New Jersey
ACCUTEST LABORATORIES

Reissue #2
08/31/15

Technical Report for

Stantec Consulting Services Inc.

MHIC-592/593 Tanks

Accutest Job Number: JB93023

Sampling Date: 04/22/15

Report to:

Stantec Consulting Services Inc.
1060 Andrew Drive Suite 140
West Chester, PA 19380
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EDD@stantec.com
ATTN: Jennifer Menges

Total number of pages in report: **1003**

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.

Nancy Cole
Laboratory Director

Client Service contact: Marie Meidhof 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TN, TX, VA, WV, DoD ELAP (L-A-B L2248)

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May 28, 2015

Ms. Jennifer Menges
Stantec Consulting Services Inc.
1060 Andrew Drive
Suite 140
West Chester, PA 19380

RE: Accutest Job # JB93023 – Reissue

Dear Ms. Menges:

The final report for Accutest job number JB93023 has been edited to reflect changes to your data package. These edits have been incorporated into the revised report which is attached.

The following field data information has been revised in this report:

1. JB93023-10: field time revised to 10:37 to match the sample chain-of-custody.
2. JB93023-22: field ID revised to MH592-8(3.0) as per S. Andrews.

Additionally, the metals data has been corrected to reflect "MDL" reporting. This affected 8 data points, all for Cobalt.

Our apologies for any inconvenience the above issue may have caused you. Please contact me at 732-355-4562 if I may be of further assistance in this matter, or if you have any further questions regarding this data report.

Sincerely,

Accutest Laboratories

Marie Meidhof
Project Manager

August 31, 2015

Ms. Jennifer Menges
Stantec Consulting Services Inc.
1060 Andrew Drive
Suite 140
West Chester, PA 19380

RE: Accutest Job # JB93023 – Reissue#2

Dear Ms. Menges:

The final report for Accutest job number JB93023 has been edited to reflect changes to your data package. These edits have been incorporated into the revised report which is attached.

Naphthalene is now reported from the volatile analysis, instead of the semivolatile analysis, for all samples, as requested by L. Votta. This revised report incorporates this change.

Please contact me at 732-355-4562 if I may be of further assistance in this matter, or if you have any further questions regarding this data report.

Sincerely,

Accutest Laboratories

Marie Meidhof
Project Manager

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Accutest Laboratories

Sample Summary

Stantec Consulting Services Inc.

MHIC-592/593 Tanks

Job No: JB93023

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB93023-1	04/22/15	08:05	SA/SR	04/22/15	SO	Soil	MH593-1(2.0)
JB93023-2	04/22/15	08:12	SA/SR	04/22/15	SO	Soil	MH593-2(2.0)
JB93023-3	04/22/15	11:18	SA/SR	04/22/15	SO	Soil	MH593-3(3.0)
JB93023-4	04/22/15	08:30	SA/SR	04/22/15	SO	Soil	MH593-4(3.0)
JB93023-5	04/22/15	08:42	SA/SR	04/22/15	SO	Soil	MH593-5(3.0)
JB93023-6	04/22/15	08:55	SA/SR	04/22/15	SO	Soil	MH593-6(3.0)
JB93023-7	04/22/15	09:10	SA/SR	04/22/15	SO	Soil	MH593-7(3.0)
JB93023-8	04/22/15	09:20	SA/SR	04/22/15	SO	Soil	MH593-8(3.0)
JB93023-9	04/22/15	10:25	SA/SR	04/22/15	SO	Soil	MH593-9(3.0)
JB93023-10	04/22/15	10:37	SA/SR	04/22/15	SO	Soil	MH593-10(3.0)
JB93023-11	04/22/15	10:52	SA/SR	04/22/15	SO	Soil	MH593-11(3.0)
JB93023-12	04/22/15	11:05	SA/SR	04/22/15	SO	Soil	MH593-12(3.0)
JB93023-13	04/22/15	11:30	SA/SR	04/22/15	SO	Soil	MH593-13(2.0)

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

Accutest Laboratories

Sample Summary
(continued)

Stantec Consulting Services Inc.

Job No: JB93023

MHIC-592/593 Tanks

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB93023-14	04/22/15	11:44	SA/SR	04/22/15	SO	Soil	MH593-14(2.0)
JB93023-15	04/22/15	11:58	SA/SR	04/22/15	SO	Soil	MH592-1(3.0)
JB93023-16	04/22/15	14:25	SA/SR	04/22/15	SO	Soil	MH592-2(3.0)
JB93023-17	04/22/15	12:22	SA/SR	04/22/15	SO	Soil	MH592-3(3.0)
JB93023-18	04/22/15	12:39	SA/SR	04/22/15	SO	Soil	MH592-4(3.0)
JB93023-19	04/22/15	12:50	SA/SR	04/22/15	SO	Soil	MH592-5(3.0)
JB93023-20	04/22/15	13:35	SA/SR	04/22/15	SO	Soil	MH592-6(3.0)
JB93023-21	04/22/15	13:51	SA/SR	04/22/15	SO	Soil	MH592-7(2.0)
JB93023-22	04/22/15	13:00	SA/SR	04/22/15	SO	Soil	MH592-8(3.0)
JB93023-23	04/22/15	13:15	SA/SR	04/22/15	SO	Soil	MH592-9(2.0)
JB93023-24	04/22/15	13:25	SA/SR	04/22/15	SO	Soil	MH592-10(2.0)

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

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Stantec Consulting Services Inc.	**Job No**	JB93023
Site:	MHIC-592/593 Tanks	**Report Date**	5/6/2015 3:59:43 PM

On 04/22/2015, 24 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at temperatures of #1: (2.3/0.5); #2: (1.8/0); #3: (1.4/-0.4) C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB93023 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.

Volatiles by GCMS By Method SW846 8260C

Matrix: SO **Batch ID:** V3V809

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB93384-5DUP, JB93384-6MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: SO **Batch ID:** VE9896

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB92986-13MS, JB92986-13MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB93023-13: Dilution required due to sample matrix.
- JB93023-3: Dilution required due to sample matrix.
- JB93023-8: Dilution required due to sample matrix.

Matrix: SO **Batch ID:** VE9899

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB93023-16MS, JB93023-16MSD were used as the QC samples indicated.
- JB93023-21: Dilution required due to sample matrix.
- JB93023-1: Dilution required due to sample matrix.
- JB93023-10: Dilution required due to sample matrix.
- JB93023-12: Dilution required due to matrix interference.
- JB93023-16: Dilution required due to sample matrix.

Matrix: SO **Batch ID:** VE9900

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB93109-18MS, JB93109-18MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** VV6455

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB93023-2MS, JB93023-7DUP were used as the QC samples indicated.

Matrix: SO **Batch ID:** VX6649

Volatiles by GCMS By Method SW846 8260C

Matrix: SO	**Batch ID:** VX6649

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB93023-17DUP, JB93023-18MS were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: SO	**Batch ID:** VX6651

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB92989-21MS, JB92989-20DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for Methyl Tert Butyl Ether are outside control limits for sample JB92989-20DUP. High RPD due to low concentration of hit

Extractables by GCMS By Method SW846 8270D

2

Matrix: SO **Batch ID:** OP83412

- All samples were extracted within the recommended method holding time.
- Sample(s) JB93020-1MS, JB93020-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB93023-6: Elevated detection limit due to high final volume of viscous extract and dilution.
- JB93023-3: Dilution required due to matrix interference.
- JB93023-6 for Nitrobenzene-d5: Outside control limits due to dilution.
- JB93023-6 for 2-Fluorophenol: Outside control limits due to dilution.
- JB93023-6 for 2-Fluorobiphenyl: Outside control limits due to dilution.
- JB93023-6 for 2,4,6-Tribromophenol: Outside control limits due to dilution.
- JB93023-6 for Terphenyl-d14: Outside control limits due to dilution.
- JB93023-6 for Phenol-d5: Outside control limits due to dilution.

Matrix: SO **Batch ID:** OP83421

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB93023-9MS, JB93023-9MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for 2,4-Dinitrophenol are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for 2,4-Dinitrophenol are outside control limits. Outside control limits due to matrix interference.

Matrix: SO **Batch ID:** OP83422

- All samples were extracted within the recommended method holding time.
- Sample(s) JB93041-13MS, JB93041-13MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 4-Nitrophenol are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for 2,4-Dinitrophenol are outside control limits. Outside control limits due to matrix interference.
- OP83422-MS for 2,4,6-Tribromophenol: Outside control limits due to matrix interference.

Matrix: SO **Batch ID:** OP83522

- All samples were extracted within the recommended method holding time.
- Sample(s) JB93495-27MS, JB93495-27MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 2-Methylnaphthalene, Naphthalene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- JB93023-12: Dilution required due to viscosity of the extract matrix

Volatiles by GC By Method SW846 8011

Matrix: SO	**Batch ID:** M:OP42837

- The data for SW846 8011 meets quality control requirements.
- JB93023-24: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-22: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-23: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-21: Analysis performed at Accutest Laboratories, Marlborough, MA.

Matrix: SO	**Batch ID:** M:OP42847

- The data for SW846 8011 meets quality control requirements.
- JB93023-20: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-2: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-19: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-18: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-17: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-9: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-16: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-13: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-5: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-7: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-15: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-3: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-6: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-12: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-11: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-8: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-14: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-10: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-1: Analysis performed at Accutest Laboratories, Marlborough, MA.
- JB93023-4: Analysis performed at Accutest Laboratories, Marlborough, MA.

Metals By Method SW846 6010C

Matrix: SO	**Batch ID:** MP86106

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB92813-9MS, JB92813-9MSD, JB92813-9SDL were used as the QC samples for metals.
- Matrix Spike Duplicate Recovery(s) for Lead are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

Matrix: SO	**Batch ID:** MP86107

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB93023-7MS, JB93023-7MSD, JB93023-7SDL were used as the QC samples for metals.
- JB93023-1 for Nickel: Elevated detection limit due to dilution required for high interfering element.
- JB93023-1 for Lead: Elevated detection limit due to dilution required for high interfering element.

Wet Chemistry By Method ASTM 4643-00

Matrix:	SO	**Batch ID:**	GN24261

- The data for ASTM 4643-00 meets quality control requirements.

Wet Chemistry By Method SM2540 G-97

Matrix:	SO	**Batch ID:**	GN24263

- The data for SM2540 G-97 meets quality control requirements.

Matrix:	SO	**Batch ID:**	GN24270

- The data for SM2540 G-97 meets quality control requirements.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's 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.

Accutest Laboratories 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 Accutest Laboratories indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Accutest New Jersey	**Job No**	JB93023
Site:	SECORPAE: MHIC-592/593 Tanks	**Report Date**	5/5/2015 11:12:59 AM

24 Sample(s) were collected on 04/22/2015 and were received at Accutest on 04/22/2015 properly preserved, at 1.1 Deg. C and intact. These Samples received an Accutest job number of JB93023. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method SW846 8011

Matrix: SO **Batch ID:** OP42837

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC38153-1MS, MC38153-1MSD were used as the QC samples indicated.

Matrix: SO **Batch ID:** OP42847

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB93023-15MS, JB93023-15MSD were used as the QC samples indicated.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(JB93023).

Summary of Hits

Job Number: JB93023
Account: Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Collected: 04/22/15

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB93023-1	**MH593-1(2.0)**					
Naphthalene [a]		0.0700 J	0.69	0.026	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene [a]		0.0445 J	0.28	0.028	mg/kg	SW846 8260C
Acenaphthene		0.0425	0.038	0.011	mg/kg	SW846 8270D
Anthracene		0.0588	0.038	0.013	mg/kg	SW846 8270D
Benzo(a)anthracene		0.141	0.038	0.012	mg/kg	SW846 8270D
Benzo(a)pyrene		0.150	0.038	0.012	mg/kg	SW846 8270D
Benzo(b)fluoranthene		0.0694	0.038	0.013	mg/kg	SW846 8270D
Benzo(g,h,i)perylene		0.128	0.038	0.014	mg/kg	SW846 8270D
1,1'-Biphenyl		0.0196 J	0.076	0.0044	mg/kg	SW846 8270D
Chrysene		0.448	0.038	0.013	mg/kg	SW846 8270D
Fluoranthene		0.0710	0.038	0.017	mg/kg	SW846 8270D
Fluorene		0.0857	0.038	0.013	mg/kg	SW846 8270D
2-Methylnaphthalene		0.138	0.076	0.021	mg/kg	SW846 8270D
Phenanthrene		0.385	0.038	0.017	mg/kg	SW846 8270D
Pyrene		0.435	0.038	0.015	mg/kg	SW846 8270D
Cobalt		14.3	5.8	0.047	mg/kg	SW846 6010C
Lead [b]		82.2	4.7	0.40	mg/kg	SW846 6010C
Nickel [b]		77.0	9.4	0.12	mg/kg	SW846 6010C
Vanadium		53.7	5.8	0.087	mg/kg	SW846 6010C
Zinc		212	5.8	0.90	mg/kg	SW846 6010C
JB93023-2	**MH593-2(2.0)**					
Benzene		0.0077	0.00060	0.00016	mg/kg	SW846 8260C
Toluene		0.00067 J	0.0012	0.00025	mg/kg	SW846 8260C
Ethylbenzene		0.00087 J	0.0012	0.00019	mg/kg	SW846 8260C
Xylene (total)		0.00050 J	0.0012	0.00033	mg/kg	SW846 8260C
Cyclohexane		0.010	0.0024	0.00038	mg/kg	SW846 8260C
Hexane		0.0075	0.0060	0.00046	mg/kg	SW846 8260C
Isopropylbenzene		0.00032 J	0.0024	0.00013	mg/kg	SW846 8260C
Cobalt		7.8	5.9	0.047	mg/kg	SW846 6010C
Lead		10.6	2.4	0.20	mg/kg	SW846 6010C
Nickel		14.5	4.7	0.059	mg/kg	SW846 6010C
Vanadium		44.9	5.9	0.087	mg/kg	SW846 6010C
Zinc		35.3	5.9	0.91	mg/kg	SW846 6010C
JB93023-3	**MH593-3(3.0)**					
Benzene [a]		0.0317 J	0.067	0.018	mg/kg	SW846 8260C
Toluene [a]		0.0518 J	0.13	0.028	mg/kg	SW846 8260C
Ethylbenzene [a]		0.0426 J	0.13	0.022	mg/kg	SW846 8260C
Xylene (total) [a]		0.228	0.13	0.037	mg/kg	SW846 8260C
sec-Butylbenzene [a]		0.0306 J	0.27	0.023	mg/kg	SW846 8260C

Summary of Hits

Job Number: JB93023
Account: Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Collected: 04/22/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Cyclohexane [a]	0.251 J	0.27	0.042	mg/kg	SW846 8260C
Hexane [a]	0.109 J	0.67	0.052	mg/kg	SW846 8260C
Isopropylbenzene [a]	0.0482 J	0.27	0.014	mg/kg	SW846 8260C
Naphthalene [a]	0.342 J	0.67	0.025	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene [a]	0.126 J	0.27	0.027	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene [a]	0.0535 J	0.27	0.026	mg/kg	SW846 8260C
Acenaphthene [c]	0.932	0.39	0.11	mg/kg	SW846 8270D
Benzo(a)anthracene [c]	4.14	0.39	0.13	mg/kg	SW846 8270D
Benzo(a)pyrene [c]	6.47	0.39	0.12	mg/kg	SW846 8270D
Benzo(b)fluoranthene [c]	2.22	0.39	0.13	mg/kg	SW846 8270D
Benzo(g,h,i)perylene [c]	4.66	0.39	0.15	mg/kg	SW846 8270D
Chrysene [c]	11.9	0.39	0.13	mg/kg	SW846 8270D
Fluoranthene [c]	2.29	0.39	0.17	mg/kg	SW846 8270D
Fluorene [c]	1.02	0.39	0.13	mg/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene [c]	1.14	0.39	0.14	mg/kg	SW846 8270D
2-Methylnaphthalene [c]	0.785	0.78	0.22	mg/kg	SW846 8270D
Phenanthrene [c]	3.04	0.39	0.18	mg/kg	SW846 8270D
Pyrene [c]	26.5	0.39	0.15	mg/kg	SW846 8270D
Cobalt	7.5	6.0	0.048	mg/kg	SW846 6010C
Lead	35.6	2.4	0.21	mg/kg	SW846 6010C
Nickel	13.9	4.8	0.060	mg/kg	SW846 6010C
Vanadium	35.1	6.0	0.089	mg/kg	SW846 6010C
Zinc	67.4	6.0	0.92	mg/kg	SW846 6010C
JB93023-4 MH593-4(3.0)					
Benzo(g,h,i)perylene	0.115	0.036	0.013	mg/kg	SW846 8270D
Cobalt	9.6	5.5	0.044	mg/kg	SW846 6010C
Lead	41.5	2.2	0.19	mg/kg	SW846 6010C
Nickel	22.5	4.4	0.055	mg/kg	SW846 6010C
Vanadium	40.1	5.5	0.082	mg/kg	SW846 6010C
Zinc	159	5.5	0.85	mg/kg	SW846 6010C
JB93023-5 MH593-5(3.0)					
Benzene	0.0070	0.0021	0.00055	mg/kg	SW846 8260C
Toluene	0.00097 J	0.0041	0.00086	mg/kg	SW846 8260C
Ethylbenzene	0.0026 J	0.0041	0.00067	mg/kg	SW846 8260C
Xylene (total)	0.0038 J	0.0041	0.0011	mg/kg	SW846 8260C
sec-Butylbenzene	0.0017 J	0.0083	0.00070	mg/kg	SW846 8260C
Cyclohexane	0.114	0.0083	0.0013	mg/kg	SW846 8260C
Hexane	0.162	0.021	0.0016	mg/kg	SW846 8260C
Isopropylbenzene	0.0041 J	0.0083	0.00044	mg/kg	SW846 8260C
Naphthalene	0.0023 J	0.021	0.00078	mg/kg	SW846 8260C
Chrysene	0.0317 J	0.040	0.014	mg/kg	SW846 8270D

Summary of Hits

Job Number: JB93023
Account: Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Collected: 04/22/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Fluorene		0.0138 J	0.040	0.013	mg/kg	SW846 8270D
Pyrene		0.0496	0.040	0.015	mg/kg	SW846 8270D
Cobalt		7.8	6.3	0.051	mg/kg	SW846 6010C
Lead		13.9	2.5	0.22	mg/kg	SW846 6010C
Nickel		16.3	5.1	0.063	mg/kg	SW846 6010C
Vanadium		42.3	6.3	0.094	mg/kg	SW846 6010C
Zinc		46.9	6.3	0.97	mg/kg	SW846 6010C
JB93023-6	**MH593-6(3.0)**					
Toluene		0.0669 J	0.12	0.024	mg/kg	SW846 8260C
Ethylbenzene		0.0586 J	0.12	0.019	mg/kg	SW846 8260C
Xylene (total)		0.500	0.12	0.032	mg/kg	SW846 8260C
sec-Butylbenzene		0.0246 J	0.23	0.020	mg/kg	SW846 8260C
Cyclohexane		0.173 J	0.23	0.037	mg/kg	SW846 8260C
Hexane		0.125 J	0.58	0.045	mg/kg	SW846 8260C
Isopropylbenzene		0.0232 J	0.23	0.012	mg/kg	SW846 8260C
Naphthalene		1.23	0.58	0.022	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		0.773	0.23	0.023	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.258	0.23	0.022	mg/kg	SW846 8260C
Acenaphthene [d]		6.48	0.39	0.11	mg/kg	SW846 8270D
Anthracene [d]		19.0	0.39	0.13	mg/kg	SW846 8270D
Benzo(a)anthracene [d]		29.0	0.39	0.13	mg/kg	SW846 8270D
Benzo(a)pyrene		63.5	7.7	2.4	mg/kg	SW846 8270D
Benzo(b)fluoranthene [d]		25.5	0.39	0.13	mg/kg	SW846 8270D
Benzo(g,h,i)perylene [d]		32.1	0.39	0.14	mg/kg	SW846 8270D
1,1'-Biphenyl [d]		0.567 J	0.77	0.045	mg/kg	SW846 8270D
Chrysene		153	7.7	2.6	mg/kg	SW846 8270D
Fluoranthene		36.1	7.7	3.4	mg/kg	SW846 8270D
Fluorene [d]		20.3	0.39	0.13	mg/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene [d]		7.28	0.39	0.13	mg/kg	SW846 8270D
2-Methylnaphthalene [d]		25.0	0.77	0.22	mg/kg	SW846 8270D
Phenanthrene		240	7.7	3.5	mg/kg	SW846 8270D
Pyrene		302	7.7	3.0	mg/kg	SW846 8270D
Cobalt		8.5	6.0	0.048	mg/kg	SW846 6010C
Lead		31.8	2.4	0.20	mg/kg	SW846 6010C
Nickel		14.3	4.8	0.060	mg/kg	SW846 6010C
Vanadium		35.2	6.0	0.088	mg/kg	SW846 6010C
Zinc		57.0	6.0	0.92	mg/kg	SW846 6010C
JB93023-7	**MH593-7(3.0)**					
Benzo(g,h,i)perylene		0.0347 J	0.041	0.015	mg/kg	SW846 8270D
Chrysene		0.0325 J	0.041	0.014	mg/kg	SW846 8270D
Pyrene		0.0392 J	0.041	0.016	mg/kg	SW846 8270D

Summary of Hits

Job Number: JB93023
Account: Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Collected: 04/22/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Cobalt		8.7	5.9	0.047	mg/kg	SW846 6010C
Lead		15.8	2.4	0.20	mg/kg	SW846 6010C
Nickel		14.4	4.7	0.059	mg/kg	SW846 6010C
Vanadium		43.3	5.9	0.088	mg/kg	SW846 6010C
Zinc		96.6	5.9	0.91	mg/kg	SW846 6010C
JB93023-8	**MH593-8(3.0)**					
Naphthalene		0.0612 J	0.64	0.024	mg/kg	SW846 8260C
Benzo(a)anthracene		0.0266 J	0.041	0.013	mg/kg	SW846 8270D
Chrysene		0.0295 J	0.041	0.014	mg/kg	SW846 8270D
Fluorene		0.0378 J	0.041	0.013	mg/kg	SW846 8270D
Pyrene		0.0710	0.041	0.016	mg/kg	SW846 8270D
Cobalt		5.9 B	6.2	0.049	mg/kg	SW846 6010C
Lead		12.7	2.5	0.21	mg/kg	SW846 6010C
Nickel		12.9	4.9	0.062	mg/kg	SW846 6010C
Vanadium		36.9	6.2	0.091	mg/kg	SW846 6010C
Zinc		35.7	6.2	0.95	mg/kg	SW846 6010C
JB93023-9	**MH593-9(3.0)**					
Naphthalene		0.0014 J	0.0052	0.00020	mg/kg	SW846 8260C
Acenaphthene		0.0224 J	0.040	0.012	mg/kg	SW846 8270D
Anthracene		0.0408	0.040	0.014	mg/kg	SW846 8270D
Benzo(a)anthracene		0.0936	0.040	0.013	mg/kg	SW846 8270D
Benzo(a)pyrene		0.135	0.040	0.012	mg/kg	SW846 8270D
Benzo(b)fluoranthene		0.104	0.040	0.013	mg/kg	SW846 8270D
Benzo(g,h,i)perylene		0.131	0.040	0.015	mg/kg	SW846 8270D
Benzo(k)fluoranthene		0.0260 J	0.040	0.015	mg/kg	SW846 8270D
1,1'-Biphenyl		0.0218 J	0.080	0.0046	mg/kg	SW846 8270D
Chrysene		0.132	0.040	0.014	mg/kg	SW846 8270D
Dibenzo(a,h)anthracene		0.0930	0.040	0.014	mg/kg	SW846 8270D
bis(2-Ethylhexyl)phthalate		0.187	0.080	0.035	mg/kg	SW846 8270D
Fluoranthene		0.0596	0.040	0.018	mg/kg	SW846 8270D
Fluorene		0.0399 J	0.040	0.013	mg/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		0.105	0.040	0.014	mg/kg	SW846 8270D
2-Methylnaphthalene		0.238	0.080	0.022	mg/kg	SW846 8270D
Phenanthrene		0.172	0.040	0.018	mg/kg	SW846 8270D
Pyrene		0.165	0.040	0.015	mg/kg	SW846 8270D
Cobalt		11.5	6.4	0.051	mg/kg	SW846 6010C
Lead		32.4	2.6	0.22	mg/kg	SW846 6010C
Nickel		18.9	5.1	0.064	mg/kg	SW846 6010C
Vanadium		34.2	6.4	0.095	mg/kg	SW846 6010C
Zinc		55.7	6.4	0.98	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB93023
Account: Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
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Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB93023-10	**MH593-10(3.0)**					
Benzene [a]		0.149	0.074	0.020	mg/kg	SW846 8260C
Toluene [a]		0.0414 J	0.15	0.031	mg/kg	SW846 8260C
Ethylbenzene [a]		0.194	0.15	0.024	mg/kg	SW846 8260C
Xylene (total) [a]		0.222	0.15	0.040	mg/kg	SW846 8260C
Hexane [a]		0.0924 J	0.74	0.057	mg/kg	SW846 8260C
Isopropylbenzene [a]		0.0453 J	0.29	0.016	mg/kg	SW846 8260C
Naphthalene [a]		0.0970 J	0.74	0.028	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene [a]		0.0488 J	0.29	0.029	mg/kg	SW846 8260C
Acenaphthene		0.103	0.037	0.011	mg/kg	SW846 8270D
Anthracene		0.243	0.037	0.013	mg/kg	SW846 8270D
Benzo(a)anthracene		8.16	0.37	0.12	mg/kg	SW846 8270D
Benzo(a)pyrene		13.9	0.37	0.11	mg/kg	SW846 8270D
Benzo(b)fluoranthene		8.01	0.37	0.12	mg/kg	SW846 8270D
Benzo(g,h,i)perylene		7.85	0.37	0.14	mg/kg	SW846 8270D
Benzo(k)fluoranthene		2.34	0.37	0.14	mg/kg	SW846 8270D
1,1'-Biphenyl		0.0313 J	0.074	0.0043	mg/kg	SW846 8270D
Chrysene		8.42	0.37	0.13	mg/kg	SW846 8270D
Dibenzo(a,h)anthracene		3.25	0.037	0.013	mg/kg	SW846 8270D
Fluoranthene		0.859	0.037	0.016	mg/kg	SW846 8270D
Fluorene		0.134	0.037	0.012	mg/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		4.50	0.37	0.13	mg/kg	SW846 8270D
2-Methylnaphthalene		0.291	0.074	0.021	mg/kg	SW846 8270D
Phenanthrene		0.484	0.037	0.017	mg/kg	SW846 8270D
Pyrene		4.10	0.37	0.14	mg/kg	SW846 8270D
Cobalt		7.3	6.0	0.048	mg/kg	SW846 6010C
Lead		118	2.4	0.21	mg/kg	SW846 6010C
Nickel		18.2	4.8	0.060	mg/kg	SW846 6010C
Vanadium		40.4	6.0	0.089	mg/kg	SW846 6010C
Zinc		132	6.0	0.92	mg/kg	SW846 6010C
JB93023-11	**MH593-11(3.0)**					
bis(2-Ethylhexyl)phthalate		0.0516 J	0.083	0.037	mg/kg	SW846 8270D
Cobalt		12.0	6.2	0.050	mg/kg	SW846 6010C
Lead		24.3	2.5	0.21	mg/kg	SW846 6010C
Nickel		27.4	5.0	0.062	mg/kg	SW846 6010C
Vanadium		22.8	6.2	0.092	mg/kg	SW846 6010C
Zinc		49.6	6.2	0.96	mg/kg	SW846 6010C
JB93023-12	**MH593-12(3.0)**					
Benzene [c]		0.0549 J	0.055	0.015	mg/kg	SW846 8260C
Toluene [c]		0.0730 J	0.11	0.023	mg/kg	SW846 8260C

Summary of Hits

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Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Ethylbenzene [c]	0.147	0.11	0.018	mg/kg	SW846 8260C
Xylene (total) [c]	0.640	0.11	0.030	mg/kg	SW846 8260C
sec-Butylbenzene [c]	0.242	0.22	0.019	mg/kg	SW846 8260C
tert-Butylbenzene [c]	0.0571 J	0.22	0.023	mg/kg	SW846 8260C
Cyclohexane [c]	1.21	0.22	0.035	mg/kg	SW846 8260C
Hexane [c]	0.155 J	0.55	0.042	mg/kg	SW846 8260C
Isopropylbenzene [c]	0.186 J	0.22	0.012	mg/kg	SW846 8260C
Naphthalene [c]	5.51	0.55	0.021	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene [c]	2.76	0.22	0.022	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene [c]	0.748	0.22	0.021	mg/kg	SW846 8260C
Acenaphthene [e]	7.04	0.31	0.091	mg/kg	SW846 8270D
Benzo(a)anthracene [e]	6.52	0.31	0.10	mg/kg	SW846 8270D
Benzo(a)pyrene [e]	5.84	0.31	0.095	mg/kg	SW846 8270D
Benzo(b)fluoranthene [e]	1.98	0.31	0.10	mg/kg	SW846 8270D
Benzo(g,h,i)perylene [e]	4.83	0.31	0.12	mg/kg	SW846 8270D
Benzo(k)fluoranthene [e]	0.320	0.31	0.12	mg/kg	SW846 8270D
Chrysene [e]	15.4	0.31	0.11	mg/kg	SW846 8270D
Fluoranthene [e]	3.32	0.31	0.14	mg/kg	SW846 8270D
Fluorene [e]	10.3	0.31	0.10	mg/kg	SW846 8270D
2-Methylnaphthalene	51.6	1.2	0.35	mg/kg	SW846 8270D
Phenanthrene [e]	28.3	0.31	0.14	mg/kg	SW846 8270D
Pyrene [e]	22.2	0.31	0.12	mg/kg	SW846 8270D
Cobalt	8.2	5.9	0.047	mg/kg	SW846 6010C
Lead	65.4	2.3	0.20	mg/kg	SW846 6010C
Nickel	18.7	4.7	0.059	mg/kg	SW846 6010C
Vanadium	47.6	5.9	0.087	mg/kg	SW846 6010C
Zinc	84.2	5.9	0.90	mg/kg	SW846 6010C
JB93023-13 MH593-13(2.0)					
Naphthalene [a]	0.103 J	0.50	0.019	mg/kg	SW846 8260C
Acenaphthene	0.0788 J	0.081	0.024	mg/kg	SW846 8270D
Anthracene	0.241	0.081	0.028	mg/kg	SW846 8270D
Benzo(a)anthracene	0.932	0.081	0.027	mg/kg	SW846 8270D
Benzo(a)pyrene	0.909	0.081	0.025	mg/kg	SW846 8270D
Benzo(b)fluoranthene	0.349	0.081	0.027	mg/kg	SW846 8270D
Benzo(g,h,i)perylene	0.742	0.081	0.030	mg/kg	SW846 8270D
Benzo(k)fluoranthene	0.0692 J	0.081	0.031	mg/kg	SW846 8270D
Chrysene	2.81	0.081	0.027	mg/kg	SW846 8270D
Dibenzo(a,h)anthracene	0.193	0.081	0.028	mg/kg	SW846 8270D
Fluoranthene	0.309	0.081	0.036	mg/kg	SW846 8270D
Fluorene	0.151	0.081	0.027	mg/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene	0.187	0.081	0.028	mg/kg	SW846 8270D
2-Methylnaphthalene	0.150 J	0.16	0.045	mg/kg	SW846 8270D
Phenanthrene	0.241	0.081	0.037	mg/kg	SW846 8270D

Summary of Hits

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Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Pyrene		2.44	0.081	0.031	mg/kg	SW846 8270D
Cobalt		10.8	6.2	0.050	mg/kg	SW846 6010C
Lead		25.4	2.5	0.21	mg/kg	SW846 6010C
Nickel		22.1	5.0	0.062	mg/kg	SW846 6010C
Vanadium		50.6	6.2	0.092	mg/kg	SW846 6010C
Zinc		60.1	6.2	0.95	mg/kg	SW846 6010C
JB93023-14	**MH593-14(2.0)**					
Benzene		0.00068	0.00056	0.00015	mg/kg	SW846 8260C
Anthracene		0.0451	0.037	0.013	mg/kg	SW846 8270D
Benzo(a)anthracene		0.186	0.037	0.012	mg/kg	SW846 8270D
Benzo(a)pyrene		0.455	0.037	0.011	mg/kg	SW846 8270D
Benzo(b)fluoranthene		0.377	0.037	0.012	mg/kg	SW846 8270D
Benzo(g,h,i)perylene		0.664	0.037	0.014	mg/kg	SW846 8270D
Benzo(k)fluoranthene		0.0760	0.037	0.014	mg/kg	SW846 8270D
1,1'-Biphenyl		0.0205 J	0.075	0.0043	mg/kg	SW846 8270D
Chrysene		0.268	0.037	0.013	mg/kg	SW846 8270D
Dibenzo(a,h)anthracene		0.382	0.037	0.013	mg/kg	SW846 8270D
Fluoranthene		0.0902	0.037	0.017	mg/kg	SW846 8270D
Fluorene		0.0160 J	0.037	0.012	mg/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		0.373	0.037	0.013	mg/kg	SW846 8270D
2-Methylnaphthalene		0.135	0.075	0.021	mg/kg	SW846 8270D
Phenanthrene		0.138	0.037	0.017	mg/kg	SW846 8270D
Pyrene		0.173	0.037	0.014	mg/kg	SW846 8270D
Cobalt		6.7	5.6	0.045	mg/kg	SW846 6010C
Lead		41.8	2.2	0.19	mg/kg	SW846 6010C
Nickel		13.2	4.5	0.056	mg/kg	SW846 6010C
Vanadium		32.0	5.6	0.083	mg/kg	SW846 6010C
Zinc		49.0	5.6	0.86	mg/kg	SW846 6010C
JB93023-15	**MH592-1(3.0)**					
sec-Butylbenzene		0.00027 J	0.0021	0.00018	mg/kg	SW846 8260C
tert-Butylbenzene		0.00033 J	0.0021	0.00023	mg/kg	SW846 8260C
Benzo(g,h,i)perylene		0.0334 J	0.039	0.015	mg/kg	SW846 8270D
Chrysene		0.0267 J	0.039	0.013	mg/kg	SW846 8270D
Pyrene		0.0702	0.039	0.015	mg/kg	SW846 8270D
Cobalt		8.0	5.7	0.046	mg/kg	SW846 6010C
Lead		13.7	2.3	0.20	mg/kg	SW846 6010C
Nickel		19.1	4.6	0.057	mg/kg	SW846 6010C
Vanadium		36.7	5.7	0.085	mg/kg	SW846 6010C
Zinc		54.5	5.7	0.88	mg/kg	SW846 6010C

Summary of Hits

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Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB93023-16	**MH592-2(3.0)**					
Xylene (total)		0.0419 J	0.11	0.030	mg/kg	SW846 8260C
Naphthalene		0.0683 J	0.55	0.021	mg/kg	SW846 8260C
Phenanthrene		0.0238 J	0.035	0.016	mg/kg	SW846 8270D
Cobalt		14.4	5.6	0.045	mg/kg	SW846 6010C
Lead		3.7	2.2	0.19	mg/kg	SW846 6010C
Nickel		45.9	4.5	0.056	mg/kg	SW846 6010C
Vanadium		53.7	5.6	0.083	mg/kg	SW846 6010C
Zinc		139	5.6	0.86	mg/kg	SW846 6010C
JB93023-17	**MH592-3(3.0)**					
Cobalt		4.8 B	6.4	0.051	mg/kg	SW846 6010C
Lead		11.9	2.6	0.22	mg/kg	SW846 6010C
Nickel		12.2	5.1	0.064	mg/kg	SW846 6010C
Vanadium		39.4	6.4	0.094	mg/kg	SW846 6010C
Zinc		33.1	6.4	0.98	mg/kg	SW846 6010C
JB93023-18	**MH592-4(3.0)**					
sec-Butylbenzene		0.0017 J	0.0020	0.00017	mg/kg	SW846 8260C
tert-Butylbenzene		0.0014 J	0.0020	0.00021	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene		0.00044 J	0.0020	0.00020	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene		0.00049 J	0.0020	0.00019	mg/kg	SW846 8260C
Phenanthrene		0.0254 J	0.037	0.017	mg/kg	SW846 8270D
Pyrene		0.0237 J	0.037	0.014	mg/kg	SW846 8270D
Cobalt		5.9 B	6.3	0.050	mg/kg	SW846 6010C
Lead		13.4	2.5	0.22	mg/kg	SW846 6010C
Nickel		15.2	5.0	0.063	mg/kg	SW846 6010C
Vanadium		56.0	6.3	0.093	mg/kg	SW846 6010C
Zinc		39.9	6.3	0.96	mg/kg	SW846 6010C
JB93023-19	**MH592-5(3.0)**					
Cobalt		4.8 B	6.2	0.050	mg/kg	SW846 6010C
Lead		8.9	2.5	0.21	mg/kg	SW846 6010C
Nickel		12.0	5.0	0.062	mg/kg	SW846 6010C
Vanadium		38.5	6.2	0.092	mg/kg	SW846 6010C
Zinc		52.2	6.2	0.95	mg/kg	SW846 6010C
JB93023-20	**MH592-6(3.0)**					
Hexane		0.00043 J	0.0047	0.00036	mg/kg	SW846 8260C
Pyrene		0.0164 J	0.041	0.016	mg/kg	SW846 8270D

Summary of Hits

Job Number: JB93023
Account: Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Collected: 04/22/15

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Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Cobalt		7.7	5.9	0.047	mg/kg	SW846 6010C
Lead		23.0	2.3	0.20	mg/kg	SW846 6010C
Nickel		19.3	4.7	0.059	mg/kg	SW846 6010C
Vanadium		58.6	5.9	0.087	mg/kg	SW846 6010C
Zinc		73.2	5.9	0.90	mg/kg	SW846 6010C
JB93023-21	**MH592-7(2.0)**					
sec-Butylbenzene [a]		0.0619 J	0.27	0.023	mg/kg	SW846 8260C
Isopropylbenzene [a]		0.0365 J	0.27	0.014	mg/kg	SW846 8260C
Naphthalene [a]		0.209 J	0.66	0.025	mg/kg	SW846 8260C
1,2,4-Trimethylbenzene [a]		0.0694 J	0.27	0.026	mg/kg	SW846 8260C
1,3,5-Trimethylbenzene [a]		0.0459 J	0.27	0.025	mg/kg	SW846 8260C
Cobalt		4.7 B	5.9	0.047	mg/kg	SW846 6010C
Lead		10.2	2.3	0.20	mg/kg	SW846 6010C
Nickel		13.1	4.7	0.059	mg/kg	SW846 6010C
Vanadium		41.4	5.9	0.087	mg/kg	SW846 6010C
Zinc		45.3	5.9	0.90	mg/kg	SW846 6010C
JB93023-22	**MH592-8(3.0)**					
sec-Butylbenzene		0.00041 J	0.0014	0.00012	mg/kg	SW846 8260C
tert-Butylbenzene		0.00025 J	0.0014	0.00015	mg/kg	SW846 8260C
Benzo(a)anthracene		0.0193 J	0.041	0.013	mg/kg	SW846 8270D
Benzo(a)pyrene		0.0244 J	0.041	0.012	mg/kg	SW846 8270D
Benzo(b)fluoranthene		0.0191 J	0.041	0.014	mg/kg	SW846 8270D
Benzo(g,h,i)perylene		0.0297 J	0.041	0.015	mg/kg	SW846 8270D
Chrysene		0.0673	0.041	0.014	mg/kg	SW846 8270D
Phenanthrene		0.0795	0.041	0.019	mg/kg	SW846 8270D
Pyrene		0.190	0.041	0.016	mg/kg	SW846 8270D
Cobalt		4.4 B	6.2	0.050	mg/kg	SW846 6010C
Lead		12.1	2.5	0.21	mg/kg	SW846 6010C
Nickel		13.2	5.0	0.062	mg/kg	SW846 6010C
Vanadium		47.3	6.2	0.092	mg/kg	SW846 6010C
Zinc		38.1	6.2	0.95	mg/kg	SW846 6010C
JB93023-23	**MH592-9(2.0)**					
Cyclohexane		0.00044 J	0.0020	0.00032	mg/kg	SW846 8260C
Cobalt		4.3 B	6.1	0.049	mg/kg	SW846 6010C
Lead		12.2	2.4	0.21	mg/kg	SW846 6010C
Nickel		12.9	4.9	0.061	mg/kg	SW846 6010C
Vanadium		44.7	6.1	0.090	mg/kg	SW846 6010C
Zinc		43.5	6.1	0.94	mg/kg	SW846 6010C

Summary of Hits

Job Number: JB93023
Account: Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Collected: 04/22/15

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Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB93023-24	**MH592-10(2.0)**					
Di-n-butyl phthalate		0.0365 J	0.072	0.0080	mg/kg	SW846 8270D
Cobalt		3.7 B	5.9	0.047	mg/kg	SW846 6010C
Lead		10.8	2.4	0.20	mg/kg	SW846 6010C
Nickel		12.2	4.7	0.059	mg/kg	SW846 6010C
Vanadium		42.8	5.9	0.088	mg/kg	SW846 6010C
Zinc		39.6	5.9	0.91	mg/kg	SW846 6010C

(a) Dilution required due to sample matrix.
(b) Elevated detection limit due to dilution required for high interfering element.
(c) Dilution required due to matrix interference.
(d) Elevated detection limit due to high final volume of viscous extract and dilution.
(e) Dilution required due to viscosity of the extract matrix

New Jersey

ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-1(2.0)		
Lab Sample ID:	JB93023-1	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	83.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E225515.D	1	04/29/15	TDN	n/a	n/a	VE9899
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.7 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.069	0.018	mg/kg	
108-88-3	Toluene	ND	0.14	0.029	mg/kg	
100-41-4	Ethylbenzene	ND	0.14	0.023	mg/kg	
1330-20-7	Xylene (total)	ND	0.14	0.038	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.14	0.021	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.28	0.024	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.28	0.029	mg/kg	
110-82-7	Cyclohexane	ND	0.28	0.044	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.14	0.019	mg/kg	
110-54-3	Hexane	ND	0.69	0.054	mg/kg	
98-82-8	Isopropylbenzene	ND	0.28	0.015	mg/kg	
91-20-3	Naphthalene	0.0700	0.69	0.026	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	0.0445	0.28	0.028	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.28	0.026	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		70-122%
17060-07-0	1,2-Dichloroethane-D4	80%		68-124%
2037-26-5	Toluene-D8	87%		77-125%
460-00-4	4-Bromofluorobenzene	85%		72-130%

(a) Dilution required due to sample matrix.

