1.708</b>	<b>.0289</b>	<b>.0924</b>
Stddev	1.7	.06	.02	.001	.0009	.0003	.011	.0003	.0003
%RSD	1.009	.4082	.1480	.0496	3.522	116.6	.6377	.9709	.2724
#1	170.5	14.39	10.68	1.023	.268	-0.001	1.710	.0286	.0921
#2	173.8	14.51	10.68	1.024	.252	-0.007	1.718	.0290	.0925
#3	171.3	14.46	10.71	1.023	.268	-0.001	1.697	.0292	.0926
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>1.315</b>	<b>.0008</b>	<b>.1164</b>	<b>.3203</b>	<b>-0.110</b>	<b>.1057</b>	<b>.4161</b>		
Stddev	.009	.0010	.0009	.0028	.0014	.0006	.0014		
%RSD	.6449	129.4	.7509	8860	12.84	6.111	.3321		
#1	1.306	-0.004	.1155	.3219	-0.127	.1051	.4167		
#2	1.320	.0015	.1166	.3219	-0.103	.1063	.4170		
#3	1.321	.0012	.1172	.3170	-0.102	.1058	.4145		

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Zoom In  
Zoom Out

Sample Name: JC86302-2 Acquired: 4/17/2019 22:53:17 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140980.	33076.	4097.4	7067.7
Stddev	697.	56.	6.0	5.0
%RSD	.49456	.16918	.14736	.07141
#1	141790.	33012.	4098.0	7062.0
#2	140570.	33097.	4091.1	7071.5
#3	140590.	33117.	4103.1	7069.7

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Zoom In  
Zoom Out

Sample Name: JC86302-3 Acquired: 4/17/2019 22:58:37 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>4.015</b>	<b>.0042</b>	<b>.0004</b>	<b>.0596</b>	<b>.2113</b>	<b>.0828</b>	<b>1.157</b>	<b>.1238</b>
Stddev	.0011	.0001	.0002	.0002	.0008	.0002	.004	.0006
%RSD	.2678	1.274	38.35	.2822	.3620	.2845	.3690	.4970
#1	4.004	.0042	.0004	.0598	.2115	.0826	1.160	.1232
#2	4.026	.0041	.0003	.0594	.2105	.0830	1.152	.1239
#3	4.014	.0042	.0006	.0597	.2120	.0827	1.159	.1244
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0001</b>	<b>.2566</b>	<b>.3400</b>	<b>.0428</b>	<b>.0022</b>	<b>.0680</b>	<b>-0.0045</b>	<b>-0.0025</b>
Stddev	.0004	.0006	.0016	.0006	.0003	.0015	.0012	.0017
%RSD	253.6	.2477	.4576	1.407	13.54	2.256	26.71	69.87
#1	-0.001	.2564	.3385	.0428	.0020	.0698	-0.031	-0.029
#2	.0005	.2561	.3399	.0422	.0020	.0670	-0.051	-0.039
#3	-0.000	.2573	.3416	.0434	.0025	.0673	-0.053	-0.006
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>98.43</b>	<b>11.24</b>	<b>118.0</b>	<b>27.55</b>	<b>12.20</b>	<b>2.123</b>	<b>.0494</b>	<b>.0030</b>
Stddev	.14	.00	.8	.09	.05	.004	.0007	.0003
%RSD	.1434	.0241	.6587	.3118	.4015	.1666	1.506	10.00
#1	98.28	11.24	118.2	27.50	12.16	2.121	.0497	.0031
#2	98.43	11.24	118.6	27.65	12.25	2.127	.0486	.0027
#3	98.56	11.24	117.1	27.52	12.19	2.120	.0500	.0032
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.411</b>	<b>.0386</b>	<b>.0807</b>	<b>4.694</b>	<b>.0012</b>	<b>.1086</b>	<b>.1601</b>	<b>F-.0527</b>
Stddev	.008	.0006	.0003	.009	.0016	.0002	.0038	.0041
%RSD	.5409	1.530	.3363	.1868	135.6	.1473	2.354	7.736
#1	1.410	.0385	.0806	4.702	.0031	.1087	.1564	-0.484
#2	1.404	.0380	.0810	4.685	-0.001	.1087	.1639	-0.564
#3	1.420	.0392	.0805	4.694	.0006	.1084	.1600	-0.534

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Sample Name: JC86302-3 Acquired: 4/17/2019 22:58:37 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>1.023</b>	<b>2.165</b>		
Stddev	.0005	.006		
%RSD	.4934	.2978		
#1	.1027	2.167		
#2	.1026	2.170		
#3	.1017	2.158		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	144400.	33477.	4126.5	7043.8
Stddev	402.	186.	6.1	9.5
%RSD	.27872	.55568	.14756	.13518
#1	144620.	33429.	4133.2	7054.6
#2	144630.	33320.	4124.8	7040.1
#3	143930.	33682.	4121.4	7036.7

Sample Name: JC86302-4 Acquired: 4/17/2019 23:03:43 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.381</b>	<b>.0064</b>	<b>.0008</b>	<b>.0698</b>	<b>.2420</b>	<b>.2416</b>	<b>F 8.223</b>	<b>.1449</b>
Stddev	.004	.0000	.0001	.0004	.0012	.0002	.033	.0009
%RSD	.2797	.1828	8.473	.5044	.4909	.0989	.4016	.6425
#1	1.376	.0064	.0008	.0695	.2417	.2419	8.247	.1439
#2	1.384	.0064	.0008	.0702	.2410	.2415	8.185	.1454
#3	1.382	.0064	.0007	.0698	.2433	.2415	8.235	.1455
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0012</b>	<b>.3506</b>	<b>.8189</b>	<b>.0561</b>	<b>.0029</b>	<b>.3603</b>	<b>-.0066</b>	<b>-.0013</b>
Stddev	.0005	.0004	.0047	.0003	.0014	.0017	.0035	.0021
%RSD	42.97	.1082	5.699	.5400	47.00	.4599	52.79	157.5
#1	.0017	.3507	.8141	.0559	.0027	.3584	-.0099	-.0037
#2	.0011	.3502	.8192	.0564	.0016	.3616	-.0070	-.0000
#3	.0007	.3509	.8234	.0560	.0044	.3609	-.0029	-.0002
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>133.4</b>	<b>84.28</b>	<b>185.9</b>	<b>35.10</b>	<b>11.33</b>	<b>6.777</b>	<b>.0362</b>	<b>.0085</b>
Stddev	.1	1.34	.6	.09	.03	.016	.0009	.0002
%RSD	.0997	1.589	.3190	.2452	.2369	.2406	2.446	2.921
#1	133.4	85.32	186.6	35.14	11.30	6.762	.0367	.0082
#2	133.3	82.77	185.5	35.00	11.33	6.795	.0368	.0085
#3	133.6	84.75	185.7	35.16	11.35	6.775	.0352	.0087
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.970</b>	<b>.0660</b>	<b>.4822</b>	<b>5.059</b>	<b>.0015</b>	<b>.0934</b>	<b>4.015</b>	<b>F -.0334</b>
Stddev	.006	.0006	.0016	.007	.0012	.0003	.041	.0028
%RSD	.2882	.9297	.3383	.1370	78.79	.2725	1.013	8.348
#1	1.964	.0655	.4808	5.052	.0028	.0932	3.976	-.0347
#2	1.976	.0667	.4840	5.057	.0004	.0933	4.057	-.0302
#3	1.970	.0658	.4818	5.066	.0015	.0937	4.012	-.0353

Sample Name: JC86302-4 Acquired: 4/17/2019 23:03:43 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>1.009</b>	<b>2.633</b>		
Stddev	.0010	.016		
%RSD	.9480	.6146		
#1	.0998	2.618		
#2	.1015	2.650		
#3	.1013	2.631		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139200.	32530.	3956.6	6905.9
Stddev	378.	177.	19.1	36.5
%RSD	.27168	.54431	.48318	.52876
#1	139280.	32383.	3977.7	6945.6
#2	139530.	32727.	3951.7	6895.9
#3	138790.	32480.	3940.4	6874.4

Sample Name: JC86330-1 Acquired: 4/17/2019 23:09:06 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.6311</b>	<b>.0109</b>	<b>.0001</b>	<b>.0538</b>	<b>.0659</b>	<b>.0612</b>	<b>3.154</b>	<b>.0527</b>
Stddev	.0006	.0000	.0001	.0007	.0000	.0004	.007	.0004
%RSD	.1008	.4555	169.0	1.286	.0744	.6062	.2301	.7122
#1	.6304	.0109	.0001	.0539	.0660	.0608	3.160	.0531
#2	.6312	.0108	.0002	.0530	.0659	.0615	3.146	.0526
#3	.6317	.0109	-.0000	.0544	.0660	.0614	3.156	.0523
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-.0011</b>	<b>.2310</b>	<b>.4519</b>	<b>.0305</b>	<b>.0027</b>	<b>-.1008</b>	<b>-.0084</b>	<b>-.0055</b>
Stddev	.0005	.0003	.0007	.0007	.0012	.0008	.0005	.0012
%RSD	45.77	.1483	.1614	2.412	45.59	.7994	5.824	21.71
#1	-.0016	.2314	.4523	.0299	.0013	.1004	-.0097	-.0061
#2	-.0008	.2308	.4511	.0302	.0037	.1002	-.0097	-.0063
#3	-.0008	.2307	.4524	.0313	.0029	.1017	-.0087	-.0041
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>150.4</b>	<b>188.3</b>	<b>159.1</b>	<b>146.4</b>	<b>44.70</b>	<b>1.666</b>	<b>.0041</b>	<b>.0025</b>
Stddev	.3	2.7	1.7	.1	.04	.002	.0007	.0006
%RSD	.2071	1.431	1.071	.0776	.0972	.0998	16.04	25.14
#1	150.1	188.6	157.2	146.4	44.75	1.667	.0034	.0020
#2	150.6	190.9	160.4	146.5	44.67	1.665	.0046	.0022
#3	150.6	185.5	159.6	146.3	44.68	1.664	.0044	.0032
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.629</b>	<b>.0675</b>	<b>.1400</b>	<b>F 11.56</b>	<b>.0016</b>	<b>.0375</b>	<b>.5400</b>	<b>F -.1208</b>
Stddev	.009	.0003	.0002	.04	.0015	.0002	.0044	.0018
%RSD	.5244	.4651	.1547	.3589	90.72	.4121	.8231	1.529
#1	1.634	.0672	.1402	11.55	.0003	.0373	.5372	-.1229
#2	1.619	.0678	.1398	11.60	.0032	.0376	.5451	-.1198
#3	1.634	.0677	.1401	11.52	.0014	.0375	.5376	-.1196

Zoom In  
Zoom Out

Sample Name: JC86330-1 Acquired: 4/17/2019 23:09:06 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.2017</b>	<b>2.780</b>		
Stddev	.0010	.011		
%RSD	.5146	.4022		
#1	.2006	2.791		
#2	.2018	2.769		
#3	.2027	2.779		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	158170.	37461.	4450.1	6465.4
Stddev	494.	117.	7.5	11.5
%RSD	.31233	.31246	.16815	.17835
#1	158050.	37357.	4442.9	6455.1
#2	157750.	37438.	4457.8	6477.9
#3	158720.	37588.	4449.5	6463.4

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Zoom In  
Zoom Out

Sample Name: JC86330-2 Acquired: 4/17/2019 23:14:41 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.3678</b>	<b>.0055</b>	<b>.0002</b>	<b>.1424</b>	<b>.2570</b>	<b>.1410</b>	<b>2.388</b>	<b>.0954</b>	<b>-.0005</b>
Stddev	.0006	.0001	.0001	.0003	.0028	.0004	.017	.0003	.0003
%RSD	.1578	1.326	67.37	.2177	1.103	.2822	.6953	.2801	64.07
#1	.3673	.0054	.0000	.1422	.2559	.1406	2.387	.0951	-.0001
#2	.3676	.0055	.0003	.1423	.2549	.1409	2.371	.0956	-.0006
#3	.3684	.0055	.0003	.1428	.2602	.1414	2.405	.0954	-.0008
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.3362</b>	<b>.2416</b>	<b>.0714</b>	<b>.0010</b>	<b>.1597</b>	<b>-.0072</b>	<b>-.0021</b>	<b>135.8</b>	<b>40.29</b>
Stddev	.0024	.0005	.0018	.0013	.0006	.0003	.0016	.2	.01
%RSD	.6993	.1921	2.580	127.2	.3629	4.133	73.48	.1416	.0262
#1	.3347	.2412	.0714	-.0001	.1593	-.0074	-.0017	135.6	40.30
#2	.3350	.2415	.0733	.0024	.1603	-.0069	-.0039	135.8	40.30
#3	.3389	.2421	.0696	.0007	.1594	-.0075	-.0008	136.0	40.28
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>304.1</b>	<b>8.475</b>	<b>8.574</b>	<b>2.295</b>	<b>.0204</b>	<b>.0082</b>	<b>2.108</b>	<b>.0398</b>	<b>.2822</b>
Stddev	2.1	.029	.037	.001	.0013	.0004	.010	.0005	.0007
%RSD	.6825	.3357	.4357	.0429	6.420	4.409	.4699	1.197	.2579
#1	303.5	8.462	8.531	2.294	.0211	.0084	2.117	.0403	.2814
#2	302.4	8.508	8.590	2.296	.0211	.0085	2.110	.0395	.2825
#3	306.5	8.457	8.601	2.296	.0189	.0078	2.098	.0395	.2827
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>2.224</b>	<b>.0031</b>	<b>.1007</b>	<b>1.274</b>	<b>-.0012</b>	<b>.0652</b>	<b>3.150</b>		
Stddev	.008	.0005	.0006	.006	.0021	.0010	.017		
%RSD	.3395	16.19	5.826	4.601	174.6	1.463	5.429		
#1	2.220	.0037	.1002	1.272	-.0033	.0651	3.145		
#2	2.219	.0027	.1005	1.270	.0010	.0644	3.136		
#3	2.233	.0030	.1014	1.281	-.0014	.0663	3.169		

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Zoom In  
Zoom Out

Sample Name: JC86330-2 Acquired: 4/17/2019 23:14:41 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136350.	31890.	3911.1	7164.8
Stddev	958.	107.	6.5	7.2
%RSD	.70244	.33626	.16741	.10014
#1	136630.	31789.	3905.5	7160.7
#2	137130.	31878.	3909.5	7160.7
#3	135280.	32002.	3918.3	7173.1

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Zoom In  
Zoom Out

Sample Name: JC86330-3 Acquired: 4/17/2019 23:20:00 Type: Unk  
Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.2043</b>	<b>.0021</b>	<b>-.0001</b>	<b>.0206</b>	<b>.1059</b>	<b>.0802</b>	<b>.3659</b>	<b>.0736</b>
Stddev	.0000	.0000	.0002	.0001	.0002	.0003	.0011	.0001
%RSD	.0118	1.467	108.3	.2504	.2318	.3183	.2945	.0739
#1	.2044	.0022	-.0002	.0207	.1057	.0805	.3651	.0736
#2	.2043	.0021	-.0003	.0207	.1062	.0800	.3671	.0735
#3	.2043	.0021	.0000	.0206	.1058	.0801	.3654	.0736
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0001</b>	<b>.1246</b>	<b>.1678</b>	<b>.0137</b>	<b>.0023</b>	<b>.0843</b>	<b>-.0042</b>	<b>-.0015</b>
Stddev	.0001	.0004	.0000	.0020	.0013	.0005	.0007	.0010
%RSD	65.69	.3205	.0248	14.57	56.07	.5867	15.75	65.60
#1	.0002	.1243	.1678	.0124	.0033	.0838	-.0048	-.0023
#2	.0001	.1250	.1678	.0160	.0009	.0841	-.0035	-.0018
#3	.0000	.1244	.1678	.0128	.0026	.0848	-.0043	-.0004
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>85.49</b>	<b>35.91</b>	<b>61.10</b>	<b>23.76</b>	<b>7.649</b>	<b>2.420</b>	<b>.0073</b>	<b>.0013</b>
Stddev	.10	.03	.19	.04	.012	.003	.0006	.0001
%RSD	.1202	.0940	.3029	.1829	.1623	.1090	8.080	6.353
#1	85.38	35.87	61.11	23.81	7.646	2.417	.0066	.0013
#2	85.57	35.92	60.91	23.75	7.638	2.422	.0076	.0013
#3	85.53	35.93	61.28	23.72	7.663	2.422	.0076	.0012
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.731</b>	<b>.0287</b>	<b>.0348</b>	<b>2.425</b>	<b>.0012</b>	<b>.0587</b>	<b>.6301</b>	<b>F -.0256</b>
Stddev	.007	.0005	.0000	.005	.0010	.0002	.0030	.0020
%RSD	4.130	1.664	.0777	.2018	78.93	.3315	.4811	7.820
#1	1.726	.0282	.0348	2.422	.0003	.0589	.6270	-.0250
#2	1.727	.0291	.0349	2.431	.0023	.0586	.6331	-.0240
#3	1.739	.0289	.0348	2.422	.0011	.0586	.6301	-.0279

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Sample Name: JC86330-3 Acquired: 4/17/2019 23:20:00 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.0847</b>	<b>.5266</b>		
Stddev	.0012	.0016		
%RSD	1.427	.2961		
#1	.0835	.5278		
#2	.0847	.5270		
#3	.0860	.5248		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140880.	32677.	4042.6	6989.7
Stddev	355.	65.	2.8	1.2
%RSD	.25177	.19991	.06962	.01784
#1	141050.	32695.	4045.6	6990.6
#2	140470.	32731.	4042.2	6988.3
#3	141110.	32604.	4040.0	6990.2

Sample Name: JC86330-4 Acquired: 4/17/2019 23:25:06 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.9825</b>	<b>.0133</b>	<b>-.0001</b>	<b>.1105</b>	<b>.2206</b>	<b>.1789</b>	<b>4.277</b>	<b>.1987</b>
Stddev	.0029	.0001	.0001	.0001	.0004	.0008	.022	.0003
%RSD	.2933	.9190	166.5	.0715	.1834	.4286	.5157	.1740
#1	.9838	.0132	-.0002	.1104	.2210	.1784	4.280	.1983
#2	.9844	.0133	-.0001	.1105	.2205	.1798	4.298	.1986
#3	.9791	.0134	.0001	.1105	.2202	.1785	4.254	.1990
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0002</b>	<b>.2882</b>	<b>.5930</b>	<b>.0142</b>	<b>.0105</b>	<b>.1564</b>	<b>-.0059</b>	<b>-.0023</b>
Stddev	.0004	.0002	.0003	.0015	.0023	.0002	.0035	.0009
%RSD	174.8	.0565	.0460	10.46	22.11	.1349	59.67	39.96
#1	-.0002	.2882	.5931	.0153	.0078	.1563	-.0066	-.0012
#2	.0004	.2884	.5932	.0125	.0121	.1564	-.0021	-.0028
#3	.0005	.2880	.5927	.0149	.0117	.1567	-.0090	-.0028
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>214.2</b>	<b>22.12</b>	<b>F 208.9</b>	<b>72.31</b>	<b>64.80</b>	<b>7.925</b>	<b>.0120</b>	<b>-.0005</b>
Stddev	3.3	.05	1.2	.17	.14	.029	.0006	.0005
%RSD	1.560	.2228	.5508	.2288	.2096	.3687	4.840	94.24
#1	212.9	22.13	207.6	72.31	64.85	7.941	.0123	.0001
#2	211.7	22.16	209.3	72.48	64.91	7.943	.0113	.0004
#3	218.0	22.06	209.8	72.15	64.65	7.891	.0124	.0010
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.639</b>	<b>.0738</b>	<b>.1239</b>	<b>F 14.94</b>	<b>-.0009</b>	<b>.0262</b>	<b>.2887</b>	<b>F -.1834</b>
Stddev	.003	.0012	.0004	.05	.0009	.0002	.0041	.0089
%RSD	.1599	1.597	.3412	.3352	93.68	.6006	1.437	4.856
#1	1.642	.0749	.1241	14.88	-.0011	.0263	.2884	-.1937
#2	1.638	.0726	.1242	14.98	-.0017	.0263	.2930	-.1780
#3	1.637	.0740	.1234	14.95	.0000	.0260	.2847	-.1786

Sample Name: JC86330-4 Acquired: 4/17/2019 23:25:06 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.3650</b>	<b>2.113</b>		
Stddev	.0013	.008		
%RSD	.3686	.3661		
#1	.3665	2.112		
#2	.3647	2.122		
#3	.3639	2.106		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138350.	32758.	3986.8	6823.2
Stddev	237.	29.	7.0	2.6
%RSD	.17107	.08945	.17750	.03819
#1	138610.	32790.	3959.4	6820.4
#2	138140.	32733.	3967.6	6823.7
#3	138300.	32751.	3973.4	6825.5

Sample Name: ccv Acquired: 4/17/2019 23:30:42 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: : :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.045</b>	<b>2.074</b>	<b>2.047</b>	<b>2.032</b>	<b>2.051</b>	<b>2.003</b>	<b>2.114</b>	<b>2.074</b>	<b>.2513</b>
Stddev	.006	.007	.004	.005	.009	.011	.009	.004	.0015
%RSD	.3057	.3342	.2137	.2255	.4173	.5477	.4008	.2029	.6139
#1	2.052	2.082	2.043	2.028	2.043	1.992	2.106	2.069	.2500
#2	2.041	2.070	2.045	2.031	2.048	2.003	2.113	2.074	.2510
#3	2.040	2.071	2.052	2.037	2.060	2.014	2.123	2.078	.2530
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	<b>2.032</b>	<b>2.066</b>	<b>2.021</b>	<b>2.122</b>	<b>2.085</b>	<b>2.030</b>	<b>2.035</b>	<b>40.30</b>	<b>40.49</b>
Stddev	.007	.007	.005	.007	.004	.008	.006	.06	.11
%RSD	.3569	.3478	.2310	.3255	.1759	.4068	.3068	.1407	.2630
#1	2.025	2.066	2.017	2.115	2.083	2.021	2.029	40.36	40.61
#2	2.032	2.059	2.020	2.129	2.083	2.037	2.034	40.29	40.47
#3	2.039	2.073	2.026	2.123	2.089	2.033	2.042	40.25	40.40
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	<b>40.52</b>	<b>40.43</b>	<b>40.38</b>	<b>40.24</b>	<b>2.044</b>	<b>2.066</b>	<b>5.183</b>	<b>2.086</b>	<b>2.024</b>
Stddev	.21	.20	.19	.17	.007	.005	.013	.005	.002
%RSD	.5118	.4937	.4730	.4158	.3255	.2479	.2486	.2606	.0958
#1	40.75	40.64	40.57	40.41	2.041	2.061	5.168	2.083	2.023
#2	40.47	40.40	40.38	40.21	2.040	2.067	5.186	2.084	2.026
#3	40.34	40.24	40.19	40.08	2.052	2.071	5.194	2.093	2.022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

132  
13

Sample Name: ccv Acquired: 4/17/2019 23:30:42 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.047	2.048	2.043	1.997	2.055	1.996	2.053
Stddev	.006	.006	.008	.006	.006	.003	.011
%RSD	.3006	.2905	.4136	.3110	.3138	.1442	.5111

#1	2.041	2.043	2.034	1.990	2.047	1.999	2.041
#2	2.047	2.048	2.043	1.998	2.057	1.994	2.061
#3	2.053	2.054	2.051	2.003	2.060	1.995	2.057

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	132000.	30697.	3729.9	6750.2
Stddev	439.	221.	10.0	8.6
%RSD	.33231	.71977	.26699	.12813

#1	132310.	30543.	3732.8	6754.4
#2	132190.	30598.	3738.0	6755.9
#3	131500.	30950.	3718.8	6740.2

Sample Name: ccb Acquired: 4/17/2019 23:35:42 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0000	.0002	.0002	.0000	.0001	.0000	.0003
Stddev	.0001	.0000	.0001	.0001	.0001	.0002	.0000	.0001	.0002
%RSD	89.10	47.06	164.3	29.72	34.44	6683.	84.46	8677.	68.00

#1	-.0000	.0001	-.0001	.0002	-.0002	.0002	.0001	.0000	-.0001
#2	.0002	.0001	-.0001	.0002	-.0003	-.0002	.0000	-.0002	-.0003
#3	.0002	.0000	.0000	.0003	-.0001	-.0000	.0000	.0001	-.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	.0005	.0001	.0000	.0007	.0008	.0024	.0004	.0038	.0020
Stddev	.0001	.0001	.0016	.0004	.0008	.0027	.0007	.0025	.0017
%RSD	11.67	199.2	3499.	54.95	99.12	114.8	170.7	66.50	87.45

#1	.0005	.0000	.0003	.0011	.0018	-.0035	.0012	-.0025	-.0030
#2	.0004	.0002	.0014	.0003	.0005	-.0044	-.0001	-.0067	-.0029
#3	.0005	-.0000	-.0018	.0007	.0003	.0007	.0001	-.0021	.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	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019	.0135	.0012	.0081	.0002	.0001	.0010	.0003	.0001
Stddev	.0010	.0150	.0137	.0035	.0007	.0001	.0003	.0006	.0000
%RSD	52.39	111.0	1129.	42.36	391.3	99.63	25.59	914.2	5.324

#1	.0029	.0302	.0098	.0067	.0006	.0000	.0013	.0007	.0001
#2	.0009	.0090	.0084	.0121	-.0004	.0003	.0008	-.0003	.0001
#3	.0019	.0013	-.0145	.0057	-.0007	.0001	.0010	-.0006	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit  
Low Limit

Sample Name: ccb Acquired: 4/17/2019 23:35:42 Type: QC  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0000	.0010	.0001	.0006	-.0002	-.0004	-.0007
Stddev	.0000	.0006	.0002	.0012	.0008	.0008	.0010
%RSD	153.8	56.63	124.1	206.8	358.2	214.9	139.8

#1	.0000	.0008	.0001	.0000	-.0010	.0002	.0003
#2	-.0000	.0017	.0003	-.0003	-.0002	-.0014	-.0016
#3	-.0000	.0006	.0000	.0020	.0005	-.0000	-.0008

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	137080.	30883.	3852.8	7403.7
Stddev	236.	200.	3.5	9.2
%RSD	.17215	.64831	.09023	.12368

#1	137010.	30824.	3855.4	7403.0
#2	136880.	31106.	3854.2	7413.2
#3	137340.	30720.	3848.9	7394.9

Sample Name: JC86337-1 Acquired: 4/17/2019 23:40:58 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6897	.0059	.0161	.0502	.1722	1.101	2.423	.2067	.0029
Stddev	.0014	.0000	.0002	.0008	.0007	.003	.013	.0035	.0004
%RSD	.2026	.2480	1.118	1.593	4.307	.2338	.5295	1.697	14.85

#1	.6886	.0059	.0161	.0497	.1714	1.098	2.431	.2051	.0034
#2	.6892	.0059	.0163	.0511	.1729	1.100	2.429	.2108	.0027
#3	.6913	.0059	.0160	.0497	.1723	1.103	2.408	.2043	.0026

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1779	2.944	.3103	.0032	2.807	.0012	.0229	54.39	27.56
Stddev	.0004	.042	.0051	.0008	.037	.0014	.0005	.08	.04
%RSD	.2412	1.436	1.639	24.96	1.327	113.2	2.296	.1393	.1297

#1	.1774	2.927	.3109	.0034	2.792	.0014	.0235	54.30	27.53
#2	.1780	2.992	.3150	.0039	2.849	.0024	.0226	54.42	27.55
#3	.1782	2.912	.3049	.0023	2.779	-.0003	.0226	54.44	27.60

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	163.9	14.24	6.433	1.128	.0409	.0168	1.794	.1380	.1990
Stddev	.8	.03	.026	.005	.0005	.0002	.022	.0013	.0004
%RSD	.4790	.2359	.4022	.4472	1.310	1.278	1.243	.9071	.1788

#1	164.8	14.26	6.423	1.126	.0404	.0167	1.782	.1376	.1993
#2	163.6	14.20	6.414	1.124	.0409	.0171	1.820	.1394	.1987
#3	163.3	14.25	6.463	1.134	.0415	.0167	1.781	.1369	.1991

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.687	.0054	.0163	3.971	-.0141	.0711	3.320
Stddev	.001	.0012	.0003	.059	.0018	.0003	.049
%RSD	.0392	22.88	1.603	1.492	13.02	.4077	1.463

#1	1.687	.0044	.0165	3.949	-.0135	.0708	3.300
#2	1.687	.0050	.0162	4.038	-.0162	.0713	3.376
#3	1.686	.0067	.0160	3.925	-.0127	.0713	3.285

Sample Name: JC86337-1 Acquired: 4/17/2019 23:40:58 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139540.	32309.	3886.4	7084.5
Stddev	71.	78.	49.5	83.1
%RSD	.05100	.24219	1.2734	1.1730
#1	139590.	32221.	3904.2	7122.2
#2	139460.	32368.	3830.5	6989.2
#3	139560.	32340.	3924.5	7142.1

Sample Name: JC86337-2 Acquired: 4/17/2019 23:46:17 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2665</b>	<b>.0042</b>	<b>.0010</b>	<b>0571</b>	<b>1218</b>	<b>0807</b>	<b>1.930</b>	<b>.0793</b>	<b>.0008</b>
Stddev	.0004	.0000	.0001	.0003	.0005	.0004	.004	.0001	.0007
%RSD	.1589	.8556	9.378	.4697	.4420	.4723	.2092	.0998	86.12
#1	.2664	.0042	.0010	.0574	.1223	.0802	1.931	.0793	.0001
#2	.2670	.0042	.0011	.0569	.1220	.0809	1.925	.0793	.0014
#3	.2662	.0042	.0009	.0569	.1212	.0809	1.932	.0792	.0009
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1269</b>	<b>.4493</b>	<b>.0401</b>	<b>.0020</b>	<b>2446</b>	<b>-.0017</b>	<b>-.0002</b>	<b>46.98</b>	<b>3.455</b>
Stddev	.0002	.0012	.0007	.0007	.0012	.0020	.0006	.03	.011
%RSD	.1833	.2590	1.702	35.93	.4813	114.4	270.5	.0617	.3041
#1	.1271	.4480	.0405	.0028	.2454	-.0035	-.0004	46.99	3.463
#2	.1269	.4494	.0394	.0014	.2433	-.0021	.0005	47.00	3.458
#3	.1267	.4503	.0406	.0018	.2453	.0004	-.0007	46.94	3.443
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>124.7</b>	<b>10.80</b>	<b>9.322</b>	<b>.3120</b>	<b>.0516</b>	<b>.0019</b>	<b>1.517</b>	<b>.0295</b>	<b>.0380</b>
Stddev	1.9	.04	.025	.0024	.0002	.0002	.002	.0003	.0001
%RSD	1.557	.3638	.2623	.7604	.3113	8.641	.1002	1.122	.3326
#1	122.5	10.83	9.329	.3117	.0518	.0021	1.518	.0293	.0379
#2	126.0	10.80	9.342	.3146	.0516	.0018	1.516	.0293	.0381
#3	125.6	10.75	9.295	.3098	.0515	.0019	1.515	.0299	.0379
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>1.385</b>	<b>.0010</b>	<b>.0600</b>	<b>.3188</b>	<b>-.0139</b>	<b>.0669</b>	<b>2.171</b>		
Stddev	.003	.0016	.0002	.0008	.0010	.0004	.006		
%RSD	.2409	159.9	.3540	2.380	7.125	5.369	.2785		
#1	1.386	.0024	.0597	.3185	-.0129	.0668	2.164		
#2	1.381	.0013	.0601	.3197	-.0139	.0666	2.176		
#3	1.388	-.0007	.0601	.3182	-.0149	.0673	2.172		

Sample Name: JC86337-2 Acquired: 4/17/2019 23:46:17 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137050.	31647.	3902.1	7159.0
Stddev	525.	156.	7.1	5.1
%RSD	.38334	.49444	.18255	.07061
#1	136790.	31526.	3905.5	7158.6
#2	137650.	31592.	3906.9	7164.2
#3	136700.	31824.	3893.9	7154.1

Sample Name: JC86337-3 Acquired: 4/17/2019 23:51:24 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2588</b>	<b>.0028</b>	<b>.0001</b>	<b>.0323</b>	<b>.0873</b>	<b>.0447</b>	<b>1.012</b>	<b>.0828</b>	<b>.0003</b>
Stddev	.0004	.0000	.0000	.0007	.0008	.0003	.005	.0006	.0001
%RSD	.1398	1.197	9.495	2.021	8.771	.7698	.5003	.7385	37.18
#1	.2584	.0027	.0001	.0331	.0868	.0444	1.007	.0835	.0002
#2	.2589	.0028	.0001	.0319	.0869	.0447	1.011	.0823	.0003
#3	.2591	.0028	.0001	.0320	.0882	.0451	1.017	.0826	.0005
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0926</b>	<b>.2610</b>	<b>.0243</b>	<b>-.0010</b>	<b>0569</b>	<b>-.0014</b>	<b>-.0014</b>	<b>86.80</b>	<b>4.294</b>
Stddev	.0007	.0020	.0020	.0007	.0012	.0016	.0010	.15	.009
%RSD	.7415	.7803	8.120	73.98	2.174	115.6	72.46	.1744	.2086
#1	.0921	.2633	.0241	-.0017	.0573	-.0029	-.0026	86.64	4.286
#2	.0923	.2597	.0224	-.0011	.0579	-.0014	-.0007	86.81	4.292
#3	.0934	.2599	.0263	-.0002	.0555	.0002	-.0009	86.94	4.304
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>85.46</b>	<b>11.09</b>	<b>7.213</b>	<b>.2461</b>	<b>.0188</b>	<b>.0037</b>	<b>2.186</b>	<b>.0226</b>	<b>.0587</b>
Stddev	.17	.01	.033	.0059	.0006	.0003	.027	.0003	.0001
%RSD	.1977	.1163	.4528	2.384	2.919	7.806	1.232	1.219	.2061
#1	85.31	11.09	7.200	.2507	.0193	.0037	2.217	.0225	.0586
#2	85.44	11.08	7.189	.2395	.0182	.0039	2.172	.0229	.0586
#3	85.64	11.10	7.250	.2481	.0190	.0034	2.170	.0224	.0588
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.7752</b>	<b>-.0001</b>	<b>.0786</b>	<b>0969</b>	<b>-.0132</b>	<b>1236</b>	<b>1.041</b>		
Stddev	.0034	.0005	.0005	.0008	.0020	.0004	.008		
%RSD	.4391	557.5	.5890	.7963	15.20	.3436	.7668		
#1	.7723	.0003	.0785	.0972	-.0148	.1231	1.050		
#2	.7743	.0001	.0782	.0960	-.0109	.1239	1.035		
#3	.7790	-.0006	.0791	.0975	-.0137	.1238	1.037		

Sample Name: JC86337-3 Acquired: 4/17/2019 23:51:24 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	142770.	33199.	4052.0	7021.5
Stddev	607.	14.	39.3	62.5
%RSD	.42551	.04153	.97101	.88956
#1	143230.	33184.	4006.7	6949.4
#2	142990.	33212.	4071.8	7056.1
#3	142080.	33199.	4077.5	7059.0

Sample Name: JC86337-4 Acquired: 4/17/2019 23:56:30 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.044</b>	<b>.0027</b>	<b>.0070</b>	<b>.0335</b>	<b>.1265</b>	<b>.1662</b>	<b>1.564</b>	<b>.1143</b>	<b>.0021</b>
Stddev	.001	.0000	.0001	.0005	.0008	.0004	.004	.0007	.0001
%RSD	.0524	.6978	1.405	1.470	.6392	.2235	.2399	.6007	2.980
#1	1.044	.0027	.0070	.0331	.1270	.1664	1.568	.1148	.0022
#2	1.043	.0027	.0068	.0334	.1270	.1663	1.564	.1135	.0021
#3	1.044	.0027	.0070	.0341	.1256	.1657	1.560	.1147	.0021
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1183</b>	<b>.9617</b>	<b>.0390</b>	<b>.0030</b>	<b>.9276</b>	<b>-.0005</b>	<b>.0112</b>	<b>54.10</b>	<b>F 378.1</b>
Stddev	.0006	.0037	.0016	.0009	.0060	.0017	.0011	.11	2.8
%RSD	.4745	.3855	4.195	29.38	.6458	328.5	9.798	2059	.7404
#1	.1186	.9649	.0388	.0028	.9291	-.0023	.0099	54.22	375.1
#2	.1186	.9576	.0376	.0022	.9210	-.0004	.0118	54.00	380.5
#3	.1176	.9627	.0408	.0040	.9327	.0012	.0118	54.09	378.8
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>159.0</b>	<b>31.26</b>	<b>11.49</b>	<b>1.327</b>	<b>.0733</b>	<b>.0115</b>	<b>3.076</b>	<b>.0428</b>	<b>2.023</b>
Stddev	1.3	.11	.00	.008	.0004	.0001	.018	.0005	.008
%RSD	.8223	.3377	.0365	.6128	.4972	.5361	.5703	1.228	.3738
#1	160.5	31.38	11.49	1.336	.0729	.0114	3.096	.0427	2.017
#2	158.3	31.17	11.49	1.321	.0732	.0115	3.067	.0433	2.022
#3	158.2	31.22	11.49	1.323	.0736	.0115	3.065	.0423	2.032
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>2.085</b>	<b>.0010</b>	<b>.0820</b>	<b>15.81</b>	<b>-.0087</b>	<b>.0592</b>	<b>1.769</b>		
Stddev	.003	.0005	.0003	.10	.0013	.0006	.014		
%RSD	.1574	54.82	3.851	6125	14.98	.9396	.7938		
#1	2.089	.0015	.0822	15.90	-.0079	.0599	1.781		
#2	2.086	.0004	.0820	15.71	-.0080	.0590	1.754		
#3	2.082	.0010	.0816	15.81	-.0102	.0588	1.773		

Sample Name: JC86337-4 Acquired: 4/17/2019 23:56:30 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>130840.</b>	<b>30890.</b>	<b>3697.1</b>	<b>6551.9</b>
Stddev	658.	151.	13.7	31.7
%RSD	.50329	.48963	.37108	.48315
#1	130260.	30717.	3683.7	6524.6
#2	130700.	30992.	3711.1	6586.6
#3	131550.	30962.	3696.4	6544.4

Sample Name: JC86337-5 Acquired: 4/18/2019 0:01:57 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1830</b>	<b>.0041</b>	<b>.0004</b>	<b>.0422</b>	<b>.1263</b>	<b>.0619</b>	<b>1.763</b>	<b>.0678</b>	<b>.0016</b>
Stddev	.0002	.0000	.0002	.0002	.0009	.0002	.002	.0001	.0005
%RSD	.1188	.8577	45.06	.4411	.7181	.3804	.1014	.1401	31.55
#1	.1830	.0041	.0004	.0421	.1270	.0619	1.762	.0679	.0014
#2	.1829	.0041	.0002	.0420	.1267	.0621	1.765	.0678	.0022
#3	.1833	.0041	.0005	.0424	.1253	.0616	1.761	.0677	.0013
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1552</b>	<b>.2640</b>	<b>.0468</b>	<b>.0011</b>	<b>.0851</b>	<b>-.0048</b>	<b>-.0011</b>	<b>58.72</b>	<b>1.934</b>
Stddev	.0005	.0006	.0010	.0008	.0004	.0022	.0005	.10	.004
%RSD	.2912	.2264	2.143	75.86	.4711	46.43	48.69	.1664	.2320
#1	.1556	.2646	.0460	.0002	.0852	-.0074	-.0007	58.80	1.938
#2	.1552	.2641	.0465	.0012	.0847	-.0037	-.0017	58.75	1.936
#3	.1547	.2634	.0479	.0019	.0854	-.0034	-.0008	58.61	1.929
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>140.0</b>	<b>9.094</b>	<b>6.770</b>	<b>.4728</b>	<b>.0222</b>	<b>.0042</b>	<b>2.013</b>	<b>.0272</b>	<b>.0192</b>
Stddev	1.9	.029	.006	.0021	.0005	.0001	.002	.0013	.0001
%RSD	1.368	.3219	.0851	.4482	2.285	1.645	.0780	4.840	.2771
#1	139.5	9.100	6.766	.4708	.0222	.0043	2.011	.0262	.0192
#2	142.1	9.120	6.776	.4750	.0216	.0041	2.013	.0287	.0193
#3	138.4	9.062	6.767	.4727	.0226	.0042	2.014	.0267	.0193
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>1.361</b>	<b>.0009</b>	<b>.0587</b>	<b>13.21</b>	<b>-.0126</b>	<b>.0683</b>	<b>1.557</b>		
Stddev	.001	.0011	.0004	.04	.0004	.0006	.004		
%RSD	.0438	122.1	.6360	.2722	3.100	.9101	.2247		
#1	1.361	-.0002	.0588	13.20	-.0125	.0677	1.560		
#2	1.360	.0009	.0589	13.25	-.0130	.0690	1.557		
#3	1.361	.0019	.0582	13.19	-.0122	.0683	1.553		



Sample Name: JC86337-5 Acquired: 4/18/2019 0:01:57 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139060.	31952.	3952.7	7208.4
Stddev	300.	97.	4.9	12.8
%RSD	.21538	.30509	.12498	.17819
#1	139370.	31851.	3947.1	7193.7
#2	138770.	31961.	3954.8	7216.9
#3	139030.	32045.	3956.3	7214.7

Sample Name: JC86337-6 Acquired: 4/18/2019 0:07:06 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0406	.0006	.0001	.0048	.0313	.0066	.0742	.0065	.0000
Stddev	.0003	.0000	.0001	.0001	.0001	.0001	.0002	.0001	.0002
%RSD	.6433	8.077	115.8	2.729	.3024	2.090	.2736	1.086	799.8
#1	.0404	.0007	-.0000	.0047	.0313	.0067	.0744	.0066	.0002
#2	.0405	.0006	.0002	.0049	.0312	.0066	.0740	.0064	-.0002
#3	.0409	.0006	.0002	.0048	.0314	.0065	.0742	.0066	-.0001
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0328	.0336	.0142	.0006	.0183	-.0002	.0002	7.380	.3788
Stddev	.0006	.0002	.0014	.0008	.0003	.0016	.0001	.013	.0036
%RSD	1.781	.5299	9.912	135.8	1.815	761.0	33.83	.1777	.9382
#1	.0334	.0334	.0153	.0007	.0180	.0017	.0003	7.372	.3822
#2	.0328	.0335	.0147	-.0002	.0185	-.0009	.0002	7.373	.3751
#3	.0322	.0338	.0126	.0014	.0185	-.0014	.0002	7.395	.3790
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.13	.6623	.9652	.2976	.0030	.0041	1.646	.0247	.0055
Stddev	.05	.0158	.0489	.0022	.0003	.0001	.003	.0006	.0001
%RSD	.3574	2.379	5.062	.7506	9.330	1.656	.1564	2.437	1.264
#1	14.14	.6789	1.018	.2951	.0028	.0040	1.649	.0251	.0055
#2	14.07	.6603	.9217	.2987	.0033	.0041	1.644	.0240	.0054
#3	14.17	.6476	.9559	.2991	.0029	.0042	1.644	.0250	.0055
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.3843	.0008	.0175	.0583	-.0084	.0063	.2131		
Stddev	.0011	.0004	.0001	.0025	.0012	.0011	.0010		
%RSD	.2769	56.84	.4458	4.371	14.78	16.91	.4711		
#1	.3854	.0012	.0175	.0557	-.0075	.0075	.2127		
#2	.3844	.0008	.0174	.0583	-.0098	.0053	.2123		
#3	.3833	.0003	.0175	.0608	-.0079	.0062	.2142		

Sample Name: JC86337-6 Acquired: 4/18/2019 0:07:06 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136800.	31072.	3848.8	7293.7
Stddev	262.	186.	6.5	17.3
%RSD	.19135	.59863	.16865	.23658
#1	136630.	30910.	3841.5	7274.0
#2	137100.	31275.	3851.3	7300.5
#3	136670.	31030.	3853.7	7306.4

Sample Name: MP14182-B1conf Acquired: 4/18/2019 0:12:16 Type: Unk  
 Method: SGS No Valve3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.049	2.082	2.017	2.009	2.041	1.989	2.093	2.043
Stddev	.003	.001	.004	.008	.004	.007	.004	.005
%RSD	.1638	.0590	.1947	.3822	.1843	.3586	.1680	.2634
#1	2.052	2.084	2.019	2.016	2.045	1.994	2.097	2.047
#2	2.045	2.082	2.019	2.011	2.038	1.981	2.092	2.045
#3	2.049	2.081	2.012	2.001	2.039	1.993	2.090	2.037
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.694	2.023	2.045	2.012	2.107	2.044	1.983	2.041
Stddev	.0009	.004	.006	.002	.003	.008	.003	.002
%RSD	.3263	.1717	.3170	.0950	.1349	.3969	.1739	.1007
#1	2.699	2.027	2.048	2.014	2.110	2.048	1.986	2.043
#2	2.684	2.021	2.049	2.012	2.104	2.049	1.979	2.040
#3	2.699	2.021	2.037	2.010	2.106	2.035	1.982	2.039
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.12	25.52	25.63	25.30	25.23	25.35	1.963	2.090
Stddev	.00	.06	.05	.07	.02	.02	.002	.003
%RSD	.0120	.2252	.2130	.2591	.0655	.0607	.0977	.1369
#1	25.12	25.47	25.60	25.22	25.24	25.37	1.965	2.091
#2	25.12	25.58	25.69	25.35	25.21	25.35	1.962	2.092
#3	25.12	25.49	25.59	25.32	25.23	25.34	1.961	2.087
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0619	2.126	2.048	2.066	1.802	2.053	F-.0929	0.163
Stddev	.0014	.003	.007	.002	.001	.005	.0037	.0023
%RSD	2.214	.1491	.3496	.1137	.0477	.2265	3.939	14.25
#1	-.0626	2.128	2.040	2.068	1.803	2.057	-.0971	0.139
#2	-.0629	2.128	2.053	2.065	1.803	2.048	-.0915	0.163
#3	-.0604	2.123	2.052	2.064	1.801	2.053	-.0902	0.185



Sample Name: MP14182-B1conf Acquired: 4/18/2019 0:12:16 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>-0.001</b>	<b>2.023</b>		
Stddev	.0002	.005		
%RSD	141.3	.2520		
#1	-.0001	2.029		
#2	-.0003	2.022		
#3	.0001	2.019		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132810.	30671.	3732.3	6881.4
Stddev	219.	232.	7.9	15.7
%RSD	.16488	.75556	.21283	.22787
#1	132680.	30853.	3729.9	6873.3
#2	132680.	30410.	3725.8	6871.4
#3	133060.	30749.	3741.2	6899.5

Sample Name: MP14182-MB1conf Acquired: 4/18/2019 0:17:16 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0001</b>	<b>.0000</b>	<b>-0.001</b>	<b>.0002</b>	<b>.0005</b>	<b>.0007</b>	<b>.0003</b>	<b>.0000</b>	<b>-0.003</b>
Stddev	.0001	.0000	.0001	.0001	.0001	.0001	.0000	.0002	.0004
%RSD	62.71	5739.	162.8	56.30	19.96	20.15	3.403	363.6	138.2
#1	.0002	.0000	-.0002	.0004	.0006	.0007	.0003	-.0001	-.0002
#2	.0001	-.0000	-.0001	.0001	.0004	.0007	.0003	.0002	.0000
#3	.0001	-.0000	.0000	.0002	.0006	.0009	.0003	.0001	-.0008
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0004</b>	<b>.0058</b>	<b>-0.013</b>	<b>.0002</b>	<b>.0002</b>	<b>-0.017</b>	<b>-0.006</b>	<b>.0018</b>	<b>.0581</b>
Stddev	.0001	.0000	.0007	.0007	.0004	.0004	.0016	.0007	.0018
%RSD	18.57	.5307	50.54	443.3	243.7	25.61	257.4	39.88	3.082
#1	.0005	.0058	-.0021	.0001	-.0003	-.0020	-.0020	.0010	.0574
#2	.0004	.0058	-.0010	.0009	.0003	-.0012	-.0011	.0019	.0601
#3	.0003	.0058	-.0008	-.0005	.0005	-.0019	.0012	.0024	.0568
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0167</b>	<b>.0155</b>	<b>.0130</b>	<b>.0756</b>	<b>.0007</b>	<b>.0009</b>	<b>.0102</b>	<b>.0004</b>	<b>.0004</b>
Stddev	.0011	.0097	.0045	.0051	.0004	.0001	.0010	.0004	.0000
%RSD	6.540	62.75	34.87	6.695	51.82	16.26	9.596	1.723	13.07
#1	.0177	.0246	.0164	.0760	.0008	.0010	.0091	.0255	.0004
#2	.0168	.0053	.0078	.0704	.0003	.0009	.0104	.0259	.0003
#3	.0155	.0165	.0147	.0805	.0010	.0007	.0111	.0250	.0004
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.0004</b>	<b>.0055</b>	<b>.0003</b>	<b>.0067</b>	<b>-0.011</b>	<b>-0.005</b>	<b>.0281</b>		
Stddev	.0000	.0008	.0001	.0010	.0009	.0009	.0002		
%RSD	8.822	14.60	31.94	14.22	13.33	169.7	.6168		
#1	.0004	.0064	.0003	.0065	-.0002	-.0012	.0262		
#2	.0004	.0048	.0004	.0077	-.0018	.0005	.0262		
#3	.0004	.0054	.0003	.0059	-.0014	-.0009	.0259		

Sample Name: MP14182-MB1conf Acquired: 4/18/2019 0:17:16 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137640.	31082.	3810.3	7353.1
Stddev	281.	59.	6.7	15.4
%RSD	.20432	.18925	.17477	.20953
#1	137520.	31016.	3807.7	7342.4
#2	137450.	31128.	3805.3	7346.2
#3	137970.	31102.	3817.9	7370.8

Sample Name: MP14182-S1conf Acquired: 4/18/2019 0:22:29 Type: Unk  
Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: :  
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.168</b>	<b>1.991</b>	<b>1.983</b>	<b>1.996</b>	<b>2.031</b>	<b>2.037</b>	<b>2.644</b>	<b>2.049</b>	<b>.2660</b>
Stddev	.003	.004	.004	.004	.004	.005	.014	.002	.0006
%RSD	.1375	.2233	.2036	.2125	.2060	.2628	.5241	.1194	.2266
#1	2.168	1.992	1.983	1.997	2.033	2.041	2.649	2.049	.2662
#2	2.171	1.995	1.987	2.000	2.032	2.031	2.656	2.051	.2653
#3	2.165	1.986	1.979	1.991	2.026	2.039	2.629	2.046	.2665
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.037</b>	<b>2.139</b>	<b>1.969</b>	<b>2.069</b>	<b>2.030</b>	<b>1.933</b>	<b>1.621</b>	<b>68.12</b>	<b>32.44</b>
Stddev	.005	.005	.009	.012	.004	.005	.004	.04	.02
%RSD	.2245	.2149	.4743	.5625	.1712	.2760	.2359	.0560	.0482
#1	2.040	2.140	1.976	2.072	2.033	1.937	1.623	68.08	32.46
#2	2.039	2.143	1.973	2.078	2.030	1.935	1.624	68.16	32.44
#3	2.032	2.134	1.959	2.056	2.026	1.927	1.617	68.12	32.43
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>93.05</b>	<b>36.86</b>	<b>30.57</b>	<b>25.99</b>	<b>1.888</b>	<b>1.966</b>	<b>2.743</b>	<b>2.020</b>	<b>2.005</b>
Stddev	.08	.04	.03	.04	.004	.003	.009	.004	.029
%RSD	.0831	.1178	.0911	.1681	.2305	.1357	.3272	.2192	1.434
#1	93.10	36.90	30.57	26.00	1.889	1.966	2.739	2.022	2.031
#2	93.09	36.82	30.59	26.03	1.892	1.969	2.753	2.024	2.009
#3	92.96	36.85	30.54	25.95	1.884	1.963	2.737	2.015	1.974
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>3.816</b>	<b>.9725</b>	<b>2.034</b>	<b>3.508</b>	<b>-0.187</b>	<b>.0516</b>	<b>2.940</b>		
Stddev	.004	.0019	.004	.019	.0030	.0003	.013		
%RSD	.1149	.1964	.1698	.5376	16.15	.6171	.4367		
#1	3.821	.9704	2.038	3.504	-.0180	.0512	2.939		
#2	3.815	.9742	2.033	3.529	-.0220	.0518	2.954		
#3	3.812	.9728	2.032	3.493	-.0161	.0518	2.928		

Sample Name: MP14182-S1conf Acquired: 4/18/2019 0:22:29 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136560.	31645.	3823.5	6903.5
Stddev	453.	57.	3.5	6.7
%RSD	.33153	.17889	.09158	.09684
#1	136380.	31631.	3823.2	6903.7
#2	136230.	31707.	3820.1	6896.7
#3	137080.	31596.	3827.1	6910.1

Sample Name: MP14182-S2conf Acquired: 4/18/2019 0:27:35 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.118</b>	<b>1.954</b>	<b>1.946</b>	<b>1.976</b>	<b>1.976</b>	<b>1.976</b>	<b>2.561</b>	<b>2.032</b>	<b>2.573</b>
Stddev	.009	.010	.003	.003	.011	.015	.023	.003	.0013
%RSD	.4122	.4989	.1710	.1527	.5384	.7750	.8842	.1436	.5193
#1	2.129	1.965	1.945	1.973	1.964	1.958	2.542	2.029	2.558
#2	2.114	1.948	1.949	1.979	1.985	1.985	2.586	2.035	2.583
#3	2.113	1.949	1.943	1.977	1.978	1.984	2.555	2.032	2.578
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.980</b>	<b>2.101</b>	<b>1.938</b>	<b>2.039</b>	<b>2.017</b>	<b>1.902</b>	<b>1.594</b>	<b>66.04</b>	<b>31.42</b>
Stddev	.010	.007	.006	.008	.004	.006	.005	.23	.12
%RSD	.5234	.3329	.2941	.4017	.1840	.2968	.2887	.3485	.3814
#1	1.969	2.097	1.935	2.039	2.013	1.896	1.592	66.29	31.56
#2	1.989	2.109	1.945	2.048	2.020	1.908	1.599	65.99	31.35
#3	1.984	2.097	1.935	2.031	2.018	1.902	1.590	65.83	31.34
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>87.28</b>	<b>36.22</b>	<b>29.90</b>	<b>25.42</b>	<b>1.864</b>	<b>1.944</b>	<b>2.623</b>	<b>1.990</b>	<b>1.933</b>
Stddev	.43	.11	.13	.09	.002	.006	.003	.006	.028
%RSD	.4916	.3170	.4424	.3574	.1293	.2863	.1250	.3223	1.471
#1	87.75	36.36	30.05	25.52	1.863	1.941	2.622	1.987	1.905
#2	86.90	36.16	29.84	25.35	1.867	1.950	2.627	1.998	1.962
#3	87.20	36.15	29.80	25.39	1.864	1.940	2.620	1.986	1.932
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>3.781</b>	<b>1.069</b>	<b>1.991</b>	<b>3.402</b>	<b>-0.197</b>	<b>.0507</b>	<b>2.832</b>		
Stddev	.016	.003	.012	.026	.0019	.0008	.019		
%RSD	.4238	.2715	.5921	.7669	9.543	1.590	.6833		
#1	3.763	1.066	1.978	3.402	-0.218	.0517	2.828		
#2	3.794	1.072	2.000	3.428	-0.191	.0503	2.853		
#3	3.786	1.068	1.996	3.376	-0.181	.0502	2.814		

Sample Name: MP14182-S2conf Acquired: 4/18/2019 0:27:35 Type: Unk  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138060.	31893.	3848.9	6897.9
Stddev	414.	95.	7.9	4.9
%RSD	.30019	.29884	.20507	.07166
#1	138300.	31787.	3850.2	6900.8
#2	137580.	31972.	3840.4	6892.2
#3	138290.	31919.	3856.1	6900.6

Sample Name: ccv Acquired: 4/18/2019 0:32:42 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.059</b>	<b>2.090</b>	<b>2.071</b>	<b>2.060</b>	<b>2.059</b>	<b>2.011</b>	<b>2.117</b>	<b>2.095</b>	<b>2.532</b>
Stddev	.008	.008	.009	.012	.008	.003	.004	.013	.0009
%RSD	.3899	.3656	.4172	.6035	.3868	.1394	.2115	.6083	.3598
#1	2.068	2.098	2.061	2.046	2.066	2.010	2.121	2.081	2.533
#2	2.054	2.084	2.076	2.069	2.060	2.013	2.119	2.105	2.540
#3	2.054	2.087	2.076	2.064	2.050	2.008	2.112	2.099	2.522
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	<b>2.047</b>	<b>2.086</b>	<b>2.044</b>	<b>2.147</b>	<b>2.101</b>	<b>2.053</b>	<b>2.060</b>	<b>40.66</b>	<b>41.01</b>
Stddev	.006	.008	.007	.008	.010	.007	.011	.06	.03
%RSD	.2968	.3820	.3492	.3817	.4721	.3329	.5101	.1379	.0706
#1	2.052	2.077	2.036	2.139	2.090	2.047	2.048	40.71	40.99
#2	2.048	2.090	2.046	2.146	2.108	2.060	2.068	40.66	41.04
#3	2.040	2.092	2.050	2.156	2.105	2.052	2.064	40.60	40.99
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	<b>41.04</b>	<b>40.85</b>	<b>40.73</b>	<b>40.71</b>	<b>2.073</b>	<b>2.085</b>	<b>5.251</b>	<b>2.106</b>	<b>2.050</b>
Stddev	.11	.03	.13	.11	.009	.009	.025	.006	.048
%RSD	.2578	.0713	.3307	.2806	.4282	.4155	.4729	.3055	2.319
#1	41.14	40.83	40.88	40.83	2.063	2.076	5.222	2.099	2.095
#2	40.93	40.89	40.62	40.61	2.079	2.092	5.267	2.109	2.001
#3	41.04	40.84	40.67	40.69	2.077	2.088	5.263	2.111	2.055
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range									

Sample Name: ccv Acquired: 4/18/2019 0:32:42 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.058</b>	<b>2.070</b>	<b>2.045</b>	<b>2.033</b>	<b>2.068</b>	<b>2.013</b>	<b>2.079</b>
Stddev	.004	.007	.004	.005	.005	.004	.007
%RSD	.2096	.3183	.1898	.2479	.2415	.2042	.3615
#1	2.062	2.063	2.049	2.029	2.062	2.017	2.075
#2	2.060	2.076	2.045	2.032	2.072	2.012	2.074
#3	2.053	2.071	2.041	2.039	2.070	2.010	2.087

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit  
 Range Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>131420.</b>	<b>30212.</b>	<b>3708.2</b>	<b>6719.7</b>
Stddev	636.	134.	11.5	29.9
%RSD	.48362	.44447	.30984	.44498

#1	130720.	30342.	3721.4	6753.4
#2	131590.	30222.	3701.2	6696.3
#3	131960.	30074.	3702.0	6709.4

Sample Name: ccb Acquired: 4/18/2019 0:37:42 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0000</b>	<b>.0001</b>	<b>-0.0000</b>	<b>.0002</b>	<b>-0.0002</b>	<b>.0000</b>	<b>.0001</b>	<b>-0.0004</b>	<b>-0.0007</b>
Stddev	.0001	.0000	.0002	.0001	.0001	.0002	.0000	.0002	.0000
%RSD	415.4	30.32	2354.	74.38	42.68	601.0	39.17	54.75	6.228
#1	.0002	.0001	.0002	.0002	-.0004	.0002	.0000	-.0003	-.0007
#2	-.0001	.0001	-.0002	.0003	-.0002	.0001	.0001	-.0005	-.0007
#3	.0000	.0001	.0000	.0000	-.0002	-.0002	.0001	-.0002	-.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	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0005</b>	<b>.0000</b>	<b>.0008</b>	<b>.0008</b>	<b>-0.0001</b>	<b>-0.0020</b>	<b>.0005</b>	<b>-0.0004</b>	<b>-0.0008</b>
Stddev	.0003	.0000	.0010	.0004	.0005	.0011	.0002	.0047	.0013
%RSD	63.81	80.52	129.2	49.75	822.1	57.36	36.89	1282.	161.4

#1	.0001	.0001	-.0003	.0012	.0001	-.0017	.0006	-.0048	-.0010
#2	.0007	.0000	.0016	.0004	.0003	-.0033	.0003	.0045	.0006
#3	.0006	.0001	.0010	.0009	-.0006	-.0010	.0005	-.0008	-.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	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0008</b>	<b>-0.0036</b>	<b>-0.0340</b>	<b>.0066</b>	<b>.0008</b>	<b>.0004</b>	<b>-0.0002</b>	<b>-0.0006</b>	<b>.0002</b>
Stddev	.0006	.0016	.0067	.0031	.0004	.0003	.0005	.0009	.0000
%RSD	71.93	44.43	19.73	47.08	54.19	66.76	191.9	145.5	17.31

#1	.0010	-.0046	-.0309	.0044	.0012	.0005	.0001	.0004	.0002
#2	.0001	-.0046	-.0417	.0101	.0003	.0006	-.0001	-.0009	.0001
#3	.0011	-.0018	-.0294	.0052	.0008	.0001	-.0007	-.0013	.0002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit  
 Low Limit

Sample Name: ccb Acquired: 4/18/2019 0:37:42 Type: QC  
 Method: SGS No Vlave3(v403) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: : :  
 Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0001</b>	<b>F .0070</b>	<b>.0001</b>	<b>-0.0014</b>	<b>.0003</b>	<b>.0004</b>	<b>-0.0007</b>
Stddev	.0001	.0012	.0000	.0016	.0013	.0002	.0007
%RSD	80.30	17.35	49.04	115.9	453.8	50.13	95.24
#1	.0001	.0084	.0001	-.0004	-.0010	.0002	-.0000
#2	.0000	.0066	.0000	-.0006	.0002	.0003	-.0013
#3	.0002	.0060	.0001	-.0033	.0017	.0006	-.0008

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	<b>136160.</b>	<b>30604.</b>	<b>3818.0</b>	<b>7347.4</b>
Stddev	327.	176.	14.0	24.2
%RSD	.24021	.57538	.36661	.32927

#1	135820.	30763.	3814.4	7344.3
#2	136470.	30415.	3806.2	7325.0
#3	136200.	30633.	3833.5	7373.1

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ba 455.403 {74}	<input checked="" type="checkbox"/>	1	Zr	0.000000	0.000000	No
Be 313.042 {108}	<input checked="" type="checkbox"/>	12	V	-0.000062	0.000000	No
			Mo	-0.000067	0.000000	No
			Ti	-0.001220	0.000000	No
			Mn	-0.000015	0.000000	No
			Cu	-0.000008	0.000000	No
			Zn	-0.000010	0.000000	No
			Al	0.000000	0.000000	No
			Ni	-0.000050	0.000000	No
			Cr	0.000003	0.000000	No
			Fe	-0.000000	0.000000	No
			Mg	-0.000000	0.000000	No
Cd 228.802 {448}	<input checked="" type="checkbox"/>	11	K	0.000000	0.000000	No
			As	0.011946	0.000000	No
			Ni	-0.000270	0.000000	No
			Fe	-0.000003	0.000000	No
			V	0.000110	0.000000	No
			Ba	0.000021	0.000000	No
			Co	-0.002050	0.000000	No
			Mn	0.000013	0.000000	No
			Cr	-0.000050	0.000000	No
			Cu	-0.000009	0.000000	No
			Ti	0.000000	0.000000	No
			Mo	0.000030	0.000000	No
Co 228.616 {448}	<input checked="" type="checkbox"/>	7	Cr	0.000051	0.000000	No
			Mo	-0.001058	0.000000	No
			Ni	0.000091	0.000000	No
			Ti	0.001789	0.000000	No
			W	0.000160	0.000000	No
			Cd	0.000012	0.000000	No
Cr 267.716 {126}	<input checked="" type="checkbox"/>	7	Be	0.000100	0.000000	No
			Mn	0.000160	0.000000	No
			Mo	-0.000099	0.000000	No
			Ba	0.000013	0.000000	No
			Cu	0.000020	0.000000	No
			Sr	-0.000100	0.000000	No
			Fe	-0.000005	0.000000	No
Cu 324.754 {104}2	<input checked="" type="checkbox"/>	15	W	0.000000	0.000000	No
			Cr	0.000056	0.000000	No
			V	-0.000171	0.000000	No
			Mo	0.000315	0.000000	No
			Ti	0.000170	0.000000	No
			Fe	-0.000142	0.000000	No
			Sn	0.000103	0.000000	No
			Co	-0.001131	0.000000	No
			Zr	0.000170	0.000000	No
			Si	-0.000007	0.000000	No
			Ag	-0.000077	0.000000	No
			Sb	0.000010	0.000000	No
			B	0.000000	0.000000	No
			Mg	-0.000001	0.000000	No
			Al	0.000005	0.000000	No
			W	0.000000	0.000000	No
Mn 257.610 {131}	<input checked="" type="checkbox"/>	8	Fe	-0.000032	0.000000	No
			Si	0.000011	0.000000	No
			Ba	0.000012	0.000000	No
			Ni	0.000028	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Mo	0.000000	0.000000	No
			Cr	-0.000110	0.000000	No
			Mg	0.000000	0.000000	No
			Al	0.000000	0.000000	No
Ni 231.604 {446}	<input checked="" type="checkbox"/>	10	Fe	0.000036	0.000000	No
			Zn	-0.000021	0.000000	No
			Be	-0.000112	0.000000	No
			Co	0.000115	0.000000	No
			Ti	0.000209	0.000000	No
			Mo	0.000081	0.000000	No
			V	-0.000032	0.000000	No
			Cu	0.000078	0.000000	No
			Se	0.000286	0.000000	No
Ag 328.068 {103}	<input checked="" type="checkbox"/>	15	Sn	-0.000026	0.000000	No
			Mn	0.000162	0.000000	No
			Mo	0.000019	0.000000	No
			Ti	-0.000075	0.000000	No
			Fe	-0.000221	0.000000	No
			V	-0.003597	0.000000	No
			Zn	0.000010	0.000000	No
			Ca	-0.000004	0.000000	No
			Al	-0.000001	0.000000	No
			Ba	-0.000095	0.000000	No
			Cr	0.000016	0.000000	No
			Si	-0.000000	0.000000	No
			Zr	0.007600	0.000000	No
			W	0.000000	0.000000	No
			Sn	0.000095	0.000000	No
V 292.402 {115}	<input checked="" type="checkbox"/>	6	Ni	0.000020	0.000000	No
			Ti	0.000584	0.000000	No
			Mo	-0.000100	0.000000	No
			Sr	0.000000	0.000000	No
			Cr	-0.005300	0.000000	No
			Mn	-0.002000	0.000000	No
Zn 206.200 {464}	<input checked="" type="checkbox"/>	13	Fe	0.000020	0.000000	No
			Cr	-0.001272	0.000000	No
			Mo	-0.000125	0.000000	No
			Fe	-0.000015	0.000000	No
			Ba	0.000108	0.000000	No
			Sr	-0.000023	0.000000	No
			Sn	0.000069	0.000000	No
			Cu	0.000156	0.000000	No
			As	0.000449	0.000000	No
			Be	0.000071	0.000000	No
			Bi	-0.002000	0.000000	No
			Mn	0.000055	0.000000	No
			W	0.000000	0.000000	No
As 189.042 {478}	<input checked="" type="checkbox"/>	22	Al	0.000008	0.000000	No
			Al	0.000016	0.000000	No
			Fe	-0.000145	0.000000	No
			Ca	-0.000003	0.000000	No
			Mn	-0.000092	0.000000	No
			Mo	0.003709	0.000000	No
			Cr	0.002100	0.000000	No
			V	0.000033	0.000000	No
			Co	-0.000000	0.000000	No
			Sn	-0.000051	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Cd	0.000092	0.000000	No
			Tl	0.000150	0.000000	No
			Si	-0.000050	0.000000	No
			Zn	0.000030	0.000000	No
			Sr	-0.000090	0.000000	No
			Zr	-0.000300	0.000000	No
			Ti	0.000034	0.000000	No
			Cu	0.000100	0.000000	No
			Ag	0.000300	0.000000	No
			Mg	0.000001	0.000000	No
			W	0.000000	0.000000	No
			S	0.000006	0.000000	No
Tl 190.856 (477)	<input checked="" type="checkbox"/>	24	B	0.000067	0.000000	No
			Cr	0.000331	0.000000	No
			Mo	-0.007050	0.000000	No
			Al	0.000019	0.000000	No
			Fe	-0.000082	0.000000	No
			V	-0.023073	0.000000	No
			Mn	0.001440	0.000000	No
			Si	0.000035	0.000000	No
			Ca	-0.000001	0.000000	No
			Ti	-0.002300	0.000000	No
			Mg	-0.000001	0.000000	No
			Co	0.003800	0.000000	No
			Sr	-0.000060	0.000000	No
			B	-0.000164	0.000000	No
			Ba	0.000150	0.000000	No
			Zn	-0.000148	0.000000	No
			As	0.000005	0.000000	No
			Ni	-0.000020	0.000000	No
			Pb	0.000035	0.000000	No
			S	-0.000020	0.000000	No
			W	-0.023000	0.000000	No
			K	0.000000	0.000000	No
			Sn	-0.000200	0.000000	No
			Ag	0.000700	0.000000	No
Pb 220.353 (453)	<input checked="" type="checkbox"/>	22	Cu	0.000015	0.000000	No
			Al	-0.000089	0.000000	No
			Fe	0.000045	0.000000	No
			Ca	-0.000001	0.000000	No
			Mn	0.000023	0.000000	No
			Zn	-0.000036	0.000000	No
			Mo	-0.001990	0.000000	No
			Cu	0.000777	0.000000	No
			V	-0.000093	0.000000	No
			Co	-0.000021	0.000000	No
			Ti	-0.000290	0.000000	No
			Si	0.000092	0.000000	No
			Ba	-0.000012	0.000000	No
			Sb	-0.000190	0.000000	No
			Sr	0.000070	0.000000	No
			W	0.000000	0.000000	No
			Cd	-0.000018	0.000000	No
			Cr	-0.000118	0.000000	No
			Zr	-0.000279	0.000000	No
			Ni	0.000015	0.000000	No
			S	0.000010	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			B	0.000000	0.000000	No
			Mg	0.000004	0.000000	No
Se 196.090 {472}	<input checked="" type="checkbox"/>	21	Al	-0.000003	0.000000	No
			Ca	-0.000009	0.000000	No
			Mn	0.000706	0.000000	No
			Mo	0.000153	0.000000	No
			Fe	-0.000205	0.000000	No
			Co	0.000419	0.000000	No
			V	0.000420	0.000000	No
			Sr	0.000042	0.000000	No
			Si	-0.000047	0.000000	No
			Tl	-0.000520	0.000000	No
			Be	-0.000543	0.000000	No
			Zn	0.000095	0.000000	No
			B	0.000150	0.000000	No
			Ti	0.000078	0.000000	No
			Cd	0.000090	0.000000	No
			Zr	0.000447	0.000000	No
			Ba	0.000281	0.000000	No
			Mg	-0.000001	0.000000	No
			Cr	-0.000107	0.000000	No
			S	-0.000008	0.000000	No
			W	0.000000	0.000000	No
Sb 206.833 {463}	<input checked="" type="checkbox"/>	14	Fe	0.000022	0.000000	No
			Al	0.000013	0.000000	No
			Ca	0.000005	0.000000	No
			Ni	-0.000870	0.000000	No
			Cr	0.020000	0.000000	No
			V	-0.002600	0.000000	No
			Zn	-0.000176	0.000000	No
			Mo	-0.001109	0.000000	No
			Ti	0.001250	0.000000	No
			Sn	-0.015000	0.000000	No
			Mg	0.000000	0.000000	No
			Zr	-0.000089	0.000000	No
			Sr	-0.000049	0.000000	No
Al 396.152 { 85}	<input checked="" type="checkbox"/>	5	W	0.000000	0.000000	No
			Si	0.000378	0.000000	No
			Ca	0.000048	0.000000	No
			Mo	0.045456	0.000000	No
			Zr	0.006900	0.000000	No
Ca 317.933 {106}	<input checked="" type="checkbox"/>	14	Tl	-0.000017	0.000000	No
			Fe	0.000130	0.000000	No
			W	0.003960	0.000000	No
			Tl	0.004948	0.000000	No
			Be	0.001840	0.000000	No
			Ba	0.003500	0.000000	No
			Cu	-0.001800	0.000000	No
			Cd	0.003700	0.000000	No
			Ni	0.001513	0.000000	No
			B	-0.000210	0.000000	No
			Se	0.002000	0.000000	No
			Co	0.000540	0.000000	No
			Cr	0.000640	0.000000	No
			Al	0.000026	0.000000	No
Fe 259.940 {130}	<input checked="" type="checkbox"/>	8	As	0.002488	0.000000	No
			Cr	-0.000566	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Mn	-0.000025	0.000000	No
			V	-0.000064	0.000000	No
			Cu	0.001043	0.000000	No
			Zn	0.000046	0.000000	No
			Ti	-0.000631	0.000000	No
			Ca	-0.000020	0.000000	No
			Ba	-0.009000	0.000000	No
Mg 279.079 {121}	<input checked="" type="checkbox"/>	2	Mo	-0.017699	0.000000	No
			Ti	-0.014200	0.000000	No
K 766.490 { 44}	<input checked="" type="checkbox"/>	10	Al	-0.000023	0.000000	No
			Ca	-0.000071	0.000000	No
			Mn	0.001430	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No
			Sn	-0.004700	0.000000	No
			Ba	-0.002700	0.000000	No
			Mo	0.007150	0.000000	No
			Cu	-0.010000	0.000000	No
			Ni	-0.010000	0.000000	No
Na 589.592 { 57}	<input checked="" type="checkbox"/>	5	K	-0.000560	0.000000	No
			Ba	0.000900	0.000000	No
			Ca	0.000055	0.000000	No
			Al	0.000040	0.000000	No
			V	-0.005000	0.000000	No
B 208.959 {462}	<input checked="" type="checkbox"/>	1	Mo	0.034727	0.000000	No
Mo 202.030 {467}	<input checked="" type="checkbox"/>	1	Fe	-0.000010	0.000000	No
Si 212.412 {459}	<input checked="" type="checkbox"/>	14	Sr	0.000366	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	0.028291	0.000000	No
			V	0.050218	0.000000	No
			Ti	0.003229	0.000000	No
			Al	0.000009	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.000170	0.000000	No
			Sn	0.008217	0.000000	No
			Zn	0.000385	0.000000	No
			As	0.000140	0.000000	No
			Pb	0.000471	0.000000	No
			Ca	0.000007	0.000000	No
			W	0.000000	0.000000	No
Sn 189.989 {478}	<input checked="" type="checkbox"/>	5	Ti	-0.003361	0.000000	No
			Mo	0.000011	0.000000	No
			Si	-0.000009	0.000000	No
			Fe	0.000000	0.000000	No
			W	0.000000	0.000000	No
Sr 407.771 { 83}	<input checked="" type="checkbox"/>	1	Ca	0.000034	0.000000	No
Ti 334.904 {101}	<input checked="" type="checkbox"/>	3	Cr	0.000069	0.000000	No
			Mo	0.001400	0.000000	No
			Si	0.000035	0.000000	No
Y 360.073 { 94}* Y 371.030 { 91}* Y 224.306 {451}* In 230.606 {446}* W 207.911 {462}	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	None None None None 18	As Mn Mo Sr	-0.000459 -0.000110 -0.000300 0.000050	0.000000 0.000000 0.000000 0.000000	No No No No



Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			V	-0.000140	0.000000	No
			Cd	-0.000650	0.000000	No
			Cr	-0.000390	0.000000	No
			Zn	0.009921	0.000000	No
			Sn	0.001300	0.000000	No
			Zr	-0.002570	0.000000	No
			Sb	-0.000200	0.000000	No
			Co	0.000041	0.000000	No
			Ni	-0.000263	0.000000	No
			Be	-0.000130	0.000000	No
			Se	-0.002600	0.000000	No
			Cu	-0.000118	0.000000	No
			Ba	-0.000090	0.000000	No
Zr 339.198 { 99}	<input checked="" type="checkbox"/>	6	Tl	-0.000110	0.000000	No
			Mo	0.001030	0.000000	No
			Fe	-0.000070	0.000000	No
			Si	0.000083	0.000000	No
			Ti	0.000894	0.000000	No
			V	0.000120	0.000000	No
			W	0.035000	0.000000	No
S 182.034 {485}	<input checked="" type="checkbox"/>	9	Ca	-0.000040	0.000000	No
			Mo	-0.001807	0.000000	No
			Al	-0.000241	0.000000	No
			Fe	-0.000107	0.000000	No
			Mn	0.004210	0.000000	No
			Zn	-0.001538	0.000000	No
			Cd	-0.001300	0.000000	No
			W	0.000000	0.000000	No
			Mg	-0.000010	0.000000	No
Bi 223.061 {451}	<input checked="" type="checkbox"/>	9	V	-0.000380	0.000000	No
			Co	-0.010715	0.000000	No
			Mg	-0.000002	0.000000	No
			W	-0.003914	0.000000	No
			Cu	-0.000858	0.000000	No
			Fe	0.000098	0.000000	No
			Cr	0.001500	0.000000	No
			Ti	-0.094840	0.000000	No
			Mo	-0.000200	0.000000	No
Li 670.784 { 50}	<input checked="" type="checkbox"/>	1	Ca	0.000015	0.000000	No
P 177.495 {490}	<input checked="" type="checkbox"/>	None				

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ba 455.403 { 74}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.003713	1.707594	0.000000	1.000000
Be 313.042 {108}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000723	2.687227	0.000000	1.000000
Cd 228.802 {448}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.001023	1.389449	0.000000	1.000000
Co 228.616 {448}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000583	0.813813	0.000000	1.000000
Cr 267.716 {126}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000013	0.122111	0.000000	1.000000
Cu 324.754 {104}2	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.004150	0.294615	0.000000	1.000000
Mn 257.610 {131}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000048	0.661202	0.000000	1.000000
Ni 231.604 {446}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000171	0.580932	0.000000	1.000000
Ag 328.068 {103}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000243	0.146209	0.000000	1.000000
V 292.402 {115}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000118	0.181071	0.000000	1.000000
Zn 206.200 {464}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000114	1.283776	0.000000	1.000000
As 189.042 {478}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000279	0.098795	0.000000	1.000000
Tl 190.856 {477}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000045	0.064935	0.000000	1.000000
Pb 220.353 {453}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000315	0.217270	0.000000	1.000000
Se 196.090 {472}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000468	0.078153	0.000000	1.000000
Sb 206.833 {463}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000100	0.181355	0.000000	1.000000
Al 396.152 { 85}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000670	0.034845	0.000000	1.000000
Ca 317.933 {106}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.004392	0.070746	0.000000	1.000000
Fe 259.940 {130}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000007	0.050662	0.000000	1.000000
Mg 279.079 {121}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000062	0.006423	0.000000	1.000000
K 766.490 { 44}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.001249	0.020815	0.000000	1.000000
Na 589.592 { 57}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.003305	0.084799	0.000000	1.000000
B 208.959 {462}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000929	0.257686	0.000000	1.000000
Mo 202.030 {467}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000541	0.771148	0.000000	1.000000
Si 212.412 {459}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.005031	0.269800	0.000000	1.000000
Sn 189.989 {478}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000250	0.180597	0.000000	1.000000
Sr 407.771 { 83}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.002160	3.843455	0.000000	1.000000
Ti 334.904 {101}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000126	0.195984	0.000000	1.000000
Y 360.073 { 94}*	4/18/2019 8:23:45	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	4/18/2019 8:23:45	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 224.306 {451}*	4/18/2019 8:23:45	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	4/18/2019 8:23:45	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
W 207.911 {462}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.000030	0.368428	0.000000	1.000000
Zr 339.198 { 99}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000412	0.382257	0.000000	1.000000
S 182.034 {485}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000771	0.046328	0.000000	1.000000
Bi 223.061 {451}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.000018	0.226220	0.000000	1.000000
Li 670.784 { 50}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	0.002333	0.561752	0.000000	1.000000
P 177.495 {490}	4/18/2019 8:23:45	4/17/2019 11:53:36	Linear	None	-0.008596	0.115715	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MLQ	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ba 455.403 { 74}	1.000000	0.000000	0.000156	0.000519	OK	1.000000	0.000000	1	0
Be 313.042 {108}	1.000000	0.000000	0.000046	0.000152	OK	1.000000	0.000000	1	0
Cd 228.802 {448}	1.000000	0.000000	0.000165	0.000550	OK	1.000000	0.000000	1	0
Co 228.616 {448}	1.000000	0.000000	0.000233	0.000777	OK	1.000000	0.000000	1	0
Cr 267.716 {126}	1.000000	0.000000	0.000263	0.000875	OK	1.000000	0.000000	1	0
Cu 324.754 {104}2	1.000000	0.000000	0.000266	0.000886	OK	1.000000	0.000000	1	0
Mn 257.610 {131}	1.000000	0.000000	0.000045	0.000152	OK	1.000000	0.000000	1	0
Ni 231.604 {446}	1.000000	0.000000	0.000291	0.000969	OK	1.000000	0.000000	1	0
Ag 328.068 {103}	1.000000	0.000000	0.000348	0.001161	OK	1.000000	0.000000	1	0
V 292.402 {115}	1.000000	0.000000	0.000286	0.000953	OK	1.000000	0.000000	1	0
Zn 206.200 {464}	1.000000	0.000000	0.000148	0.000494	OK	1.000000	0.000000	1	0
As 189.042 {478}	1.000000	0.000000	0.001466	0.004888	OK	1.000000	0.000000	1	0
Tl 190.856 {477}	1.000000	0.000000	0.001347	0.004491	OK	1.000000	0.000000	1	0
Pb 220.353 {453}	1.000000	0.000000	0.001074	0.003580	OK	1.000000	0.000000	1	0
Se 196.090 {472}	1.000000	0.000000	0.002464	0.008213	OK	1.000000	0.000000	1	0
Sb 206.833 {463}	1.000000	0.000000	0.001375	0.004582	OK	1.000000	0.000000	1	0
Al 396.152 { 85}	1.000000	0.000000	0.007180	0.023932	OK	1.000000	0.000000	1	0
Ca 317.933 {106}	1.000000	0.000000	0.001818	0.006059	OK	1.000000	0.000000	1	0
Fe 259.940 {130}	1.000000	0.000000	0.001381	0.004602	OK	1.000000	0.000000	1	0
Mg 279.079 {121}	1.000000	0.000000	0.013421	0.044737	OK	1.000000	0.000000	1	0
K 766.490 { 44}	1.000000	0.000000	0.023543	0.078478	OK	1.000000	0.000000	1	0
Na 589.592 { 57}	1.000000	0.000000	0.005775	0.019249	OK	1.000000	0.000000	1	0
B 208.959 {462}	1.000000	0.000000	0.000670	0.002234	OK	1.000000	0.000000	1	0
Mo 202.030 {467}	1.000000	0.000000	0.000281	0.000937	OK	1.000000	0.000000	1	0
Si 212.412 {459}	1.000000	0.000000	0.000951	0.003170	OK	1.000000	0.000000	1	0
Sn 189.989 {478}	1.000000	0.000000	0.000800	0.002666	OK	1.000000	0.000000	1	0
Sr 407.771 { 83}	1.000000	0.000000	0.000058	0.000194	OK	1.000000	0.000000	1	0
Ti 334.904 {101}	1.000000	0.000000	0.000244	0.000815	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	0.001160	0.003867	OK	1.000000	0.000000	1	0
Zr 339.198 { 99}	1.000000	0.000000	0.000153	0.000511	OK	1.000000	0.000000	1	0
S 182.034 {485}	1.000000	0.000000	0.003406	0.011354	OK	1.000000	0.000000	1	0
Bi 223.061 {451}	1.000000	0.000000	0.001524	0.005079	OK	1.000000	0.000000	1	0
Li 670.784 { 50}	1.000000	0.000000	0.000887	0.002956	OK	1.000000	0.000000	1	0
P 177.495 {490}	1.000000	0.000000	0.001551	0.005170	OK	1.000000	0.000000	1	0

Sample Name: STDA Acquired: 4/18/2019 10:44:42 Type: Cal  
Method: SGS 3(v299) 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	<b>0.061</b>	<b>-0.001</b>	<b>0.003</b>	<b>-0.004</b>	<b>-0.000</b>	<b>0.025</b>	<b>0.000</b>	<b>-0.002</b>	<b>-0.002</b>
Stddev	.0003	.0001	.0001	.0001	.0000	.0000	.0000	.0001	.0000
%RSD	5.635	77.33	19.75	26.24	74.78	.8679	46.05	41.74	8.749
#1	.0062	-0.001	.0003	-0.003	-0.000	.0025	.0000	-0.003	-0.002
#2	.0058	-0.001	.0004	-0.004	-0.000	.0025	.0001	-0.002	-0.003
#3	.0064	-0.003	.0003	-0.005	-0.000	.0025	.0000	-0.001	-0.002
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	<b>-0.000</b>	<b>-0.003</b>	<b>-0.004</b>	<b>-0.002</b>	<b>-0.002</b>	<b>-0.003</b>	<b>-0.007</b>	<b>-0.013</b>	<b>0.046</b>
Stddev	.0000	.0001	.0000	.0001	.0001	.0001	.0002	.0005	.0002
%RSD	127.3	26.04	4.280	32.91	56.88	35.85	20.75	35.25	3.963
#1	.0000	.0002	-.0004	-.0001	-.0001	.0003	-.0006	-.0009	.0044
#2	-.0000	.0003	-.0004	-.0002	-.0001	.0005	-.0008	-.0018	.0047
#3	-.0000	.0004	-.0004	-.0002	-.0003	.0003	-.0009	-.0013	.0048
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	<b>0.001</b>	<b>-0.001</b>	<b>0.066</b>	<b>-0.007</b>	<b>0.002</b>	<b>0.001</b>	<b>0.029</b>	<b>0.001</b>	<b>-0.007</b>
Stddev	.0002	.0002	.0003	.0003	.0001	.0002	.0001	.0000	.0001
%RSD	144.8	200.6	4.835	39.43	42.43	243.4	5.122	33.48	16.36
#1	-.0000	.0000	.0065	-.0005	.0003	.0003	.0029	.0001	-.0006
#2	.0001	-.0003	.0064	-.0011	.0002	.0001	.0030	.0002	-.0008
#3	.0003	-.0000	.0070	-.0007	.0002	-.0001	.0027	.0002	-.0008
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	<b>-0.000</b>	<b>0.012</b>	<b>-0.002</b>	<b>-0.018</b>	<b>-0.007</b>	<b>0.009</b>	<b>-0.085</b>		
Stddev	.0000	.0007	.0001	.0001	.0001	.0010	.0001		
%RSD	209.1	55.88	31.98	5.347	13.88	111.2	1.238		
#1	-.0000	.0005	-.0002	-.0018	-.0008	.0009	-.0084		
#2	-.0001	.0014	-.0001	-.0019	-.0006	.0019	-.0085		
#3	.0000	.0018	-.0001	-.0017	-.0007	-.0001	-.0086		

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Sample Name: STDA Acquired: 4/18/2019 10:44:42 Type: Cal  
Method: SGS 3(v299) 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	100380	5052.0	3789.4	8544.4
Stddev	.771	29.9	17.4	40.2
%RSD	.76767	.59266	.46014	.47081
#1	101270	5083.7	3770.0	8498.0
#2	99996	5024.2	3803.9	8570.6
#3	99878	5048.1	3794.2	8564.5

Raw Data MA46535 page 2 of 149

Sample Name: STDB Acquired: 4/18/2019 10:50:10 Type: Cal  
Method: SGS 3(v299) 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	<b>8.343</b>	<b>6.870</b>	<b>4.075</b>	<b>2.256</b>	<b>2.191</b>	<b>7.940</b>	<b>1.311</b>	<b>1.660</b>	<b>0.493</b>
Stddev	.032	.025	.006	.006	.008	.0015	.003	.004	.0001
%RSD	.3871	.3700	.1476	.2825	.3868	.1838	.2085	.2599	.1194
#1	8.312	6.866	4.072	2.254	2.201	.7956	1.314	1.658	.0494
#2	8.377	6.898	4.082	2.263	2.187	.7927	1.309	1.665	.0494
#3	8.339	6.847	4.071	2.251	2.185	.7937	1.309	1.657	.0493
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	<b>4.330</b>	<b>5.743</b>	<b>5.542</b>	<b>2.835</b>	<b>7.858</b>	<b>4.468</b>	<b>7.849</b>	<b>3.048</b>	<b>4.084</b>
Stddev	.0005	.016	.0011	.0011	.0025	.0008	.0014	.009	.016
%RSD	.1070	.2736	.2066	.3708	.3137	.1681	.1816	.2955	.3835
#1	4.335	5.735	5.541	2.830	7.847	4.465	7.852	3.039	4.080
#2	4.329	5.761	5.553	2.847	7.886	4.476	7.862	3.057	4.102
#3	4.326	5.734	5.530	2.828	7.841	4.462	7.834	3.049	4.071
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	<b>1.499</b>	<b>3.056</b>	<b>3.087</b>	<b>8.898</b>	<b>9.847</b>	<b>4.108</b>	<b>2.637</b>	<b>9.362</b>	<b>15.08</b>
Stddev	.005	.0010	.012	.024	.0012	.009	.004	.0031	.06
%RSD	.3225	.3282	.3898	.2735	.1206	.2166	.1575	.3273	.3774
#1	1.498	3.060	3.079	8.874	9.848	4.105	2.638	.9346	15.05
#2	1.505	3.064	3.101	8.923	9.859	4.118	2.641	.9397	15.15
#3	1.495	3.045	3.081	8.897	9.835	4.101	2.632	.9343	15.05
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	<b>.5371</b>	<b>2.052</b>	<b>1.398</b>	<b>2.369</b>	<b>9.197</b>	<b>3.144</b>	<b>.5783</b>		
Stddev	.0014	.004	.001	.0010	.0007	.003	.0028		
%RSD	.2627	.1789	.1012	.4048	.0770	.0896	.4866		
#1	.5387	2.049	1.400	2.363	9.200	3.141	.5768		
#2	.5362	2.056	1.397	2.380	9.203	3.145	.5815		
#3	.5363	2.050	1.397	2.363	9.189	3.146	.5766		

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Sample Name: STDB Acquired: 4/18/2019 10:50:10 Type: Cal  
Method: SGS 3(v299) 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	<b>91602</b>	<b>4930.8</b>	<b>3530.1</b>	<b>7287.4</b>
Stddev	225	31.0	5.3	17.9
%RSD	.24539	.62937	.15133	.24516
#1	91388	4945.1	3533.7	7298.9
#2	91582	4895.2	3523.9	7266.8
#3	91836	4952.2	3532.5	7296.5

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Sample Name: cvconf Acquired: 4/18/2019 10:55:10 Type: QC  
 Method: SGS 3(v299) 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	2.031	2.016	2.001	2.010	1.947	2.016	2.021	2.459
Stddev	.006	.005	.006	.002	.006	.003	.003	.004	.001
%RSD	.3164	.2630	.3096	.1133	.2943	.1689	.1470	.1878	.0542

#1	2.012	2.034	2.010	1.998	2.005	1.949	2.015	2.019	2.461
#2	2.007	2.034	2.017	2.000	2.008	1.944	2.014	2.020	2.458
#3	1.999	2.025	2.022	2.003	2.016	1.949	2.020	2.026	2.459

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	2.039	1.973	2.065	2.031	2.007	1.985	40.22	40.83
Stddev	.003	.002	.006	.007	.001	.009	.004	.09	.08
%RSD	.1440	.1075	.2855	.3616	.0670	.4450	.2207	.2139	.2040

#1	1.984	2.037	1.967	2.057	2.030	1.998	1.981	40.31	40.91
#2	1.981	2.040	1.972	2.066	2.032	2.010	1.985	40.22	40.83
#3	1.987	2.041	1.979	2.072	2.031	2.015	1.990	40.14	40.74

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	41.02	40.48	40.10	40.62	2.044	2.006	5.111	2.030	2.011
Stddev	.08	.18	.07	.09	.006	.005	.007	.005	.005
%RSD	.1920	.4371	.1656	.2270	.3115	.2601	.1400	.2489	.2412

#1	41.10	40.67	40.17	40.72	2.037	2.000	5.103	2.024	2.017
#2	41.02	40.43	40.08	40.61	2.049	2.008	5.115	2.032	2.011
#3	40.94	40.32	40.04	40.54	2.047	2.010	5.115	2.034	2.007

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: cvconf Acquired: 4/18/2019 10:55:10 Type: QC  
 Method: SGS 3(v299) 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	1.966	1.982	1.958	2.009	2.026	1.979	2.013
Stddev	.003	.005	.002	.009	.004	.004	.011
%RSD	.1267	.2492	.1232	.4455	.1989	.1814	.5467

#1	1.966	1.976	1.958	2.000	2.022	1.983	2.000
#2	1.963	1.984	1.956	2.009	2.028	1.977	2.017
#3	1.968	1.985	1.960	2.018	2.029	1.976	2.022

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	94306.	4969.2	3605.5	7530.7
Stddev	113.	10.8	6.0	10.7
%RSD	.11965	.21714	.16544	.14256

#1	94398.	4957.8	3612.0	7540.1
#2	94340.	4970.3	3604.1	7533.1
#3	94180.	4979.3	3600.3	7519.0

Sample Name: ccbconf Acquired: 4/18/2019 11:00:13 Type: QC  
 Method: SGS 3(v299) 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	-0.001	-0.000	-0.001	.0004	.0002	-0.001	-0.001	-0.007
Stddev	.0002	.0001	.0002	.0001	.0005	.0001	.0000	.0000	.0001
%RSD	123.5	61.92	20670.	123.4	121.8	42.97	59.66	38.95	13.11

#1	.0004	-0.001	-0.001	-0.001	.0009	.0002	-0.001	-0.001	-0.007
#2	.0000	-0.001	-0.001	-0.001	.0004	.0004	-0.000	-0.001	-0.006
#3	.0001	-0.000	.0002	.0000	-0.001	.0002	-0.001	-0.001	-0.007

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	.0007	-0.007	-0.014	.0008	.0042	.0020
Stddev	.0003	.0000	.0006	.0010	.0003	.0021	.0011	.0098	.0037
%RSD	88.80	7.377	99.30	137.8	41.52	145.4	141.3	231.0	187.3

#1	.0005	.0001	.0012	.0010	-0.007	.0010	.0003	.0081	.0063
#2	.0004	.0002	.0001	-0.004	-0.004	-0.024	.0021	-0.069	-0.001
#3	-0.000	.0001	.0004	.0016	-0.009	-0.028	.0000	.0115	-0.002

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	.0063	-0.016	.0305	.0223	.0020	.0001	.0025	-0.0005	-0.001
Stddev	.0127	.0153	.0189	.0088	.0003	.0001	.0004	.0003	.0002
%RSD	201.5	938.3	61.90	39.35	14.28	263.4	14.48	50.17	142.5

#1	.0210	.0161	.0505	.0300	.0017	-0.000	.0026	-0.0005	.0000
#2	-0.018	-0.106	.0130	.0242	.0022	-0.000	.0021	-0.003	-0.003
#3	-0.003	-0.104	.0281	.0127	.0021	.0002	.0028	-0.0008	-0.001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Sample Name: ccbconf Acquired: 4/18/2019 11:00:13 Type: QC  
 Method: SGS 3(v299) 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	-0.0003	.0005	.0001	-0.0003	.0000	F .0044	.0017
Stddev	.0003	.0003	.0001	.0007	.0003	.0012	.0006
%RSD	114.2	64.57	193.8	242.2	700.4	28.07	36.25

#1	-0.0006	.0001	.0002	-0.0010	-0.0003	.0058	.0019
#2	-0.0003	.0007	-0.000	-0.0002	.0004	.0035	.0010
#3	.0001	.0007	.0000	.0003	.0001	.0039	.0022

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail 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	98779.	4977.9	3714.3	8370.3
Stddev	420.	6.5	5.4	11.5
%RSD	.42557	.13146	.14408	.13711

#1	98294.	4972.0	3714.1	8374.1
#2	99007.	4984.9	3709.0	8357.4
#3	99037.	4976.8	3719.7	8379.3

Sample Name: icv 1 Acquired: 4/18/2019 11:05:46 Type: QC  
 Method: SGS 3(v299) 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	2.053	2.007	2.024	1.992	1.953	2.019	2.004	2.557
Stddev	.006	.008	.006	.007	.007	.004	.009	.007	.006
%RSD	.2721	.4067	.2826	.3407	.3670	.2000	.4460	.3687	.2355
#1	2.039	2.045	2.008	2.026	1.996	1.956	2.026	2.006	2.554
#2	2.050	2.061	2.012	2.029	1.997	1.954	2.022	2.009	2.563
#3	2.046	2.054	2.001	2.016	1.984	1.948	2.009	1.995	2.552

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	2.008	2.002	2.044	2.002	1.983	1.988	40.32	40.57
Stddev	.009	.006	.006	.008	.007	.005	.007	.04	.09
%RSD	.4238	.2987	.3234	.4072	.3684	.2769	.3709	.0975	.2160
#1	2.004	2.007	2.000	2.051	2.005	1.984	1.988	40.31	40.47
#2	2.000	2.014	2.009	2.047	2.008	1.988	1.995	40.37	40.62
#3	1.988	2.002	1.996	2.035	1.994	1.977	1.980	40.29	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	41.23	40.69	40.47	40.41	2.026	2.014	5.251	2.038	2.044
Stddev	.14	.22	.18	.11	.004	.007	.015	.004	.007
%RSD	.3334	.5384	.4419	.2679	.2205	.3517	.2880	.2220	.3602
#1	41.09	40.44	40.27	40.29	2.026	2.013	5.247	2.038	2.036
#2	41.37	40.83	40.61	40.50	2.030	2.021	5.268	2.042	2.050
#3	41.24	40.80	40.52	40.42	2.021	2.007	5.238	2.033	2.045

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass  
 Value Range 5.000% 5.000%

Sample Name: icv 1 Acquired: 4/18/2019 11:05:46 Type: QC  
 Method: SGS 3(v299) 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	2.009	1.982	1.988	2.042	2.013	2.017	2.033
Stddev	.005	.007	.005	.006	.009	.008	.010
%RSD	.2749	.3437	.2624	.3067	.4316	.3858	.4911
#1	2.013	1.980	1.990	2.042	2.016	2.009	2.040
#2	2.010	1.990	1.991	2.048	2.021	2.025	2.038
#3	2.002	1.977	1.982	2.036	2.004	2.018	2.022

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Int. Std. Units	Y_3600	Y_3710	Y_2243	In2306
Cts/S				
Avg	93498.	4881.3	3596.6	7517.2
Stddev	442.	32.5	9.9	20.1
%RSD	.47263	.66653	.27576	.26729
#1	93156.	4914.6	3595.9	7507.8
#2	93341.	4879.7	3587.0	7503.5
#3	93997.	4849.6	3606.8	7540.3

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: icb 7 Acquired: 4/18/2019 11:18:55 Type: QC  
 Method: SGS 3(v299) 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	-0.000	-0.001	.000	.000	.001	-0.002	-0.001	.001	-0.005
Stddev	.0002	.0001	.0001	.0000	.0003	.0000	.0000	.0001	.0005
%RSD	5299.	88.72	1020.	35.56	380.3	131.7	41.85	255.1	93.54
#1	.0002	-0.001	.0002	.0000	.0005	-0.004	-0.001	-0.000	-0.004
#2	-0.000	-0.002	-0.001	.0001	-0.001	-0.003	-0.001	-0.000	-0.001
#3	-0.002	-0.000	-0.000	.0000	-0.001	.0001	-0.001	.0002	-0.010

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	.0001	-0.008	-0.004	.002	.002	-0.084	.046
Stddev	.0002	.0001	.0019	.0009	.0003	.0012	.0005	.0164	.0049
%RSD	321.1	52.34	1797.	124.0	99.54	686.4	216.8	196.5	105.9
#1	.0002	.0001	.0020	-0.009	-0.007	.0015	.0006	-0.045	-0.008
#2	-0.002	.0000	-0.018	-0.002	-0.003	-0.009	.0003	-0.264	.0061
#3	.0001	.0002	.0001	-0.016	-0.000	-0.000	-0.003	.0058	.0085

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	.0243	.0057	.0002	.0006	.0001	.0004	-0.002	.0001
Stddev	.0016	.0262	.0407	.0051	.0006	.0001	.0002	.0009	.0001
%RSD	58.60	107.9	715.6	2300.	104.3	103.3	40.33	425.6	172.6
#1	.0026	.0466	.0245	-0.016	-0.000	.0000	.0004	.0008	.0002
#2	.0011	-0.045	.0336	.0060	.0013	.0001	.0006	-0.008	-0.001
#3	.0043	.0308	-.0410	-0.037	.0006	.0002	.0002	-0.007	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Sample Name: icb 7 Acquired: 4/18/2019 11:18:55 Type: QC  
 Method: SGS 3(v299) 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	-0.005	.0009	-0.000	.0025	.0001	.0024	.0019
Stddev	.0002	.0002	.0001	.0004	.0014	.0006	.0008
%RSD	41.18	23.21	423.1	18.15	2200.	25.55	40.71
#1	-0.008	.0010	.0001	.0030	-0.016	.0027	.0010
#2	-0.004	.0009	-0.001	.0024	.0009	.0017	.0024
#3	-0.004	.0006	-0.000	.0021	.0009	.0028	.0023