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-1(2.0)		
Lab Sample ID:	JB93023-1	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E71765.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
Run #2							

	Initial Weight	Final Volume
Run #1	31.6 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.19	0.064	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.19	0.047	mg/kg	
95-48-7	2-Methylphenol	ND	0.076	0.043	mg/kg	
	3&4-Methylphenol	ND	0.076	0.048	mg/kg	
100-02-7	4-Nitrophenol	ND	0.38	0.064	mg/kg	
108-95-2	Phenol	ND	0.076	0.040	mg/kg	
83-32-9	Acenaphthene	0.0425	0.038	0.011	mg/kg	
120-12-7	Anthracene	0.0588	0.038	0.013	mg/kg	
56-55-3	Benzo(a)anthracene	0.141	0.038	0.012	mg/kg	
50-32-8	Benzo(a)pyrene	0.150	0.038	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	0.0694	0.038	0.013	mg/kg	
191-24-2	Benzo(g,h,i)perylene	0.128	0.038	0.014	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.038	0.014	mg/kg	
92-52-4	1,1'-Biphenyl	0.0196	0.076	0.0044	mg/kg	J
218-01-9	Chrysene	0.448	0.038	0.013	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.038	0.013	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.076	0.0085	mg/kg	
84-66-2	Diethyl phthalate	ND	0.076	0.013	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.076	0.034	mg/kg	
206-44-0	Fluoranthene	0.0710	0.038	0.017	mg/kg	
86-73-7	Fluorene	0.0857	0.038	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.038	0.013	mg/kg	
91-57-6	2-Methylnaphthalene	0.138	0.076	0.021	mg/kg	
85-01-8	Phenanthrene	0.385	0.038	0.017	mg/kg	
129-00-0	Pyrene	0.435	0.038	0.015	mg/kg	
110-86-1	Pyridine	ND	0.076	0.015	mg/kg	
91-22-5	Quinoline	ND	0.19	0.036	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		22-121%
4165-62-2	Phenol-d5	64%		27-119%

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:	MH593-1(2.0)		
Lab Sample ID:	JB93023-1	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.0
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	103%		17-158%
4165-60-0	Nitrobenzene-d5	71%		33-127%
321-60-8	2-Fluorobiphenyl	83%		41-121%
1718-51-0	Terphenyl-d14	95%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-1(2.0)		
Lab Sample ID:	JB93023-1	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	83.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63010.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	96%		70-170%
460-00-4	Bromofluorobenzene (S)	99%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-1(2.0)		
Lab Sample ID:	JB93023-1	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	83.0
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	14.3	5.8	0.047	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead [a]	82.2	4.7	0.40	mg/kg	2	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel [a]	77.0	9.4	0.12	mg/kg	2	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	53.7	5.8	0.087	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	212	5.8	0.90	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

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

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-2(2.0)		
Lab Sample ID:	JB93023-2	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	84.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152305.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	5.0 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0077	0.00060	0.00016	mg/kg	
108-88-3	Toluene	0.00067	0.0012	0.00025	mg/kg	J
100-41-4	Ethylbenzene	0.00087	0.0012	0.00019	mg/kg	J
1330-20-7	Xylene (total)	0.00050	0.0012	0.00033	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.0012	0.00018	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0024	0.00020	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0024	0.00025	mg/kg	
110-82-7	Cyclohexane	0.010	0.0024	0.00038	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0012	0.00016	mg/kg	
110-54-3	Hexane	0.0075	0.0060	0.00046	mg/kg	
98-82-8	Isopropylbenzene	0.00032	0.0024	0.00013	mg/kg	J
91-20-3	Naphthalene	ND	0.0060	0.00023	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0024	0.00024	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0024	0.00023	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-122%
17060-07-0	1,2-Dichloroethane-D4	88%		68-124%
2037-26-5	Toluene-D8	105%		77-125%
460-00-4	4-Bromofluorobenzene	105%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-2(2.0)		
Lab Sample ID:	JB93023-2	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	84.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E71766.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
Run #2							

	Initial Weight	Final Volume
Run #1	31.2 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.19	0.064	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.19	0.047	mg/kg	
95-48-7	2-Methylphenol	ND	0.076	0.043	mg/kg	
	3&4-Methylphenol	ND	0.076	0.048	mg/kg	
100-02-7	4-Nitrophenol	ND	0.38	0.064	mg/kg	
108-95-2	Phenol	ND	0.076	0.040	mg/kg	
83-32-9	Acenaphthene	ND	0.038	0.011	mg/kg	
120-12-7	Anthracene	ND	0.038	0.013	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.038	0.012	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.038	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.038	0.013	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.038	0.014	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.038	0.014	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.076	0.0044	mg/kg	
218-01-9	Chrysene	ND	0.038	0.013	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.038	0.013	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.076	0.0085	mg/kg	
84-66-2	Diethyl phthalate	ND	0.076	0.013	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.076	0.034	mg/kg	
206-44-0	Fluoranthene	ND	0.038	0.017	mg/kg	
86-73-7	Fluorene	ND	0.038	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.038	0.013	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.076	0.021	mg/kg	
85-01-8	Phenanthrene	ND	0.038	0.017	mg/kg	
129-00-0	Pyrene	ND	0.038	0.015	mg/kg	
110-86-1	Pyridine	ND	0.076	0.015	mg/kg	
91-22-5	Quinoline	ND	0.19	0.036	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	68%		22-121%
4165-62-2	Phenol-d5	63%		27-119%

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:	MH593-2(2.0)		
Lab Sample ID:	JB93023-2	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	84.0
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	97%		17-158%
4165-60-0	Nitrobenzene-d5	72%		33-127%
321-60-8	2-Fluorobiphenyl	84%		41-121%
1718-51-0	Terphenyl-d14	103%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-2(2.0)		
Lab Sample ID:	JB93023-2	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	84.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63011.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	79%		70-170%
460-00-4	Bromofluorobenzene (S)	116%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-2(2.0)		
Lab Sample ID:	JB93023-2	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	84.0
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	7.8	5.9	0.047	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	10.6	2.4	0.20	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	14.5	4.7	0.059	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	44.9	5.9	0.087	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	35.3	5.9	0.91	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-3(3.0)		
Lab Sample ID:	JB93023-3	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	82.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E225469.D	1	04/27/15	TDN	n/a	n/a	VE9896
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.9 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0317	0.067	0.018	mg/kg	J
108-88-3	Toluene	0.0518	0.13	0.028	mg/kg	J
100-41-4	Ethylbenzene	0.0426	0.13	0.022	mg/kg	J
1330-20-7	Xylene (total)	0.228	0.13	0.037	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.13	0.021	mg/kg	
135-98-8	sec-Butylbenzene	0.0306	0.27	0.023	mg/kg	J
98-06-6	tert-Butylbenzene	ND	0.27	0.028	mg/kg	
110-82-7	Cyclohexane	0.251	0.27	0.042	mg/kg	J
107-06-2	1,2-Dichloroethane	ND	0.13	0.018	mg/kg	
110-54-3	Hexane	0.109	0.67	0.052	mg/kg	J
98-82-8	Isopropylbenzene	0.0482	0.27	0.014	mg/kg	J
91-20-3	Naphthalene	0.342	0.67	0.025	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	0.126	0.27	0.027	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.0535	0.27	0.026	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		70-122%
17060-07-0	1,2-Dichloroethane-D4	82%		68-124%
2037-26-5	Toluene-D8	86%		77-125%
460-00-4	4-Bromofluorobenzene	83%		72-130%

(a) Dilution required due to sample matrix.

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-3(3.0)		
Lab Sample ID:	JB93023-3	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3E71799.D	10	04/30/15	AN	04/25/15	OP83412	E3E3100
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	2.0	0.66	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	2.0	0.48	mg/kg	
95-48-7	2-Methylphenol	ND	0.78	0.45	mg/kg	
	3&4-Methylphenol	ND	0.78	0.50	mg/kg	
100-02-7	4-Nitrophenol	ND	3.9	0.66	mg/kg	
108-95-2	Phenol	ND	0.78	0.41	mg/kg	
83-32-9	Acenaphthene	0.932	0.39	0.11	mg/kg	
120-12-7	Anthracene	ND	0.39	0.14	mg/kg	
56-55-3	Benzo(a)anthracene	4.14	0.39	0.13	mg/kg	
50-32-8	Benzo(a)pyrene	6.47	0.39	0.12	mg/kg	
205-99-2	Benzo(b)fluoranthene	2.22	0.39	0.13	mg/kg	
191-24-2	Benzo(g,h,i)perylene	4.66	0.39	0.15	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.39	0.15	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.78	0.045	mg/kg	
218-01-9	Chrysene	11.9	0.39	0.13	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.39	0.13	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.78	0.087	mg/kg	
84-66-2	Diethyl phthalate	ND	0.78	0.13	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.78	0.35	mg/kg	
206-44-0	Fluoranthene	2.29	0.39	0.17	mg/kg	
86-73-7	Fluorene	1.02	0.39	0.13	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1.14	0.39	0.14	mg/kg	
91-57-6	2-Methylnaphthalene	0.785	0.78	0.22	mg/kg	
85-01-8	Phenanthrene	3.04	0.39	0.18	mg/kg	
129-00-0	Pyrene	26.5	0.39	0.15	mg/kg	
110-86-1	Pyridine	ND	0.78	0.16	mg/kg	
91-22-5	Quinoline	ND	2.0	0.37	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	48%		22-121%
4165-62-2	Phenol-d5	55%		27-119%

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:	MH593-3(3.0)		
Lab Sample ID:	JB93023-3	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.6
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	92%		17-158%
4165-60-0	Nitrobenzene-d5	58%		33-127%
321-60-8	2-Fluorobiphenyl	74%		41-121%
1718-51-0	Terphenyl-d14	93%		44-137%

(a) Dilution required 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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-3(3.0)		
Lab Sample ID:	JB93023-3	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	82.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63012.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.9 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0029	0.00049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	111%		70-170%
460-00-4	Bromofluorobenzene (S)	143%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-3(3.0)		
Lab Sample ID:	JB93023-3	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	82.6
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	7.5	6.0	0.048	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	35.6	2.4	0.21	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	13.9	4.8	0.060	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	35.1	6.0	0.089	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	67.4	6.0	0.92	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-4(3.0)		
Lab Sample ID:	JB93023-4	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	88.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152307.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	5.9 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00048	0.00013	mg/kg	
108-88-3	Toluene	ND	0.00096	0.00020	mg/kg	
100-41-4	Ethylbenzene	ND	0.00096	0.00016	mg/kg	
1330-20-7	Xylene (total)	ND	0.00096	0.00026	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00096	0.00015	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0019	0.00016	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0019	0.00020	mg/kg	
110-82-7	Cyclohexane	ND	0.0019	0.00030	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00096	0.00013	mg/kg	
110-54-3	Hexane	ND	0.0048	0.00037	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0019	0.00010	mg/kg	
91-20-3	Naphthalene	ND	0.0048	0.00018	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0019	0.00019	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0019	0.00018	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-122%
17060-07-0	1,2-Dichloroethane-D4	88%		68-124%
2037-26-5	Toluene-D8	105%		77-125%
460-00-4	4-Bromofluorobenzene	102%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-4(3.0)		
Lab Sample ID:	JB93023-4	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	88.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E71874.D	1	05/05/15	AN	04/25/15	OP83412	E3E3105
Run #2							

	Initial Weight	Final Volume
Run #1	31.3 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.18	0.061	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.18	0.044	mg/kg	
95-48-7	2-Methylphenol	ND	0.072	0.041	mg/kg	
	3&4-Methylphenol	ND	0.072	0.046	mg/kg	
100-02-7	4-Nitrophenol	ND	0.36	0.061	mg/kg	
108-95-2	Phenol	ND	0.072	0.038	mg/kg	
83-32-9	Acenaphthene	ND	0.036	0.010	mg/kg	
120-12-7	Anthracene	ND	0.036	0.013	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.036	0.012	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.036	0.011	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.036	0.012	mg/kg	
191-24-2	Benzo(g,h,i)perylene	0.115	0.036	0.013	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.036	0.014	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.072	0.0042	mg/kg	
218-01-9	Chrysene	ND	0.036	0.012	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.036	0.012	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.072	0.0080	mg/kg	
84-66-2	Diethyl phthalate	ND	0.072	0.012	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.072	0.032	mg/kg	
206-44-0	Fluoranthene	ND	0.036	0.016	mg/kg	
86-73-7	Fluorene	ND	0.036	0.012	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.036	0.013	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.072	0.020	mg/kg	
85-01-8	Phenanthrene	ND	0.036	0.016	mg/kg	
129-00-0	Pyrene	ND	0.036	0.014	mg/kg	
110-86-1	Pyridine	ND	0.072	0.014	mg/kg	
91-22-5	Quinoline	ND	0.18	0.034	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	75%		22-121%
4165-62-2	Phenol-d5	72%		27-119%

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:	MH593-4(3.0)		
Lab Sample ID:	JB93023-4	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	88.4
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	112%		17-158%
4165-60-0	Nitrobenzene-d5	78%		33-127%
321-60-8	2-Fluorobiphenyl	87%		41-121%
1718-51-0	Terphenyl-d14	94%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-4(3.0)		
Lab Sample ID:	JB93023-4	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	88.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63013.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0028	0.00047	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	85%		70-170%
460-00-4	Bromofluorobenzene (S)	134%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-4(3.0)		
Lab Sample ID:	JB93023-4	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	88.4
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	9.6	5.5	0.044	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	41.5	2.2	0.19	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	22.5	4.4	0.055	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	40.1	5.5	0.082	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	159	5.5	0.85	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-5(3.0)		
Lab Sample ID:	JB93023-5	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	80.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V19506.D	1	05/04/15	TDN	n/a	n/a	V3V809
Run #2							

	Initial Weight
Run #1	1.5 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0070	0.0021	0.00055	mg/kg	
108-88-3	Toluene	0.00097	0.0041	0.00086	mg/kg	J
100-41-4	Ethylbenzene	0.0026	0.0041	0.00067	mg/kg	J
1330-20-7	Xylene (total)	0.0038	0.0041	0.0011	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.0041	0.00063	mg/kg	
135-98-8	sec-Butylbenzene	0.0017	0.0083	0.00070	mg/kg	J
98-06-6	tert-Butylbenzene	ND	0.0083	0.00087	mg/kg	
110-82-7	Cyclohexane	0.114	0.0083	0.0013	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0041	0.00055	mg/kg	
110-54-3	Hexane	0.162	0.021	0.0016	mg/kg	
98-82-8	Isopropylbenzene	0.0041	0.0083	0.00044	mg/kg	J
91-20-3	Naphthalene	0.0023	0.021	0.00078	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	0.0083	0.00082	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0083	0.00079	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	103%		77-125%
460-00-4	4-Bromofluorobenzene	106%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-5(3.0)		
Lab Sample ID:	JB93023-5	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E71774.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.067	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.049	mg/kg	
95-48-7	2-Methylphenol	ND	0.080	0.046	mg/kg	
	3&4-Methylphenol	ND	0.080	0.051	mg/kg	
100-02-7	4-Nitrophenol	ND	0.40	0.068	mg/kg	
108-95-2	Phenol	ND	0.080	0.042	mg/kg	
83-32-9	Acenaphthene	ND	0.040	0.012	mg/kg	
120-12-7	Anthracene	ND	0.040	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.040	0.013	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.040	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.040	0.013	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.040	0.015	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.040	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.080	0.0047	mg/kg	
218-01-9	Chrysene	0.0317	0.040	0.014	mg/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.040	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.080	0.0089	mg/kg	
84-66-2	Diethyl phthalate	ND	0.080	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.080	0.035	mg/kg	
206-44-0	Fluoranthene	ND	0.040	0.018	mg/kg	
86-73-7	Fluorene	0.0138	0.040	0.013	mg/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.040	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.080	0.022	mg/kg	
85-01-8	Phenanthrene	ND	0.040	0.018	mg/kg	
129-00-0	Pyrene	0.0496	0.040	0.015	mg/kg	
110-86-1	Pyridine	ND	0.080	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.038	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	72%		22-121%
4165-62-2	Phenol-d5	65%		27-119%

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:	MH593-5(3.0)		
Lab Sample ID:	JB93023-5	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.7
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	107%		17-158%
4165-60-0	Nitrobenzene-d5	75%		33-127%
321-60-8	2-Fluorobiphenyl	90%		41-121%
1718-51-0	Terphenyl-d14	113%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-5(3.0)		
Lab Sample ID:	JB93023-5	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	80.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63014.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0031	0.00051	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	73%		70-170%
460-00-4	Bromofluorobenzene (S)	111%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-5(3.0)		
Lab Sample ID:	JB93023-5	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	80.7
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	7.8	6.3	0.051	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	13.9	2.5	0.22	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	16.3	5.1	0.063	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	42.3	6.3	0.094	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	46.9	6.3	0.97	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-6(3.0)		
Lab Sample ID:	JB93023-6	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	83.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E225548.D	1	04/29/15	TDN	n/a	n/a	VE9900
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.7 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.058	0.015	mg/kg	
108-88-3	Toluene	0.0669	0.12	0.024	mg/kg	J
100-41-4	Ethylbenzene	0.0586	0.12	0.019	mg/kg	J
1330-20-7	Xylene (total)	0.500	0.12	0.032	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.12	0.018	mg/kg	
135-98-8	sec-Butylbenzene	0.0246	0.23	0.020	mg/kg	J
98-06-6	tert-Butylbenzene	ND	0.23	0.024	mg/kg	
110-82-7	Cyclohexane	0.173	0.23	0.037	mg/kg	J
107-06-2	1,2-Dichloroethane	ND	0.12	0.016	mg/kg	
110-54-3	Hexane	0.125	0.58	0.045	mg/kg	J
98-82-8	Isopropylbenzene	0.0232	0.23	0.012	mg/kg	J
91-20-3	Naphthalene	1.23	0.58	0.022	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.773	0.23	0.023	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.258	0.23	0.022	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		70-122%
17060-07-0	1,2-Dichloroethane-D4	81%		68-124%
2037-26-5	Toluene-D8	85%		77-125%
460-00-4	4-Bromofluorobenzene	85%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-6(3.0)		
Lab Sample ID:	JB93023-6	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	3E71829.D	2	05/01/15	AN	04/25/15	OP83412	E3E3101
Run #2	3E71860.D	40	05/04/15	AN	04/25/15	OP83412	E3E3103

	Initial Weight	Final Volume
Run #1	31.2 g	5.0 ml
Run #2	31.2 g	5.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	1.9	0.65	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	1.9	0.47	mg/kg	
95-48-7	2-Methylphenol	ND	0.77	0.44	mg/kg	
	3&4-Methylphenol	ND	0.77	0.49	mg/kg	
100-02-7	4-Nitrophenol	ND	3.9	0.65	mg/kg	
108-95-2	Phenol	ND	0.77	0.40	mg/kg	
83-32-9	Acenaphthene	6.48	0.39	0.11	mg/kg	
120-12-7	Anthracene	19.0	0.39	0.13	mg/kg	
56-55-3	Benzo(a)anthracene	29.0	0.39	0.13	mg/kg	
50-32-8	Benzo(a)pyrene	63.5 [b]	7.7	2.4	mg/kg	
205-99-2	Benzo(b)fluoranthene	25.5	0.39	0.13	mg/kg	
191-24-2	Benzo(g,h,i)perylene	32.1	0.39	0.14	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.39	0.15	mg/kg	
92-52-4	1,1'-Biphenyl	0.567	0.77	0.045	mg/kg	J
218-01-9	Chrysene	153 [b]	7.7	2.6	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.39	0.13	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.77	0.086	mg/kg	
84-66-2	Diethyl phthalate	ND	0.77	0.13	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.77	0.34	mg/kg	
206-44-0	Fluoranthene	36.1 [b]	7.7	3.4	mg/kg	
86-73-7	Fluorene	20.3	0.39	0.13	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	7.28	0.39	0.13	mg/kg	
91-57-6	2-Methylnaphthalene	25.0	0.77	0.22	mg/kg	
85-01-8	Phenanthrene	240 [b]	7.7	3.5	mg/kg	
129-00-0	Pyrene	302 [b]	7.7	3.0	mg/kg	
110-86-1	Pyridine	ND	0.77	0.15	mg/kg	
91-22-5	Quinoline	ND	1.9	0.36	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	62%	0% [c]	22-121%
4165-62-2	Phenol-d5	69%	0% [c]	27-119%

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:	MH593-6(3.0)		
Lab Sample ID:	JB93023-6	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.1
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	139%	0% c	17-158%
4165-60-0	Nitrobenzene-d5	80%	0% c	33-127%
321-60-8	2-Fluorobiphenyl	82%	0% c	41-121%
1718-51-0	Terphenyl-d14	96%	0% c	44-137%

(a) Elevated detection limit due to high final volume of viscous extract and dilution.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-6(3.0)		
Lab Sample ID:	JB93023-6	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	83.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63015.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	94%		70-170%
460-00-4	Bromofluorobenzene (S)	132%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-6(3.0)		
Lab Sample ID:	JB93023-6	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	83.1
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	8.5	6.0	0.048	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	31.8	2.4	0.20	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	14.3	4.8	0.060	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	35.2	6.0	0.088	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	57.0	6.0	0.92	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-7(3.0)		
Lab Sample ID:	JB93023-7	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	80.3
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152306.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	5.4 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00058	0.00015	mg/kg	
108-88-3	Toluene	ND	0.0012	0.00024	mg/kg	
100-41-4	Ethylbenzene	ND	0.0012	0.00019	mg/kg	
1330-20-7	Xylene (total)	ND	0.0012	0.00032	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0012	0.00018	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0023	0.00020	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0023	0.00024	mg/kg	
110-82-7	Cyclohexane	ND	0.0023	0.00036	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0012	0.00015	mg/kg	
110-54-3	Hexane	ND	0.0058	0.00045	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0023	0.00012	mg/kg	
91-20-3	Naphthalene	ND	0.0058	0.00022	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0023	0.00023	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0023	0.00022	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-122%
17060-07-0	1,2-Dichloroethane-D4	90%		68-124%
2037-26-5	Toluene-D8	106%		77-125%
460-00-4	4-Bromofluorobenzene	107%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-7(3.0)		
Lab Sample ID:	JB93023-7	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.3
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E71773.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.068	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.049	mg/kg	
95-48-7	2-Methylphenol	ND	0.081	0.046	mg/kg	
	3&4-Methylphenol	ND	0.081	0.052	mg/kg	
100-02-7	4-Nitrophenol	ND	0.41	0.069	mg/kg	
108-95-2	Phenol	ND	0.081	0.043	mg/kg	
83-32-9	Acenaphthene	ND	0.041	0.012	mg/kg	
120-12-7	Anthracene	ND	0.041	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.041	0.013	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.041	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.014	mg/kg	
191-24-2	Benzo(g,h,i)perylene	0.0347	0.041	0.015	mg/kg	J
207-08-9	Benzo(k)fluoranthene	ND	0.041	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.081	0.0047	mg/kg	
218-01-9	Chrysene	0.0325	0.041	0.014	mg/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.041	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.081	0.0090	mg/kg	
84-66-2	Diethyl phthalate	ND	0.081	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.081	0.036	mg/kg	
206-44-0	Fluoranthene	ND	0.041	0.018	mg/kg	
86-73-7	Fluorene	ND	0.041	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.041	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.081	0.023	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.018	mg/kg	
129-00-0	Pyrene	0.0392	0.041	0.016	mg/kg	J
110-86-1	Pyridine	ND	0.081	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.038	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		22-121%
4165-62-2	Phenol-d5	63%		27-119%

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:	MH593-7(3.0)		
Lab Sample ID:	JB93023-7	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	80.3
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	107%		17-158%
4165-60-0	Nitrobenzene-d5	72%		33-127%
321-60-8	2-Fluorobiphenyl	87%		41-121%
1718-51-0	Terphenyl-d14	114%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-7(3.0)		
Lab Sample ID:	JB93023-7	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	80.3
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63016.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0031	0.00051	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	70%		70-170%
460-00-4	Bromofluorobenzene (S)	113%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-7(3.0)		
Lab Sample ID:	JB93023-7	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	80.3
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	8.7	5.9	0.047	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	15.8	2.4	0.20	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	14.4	4.7	0.059	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	43.3	5.9	0.088	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	96.6	5.9	0.91	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-8(3.0)		
Lab Sample ID:	JB93023-8	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	81.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E225468.D	1	04/27/15	TDN	n/a	n/a	VE9896
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.3 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.064	0.017	mg/kg	
108-88-3	Toluene	ND	0.13	0.027	mg/kg	
100-41-4	Ethylbenzene	ND	0.13	0.021	mg/kg	
1330-20-7	Xylene (total)	ND	0.13	0.035	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.13	0.020	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.26	0.022	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.26	0.027	mg/kg	
110-82-7	Cyclohexane	ND	0.26	0.041	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.13	0.017	mg/kg	
110-54-3	Hexane	ND	0.64	0.050	mg/kg	
98-82-8	Isopropylbenzene	ND	0.26	0.014	mg/kg	
91-20-3	Naphthalene	0.0612	0.64	0.024	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	0.26	0.026	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.26	0.024	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		70-122%
17060-07-0	1,2-Dichloroethane-D4	81%		68-124%
2037-26-5	Toluene-D8	87%		77-125%
460-00-4	4-Bromofluorobenzene	80%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-8(3.0)		
Lab Sample ID:	JB93023-8	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E71772.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.069	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.050	mg/kg	
95-48-7	2-Methylphenol	ND	0.082	0.047	mg/kg	
	3&4-Methylphenol	ND	0.082	0.052	mg/kg	
100-02-7	4-Nitrophenol	ND	0.41	0.069	mg/kg	
108-95-2	Phenol	ND	0.082	0.043	mg/kg	
83-32-9	Acenaphthene	ND	0.041	0.012	mg/kg	
120-12-7	Anthracene	ND	0.041	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	0.0266	0.041	0.013	mg/kg	J
50-32-8	Benzo(a)pyrene	ND	0.041	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.014	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.041	0.015	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.041	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.082	0.0047	mg/kg	
218-01-9	Chrysene	0.0295	0.041	0.014	mg/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.041	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.082	0.0091	mg/kg	
84-66-2	Diethyl phthalate	ND	0.082	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.082	0.036	mg/kg	
206-44-0	Fluoranthene	ND	0.041	0.018	mg/kg	
86-73-7	Fluorene	0.0378	0.041	0.013	mg/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.041	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.082	0.023	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.019	mg/kg	
129-00-0	Pyrene	0.0710	0.041	0.016	mg/kg	
110-86-1	Pyridine	ND	0.082	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.039	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%		22-121%
4165-62-2	Phenol-d5	70%		27-119%

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:	MH593-8(3.0)		
Lab Sample ID:	JB93023-8	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.0
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	100%		17-158%
4165-60-0	Nitrobenzene-d5	73%		33-127%
321-60-8	2-Fluorobiphenyl	85%		41-121%
1718-51-0	Terphenyl-d14	115%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-8(3.0)		
Lab Sample ID:	JB93023-8	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	81.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63017.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0031	0.00051	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	70%		70-170%
460-00-4	Bromofluorobenzene (S)	110%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-8(3.0)		
Lab Sample ID:	JB93023-8	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	81.0
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	5.9 B	6.2	0.049	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	12.7	2.5	0.21	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	12.9	4.9	0.062	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	36.9	6.2	0.091	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	35.7	6.2	0.95	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-9(3.0)		
Lab Sample ID:	JB93023-9	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	78.8
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152312.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	6.1 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00052	0.00014	mg/kg	
108-88-3	Toluene	ND	0.0010	0.00022	mg/kg	
100-41-4	Ethylbenzene	ND	0.0010	0.00017	mg/kg	
1330-20-7	Xylene (total)	ND	0.0010	0.00029	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00016	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0021	0.00018	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0021	0.00022	mg/kg	
110-82-7	Cyclohexane	ND	0.0021	0.00033	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00014	mg/kg	
110-54-3	Hexane	ND	0.0052	0.00040	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0021	0.00011	mg/kg	
91-20-3	Naphthalene	0.0014	0.0052	0.00020	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	0.0021	0.00021	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0021	0.00020	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-122%
17060-07-0	1,2-Dichloroethane-D4	88%		68-124%
2037-26-5	Toluene-D8	105%		77-125%
460-00-4	4-Bromofluorobenzene	103%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-9(3.0)		
Lab Sample ID:	JB93023-9	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	78.8
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73606.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165
Run #2							

	Initial Weight	Final Volume
Run #1	31.7 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.067	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.049	mg/kg	
95-48-7	2-Methylphenol	ND	0.080	0.046	mg/kg	
	3&4-Methylphenol	ND	0.080	0.051	mg/kg	
100-02-7	4-Nitrophenol	ND	0.40	0.068	mg/kg	
108-95-2	Phenol	ND	0.080	0.042	mg/kg	
83-32-9	Acenaphthene	0.0224	0.040	0.012	mg/kg	J
120-12-7	Anthracene	0.0408	0.040	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	0.0936	0.040	0.013	mg/kg	
50-32-8	Benzo(a)pyrene	0.135	0.040	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	0.104	0.040	0.013	mg/kg	
191-24-2	Benzo(g,h,i)perylene	0.131	0.040	0.015	mg/kg	
207-08-9	Benzo(k)fluoranthene	0.0260	0.040	0.015	mg/kg	J
92-52-4	1,1'-Biphenyl	0.0218	0.080	0.0046	mg/kg	J
218-01-9	Chrysene	0.132	0.040	0.014	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	0.0930	0.040	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.080	0.0089	mg/kg	
84-66-2	Diethyl phthalate	ND	0.080	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	0.187	0.080	0.035	mg/kg	
206-44-0	Fluoranthene	0.0596	0.040	0.018	mg/kg	
86-73-7	Fluorene	0.0399	0.040	0.013	mg/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	0.105	0.040	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	0.238	0.080	0.022	mg/kg	
85-01-8	Phenanthrene	0.172	0.040	0.018	mg/kg	
129-00-0	Pyrene	0.165	0.040	0.015	mg/kg	
110-86-1	Pyridine	ND	0.080	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.038	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		22-121%
4165-62-2	Phenol-d5	70%		27-119%

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:	MH593-9(3.0)		
Lab Sample ID:	JB93023-9	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	78.8
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	111%		17-158%
4165-60-0	Nitrobenzene-d5	81%		33-127%
321-60-8	2-Fluorobiphenyl	81%		41-121%
1718-51-0	Terphenyl-d14	93%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-9(3.0)		
Lab Sample ID:	JB93023-9	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	78.8
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63018.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0031	0.00052	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	85%		70-170%
460-00-4	Bromofluorobenzene (S)	123%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-9(3.0)		
Lab Sample ID:	JB93023-9	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	78.8
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	11.5	6.4	0.051	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	32.4	2.6	0.22	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	18.9	5.1	0.064	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	34.2	6.4	0.095	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	55.7	6.4	0.98	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-10(3.0)		
Lab Sample ID:	JB93023-10	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	81.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E225517.D	1	04/29/15	TDN	n/a	n/a	VE9899
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.5 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.149	0.074	0.020	mg/kg	
108-88-3	Toluene	0.0414	0.15	0.031	mg/kg	J
100-41-4	Ethylbenzene	0.194	0.15	0.024	mg/kg	
1330-20-7	Xylene (total)	0.222	0.15	0.040	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.15	0.023	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.29	0.025	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.29	0.031	mg/kg	
110-82-7	Cyclohexane	ND	0.29	0.047	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.15	0.020	mg/kg	
110-54-3	Hexane	0.0924	0.74	0.057	mg/kg	J
98-82-8	Isopropylbenzene	0.0453	0.29	0.016	mg/kg	J
91-20-3	Naphthalene	0.0970	0.74	0.028	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	0.0488	0.29	0.029	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	0.29	0.028	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		70-122%
17060-07-0	1,2-Dichloroethane-D4	81%		68-124%
2037-26-5	Toluene-D8	86%		77-125%
460-00-4	4-Bromofluorobenzene	83%		72-130%

(a) Dilution required due to sample matrix.

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-10(3.0)		
Lab Sample ID:	JB93023-10	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73607.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165
Run #2	2M73759.D	10	05/01/15	AN	04/26/15	OP83421	E2M3173

	Initial Weight	Final Volume
Run #1	33.1 g	1.0 ml
Run #2	33.1 g	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.19	0.062	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.19	0.045	mg/kg	
95-48-7	2-Methylphenol	ND	0.074	0.042	mg/kg	
	3&4-Methylphenol	ND	0.074	0.047	mg/kg	
100-02-7	4-Nitrophenol	ND	0.37	0.063	mg/kg	
108-95-2	Phenol	ND	0.074	0.039	mg/kg	
83-32-9	Acenaphthene	0.103	0.037	0.011	mg/kg	
120-12-7	Anthracene	0.243	0.037	0.013	mg/kg	
56-55-3	Benzo(a)anthracene	8.16 [a]	0.37	0.12	mg/kg	
50-32-8	Benzo(a)pyrene	13.9 [a]	0.37	0.11	mg/kg	
205-99-2	Benzo(b)fluoranthene	8.01 [a]	0.37	0.12	mg/kg	
191-24-2	Benzo(g,h,i)perylene	7.85 [a]	0.37	0.14	mg/kg	
207-08-9	Benzo(k)fluoranthene	2.34 [a]	0.37	0.14	mg/kg	
92-52-4	1,1'-Biphenyl	0.0313	0.074	0.0043	mg/kg	J
218-01-9	Chrysene	8.42 [a]	0.37	0.13	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	3.25	0.037	0.013	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.074	0.0082	mg/kg	
84-66-2	Diethyl phthalate	ND	0.074	0.013	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.074	0.033	mg/kg	
206-44-0	Fluoranthene	0.859	0.037	0.016	mg/kg	
86-73-7	Fluorene	0.134	0.037	0.012	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	4.50 [a]	0.37	0.13	mg/kg	
91-57-6	2-Methylnaphthalene	0.291	0.074	0.021	mg/kg	
85-01-8	Phenanthrene	0.484	0.037	0.017	mg/kg	
129-00-0	Pyrene	4.10 [a]	0.37	0.14	mg/kg	
110-86-1	Pyridine	ND	0.074	0.015	mg/kg	
91-22-5	Quinoline	ND	0.19	0.035	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%	59%	22-121%
4165-62-2	Phenol-d5	75%	64%	27-119%

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:	MH593-10(3.0)		
Lab Sample ID:	JB93023-10	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.6
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	108%	73%	17-158%
4165-60-0	Nitrobenzene-d5	85%	70%	33-127%
321-60-8	2-Fluorobiphenyl	83%	73%	41-121%
1718-51-0	Terphenyl-d14	87%	79%	44-137%

(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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-10(3.0)		
Lab Sample ID:	JB93023-10	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	81.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63019.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	82%		70-170%
460-00-4	Bromofluorobenzene (S)	105%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-10(3.0)		
Lab Sample ID:	JB93023-10	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	81.6
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	7.3	6.0	0.048	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	118	2.4	0.21	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	18.2	4.8	0.060	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	40.4	6.0	0.089	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	132	6.0	0.92	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-11(3.0)		
Lab Sample ID:	JB93023-11	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	78.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152313.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	5.6 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00057	0.00015	mg/kg	
108-88-3	Toluene	ND	0.0011	0.00024	mg/kg	
100-41-4	Ethylbenzene	ND	0.0011	0.00019	mg/kg	
1330-20-7	Xylene (total)	ND	0.0011	0.00031	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00017	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0023	0.00019	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0023	0.00024	mg/kg	
110-82-7	Cyclohexane	ND	0.0023	0.00036	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00015	mg/kg	
110-54-3	Hexane	ND	0.0057	0.00044	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0023	0.00012	mg/kg	
91-20-3	Naphthalene	ND	0.0057	0.00021	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0023	0.00023	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0023	0.00022	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-122%
17060-07-0	1,2-Dichloroethane-D4	88%		68-124%
2037-26-5	Toluene-D8	104%		77-125%
460-00-4	4-Bromofluorobenzene	104%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-11(3.0)		
Lab Sample ID:	JB93023-11	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	78.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z100919.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.21	0.070	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.21	0.051	mg/kg	
95-48-7	2-Methylphenol	ND	0.083	0.047	mg/kg	
	3&4-Methylphenol	ND	0.083	0.053	mg/kg	
100-02-7	4-Nitrophenol	ND	0.42	0.070	mg/kg	
108-95-2	Phenol	ND	0.083	0.044	mg/kg	
83-32-9	Acenaphthene	ND	0.042	0.012	mg/kg	
120-12-7	Anthracene	ND	0.042	0.015	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.042	0.014	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.042	0.013	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.042	0.014	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.042	0.015	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.042	0.016	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.083	0.0048	mg/kg	
218-01-9	Chrysene	ND	0.042	0.014	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.042	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.083	0.0092	mg/kg	
84-66-2	Diethyl phthalate	ND	0.083	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	0.0516	0.083	0.037	mg/kg	J
206-44-0	Fluoranthene	ND	0.042	0.018	mg/kg	
86-73-7	Fluorene	ND	0.042	0.014	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.042	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.083	0.023	mg/kg	
85-01-8	Phenanthrene	ND	0.042	0.019	mg/kg	
129-00-0	Pyrene	ND	0.042	0.016	mg/kg	
110-86-1	Pyridine	ND	0.083	0.017	mg/kg	
91-22-5	Quinoline	ND	0.21	0.039	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		22-121%
4165-62-2	Phenol-d5	64%		27-119%

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:	MH593-11(3.0)		
Lab Sample ID:	JB93023-11	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	78.6
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	62%		17-158%
4165-60-0	Nitrobenzene-d5	65%		33-127%
321-60-8	2-Fluorobiphenyl	72%		41-121%
1718-51-0	Terphenyl-d14	78%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-11(3.0)		
Lab Sample ID:	JB93023-11	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	78.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63021.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0031	0.00052	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	83%		70-170%
460-00-4	Bromofluorobenzene (S)	116%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-11(3.0)		
Lab Sample ID:	JB93023-11	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	78.6
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	12.0	6.2	0.050	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	24.3	2.5	0.21	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	27.4	5.0	0.062	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	22.8	6.2	0.092	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	49.6	6.2	0.96	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-12(3.0)		
Lab Sample ID:	JB93023-12	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	83.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E225520.D	1	04/29/15	TDN	n/a	n/a	VE9899
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.0 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0549	0.055	0.015	mg/kg	J
108-88-3	Toluene	0.0730	0.11	0.023	mg/kg	J
100-41-4	Ethylbenzene	0.147	0.11	0.018	mg/kg	
1330-20-7	Xylene (total)	0.640	0.11	0.030	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.11	0.017	mg/kg	
135-98-8	sec-Butylbenzene	0.242	0.22	0.019	mg/kg	
98-06-6	tert-Butylbenzene	0.0571	0.22	0.023	mg/kg	J
110-82-7	Cyclohexane	1.21	0.22	0.035	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.11	0.015	mg/kg	
110-54-3	Hexane	0.155	0.55	0.042	mg/kg	J
98-82-8	Isopropylbenzene	0.186	0.22	0.012	mg/kg	J
91-20-3	Naphthalene	5.51	0.55	0.021	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	2.76	0.22	0.022	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	0.748	0.22	0.021	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		70-122%
17060-07-0	1,2-Dichloroethane-D4	81%		68-124%
2037-26-5	Toluene-D8	88%		77-125%
460-00-4	4-Bromofluorobenzene	77%		72-130%

(a) Dilution required 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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-12(3.0)		
Lab Sample ID:	JB93023-12	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	Z100922.D	4	04/30/15	LK	04/30/15	OP83522	EZ5033
Run #2	Z100923.D	8	04/30/15	LK	04/30/15	OP83522	EZ5033

	Initial Weight	Final Volume
Run #1	15.3 g	1.0 ml
Run #2	15.3 g	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	1.6	0.52	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	1.6	0.38	mg/kg	
95-48-7	2-Methylphenol	ND	0.62	0.36	mg/kg	
	3&4-Methylphenol	ND	0.62	0.40	mg/kg	
100-02-7	4-Nitrophenol	ND	3.1	0.53	mg/kg	
108-95-2	Phenol	ND	0.62	0.33	mg/kg	
83-32-9	Acenaphthene	7.04	0.31	0.091	mg/kg	
120-12-7	Anthracene	ND	0.31	0.11	mg/kg	
56-55-3	Benzo(a)anthracene	6.52	0.31	0.10	mg/kg	
50-32-8	Benzo(a)pyrene	5.84	0.31	0.095	mg/kg	
205-99-2	Benzo(b)fluoranthene	1.98	0.31	0.10	mg/kg	
191-24-2	Benzo(g,h,i)perylene	4.83	0.31	0.12	mg/kg	
207-08-9	Benzo(k)fluoranthene	0.320	0.31	0.12	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.62	0.036	mg/kg	
218-01-9	Chrysene	15.4	0.31	0.11	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.31	0.11	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.62	0.069	mg/kg	
84-66-2	Diethyl phthalate	ND	0.62	0.11	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.62	0.28	mg/kg	
206-44-0	Fluoranthene	3.32	0.31	0.14	mg/kg	
86-73-7	Fluorene	10.3	0.31	0.10	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.31	0.11	mg/kg	
91-57-6	2-Methylnaphthalene	51.6 [b]	1.2	0.35	mg/kg	
85-01-8	Phenanthrene	28.3	0.31	0.14	mg/kg	
129-00-0	Pyrene	22.2	0.31	0.12	mg/kg	
110-86-1	Pyridine	ND	0.62	0.12	mg/kg	
91-22-5	Quinoline	ND	1.6	0.29	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%	58%	22-121%
4165-62-2	Phenol-d5	68%	61%	27-119%

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:	MH593-12(3.0)		
Lab Sample ID:	JB93023-12	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.7
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	59%	51%	17-158%
4165-60-0	Nitrobenzene-d5	78%	65%	33-127%
321-60-8	2-Fluorobiphenyl	76%	69%	41-121%
1718-51-0	Terphenyl-d14	69%	68%	44-137%

(a) Dilution required due to viscosity of the extract matrix
(b) 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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-12(3.0)		
Lab Sample ID:	JB93023-12	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	83.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63022.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	80%		70-170%
460-00-4	Bromofluorobenzene (S)	105%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-12(3.0)		
Lab Sample ID:	JB93023-12	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	83.7
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	8.2	5.9	0.047	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	65.4	2.3	0.20	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	18.7	4.7	0.059	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	47.6	5.9	0.087	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	84.2	5.9	0.90	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-13(2.0)		
Lab Sample ID:	JB93023-13	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	81.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E225467.D	1	04/27/15	TDN	n/a	n/a	VE9896
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.0 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.050	0.013	mg/kg	
108-88-3	Toluene	ND	0.099	0.021	mg/kg	
100-41-4	Ethylbenzene	ND	0.099	0.016	mg/kg	
1330-20-7	Xylene (total)	ND	0.099	0.027	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.099	0.015	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.20	0.017	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.20	0.021	mg/kg	
110-82-7	Cyclohexane	ND	0.20	0.031	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.099	0.013	mg/kg	
110-54-3	Hexane	ND	0.50	0.038	mg/kg	
98-82-8	Isopropylbenzene	ND	0.20	0.011	mg/kg	
91-20-3	Naphthalene	0.103	0.50	0.019	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	0.20	0.020	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.20	0.019	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		70-122%
17060-07-0	1,2-Dichloroethane-D4	84%		68-124%
2037-26-5	Toluene-D8	87%		77-125%
460-00-4	4-Bromofluorobenzene	84%		72-130%

(a) Dilution required due to sample matrix.