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Int. Std. Units	Y_3600	Y_3710	Y_2243	In2306
Cts/S				
Avg	98275.	5002.9	3709.4	8364.9
Stddev	220.	17.7	8.1	16.0
%RSD	.22389	.35470	.21819	.19070
#1	98121.	5004.0	3700.9	8352.0
#2	98177.	5020.1	3710.4	8360.1
#3	98527.	4984.7	3717.0	8382.7

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Sample Name: iccv 1 Acquired: 4/18/2019 11:25:09 Type: QC  
 Method: SGS 3(v299) 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	<b>2.055</b>	<b>2.088</b>	<b>2.016</b>	<b>2.009</b>	<b>1.995</b>	<b>1.959</b>	<b>2.023</b>	<b>2.024</b>	<b>2.478</b>
Stddev	.004	.004	.007	.006	.004	.003	.002	.005	.002
%RSD	.1682	.2124	.3722	.3158	.1768	.1460	.1055	.2613	.0790
#1	2.055	2.089	2.024	2.017	1.992	1.962	2.023	2.030	2.476
#2	2.056	2.089	2.020	2.012	1.992	1.955	2.021	2.026	2.476
#3	2.050	2.082	2.013	2.003	1.999	1.959	2.026	2.019	2.480
#4	2.058	2.093	2.007	2.005	1.996	1.959	2.021	2.020	2.480

Check ? Value Range  
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.996</b>	<b>2.030</b>	<b>1.983</b>	<b>2.080</b>	<b>2.031</b>	<b>2.010</b>	<b>2.000</b>	<b>40.78</b>	<b>41.49</b>
Stddev	.003	.007	.009	.009	.004	.010	.010	.12	.03
%RSD	.1571	.3296	.4276	.4409	.2149	.5166	.4882	.2970	.0719
#1	2.001	2.036	1.993	2.092	2.035	2.017	2.012	40.91	41.48
#2	1.996	2.035	1.987	2.078	2.033	2.020	2.004	40.77	41.48
#3	1.996	2.022	1.976	2.081	2.031	2.005	1.992	40.63	41.45
#4	1.993	2.028	1.975	2.069	2.025	1.998	1.991	40.83	41.53

Check ? Value Range  
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: iccv 1 Acquired: 4/18/2019 11:25:09 Type: QC  
 Method: SGS 3(v299) 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	<b>F 42.10</b>	<b>41.63</b>	<b>41.03</b>	<b>41.37</b>	<b>2.054</b>	<b>2.012</b>	<b>5.122</b>	<b>2.033</b>	<b>2.068</b>
Stddev	.13	.11	.08	.06	.008	.008	.021	.008	.003
%RSD	.3040	.2545	.1850	.1566	.3967	.3972	.4152	.3911	.1218
#1	42.01	41.71	40.99	41.33	2.060	2.021	5.148	2.041	2.067
#2	42.06	41.47	41.05	41.42	2.061	2.017	5.130	2.038	2.069
#3	42.04	41.64	40.95	41.29	2.051	2.006	5.112	2.026	2.065
#4	42.29	41.67	41.13	41.42	2.044	2.004	5.099	2.026	2.071

Check ? Value Range  
 Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.971</b>	<b>1.983</b>	<b>1.972</b>	<b>2.027</b>	<b>2.040</b>	<b>2.014</b>	<b>2.020</b>
Stddev	.001	.007	.002	.009	.009	.005	.008
%RSD	.0524	.3387	.0738	.4378	.4383	.2300	.3937
#1	1.971	1.988	1.974	2.037	2.051	2.011	2.029
#2	1.970	1.989	1.971	2.025	2.041	2.013	2.022
#3	1.972	1.979	1.973	2.029	2.037	2.012	2.017
#4	1.970	1.976	1.971	2.016	2.030	2.021	2.010

Check ? Value Range  
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: iccv 1 Acquired: 4/18/2019 11:25:09 Type: QC  
 Method: SGS 3(v299) 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	<b>94565.</b>	<b>4897.4</b>	<b>3604.3</b>	<b>7512.5</b>
Stddev	258.	15.0	11.4	20.0
%RSD	.27274	.30607	.31672	.26567
#1	94680.	4888.5	3591.1	7486.0
#2	94627.	4919.7	3598.4	7508.2
#3	94188.	4888.4	3614.3	7526.4
#4	94766.	4893.0	3613.3	7529.2

Sample Name: ccb 7 Acquired: 4/18/2019 11:37:25 Type: QC  
 Method: SGS 3(v299) 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	<b>-0.000</b>	<b>.0000</b>	<b>-0.002</b>	<b>-0.001</b>	<b>.0002</b>	<b>.0002</b>	<b>-0.001</b>	<b>-0.000</b>	<b>-0.008</b>
Stddev	.0002	.0001	.0001	.0001	.0004	.0003	.0001	.0003	.0005
%RSD	8978.	293.7	49.35	134.4	176.2	142.7	115.3	1399.	61.83
#1	.0001	-0.000	-0.004	-0.001	.0001	.0004	-0.000	-0.002	-0.007
#2	-0.002	-0.000	-0.003	-0.000	-0.001	.0002	-0.002	-0.001	-0.013
#3	.0001	.0001	-0.001	-0.002	.0006	-0.001	-0.000	.0003	-0.003

Check ? High Limit Low Limit  
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0004</b>	<b>.0001</b>	<b>.0003</b>	<b>-0.002</b>	<b>-0.007</b>	<b>-0.010</b>	<b>.0002</b>	<b>-0.018</b>	<b>.0048</b>
Stddev	.0002	.0001	.0001	.0010	.0006	.0004	.0006	.0165	.0059
%RSD	60.88	124.4	50.76	474.3	87.87	40.54	346.1	139.9	121.8
#1	.0005	.0002	.0002	-0.011	-0.012	-0.009	-0.002	-0.015	.0011
#2	.0005	.0001	.0002	.0009	-0.000	-0.014	-0.002	.0061	.0116
#3	.0001	-0.000	.0004	-0.005	-0.008	-0.006	.0008	-0.025	.0018

Check ? High Limit Low Limit  
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0046</b>	<b>-0.117</b>	<b>.0328</b>	<b>-0.026</b>	<b>.009</b>	<b>-0.000</b>	<b>.0005</b>	<b>-0.004</b>	<b>.0000</b>
Stddev	.0052	.0382	.0160	.0121	.0002	.0001	.0004	.0001	.0001
%RSD	113.8	326.1	48.73	465.5	16.75	3923.	82.24	35.07	540.9
#1	-0.012	-0.040	.0274	-0.0165	.0010	-0.000	.0008	-0.003	.0001
#2	.0088	-0.014	.0507	.0029	.0008	.0001	.0007	-0.003	-0.001
#3	.0061	.0203	.0201	.0058	.0011	-0.001	.0000	-0.006	.0001

Check ? High Limit Low Limit  
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Sample Name: ccb 7 Acquired: 4/18/2019 11:37:25 Type: QC  
 Method: SGS 3(v299) 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	<b>-0.002</b>	<b>.0009</b>	<b>.0001</b>	<b>.0015</b>	<b>.0001</b>	<b>.0023</b>	<b>.0026</b>
Stddev	.0002	.0005	.0000	.0036	.0006	.0011	.0004
%RSD	106.1	48.40	57.85	236.0	1259.	48.75	16.03
#1	.0000	.0005	.0001	-.0012	-.0005	.0021	.0028
#2	-.0002	.0009	.0001	.0002	.0007	.0013	.0029
#3	-.0003	.0014	.0000	.0056	-.0000	.0035	.0021

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	<b>98802.</b>	<b>4973.9</b>	<b>3706.7</b>	<b>8354.8</b>
Stddev	155.	25.7	15.3	37.6
%RSD	.15702	.51601	.41285	.45031
#1	98665.	4989.6	3690.0	8315.1
#2	98772.	4987.9	3710.1	8359.2
#3	98971.	4944.3	3720.0	8390.0

Sample Name: sampleconf Acquired: 4/18/2019 11:47:11 Type: QC  
 Method: SGS 3(v299) 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	<b>.2168</b>	<b>.0021</b>	<b>.0032</b>	<b>.0521</b>	<b>.0114</b>	<b>.0104</b>	<b>.0165</b>	<b>.0105</b>	<b>.0050</b>
Stddev	.0005	.0001	.0003	.0004	.0001	.0002	.0001	.0003	.0004
%RSD	.2522	6.624	8.454	.8186	.7935	2.325	.7818	3.272	7.222
#1	.2171	.0019	.0032	.0517	.0115	.0102	.0165	.0109	.0051
#2	.2170	.0021	.0029	.0525	.0114	.0102	.0164	.0103	.0053
#3	.2161	.0022	.0035	.0520	.0113	.0106	.0166	.0103	.0046

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	<b>.0535</b>	<b>.0227</b>	<b>.0084</b>	<b>.0095</b>	<b>.0024</b>	<b>.0097</b>	<b>.0070</b>	<b>.2129</b>	<b>5.573</b>
Stddev	.0004	.0001	.0003	.0004	.0005	.0011	.0010	.0065	.005
%RSD	.7787	.6188	3.997	4.716	21.68	11.81	14.06	3.045	.0947
#1	.0533	.0226	.0087	.0090	.0022	.0084	.0065	.2111	5.570
#2	.0532	.0229	.0085	.0095	.0030	.0106	.0081	.2201	5.571
#3	.0540	.0226	.0081	.0099	.0020	.0101	.0063	.2075	5.579

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	<b>F .1663</b>	<b>5.607</b>	<b>5.315</b>	<b>5.402</b>	<b>.1069</b>	<b>.0227</b>	<b>.2212</b>	<b>F .0127</b>	<b>.0110</b>
Stddev	.0095	.024	.007	.023	.0008	.0003	.0009	.0002	.0002
%RSD	5.700	.4355	.1418	.4278	.7319	1.141	.4021	1.273	1.566
#1	.1747	5.631	5.318	5.425	.1078	.0229	.2219	.0128	.0110
#2	.1560	5.609	5.307	5.404	.1063	.0229	.2216	.0125	.0108
#3	.1682	5.582	5.321	5.378	.1067	.0224	.2202	.0127	.0111

Check ? Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass  
 Value  
 Range 20.00% .0100 20.00%

Sample Name: sampleconf Acquired: 4/18/2019 11:47:11 Type: QC  
 Method: SGS 3(v299) 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	<b>.0106</b>	<b>.0559</b>	<b>.0103</b>	<b>.0575</b>	<b>.0233</b>	<b>.0596</b>	<b>.0556</b>
Stddev	.0002	.0004	.0002	.0026	.0008	.0002	.0001
%RSD	1.735	.6495	1.585	4.475	3.327	.2761	.2612
#1	.0105	.0563	.0103	.0595	.0236	.0595	.0556
#2	.0108	.0556	.0102	.0546	.0238	.0597	.0555
#3	.0105	.0559	.0105	.0585	.0224	.0598	.0558

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	<b>96663.</b>	<b>4887.1</b>	<b>3612.7</b>	<b>8003.4</b>
Stddev	320.	24.3	12.0	21.8
%RSD	.33114	.49759	.33195	.27276
#1	96634.	4889.7	3602.8	7984.4
#2	96997.	4910.0	3609.2	7998.6
#3	96359.	4861.6	3626.0	8027.3

Sample Name: sampleconf Acquired: 4/18/2019 11:52:38 Type: QC  
 Method: SGS 3(v299) 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	<b>.0047</b>	<b>F .0013</b>	<b>.0011</b>	<b>.0034</b>	<b>.0025</b>	<b>F .0000</b>	<b>.0035</b>	<b>.0046</b>
Stddev	.0002	.0000	.0001	.0001	.0001	.0002	.0001	.0001
%RSD	4.513	2.522	9.980	2.561	5.301	14240.	1.498	2.938
#1	.0048	.0013	.0010	.0033	.0024	.0002	.0036	.0045
#2	.0045	.0012	.0011	.0035	.0025	-.0001	.0035	.0047
#3	.0049	.0013	.0012	.0035	.0026	-.0001	.0035	.0045

Check ? Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass  
 Value  
 Range .0010 20.00% .0020 -30.00%

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>F .0004</b>	<b>.0025</b>	<b>.0125</b>	<b>F .0037</b>	<b>F .0025</b>	<b>F .0007</b>	<b>.0054</b>	<b>F .0008</b>
Stddev	.0000	.0001	.0001	.0004	.0006	.0008	.0011	.0012
%RSD	8.811	5.125	.6111	10.93	22.57	112.0	18.04	160.1
#1	-.0005	.0024	.0124	.0032	.0028	-.0008	.0051	-.0002
#2	-.0005	.0027	.0125	.0039	.0028	.0001	.0073	.0004
#3	-.0004	.0026	.0124	.0040	.0018	-.0014	.0067	.0022

Check ? Chk Fail Chk Pass Chk Pass Chk Fail Chk Fail Chk Fail Chk Pass Chk Fail  
 Value  
 Range .0020 Chk Pass Chk Pass Chk Fail Chk Fail Chk Fail Chk Pass Chk Fail  
 -30.00% 20.00% 20.00% 20.00% -30.00% -30.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1191</b>	<b>1.228</b>	<b>.0039</b>	<b>.1276</b>	<b>2.356</b>	<b>1.186</b>	<b>F .0007</b>	<b>.0001</b>
Stddev	.0171	.005	.0037	.0307	.034	.006	.0005	.0001
%RSD	14.33	.4136	94.31	24.02	1.430	.4870	72.75	120.7
#1	.1147	1.228	.0021	.1629	2.384	1.182	.0012	.0000
#2	.1379	1.233	.0081	.1075	2.365	1.184	.0002	-.0001
#3	.1047	1.223	.0014	.1125	2.318	1.193	.0007	-.0001

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass  
 Value  
 Range .0100 -30.00%



Sample Name: sampleconf Acquired: 4/18/2019 11:52:38 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Table with 8 columns: Elem, Units, Avg, Stddev, %RSD, Sn1899, Sr4077, Ti3349, W\_2079, Zr3391, S\_1820, Bi2230. Includes rows for #1, #2, #3 and Check ? Value Range.

Table with 2 columns: Elem, Units, Avg, Stddev, %RSD, Li6707, P\_1774. Includes rows for #1, #2, #3 and Check ? Value Range.

Table with 4 columns: Int. Std. Units, Avg, Stddev, %RSD, Y\_3600, Y\_3710, Y\_2243, In2306. Includes rows for #1, #2, #3.

Sample Name: cri Acquired: 4/18/2019 11:58:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Table with 11 columns: Elem, Units, Avg, Stddev, %RSD, Ba4554, Be3130, Cd2288, Co2286, Cr2677, Cu3247, Mn2576, Ni2316, Ag3280. Includes rows for #1, #2, #3 and Check ? Value Range.

Table with 11 columns: Elem, Units, Avg, Stddev, %RSD, V\_2924, Zn2062, As1890, Tl1908, Pb2203, Se1960, Sb2068, Al3961, Ca3179. Includes rows for #1, #2, #3 and Check ? Value Range.

Table with 10 columns: Elem, Units, Avg, Stddev, %RSD, Fe2599, Mg2790, K\_7664, Na5895, B\_2089, Mo2020, Si2124, Sn1899, Sr4077. Includes rows for #1, #2, #3 and Check ? Value Range.

Sample Name: cri Acquired: 4/18/2019 11:58:09 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Table with 8 columns: Elem, Units, Avg, Stddev, %RSD, Ti3349, W\_2079, Zr3391, S\_1820, Bi2230, Li6707, P\_1774. Includes rows for #1, #2, #3 and Check ? Value Range.

Table with 4 columns: Int. Std. Units, Avg, Stddev, %RSD, Y\_3600, Y\_3710, Y\_2243, In2306. Includes rows for #1, #2, #3.

Sample Name: crid Acquired: 4/18/2019 12:03:38 Type: QC
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Table with 10 columns: Elem, Units, Avg, Stddev, %RSD, Ba4554, Be3130, Cd2288, Co2286, Cr2677, Cu3247, Mn2576, Ni2316. Includes rows for #1, #2, #3 and Check ? Value Range.

Table with 8 columns: Elem, Units, Avg, Stddev, %RSD, Ag3280, V\_2924, Zn2062, As1890, Tl1908, Pb2203, Se1960, Sb2068. Includes rows for #1, #2, #3 and Check ? Value Range.

Table with 8 columns: Elem, Units, Avg, Stddev, %RSD, Al3961, Ca3179, Fe2599, Mg2790, K\_7664, Na5895, B\_2089, Mo2020. Includes rows for #1, #2, #3 and Check ? Value Range.

133 13

Sample Name: crid Acquired: 4/18/2019 12:03:38 Type: QC  
 Method: SGS 3(v299) 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	<b>.0027</b>	<b>-0.004</b>	<b>-0.000</b>	<b>-0.003</b>	<b>F.0002</b>	<b>F.0000</b>	<b>F.-0.001</b>	<b>F.-0.004</b>
Stddev	.0006	.0002	.0000	.0001	.0004	.0001	.0019	.0012
%RSD	23.04	61.54	112.7	56.80	211.3	397.2	2049.	278.7
#1	.0035	-0.004	-0.001	-0.003	-0.003	.0001	-0.014	.0009
#2	.0024	-0.001	-0.001	-0.004	.0004	.0000	.0020	-0.016
#3	.0024	-0.006	.0000	-0.001	.0005	-0.000	-0.009	-0.006
Check ?	None	None	None	None	Chk Fail	Chk Fail	Chk Fail	Chk Fail
Value					.0040	.0040	.0040	.0040
Range					-30.00%	-30.00%	-30.00%	-30.00%

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	<b>F.0017</b>	<b>.0028</b>
Stddev	.0020	.0002
%RSD	114.8	8.649
#1	-0.002	.0025
#2	.0016	.0028
#3	.0037	.0030
Check ?	Chk Fail	Chk Pass
Value	.0040	
Range	-30.00%	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>98676.</b>	<b>5004.2</b>	<b>3702.4</b>	<b>8300.4</b>
Stddev	44.	32.1	5.8	8.5
%RSD	.04448	.64197	.15601	.10220
#1	98639.	5032.7	3697.6	8296.7
#2	98665.	5010.6	3700.7	8294.4
#3	98725.	4969.4	3708.8	8310.1

Sample Name: icsa Acquired: 4/18/2019 12:09:09 Type: QC  
 Method: SGS 3(v299) 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	<b>-0.004</b>	<b>.0002</b>	<b>-0.000</b>	<b>-0.012</b>	<b>.0006</b>	<b>-0.007</b>	<b>.0025</b>	<b>-0.006</b>	<b>-0.001</b>
Stddev	.0003	.0001	.0001	.0005	.0002	.0006	.0000	.0003	.0002
%RSD	90.98	25.80	3325.	40.69	32.69	87.82	1.065	51.39	346.0
#1	-0.007	.0002	-0.001	-0.018	.0004	-0.010	.0025	-0.009	.0001
#2	-0.001	.0003	-0.000	-0.008	.0007	.0000	.0025	-0.006	-0.001
#3	-0.003	.0002	.0001	-0.011	.0009	-0.011	.0025	-0.003	-0.002
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	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0008</b>	<b>-0.0015</b>	<b>.0009</b>	<b>-0.005</b>	<b>.0006</b>	<b>.0027</b>	<b>-0.0026</b>	<b>519.4</b>	<b>390.1</b>
Stddev	.0003	.0001	.0027	.0010	.0025	.0049	.0019	.1	.1
%RSD	33.28	5.460	298.6	219.0	453.6	185.1	74.29	.0187	.0332
#1	.0009	-0.014	.0029	-0.014	-0.003	-0.030	-0.037	519.4	390.2
#2	.0005	-0.016	.0020	-0.007	.0034	.0059	-0.004	519.5	390.0
#3	.0010	-0.014	-0.022	-0.007	-0.014	.0051	-0.038	519.4	390.0
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	<b>191.7</b>	<b>506.4</b>	<b>-3363</b>	<b>.0018</b>	<b>-0.0046</b>	<b>-0.0019</b>	<b>-0.0141</b>	<b>-0.0022</b>	<b>-0.0027</b>
Stddev	.2	1.7	.0426	.0095	.0006	.0002	.0002	.0012	.0002
%RSD	.1292	.3410	12.67	511.2	14.13	12.20	1.382	54.30	6.888
#1	191.7	507.7	-3805	.0050	-0.041	-0.017	-0.0143	-0.0035	-0.0025
#2	191.9	507.1	-3331	-0.0088	-0.0053	-0.022	-0.0141	-0.0021	-0.0028
#3	191.4	504.5	-2954	.0093	-0.043	-0.020	-0.0139	-0.0011	-0.0028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: icsa Acquired: 4/18/2019 12:09:09 Type: QC  
 Method: SGS 3(v299) 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	<b>-0.0009</b>	<b>.0084</b>	<b>-0.0014</b>	<b>-0.0307</b>	<b>.0088</b>	<b>-0.0074</b>	<b>.0027</b>
Stddev	.0003	.0013	.0002	.0048	.0018	.0007	.0015
%RSD	32.46	15.04	11.15	15.69	20.73	9.239	53.98
#1	-0.007	.0079	-0.013	-0.0358	.0068	-0.0081	.0012
#2	-0.013	.0074	-0.016	-0.0301	.0102	-0.0068	.0028
#3	-0.009	.0098	-0.015	-0.0262	.0096	-0.0074	.0042
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	<b>87110.</b>	<b>4828.4</b>	<b>3324.1</b>	<b>6607.5</b>
Stddev	271.	27.0	3.7	13.0
%RSD	.31107	.55931	.11108	.19626
#1	86937.	4835.6	3321.5	6605.1
#2	86970.	4798.6	3322.6	6595.9
#3	87422.	4851.2	3328.4	6621.5

Sample Name: ICSAB Acquired: 4/18/2019 12:14:30 Type: QC  
 Method: SGS 3(v299) 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	<b>.5206</b>	<b>.5078</b>	<b>1.031</b>	<b>.4826</b>	<b>.4850</b>	<b>.5084</b>	<b>.5016</b>	<b>.9846</b>	<b>1.109</b>
Stddev	.0010	.0004	.004	.0016	.0012	.0010	.0005	.0026	.001
%RSD	.2002	.0735	.3806	.3260	.2417	.1920	.1066	.2681	.0848
#1	.5210	.5081	1.035	.4945	.4863	.5090	.5012	.9870	1.109
#2	.5194	.5079	1.030	.4919	.4846	.5089	.5022	.9849	1.110
#3	.5214	.5074	1.027	.4915	.4841	.5072	.5013	.9818	1.108
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	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.4952</b>	<b>.9503</b>	<b>1.080</b>	<b>.9834</b>	<b>.9748</b>	<b>1.063</b>	<b>1.094</b>	<b>518.4</b>	<b>389.1</b>
Stddev	.0007	.0024	.005	.0050	.0036	.003	.002	.4	.7
%RSD	.1509	.2475	.5033	.5120	.3708	.2831	.1614	.0706	.1764
#1	.4953	.9527	1.086	.9889	.9775	1.064	1.095	518.1	388.6
#2	.4959	.9501	1.080	.9791	.9761	1.065	1.092	518.3	388.7
#3	.4944	.9480	1.075	.9821	.9707	1.060	1.095	518.8	389.9
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	<b>197.4</b>	<b>510.6</b>	<b>-4083</b>	<b>.0211</b>	<b>.4812</b>	<b>.4867</b>	<b>.5148</b>	<b>.4752</b>	<b>.5214</b>
Stddev	.5	.9	.0284	.0010	.0020	.0005	.0041	.0017	.0010
%RSD	.2359	.1835	6.953	4.669	.4235	.1085	.8024	.3677	.1831
#1	197.1	510.3	-4091	.0203	.4827	.4871	.5190	.4769	.5212
#2	197.2	509.8	-3795	.0222	.4821	.4869	.5144	.4753	.5205
#3	197.9	511.6	-4362	.0210	.4789	.4861	.5108	.4734	.5224
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: ICSAB Acquired: 4/18/2019 12:14:30 Type: QC  
 Method: SGS 3(v299) 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	<b>5008</b>	<b>4911</b>	<b>4881</b>	<b>4898</b>	<b>5329</b>	<b>5290</b>	<b>5241</b>
Stddev	.0004	.0008	.0012	.0040	.0015	.0019	.0013
%RSD	.0858	.1617	.2511	.8108	.2871	.3644	.2526

#1	.5006	.4915	4888	4856	5346	.5293	.5236
#2	.5013	.4902	4888	4904	5318	.5269	.5256
#3	.5005	.4916	4867	4934	5323	.5307	.5231

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	<b>86968.</b>	<b>4837.6</b>	<b>3313.8</b>	<b>6611.3</b>
Stddev	100.	18.7	8.7	19.0
%RSD	.11546	.38744	.26160	.28784

#1	87011.	4853.8	3304.5	6593.7
#2	86854.	4842.0	3315.3	6608.7
#3	87041.	4817.1	3321.6	6631.5

Sample Name: hstd 7 Acquired: 4/18/2019 12:19:32 Type: QC  
 Method: SGS 3(v299) 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	<b>8.265</b>	<b>8.322</b>	<b>7.953</b>	<b>8.108</b>	<b>8.319</b>	<b>8.250</b>	<b>8.068</b>	<b>8.019</b>	<b>6.705</b>
Stddev	.025	.016	.012	.008	.038	.028	.051	.006	.0022
%RSD	.3010	.1888	.1553	.0946	.4582	.3398	.6301	.0761	.3269

#1	8.294	8.335	7.946	8.106	8.362	8.281	8.106	8.016	.6728
#2	8.251	8.326	7.968	8.116	8.305	8.238	8.087	8.026	.6704
#3	8.250	8.304	7.946	8.101	8.290	8.229	8.010	8.015	.6684

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	<b>8.235</b>	<b>8.338</b>	<b>8.340</b>	<b>8.359</b>	<b>8.175</b>	<b>8.255</b>	<b>8.527</b>	<b>1.125</b>	<b>-1.1372</b>
Stddev	.021	.023	.005	.026	.013	.020	.012	.0043	.0081
%RSD	.2546	.2758	.0629	.3123	.1564	.2436	.1405	3.787	5.870

#1	8.259	8.317	8.335	8.359	8.164	8.233	8.524	.1131	-.1406
#2	8.227	8.362	8.340	8.385	8.189	8.272	8.517	.1164	-.1280
#3	8.220	8.335	8.345	8.333	8.171	8.261	8.540	.1079	-.1429

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	<b>0.0309</b>	<b>-0.0383</b>	<b>2.285</b>	<b>0.655</b>	<b>8.275</b>	<b>8.539</b>	<b>26.13</b>	<b>8.736</b>	<b>8.285</b>
Stddev	.0053	.0205	.0186	.0125	.013	.010	.06	.027	.016
%RSD	17.17	53.46	8.125	19.10	.1589	.1213	.2248	.3063	.1872

#1	.0367	-.0617	.2334	.0642	8.264	8.528	26.07	8.716	8.303
#2	.0263	-.0235	.2079	.0787	8.271	8.548	26.16	8.766	8.276
#3	.0296	-.0298	.2441	.0537	8.289	8.543	26.18	8.725	8.276

Check ? None None None None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: hstd 7 Acquired: 4/18/2019 12:19:32 Type: QC  
 Method: SGS 3(v299) 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	<b>8.394</b>	<b>8.717</b>	<b>8.162</b>	<b>105.3</b>	<b>8.678</b>	<b>7.963</b>	<b>8.087</b>
Stddev	.031	.016	.026	.3	.010	.037	.022
%RSD	.3649	.1799	.3166	2.403	.1182	.4597	.2687

#1	8.428	8.700	8.181	105.2	8.678	8.005	8.084
#2	8.387	8.731	8.171	105.6	8.668	7.935	8.110
#3	8.368	8.719	8.132	105.1	8.689	7.949	8.067

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	<b>95673.</b>	<b>5032.2</b>	<b>3616.1</b>	<b>8017.6</b>
Stddev	322.	24.0	5.6	6.3
%RSD	.33625	.47776	.15552	.07907

#1	95323.	5045.6	3622.5	8019.4
#2	95739.	5004.4	3612.1	8010.5
#3	95956.	5046.5	3613.7	8022.8

Sample Name: hstd Acquired: 4/18/2019 12:24:53 Type: QC  
 Method: SGS 3(v299) 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	<b>0.000</b>	<b>0.009</b>	<b>0.002</b>	<b>-0.012</b>	<b>0.010</b>	<b>-0.001</b>	<b>0.029</b>	<b>0.002</b>	<b>0.172</b>
Stddev	.0002	.0002	.0001	.0005	.0005	.0002	.0001	.0001	.0002
%RSD	35140.	24.75	77.70	38.28	44.53	385.3	3.069	62.95	1.352

#1	-.0002	.0012	.0002	-.0009	.0016	.0001	.0029	.0003	.0169
#2	-.0000	.0007	.0000	-.0018	.0007	.0000	.0029	.0001	.0174
#3	.0002	.0009	.0003	-.0010	.0009	-.0003	.0028	.0003	.0171

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	<b>0.017</b>	<b>0.042</b>	<b>0.004</b>	<b>-0.025</b>	<b>0.011</b>	<b>0.016</b>	<b>-0.015</b>	<b>325.6</b>	<b>207.3</b>
Stddev	.0001	.0003	.0030	.0012	.0011	.0015	.0008	.6	.3
%RSD	8.107	6.002	726.1	47.71	104.7	92.34	53.44	.1904	.1508

#1	.0018	.0045	-.0030	-.0036	.0024	.0000	-.0019	325.9	207.5
#2	.0019	.0040	.0016	-.0012	.0004	.0019	-.0006	326.0	207.4
#3	.0016	.0041	.0027	-.0028	.0004	.0029	-.0021	324.9	206.9

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	<b>203.0</b>	<b>314.9</b>	<b>208.6</b>	<b>208.0</b>	<b>-0.011</b>	<b>0.003</b>	<b>-0.041</b>	<b>-0.015</b>	<b>-0.014</b>
Stddev	.4	.2	.8	.6	.0014	.0001	.0011	.0004	.0001
%RSD	.1973	.0790	.4071	.2745	123.5	21.47	27.76	30.44	9.039

#1	203.3	315.0	209.3	208.4	-.0000	.0004	-.0041	-.0012	-.0013
#2	203.1	315.0	208.8	208.4	-.0027	.0003	-.0030	-.0020	-.0014
#3	202.5	314.6	207.7	207.4	-.0007	.0003	-.0052	-.0012	-.0016

Check ? Chk Pass Chk Pass Chk Pass Chk Pass None None None None None  
 Value Range

133  
13

Sample Name: hstd Acquired: 4/18/2019 12:24:53 Type: QC  
 Method: SGS 3(v299) 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	-0.007	0.079	-0.010	-0.154	0.092	0.199	0.082
Stddev	.0001	.0003	.0002	.0033	.0022	.0018	.0013
%RSD	11.93	3.684	16.84	21.55	23.33	8.942	15.61

#1	-0.007	.0082	-0.009	-0.142	.0096	.0199	.0089
#2	-0.006	.0077	-0.009	-0.129	.0069	.0181	.0091
#3	-0.008	.0077	-0.012	-0.192	.0112	.0217	.0068

Check ? Value Range  
 None None None None None None None

Int. Std. Units	Y_3600 Cts/S	Y_3710 Cts/S	Y_2243 Cts/S	ln2306 Cts/S
Avg	87490.	4829.6	3306.4	6573.4
Stddev	214.	12.4	2.8	7.1
%RSD	.24449	.25578	.08361	.10767

#1	87736.	4836.3	3307.3	6577.4
#2	87380.	4815.3	3303.4	6565.2
#3	87353.	4837.1	3308.7	6577.5

Sample Name: missedconf Acquired: 4/18/2019 12:30:19 Type: Unk  
 Method: SGS 3(v299) 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	-0.007	-0.002	-0.003	0.003	-0.006	0.067	-0.000	0.002
Stddev	.0001	.0001	.0001	.0000	.0010	.0201	.0000	.0001
%RSD	14.88	34.36	21.91	15.01	159.3	301.2	194.2	40.40

#1	-0.006	-0.002	-0.003	0.003	-0.018	.0298	.0000	.0001
#2	-0.007	-0.002	-0.002	0.003	-0.003	-.0048	-0.000	.0002
#3	-0.007	-0.003	-0.004	0.003	-0.001	-.0050	-0.001	.0003

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -0.0083	0.007	-0.001	0.021	0.009	0.005	-0.019	0.023
Stddev	.0109	.0007	.0000	.0004	.0003	.0003	.0005	.0002
%RSD	131.7	98.91	16.79	17.72	30.91	65.23	28.86	8.435

#1	-0.209	.0014	-0.001	.0024	.0012	.0003	-.0025	.0022
#2	-0.021	.0002	-0.001	.0023	.0010	.0008	-.0016	.0026
#3	-0.019	.0004	-0.001	.0017	.0006	.0003	-0.0015	.0023

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.042	0.026	-0.014	0.212	0.050	-0.072	0.012	-0.001
Stddev	.0053	.0012	.0042	.0178	.0211	.0056	.0004	.0001
%RSD	127.8	44.59	302.8	83.64	38.43	78.33	33.38	79.72

#1	.0093	.0013	-0.062	.0255	.0755	-.0073	.0015	-.0003
#2	.0045	.0033	.0009	.0017	.0333	-.0128	.0007	-.0001
#3	-0.013	.0032	.0012	.0365	.0561	-.0015	.0013	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0045	-0.007	-0.000	-0.004	-0.012	-0.007	0.082	-0.000
Stddev	.0003	.0002	.0000	.0003	.0002	.0015	.0010	.0007
%RSD	7.528	35.26	168.3	75.33	15.42	212.0	12.19	23600

#1	-0.048	-0.010	-0.000	-0.008	-0.010	-0.024	.0076	.0007
#2	-0.047	-0.005	.0000	-0.001	-0.012	.0002	.0093	.0001
#3	-0.041	-0.006	-0.000	-0.004	-0.013	.0001	.0077	-.0008

Sample Name: missedconf Acquired: 4/18/2019 12:30:19 Type: Unk  
 Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: Custom ID2: Custom ID3:  
 Comment:

Elem	Li6707	P_1774
Units	ppm	ppm
Avg	0.004	-0.070
Stddev	.0007	.0007
%RSD	180.2	10.65

#1	.0004	-0.0079
#2	.0012	-0.0066
#3	-0.003	-0.0065

Int. Std. Units	Y_3600 Cts/S	Y_3710 Cts/S	Y_2243 Cts/S	ln2306 Cts/S
Avg	8740.8	10859.	23883.	
Stddev	44.9	15.	36.	
%RSD	.51395	.13607	.15069	

#1	8760.8	10860.	23887.
#2	243660.	8689.4	10844.
#3	246730.	8772.3	10873.

Sample Name: missedconf Acquired: 4/18/2019 12:35:49 Type: Unk  
 Method: SGS 3(v299) 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	-0.007	-0.002	-0.002	0.002	0.001	W -0.060	-0.001	0.003
Stddev	.0004	.0002	.0001	.0001	.0002	.0013	.0000	.0001
%RSD	48.58	88.99	31.98	46.16	334.3	20.92	43.46	42.03

#1	-0.008	-0.000	-0.002	.0001	-0.001	-0.075	-0.001	.0001
#2	-0.004	-0.003	-0.002	.0003	.0002	-0.055	-0.001	.0004
#3	-0.011	-0.001	-0.003	.0003	-0.000	-0.051	-0.001	.0003

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.014	0.003	-0.001	0.020	0.012	-0.001	-0.015	0.021
Stddev	.0007	.0001	.0001	.0001	.0001	.0002	.0002	.0002
%RSD	49.54	29.43	64.88	7.445	8.159	164.7	13.10	10.44

#1	-0.006	.0003	-0.001	.0020	.0011	-0.001	-0.014	.0023
#2	-0.017	.0002	-0.001	.0022	.0012	-0.003	-0.014	.0022
#3	-0.020	.0003	-0.002	.0019	.0013	.0000	-0.018	.0019

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.055	0.044	0.005	0.136	-0.172	-0.083	0.007	-0.001
Stddev	.0040	.0010	.0026	.0222	.0296	.0037	.0002	.0002
%RSD	72.27	23.08	509.6	162.9	172.2	44.93	27.23	110.5

#1	.0015	.0034	-0.002	-.0113	.0099	-.0117	.0008	.0000
#2	.0095	.0055	.0034	.0313	-.0488	-.0043	.0007	-.0002
#3	.0055	.0043	-0.016	.0209	-.0127	-.0089	.0005	-.0003

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.053	-0.007	-0.000	-0.001	-0.014	0.002	0.089	-0.005
Stddev	.0003	.0002	.0001	.0000	.0002	.0001	.0005	.0012
%RSD	6.337	21.27	188.8	1.105	16.55	61.03	5.757	246.0

#1	-0.057	-0.009	.0000	-0.001	-0.015	.0003	.0094	.0012
#2	-0.050	-0.008	-0.001	-0.001	-0.011	.0002	.0085	-.0009
#3	-0.052	-0.006	.0000	-0.001	-0.016	.0001	.0087	.0012

Sample Name: missedconf Acquired: 4/18/2019 12:35:49 Type: Unk  
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: Custom ID2: Custom ID3:  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>-0.000</b>	<b>-0.080</b>		
Stddev	.0014	.0003		
%RSD	9737.	3.184		
#1	.0011	-.0082		
#2	.0005	-.0077		
#3	-.0016	-.0079		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	*****	8804.7	10922.	24002.
Stddev	----	73.1	82.	172.
%RSD	----	.83028	.75206	.71651
#1	----	8744.1	11017.	24200.
#2	253480.	8885.8	10874.	23911.
#3	244060.	8784.1	10876.	23895.

Sample Name: ccv Acquired: 4/18/2019 12:41:20 Type: QC  
Method: SGS 3(v299) 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	<b>2.087</b>	<b>2.103</b>	<b>2.059</b>	<b>2.054</b>	<b>2.047</b>	<b>2.006</b>	<b>2.070</b>	<b>2.065</b>	<b>2.530</b>
Stddev	.006	.006	.005	.004	.007	.003	.004	.006	.0012
%RSD	.3016	.2884	.2329	.2160	.3449	.1232	.2022	.2749	.4802
#1	2.094	2.110	2.064	2.059	2.048	2.007	2.071	2.072	2.531
#2	2.085	2.099	2.059	2.053	2.039	2.004	2.066	2.064	2.517
#3	2.082	2.100	2.054	2.051	2.053	2.009	2.074	2.060	2.541
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	<b>2.039</b>	<b>2.066</b>	<b>2.039</b>	<b>2.120</b>	<b>2.073</b>	<b>2.070</b>	<b>2.056</b>	<b>41.46</b>	<b>42.16</b>
Stddev	.005	.008	.003	.004	.006	.001	.006	.20	.15
%RSD	.2333	.3788	.1443	.1965	.3133	.0631	.3073	.4759	.3586
#1	2.040	2.075	2.042	2.124	2.081	2.071	2.060	41.62	42.29
#2	2.033	2.064	2.038	2.120	2.071	2.071	2.059	41.52	42.20
#3	2.042	2.059	2.036	2.115	2.069	2.069	2.049	41.24	41.99
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	<b>42.44</b>	<b>41.67</b>	<b>41.43</b>	<b>41.97</b>	<b>2.106</b>	<b>2.063</b>	<b>5.272</b>	<b>2.078</b>	<b>2.098</b>
Stddev	.09	.22	.17	.11	.005	.005	.012	.008	.008
%RSD	.2061	.5398	.4108	.2636	.2616	.2293	.2219	.3660	.4006
#1	42.48	41.84	41.62	42.09	2.111	2.068	5.284	2.087	2.108
#2	42.51	41.74	41.38	41.97	2.108	2.062	5.272	2.074	2.094
#3	42.34	41.41	41.30	41.87	2.100	2.059	5.261	2.073	2.093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: ccv Acquired: 4/18/2019 12:41:20 Type: QC  
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: Custom ID2: Custom ID3:  
Comment:

Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.015</b>	<b>2.034</b>	<b>2.016</b>	<b>2.090</b>	<b>2.098</b>	<b>2.043</b>	<b>2.068</b>
Stddev	.002	.004	.004	.001	.005	.007	.002
%RSD	.1190	.1749	.2041	.0476	.2277	.3423	.1021
#1	2.016	2.038	2.018	2.089	2.103	2.047	2.067
#2	2.012	2.030	2.011	2.091	2.098	2.047	2.071
#3	2.016	2.033	2.019	2.091	2.093	2.035	2.068
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	93225.	4873.5	3542.8	7390.5			
Stddev	334.	9.1	8.7	14.9			
%RSD	.35804	.18630	.24502	.20151			
#1	93060.	4863.1	3534.7	7377.4			
#2	93610.	4879.4	3541.8	7387.5			
#3	93007.	4878.1	3552.0	7406.7			

Sample Name: ccb Acquired: 4/18/2019 12:46:22 Type: QC  
Method: SGS 3(v299) 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	<b>-0.002</b>	<b>-0.000</b>	<b>-0.001</b>	<b>-0.000</b>	<b>.0002</b>	<b>.0002</b>	<b>-0.001</b>	<b>.0001</b>	<b>-0.003</b>
Stddev	.0001	.0001	.0001	.0002	.0002	.0001	.0001	.0004	.0002
%RSD	55.92	142.7	93.72	396.9	76.43	31.24	124.6	480.3	76.73
#1	-.0002	-.0001	-.0000	-.0002	.0003	.0001	-.0002	.0001	-.0004
#2	-.0003	-.0000	-.0001	.0000	.0000	.0002	-.0001	-.0003	-.0005
#3	-.0001	-.0000	-.0001	.0001	.0003	.0002	.0000	.0005	-.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	<b>.0001</b>	<b>.0002</b>	<b>.0006</b>	<b>-0.000</b>	<b>-0.010</b>	<b>-0.009</b>	<b>-0.004</b>	<b>-0.030</b>	<b>.0062</b>
Stddev	.0004	.0001	.0008	.0007	.0004	.0022	.0002	.0019	.0033
%RSD	276.3	64.24	141.3	2330.	41.03	245.2	57.87	64.01	53.11
#1	.0005	.0003	-.0003	.0007	-.0005	-.0034	-.0002	-.0021	.0089
#2	-.0002	.0001	.0012	-.0002	-.0013	.0006	-.0004	-.0052	.0025
#3	.0001	.0001	.0008	-.0006	-.0012	.0002	-.0006	-.0017	.0072
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	<b>-0.026</b>	<b>.0158</b>	<b>.1040</b>	<b>.0276</b>	<b>.0020</b>	<b>.0000</b>	<b>.0018</b>	<b>-0.001</b>	<b>-0.001</b>
Stddev	.0095	.0209	.0178	.0018	.0005	.0003	.0001	.0005	.0001
%RSD	363.2	132.4	17.16	6.448	23.83	6220.	8.064	395.0	161.9
#1	-.0104	.0358	.0932	.0286	.0021	.0004	.0018	.0003	-.0001
#2	.0080	.0175	.1246	.0255	.0024	-.0002	.0019	-.0000	-.0002
#3	-.0054	-.0059	.0942	.0286	.0015	-.0001	.0016	-.0006	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									



Sample Name: asconf Acquired: 4/18/2019 12:57:27 Type: Unk  
 Method: SGS 3(v299) 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	98829.	5021.5	3671.3	8283.5
Stddev	242.	11.3	6.8	18.2
%RSD	.24466	.22434	.18624	.21971
#1	98725.	5029.0	3670.5	8263.1
#2	99106.	5027.0	3664.9	8289.4
#3	98657.	5008.6	3678.5	8298.0

Sample Name: feconf Acquired: 4/18/2019 13:02:58 Type: Unk  
 Method: SGS 3(v299) 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	<b>-0.001</b>	<b>.0003</b>	<b>-0.001</b>	<b>-0.007</b>	<b>-0.000</b>	W <b>-0.029</b>	<b>.0037</b>	<b>-0.003</b>
Stddev	.0003	.0000	.0001	.0001	.0006	.0001	.0000	.0002
%RSD	250.2	4.383	73.84	20.42	1809.	2.929	.8599	81.70
#1	-.0005	.0003	-.0000	-.0008	.0002	-.0029	.0037	-.0004
#2	.0000	.0003	-.0001	-.0008	.0005	-.0029	.0038	-.0004
#3	.0001	.0003	-.0002	-.0005	-.0008	-.0030	.0037	-.0000
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0015</b>	<b>.0022</b>	<b>.0001</b>	<b>-0.0014</b>	<b>-0.002</b>	F <b>-0.037</b>	<b>.0003</b>	<b>-0.013</b>
Stddev	.0005	.0003	.0001	.0005	.0007	.0003	.0019	.0012
%RSD	29.97	13.81	70.03	37.40	343.6	9.050	602.5	89.47
#1	.0013	.0023	.0001	-.0012	.0002	-.0040	-.0001	-.0023
#2	.0020	.0019	.0001	-.0010	-.0010	-.0033	-.0013	-.0000
#3	.0012	.0025	.0002	-.0020	.0002	-.0036	.0024	-.0016
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.144</b>	<b>-0.226</b>	F <b>222.9</b>	<b>.0451</b>	<b>.1088</b>	<b>.0095</b>	<b>-0.021</b>	<b>.0005</b>
Stddev	.0047	.0018	.4	.0606	.0305	.0080	.0005	.0002
%RSD	32.85	7.770	.1753	134.4	28.09	83.82	25.72	35.23
#1	-.0195	-.0230	223.2	-.0179	.1037	.0169	-.0015	.0007
#2	-.0101	-.0242	223.1	.0503	.1415	.0010	-.0021	.0006
#3	-.0136	-.0207	222.5	.1030	.0810	.0107	-.0026	.0003
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0005</b>	<b>.0007</b>	<b>-0.004</b>	<b>-0.002</b>	<b>.0030</b>	<b>-0.007</b>	<b>-0.038</b>	<b>.010</b>
Stddev	.0013	.0002	.0001	.0003	.0003	.0001	.0016	.0007
%RSD	243.8	21.88	13.85	200.9	11.45	14.30	42.05	6.615
#1	-.0006	.0008	-.0005	.0002	.0027	-.0007	-.0055	.0102
#2	.0019	.0007	-.0004	-.0003	.0028	-.0009	-.0035	.0116
#3	.0002	.0005	-.0004	-.0004	.0034	-.0007	-.0023	.0112

Sample Name: feconf Acquired: 4/18/2019 13:02:58 Type: Unk  
 Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: Custom ID2: Custom ID3:  
 Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.0019</b>	<b>.0041</b>		
Stddev	.0013	.0005		
%RSD	68.07	12.08		
#1	.0028	.0035		
#2	.0026	.0043		
#3	.0004	.0044		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	96350.	4966.6	3585.8	8135.9
Stddev	102.	7.1	3.2	6.1
%RSD	.10585	.14308	.09029	.07484
#1	96310.	4969.4	3583.8	8134.2
#2	96275.	4958.5	3584.1	8130.8
#3	96466.	4971.8	3589.6	8142.6

Sample Name: crconf Acquired: 4/18/2019 13:08:29 Type: Unk  
 Method: SGS 3(v299) 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	<b>-0.001</b>	<b>.0001</b>	<b>-0.001</b>	<b>.0012</b>	F <b>10.12</b>	<b>.0004</b>	<b>-0.002</b>	<b>.0004</b>	<b>.0002</b>
Stddev	.0002	.0000	.0002	.0003	.01	.0001	.0000	.0001	.0005
%RSD	296.2	54.25	269.1	25.01	.0611	27.98	8.056	23.52	213.1
#1	-.0002	.0000	-.0003	.0010	10.12	.0004	-.0002	.0005	-.0001
#2	-.0002	.0001	-.0000	.0015	10.11	.0006	-.0002	.0003	.0009
#3	-.0003	.0001	.0001	.0010	10.12	.0004	-.0002	.0003	-.0001
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.0032</b>	<b>.0022</b>	<b>.0008</b>	<b>-0.007</b>	<b>.0017</b>	<b>-0.003</b>	<b>.0014</b>	<b>.0160</b>	<b>.0167</b>
Stddev	.0003	.0001	.0010	.0006	.0010	.0014	.0009	.0053	.0052
%RSD	10.18	5.840	115.7	86.90	61.05	391.6	64.50	58.24	30.91
#1	-.0030	.0023	-.0002	-.0006	.0008	-.0010	.0023	.0055	.0221
#2	-.0036	.0020	.0017	-.0002	.0014	-.0012	.0005	.0191	.0162
#3	-.0030	.0022	.0010	-.0014	.0028	-.0012	.0014	.0233	.0119
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0105</b>	<b>.0059</b>	<b>.0214</b>	<b>.0032</b>	<b>.0007</b>	<b>.0005</b>	<b>.0005</b>	<b>-0.004</b>	<b>-0.000</b>
Stddev	.0028	.0208	.0255	.0099	.0004	.0002	.0009	.0003	.0001
%RSD	26.42	351.1	118.9	310.9	60.16	37.70	13.69	79.77	281.3
#1	.0075	.0115	.0387	-.0033	.0008	.0004	.0072	-.0002	.0001
#2	.0129	-.0171	-.0078	-.0017	.0010	.0007	.0072	-.0008	-.0001
#3	.0113	.0234	.0334	.0146	.0002	.0004	.0056	-.0002	-.0001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.0006</b>	<b>.0038</b>	<b>.0061</b>	<b>.0049</b>	<b>-0.018</b>	<b>.0026</b>	<b>.0022</b>		
Stddev	.0001	.0002	.0001	.0009	.0016	.0011	.0003		
%RSD	19.32	5.665	1.679	18.60	89.08	43.09	13.08		
#1	.0004	.0040	.0062	.0047	-.0031	.0018	.0019		
#2	.0006	.0039	.0060	.0042	.0000	.0039	.0021		
#3	.0006	.0036	.0062	.0060	-.0024	.0021	.0025		



Sample Name: crconf Acquired: 4/18/2019 13:08:29 Type: Unk  
 Method: SGS 3(v299) 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	98531.	4989.5	3600.4	8262.0
Stddev	94.	53.1	10.0	20.1
%RSD	.09564	1.0639	.27870	.24317
#1	98470.	4996.8	3591.5	8246.6
#2	98639.	4933.2	3598.5	8254.7
#3	98483.	5038.6	3611.3	8284.7

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Sample Name: mp14248-mb1conf Acquired: 4/18/2019 13:13:58 Type: Unk  
 Method: SGS 3(v299) 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	-0.003	-0.001	-0.000	0.002	-0.000	0.001	-0.001	0.005	-0.006
Stddev	0.005	0.001	0.000	0.001	0.002	0.003	0.000	0.003	0.002
%RSD	165.6	114.8	386.6	88.28	627.2	329.9	9.663	64.76	31.84
#1	-0.007	-0.002	0.000	0.000	-0.000	0.003	-0.001	0.004	-0.004
#2	0.002	0.000	-0.001	0.003	-0.002	-0.003	-0.001	0.008	-0.006
#3	-0.004	-0.001	0.000	0.001	0.002	0.003	-0.001	0.002	-0.008
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.002	0.011	-0.002	-0.004	-0.010	0.001	0.002	-0.054	0.087
Stddev	0.003	0.001	0.015	0.015	0.004	0.009	0.015	0.125	0.041
%RSD	152.6	12.39	747.0	337.4	39.07	806.1	753.3	231.7	46.73
#1	-0.001	0.013	-0.016	-0.015	-0.011	0.003	0.002	-0.007	0.066
#2	0.004	0.012	-0.003	-0.010	-0.006	-0.008	-0.013	0.041	0.062
#3	0.002	0.010	0.013	0.012	-0.013	0.008	0.017	-0.196	0.134
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.054	-0.252	-0.106	0.138	0.006	0.001	0.093	-0.003	-0.001
Stddev	0.088	0.329	0.297	0.022	0.003	0.002	0.014	0.006	0.001
%RSD	161.8	130.8	281.0	16.01	49.93	220.0	15.13	202.6	143.4
#1	0.155	0.121	-0.086	0.139	0.003	0.003	0.083	-0.005	-0.002
#2	0.019	-0.374	-0.412	0.115	0.006	0.002	0.086	-0.007	0.000
#3	-0.010	-0.502	0.181	0.159	0.010	-0.001	0.109	0.004	-0.000
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	-0.000	0.010	0.002	0.025	-0.006	0.014	0.033		
Stddev	0.002	0.002	0.000	0.018	0.004	0.009	0.004		
%RSD	340.6	23.39	12.91	73.29	57.00	67.70	12.47		
#1	0.001	0.011	0.002	0.006	-0.009	0.005	0.033		
#2	-0.001	0.011	0.002	0.041	-0.007	0.012	0.037		
#3	-0.002	0.007	0.002	0.027	-0.002	0.024	0.029		

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Sample Name: mp14248-mb1conf Acquired: 4/18/2019 13:13:58 Type: Unk  
 Method: SGS 3(v299) 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	99126.	5082.3	3673.5	8295.5
Stddev	202.	49.7	4.9	5.6
%RSD	.20420	.97764	.13262	.06727
#1	98895.	5120.7	3673.0	8298.2
#2	99270.	5100.1	3678.6	8299.2
#3	99214.	5026.2	3668.9	8289.1

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Sample Name: jc86341-10-7 Acquired: 4/18/2019 13:19:27 Type: Unk  
 Method: SGS 3(v299) 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	1.759	-0.001	0.610	0.012	0.022	0.115	0.286	0.017	0.003
Stddev	0.003	0.001	0.005	0.000	0.003	0.002	0.008	0.004	0.002
%RSD	0.1671	109.6	0.8143	3.425	11.94	1.576	0.867	23.38	73.78
#1	1.758	0.000	0.611	0.012	0.019	0.116	0.282	0.021	0.001
#2	1.757	-0.002	0.615	0.012	0.024	0.113	0.295	0.013	0.006
#3	1.763	-0.002	0.605	0.013	0.023	0.117	0.281	0.017	0.003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.061	0.030	0.016	-0.003	0.017	0.589	0.011	1.495	49.37
Stddev	0.003	0.001	0.015	0.003	0.012	0.014	0.014	0.176	14
%RSD	4.533	0.421	92.98	77.63	9.617	2.317	129.5	11.77	2849
#1	0.062	0.034	-0.000	-0.004	0.012	0.595	0.021	1.506	49.51
#2	0.063	0.032	0.020	-0.000	0.014	0.589	0.015	1.665	49.23
#3	0.058	0.030	0.030	-0.006	0.019	0.574	-0.005	1.314	49.37
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.083	4.150	4.362	19.96	0.602	0.025	6.127	-0.017	2.922
Stddev	0.10	0.73	0.20	0.1	0.008	0.001	0.08	0.002	0.004
%RSD	8.962	1.757	4.515	0.752	1.349	3.753	1.242	14.71	1.204
#1	1.072	4.211	4.340	19.97	0.610	0.026	6.124	-0.014	2.926
#2	1.086	4.169	4.370	19.97	0.594	0.024	6.121	-0.019	2.921
#3	1.090	4.069	4.377	19.94	0.603	0.026	6.135	-0.017	2.920
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	0.025	0.069	-0.001	14.14	-0.020	0.206	0.441		
Stddev	0.002	0.006	0.002	0.2	0.008	0.012	0.005		
%RSD	8.653	8.904	260.4	1.106	39.79	5.715	1.210		
#1	0.026	0.074	0.001	14.13	-0.028	0.197	0.439		
#2	0.022	0.070	-0.001	14.12	-0.015	0.219	0.437		
#3	0.026	0.062	-0.002	14.15	-0.015	0.202	0.447		

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Sample Name: jc86341-10 7 Acquired: 4/18/2019 13:19:27 Type: Unk  
 Method: SGS 3(v299) 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	96788.	5070.8	3560.3	7800.6
Stddev	235.	18.6	6.5	10.2
%RSD	.24253	.36721	.18130	.13114
#1	96665.	5059.6	3563.6	7799.0
#2	96641.	5092.3	3564.5	7811.6
#3	97059.	5060.5	3552.9	7791.3

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Sample Name: mp14117-mb1conf Acquired: 4/18/2019 13:24:51 Type: Unk  
 Method: SGS 3(v299) 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	-0.0000	.0000	.0012	.0007	.0002	.0005	-0.0003
Stddev	.0003	.0001	.0001	.0001	.0002	.0002	.0000	.0002	.0003
%RSD	699.1	136.8	331.3	126.1	15.06	26.71	8.470	44.01	103.6
#1	.0003	.0000	-0.001	.0002	.0012	.0006	.0002	.0007	.0000
#2	.0001	.0000	-0.001	-0.001	.0014	.0005	.0002	.0003	-0.0006
#3	-0.0003	.0001	.0001	-0.0000	.0011	.0009	.0002	.0005	-0.0003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0085	.0008	.0001	-0.0009	-0.0010	-0.0003	.0035	.0651
Stddev	.0002	.0001	.0007	.0005	.0003	.0023	.0003	.0092	.0041
%RSD	1169.	.6218	92.14	561.3	34.44	224.4	115.6	264.1	6.275
#1	.0001	.0085	-0.0000	.0006	-0.010	-0.016	-0.001	.0033	.0693
#2	-0.0002	.0086	.0010	-0.004	-0.0006	.0015	-0.0006	.0127	.0650
#3	.0002	.0085	.0013	.0001	-0.012	-0.029	-0.001	-0.0056	.0611
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0200	-0.0161	.0174	.0474	.0012	.0003	.0114	.0188	.0003
Stddev	.0093	.0143	.0367	.0066	.0006	.0001	.0005	.0005	.0001
%RSD	46.49	89.08	210.9	13.88	50.92	33.52	4.679	2.727	20.57
#1	.0275	.0004	.0209	.0514	.0009	.0003	.0120	.0193	.0002
#2	.0230	-0.0250	.0521	.0398	.0008	.0003	.0114	.0187	.0003
#3	.0096	-0.0237	-0.0209	.0510	.0018	.0002	.0109	.0183	.0004
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0002	.0008	.0002	.0099	.0013	.0023	.0227		
Stddev	.0002	.0007	.0003	.0001	.0008	.0007	.0011		
%RSD	106.5	88.70	226.7	8790	61.76	31.04	4.881		
#1	.0003	.0010	.0003	.0098	.0005	.0032	.0235		
#2	.0004	.0014	-0.0002	.0099	.0013	.0019	.0232		
#3	-0.0000	.0000	.0004	.0100	.0021	.0019	.0214		

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Sample Name: mp14117-mb1conf Acquired: 4/18/2019 13:24:51 Type: Unk  
 Method: SGS 3(v299) 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	100900.	5163.1	3707.3	8385.7
Stddev	217.	29.3	3.1	2.1
%RSD	.21514	.56670	.08261	.02479
#1	100950.	5139.6	3708.0	8387.2
#2	100660.	5153.8	3703.9	8386.5
#3	101080.	5195.9	3709.9	8383.3

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Sample Name: jc85964-42 Acquired: 4/18/2019 13:30:20 Type: Unk  
 Method: SGS 3(v299) 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	.9686	.0039	.0605	.0691	1.453	1.686	1.610	.3365	.0370
Stddev	.0049	.0001	.0001	.0004	.001	.001	.003	.0008	.0004
%RSD	.5075	3.351	.1880	.5526	.0597	.0385	.1928	.2359	1.143
#1	.9742	.0040	.0605	.0692	1.453	1.685	1.613	.3363	.0374
#2	.9651	.0037	.0603	.0687	1.452	1.686	1.607	.3358	.0366
#3	.9664	.0039	.0606	.0694	1.453	1.686	1.609	.3373	.0368
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2162	4.473	.0800	-0.0001	2.623	.0071	.0039	78.23	29.66
Stddev	.0005	.011	.0021	.0024	.008	.0011	.0009	.30	.09
%RSD	.2231	.2403	2.657	2505.	.3201	15.91	22.43	.3813	.3061
#1	.2166	4.485	.0824	-0.013	2.631	.0075	.0041	78.58	29.76
#2	.2163	4.470	.0792	.0027	2.624	.0058	.0030	78.06	29.59
#3	.2156	4.464	.0784	-0.017	2.615	.0079	.0047	78.07	29.64
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	117.4	28.10	10.91	32.64	.0817	.0219	1.818	3351	4197
Stddev	.4	.10	.04	.14	.0002	.0001	.004	.0003	.0015
%RSD	.3459	.3418	.3293	.4255	.2864	.5330	.2232	.0750	.3488
#1	117.8	28.14	10.93	32.79	.0818	.0219	1.821	3352	4213
#2	117.0	27.99	10.87	32.52	.0817	.0218	1.820	3353	4192
#3	117.3	28.16	10.93	32.60	.0814	.0221	1.814	3348	4186
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	1.978	.0206	.0386	45.90	.0103	.0952	F 15.38		
Stddev	.002	.0005	.0001	.05	.0007	.0007	.02		
%RSD	.0812	2.492	.3183	.1145	6.834	.7873	.1179		
#1	1.979	.0200	.0388	45.91	.0097	.0956	15.38		
#2	1.976	.0209	.0387	45.94	.0111	.0944	15.39		
#3	1.977	.0209	.0385	45.84	.0101	.0957	15.36		

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Sample Name: jc85964-42 Acquired: 4/18/2019 13:30:20 Type: Unk  
Method: SGS 3(v299) 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	99990.0	5355.9	3702.6	7638.4
Stddev	175.0	29.0	3.2	6.1
%RSD	.17479	.54119	.08658	.08036
#1	99912.0	5338.3	3700.8	7636.6
#2	100190.0	5389.4	3700.7	7633.4
#3	99868.0	5340.1	3706.3	7645.3

Sample Name: mp14119-mb1conf Acquired: 4/18/2019 13:35:32 Type: Unk  
Method: SGS 3(v299) 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	-0.002	-0.001	-0.000	0.001	0.011	0.003	0.001	0.006	-0.011
Stddev	.002	.001	.001	.002	.001	.003	.000	.001	.005
%RSD	78.27	134.5	654.4	215.7	9.373	87.12	7.322	11.53	41.39
#1	-0.003	.000	-0.001	-0.001	.010	.006	.001	.005	-0.006
#2	-0.000	-0.000	.001	.004	.012	.002	.001	.006	-0.014
#3	-0.002	-0.001	-0.000	.001	.011	.001	.001	.005	-0.014
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.002	0.097	-0.003	-0.011	-0.007	-0.005	0.011	0.140	0.518
Stddev	.002	.001	.005	.011	.006	.012	.008	.033	.020
%RSD	100.7	1.304	135.3	102.0	86.51	230.1	70.76	23.23	3.787
#1	.000	.0096	-0.007	-0.024	-0.012	.008	.004	.0173	.0495
#2	.004	.0098	-0.006	-0.008	-0.001	-0.016	.011	.017	.0526
#3	.001	.0095	.002	-0.002	-0.007	-0.007	.020	.0141	.0532
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.154	-0.069	0.333	0.705	0.015	0.004	0.136	0.235	0.003
Stddev	.0057	.0175	.0039	.0031	.0008	.001	.008	.003	.002
%RSD	36.99	254.9	11.61	4.384	56.54	25.26	5.701	1.422	51.00
#1	.0119	-0.133	.0319	.0733	.005	.003	.0144	.0237	.004
#2	.0219	.0130	.0304	.0672	.021	.005	.0135	.0231	.005
#3	.0123	-0.203	.0377	.0710	.018	.004	.0129	.0236	.001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	0.001	0.006	0.003	0.110	-0.009	0.014	0.283		
Stddev	.000	.004	.002	.033	.010	.005	.005		
%RSD	57.46	76.04	87.74	29.68	111.4	39.40	1.677		
#1	.000	.005	.002	.0143	-0.001	.012	.0286		
#2	.000	.002	.005	.0078	-0.006	.009	.0285		
#3	.001	.011	.001	.0109	-0.019	.020	.0277		

Sample Name: mp14119-mb1conf Acquired: 4/18/2019 13:35:32 Type: Unk  
Method: SGS 3(v299) 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	100220.0	5145.1	3690.5	8312.9
Stddev	200.0	20.3	4.4	14.0
%RSD	.19938	.39538	.11966	.16819
#1	99992.0	5132.5	3688.2	8301.9
#2	100340.0	5168.6	3687.7	8308.1
#3	100340.0	5134.3	3695.6	8328.6

Sample Name: ccv Acquired: 4/18/2019 13:41:05 Type: QC  
Method: SGS 3(v299) 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	1.973	1.999	1.977	1.994	1.990	1.929	1.985	1.986	2.411
Stddev	.003	.007	.003	.004	.004	.003	.003	.005	.001
%RSD	.1643	.3389	.1687	.2093	.1955	.1428	.1459	.2589	.0608
#1	1.977	2.007	1.977	1.997	1.990	1.932	1.988	1.989	2.409
#2	1.972	1.996	1.980	1.996	1.986	1.926	1.982	1.988	2.412
#3	1.970	1.994	1.974	1.989	1.994	1.929	1.985	1.980	2.410
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	1.949	2.000	1.962	2.047	2.008	1.979	1.988	39.68	40.56
Stddev	.004	.004	.005	.013	.008	.008	.005	.09	.11
%RSD	.1913	.2148	.2753	.6116	.4154	.4055	.2364	.2370	.2625
#1	1.953	2.004	1.963	2.057	2.016	1.984	1.990	39.76	40.58
#2	1.945	1.996	1.966	2.052	2.009	1.983	1.992	39.70	40.66
#3	1.950	1.998	1.956	2.033	2.000	1.970	1.983	39.57	40.44
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	40.25	39.50	39.55	40.12	2.036	1.991	5.086	2.008	2.001
Stddev	.09	.10	.10	.09	.003	.003	.004	.004	.005
%RSD	.2354	.2431	.2606	.2331	.1473	.1431	.0713	.1812	.2674
#1	40.34	39.60	39.63	40.21	2.036	1.992	5.083	2.012	2.007
#2	40.25	39.48	39.60	40.12	2.039	1.993	5.090	2.008	2.000
#3	40.15	39.41	39.44	40.02	2.033	1.987	5.084	2.004	1.997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range									

Sample Name: ccv Acquired: 4/18/2019 13:41:05 Type: QC  
 Method: SGS 3(v299) 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	1.928	1.954	1.934	2.001	2.032	1.961	1.999
Stddev	.003	.003	.004	.009	.005	.003	.013
%RSD	.1411	.1303	.1900	.4465	.2363	.1537	.6509
#1	1.930	1.951	1.938	2.007	2.033	1.961	2.009
#2	1.925	1.955	1.932	2.005	2.036	1.964	2.005
#3	1.928	1.956	1.931	1.991	2.026	1.958	1.984

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	95178.	5026.8	3606.3	7510.2
Stddev	270.	30.8	1.2	11.5
%RSD	.28394	.61354	.03387	.15267
#1	95086.	5005.7	3606.7	7506.0
#2	95483.	5012.4	3604.9	7501.5
#3	94967.	5062.2	3607.3	7523.2

Sample Name: ccb Acquired: 4/18/2019 13:46:08 Type: QC  
 Method: SGS 3(v299) 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	-0.003	-0.001	-0.001	0.002	0.003	-0.003	-0.001	-0.002	-0.008
Stddev	.003	.002	.002	.002	.004	.002	.000	.002	.005
%RSD	97.60	239.8	201.2	132.9	121.0	71.42	37.19	72.62	58.90
#1	-0.005	.0000	.0000	-0.000	.001	-0.006	-0.001	.001	-0.013
#2	-0.006	.0000	-0.003	.004	.008	-0.003	-0.001	.001	-0.004
#3	.0000	-0.002	.0000	.001	.001	-0.001	-0.002	.004	-0.008

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	.001	.002	.005	.004	-0.009	-0.005	.0018	-0.021	.0022
Stddev	.001	.001	.003	.005	.011	.017	.005	.004	.028
%RSD	138.6	28.02	60.07	143.9	131.3	334.7	28.85	21.01	123.3
#1	.002	.002	.002	.005	.003	.015	.023	-0.022	.0019
#2	-0.000	.002	.008	.008	-0.019	-0.015	.013	-0.025	.0051
#3	.001	.001	.004	-0.002	-0.009	-0.015	.017	-0.016	-0.003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	.0032	.0139	.0401	.0221	.005	.001	.009	-0.004	-0.001
Stddev	.0063	.0200	.0375	.0079	.008	.000	.009	.002	.000
%RSD	195.6	143.4	93.37	35.68	165.1	66.24	105.9	48.17	30.66
#1	.011	.0369	.0549	.0150	.010	.001	.010	-0.002	-0.002
#2	.0102	.003	.0679	.0306	.009	.001	.017	-0.004	-0.001
#3	-0.017	.0046	-0.025	.0206	-0.005	.000	-0.001	-0.005	-0.002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Sample Name: ccb Acquired: 4/18/2019 13:46:08 Type: QC  
 Method: SGS 3(v299) 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	-0.003	.0004	.001	.0018	-0.009	.0033	.0074
Stddev	.002	.008	.002	.0023	.002	.001	.006
%RSD	69.90	188.2	190.3	122.1	19.20	4.107	8.553
#1	-0.004	.0009	.0000	.008	-0.010	.0031	.0077
#2	-0.004	-0.005	-0.001	.0044	-0.010	.0033	.0067
#3	-0.001	.0008	.0003	.0003	-0.007	.0034	.0078

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	100270.	5111.3	3703.6	8338.3
Stddev	55.	23.3	7.9	16.7
%RSD	.05467	.45630	.21215	.19981
#1	100310.	5085.2	3707.0	8327.2
#2	100300.	5118.5	3694.7	8330.3
#3	100210.	5130.2	3709.3	8357.5

Sample Name: jc85953-11 Acquired: 4/18/2019 13:51:39 Type: Unk  
 Method: SGS 3(v299) 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	.0188	-0.000	.005	.003	.004	.0115	.0175	.0018	-0.013
Stddev	.002	.001	.000	.000	.003	.001	.000	.000	.006
%RSD	1.033	166.4	6.825	5.676	12.84	.9315	.2639	.7405	44.50
#1	.0188	-0.001	.004	.003	.027	.014	.0175	.0019	-0.019
#2	.0186	-0.001	.005	.003	.022	.0115	.0175	.0019	-0.007
#3	.0189	.0000	.005	.003	.021	.0115	.0174	.0018	-0.012

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value 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	.0005	.0778	-0.010	-0.006	.001	.001	.003	.1404	6.532
Stddev	.001	.001	.003	.010	.005	.024	.007	.0067	.032
%RSD	26.03	.1037	24.85	158.2	653.9	3359.	256.5	4.747	.4815
#1	.0006	.0778	-0.013	-0.002	.004	.023	.003	.1342	6.509
#2	.0006	.0778	-0.010	-0.001	-0.005	-0.025	-0.004	.1397	6.568
#3	.0004	.0777	-0.008	-0.018	.003	.004	.009	.1475	6.519

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1422	1.494	.8721	3.732	.0365	.0009	1.258	.0242	.0281
Stddev	.052	.028	.0222	.016	.005	.004	.01	.003	.001
%RSD	3.640	1.882	2.544	.4255	1.339	39.73	.0557	1.228	.3384
#1	.1469	1.522	.8977	3.729	.0368	.008	1.257	.0240	.0282
#2	.1367	1.465	.8610	3.749	.0359	.013	1.258	.0245	.0282
#3	.1431	1.495	.8577	3.717	.0368	.006	1.258	.0240	.0280

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	.0016	.0011	2.900	-0.005	.0017	.3623
Stddev	.001	.001	.001	.008	.008	.0026	.006
%RSD	3.956	64.86	11.64	2831	154.1	153.4	.1763
#1	.0023	.0006	.0012	2.892	-0.004	.0030	.3618
#2	.0024	.0028	.0010	2.900	-0.007	.0033	.3620
#3	.0025	.0015	.0010	2.909	-0.012	-0.013	.3630

Sample Name: jc85953-11 Acquired: 4/18/2019 13:51:39 Type: Unk  
 Method: SGS 3(v299) 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	100110.	5173.8	3650.1	8189.7
Stddev	.196	11.7	2.7	6.3
%RSD	.19531	.22540	.07370	.07665
#1	100170.	5182.1	3651.2	8182.6
#2	100270.	5160.5	3652.1	8194.3
#3	99892.	5179.0	3647.1	8192.2

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Sample Name: mp14171-mb1conf Acquired: 4/18/2019 13:57:03 Type: Unk  
 Method: SGS 3(v299) 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	-0.001	.0019	-0.000	.0010	.0006	.0002	.0005	-0.013
Stddev	.0003	.0001	.0001	.0003	.0004	.0000	.0000	.0003	.0003
%RSD	333.2	254.5	6.020	1844.	37.76	7.287	24.37	49.93	26.14
#1	-0.001	.0001	.0018	-0.003	.0015	.0006	.0002	.0003	-0.016
#2	-0.001	-0.001	.0020	-0.003	.0007	.0006	.0002	.0008	-0.009
#3	.0005	-0.002	.0019	-0.003	.0009	.0006	.0003	.0004	-0.015
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0069	.0003	.0007	-0.0009	-0.0012	.0008	.0025	.0608
Stddev	.0001	.0001	.0014	.0003	.0004	.0011	.0017	.0071	.0078
%RSD	129.9	1.007	465.3	38.51	38.23	95.87	208.2	280.1	12.90
#1	.0002	.0069	.0008	.0004	-0.011	-0.002	.0024	-0.000	.0529
#2	-0.000	.0069	-0.013	.0009	-0.005	-0.024	.0010	-0.029	.0686
#3	.0001	.0070	.0014	.0008	-0.011	-0.008	-0.009	.0105	.0608
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0257	.0252	.0163	.0559	.0011	.0003	.0100	.0229	.0004
Stddev	.0095	.0211	.0399	.0020	.0001	.0000	.0009	.0004	.0001
%RSD	36.92	83.56	245.2	3.630	5.966	10.96	9.219	1.849	34.09
#1	.0286	.0179	.0002	.0552	.0010	.0003	.0099	.0226	.0003
#2	.0334	.0490	-0.131	.0581	.0011	.0003	.0091	.0234	.0004
#3	.0151	.0088	.0617	.0542	.0010	.0002	.0110	.0227	.0005
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0001	.0021	.0001	.0070	-0.0005	.0011	.0297		
Stddev	.0004	.0001	.0001	.0014	.0019	.0010	.0009		
%RSD	510.3	6.889	85.14	19.66	349.6	91.93	3.087		
#1	.0002	.0020	.0002	.0084	-0.022	-0.000	.0300		
#2	-0.004	.0020	.0000	.0057	.0015	.0013	.0305		
#3	.0004	.0023	.0001	.0068	-0.009	.0019	.0287		

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Sample Name: mp14171-mb1conf Acquired: 4/18/2019 13:57:03 Type: Unk  
 Method: SGS 3(v299) 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	101340.	5189.9	3712.2	8377.3
Stddev	442.	42.2	3.1	5.9
%RSD	.43593	.81362	.08392	.07098
#1	101060.	5203.4	3712.1	8384.0
#2	101850.	5142.6	3715.3	8372.5
#3	101100.	5223.8	3709.1	8375.4

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Sample Name: jc86015-21 Acquired: 4/18/2019 14:02:34 Type: Unk  
 Method: SGS 3(v299) 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	.0437	-0.000	.0085	.0010	.0120	.0316	.0499	.0038	-0.016
Stddev	.0003	.0001	.0001	.0001	.0003	.0005	.0001	.0002	.0006
%RSD	.7330	480.6	1.363	5.949	2.344	1.615	.1150	5.206	38.38
#1	.0437	.0000	.0085	.0010	.0123	.0321	.0499	.0040	-0.019
#2	.0440	-0.002	.0086	.0010	.0120	.0312	.0498	.0038	-0.009
#3	.0434	.0001	.0084	.0011	.0117	.0313	.0499	.0036	-0.019
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034	.4475	.0002	-0.0017	.0110	.0009	.0050	1.214	9.941
Stddev	.0002	.0011	.0003	.0009	.0004	.0014	.0003	.016	.008
%RSD	5.843	.2377	140.3	51.29	3.725	158.5	5.820	1.280	.0807
#1	.0032	.4484	.0003	-0.027	.0107	.0004	.0053	1.196	9.939
#2	.0036	.4477	-0.001	-0.016	.0108	-0.002	.0048	1.224	9.934
#3	.0034	.4464	.0003	-0.009	.0115	.0024	.0048	1.221	9.950
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.278	2.724	1.084	3.870	0.125	0.020	1.355	0.281	0.447
Stddev	.006	.047	.025	.004	.0004	.0003	.004	.0002	.0001
%RSD	.1740	1.739	2.296	.1123	3.551	14.74	.2920	.8124	.2339
#1	3.272	2.715	1.073	3.873	0.128	0.022	1.360	.0278	.0448
#2	3.278	2.681	1.065	3.872	0.127	0.021	1.352	.0281	.0446
#3	3.283	2.775	1.112	3.865	0.120	0.016	1.354	.0283	.0448
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0713	.0007	.0035	1.878	-0.001	.0039	.3866		
Stddev	.0002	.0007	.0000	.004	.0009	.0013	.0013		
%RSD	.3111	106.1	1.371	2.225	704.2	32.61	.3237		
#1	.0710	.0011	.0035	1.881	-0.007	.0051	.3858		
#2	.0715	-0.002	.0035	1.880	-0.001	.0025	.3881		
#3	.0713	.0012	.0036	1.873	-0.010	.0042	.3860		

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Sample Name: jc86015-21 Acquired: 4/18/2019 14:02:34 Type: Unk  
 Method: SGS 3(v299) 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	100420.	5171.3	3664.2	8204.7
Stddev	275.	20.6	1.3	6.4
%RSD	.27393	.39780	.03536	.07817
#1	100540.	5157.6	3663.4	8200.1
#2	100610.	5194.9	3663.4	8212.1
#3	100100.	5161.3	3665.6	8202.0

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Sample Name: mp14171-sd1 Acquired: 4/18/2019 14:07:58 Type: Unk  
 Method: SGS 3(v299) 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	.0435	-0.0005	.0080	.0013	.0139	.0296	.0507	.0048	-0.0077
Stddev	.0007	.0004	.0011	.0009	.0009	.0013	.0001	.0008	.0008
%RSD	1.504	70.49	13.25	68.74	6.435	4.417	.1490	16.01	10.09
#1	.0438	-0.001	.0069	.0023	.0134	.0281	.0507	.0042	-0.0068
#2	.0427	-0.0008	.0091	.0008	.0150	.0302	.0507	.0044	-0.0082
#3	.0439	-0.0006	.0081	.0007	.0135	.0305	.0506	.0056	-0.0081
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043	.4575	.0068	-0.0026	.0063	-0.0031	.0093	1.274	10.59
Stddev	.0010	.0009	.0009	.0039	.0023	.0033	.0022	.069	.11
%RSD	22.87	.1980	13.01	149.5	37.00	106.3	24.05	5.391	1.037
#1	.0036	.4574	.0078	-0.039	.0039	.0006	.0117	1.222	10.52
#2	.0040	.4584	.0067	-0.056	.0086	-0.0058	.0073	1.249	10.53
#3	.0054	.4566	.0060	.0018	.0063	-0.0043	.0089	1.352	10.71
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.255	2.582	1.124	3.895	.0112	.0021	1.375	.0290	.0446
Stddev	.039	.100	.184	.011	.0008	.0007	.005	.0038	.0004
%RSD	1.191	3.874	16.36	.2905	6.719	33.78	.3594	13.20	.8743
#1	3.230	2.664	1.106	3.887	.0106	.0024	1.371	.0299	.0443
#2	3.237	2.613	.9499	3.892	.0120	.0025	1.374	.0324	.0451
#3	3.300	2.471	1.317	3.908	.0110	.0013	1.380	.0249	.0446
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0717	-0.0018	.0048	1.885	-0.0040	.0104	.4121		
Stddev	.0016	.0029	.0004	.015	.0102	.0030	.0043		
%RSD	2.194	166.4	8.274	.8085	256.4	29.21	1.041		
#1	.0710	-0.0048	.0047	1.894	-0.0158	.0127	.4146		
#2	.0706	.0011	.0052	1.894	.0028	.0069	.4071		
#3	.0735	-0.0017	.0044	1.868	.0010	.0115	.4145		

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Sample Name: mp14171-sd1 Acquired: 4/18/2019 14:07:58 Type: Unk  
 Method: SGS 3(v299) 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	100440.	5134.7	3692.9	8265.8
Stddev	288.	10.9	4.0	10.0
%RSD	.28656	.21282	.10785	.12122
#1	100150.	5147.2	3691.1	8261.8
#2	100450.	5130.2	3697.4	8277.2
#3	100730.	5126.8	3690.1	8258.4

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Sample Name: jc86015-30 Acquired: 4/18/2019 14:13:25 Type: Unk  
 Method: SGS 3(v299) 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	.0538	-0.0002	.0125	.0012	.0129	.0355	.0578	.0049	-0.0014
Stddev	.0003	.0001	.0001	.0002	.0002	.0004	.0004	.0001	.0002
%RSD	.5046	43.88	.4336	14.48	1.272	1.137	.1427	3.101	17.13
#1	.0541	-0.0002	.0124	.0011	.0128	.0354	.0578	.0049	-0.0013
#2	.0536	-0.0002	.0125	.0011	.0128	.0351	.0579	.0050	-0.0013
#3	.0536	-0.0001	.0124	.0014	.0128	.0359	.0578	.0047	-0.0017
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.5516	.0013	-0.0007	.0135	.0005	.0062	1.408	11.05
Stddev	.0001	.0000	.0005	.0007	.0004	.0019	.0013	.014	.03
%RSD	1.738	.0081	38.25	103.2	2.884	397.7	21.12	1.020	.2378
#1	.0040	.5516	.0011	-0.010	.0137	-0.0015	.0049	1.404	11.03
#2	.0039	.5516	.0009	-0.012	.0136	.0006	.0063	1.397	11.04
#3	.0040	.5517	.0018	.0001	.0130	.0024	.0075	1.424	11.08
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.613	3.040	.9576	3.926	.0119	.0023	1.129	.0289	.0510
Stddev	.007	.025	.0374	.011	.0003	.0002	.002	.0004	.0003
%RSD	.1991	.8087	3.906	.2765	2.828	8.299	.1570	1.238	.4920
#1	3.617	3.068	.9761	3.939	.0116	.0023	1.127	.0291	.0511
#2	3.605	3.029	.9822	3.923	.0121	.0026	1.130	.0290	.0507
#3	3.619	3.022	.9146	3.918	.0122	.0022	1.129	.0284	.0511
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0841	.0008	.0042	1.805	-0.0011	.0026	.3761		
Stddev	.0003	.0006	.0002	.008	.0021	.0015	.0003		
%RSD	.3698	77.02	4.343	.4586	198.1	55.71	.0693		
#1	.0843	.0003	.0044	1.806	-0.0034	.0043	.3759		
#2	.0842	.0015	.0040	1.813	.0007	.0017	.3760		
#3	.0837	.0006	.0042	1.797	-0.0004	.0019	.3764		

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Sample Name: jc86015-30 Acquired: 4/18/2019 14:13:25 Type: Unk  
 Method: SGS 3(v299) 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	99986	5145.0	3652.8	8174.7
Stddev	268	33.3	3.0	4.2
%RSD	.26782	.64768	.08301	.05077
#1	100020	5178.5	3656.0	8173.9
#2	99702	5111.9	3652.3	8171.1
#3	100230	5144.5	3650.0	8179.2

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Sample Name: mp14241-mb1conf Acquired: 4/18/2019 14:18:50 Type: Unk  
 Method: SGS 3(v299) 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	-0.002	-0.001	-0.001	-0.001	-0.001	0.004	-0.000	0.003	-0.011
Stddev	.0003	.0001	.0000	.0003	.0004	.0001	.0001	.0002	.0006
%RSD	140.2	43.03	25.92	503.1	509.6	29.22	362.8	67.72	53.08
#1	-0.004	-0.002	-0.001	-0.003	-0.005	.0004	.0000	.0003	-0.011
#2	.0001	-0.001	-0.001	.0003	.0001	.0005	-0.001	.0001	-0.005
#3	-0.004	-0.001	-0.001	-0.003	.0002	.0003	.0000	.0005	-0.016
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.003	0.047	0.011	0.009	-0.003	-0.014	0.006	0.0079	0.0455
Stddev	.0002	.0003	.0005	.0003	.0007	.0007	.0011	.0064	.0054
%RSD	46.20	5.411	45.60	32.89	228.0	50.66	184.1	80.48	11.86
#1	.0005	.0046	.0011	.0012	-0.009	-0.021	.0018	.0151	.0517
#2	.0003	.0050	.0006	.0009	-0.006	-0.014	.0004	.0031	.0432
#3	.0002	.0046	.0016	.0006	.0005	-0.007	-0.004	.0055	.0417
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.004	0.002	-0.0161	0.041	-0.000	-0.001	0.0081	-0.010	0.000
Stddev	.0045	.0146	.0302	.0093	.0003	.0002	.0003	.0002	.0001
%RSD	1169.	7256.	187.8	226.1	888.6	244.4	4.228	22.05	532.2
#1	-0.047	.0163	.0030	.0077	-0.004	.0000	.0085	-0.010	.0001
#2	.0022	-0.124	-0.0510	-0.065	.0001	-0.003	.0080	-0.008	.0000
#3	.0037	-0.0033	-0.003	.012	.0002	.0001	.0078	-0.013	-0.001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	-0.004	-0.008	0.001	0.063	0.012	-0.007	0.074		
Stddev	.0001	.0008	.0001	.0021	.0005	.0010	.0003		
%RSD	28.04	92.53	105.0	34.05	41.48	149.3	4.188		
#1	-0.004	-0.000	.0001	.0085	.0011	.0001	.0076		
#2	-0.005	-0.009	-0.000	.0042	.0018	-0.003	.0075		
#3	-0.003	-0.016	.0001	.0063	.0008	-0.019	.0070		

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Sample Name: mp14241-mb1conf Acquired: 4/18/2019 14:18:50 Type: Unk  
 Method: SGS 3(v299) 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	100820	5163.7	3716.3	8454.9
Stddev	251	34.3	7.0	8.1
%RSD	.24879	.66399	.18733	.09604
#1	100680	5201.7	3723.4	8463.8
#2	101110	5135.1	3716.1	8447.9
#3	100680	5154.4	3709.5	8453.0

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Sample Name: mp14241-s2 1 Acquired: 4/18/2019 14:24:22 Type: Unk  
 Method: SGS 3(v299) 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	2.332	1.917	1.983	1.952	1.886	1.817	2.153	1.958	0.822
Stddev	.006	.008	.001	.004	.006	.002	.008	.001	.0005
%RSD	.2572	.4064	.0625	.1876	.2946	.1195	.3843	.0724	.5928
#1	2.334	1.908	1.984	1.948	1.891	1.814	2.146	1.956	.0826
#2	2.326	1.918	1.982	1.955	1.880	1.818	2.150	1.959	.0823
#3	2.338	1.923	1.982	1.953	1.886	1.818	2.162	1.959	.0816
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.884	1.998	2.040	2.005	1.986	2.009	2.056	24.33	941.5
Stddev	.006	.003	.010	.008	.010	.004	.009	.10	2.3
%RSD	.3180	.1311	.4972	.4000	.5156	.2071	.4614	.4061	.2401
#1	1.878	1.995	2.028	2.001	1.977	2.006	2.048	24.32	938.9
#2	1.883	1.998	2.046	2.014	1.998	2.013	2.066	24.24	942.9
#3	1.890	2.000	2.046	2.000	1.984	2.006	2.054	24.43	942.7
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.81	28.05	53.62	538.1	2.045	2.014	2.560	2.012	8.013
Stddev	.05	.37	.05	4	.008	.008	.005	.009	.010
%RSD	.2049	1.332	.0900	.0674	.4085	.3827	.2159	.4326	.1299
#1	25.85	27.76	53.63	537.8	2.036	2.008	2.554	2.002	8.021
#2	25.75	27.92	53.56	538.0	2.051	2.023	2.565	2.017	8.002
#3	25.83	28.48	53.65	538.5	2.049	2.012	2.561	2.017	8.017
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	1.893	1.874	1.859	11.49	0.044	0.758	2.051		
Stddev	.003	.010	.006	.04	.0048	.0009	.015		
%RSD	.1390	.5550	.3167	.3719	108.1	1.123	.7266		
#1	1.890	1.863	1.854	11.46	.0080	.0748	2.034		
#2	1.894	1.884	1.859	11.54	.0063	.0763	2.061		
#3	1.895	1.874	1.865	11.47	-0.010	.0762	2.058		

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Sample Name: mp14241-s2 1 Acquired: 4/18/2019 14:24:22 Type: Unk  
 Method: SGS 3(v299) 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	93092.	4984.6	3429.8	7145.2
Stddev	135.	8.7	8	8.4
%RSD	.14452	.17380	.02453	.11803
#1	93003.	4991.7	3430.1	7144.1
#2	93247.	4975.0	3428.9	7137.3
#3	93026.	4987.2	3430.5	7154.1

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Sample Name: mp14249-mb1conf Acquired: 4/18/2019 14:29:31 Type: Unk  
 Method: SGS 3(v299) 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	-0.0000	-0.0001	.0001	.0013	.0005	.0003	.0008	-0.0009
Stddev	.0001	.0001	.0001	.0002	.0003	.0002	.0000	.0001	.0005
%RSD	26.97	214.3	192.1	166.2	20.88	42.04	8.926	17.91	49.61
#1	.0003	-0.0001	.0000	.0002	.0016	.0008	.0003	.0007	-0.0009
#2	.0002	-0.0000	-0.0002	-0.0001	.0011	.0005	.0004	.0010	-0.0005
#3	.0001	.0000	-0.0000	.0003	.0012	.0003	.0003	.0007	-0.0014
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0084	.0003	.0004	-0.0003	-0.0009	.0004	-0.0027	.1651
Stddev	.0003	.0000	.0006	.0003	.0008	.0015	.0011	.0030	.0075
%RSD	144.7	.3974	190.0	75.85	230.0	166.5	288.3	112.9	4.559
#1	.0001	.0084	-0.0003	.0008	-0.011	-0.026	.0014	.0008	.1676
#2	-0.0000	.0084	.0009	.0001	-0.0005	-0.0005	-0.0008	-0.0045	.1566
#3	.0006	.0084	.0003	.0004	.0005	.0004	.0006	-0.0043	.1710
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0252	.0200	.0808	.1238	.0004	.0004	.0110	.0268	.0005
Stddev	.0086	.0196	.0120	.0052	.0002	.0001	.0006	.0003	.0001
%RSD	34.16	98.05	14.81	4.160	57.66	17.09	5.045	.9796	23.07
#1	.0328	.0076	.0946	.1183	.0007	.0004	.0113	.0271	.0005
#2	.0159	.0098	.0735	.1247	.0002	.0005	.0103	.0266	.0007
#3	.0269	.0425	.0743	.1285	.0005	.0003	.0113	.0269	.0004
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0004	.0006	.0004	.0167	.0002	.0018	.0336		
Stddev	.0003	.0003	.0001	.0008	.0008	.0017	.0005		
%RSD	83.11	50.38	11.72	4.700	395.4	92.67	1.541		
#1	.0008	.0008	.0004	.0169	-0.006	.0024	.0341		
#2	.0004	.0008	.0005	.0174	.0002	-0.001	.0335		
#3	.0001	.0002	.0004	.0158	.0010	.0031	.0331		

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Sample Name: mp14249-mb1conf Acquired: 4/18/2019 14:29:31 Type: Unk  
 Method: SGS 3(v299) 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	98037.	5136.0	3673.9	8284.0
Stddev	3735.	16.6	3.9	3.8
%RSD	3.8100	.32334	.10479	.04643
#1	93726.	5120.2	3669.9	8286.3
#2	100060.	5153.3	3674.2	8279.5
#3	100320.	5134.5	3677.5	8286.1

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Sample Name: jc86190-4 7 Acquired: 4/18/2019 14:35:00 Type: Unk  
 Method: SGS 3(v299) Mode: CONC Corr. Factor: 25.000000  
 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	.0800	.0013	-0.0035	.5643	.0059	.3282	.0449	.0029	-0.0118
Stddev	.0138	.0020	.0015	.0035	.0104	.0089	.0024	.0100	.0083
%RSD	17.24	154.2	41.80	.6180	175.2	2.715	5.296	339.3	69.78
#1	.0770	-0.0009	-0.0050	.5680	.0154	.3244	.0422	-0.0079	-0.0023
#2	.0680	.0019	-0.0020	.5638	.0075	.3219	.0462	.0118	-0.0167
#3	.0950	.0029	-0.0036	.5611	-0.0052	.3384	.0465	.0049	-0.0165
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0098	.1671	-0.0142	-0.0081	.0264	.0055	.0315	2.190	1.198
Stddev	.0072	.0018	.0216	.0132	.0215	.0178	.0167	.427	.181
%RSD	73.18	1.107	151.5	162.0	81.50	322.0	52.90	19.48	15.12
#1	.0015	.1665	-0.0120	.0045	.0484	.0163	.0286	2.314	1.205
#2	.0139	.1692	.0061	-0.0070	.0055	-0.0150	.0165	2.540	1.375
#3	.0140	.1656	-0.0368	-0.0218	.0252	.0152	.0495	1.715	1.013
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.03	.3715	.2018	1.163	.0173	.0708	.8561	.1074	-0.0002
Stddev	.26	.5978	.2918	.237	.0033	.0025	.0195	.0045	.0016
%RSD	2.351	160.9	144.6	20.40	18.93	3.594	2.273	4.148	799.6
#1	10.76	-.1818	.5371	1.268	.0135	.0737	.8346	.1069	-0.0018
#2	11.04	1.006	.0063	.8914	.0189	.0695	.8612	.1033	.0013
#3	11.28	.2907	.0618	1.330	.0194	.0692	.8724	.1122	-0.0001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.4717	.0018	122.3	5.838	-0.0286	.0499	.1893		
Stddev	.0015	.0120	.2	.035	.0262	.0313	.0073		
%RSD	.3182	654.8	.1716	.5920	91.57	62.76	3.878		
#1	.4730	.0145	122.5	5.837	-0.0489	.0247	.1904		
#2	.4721	-0.0095	122.1	5.803	-0.0378	.0400	.1961		
#3	.4701	.0005	122.3	5.873	.0010	.0850	.1815		

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Sample Name: jc86190-4 7 Acquired: 4/18/2019 14:35:00 Type: Unk  
 Method: SGS 3(v299) Mode: CONC Corr. Factor: 25.000000  
 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	99530.	5131.3	3677.5	8268.7
Stddev	.145	7.6	5.5	3.8
%RSD	.14557	.14887	.15049	.04587
#1	99404.	5127.1	3671.9	8264.3
#2	99688.	5140.1	3683.0	8271.0
#3	99498.	5126.6	3677.4	8270.9

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Sample Name: ccv Acquired: 4/18/2019 14:40:30 Type: QC  
 Method: SGS 3(v299) 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	<b>2.017</b>	<b>2.043</b>	<b>2.005</b>	<b>2.038</b>	<b>1.998</b>	<b>1.950</b>	<b>2.007</b>	<b>2.020</b>	<b>2.444</b>
Stddev	.003	.003	.004	.004	.003	.001	.003	.004	.0006
%RSD	.1653	.1612	.1867	.1933	.1594	.0618	.1427	.1775	.2327
#1	2.020	2.045	2.007	2.042	1.997	1.950	2.007	2.024	2.450
#2	2.016	2.045	2.008	2.037	1.995	1.948	2.004	2.019	2.441
#3	2.013	2.039	2.001	2.034	2.001	1.951	2.010	2.017	2.440

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	<b>1.971</b>	<b>2.036</b>	<b>2.020</b>	<b>2.089</b>	<b>2.048</b>	<b>2.040</b>	<b>2.045</b>	<b>39.96</b>	<b>40.91</b>
Stddev	.003	.005	.004	.003	.006	.001	.006	.12	.13
%RSD	.1501	.2535	.2110	.1428	.2929	.0469	.3049	.3023	.3083
#1	1.972	2.042	2.024	2.092	2.055	2.041	2.047	40.07	40.94
#2	1.968	2.035	2.018	2.089	2.043	2.040	2.051	39.83	40.77
#3	1.974	2.032	2.016	2.086	2.047	2.039	2.039	39.97	41.01

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	<b>41.00</b>	<b>40.28</b>	<b>40.22</b>	<b>40.62</b>	<b>2.083</b>	<b>2.032</b>	<b>5.206</b>	<b>2.052</b>	<b>2.053</b>
Stddev	.10	.12	.08	.06	.004	.004	.009	.005	.003
%RSD	.2407	.2955	.1888	.1462	.2061	.1820	.1700	.2613	.1203
#1	41.08	40.34	40.30	40.63	2.085	2.032	5.203	2.058	2.055
#2	41.04	40.14	40.21	40.56	2.086	2.035	5.216	2.048	2.054
#3	40.89	40.35	40.15	40.68	2.078	2.028	5.199	2.049	2.050

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

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Sample Name: ccv Acquired: 4/18/2019 14:40:30 Type: QC  
 Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: Custom ID2: Custom ID3:  
 Comment:

Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.943</b>	<b>1.992</b>	<b>1.956</b>	<b>2.068</b>	<b>2.085</b>	<b>1.986</b>	<b>2.034</b>
Stddev	.000	.004	.001	.002	.008	.004	.002
%RSD	.0176	.2041	.0576	.0740	.3881	.2246	.0874
#1	1.943	1.995	1.955	2.069	2.086	1.990	2.034
#2	1.943	1.993	1.956	2.066	2.093	1.982	2.033
#3	1.943	1.987	1.957	2.067	2.077	1.986	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	95319.	5041.1	3563.4	7419.3
Stddev	.221	19.2	6.2	7.1
%RSD	.23144	.38122	.17412	.09517
#1	95351.	5048.0	3562.0	7411.5
#2	95522.	5055.9	3558.0	7421.4
#3	95085.	5019.4	3570.2	7425.1

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Sample Name: ccb Acquired: 4/18/2019 14:45:33 Type: QC  
 Method: SGS 3(v299) 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	<b>-0.001</b>	<b>-0.001</b>	<b>-0.001</b>	<b>.0001</b>	<b>-0.001</b>	<b>-0.006</b>	<b>-0.001</b>	<b>.0001</b>	<b>-0.014</b>
Stddev	.0003	.0002	.0001	.0001	.0004	.0001	.0001	.0002	.0005
%RSD	396.4	159.2	94.38	135.6	577.6	14.82	149.1	203.2	34.11
#1	-0.001	-0.003	-0.002	.0001	.0003	-0.006	-0.000	-0.001	-0.016
#2	-0.003	.0000	-0.001	-0.000	-0.003	-0.006	-0.000	.0003	-0.009
#3	.0002	-0.001	.0000	.0002	-0.002	-0.005	-0.002	.0002	-0.018

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	<b>-0.001</b>	<b>.0002</b>	<b>-0.002</b>	<b>-0.002</b>	<b>-0.007</b>	<b>.0003</b>	<b>.0005</b>	<b>-0.045</b>	<b>.0012</b>
Stddev	.0003	.0000	.0007	.0009	.0009	.0009	.0008	.0102	.0015
%RSD	308.5	14.49	360.7	499.5	135.0	339.8	149.6	225.7	121.2
#1	-0.002	.0002	-0.010	-0.009	-0.015	.0004	-0.001	-0.138	.0023
#2	.0002	.0002	.0001	-0.006	-0.007	.0011	.0013	-0.061	.0018
#3	.0003	.0002	.0003	.0009	.0003	-0.007	.0003	.0064	-0.005

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	<b>-0.039</b>	<b>.0125</b>	<b>.0488</b>	<b>.0109</b>	<b>.0006</b>	<b>.0001</b>	<b>.0011</b>	<b>-0.002</b>	<b>.0001</b>
Stddev	.0052	.0510	.0283	.0134	.0003	.0002	.0004	.0006	.0000
%RSD	134.4	409.6	58.11	122.9	49.82	320.0	40.19	251.8	83.44
#1	-0.045	-0.337	.0810	.0242	.0004	-0.000	.0016	-0.003	.0001
#2	.0016	.0038	.0377	.0111	.0010	-0.000	.0008	-0.008	.0000
#3	-0.088	.0672	.0277	-0.026	.0006	.0002	.0009	.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

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Sample Name: ccb Acquired: 4/18/2019 14:45:33 Type: QC  
 Method: SGS 3(v299) 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	-0.002	0.003	0.000	0.018	-0.007	F 0.042	0.074
Stddev	.0001	.0005	.0001	.0012	.0004	.0004	.0002
%RSD	39.53	173.2	141.3	62.29	52.99	8.712	3.057

#1	-0.002	0.007	0.001	0.031	-0.007	0.045	0.072
#2	-0.003	0.003	0.001	0.017	-0.004	0.038	0.076
#3	-0.001	-0.002	-0.000	0.008	-0.012	0.042	0.076