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-13(2.0)		
Lab Sample ID:	JB93023-13	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73760.D	2	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.41	0.14	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.41	0.099	mg/kg	
95-48-7	2-Methylphenol	ND	0.16	0.093	mg/kg	
	3&4-Methylphenol	ND	0.16	0.10	mg/kg	
100-02-7	4-Nitrophenol	ND	0.81	0.14	mg/kg	
108-95-2	Phenol	ND	0.16	0.085	mg/kg	
83-32-9	Acenaphthene	0.0788	0.081	0.024	mg/kg	J
120-12-7	Anthracene	0.241	0.081	0.028	mg/kg	
56-55-3	Benzo(a)anthracene	0.932	0.081	0.027	mg/kg	
50-32-8	Benzo(a)pyrene	0.909	0.081	0.025	mg/kg	
205-99-2	Benzo(b)fluoranthene	0.349	0.081	0.027	mg/kg	
191-24-2	Benzo(g,h,i)perylene	0.742	0.081	0.030	mg/kg	
207-08-9	Benzo(k)fluoranthene	0.0692	0.081	0.031	mg/kg	J
92-52-4	1,1'-Biphenyl	ND	0.16	0.0094	mg/kg	
218-01-9	Chrysene	2.81	0.081	0.027	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	0.193	0.081	0.028	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.16	0.018	mg/kg	
84-66-2	Diethyl phthalate	ND	0.16	0.028	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.16	0.072	mg/kg	
206-44-0	Fluoranthene	0.309	0.081	0.036	mg/kg	
86-73-7	Fluorene	0.151	0.081	0.027	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	0.187	0.081	0.028	mg/kg	
91-57-6	2-Methylnaphthalene	0.150	0.16	0.045	mg/kg	J
85-01-8	Phenanthrene	0.241	0.081	0.037	mg/kg	
129-00-0	Pyrene	2.44	0.081	0.031	mg/kg	
110-86-1	Pyridine	ND	0.16	0.033	mg/kg	
91-22-5	Quinoline	ND	0.41	0.077	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		22-121%
4165-62-2	Phenol-d5	69%		27-119%

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:	MH593-13(2.0)		
Lab Sample ID:	JB93023-13	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.4
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	74%		17-158%
4165-60-0	Nitrobenzene-d5	66%		33-127%
321-60-8	2-Fluorobiphenyl	69%		41-121%
1718-51-0	Terphenyl-d14	72%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-13(2.0)		
Lab Sample ID:	JB93023-13	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	81.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63033.D	1	04/30/15	AMA	04/27/15	M:OP42847	M:GBB3428
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00051	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	98%		70-170%
460-00-4	Bromofluorobenzene (S)	107%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-13(2.0)		
Lab Sample ID:	JB93023-13	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	81.4
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	10.8	6.2	0.050	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	25.4	2.5	0.21	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	22.1	5.0	0.062	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	50.6	6.2	0.092	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	60.1	6.2	0.95	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-14(2.0)		
Lab Sample ID:	JB93023-14	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	86.2
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152314.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	5.2 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.00068	0.00056	0.00015	mg/kg	
108-88-3	Toluene	ND	0.0011	0.00023	mg/kg	
100-41-4	Ethylbenzene	ND	0.0011	0.00018	mg/kg	
1330-20-7	Xylene (total)	ND	0.0011	0.00031	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00017	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0022	0.00019	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0022	0.00024	mg/kg	
110-82-7	Cyclohexane	ND	0.0022	0.00035	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00015	mg/kg	
110-54-3	Hexane	ND	0.0056	0.00043	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0022	0.00012	mg/kg	
91-20-3	Naphthalene	ND	0.0056	0.00021	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0022	0.00022	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0022	0.00021	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-122%
17060-07-0	1,2-Dichloroethane-D4	89%		68-124%
2037-26-5	Toluene-D8	106%		77-125%
460-00-4	4-Bromofluorobenzene	104%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-14(2.0)		
Lab Sample ID:	JB93023-14	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.2
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73610.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165
Run #2							

	Initial Weight	Final Volume
Run #1	31.0 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.19	0.063	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.19	0.046	mg/kg	
95-48-7	2-Methylphenol	ND	0.075	0.043	mg/kg	
	3&4-Methylphenol	ND	0.075	0.048	mg/kg	
100-02-7	4-Nitrophenol	ND	0.37	0.063	mg/kg	
108-95-2	Phenol	ND	0.075	0.039	mg/kg	
83-32-9	Acenaphthene	ND	0.037	0.011	mg/kg	
120-12-7	Anthracene	0.0451	0.037	0.013	mg/kg	
56-55-3	Benzo(a)anthracene	0.186	0.037	0.012	mg/kg	
50-32-8	Benzo(a)pyrene	0.455	0.037	0.011	mg/kg	
205-99-2	Benzo(b)fluoranthene	0.377	0.037	0.012	mg/kg	
191-24-2	Benzo(g,h,i)perylene	0.664	0.037	0.014	mg/kg	
207-08-9	Benzo(k)fluoranthene	0.0760	0.037	0.014	mg/kg	
92-52-4	1,1'-Biphenyl	0.0205	0.075	0.0043	mg/kg	J
218-01-9	Chrysene	0.268	0.037	0.013	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	0.382	0.037	0.013	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.075	0.0083	mg/kg	
84-66-2	Diethyl phthalate	ND	0.075	0.013	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.075	0.033	mg/kg	
206-44-0	Fluoranthene	0.0902	0.037	0.017	mg/kg	
86-73-7	Fluorene	0.0160	0.037	0.012	mg/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	0.373	0.037	0.013	mg/kg	
91-57-6	2-Methylnaphthalene	0.135	0.075	0.021	mg/kg	
85-01-8	Phenanthrene	0.138	0.037	0.017	mg/kg	
129-00-0	Pyrene	0.173	0.037	0.014	mg/kg	
110-86-1	Pyridine	ND	0.075	0.015	mg/kg	
91-22-5	Quinoline	ND	0.19	0.035	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		22-121%
4165-62-2	Phenol-d5	64%		27-119%

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:	MH593-14(2.0)		
Lab Sample ID:	JB93023-14	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.2
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	101%		17-158%
4165-60-0	Nitrobenzene-d5	74%		33-127%
321-60-8	2-Fluorobiphenyl	77%		41-121%
1718-51-0	Terphenyl-d14	88%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH593-14(2.0)		
Lab Sample ID:	JB93023-14	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	86.2
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63024.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0029	0.00048	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	72%		70-170%
460-00-4	Bromofluorobenzene (S)	113%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH593-14(2.0)		
Lab Sample ID:	JB93023-14	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	86.2
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	6.7	5.6	0.045	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	41.8	2.2	0.19	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	13.2	4.5	0.056	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	32.0	5.6	0.083	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	49.0	5.6	0.86	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-1(3.0)		
Lab Sample ID:	JB93023-15	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	84.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152315.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	5.5 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00054	0.00014	mg/kg	
108-88-3	Toluene	ND	0.0011	0.00022	mg/kg	
100-41-4	Ethylbenzene	ND	0.0011	0.00017	mg/kg	
1330-20-7	Xylene (total)	ND	0.0011	0.00029	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00016	mg/kg	
135-98-8	sec-Butylbenzene	0.00027	0.0021	0.00018	mg/kg	J
98-06-6	tert-Butylbenzene	0.00033	0.0021	0.00023	mg/kg	J
110-82-7	Cyclohexane	ND	0.0021	0.00034	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00014	mg/kg	
110-54-3	Hexane	ND	0.0054	0.00042	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0021	0.00011	mg/kg	
91-20-3	Naphthalene	ND	0.0054	0.00020	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0021	0.00021	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0021	0.00021	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-122%
17060-07-0	1,2-Dichloroethane-D4	89%		68-124%
2037-26-5	Toluene-D8	107%		77-125%
460-00-4	4-Bromofluorobenzene	105%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-1(3.0)		
Lab Sample ID:	JB93023-15	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	84.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73766.D	1	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.066	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.048	mg/kg	
95-48-7	2-Methylphenol	ND	0.079	0.045	mg/kg	
	3&4-Methylphenol	ND	0.079	0.050	mg/kg	
100-02-7	4-Nitrophenol	ND	0.39	0.067	mg/kg	
108-95-2	Phenol	ND	0.079	0.041	mg/kg	
83-32-9	Acenaphthene	ND	0.039	0.011	mg/kg	
120-12-7	Anthracene	ND	0.039	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.039	0.013	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.039	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.039	0.013	mg/kg	
191-24-2	Benzo(g,h,i)perylene	0.0334	0.039	0.015	mg/kg	J
207-08-9	Benzo(k)fluoranthene	ND	0.039	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.079	0.0046	mg/kg	
218-01-9	Chrysene	0.0267	0.039	0.013	mg/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.039	0.013	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.079	0.0087	mg/kg	
84-66-2	Diethyl phthalate	ND	0.079	0.013	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.079	0.035	mg/kg	
206-44-0	Fluoranthene	ND	0.039	0.017	mg/kg	
86-73-7	Fluorene	ND	0.039	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.039	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.079	0.022	mg/kg	
85-01-8	Phenanthrene	ND	0.039	0.018	mg/kg	
129-00-0	Pyrene	0.0702	0.039	0.015	mg/kg	
110-86-1	Pyridine	ND	0.079	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.037	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	68%		22-121%
4165-62-2	Phenol-d5	71%		27-119%

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:	MH592-1(3.0)		
Lab Sample ID:	JB93023-15	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	84.7
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	82%		17-158%
4165-60-0	Nitrobenzene-d5	75%		33-127%
321-60-8	2-Fluorobiphenyl	80%		41-121%
1718-51-0	Terphenyl-d14	87%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-1(3.0)		
Lab Sample ID:	JB93023-15	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	84.7
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63025.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0029	0.00049	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	86%		70-170%
460-00-4	Bromofluorobenzene (S)	127%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-1(3.0)		
Lab Sample ID:	JB93023-15	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	84.7
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	8.0	5.7	0.046	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	13.7	2.3	0.20	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	19.1	4.6	0.057	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	36.7	5.7	0.085	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	54.5	5.7	0.88	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-2(3.0)		
Lab Sample ID:	JB93023-16	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	86.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E225510.D	1	04/28/15	TDN	n/a	n/a	VE9899
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.7 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.055	0.015	mg/kg	
108-88-3	Toluene	ND	0.11	0.023	mg/kg	
100-41-4	Ethylbenzene	ND	0.11	0.018	mg/kg	
1330-20-7	Xylene (total)	0.0419	0.11	0.030	mg/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.11	0.017	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.22	0.019	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.22	0.023	mg/kg	
110-82-7	Cyclohexane	ND	0.22	0.034	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.11	0.015	mg/kg	
110-54-3	Hexane	ND	0.55	0.042	mg/kg	
98-82-8	Isopropylbenzene	ND	0.22	0.012	mg/kg	
91-20-3	Naphthalene	0.0683	0.55	0.021	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	ND	0.22	0.022	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.22	0.021	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		70-122%
17060-07-0	1,2-Dichloroethane-D4	82%		68-124%
2037-26-5	Toluene-D8	87%		77-125%
460-00-4	4-Bromofluorobenzene	81%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-2(3.0)		
Lab Sample ID:	JB93023-16	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73767.D	1	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

	Initial Weight	Final Volume
Run #1	33.0 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.17	0.059	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.17	0.043	mg/kg	
95-48-7	2-Methylphenol	ND	0.070	0.040	mg/kg	
	3&4-Methylphenol	ND	0.070	0.044	mg/kg	
100-02-7	4-Nitrophenol	ND	0.35	0.059	mg/kg	
108-95-2	Phenol	ND	0.070	0.037	mg/kg	
83-32-9	Acenaphthene	ND	0.035	0.010	mg/kg	
120-12-7	Anthracene	ND	0.035	0.012	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.035	0.011	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.035	0.011	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.035	0.012	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.035	0.013	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.035	0.013	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.070	0.0041	mg/kg	
218-01-9	Chrysene	ND	0.035	0.012	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.035	0.012	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.070	0.0078	mg/kg	
84-66-2	Diethyl phthalate	ND	0.070	0.012	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.070	0.031	mg/kg	
206-44-0	Fluoranthene	ND	0.035	0.015	mg/kg	
86-73-7	Fluorene	ND	0.035	0.011	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.035	0.012	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.070	0.020	mg/kg	
85-01-8	Phenanthrene	0.0238	0.035	0.016	mg/kg	J
129-00-0	Pyrene	ND	0.035	0.013	mg/kg	
110-86-1	Pyridine	ND	0.070	0.014	mg/kg	
91-22-5	Quinoline	ND	0.17	0.033	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		22-121%
4165-62-2	Phenol-d5	67%		27-119%

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:	MH592-2(3.0)		
Lab Sample ID:	JB93023-16	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.6
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	74%		17-158%
4165-60-0	Nitrobenzene-d5	83%		33-127%
321-60-8	2-Fluorobiphenyl	75%		41-121%
1718-51-0	Terphenyl-d14	81%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-2(3.0)		
Lab Sample ID:	JB93023-16	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	86.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63026.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0029	0.00048	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	85%		70-170%
460-00-4	Bromofluorobenzene (S)	128%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-2(3.0)		
Lab Sample ID:	JB93023-16	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	86.6
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	14.4	5.6	0.045	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	3.7	2.2	0.19	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	45.9	4.5	0.056	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	53.7	5.6	0.083	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	139	5.6	0.86	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-3(3.0)		
Lab Sample ID:	JB93023-17	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	79.2
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X154243.D	1	04/23/15	BM	n/a	n/a	VX6649
Run #2							

	Initial Weight
Run #1	6.2 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00051	0.00014	mg/kg	
108-88-3	Toluene	ND	0.0010	0.00021	mg/kg	
100-41-4	Ethylbenzene	ND	0.0010	0.00017	mg/kg	
1330-20-7	Xylene (total)	ND	0.0010	0.00028	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00016	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0020	0.00017	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0020	0.00021	mg/kg	
110-82-7	Cyclohexane	ND	0.0020	0.00032	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00014	mg/kg	
110-54-3	Hexane	ND	0.0051	0.00039	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0020	0.00011	mg/kg	
91-20-3	Naphthalene	ND	0.0051	0.00019	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0020	0.00020	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0020	0.00019	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-122%
17060-07-0	1,2-Dichloroethane-D4	110%		68-124%
2037-26-5	Toluene-D8	103%		77-125%
460-00-4	4-Bromofluorobenzene	108%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-3(3.0)		
Lab Sample ID:	JB93023-17	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.2
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73761.D	1	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

	Initial Weight	Final Volume
Run #1	31.0 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.068	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.050	mg/kg	
95-48-7	2-Methylphenol	ND	0.081	0.046	mg/kg	
	3&4-Methylphenol	ND	0.081	0.052	mg/kg	
100-02-7	4-Nitrophenol	ND	0.41	0.069	mg/kg	
108-95-2	Phenol	ND	0.081	0.043	mg/kg	
83-32-9	Acenaphthene	ND	0.041	0.012	mg/kg	
120-12-7	Anthracene	ND	0.041	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.041	0.013	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.041	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.014	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.041	0.015	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.041	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.081	0.0047	mg/kg	
218-01-9	Chrysene	ND	0.041	0.014	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.041	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.081	0.0090	mg/kg	
84-66-2	Diethyl phthalate	ND	0.081	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.081	0.036	mg/kg	
206-44-0	Fluoranthene	ND	0.041	0.018	mg/kg	
86-73-7	Fluorene	ND	0.041	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.041	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.081	0.023	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.019	mg/kg	
129-00-0	Pyrene	ND	0.041	0.016	mg/kg	
110-86-1	Pyridine	ND	0.081	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.038	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	60%		22-121%
4165-62-2	Phenol-d5	67%		27-119%

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:	MH592-3(3.0)		
Lab Sample ID:	JB93023-17	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.2
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	69%		17-158%
4165-60-0	Nitrobenzene-d5	71%		33-127%
321-60-8	2-Fluorobiphenyl	72%		41-121%
1718-51-0	Terphenyl-d14	86%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-3(3.0)		
Lab Sample ID:	JB93023-17	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	79.2
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63027.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0031	0.00052	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	77%		70-170%
460-00-4	Bromofluorobenzene (S)	115%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-3(3.0)		
Lab Sample ID:	JB93023-17	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	79.2
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	4.8 B	6.4	0.051	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	11.9	2.6	0.22	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	12.2	5.1	0.064	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	39.4	6.4	0.094	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	33.1	6.4	0.98	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-4(3.0)		
Lab Sample ID:	JB93023-18	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	79.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X154244.D	1	04/23/15	BM	n/a	n/a	VX6649
Run #2							

	Initial Weight
Run #1	6.3 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00050	0.00013	mg/kg	
108-88-3	Toluene	ND	0.0010	0.00021	mg/kg	
100-41-4	Ethylbenzene	ND	0.0010	0.00016	mg/kg	
1330-20-7	Xylene (total)	ND	0.0010	0.00027	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00015	mg/kg	
135-98-8	sec-Butylbenzene	0.0017	0.0020	0.00017	mg/kg	J
98-06-6	tert-Butylbenzene	0.0014	0.0020	0.00021	mg/kg	J
110-82-7	Cyclohexane	ND	0.0020	0.00032	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00013	mg/kg	
110-54-3	Hexane	ND	0.0050	0.00039	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0020	0.00011	mg/kg	
91-20-3	Naphthalene	ND	0.0050	0.00019	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	0.00044	0.0020	0.00020	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.00049	0.0020	0.00019	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-122%
17060-07-0	1,2-Dichloroethane-D4	114%		68-124%
2037-26-5	Toluene-D8	97%		77-125%
460-00-4	4-Bromofluorobenzene	93%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-4(3.0)		
Lab Sample ID:	JB93023-18	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73762.D	1	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

	Initial Weight	Final Volume
Run #1	33.6 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.19	0.063	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.19	0.046	mg/kg	
95-48-7	2-Methylphenol	ND	0.075	0.043	mg/kg	
	3&4-Methylphenol	ND	0.075	0.047	mg/kg	
100-02-7	4-Nitrophenol	ND	0.37	0.063	mg/kg	
108-95-2	Phenol	ND	0.075	0.039	mg/kg	
83-32-9	Acenaphthene	ND	0.037	0.011	mg/kg	
120-12-7	Anthracene	ND	0.037	0.013	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.037	0.012	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.037	0.011	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.037	0.012	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.037	0.014	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.037	0.014	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.075	0.0043	mg/kg	
218-01-9	Chrysene	ND	0.037	0.013	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.037	0.013	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.075	0.0083	mg/kg	
84-66-2	Diethyl phthalate	ND	0.075	0.013	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.075	0.033	mg/kg	
206-44-0	Fluoranthene	ND	0.037	0.016	mg/kg	
86-73-7	Fluorene	ND	0.037	0.012	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.037	0.013	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.075	0.021	mg/kg	
85-01-8	Phenanthrene	0.0254	0.037	0.017	mg/kg	J
129-00-0	Pyrene	0.0237	0.037	0.014	mg/kg	J
110-86-1	Pyridine	ND	0.075	0.015	mg/kg	
91-22-5	Quinoline	ND	0.19	0.035	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	70%		22-121%
4165-62-2	Phenol-d5	74%		27-119%

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:	MH592-4(3.0)		
Lab Sample ID:	JB93023-18	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.6
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	70%		17-158%
4165-60-0	Nitrobenzene-d5	78%		33-127%
321-60-8	2-Fluorobiphenyl	81%		41-121%
1718-51-0	Terphenyl-d14	82%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-4(3.0)		
Lab Sample ID:	JB93023-18	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	79.6
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63028.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.6 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0031	0.00051	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	78%		70-170%
460-00-4	Bromofluorobenzene (S)	124%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-4(3.0)		
Lab Sample ID:	JB93023-18	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	79.6
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	5.9 B	6.3	0.050	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	13.4	2.5	0.22	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	15.2	5.0	0.063	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	56.0	6.3	0.093	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	39.9	6.3	0.96	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-5(3.0)		
Lab Sample ID:	JB93023-19	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	79.9
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X154296.D	1	04/25/15	BM	n/a	n/a	VX6651
Run #2							

	Initial Weight
Run #1	6.7 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00047	0.00012	mg/kg	
108-88-3	Toluene	ND	0.00093	0.00019	mg/kg	
100-41-4	Ethylbenzene	ND	0.00093	0.00015	mg/kg	
1330-20-7	Xylene (total)	ND	0.00093	0.00026	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00093	0.00014	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0019	0.00016	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0019	0.00020	mg/kg	
110-82-7	Cyclohexane	ND	0.0019	0.00030	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00093	0.00013	mg/kg	
110-54-3	Hexane	ND	0.0047	0.00036	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0019	0.000099	mg/kg	
91-20-3	Naphthalene	ND	0.0047	0.00018	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0019	0.00019	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0019	0.00018	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-122%
17060-07-0	1,2-Dichloroethane-D4	111%		68-124%
2037-26-5	Toluene-D8	101%		77-125%
460-00-4	4-Bromofluorobenzene	102%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-5(3.0)		
Lab Sample ID:	JB93023-19	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.9
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73763.D	1	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.069	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.050	mg/kg	
95-48-7	2-Methylphenol	ND	0.082	0.047	mg/kg	
	3&4-Methylphenol	ND	0.082	0.052	mg/kg	
100-02-7	4-Nitrophenol	ND	0.41	0.069	mg/kg	
108-95-2	Phenol	ND	0.082	0.043	mg/kg	
83-32-9	Acenaphthene	ND	0.041	0.012	mg/kg	
120-12-7	Anthracene	ND	0.041	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.041	0.013	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.041	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.014	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.041	0.015	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.041	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.082	0.0047	mg/kg	
218-01-9	Chrysene	ND	0.041	0.014	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.041	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.082	0.0091	mg/kg	
84-66-2	Diethyl phthalate	ND	0.082	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.082	0.036	mg/kg	
206-44-0	Fluoranthene	ND	0.041	0.018	mg/kg	
86-73-7	Fluorene	ND	0.041	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.041	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.082	0.023	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.019	mg/kg	
129-00-0	Pyrene	ND	0.041	0.016	mg/kg	
110-86-1	Pyridine	ND	0.082	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.039	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	70%		22-121%
4165-62-2	Phenol-d5	70%		27-119%

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:	MH592-5(3.0)		
Lab Sample ID:	JB93023-19	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.9
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	74%		17-158%
4165-60-0	Nitrobenzene-d5	76%		33-127%
321-60-8	2-Fluorobiphenyl	78%		41-121%
1718-51-0	Terphenyl-d14	88%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-5(3.0)		
Lab Sample ID:	JB93023-19	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	79.9
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63029.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0031	0.00051	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	75%		70-170%
460-00-4	Bromofluorobenzene (S)	108%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-5(3.0)		
Lab Sample ID:	JB93023-19	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	79.9
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	4.8 B	6.2	0.050	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	8.9	2.5	0.21	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	12.0	5.0	0.062	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	38.5	6.2	0.092	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	52.2	6.2	0.95	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-6(3.0)		
Lab Sample ID:	JB93023-20	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	82.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152316.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	6.5 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00047	0.00012	mg/kg	
108-88-3	Toluene	ND	0.00094	0.00020	mg/kg	
100-41-4	Ethylbenzene	ND	0.00094	0.00015	mg/kg	
1330-20-7	Xylene (total)	ND	0.00094	0.00026	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00094	0.00014	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0019	0.00016	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0019	0.00020	mg/kg	
110-82-7	Cyclohexane	ND	0.0019	0.00030	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00094	0.00013	mg/kg	
110-54-3	Hexane	0.00043	0.0047	0.00036	mg/kg	J
98-82-8	Isopropylbenzene	ND	0.0019	0.000099	mg/kg	
91-20-3	Naphthalene	ND	0.0047	0.00018	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0019	0.00019	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0019	0.00018	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-122%
17060-07-0	1,2-Dichloroethane-D4	90%		68-124%
2037-26-5	Toluene-D8	107%		77-125%
460-00-4	4-Bromofluorobenzene	107%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-6(3.0)		
Lab Sample ID:	JB93023-20	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73764.D	1	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.068	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.050	mg/kg	
95-48-7	2-Methylphenol	ND	0.081	0.046	mg/kg	
	3&4-Methylphenol	ND	0.081	0.052	mg/kg	
100-02-7	4-Nitrophenol	ND	0.41	0.069	mg/kg	
108-95-2	Phenol	ND	0.081	0.043	mg/kg	
83-32-9	Acenaphthene	ND	0.041	0.012	mg/kg	
120-12-7	Anthracene	ND	0.041	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.041	0.013	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.041	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.014	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.041	0.015	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.041	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.081	0.0047	mg/kg	
218-01-9	Chrysene	ND	0.041	0.014	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.041	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.081	0.0090	mg/kg	
84-66-2	Diethyl phthalate	ND	0.081	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.081	0.036	mg/kg	
206-44-0	Fluoranthene	ND	0.041	0.018	mg/kg	
86-73-7	Fluorene	ND	0.041	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.041	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.081	0.023	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.018	mg/kg	
129-00-0	Pyrene	0.0164	0.041	0.016	mg/kg	J
110-86-1	Pyridine	ND	0.081	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.038	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	71%		22-121%
4165-62-2	Phenol-d5	74%		27-119%

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:	MH592-6(3.0)		
Lab Sample ID:	JB93023-20	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.0
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	83%		17-158%
4165-60-0	Nitrobenzene-d5	78%		33-127%
321-60-8	2-Fluorobiphenyl	81%		41-121%
1718-51-0	Terphenyl-d14	90%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-6(3.0)		
Lab Sample ID:	JB93023-20	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	82.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63030.D	1	04/29/15	AMA	04/27/15	M:OP42847	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00051	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	83%		70-170%
460-00-4	Bromofluorobenzene (S)	114%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-6(3.0)		
Lab Sample ID:	JB93023-20	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	82.0
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	7.7	5.9	0.047	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	23.0	2.3	0.20	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	19.3	4.7	0.059	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	58.6	5.9	0.087	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	73.2	5.9	0.90	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36544
(2) Prep QC Batch: MP86107

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-7(2.0)		
Lab Sample ID:	JB93023-21	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	82.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	E225519.D	1	04/29/15	TDN	n/a	n/a	VE9899
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	10.0 ml	100 ul
Run #2			

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.066	0.018	mg/kg	
108-88-3	Toluene	ND	0.13	0.028	mg/kg	
100-41-4	Ethylbenzene	ND	0.13	0.022	mg/kg	
1330-20-7	Xylene (total)	ND	0.13	0.036	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.13	0.020	mg/kg	
135-98-8	sec-Butylbenzene	0.0619	0.27	0.023	mg/kg	J
98-06-6	tert-Butylbenzene	ND	0.27	0.028	mg/kg	
110-82-7	Cyclohexane	ND	0.27	0.042	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.13	0.018	mg/kg	
110-54-3	Hexane	ND	0.66	0.051	mg/kg	
98-82-8	Isopropylbenzene	0.0365	0.27	0.014	mg/kg	J
91-20-3	Naphthalene	0.209	0.66	0.025	mg/kg	J
95-63-6	1,2,4-Trimethylbenzene	0.0694	0.27	0.026	mg/kg	J
108-67-8	1,3,5-Trimethylbenzene	0.0459	0.27	0.025	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		70-122%
17060-07-0	1,2-Dichloroethane-D4	82%		68-124%
2037-26-5	Toluene-D8	87%		77-125%
460-00-4	4-Bromofluorobenzene	83%		72-130%

(a) Dilution required due to sample matrix.

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-7(2.0)		
Lab Sample ID:	JB93023-21	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73765.D	1	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.068	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.050	mg/kg	
95-48-7	2-Methylphenol	ND	0.081	0.046	mg/kg	
	3&4-Methylphenol	ND	0.081	0.052	mg/kg	
100-02-7	4-Nitrophenol	ND	0.41	0.069	mg/kg	
108-95-2	Phenol	ND	0.081	0.043	mg/kg	
83-32-9	Acenaphthene	ND	0.041	0.012	mg/kg	
120-12-7	Anthracene	ND	0.041	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.041	0.013	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.041	0.012	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.041	0.014	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.041	0.015	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.041	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.081	0.0047	mg/kg	
218-01-9	Chrysene	ND	0.041	0.014	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.041	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.081	0.0090	mg/kg	
84-66-2	Diethyl phthalate	ND	0.081	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.081	0.036	mg/kg	
206-44-0	Fluoranthene	ND	0.041	0.018	mg/kg	
86-73-7	Fluorene	ND	0.041	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.041	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.081	0.023	mg/kg	
85-01-8	Phenanthrene	ND	0.041	0.018	mg/kg	
129-00-0	Pyrene	ND	0.041	0.016	mg/kg	
110-86-1	Pyridine	ND	0.081	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.038	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		22-121%
4165-62-2	Phenol-d5	71%		27-119%

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:	MH592-7(2.0)		
Lab Sample ID:	JB93023-21	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.1
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	78%		17-158%
4165-60-0	Nitrobenzene-d5	79%		33-127%
321-60-8	2-Fluorobiphenyl	82%		41-121%
1718-51-0	Terphenyl-d14	93%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-7(2.0)		
Lab Sample ID:	JB93023-21	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	82.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63000.D	1	04/29/15	AMA	04/27/15	M:OP42837	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	119%		70-170%
460-00-4	Bromofluorobenzene (S)	120%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-7(2.0)		
Lab Sample ID:	JB93023-21	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	82.1
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	4.7 B	5.9	0.047	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	10.2	2.3	0.20	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	13.1	4.7	0.059	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	41.4	5.9	0.087	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	45.3	5.9	0.90	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36545
(2) Prep QC Batch: MP86106

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-8(3.0)		
Lab Sample ID:	JB93023-22	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	81.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V152317.D	1	04/23/15	BM	n/a	n/a	VV6455
Run #2							

	Initial Weight
Run #1	8.5 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00036	0.000096	mg/kg	
108-88-3	Toluene	ND	0.00072	0.00015	mg/kg	
100-41-4	Ethylbenzene	ND	0.00072	0.00012	mg/kg	
1330-20-7	Xylene (total)	ND	0.00072	0.00020	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.00072	0.00011	mg/kg	
135-98-8	sec-Butylbenzene	0.00041	0.0014	0.00012	mg/kg	J
98-06-6	tert-Butylbenzene	0.00025	0.0014	0.00015	mg/kg	J
110-82-7	Cyclohexane	ND	0.0014	0.00023	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.00072	0.000097	mg/kg	
110-54-3	Hexane	ND	0.0036	0.00028	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0014	0.000077	mg/kg	
91-20-3	Naphthalene	ND	0.0036	0.00014	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0014	0.00014	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0014	0.00014	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		70-122%
17060-07-0	1,2-Dichloroethane-D4	87%		68-124%
2037-26-5	Toluene-D8	109%		77-125%
460-00-4	4-Bromofluorobenzene	105%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-8(3.0)		
Lab Sample ID:	JB93023-22	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73768.D	1	05/01/15	AN	04/26/15	OP83421	E2M3173
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.20	0.069	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.20	0.050	mg/kg	
95-48-7	2-Methylphenol	ND	0.082	0.047	mg/kg	
	3&4-Methylphenol	ND	0.082	0.052	mg/kg	
100-02-7	4-Nitrophenol	ND	0.41	0.069	mg/kg	
108-95-2	Phenol	ND	0.082	0.043	mg/kg	
83-32-9	Acenaphthene	ND	0.041	0.012	mg/kg	
120-12-7	Anthracene	ND	0.041	0.014	mg/kg	
56-55-3	Benzo(a)anthracene	0.0193	0.041	0.013	mg/kg	J
50-32-8	Benzo(a)pyrene	0.0244	0.041	0.012	mg/kg	J
205-99-2	Benzo(b)fluoranthene	0.0191	0.041	0.014	mg/kg	J
191-24-2	Benzo(g,h,i)perylene	0.0297	0.041	0.015	mg/kg	J
207-08-9	Benzo(k)fluoranthene	ND	0.041	0.015	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.082	0.0048	mg/kg	
218-01-9	Chrysene	0.0673	0.041	0.014	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.041	0.014	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.082	0.0091	mg/kg	
84-66-2	Diethyl phthalate	ND	0.082	0.014	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.082	0.036	mg/kg	
206-44-0	Fluoranthene	ND	0.041	0.018	mg/kg	
86-73-7	Fluorene	ND	0.041	0.013	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.041	0.014	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.082	0.023	mg/kg	
85-01-8	Phenanthrene	0.0795	0.041	0.019	mg/kg	
129-00-0	Pyrene	0.190	0.041	0.016	mg/kg	
110-86-1	Pyridine	ND	0.082	0.016	mg/kg	
91-22-5	Quinoline	ND	0.20	0.039	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	82%		22-121%
4165-62-2	Phenol-d5	79%		27-119%

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:	MH592-8(3.0)		
Lab Sample ID:	JB93023-22	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.4
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	60%		17-158%
4165-60-0	Nitrobenzene-d5	75%		33-127%
321-60-8	2-Fluorobiphenyl	66%		41-121%
1718-51-0	Terphenyl-d14	81%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-8(3.0)		
Lab Sample ID:	JB93023-22	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	81.4
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63001.D	1	04/29/15	AMA	04/27/15	M:OP42837	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	108%		70-170%
460-00-4	Bromofluorobenzene (S)	114%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-8(3.0)		
Lab Sample ID:	JB93023-22	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	81.4
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	4.4 B	6.2	0.050	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	12.1	2.5	0.21	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	13.2	5.0	0.062	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	47.3	6.2	0.092	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	38.1	6.2	0.95	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36545
(2) Prep QC Batch: MP86106

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-9(2.0)		
Lab Sample ID:	JB93023-23	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	82.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X154250.D	1	04/23/15	BM	n/a	n/a	VX6649
Run #2							

	Initial Weight
Run #1	6.0 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00051	0.00013	mg/kg	
108-88-3	Toluene	ND	0.0010	0.00021	mg/kg	
100-41-4	Ethylbenzene	ND	0.0010	0.00017	mg/kg	
1330-20-7	Xylene (total)	ND	0.0010	0.00028	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0010	0.00016	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0020	0.00017	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0020	0.00021	mg/kg	
110-82-7	Cyclohexane	0.00044	0.0020	0.00032	mg/kg	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00014	mg/kg	
110-54-3	Hexane	ND	0.0051	0.00039	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0020	0.00011	mg/kg	
91-20-3	Naphthalene	ND	0.0051	0.00019	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0020	0.00020	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0020	0.00019	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-122%
17060-07-0	1,2-Dichloroethane-D4	108%		68-124%
2037-26-5	Toluene-D8	101%		77-125%
460-00-4	4-Bromofluorobenzene	101%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-9(2.0)		
Lab Sample ID:	JB93023-23	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73741.D	1	05/01/15	SW	04/26/15	OP83422	E2M3172
Run #2							

	Initial Weight	Final Volume
Run #1	34.0 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.18	0.060	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.18	0.044	mg/kg	
95-48-7	2-Methylphenol	ND	0.072	0.041	mg/kg	
	3&4-Methylphenol	ND	0.072	0.045	mg/kg	
100-02-7	4-Nitrophenol	ND	0.36	0.061	mg/kg	
108-95-2	Phenol	ND	0.072	0.038	mg/kg	
83-32-9	Acenaphthene	ND	0.036	0.010	mg/kg	
120-12-7	Anthracene	ND	0.036	0.013	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.036	0.012	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.036	0.011	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.036	0.012	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.036	0.013	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.036	0.013	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.072	0.0042	mg/kg	
218-01-9	Chrysene	ND	0.036	0.012	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.036	0.012	mg/kg	
84-74-2	Di-n-butyl phthalate	ND	0.072	0.0080	mg/kg	
84-66-2	Diethyl phthalate	ND	0.072	0.012	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.072	0.032	mg/kg	
206-44-0	Fluoranthene	ND	0.036	0.016	mg/kg	
86-73-7	Fluorene	ND	0.036	0.012	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.036	0.012	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.072	0.020	mg/kg	
85-01-8	Phenanthrene	ND	0.036	0.016	mg/kg	
129-00-0	Pyrene	ND	0.036	0.014	mg/kg	
110-86-1	Pyridine	ND	0.072	0.014	mg/kg	
91-22-5	Quinoline	ND	0.18	0.034	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	71%		22-121%
4165-62-2	Phenol-d5	73%		27-119%

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:	MH592-9(2.0)		
Lab Sample ID:	JB93023-23	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.1
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	76%		17-158%
4165-60-0	Nitrobenzene-d5	75%		33-127%
321-60-8	2-Fluorobiphenyl	76%		41-121%
1718-51-0	Terphenyl-d14	84%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-9(2.0)		
Lab Sample ID:	JB93023-23	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	82.1
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63002.D	1	04/29/15	AMA	04/27/15	M:OP42837	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00050	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	94%		70-170%
460-00-4	Bromofluorobenzene (S)	113%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-9(2.0)		
Lab Sample ID:	JB93023-23	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	82.1
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	4.3 B	6.1	0.049	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	12.2	2.4	0.21	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	12.9	4.9	0.061	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	44.7	6.1	0.090	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	43.5	6.1	0.94	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36545
(2) Prep QC Batch: MP86106

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-10(2.0)		
Lab Sample ID:	JB93023-24	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8260C	**Percent Solids:**	82.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X154249.D	1	04/23/15	BM	n/a	n/a	VX6649
Run #2							

	Initial Weight
Run #1	5.7 g
Run #2	

Leaded Gasoline and Aviation Gas List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.00053	0.00014	mg/kg	
108-88-3	Toluene	ND	0.0011	0.00022	mg/kg	
100-41-4	Ethylbenzene	ND	0.0011	0.00017	mg/kg	
1330-20-7	Xylene (total)	ND	0.0011	0.00029	mg/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	0.0011	0.00016	mg/kg	
135-98-8	sec-Butylbenzene	ND	0.0021	0.00018	mg/kg	
98-06-6	tert-Butylbenzene	ND	0.0021	0.00023	mg/kg	
110-82-7	Cyclohexane	ND	0.0021	0.00034	mg/kg	
107-06-2	1,2-Dichloroethane	ND	0.0011	0.00014	mg/kg	
110-54-3	Hexane	ND	0.0053	0.00041	mg/kg	
98-82-8	Isopropylbenzene	ND	0.0021	0.00011	mg/kg	
91-20-3	Naphthalene	ND	0.0053	0.00020	mg/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	0.0021	0.00021	mg/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	0.0021	0.00020	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-122%
17060-07-0	1,2-Dichloroethane-D4	107%		68-124%
2037-26-5	Toluene-D8	102%		77-125%
460-00-4	4-Bromofluorobenzene	103%		72-130%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-10(2.0)		
Lab Sample ID:	JB93023-24	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2M73740.D	1	05/01/15	SW	04/26/15	OP83422	E2M3172
Run #2							

	Initial Weight	Final Volume
Run #1	33.7 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	0.18	0.061	mg/kg	
51-28-5	2,4-Dinitrophenol	ND	0.18	0.044	mg/kg	
95-48-7	2-Methylphenol	ND	0.072	0.041	mg/kg	
	3&4-Methylphenol	ND	0.072	0.046	mg/kg	
100-02-7	4-Nitrophenol	ND	0.36	0.061	mg/kg	
108-95-2	Phenol	ND	0.072	0.038	mg/kg	
83-32-9	Acenaphthene	ND	0.036	0.010	mg/kg	
120-12-7	Anthracene	ND	0.036	0.013	mg/kg	
56-55-3	Benzo(a)anthracene	ND	0.036	0.012	mg/kg	
50-32-8	Benzo(a)pyrene	ND	0.036	0.011	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.036	0.012	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.036	0.013	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.036	0.014	mg/kg	
92-52-4	1,1'-Biphenyl	ND	0.072	0.0042	mg/kg	
218-01-9	Chrysene	ND	0.036	0.012	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.036	0.012	mg/kg	
84-74-2	Di-n-butyl phthalate	0.0365	0.072	0.0080	mg/kg	J
84-66-2	Diethyl phthalate	ND	0.072	0.012	mg/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	0.072	0.032	mg/kg	
206-44-0	Fluoranthene	ND	0.036	0.016	mg/kg	
86-73-7	Fluorene	ND	0.036	0.012	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.036	0.013	mg/kg	
91-57-6	2-Methylnaphthalene	ND	0.072	0.020	mg/kg	
85-01-8	Phenanthrene	ND	0.036	0.016	mg/kg	
129-00-0	Pyrene	ND	0.036	0.014	mg/kg	
110-86-1	Pyridine	ND	0.072	0.014	mg/kg	
91-22-5	Quinoline	ND	0.18	0.034	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		22-121%
4165-62-2	Phenol-d5	66%		27-119%

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:	MH592-10(2.0)		
Lab Sample ID:	JB93023-24	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.0
Project:	MHIC-592/593 Tanks		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	69%		17-158%
4165-60-0	Nitrobenzene-d5	70%		33-127%
321-60-8	2-Fluorobiphenyl	72%		41-121%
1718-51-0	Terphenyl-d14	81%		44-137%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH592-10(2.0)		
Lab Sample ID:	JB93023-24	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
Method:	SW846 8011 SW846 3550B	**Percent Solids:**	82.0
Project:	MHIC-592/593 Tanks		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB63003.D	1	04/29/15	AMA	04/27/15	M:OP42837	M:GBB3427
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	50.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.0030	0.00051	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	97%		70-170%
460-00-4	Bromofluorobenzene (S)	113%		70-170%

(a) Analysis performed at Accutest Laboratories, Marlborough, MA.

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:	MH592-10(2.0)		
Lab Sample ID:	JB93023-24	**Date Sampled:**	04/22/15
Matrix:	SO - Soil	**Date Received:**	04/22/15
		Percent Solids:	82.0
Project:	MHIC-592/593 Tanks		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cobalt	3.7 B	5.9	0.047	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Lead	10.8	2.4	0.20	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Nickel	12.2	4.7	0.059	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Vanadium	42.8	5.9	0.088	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]
Zinc	39.6	5.9	0.91	mg/kg	1	04/29/15	04/29/15	BS	SW846 6010C [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA36545
(2) Prep QC Batch: MP86106

RL = Reporting Limit
MDL = Method Detection Limit

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

New Jersey

ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

ACCUTEST LABORATORIES

SLL

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: JB93023

Client / Reporting Information

Company Name: Stantec Consulting Services Inc.
Street Address: 1060 Andrew Drive, Suite 140
City / State / Zip: West Chester PA 19380
Project Contact / E-mail: Jennifer Menges jennifer.menges@stantec.com
Phone #: (610) 840-2540 Fax #: (610) 840-2501
Sampler(s) Name(s) / Phone #: S. Andrews / S. Reilly (610) 888-3461

Project Information

Project Name: MHIC-592/593 Tanks
Street:
City / State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City / State / Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

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

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VB260SL2	VB011EDB	AB8270SL	Pb, V, Co, Zn, Ni							LAB USE ONLY
1	MH593-1(2.0)		04/22/15	0805	SA/SR	SO	7					4	2	1		X	X	X	X							C37
2	MH593-2(2.0)		04/22/15	0812	SA/SR	SO	7					4	2	1		X	X	X	X							C40T3
3	MH593-3(3.0)		04/22/15	1118	SA/SR	SO	7					4	2	1		X	X	X	X							P80
4	MH593-4(3.0)		04/22/15	0830	SA/SR	SO	7					4	2	1		X	X	X	X							14M5
5	~~MH-593~~ MH593-5(3.0)		04/22/15	0842	SA/SR	SO	7					4	2	1		X	X	X	X							40128
6	MH593-6(3.0)		04/22/15	0855	SA/SR	SO	7					4	2	1		X	X	X	X							
7	MH593-7(3.0)		04/22/15	0910	SA/SR	SO	7					4	2	1		X	X	X	X							SVB
8	MH593-8(3.0)		04/22/15	0920	SA/SR	SO	7					4	2	1		X	X	X	X							
9	MH593-9(3.0)		04/22/15	1025	SA/SR	SO	7					4	2	1		X	X	X	X							
10	MH593-10(3.0)		04/22/15	1037	SA/SR	SO	7					4	2	1		X	X	X	X							
11	MH593-11(3.0)		04/22/15	1052	SA/SR	SO	7					4	2	1		X	X	X	X							
12	MH593-12(3.0)		04/22/15	1105	SA/SR	SO	7					4	2	1		X	X	X	X							

D.I. slurry voc vials frozen storage
Date: 4/22 Time: 9253 Initials:

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other _____

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [x] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format EQuIS
- [ ] Other _____

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

★ See attached, Comprehensive COC List for Sunoco Characterizations for analytes.

INITIAL ASSESSMENT 28/00

LABEL VERIFICATION

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Stephanie L. Andrews	4/22/2015 @ 1550	1	2	4/22/15 1702	
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ]

On Ice [✓] Cooler Temp. 2.3 C 1.1 C

JB93023: Chain of Custody
Page 1 of 7

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: JB93023

Client / Reporting Information

Company Name: Stantec Consulting Services Inc.
Street Address: 1060 Andrew Drive, Suite 140
City / State / Zip: West Chester PA 19380
Project Contact / E-mail: Jennifer Menges jennifer.menges@stantec.com
Phone # / Fax #: (610) 840-2540 (610) 840-2501
Sampler(s) Name(s) / Phone #: S. Andrews/S. Reilly (610)888-3461

Project Information

Project Name: MHIC-592/593 Tanks
Street:
City / State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City / State / Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8260SL2	V8011EDB	AB827-05L	Pb, V, Co, Zn, Ni								LAB USE ONLY
13	MH593-13(2.0)		04/22/15	1130	SA/SR	SO	7					4	2	1		X	X	X	X								
14	MH593-14(2.0)		04/22/15	1144	SA/SR	SO	7					4	2	1		X	X	X	X								
15	MH592-1(3.0)		04/22/15	1158	SA/SR	SO	7					4	2	1		X	X	X	X								
16	MH592-2(3.0)		04/22/15	1425	SA/SR	SO	7					4	2	1		X	X	X	X								
17	MH592-3(3.0)		04/22/15	1222	SA/SR	SO	7					4	2	1		X	X	X	X								
18	MH592-4(3.0)		04/22/15	1239	SA/SR	SO	7					4	2	1		X	X	X	X								
19	MH592-5(3.0)		04/22/15	1250	SA/SR	SO	7					4	2	1		X	X	X	X								
20	MH592-6(3.0)		04/22/15	1335	SA/SR	SO	7					4	2	1		X	X	X	X								
21	MH592-7(2.0)		04/22/15	1351	SA/SR	SO	7					4	2	1		X	X	X	X								
22	MH592-8(2.0)		04/22/15	1300	SA/SR	SO	7					4	2	1		X	X	X	X								
23	MH592-9(2.0)		04/22/15	1315	SA/SR	SO	7					4	2	1		X	X	X	X								
24	MH592-10(2.0)		04/22/15	1325	SA/SR	SO	7					4	2	1		X	X	X	X								

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [x] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format EQuIS
- [ ] Other

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

★ See attached Comprehensive COC List for Sunoco Characterizations for analytes.

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Stephanie L. Andrews	4/22/2015@1550	1	2	4/22/15 1100	
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ]

On Ice [✓] Cooler Temp 2.3 C/G 1.4 C/G

JB93023: Chain of Custody
Page 2 of 7

JB93023

Comprehensive COC List for Sunoco Characterizations (Sept. 2013)

VOCs by EPA Method 8260	CAS No.
Benzene	71-43-2
Butylbenzene, sec-	135-98-8
Butylbenzene, tert-	98-06-6
Cumene	98-82-8
Cyclohexane	110-82-7
Dichloroethane, 1,2-	107-06-2
Ethylbenzene	100-41-4
Hexane	110-54-3
Methyl tert butyl ether	1634-04-4
Toluene	108-88-3
Trimethylbenzene, 1,2,4-	95-63-6
Trimethylbenzene, 1,3,5-	108-67-8
Xylenes	1330-20-7

EDB by EPA Method 8011	CAS No.
Ethylene Dibromide	106-93-4

Metals by Method 6010/6020	CAS No.
Cobalt	7440-48-4
Lead	7439-92-1
Nickel	7440-02-0
Vanadium	7440-62-2
Zinc	7440-66-6

SVOCs by EPA Method 8270	CAS No.
Acenaphthene	83-32-9
Anthracene	120-12-7
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(b)fluroranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Benzo(k)fluoranthene	207-08-9
Biphenyl, 1,1-	92-52-4
Bis(2-ethylhexyl) phthalate	117-81-7
Chrysene	218-01-9
Cresol, m- (3-methylphenol)	108-39-4
Cresol, o- (2-methylphenol)	95-48-7
Cresol, p- (4-methylphenol)	106-44-5
Dibenz(a,h)anthracene	53-70-3
Diethyl phthalate	84-66-2
Dimethylphenol, 2,4-	105-67-9
Dibutyl phthalate, n-	84-74-2
Dinitrophenol, 2,4-	51-28-5
Fluoranthene	206-44-0
Fluorene	86-73-7
Indeno(1,2,3-cd)pyrene	193-39-5
Methylnaphthalene, 2-	91-57-6
Naphthalene	91-20-3
Nitrophenol, 4-	100-02-7
Phenanthrene	85-01-8
Phenol	108-95-2
Pyrene	129-00-0
Pyridine	110-86-1
Quinoline	91-22-5

List from PADEP SERO Crude Oil Parameters for Corrective Action (CDB | SERO | PA DEP | 9 Aug 2013) combined with PADEP Petroleum Shortlist (leaded and unleaded gasoline and No. 2, 4, 5, 6 Fuel Oils).

JB93023

SAMPLE #	MEOH VIAL	D.I. VIAL	D.I. VIAL
1	2181	2139	2140
2	2187	2152	2151
3	2200	2478	2477
4	2193	2463	2464
5	2196	2470	2469
6	2190	2158	2157
7	2185	2148	2147
8	2186	2150	2149
9	2199	2476	2475
10	2202	2482	2481
11	2192	2161	2162
12	2191	2160	2159
13	2194	2466	2465
14	2180	2137	2138
15	2198	2474	2473
16	2195	2467	2468
17	2182	2142	2141
18	2189	2156	2155
19	2201	2479	2480
20	2184	2145	2146
21	2188	2154	2153
22	2197	2471	2472
23	2179	2136	2135
24	2183	2144	2143
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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB93023 **Client:** **Project:**

Date / Time Received: 4/22/2015 7:00:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2.3/0.5); #2: (1.8/0); #3: (1.4/-0.4); 0

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

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

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

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

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

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

Comments

Accutest Laboratories
V:732.329.0200
2235 US Highway 130
F: 732.329.3499
Dayton, New Jersey
www/accutest.com

ACCUTEST LABORATORIES

Job Change Order: JB93023

Requested Date:	5/27/2015	**Received Date:**	4/22/2015
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	5/6/2015
Project Description:	MHIC-592/593 Tanks	**Deliverable:**	REDT2
CSR:	mariem	**TAT (Days):**	14

==========

Sample #: JB93023-22

Dept:

MH592-8(2.0)

Change:
Please revise the field ID to MH592-8(3.0) .

==========

Above Changes Per: S. Andrews

Date/Time: 5/27/2015 5:58:41 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Job Change Order: JB93023

Requested Date:	8/27/2015	**Received Date:**	4/22/2015
Account Name:	Stantec Consulting Services Inc.	**Due Date:**	5/6/2015
Project Description:	MHIC-592/593 Tanks	**Deliverable:**	REDT2
CSR:	mariem	**TAT (Days):**	14

==========

Sample #: JB93023-all

Dept:

Change:
Please add VMS+NAP to all samples; add to original samples/report.

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Sample #: JB93023-all

Dept:

Change:
Please delete Naphthalene from the reporting list for 8270 for these samples only.

==========

Above Changes Per: L. Votta

Date/Time: 8/27/2015 2:42:41 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB93023

MHIC-592/593 Tanks

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-1 Collected: 22-APR-15 08:05 By: SA/SR Received: 22-APR-15 By: AS MH593-1(2.0)						
JB93023-1	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-1	SW846 8260C	29-APR-15 00:12	TDN			V8260SL2
JB93023-1	SW846 8011	29-APR-15 05:53	AMA	27-APR-15	AMA	V8011EDB
JB93023-1	SW846 6010C	29-APR-15 18:17	BS	29-APR-15	MS	CO,V,ZN
JB93023-1	SW846 6010C	29-APR-15 21:40	BS	29-APR-15	MS	NI,PB
JB93023-1	SW846 8270D	30-APR-15 04:18	SD	25-APR-15	SA	AB8270SL
JB93023-2 Collected: 22-APR-15 08:12 By: SA/SR Received: 22-APR-15 By: AS MH593-2(2.0)						
JB93023-2	SW846 8260C	23-APR-15 14:16	BM			V8260SL2
JB93023-2	ASTM 4643-00	28-APR-15 13:00	KP			%SOL
JB93023-2	SW846 8011	29-APR-15 06:21	AMA	27-APR-15	AMA	V8011EDB
JB93023-2	SW846 6010C	29-APR-15 18:23	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-2	SW846 8270D	30-APR-15 04:44	SD	25-APR-15	SA	AB8270SL
JB93023-3 Collected: 22-APR-15 11:18 By: SA/SR Received: 22-APR-15 By: AS MH593-3(3.0)						
JB93023-3	SW846 8260C	27-APR-15 19:48	TDN			V8260SL2
JB93023-3	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-3	SW846 8011	29-APR-15 06:49	AMA	27-APR-15	AMA	V8011EDB
JB93023-3	SW846 6010C	29-APR-15 18:29	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-3	SW846 8270D	30-APR-15 18:34	AN	25-APR-15	SA	AB8270SL
JB93023-4 Collected: 22-APR-15 08:30 By: SA/SR Received: 22-APR-15 By: AS MH593-4(3.0)						
JB93023-4	SW846 8260C	23-APR-15 15:13	BM			V8260SL2
JB93023-4	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-4	SW846 8011	29-APR-15 07:17	AMA	27-APR-15	AMA	V8011EDB
JB93023-4	SW846 6010C	29-APR-15 18:48	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-4	SW846 8270D	05-MAY-15 12:37	AN	25-APR-15	SA	AB8270SL
JB93023-5 Collected: 22-APR-15 08:42 By: SA/SR Received: 22-APR-15 By: AS MH593-5(3.0)						

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB93023

MHIC-592/593 Tanks

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-5	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-5	SW846 8011	29-APR-15 07:46	AMA	27-APR-15	AMA	V8011EDB
JB93023-5	SW846 6010C	29-APR-15 18:54	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-5	SW846 8270D	30-APR-15 08:11	SD	25-APR-15	SA	AB8270SL
JB93023-5	SW846 8260C	04-MAY-15 16:59	TDN			V8260SL2
JB93023-6	Collected: 22-APR-15 08:55 By: SA/SR		Received: 22-APR-15 By: AS			
MH593-6(3.0)						
JB93023-6	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-6	SW846 8011	29-APR-15 08:14	AMA	27-APR-15	AMA	V8011EDB
JB93023-6	SW846 8260C	29-APR-15 17:41	TDN			V8260SL2
JB93023-6	SW846 6010C	29-APR-15 19:00	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-6	SW846 8270D	01-MAY-15 16:47	AN	25-APR-15	SA	AB8270SL
JB93023-6	SW846 8270D	04-MAY-15 17:45	AN	25-APR-15	SA	AB8270SL
JB93023-7	Collected: 22-APR-15 09:10 By: SA/SR		Received: 22-APR-15 By: AS			
MH593-7(3.0)						
JB93023-7	SW846 8260C	23-APR-15 14:44	BM			V8260SL2
JB93023-7	ASTM 4643-00	28-APR-15 13:00	KP			%SOL
JB93023-7	SW846 8011	29-APR-15 08:43	AMA	27-APR-15	AMA	V8011EDB
JB93023-7	SW846 6010C	29-APR-15 18:05	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-7	SW846 8270D	30-APR-15 07:45	SD	25-APR-15	SA	AB8270SL
JB93023-8	Collected: 22-APR-15 09:20 By: SA/SR		Received: 22-APR-15 By: AS			
MH593-8(3.0)						
JB93023-8	SW846 8260C	27-APR-15 19:18	TDN			V8260SL2
JB93023-8	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-8	SW846 8011	29-APR-15 09:12	AMA	27-APR-15	AMA	V8011EDB
JB93023-8	SW846 6010C	29-APR-15 19:06	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-8	SW846 8270D	30-APR-15 07:19	SD	25-APR-15	SA	AB8270SL
JB93023-9	Collected: 22-APR-15 10:25 By: SA/SR		Received: 22-APR-15 By: AS			
MH593-9(3.0)						
JB93023-9	SW846 8260C	23-APR-15 17:47	BM			V8260SL2
JB93023-9	SW846 8270D	27-APR-15 19:32	AN	26-APR-15	NR	AB8270SL
JB93023-9	SM2540 G-97	28-APR-15 16:00	KP			%SOL

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB93023

MHIC-592/593 Tanks

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-9	SW846 8011	29-APR-15 09:42	AMA	27-APR-15	AMA	V8011EDB
JB93023-9	SW846 6010C	29-APR-15 19:12	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-10 Collected: 22-APR-15 10:37 By: SA/SR Received: 22-APR-15 By: AS MH593-10(3.0)						
JB93023-10	SW846 8270D	27-APR-15 19:59	AN	26-APR-15	NR	AB8270SL
JB93023-10	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-10	SW846 8260C	29-APR-15 01:13	TDN			V8260SL2
JB93023-10	SW846 8011	29-APR-15 10:12	AMA	27-APR-15	AMA	V8011EDB
JB93023-10	SW846 6010C	29-APR-15 19:18	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-10	SW846 8270D	01-MAY-15 13:11	AN	26-APR-15	NR	AB8270SL
JB93023-11 Collected: 22-APR-15 10:52 By: SA/SR Received: 22-APR-15 By: AS MH593-11(3.0)						
JB93023-11	SW846 8260C	23-APR-15 18:15	BM			V8260SL2
JB93023-11	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-11	SW846 8011	29-APR-15 11:10	AMA	27-APR-15	AMA	V8011EDB
JB93023-11	SW846 6010C	29-APR-15 20:36	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-11	SW846 8270D	30-APR-15 18:34	LK	30-APR-15	NR	AB8270SL
JB93023-12 Collected: 22-APR-15 11:05 By: SA/SR Received: 22-APR-15 By: AS MH593-12(3.0)						
JB93023-12	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-12	SW846 8260C	29-APR-15 02:44	TDN			V8260SL2
JB93023-12	SW846 8011	29-APR-15 11:40	AMA	27-APR-15	AMA	V8011EDB
JB93023-12	SW846 6010C	29-APR-15 19:30	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-12	SW846 8270D	30-APR-15 20:09	LK	30-APR-15	NR	AB8270SL
JB93023-12	SW846 8270D	30-APR-15 20:42	LK	30-APR-15	NR	AB8270SL
JB93023-13 Collected: 22-APR-15 11:30 By: SA/SR Received: 22-APR-15 By: AS MH593-13(2.0)						
JB93023-13	SW846 8260C	27-APR-15 18:47	TDN			V8260SL2
JB93023-13	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-13	SW846 6010C	29-APR-15 19:36	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-13	SW846 8011	30-APR-15 11:59	AMA	27-APR-15	AMA	V8011EDB
JB93023-13	SW846 8270D	01-MAY-15 14:31	AN	26-APR-15	NR	AB8270SL

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB93023

MHIC-592/593 Tanks

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-14 Collected: 22-APR-15 11:44 By: SA/SR Received: 22-APR-15 By: AS MH593-14(2.0)						
JB93023-14	SW846 8260C	23-APR-15 18:44	BM			V8260SL2
JB93023-14	SW846 8270D	27-APR-15 21:20	AN	26-APR-15	NR	AB8270SL
JB93023-14	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-14	SW846 8011	29-APR-15 12:38	AMA	27-APR-15	AMA	V8011EDB
JB93023-14	SW846 6010C	29-APR-15 19:54	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-15 Collected: 22-APR-15 11:58 By: SA/SR Received: 22-APR-15 By: AS MH592-1(3.0)						
JB93023-15	SW846 8260C	23-APR-15 19:12	BM			V8260SL2
JB93023-15	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-15	SW846 8011	29-APR-15 13:07	AMA	27-APR-15	AMA	V8011EDB
JB93023-15	SW846 6010C	29-APR-15 20:00	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-15	SW846 8270D	01-MAY-15 17:11	AN	26-APR-15	NR	AB8270SL
JB93023-16 Collected: 22-APR-15 14:25 By: SA/SR Received: 22-APR-15 By: AS MH592-2(3.0)						
JB93023-16	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-16	SW846 8260C	28-APR-15 21:41	TDN			V8260SL2
JB93023-16	SW846 8011	29-APR-15 13:36	AMA	27-APR-15	AMA	V8011EDB
JB93023-16	SW846 6010C	29-APR-15 20:06	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-16	SW846 8270D	01-MAY-15 17:37	AN	26-APR-15	NR	AB8270SL
JB93023-17 Collected: 22-APR-15 12:22 By: SA/SR Received: 22-APR-15 By: AS MH592-3(3.0)						
JB93023-17	SW846 8260C	23-APR-15 15:42	BM			V8260SL2
JB93023-17	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-17	SW846 8011	29-APR-15 14:05	AMA	27-APR-15	AMA	V8011EDB
JB93023-17	SW846 6010C	29-APR-15 20:12	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-17	SW846 8270D	01-MAY-15 14:57	AN	26-APR-15	NR	AB8270SL
JB93023-18 Collected: 22-APR-15 12:39 By: SA/SR Received: 22-APR-15 By: AS MH592-4(3.0)						

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB93023

MHIC-592/593 Tanks

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-18	SW846 8260C	23-APR-15 16:11	BM			V8260SL2
JB93023-18	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-18	SW846 8011	29-APR-15 14:33	AMA	27-APR-15	AMA	V8011EDB
JB93023-18	SW846 6010C	29-APR-15 20:18	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-18	SW846 8270D	01-MAY-15 15:24	AN	26-APR-15	NR	AB8270SL
JB93023-19	Collected: 22-APR-15 12:50 By: SA/SR		Received: 22-APR-15 By: AS			
MH592-5(3.0)						
JB93023-19	SW846 8260C	25-APR-15 15:17	BM			V8260SL2
JB93023-19	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-19	SW846 8011	29-APR-15 15:02	AMA	27-APR-15	AMA	V8011EDB
JB93023-19	SW846 6010C	29-APR-15 20:24	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-19	SW846 8270D	01-MAY-15 15:51	AN	26-APR-15	NR	AB8270SL
JB93023-20	Collected: 22-APR-15 13:35 By: SA/SR		Received: 22-APR-15 By: AS			
MH592-6(3.0)						
JB93023-20	SW846 8260C	23-APR-15 19:41	BM			V8260SL2
JB93023-20	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-20	SW846 8011	29-APR-15 15:31	AMA	27-APR-15	AMA	V8011EDB
JB93023-20	SW846 6010C	29-APR-15 20:30	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-20	SW846 8270D	01-MAY-15 16:17	AN	26-APR-15	NR	AB8270SL
JB93023-21	Collected: 22-APR-15 13:51 By: SA/SR		Received: 22-APR-15 By: AS			
MH592-7(2.0)						
JB93023-21	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-21	SW846 8011	29-APR-15 00:57	AMA	27-APR-15	AMA	V8011EDB
JB93023-21	SW846 8260C	29-APR-15 02:14	TDN			V8260SL2
JB93023-21	SW846 6010C	29-APR-15 18:49	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-21	SW846 8270D	01-MAY-15 16:44	AN	26-APR-15	NR	AB8270SL
JB93023-22	Collected: 22-APR-15 13:00 By: SA/SR		Received: 22-APR-15 By: AS			
MH592-8(3.0)						
JB93023-22	SW846 8260C	23-APR-15 20:09	BM			V8260SL2
JB93023-22	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-22	SW846 8011	29-APR-15 01:27	AMA	27-APR-15	AMA	V8011EDB
JB93023-22	SW846 6010C	29-APR-15 18:55	BS	29-APR-15	MS	CO,NI,PB,V,ZN

Internal Sample Tracking Chronicle

Stantec Consulting Services Inc.

Job No: JB93023

MHIC-592/593 Tanks

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-22	SW846 8270D	01-MAY-15 18:04	AN	26-APR-15	NR	AB8270SL
JB93023-23	Collected: 22-APR-15 13:15 By: SA/SR		Received: 22-APR-15 By: AS			
MH592-9(2.0)						
JB93023-23	SW846 8260C	23-APR-15 19:10	BM			V8260SL2
JB93023-23	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-23	SW846 8011	29-APR-15 01:57	AMA	27-APR-15	AMA	V8011EDB
JB93023-23	SW846 6010C	29-APR-15 19:01	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-23	SW846 8270D	01-MAY-15 02:11	SW	26-APR-15	NR	AB8270SL
JB93023-24	Collected: 22-APR-15 13:25 By: SA/SR		Received: 22-APR-15 By: AS			
MH592-10(2.0)						
JB93023-24	SW846 8260C	23-APR-15 18:40	BM			V8260SL2
JB93023-24	SM2540 G-97	28-APR-15 16:00	KP			%SOL
JB93023-24	SW846 8011	29-APR-15 02:26	AMA	27-APR-15	AMA	V8011EDB
JB93023-24	SW846 6010C	29-APR-15 19:07	BS	29-APR-15	MS	CO,NI,PB,V,ZN
JB93023-24	SW846 8270D	01-MAY-15 01:44	SW	26-APR-15	NR	AB8270SL

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-1.1	Secured Storage	Ana Maria Moreta	04/25/15 05:41	Retrieve from Storage
JB93023-1.1	Ana Maria Moreta	Sauvelson Auguste	04/25/15 07:01	Custody Transfer
JB93023-1.1	Sauvelson Auguste	Secured Storage	04/25/15 10:43	Return to Storage
JB93023-1.1	Shirley Grzybowski		08/06/15 09:48	Disposed
JB93023-1.1.1	Sauvelson Auguste	Organics Prep	04/25/15 07:01	Extract from JB93023-1.1
JB93023-1.1.2	Sauvelson Auguste	Organics Prep	04/25/15 07:12	Extract from JB93023-1.1
JB93023-1.1.2	Organics Prep	Sauvelson Auguste	04/25/15 17:15	Extract from JB93023-1.1
JB93023-1.1.2	Sauvelson Auguste	Extract Storage	04/25/15 17:15	Return to Storage
JB93023-1.1.2	Extract Storage	Sara Davis	04/30/15 00:39	Retrieve from Storage
JB93023-1.1.2	Sara Davis	GCMS3E	04/30/15 00:39	Load on Instrument
JB93023-1.1.2	GCMS3E	Ashley Noble	04/30/15 13:21	Unload from Instrument
JB93023-1.1.2	Ashley Noble	Extract Freezer	04/30/15 13:21	Return to Storage
JB93023-1.1.2	Extract Freezer		06/05/15 09:00	Disposed
JB93023-1.2	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-1.2	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-1.2	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-1.2	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-1.2	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-1.2	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-1.2	Shirley Grzybowski		08/06/15 09:48	Disposed
JB93023-1.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-1.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-1.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-1.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-1.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-1.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-1.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-1.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-1.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-1.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-1.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-1.3	Shirley Grzybowski		08/06/15 09:48	Disposed
JB93023-1.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-1.3
JB93023-1.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-1.3
JB93023-1.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-1.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-1.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-1.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-1.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-1.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-1.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-1.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-1.5	Secured Storage	Thien Nguyen	04/28/15 11:51	Retrieve from Storage
JB93023-1.5	Thien Nguyen	Secured Storage	04/28/15 11:51	Return to Storage
JB93023-1.5	Shirley Grzybowski		08/06/15 09:48	Disposed
JB93023-2.1	Secured Storage	Ana Maria Moreta	04/25/15 05:41	Retrieve from Storage
JB93023-2.1	Ana Maria Moreta	Sauvelson Auguste	04/25/15 07:01	Custody Transfer
JB93023-2.1	Sauvelson Auguste	Secured Storage	04/25/15 10:43	Return to Storage
JB93023-2.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-2.1.1	Sauvelson Auguste	Organics Prep	04/25/15 07:01	Extract from JB93023-2.1
JB93023-2.1.2	Sauvelson Auguste	Organics Prep	04/25/15 07:12	Extract from JB93023-2.1
JB93023-2.1.2	Organics Prep	Sauvelson Auguste	04/25/15 17:15	Extract from JB93023-2.1
JB93023-2.1.2	Sauvelson Auguste	Extract Storage	04/25/15 17:15	Return to Storage
JB93023-2.1.2	Extract Storage	Sara Davis	04/30/15 00:39	Retrieve from Storage
JB93023-2.1.2	Sara Davis	GCMS3E	04/30/15 00:39	Load on Instrument
JB93023-2.1.2	GCMS3E	Ashley Noble	05/05/15 13:55	Unload from Instrument
JB93023-2.1.2	Ashley Noble	Extract Freezer	05/05/15 13:55	Return to Storage
JB93023-2.1.2	Extract Freezer		06/05/15 09:00	Disposed
JB93023-2.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-2.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-2.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-2.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-2.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-2.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-2.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-2.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-2.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-2.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-2.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-2.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-2.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-2.3
JB93023-2.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-2.3
JB93023-2.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-2.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-2.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-2.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-2.6	Secured Storage	Payal Rana	04/23/15 15:42	Retrieve from Storage
JB93023-2.6	Payal Rana	GCMSV	04/23/15 15:42	Load on Instrument
JB93023-2.6	GCMSV	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-2.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-2.7	Secured Storage	Payal Rana	04/23/15 12:24	Retrieve from Storage
JB93023-2.7	Payal Rana	GCMSX	04/23/15 12:24	Load on Instrument
JB93023-2.7	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-2.7	Payal Rana		04/24/15 09:28	Depleted
JB93023-3.1	Secured Storage	Ana Maria Moreta	04/25/15 05:41	Retrieve from Storage
JB93023-3.1	Ana Maria Moreta	Sauvelson Auguste	04/25/15 07:01	Custody Transfer
JB93023-3.1	Sauvelson Auguste	Secured Storage	04/25/15 10:43	Return to Storage
JB93023-3.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-3.1.1	Sauvelson Auguste	Organics Prep	04/25/15 07:01	Extract from JB93023-3.1
JB93023-3.1.2	Sauvelson Auguste	Organics Prep	04/25/15 07:12	Extract from JB93023-3.1
JB93023-3.1.2	Organics Prep	Sauvelson Auguste	04/25/15 17:15	Extract from JB93023-3.1
JB93023-3.1.2	Sauvelson Auguste	Extract Storage	04/25/15 17:15	Return to Storage
JB93023-3.1.2	Extract Storage	Sara Davis	04/30/15 00:39	Retrieve from Storage
JB93023-3.1.2	Sara Davis	GCMS3E	04/30/15 00:39	Load on Instrument
JB93023-3.1.2	GCMS3E	Ashley Noble	05/05/15 13:55	Unload from Instrument
JB93023-3.1.2	Ashley Noble	Extract Freezer	05/05/15 13:55	Return to Storage
JB93023-3.1.2	Extract Freezer		06/05/15 09:00	Disposed
JB93023-3.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-3.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-3.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-3.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-3.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-3.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-3.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-3.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-3.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-3.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-3.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-3.3	Tim Hudson		08/26/15 08:02	Disposed

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-3.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-3.3
JB93023-3.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-3.3
JB93023-3.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-3.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-3.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-3.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-3.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-3.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-3.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-3.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-3.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-4.1	Secured Storage	Ana Maria Moreta	04/25/15 05:41	Retrieve from Storage
JB93023-4.1	Ana Maria Moreta	Sauvelson Auguste	04/25/15 07:01	Custody Transfer
JB93023-4.1	Sauvelson Auguste	Secured Storage	04/25/15 10:43	Return to Storage
JB93023-4.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-4.1.1	Sauvelson Auguste	Organics Prep	04/25/15 07:01	Extract from JB93023-4.1
JB93023-4.1.2	Sauvelson Auguste	Organics Prep	04/25/15 07:12	Extract from JB93023-4.1
JB93023-4.1.2	Organics Prep	Sauvelson Auguste	04/25/15 17:15	Extract from JB93023-4.1
JB93023-4.1.2	Sauvelson Auguste	Extract Storage	04/25/15 17:15	Return to Storage
JB93023-4.1.2	Extract Storage	Sara Davis	04/30/15 00:39	Retrieve from Storage
JB93023-4.1.2	Sara Davis	GCMS3E	04/30/15 00:39	Load on Instrument
JB93023-4.1.2	GCMS3E	Ashley Noble	05/13/15 12:51	Unload from Instrument
JB93023-4.1.2	Ashley Noble	Extract Freezer	05/13/15 12:51	Return to Storage
JB93023-4.1.2	Extract Freezer		06/05/15 09:00	Disposed
JB93023-4.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-4.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-4.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-4.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-4.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-4.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-4.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-4.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-4.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-4.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-4.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-4.3	Tim Hudson		08/26/15 08:02	Disposed

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-4.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-4.3
JB93023-4.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-4.3
JB93023-4.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-4.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-4.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-4.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-4.6	Secured Storage	Payal Rana	04/23/15 12:24	Retrieve from Storage
JB93023-4.6	Payal Rana	GCMSX	04/23/15 12:24	Load on Instrument
JB93023-4.6	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-4.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-5.1	Secured Storage	Ana Maria Moreta	04/25/15 05:41	Retrieve from Storage
JB93023-5.1	Ana Maria Moreta	Sauvelson Auguste	04/25/15 07:01	Custody Transfer
JB93023-5.1	Sauvelson Auguste	Secured Storage	04/25/15 10:43	Return to Storage
JB93023-5.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-5.1.1	Sauvelson Auguste	Organics Prep	04/25/15 07:01	Extract from JB93023-5.1
JB93023-5.1.2	Sauvelson Auguste	Organics Prep	04/25/15 07:12	Extract from JB93023-5.1
JB93023-5.1.2	Organics Prep	Sauvelson Auguste	04/25/15 17:15	Extract from JB93023-5.1
JB93023-5.1.2	Sauvelson Auguste	Extract Storage	04/25/15 17:15	Return to Storage
JB93023-5.1.2	Extract Storage	Sara Davis	04/30/15 00:39	Retrieve from Storage
JB93023-5.1.2	Sara Davis	GCMS3E	04/30/15 00:39	Load on Instrument
JB93023-5.1.2	GCMS3E	Ashley Noble	04/30/15 13:21	Unload from Instrument
JB93023-5.1.2	Ashley Noble	Extract Freezer	04/30/15 13:21	Return to Storage
JB93023-5.1.2	Extract Freezer		06/05/15 09:00	Disposed
JB93023-5.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-5.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-5.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-5.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-5.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-5.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-5.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-5.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-5.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-5.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-5.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-5.3	Tim Hudson		08/26/15 08:02	Disposed

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-5.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-5.3
JB93023-5.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-5.3
JB93023-5.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-5.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-5.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-5.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-5.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-5.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-5.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-5.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-5.5	Secured Storage	Thien Nguyen	04/28/15 11:51	Retrieve from Storage
JB93023-5.5	Thien Nguyen	Secured Storage	04/28/15 11:51	Return to Storage
JB93023-5.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-5.6	Secured Storage	Thien Nguyen	05/04/15 12:46	Retrieve from Storage
JB93023-5.6	Thien Nguyen	GCMS3V	05/04/15 12:46	Load on Instrument
JB93023-5.6	GCMS3V	Thien Nguyen	05/05/15 09:54	Unload from Instrument
JB93023-5.6	Thien Nguyen	Secured Storage	05/05/15 09:54	Return to Storage
JB93023-5.6	Tim Hudson		08/26/15 08:02	Disposed
JB93023-5.7	Secured Storage	Thien Nguyen	05/01/15 13:38	Retrieve from Storage
JB93023-5.7	Thien Nguyen	GCMS3V	05/01/15 13:38	Load on Instrument
JB93023-5.7	GCMS3V	Thien Nguyen	05/04/15 09:21	Unload from Instrument
JB93023-5.7	Thien Nguyen	Secured Storage	05/04/15 09:21	Return to Storage
JB93023-5.7	Tim Hudson		08/26/15 08:02	Disposed
JB93023-6.1	Secured Storage	Ana Maria Moreta	04/25/15 05:41	Retrieve from Storage
JB93023-6.1	Ana Maria Moreta	Sauvelson Auguste	04/25/15 07:01	Custody Transfer
JB93023-6.1	Sauvelson Auguste	Secured Storage	04/25/15 10:43	Return to Storage
JB93023-6.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-6.1.1	Sauvelson Auguste	Organics Prep	04/25/15 07:01	Extract from JB93023-6.1
JB93023-6.1.2	Sauvelson Auguste	Organics Prep	04/25/15 07:12	Extract from JB93023-6.1
JB93023-6.1.2	Organics Prep	Sauvelson Auguste	04/25/15 17:15	Extract from JB93023-6.1
JB93023-6.1.2	Sauvelson Auguste	Extract Storage	04/25/15 17:15	Return to Storage
JB93023-6.1.2	Extract Storage	Sara Davis	04/30/15 00:39	Retrieve from Storage
JB93023-6.1.2	Sara Davis	GCMS3E	04/30/15 00:39	Load on Instrument
JB93023-6.1.2	GCMS3E	Ashley Noble	05/05/15 13:55	Unload from Instrument
JB93023-6.1.2	Ashley Noble	Extract Freezer	05/05/15 13:55	Return to Storage
JB93023-6.1.2	Extract Freezer		06/05/15 09:00	Disposed

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-6.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-6.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-6.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-6.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-6.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-6.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-6.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-6.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-6.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-6.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-6.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-6.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-6.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-6.3
JB93023-6.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-6.3
JB93023-6.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-6.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-6.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-6.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-6.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-6.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-6.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-6.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-6.5	Secured Storage	Thien Nguyen	04/28/15 11:51	Retrieve from Storage
JB93023-6.5	Thien Nguyen	Secured Storage	04/28/15 11:51	Return to Storage
JB93023-6.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-7.1	Secured Storage	Ana Maria Moreta	04/25/15 05:41	Retrieve from Storage
JB93023-7.1	Ana Maria Moreta	Sauvelson Auguste	04/25/15 07:01	Custody Transfer
JB93023-7.1	Sauvelson Auguste	Secured Storage	04/25/15 10:43	Return to Storage
JB93023-7.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-7.1.1	Sauvelson Auguste	Organics Prep	04/25/15 07:01	Extract from JB93023-7.1
JB93023-7.1.2	Sauvelson Auguste	Organics Prep	04/25/15 07:12	Extract from JB93023-7.1
JB93023-7.1.2	Organics Prep	Sauvelson Auguste	04/25/15 17:15	Extract from JB93023-7.1
JB93023-7.1.2	Sauvelson Auguste	Extract Storage	04/25/15 17:15	Return to Storage
JB93023-7.1.2	Extract Storage	Sara Davis	04/30/15 00:39	Retrieve from Storage
JB93023-7.1.2	Sara Davis	GCMS3E	04/30/15 00:39	Load on Instrument
JB93023-7.1.2	GCMS3E	Ashley Noble	04/30/15 13:21	Unload from Instrument
JB93023-7.1.2	Ashley Noble	Extract Freezer	04/30/15 13:21	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-7.1.2	Extract Freezer		06/05/15 09:00	Disposed
JB93023-7.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-7.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-7.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-7.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-7.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-7.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-7.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-7.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-7.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-7.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-7.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-7.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-7.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-7.3
JB93023-7.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-7.3
JB93023-7.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-7.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-7.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-7.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-7.6	Secured Storage	Payal Rana	04/23/15 12:24	Retrieve from Storage
JB93023-7.6	Payal Rana	GCMSX	04/23/15 12:24	Load on Instrument
JB93023-7.6	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-7.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-7.7	Secured Storage	Payal Rana	04/23/15 15:42	Retrieve from Storage
JB93023-7.7	Payal Rana	GCMSV	04/23/15 15:42	Load on Instrument
JB93023-7.7	GCMSV	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-7.7	Payal Rana		04/24/15 09:28	Depleted
JB93023-8.1	Secured Storage	Ana Maria Moreta	04/25/15 05:41	Retrieve from Storage
JB93023-8.1	Ana Maria Moreta	Sauvelson Auguste	04/25/15 07:01	Custody Transfer
JB93023-8.1	Sauvelson Auguste	Secured Storage	04/25/15 10:43	Return to Storage
JB93023-8.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-8.1.1	Sauvelson Auguste	Organics Prep	04/25/15 07:01	Extract from JB93023-8.1
JB93023-8.1.2	Sauvelson Auguste	Organics Prep	04/25/15 07:12	Extract from JB93023-8.1
JB93023-8.1.2	Organics Prep	Sauvelson Auguste	04/25/15 17:15	Extract from JB93023-8.1
JB93023-8.1.2	Sauvelson Auguste	Extract Storage	04/25/15 17:15	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-8.1.2	Extract Storage	Sara Davis	04/30/15 00:39	Retrieve from Storage
JB93023-8.1.2	Sara Davis	GCMS3E	04/30/15 00:39	Load on Instrument
JB93023-8.1.2	GCMS3E	Ashley Noble	04/30/15 13:21	Unload from Instrument
JB93023-8.1.2	Ashley Noble	Extract Freezer	04/30/15 13:21	Return to Storage
JB93023-8.1.2	Extract Freezer		06/05/15 09:00	Disposed
JB93023-8.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-8.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-8.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-8.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-8.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-8.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-8.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-8.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-8.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-8.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-8.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-8.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-8.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-8.3
JB93023-8.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-8.3
JB93023-8.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-8.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-8.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-8.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-8.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-8.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-8.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-8.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-8.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-9.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-9.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-9.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-9.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-9.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-9.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-9.1
JB93023-9.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-9.1
JB93023-9.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-9.1.1	Extract Storage	Ashley Noble	04/27/15 15:34	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-9.1.1	Ashley Noble	GCMS2M	04/27/15 15:34	Load on Instrument
JB93023-9.1.1	GCMS2M	Ashley Noble	04/29/15 10:52	Unload from Instrument
JB93023-9.1.1	Ashley Noble	Extract Freezer	04/29/15 10:52	Return to Storage
JB93023-9.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-9.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-9.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-9.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-9.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-9.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-9.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-9.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-9.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-9.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-9.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-9.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-9.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-9.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-9.3
JB93023-9.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-9.3
JB93023-9.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-9.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-9.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-9.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-9.7	Secured Storage	Payal Rana	04/23/15 16:04	Retrieve from Storage
JB93023-9.7	Payal Rana	GCMSV	04/23/15 16:04	Load on Instrument
JB93023-9.7	GCMSV	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-9.7	Payal Rana		04/24/15 09:28	Depleted
JB93023-10.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-10.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-10.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-10.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-10.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-10.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-10.1
JB93023-10.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-10.1
JB93023-10.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-10.1.1	Extract Storage	Ashley Noble	04/27/15 15:34	Retrieve from Storage
JB93023-10.1.1	Ashley Noble	GCMS2M	04/27/15 15:34	Load on Instrument
JB93023-10.1.1	GCMS2M	Ashley Noble	04/29/15 10:52	Unload from Instrument

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-10.1.1	Ashley Noble	Extract Freezer	04/29/15 10:52	Return to Storage
JB93023-10.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-10.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-10.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-10.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-10.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-10.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-10.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-10.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-10.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-10.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-10.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-10.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-10.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-10.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-10.3
JB93023-10.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-10.3
JB93023-10.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-10.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-10.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-10.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-10.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-10.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-10.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-10.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-10.5	Secured Storage	Thien Nguyen	04/28/15 11:51	Retrieve from Storage
JB93023-10.5	Thien Nguyen	Secured Storage	04/28/15 11:51	Return to Storage
JB93023-10.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-11.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-11.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-11.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-11.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-11.1	Secured Storage	Arielle Cocozza	04/30/15 04:00	Retrieve from Storage
JB93023-11.1	Arielle Cocozza	Albert Quayson	04/30/15 05:43	Custody Transfer
JB93023-11.1	Albert Quayson	Arielle Cocozza	04/30/15 05:49	Custody Transfer
JB93023-11.1	Arielle Cocozza	Secured Storage	04/30/15 09:20	Return to Storage
JB93023-11.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-11.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-11.1

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-11.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-11.1
JB93023-11.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-11.1.1	Extract Storage	Ashley Noble	04/27/15 15:34	Retrieve from Storage
JB93023-11.1.1	Ashley Noble	GCMS2M	04/27/15 15:34	Load on Instrument
JB93023-11.1.1	GCMS2M	Ashley Noble	04/29/15 10:52	Unload from Instrument
JB93023-11.1.1	Ashley Noble	Extract Freezer	04/29/15 10:52	Return to Storage
JB93023-11.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-11.1.2	Albert Quayson	Organics Prep	04/30/15 05:44	Extract from JB93023-11.1
JB93023-11.1.2	Organics Prep	Nida Rizvi	04/30/15 12:31	Extract from JB93023-11.1
JB93023-11.1.2	Nida Rizvi	Extract Storage	04/30/15 12:31	Return to Storage
JB93023-11.1.2	Extract Storage	Linsey Kirschmann	04/30/15 16:57	Retrieve from Storage
JB93023-11.1.2	Linsey Kirschmann	GCMSZ	04/30/15 16:57	Load on Instrument
JB93023-11.1.2	GCMSZ	Olga Azarihn	05/04/15 10:34	Unload from Instrument
JB93023-11.1.2	Olga Azarihn	Extract Freezer	05/04/15 10:34	Return to Storage
JB93023-11.1.2	Extract Freezer		06/10/15 09:00	Disposed
JB93023-11.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-11.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-11.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-11.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-11.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-11.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-11.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-11.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-11.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-11.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-11.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-11.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-11.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-11.3
JB93023-11.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-11.3
JB93023-11.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-11.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-11.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-11.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-11.7	Secured Storage	Payal Rana	04/23/15 16:04	Retrieve from Storage
JB93023-11.7	Payal Rana	GCMSV	04/23/15 16:04	Load on Instrument
JB93023-11.7	GCMSV	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-11.7	Payal Rana		04/24/15 09:28	Depleted

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-12.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-12.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-12.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-12.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-12.1	Secured Storage	Arielle Cocozza	04/30/15 04:00	Retrieve from Storage
JB93023-12.1	Arielle Cocozza	Albert Quayson	04/30/15 05:43	Custody Transfer
JB93023-12.1	Albert Quayson	Arielle Cocozza	04/30/15 05:49	Custody Transfer
JB93023-12.1	Arielle Cocozza	Secured Storage	04/30/15 09:20	Return to Storage
JB93023-12.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-12.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-12.1
JB93023-12.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-12.1
JB93023-12.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-12.1.1	Extract Storage	Ashley Noble	04/27/15 15:34	Retrieve from Storage
JB93023-12.1.1	Ashley Noble	GCMS2M	04/27/15 15:34	Load on Instrument
JB93023-12.1.1	GCMS2M	Ashley Noble	04/29/15 10:52	Unload from Instrument
JB93023-12.1.1	Ashley Noble	Extract Freezer	04/29/15 10:52	Return to Storage
JB93023-12.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-12.1.2	Albert Quayson	Organics Prep	04/30/15 05:44	Extract from JB93023-12.1
JB93023-12.1.2	Organics Prep	Nida Rizvi	04/30/15 12:31	Extract from JB93023-12.1
JB93023-12.1.2	Nida Rizvi	Extract Storage	04/30/15 12:31	Return to Storage
JB93023-12.1.2	Extract Storage	Linsey Kirschmann	04/30/15 16:57	Retrieve from Storage
JB93023-12.1.2	Linsey Kirschmann	GCMSZ	04/30/15 16:57	Load on Instrument
JB93023-12.1.2	GCMSZ	Olga Azarihn	05/04/15 10:34	Unload from Instrument
JB93023-12.1.2	Olga Azarihn	Extract Freezer	05/04/15 10:34	Return to Storage
JB93023-12.1.2	Extract Freezer		06/10/15 09:00	Disposed
JB93023-12.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-12.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-12.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-12.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-12.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-12.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-12.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-12.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-12.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-12.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-12.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-12.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-12.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-12.3
JB93023-12.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-12.3

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-12.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-12.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-12.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-12.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-12.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-12.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-12.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-12.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-12.5	Secured Storage	Thien Nguyen	04/28/15 11:51	Retrieve from Storage
JB93023-12.5	Thien Nguyen	Secured Storage	04/28/15 11:51	Return to Storage
JB93023-12.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-13.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-13.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-13.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-13.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-13.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-13.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-13.1
JB93023-13.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-13.1
JB93023-13.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-13.1.1	Extract Storage	Ashley Noble	05/01/15 13:22	Retrieve from Storage
JB93023-13.1.1	Ashley Noble	GCMS2M	05/01/15 13:22	Load on Instrument
JB93023-13.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-13.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-13.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-13.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-13.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-13.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-13.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-13.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-13.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-13.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-13.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-13.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-13.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-13.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-13.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-13.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-13.3

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-13.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-13.3
JB93023-13.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-13.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-13.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-13.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-13.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-13.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-13.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-13.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-13.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-14.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-14.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-14.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-14.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-14.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-14.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-14.1
JB93023-14.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-14.1
JB93023-14.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-14.1.1	Extract Storage	Ashley Noble	04/27/15 15:34	Retrieve from Storage
JB93023-14.1.1	Ashley Noble	GCMS2M	04/27/15 15:34	Load on Instrument
JB93023-14.1.1	GCMS2M	Ashley Noble	04/29/15 10:52	Unload from Instrument
JB93023-14.1.1	Ashley Noble	Extract Freezer	04/29/15 10:52	Return to Storage
JB93023-14.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-14.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-14.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-14.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-14.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-14.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-14.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-14.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-14.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-14.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-14.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-14.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-14.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-14.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-14.3
JB93023-14.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-14.3

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-14.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-14.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-14.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-14.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-14.6	Secured Storage	Payal Rana	04/23/15 16:04	Retrieve from Storage
JB93023-14.6	Payal Rana	GCMSV	04/23/15 16:04	Load on Instrument
JB93023-14.6	GCMSV	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-14.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-15.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-15.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-15.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-15.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-15.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-15.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-15.1
JB93023-15.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-15.1
JB93023-15.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-15.1.1	Extract Storage	Ashley Noble	04/27/15 15:34	Retrieve from Storage
JB93023-15.1.1	Ashley Noble	GCMS2M	04/27/15 15:34	Load on Instrument
JB93023-15.1.1	GCMS2M	Ashley Noble	04/29/15 10:52	Unload from Instrument
JB93023-15.1.1	Ashley Noble	Extract Freezer	04/29/15 10:52	Return to Storage
JB93023-15.1.1	Extract Freezer	Ashley Noble	05/01/15 13:23	Retrieve from Storage
JB93023-15.1.1	Ashley Noble	GCMS2M	05/01/15 13:23	Load on Instrument
JB93023-15.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-15.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-15.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-15.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-15.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-15.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-15.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-15.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-15.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-15.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-15.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-15.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-15.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-15.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-15.3	Tim Hudson		08/26/15 08:02	Disposed