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						.0040	
Low Limit						-0.0040	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	100190.	5054.7	3698.3	8307.5
Stddev	149.	27.0	5.5	10.4
%RSD	.14921	.53407	.14885	.12475

#1	100020.	5047.9	3702.1	8313.4
#2	100240.	5084.5	3700.8	8313.6
#3	100310.	5031.8	3692.0	8295.6

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Sample Name: jc86190-5 Acquired: 4/18/2019 14:51:05 Type: Unk  
 Method: SGS 3(v299) Mode: CONC Corr. Factor: 25.000000  
 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	0.583	-0.029	-0.060	5.477	0.069	2.406	0.338	0.087	-0.194
Stddev	.0014	.0004	.0070	0.211	.0038	.0055	.0009	.0027	.0084
%RSD	2.481	12.95	116.2	3.853	55.17	2.290	2.770	31.38	43.44

#1	.0568	-0.031	-0.005	5.234	0.093	2.344	0.328	0.061	-0.232
#2	.0597	-0.024	-0.139	5.600	0.025	2.449	0.339	0.116	-0.097
#3	.0583	-0.031	-0.036	5.598	0.089	2.426	0.346	0.085	-0.253

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.072	1.482	0.036	0.015	0.105	0.151	0.028	2.150	5.173
Stddev	.0051	.0056	.0214	.0043	.0267	.0186	.0140	.066	.0659
%RSD	71.05	3.761	602.5	288.9	254.6	123.1	499.1	3.088	12.73

#1	.0118	.1425	-0.145	0.064	0.404	-0.063	0.177	2.212	5.884
#2	.0081	.1536	0.272	-0.004	0.108	0.273	0.008	2.080	4.584
#3	.0017	.1485	-0.020	-0.015	-0.108	0.244	-0.101	2.157	5.052

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.894	-0.0509	8.282	6.847	0.137	0.609	2.617	1.255	0.029
Stddev	.177	1.126	1.286	2.278	.0084	.0023	.0222	.0173	.0021
%RSD	1.991	2213.	155.3	33.27	61.23	3.781	8.466	13.78	73.31

#1	8.740	-1.066	8.531	7.418	0.233	0.582	2.491	1.061	0.053
#2	9.088	-2.460	2.102	8.786	0.105	0.622	2.488	1.394	0.012
#3	8.855	1.159	-4.705	4.338	0.074	0.623	2.873	1.309	0.023

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.050	-0.0326	117.9	5.251	-0.574	0.684	1.955
Stddev	.0024	.0104	1.1	.175	.0170	.0146	.0085
%RSD	.5942	32.00	.9027	3.334	29.54	21.32	4.357

#1	4.029	-0.447	117.1	5.055	-0.445	0.588	2.010
#2	4.045	-0.267	117.4	5.305	-0.510	0.612	1.998
#3	4.077	-0.265	119.1	5.392	-0.766	0.852	1.857

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Sample Name: jc86190-5 Acquired: 4/18/2019 14:51:05 Type: Unk  
 Method: SGS 3(v299) Mode: CONC Corr. Factor: 25.000000  
 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	99200.	5139.2	3681.0	8276.6
Stddev	1113.	6.8	5.4	17.0
%RSD	1.1218	.13315	.14601	.20586

#1	97971.	5132.7	3675.3	8260.2
#2	99489.	5146.3	3681.6	8275.4
#3	100140.	5138.6	3686.0	8294.2

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Sample Name: jc86302-4 Acquired: 4/18/2019 14:56:33 Type: Unk  
 Method: SGS 3(v299) 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	1.328	0.068	0.006	0.750	2.459	2.510	8.400	1.532	-0.005
Stddev	.023	.0001	.0002	.0013	.0037	.0052	.158	.0025	.0008
%RSD	1.726	1.810	38.78	1.697	1.497	2.077	1.882	1.654	143.5

#1	1.305	0.067	0.004	0.736	2.425	2.457	8.247	1.503	0.002
#2	1.328	0.070	0.009	0.754	2.455	2.514	8.391	1.543	-0.013
#3	1.351	0.069	0.006	0.761	2.498	2.561	8.563	1.550	-0.005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.562	8.997	0.594	-0.014	3.828	-0.055	-0.009	125.3	83.06
Stddev	.0073	.0128	.0014	.0027	.0041	.0048	.0028	2.0	1.29
%RSD	2.048	1.427	2.337	195.8	1.082	86.98	304.0	1.627	1.553

#1	3.480	8.855	0.599	0.015	3.782	-0.089	0.010	123.3	81.67
#2	3.589	9.030	0.606	-0.017	3.842	-0.076	0.003	125.1	83.32
#3	3.618	9.105	0.579	-0.040	3.861	-0.000	-0.041	127.3	84.21

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	185.9	33.70	10.85	6.619	0.405	0.109	2.110	0.536	4.764
Stddev	2.9	.59	.13	.124	.0002	.0004	.015	.0021	0.085
%RSD	1.564	1.752	1.223	1.868	4.057	4.124	.7034	3.843	1.779

#1	183.1	33.09	10.70	6.482	0.403	0.103	2.099	0.512	4.683
#2	185.8	33.76	10.89	6.656	0.405	0.112	2.127	0.545	4.756
#3	188.9	34.27	10.96	6.721	0.407	0.111	2.105	0.550	4.852

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.981	0.089	0.924	4.421	-0.035	1.004	2.888
Stddev	.094	.0020	.0009	.062	.0010	.0026	.043
%RSD	1.885	22.57	.9574	1.408	28.34	2.542	1.479

#1	4.888	0.086	0.914	4.352	-0.029	0.978	2.839
#2	4.980	0.071	0.928	4.437	-0.047	1.029	2.912
#3	5.075	0.111	0.931	4.474	-0.030	1.007	2.913

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Sample Name: jc86302-4 Acquired: 4/18/2019 14:56:33 Type: Unk  
 Method: SGS 3(v299) 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	99192.	5247.9	3690.2	7676.4
Stddev	383.	14.0	2.1	1.9
%RSD	.38577	.26686	.05592	.02476

#1	99416.	5253.6	3690.0	7676.6
#2	99410.	5231.9	3688.3	7674.5
#3	98750.	5258.1	3692.4	7678.3

Sample Name: jc86330-2 Acquired: 4/18/2019 15:01:48 Type: Unk  
 Method: SGS 3(v299) 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	.3462	.0059	-.0007	.1599	.2605	.1482	2.349	.1070	-.0051
Stddev	.0083	.0004	.0004	.0028	.0053	.0038	.047	.0013	.0004
%RSD	2.383	6.663	52.12	1.743	2.019	2.553	1.988	1.194	7.580

#1	.3383	.0055	-.0004	.1567	.2550	.1443	2.302	.1059	-.0055
#2	.3454	.0058	-.0011	.1615	.2612	.1485	2.350	.1067	-.0048
#3	.3548	.0063	-.0006	.1615	.2654	.1519	2.395	.1084	-.0049

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3391	.2653	.0769	-.0037	.1767	-.0045	.0023	124.9	38.73
Stddev	.0060	.0046	.0048	.0014	.0017	.0019	.0026	3.1	9.41
%RSD	1.765	1.737	6.302	37.80	9.411	42.83	115.6	2.505	24.31

#1	.3323	.2601	.0720	-.0038	.1749	-.0061	.0009	121.7	37.80
#2	.3411	.2666	.0769	-.0051	.1768	-.0052	.0006	124.9	38.72
#3	.3438	.2690	.0817	-.0023	.1782	-.0024	.0053	128.0	39.68

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	298.6	8.050	8.168	2.197	.0236	.0103	2.249	.0352	2.730
Stddev	6.9	.247	.207	.059	.0007	.0004	.033	.0014	.0075
%RSD	2.300	3.073	2.541	2.700	3.097	3.510	1.462	3.919	2.754

#1	292.1	7.816	7.946	2.141	.0235	.0102	2.214	.0336	2.655
#2	297.9	8.026	8.201	2.192	.0229	.0106	2.256	.0362	2.730
#3	305.8	8.309	8.357	2.259	.0244	.0099	2.279	.0358	2.805

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.168	.0079	.0851	1.408	.0100	.0633	3.397
Stddev	.042	.0007	.0022	.021	.0047	.0029	.054
%RSD	1.920	8.281	2.587	1.459	47.47	4.603	1.587

#1	2.126	.0080	.0826	1.386	.0153	.0627	3.337
#2	2.170	.0085	.0859	1.411	.0064	.0664	3.411
#3	2.209	.0072	.0868	1.426	.0081	.0606	3.442

Sample Name: jc86330-2 Acquired: 4/18/2019 15:01:48 Type: Unk  
 Method: SGS 3(v299) 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	99124.	5186.4	3679.3	7814.7
Stddev	42.	19.7	1.7	3.3
%RSD	.04255	.37917	.04485	.04232

#1	99169.	5174.0	3677.6	7812.4
#2	99086.	5209.1	3680.9	7813.3
#3	99116.	5176.3	3679.4	7818.5

Sample Name: jc86330-4 Acquired: 4/18/2019 15:07:04 Type: Unk  
 Method: SGS 3(v299) 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	.9070	.0138	-.0007	.1271	.2226	.1928	4.259	.2191	.0027
Stddev	.0331	.0006	.0002	.0038	.0066	.0060	.113	.0061	.0008
%RSD	3.651	4.384	31.95	2.955	2.987	3.106	2.662	2.795	30.93

#1	.8739	.0132	-.0005	.1228	.2153	.1870	4.143	.2122	.0018
#2	.9071	.0139	-.0010	.1285	.2243	.1924	4.265	.2212	.0030
#3	.9401	.0144	-.0006	.1299	.2283	.1990	4.369	.2238	.0033

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2905	.6802	.0107	.0019	.1677	-.0066	-.0073	193.5	21.11
Stddev	.0080	.0200	.0030	.0016	.0029	.0064	.0033	6.7	.74
%RSD	2.770	2.933	28.44	85.13	1.722	97.03	45.92	3.469	3.521

#1	.2823	.6577	.0142	.0001	.1643	-.0135	-.0111	186.8	20.36
#2	.2906	.6870	.0086	.0032	.1694	-.0054	-.0056	193.4	21.13
#3	.2984	.6958	.0092	.0023	.1693	-.0009	-.0051	200.2	21.84

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	202.3	66.21	58.96	7.409	.0111	.0026	1.775	.0301	1.180
Stddev	7.3	2.46	2.36	.285	.0006	.0002	.043	.0013	.0047
%RSD	3.591	3.711	4.010	3.850	5.290	7.231	2.395	4.424	3.997

#1	194.9	63.65	56.61	7.123	.0113	.0024	1.727	.0302	.1134
#2	202.5	66.41	58.93	7.411	.0115	.0027	1.794	.0288	.1177
#3	209.5	68.55	61.34	7.694	.0104	.0027	1.805	.0314	.1228

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.87	.0068	.0282	.3150	.0006	.3426	2.397
Stddev	.39	.0011	.0010	.0068	.0039	.0108	.075
%RSD	2.651	16.98	3.622	2.146	609.2	3.153	3.117

#1	14.46	.0064	.0270	.3088	-.0038	.3312	2.312
#2	14.89	.0081	.0284	.3140	.0036	.3440	2.424
#3	15.25	.0059	.0290	.3222	.0021	.3527	2.454

Sample Name: jc86330-4 Acquired: 4/18/2019 15:07:04 Type: Unk  
Method: SGS 3(v299) 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	98873.	5215.4	3696.4	7560.1
Stddev	252.	21.3	2.4	7.8
%RSD	.25470	.40843	.06366	.10382
#1	99136.	5196.0	3695.7	7565.6
#2	98849.	5238.2	3699.1	7563.5
#3	98634.	5212.1	3694.6	7551.1

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Sample Name: jc86337-4concf Acquired: 4/18/2019 15:12:20 Type: Unk  
Method: SGS 3(v299) 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	.9173	.0020	.0079	.0430	.1427	.1766	1.654	.1429	-0.123
Stddev	.0687	.0005	.0006	.0017	.0068	.0105	.084	.0032	.0002
%RSD	7.486	26.95	7.383	3.935	4.796	5.928	5.100	2.209	1.684
#1	.8485	.0014	.0077	.0415	.1364	.1664	1.570	.1394	-0.125
#2	.9175	.0021	.0086	.0448	.1416	.1761	1.652	.1455	-0.124
#3	.9858	.0025	.0076	.0428	.1500	.1873	1.739	.1440	-0.121
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1303	1.251	.0409	-0.004	1.155	-0.0141	.0157	46.44	348.6
Stddev	.0073	.022	.0039	.0045	.021	.0096	.0015	3.58	25.3
%RSD	5.632	1.724	9.608	1124.	1.810	68.05	9.851	7.708	7.263
#1	.1245	1.226	.0441	-0.008	1.131	-0.0250	.0159	42.82	323.3
#2	.1278	1.263	.0366	.0042	1.170	-0.0073	.0172	46.53	348.5
#3	.1385	1.263	.0421	-0.047	1.165	-0.0099	.0141	49.98	373.9
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	148.4	28.13	9.842	1.229	.0921	.0140	3.758	.0434	1.820
Stddev	11.1	1.86	.726	.146	.0003	.0006	.042	.0040	.137
%RSD	7.453	6.595	7.376	11.91	.3327	4.520	1.106	9.321	7.496
#1	137.5	26.19	9.087	1.133	.0924	.0135	3.710	.0474	1.684
#2	148.2	28.30	9.904	1.157	.0920	.0147	3.783	.0436	1.821
#3	159.6	29.89	10.53	1.397	.0918	.0137	3.782	.0393	1.957
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	2.194	.0123	.0802	19.40	.0124	.0412	2.166		
Stddev	.112	.0030	.0042	.40	.0084	.0122	.040		
%RSD	5.101	24.25	5.293	2.080	67.85	29.56	1.848		
#1	2.082	.0150	.0761	18.96	.0091	.0287	2.121		
#2	2.193	.0091	.0799	19.51	.0061	.0418	2.183		
#3	2.306	.0129	.0845	19.74	.0220	.0530	2.195		

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Sample Name: jc86337-4concf Acquired: 4/18/2019 15:12:20 Type: Unk  
Method: SGS 3(v299) 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	98306.	5111.8	3628.3	7681.6
Stddev	152.	37.4	3.3	9.0
%RSD	.15489	.73220	.09014	.11772
#1	98130.	5074.9	3628.2	7690.4
#2	98403.	5110.8	3631.7	7681.9
#3	98384.	5149.7	3625.1	7672.3

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Sample Name: jc86190-4 Acquired: 4/18/2019 15:17:40 Type: Unk  
Method: SGS 3(v299) 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	.0814	.0002	.0000	.5211	.0017	.3848	.0547	.0021
Stddev	.0005	.0001	.0002	.0152	.0001	.0006	.0002	.0002
%RSD	.5966	50.36	6316.	2.914	2.888	.1517	.3078	11.54
#1	.0814	.0003	.0001	.5309	.0018	.3843	.0545	.0023
#2	.0819	.0001	.0002	.5036	.0017	.3847	.0547	.0019
#3	.0810	.0002	.0003	.5287	.0017	.3854	.0549	.0021
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1852	.0069	.1348	.0016	F -.0052	.0308	.0131	.0041
Stddev	.0014	.0006	.0046	.0002	.0005	.0008	.0011	.0020
%RSD	.7805	8.151	3.382	9.908	10.48	2.454	8.637	49.01
#1	.1839	.0063	.1374	.0017	.0054	.0300	.0121	.0024
#2	.1849	.0074	.1295	.0014	.0046	.0309	.0129	.0063
#3	.1867	.0069	.1374	.0017	.0056	.0315	.0143	.0035
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.946	.2663	10.53	.0520	.2722	.8007	.0035	.0646
Stddev	.012	.0053	.04	.0286	.0388	.0090	.0009	.0020
%RSD	.6225	1.984	.4010	54.92	14.25	1.119	24.39	3.115
#1	1.954	.2622	10.52	.0755	.2872	.8073	.0033	.0660
#2	1.951	.2722	10.58	.0602	.2282	.7905	.0028	.0623
#3	1.932	.2644	10.50	.0202	.3013	.8042	.0044	.0657
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6681	.1002	.0009	.5496	W -.0232	F 113.5	5.451	-.0023
Stddev	.0235	.0032	.0001	.0003	.0008	.1	1.77	.0014
%RSD	3.524	3.211	6.806	.0544	3.483	.1032	3.250	60.09
#1	.6835	.1020	.0008	.5496	.0223	113.6	5.551	-.0013
#2	.6410	.0965	.0009	.5493	.0239	113.4	5.246	-.0016
#3	.6799	.1022	.0009	.5499	.0234	113.4	5.555	-.0038

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Sample Name: jc86190-4 Acquired: 4/18/2019 15:17:40 Type: Unk  
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: Custom ID2: Custom ID3:  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>.0032</b>	<b>-0.0081</b>		
Stddev	.0014	.0010		
%RSD	44.57	12.97		
#1	.0034	-0.0086		
#2	.0017	-0.0069		
#3	.0045	-0.0088		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	79676.	5217.8	3736.7	8320.4
Stddev	303.	26.1	104.4	198.6
%RSD	.38051	.50075	2.7950	2.3868
#1	80017.	5247.8	3672.7	8200.2
#2	79576.	5205.3	3857.2	8549.6
#3	79436.	5200.3	3680.2	8211.3

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Sample Name: jc86190-5 Acquired: 4/18/2019 15:23:08 Type: Unk  
Method: SGS 3(v299) 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	<b>.0753</b>	<b>-0.0011</b>	<b>.0001</b>	<b>.4704</b>	<b>W -.0035</b>	<b>2958</b>	<b>.0442</b>	<b>.0013</b>
Stddev	.0009	.0000	.0002	.0004	.0001	.0011	.0001	.0003
%RSD	1.150	72.63	125.5	.0862	3.742	.3587	.1676	22.71
#1	.0746	-0.0011	.0001	.4701	-0.034	.2956	.0441	.0010
#2	.0751	-0.0000	-0.0000	.4709	-0.035	.2969	.0442	.0016
#3	.0763	-0.0011	.0003	.4703	-0.036	.2948	.0442	.0011

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1909</b>	<b>.0065</b>	<b>.1156</b>	<b>.0012</b>	<b>F -.0056</b>	<b>.0276</b>	<b>.0133</b>	<b>.0023</b>
Stddev	.0015	.0006	.0002	.0006	.0012	.0008	.0005	.0008
%RSD	.7981	9.827	.1436	53.79	21.73	2.924	3.934	34.94
#1	.1892	.0064	.1155	.0007	-0.049	.0269	.0139	.0016
#2	.1913	.0072	.1154	.0019	-0.050	.0275	.0130	.0031
#3	.1921	.0059	.1158	.0009	-0.070	.0285	.0130	.0021

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.923</b>	<b>.2235</b>	<b>9.323</b>	<b>.0474</b>	<b>.1953</b>	<b>.6242</b>	<b>.0004</b>	<b>.0516</b>
Stddev	.018	.0046	.017	.0411	.0134	.0026	.0007	.0006
%RSD	.9159	2.053	.1778	86.74	6.883	.4130	148.3	1.136
#1	1.907	.2260	9.304	.0830	.1810	.6230	.0007	.0521
#2	1.920	.2182	9.334	.0024	.1970	.6272	-.0003	.0517
#3	1.942	.2264	9.332	.0569	.2078	.6225	.0009	.0510

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1651</b>	<b>.1025</b>	<b>.0003</b>	<b>.4958</b>	<b>W -.0242</b>	<b>F 114.2</b>	<b>4.490</b>	<b>-.0024</b>
Stddev	.0009	.0004	.0001	.0004	.0004	.1	.016	.0003
%RSD	.5154	.4308	34.31	.0888	1.733	.1271	.3503	13.13
#1	.1657	.1030	.0003	.4954	-.0247	114.0	4.472	-.0027
#2	.1642	.1025	.0004	.4962	-.0241	114.2	4.498	-.0024
#3	.1656	.1021	.0002	.4959	-.0239	114.3	4.499	-.0021

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Sample Name: jc86190-5 Acquired: 4/18/2019 15:23:08 Type: Unk  
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: Custom ID2: Custom ID3:  
Comment:

Elem	Li6707	P_1774	
Units	ppm	ppm	
Avg	<b>.0027</b>	<b>W -.0217</b>	
Stddev	.0007	.0017	
%RSD	26.74	7.718	
#1	.0021	-0.0198	
#2	.0035	-0.0223	
#3	.0025	-0.0230	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	79524.	5210.3	3684.5	8204.1
Stddev	225.	34.0	1.8	7.1
%RSD	.28295	.65199	.04878	.08612
#1	79783.	5218.1	3686.4	8212.2
#2	79377.	5239.7	3682.8	8198.9
#3	79411.	5173.1	3684.4	8201.3

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Sample Name: jc86337-4 Acquired: 4/18/2019 15:28:38 Type: Unk  
Method: SGS 3(v299) 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	<b>1.049</b>	<b>.0024</b>	<b>.0061</b>	<b>.0331</b>	<b>.1331</b>	<b>.1726</b>	<b>1.545</b>	<b>.1139</b>	<b>-0.0020</b>
Stddev	.003	.0007	.0008	.0005	.0012	.0030	.001	.0015	.0016
%RSD	.2431	29.73	12.71	1.380	.9079	1.763	.0878	1.315	81.71
#1	1.051	.0025	.0070	.0335	.1325	.1691	1.545	.1154	-.0001
#2	1.046	.0031	.0060	.0326	.1345	.1741	1.546	.1125	-.0028
#3	1.050	.0016	.0055	.0332	.1323	.1746	1.543	.1138	-.0029

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1204</b>	<b>1.016</b>	<b>.0339</b>	<b>-.0002</b>	<b>.9397</b>	<b>-.0016</b>	<b>.0121</b>	<b>53.24</b>	<b>397.3</b>
Stddev	.0018	.002	.0053	.0034	.0088	.0025	.0020	.15	1.1
%RSD	1.495	.1508	15.61	1444.	.9402	164.2	16.68	.2784	.2750
#1	.1192	1.014	.0394	-.0041	.9358	-.0018	.0137	53.38	398.5
#2	.1225	1.017	.0334	.0018	.9498	-.0039	.0128	53.09	396.6
#3	.1195	1.016	.0288	.0016	.9334	.0011	.0098	53.25	396.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>168.9</b>	<b>31.71</b>	<b>11.07</b>	<b>1.450</b>	<b>.0781</b>	<b>.0120</b>	<b>3.082</b>	<b>.0379</b>	<b>2.077</b>
Stddev	.5	.46	.13	.057	.0039	.0011	.005	.0029	.006
%RSD	.3045	1.452	1.144	3.927	5.052	9.148	.1773	7.753	.3029
#1	169.3	31.35	10.95	1.415	.0778	.0115	3.088	.0357	2.084
#2	168.3	31.56	11.07	1.419	.0821	.0133	3.077	.0412	2.072
#3	169.2	32.23	11.21	1.516	.0743	.0112	3.081	.0367	2.074

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>2.045</b>	<b>.0100</b>	<b>.1258</b>	<b>15.89</b>	<b>.0067</b>	<b>.0489</b>	<b>1.770</b>
Stddev	.002	.0032	.0037	.05	.0010	.0033	.006
%RSD	.0969	32.16	2.920	2938	15.39	6.700	.3371
#1	2.043	.0083	.1295	15.83	.0056	.0522	1.767
#2	2.045	.0080	.1258	15.91	.0070	.0489	1.777
#3	2.047	.0137	.1222	15.92	.0076	.0456	1.767

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Sample Name: jc86337-4 Acquired: 4/18/2019 15:28:38 Type: Unk  
Method: SGS 3(v299) 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	98873.	5185.4	3650.3	7781.4
Stddev	62.	3.3	4.4	5.1
%RSD	.06271	.06410	.11942	.06609
#1	98886.	5183.4	3645.3	7775.5
#2	98927.	5183.5	3652.7	7785.0
#3	98805.	5189.2	3653.0	7783.7

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Sample Name: mp14317-b1 Acquired: 4/18/2019 15:33:58 Type: Unk  
Method: SGS 3(v299) 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	1.964	1.986	1.930	1.973	1.960	1.910	1.957	1.947
Stddev	.004	.005	.004	.003	.003	.001	.000	.002
%RSD	.2107	.2777	.2034	.1261	.1470	.0586	.0070	.0873
#1	1.960	1.980	1.932	1.972	1.963	1.909	1.957	1.948
#2	1.968	1.986	1.933	1.976	1.958	1.911	1.957	1.948
#3	1.966	1.991	1.926	1.972	1.959	1.910	1.957	1.945
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.511	1.921	1.979	2.024	2.024	1.976	1.948	2.066
Stddev	.0006	.001	.006	.004	.007	.004	.004	.005
%RSD	.2244	.0498	.2842	.2141	.3704	.1795	.2029	.2418
#1	.2514	1.921	1.985	2.024	2.031	1.979	1.951	2.065
#2	.2514	1.922	1.978	2.028	2.025	1.977	1.950	2.072
#3	.2505	1.920	1.974	2.020	2.016	1.972	1.944	2.062
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.96	25.65	25.67	24.79	24.85	25.17	1.962	2.084
Stddev	.04	.07	.06	.04	.04	.05	.004	.005
%RSD	.1801	.2829	.2507	.1440	.1474	.2130	.2148	.2249
#1	24.97	25.58	25.61	24.76	24.81	25.12	1.964	2.089
#2	25.01	25.72	25.66	24.83	24.89	25.22	1.964	2.083
#3	24.92	25.64	25.74	24.77	24.86	25.17	1.957	2.080
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.834	2.111	1.996	1.984	1.812	2.004	F -.0823	.0003
Stddev	.0012	.008	.004	.002	.002	.004	.0022	.0008
%RSD	.6747	.3718	.1954	.1098	.0966	.1937	2.618	223.0
#1	.1822	2.118	1.992	1.986	1.814	2.008	-.0823	-.0005
#2	.1833	2.112	1.997	1.982	1.812	2.004	-.0845	.0006
#3	.1847	2.103	2.000	1.983	1.811	2.000	-.0802	.0009

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Sample Name: mp14317-b1 Acquired: 4/18/2019 15:33:58 Type: Unk  
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: Custom ID2: Custom ID3:  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	.0015	1.947		
Stddev	.0014	.007		
%RSD	95.41	.3438		
#1	.0031	1.953		
#2	.0006	1.948		
#3	.0007	1.939		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	97243.	5148.8	3588.7	7615.7
Stddev	81.	20.9	5.7	8.7
%RSD	.08344	.40573	.16018	.11436
#1	97177.	5152.8	3583.5	7608.8
#2	97334.	5126.2	3587.7	7612.8
#3	97217.	5167.4	3594.9	7625.5

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Sample Name: ccv Acquired: 4/18/2019 15:39:02 Type: QC  
Method: SGS 3(v299) 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	2.011	1.984	2.025	1.985	1.933	1.985	2.001	2.407
Stddev	.007	.003	.004	.004	.007	.004	.004	.002	.0009
%RSD	.3373	.1699	.2147	.2234	.3586	.2255	.2158	.1144	.3587
#1	1.987	2.012	1.983	2.022	1.993	1.938	1.990	1.998	2.416
#2	1.993	2.014	1.980	2.023	1.979	1.930	1.982	2.002	2.407
#3	1.980	2.007	1.988	2.030	1.983	1.930	1.983	2.003	2.398
Check ?	Value	Range	Value	Range	Value	Range	Value	Range	Value
Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.947	2.014	1.999	2.068	2.034	2.014	2.032	39.52	40.47
Stddev	.003	.002	.000	.012	.003	.002	.001	.08	.07
%RSD	.1632	.1024	.0223	.5757	.1443	.0994	.0532	.2071	.1824
#1	1.950	2.016	2.000	2.056	2.031	2.012	2.032	39.59	40.49
#2	1.945	2.012	1.999	2.070	2.034	2.015	2.033	39.54	40.53
#3	1.945	2.015	1.999	2.079	2.037	2.015	2.031	39.43	40.39
Check ?	Value	Range	Value	Range	Value	Range	Value	Range	Value
Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.44	39.50	39.70	40.20	2.067	2.014	5.167	2.030	2.024
Stddev	.07	.29	.16	.08	.003	.003	.006	.003	.005
%RSD	.1709	.7334	.4116	.1984	.1410	.1551	.1262	.1391	.2392
#1	40.46	39.79	39.76	40.24	2.065	2.013	5.166	2.032	2.024
#2	40.49	39.50	39.83	40.25	2.066	2.012	5.162	2.027	2.029
#3	40.36	39.21	39.52	40.11	2.071	2.018	5.174	2.032	2.020
Check ?	Value	Range	Value	Range	Value	Range	Value	Range	Value
Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass

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Sample Name: ccv Acquired: 4/18/2019 15:39:02 Type: QC  
 Method: SGS 3(v299) 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	1.921	1.975	1.940	2.033	2.074	1.966	1.994
Stddev	.003	.003	.003	.003	.004	.005	.008
%RSD	.1350	.1403	.1546	.1516	.1789	.2476	.3939
#1	1.924	1.978	1.944	2.033	2.070	1.968	1.990
#2	1.920	1.973	1.939	2.030	2.074	1.969	1.989
#3	1.919	1.973	1.938	2.036	2.077	1.960	2.003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	96209.	5080.9	3583.9	7453.6
Stddev	194.	21.0	.9	8.4
%RSD	.20127	.41270	.02641	.11302
#1	96018.	5056.8	3583.0	7463.2
#2	96406.	5095.3	3584.9	7450.3
#3	96203.	5090.5	3583.8	7447.4

Sample Name: ccb Acquired: 4/18/2019 15:44:05 Type: QC  
 Method: SGS 3(v299) 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	-0.000	-0.001	-0.000	0.000	0.001	-0.003	-0.001	-0.001	-0.017
Stddev	.002	.001	.000	.003	.003	.005	.001	.001	.005
%RSD	939.0	126.1	65.94	1107.	391.1	142.7	72.32	41.08	30.69
#1	-0.001	-0.001	-0.001	-0.000	-0.001	-0.001	-0.002	.001	-0.019
#2	-0.002	-0.001	-0.000	.003	.004	-0.009	-0.000	.002	-0.022
#3	.002	.000	-0.001	-0.002	-0.001	-0.000	-0.001	.003	-0.011

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	-0.000	.001	.006	-0.001	-0.008	-0.010	.006	-0.058	-0.037
Stddev	.001	.001	.007	.011	.000	.004	.005	.015	.006
%RSD	1420.	108.3	113.2	911.8	1.414	44.58	74.18	198.4	152.0
#1	.001	.002	.004	-0.008	-0.008	-0.008	.009	-0.181	-0.024
#2	-0.001	.000	.001	-0.007	-0.008	-0.007	.009	-0.041	.0012
#3	-0.000	.001	.0014	.0012	-0.008	-0.015	.001	.0048	-0.098

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	-0.002	-0.099	.0428	.0151	.0016	.0003	.0020	.0003	.000
Stddev	.0065	.0149	.0025	.023	.0000	.002	.006	.002	.000
%RSD	4284.	150.9	5.854	15.43	1.105	63.44	29.24	79.95	111.1
#1	.0073	-0.229	.0416	.0140	.0016	.0005	.0014	.0004	-0.000
#2	-0.0033	.0063	.0456	.0135	.0016	.0003	.0025	.0004	.001
#3	-0.0045	-0.130	.0411	.0177	.0016	.0001	.0023	.0000	.001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 High Limit Low Limit

Sample Name: ccb Acquired: 4/18/2019 15:44:05 Type: QC  
 Method: SGS 3(v299) 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	-0.002	.0021	.0002	.0037	-0.003	.0003	.0085
Stddev	.0003	.0003	.0001	.0028	.0011	.0010	.0006
%RSD	122.3	14.75	44.75	77.19	394.0	351.7	7.128
#1	-0.004	.0018	.0002	.0060	.0005	.0002	.0090
#2	.0001	.0022	.0001	.0005	-0.0015	.0013	.0078
#3	-0.004	.0024	.0003	.0046	.0002	-0.007	.0086

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	100860.	5116.5	3701.1	8324.7
Stddev	286.	35.3	5.0	10.9
%RSD	.28311	.68990	.13499	.13130
#1	101010.	5106.2	3695.4	8313.7
#2	101050.	5155.8	3703.4	8324.9
#3	100540.	5087.5	3704.5	8335.6

Sample Name: mp14317-mb1 Acquired: 4/18/2019 15:49:37 Type: Unk  
 Method: SGS 3(v299) 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	-0.000	.000	.001	.0010	.0005	.0003	.0011	-0.015
Stddev	.0001	.000	.002	.003	.002	.003	.000	.002	.003
%RSD	67.90	27.41	2702.	211.7	18.83	67.68	9.661	17.80	18.88
#1	.002	-0.000	.002	.003	.008	.005	.003	.009	-0.018
#2	.0001	-0.000	-0.001	.003	.009	.008	.003	.0012	-0.014
#3	.0003	-0.000	-0.001	-0.002	.0011	.002	.003	.0013	-0.012

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	.0099	-0.009	-0.005	-0.001	-0.013	.0003	.0043	.0702
Stddev	.0003	.0001	.0016	.0010	.0010	.0011	.0015	.0114	.0047
%RSD	133.5	.8524	187.5	222.2	1102.	89.78	448.6	263.3	6.623
#1	-0.001	.0100	.0010	-0.009	-0.012	-0.005	.0005	.0175	.0658
#2	.0004	.0099	-0.0015	-0.007	.0001	-0.007	.0018	-0.019	.0751
#3	.0002	.0099	-0.0020	-0.011	.0008	-0.025	-0.012	-0.026	.0699

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0237	.0380	.0690	.0943	.0019	.0006	.0085	.0225	.0004
Stddev	.0057	.0069	.0310	.0063	.0003	.0001	.0009	.0008	.0001
%RSD	23.91	18.16	44.85	6.645	17.49	8.462	10.38	3.596	23.21
#1	.0175	.0438	.0560	.000	.0021	.0006	.0075	.0234	.0006
#2	.0286	.0398	.1043	.0876	.0015	.0007	.0093	.0224	.0004
#3	.0251	.0304	.0467	.0953	.0021	.0006	.0086	.0218	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0014	.0003	.0116	-0.009	.0018	.0326
Stddev	.0001	.0001	.0000	.0037	.0006	.0014	.0007
%RSD	50.87	4.415	13.68	32.26	29.94	78.62	2.053
#1	.0001	.0015	.0003	.0159	-0.022	.0033	.0332
#2	.0003	.0014	.0002	.0091	-0.023	.0004	.0327
#3	.0003	.0014	.0003	.0097	-0.013	.0019	.0319

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Sample Name: mp14317-mb1 Acquired: 4/18/2019 15:49:37 Type: Unk  
 Method: SGS 3(v299) 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	101240	5167.1	3687.7	8302.1
Stddev	220	2.5	1.6	3.7
%RSD	.21745	.04912	.04249	.04494
#1	101500	5165.3	3686.6	8297.8
#2	101120	5170.0	3689.5	8304.3
#3	101110	5166.1	3687.0	8304.3

Sample Name: zrconf Acquired: 4/18/2019 15:55:08 Type: Unk  
 Method: SGS 3(v299) 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	.0064	.0001	.0000	.0002	-0.0003	.0056	.0002	-0.0000	.0027
Stddev	.0004	.0001	.0002	.0001	.0002	.0002	.0001	.0003	.0004
%RSD	5.688	86.54	518.7	39.85	76.88	3.816	21.24	906.5	12.93
#1	.0065	.0001	.0002	.0003	-0.0002	.0058	.0003	.0000	.0023
#2	.0060	.0000	-0.0002	.0002	-0.0006	.0054	.0002	.0002	.0030
#3	.0067	.0001	.0002	.0001	-0.0002	.0057	.0002	-0.0003	.0029
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0007	.0001	-0.0010	-0.0018	.0008	.0022	.1674	.0151
Stddev	.0003	.0000	.0001	.0009	.0001	.0005	.0009	.0098	.0023
%RSD	24.89	4.107	98.03	92.88	8.332	66.85	41.08	5.861	15.02
#1	.0009	.0006	.0001	-0.0018	-0.0017	.0002	.0021	.1744	.0135
#2	.0015	.0007	.0000	-0.0000	-0.0016	.0011	.0031	.1716	.0177
#3	.0013	.0007	.0001	-0.0011	-0.0019	.0010	.0013	.1562	.0141
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0116	.0052	.0052	.0010	-0.0001	.0030	.0079	.0006
Stddev	.0108	.0580	.0233	.0120	.0003	.0001	.0004	.0002	.0001
%RSD	268.4	500.3	451.6	230.1	26.72	39.75	13.02	3.061	26.71
#1	-0.084	-0.348	.0231	-0.057	.0010	-0.0001	.0035	.0079	.0006
#2	.0094	.0766	.0136	.0180	.0007	-0.0001	.0027	.0082	.0004
#3	.0111	-0.071	-0.212	.0033	.0013	-0.0002	.0029	.0077	.0007
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0006	-0.0020	10.75	.0041	-0.0026	.0014	.0082		
Stddev	.0003	.0004	.01	.0013	.0007	.0013	.0004		
%RSD	48.77	21.11	.1294	32.12	28.48	95.74	5.465		
#1	.0009	-0.0021	10.76	.0036	-0.0025	.0012	.0085		
#2	.0003	-0.0016	10.76	.0031	-0.0033	.0002	.0077		
#3	.0006	-0.0024	10.74	.0056	-0.0019	.0028	.0083		

Sample Name: zrconf Acquired: 4/18/2019 15:55:08 Type: Unk  
 Method: SGS 3(v299) 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	99017	5143.5	3698.1	8307.8
Stddev	35	36.5	10.1	13.8
%RSD	.03540	.70952	.27434	.16612
#1	98996	5130.2	3709.7	8322.6
#2	98998	5184.8	3690.8	8295.2
#3	99058	5115.6	3693.9	8305.7

Sample Name: mp14317-s1 Acquired: 4/18/2019 16:00:46 Type: Unk  
 Method: SGS 3(v299) 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	2.572	1.873	1.917	2.030	2.330	2.188	6.157	2.073	2.467
Stddev	.003	.002	.075	.078	.005	.001	.010	.077	.0002
%RSD	.1128	.0962	3.937	3.841	.2051	.0644	.1689	3.710	.0956
#1	2.575	1.875	2.004	2.120	2.331	2.187	6.154	2.162	.2466
#2	2.569	1.871	1.871	1.982	2.335	2.190	6.169	2.026	.2465
#3	2.573	1.873	1.876	1.988	2.325	2.189	6.149	2.031	.2469
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.973	3.873	2.094	1.974	2.672	1.905	1.206	113.6	46.29
Stddev	.004	.158	.083	.068	.100	.071	.051	.1	.14
%RSD	.2054	4.078	3.972	3.448	3.722	3.733	4.263	.1052	.3067
#1	1.974	4.055	2.190	2.052	2.786	1.987	1.265	113.7	46.44
#2	1.976	3.772	2.045	1.932	2.607	1.860	1.176	113.5	46.29
#3	1.968	3.792	2.046	1.937	2.622	1.868	1.176	113.6	46.15
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sr1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	153.8	45.65	36.69	25.19	1.897	1.904	3.100	1.986	2.020
Stddev	.3	.33	.13	.06	.071	.075	.129	.078	.003
%RSD	.2175	.7277	.3414	.2548	3.760	3.946	4.164	3.923	.1259
#1	154.2	45.97	36.83	25.26	1.980	1.991	3.248	2.076	2.023
#2	153.6	45.69	36.67	25.14	1.859	1.860	3.013	1.939	2.018
#3	153.6	45.31	36.58	25.18	1.853	1.862	3.039	1.943	2.020
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	4.161	.9281	1.946	24.25	.0058	1.238	5.032		
Stddev	.003	.0379	.002	.91	.0011	.0014	.187		
%RSD	.0791	4.086	.1109	3.749	19.66	1.122	3.718		
#1	4.160	.9719	1.946	25.30	.0050	1.252	5.248		
#2	4.164	.9067	1.948	23.72	.0053	1.237	4.916		
#3	4.158	.9057	1.944	23.74	.0071	1.224	4.931		



Sample Name: mp14317-s1 Acquired: 4/18/2019 16:00:46 Type: Unk  
 Method: SGS 3(v299) 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	99799	5412.8	3627.9	7362.1
Stddev	312	31.3	122.0	232.2
%RSD	.31232	.57861	3.3623	3.1538
#1	99819	5381.1	3487.1	7094.3
#2	99478	5413.4	3702.2	7506.6
#3	100100	5443.7	3694.5	7485.4

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Sample Name: mp14317-s2 Acquired: 4/18/2019 16:05:47 Type: Unk  
 Method: SGS 3(v299) 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	2.599	1.893	1.881	1.997	2.334	2.201	6.199	2.042	2.490
Stddev	.002	.003	.004	.006	.003	.003	.007	.005	.0008
%RSD	.0883	.1597	.2041	.2784	.1323	.1415	.1133	.2284	.3258
#1	2.596	1.892	1.884	2.002	2.337	2.203	6.207	2.046	2.492
#2	2.600	1.896	1.883	1.999	2.334	2.202	6.198	2.044	2.497
#3	2.601	1.890	1.877	1.991	2.331	2.198	6.193	2.037	2.481
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.993	3.695	2.047	1.951	2.634	1.864	1.210	115.1	46.22
Stddev	.003	.015	.004	.006	.007	.004	.005	.2	.13
%RSD	.1434	.3991	.2002	.2978	.2649	.2080	.4448	.1466	.2889
#1	1.995	3.707	2.048	1.956	2.639	1.868	1.216	115.2	46.28
#2	1.993	3.699	2.050	1.953	2.636	1.864	1.210	115.1	46.31
#3	1.990	3.678	2.042	1.945	2.626	1.860	1.205	114.9	46.07
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	157.9	46.32	36.95	25.28	1.865	1.870	3.529	1.948	2.040
Stddev	.3	.32	.04	.02	.003	.004	.051	.006	.001
%RSD	.1866	.6994	.1017	.0708	.1465	.1965	1.439	.3316	.0691
#1	157.6	45.98	36.98	25.30	1.864	1.874	3.579	1.955	2.038
#2	158.2	46.63	36.95	25.27	1.867	1.870	3.533	1.947	2.041
#3	157.9	46.36	36.91	25.27	1.862	1.867	3.477	1.942	2.040
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	4.279	.9886	1.952	25.14	.0042	.1265	4.925		
Stddev	.008	.0038	.003	.06	.0015	.0014	.012		
%RSD	.1924	.3889	.1318	.2477	35.12	1.141	.2337		
#1	4.289	.9882	1.955	25.16	.0025	.1256	4.934		
#2	4.276	.9926	1.951	25.20	.0047	.1256	4.929		
#3	4.273	.9849	1.950	25.08	.0053	.1281	4.912		

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Sample Name: mp14317-s2 Acquired: 4/18/2019 16:05:47 Type: Unk  
 Method: SGS 3(v299) 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	99455	5401.8	3698.2	7491.8
Stddev	245	30.6	9.2	14.6
%RSD	.24677	.56714	.24825	.19548
#1	99205	5413.2	3689.4	7478.5
#2	99465	5367.1	3697.5	7489.5
#3	99696	5425.2	3707.7	7507.5

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Sample Name: jc86331-5 Acquired: 4/18/2019 16:10:48 Type: Unk  
 Method: SGS 3(v299) 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	.6620	.0049	.0053	.0726	.4930	.3118	4.573	.1336	.0023
Stddev	.0008	.0001	.0002	.0002	.0045	.0024	.025	.0002	.0003
%RSD	.1159	2.370	3.664	.2217	.9041	.7640	.5449	.1824	11.66
#1	.6624	.0047	.0053	.0725	.4935	.3127	4.569	.1334	.0024
#2	.6611	.0049	.0055	.0728	.4883	.3091	4.550	.1335	.0024
#3	.6624	.0049	.0051	.0726	.4971	.3136	4.599	.1339	.0020
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.505	1.976	1.370	.0004	8.055	.0052	.0006	66.88	21.13
Stddev	.0014	.005	.0018	.0009	.0015	.0003	.0015	.24	.07
%RSD	.9184	.2410	1.313	258.5	.1888	6.213	276.6	.3587	.3267
#1	1.491	1.971	1.365	.0015	8.037	.0052	.0012	67.15	21.18
#2	1.506	1.981	1.355	-.0002	8.065	.0056	.0010	66.70	21.17
#3	1.518	1.977	1.390	-.0001	8.062	.0050	.0018	66.79	21.05
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	21.15	8.677	1.329	.0355	.0035	2.006	.1026	.1137
Stddev	.5	.11	.034	.012	.0003	.0004	.013	.0009	.0004
%RSD	.3733	.5097	.3874	.8720	.8050	11.14	.6392	.9157	.3539
#1	129.9	21.07	8.702	1.342	.0353	.0039	2.008	.1029	.1133
#2	129.8	21.27	8.690	1.327	.0355	.0035	2.018	.1033	.1141
#3	129.0	21.11	8.639	1.319	.0358	.0031	1.992	.1015	.1138
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	2.096	.0082	.0643	25.37	.0026	.1113	3.137		
Stddev	.012	.0003	.0003	.02	.0009	.0006	.006		
%RSD	.5813	3.844	.4316	.0898	33.30	.5471	.2035		
#1	2.095	.0079	.0641	25.36	.0030	.1107	3.131		
#2	2.084	.0085	.0643	25.37	.0033	.1119	3.136		
#3	2.109	.0081	.0646	25.40	.0016	.1113	3.143		

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Sample Name: jc86331-5 Acquired: 4/18/2019 16:10:48 Type: Unk  
 Method: SGS 3(v299) 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	102130.	5459.3	3783.6	7829.7
Stddev	579.	51.3	7.1	18.6
%RSD	.56722	.94041	.18796	.23696
#1	102340.	5422.5	3791.8	7851.1
#2	102580.	5437.4	3779.3	7820.0
#3	101480.	5517.9	3779.7	7818.0

Sample Name: mp14317-sd1 Acquired: 4/18/2019 16:16:04 Type: Unk  
 Method: SGS 3(v299) 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	<b>6954</b>	<b>.0051</b>	<b>.0049</b>	<b>.0755</b>	<b>5261</b>	<b>3239</b>	<b>4.986</b>	<b>.1402</b>	<b>-0.020</b>
Stddev	.0171	.0004	.0004	.0018	.0017	.0032	.023	.0018	.0004
%RSD	2.455	8.826	8.176	2.428	.3277	.9764	.4627	1.287	21.91
#1	.6868	.0053	.0050	.0775	5243	.3209	4.959	.1408	-.0025
#2	.7151	.0045	.0045	.0738	5264	.3272	4.998	.1382	-.0017
#3	.6843	.0053	.0053	.0754	5277	.3235	4.999	.1417	-.0018
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1616</b>	<b>2.161</b>	<b>.1477</b>	<b>.0029</b>	<b>8381</b>	<b>-0.039</b>	<b>.0034</b>	<b>71.29</b>	<b>23.15</b>
Stddev	.0019	.004	.0040	.0057	.0004	.0150	.0024	1.79	5.6
%RSD	1.156	.2009	2.724	195.8	.0471	387.3	68.74	2.516	24.00
#1	.1595	2.165	.1436	.0086	.8386	.0133	.0045	70.83	22.98
#2	.1630	2.159	.1516	.0030	8378	-.0147	.0050	73.28	23.77
#3	.1623	2.157	.1479	-.0029	8381	-.0102	.0007	69.78	22.70
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>141.5</b>	<b>22.50</b>	<b>9.059</b>	<b>1.495</b>	<b>.0404</b>	<b>.0041</b>	<b>2.103</b>	<b>.1107</b>	<b>.1194</b>
Stddev	3.5	.54	.214	.061	.0013	.0011	.038	.0014	.0035
%RSD	2.508	2.398	2.366	4.074	3.190	26.28	1.805	1.277	2.948
#1	139.9	22.23	9.045	1.562	.0415	.0053	2.145	.1104	.1178
#2	145.6	23.12	9.280	1.481	.0390	.0035	2.093	.1094	.1234
#3	139.1	22.14	8.852	1.442	.0406	.0033	2.071	.1122	.1170
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>2.242</b>	<b>.0154</b>	<b>.0672</b>	<b>26.91</b>	<b>-0.002</b>	<b>.1218</b>	<b>3.358</b>		
Stddev	.013	.0028	.0002	.13	.0094	.0063	.017		
%RSD	.5970	18.13	.3647	4937	6168.	5.174	.5196		
#1	2.227	.0123	.0671	27.03	-.0099	.1178	3.375		
#2	2.249	.0163	.0675	26.92	.0089	.1290	3.360		
#3	2.251	.0177	.0670	26.77	.0006	.1185	3.340		

Sample Name: mp14317-sd1 Acquired: 4/18/2019 16:16:04 Type: Unk  
 Method: SGS 3(v299) 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	<b>101260.</b>	<b>5249.4</b>	<b>3743.9</b>	<b>8143.6</b>
Stddev	374.	83.1	2.3	2.5
%RSD	.36970	1.5838	.06214	.03089
#1	101690.	5272.3	3742.5	8145.1
#2	101030.	5157.2	3746.6	8145.0
#3	101060.	5318.6	3742.6	8140.7

Sample Name: missedconf Acquired: 4/18/2019 16:21:22 Type: Unk  
 Method: SGS 3(v299) 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	<b>-0.005</b>	<b>-0.002</b>	<b>-0.003</b>	<b>.0002</b>	<b>-0.000</b>	<b>W -.0054</b>	<b>-0.001</b>	<b>.0003</b>
Stddev	.0001	.0000	.0001	.0001	.0002	.0001	.0000	.0001
%RSD	14.90	15.16	33.65	26.90	4920.	2.459	50.56	46.37
#1	-.0004	-.0003	-.0003	.0002	.0001	-.0055	-.0000	.0004
#2	-.0005	-.0002	-.0004	.0002	-.0002	-.0053	-.0001	.0001
#3	-.0006	-.0002	-.0002	.0003	.0001	-.0053	-.0001	.0003
Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.030</b>	<b>.0002</b>	<b>-0.001</b>	<b>.0025</b>	<b>.0010</b>	<b>.0002</b>	<b>-0.0023</b>	<b>.0023</b>
Stddev	.0001	.0000	.0001	.0003	.0004	.0001	.0003	.0002
%RSD	3.763	16.14	39.51	10.89	41.82	65.83	14.36	8.658
#1	-.0030	.0002	-.0002	.0028	.0011	.0002	-.0026	.0021
#2	-.0028	.0002	-.0002	.0023	.0005	.0001	-.0024	.0025
#3	-.0030	.0003	-.0001	.0023	.0014	.0004	-.0020	.0023
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0016</b>	<b>-0.003</b>	<b>-0.0048</b>	<b>.0308</b>	<b>-0.335</b>	<b>-0.237</b>	<b>-0.002</b>	<b>-0.001</b>
Stddev	.0112	.0026	.0054	.0050	.0126	.0100	.0002	.0000
%RSD	723.0	813.0	112.8	16.26	37.74	42.39	120.5	.9858
#1	-.0032	.0022	.0003	.0269	-.0375	-.0186	-.0001	-.0001
#2	.0144	-.0030	-.0042	.0364	-.0193	-.0172	.0000	-.0001
#3	-.0065	-.0002	-.0105	.0291	-.0436	-.0353	-.0003	-.0001
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>-0.057</b>	<b>-0.007</b>	<b>.0000</b>	<b>-0.002</b>	<b>-0.013</b>	<b>.0001</b>	<b>.0090</b>	<b>.0004</b>
Stddev	.0003	.0002	.0000	.0000	.0003	.0002	.0005	.0006
%RSD	5.039	27.82	598.2	17.25	27.66	142.7	5.704	135.8
#1	-.0057	-.0005	.0001	-.0002	-.0014	.0000	.0086	.0010
#2	-.0060	-.0008	-.0000	-.0002	-.0015	.0003	.0096	.0004
#3	-.0054	-.0007	-.0000	-.0002	-.0009	.0000	.0088	-.0001

Sample Name: missedconf Acquired: 4/18/2019 16:21:22 Type: Unk  
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: Custom ID2: Custom ID3:  
Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	<b>-0.002</b>	<b>-0.014</b>		
Stddev	.0008	.0004		
%RSD	450.8	25.04		
#1	-0.010	-0.010		
#2	-0.000	-0.017		
#3	.0005	-0.015		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	234490.	8542.6	10269.	22572.
Stddev	2106.	70.	95.	191.
%RSD	.8972	.81949	.92610	.84436
#1	232210.	8529.2	10334.	22700.
#2	234900.	8480.2	10313.	22663.
#3	236360.	8618.3	10160.	22353.