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-15.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-15.3
JB93023-15.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-15.3
JB93023-15.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-15.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-15.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-15.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-15.7	Secured Storage	Payal Rana	04/23/15 16:04	Retrieve from Storage
JB93023-15.7	Payal Rana	GCMSV	04/23/15 16:04	Load on Instrument
JB93023-15.7	GCMSV	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-15.7	Payal Rana		04/24/15 09:28	Depleted
JB93023-16.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-16.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-16.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-16.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-16.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-16.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-16.1
JB93023-16.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-16.1
JB93023-16.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-16.1.1	Extract Storage	Ashley Noble	04/27/15 15:34	Retrieve from Storage
JB93023-16.1.1	Ashley Noble	GCMS2M	04/27/15 15:34	Load on Instrument
JB93023-16.1.1	GCMS2M	Ashley Noble	04/29/15 10:52	Unload from Instrument
JB93023-16.1.1	Ashley Noble	Extract Freezer	04/29/15 10:52	Return to Storage
JB93023-16.1.1	Extract Freezer	Ashley Noble	05/01/15 13:23	Retrieve from Storage
JB93023-16.1.1	Ashley Noble	GCMS2M	05/01/15 13:23	Load on Instrument
JB93023-16.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-16.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-16.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-16.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-16.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-16.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-16.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-16.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-16.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-16.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-16.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-16.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-16.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-16.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-16.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-16.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-16.3
JB93023-16.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-16.3
JB93023-16.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-16.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-16.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-16.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-16.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-16.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-16.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-16.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-16.5	Secured Storage	Thien Nguyen	04/28/15 11:51	Retrieve from Storage
JB93023-16.5	Thien Nguyen	Secured Storage	04/28/15 11:51	Return to Storage
JB93023-16.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-17.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-17.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-17.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-17.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-17.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-17.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-17.1
JB93023-17.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-17.1
JB93023-17.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-17.1.1	Extract Storage	Ashley Noble	05/01/15 13:22	Retrieve from Storage
JB93023-17.1.1	Ashley Noble	GCMS2M	05/01/15 13:22	Load on Instrument
JB93023-17.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-17.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-17.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-17.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-17.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-17.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-17.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-17.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-17.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-17.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-17.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-17.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-17.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-17.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-17.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-17.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-17.3
JB93023-17.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-17.3
JB93023-17.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-17.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-17.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-17.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-17.6	Secured Storage	Payal Rana	04/23/15 16:15	Retrieve from Storage
JB93023-17.6	Payal Rana	GCMSX	04/23/15 16:15	Load on Instrument
JB93023-17.6	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-17.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-17.7	Secured Storage	Payal Rana	04/23/15 14:15	Retrieve from Storage
JB93023-17.7	Payal Rana	GCMSX	04/23/15 14:15	Load on Instrument
JB93023-17.7	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-17.7	Payal Rana		04/24/15 09:28	Depleted
JB93023-18.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-18.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-18.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-18.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-18.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-18.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-18.1
JB93023-18.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-18.1
JB93023-18.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-18.1.1	Extract Storage	Ashley Noble	05/01/15 13:22	Retrieve from Storage
JB93023-18.1.1	Ashley Noble	GCMS2M	05/01/15 13:22	Load on Instrument
JB93023-18.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-18.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-18.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-18.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-18.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-18.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-18.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-18.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-18.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-18.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-18.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-18.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-18.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-18.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-18.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-18.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-18.3
JB93023-18.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-18.3
JB93023-18.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-18.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-18.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-18.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-18.6	Secured Storage	Payal Rana	04/23/15 16:15	Retrieve from Storage
JB93023-18.6	Payal Rana	GCMSX	04/23/15 16:15	Load on Instrument
JB93023-18.6	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-18.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-18.7	Secured Storage	Payal Rana	04/23/15 14:15	Retrieve from Storage
JB93023-18.7	Payal Rana	GCMSX	04/23/15 14:15	Load on Instrument
JB93023-18.7	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-18.7	Payal Rana		04/24/15 09:28	Depleted
JB93023-19.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-19.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-19.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-19.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-19.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-19.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-19.1
JB93023-19.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-19.1
JB93023-19.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-19.1.1	Extract Storage	Ashley Noble	05/01/15 13:22	Retrieve from Storage
JB93023-19.1.1	Ashley Noble	GCMS2M	05/01/15 13:22	Load on Instrument
JB93023-19.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-19.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-19.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-19.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-19.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-19.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-19.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-19.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-19.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-19.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-19.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-19.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-19.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-19.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-19.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-19.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-19.3
JB93023-19.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-19.3
JB93023-19.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-19.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-19.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-19.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-19.6	Secured Storage	Payal Rana	04/25/15 11:32	Retrieve from Storage
JB93023-19.6	Payal Rana	GCMSX	04/25/15 11:32	Load on Instrument
JB93023-19.6	GCMSX	Payal Rana	04/27/15 10:06	Unload from Instrument
JB93023-19.6	Payal Rana		04/27/15 10:07	Depleted
JB93023-19.7	Secured Storage	Payal Rana	04/23/15 14:15	Retrieve from Storage
JB93023-19.7	Payal Rana	GCMSX	04/23/15 14:15	Load on Instrument
JB93023-19.7	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-19.7	Payal Rana		04/24/15 09:28	Depleted
JB93023-20.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-20.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-20.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-20.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-20.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-20.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-20.1
JB93023-20.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-20.1
JB93023-20.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-20.1.1	Extract Storage	Ashley Noble	05/01/15 13:22	Retrieve from Storage
JB93023-20.1.1	Ashley Noble	GCMS2M	05/01/15 13:22	Load on Instrument
JB93023-20.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-20.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-20.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-20.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-20.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
Analyst unavailable for custody transfer.				
JB93023-20.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-20.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-20.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-20.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-20.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-20.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-20.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-20.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-20.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-20.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-20.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:29	Digestate from JB93023-20.3
JB93023-20.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:30	Digestate from JB93023-20.3
JB93023-20.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:30	Return to Storage
JB93023-20.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-20.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-20.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-20.6	Secured Storage	Payal Rana	04/23/15 16:04	Retrieve from Storage
JB93023-20.6	Payal Rana	GCMSV	04/23/15 16:04	Load on Instrument
JB93023-20.6	GCMSV	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-20.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-21.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-21.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-21.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-21.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-21.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-21.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-21.1
JB93023-21.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-21.1
JB93023-21.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-21.1.1	Extract Storage	Ashley Noble	05/01/15 13:22	Retrieve from Storage
JB93023-21.1.1	Ashley Noble	GCMS2M	05/01/15 13:22	Load on Instrument
JB93023-21.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-21.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-21.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-21.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-21.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-21.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-21.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-21.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-21.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-21.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-21.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-21.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-21.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-21.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-21.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-21.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:30	Digestate from JB93023-21.3
JB93023-21.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:31	Digestate from JB93023-21.3
JB93023-21.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:31	Return to Storage
JB93023-21.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-21.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-21.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-21.5	Secured Storage	Thien Nguyen	04/24/15 14:03	Retrieve from Storage
JB93023-21.5	Thien Nguyen	Secured Storage	04/24/15 14:03	Return to Storage
JB93023-21.5	Secured Storage	Thien Nguyen	04/27/15 10:09	Retrieve from Storage
JB93023-21.5	Thien Nguyen	Secured Storage	04/27/15 10:09	Return to Storage
JB93023-21.5	Secured Storage	Thien Nguyen	04/28/15 11:51	Retrieve from Storage
JB93023-21.5	Thien Nguyen	Secured Storage	04/28/15 11:51	Return to Storage
JB93023-21.5	Tim Hudson		08/26/15 08:02	Disposed
JB93023-22.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-22.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-22.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-22.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-22.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-22.1.1	Albert Quayson	Organics Prep	04/26/15 07:32	Extract from JB93023-22.1
JB93023-22.1.1	Organics Prep	Nida Rizvi	04/26/15 16:09	Extract from JB93023-22.1
JB93023-22.1.1	Nida Rizvi	Extract Storage	04/26/15 16:09	Return to Storage
JB93023-22.1.1	Extract Storage	Ashley Noble	05/01/15 13:22	Retrieve from Storage
JB93023-22.1.1	Ashley Noble	GCMS2M	05/01/15 13:22	Load on Instrument
JB93023-22.1.1	GCMS2M	Ashley Noble	05/05/15 11:27	Unload from Instrument
JB93023-22.1.1	Ashley Noble	Extract Freezer	05/05/15 11:27	Return to Storage
JB93023-22.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-22.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-22.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage

Analyst unavailable for custody transfer.

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-22.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-22.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-22.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-22.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-22.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-22.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-22.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-22.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-22.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-22.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-22.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:30	Digestate from JB93023-22.3
JB93023-22.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:31	Digestate from JB93023-22.3
JB93023-22.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:31	Return to Storage
JB93023-22.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-22.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-22.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-22.6	Secured Storage	Payal Rana	04/23/15 16:04	Retrieve from Storage
JB93023-22.6	Payal Rana	GCMSV	04/23/15 16:04	Load on Instrument
JB93023-22.6	GCMSV	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-22.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-23.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-23.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-23.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-23.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-23.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-23.1.1	Albert Quayson	Organics Prep	04/26/15 07:33	Extract from JB93023-23.1
JB93023-23.1.1	Organics Prep	Nida Rizvi	04/26/15 13:26	Extract from JB93023-23.1
JB93023-23.1.1	Nida Rizvi	Extract Storage	04/26/15 13:26	Return to Storage
JB93023-23.1.1	Extract Storage	Sara Wellington	04/30/15 22:16	Retrieve from Storage
JB93023-23.1.1	Sara Wellington	GCMS2M	04/30/15 22:16	Load on Instrument
JB93023-23.1.1	GCMS2M	Ashley Noble	05/01/15 13:19	Unload from Instrument
JB93023-23.1.1	Ashley Noble	Extract Freezer	05/01/15 13:19	Return to Storage
JB93023-23.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-23.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-23.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-23.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-23.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-23.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-23.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage
JB93023-23.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-23.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-23.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-23.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-23.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-23.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-23.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:30	Digestate from JB93023-23.3
JB93023-23.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:31	Digestate from JB93023-23.3
JB93023-23.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:31	Return to Storage
JB93023-23.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-23.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-23.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-23.6	Secured Storage	Payal Rana	04/23/15 16:15	Retrieve from Storage
JB93023-23.6	Payal Rana	GCMSX	04/23/15 16:15	Load on Instrument
JB93023-23.6	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-23.6	Payal Rana		04/24/15 09:28	Depleted
JB93023-24.1	Secured Storage	Gage Donahue	04/25/15 16:34	Retrieve from Storage
JB93023-24.1	Gage Donahue	Secured Staging Area	04/25/15 16:34	Return to Storage
JB93023-24.1	Secured Staging Area	Albert Quayson	04/26/15 07:26	Retrieve from Storage
JB93023-24.1	Albert Quayson	Secured Storage	04/26/15 14:02	Return to Storage
JB93023-24.1	Tim Hudson		08/26/15 08:02	Disposed
JB93023-24.1.1	Albert Quayson	Organics Prep	04/26/15 07:33	Extract from JB93023-24.1
JB93023-24.1.1	Organics Prep	Nida Rizvi	04/26/15 13:26	Extract from JB93023-24.1
JB93023-24.1.1	Nida Rizvi	Extract Storage	04/26/15 13:26	Return to Storage
JB93023-24.1.1	Extract Storage	Sara Wellington	04/30/15 22:16	Retrieve from Storage
JB93023-24.1.1	Sara Wellington	GCMS2M	04/30/15 22:16	Load on Instrument
JB93023-24.1.1	GCMS2M	Ashley Noble	05/01/15 13:19	Unload from Instrument
JB93023-24.1.1	Ashley Noble	Extract Freezer	05/01/15 13:19	Return to Storage
JB93023-24.1.1	Extract Freezer		06/08/15 09:00	Disposed
JB93023-24.3	Secured Storage	Todd Shoemaker	04/27/15 11:23	Retrieve from Storage
JB93023-24.3	Shirley Grzybowski	Secured Storage	04/28/15 07:30	Return to Storage
Analyst unavailable for custody transfer.				
JB93023-24.3	Secured Storage	Alfredo Crespo	04/28/15 07:49	Retrieve from Storage
JB93023-24.3	Alfredo Crespo	Secured Staging Area	04/28/15 07:49	Return to Storage
JB93023-24.3	Secured Staging Area	Kruti Patel	04/28/15 11:44	Retrieve from Storage
JB93023-24.3	Kruti Patel	Secured Storage	04/28/15 13:55	Return to Storage

Accutest Internal Chain of Custody

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-24.3	Secured Storage	Alfredo Crespo	04/29/15 08:07	Retrieve from Storage
JB93023-24.3	Alfredo Crespo	Secured Staging Area	04/29/15 08:07	Return to Storage
JB93023-24.3	Secured Staging Area	Merve Uzun	04/29/15 08:13	Retrieve from Storage
JB93023-24.3	Merve Uzun	Masooda Sultani	04/29/15 10:28	Custody Transfer
JB93023-24.3	Masooda Sultani	Secured Storage	04/29/15 10:37	Return to Storage
JB93023-24.3	Tim Hudson		08/26/15 08:02	Disposed
JB93023-24.3.1	Masooda Sultani	Metals Digestion	04/29/15 10:30	Digestate from JB93023-24.3
JB93023-24.3.1	Metals Digestion	Masooda Sultani	04/29/15 10:31	Digestate from JB93023-24.3
JB93023-24.3.1	Masooda Sultani	Metals Digestate Storage	04/29/15 10:31	Return to Storage
JB93023-24.3.1	Metals Digestate Storage		07/06/15 09:00	Disposed
JB93023-24.4	Secured Storage	Bernadette Vassilatos	04/23/15 11:24	Retrieve from Storage
JB93023-24.4	Bernadette Vassilatos		04/23/15 11:24	Subcontract
JB93023-24.6	Secured Storage	Payal Rana	04/23/15 16:15	Retrieve from Storage
JB93023-24.6	Payal Rana	GCMSX	04/23/15 16:15	Load on Instrument
JB93023-24.6	GCMSX	Payal Rana	04/24/15 09:28	Unload from Instrument
JB93023-24.6	Payal Rana		04/24/15 09:28	Depleted

New Jersey
ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV6455-MB	V152299.D	1	04/23/15	BM	n/a	n/a	VV6455

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

JB93023-2, JB93023-4, JB93023-7, JB93023-9, JB93023-11, JB93023-14, JB93023-15, JB93023-20, JB93023-22

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.17	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.32	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.13	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.16	ug/kg	
110-54-3	Hexane	ND	5.0	0.39	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.11	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.15	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.19	ug/kg	
108-88-3	Toluene	ND	1.0	0.21	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.27	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	70-122%
17060-07-0	1,2-Dichloroethane-D4	82%	68-124%
2037-26-5	Toluene-D8	106%	77-125%
460-00-4	4-Bromofluorobenzene	102%	72-130%

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

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX6649-MB	X154238.D	1	04/23/15	BM	n/a	n/a	VX6649

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

JB93023-17, JB93023-18, JB93023-23, JB93023-24

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.17	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.32	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.13	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.16	ug/kg	
110-54-3	Hexane	ND	5.0	0.39	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.11	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.15	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.19	ug/kg	
108-88-3	Toluene	ND	1.0	0.21	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.27	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	70-122%
17060-07-0	1,2-Dichloroethane-D4	103%	68-124%
2037-26-5	Toluene-D8	102%	77-125%
460-00-4	4-Bromofluorobenzene	102%	72-130%

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

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX6651-MB	X154288.D	1	04/25/15	BM	n/a	n/a	VX6651

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

JB93023-19

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.17	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.32	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.13	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.16	ug/kg	
110-54-3	Hexane	ND	5.0	0.39	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.11	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.15	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.19	ug/kg	
108-88-3	Toluene	ND	1.0	0.21	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.27	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	70-122%
17060-07-0	1,2-Dichloroethane-D4	103%	68-124%
2037-26-5	Toluene-D8	101%	77-125%
460-00-4	4-Bromofluorobenzene	104%	72-130%

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

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9896-MB1	E225451.D	1	04/27/15	TDN	n/a	n/a	VE9896

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

JB93023-3, JB93023-8, JB93023-13

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	100	8.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	100	11	ug/kg	
110-82-7	Cyclohexane	ND	100	16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	ug/kg	
110-54-3	Hexane	ND	250	19	ug/kg	
98-82-8	Isopropylbenzene	ND	100	5.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	7.7	ug/kg	
91-20-3	Naphthalene	ND	250	9.5	ug/kg	
108-88-3	Toluene	ND	50	10	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	100	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	100	9.6	ug/kg	
1330-20-7	Xylene (total)	ND	50	14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	89%	70-122%
17060-07-0	1,2-Dichloroethane-D4	81%	68-124%
2037-26-5	Toluene-D8	90%	77-125%
460-00-4	4-Bromofluorobenzene	84%	72-130%

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

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9899-MB	E225507.D	1	04/28/15	TDN	n/a	n/a	VE9899

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

JB93023-1, JB93023-10, JB93023-12, JB93023-16, JB93023-21

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	100	8.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	100	11	ug/kg	
110-82-7	Cyclohexane	ND	100	16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	ug/kg	
110-54-3	Hexane	ND	250	19	ug/kg	
98-82-8	Isopropylbenzene	ND	100	5.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	7.7	ug/kg	
91-20-3	Naphthalene	ND	250	9.5	ug/kg	
108-88-3	Toluene	ND	50	10	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	100	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	100	9.6	ug/kg	
1330-20-7	Xylene (total)	ND	50	14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	91%	70-122%
17060-07-0	1,2-Dichloroethane-D4	81%	68-124%
2037-26-5	Toluene-D8	87%	77-125%
460-00-4	4-Bromofluorobenzene	86%	72-130%

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9900-MB1	E225532.D	1	04/29/15	TDN	n/a	n/a	VE9900

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

JB93023-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	25	6.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	100	8.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	100	11	ug/kg	
110-82-7	Cyclohexane	ND	100	16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	50	6.7	ug/kg	
100-41-4	Ethylbenzene	ND	50	8.2	ug/kg	
110-54-3	Hexane	ND	250	19	ug/kg	
98-82-8	Isopropylbenzene	ND	100	5.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	50	7.7	ug/kg	
91-20-3	Naphthalene	ND	250	9.5	ug/kg	
108-88-3	Toluene	ND	50	10	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	100	10	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	100	9.6	ug/kg	
1330-20-7	Xylene (total)	ND	50	14	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	90%	70-122%
17060-07-0	1,2-Dichloroethane-D4	82%	68-124%
2037-26-5	Toluene-D8	84%	77-125%
460-00-4	4-Bromofluorobenzene	85%	72-130%

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

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V809-MB1	3V19490.D	1	05/04/15	TDN	n/a	n/a	V3V809

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

JB93023-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.13	ug/kg	
135-98-8	sec-Butylbenzene	ND	2.0	0.17	ug/kg	
98-06-6	tert-Butylbenzene	ND	2.0	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.32	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.13	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.16	ug/kg	
110-54-3	Hexane	ND	5.0	0.39	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.11	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.15	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.19	ug/kg	
108-88-3	Toluene	ND	1.0	0.21	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.19	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.27	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	70-122%
17060-07-0	1,2-Dichloroethane-D4	102%	68-124%
2037-26-5	Toluene-D8	108%	77-125%
460-00-4	4-Bromofluorobenzene	110%	72-130%

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

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV6455-BS	V152300.D	1	04/23/15	BM	n/a	n/a	VV6455

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

JB93023-2, JB93023-4, JB93023-7, JB93023-9, JB93023-11, JB93023-14, JB93023-15, JB93023-20, JB93023-22

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	47.4	95	77-122
135-98-8	sec-Butylbenzene	50	45.3	91	70-125
98-06-6	tert-Butylbenzene	50	44.0	88	70-126
110-82-7	Cyclohexane	50	58.4	117	66-131
107-06-2	1,2-Dichloroethane	50	48.6	97	77-140
100-41-4	Ethylbenzene	50	48.3	97	75-121
110-54-3	Hexane	50	48.7	97	37-137
98-82-8	Isopropylbenzene	50	46.7	93	70-126
1634-04-4	Methyl Tert Butyl Ether	100	113	113	77-121
91-20-3	Naphthalene	50	47.9	96	74-126
108-88-3	Toluene	50	53.3	107	75-123
95-63-6	1,2,4-Trimethylbenzene	50	48.3	97	75-126
108-67-8	1,3,5-Trimethylbenzene	50	47.1	94	72-124
1330-20-7	Xylene (total)	150	152	101	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	70-122%
17060-07-0	1,2-Dichloroethane-D4	91%	68-124%
2037-26-5	Toluene-D8	105%	77-125%
460-00-4	4-Bromofluorobenzene	105%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX6649-BS	X154239.D	1	04/23/15	BM	n/a	n/a	VX6649

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

JB93023-17, JB93023-18, JB93023-23, JB93023-24

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	49.0	98	77-122
135-98-8	sec-Butylbenzene	50	53.0	106	70-125
98-06-6	tert-Butylbenzene	50	52.9	106	70-126
110-82-7	Cyclohexane	50	51.7	103	66-131
107-06-2	1,2-Dichloroethane	50	58.5	117	77-140
100-41-4	Ethylbenzene	50	49.6	99	75-121
110-54-3	Hexane	50	49.4	99	37-137
98-82-8	Isopropylbenzene	50	53.3	107	70-126
1634-04-4	Methyl Tert Butyl Ether	100	107	107	77-121
91-20-3	Naphthalene	50	58.6	117	74-126
108-88-3	Toluene	50	49.8	100	75-123
95-63-6	1,2,4-Trimethylbenzene	50	53.6	107	75-126
108-67-8	1,3,5-Trimethylbenzene	50	52.6	105	72-124
1330-20-7	Xylene (total)	150	152	101	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	70-122%
17060-07-0	1,2-Dichloroethane-D4	110%	68-124%
2037-26-5	Toluene-D8	102%	77-125%
460-00-4	4-Bromofluorobenzene	103%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX6651-BS	X154289.D	1	04/25/15	BM	n/a	n/a	VX6651

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

JB93023-19

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	47.7	95	77-122
135-98-8	sec-Butylbenzene	50	53.8	108	70-125
98-06-6	tert-Butylbenzene	50	54.1	108	70-126
110-82-7	Cyclohexane	50	48.9	98	66-131
107-06-2	1,2-Dichloroethane	50	57.6	115	77-140
100-41-4	Ethylbenzene	50	49.1	98	75-121
110-54-3	Hexane	50	43.8	88	37-137
98-82-8	Isopropylbenzene	50	54.0	108	70-126
1634-04-4	Methyl Tert Butyl Ether	100	103	103	77-121
91-20-3	Naphthalene	50	67.7	135* [a]	74-126
108-88-3	Toluene	50	48.3	97	75-123
95-63-6	1,2,4-Trimethylbenzene	50	54.6	109	75-126
108-67-8	1,3,5-Trimethylbenzene	50	53.6	107	72-124
1330-20-7	Xylene (total)	150	151	101	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	70-122%
17060-07-0	1,2-Dichloroethane-D4	110%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	106%	72-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9896-BS	E225453.D	1	04/27/15	TDN	n/a	n/a	VE9896

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

JB93023-3, JB93023-8, JB93023-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2310	92	77-122
135-98-8	sec-Butylbenzene	2500	2350	94	70-125
98-06-6	tert-Butylbenzene	2500	2250	90	70-126
110-82-7	Cyclohexane	2500	2560	102	66-131
107-06-2	1,2-Dichloroethane	2500	2460	98	77-140
100-41-4	Ethylbenzene	2500	2350	94	75-121
110-54-3	Hexane	2500	2090	84	37-137
98-82-8	Isopropylbenzene	2500	2370	95	70-126
1634-04-4	Methyl Tert Butyl Ether	5000	5340	107	77-121
91-20-3	Naphthalene	2500	2380	95	74-126
108-88-3	Toluene	2500	2600	104	75-123
95-63-6	1,2,4-Trimethylbenzene	2500	2500	100	75-126
108-67-8	1,3,5-Trimethylbenzene	2500	2400	96	72-124
1330-20-7	Xylene (total)	7500	7210	96	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	91%	70-122%
17060-07-0	1,2-Dichloroethane-D4	84%	68-124%
2037-26-5	Toluene-D8	92%	77-125%
460-00-4	4-Bromofluorobenzene	87%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9899-BS	E225508.D	1	04/28/15	TDN	n/a	n/a	VE9899

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

JB93023-1, JB93023-10, JB93023-12, JB93023-16, JB93023-21

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2390	96	77-122
135-98-8	sec-Butylbenzene	2500	2390	96	70-125
98-06-6	tert-Butylbenzene	2500	2340	94	70-126
110-82-7	Cyclohexane	2500	3100	124	66-131
107-06-2	1,2-Dichloroethane	2500	2250	90	77-140
100-41-4	Ethylbenzene	2500	2380	95	75-121
110-54-3	Hexane	2500	2720	109	37-137
98-82-8	Isopropylbenzene	2500	2370	95	70-126
1634-04-4	Methyl Tert Butyl Ether	5000	5250	105	77-121
91-20-3	Naphthalene	2500	2300	92	74-126
108-88-3	Toluene	2500	2590	104	75-123
95-63-6	1,2,4-Trimethylbenzene	2500	2460	98	75-126
108-67-8	1,3,5-Trimethylbenzene	2500	2330	93	72-124
1330-20-7	Xylene (total)	7500	7300	97	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	92%	70-122%
17060-07-0	1,2-Dichloroethane-D4	83%	68-124%
2037-26-5	Toluene-D8	89%	77-125%
460-00-4	4-Bromofluorobenzene	83%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE9900-BS	E225533.D	1	04/29/15	TDN	n/a	n/a	VE9900

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

JB93023-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	2500	2230	89	77-122
135-98-8	sec-Butylbenzene	2500	2310	92	70-125
98-06-6	tert-Butylbenzene	2500	2270	91	70-126
110-82-7	Cyclohexane	2500	2940	118	66-131
107-06-2	1,2-Dichloroethane	2500	2130	85	77-140
100-41-4	Ethylbenzene	2500	2270	91	75-121
110-54-3	Hexane	2500	2430	97	37-137
98-82-8	Isopropylbenzene	2500	2300	92	70-126
1634-04-4	Methyl Tert Butyl Ether	5000	4960	99	77-121
91-20-3	Naphthalene	2500	2270	91	74-126
108-88-3	Toluene	2500	2360	94	75-123
95-63-6	1,2,4-Trimethylbenzene	2500	2360	94	75-126
108-67-8	1,3,5-Trimethylbenzene	2500	2260	90	72-124
1330-20-7	Xylene (total)	7500	6920	92	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	91%	70-122%
17060-07-0	1,2-Dichloroethane-D4	85%	68-124%
2037-26-5	Toluene-D8	86%	77-125%
460-00-4	4-Bromofluorobenzene	84%	72-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V809-BS	3V19491.D	1	05/04/15	TDN	n/a	n/a	V3V809

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

JB93023-5

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	51.4	103	77-122
135-98-8	sec-Butylbenzene	50	52.3	105	70-125
98-06-6	tert-Butylbenzene	50	58.0	116	70-126
110-82-7	Cyclohexane	50	49.2	98	66-131
107-06-2	1,2-Dichloroethane	50	50.7	101	77-140
100-41-4	Ethylbenzene	50	49.6	99	75-121
110-54-3	Hexane	50	39.7	79	37-137
98-82-8	Isopropylbenzene	50	51.4	103	70-126
1634-04-4	Methyl Tert Butyl Ether	100	88.3	88	77-121
91-20-3	Naphthalene	50	46.9	94	74-126
108-88-3	Toluene	50	46.9	94	75-123
95-63-6	1,2,4-Trimethylbenzene	50	50.4	101	75-126
108-67-8	1,3,5-Trimethylbenzene	50	50.5	101	72-124
1330-20-7	Xylene (total)	150	150	100	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	70-122%
17060-07-0	1,2-Dichloroethane-D4	103%	68-124%
2037-26-5	Toluene-D8	99%	77-125%
460-00-4	4-Bromofluorobenzene	98%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB93023-2MS	V152309.D	1	04/23/15	BM	n/a	n/a	VV6455
JB93023-2	V152305.D	1	04/23/15	BM	n/a	n/a	VV6455

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

JB93023-2, JB93023-4, JB93023-7, JB93023-9, JB93023-11, JB93023-14, JB93023-15, JB93023-20, JB93023-22

CAS No.	Compound	JB93023-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	7.7		74.4	79.1	96	48-136
135-98-8	sec-Butylbenzene	ND		74.4	73.3	99	23-151
98-06-6	tert-Butylbenzene	ND		74.4	70.5	95	30-149
110-82-7	Cyclohexane	10		74.4	104	126	22-154
107-06-2	1,2-Dichloroethane	ND		74.4	64.3	86	56-140
100-41-4	Ethylbenzene	0.87	J	74.4	79.7	106	34-145
110-54-3	Hexane	7.5		74.4	89.3	110	10-157
98-82-8	Isopropylbenzene	0.32	J	74.4	79.7	107	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		74.4	72.0	97	54-129
91-20-3	Naphthalene	ND		74.4	56.6	76	12-160
108-88-3	Toluene	0.67	J	74.4	88.9	119	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		74.4	77.0	103	23-152
108-67-8	1,3,5-Trimethylbenzene	ND		74.4	80.1	108	26-150
1330-20-7	Xylene (total)	0.50	J	223	246	110	34-146

CAS No.	Surrogate Recoveries	MS	JB93023-2	Limits
1868-53-7	Dibromofluoromethane	96%	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	77%	88%	68-124%
2037-26-5	Toluene-D8	110%	105%	77-125%
460-00-4	4-Bromofluorobenzene	103%	105%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB93023-18MS	X154246.D	1	04/23/15	BM	n/a	n/a	VX6649
JB93023-18	X154244.D	1	04/23/15	BM	n/a	n/a	VX6649

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

JB93023-17, JB93023-18, JB93023-23, JB93023-24

CAS No.	Compound	JB93023-18 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	ND		48.3	44.0	91	48-136
135-98-8	sec-Butylbenzene	1.7	J	48.3	35.1	69	23-151
98-06-6	tert-Butylbenzene	1.4	J	48.3	43.2	87	30-149
110-82-7	Cyclohexane	ND		48.3	39.7	82	22-154
107-06-2	1,2-Dichloroethane	ND		48.3	45.4	94	56-140
100-41-4	Ethylbenzene	ND		48.3	46.6	96	34-145
110-54-3	Hexane	ND		48.3	27.5	57	10-157
98-82-8	Isopropylbenzene	ND		48.3	45.9	95	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		48.3	42.9	89	54-129
91-20-3	Naphthalene	ND		48.3	33.6	70	12-160
108-88-3	Toluene	ND		48.3	44.3	92	40-141
95-63-6	1,2,4-Trimethylbenzene	0.44	J	48.3	44.4	91	23-152
108-67-8	1,3,5-Trimethylbenzene	0.49	J	48.3	45.0	92	26-150
1330-20-7	Xylene (total)	ND		145	139	96	34-146

CAS No.	Surrogate Recoveries	MS	JB93023-18	Limits
1868-53-7	Dibromofluoromethane	96%	102%	70-122%
17060-07-0	1,2-Dichloroethane-D4	93%	114%	68-124%
2037-26-5	Toluene-D8	94%	97%	77-125%
460-00-4	4-Bromofluorobenzene	96%	93%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB92989-21MS	X154297.D	1	04/25/15	BM	n/a	n/a	VX6651
JB92989-21	X154292.D	1	04/25/15	BM	n/a	n/a	VX6651

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

JB93023-19

CAS No.	Compound	JB92989-21 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	4.6		59.4	49.2	75	48-136
135-98-8	sec-Butylbenzene	1.0	J	59.4	34.5	56	23-151
98-06-6	tert-Butylbenzene	ND		59.4	40.5	68	30-149
110-82-7	Cyclohexane	ND		59.4	46.9	79	22-154
107-06-2	1,2-Dichloroethane	ND		59.4	48.5	82	56-140
100-41-4	Ethylbenzene	4.8		59.4	47.4	72	34-145
110-54-3	Hexane	ND		59.4	38.2	64	10-157
98-82-8	Isopropylbenzene	0.73	J	59.4	44.5	74	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		59.4	45.8	77	54-129
91-20-3	Naphthalene	ND		59.4	18.4	31	12-160
108-88-3	Toluene	ND		59.4	42.1	71	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		59.4	34.0	57	23-152
108-67-8	1,3,5-Trimethylbenzene	0.91	J	59.4	38.5	63	26-150
1330-20-7	Xylene (total)	0.58	J	178	119	66	34-146

CAS No.	Surrogate Recoveries	MS	JB92989-21	Limits
1868-53-7	Dibromofluoromethane	99%	105%	70-122%
17060-07-0	1,2-Dichloroethane-D4	97%	114%	68-124%
2037-26-5	Toluene-D8	99%	103%	77-125%
460-00-4	4-Bromofluorobenzene	112%	107%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB93384-6MS	3V19496.D	1	05/04/15	TDN	n/a	n/a	V3V809
JB93384-6	3V19494.D	1	05/04/15	TDN	n/a	n/a	V3V809

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

JB93023-5

CAS No.	Compound	JB93384-6 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
71-43-2	Benzene	ND		54.9	52.9	96	48-136
135-98-8	sec-Butylbenzene	ND		54.9	52.6	96	23-151
98-06-6	tert-Butylbenzene	ND		54.9	49.3	90	30-149
110-82-7	Cyclohexane	ND		54.9	41.9	76	22-154
107-06-2	1,2-Dichloroethane	ND		54.9	51.5	94	56-140
100-41-4	Ethylbenzene	ND		54.9	51.7	94	34-145
110-54-3	Hexane	ND		54.9	34.9	64	10-157
98-82-8	Isopropylbenzene	ND		54.9	52.3	95	36-145
1634-04-4	Methyl Tert Butyl Ether	ND		54.9	44.9	82	54-129
91-20-3	Naphthalene	ND		54.9	45.6	83	12-160
108-88-3	Toluene	ND		54.9	50.2	91	40-141
95-63-6	1,2,4-Trimethylbenzene	ND		54.9	51.5	94	23-152
108-67-8	1,3,5-Trimethylbenzene	ND		54.9	52.4	95	26-150
1330-20-7	Xylene (total)	ND		165	159	97	34-146

CAS No.	Surrogate Recoveries	MS	JB93384-6	Limits
1868-53-7	Dibromofluoromethane	98%	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	97%	97%	68-124%
2037-26-5	Toluene-D8	102%	107%	77-125%
460-00-4	4-Bromofluorobenzene	102%	109%	72-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB92986-13MS	E225463.D	1	04/27/15	TDN	n/a	n/a	VE9896
JB92986-13MSD	E225464.D	1	04/27/15	TDN	n/a	n/a	VE9896
JB92986-13	E225458.D	1	04/27/15	TDN	n/a	n/a	VE9896

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

JB93023-3, JB93023-8, JB93023-13

CAS No.	Compound	JB92986-13 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1960		3120	4580	84	3120	4730	89	3	48-136/30
135-98-8	sec-Butylbenzene	49.8	J	3120	2720	86	3120	2940	93	8	23-151/34
98-06-6	tert-Butylbenzene	ND		3120	2640	85	3120	2790	90	6	30-149/34
110-82-7	Cyclohexane	77.4	J	3120	3290	103	3120	3600	113	9	22-154/33
107-06-2	1,2-Dichloroethane	ND		3120	2830	91	3120	3000	96	6	56-140/24
100-41-4	Ethylbenzene	5060		3120	7540	80	3120	7670	84	2	34-145/29
110-54-3	Hexane	203	J	3120	3270	98	3120	3450	104	5	10-157/33
98-82-8	Isopropylbenzene	575		3120	3270	87	3120	3490	94	7	36-145/33
1634-04-4	Methyl Tert Butyl Ether	ND		3120	3100	100	3120	3320	107	7	54-129/25
91-20-3	Naphthalene	414		3120	3810	109	3120	3580	102	6	12-160/33
108-88-3	Toluene	2250		3120	5050	90	3120	5170	94	2	40-141/30
95-63-6	1,2,4-Trimethylbenzene	8280		3120	10800	81	3120	10800	81	0	23-152/31
108-67-8	1,3,5-Trimethylbenzene	1990		3120	4690	87	3120	4880	93	4	26-150/32
1330-20-7	Xylene (total)	28400		9350	35300	74	9350	35600	77	1	34-146/29

CAS No.	Surrogate Recoveries	MS	MSD	JB92986-13	Limits
1868-53-7	Dibromofluoromethane	91%	92%	91%	70-122%
17060-07-0	1,2-Dichloroethane-D4	80%	81%	82%	68-124%
2037-26-5	Toluene-D8	89%	88%	90%	77-125%
460-00-4	4-Bromofluorobenzene	85%	85%	85%	72-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB93023-16MS	E225512.D	1	04/28/15	TDN	n/a	n/a	VE9899
JB93023-16MSD	E225513.D	1	04/28/15	TDN	n/a	n/a	VE9899
JB93023-16	E225510.D	1	04/28/15	TDN	n/a	n/a	VE9899

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

JB93023-1, JB93023-10, JB93023-12, JB93023-16, JB93023-21

CAS No.	Compound	JB93023-16 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		5450	5390	99	5450	4820	88	11	48-136/30
135-98-8	sec-Butylbenzene	ND		5450	5020	92	5450	4780	88	5	23-151/34
98-06-6	tert-Butylbenzene	ND		5450	5260	96	5450	4990	92	5	30-149/34
110-82-7	Cyclohexane	ND		5450	5370	99	5450	4740	87	12	22-154/33
107-06-2	1,2-Dichloroethane	ND		5450	4970	91	5450	4510	83	10	56-140/24
100-41-4	Ethylbenzene	ND		5450	5280	97	5450	4680	86	12	34-145/29
110-54-3	Hexane	ND		5450	4600	84	5450	4290	79	7	10-157/33
98-82-8	Isopropylbenzene	ND		5450	4990	92	5450	4720	87	6	36-145/33
1634-04-4	Methyl Tert Butyl Ether	ND		5450	5910	108	5450	5220	96	12	54-129/25
91-20-3	Naphthalene	68.3	J	5450	5140	94	5450	4960	91	4	12-160/33
108-88-3	Toluene	ND		5450	5340	98	5450	4730	87	12	40-141/30
95-63-6	1,2,4-Trimethylbenzene	ND		5450	5210	96	5450	4690	86	11	23-152/31
108-67-8	1,3,5-Trimethylbenzene	ND		5450	5140	94	5450	4750	87	8	26-150/32
1330-20-7	Xylene (total)	41.9	J	16400	16200	99	16400	14400	88	12	34-146/29

CAS No.	Surrogate Recoveries	MS	MSD	JB93023-16	Limits
1868-53-7	Dibromofluoromethane	95%	94%	91%	70-122%
17060-07-0	1,2-Dichloroethane-D4	81%	80%	82%	68-124%
2037-26-5	Toluene-D8	84%	85%	87%	77-125%
460-00-4	4-Bromofluorobenzene	82%	81%	81%	72-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB93109-18MS	E225541.D	1	04/29/15	TDN	n/a	n/a	VE9900
JB93109-18MSD	E225542.D	1	04/29/15	TDN	n/a	n/a	VE9900
JB93109-18 [a]	E225544.D	1	04/29/15	TDN	n/a	n/a	VE9900

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

JB93023-6

CAS No.	Compound	JB93109-18 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		5060	5100	101	5060	4910	97	4	48-136/30
135-98-8	sec-Butylbenzene	287		5060	5460	102	5060	5100	95	7	23-151/34
98-06-6	tert-Butylbenzene	ND		5060	5570	110	5060	5140	101	8	30-149/34
110-82-7	Cyclohexane	ND		5060	6470	128	5060	5950	117	8	22-154/33
107-06-2	1,2-Dichloroethane	ND		5060	4770	94	5060	4610	91	3	56-140/24
100-41-4	Ethylbenzene	36.0	J	5060	5150	101	5060	4950	97	4	34-145/29
110-54-3	Hexane	ND		5060	6070	120	5060	5860	116	4	10-157/33
98-82-8	Isopropylbenzene	53.1	J	5060	4980	97	5060	4690	92	6	36-145/33
1634-04-4	Methyl Tert Butyl Ether	ND		5060	5880	116	5060	5550	110	6	54-129/25
91-20-3	Naphthalene	692		5060	5900	103	5060	5350	92	10	12-160/33
108-88-3	Toluene	ND		5060	5430	107	5060	5360	106	1	40-141/30
95-63-6	1,2,4-Trimethylbenzene	2120		5060	7050	97	5060	6690	90	5	23-152/31
108-67-8	1,3,5-Trimethylbenzene	2080		5060	7220	101	5060	6750	92	7	26-150/32
1330-20-7	Xylene (total)	442		15200	16100	103	15200	15500	99	4	34-146/29

CAS No.	Surrogate Recoveries	MS	MSD	JB93109-18	Limits
1868-53-7	Dibromofluoromethane	94%	90%	90%	70-122%
17060-07-0	1,2-Dichloroethane-D4	83%	81%	81%	68-124%
2037-26-5	Toluene-D8	87%	88%	88%	77-125%
460-00-4	4-Bromofluorobenzene	79%	78%	78%	72-130%

(a) Dilution required due to matrix interference.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB93023-7DUP	V152308.D	1	04/23/15	BM	n/a	n/a	VV6455
JB93023-7	V152306.D	1	04/23/15	BM	n/a	n/a	VV6455

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

JB93023-2, JB93023-4, JB93023-7, JB93023-9, JB93023-11, JB93023-14, JB93023-15, JB93023-20, JB93023-22

CAS No.	Compound	JB93023-7 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	17
135-98-8	sec-Butylbenzene	ND		ND		nc	30
98-06-6	tert-Butylbenzene	ND		ND		nc	30
110-82-7	Cyclohexane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
110-54-3	Hexane	ND		ND		nc	30
98-82-8	Isopropylbenzene	ND		ND		nc	22
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	30
91-20-3	Naphthalene	ND		ND		nc	30
108-88-3	Toluene	ND		ND		nc	22
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	30
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	30
1330-20-7	Xylene (total)	ND		ND		nc	21

CAS No.	Surrogate Recoveries	DUP	JB93023-7	Limits
1868-53-7	Dibromofluoromethane	102%	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	94%	90%	68-124%
2037-26-5	Toluene-D8	109%	106%	77-125%
460-00-4	4-Bromofluorobenzene	107%	107%	72-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB93023-17DUP	X154248.D	1	04/23/15	BM	n/a	n/a	VX6649
JB93023-17	X154243.D	1	04/23/15	BM	n/a	n/a	VX6649

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

JB93023-17, JB93023-18, JB93023-23, JB93023-24

CAS No.	Compound	JB93023-17 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	17
135-98-8	sec-Butylbenzene	ND		ND		nc	30
98-06-6	tert-Butylbenzene	ND		ND		nc	30
110-82-7	Cyclohexane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
110-54-3	Hexane	ND		ND		nc	30
98-82-8	Isopropylbenzene	ND		ND		nc	22
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	30
91-20-3	Naphthalene	ND		ND		nc	30
108-88-3	Toluene	ND		ND		nc	22
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	30
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	30
1330-20-7	Xylene (total)	ND		ND		nc	21

CAS No.	Surrogate Recoveries	DUP	JB93023-17	Limits
1868-53-7	Dibromofluoromethane	102%	105%	70-122%
17060-07-0	1,2-Dichloroethane-D4	104%	110%	68-124%
2037-26-5	Toluene-D8	101%	103%	77-125%
460-00-4	4-Bromofluorobenzene	111%	108%	72-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB92989-20DUP	X154299.D	1	04/25/15	BM	n/a	n/a	VX6651
JB92989-20	X154291.D	1	04/25/15	BM	n/a	n/a	VX6651

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

JB93023-19

CAS No.	Compound	JB92989-20 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	17
135-98-8	sec-Butylbenzene	ND		ND		nc	30
98-06-6	tert-Butylbenzene	ND		ND		nc	30
110-82-7	Cyclohexane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
110-54-3	Hexane	ND		ND		nc	30
98-82-8	Isopropylbenzene	ND		ND		nc	22
1634-04-4	Methyl Tert Butyl Ether	0.26	J	ND		200* [a]	30
91-20-3	Naphthalene	ND		ND		nc	30
108-88-3	Toluene	ND		ND		nc	22
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	30
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	30
1330-20-7	Xylene (total)	ND		ND		nc	21

CAS No.	Surrogate Recoveries	DUP	JB92989-20	Limits
1868-53-7	Dibromofluoromethane	104%	106%	70-122%
17060-07-0	1,2-Dichloroethane-D4	108%	110%	68-124%
2037-26-5	Toluene-D8	102%	101%	77-125%
460-00-4	4-Bromofluorobenzene	105%	107%	72-130%

(a) High RPD due to low concentration of hit

* = Outside of Control Limits.

Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB93384-5DUP	3V19495.D	1	05/04/15	TDN	n/a	n/a	V3V809
JB93384-5	3V19493.D	1	05/04/15	TDN	n/a	n/a	V3V809

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

JB93023-5

CAS No.	Compound	JB93384-5 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	17
135-98-8	sec-Butylbenzene	ND		ND		nc	30
98-06-6	tert-Butylbenzene	ND		ND		nc	30
110-82-7	Cyclohexane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	23
110-54-3	Hexane	ND		ND		nc	30
98-82-8	Isopropylbenzene	ND		ND		nc	22
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	30
91-20-3	Naphthalene	ND		ND		nc	30
108-88-3	Toluene	ND		ND		nc	22
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	30
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	30
1330-20-7	Xylene (total)	ND		ND		nc	21

CAS No.	Surrogate Recoveries	DUP	JB93384-5	Limits
1868-53-7	Dibromofluoromethane	99%	96%	70-122%
17060-07-0	1,2-Dichloroethane-D4	98%	97%	68-124%
2037-26-5	Toluene-D8	107%	102%	77-125%
460-00-4	4-Bromofluorobenzene	109%	108%	72-130%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: V3V793-BFB
Lab File ID: 3V18999.D
Instrument ID: GCMS3V
Injection Date: 04/17/15
Injection Time: 08:34

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13842	16.4		Pass
75	30.0 - 60.0% of mass 95	38709	45.9		Pass
95	Base peak, 100% relative abundance	84248	100.0		Pass
96	5.0 - 9.0% of mass 95	5731	6.80		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	91845	109.0		Pass
175	5.0 - 9.0% of mass 174	7208	8.56	(7.85) [a]	Pass
176	95.0 - 101.0% of mass 174	89443	106.2	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	5904	7.01	(6.60) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3V793-IC793	3V19000.D	04/17/15	09:15	00:41	Initial cal 0.2
V3V793-IC793	3V19001.D	04/17/15	09:43	01:09	Initial cal 0.5
V3V793-IC793	3V19002.D	04/17/15	10:11	01:37	Initial cal 1
V3V793-IC793	3V19003.D	04/17/15	10:39	02:05	Initial cal 2
V3V793-IC793	3V19004.D	04/17/15	11:07	02:33	Initial cal 4
V3V793-IC793	3V19005.D	04/17/15	11:35	03:01	Initial cal 8
V3V793-IC793	3V19006.D	04/17/15	12:03	03:29	Initial cal 20
V3V793-ICC793	3V19007.D	04/17/15	12:31	03:57	Initial cal 50
V3V793-IC793	3V19008.D	04/17/15	12:59	04:25	Initial cal 100
V3V793-IC793	3V19009.D	04/17/15	13:27	04:53	Initial cal 200
V3V793-ICV793	3V19012.D	04/17/15	15:09	06:35	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample:	V3V809-BFB	**Injection Date:**	05/04/15
Lab File ID:	3V19487.D	**Injection Time:**	06:40
Instrument ID:	GCMS3V		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14115	16.4		Pass
75	30.0 - 60.0% of mass 95	39659	46.1		Pass
95	Base peak, 100% relative abundance	86085	100.0		Pass
96	5.0 - 9.0% of mass 95	5380	6.25		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	90227	104.8		Pass
175	5.0 - 9.0% of mass 174	7485	8.69	(8.30) [a]	Pass
176	95.0 - 101.0% of mass 174	86563	100.6	(95.9) [a]	Pass
177	5.0 - 9.0% of mass 176	5638	6.55	(6.51) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3V809-CC793	3V19488.D	05/04/15	07:14	00:34	Continuing cal 50
V3V809-CC793	3V19489.D	05/04/15	08:16	01:36	Continuing cal 1
V3V809-MB1	3V19490.D	05/04/15	08:44	02:04	Method Blank
V3V809-BS	3V19491.D	05/04/15	09:22	02:42	Blank Spike
JB93384-5	3V19493.D	05/04/15	10:26	03:46	(used for QC only; not part of job JB93023)
JB93384-6	3V19494.D	05/04/15	10:54	04:14	(used for QC only; not part of job JB93023)
JB93384-5DUP	3V19495.D	05/04/15	11:49	05:09	Duplicate
JB93384-6MS	3V19496.D	05/04/15	12:17	05:37	Matrix Spike
ZZZZZZ	3V19498.D	05/04/15	13:15	06:35	(unrelated sample)
ZZZZZZ	3V19499.D	05/04/15	13:43	07:03	(unrelated sample)
ZZZZZZ	3V19500.D	05/04/15	14:11	07:31	(unrelated sample)
ZZZZZZ	3V19501.D	05/04/15	14:39	07:59	(unrelated sample)
ZZZZZZ	3V19502.D	05/04/15	15:07	08:27	(unrelated sample)
ZZZZZZ	3V19503.D	05/04/15	15:35	08:55	(unrelated sample)
ZZZZZZ	3V19504.D	05/04/15	16:03	09:23	(unrelated sample)
ZZZZZZ	3V19505.D	05/04/15	16:31	09:51	(unrelated sample)
JB93023-5	3V19506.D	05/04/15	16:59	10:19	MH593-5(3.0)
ZZZZZZ	3V19507.D	05/04/15	17:28	10:48	(unrelated sample)
ZZZZZZ	3V19508.D	05/04/15	17:56	11:16	(unrelated sample)
ZZZZZZ	3V19509.D	05/04/15	18:24	11:44	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VE9806-BFB
Lab File ID: E223537.D
Instrument ID: GCMSE
Injection Date: 02/16/15
Injection Time: 11:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	9321	17.2		Pass
75	30.0 - 60.0% of mass 95	24544	45.3		Pass
95	Base peak, 100% relative abundance	54240	100.0		Pass
96	5.0 - 9.0% of mass 95	3910	7.21		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	49616	91.5		Pass
175	5.0 - 9.0% of mass 174	3652	6.73	(7.36) [a]	Pass
176	95.0 - 101.0% of mass 174	48746	89.9	(98.2) [a]	Pass
177	5.0 - 9.0% of mass 176	3364	6.20	(6.90) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VE9806-IC9806	E223538.D	02/16/15	12:17	00:30	Initial cal 0.2
VE9806-IC9806	E223539.D	02/16/15	12:47	01:00	Initial cal 0.5
VE9806-IC9806	E223540.D	02/16/15	13:18	01:31	Initial cal 1
VE9806-IC9806	E223541.D	02/16/15	13:48	02:01	Initial cal 2
VE9806-IC9806	E223542.D	02/16/15	14:18	02:31	Initial cal 4
VE9806-IC9806	E223543.D	02/16/15	14:48	03:01	Initial cal 8
VE9806-IC9806	E223544.D	02/16/15	15:18	03:31	Initial cal 20
VE9806-ICC9806	E223545.D	02/16/15	15:48	04:01	Initial cal 50
VE9806-IC9806	E223546.D	02/16/15	16:18	04:31	Initial cal 100
VE9806-IC9806	E223547.D	02/16/15	16:49	05:02	Initial cal 200
VE9806-ICV9806	E223550.D	02/16/15	18:18	06:31	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VE9896-BFB
Lab File ID: E225448.D
Instrument ID: GCMSE
Injection Date: 04/27/15
Injection Time: 08:46

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	8637	16.1		Pass
75	30.0 - 60.0% of mass 95	24834	46.3		Pass
95	Base peak, 100% relative abundance	53656	100.0		Pass
96	5.0 - 9.0% of mass 95	3533	6.58		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	47786	89.1		Pass
175	5.0 - 9.0% of mass 174	3619	6.74	(7.57) [a]	Pass
176	95.0 - 101.0% of mass 174	46810	87.2	(98.0) [a]	Pass
177	5.0 - 9.0% of mass 176	3191	5.95	(6.82) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VE9896-CC9806	E225449.D	04/27/15	09:25	00:39	Continuing cal 50
ZZZZZZ	E225451.D	04/27/15	10:29	01:43	(unrelated sample)
VE9896-MB1	E225451.D	04/27/15	10:29	01:43	Method Blank
ZZZZZZ	E225452.D	04/27/15	11:00	02:14	(unrelated sample)
VE9896-BS	E225453.D	04/27/15	11:30	02:44	Blank Spike
ZZZZZZ	E225454.D	04/27/15	12:01	03:15	(unrelated sample)
ZZZZZZ	E225455.D	04/27/15	12:31	03:45	(unrelated sample)
JB92986-13	E225458.D	04/27/15	14:12	05:26	(used for QC only; not part of job JB93023)
ZZZZZZ	E225459.D	04/27/15	14:43	05:57	(unrelated sample)
ZZZZZZ	E225460.D	04/27/15	15:13	06:27	(unrelated sample)
ZZZZZZ	E225461.D	04/27/15	15:44	06:58	(unrelated sample)
ZZZZZZ	E225462.D	04/27/15	16:15	07:29	(unrelated sample)
JB92986-13MS	E225463.D	04/27/15	16:45	07:59	Matrix Spike
JB92986-13MSD	E225464.D	04/27/15	17:16	08:30	Matrix Spike Duplicate
JB93023-13	E225467.D	04/27/15	18:47	10:01	MH593-13(2.0)
JB93023-8	E225468.D	04/27/15	19:18	10:32	MH593-8(3.0)
JB93023-3	E225469.D	04/27/15	19:48	11:02	MH593-3(3.0)

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VE9899-BFB
Lab File ID: E225503.D
Instrument ID: GCMSE
Injection Date: 04/28/15
Injection Time: 16:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	11511	16.2		Pass
75	30.0 - 60.0% of mass 95	31821	44.8		Pass
95	Base peak, 100% relative abundance	70957	100.0		Pass
96	5.0 - 9.0% of mass 95	4845	6.83		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	64130	90.4		Pass
175	5.0 - 9.0% of mass 174	4965	7.00	(7.74) [a]	Pass
176	95.0 - 101.0% of mass 174	62085	87.5	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	4265	6.01	(6.87) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VE9899-CC9806	E225505.D	04/28/15	18:04	01:07	Continuing cal 50
VE9899-MB	E225507.D	04/28/15	20:07	03:10	Method Blank
VE9899-BS	E225508.D	04/28/15	20:37	03:40	Blank Spike
JB93023-16	E225510.D	04/28/15	21:41	04:44	MH592-2(3.0)
ZZZZZZ	E225511.D	04/28/15	22:11	05:14	(unrelated sample)
JB93023-16MS	E225512.D	04/28/15	22:41	05:44	Matrix Spike
JB93023-16MSD	E225513.D	04/28/15	23:11	06:14	Matrix Spike Duplicate
JB93023-1	E225515.D	04/29/15	00:12	07:15	MH593-1(2.0)
JB93023-10	E225517.D	04/29/15	01:13	08:16	MH593-10(3.0)
JB93023-21	E225519.D	04/29/15	02:14	09:17	MH592-7(2.0)
JB93023-12	E225520.D	04/29/15	02:44	09:47	MH593-12(3.0)
ZZZZZZ	E225522.D	04/29/15	03:45	10:48	(unrelated sample)
ZZZZZZ	E225523.D	04/29/15	04:15	11:18	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VE9900-BFB
Lab File ID: E225528.D
Instrument ID: GCMSE
Injection Date: 04/29/15
Injection Time: 06:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	12450	16.5		Pass
75	30.0 - 60.0% of mass 95	33632	44.6		Pass
95	Base peak, 100% relative abundance	75426	100.0		Pass
96	5.0 - 9.0% of mass 95	4900	6.50		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	67133	89.0		Pass
175	5.0 - 9.0% of mass 174	5233	6.94	(7.79) [a]	Pass
176	95.0 - 101.0% of mass 174	64984	86.2	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	4320	5.73	(6.65) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VE9900-CC9806	E225530.D	04/29/15	08:15	01:18	Continuing cal 50
VE9900-MB1	E225532.D	04/29/15	09:16	02:19	Method Blank
ZZZZZZ	E225532.D	04/29/15	09:16	02:19	(unrelated sample)
VE9900-BS	E225533.D	04/29/15	10:01	03:04	Blank Spike
ZZZZZZ	E225535.D	04/29/15	11:01	04:04	(unrelated sample)
ZZZZZZ	E225537.D	04/29/15	12:02	05:05	(unrelated sample)
ZZZZZZ	E225538.D	04/29/15	12:32	05:35	(unrelated sample)
JB93109-18MS	E225541.D	04/29/15	14:07	07:10	Matrix Spike
JB93109-18MSD	E225542.D	04/29/15	14:37	07:40	Matrix Spike Duplicate
JB93109-18	E225544.D	04/29/15	15:38	08:41	(used for QC only; not part of job JB93023)
ZZZZZZ	E225545.D	04/29/15	16:09	09:12	(unrelated sample)
ZZZZZZ	E225546.D	04/29/15	16:40	09:43	(unrelated sample)
ZZZZZZ	E225547.D	04/29/15	17:10	10:13	(unrelated sample)
JB93023-6	E225548.D	04/29/15	17:41	10:44	MH593-6(3.0)
ZZZZZZ	E225549.D	04/29/15	18:11	11:14	(unrelated sample)
ZZZZZZ	E225550.D	04/29/15	18:42	11:45	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VV6444-BFB
Lab File ID: V152042.D
Instrument ID: GCMSV
Injection Date: 04/14/15
Injection Time: 15:33

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14884	20.4		Pass
75	30.0 - 60.0% of mass 95	35426	48.5		Pass
95	Base peak, 100% relative abundance	73106	100.0		Pass
96	5.0 - 9.0% of mass 95	5245	7.17		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 150.0% of mass 95	66296	90.7		Pass
175	5.0 - 9.0% of mass 174	4974	6.80	(7.50) [a]	Pass
176	95.0 - 101.0% of mass 174	65096	89.0	(98.2) [a]	Pass
177	5.0 - 9.0% of mass 176	4323	5.91	(6.64) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VV6444-IC6444	V152043.D	04/14/15	16:08	00:35	Initial cal 1.0
VV6444-IC6444	V152044.D	04/14/15	16:45	01:12	Initial cal 0.5
VV6444-IC6444	V152045.D	04/14/15	17:13	01:40	Initial cal 0.2
VV6444-IC6444	V152046.D	04/14/15	17:41	02:08	Initial cal 20
VV6444-IC6444	V152047.D	04/14/15	18:10	02:37	Initial cal 8.0
VV6444-IC6444	V152048.D	04/14/15	18:39	03:06	Initial cal 4.0
VV6444-IC6444	V152049.D	04/14/15	19:07	03:34	Initial cal 2.0
VV6444-ICC6444	V152050.D	04/14/15	19:36	04:03	Initial cal 50
VV6444-IC6444	V152051.D	04/14/15	20:04	04:31	Initial cal 100
VV6444-IC6444	V152052.D	04/14/15	20:33	05:00	Initial cal 200
VV6444-ICV6444	V152055.D	04/14/15	21:59	06:26	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VV6455-BFB
Lab File ID: V152296.D
Instrument ID: GCMSV
Injection Date: 04/23/15
Injection Time: 09:18

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	15356	16.9		Pass
75	30.0 - 60.0% of mass 95	41216	45.4		Pass
95	Base peak, 100% relative abundance	90816	100.0		Pass
96	5.0 - 9.0% of mass 95	6051	6.66		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 150.0% of mass 95	86976	95.8		Pass
175	5.0 - 9.0% of mass 174	6331	6.97	(7.28) [a]	Pass
176	95.0 - 101.0% of mass 174	83517	92.0	(96.0) [a]	Pass
177	5.0 - 9.0% of mass 176	5563	6.13	(6.66) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VV6455-CC6444	V152297.D	04/23/15	10:02	00:44	Continuing cal 20
VV6455-MB	V152299.D	04/23/15	11:05	01:47	Method Blank
VV6455-BS	V152300.D	04/23/15	11:38	02:20	Blank Spike
ZZZZZZ	V152302.D	04/23/15	12:49	03:31	(unrelated sample)
ZZZZZZ	V152303.D	04/23/15	13:18	04:00	(unrelated sample)
ZZZZZZ	V152304.D	04/23/15	13:47	04:29	(unrelated sample)
JB93023-2	V152305.D	04/23/15	14:16	04:58	MH593-2(2.0)
JB93023-7	V152306.D	04/23/15	14:44	05:26	MH593-7(3.0)
JB93023-4	V152307.D	04/23/15	15:13	05:55	MH593-4(3.0)
JB93023-7DUP	V152308.D	04/23/15	15:53	06:35	Duplicate
JB93023-2MS	V152309.D	04/23/15	16:21	07:03	Matrix Spike
ZZZZZZ	V152311.D	04/23/15	17:18	08:00	(unrelated sample)
JB93023-9	V152312.D	04/23/15	17:47	08:29	MH593-9(3.0)
JB93023-11	V152313.D	04/23/15	18:15	08:57	MH593-11(3.0)
JB93023-14	V152314.D	04/23/15	18:44	09:26	MH593-14(2.0)
JB93023-15	V152315.D	04/23/15	19:12	09:54	MH592-1(3.0)
JB93023-20	V152316.D	04/23/15	19:41	10:23	MH592-6(3.0)
JB93023-22	V152317.D	04/23/15	20:09	10:51	MH592-8(3.0)

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VX6638-BFB
Lab File ID: X153955.D
Instrument ID: GCMSX
Injection Date: 04/13/15
Injection Time: 10:10

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	17820	24.0		Pass
75	30.0 - 60.0% of mass 95	42464	57.1		Pass
95	Base peak, 100% relative abundance	74365	100.0		Pass
96	5.0 - 9.0% of mass 95	5122	6.89		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	78272	105.3		Pass
175	5.0 - 9.0% of mass 174	6587	8.86	(8.42) [a]	Pass
176	95.0 - 101.0% of mass 174	76285	102.6	(97.5) [a]	Pass
177	5.0 - 9.0% of mass 176	5237	7.04	(6.87) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VX6638-IC6638	X153956.D	04/13/15	10:45	00:35	Initial cal 0.2
VX6638-IC6638	X153957.D	04/13/15	11:15	01:05	Initial cal 0.5
VX6638-IC6638	X153958.D	04/13/15	11:45	01:35	Initial cal 1.0
VX6638-IC6638	X153959.D	04/13/15	12:14	02:04	Initial cal 20
VX6638-IC6638	X153960.D	04/13/15	12:44	02:34	Initial cal 8.0
VX6638-IC6638	X153961.D	04/13/15	13:14	03:04	Initial cal 4.0
VX6638-IC6638	X153962.D	04/13/15	13:44	03:34	Initial cal 2.0
VX6638-ICC6638	X153963.D	04/13/15	14:13	04:03	Initial cal 50
VX6638-IC6638	X153964.D	04/13/15	14:44	04:34	Initial cal 100
VX6638-IC6638	X153965.D	04/13/15	15:13	05:03	Initial cal 200
VX6638-ICV6638	X153968.D	04/13/15	16:43	06:33	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VX6649-BFB
Lab File ID: X154233.D
Instrument ID: GCMSX
Injection Date: 04/23/15
Injection Time: 09:21

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16200	20.8		Pass
75	30.0 - 60.0% of mass 95	37576	48.2		Pass
95	Base peak, 100% relative abundance	78037	100.0		Pass
96	5.0 - 9.0% of mass 95	5304	6.80		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	75520	96.8		Pass
175	5.0 - 9.0% of mass 174	6543	8.38	(8.66) [a]	Pass
176	95.0 - 101.0% of mass 174	73981	94.8	(98.0) [a]	Pass
177	5.0 - 9.0% of mass 176	4928	6.31	(6.66) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VX6649-CC6638	X154235.D	04/23/15	10:32	01:11	Continuing cal 20
VX6649-CC6638	X154236.D	04/23/15	11:19	01:58	Continuing cal 10
VX6649-MB	X154238.D	04/23/15	12:30	03:09	Method Blank
VX6649-BS	X154239.D	04/23/15	13:00	03:39	Blank Spike
ZZZZZZ	X154241.D	04/23/15	14:42	05:21	(unrelated sample)
ZZZZZZ	X154242.D	04/23/15	15:12	05:51	(unrelated sample)
JB93023-17	X154243.D	04/23/15	15:42	06:21	MH592-3(3.0)
JB93023-18	X154244.D	04/23/15	16:11	06:50	MH592-4(3.0)
JB93023-18MS	X154246.D	04/23/15	17:11	07:50	Matrix Spike
JB93023-17DUP	X154248.D	04/23/15	18:10	08:49	Duplicate
JB93023-24	X154249.D	04/23/15	18:40	09:19	MH592-10(2.0)
JB93023-23	X154250.D	04/23/15	19:10	09:49	MH592-9(2.0)

Instrument Performance Check (BFB)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: VX6651-BFB
Lab File ID: X154285.D
Instrument ID: GCMSX
Injection Date: 04/25/15
Injection Time: 08:56

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16827	20.8		Pass
75	30.0 - 60.0% of mass 95	39101	48.4		Pass
95	Base peak, 100% relative abundance	80802	100.0		Pass
96	5.0 - 9.0% of mass 95	5477	6.78		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	80394	99.5		Pass
175	5.0 - 9.0% of mass 174	6865	8.50	(8.54) [a]	Pass
176	95.0 - 101.0% of mass 174	78184	96.8	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	5224	6.47	(6.68) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VX6651-CC6638	X154286.D	04/25/15	09:26	00:30	Continuing cal 20
VX6651-MB	X154288.D	04/25/15	10:36	01:40	Method Blank
VX6651-BS	X154289.D	04/25/15	11:06	02:10	Blank Spike
JB92989-20	X154291.D	04/25/15	12:10	03:14	(used for QC only; not part of job JB93023)
JB92989-21	X154292.D	04/25/15	12:40	03:44	(used for QC only; not part of job JB93023)
ZZZZZZ	X154293.D	04/25/15	13:10	04:14	(unrelated sample)
ZZZZZZ	X154294.D	04/25/15	14:18	05:22	(unrelated sample)
JB93023-19	X154296.D	04/25/15	15:17	06:21	MH592-5(3.0)
JB92989-21MS	X154297.D	04/25/15	15:47	06:51	Matrix Spike
JB92989-20DUP	X154299.D	04/25/15	16:47	07:51	Duplicate
ZZZZZZ	X154300.D	04/25/15	17:18	08:22	(unrelated sample)
ZZZZZZ	X154301.D	04/25/15	17:48	08:52	(unrelated sample)
ZZZZZZ	X154304.D	04/25/15	19:18	10:22	(unrelated sample)
ZZZZZZ	X154305.D	04/25/15	19:48	10:52	(unrelated sample)
ZZZZZZ	X154306.D	04/25/15	20:18	11:22	(unrelated sample)
ZZZZZZ	X154307.D	04/25/15	20:48	11:52	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	V3V809-CC793	**Injection Date:**	05/04/15
Lab File ID:	3V19488.D	**Injection Time:**	07:14
Instrument ID:	GCMS3V	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	86371	7.28	311826	9.76	374629	10.72	354925	13.94	207902	16.30
Upper Limit [a]	172742	7.78	623652	10.26	749258	11.22	709850	14.44	415804	16.80
Lower Limit [b]	43186	6.78	155913	9.26	187315	10.22	177463	13.44	103951	15.80

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3V809-MB1	99911	7.29	325762	9.76	382036	10.72	368662	13.94	186931	16.30
V3V809-BS	92517	7.28	346852	9.75	398005	10.72	348901	13.94	219261	16.30
JB93384-5	90477	7.28	352890	9.76	428821	10.72	365106	13.94	186970	16.30
JB93384-6	87954	7.28	338553	9.76	399385	10.72	375805	13.94	194645	16.30
JB93384-5DUP	92537	7.28	342231	9.75	402084	10.72	369155	13.94	190442	16.30
JB93384-6MS	73756	7.27	330443	9.76	378432	10.72	347693	13.94	218201	16.30
ZZZZZZ	98597	7.28	328527	9.76	401214	10.72	342976	13.94	174475	16.30
ZZZZZZ	83427	7.28	332390	9.76	386690	10.72	337623	13.94	179210	16.30
ZZZZZZ	85599	7.29	324495	9.76	392936	10.72	354777	13.94	183704	16.30
ZZZZZZ	90210	7.29	301785	9.75	346292	10.72	323778	13.94	178414	16.30
ZZZZZZ	95647	7.27	307352	9.76	359875	10.72	318384	13.94	170917	16.30
ZZZZZZ	92639	7.29	310920	9.76	358941	10.72	315224	13.94	165827	16.30
ZZZZZZ	89843	7.29	301766	9.76	339291	10.72	309993	13.94	175790	16.30
ZZZZZZ	73360	7.28	312181	9.76	358991	10.72	306436	13.94	168860	16.30
JB93023-5	89042	7.27	307781	9.76	370436	10.72	319597	13.94	167834	16.30
ZZZZZZ	83454	7.29	325814	9.76	383882	10.72	367628	13.94	186796	16.30
ZZZZZZ	64908	7.27	242950	9.76	290266	10.72	271331	13.94	132263	16.30
ZZZZZZ	85305	7.28	337121	9.76	418079	10.73	345740	13.94	184216	16.30

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.

Volatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	VE9896-CC9806	**Injection Date:**	04/27/15
Lab File ID:	E225449.D	**Injection Time:**	09:25
Instrument ID:	GCMSE	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	115352	7.95	166617	10.13	217307	11.05	210003	14.38	123675	16.95
Upper Limit [a]	230704	8.45	333234	10.63	434614	11.55	420006	14.88	247350	17.45
Lower Limit [b]	57676	7.45	83309	9.63	108654	10.55	105002	13.88	61838	16.45

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE9896-MB1	93164	7.97	169483	10.12	207361	11.05	200695	14.38	130290	16.95
ZZZZZZ	93164	7.97	169483	10.12	207361	11.05	200695	14.38	130290	16.95
ZZZZZZ	86097	7.98	180167	10.12	216355	11.05	217982	14.38	140943	16.95
VE9896-BS	115074	7.96	173676	10.13	215538	11.05	223250	14.39	134574	16.95
ZZZZZZ	121269	7.95	178537	10.13	219657	11.06	227286	14.39	138617	16.95
ZZZZZZ	123055	7.95	175826	10.13	221391	11.05	224278	14.38	135526	16.96
JB92986-13	99476	7.96	179576	10.12	217865	11.05	215972	14.38	133014	16.95
ZZZZZZ	93276	7.97	182209	10.13	222434	11.05	228949	14.39	141510	16.95
ZZZZZZ	103954	7.98	213263	10.13	280763	11.05	266926	14.39	160997	16.95
ZZZZZZ	129736	7.97	195023	10.12	230963	11.05	219579	14.38	152029	16.95
ZZZZZZ	125021	7.97	207020	10.13	291978	11.06	269738	14.39	161104	16.95
JB92986-13MS	129541	7.96	198469	10.12	236568	11.05	233269	14.38	144418	16.96
JB92986-13MSD	101290	7.97	196821	10.12	236373	11.05	229084	14.38	141736	16.95
JB93023-13 [c]	109561	7.96	176944	10.12	222810	11.06	209754	14.38	135860	16.95
JB93023-8	90559	7.95	182065	10.12	224141	11.05	210157	14.38	139088	16.95
JB93023-3 [c]	106051	7.96	183618	10.12	228520	11.05	211996	14.38	140583	16.95

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) Dilution required due to sample matrix.

Volatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	VE9899-CC9806	**Injection Date:**	04/28/15
Lab File ID:	E225505.D	**Injection Time:**	18:04
Instrument ID:	GCMSE	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	169110	7.95	239498	10.12	303375	11.05	303498	14.38	181502	16.95
Upper Limit [a]	338220	8.45	478996	10.62	606750	11.55	606996	14.88	363004	17.45
Lower Limit [b]	84555	7.45	119749	9.62	151688	10.55	151749	13.88	90751	16.45

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE9899-MB	132715	7.96	237436	10.12	312198	11.05	296210	14.39	180991	16.95
VE9899-BS	164086	7.95	235260	10.13	307160	11.06	299918	14.38	184407	16.95
JB93023-16	163255	7.95	221108	10.12	282335	11.05	268924	14.38	168187	16.95
ZZZZZZ	158810	7.94	239234	10.13	305277	11.05	304077	14.39	183547	16.95
JB93023-16MS	129837	7.96	242625	10.12	291548	11.05	278622	14.38	182609	16.95
JB93023-16MSD	169279	7.97	248161	10.12	298767	11.05	279483	14.38	175531	16.95
JB93023-1 [c]	148855	7.95	245495	10.12	305640	11.05	297016	14.38	185573	16.95
JB93023-10 [c]	149388	7.97	241455	10.12	309429	11.05	290716	14.38	181747	16.95
JB93023-21 [c]	130724	7.95	238856	10.12	307234	11.05	291512	14.39	180363	16.95
JB93023-12 [d]	143541	7.96	242394	10.13	310629	11.05	306171	14.38	204496	16.96
ZZZZZZ	151030	7.95	251328	10.12	332374	11.05	331874	14.39	197814	16.95
ZZZZZZ	220945	7.93	287816	10.13	401626	11.05	404936	14.39	227061	16.96

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) Dilution required due to sample matrix.
(d) Dilution required due to matrix interference.

Volatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	VE9900-CC9806	**Injection Date:**	04/29/15
Lab File ID:	E225530.D	**Injection Time:**	08:15
Instrument ID:	GCMSE	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	180469	7.94	241192	10.12	324938	11.05	299636	14.38	175850	16.95
Upper Limit [a]	360938	8.44	482384	10.62	649876	11.55	599272	14.88	351700	17.45
Lower Limit [b]	90235	7.44	120596	9.62	162469	10.55	149818	13.88	87925	16.45

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VE9900-MB1	131097	7.95	253044	10.12	333300	11.05	307105	14.38	181596	16.95
ZZZZZZ	131097	7.95	253044	10.12	333300	11.05	307105	14.38	181596	16.95
VE9900-BS	169586	7.93	237344	10.12	316806	11.05	296302	14.38	177939	16.95
ZZZZZZ	152569	7.97	251707	10.12	331287	11.05	313124	14.38	195586	16.95
ZZZZZZ	175135	7.96	280776	10.13	384171	11.06	376058	14.39	221407	16.95
ZZZZZZ	242366	7.91	285373	10.13	376493	11.06	369614	14.39	220201	16.95
JB93109-18MS	161229	7.97	226693	10.12	289060	11.05	279544	14.38	180407	16.95
JB93109-18MSD	157597	7.96	244230	10.12	308700	11.05	303353	14.38	200618	16.96
JB93109-18	156252	7.96	250982	10.12	319631	11.05	310713	14.38	203985	16.95
ZZZZZZ	182456	7.95	251723	10.13	326046	11.05	316929	14.39	189743	16.95
ZZZZZZ	175751	7.94	242500	10.13	311334	11.06	299735	14.38	185957	16.95
ZZZZZZ	175558	7.95	234008	10.13	300716	11.05	298652	14.39	187895	16.95
JB93023-6	145034	7.95	238762	10.12	310706	11.05	287255	14.38	167836	16.95
ZZZZZZ	178230	7.96	237524	10.13	300533	11.05	292364	14.39	179521	16.95
ZZZZZZ	198554	7.94	246610	10.13	313824	11.06	309792	14.39	188035	16.95

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.

Volatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	VV6455-CC6444	**Injection Date:**	04/23/15
Lab File ID:	V152297.D	**Injection Time:**	10:02
Instrument ID:	GCMSV	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	146302	7.71	391368	9.95	488074	10.91	441168	14.33	265686	16.93
Upper Limit [a]	292604	8.21	782736	10.45	976148	11.41	882336	14.83	531372	17.43
Lower Limit [b]	73151	7.21	195684	9.45	244037	10.41	220584	13.83	132843	16.43

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VV6455-MB	122950	7.72	374743	9.96	459210	10.91	415544	14.33	243019	16.93
VV6455-BS	184274	7.74	386153	9.96	475786	10.91	427957	14.33	258241	16.93
ZZZZZZ	149419	7.73	378807	9.96	463179	10.91	431049	14.33	258331	16.93
ZZZZZZ	149637	7.73	403479	9.96	495158	10.91	465372	14.33	282297	16.93
ZZZZZZ	140484	7.72	408241	9.96	503331	10.91	461417	14.33	274578	16.93
JB93023-2	148815	7.73	390107	9.96	477581	10.91	435103	14.32	263048	16.93
JB93023-7	138177	7.73	375374	9.96	463425	10.91	431663	14.33	265819	16.93
JB93023-4	150258	7.73	380875	9.95	468134	10.91	414324	14.33	239612	16.93
JB93023-7DUP	168936	7.72	378706	9.96	475874	10.91	449205	14.33	278307	16.93
JB93023-2MS	102116	7.74	382372	9.96	475104	10.91	437948	14.33	254701	16.93
ZZZZZZ	154695	7.72	403960	9.96	500208	10.91	456840	14.33	275799	16.93
JB93023-9	138859	7.73	378002	9.96	470317	10.91	435834	14.33	250840	16.93
JB93023-11	143885	7.73	399685	9.96	498540	10.91	454003	14.33	281131	16.93
JB93023-14	129611	7.73	340547	9.96	427778	10.91	391291	14.33	238415	16.93
JB93023-15	155047	7.72	397103	9.95	492127	10.91	459491	14.33	277200	16.93
JB93023-20	142962	7.73	385251	9.96	476096	10.91	432946	14.33	257536	16.93
JB93023-22	148603	7.72	423649	9.96	515309	10.91	480596	14.33	290902	16.93

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.

Volatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	VX6649-CC6638	**Injection Date:**	04/23/15
Lab File ID:	X154235.D	**Injection Time:**	10:32
Instrument ID:	GCMSX	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	105962	7.51	223709	10.23	264509	11.41	251359	15.61	184714	18.36
Upper Limit [a]	211924	8.01	447418	10.73	529018	11.91	502718	16.11	369428	18.86
Lower Limit [b]	52981	7.01	111855	9.73	132255	10.91	125680	15.11	92357	17.86

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VX6649-MB	97984	7.52	229936	10.23	268554	11.41	257503	15.62	197017	18.36
VX6649-BS	105648	7.52	210939	10.23	251891	11.41	237405	15.62	168310	18.36
ZZZZZZ	102535	7.51	234992	10.23	276543	11.41	263750	15.62	199484	18.37
ZZZZZZ	106726	7.52	223001	10.23	262531	11.41	249086	15.62	190551	18.36
JB93023-17	103975	7.52	211816	10.23	251636	11.41	240059	15.62	175587	18.36
JB93023-18	110538	7.51	215206	10.23	247319	11.41	229120	15.62	186761	18.37
JB93023-18MS	88244	7.52	262430	10.23	305516	11.40	259729	15.62	189561	18.36
JB93023-17DUP	127666	7.52	244231	10.23	286561	11.40	270211	15.61	195640	18.36
JB93023-24	131846	7.51	272384	10.23	327024	11.40	310107	15.61	231523	18.36
JB93023-23	111474	7.51	216851	10.23	259321	11.41	248495	15.61	191860	18.36

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.

Volatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	VX6651-CC6638	**Injection Date:**	04/25/15
Lab File ID:	X154286.D	**Injection Time:**	09:26
Instrument ID:	GCMSX	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	121272	7.51	233397	10.22	277169	11.40	253866	15.61	183575	18.36
Upper Limit [a]	242544	8.01	466794	10.72	554338	11.90	507732	16.11	367150	18.86
Lower Limit [b]	60636	7.01	116699	9.72	138585	10.90	126933	15.11	91788	17.86

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VX6651-MB	103614	7.51	236541	10.22	277404	11.40	262902	15.61	197760	18.36
VX6651-BS	123123	7.52	228293	10.22	274278	11.40	253110	15.61	171715	18.36
JB92989-20	120816	7.51	227395	10.23	266424	11.40	252658	15.61	184781	18.36
JB92989-21	125858	7.51	226406	10.23	267249	11.40	256542	15.61	179821	18.36
ZZZZZZ	122519	7.51	232210	10.23	273670	11.40	247935	15.61	158690	18.36
ZZZZZZ	136589	7.51	227842	10.23	274556	11.40	254087	15.61	177453	18.36
JB93023-19	119548	7.52	237682	10.23	285829	11.41	268027	15.62	199332	18.37
JB92989-21MS	87886	7.51	251342	10.23	299652	11.41	257977	15.62	161035	18.36
JB92989-20DUP	125659	7.51	244956	10.23	288649	11.41	274368	15.62	199221	18.36
ZZZZZZ	141381	7.52	247469	10.23	293799	11.41	278950	15.62	210525	18.37
ZZZZZZ	125499	7.52	233842	10.24	281259	11.41	267618	15.62	197545	18.37
ZZZZZZ	115814	7.51	223218	10.23	265726	11.41	235787	15.62	147436	18.37
ZZZZZZ	124836	7.51	235961	10.23	276430	11.41	261165	15.62	193846	18.37
ZZZZZZ	122452	7.53	238183	10.23	281928	11.41	269512	15.62	194648	18.37
ZZZZZZ	118856	7.52	218933	10.23	261135	11.41	241603	15.62	168654	18.37

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.

Volatile Surrogate Recovery Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

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
JB93023-1	E225515.D	91	80	87	85
JB93023-2	V152305.D	99	88	105	105
JB93023-3	E225469.D	90	82	86	83
JB93023-4	V152307.D	98	88	105	102
JB93023-5	3V19506.D	99	101	103	106
JB93023-6	E225548.D	89	81	85	85
JB93023-7	V152306.D	99	90	106	107
JB93023-8	E225468.D	89	81	87	80
JB93023-9	V152312.D	96	88	105	103
JB93023-10	E225517.D	91	81	86	83
JB93023-11	V152313.D	98	88	104	104
JB93023-12	E225520.D	92	81	88	77
JB93023-13	E225467.D	90	84	87	84
JB93023-14	V152314.D	97	89	106	104
JB93023-15	V152315.D	96	89	107	105
JB93023-16	E225510.D	91	82	87	81
JB93023-17	X154243.D	105	110	103	108
JB93023-18	X154244.D	102	114	97	93
JB93023-19	X154296.D	104	111	101	102
JB93023-20	V152316.D	98	90	107	107
JB93023-21	E225519.D	91	82	87	83
JB93023-22	V152317.D	96	87	109	105
JB93023-23	X154250.D	106	108	101	101
JB93023-24	X154249.D	104	107	102	103
JB92986-13MS	E225463.D	91	80	89	85
JB92986-13MSD	E225464.D	92	81	88	85
JB92989-20DUP	X154299.D	104	108	102	105
JB92989-21MS	X154297.D	99	97	99	112
JB93023-16MS	E225512.D	95	81	84	82
JB93023-16MSD	E225513.D	94	80	85	81
JB93023-17DUP	X154248.D	102	104	101	111
JB93023-18MS	X154246.D	96	93	94	96
JB93023-2MS	V152309.D	96	77	110	103
JB93023-7DUP	V152308.D	102	94	109	107
JB93109-18MS	E225541.D	94	83	87	79
JB93109-18MSD	E225542.D	90	81	88	78
JB93384-5DUP	3V19495.D	99	98	107	109
JB93384-6MS	3V19496.D	98	97	102	102
V3V809-BS	3V19491.D	98	103	99	98
V3V809-MB1	3V19490.D	102	102	108	110

Volatile Surrogate Recovery Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

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
VE9896-BS	E225453.D	91	84	92	87
VE9896-MB1	E225451.D	89	81	90	84
VE9899-BS	E225508.D	92	83	89	83
VE9899-MB	E225507.D	91	81	87	86
VE9900-BS	E225533.D	91	85	86	84
VE9900-MB1	E225532.D	90	82	84	85
VV6455-BS	V152300.D	103	91	105	105
VV6455-MB	V152299.D	93	82	106	102
VX6649-BS	X154239.D	107	110	102	103
VX6649-MB	X154238.D	100	103	102	102
VX6651-BS	X154289.D	104	110	100	106
VX6651-MB	X154288.D	102	103	101	104

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-122%
S2 = 1,2-Dichloroethane-D4	68-124%
S3 = Toluene-D8	77-125%
S4 = 4-Bromofluorobenzene	72-130%

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: V3V793-ICC793
Lab FileID: 3V19007.D


```
                         Response Factor Report  MS3V

Method       : C:\MSDCHEM\1\METHODS\M3V793.M (RTE Integrator)
Title        : SW-846 Method 8260
Last Update  : Fri Apr 17 18:11:21 2015
Response via : Initial Calibration

Calibration Files
4   =3V19004.D   0.5 =3V19001.D   8   =3V19005.D   50  =3V19007.D
100 =3V19008.D   1   =3V19002.D   200 =3V19009.D   20  =3V19006.D
2   =3V19003.D   0.2 =3V19000.D       =                =

Compound
        4     0.5   8     50    100   1     200   20    2     0.2    Avg   %RSD
-------------------------------------------------------------------------------

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
     0.117       0.100 0.104 0.111       0.106 0.104 0.086        0.104    9.30
3)  Ethanol
                                                                   0.000   -1.00
4)  tertiary butyl alcohol
     1.195       1.148 1.173 1.213       1.143 1.169 1.152        1.170    2.21

5) I   pentafluorobenzene    ----------------ISTD---------------------
6)  chlorodifluoromethane
     0.523       0.458 0.480 0.482 0.522 0.458 0.435 0.467        0.478    6.48
7)  dichlorodifluoromethane
     0.590       0.587 0.630 0.627 0.530 0.610 0.592 0.423        0.574   11.93
8)  chloromethane
     0.445       0.450 0.475 0.504       0.499 0.429 0.410        0.459    7.69
9)  vinyl chloride
     0.430       0.430 0.473 0.500 0.463 0.502 0.408 0.354        0.445   11.22
10)  bromomethane
     0.372       0.350 0.352 0.381       0.387 0.331 0.354        0.361    5.53
11)  chloroethane
     0.181       0.180 0.190 0.204 0.199 0.197 0.177 0.163        0.186    7.23
12)  trichlorofluoromethane
     0.722       0.714 0.702 0.691 0.760 0.680 0.645 0.644        0.695    5.62
13)  ethyl ether
     0.138       0.120 0.118 0.128       0.122 0.118 0.108        0.122    7.78
14)  2-chloropropane
     0.616       0.493 0.490 0.485       0.463 0.461 0.457        0.495   11.21
15)  acrolein
     0.046       0.041 0.042       0.041       0.040 0.042        0.042    4.84
16)  1,1-dichloroethene
     0.494 0.374 0.495 0.516 0.517 0.470 0.492 0.471 0.442        0.475    9.39
17)  acetone
                 0.023 0.025 0.025       0.022 0.021              0.023    7.72
18)  allyl chloride
     0.150       0.138 0.156 0.151       0.142 0.139              0.146    4.94
19)  acetonitrile
                 0.026 0.019 0.019       0.019 0.017              0.020   16.46
20)  iodomethane
     0.732       0.772 0.788 0.810 0.694 0.780 0.718 0.653        0.744    7.16
21)  iso-butyl alcohol
     0.014       0.010 0.010 0.010       0.009 0.010              0.010   16.89
22)  carbon disulfide
     1.145 0.921 1.122 1.196 1.219 1.083 1.172 1.103 1.044 1.034  1.104    8.04
23)  methylene chloride
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** V3V793-ICC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19007.D
Project: MHIC-592/593 Tanks

```
      0.373       0.363 0.344 0.361       0.348 0.324 0.362        0.353    4.60
24)  1-chloropropane
      0.835       0.689 0.558 0.550             0.559              0.638   19.50
25)  methyl acetate
      0.029       0.032 0.032 0.033       0.032 0.033              0.032    5.26
26)  methyl tert butyl ether
      0.965       0.917 0.952 0.967 0.913 0.925 0.913 0.864        0.927    3.70
27)  trans-1,2-dichloroethene
      0.453       0.458 0.486 0.505 0.455 0.473 0.448 0.409        0.461    6.12
28)  di-isopropyl ether
      1.110 0.811 0.981 1.034 1.064 1.104 1.018 0.978 0.915 1.008  1.002    8.93
29)  ethyl tert-butyl ether
      1.074       0.968 1.040 1.088 0.944 1.057 0.980 0.927        1.010    6.18
30)  2-butanone
      0.030       0.029 0.034 0.032       0.031 0.028              0.031    7.24
31)  1,1-dichloroethane
      0.581       0.569 0.591 0.620 0.571 0.586 0.564 0.508        0.574    5.57
32)  chloroprene
      0.476       0.431 0.451 0.464 0.448 0.433 0.414 0.392        0.439    6.21
33)  acrylonitrile
      0.079       0.071 0.076 0.077 0.058 0.074 0.072 0.066        0.072    9.35
34)  vinyl acetate
                  0.032 0.038 0.041       0.038 0.033              0.036   10.61
35)  ethyl acetate
      0.055       0.037 0.035 0.036       0.032 0.036              0.038   21.10
            ----- Linear regression -----  Coefficient =  0.9980
              Response Ratio = 0.00216 + 0.03245 *A