Sample Name: jc86047-3r Acquired: 4/18/2019 16:26:50 Type: Unk  
Method: SGS 3(v299) 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	<b>4.128</b>	<b>.0038</b>	<b>.0015</b>	<b>0.645</b>	<b>0.751</b>	<b>0.951</b>	<b>7.867</b>	<b>1.353</b>	<b>0.005</b>
Stddev	.0012	.0000	.0002	.0004	.0007	.0001	.014	.0007	.0002
%RSD	.2815	.8747	10.09	.5518	.9261	.1061	.1796	.5456	37.91
#1	4.121	.0038	.0016	0.645	0.755	0.952	7.868	1.361	0.003
#2	4.141	.0038	.0015	0.642	0.755	0.951	7.852	1.348	0.007
#3	4.121	.0038	.0013	0.649	0.743	0.950	7.881	1.350	0.005
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>0.959</b>	<b>.3169</b>	<b>.0336</b>	<b>.0002</b>	<b>0.792</b>	<b>-0.019</b>	<b>-0.000</b>	<b>62.95</b>	<b>4.979</b>
Stddev	.0007	.0012	.0017	.0007	.0013	.0003	.0012	.11	.017
%RSD	.7414	.3690	4.999	395.0	1.598	16.02	18520.	.1746	.3453
#1	.0965	.3182	.0333	.0005	.0788	-.0017	.0013	62.92	4.963
#2	.0951	.3164	.0321	.0007	.0806	-.0018	-.0008	63.07	4.997
#3	.0960	.3161	.0354	-.0006	.0782	-.0023	-.0006	62.86	4.976
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>131.1</b>	<b>20.94</b>	<b>7.430</b>	<b>.3434</b>	<b>0.176</b>	<b>0.029</b>	<b>2.111</b>	<b>0.222</b>	<b>0.549</b>
Stddev	.2	.09	.010	.0065	.0008	.0002	.042	.0002	.0003
%RSD	.1822	.4076	.1362	1.893	4.477	6.559	1.979	1.020	.5528
#1	131.1	20.84	7.441	.3365	.0185	.0030	2.159	.0220	.0546
#2	131.4	21.00	7.422	.3444	.0172	.0027	2.085	.0224	.0550
#3	130.9	20.97	7.427	.3494	.0171	.0029	2.089	.0223	.0552
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.6507</b>	<b>.0054</b>	<b>.0846</b>	<b>1.977</b>	<b>-0.021</b>	<b>1.283</b>	<b>2.076</b>		
Stddev	.0045	.0008	.0005	.006	.0009	.0012	.002		
%RSD	.6927	14.29	.6209	.3298	40.47	9.263	.1009		
#1	.6558	.0048	.0846	1.975	-.0031	1.280	2.075		
#2	.6474	.0063	.0841	1.984	-.0015	1.272	2.078		
#3	.6488	.0053	.0852	1.972	-.0017	1.296	2.075		

Sample Name: jc86047-3r Acquired: 4/18/2019 16:26:50 Type: Unk  
Method: SGS 3(v299) 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	100840.	5291.0	3736.8	7810.8
Stddev	49.	12.6	5.8	12.4
%RSD	.04872	.23723	.15630	.15822
#1	100840.	5293.4	3731.0	7797.2
#2	100790.	5277.4	3736.5	7814.0
#3	100890.	5302.1	3742.7	7821.3

Sample Name: ccv Acquired: 4/18/2019 16:32:15 Type: QC  
Method: SGS 3(v299) 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	<b>2.007</b>	<b>2.032</b>	<b>2.002</b>	<b>2.048</b>	<b>2.000</b>	<b>1.947</b>	<b>1.997</b>	<b>2.021</b>	<b>2.435</b>
Stddev	.003	.005	.003	.001	.006	.001	.001	.002	.0002
%RSD	.1638	.2293	.1469	.0508	.2968	.0471	.0292	.0888	.0846
#1	2.010	2.034	1.999	2.048	2.002	1.947	1.997	2.023	2.434
#2	2.006	2.036	2.005	2.049	1.993	1.948	1.996	2.020	2.433
#3	2.004	2.027	2.003	2.047	2.005	1.946	1.997	2.019	2.437
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	<b>1.960</b>	<b>2.034</b>	<b>2.024</b>	<b>2.089</b>	<b>2.055</b>	<b>2.035</b>	<b>2.059</b>	<b>39.75</b>	<b>40.71</b>
Stddev	.002	.001	.002	.004	.005	.003	.003	.15	.16
%RSD	.1078	.0598	.0874	.1906	.2239	.1514	.1557	.3703	.4050
#1	1.962	2.033	2.022	2.084	2.051	2.031	2.059	39.91	40.74
#2	1.958	2.035	2.026	2.092	2.060	2.037	2.062	39.73	40.86
#3	1.960	2.033	2.025	2.091	2.054	2.037	2.056	39.61	40.54
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	<b>40.70</b>	<b>39.80</b>	<b>40.09</b>	<b>40.56</b>	<b>2.094</b>	<b>2.037</b>	<b>5.226</b>	<b>2.052</b>	<b>2.051</b>
Stddev	.18	.32	.14	.10	.002	.002	.008	.006	.002
%RSD	.4418	.8041	.3429	.2359	.1040	.1116	.1590	.3044	.0795
#1	40.72	39.86	40.08	40.58	2.092	2.035	5.218	2.047	2.052
#2	40.86	40.08	40.23	40.63	2.096	2.039	5.234	2.059	2.052
#3	40.51	39.45	39.96	40.45	2.093	2.036	5.226	2.049	2.049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range									

Sample Name: ccv Acquired: 4/18/2019 16:32:15 Type: QC  
Method: SGS 3(v299) 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	<b>1.934</b>	<b>1.995</b>	<b>1.951</b>	<b>2.064</b>	<b>2.102</b>	<b>1.982</b>	<b>2.013</b>
Stddev	.001	.004	.002	.009	.003	.001	.002
%RSD	.0268	.2238	.0978	.4405	.1336	.0721	.0974

#1	1.934	1.990	1.953	2.054	2.099	1.983	2.011
#2	1.934	1.998	1.949	2.070	2.101	1.981	2.015
#3	1.933	1.996	1.951	2.069	2.105	1.981	2.012

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value High Limit Low Limit

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	<b>95555.</b>	<b>5051.0</b>	<b>3542.1</b>	<b>7367.4</b>
Stddev	55.	50.5	5.2	2.5
%RSD	.05723	1.0008	.14775	.03425

#1	95603.	5043.9	3547.9	7370.3
#2	95495.	5004.3	3537.9	7366.0
#3	95567.	5104.7	3540.3	7365.9

Sample Name: ccb Acquired: 4/18/2019 16:37:18 Type: QC  
Method: SGS 3(v299) 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	<b>.0001</b>	<b>-0.0001</b>	<b>-0.0001</b>	<b>.0003</b>	<b>-0.0001</b>	<b>-0.0004</b>	<b>-0.0001</b>	<b>-0.0000</b>	<b>-0.0016</b>
Stddev	.0000	.0001	.0001	.0003	.0003	.0004	.0000	.0002	.0001
%RSD	44.13	102.3	125.9	109.5	288.6	112.5	58.05	618.0	8.105

#1	.0001	-0.0002	-0.0002	.0003	.0000	-0.0004	-0.0001	-0.0002	-0.0017
#2	.0002	-0.0000	.0000	.0006	-0.0004	.0001	-0.0000	.0002	-0.0014
#3	.0001	-0.0000	-0.0001	-0.0000	.0001	-0.0008	-0.0001	.0001	-0.0016

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit Low Limit

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.0002</b>	<b>-0.0001</b>	<b>-0.0000</b>	<b>-0.0005</b>	<b>-0.0006</b>	<b>-0.0003</b>	<b>.0016</b>	<b>-0.0088</b>	<b>-0.0015</b>
Stddev	.0001	.0000	.0013	.0004	.0008	.0020	.0018	.0036	.0040
%RSD	54.76	53.67	2556.	78.53	130.0	620.2	112.7	41.30	261.0

#1	.0001	-0.0001	.0003	-0.0001	-0.0004	-0.0004	.0011	-0.0046	.0028
#2	.0003	-0.0001	-0.0014	-0.0009	-0.0016	-0.0023	.0002	-0.0103	-0.0023
#3	.0001	-0.0001	.0010	-0.0005	.0000	.0017	.0037	-0.0114	-0.0051

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	<b>-0.0012</b>	<b>.0051</b>	<b>.0750</b>	<b>.0136</b>	<b>.0014</b>	<b>.0001</b>	<b>.0012</b>	<b>-0.0002</b>	<b>.0001</b>
Stddev	.0100	.0247	.0361	.0083	.0003	.0002	.0002	.0007	.0001
%RSD	819.7	486.5	48.12	60.53	23.98	239.1	20.76	408.3	188.9

#1	.0055	-.0182	.0978	.0042	.0014	.0002	.0012	-0.0007	-0.0001
#2	.0035	.0310	.0939	.0173	.0018	-0.0001	.0014	.0006	.0002
#3	-.0127	.0024	.0334	.0194	.0011	.0001	.0009	-0.0004	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit Low Limit

Sample Name: ccb Acquired: 4/18/2019 16:37:18 Type: QC  
Method: SGS 3(v299) 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	<b>-0.0001</b>	<b>.0006</b>	<b>.0002</b>	<b>.0015</b>	<b>-0.0024</b>	<b>.0014</b>	<b>.0092</b>
Stddev	.0002	.0005	.0002	.0022	.0006	.0007	.0008
%RSD	404.2	80.73	73.03	145.6	23.39	47.58	8.452

#1	-0.0001	.0011	.0000	.0039	-0.0024	.0006	.0096
#2	.0002	.0001	.0004	.0007	-0.0018	.0017	.0097
#3	-0.0002	.0007	.0003	-0.0002	-0.0029	.0018	.0083

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	<b>99826.</b>	<b>5063.7</b>	<b>3654.2</b>	<b>8206.9</b>
Stddev	262.	13.8	9.0	18.6
%RSD	.26221	.27194	.24736	.22704

#1	100080.	5065.3	3649.6	8203.2
#2	99559.	5049.1	3648.4	8190.4
#3	99836.	5076.5	3664.6	8227.1

Sample Name: icca Acquired: 4/18/2019 16:42:50 Type: QC  
Method: SGS 3(v299) 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	<b>-0.0008</b>	<b>.0001</b>	<b>-0.0006</b>	<b>-0.0011</b>	<b>.0008</b>	<b>.0004</b>	<b>.0011</b>	<b>-0.0006</b>	<b>-0.0022</b>
Stddev	.0001	.0001	.0001	.0004	.0006	.0003	.0001	.0004	.0003
%RSD	17.32	101.0	24.98	38.48	75.67	68.55	10.46	64.87	14.68

#1	-0.0009	-0.0000	-0.0004	-0.0006	.0001	.0003	.0011	-0.0010	-0.0021
#2	-0.0008	.0002	-0.0007	-0.0013	.0011	.0007	.0012	-0.0003	-0.0026
#3	-0.0006	.0002	-0.0007	-0.0013	.0012	.0002	.0010	-0.0004	-0.0020

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	<b>.0016</b>	<b>-0.0016</b>	<b>.0010</b>	<b>-0.0011</b>	<b>.0025</b>	<b>.0008</b>	<b>-0.0024</b>	<b>503.4</b>	<b>381.3</b>
Stddev	.0001	.0003	.0016	.0035	.0033	.0013	.0020	.8	.9
%RSD	8.437	18.29	159.1	325.2	130.3	177.3	83.02	.1623	.2372

#1	.0015	-0.0012	-0.0006	-0.0047	-0.0012	.0018	-0.0029	504.3	381.8
#2	.0016	-0.0016	.0025	.0022	.0049	-0.0007	-0.0041	502.6	380.2
#3	.0017	-0.0018	.0010	-0.0007	.0039	.0012	-0.0002	503.4	381.8

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	<b>185.7</b>	<b>489.1</b>	<b>-3288</b>	<b>.0167</b>	<b>-0.0046</b>	<b>-0.0014</b>	<b>-0.0149</b>	<b>-0.0022</b>	<b>-0.0026</b>
Stddev	.2	1.5	.0402	.0085	.0006	.0003	.0011	.0008	.0001
%RSD	.1055	.3028	12.22	50.92	12.51	19.04	7.273	35.52	3.500

#1	185.8	490.9	-3586	.0104	-0.0042	-0.0016	-0.0139	-0.0015	-0.0026
#2	185.7	488.3	-2831	.0263	-0.0043	-0.0011	-0.0161	-0.0030	-0.0027
#3	185.5	488.3	-3446	.0132	-0.0052	-0.0015	-0.0147	-0.0022	-0.0025

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
High Limit Low Limit

Sample Name: icsa Acquired: 4/18/2019 16:42:50 Type: QC  
 Method: SGS 3(v299) 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	-0.007	0.092	-0.019	-0.250	0.055	-0.068	0.091
Stddev	.0001	.0002	.0000	.0045	.0018	.0008	.0006
%RSD	8.606	2.457	2.447	18.15	32.20	11.49	6.082

#1	-0.007	.0090	-0.020	-0.263	.0068	-0.067	.0097
#2	-0.007	.0092	-0.019	-0.199	.0035	-0.077	.0090
#3	-0.008	.0094	-0.019	-0.286	.0061	-0.062	.0086

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	88189	4918.9	3283.4	6515.4
Stddev	309.	20.0	1.2	6.4
%RSD	.35016	.40719	.03796	.09889

#1	88490.	4912.0	3282.4	6511.5
#2	87873.	4941.5	3283.2	6511.9
#3	88205.	4903.3	3284.8	6522.9

Sample Name: ICSAB Acquired: 4/18/2019 16:48:11 Type: QC  
 Method: SGS 3(v299) 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	5.077	4.992	1.013	4.983	4.764	5.022	4.885	9.741	1.083
Stddev	.0012	.0014	.003	.0009	.0016	.0009	.0005	.0019	.000
%RSD	.2453	.2884	.2728	.1760	.3444	.1719	.0973	.1932	.0039

#1	5.080	.5007	1.015	4.990	4.757	5.012	4.886	.9762	1.083
#2	5.088	.4978	1.010	4.987	4.783	5.028	4.889	.9735	1.083
#3	5.063	.4993	1.015	4.973	4.752	5.025	4.879	.9726	1.083

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	4.837	9.930	1.089	9.744	9.775	1.057	1.110	5.012	379.4
Stddev	.0018	.0006	.005	.0029	.0015	.003	.004	.5	.8
%RSD	.3725	.0658	.4633	.2953	.1573	.2929	.3243	.0904	.2137

#1	4.829	.9390	1.088	.9737	9.772	1.058	1.109	5.017	380.3
#2	4.857	.9395	1.084	.9720	9.792	1.054	1.106	5.009	378.8
#3	4.824	.9383	1.094	.9776	9.762	1.060	1.113	5.008	379.1

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	192.6	496.3	-3623	0.310	4.840	4.865	5.213	4.723	5.176
Stddev	.6	2.0	.0299	.0125	.0019	.0007	.0025	.0015	.0007
%RSD	.3207	.3965	8.266	40.30	3.856	.1415	.4708	.3081	.1421

#1	193.3	498.2	-3279	.0453	4.830	4.873	.5227	.4736	.5182
#2	192.1	494.3	-3.828	.0257	4.829	4.860	.5185	.4725	.5177
#3	192.3	496.4	-3.761	.0221	4.862	4.863	.5228	.4707	.5167

Check ? Chk Pass Chk Pass None None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Sample Name: ICSAB Acquired: 4/18/2019 16:48:11 Type: QC  
 Method: SGS 3(v299) 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	4.867	4.841	4.785	4.980	5.389	5.203	5.159
Stddev	.0010	.0006	.0007	.0006	.0022	.0013	.0018
%RSD	.1977	.1171	.1488	.1274	4.165	.2560	.3525

#1	.4878	.4847	.4781	.4982	.5397	.5190	.5160
#2	.4863	.4835	.4793	.4985	.5364	.5217	.5140
#3	.4860	.4842	.4781	.4973	.5407	.5203	.5176

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	88439	4917.5	3283.9	6526.6
Stddev	164.	34.5	7.2	7.7
%RSD	.18516	.70186	.21807	.11737

#1	88440.	4890.3	3277.3	6518.5
#2	88274.	4956.4	3291.5	6533.7
#3	88602.	4905.9	3282.7	6527.7

Sample Name: fa63247-1 Acquired: 4/18/2019 16:53:13 Type: Unk  
 Method: SGS 3(v299) 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	2.172	0.006	0.194	0.287	2.349	4.315	F 20.51	8.880
Stddev	.132	.0001	.0005	.0005	.0012	.0006	.03	.0181
%RSD	6.094	17.91	2.559	1.748	4.926	.1478	.1472	2.165

#1	2.091	.0006	.0198	.0293	2.339	4.312	20.47	8.495
#2	2.100	.0006	.0196	.0286	2.362	4.311	20.53	8.474
#3	2.325	.0004	.0188	.0283	2.346	4.323	20.53	8.171

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
 Value Range

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.186	3.773	2.703	4.146	0.078	0.382	-0.017	0.034
Stddev	.0011	.0006	.061	.0104	.0011	.0020	.0013	.0006
%RSD	5.827	.1491	2.272	2.517	13.77	5.164	77.67	17.02

#1	0.178	3.777	2.744	4.225	0.090	0.370	-0.012	0.035
#2	0.181	3.767	2.732	4.187	0.070	0.405	-0.007	0.028
#3	0.198	3.776	2.632	4.028	0.073	0.372	-0.032	0.040

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.99	F 1704.	27.71	61.06	39.92	111.3	2.097	0.084
Stddev	3.12	64.	1.75	3.91	2.44	6.9	.0049	.0002
%RSD	6.358	3.739	6.316	6.400	6.123	6.159	2.359	2.263

#1	47.14	1641.	26.57	58.39	38.33	107.0	.2129	.0085
#2	47.24	1702.	26.82	59.25	38.70	107.6	.2122	.0085
#3	52.58	1768.	29.72	65.54	42.74	119.2	.2040	.0082

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.921	0.0425	1.499	1.275	0.225	0.091	65.98	F -0.920
Stddev	.060	.0013	.095	.001	.0008	.0003	1.31	.0020
%RSD	2.071	3.060	6.321	.0902	3.361	2.881	1.988	2.226

#1	2.955	.0437	1.441	1.274	.0232	.0092	66.83	-.0943
#2	2.957	.0426	1.448	1.276	.0217	.0088	66.65	-.0913
#3	2.852	.0411	1.609	1.274	.0225	.0093	64.47	-.0905

Sample Name: fa63247-1 Acquired: 4/18/2019 16:53:13 Type: Unk  
 Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
 User: admin Custom ID1: Custom ID2: Custom ID3:  
 Comment:

Elem	Li6707	P_1774		
Units	ppm	ppm		
Avg	F -0329	F 27.02		
Stddev	.0012	.54		
%RSD	3.576	2.011		
#1	-0323	27.38		
#2	-0343	27.29		
#3	-0322	26.40		
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	86513.	4720.0	3187.3	6101.0
Stddev	180.	258.1	58.6	101.8
%RSD	20818	5.4693	1.8383	1.6693
#1	86696.	4911.3	3151.9	6039.3
#2	86335.	4822.5	3155.0	6045.3
#3	86509.	4426.4	3254.9	6218.6

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Sample Name: fa63248-1 Acquired: 4/18/2019 16:58:45 Type: Unk  
 Method: SGS 3(v299) 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	6.064	0.159	0.124	0.1323	0.1363	0.7431	F 23.61	0.3107	0.116
Stddev	.012	.0001	.0002	.0004	.0009	.0014	.09	.0003	.0008
%RSD	.1946	.8966	1.357	.3247	.6787	.1887	.3719	.0972	7.014
#1	6.077	0.159	0.126	.1328	.1358	.7434	23.68	.3110	.0122
#2	6.061	0.157	0.123	.1322	.1374	.7444	23.51	.3104	.0120
#3	6.054	0.160	0.123	.1319	.1359	.7416	23.63	.3107	.0107
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.488	1.873	2.761	0.162	0.1345	0.0284	0.0083	54.13	F 825.0
Stddev	.0010	.004	.0006	.0006	.0019	.0030	.0009	.16	8.5
%RSD	.6577	.2413	.2180	3.936	1.402	10.46	11.34	.2948	1.031
#1	.1490	1.878	.2763	.0163	.1365	.0301	.0078	54.31	834.7
#2	.1478	1.869	.2754	.0168	.1328	.0250	.0077	54.06	818.6
#3	.1497	1.874	.2766	.0155	.1342	.0301	.0074	54.01	821.7
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	69.85	70.37	21.62	150.7	2.006	0.108	5.934	0.0238	3.822
Stddev	.20	.28	.09	.4	.0017	.0003	.129	.0006	.008
%RSD	.2819	.4006	.4040	.2397	.8483	2.891	2.169	2.415	.1981
#1	70.03	70.59	21.70	151.1	.2025	.0104	6.030	.0232	3.830
#2	69.88	70.47	21.64	150.6	.2000	.0109	5.984	.0243	3.822
#3	69.64	70.05	21.53	150.4	.1992	.0109	5.787	.0239	3.815
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	2.504	0.0231	0.0902	53.91	0.0058	0.0738	F 8.946		
Stddev	.002	.0008	.0002	.19	.0010	.0008	.036		
%RSD	.0914	3.524	2.344	.3443	18.05	1.092	.3996		
#1	2.506	.0222	.0904	54.08	.0065	.0733	8.986		
#2	2.501	.0233	.0900	53.71	.0063	.0734	8.917		
#3	2.505	.0238	.0903	53.95	.0046	.0747	8.934		

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Sample Name: fa63248-1 Acquired: 4/18/2019 16:58:45 Type: Unk  
 Method: SGS 3(v299) 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	93476.	5178.2	3484.6	6449.8
Stddev	45.	6.8	5.2	6.5
%RSD	.04864	.13164	.14822	.10152
#1	93512.	5170.4	3479.2	6442.6
#2	93490.	5181.1	3489.5	6455.3
#3	93425.	5183.1	3485.1	6451.5

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Sample Name: jc86331-1 Acquired: 4/18/2019 17:04:17 Type: Unk  
 Method: SGS 3(v299) 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	6.978	0.051	0.137	0.059	0.1452	0.9911	2.277	0.1762	-0.0002
Stddev	.0007	.0001	.0003	.0003	.0029	.0211	.043	.0006	.0007
%RSD	.1028	1.302	2.062	.5983	2.020	2.130	1.868	.3658	285.1
#1	6.972	.0050	.0140	.0505	.1482	1.015	2.326	.1757	-0.0010
#2	6.986	.0051	.0135	.0510	.1450	.9791	2.254	.1769	.0004
#3	6.975	.0051	.0136	.0510	.1424	.9788	2.251	.1759	-0.0002
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.688	2.720	4.318	0.005	1.900	0.049	0.0161	49.14	32.45
Stddev	.0045	.005	.0014	.0009	.003	.0007	.0007	.15	.07
%RSD	2.647	.1802	.3266	196.7	.1583	15.13	4.391	.3092	.2282
#1	.1739	2.725	4.301	-0.004	1.903	0.041	.0153	49.15	32.51
#2	.1660	2.717	4.325	.0014	1.898	.0051	.0163	49.28	32.49
#3	.1664	2.717	4.326	.0004	1.899	.0055	.0167	48.98	32.37
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	109.8	13.00	6.588	5920	0.469	0.148	2.147	0.1364	1.770
Stddev	.2	.07	.017	.0149	.0003	.0002	.034	.0006	.0005
%RSD	.1993	.5681	.2626	2.514	.6845	1.226	1.565	.4540	.2804
#1	109.7	13.02	6.601	6036	.0472	0.146	2.184	.1367	1.765
#2	110.1	12.91	6.568	5973	.0469	0.148	2.140	.1357	1.769
#3	109.7	13.06	6.595	5752	.0465	0.149	2.118	.1369	1.775
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	1.430	0.0176	0.070	5.198	0.0059	0.0643	3.790		
Stddev	.029	.0010	.0002	.006	.0013	.0010	.004		
%RSD	2.023	5.797	2.942	.1120	22.62	1.634	.0999		
#1	1.463	.0164	.0072	5.195	.0070	.0633	3.786		
#2	1.416	.0179	.0068	5.205	.0044	.0654	3.794		
#3	1.410	.0184	.0070	5.194	.0064	.0640	3.790		

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Sample Name: jc86331-1 Acquired: 4/18/2019 17:04:17 Type: Unk  
Method: SGS 3(v299) 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	99554.	5293.8	3698.1	7799.9
Stddev	1476.	29.1	4.6	7.5
%RSD	1.4829	.54987	.12472	.09643
#1	97850.	5279.3	3692.9	7792.2
#2	100450.	5274.9	3701.7	7807.3
#3	100360.	5327.4	3699.6	7800.3

Sample Name: jc86331-2 Acquired: 4/18/2019 17:09:32 Type: Unk  
Method: SGS 3(v299) 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	<b>.7748</b>	<b>.0064</b>	<b>.0131</b>	<b>.0359</b>	<b>.1531</b>	<b>.9861</b>	<b>1.938</b>	<b>.1838</b>	<b>.0008</b>
Stddev	.0024	.0001	.0003	.0006	.0008	.0020	.001	.0022	.0004
%RSD	.3117	1.640	2.114	1.672	.5089	.2002	.0409	1.214	54.54
#1	.7729	.0065	.0130	.0355	.1537	.9859	1.939	.1824	.0012
#2	.7775	.0064	.0130	.0355	.1522	.9882	1.938	.1827	.0009
#3	.7740	.0063	.0135	.0366	.1533	.9842	1.938	.1864	.0003
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1805</b>	<b>2.589</b>	<b>.5059</b>	<b>.0014</b>	<b>1.761</b>	<b>.0061</b>	<b>.0176</b>	<b>40.87</b>	<b>72.40</b>
Stddev	.0005	.034	.0093	.0007	.019	.0009	.0025	.22	.52
%RSD	.2701	1.305	1.839	51.80	1.068	14.22	14.22	.5383	.7245
#1	.1802	2.572	.4983	.0011	1.751	.0066	.0195	40.85	72.31
#2	.1803	2.568	.5031	.0022	1.750	.0051	.0148	41.10	72.96
#3	.1811	2.628	.5163	.0008	1.783	.0067	.0185	40.66	71.92
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>82.63</b>	<b>20.16</b>	<b>4.007</b>	<b>1.451</b>	<b>.0569</b>	<b>.0240</b>	<b>1.773</b>	<b>.0924</b>	<b>.4785</b>
Stddev	.54	.12	.038	.004	.0016	.0004	.039	.0012	.0031
%RSD	.6511	.5749	.9584	.2862	2.817	1.581	2.198	1.254	6.470
#1	82.34	20.09	3.991	1.455	.0556	.0238	1.759	.0915	4.763
#2	83.25	20.29	4.050	1.451	.0565	.0238	1.742	.0919	4.820
#3	82.30	20.09	3.978	1.447	.0587	.0245	1.817	.0937	4.771
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>1.944</b>	<b>.0128</b>	<b>.0095</b>	<b>5.100</b>	<b>.0055</b>	<b>.0511</b>	<b>3.465</b>		
Stddev	.001	.0014	.0001	.092	.0003	.0003	.068		
%RSD	.0356	11.18	.9415	1.812	5.327	5.772	1.966		
#1	1.943	.0119	.0095	5.036	.0054	.0507	3.413		
#2	1.945	.0145	.0096	5.058	.0058	.0512	3.439		
#3	1.944	.0121	.0094	5.206	.0053	.0512	3.542		

Sample Name: jc86331-2 Acquired: 4/18/2019 17:09:32 Type: Unk  
Method: SGS 3(v299) 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	<b>99892.</b>	<b>5269.3</b>	<b>3661.9</b>	<b>7604.8</b>
Stddev	246.	63.9	41.2	77.0
%RSD	.24591	1.2130	1.1261	1.0124
#1	99920.	5265.3	3689.8	7650.9
#2	100120.	5207.5	3681.5	7647.6
#3	99633.	5335.1	3614.6	7515.9

Sample Name: jc86331-3 Acquired: 4/18/2019 17:14:46 Type: Unk  
Method: SGS 3(v299) 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	<b>.5819</b>	<b>.0045</b>	<b>.0092</b>	<b>.0438</b>	<b>.1388</b>	<b>.8756</b>	<b>2.113</b>	<b>.1192</b>	<b>-0.0003</b>
Stddev	.0013	.0001	.0001	.0003	.0003	.0014	.003	.0004	.0001
%RSD	.2239	2.274	1.061	.6770	.1866	.1559	.1360	.3419	21.97
#1	.5833	.0044	.0093	.0441	.1389	.8770	2.116	.1193	-0.0003
#2	.5807	.0046	.0091	.0436	.1385	.8743	2.112	.1187	-0.0003
#3	.5819	.0046	.0093	.0436	.1389	.8755	2.110	.1195	-0.0002
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.1859</b>	<b>2.125</b>	<b>.6468</b>	<b>.0006</b>	<b>3.091</b>	<b>.0042</b>	<b>.0151</b>	<b>40.30</b>	<b>19.71</b>
Stddev	.0009	.005	.0016	.0014	.006	.0024	.0002	.07	.08
%RSD	.4773	.2238	.2462	223.5	.1929	58.55	1.450	.1859	.3988
#1	.1857	2.130	.6486	.0005	3.098	.0023	.0152	40.33	19.65
#2	.1851	2.120	.6462	-.0007	3.086	.0069	.0153	40.21	19.67
#3	.1869	2.125	.6455	.0021	3.090	.0033	.0149	40.35	19.80
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>122.8</b>	<b>9.618</b>	<b>4.859</b>	<b>.5428</b>	<b>.0294</b>	<b>.0109</b>	<b>1.977</b>	<b>.1050</b>	<b>.1126</b>
Stddev	.2	.047	.026	.0052	.0008	.0002	.012	.0006	.0002
%RSD	.1638	.4833	.5460	.9661	2.822	2.036	.6084	.5916	.1997
#1	122.7	9.603	4.880	.5476	.0301	.0107	1.990	.1057	.1123
#2	122.7	9.581	4.829	.5435	.0285	.0108	1.966	.1047	.1127
#3	123.0	9.670	4.869	.5372	.0297	.0111	1.974	.1045	.1127
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>1.175</b>	<b>.0131</b>	<b>.0048</b>	<b>3.575</b>	<b>.0063</b>	<b>.0685</b>	<b>3.037</b>		
Stddev	.003	.0006	.0001	.003	.0018	.0005	.001		
%RSD	.2140	4.662	1.637	.0836	27.74	.7119	.0423		
#1	1.176	.0124	.0049	3.573	.0079	.0686	3.036		
#2	1.177	.0133	.0049	3.573	.0067	.0679	3.039		
#3	1.172	.0135	.0047	3.578	.0044	.0689	3.037		

Sample Name: jc86331-3 Acquired: 4/18/2019 17:14:46 Type: Unk  
 Method: SGS 3(v299) 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	99909.	5240.8	3696.1	7887.0
Stddev	122.	44.5	3.0	3.9
%RSD	.12208	.84904	.08127	.04980
#1	99818.	5291.6	3694.3	7883.5
#2	99861.	5208.6	3699.6	7891.2
#3	100050.	5222.1	3694.4	7886.1

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Sample Name: jc86331-4 Acquired: 4/18/2019 17:20:00 Type: Unk  
 Method: SGS 3(v299) 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	<b>.3289</b>	<b>.0030</b>	<b>.0020</b>	<b>.0171</b>	<b>.0661</b>	<b>.1182</b>	<b>.1437</b>	<b>.2562</b>	<b>-0.002</b>
Stddev	.0016	.0002	.0001	.0001	.0003	.0001	.0003	.0009	.0003
%RSD	.4824	5.612	7.152	.6524	4.286	.1261	.1890	.3448	136.4
#1	.3302	.0031	.0020	.0171	.0660	.1183	.1437	.2565	.0001
#2	.3294	.0031	.0021	.0173	.0659	.1180	.1437	.2568	-0.002
#3	.3271	.0028	.0019	.0171	.0664	.1182	.1442	.2552	-0.006
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>1.204</b>	<b>.1903</b>	<b>.0510</b>	<b>.0150</b>	<b>2.383</b>	<b>.0078</b>	<b>-0.0008</b>	<b>13.72</b>	<b>3.949</b>
Stddev	.002	.0012	.0004	.0015	.0014	.0005	.0008	.08	.021
%RSD	.1437	.6148	.7321	10.08	5.874	6.158	105.6	.5594	.5411
#1	1.205	.1909	.0513	.0135	2.376	.0082	.0001	13.79	3.972
#2	1.202	.1910	.0511	.0166	2.399	.0079	-0.0010	13.74	3.947
#3	1.205	.1889	.0505	.0150	2.374	.0073	-0.0015	13.64	3.929
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>25.15</b>	<b>1.140</b>	<b>1.516</b>	<b>.6358</b>	<b>.0067</b>	<b>.0198</b>	<b>1.194</b>	<b>.0297</b>	<b>.1079</b>
Stddev	.08	.028	.009	.0145	.0004	.0002	.044	.0008	.0003
%RSD	.3065	2.491	.6092	2.283	5.571	1.018	3.668	2.695	254.3
#1	25.22	1.169	1.507	.6510	.0064	.0198	1.236	.0303	.1080
#2	25.15	1.139	1.516	.6342	.0065	.0201	1.198	.0301	.1080
#3	25.07	1.112	1.526	.6221	.0071	.0197	1.148	.0288	.1075
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>.8259</b>	<b>.0028</b>	<b>.0193</b>	<b>12.12</b>	<b>.0081</b>	<b>.0200</b>	<b>.4963</b>		
Stddev	.0015	.0005	.0001	.07	.0009	.0009	.0025		
%RSD	.1757	19.66	.4722	5.986	11.59	4.499	4.991		
#1	.8276	.0023	.0194	12.17	.0070	.0190	.4985		
#2	.8249	.0026	.0192	12.14	.0086	.0203	.4967		
#3	.8252	.0034	.0193	12.03	.0086	.0207	.4936		

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Sample Name: jc86331-4 Acquired: 4/18/2019 17:20:00 Type: Unk  
 Method: SGS 3(v299) 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	101140.	5175.4	3706.7	8178.2
Stddev	215.	62.9	14.4	29.5
%RSD	.21262	1.2146	.38808	.36015
#1	101030.	5110.2	3703.3	8163.9
#2	101390.	5180.6	3694.3	8158.6
#3	101010.	5235.6	3722.5	8212.1

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Sample Name: jc86331-6 Acquired: 4/18/2019 17:25:18 Type: Unk  
 Method: SGS 3(v299) 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	<b>.8898</b>	<b>.0055</b>	<b>.0028</b>	<b>.0824</b>	<b>.1941</b>	<b>.6248</b>	<b>2.139</b>	<b>.1951</b>	<b>-0.006</b>
Stddev	.0017	.0001	.0002	.0004	.0067	.0251	.086	.0008	.0031
%RSD	.1915	2.459	6.385	4.368	3.442	4.014	4.017	.3973	508.5
#1	.8905	.0058	.0026	.0828	.1955	.6310	2.160	.1960	-0.015
#2	.8911	.0055	.0030	.0824	.1868	.5972	2.044	.1946	.0029
#3	.8879	.0056	.0027	.0821	.1999	.6462	2.212	.1947	-0.033
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>.2763</b>	<b>2.436</b>	<b>1.585</b>	<b>.0013</b>	<b>4.444</b>	<b>.0095</b>	<b>.0105</b>	<b>77.69</b>	<b>85.28</b>
Stddev	.0123	.003	.007	.0010	.008	.0009	.0007	.20	.11
%RSD	4.455	.1295	4.365	77.90	.1728	9.148	7.137	.2544	.1328
#1	.2798	2.440	1.593	.0009	4.452	.0104	.0111	77.92	85.34
#2	.2627	2.434	1.580	.0006	4.445	.0086	.0106	77.56	85.34
#3	.2865	2.434	1.582	.0024	4.436	.0096	.0097	77.58	85.14
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	<b>F 256.3</b>	<b>22.97</b>	<b>16.21</b>	<b>1.044</b>	<b>.0225</b>	<b>.0138</b>	<b>2.313</b>	<b>1.351</b>	<b>2554</b>
Stddev	.3	.19	.03	.006	.0002	.0002	.012	.0014	.0009
%RSD	.1194	.8106	.1788	.6207	.7909	1.162	4.967	1.017	.3408
#1	255.9	22.76	16.22	1.038	.0225	.0140	2.321	1.363	2546
#2	256.5	23.11	16.23	1.051	.0226	.0138	2.300	1.336	2563
#3	256.4	23.03	16.17	1.045	.0223	.0137	2.319	1.353	2552
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	<b>4.386</b>	<b>.0115</b>	<b>.0397</b>	<b>5.656</b>	<b>.0129</b>	<b>.1083</b>	<b>2.787</b>		
Stddev	.179	.0009	.0007	.044	.0024	.0015	.017		
%RSD	4.090	7.503	1.733	.7862	19.02	1.391	6.225		
#1	4.429	.0106	.0389	5.700	.0150	.1076	2.807		
#2	4.189	.0115	.0403	5.656	.0102	.1101	2.780		
#3	4.540	.0124	.0398	5.611	.0133	.1074	2.775		

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Sample Name: jc86331-6 Acquired: 4/18/2019 17:25:18 Type:UNK  
Method: SGS 3(v299) 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	99504.	5293.0	3624.8	7578.9
Stddev	3358.	5.5	4.8	6.8
%RSD	3.3751	.10423	.13306	.09034
#1	98469.	5295.0	3620.4	7576.0
#2	103260.	5286.8	3630.0	7586.8
#3	96786.	5297.3	3623.9	7574.0

Sample Name: ccv Acquired: 4/18/2019 17:30:32 Type:QC  
Method: SGS 3(v299) 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	1.976	1.997	2.022	1.979	1.924	1.975	1.989	2.410	
Stddev	.004	.004	.005	.003	.003	.003	.001	.004	.0005
%RSD	.1984	.1972	.2483	.1497	.1401	.1665	.0661	.1900	.2115
#1	1.973	1.997	1.976	2.025	1.976	1.921	1.975	1.991	2404
#2	1.975	1.993	1.973	2.023	1.982	1.928	1.974	1.991	2411
#3	1.981	2.001	1.966	2.019	1.978	1.923	1.977	1.984	2414

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	1.935	2.008	1.997	2.064	2.030	2.010	2.032	39.20	40.27
Stddev	.002	.005	.006	.009	.002	.006	.003	.12	.09
%RSD	.0841	.2510	.2867	.4530	.1058	.3110	.1294	.3037	.2260
#1	1.936	2.006	2.003	2.073	2.028	2.016	2.035	39.12	40.23
#2	1.933	2.014	1.997	2.063	2.033	2.009	2.030	39.34	40.38
#3	1.936	2.004	1.991	2.055	2.030	2.004	2.032	39.15	40.21

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	40.10	39.19	39.55	39.98	2.066	2.010	5.167	2.027	2.021
Stddev	.13	.10	.06	.05	.003	.002	.012	.004	.006
%RSD	.3259	.2617	.1543	.1174	.1490	.1198	.2393	.2062	.2821
#1	40.21	39.17	39.54	39.99	2.068	2.011	5.177	2.026	2.019
#2	39.96	39.09	39.50	39.94	2.066	2.011	5.170	2.032	2.017
#3	40.13	39.30	39.62	40.03	2.062	2.007	5.153	2.024	2.028

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass  
Value Range

Sample Name: ccv Acquired: 4/18/2019 17:30:32 Type:QC  
Method: SGS 3(v299) Mode: CONC Corr. Factor: 1.000000  
User: admin Custom ID1: Custom ID2: Custom ID3:  
Comment:

Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.908	1.967	1.925	2.052	2.080	1.958	2.005
Stddev	.001	.003	.001	.004	.002	.005	.003
%RSD	.0625	.1644	.0693	.2142	.2172	.1179	.2290
#1	1.907	1.969	1.925	2.056	2.084	1.956	2.009
#2	1.909	1.968	1.926	2.053	2.081	1.961	2.000
#3	1.909	1.963	1.923	2.048	2.075	1.959	2.005

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	95708.	5025.0	3558.5	7399.1
Stddev	163.	23.6	4.9	9.4
%RSD	.17048	.46969	.13884	.12639
#1	95822.	5023.2	3560.2	7397.2
#2	95781.	5002.4	3550.9	7390.8
#3	95521.	5049.5	3558.3	7409.2

Sample Name: ccb Acquired: 4/18/2019 17:35:34 Type:QC  
Method: SGS 3(v299) 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	.0000	-.0001	.0006	-.0005	-.0000	.0003	-.0014
Stddev	.0001	.0001	.0002	.0002	.0003	.0002	.0001	.0001	.0003
%RSD	46.69	128.5	568.8	127.4	55.56	34.94	166.2	20.83	17.77
#1	.0001	-.0001	.0002	-.0002	.0009	-.0003	-.0001	.0004	-.0015
#2	.0001	-.0002	-.0000	-.0001	.0003	-.0005	-.0001	.0003	-.0017
#3	.0002	.0000	-.0001	-.0002	.0006	-.0006	.0000	.0003	-.0012

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	.0008	.0001	.0000	-.0011	.0008	.0014	.0005
Stddev	.0003	.0001	.0010	.0002	.0005	.0025	.0005	.0065	.0018
%RSD	100.8	101.7	133.6	275.4	1107.	216.5	54.73	468.5	336.3
#1	-.0000	-.0000	.0017	.0000	.0006	-.0008	.0005	-.0060	-.0005
#2	.0004	-.0001	-.0003	.0003	-.0003	-.0037	.0006	.0039	-.0006
#3	.0006	-.0000	.0009	-.0001	-.0002	.0012	.0013	.0062	.0026

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	.0046	.0199	.0679	.0207	.0010	.0001	.0020	-.0003	.0001
Stddev	.0033	.0475	.0277	.0069	.0004	.0001	.0008	.0002	.0001
%RSD	70.90	238.1	40.82	33.46	39.95	71.16	38.67	69.26	200.6
#1	.0065	.0672	.0794	.0276	.0006	.0000	.0013	-.0001	.0002
#2	.0008	.0204	.0363	.0208	.0012	.0001	.0028	-.0004	-.0001
#3	.0064	-.0277	.0880	.0137	.0013	.0001	.0017	-.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

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13



Sample Name: ccb Acquired: 4/18/2019 17:35:34 Type: QC  
 Method: SGS 3(v299) 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	<b>-0.002</b>	<b>.0000</b>	<b>.0002</b>	<b>.0056</b>	<b>-0.012</b>	<b>.0026</b>	<b>.0101</b>
Stddev	.0005	.0010	.0001	.0023	.0008	.0025	.0006
%RSD	268.6	2370.	75.01	41.74	66.53	96.80	6.250
#1	.0003	.0012	.0000	.0057	-.0020	.0025	.0108
#2	-.0003	-.0005	.0002	.0079	-.0005	.0052	.0100
#3	-.0006	-.0005	.0003	.0032	-.0010	.0001	.0095

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	<b>100570.</b>	<b>5052.8</b>	<b>3673.3</b>	<b>8257.9</b>
Stddev	132.	21.4	6.1	19.3
%RSD	.13138	.42447	.16620	.23339
#1	100540.	5033.3	3671.4	8238.6
#2	100720.	5075.8	3668.4	8258.0
#3	100460.	5049.3	3680.2	8277.1