36)  2,2-dichloropropane
      0.663 0.626 0.672 0.666 0.673 0.666 0.629 0.607 0.636 0.577  0.642    5.01
37)  cis-1,2-dichloroethene
      0.406       0.377 0.378 0.390 0.474 0.372 0.356 0.444        0.400   10.00
38)  propionitrile
      0.032       0.029 0.031 0.031       0.030 0.029 0.029        0.030    4.44
39)  methyl acrylate
      0.265       0.241 0.239 0.243 0.229 0.228 0.220 0.255        0.240    6.11
40)  bromochloromethane
      0.196       0.193 0.192 0.200       0.194 0.172 0.160        0.187    7.80
41)  tetrahydrofuran
                  0.091 0.083 0.082       0.076 0.087              0.084    6.75
42)  chloroform
      0.667 0.606 0.653 0.650 0.673 0.750 0.638 0.604 0.644        0.654    6.60
43)  dibromofluoromethane (s)
      0.403 0.388 0.401 0.405 0.411 0.402 0.406 0.403 0.400 0.392  0.401    1.67
44)  1,2-dichloroethane-d4 (s)
      0.373 0.347 0.370 0.372 0.373 0.354 0.360 0.371 0.359 0.350  0.363    2.82
45)  freon 113
      0.285       0.258 0.305 0.297       0.297 0.265              0.284    6.73
46)  methacrylonitrile
      0.154       0.152 0.136 0.139       0.128 0.128              0.139    8.39
47)  1,1,1-trichloroethane
      0.629 0.663 0.676 0.685 0.695 0.661 0.659 0.632 0.619 0.789  0.671    7.19
48)  tert-amyl methyl ether
      1.020 0.773 0.942 0.985 1.027 1.018 1.008 0.926 0.913 1.095  0.971    9.08

49) I   1,4-difluorobenzene   ----------------ISTD---------------------
50)  epichlorohydrin
      0.022       0.019 0.020 0.019       0.019 0.019 0.022        0.020    7.49
51)  n-butyl alcohol
      0.008       0.006 0.007 0.007 0.006 0.007 0.006 0.006        0.007   11.10
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** V3V793-ICC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19007.D
Project: MHIC-592/593 Tanks

```
52)  cyclohexane
      0.389       0.413 0.428 0.420       0.410 0.398 0.381        0.406    4.20
53)  carbon tetrachloride
      0.541       0.570 0.589 0.573 0.449 0.552 0.526 0.478        0.535    9.09
54)  1,1-dichloropropene
      0.366       0.380 0.395 0.394 0.340 0.371 0.342 0.322        0.364    7.31
55)  hexane
      0.318 0.299 0.279 0.301 0.281 0.319 0.273 0.259 0.300 0.354  0.298    9.21
56)  ISOOCTANE
      0.892       0.824 1.002 0.971       0.995 0.836              0.920    8.70
57)  benzene
      1.098 0.770 1.061 1.078 1.100 1.020 1.046 1.017 0.992 1.036  1.022    9.33
58)  heptane
      0.183 0.143 0.168 0.186 0.170 0.181 0.167 0.162 0.169        0.170    7.59
59)  isopropyl acetate
      0.608       0.539 0.577 0.567 0.639 0.542 0.527 0.572        0.571    6.55
60)  1,2-dichloroethane
      0.359       0.359 0.386 0.391 0.319 0.370 0.367 0.319        0.359    7.54
61)  trichloroethene
      0.296 0.298 0.305 0.310 0.314 0.332 0.300 0.289 0.272 0.393  0.311   10.58
62)  ethyl acrylate
                                                                   0.000   -1.00
63)  2-nitropropane
      0.559       0.488 0.495 0.487       0.465 0.463 0.545        0.500    7.50
64)  2-chloroethyl vinyl ether
      0.123       0.116 0.127 0.127 0.101 0.123 0.120 0.111        0.118    7.38
65)  methyl methacrylate
      0.376       0.344 0.362 0.357       0.330 0.343 0.392        0.358    6.00
66)  1,2-dichloropropane
      0.260       0.258 0.270 0.273 0.238 0.263 0.241 0.239        0.255    5.45
67)  methylcyclohexane
      0.457       0.399 0.468 0.452       0.454 0.412 0.355        0.428    9.59
68)  dibromomethane
      0.183       0.171 0.180 0.183       0.176 0.168 0.163        0.175    4.56
69)  bromodichloromethane
      0.413 0.336 0.425 0.433 0.439 0.411 0.421 0.391 0.378        0.405    8.00
70)  cis-1,3-dichloropropene
      0.429       0.425 0.451 0.461 0.369 0.438 0.400 0.385        0.420    7.71
71)  toluene-d8 (s)
      1.089 1.067 1.079 1.095 1.079 1.082 1.082 1.083 1.072 1.069  1.080    0.81
72)  4-methyl-2-pentanone
      0.079       0.082 0.084 0.082       0.081 0.080 0.076        0.081    3.16
73)  toluene
      1.455       1.154 1.131 1.145 1.150 1.113 1.271 1.019        1.180   11.07
74)  3-methyl-1-butanol
      0.007       0.006 0.007 0.007 0.006 0.007 0.006 0.006        0.006    6.67
75)  trans-1,3-dichloropropene
      0.399       0.393 0.416 0.414 0.350 0.397 0.374 0.352        0.387    6.65
76)  ethyl methacrylate
      0.293       0.269 0.285 0.289 0.272 0.275 0.277 0.244        0.275    5.54
77)  1,1,2-trichloroethane
      0.193 0.156 0.178 0.189 0.185 0.145 0.186 0.173 0.162        0.174    9.51
78)  2-hexanone
      0.078       0.073 0.084 0.082       0.079 0.073              0.078    5.68

79) I   chlorobenzene-d5      ----------------ISTD---------------------
80)  tetrachloroethene
      0.437 0.411 0.431 0.448 0.447 0.416 0.433 0.396 0.408 0.403  0.423    4.35
81)  1,3-dichloropropane
      0.380       0.372 0.389 0.400 0.334 0.383 0.362 0.347        0.371    5.97
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** V3V793-ICC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19007.D
Project: MHIC-592/593 Tanks

```
 82)  butyl acetate
       0.180       0.153 0.154 0.152       0.145 0.147 0.175        0.158    8.65
 83)  dibromochloromethane
       0.400       0.389 0.416 0.436 0.326 0.419 0.389 0.379        0.394    8.47
 84)  1,2-dibromoethane
       0.290       0.292 0.293 0.293 0.245 0.283 0.272 0.266        0.279    6.13
 85)  n-Butyl ether
                                                                    0.000   -1.00
 86)  chlorobenzene
       0.901       0.927 0.972 0.992 0.873 0.959 0.878 0.832        0.917    6.03
 87)  1,1,1,2-tetrachloroethane
       0.408       0.418 0.451 0.468 0.371 0.456 0.408 0.388        0.421    8.20
 88)  ethylbenzene
       1.639 1.319 1.580 1.624 1.643 1.525 1.582 1.512 1.426 1.816  1.566    8.59
 89)  m,p-xylene
       0.665 0.526 0.619 0.644 0.652 0.646 0.632 0.614 0.526        0.614    8.48
 90)  o-xylene
       0.686 0.578 0.623 0.670 0.697 0.624 0.676 0.634 0.572 0.647  0.641    6.72
 91)  styrene
       1.002 0.829 1.013 1.053 1.090 0.973 1.051 0.950 0.882 0.794  0.964   10.34
 92)  bromoform
       0.311       0.303 0.324 0.329       0.322 0.289 0.266        0.306    7.32

 93) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 94)  isopropylbenzene
       2.608 2.203 2.675 2.820 2.821 2.690 2.872 2.502 2.457 2.751  2.640    7.78
 95)  4-bromofluorobenzene (s)
       0.819 0.816 0.804 0.793 0.786 0.817 0.778 0.789 0.804 0.799  0.800    1.76
 96)  bromobenzene
       0.794 0.711 0.779 0.811 0.817 0.803 0.825 0.740 0.754 0.641  0.768    7.49
 97)  cyclohexanone  ** This compound does not meet initial calibration QC criteria **
       0.074       0.063 0.074 0.070 0.082 0.068 0.061 0.066        0.070    9.61
 98)  1,1,2,2-tetrachloroethane
       0.638 0.518 0.594 0.616 0.612 0.575 0.611 0.574 0.578        0.591    5.92
 99)  trans-1,4-dichloro-2-butene
       0.177       0.156 0.161 0.160 0.150 0.151 0.159 0.159        0.159    5.28
100)  1,2,3-trichloropropane
       0.170       0.144 0.147 0.147 0.127 0.146 0.139 0.152        0.147    8.29
101)  n-propylbenzene
       3.090 2.752 3.170 3.186 3.155 3.136 3.154 2.903 2.933 3.810  3.129    8.94
102)  2-chlorotoluene
       0.733 0.666 0.738 0.759 0.762 0.694 0.768 0.675 0.618 0.822  0.724    8.30
103)  4-chlorotoluene
       1.988 1.602 1.954 1.988 2.014 2.080 1.977 1.807 1.912        1.925    7.39
104)  1,3,5-trimethylbenzene
       2.393 2.120 2.456 2.558 2.585 2.442 2.617 2.295 2.299 2.642  2.441    6.87
105)  tert-butylbenzene
       1.927       2.046 2.165 2.237 2.268 2.283 1.896 1.758        2.073    9.47
106)  pentachloroethane
       0.502       0.570 0.616 0.629       0.643 0.522              0.580   10.11
107)  1,2,4-trimethylbenzene
       2.431 2.624 2.418 2.553 2.570 2.622 2.614 2.364 2.330 2.877  2.540    6.37
108)  sec-butylbenzene
       2.879 2.755 3.150 3.380 3.402 3.026 3.472 3.051 2.753 3.484  3.135    9.16
109)  1,3-dichlorobenzene
       1.555 1.274 1.572 1.618 1.648 1.493 1.654 1.477 1.436 1.454  1.518    7.68
110)  p-isopropyltoluene
       2.662 2.386 2.814 3.001 2.969 2.845 3.001 2.621 2.554 2.999  2.785    7.87
111)  1,4-dichlorobenzene
       1.511 1.214 1.530 1.601 1.644 1.431 1.638 1.455 1.473 1.446  1.494    8.43
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** V3V793-ICC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19007.D
Project: MHIC-592/593 Tanks

```
112)  1,2-dichlorobenzene
       1.567       1.547 1.594 1.657 1.361 1.649 1.456 1.431        1.533    6.96
113)  n-butylbenzene
       1.319 1.239 1.441 1.514 1.482 1.383 1.492 1.327 1.309 1.498  1.400    6.97
114)  1,2-dibromo-3-chloropropane
       0.164       0.148 0.139 0.139       0.138 0.130 0.178        0.148   11.53
115)  1,3,5-TRICHLOROBENZENE
       1.575 1.375 1.657 1.761 1.824 1.665 1.869 1.593 1.529 1.483  1.633    9.47
116)  1,2,4-trichlorobenzene
       1.379       1.505 1.607 1.688       1.717 1.417 1.347        1.523    9.86
117)  hexachlorobutadiene
       0.877 0.822 0.987 1.039 1.037 0.883 1.073 0.912 0.876 1.029  0.954    9.34
118)  naphthalene
       2.257       2.224 2.574 2.645       2.714 2.291 2.115        2.403    9.82
119)  1,2,3-trichlorobenzene
       1.308       1.356 1.471 1.525       1.556 1.311              1.421    7.74
120)  hexachloroethane
       0.595 0.600 0.633 0.656 0.694 0.634 0.712 0.574 0.578        0.631    7.80
121)  Benzyl chloride
       1.382 1.081 1.241 1.325 1.349 1.391 1.298 1.203 1.309        1.287    7.64
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M3V793.M          Wed Apr 22 13:58:36 2015   GCMS3V
```

6.9.1

6

Initial Calibration Verification

Job Number: JB93023 **Sample:** V3V793-ICV793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19012.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3V19012.D Vial: 14
Acq On : 17 Apr 2015 3:09 pm Operator: thienn
Sample : icv793-50 Inst : MS3V
Misc : MS83642,V3V793,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3V793.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Apr 17 18:11:21 2015
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	100	0.00	7.29
2		1,4-dioxane	0.104	0.105	-1.0	101	-0.01	11.48
3		Ethanol		----------NA----------				
4	M	tertiary butyl alcohol	1.170	1.196	-2.2	102	0.00	7.43
5	I	pentafluorobenzene	1.000	1.000	0.0	106	0.00	9.76
6		chlorodifluoromethane	0.478	0.402	15.9	89	0.00	3.57
7		dichlorodifluoromethane	0.574	0.633	-10.3	107	0.00	3.56
8		chloromethane	0.459	0.478	-4.1	107	0.00	3.89
9		vinyl chloride	0.445	0.473	-6.3	106	0.00	4.15
10		bromomethane	0.361	0.369	-2.2	111	0.00	4.83
11		chloroethane	0.186	0.194	-4.3	108	-0.01	5.00
12		trichlorofluoromethane	0.695	0.715	-2.9	108	0.01	5.51
13		ethyl ether	0.122	0.126	-3.3	113	0.00	5.96
14		2-chloropropane	0.495	0.516	-4.2	112	0.00	6.17
15		acrolein	0.042	0.042	0.0	108	0.01	6.28
16		1,1-dichloroethene	0.475	0.519	-9.3	107	0.00	6.42
17		acetone	0.023	0.020	13.0	85	0.02	6.55
18		allyl chloride	0.146	0.172	-17.8	118	0.00	7.03
19		acetonitrile	0.020	0.019	5.0	106	0.00	7.05
20		iodomethane	0.744	0.779	-4.7	105	0.00	6.73
21		iso-butyl alcohol	0.010	0.010	0.0	106	0.00	10.11
22		carbon disulfide	1.104	1.217	-10.2	108	0.00	6.85
23		methylene chloride	0.353	0.350	0.8	108	0.00	7.27
24		1-chloropropane	0.638	0.572	10.3	109	0.00	7.28
25		methyl acetate	0.032	0.031	3.1	103	-0.01	7.04
26		methyl tert butyl ether	0.927	0.899	3.0	101	0.00	7.64
27		trans-1,2-dichloroethene	0.461	0.491	-6.5	107	0.00	7.67
28		di-isopropyl ether	1.002	1.013	-1.1	104	0.00	8.32
29		ethyl tert-butyl ether	1.010	0.996	1.4	102	0.00	8.85
30		2-butanone	0.031	0.028	9.7	90	-0.01	9.16
31	M	1,1-dichloroethane	0.574	0.611	-6.4	110	0.00	8.34
32		chloroprene	0.439	0.422	3.9	99	0.00	8.45
33		acrylonitrile	0.072	0.075	-4.2	105	0.00	7.67
34		vinyl acetate	0.036	0.038	-5.6	108	0.00	8.35
		----------	True	Calc.	% Drift	----------		
35		ethyl acetate	50.000	47.341	5.3	99	0.00	9.18
		----------	AvgRF	CCRF	% Dev	----------		
36		2,2-dichloropropane	0.642	0.580	9.7	92	0.00	9.16
37		cis-1,2-dichloroethene	0.400	0.368	8.0	103	0.00	9.17

Initial Calibration Verification

Job Number: JB93023 **Sample:** V3V793-ICV793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19012.D
Project: MHIC-592/593 Tanks

38		propionitrile	0.030	0.030	0.0	101	0.00	9.29
39		methyl acrylate	0.240	0.231	3.7	103	0.00	9.26
40		bromochloromethane	0.187	0.184	1.6	102	0.00	9.51
41		tetrahydrofuran	0.084	0.079	6.0	101	0.00	9.55
42		chloroform	0.654	0.646	1.2	105	0.00	9.59
43	S	dibromofluoromethane (s)	0.401	0.411	-2.5	108	0.00	9.80
44	S	1,2-dichloroethane-d4 (s)	0.363	0.361	0.6	103	0.00	10.25
45		freon 113	0.284	0.307	-8.1	107	0.00	6.40
46		methacrylonitrile	0.139	0.129	7.2	101	0.00	9.47
47		1,1,1-trichloroethane	0.671	0.696	-3.7	108	0.00	9.83
48		tert-amyl methyl ether	0.971	0.948	2.4	102	0.00	10.35
49	I	1,4-difluorobenzene	1.000	1.000	0.0	109	0.00	10.72
50		epichlorohydrin	0.020	0.018	10.0	98	0.00	12.04
51		n-butyl alcohol	0.007	0.007	0.0	104	0.00	10.91
52	M	cyclohexane	0.406	0.436	-7.4	111	0.00	9.89
53		carbon tetrachloride	0.535	0.576	-7.7	107	0.00	10.04
54		1,1-dichloropropene	0.364	0.373	-2.5	103	0.00	10.02
55		hexane	0.298	0.244	18.1	89	0.00	8.00
56		ISOOCTANE	0.920	0.880	4.3	96	0.00	10.29
57	M	benzene	1.022	1.059	-3.6	107	0.00	10.30
58		heptane	0.170	0.163	4.1	96	0.00	10.49
59		isopropyl acetate	0.571	0.564	1.2	107	0.00	10.27
60		1,2-dichloroethane	0.359	0.368	-2.5	104	0.00	10.34
61		trichloroethene	0.311	0.306	1.6	108	0.00	11.06
62		ethyl acrylate		----------NA----------				
63		2-nitropropane	0.500	0.463	7.4	102	0.00	11.91
64		2-chloroethyl vinyl ether	0.118	0.120	-1.7	103	0.00	11.91
65		methyl methacrylate	0.358	0.347	3.1	105	0.00	11.36
66		1,2-dichloropropane	0.255	0.261	-2.4	106	0.00	11.34
67		methylcyclohexane	0.428	0.452	-5.6	106	0.00	11.26
68		dibromomethane	0.175	0.173	1.1	105	0.00	11.52
69		bromodichloromethane	0.405	0.405	0.0	102	0.00	11.65
70		cis-1,3-dichloropropene	0.420	0.386	8.1	94	0.00	12.12
71	S	toluene-d8 (s)	1.080	1.068	1.1	107	0.00	12.39
72		4-methyl-2-pentanone	0.081	0.082	-1.2	106	0.00	12.23
73		toluene	1.180	1.114	5.6	108	0.00	12.46
74		3-methyl-1-butanol	0.006	0.006	0.0	96	0.00	12.27
75		trans-1,3-dichloropropene	0.387	0.374	3.4	98	0.00	12.70
76		ethyl methacrylate	0.275	0.257	6.5	98	0.00	12.69
77		1,1,2-trichloroethane	0.174	0.175	-0.6	101	0.00	12.91
78		2-hexanone	0.078	0.074	5.1	95	0.00	13.09
79	I	chlorobenzene-d5	1.000	1.000	0.0	106	0.00	13.94
80		tetrachloroethene	0.423	0.446	-5.4	106	0.00	13.05
81		1,3-dichloropropane	0.371	0.384	-3.5	105	0.00	13.09
82		butyl acetate	0.158	0.150	5.1	103	0.00	13.16
83		dibromochloromethane	0.394	0.400	-1.5	102	0.00	13.36
84		1,2-dibromoethane	0.279	0.279	0.0	101	0.00	13.50
85		n-Butyl ether		----------NA----------				
86		chlorobenzene	0.917	0.951	-3.7	104	0.00	13.97
87		1,1,1,2-tetrachloroethane	0.421	0.430	-2.1	101	0.00	14.04
88		ethylbenzene	1.566	1.709	-9.1	112	0.00	14.03
89		m,p-xylene	0.614	0.690	-12.4	113	0.00	14.14
90		o-xylene	0.641	0.659	-2.8	104	0.00	14.57
91		styrene	0.964	1.026	-6.4	103	0.00	14.59
92		bromoform	0.306	0.300	2.0	98	0.00	14.87
93	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	16.30
94		isopropylbenzene	2.640	2.824	-7.0	104	0.00	14.92

Initial Calibration Verification

Job Number: JB93023 **Sample:** V3V793-ICV793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19012.D
Project: MHIC-592/593 Tanks

95	S	4-bromofluorobenzene (s)	0.800	0.794	0.8	104	0.00	15.14
96		bromobenzene	0.768	0.788	-2.6	101	0.00	15.33
97		cyclohexanone	0.070	0.017	75.7#	24#	0.00	15.11
98		1,1,2,2-tetrachloroethane	0.591	0.569	3.7	96	0.00	15.26
99		trans-1,4-dichloro-2-bute	0.159	0.147	7.5	95	0.00	15.31
100		1,2,3-trichloropropane	0.147	0.138	6.1	98	0.00	15.33
101		n-propylbenzene	3.129	3.360	-7.4	110	0.00	15.34
102		2-chlorotoluene	0.724	0.747	-3.2	103	0.00	15.49
103		4-chlorotoluene	1.925	1.959	-1.8	103	0.00	15.59
104		1,3,5-trimethylbenzene	2.441	2.591	-6.1	106	0.00	15.49
105		tert-butylbenzene	2.073	2.158	-4.1	104	0.00	15.84
106		pentachloroethane	0.580	0.601	-3.6	102	0.00	15.93
107		1,2,4-trimethylbenzene	2.540	2.926	-15.2	119	0.00	15.88
108		sec-butylbenzene	3.135	3.356	-7.0	103	0.00	16.05
109		1,3-dichlorobenzene	1.518	1.587	-4.5	102	0.00	16.24
110		p-isopropyltoluene	2.785	2.982	-7.1	104	0.00	16.17
111		1,4-dichlorobenzene	1.494	1.549	-3.7	101	0.00	16.32
112		1,2-dichlorobenzene	1.533	1.559	-1.7	102	0.00	16.71
113		n-butylbenzene	1.400	1.492	-6.6	103	0.00	16.57
114		1,2-dibromo-3-chloropropa	0.148	0.136	8.1	101	0.00	17.45
115		1,3,5-TRICHLOROBENZENE	1.633	1.746	-6.9	103	0.00	17.60
116		1,2,4-trichlorobenzene	1.523	1.570	-3.1	102	0.00	18.19
117		hexachlorobutadiene	0.954	0.973	-2.0	98	0.00	18.27
118		naphthalene	2.403	2.528	-5.2	102	0.00	18.44
119		1,2,3-trichlorobenzene	1.421	1.419	0.1	100	0.00	18.67
120		hexachloroethane	0.631	0.691	-9.5	110	0.00	16.94
121		Benzyl chloride	1.287	1.112	13.6	87	0.00	16.44

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3V19007.D M3V793.M Fri Apr 17 18:23:41 2015 GCMS3V

6.9.2

6

Continuing Calibration Summary

Job Number: JB93023 **Sample:** V3V809-CC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19488.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3V19488.D Vial: 2
Acq On : 4 May 2015 7:14 am Operator: thienn
Sample : cc793-50 Inst : MS3V
Misc : MS84473,V3V809,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M3V793.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Apr 17 18:11:21 2015
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	92	0.00	7.28
2		1,4-dioxane	0.104	0.108	-3.8	95	-0.01	11.48
3		Ethanol		----------NA----------				
4	M	tertiary butyl alcohol	1.170	1.127	3.7	88	-0.02	7.41
5	I	pentafluorobenzene	1.000	1.000	0.0	106	0.00	9.76
6		chlorodifluoromethane	0.478	0.494	-3.3	110	-0.01	3.57
7		dichlorodifluoromethane	0.574	0.538	6.3	91	0.00	3.56
8		chloromethane	0.459	0.366	20.3#	82	0.00	3.89
9		vinyl chloride	0.445	0.386	13.3	87	0.01	4.17
10		bromomethane	0.361	0.290	19.7	88	0.00	4.83
11		chloroethane	0.186	0.153	17.7	86	0.00	5.01
12		trichlorofluoromethane	0.695	0.631	9.2	96	0.00	5.51
13		ethyl ether	0.122	0.099	18.9	89	0.00	5.96
14		2-chloropropane	0.495	0.455	8.1	99	0.00	6.17
15		acrolein	0.042	0.035	16.7	89	0.00	6.27
16		1,1-dichloroethene	0.475	0.479	-0.8	99	-0.01	6.41
17		acetone	0.023	0.019	17.4	82	0.00	6.54
18		allyl chloride	0.146	0.134	8.2	91	0.00	7.04
19		acetonitrile	0.020	0.016	20.0	90	0.00	7.04
20		iodomethane	0.744	0.767	-3.1	104	-0.01	6.73
21		iso-butyl alcohol	0.010	0.008	20.0	89	0.00	10.11
22		carbon disulfide	1.104	1.173	-6.2	104	-0.01	6.84
23		methylene chloride	0.353	0.329	6.8	102	-0.01	7.26
24		1-chloropropane	0.638	0.509	20.2#	97	-0.01	7.28
25		methyl acetate	0.032	0.028	12.5	92	-0.02	7.03
26		methyl tert butyl ether	0.927	0.851	8.2	95	0.00	7.63
27		trans-1,2-dichloroethene	0.461	0.459	0.4	101	0.00	7.67
28		di-isopropyl ether	1.002	0.892	11.0	92	0.00	8.32
29		ethyl tert-butyl ether	1.010	0.918	9.1	94	0.00	8.84
30		2-butanone	0.031	0.027	12.9	86	0.00	9.17
31	M	1,1-dichloroethane	0.574	0.561	2.3	101	0.00	8.34
32		chloroprene	0.439	0.423	3.6	100	0.00	8.44
33		acrylonitrile	0.072	0.060	16.7	84	0.00	7.67
34		vinyl acetate	0.036	0.034	5.6	96	0.00	8.34
		----------	True	Calc.	% Drift	----------		
35		ethyl acetate	50.000	38.766	22.5#	82	0.00	9.18
		----------	AvgRF	CCRF	% Dev	----------		
36		2,2-dichloropropane	0.642	0.648	-0.9	104	0.00	9.16
37		cis-1,2-dichloroethene	0.400	0.354	11.5	99	0.00	9.17

Continuing Calibration Summary

Job Number: JB93023 **Sample:** V3V809-CC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19488.D
Project: MHIC-592/593 Tanks

38		propionitrile	0.030	0.025	16.7	85	0.00	9.28
39		methyl acrylate	0.240	0.208	13.3	93	0.00	9.27
40		bromochloromethane	0.187	0.182	2.7	101	0.00	9.51
41		tetrahydrofuran	0.084	0.066	21.4#	84	0.00	9.55
42		chloroform	0.654	0.627	4.1	103	0.00	9.58
43	S	dibromofluoromethane (s)	0.401	0.394	1.7	104	0.00	9.80
44	S	1,2-dichloroethane-d4 (s)	0.363	0.379	-4.4	108	0.00	10.25
45		freon 113	0.284	0.309	-8.8	108	0.00	6.41
46		methacrylonitrile	0.139	0.110	20.9#	86	0.00	9.48
47		1,1,1-trichloroethane	0.671	0.682	-1.6	106	0.00	9.83
48		tert-amyl methyl ether	0.971	0.863	11.1	93	-0.01	10.35
49	I	1,4-difluorobenzene	1.000	1.000	0.0	114	0.00	10.72
50		epichlorohydrin	0.020	0.018	10.0	101	0.00	12.04
51		n-butyl alcohol	0.007	0.006	14.3	93	0.00	10.91
52	M	cyclohexane	0.406	0.388	4.4	103	0.00	9.89
53		carbon tetrachloride	0.535	0.558	-4.3	108	-0.01	10.03
54		1,1-dichloropropene	0.364	0.368	-1.1	106	0.00	10.02
55		hexane	0.298	0.241	19.1	91	0.00	8.01
56		ISOOCTANE	0.920	0.839	8.8	95	0.00	10.28
57	M	benzene	1.022	1.013	0.9	107	0.00	10.30
58		heptane	0.170	0.171	-0.6	105	0.00	10.48
59		isopropyl acetate	0.571	0.482	15.6	95	0.00	10.27
60		1,2-dichloroethane	0.359	0.362	-0.8	107	0.00	10.35
61		trichloroethene	0.311	0.315	-1.3	116	0.00	11.06
62		ethyl acrylate		----------NA----------				
63		2-nitropropane	0.500	0.463	7.4	106	0.00	11.91
64		2-chloroethyl vinyl ether	0.118	0.120	-1.7	108	0.00	11.91
65		methyl methacrylate	0.358	0.336	6.1	106	0.00	11.36
66		1,2-dichloropropane	0.255	0.263	-3.1	111	0.00	11.35
67		methylcyclohexane	0.428	0.414	3.3	101	0.00	11.26
68		dibromomethane	0.175	0.182	-4.0	115	0.00	11.52
69		bromodichloromethane	0.405	0.439	-8.4	116	0.00	11.65
70		cis-1,3-dichloropropene	0.420	0.476	-13.3	120	0.00	12.12
71	S	toluene-d8 (s)	1.080	1.145	-6.0	119	0.00	12.40
72		4-methyl-2-pentanone	0.081	0.073	9.9	99	0.00	12.22
73		toluene	1.180	1.206	-2.2	121	0.00	12.46
74		3-methyl-1-butanol	0.006	0.006	0.0	92	0.00	12.27
75		trans-1,3-dichloropropene	0.387	0.441	-14.0	120	0.00	12.70
76		ethyl methacrylate	0.275	0.264	4.0	106	0.00	12.69
77		1,1,2-trichloroethane	0.174	0.200	-14.9	120	0.00	12.91
78		2-hexanone	0.078	0.073	6.4	99	0.00	13.09
79	I	chlorobenzene-d5	1.000	1.000	0.0	126	0.00	13.94
80		tetrachloroethene	0.423	0.458	-8.3	129	0.00	13.05
81		1,3-dichloropropane	0.371	0.384	-3.5	124	0.00	13.09
82		butyl acetate	0.158	0.126	20.3#	103	0.00	13.16
83		dibromochloromethane	0.394	0.432	-9.6	131	0.00	13.36
84		1,2-dibromoethane	0.279	0.296	-6.1	127	0.00	13.50
85		n-Butyl ether		----------NA----------				
86		chlorobenzene	0.917	0.986	-7.5	128	0.00	13.97
87		1,1,1,2-tetrachloroethane	0.421	0.403	4.3	112	0.00	14.04
88		ethylbenzene	1.566	1.564	0.1	121	0.00	14.03
89		m,p-xylene	0.614	0.632	-2.9	123	0.00	14.14
90		o-xylene	0.641	0.651	-1.6	122	0.00	14.57
91		styrene	0.964	1.005	-4.3	120	0.00	14.59
92		bromoform	0.306	0.323	-5.6	125	0.00	14.87
93	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	114	0.00	16.30
94		isopropylbenzene	2.640	2.938	-11.3	119	0.00	14.92

Continuing Calibration Summary

Job Number: JB93023 **Sample:** V3V809-CC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19488.D
Project: MHIC-592/593 Tanks

95	S	4-bromofluorobenzene (s)	0.800	0.849	-6.1	123	0.00	15.13
96		bromobenzene	0.768	0.883	-15.0	125	0.00	15.33
97		cyclohexanone	0.070	0.055	21.4#	86	0.00	15.11
98		1,1,2,2-tetrachloroethane	0.591	0.651	-10.2	121	0.00	15.26
99		trans-1,4-dichloro-2-bute	0.159	0.142	10.7	101	0.00	15.30
100		1,2,3-trichloropropane	0.147	0.157	-6.8	122	0.00	15.33
101		n-propylbenzene	3.129	3.328	-6.4	120	0.00	15.34
102		2-chlorotoluene	0.724	0.818	-13.0	123	0.00	15.49
103		4-chlorotoluene	1.925	2.059	-7.0	119	0.00	15.58
104		1,3,5-trimethylbenzene	2.441	2.675	-9.6	120	0.00	15.49
105		tert-butylbenzene	2.073	2.629	-26.8#	139	0.00	15.84
106		pentachloroethane	0.580	0.653	-12.6	121	0.00	15.93
107		1,2,4-trimethylbenzene	2.540	2.636	-3.8	118	0.00	15.88
108		sec-butylbenzene	3.135	3.674	-17.2	124	0.00	16.05
109		1,3-dichlorobenzene	1.518	1.645	-8.4	116	0.00	16.24
110		p-isopropyltoluene	2.785	3.142	-12.8	120	0.00	16.17
111		1,4-dichlorobenzene	1.494	1.597	-6.9	114	0.00	16.32
112		1,2-dichlorobenzene	1.533	1.636	-6.7	117	0.00	16.71
113		n-butylbenzene	1.400	1.467	-4.8	111	0.00	16.57
114		1,2-dibromo-3-chloropropa	0.148	0.129	12.8	106	0.00	17.45
115		1,3,5-TRICHLOROBENZENE	1.633	1.676	-2.6	109	0.00	17.60
116		1,2,4-trichlorobenzene	1.523	1.467	3.7	105	0.00	18.18
117		hexachlorobutadiene	0.954	1.090	-14.3	120	0.00	18.27
118		naphthalene	2.403	2.291	4.7	102	0.00	18.44
119		1,2,3-trichlorobenzene	1.421	1.364	4.0	106	0.00	18.66
120		hexachloroethane	0.631	0.706	-11.9	123	0.00	16.94
121		Benzyl chloride	1.287	1.210	6.0	105	0.00	16.44

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3V19007.D M3V793.M Tue May 05 11:22:41 2015 GCMS3V

6.9.3

6

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: V3V809-CC793
Lab FileID: 3V19489.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\3V19489.D                    Vial: 3
Acq On    :  4 May 2015   8:16 am                     Operator: thienn
Sample    : cc793-1                                   Inst    : MS3V
Misc      : MS84473,V3V809,5.0,,,,1                   Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M3V793.M (RTE Integrator)
Title        : SW-846 Method 8260
Last Update  : Fri Apr 17 18:11:21 2015
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	105	0.00	7.29
2		1,4-dioxane		----------NA----------				
3		Ethanol		----------NA----------				
4	M	tertiary butyl alcohol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	110	0.00	9.76
6		chlorodifluoromethane		----------NA----------				
7		dichlorodifluoromethane		----------NA----------				
8		chloromethane	0.459	0.555	-20.9#	0#	-0.02	3.87
9		vinyl chloride		----------NA----------				
10		bromomethane		----------NA----------				
11		chloroethane		----------NA----------				
12		trichlorofluoromethane		----------NA----------				
13		ethyl ether		----------NA----------				
14		2-chloropropane		----------NA----------				
15		acrolein		----------NA----------				
16		1,1-dichloroethene		----------NA----------				
17		acetone		----------NA----------				
18		allyl chloride		----------NA----------				
19		acetonitrile		----------NA----------				
20		iodomethane		----------NA----------				
21		iso-butyl alcohol		----------NA----------				
22		carbon disulfide		----------NA----------				
23		methylene chloride		----------NA----------				
24		1-chloropropane		----------NA----------				
25		methyl acetate		----------NA----------				
26		methyl tert butyl ether		----------NA----------				
27		trans-1,2-dichloroethene		----------NA----------				
28		di-isopropyl ether		----------NA----------				
29		ethyl tert-butyl ether		----------NA----------				
30		2-butanone		----------NA----------				
31	M	1,1-dichloroethane		----------NA----------				
32		chloroprene		----------NA----------				
33		acrylonitrile		----------NA----------				
34		vinyl acetate		----------NA----------				
		----------	True	Calc.	% Drift	----------		
35		ethyl acetate		----------NA----------				
		----------	AvgRF	CCRF	% Dev	----------		
36		2,2-dichloropropane		----------NA----------				
37		cis-1,2-dichloroethene		----------NA----------				

Continuing Calibration Summary

Job Number: JB93023 **Sample:** V3V809-CC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19489.D
Project: MHIC-592/593 Tanks

38		propionitrile		----------NA----------				
39		methyl acrylate		----------NA----------				
40		bromochloromethane		----------NA----------				
41		tetrahydrofuran		----------NA----------				
42		chloroform		----------NA----------				
43	S	dibromofluoromethane (s)	0.401	0.395	1.5	108	0.00	9.80
44	S	1,2-dichloroethane-d4 (s)	0.363	0.358	1.4	112	0.00	10.25
45		freon 113		----------NA----------				
46		methacrylonitrile		----------NA----------				
47		1,1,1-trichloroethane		----------NA----------				
48		tert-amyl methyl ether		----------NA----------				
49	I	1,4-difluorobenzene	1.000	1.000	0.0	114	0.00	10.72
50		epichlorohydrin		----------NA----------				
51		n-butyl alcohol		----------NA----------				
52	M	cyclohexane		----------NA----------				
53		carbon tetrachloride		----------NA----------				
54		1,1-dichloropropene		----------NA----------				
55		hexane		----------NA----------				
56		ISOOCTANE		----------NA----------				
57	M	benzene		----------NA----------				
58		heptane		----------NA----------				
59		isopropyl acetate		----------NA----------				
60		1,2-dichloroethane		----------NA----------				
61		trichloroethene		----------NA----------				
62		ethyl acrylate		----------NA----------				
63		2-nitropropane		----------NA----------				
64		2-chloroethyl vinyl ether		----------NA----------				
65		methyl methacrylate		----------NA----------				
66		1,2-dichloropropane		----------NA----------				
67		methylcyclohexane		----------NA----------				
68		dibromomethane		----------NA----------				
69		bromodichloromethane		----------NA----------				
70		cis-1,3-dichloropropene		----------NA----------				
71	S	toluene-d8 (s)	1.080	1.082	-0.2	114	0.00	12.39
72		4-methyl-2-pentanone		----------NA----------				
73		toluene		----------NA----------				
74		3-methyl-1-butanol		----------NA----------				
75		trans-1,3-dichloropropene		----------NA----------				
76		ethyl methacrylate		----------NA----------				
77		1,1,2-trichloroethane		----------NA----------				
78		2-hexanone		----------NA----------				
79	I	chlorobenzene-d5	1.000	1.000	0.0	119	0.00	13.94
80		tetrachloroethene		----------NA----------				
81		1,3-dichloropropane		----------NA----------				
82		butyl acetate		----------NA----------				
83		dibromochloromethane		----------NA----------				
84		1,2-dibromoethane		----------NA----------				
85		n-Butyl ether		----------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		bromoform		----------NA----------				
93	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	16.30
94		isopropylbenzene		----------NA----------				

Continuing Calibration Summary

Job Number: JB93023 **Sample:** V3V809-CC793
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3V19489.D
Project: MHIC-592/593 Tanks

95	S	4-bromofluorobenzene (s)	0.800	0.876	-9.5	111	0.00	15.13
96		bromobenzene	----------NA----------					
97		cyclohexanone	----------NA----------					
98		1,1,2,2-tetrachloroethane	----------NA----------					
99		trans-1,4-dichloro-2-bute	----------NA----------					
100		1,2,3-trichloropropane	----------NA----------					
101		n-propylbenzene	----------NA----------					
102		2-chlorotoluene	----------NA----------					
103		4-chlorotoluene	----------NA----------					
104		1,3,5-trimethylbenzene	----------NA----------					
105		tert-butylbenzene	----------NA----------					
106		pentachloroethane	----------NA----------					
107		1,2,4-trimethylbenzene	----------NA----------					
108		sec-butylbenzene	----------NA----------					
109		1,3-dichlorobenzene	----------NA----------					
110		p-isopropyltoluene	----------NA----------					
111		1,4-dichlorobenzene	----------NA----------					
112		1,2-dichlorobenzene	----------NA----------					
113		n-butylbenzene	----------NA----------					
114		1,2-dibromo-3-chloropropa	----------NA----------					
115		1,3,5-TRICHLOROBENZENE	----------NA----------					
116		1,2,4-trichlorobenzene	----------NA----------					
117		hexachlorobutadiene	----------NA----------					
118		naphthalene	----------NA----------					
119		1,2,3-trichlorobenzene	----------NA----------					
120		hexachloroethane	----------NA----------					
121		Benzyl chloride	----------NA----------					

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3V19002.D M3V793.M Tue May 05 11:22:07 2015 GCMS3V

6.9.4

6

Initial Calibration Summary

Job Number: JB93023 **Sample:** VE9806-ICC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E223545.D
Project: MHIC-592/593 Tanks

Response Factor Report MSE

```
Method       : C:\msdchem\1\METHODS\ME9806.M (RTE Integrator)
Title        : SW846  8260C/8260B,ZB624 60m x 0.25mm x 1.4um
Last Update  : Tue Feb 17 11:57:28 2015
Response via : Initial Calibration

Calibration Files
4   =E223542.D   2   =E223541.D   20  =E223544.D   50  =E223545.D
100 =E223546.D   1   =E223540.D   200 =E223547.D   0.5 =E223539.D
8   =E223543.D   0.2 =E223538.D       =                =

Compound
        4     2     20    50    100   1     200   0.5   8     0.2    Avg   %RSD
-------------------------------------------------------------------------------

1)     Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
     0.113 0.096 0.119 0.124 0.122       0.123       0.114        0.116    8.50
3)  tertiary butyl alcohol
     1.448 1.646 1.468 1.474 1.450 1.332 1.348       1.520        1.461    6.73

4) I   pentafluorobenzene    ----------------ISTD---------------------
5)  chlorodifluoromethane
     0.545 0.561 0.619 0.634 0.641 0.495 0.628       0.599        0.590    8.76
6)  dichlorodifluoromethane
     0.718 0.615 0.796 0.852 0.807       0.773       0.781        0.763   10.04
7)  chloromethane
     0.817 0.790 0.827 0.899 0.911 0.793 0.895 0.770 0.817        0.835    6.32
8)  vinyl chloride
     0.882 0.809 0.879 0.944 0.912 0.708 0.884 0.639 0.878        0.837   12.03
9)  1,3-Butadiene
                                                                  0.000#  -1.00
10)  bromomethane
     0.526 0.583 0.485 0.508 0.471 0.603 0.374 0.592 0.511        0.517   13.89
11)  chloroethane
     0.383 0.365 0.369 0.381 0.357 0.330 0.294 0.330 0.377        0.354    8.47
12)  vinyl bromide
                                                                  0.000#  -1.00
13)  trichlorofluoromethane
     0.779 0.684 0.860 0.906 0.863       0.821       0.833        0.821    8.77
14)  pentane
                                                                  0.000#  -1.00
15)  ethyl ether
     0.237 0.245 0.259 0.260 0.257 0.195 0.257       0.259        0.246    9.04
16)  2-chloropropane
     0.706 0.822 0.765 0.774 0.779 0.710 0.749       0.773        0.760    5.01
17)  acrolein
     0.091 0.124 0.121 0.124       0.123             0.109        0.115   11.53
18)  1,1-dichloroethene
     0.749 0.744 0.785 0.773 0.777 0.625 0.735 0.514 0.789        0.721   12.81
19)  acetone
     0.040       0.047 0.056 0.056       0.056       0.060        0.053   13.92
20)  allyl chloride
     0.234 0.257 0.270 0.276 0.286 0.197 0.287       0.278        0.261   11.94
21)  acetonitrile
     0.066 0.051 0.058 0.055 0.055       0.053       0.059        0.057    8.57
22)  iodomethane
     0.869 0.877 0.948 0.937 0.942 0.763 0.894 0.699 0.930        0.873    9.98
23)  iso-butyl alcohol
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VE9806-ICC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E223545.D
Project: MHIC-592/593 Tanks

	0.006		0.007	0.007	0.007		0.007		0.007#		6.82
24)	carbon disulfide										
	1.565	1.545	1.685	1.677	1.665		1.583		1.694	1.631	3.89
25)	methylene chloride										
	0.563	0.613	0.614	0.605	0.604	0.572	0.576	0.555	0.614	0.591	4.05
26)	1-chloropropane										
	1.195		0.921	0.855	0.817		0.787		1.091	0.944	17.31
27)	methyl acetate										
	0.403	0.465	0.437	0.440	0.451	0.431	0.445		0.429	0.438	4.16
28)	methyl tert butyl ether										
	1.627	1.779	1.693	1.658	1.649	1.689	1.618	1.469	1.699	1.397 1.628	6.97
29)	trans-1,2-dichloroethene										
	0.677	0.715	0.730	0.727	0.722	0.593	0.702	0.615	0.719	0.604 0.681	8.10
30)	di-isopropyl ether										
	1.478	1.581	1.561	1.592	1.650	1.502	1.593	1.382	1.511	1.355 1.521	6.24
31)	ethyl tert-butyl ether										
	1.586	1.689	1.718	1.747	1.799	1.578	1.739	1.377	1.650	1.306 1.619	10.06
32)	2-butanone										
	0.046		0.066	0.066	0.064		0.066		0.066	0.062	12.76
33)	1,1-dichloroethane										
	0.809	0.827	0.875	0.880	0.883	0.752	0.867	0.714	0.887	0.833	7.56
34)	chloroprene										
	0.595	0.574	0.626	0.645	0.667	0.483	0.653		0.597	0.605	9.71
35)	acrylonitrile										
	0.200	0.221	0.214	0.214	0.212	0.186	0.210	0.165	0.220	0.205	8.98
36)	vinyl acetate										
	0.064		0.075	0.080	0.081		0.081		0.068	0.075	9.77
37)	ethyl acetate										
	0.057		0.067	0.068	0.070		0.070		0.068	0.067	7.62
38)	2,2-dichloropropane										
	0.706	0.770	0.796	0.782	0.767	0.705	0.729	0.656	0.799	0.746	6.57
39)	cis-1,2-dichloroethene										
	0.586	0.677	0.569	0.574	0.555	0.614	0.544	0.772	0.594	0.609	11.89
40)	methyl acrylate										
	0.541	0.610	0.579	0.580	0.579	0.430	0.591		0.466	0.547	11.83
41)	propionitrile										
	0.082	0.089	0.089	0.089	0.088	0.080	0.090	0.076	0.089	0.086	5.92
42)	bromochloromethane										
	0.258	0.268	0.270	0.276	0.272	0.234	0.272	0.206	0.282	0.260	9.39
43)	tetrahydrofuran										
	0.063		0.079	0.078	0.077		0.078		0.077	0.075	8.11
44)	chloroform										
	0.777	0.839	0.824	0.837	0.827	0.788	0.812	0.754	0.847	0.727 0.803	5.01
45)	t-butyl formate										
	0.431	0.479	0.482	0.504	0.535	0.412	0.529	0.369	0.445	0.465	11.93
46)	Iso-octane										
	1.587	1.555	1.876	1.979	2.061		1.949		1.720	1.818	10.95
47)	dibromofluoromethane (s)										
	0.508		0.451	0.465	0.462		0.449		0.481	0.470	4.71
48)	1,2-dichloroethane-d4 (s)										
	0.568		0.486	0.508	0.493		0.482		0.547	0.514	6.88
49)	freon 113										
	0.356		0.402	0.410	0.419		0.388		0.374	0.391	6.05
50)	methacrylonitrile										
	0.202	0.204	0.218	0.220	0.219	0.191	0.224		0.230	0.214	6.14
51)	1,1,1-trichloroethane										
	0.698	0.703	0.772	0.774	0.772	0.569	0.746	0.546	0.761	0.704	12.55
52)	Cyclohexane										
	0.699	0.642	0.778	0.796	0.791		0.766		0.753	0.746	7.53
53)	tert-amyl methyl ether										

Initial Calibration Summary

Job Number: JB93023 **Sample:** VE9806-ICC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E223545.D
Project: MHIC-592/593 Tanks