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ba 455.403 { 74}	<input checked="" type="checkbox"/>	3	Mg	0.000001	0.000000	No
			Al	0.000002	0.000000	No
			Zr	0.000727	0.000000	No
Be 313.042 {108}	<input checked="" type="checkbox"/>	9	V	0.000331	0.000000	No
			Mo	-0.000030	0.000000	No
			Ti	-0.000580	0.000000	No
			Mn	-0.000018	0.000000	No
			Ni	0.000001	0.000000	No
			Ca	-0.000000	0.000000	No
			Cu	0.000014	0.000000	No
			Zn	-0.000010	0.000000	No
			Fe	-0.000002	0.000000	No
Cd 228.802 {448}	<input checked="" type="checkbox"/>	13	As	0.004626	0.000000	No
			Ni	-0.000900	0.000000	No
			Fe	-0.000010	0.000000	No
			V	0.000110	0.000000	No
			Ba	0.000054	0.000000	No
			Co	-0.000709	0.000000	No
			Ca	0.000000	0.000000	No
			Mn	0.000014	0.000000	No
			Cr	0.000007	0.000000	No
			Cu	0.000024	0.000000	No
			Al	0.000000	0.000000	No
			Mo	0.000004	0.000000	No
			W	0.000000	0.000000	No
Co 228.616 {448}	<input checked="" type="checkbox"/>	9	Fe	-0.000001	0.000000	No
			Cr	-0.000046	0.000000	No
			Mo	-0.001750	0.000000	No
			Ni	0.000084	0.000000	No
			Ti	0.002220	0.000000	No
			W	0.000160	0.000000	No
			Cd	-0.000188	0.000000	No
			Ca	0.000000	0.000000	No
Cr 267.716 {126}	<input checked="" type="checkbox"/>	11	As	0.000150	0.000000	No
			Mn	0.000474	0.000000	No
			Mo	0.000033	0.000000	No
			Fe	-0.000009	0.000000	No
			Cd	-0.000050	0.000000	No
			Al	-0.000000	0.000000	No
			Ca	0.000002	0.000000	No
			Mg	0.000001	0.000000	No
			Ti	0.000050	0.000000	No
			Ba	0.000013	0.000000	No
			Cu	0.000100	0.000000	No
Cu 324.754 {104}2	<input checked="" type="checkbox"/>	17	Sr	-0.000100	0.000000	No
			Cr	0.000000	0.000000	No
			V	-0.000408	0.000000	No
			Mo	0.000572	0.000000	No
			Ti	-0.000330	0.000000	No
			Fe	-0.000127	0.000000	No
			Al	0.000000	0.000000	No
			Sn	-0.000097	0.000000	No
			Co	-0.000980	0.000000	No
			Zr	-0.000500	0.000000	No
			Si	-0.000002	0.000000	No
			Mn	-0.000072	0.000000	No
			Se	0.000050	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Ag	0.000166	0.000000	No
			Sb	0.000024	0.000000	No
			Pb	0.000040	0.000000	No
			Be	-0.000031	0.000000	No
			W	0.000000	0.000000	No
Mn 257.610 {131}	<input checked="" type="checkbox"/>	6	Fe	-0.000094	0.000000	No
			Si	0.000044	0.000000	No
			Ba	0.000012	0.000000	No
			Ni	0.000028	0.000000	No
			Mo	0.000000	0.000000	No
			Cr	-0.000114	0.000000	No
Ni 231.604 {446}	<input checked="" type="checkbox"/>	11	Fe	0.000030	0.000000	No
			Zn	-0.000021	0.000000	No
			Be	-0.000112	0.000000	No
			Co	-0.000360	0.000000	No
			Tl	0.000209	0.000000	No
			V	-0.000032	0.000000	No
			Cu	0.000100	0.000000	No
			Cr	-0.000014	0.000000	No
			Si	-0.000030	0.000000	No
			Sn	0.000079	0.000000	No
			W	0.000830	0.000000	No
Ag 328.068 {103}	<input checked="" type="checkbox"/>	15	Mn	-0.000009	0.000000	No
			Mo	-0.000154	0.000000	No
			Ti	-0.000513	0.000000	No
			Fe	-0.000305	0.000000	No
			V	-0.001162	0.000000	No
			Zn	0.000570	0.000000	No
			Ca	-0.000004	0.000000	No
			Al	-0.000002	0.000000	No
			Mg	-0.000000	0.000000	No
			Ba	-0.000189	0.000000	No
			Cr	-0.000038	0.000000	No
			Zr	0.005170	0.000000	No
			Sn	-0.000100	0.000000	No
			W	0.000000	0.000000	No
			K	-0.000080	0.000000	No
V 292.402 {115}	<input checked="" type="checkbox"/>	7	Ti	0.000776	0.000000	No
			Mo	-0.012800	0.000000	No
			Fe	0.000010	0.000000	No
			Sr	0.000000	0.000000	No
			Cr	-0.002590	0.000000	No
			Mn	-0.002844	0.000000	No
			W	0.000050	0.000000	No
Zn 206.200 {464}	<input checked="" type="checkbox"/>	15	Cr	-0.000874	0.000000	No
			Mo	-0.000228	0.000000	No
			Fe	0.000010	0.000000	No
			Al	0.000000	0.000000	No
			Si	0.000065	0.000000	No
			Ba	-0.000060	0.000000	No
			Ca	0.000004	0.000000	No
			Sr	0.000017	0.000000	No
			Sn	0.000069	0.000000	No
			Cu	0.000056	0.000000	No
			As	-0.000050	0.000000	No
			Be	0.000071	0.000000	No
			Bi	-0.000400	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			W	0.000000	0.000000	No
			Tl	0.000030	0.000000	No
As 189.042 (478)	<input checked="" type="checkbox"/>	23	Al	-0.000001	0.000000	No
			Fe	-0.000158	0.000000	No
			Ca	0.000001	0.000000	No
			Mn	-0.000010	0.000000	No
			Mo	0.003164	0.000000	No
			Cr	-0.006709	0.000000	No
			V	0.000052	0.000000	No
			Co	-0.000029	0.000000	No
			W	0.010000	0.000000	No
			Sn	-0.000123	0.000000	No
			Cd	-0.000194	0.000000	No
			Tl	0.000385	0.000000	No
			Be	-0.000017	0.000000	No
			Mg	0.000002	0.000000	No
			Si	0.000007	0.000000	No
			Zn	0.000070	0.000000	No
			Sr	-0.000080	0.000000	No
			Zr	0.000074	0.000000	No
			Tl	0.000009	0.000000	No
			Cu	0.000077	0.000000	No
			K	0.000000	0.000000	No
			B	-0.000030	0.000000	No
Tl 190.856 (477)	<input checked="" type="checkbox"/>	24	S	0.000005	0.000000	No
			Cr	0.000289	0.000000	No
			Mo	-0.002100	0.000000	No
			Al	-0.000004	0.000000	No
			Fe	-0.000052	0.000000	No
			V	-0.018927	0.000000	No
			Mn	0.001620	0.000000	No
			Si	-0.000016	0.000000	No
			Ca	-0.000003	0.000000	No
			Ti	-0.003500	0.000000	No
			Mg	-0.000000	0.000000	No
			Co	0.005240	0.000000	No
			Sr	-0.000222	0.000000	No
			B	0.000120	0.000000	No
			Ba	0.000110	0.000000	No
			Zn	0.000025	0.000000	No
			As	0.000015	0.000000	No
			Ni	0.000051	0.000000	No
			Cu	-0.000032	0.000000	No
			W	0.010000	0.000000	No
			Sn	-0.000080	0.000000	No
			Se	0.000040	0.000000	No
			S	0.000010	0.000000	No
			K	0.000000	0.000000	No
Pb 220.353 (453)	<input checked="" type="checkbox"/>	23	P	0.000000	0.000000	No
			Al	-0.000112	0.000000	No
			Fe	0.000044	0.000000	No
			Ca	-0.000007	0.000000	No
			Mn	0.000145	0.000000	No
			Zn	-0.000036	0.000000	No
			Mo	-0.001070	0.000000	No
			Cu	0.000410	0.000000	No
			V	0.000013	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Co	0.000116	0.000000	No
			Tl	-0.000440	0.000000	No
			Si	0.000116	0.000000	No
			Ba	-0.000012	0.000000	No
			Sb	0.000006	0.000000	No
			Sr	-0.000050	0.000000	No
			W	-0.005000	0.000000	No
			Mg	0.000003	0.000000	No
			Cd	0.000476	0.000000	No
			Zr	-0.000300	0.000000	No
			Ni	0.000320	0.000000	No
			S	-0.000010	0.000000	No
			Se	0.000036	0.000000	No
			As	0.000200	0.000000	No
			Cr	-0.000150	0.000000	No
Se 196.090 {472}	<input checked="" type="checkbox"/>	22	Al	0.000001	0.000000	No
			Ca	0.000001	0.000000	No
			Mn	0.000651	0.000000	No
			Mo	0.000277	0.000000	No
			Fe	-0.000169	0.000000	No
			Co	-0.000029	0.000000	No
			V	0.000207	0.000000	No
			Sr	-0.000008	0.000000	No
			Cu	-0.000113	0.000000	No
			W	0.000000	0.000000	No
			Si	0.000157	0.000000	No
			Tl	0.000180	0.000000	No
			Be	-0.000143	0.000000	No
			Zn	-0.000250	0.000000	No
			B	-0.000141	0.000000	No
			Ti	0.000016	0.000000	No
			Cd	0.000090	0.000000	No
			Zr	-0.000280	0.000000	No
			Ba	0.000180	0.000000	No
			Mg	-0.000002	0.000000	No
			Cr	-0.000039	0.000000	No
			S	-0.000012	0.000000	No
Sb 206.833 {463}	<input checked="" type="checkbox"/>	15	Fe	0.000023	0.000000	No
			Al	-0.000011	0.000000	No
			Ca	-0.000006	0.000000	No
			Ni	-0.001077	0.000000	No
			Cr	0.023570	0.000000	No
			V	-0.001909	0.000000	No
			Zn	-0.000200	0.000000	No
			Mo	-0.000000	0.000000	No
			Ti	0.001400	0.000000	No
			Sn	-0.016000	0.000000	No
			Mg	0.000004	0.000000	No
			Zr	-0.000627	0.000000	No
			Sr	0.000209	0.000000	No
			W	0.000000	0.000000	No
Al 396.152 { 85}	<input checked="" type="checkbox"/>	5	Si	0.000913	0.000000	No
			Ca	0.000078	0.000000	No
			Mo	0.046534	0.000000	No
			Zr	-0.006000	0.000000	No
			Tl	-0.000017	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ca 317.933 {106}	<input checked="" type="checkbox"/>	13	Fe	0.000130	0.000000	No
			W	0.003960	0.000000	No
			Tl	0.004950	0.000000	No
			Be	0.001840	0.000000	No
			Ba	0.003500	0.000000	No
			Cu	-0.001800	0.000000	No
			Cd	0.003700	0.000000	No
			Ni	0.001513	0.000000	No
			B	-0.000210	0.000000	No
			Se	0.002000	0.000000	No
			Co	0.000540	0.000000	No
			Cr	0.000640	0.000000	No
			Fe 259.940 {130}	<input checked="" type="checkbox"/>	13	Al
Co	0.000004	0.000000				No
Si	-0.000100	0.000000				No
Tl	-0.002590	0.000000				No
Se	-0.000050	0.000000				No
Cr	-0.000566	0.000000				No
Mn	-0.001433	0.000000				No
V	-0.000064	0.000000				No
Cu	0.000953	0.000000				No
K	-0.000200	0.000000				No
Zn	0.000046	0.000000				No
Ti	-0.000631	0.000000				No
Mg 279.079 {121}	<input checked="" type="checkbox"/>	1				Ba
			Ba	0.001000	0.000000	No
			Mo	-0.020780	0.000000	No
K 766.490 {44}	<input checked="" type="checkbox"/>	11	Fe	-0.000340	0.000000	No
			Al	0.000301	0.000000	No
			Ca	0.000448	0.000000	No
			Mn	0.001430	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No
			Sn	-0.004700	0.000000	No
			Na	0.000300	0.000000	No
			Mo	-0.000850	0.000000	No
			Cu	-0.010000	0.000000	No
			Na 589.592 {57}	<input checked="" type="checkbox"/>	5	Mg
K	0.000038	0.000000				No
Ba	0.000900	0.000000				No
Ca	0.000055	0.000000				No
Al	0.000040	0.000000				No
B 208.959 {462}	<input checked="" type="checkbox"/>	1	V	-0.005000	0.000000	No
			Mo	0.037210	0.000000	No
Mo 202.030 {467}	<input checked="" type="checkbox"/>	5	Fe	-0.000010	0.000000	No
			Mg	-0.000001	0.000000	No
			Ca	0.000003	0.000000	No
			W	0.000000	0.000000	No
			V	-0.000230	0.000000	No
Si 212.412 {459}	<input checked="" type="checkbox"/>	14	Sr	0.000366	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	0.028950	0.000000	No
			Ti	0.006320	0.000000	No
			Al	0.000012	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.000170	0.000000	No
			Fe	0.000040	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Sn	0.002213	0.000000	No
			Zn	0.000385	0.000000	No
			As	-0.000560	0.000000	No
			Pb	0.000471	0.000000	No
			V	0.006165	0.000000	No
			W	-0.025000	0.000000	No
Sn 189.989 {478}	<input checked="" type="checkbox"/>	6	Ti	-0.000621	0.000000	No
			Mo	0.000011	0.000000	No
			Fe	0.000005	0.000000	No
			Mn	0.000060	0.000000	No
			Si	0.000089	0.000000	No
			W	-0.010000	0.000000	No
Sr 407.771 {83}	<input checked="" type="checkbox"/>	2	Fe	0.000002	0.000000	No
			Ca	0.000023	0.000000	No
Ti 334.904 {101}	<input checked="" type="checkbox"/>	4	Cr	-0.000084	0.000000	No
			Mo	0.001569	0.000000	No
			Si	0.000035	0.000000	No
			Ca	-0.000003	0.000000	No
Y 360.073 {94}* Y 371.030 {91}* Y 224.306 {451}* In 230.606 {446}* W 207.911 {462}	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	None None None None 25				
			Al	0.000002	0.000000	No
			Si	-0.000900	0.000000	No
			Fe	-0.000007	0.000000	No
			As	-0.000200	0.000000	No
			Mg	-0.000006	0.000000	No
			Mn	-0.000110	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	0.012200	0.000000	No
			Sn	0.000078	0.000000	No
			Zr	0.000230	0.000000	No
			B	-0.001000	0.000000	No
			Sb	-0.003000	0.000000	No
			Co	0.000041	0.000000	No
			Ni	-0.000263	0.000000	No
			Be	-0.000130	0.000000	No
			Se	-0.000080	0.000000	No
			Cu	-0.000118	0.000000	No
			Ba	-0.000090	0.000000	No
			Tl	-0.000110	0.000000	No
			Ag	0.000224	0.000000	No
Zr 339.198 {99}	<input checked="" type="checkbox"/>	9	Mo	0.000323	0.000000	No
			Ti	-0.000010	0.000000	No
			Fe	-0.000060	0.000000	No
			Si	0.000070	0.000000	No
			Bi	0.000295	0.000000	No
			Cr	-0.000900	0.000000	No
			V	0.000200	0.000000	No
			W	0.019000	0.000000	No
			Sn	-0.000400	0.000000	No
S 182.034 {485}	<input checked="" type="checkbox"/>	11	Ca	0.000001	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Mo	-0.000040	0.000000	No
			Al	-0.000110	0.000000	No
			Fe	-0.000023	0.000000	No
			Mn	0.003900	0.000000	No
			W	0.000000	0.000000	No
			Zn	-0.001538	0.000000	No
			Cr	-0.000200	0.000000	No
			Mg	0.000015	0.000000	No
			Ti	0.000300	0.000000	No
			Li	0.000200	0.000000	No
Bi 223.061 {451}	<input checked="" type="checkbox"/>	9	V	-0.000680	0.000000	No
			Co	-0.002200	0.000000	No
			Ca	-0.000005	0.000000	No
			Mg	-0.000002	0.000000	No
			W	0.000000	0.000000	No
			Cu	-0.001186	0.000000	No
			Fe	0.000097	0.000000	No
			Cr	0.001500	0.000000	No
			Ti	-0.004530	0.000000	No
Li 670.784 {50}	<input checked="" type="checkbox"/>	1	Ca	0.000051	0.000000	No
P 177.495 {490}	<input checked="" type="checkbox"/>	2	Mn	-0.005600	0.000000	No
			Ca	0.000034	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}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	0.006125	2.082488	0.000000	1.000000
Be 313.042 {108}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000146	1.718197	0.000000	1.000000
Cd 228.802 {448}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	0.000296	1.015614	0.000000	1.000000
Co 228.616 {448}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000439	0.563733	0.000000	1.000000
Cr 267.716 {126}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000016	0.054752	0.000000	1.000000
Cu 324.754 {104}2	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	0.002524	0.198715	0.000000	1.000000
Mn 257.610 {131}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	0.000049	0.328270	0.000000	1.000000
Ni 231.604 {446}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000219	0.414574	0.000000	1.000000
Ag 328.068 {103}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000246	0.102668	0.000000	1.000000
V 292.402 {115}	4/19/2019 9:55:34	4/18/2019 10:55:04	Linear	1/Conc	-0.000015	0.110152	0.000000	1.000000
Zn 206.200 {464}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000298	1.437094	0.000000	1.000000
As 189.042 {478}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000422	0.138162	0.000000	1.000000
Tl 190.856 {477}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000172	0.071532	0.000000	1.000000
Pb 220.353 {453}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000159	0.197775	0.000000	1.000000
Se 196.090 {472}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000344	0.111879	0.000000	1.000000
Sb 206.833 {463}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000734	0.195332	0.000000	1.000000
Al 396.152 { 85}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.001329	0.038036	0.000000	1.000000
Ca 317.933 {106}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.004632	0.050936	0.000000	1.000000
Fe 259.940 {130}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000114	0.018744	0.000000	1.000000
Mg 279.079 {121}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000081	0.003826	0.000000	1.000000
K 766.490 { 44}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.006642	0.038512	0.000000	1.000000
Na 589.592 { 57}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000739	0.111241	0.000000	1.000000
B 208.959 {462}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000212	0.237297	0.000000	1.000000
Mo 202.030 {467}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000099	1.027346	0.000000	1.000000
Si 212.412 {459}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.002905	0.261139	0.000000	1.000000
Sn 189.989 {478}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000149	0.236431	0.000000	1.000000
Sr 407.771 { 83}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000739	3.768659	0.000000	1.000000
Ti 334.904 {101}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000018	0.134066	0.000000	1.000000
Y 360.073 { 94}*	4/19/2019 9:55:34	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	4/19/2019 9:55:34	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 224.306 {451}*	4/19/2019 9:55:34	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	4/19/2019 9:55:34	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
W 207.911 {462}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.001201	0.511185	0.000000	1.000000
Zr 339.198 { 99}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000164	0.343562	0.000000	1.000000
S 182.034 {485}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.001813	0.059657	0.000000	1.000000
Bi 223.061 {451}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.000712	0.231338	0.000000	1.000000
Li 670.784 { 50}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	0.000896	0.785007	0.000000	1.000000
P 177.495 {490}	4/19/2019 9:55:34	4/18/2019 10:55:05	Linear	1/Conc	-0.008524	0.147430	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MLQ	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ba 455.403 { 74}	1.000000	0.000000	0.000355	0.001184	OK	1.000000	0.000000	1	0
Be 313.042 {108}	1.000000	0.000000	0.000153	0.000508	OK	1.000000	0.000000	1	0
Cd 228.802 {448}	1.000000	0.000000	0.000203	0.000678	OK	1.000000	0.000000	1	0
Co 228.616 {448}	1.000000	0.000000	0.000267	0.000889	OK	1.000000	0.000000	1	0
Cr 267.716 {126}	1.000000	0.000000	0.000483	0.001610	OK	1.000000	0.000000	1	0
Cu 324.754 {104}2	1.000000	0.000000	0.000388	0.001294	OK	1.000000	0.000000	1	0
Mn 257.610 {131}	1.000000	0.000000	0.000072	0.000239	OK	1.000000	0.000000	1	0
Ni 231.604 {446}	1.000000	0.000000	0.000313	0.001042	OK	1.000000	0.000000	1	0
Ag 328.068 {103}	1.000000	0.000000	0.000492	0.001642	OK	1.000000	0.000000	1	0
V 292.402 {115}	1.000000	0.000000	0.000358	0.001193	OK	1.000000	0.000000	1	0
Zn 206.200 {464}	1.000000	0.000000	0.000132	0.000441	OK	1.000000	0.000000	1	0
As 189.042 {478}	1.000000	0.000000	0.001334	0.004445	OK	1.000000	0.000000	1	0
Tl 190.856 {477}	1.000000	0.000000	0.001090	0.003633	OK	1.000000	0.000000	1	0
Pb 220.353 {453}	1.000000	0.000000	0.000987	0.003291	OK	1.000000	0.000000	1	0
Se 196.090 {472}	1.000000	0.000000	0.001823	0.006076	OK	1.000000	0.000000	1	0
Sb 206.833 {463}	1.000000	0.000000	0.001343	0.004477	OK	1.000000	0.000000	1	0
Al 396.152 { 85}	1.000000	0.000000	0.017622	0.058741	OK	1.000000	0.000000	1	0
Ca 317.933 {106}	1.000000	0.000000	0.005965	0.019882	OK	1.000000	0.000000	1	0
Fe 259.940 {130}	1.000000	0.000000	0.007643	0.025476	OK	1.000000	0.000000	1	0
Mg 279.079 {121}	1.000000	0.000000	0.048213	0.160711	OK	1.000000	0.000000	1	0
K 766.490 { 44}	1.000000	0.000000	0.041945	0.139815	OK	1.000000	0.000000	1	0
Na 589.592 { 57}	1.000000	0.000000	0.012987	0.043290	OK	1.000000	0.000000	1	0
B 208.959 {462}	1.000000	0.000000	0.000706	0.002352	OK	1.000000	0.000000	1	0
Mo 202.030 {467}	1.000000	0.000000	0.000221	0.000735	OK	1.000000	0.000000	1	0
Si 212.412 {459}	1.000000	0.000000	0.000964	0.003213	OK	1.000000	0.000000	1	0
Sn 189.989 {478}	1.000000	0.000000	0.000625	0.002083	OK	1.000000	0.000000	1	0
Sr 407.771 { 83}	1.000000	0.000000	0.000154	0.000513	OK	1.000000	0.000000	1	0
Ti 334.904 {101}	1.000000	0.000000	0.000361	0.001202	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	0.000890	0.002968	OK	1.000000	0.000000	1	0
Zr 339.198 { 99}	1.000000	0.000000	0.000187	0.000622	OK	1.000000	0.000000	1	0
S 182.034 {485}	1.000000	0.000000	0.002766	0.009221	OK	1.000000	0.000000	1	0
Bi 223.061 {451}	1.000000	0.000000	0.001467	0.004891	OK	1.000000	0.000000	1	0
Li 670.784 { 50}	1.000000	0.000000	0.002038	0.006792	OK	1.000000	0.000000	1	0
P 177.495 {490}	1.000000	0.000000	0.001195	0.003984	OK	1.000000	0.000000	1	0



**Mercury Digestion Log**

Product: **HG /HGLIQ**  
 Matrix: **Soil / Oil / SL / Wipes**

MA Batch #: MA46516  
 Analyst: EAL  
 Date: 4/16/2019  
 Balance ID: B24  
 Reagents: See attached sheet  
 Auto pipet ID: M72

Method: **SW846 7471B**

Required corrected Temp. Range is 95C. +/- 3C.

Hot Block # 7 Start Time: 13:15 End Time: 13:45 Tube # 1-45  
 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 # \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_ Tube # \_\_\_\_\_  
 Start Temp: \_\_\_\_\_ Corrected Start Temp: \_\_\_\_\_ Correction: \_\_\_\_\_ Thermometer ID: \_\_\_\_\_  
 End Temp: \_\_\_\_\_ Corrected Start Temp: \_\_\_\_\_ Correction: \_\_\_\_\_ Thermometer ID: \_\_\_\_\_

Bot #	Sample ID	Initial Sample Wt. (am)	Final Vol. (ml)	Spike Used		Spikelet and Conc. (mg/L)	MP Number	Comments/Lot # and Vendor
				Amount Spiked	Added Y or N			
1	MP14255-MB1	0.6001	100				MP14255	
2	MP14255-B1	0.6001	100	2.0 ml	Y	0.1		HG-19-144-309-HGA1, IN. V
3	MP14255-S1	0.6397	100	2.0 ml	Y	0.1		JC86307-1A, HG-19-144-309-HGA1, IN. V
4	MP14255-S2	0.6353	100	2.0 ml	Y	0.1		JC86307-1A, HG-19-144-309-HGA1, IN. V
5	JC86307-1A	0.6428	100					
6	JC86307-2A	0.6550	100					
7	JC86307-3A	0.6867	100					
8	JC86307-4A	0.6508	100					
9	JC86307-5A	0.6480	100					
10	JC86307-6A	0.6179	100					
11	JC86307-7A	0.6312	100					
12	JC86307-8A	0.6052	100					
13	JC86307-9A	0.6501	100					
14	JC86307-10A	0.6573	100					
15	JC86307-11A	0.6295	100					
16	JC86307-12A	0.6192	100					
17	JC86307-13A	0.6565	100					
18	JC86307-14A	0.6294	100					
19	JC86307-15A	0.6638	100					
20	JC86307-16A	0.6374	100					
21	JC86335-1	0.7370	100					
22	JC86335-2	0.6199	100					
23	JC86335-3	0.7483	100					
24	JC86310-1A	0.6519	100					
25	MP14256-MB1	0.6001	100				MP14256	
26	MP14256-B1	0.6001	100	2.0 ml	Y	0.1		HG-19-144-309-HGA1, IN. V
27	MP14256-S1	0.6223	100	2.0 ml	Y	0.1		JC86337-1, HG-19-144-309-HGA1, IN. V
28	MP14256-S2	0.6391	100	2.0 ml	Y	0.1		JC86337-1, HG-19-144-309-HGA1, IN. V
29	JC86337-1	0.6311	100					
30	JC86337-2	0.6553	100					
31	JC86337-3	0.7208	100					
32	JC86337-4	0.7481	100					
33	JC86337-5	0.6823	100					
34	JC86337-6	0.6988	100					
35	JC86300-1	0.7045	100					

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Form: **HG-022F-02**  
 Revision Date: **08/24/15**

ANALYST: EAL  
 SPIKE WITNESS: LL  
 QC REVIERER: [Signature]

DATE: 4/16/19  
 DATE: 4/16/19  
 DATE: 4/16/19



**Mercury Digestion Log**

Product: **HG /HGLIQ**  
 Matrix: **Soil / Oil / SL / Wipes**

MA Batch #: MA46516  
 Analyst: EAL  
 Date: 4/16/2019  
 Balance ID: B24  
 Reagents: See attached sheet  
 Auto pipet ID: M72

Method: **SW846 7471B**

Required corrected Temp. Range is 95C. +/- 3C.

Hot Block # 7 Start Time: 13:15 End Time: 13:45 Tube # 1-45  
 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 # \_\_\_\_\_ Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_ Tube # \_\_\_\_\_  
 Start Temp: \_\_\_\_\_ Corrected Start Temp: \_\_\_\_\_ Correction: \_\_\_\_\_ Thermometer ID: \_\_\_\_\_  
 End Temp: \_\_\_\_\_ Corrected Start Temp: \_\_\_\_\_ Correction: \_\_\_\_\_ Thermometer ID: \_\_\_\_\_

Bot #	Sample ID	Initial Sample Wt. (am)	Final Vol. (ml)	Spike Used		Spikelot and Conc. (mg/L)	MP Number	Comments/Lot # and Vendor
				Amount Spiked	Added Y or N			
36	JC86300-2	0.8407	100					
37	JC86300-3	0.7071	100					
38	JC86300-5	0.6225	100					
39	JC86300-6	0.7064	100					
40	JC86300-7	0.6685	100					
41	JC86300-8	0.7971	100					
42	MB1CONF	0.6001	100					
43	B1CONF	0.6001	100	2.0 ml	Y	0.1		HG-19-144-309-HGA1, IN. V
44	LODCONF	0.6001	100	1.5 ml	Y	0.01		HG-19-144-310-HGA2, IN. V
45	LOQCONF	0.6001	100	2.0 ml	Y	0.01		HG-19-144-310-HGA2, IN. V
46			100					
47			100					
48			100					
49			100					
50			100					
51			100					
52			100					
53			100					
54			100					
55			100					
56			100					
57			100					
58			100					
59			100					
60			100					
61			100					
62			100					
63			100					
64			100					
65			100					
66			100					
67			100					
68			100					
69			100					
70			100					

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Form: **HG-022F-02**  
 Revision Date: **08/24/15**

ANALYST: \_\_\_\_\_  
 SPIKE WITNESS: \_\_\_\_\_  
 QC REVIERER: \_\_\_\_\_

DATE: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DATE: \_\_\_\_\_





Mercury Digestion Log

Product: **HG /HGLIQ**  
 Matrix: **Soil / Oil / SL / Wipes**

MA Batch #: MA46516  
 Analyst: EAL  
 Date: 4/16/2019  
 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: 13:15 End Time: 13:45 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. (mg/L)	MP Number	Comments/Lot # and Vendor
				Amount Spiked	Added Y or N			
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-19-144-310-HGA2, IN. V
S-3	0.50 ug/l standard	0.6	100 ml	5.0 ml	Y	0.0100	N/A	HG-19-144-310-HGA2, IN. V
S-4	1.00 ug/l standard	0.6	100 ml	1.0 ml	Y	0.1000	N/A	HG-19-144-309-HGA1, IN. V
S-5	2.50 ug/l standard	0.6	100 ml	2.5 ml	Y	0.1000	N/A	HG-19-144-309-HGA1, IN. V
S-6	5.00 ug/l standard	0.6	100 ml	5.0 ml	Y	0.1000	N/A	HG-19-144-309-HGA1, IN. V
ICV	ICV (External)	0.6	100 ml	3.0 ml	Y	0.1		HG-19-144-311-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-19-144-309-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-19-144-310-HGA2, IN. V

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## Reagent Information Log- Hg Soil

MA # 46516

Reagents	Exp. Date	Reagent # or manufacturer lot #
<u>Conc. HydroChloric Acid</u>	<u>4/15/2021</u>	<u>Baker 217157</u>
<u>Conc. Nitric Acid</u>	<u>4/2/2021</u>	<u>Baker -213500</u>
<u>Sodium Chloride-Hydroxylamine Hydrochloride</u>	<u>10/15/2019</u>	<u>HG-19-144 307 -HGHC</u>
<u>Potassium Permanganate</u>	<u>10/15/2019</u>	<u>HG-19-144 305 -HGKM2</u>
<u>Stannous Chloride</u>	<u>4/17/2019</u>	<u>HG-19-144 312 -HGS</u>
<u>STD Hg standard solution 1000 ppm</u>	<u>3/1/2020</u>	<u>Inorganic Ventures K2-HG669550</u>
<u>STD Hg standard solution 100 ppb</u>	<u>4/17/2019</u>	<u>HG-19-144 309 -HGA1</u>
<u>STD Hg standard solution 10 ppb</u>	<u>4/17/2019</u>	<u>HG-19-144 310 -HGA2</u>
<u>ICV Hg standard solution 1000 ppm</u>	<u>6/30/2021</u>	<u>Ultra T00601</u>
<u>ICV Hg standard solution 100 ppb</u>	<u>4/17/2019</u>	<u>HG-19-144 311 -HGB1</u>
<u>Solid Lab control/Soil LC</u>	<u>3/31/2020</u>	<u>ERA D094-540</u>
<u>Aqua Regia</u>	<u>4/17/2019</u>	<u>HG-19-144 313 -HGKAQ</u>
<u>Dilution acid</u>	<u>10/15/2019</u>	<u>HG-19-144 308 -HGD1</u>
<u>Digestion Tubes</u>	<u>N/A</u>	<u>Environmental Express 1808354</u>
<u>Teflon Chips (For Soil MB)</u>	<u>N/A</u>	<u>Chemware , Lot: 23656541</u>

Form: GN087A80-04  
Rev.Date: 06/06/17

**Solids/Soil Metals Digestion Form**

Batch Information						
Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP14249	4/16/2019	8:50	4/16/2019	13:40	JC86190-3	

Temperature							
		Block ID	Therm. ID#	Balance ID	Temperature	Correction	Corrected Temp
1	Start	1	3107658	B-26	92	0	92
1	End	1	3107658	NA	93	0	93
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
MP14249-MB1	N/A	100	1.045	ABCD		
MP14249-B1	N/A	100	0.985	ABCD	ABCD	
MP14249-S1	8	100	0.996	ABCD	ABCD	
MP14249-S2	8	100	1.028	ABCD	ABCD	
MP14249-SD1	8	100	1.009	ABCD		
JC86190-3	8	100	1.009	ABCD		
JC86190-4	3	100	1.017	ABCD		
JC86190-5	3	100	0.966	ABCD		
JC86190-6	3	100	1.004	ABCD		
JC86302-1	1	100	0.999	ABCD		
JC86302-2	1	100	0.962	ABCD		
JC86302-3	1	100	0.960	ABCD		
JC86302-4	1	100	0.964	ABCD		
JC86330-1	1	100	1.015	ABCD		
JC86330-2	1	100	0.983	ABCD		
JC86330-3	1	100	0.971	ABCD		
JC86330-4	1	100	0.991	ABCD		
JC86337-1	1	100	1.038	ABCD		
JC86337-2	1	100	0.999	ABCD		
JC86337-3	1	100	1.005	ABCD		
JC86337-4	1	100	0.985	ABCD		
JC86337-5	1	100	0.967	ABCD		
JC86337-6	1	100	0.959	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 REV1	1
B	ACCUTEST 14A REV1	1
C	MINERALS 5000PPM	0.5
D	AG 20PPM	1.25
E		
F	AG 20PPM	1.25
G		
H		

Comments: \_\_\_\_\_

Analyst TAYLORG Approved by Wendyz Approved on 4/16/2019

**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

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## Metals Digestion Reagents Information Log

Digestion Batch ID: MP 14249      Date: 4/16/19  
 Matrix:      **ALL**

<u>Standard/Reagent Type</u>	<u>Exp. Date</u>	<u>Standard/Reagent ID</u>
Spiking Solution - (ACCUTEST-13A REV1)	10/4/2019	MP-015-1153
Spiking Solution - (ACCUTEST-14A REV1)	10/4/2019	MP-015-1154
Spiking Solution - 5000 mg/l Minerals	2/15/2020	N2-MEB674932 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	1/16/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	9/27/2019	MP-015-1149
Spiking Solution - Li 1000ppm	1/24/2020	N2-LI665824 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	10/9/2019	MP-015-1155
Spiking Solution - (ACCUTEST-13B REV1)	10/10/2019	MP-015-1157
Spiking Solution - (ACCUTEST-14B REV1)	7/3/2019	MP-015-1126
Spiking Solution - 1000ppm Minerals	6/4/2019	MP-015-1117
Spiking Solution- P		
Nitric Acid	4/15/2021	LOT: 205793 MFG: J.T. BAKER
Nitric Acid (1:1)	10/15/2019	MP-018-42-180 1:1 HNO3
Hydrochloric Acid	4/15/2021	LOT: 214365 MFG: J.T. BAKER
Hydrochloric Acid (1:1)	10/8/2019	MP-018-42-173 1:1 HCL
Hydrogen Peroxide	4/11/2021	LOT: 188006 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: BP

Validated By: \_\_\_\_\_

Validated On: \_\_\_\_\_

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## **General Chemistry**

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### **QC Data Summaries**

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#### **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: JC86337  
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	GP20669/GN94233	0.24	0.0	mg/kg	2	2.06	103.0	90-110%

Associated Samples:

Batch GP20669: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

(\*) Outside of QC limits

DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Cyanide	GP20669/GN94233	JC86337-1	mg/kg	0.14	0.36	88.0(a)	0-49%
Solids, Percent	GN94163	JC86336-5	%	83.4	84.9	1.8	0-5%
Solids, Percent	GN94167	JC86305-1	%	88.7	92.3	4.0	0-5%
Solids, Percent	GN94267	JC86390-6	%	54.2	51.9	4.3	0-5%

Associated Samples:

Batch GN94163: JC86337-1

Batch GN94167: JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

Batch GN94267: JC86337-7, JC86337-8

Batch GP20669: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

(\*) Outside of QC limits

(a) RPD acceptable due to low duplicate and sample concentrations.

14.2  
14

MATRIX SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: JC86337  
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	GP20669/GN94233	JC86337-1	mg/kg	0.14	2.06	2.5	114.6	75-125%
Cyanide	GP20669/GN94233	JC86337-2	mg/kg	0.13	2.02	2.2	102.3	75-125%

Associated Samples:

Batch GP20669: JC86337-1, JC86337-2, JC86337-3, JC86337-4, JC86337-5, JC86337-6

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

14.3  
14

SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E041719W1.CN      Date Analyzed: 04/17/19      Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT  
Analyst: KI      Run ID: GN94233  
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:22	GN94233-STD1	1		STDA
15:24	GN94233-STD2	1		STDB
15:25	GN94233-STD3	1		STDC
15:26	GN94233-STD4	1		STDD
15:28	GN94233-STD5	1		STDE
15:29	GN94233-STD6	1		STDF
15:30	GN94233-STD7	1		STDG
15:32	GN94233-ICV1	1		
15:33	GN94233-ICB1	1		
15:35	GN94233-CCV1	1		
15:36	GN94233-CCB1	1		
15:37	GP20669-MB1	1		
15:39	GP20669-B1	1		
15:40	GP20669-S1	1		
15:41	GP20669-S2	1		
15:43	GP20669-D1	1		
15:44	JC86337-1	1		
15:45	JC86337-2	1		
15:47	JC86337-3	1		
15:48	JC86337-4	1		
15:49	JC86337-5	1		
15:51	GN94233-CCV2	1		
15:52	GN94233-CCB2	1		
15:54	JC86337-6	1		
15:55	ZZZZZZ	1		
15:56	ZZZZZZ	1		
15:58	ZZZZZZ	1		
15:59	ZZZZZZ	1		
16:00	ZZZZZZ	1		
16:02	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:04	ZZZZZZ	1		
16:06	ZZZZZZ	1		

14.4  
14

SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E041719W1.CN      Date Analyzed: 04/17/19      Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT  
Analyst: KI      Run ID: GN94233  
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:07	GN94233-CCV3	1		
16:08	GN94233-CCB3	1		
16:10	ZZZZZZ	1		
16:11	GP20655-MB1	1		
16:13	GP20655-B1	1		
16:14	GP20655-S1	1		
16:15	GP20655-S2	1		
16:17	GP20655-D1	1		
16:18	ZZZZZZ	1		
16:19	ZZZZZZ	1		
16:21	ZZZZZZ	1		
16:22	ZZZZZZ	1		
16:23	GN94233-CCV4	1		
16:25	GN94233-CCB4	1		
16:26	ZZZZZZ	1		
16:28	ZZZZZZ	1		
16:29	ZZZZZZ	1		
16:30	ZZZZZZ	1		
16:32	ZZZZZZ	1		
16:33	ZZZZZZ	1		
16:34	ZZZZZZ	1		
16:36	GN94233-CCV5	1		
16:37	GN94233-CCB5	1		
16:41	GN94233-CCV6	1		
16:43	GN94233-CCB6	1		
16:44	JC86300-2	1		(sample used for QC only; not part of login JC86337)
16:45	GN94233-CCV7	1		
16:47	GN94233-CCB7	1		
16:48	JC86300-3	1		(sample used for QC only; not part of login JC86337)
16:49	ZZZZZZ	1		
16:51	ZZZZZZ	1		
16:52	ZZZZZZ	1		
16:54	ZZZZZZ	1		

14.4  
14

SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E041719W1.CN      Date Analyzed: 04/17/19      Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT  
Analyst: KI      Run ID: GN94233  
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:55	ZZZZZZ	1		
16:56	GP20656-MB1	1		
16:58	GP20656-B1	1		
16:59	GP20656-S1	1		
17:00	GP20656-S2	1		
17:02	GN94233-CCV8	1		
17:03	GN94233-CCB8	1		
17:04	GP20656-D1	1		ccb failed, see rerun
17:06	JC86276-1	1		(sample used for QC only; not part of login JC86337)
17:07	JC86276-2	1		(sample used for QC only; not part of login JC86337)
17:08	ZZZZZZ	1		
17:10	ZZZZZZ	1		
17:11	ZZZZZZ	1		
17:13	ZZZZZZ	1		
17:14	ZZZZZZ	1		
17:15	ZZZZZZ	1		
17:17	ZZZZZZ	1		
17:18	GN94233-CCV9	1		
17:19	GN94233-CCB9	1		
17:27	GN94233-CCV10	1		
17:28	GN94233-CCB10	1		
17:30	GP20656-D1	1		
17:31	JC86276-1	1		(sample used for QC only; not part of login JC86337)
17:33	JC86276-2	1		(sample used for QC only; not part of login JC86337)
17:34	ZZZZZZ	1		
17:35	ZZZZZZ	1		
17:37	ZZZZZZ	1		
17:38	ZZZZZZ	1		
17:39	ZZZZZZ	1		
17:41	ZZZZZZ	1		
17:42	ZZZZZZ	1		
17:43	GN94233-CCV11	1		
17:45	GN94233-CCB11	1		

14.4  
14

SGS Instrument Runlog  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E041719W1.CN      Date Analyzed: 04/17/19      Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT  
Analyst: KI      Run ID: GN94233  
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:46	ZZZZZZ	1		
17:48	ZZZZZZ	1		
17:49	ZZZZZZ	1		
17:50	ZZZZZZ	1		
17:52	ZZZZZZ	1		
17:53	ZZZZZZ	1		
17:56	GN94233-CCV12	1		
17:57	GN94233-CCB12	1		

Refer to raw data for calibration curve and standards.



Instrument QC Summary  
Inorganics Analyses

Login Number: JC86337  
Account: BBLNYS - Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

File ID: E041719W1.CN

Date Analyzed: 04/17/19  
Run ID: GN94233

Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT  
Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN94233-ICV1	Cyanide	0.311	0.010	0.0041	.3	103.7	90-110
GN94233-ICB1	Cyanide	-0.00476	0.010	0.0041			
GN94233-CCV1	Cyanide	0.420	0.010	0.0041	.4	105.0	90-110
GN94233-CCB1	Cyanide	-0.00628	0.010	0.0041			
GN94233-CCV2	Cyanide	0.422	0.010	0.0041	.4	105.5	90-110
GN94233-CCB2	Cyanide	-0.00437	0.010	0.0041			
GN94233-CCV3	Cyanide	0.420	0.010	0.0041	.4	105.0	90-110
GN94233-CCB3	Cyanide	-0.00608	0.010	0.0041			
GN94233-CCV4	Cyanide	0.418	0.010	0.0041	.4	104.5	90-110
GN94233-CCB4	Cyanide	0.0041 U	0.010	0.0041			
GN94233-CCV5	Cyanide	0.421	0.010	0.0041	.4	105.3	90-110
GN94233-CCB5	Cyanide	-0.00421	0.010	0.0041			
GN94233-CCV6	Cyanide	0.420	0.010	0.0041	.4	105.0	90-110
GN94233-CCB6	Cyanide	-0.00652	0.010	0.0041			
GN94233-CCV7	Cyanide	0.417	0.010	0.0041	.4	104.3	90-110
GN94233-CCB7	Cyanide	-0.00531	0.010	0.0041			
GN94233-CCV8	Cyanide	0.419	0.010	0.0041	.4	104.8	90-110
GN94233-CCB8	Cyanide	-0.00675	0.010	0.0041			
GN94233-CCV9	Cyanide	0.402	0.010	0.0041	.4	100.5	90-110
GN94233-CCB9	Cyanide	0.0337 *(a)	0.010	0.0041			
GN94233-CCV10	Cyanide	0.403	0.010	0.0041	.4	100.8	90-110
GN94233-CCB10	Cyanide	-0.00514	0.010	0.0041			
GN94233-CCV11	Cyanide	0.403	0.010	0.0041	.4	100.8	90-110
GN94233-CCB11	Cyanide	-0.00479	0.010	0.0041			
GN94233-CCV12	Cyanide	0.405	0.010	0.0041	.4	101.3	90-110
GN94233-CCB12	Cyanide	0.0041 U	0.010	0.0041			

(!) Outside of QC limits

(a) No samples reported for this test in the area associated with this QC.

14.4  
14

# Percent Solids Raw Data Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

---

Sample: JC86337-1 Analyzed: 16-APR-19 by BG Method: SM2540 G 18TH ED MOD  
ClientID: PCTP-66R-HC (0-2)

Wet Weight (Total)	32.02	g
Tare Weight	22.62	g
Dry Weight (Total)	30.49	g
Solids, Percent	83.7	%

---

Sample: JC86337-2 Analyzed: 16-APR-19 by BG Method: SM2540 G 18TH ED MOD  
ClientID: PCTP-66R-HC (2-4)

Wet Weight (Total)	29.15	g
Tare Weight	20.19	g
Dry Weight (Total)	28.7	g
Solids, Percent	95	%

---

Sample: JC86337-3 Analyzed: 16-APR-19 by BG Method: SM2540 G 18TH ED MOD  
ClientID: PCTP-02R(4-6)

Wet Weight (Total)	27.92	g
Tare Weight	18.4	g
Dry Weight (Total)	26.96	g
Solids, Percent	89.9	%

---

Sample: JC86337-4 Analyzed: 16-APR-19 by BG Method: SM2540 G 18TH ED MOD  
ClientID: PCTP-01R(5-7)

Wet Weight (Total)	29.21	g
Tare Weight	20.74	g
Dry Weight (Total)	27.94	g
Solids, Percent	85	%

---

Sample: JC86337-5 Analyzed: 16-APR-19 by BG Method: SM2540 G 18TH ED MOD  
ClientID: PCSB-01R (14-16)

Wet Weight (Total)	27.31	g
Tare Weight	17.94	g
Dry Weight (Total)	25.82	g
Solids, Percent	84.1	%

---

Sample: JC86337-6 Analyzed: 16-APR-19 by BG Method: SM2540 G 18TH ED MOD  
ClientID: PCSB-01R (18-20)

Wet Weight (Total)	32.11	g
Tare Weight	22.81	g
Dry Weight (Total)	31.1	g
Solids, Percent	89.1	%

---

14.5  
14

# Percent Solids Raw Data Summary

Job Number: JC86337  
Account: BBLNYS Arcadis  
Project: National Grid, Philly Coke, Philadelphia, PA

---

Sample: JC86337-7      Analyzed: 18-APR-19 by BG      Method: SM2540 G 18TH ED MOD  
ClientID: S-138 (0.0-0.5)

Wet Weight (Total)	28.04	g
Tare Weight	19.42	g
Dry Weight (Total)	26.73	g
Solids, Percent	84.8	%

---

Sample: JC86337-8      Analyzed: 18-APR-19 by BG      Method: SM2540 G 18TH ED MOD  
ClientID: S-138 (0.5-2.0)

Wet Weight (Total)	28.34	g
Tare Weight	20.19	g
Dry Weight (Total)	27.33	g
Solids, Percent	87.6	%

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**General Chemistry**

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**Raw Data**

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LABORATORY REVIEW SIGNATURE FORM  
(To be stored with the raw data)

File ID: E041719W1.CN  
Analyst: KI

Date Analyzed: 04/17/19  
Run ID: GN94233

Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT

The following analyst(s) have reviewed this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst:     KI     Date     4/17/19    

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):     *[Signature]*     Date     4/18/19

GN94233

e041719w1.cn

Author: Chemistry

Date : 4/17/2019

Original Run Filename: OM\_4-17-2019\_03-21-34PM.OMN Created: 4/17/2019 3:21:34 PM  
 Original Run Author's Signature: [Chemistry]  
 Current Run Filename: OM\_4-17-2019\_03-21-34PM.OMN Last Modified: 4/17/2019 4:39:51 PM  
 Current Run Author's Signature: [Chemistry]  
 Description: Default new Run

Sample	Rep.	Cup No.	Channel 1 CN	Detection Time	MDF
STDA	1	1	0.800	4/17/2019@3:22:44 PM	
STDB	1	2	0.600	4/17/2019@3:24:06 PM	
STDC	1	3	0.400	4/17/2019@3:25:28 PM	
STDD	1	4	0.100	4/17/2019@3:26:50 PM	
STDE	1	5	0.0200	4/17/2019@3:28:12 PM	
STDF	1	6	0.0100	4/17/2019@3:29:34 PM	
STDG	1	7	0.00	4/17/2019@3:30:55 PM	
ICV	1	8	0.311	4/17/2019@3:32:17 PM	
Known Conc:			0.300		
Calibration:			Table/Fig. : 1		
ICB	1	9	-4.76e-3	4/17/2019@3:33:39 PM	
Known Conc:			0.00		
CCV	1	S9	0.420	4/17/2019@3:35:00 PM	
Known Conc:			0.400		
CCB	1	S10	-6.28e-3	4/17/2019@3:36:22 PM	
Known Conc:			0.00		
GP20669-MB1	1	10	-4.13e-4	4/17/2019@3:37:43 PM	
GP20669-B1	1	11	0.0860	4/17/2019@3:39:04 PM	
GP20669-S1	1	12	0.0995	4/17/2019@3:40:25 PM	
GP20669-S2	1	13	0.0917	4/17/2019@3:41:46 PM	
GP20669-D1	1	14	0.0130	4/17/2019@3:43:07 PM	
JC86337-1	1	15	5.17e-3	4/17/2019@3:44:28 PM	
JC86337-2	1	16	5.39e-3	4/17/2019@3:45:50 PM	
JC86337-3	1	17	1.19e-3	4/17/2019@3:47:13 PM	
JC86337-4	1	18	-2.24e-3	4/17/2019@3:48:35 PM	
JC86337-5	1	19	-7.78e-4	4/17/2019@3:49:57 PM	
CCV	1	S9	0.422	4/17/2019@3:51:18 PM	
Known Conc:			0.400		
CCB	1	S10	-4.37e-3	4/17/2019@3:52:40 PM	
Known Conc:			0.00		
JC86337-6	1	20	9.60e-4	4/17/2019@3:54:02 PM	
JC86307-2	1	21	-1.61e-3	4/17/2019@3:55:24 PM	
JC86307-3	1	22	-1.45e-3	4/17/2019@3:56:46 PM	
JC86307-4	1	23	-7.46e-4	4/17/2019@3:58:07 PM	
JC86307-5	1	24	-1.22e-3	4/17/2019@3:59:29 PM	
JC86307-6	1	25	-1.65e-3	4/17/2019@4:00:50 PM	
JC86043-1	1	26	6.91e-3	4/17/2019@4:02:11 PM	
JC86043-2	1	27	1.85e-3	4/17/2019@4:03:32 PM	
JC86043-3	1	28	7.41e-3	4/17/2019@4:04:53 PM	
JC86043-4	1	29	0.0147	4/17/2019@4:06:14 PM	
CCV	1	S9	0.420	4/17/2019@4:07:36 PM	
Known Conc:			0.400		
CCB	1	S10	-6.08e-3	4/17/2019@4:08:57 PM	
Known Conc:			0.00		
JC86043-5	1	30	4.23e-3	4/17/2019@4:10:18 PM	
GP20655-MB1	1	31	2.28e-6	4/17/2019@4:11:41 PM	
GP20655-B1	1	32	0.0802	4/17/2019@4:13:03 PM	
GP20655-S1	1	33	0.0724	4/17/2019@4:14:25 PM	
GP20655-S2	1	34	0.0603	4/17/2019@4:15:47 PM	
GP20655-D1	1	35	-5.88e-3	4/17/2019@4:17:10 PM	
JC86307-1A	1	36	-3.41e-3	4/17/2019@4:18:31 PM	
JC86307-7A	1	37	-3.72e-3	4/17/2019@4:19:52 PM	
JC86307-8A	1	38	-1.52e-3	4/17/2019@4:21:14 PM	
JC86307-9A	1	39	-3.27e-3	4/17/2019@4:22:35 PM	
CCV	1	S9	0.418	4/17/2019@4:23:57 PM	
Known Conc:			0.400		
CCB	1	S10	-3.64e-3	4/17/2019@4:25:19 PM	
Known Conc:			0.00		
JC86307-10A	1	40	-5.74e-3	4/17/2019@4:26:40 PM	
JC86307-11A	1	41	-3.61e-3	4/17/2019@4:28:02 PM	

76 REC

W3.7

W5

W3.2

W5.5

W5

96.2

W4.5

15.1 15

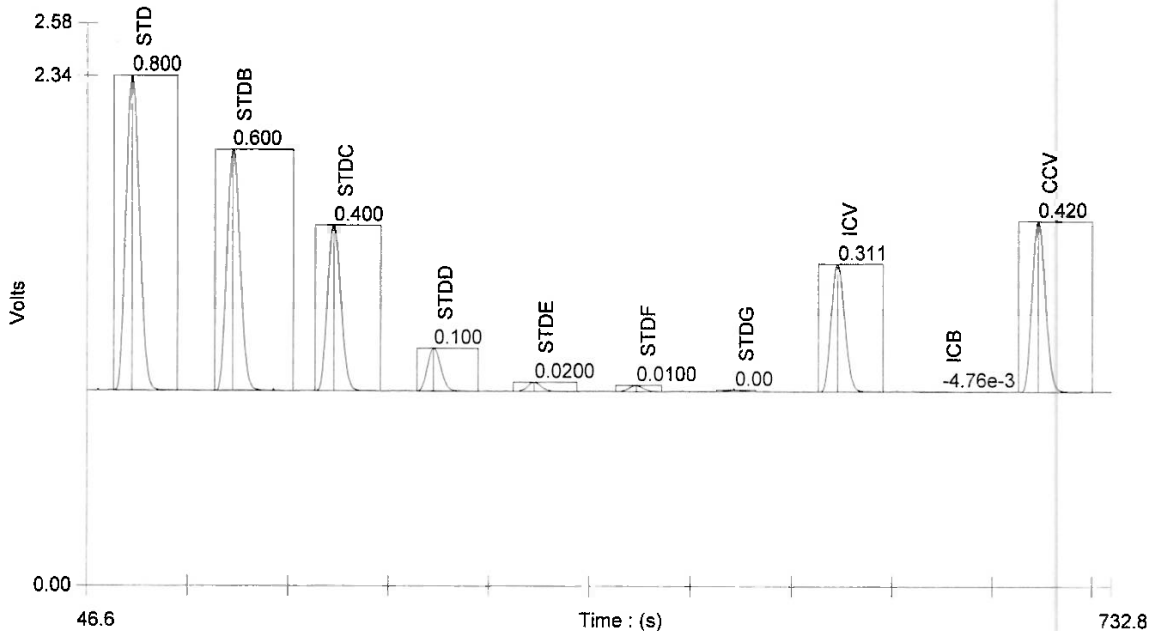
Author: Chemistry

Date : 4/17/2019

JC86307-12A	1	42	-3.97e-4	4/17/2019@4:29:23 PM	
JC86307-13A	1	43	-3.83e-3	4/17/2019@4:30:44 PM	
JC86307-14A	1	44	-3.03e-3	4/17/2019@4:32:05 PM	
JC86307-15A	1	45	-3.12e-3	4/17/2019@4:33:26 PM	
JC86307-16A	1	46	-2.60e-3	4/17/2019@4:34:48 PM	
CCV	1	S9	0.421	4/17/2019@4:36:10 PM	
Known Conc:			100		
CCB	1	S10	-4.21e-3	4/17/2019@4:37:32 PM	
Known Conc:			100		

*W5-25*

Channel 1 - Set: 1 / 6

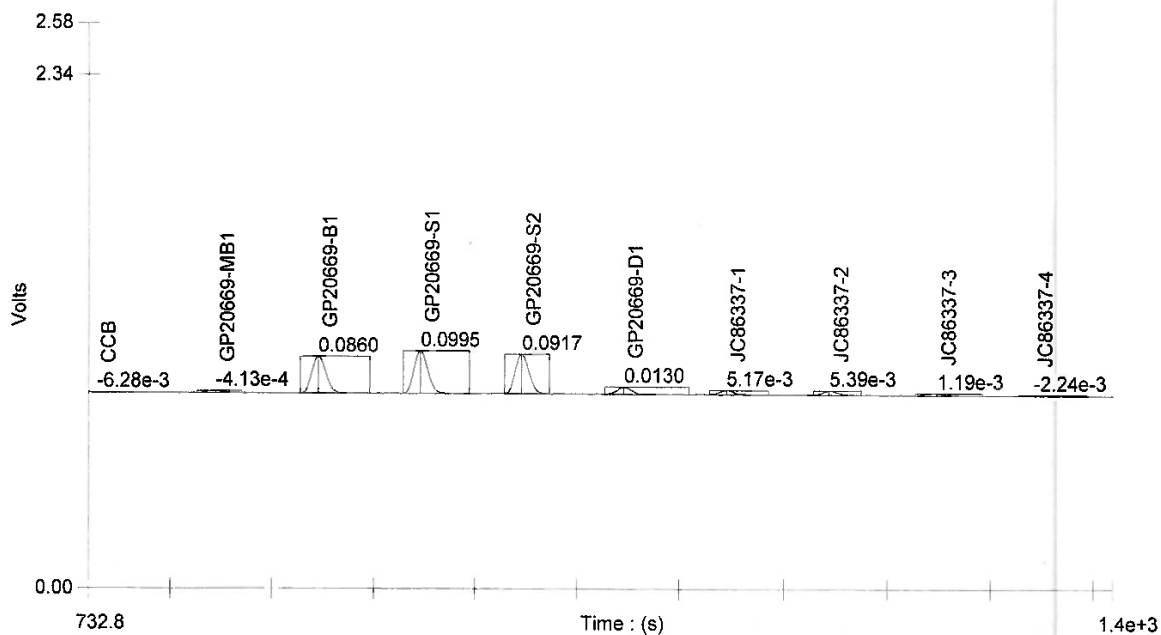


15.1 15

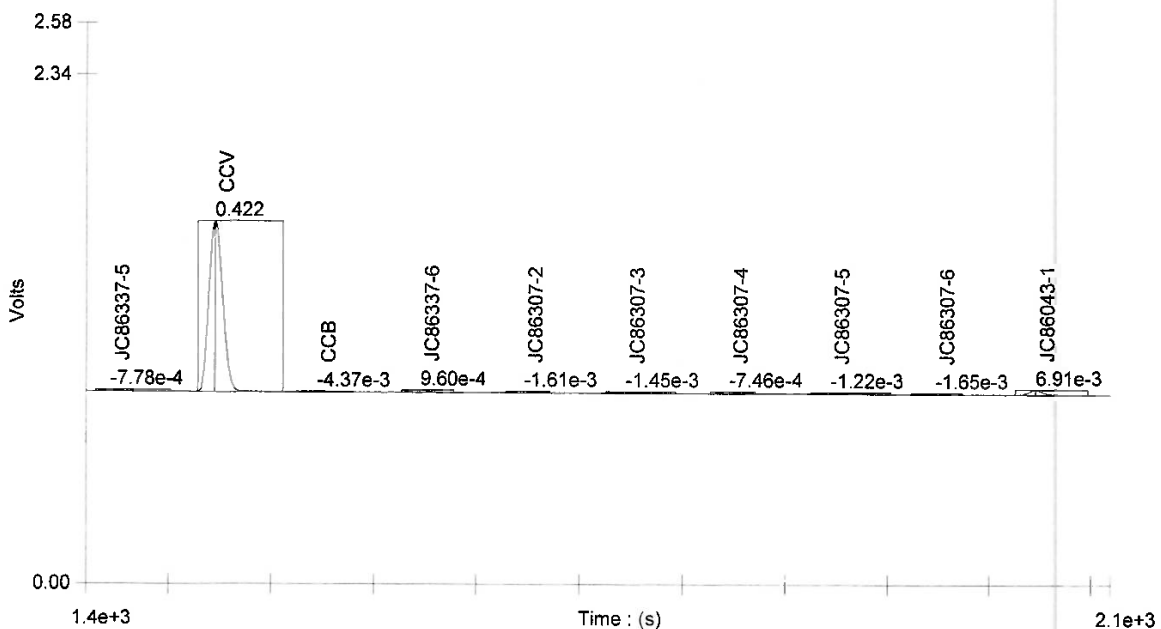
Author: Chemistry

Date : 4/17/2019

Channel 1 - Set: 2 / 6



Channel 1 - Set: 3 / 6

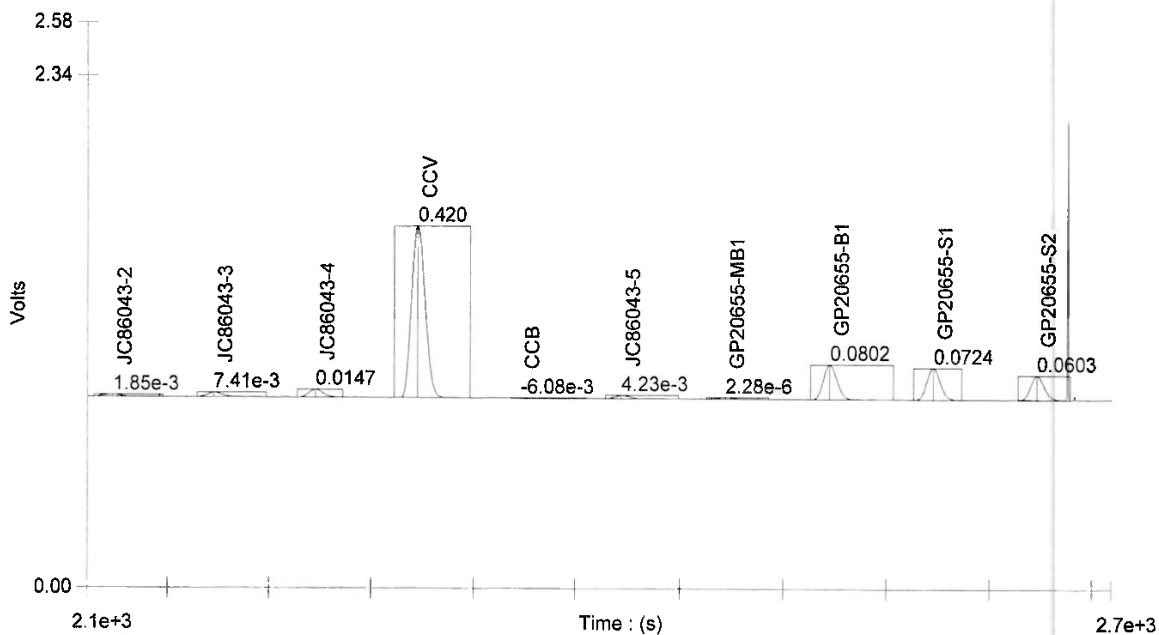




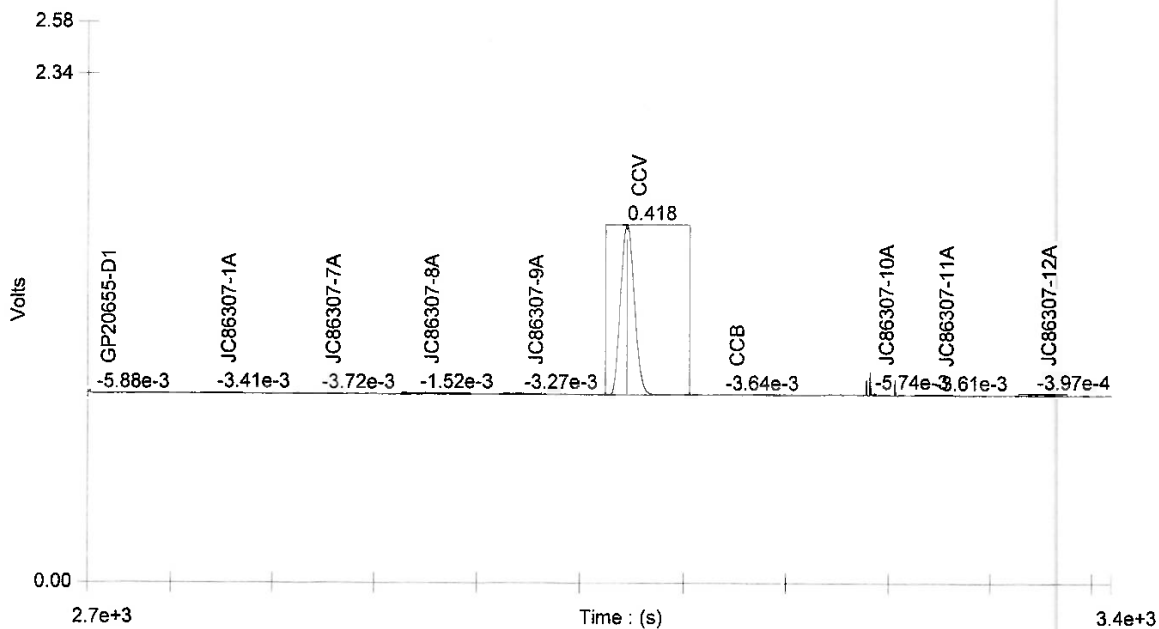
Author: Chemistry

Date : 4/17/2019

Channel 1 - Set: 4 / 6



Channel 1 - Set: 5 / 6



15.1  
15

Author: Chemistry

Date : 4/17/2019

Channel 1 - Set: 6 / 6

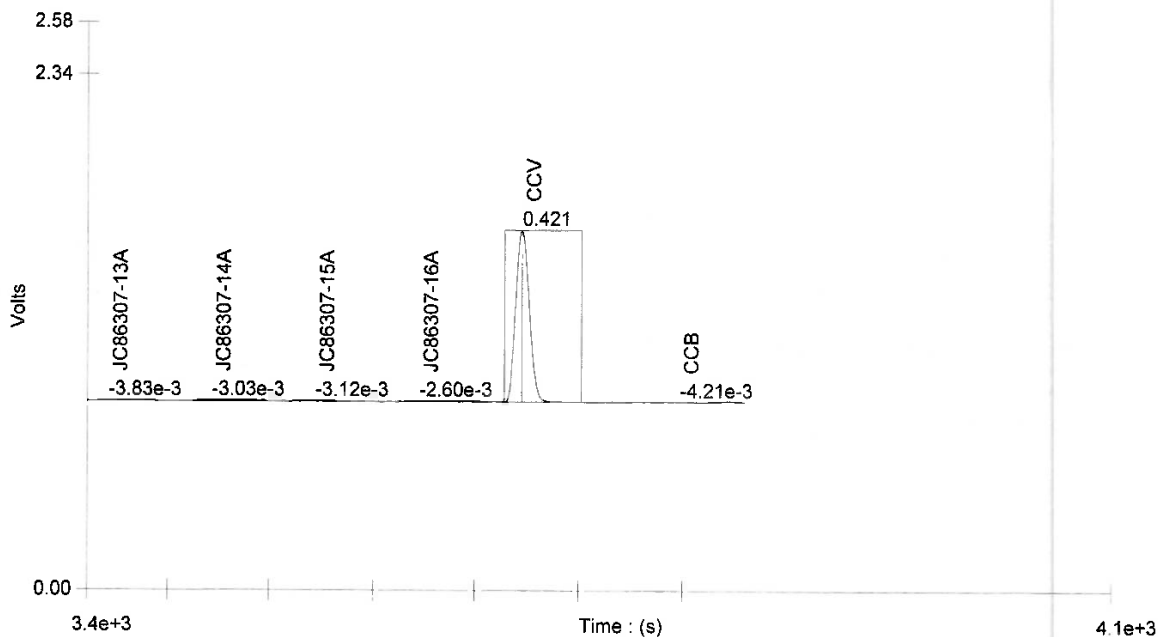
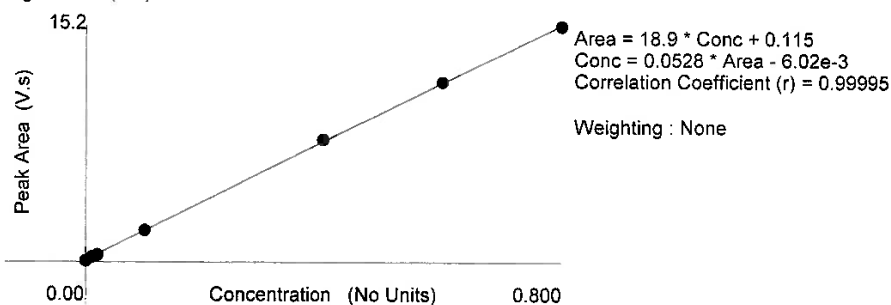


Table : 1 (CN)

	Known Conc. ( )	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc ( )	Detection Date	Detection Time
1	0.800	1	15.2	1.44	0.0	0.6	0.795	4/17/2019	3:22:44 PM
2	0.600	1	11.5	1.10	0.0	-0.4	0.602	4/17/2019	3:24:06 PM
3	0.400	1	7.80	0.753	0.0	-1.4	0.406	4/17/2019	3:25:28 PM
4	0.100	1	2.01	0.194	0.0	-0.3	0.100	4/17/2019	3:26:50 PM
5	0.0200	1	0.451	0.0421	0.0	8.5	0.0178	4/17/2019	3:28:12 PM
6	0.0100	1	0.306	0.0287	0.0	-0.7	0.0101	4/17/2019	3:29:34 PM
7	0.00	1	0.0818	7.16e-3			-1.70e-3	4/17/2019	3:30:55 PM

Figure : 1 (CN)



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2041719w2.cn

Author: Chemistry

Date : 4/17/2019

Original Run Filename: OM\_4-17-2019\_04-40-35PM.OMN Created: 4/17/2019 4:40:35 PM  
 Original Run Author's Signature: [Chemistry]  
 Current Run Filename: OM\_4-17-2019\_04-40-35PM.OMN Last Modified: 4/17/2019 5:22:19 PM  
 Current Run Author's Signature: [Chemistry]  
 Description: Default new Run

Sample	Rep.	Cup No.	Channel 1 CN	Detection Time	MDF
CCV	1	S9	0.420	4/17/2019@4:41:44 PM	
		Known Conc:	100		
CCB	1	S10	-6.52e-3	4/17/2019@4:43:06 PM	
		Known Conc:	100		
		Calibration:	Table/Fig. : 1		
JC86300-2	1	47	-2.80e-3	4/17/2019@4:44:28 PM	
CCV	1	S9	0.417	4/17/2019@4:45:50 PM	
		Known Conc:	0.400		
CCB	1	S10	-5.31e-3	4/17/2019@4:47:12 PM	
		Known Conc:	0.00		
JC86300-3	1	48	-1.36e-3	4/17/2019@4:48:34 PM	
JC86300-5	1	49	4.52e-5	4/17/2019@4:49:56 PM	
JC86300-6	1	50	-3.95e-3	4/17/2019@4:51:18 PM	
JC86335-1	1	51	-6.13e-3	4/17/2019@4:52:40 PM	
JC86335-2	1	52	-2.12e-3	4/17/2019@4:54:01 PM	
JC86335-3	1	53	2.39e-3	4/17/2019@4:55:23 PM	
GP20656-MB1	1	54	-9.03e-5	4/17/2019@4:56:45 PM	
GP20656-B1	1	55	0.0786	4/17/2019@4:58:06 PM	
GP20656-S1	1	56	0.0606	4/17/2019@4:59:27 PM	
GP20656-S2	1	57	0.0204	4/17/2019@5:00:48 PM	
CCV	1	S9	0.419	4/17/2019@5:02:10 PM	
		Known Conc:	0.400		
CCB	1	S10	-6.75e-3	4/17/2019@5:03:32 PM	
		Known Conc:	0.00		
GP20656-D1	1	58	1.08e-3	4/17/2019@5:04:52 PM	
JC86276-1	1	59	2.21e-3	4/17/2019@5:06:13 PM	
JC86276-2	1	60	-4.10e-3	4/17/2019@5:07:34 PM	
JC86276-3	1	61	8.21e-3	4/17/2019@5:08:57 PM	
JC86276-4	1	62	-4.55e-3	4/17/2019@5:10:19 PM	
JC86276-5	1	63	2.18e-4	4/17/2019@5:11:42 PM	
JC86276-6	1	64	-3.97e-3	4/17/2019@5:13:04 PM	
JC86308-1	1	65	-4.15e-3	4/17/2019@5:14:26 PM	
JC86308-2	1	66	-4.86e-3	4/17/2019@5:15:48 PM	
JC86308-3	1	67	-6.50e-3	4/17/2019@5:17:09 PM	
CCV	1	S9	0.402	4/17/2019@5:18:31 PM	
		Known Conc:	0.400		
CCB	1	S10	0.0337	4/17/2019@5:19:53 PM	
		Known Conc:	0.00		

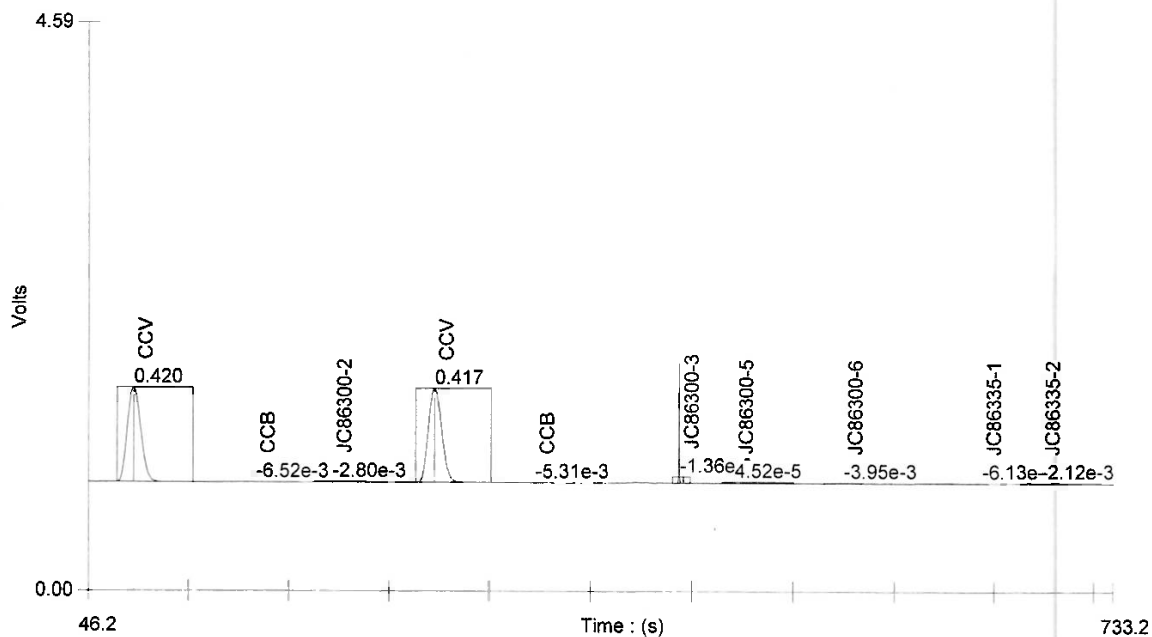
✓ 6 rec  
 105  
 104.25  
 94.3  
 104.75  
 CCB failed, see vern  
 100.5

15.1 15

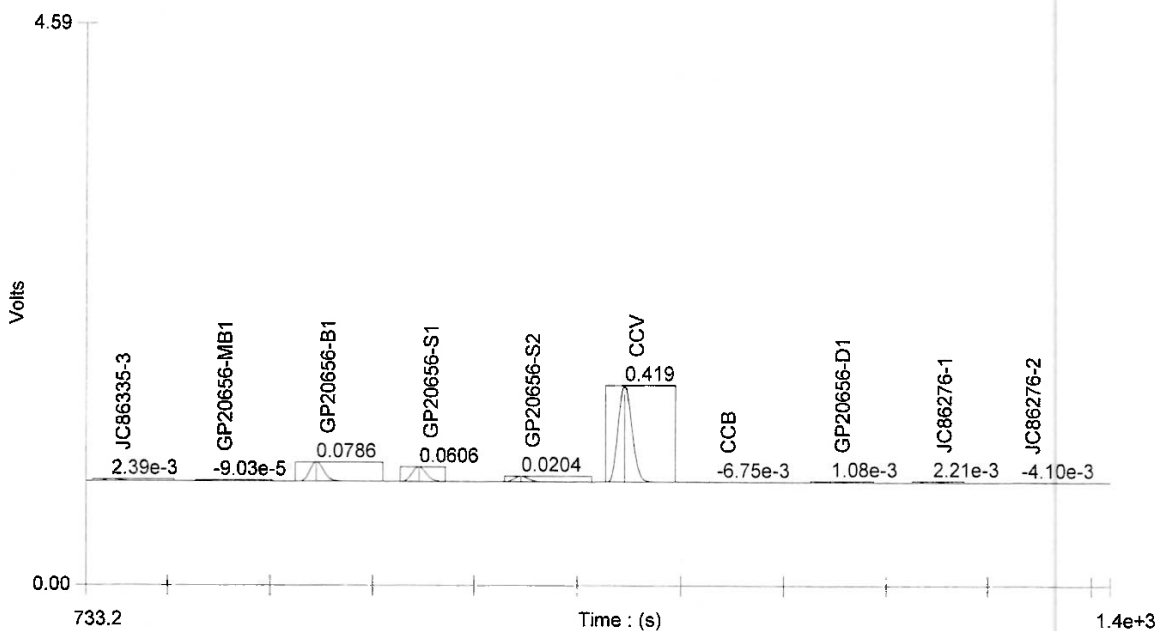
Author: Chemistry

Date : 4/17/2019

Channel 1 - Set: 1 / 3



Channel 1 - Set: 2 / 3



Author: Chemistry

Date : 4/17/2019

Channel 1 - Set: 3 / 3

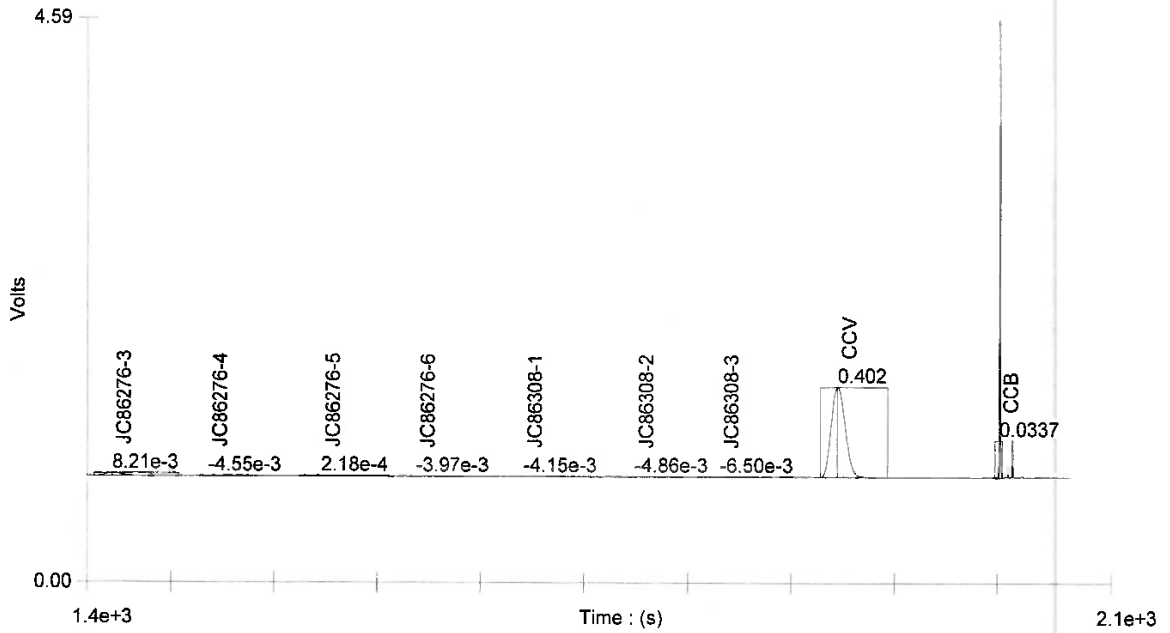
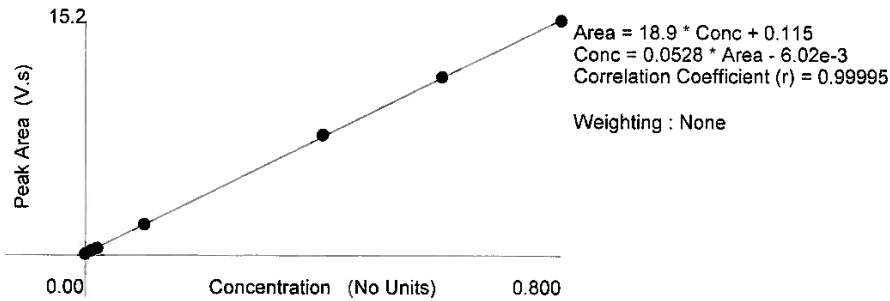


Table : 1 (CN)

	Known Conc. (l)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (l)	Detection Date	Detection Time
1	0.800	1	15.2	1.44	0.0	0.6	0.795	4/17/2019	3:22:44 PM
2	0.600	1	11.5	1.10	0.0	-0.4	0.602	4/17/2019	3:24:06 PM
3	0.400	1	7.80	0.753	0.0	-1.4	0.406	4/17/2019	3:25:28 PM
4	0.100	1	2.01	0.194	0.0	-0.3	0.100	4/17/2019	3:26:50 PM
5	0.0200	1	0.451	0.0421	0.0	8.5	0.0178	4/17/2019	3:28:12 PM
6	0.0100	1	0.306	0.0287	0.0	-0.7	0.0101	4/17/2019	3:29:34 PM
7	0.00	1	0.0818	7.16e-3			-1.70e-3	4/17/2019	3:30:55 PM

Figure : 1 (CN)



2041719w3 cn

Author: Chemistry

Date : 4/17/2019

Original Run Filename: OM\_4-17-2019\_05-26-20PM.OMN Created: 4/17/2019 5:26:20 PM  
 Original Run Author's Signature: [Chemistry]  
 Current Run Filename: OM\_4-17-2019\_05-26-20PM.OMN Last Modified: 4/17/2019 5:59:57 PM  
 Current Run Author's Signature: [Chemistry]  
 Description: Default new Run

Sample	Rep.	Cup No.	Channel 1 CN	Detection Time	MDF
CCV	1	S9	0.403	4/17/2019@5:27:34 PM	
		Known Conc:	0.400		
CCB	1	S10	-5.14e-3	4/17/2019@5:28:56 PM	
		Known Conc:	0.00		
			Calibration: Table/Fig. : 1		
GP20656-D1	1	58	1.27e-3	4/17/2019@5:30:18 PM	
JC86276-1	1	59	1.22e-3	4/17/2019@5:31:39 PM	
JC86276-2	1	60	-1.78e-3	4/17/2019@5:33:00 PM	
JC86276-3	1	61	5.66e-3	4/17/2019@5:34:22 PM	
JC86276-4	1	62	-2.95e-3	4/17/2019@5:35:45 PM	
JC86276-5	1	63	-1.55e-3	4/17/2019@5:37:06 PM	
JC86276-6	1	64	-4.24e-3	4/17/2019@5:38:29 PM	
JC86308-1	1	65	-4.45e-3	4/17/2019@5:39:51 PM	
JC86308-2	1	66	-5.94e-3	4/17/2019@5:41:13 PM	
JC86308-3	1	67	-5.25e-3	4/17/2019@5:42:34 PM	
CCV	1	S9	0.403	4/17/2019@5:43:56 PM	
		Known Conc:	0.400		
CCB	1	S10	-4.79e-3	4/17/2019@5:45:18 PM	
		Known Conc:	0.00		
JC86308-4	1	68	-4.66e-3	4/17/2019@5:46:40 PM	
JC86308-5	1	69	-4.07e-3	4/17/2019@5:48:01 PM	
JC86308-6	1	70	-2.17e-3	4/17/2019@5:49:22 PM	
JC86308-7	1	71	-4.34e-3	4/17/2019@5:50:44 PM	
JC86308-8	1	72	3.98e-4	4/17/2019@5:52:05 PM	
JC86308-9	1	73	3.56e-4	4/17/2019@5:53:26 PM	
CCV	1	S9	0.405	4/17/2019@5:56:29 PM	
		Known Conc:	0.400		
CCB	1	S10	-3.26e-3	4/17/2019@5:57:51 PM	
		Known Conc:	0.00		

0.600

100.75

100.75

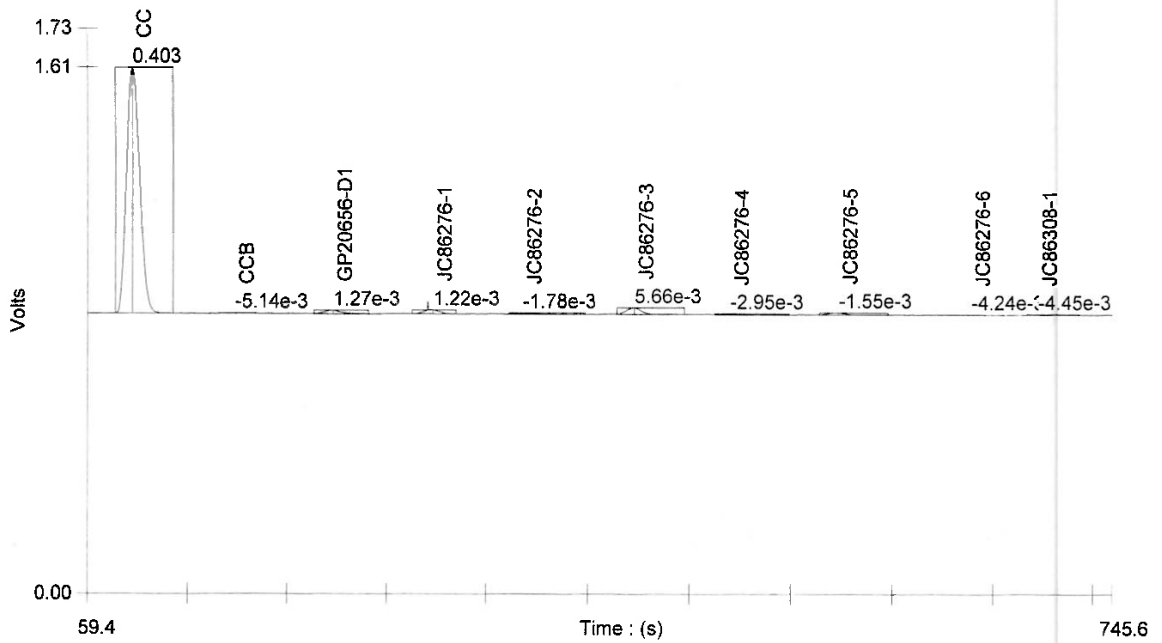
101.25

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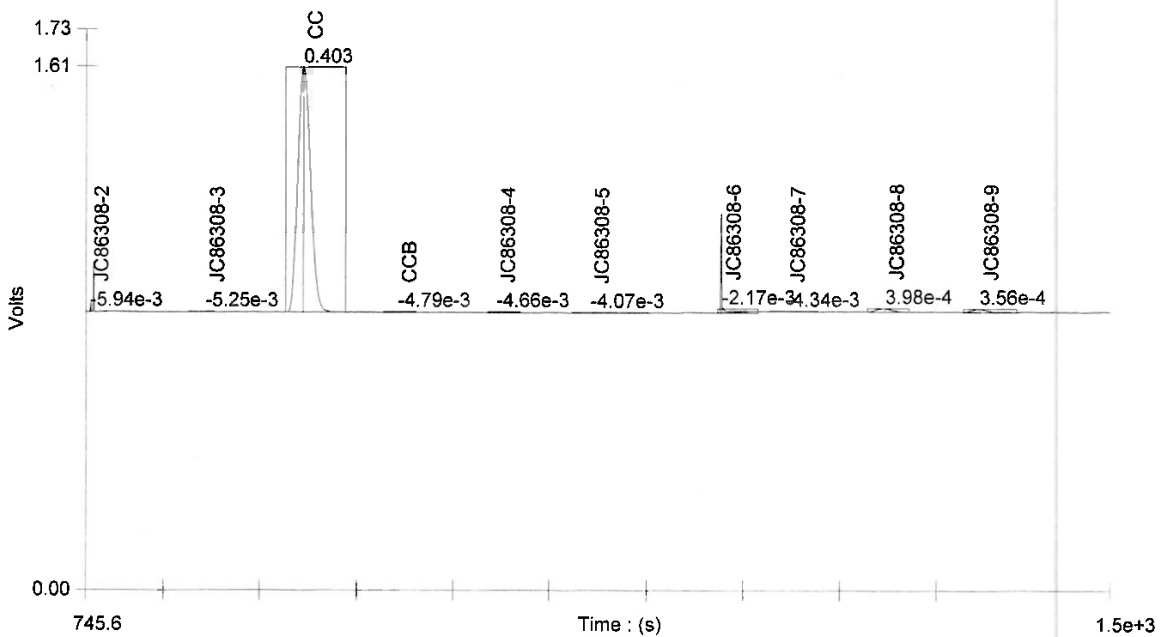
Author: Chemistry

Date: 4/17/2019

Channel 1 - Set: 1 / 3



Channel 1 - Set: 2 / 3



Author: Chemistry

Date : 4/17/2019

Channel 1 - Set: 3 / 3

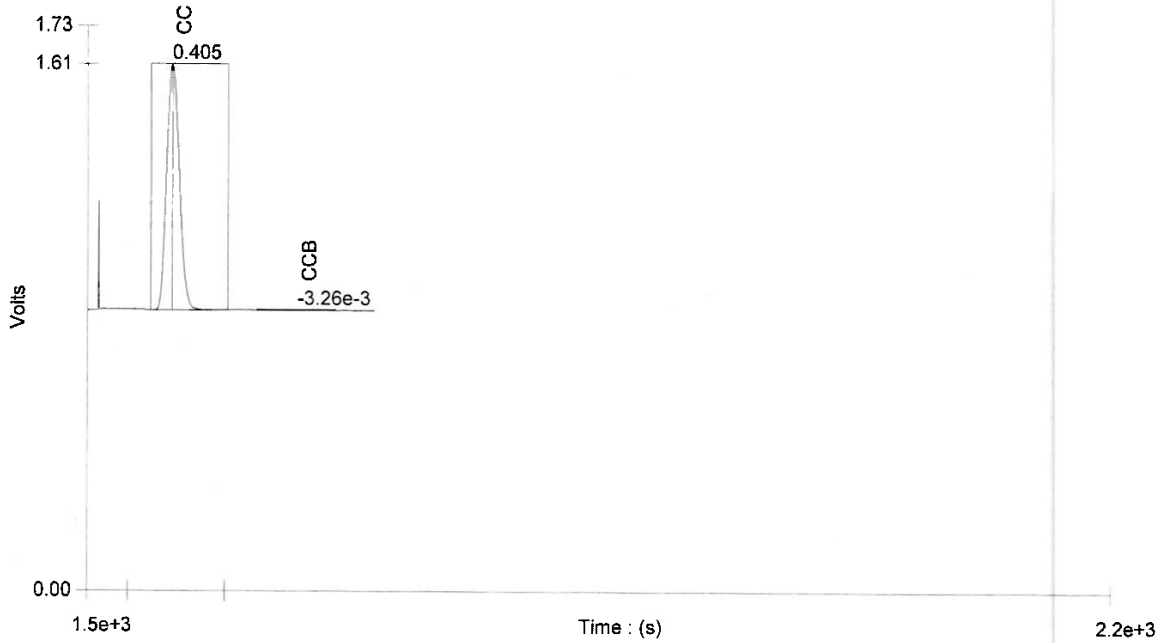
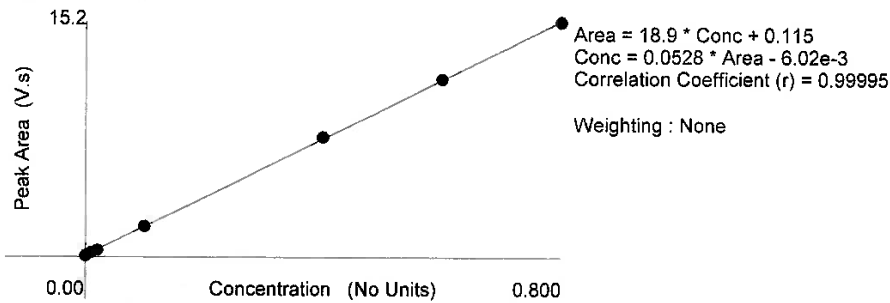


Table : 1 (CN)

	Known Conc. ( )	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc ( )	Detection Date	Detection Time
1	0.800	1	15.2	1.44	0.0	0.6	0.795	4/17/2019	3:22:44 PM
2	0.600	1	11.5	1.10	0.0	-0.4	0.602	4/17/2019	3:24:06 PM
3	0.400	1	7.80	0.753	0.0	-1.4	0.406	4/17/2019	3:25:28 PM
4	0.100	1	2.01	0.194	0.0	-0.3	0.100	4/17/2019	3:26:50 PM
5	0.0200	1	0.451	0.0421	0.0	8.5	0.0178	4/17/2019	3:28:12 PM
6	0.0100	1	0.306	0.0287	0.0	-0.7	0.0101	4/17/2019	3:29:34 PM
7	0.00	1	0.0818	7.16e-3			-1.70e-3	4/17/2019	3:30:55 PM

Figure : 1 (CN)



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## Reagent Information Log - CN Lachat Autoanalyzer

GN Number: GN94233

Reagent	Reagent # or Manufacturer/Lot	Expiration date
Pyridine-Bartituristic Acid Reagent	GNE2-57177-CN	8/7/2019
Chloramine-T	GNE4-57788-CN	4/24/2019
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

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

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**CYANIDE DISTILLATION LOG (SOILS- MICRO DISTILLATION)**

Method: SW8469012B M

Batch ID: \_\_\_\_\_

Autopipette ID: 43

Balance ID: B-27

GP 20669

Boile #	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
3	MB1	MB1	12.0	✓	0.25	0.25	6	20	9:35	10:05	07/27/19	GP -MB1			RC
		B1			0.25	0.25									
		SIJL86337-1			0.25	0.25							0.10 ml of 5.0 mg/l (c)		
		SIJL86337-2			0.26	0.26							0.10 ml of 5.0 mg/l		
		SIJL86337-7			0.26	0.26							0.10 ml of 5.0 mg/l		
		JL86337-1			0.26	0.26									
		-2			0.25	0.25									
		-3			0.26	0.26									
		-4			0.25	0.25									
		-5			0.25	0.25									
		-6			0.26	0.26									
		JL86337-2A (B)			0.26	0.26									
		-3A			0.26	0.26									
		-4A			0.26	0.26									
		-5A			0.26	0.26									
		-6A			0.24	0.24									
		JL86043-7			0.26	0.26									
		-2			0.26	0.26									
		-3			0.26	0.26									
		-4			0.26	0.26									
		-5			0.26	0.26									

(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 mg/l for one and 0.15 ml of 20.0 mg/l for the other.

Comments:

QC Reviewer: \_\_\_\_\_

Form: GN002-05

Rev: Date: 12/11/18

Date: \_\_\_\_\_



## Reagent Information Log - CN - Distillation

GP Numbers: *GP 2069*

Reagent	Reagent # or Manufacturer/Lot	Expiration date
Silver Nitrate Solution 0.0192 N	GNE12-56761-CN	6/21/2019
Magnesium Chloride Solution	gne12-56762-cn	6/21/2019
Sulfamic Acid	RICCA 1705K24	2/29/2020
Sulfuric Ac id	FISHER 7664-93-9	11/6/2022
Sodium Hydroxide 1.25N/0.25N	GNE3-57637-CN	9/27/2019
Cadmium Carbonate, Powder	MKBF5367V	3/14/2022
Micro Distillation tubes	ENV-815190-9044-2	NA
.95 NaOH	GNE3-57639-CN	9/27/2019
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 1805f04	5/1/2019

Reason codes for data corrections: 1-reviewer error correction: 2s

Form: GN087A-28  
 Rev. Date: 03/19/13

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**GENERAL CHEMISTRY STANDARD PREPARATION LOG**

Product: CN  
 GN or GP Number: AL 20669

Intermediate Description	Stock used to prepare standard	Standard ization 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	ENE3-57465-CN	3/28/19	988	1.000	42	.25 N NaOH	200	5.00	4/17/19	BM	4/10/2019
5 PPM ext.	ENE1-56947-CN	3/28/19	1000	1	42	.25 N NaOH	200	5.00	4/17/19	BM	4/10/2019
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	0.80		BM	4/10/2019
B	5.0 ppm CN STD		5.0	12.00	A	.25 N NaOH	100	0.60		BM	4/10/2019
C	5.0 ppm CN STD		5.0	8.00	A	.25 N NaOH	100	0.40		BM	4/10/2019
D	5.0 ppm CN STD		5.0	2.00	42	.25 N NaOH	100	0.10		BM	4/10/2019
E	5.0 ppm CN STD		5.0	0.40	42	.25 N NaOH	100	0.02		BM	4/10/2019
F	5.0 ppm CN STD	0.3	5.0	0.20	42	.25 N NaOH	100	0.01		BM	4/10/2019
Undistilled ICV Int.	5 PPM EXT STD	11/4/18	0.3	6.00	42	.25 N NaOH	100	0.30		BM	4/10/2019
Undistilled CCV Int.	5.0 ppm CN STD	11/4/18	0.4	8.00	42	.25 N NaOH	100	0.40		BM	4/10/2019
						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 maximum of 28 days before analysis.  
 \*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.



CYANIDE DISTILLATION LOG (SOILS- MICRO DISTILLATION)

Method: SW8469012B M

Batch ID: \_\_\_\_\_  
 Autopipette ID: 43  
 Balance ID: B-29

CR 20655

Bottle #	Block #	Sample ID	pH	S2-	Add (g)	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		MIB1		✓	✓	0.25	6	120	16:19	16:49	9/16/19	GP -MB1	0.10 ml of 5.0 mg/l (c)		RL	
2		B1	11.8			0.25										
2		S1 JC86300-3				0.25										
2		S2 JC86300-2				0.25										
2		D1 JC86300-3				0.26										
1		JC86307-1A				0.26										
1		-7A				0.26										
1		-8A				0.27										
1		-9A				0.27										
1		-10A				0.24										
1		-11A				0.27										
1		-12A				0.24										
1		-13A				0.26										
1		-14A				0.25										
1		-15A				0.25										
1		-16A				0.26										
2		S2 JC86300-2				0.24										
2		RL				0.25										
2		-3				0.25										
2		-5				0.24										
2		-6				0.26										
1		JC86335-1				0.25										
1		-2				0.25										
1		-3				0.26										

(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 mg/l for one and 0.15 ml of 20.0 mg/l for the other.

Comments:

QC Reviewer: \_\_\_\_\_  
 Form: 47 GN6612-05  
 Rev. Date: 06/8/13

Date: \_\_\_\_\_





## Reagent Information Log - CN - Distillation

GP Numbers:

GP 20655

Reagent	Reagent # or Manufacturer/Lot	Expiration date
Silver Nitrate Solution 0.0192 N	GNE12-56761-CN	6/21/2019
Magnesium Chloride Solution	gne12-56762-cn	6/21/2019
Sulfamic Acid	RICCA 1705K24	2/29/2020
Sulfuric Ac id	FISHER 7664-93-9	11/6/2022
Sodium Hydroxide 1.25N/0.25N	GNE3-57637-CN	9/27/2019
Cadmium Carbonate, Powder	MKBF5367V	3/14/2022
Micro Distillation tubes	ENV-815190-9044-2	NA
.95 NaOH	GNE3-57639-CN	9/27/2019
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 1805f04	5/1/2019

Reason codes for data corrections: 1-reviewer error correction; 2s

Form: GN087A-28

Rev. Date: 03/19/13

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**GENERAL CHEMISTRY STANDARD PREPARATION LOG**

Product: **CN**  
 GN or GP Number: **GP20655**

Intermediate Standard Description	Stock used to prepare standard	Standard ization 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	3/28/19	988	1.000	42	.25 N NaOH	200	5.00	4/17/19	BM	4/10/2019
5 PPM ext.	GNE1-56947-CN	3/28/19	1000	1	42	.25 N NaOH	200	5.00	4/17/19	BM	4/10/2019
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	0.80		BM	4/10/2019
B	5.0 ppm CN STD		5.0	12.00	A	.25 N NaOH	100	0.60		BM	4/10/2019
C	5.0 ppm CN STD		5.0	8.00	A	.25 N NaOH	100	0.40		BM	4/10/2019
D	5.0 ppm CN STD		5.0	2.00	42	.25 N NaOH	100	0.10		BM	4/10/2019
E	5.0 ppm CN STD		5.0	0.40	42	.25 N NaOH	100	0.02		BM	4/10/2019
F	5.0 ppm CN STD	0.3	5.0	0.20	42	.25 N NaOH	100	0.01		BM	4/10/2019
Undistilled ICV Int.	5 PPM EXT STD	11/4/18	0.3	6.00	42	.25 N NaOH	100	0.30		BM	4/10/2019
Undistilled CCV Int.	5.0 ppm CN STD	11/4/18	0.4	8.00	42	.25 N NaOH	100	0.40		BM	4/10/2019
						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 maximum of 28 days before analysis.  
 \*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

Batch ID: \_\_\_\_\_  
 Autopipette ID: 43  
 Balance ID: NIA

GP 20656

**CYANIDE DISTILLATION LOG (WATERS- MICRO DISTILLATION)**

Method: EPA 335.4 or SW-846 9012 M (Circle Method)

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
2		MB	12.00	✓	✓	6	6	12.0	16:19	16:49	4/16/19	GP			
6		B1										MB1			
6		S1 JC 86276-1										GP	0.10 ml of 5.0 mg/l (c)		PC
6		S2 276-2										GP	0.10 ml of 5.0 mg/l		
6		D1 JC 86276-1										GP	0.10 ml of 5.0 mg/l		
6		JC 86276-1										GP			
6		-2													
6		-3													
6		-4													
6		-5													
6		-6													
20		JC 86308-1													
14		-2													
12		-3													
20		-4													
20		-5													
20		-6													
14		-7													
14		-8													
14		-9													

Check if sulfamic acid was added.  
 Record temp. from the LED readout on the distillation block. Temperatures verified with an external thermometer a min. of once per quarter.  
 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 mg/l for one and 0.15 ml of 20.0 mg/l for the other.

Reviewer: \_\_\_\_\_  
 Form: GN0012-04  
 Rev. Date: 03/09/13  
 Date: \_\_\_\_\_





### GENERAL CHEMISTRY STANDARD PREPARATION LOG

Product: CN GP20657  
 GN or GP Number: \_\_\_\_\_

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	3/28/19	988	1.000	42	.25 N NaOH	200	5.00	4/17/19	BM	4/10/2019
5 PPM ext.	GNE1-56947-CN	3/28/19	1000	1	42	.25 N NaOH	200	5.00	4/17/19	BM	4/10/2019
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	0.80	4/17/19	BM	4/10/2019
B	5.0 ppm CN STD		5.0	12.00	A	.25 N NaOH	100	0.60	4/17/19	BM	4/10/2019
C	5.0 ppm CN STD		5.0	8.00	A	.25 N NaOH	100	0.40	4/17/19	BM	4/10/2019
D	5.0 ppm CN STD		5.0	2.00	42	.25 N NaOH	100	0.10	4/17/19	BM	4/10/2019
E	5.0 ppm CN STD		5.0	0.40	42	.25 N NaOH	100	0.02	4/17/19	BM	4/10/2019
F	5.0 ppm CN STD	0.3	5.0	0.20	42	.25 N NaOH	100	0.01	4/17/19	BM	4/10/2019
Undistilled ICV Int.	5 PPM EXT STD	11/4/18	0.3	6.00	42	.25 N NaOH	100	0.30	4/17/19	BM	4/10/2019
Undistilled CCV Int.	5.0 ppm CN STD	11/4/18	0.4	8.00	42	.25 N NaOH	100	0.40	4/17/19	BM	4/10/2019

(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 maximum of 28 days before analysis.  
 \*If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

Form: GN193-02  
 Rev. Date: 1/6/2014



## Reagent Information Log - CN - Distillation

GP Numbers:

GP 20657

Reagent	Reagent # or Manufacturer/Lot	Expiration date
Silver Nitrate Solution 0.0192 N	GNE12-56761-CN	6/21/2019
Magnesium Chloride Solution	gne12-56762-cn	6/21/2019
Sulfamic Acid	RICCA 1705K24	2/29/2020
Sulfuric Acid	FISHER 7664-93-9	11/6/2022
Sodium Hydroxide 1.25N/0.25N	GNE3-57637-CN	9/27/2019
Cadmium Carbonate, Powder	MKBF5367V	3/14/2022
Micro Distillation tubes	ENV-815190-9044-2	NA
.95 NaOH	GNE3-57639-CN	9/27/2019
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 1805f04	5/1/2019

Reason codes for data corrections: 1-reviewer error correction: 2

Form: GN087A-28  
Rev. Date: 03/19/13

15.1  
15

**Misc. Raw Data**

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**Raw Data**

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# 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
JC86337-1.4		36.1100	39.0800	2.9700				NAB	
JC86337-1.5		35.4400	37.4700	2.0300				NAB	
JC86337-1.6		35.0500	38.1400	3.0900				NAB	
JC86337-2.4		36.3500	40.9200	4.5700				NAB	
JC86337-2.5		35.6200	40.2300	4.6100				NAB	
JC86337-2.6		35.4300	39.9200	4.4900				NAB	
JC86337-3.3		36.0200	41.0800	5.0600				NAB	
JC86337-3.4		35.2600	40.8900	5.6300				NAB	
JC86337-3.5		35.0900	42.7000	7.6100				NAB	
JC86337-4.3		35.9600	39.3500	3.3900				NAB	
JC86337-4.4		35.3500	39.0600	3.7100				NAB	
JC86337-4.5		35.1900	38.4800	3.2900				NAB	
JC86337-5.3		35.9600	41.7100	5.7500				NAB	
JC86337-5.4		35.3900	42.0400	6.6500				NAB	
JC86337-5.5		34.9800	40.9800	6.0000				NAB	
JC86337-6.3		36.0800	42.2600	6.1800				NAB	
JC86337-6.4		35.5100	40.8300	5.3200				NAB	
JC86337-6.5		35.4800	41.0300	5.5500				NAB	