```
      1.619 1.808 1.724 1.740 1.804 1.739 1.740 1.691 1.676        1.727    3.47

54) I   1,4-difluorobenzene   ----------------ISTD--------------------
55)  tert amyl alcohol
                                                                   0.000#  -1.00
56)  epichlorohydrin
      0.042 0.048 0.045 0.046 0.046       0.047       0.042        0.045    5.30
57)  n-butyl alcohol
      0.015 0.017 0.017 0.017 0.017 0.015 0.017       0.016        0.016    6.09
58)  tert-amyl ethyl ether
                                                                   0.000#  -1.00
59)  carbon tetrachloride
      0.496 0.484 0.564 0.560 0.547 0.409 0.522       0.544        0.516   10.09
60)  1,1-dichloropropene
      0.459 0.470 0.506 0.508 0.492 0.431 0.476 0.383 0.515        0.471    9.04
61)  hexane
      0.358 0.330 0.409 0.415 0.418 0.267 0.389       0.387        0.372   13.91
62)  benzene
      1.477 1.613 1.586 1.554 1.501 1.423 1.456 1.496 1.595 1.370  1.507    5.28
63)  heptane
      0.212 0.191 0.240 0.243 0.247       0.231       0.222        0.227    8.80
64)  isopropyl acetate
      0.151 0.172 0.181 0.175 0.177 0.133 0.173       0.162        0.166    9.78
65)  1,2-dichloroethane
      0.457 0.468 0.480 0.484 0.464 0.447 0.455 0.361 0.500        0.457    8.69
66)  ethyl acrylate
                                                                   0.000#  -1.00
67)  trichloroethene
      0.405 0.398 0.413 0.407 0.396 0.324 0.382 0.376 0.422        0.392    7.42
68)  2-nitropropane
                                                                   0.000#  -1.00
69)  2-chloroethyl vinyl ether
      0.137 0.143 0.153 0.158 0.164 0.139 0.167 0.118 0.145        0.147   10.37
70)  methylcyclohexane
      0.676 0.611 0.739 0.744 0.756       0.699       0.678        0.700    7.24
71)  methyl methacrylate
      0.108 0.099 0.110 0.111 0.108       0.110       0.105        0.107    4.07
72)  1,2-dichloropropane
      0.384 0.377 0.382 0.388 0.382 0.328 0.376 0.334 0.379        0.370    6.03
73)  dibromomethane
      0.239 0.257 0.262 0.257 0.251 0.216 0.250 0.180 0.262        0.242   11.35
74)  bromodichloromethane
      0.485 0.503 0.515 0.525 0.516 0.433 0.519 0.361 0.527        0.487   11.42
75)  cis-1,3-dichloropropene
      0.552 0.589 0.620 0.627 0.621 0.545 0.628 0.516 0.628        0.592    7.33
76)  toluene-d8 (s)
      1.499       1.327 1.349 1.326       1.294       1.402        1.366    5.44
77)  4-methyl-2-pentanone
      0.170 0.157 0.188 0.187 0.187 0.144 0.185       0.189        0.176    9.63
78)  toluene
      0.860 0.924 0.941 0.936 0.925 0.817 0.924 0.822 0.928 0.623  0.870   11.34
79)  3-methyl-1-butanol
      0.023 0.027 0.027 0.028 0.028 0.022 0.027       0.025        0.026    8.43
80)  trans-1,3-dichloropropene
      0.517 0.562 0.562 0.565 0.555 0.518 0.559 0.494 0.565        0.544    4.95
81)  ethyl methacrylate
      0.465 0.487 0.514 0.505 0.505 0.435 0.510 0.406 0.498        0.481    7.86
82)  1,1,2-trichloroethane
      0.278 0.283 0.302 0.301 0.296 0.265 0.296 0.277 0.306        0.289    4.81
83)  2-hexanone
```

```
       0.024       0.035 0.032 0.034       0.033       0.030        0.032   12.86

 84) I   chlorobenzene-d5      ----------------ISTD--------------------
 85)  cyclohexanone
       0.086       0.094 0.070 0.073                   0.099        0.084   14.77
 86)  tetrachloroethene
       0.478 0.490 0.508 0.507 0.487 0.431 0.467 0.367 0.527        0.474   10.22
 87)  1,3-dichloropropane
       0.581 0.663 0.627 0.624 0.610 0.590 0.605 0.538 0.646        0.609    6.07
 88)  butyl acetate
       0.286 0.355 0.316 0.310 0.314 0.293 0.296 0.236 0.313        0.302   10.56
 89)  3,3-dimethyl-1-butanol
       0.058 0.061 0.070 0.074 0.081       0.079       0.066        0.070   12.62
 90)  dibromochloromethane
       0.405 0.439 0.455 0.460 0.455 0.393 0.455 0.367 0.461        0.432    8.09
 91)  1,2-dibromoethane
       0.374 0.420 0.411 0.413 0.405 0.385 0.405 0.361 0.427        0.400    5.49
 92)  n-butyl ether
       1.752 1.851 1.894 1.851 1.823 1.657 1.755 1.596 1.916        1.788    6.03
 93)  chlorobenzene
       1.061 1.126 1.161 1.162 1.136 1.131 1.135 1.074 1.185 0.872  1.104    8.16
 94)  1,1,1,2-tetrachloroethane
       0.428 0.445 0.483 0.494 0.486 0.395 0.474 0.432 0.501        0.460    7.88
 95)  ethylbenzene
       1.833 1.937 2.006 1.990 1.941 1.851 1.895 1.711 2.044 1.542  1.875    8.11
 96)  m,p-xylene
       0.701 0.719 0.771 0.765 0.747 0.715 0.729 0.641 0.788 0.533  0.711   10.58
 97)  o-xylene
       0.760 0.774 0.808 0.825 0.813 0.703 0.781 0.695 0.828 0.585  0.757   10.08
 98)  butyl acrylate
                                                                    0.000#  -1.00
 99)  styrene
       1.177 1.301 1.307 1.320 1.306 1.176 1.273 1.103 1.322        1.254    6.41
100)  bromoform
       0.318 0.340 0.368 0.375 0.371 0.278 0.369 0.255 0.368        0.338   13.30

101) I   1,4-dichlorobenzene-d ----------------ISTD--------------------
102)  isopropylbenzene
       3.326 3.412 3.698 3.784 3.750 3.083 3.650 2.978 3.670 2.973  3.432    9.47
103)  4-bromofluorobenzene (s)
       1.048       0.960 0.980 0.959       0.929       1.010        0.981    4.32
104)  cis-1,4-dichloro-2-butene
                                                                    0.000#  -1.00
105)  bromobenzene
       0.873 0.939 0.955 0.927 0.922 0.822 0.909 0.849 0.944        0.904    5.10
106)  1,1,2,2-tetrachloroethane
       1.074 1.131 1.163 1.163 1.133 1.055 1.122 0.966 1.186        1.110    6.17
107)  trans-1,4-dichloro-2-butene
       0.234 0.253 0.258 0.268 0.272 0.170 0.270       0.254        0.247   13.63
108)  1,2,3-trichloropropane
       0.275 0.269 0.290 0.285 0.275 0.238 0.268       0.297        0.275    6.57
109)  n-propylbenzene
       3.776 3.948 4.085 4.098 4.065 3.597 3.955 3.575 4.093 3.273  3.847    7.36
110)  p-ethyltoluene
                                                                    0.000#  -1.00
111)  2-chlorotoluene
       0.823 0.868 0.887 0.882 0.878 0.802 0.869       0.877        0.861    3.58
112)  4-chlorotoluene
       2.360 2.437 2.541 2.538 2.509 2.414 2.498 2.510 2.539 2.758  2.510    4.22
113)  1,3,5-trimethylbenzene
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VE9806-ICC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E223545.D
Project: MHIC-592/593 Tanks

```
       2.897 3.012 3.205 3.241 3.229 2.678 3.190 2.740 3.180 2.278  2.965   10.73
114)  tert-butylbenzene
       0.601 0.600 0.665 0.696 0.700 0.537 0.701 0.482 0.653        0.626   12.43
115)  pentachloroethane
       0.463 0.508 0.542 0.580 0.591       0.604       0.535        0.546    9.15
116)  1,2,4-trimethylbenzene
       2.905 3.003 3.180 3.187 3.150 2.915 3.119 2.693 3.126 2.382  2.966    8.71
117)  sec-butylbenzene
       3.958 3.981 4.432 4.519 4.539 3.638 4.464 3.623 4.347 3.569  4.107    9.70
118)  1,3-dichlorobenzene
       1.811 1.980 1.942 1.965 1.922 1.736 1.913 1.834 1.955        1.895    4.37
119)  p-isopropyltoluene
       3.397 3.607 3.724 3.777 3.766 3.303 3.731 3.230 3.711        3.583    5.98
120)  1,4-dichlorobenzene
       1.866 2.030 1.978 1.974 1.939 1.823 1.932 1.720 2.019        1.920    5.25
121)  benzyl chloride
       1.841 2.079 2.043 2.153 2.234 2.031 2.231 1.998 1.940        2.061    6.32
122)  p-diethylbenzene
                                                                    0.000#  -1.00
123)  1,2-dichlorobenzene
       1.894 1.993 2.027 2.042 1.993 1.761 1.994 1.812 2.059        1.953    5.43
124)  n-butylbenzene
       1.705 1.731 1.861 1.883 1.871 1.592 1.858 1.614 1.866        1.776    6.60
125)  1,2,4,5-tetramethylbenzene
                                                                    0.000#  -1.00
126)  1,2-dibromo-3-chloropropane
       0.299 0.309 0.325 0.335 0.329 0.296 0.330       0.326        0.319    4.79
127)  1,3,5-trichlorobenzene
       1.721 1.778 1.878 1.929 1.875 1.618 1.874 1.597 1.891        1.796    6.91
128)  1,2,4-trichlorobenzene
       1.530 1.657 1.768 1.840 1.785 1.573 1.771 1.376 1.737        1.671    9.03
129)  hexachlorobutadiene
       0.846 0.852 0.884 0.908 0.902 0.827 0.885 0.692 0.892        0.854    7.79
130)  naphthalene
       3.591 3.814 4.222 4.447 4.394 3.597 4.378 3.195 4.072        3.968   11.11
131)  1,2,3-trichlorobenzene
       1.415 1.543 1.658 1.709 1.674 1.384 1.642 1.373 1.625        1.558    8.58
132)  hexachloroethane
       0.550 0.767 0.591 0.661 0.693 0.732 0.724       0.611        0.666   11.48
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          ME9806.M          Tue Feb 17 12:03:39 2015   RPT1
```

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: VE9806-ICV9806
Lab FileID: E223550.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E223550.D Vial: 14
Acq On : 16 Feb 2015 6:18 pm Operator: ThienN
Sample : icv9806-50 Inst : MSE
Misc : MS80919,VE9806,5,,100,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9806.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Feb 17 11:57:28 2015
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		Tert Butyl Alcohol-d9	1.000	1.000	0.0	99	0.00	7.96
2	M	1,4-dioxane	0.116	0.112	3.4	90	0.00	11.81
3	M	tertiary butyl alcohol	1.461	1.425	2.5	96	0.00	8.09
4	I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	10.14
5	M	chlorodifluoromethane	0.590	0.631	-6.9	101	0.00	4.39
6	M	dichlorodifluoromethane	0.763	0.808	-5.9	96	0.00	4.36
7	M	chloromethane	0.835	0.874	-4.7	99	0.00	4.75
8	M	vinyl chloride	0.837	0.883	-5.5	95	0.00	5.02
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.517	0.489	5.4	98	0.00	5.72
11	M	chloroethane	0.354	0.365	-3.1	97	0.00	5.89
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.821	0.875	-6.6	98	0.00	6.39
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.246	0.283	-15.0	111	0.00	6.79
16	m	2-chloropropane	0.760	0.866	-13.9	114	0.00	7.03
17	M	acrolein	0.115	0.136	-18.3	111	0.00	7.11
18	M	1,1-dichloroethene	0.721	0.856	-18.7	113	0.00	7.25
19	M	acetone	0.053	0.057	-7.5	102	0.00	7.34
20	M	allyl chloride	0.261	0.335	-28.4	123	0.00	7.80
21	M	acetonitrile	0.057	0.054	5.3	100	0.00	7.81
22	M	iodomethane	0.873	1.035	-18.6	112	0.00	7.57
23	M	iso-butyl alcohol	0.007	0.007#	0.0	99	0.00	10.44
24	M	carbon disulfide	1.631	2.009	-23.2	122	0.00	7.69
25	M	methylene chloride	0.591	0.627	-6.1	105	0.00	8.00
26	m	1-chloropropane	0.944	0.924	2.1	110	0.00	8.02
27	M	methyl acetate	0.438	0.386	11.9	89	0.00	7.76
28	M	methyl tert butyl ether	1.628	1.670	-2.6	103	0.00	8.28
29	M	trans-1,2-dichloroethene	0.681	0.730	-7.2	102	0.00	8.35
30	M	di-isopropyl ether	1.521	1.588	-4.4	101	0.00	8.86
31	M	ethyl tert-butyl ether	1.619	1.673	-3.3	97	0.00	9.32
32	M	2-butanone	0.062	0.064	-3.2	100	0.00	9.62
33	M	1,1-dichloroethane	0.833	0.905	-8.6	105	0.00	8.93
34	M	chloroprene	0.605	0.689	-13.9	109	0.00	9.01
35	M	acrylonitrile	0.205	0.220	-7.3	105	0.00	8.34
36	M	vinyl acetate	0.075	0.088	-17.3	112	0.00	8.89
37	M	ethyl acetate	0.067	0.066	1.5	98	0.00	9.61
38	M	2,2-dichloropropane	0.746	0.792	-6.2	103	0.00	9.66
39	M	cis-1,2-dichloroethene	0.609	0.558	8.4	99	0.00	9.66
40	m	methyl acrylate	0.547	0.568	-3.8	99	0.00	9.70
41	M	propionitrile	0.086	0.084	2.3	96	0.00	9.75

Initial Calibration Verification

Job Number: JB93023 **Sample:** VE9806-ICV9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E223550.D
Project: MHIC-592/593 Tanks

42	M	bromochloromethane	0.260	0.273	-5.0	101	0.00	9.98
43	M	tetrahydrofuran	0.075	0.075	0.0	99	0.00	10.01
44	M	chloroform	0.803	0.839	-4.5	102	0.00	10.03
45	m	t-butyl formate	0.465	0.513	-10.3	103	0.00	10.04
46	M	Iso-octane	1.818	1.894	-4.2	97	0.00	10.66
47	S	dibromofluoromethane (s)		----------NA----------				
48	S	1,2-dichloroethane-d4 (s)		----------NA----------				
49	M	freon 113	0.391	0.458	-17.1	114	0.00	7.18
50	M	methacrylonitrile	0.214	0.215	-0.5	99	0.00	9.92
51	M	1,1,1-trichloroethane	0.704	0.782	-11.1	103	0.00	10.27
52		Cyclohexane	0.746	0.830	-11.3	106	0.00	10.33
53	M	tert-amyl methyl ether	1.727	1.670	3.3	98	0.00	10.70
54	I	1,4-difluorobenzene	1.000	1.000	0.0	100	0.00	11.06
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.045	0.046	-2.2	100	0.00	12.37
57	M	n-butyl alcohol	0.016	0.016	0.0	95	0.00	11.20
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.516	0.583	-13.0	104	0.00	10.46
60	M	1,1-dichloropropene	0.471	0.536	-13.8	106	0.00	10.43
61	M	hexane	0.372	0.411	-10.5	99	0.00	8.60
62	M	benzene	1.507	1.581	-4.9	102	0.00	10.70
63	M	heptane	0.227	0.262	-15.4	108	0.00	10.81
64	M	isopropyl acetate	0.166	0.161	3.0	92	0.00	10.59
65	M	1,2-dichloroethane	0.457	0.478	-4.6	99	0.00	10.75
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.392	0.407	-3.8	100	0.00	11.41
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.147	0.159	-8.2	100	0.00	12.22
70	M	methylcyclohexane	0.700	0.779	-11.3	105	0.00	11.62
71	M	methyl methacrylate	0.107	0.110	-2.8	99	0.00	11.66
72	M	1,2-dichloropropane	0.370	0.390	-5.4	101	0.00	11.70
73	M	dibromomethane	0.242	0.256	-5.8	100	0.00	11.88
74	M	bromodichloromethane	0.487	0.510	-4.7	97	0.00	12.00
75	M	cis-1,3-dichloropropene	0.592	0.624	-5.4	100	0.00	12.46
76	S	toluene-d8 (s)		----------NA----------				
77	M	4-methyl-2-pentanone	0.176	0.189	-7.4	102	0.00	12.54
78	M	toluene	0.870	0.937	-7.7	100	0.00	12.83
79	M	3-methyl-1-butanol	0.026	0.026	0.0	93	0.00	12.56
80	M	trans-1,3-dichloropropene	0.544	0.548	-0.7	97	0.00	13.05
81	M	ethyl methacrylate	0.481	0.494	-2.7	98	0.00	13.00
82	M	1,1,2-trichloroethane	0.289	0.294	-1.7	98	0.00	13.29
83	M	2-hexanone	0.032	0.034	-6.3	106	0.00	13.44
84	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	14.39
85	M	cyclohexanone	0.084	0.080	4.8	115	0.00	15.66
86	M	tetrachloroethene	0.474	0.500	-5.5	100	0.00	13.45
87	M	1,3-dichloropropane	0.609	0.616	-1.1	100	0.00	13.49
88	M	butyl acetate	0.302	0.304	-0.7	99	0.00	13.50
89	m	3,3-dimethyl-1-butanol	0.070	0.069	1.4	94	0.00	13.63
90	M	dibromochloromethane	0.432	0.446	-3.2	98	0.00	13.78
91	M	1,2-dibromoethane	0.400	0.405	-1.3	99	0.00	13.95
92	M	n-butyl ether	1.788	1.755	1.8	96	0.00	14.27
93	M	chlorobenzene	1.104	1.146	-3.8	100	0.00	14.43
94	M	1,1,1,2-tetrachloroethane	0.460	0.485	-5.4	99	0.00	14.50
95	M	ethylbenzene	1.875	1.948	-3.9	99	0.00	14.46
96	M	m,p-xylene	0.711	0.756	-6.3	100	0.00	14.58
97	M	o-xylene	0.757	0.810	-7.0	99	0.00	15.05
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.254	1.305	-4.1	100	0.00	15.07

Initial Calibration Verification

Job Number: JB93023 **Sample:** VE9806-ICV9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E223550.D
Project: MHIC-592/593 Tanks

100	M	bromoform	0.338	0.361	-6.8	97	0.00	15.40
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	16.96
102	M	isopropylbenzene	3.432	3.783	-10.2	100	0.00	15.42
103	S	4-bromofluorobenzene (s)		----------NA----------				
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.904	0.933	-3.2	101	0.00	15.89
106	M	1,1,2,2-tetrachloroethane	1.110	1.112	-0.2	96	0.00	15.79
107	M	trans-1,4-dichloro-2-bute	0.247	0.266	-7.7	99	0.00	15.83
108	M	1,2,3-trichloropropane	0.275	0.278	-1.1	98	0.00	15.88
109	M	n-propylbenzene	3.847	4.296	-11.7	105	0.00	15.87
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.861	0.884	-2.7	100	0.00	16.05
112	M	4-chlorotoluene	2.510	2.506	0.2	99	0.00	16.16
113	M	1,3,5-trimethylbenzene	2.965	3.238	-9.2	100	0.00	16.03
114	M	tert-butylbenzene	0.626	0.701	-12.0	101	0.00	16.42
115	M	pentachloroethane	0.546	0.585	-7.1	101	0.00	16.55
116	M	1,2,4-trimethylbenzene	2.966	3.312	-11.7	104	0.00	16.48
117	M	sec-butylbenzene	4.107	4.568	-11.2	101	0.00	16.66
118	M	1,3-dichlorobenzene	1.895	1.891	0.2	96	0.00	16.90
119	M	p-isopropyltoluene	3.583	3.821	-6.6	101	0.00	16.79
120	M	1,4-dichlorobenzene	1.920	1.924	-0.2	98	0.00	16.99
121		benzyl chloride	2.061	2.327	-12.9	108	0.00	17.12
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.953	1.998	-2.3	98	0.00	17.43
124	M	n-butylbenzene	1.776	1.935	-9.0	103	0.00	17.25
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.319	0.328	-2.8	98	0.00	18.30
127	m	1,3,5-trichlorobenzene	1.796	1.860	-3.6	96	0.00	18.48
128	M	1,2,4-trichlorobenzene	1.671	1.791	-7.2	97	0.00	19.21
129	M	hexachlorobutadiene	0.854	0.890	-4.2	98	0.00	19.31
130	M	naphthalene	3.968	4.287	-8.0	96	0.00	19.54
131	M	1,2,3-trichlorobenzene	1.558	1.673	-7.4	98	0.00	19.83
132	M	hexachloroethane	0.666	0.665	0.2	101	0.00	17.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E223545.D ME9806.M Tue Feb 17 12:55:08 2015 RPT1

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: VE9896-CC9806
Lab FileID: E225449.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E225449.D Vial: 1
Acq On : 27 Apr 2015 9:25 am Operator: ThienN
Sample : cc9806-50 Inst : MSE
Misc : MS79315,VE9896,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9806.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Apr 16 17:06:03 2015
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		Tert Butyl Alcohol-d9	1.000	1.000	0.0	86	-0.02	7.95
2	M	1,4-dioxane	0.116	0.111	4.3	77	-0.02	11.80
3	M	tertiary butyl alcohol	1.461	1.168	20.1#	68	-0.02	8.06
4	I	pentafluorobenzene	1.000	1.000	0.0	77	0.00	10.13
5	M	chlorodifluoromethane	0.590	0.615	-4.2	74	0.01	4.40
6	M	dichlorodifluoromethane	0.763	0.802	-5.1	72	0.00	4.37
7	M	chloromethane	0.835	0.672	19.5	57	0.00	4.74
8	M	vinyl chloride	0.837	0.739	11.7	60	0.00	5.03
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.517	0.465	10.1	70	0.00	5.72
11	M	chloroethane	0.354	0.310	12.4	62	0.00	5.90
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.821	0.855	-4.1	72	0.00	6.39
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.246	0.257	-4.5	76	-0.02	6.77
16	m	2-chloropropane	0.760	0.805	-5.9	80	0.00	7.01
17	M	acrolein	0.115	0.106	7.8	65	-0.01	7.09
18	M	1,1-dichloroethene	0.721	0.858	-19.0	85	0.00	7.26
19	M	acetone	0.053	0.053	0.0	72	-0.03	7.31
20	M	allyl chloride	0.261	0.261	0.0	72	-0.02	7.77
21	M	acetonitrile	0.057	0.050	12.3	70	-0.02	7.78
22	M	iodomethane	0.873	1.063	-21.8#	87	0.00	7.55
23	M	iso-butyl alcohol	0.007	0.006#	14.3	69	-0.02	10.42
24	M	carbon disulfide	1.631	2.060	-26.3#	94	0.00	7.68
25	M	methylene chloride	0.591	0.602	-1.9	76	0.00	7.99
26	m	1-chloropropane	0.944	0.842	10.8	75	-0.01	8.00
27	M	methyl acetate	0.438	0.355	18.9	62	-0.01	7.75
28	M	methyl tert butyl ether	1.628	1.640	-0.7	76	-0.01	8.27
29	M	trans-1,2-dichloroethene	0.681	0.697	-2.3	73	-0.02	8.33
30	M	di-isopropyl ether	1.521	1.351	11.2	65	0.00	8.85
31	M	ethyl tert-butyl ether	1.619	1.552	4.1	68	-0.01	9.31
32	M	2-butanone	0.062	0.057	8.1	67	-0.01	9.61
33	M	1,1-dichloroethane	0.833	0.847	-1.7	74	0.00	8.92
34	M	chloroprene	0.605	0.608	-0.5	72	-0.01	9.00
35	M	acrylonitrile	0.205	0.199	2.9	71	-0.02	8.32
36	M	vinyl acetate	0.075	0.080	-6.7	76	0.00	8.88
37	M	ethyl acetate	0.067	0.057	14.9	64	-0.01	9.60
38	M	2,2-dichloropropane	0.746	0.801	-7.4	78	-0.01	9.65
39	M	cis-1,2-dichloroethene	0.609	0.527	13.5	70	-0.02	9.65
40	m	methyl acrylate	0.547	0.500	8.6	66	-0.01	9.69
41	M	propionitrile	0.086	0.078	9.3	66	-0.01	9.74

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VE9896-CC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E225449.D
Project: MHIC-592/593 Tanks

42	M	bromochloromethane	0.260	0.267	-2.7	74	-0.01	9.97
43	M	tetrahydrofuran	0.075	0.069	8.0	68	0.00	10.00
44	M	chloroform	0.803	0.805	-0.2	74	-0.01	10.01
45	m	t-butyl formate	0.465	0.491	-5.6	75	-0.01	10.03
46	M	Iso-octane	1.818	1.791	1.5	69	0.00	10.65
47	S	dibromofluoromethane (s)	0.470	0.433	7.9	71	-0.01	10.22
48	S	1,2-dichloroethane-d4 (s)	0.514	0.456	11.3	69	-0.01	10.64
49	M	freon 113	0.391	0.425	-8.7	79	0.00	7.19
50	M	methacrylonitrile	0.214	0.193	9.8	67	-0.02	9.90
51	M	1,1,1-trichloroethane	0.704	0.774	-9.9	77	-0.01	10.26
52		Cyclohexane	0.746	0.818	-9.7	79	0.00	10.32
53	M	tert-amyl methyl ether	1.727	1.541	10.8	68	-0.01	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	82	-0.01	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.045	0.041	8.9	74	-0.01	12.36
57	M	n-butyl alcohol	0.016	0.014	12.5	68	-0.02	11.18
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.516	0.543	-5.2	80	0.00	10.46
60	M	1,1-dichloropropene	0.471	0.421	10.6	68	-0.01	10.42
61	M	hexane	0.372	0.339	8.9	67	0.00	8.59
62	M	benzene	1.507	1.282	14.9	68	0.00	10.70
63	M	heptane	0.227	0.189	16.7	64	0.00	10.81
64	M	isopropyl acetate	0.166	0.135	18.7	63	-0.01	10.58
65	M	1,2-dichloroethane	0.457	0.417	8.8	71	-0.02	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.392	0.334	14.8	67	0.00	11.40
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.147	0.190	-29.3#	98	0.00	12.20
70	M	methylcyclohexane	0.700	0.633	9.6	70	0.00	11.61
71	M	methyl methacrylate	0.107	0.096	10.3	72	-0.01	11.65
72	M	1,2-dichloropropane	0.370	0.310	16.2	66	-0.01	11.69
73	M	dibromomethane	0.242	0.219	9.5	70	-0.01	11.86
74	M	bromodichloromethane	0.487	0.447	8.2	70	-0.01	11.98
75	M	cis-1,3-dichloropropene	0.592	0.544	8.1	71	-0.01	12.44
76	S	toluene-d8 (s)	1.366	1.185	13.3	72	-0.01	12.74
77	M	4-methyl-2-pentanone	0.176	0.151	14.2	66	-0.01	12.53
78	M	toluene	0.870	0.816	6.2	72	-0.01	12.82
79	M	3-methyl-1-butanol	0.026	0.022	15.4	67	-0.02	12.54
80	M	trans-1,3-dichloropropene	0.544	0.510	6.3	74	0.00	13.04
81	M	ethyl methacrylate	0.481	0.429	10.8	70	0.00	12.99
82	M	1,1,2-trichloroethane	0.289	0.261	9.7	71	-0.01	13.28
83	M	2-hexanone	0.032	0.028	12.5	71	-0.01	13.43
84	I	chlorobenzene-d5	1.000	1.000	0.0	88	0.00	14.38
85	M	cyclohexanone	0.084	0.023	72.6#	28#	-0.01	15.64
86	M	tetrachloroethene	0.474	0.390	17.7	68	-0.01	13.44
87	M	1,3-dichloropropane	0.609	0.522	14.3	74	0.00	13.47
88	M	butyl acetate	0.302	0.227	24.8#	64	-0.01	13.49
89	m	3,3-dimethyl-1-butanol	0.070	0.053	24.3#	63	-0.02	13.62
90	M	dibromochloromethane	0.432	0.402	6.9	77	0.00	13.77
91	M	1,2-dibromoethane	0.400	0.360	10.0	77	0.00	13.93
92	M	n-butyl ether	1.788	1.403	21.5#	67	0.00	14.26
93	M	chlorobenzene	1.104	1.001	9.3	76	0.00	14.42
94	M	1,1,1,2-tetrachloroethane	0.460	0.409	11.1	73	0.00	14.48
95	M	ethylbenzene	1.875	1.657	11.6	73	0.00	14.46
96	M	m,p-xylene	0.711	0.637	10.4	73	0.00	14.57
97	M	o-xylene	0.757	0.673	11.1	72	-0.01	15.04
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.254	1.105	11.9	74	-0.01	15.05

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VE9896-CC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E225449.D
Project: MHIC-592/593 Tanks

100	M	bromoform	0.338	0.311	8.0	73	-0.01	15.38
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	86	0.00	16.95
102	M	isopropylbenzene	3.432	3.155	8.1	72	0.00	15.41
103	S	4-bromofluorobenzene (s)	0.981	0.836	14.8	73	0.00	15.66
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.904	0.802	11.3	74	0.00	15.89
106	M	1,1,2,2-tetrachloroethane	1.110	0.908	18.2	67	-0.01	15.78
107	M	trans-1,4-dichloro-2-bute	0.247	0.248	-0.4	79	-0.01	15.82
108	M	1,2,3-trichloropropane	0.275	0.235	14.5	71	-0.01	15.87
109	M	n-propylbenzene	3.847	3.443	10.5	72	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.861	0.751	12.8	73	0.00	16.05
112	M	4-chlorotoluene	2.510	2.156	14.1	73	0.00	16.16
113	M	1,3,5-trimethylbenzene	2.965	2.723	8.2	72	0.00	16.02
114	M	tert-butylbenzene	0.626	0.558	10.9	69	0.00	16.42
115	M	pentachloroethane	0.546	0.545	0.2	81	0.00	16.54
116	M	1,2,4-trimethylbenzene	2.966	2.694	9.2	73	0.00	16.47
117	M	sec-butylbenzene	4.107	3.725	9.3	71	0.00	16.65
118	M	1,3-dichlorobenzene	1.895	1.643	13.3	72	-0.01	16.89
119	M	p-isopropyltoluene	3.583	3.181	11.2	72	0.00	16.78
120	M	1,4-dichlorobenzene	1.920	1.663	13.4	72	0.00	16.98
121		benzyl chloride	2.061	1.870	9.3	75	0.00	17.11
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.953	1.656	15.2	70	-0.01	17.42
124	M	n-butylbenzene	1.776	1.539	13.3	70	0.00	17.24
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.319	0.258	19.1	66	0.00	18.29
127	m	1,3,5-trichlorobenzene	1.796	1.543	14.1	69	0.00	18.46
128	M	1,2,4-trichlorobenzene	1.671	1.457	12.8	68	0.00	19.21
129	M	hexachlorobutadiene	0.854	0.729	14.6	69	0.00	19.31
130	M	naphthalene	3.968	3.543	10.7	69	0.00	19.54
131	M	1,2,3-trichlorobenzene	1.558	1.376	11.7	69	0.00	19.81
132	M	hexachloroethane	0.666	0.564	15.3	73	0.00	17.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E223545.D ME9806.M Mon Apr 27 16:37:50 2015 RPT1

6.9.7

6

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: VE9899-CC9806
Lab FileID: E225505.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E225505.D Vial: 11
Acq On : 28 Apr 2015 6:04 pm Operator: ThienN
Sample : cc9806-50 Inst : MSE
Misc : MS84082,VE9899,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9806.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Apr 16 17:06:03 2015
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		Tert Butyl Alcohol-d9	1.000	1.000	0.0	126	-0.02	7.95
2	M	1,4-dioxane	0.116	0.119	-2.6	121	-0.01	11.80
3	M	tertiary butyl alcohol	1.461	1.293	11.5	110	-0.01	8.06
4	I	pentafluorobenzene	1.000	1.000	0.0	110	0.00	10.12
5	M	chlorodifluoromethane	0.590	0.595	-0.8	103	0.00	4.39
6	M	dichlorodifluoromethane	0.763	0.705	7.6	91	0.01	4.38
7	M	chloromethane	0.835	0.705	15.6	86	0.00	4.74
8	M	vinyl chloride	0.837	0.754	9.9	88	0.02	5.04
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.517	0.491	5.0	106	0.00	5.72
11	M	chloroethane	0.354	0.351	0.8	101	0.00	5.89
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.821	0.826	-0.6	100	0.00	6.39
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.246	0.306	-24.4#	130	0.00	6.78
16	m	2-chloropropane	0.760	0.881	-15.9	125	0.00	7.02
17	M	acrolein	0.115	0.135	-17.4	120	-0.01	7.09
18	M	1,1-dichloroethene	0.721	0.884	-22.6#	126	0.00	7.25
19	M	acetone	0.053	0.097	-83.0#	190	-0.01	7.33
20	M	allyl chloride	0.261	2.442	-835.6#	974#	-0.10	7.69
21	M	acetonitrile	0.057	0.056	1.8	111	0.00	7.80
22	M	iodomethane	0.873	1.091	-25.0#	128	0.00	7.56
23	M	iso-butyl alcohol	0.007	0.007#	0.0	103	0.00	10.43
24	M	carbon disulfide	1.631	2.388	-46.4#	157	0.00	7.69
25	M	methylene chloride	0.591	0.665	-12.5	121	0.00	7.99
26	m	1-chloropropane	0.944	0.920	2.5	118	-0.01	8.00
27	M	methyl acetate	0.438	0.439	-0.2	110	-0.01	7.75
28	M	methyl tert butyl ether	1.628	1.795	-10.3	119	0.00	8.27
29	M	trans-1,2-dichloroethene	0.681	0.739	-8.5	112	-0.01	8.34
30	M	di-isopropyl ether	1.521	1.623	-6.7	112	0.00	8.84
31	M	ethyl tert-butyl ether	1.619	1.732	-7.0	109	0.00	9.31
32	M	2-butanone	0.062	0.083	-33.9#	139	-0.02	9.60
33	M	1,1-dichloroethane	0.833	0.926	-11.2	116	0.00	8.92
34	M	chloroprene	0.605	0.656	-8.4	112	0.00	9.01
35	M	acrylonitrile	0.205	0.250	-22.0#	129	-0.01	8.33
36	M	vinyl acetate	0.075	0.089	-18.7	123	0.00	8.87
37	M	ethyl acetate	0.067	0.066	1.5	106	0.00	9.60
38	M	2,2-dichloropropane	0.746	0.817	-9.5	115	0.00	9.65
39	M	cis-1,2-dichloroethene	0.609	0.582	4.4	111	-0.01	9.65
40	m	methyl acrylate	0.547	0.597	-9.1	113	-0.01	9.69
41	M	propionitrile	0.086	0.095	-10.5	117	-0.01	9.74

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VE9899-CC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E225505.D
Project: MHIC-592/593 Tanks

42	M	bromochloromethane	0.260	0.285	-9.6	113	-0.01	9.97
43	M	tetrahydrofuran	0.075	0.081	-8.0	115	0.00	9.99
44	M	chloroform	0.803	0.846	-5.4	111	0.00	10.02
45	m	t-butyl formate	0.465	0.552	-18.7	121	-0.01	10.03
46	M	Iso-octane	1.818	2.109	-16.0	117	0.00	10.65
47	S	dibromofluoromethane (s)	0.470	0.433	7.9	102	-0.01	10.21
48	S	1,2-dichloroethane-d4 (s)	0.514	0.420	18.3	91	-0.01	10.64
49	M	freon 113	0.391	0.430	-10.0	115	0.01	7.19
50	M	methacrylonitrile	0.214	0.224	-4.7	112	-0.01	9.91
51	M	1,1,1-trichloroethane	0.704	0.755	-7.2	107	0.00	10.26
52		Cyclohexane	0.746	0.868	-16.4	120	0.00	10.32
53	M	tert-amyl methyl ether	1.727	1.711	0.9	108	0.00	10.70
54	I	1,4-difluorobenzene	1.000	1.000	0.0	115	-0.01	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.045	0.051	-13.3	129	0.00	12.36
57	M	n-butyl alcohol	0.016	0.018	-12.5	119	-0.01	11.18
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.516	0.535	-3.7	109	0.00	10.45
60	M	1,1-dichloropropene	0.471	0.443	5.9	100	0.00	10.42
61	M	hexane	0.372	0.437	-17.5	121	0.00	8.59
62	M	benzene	1.507	1.391	7.7	103	0.00	10.70
63	M	heptane	0.227	0.227	0.0	107	-0.01	10.80
64	M	isopropyl acetate	0.166	0.162	2.4	106	0.00	10.59
65	M	1,2-dichloroethane	0.457	0.412	9.8	97	-0.01	10.73
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.392	0.335	14.5	94	0.00	11.40
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.147	0.228	-55.1#	165	0.00	12.21
70	M	methylcyclohexane	0.700	0.708	-1.1	109	0.00	11.61
71	M	methyl methacrylate	0.107	0.108	-0.9	112	-0.01	11.65
72	M	1,2-dichloropropane	0.370	0.348	5.9	103	-0.01	11.68
73	M	dibromomethane	0.242	0.236	2.5	105	0.00	11.86
74	M	bromodichloromethane	0.487	0.455	6.6	99	-0.01	11.98
75	M	cis-1,3-dichloropropene	0.592	0.586	1.0	107	0.00	12.45
76	S	toluene-d8 (s)	1.366	1.206	11.7	103	0.00	12.74
77	M	4-methyl-2-pentanone	0.176	0.188	-6.8	116	0.00	12.53
78	M	toluene	0.870	0.864	0.7	106	0.00	12.82
79	M	3-methyl-1-butanol	0.026	0.028	-7.7	118	-0.01	12.55
80	M	trans-1,3-dichloropropene	0.544	0.554	-1.8	112	0.00	13.04
81	M	ethyl methacrylate	0.481	0.534	-11.0	121	0.00	12.99
82	M	1,1,2-trichloroethane	0.289	0.295	-2.1	112	0.00	13.28
83	M	2-hexanone	0.032	0.042	-31.3#	149	0.00	13.44
84	I	chlorobenzene-d5	1.000	1.000	0.0	127	0.00	14.38
85	M	cyclohexanone	0.084	0.101	-20.2#	183	-0.01	15.64
86	M	tetrachloroethene	0.474	0.395	16.7	99	0.00	13.44
87	M	1,3-dichloropropane	0.609	0.563	7.6	115	0.00	13.47
88	M	butyl acetate	0.302	0.288	4.6	118	0.00	13.49
89	m	3,3-dimethyl-1-butanol	0.070	0.069	1.4	117	-0.01	13.62
90	M	dibromochloromethane	0.432	0.407	5.8	113	0.00	13.77
91	M	1,2-dibromoethane	0.400	0.389	2.8	120	0.00	13.93
92	M	n-butyl ether	1.788	1.671	6.5	115	0.00	14.26
93	M	chlorobenzene	1.104	1.031	6.6	113	0.00	14.42
94	M	1,1,1,2-tetrachloroethane	0.460	0.413	10.2	106	0.00	14.48
95	M	ethylbenzene	1.875	1.754	6.5	112	0.00	14.46
96	M	m,p-xylene	0.711	0.676	4.9	112	0.00	14.57
97	M	o-xylene	0.757	0.720	4.9	111	0.00	15.04
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.254	1.210	3.5	117	0.00	15.06

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VE9899-CC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E225505.D
Project: MHIC-592/593 Tanks

100	M	bromoform	0.338	0.341	-0.9	116	0.00	15.39
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	126	0.00	16.95
102	M	isopropylbenzene	3.432	3.231	5.9	108	0.00	15.41
103	S	4-bromofluorobenzene (s)	0.981	0.833	15.1	107	0.00	15.66
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.904	0.862	4.6	117	0.00	15.88
106	M	1,1,2,2-tetrachloroethane	1.110	1.039	6.4	113	0.00	15.78
107	M	trans-1,4-dichloro-2-bute	0.247	0.278	-12.6	131	-0.01	15.82
108	M	1,2,3-trichloropropane	0.275	0.261	5.1	115	-0.01	15.87
109	M	n-propylbenzene	3.847	3.646	5.2	112	0.00	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.861	0.775	10.0	111	0.00	16.05
112	M	4-chlorotoluene	2.510	2.246	10.5	112	0.00	16.16
113	M	1,3,5-trimethylbenzene	2.965	2.768	6.6	108	0.00	16.02
114	M	tert-butylbenzene	0.626	0.556	11.2	101	0.00	16.42
115	M	pentachloroethane	0.546	0.544	0.4	118	0.00	16.54
116	M	1,2,4-trimethylbenzene	2.966	2.758	7.0	109	0.00	16.47
117	M	sec-butylbenzene	4.107	3.838	6.5	107	0.00	16.65
118	M	1,3-dichlorobenzene	1.895	1.737	8.3	112	0.00	16.89
119	M	p-isopropyltoluene	3.583	3.228	9.9	108	0.00	16.78
120	M	1,4-dichlorobenzene	1.920	1.766	8.0	113	0.00	16.98
121		benzyl chloride	2.061	2.179	-5.7	128	0.00	17.11
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.953	1.762	9.8	109	0.00	17.43
124	M	n-butylbenzene	1.776	1.654	6.9	111	0.00	17.24
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.319	0.282	11.6	106	0.00	18.29
127	m	1,3,5-trichlorobenzene	1.796	1.613	10.2	106	0.00	18.46
128	M	1,2,4-trichlorobenzene	1.671	1.523	8.9	104	0.00	19.20
129	M	hexachlorobutadiene	0.854	0.736	13.8	102	0.00	19.31
130	M	naphthalene	3.968	3.816	3.8	108	0.00	19.53
131	M	1,2,3-trichlorobenzene	1.558	1.427	8.4	105	0.00	19.81
132	M	hexachloroethane	0.666	0.527	20.9#	101	0.00	17.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E223545.D ME9806.M Wed Apr 29 08:38:40 2015 RPT1

6.9.8

6

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: VE9900-CC9806
Lab FileID: E225530.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E225530.D Vial: 4
Acq On : 29 Apr 2015 8:15 am Operator: ThienN
Sample : cc9806-50 Inst : MSE
Misc : MS84200,VE9900,5,,100,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\ME9806.M (RTE Integrator)
Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Apr 16 17:06:03 2015
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1		Tert Butyl Alcohol-d9	1.000	1.000	0.0	134	-0.03	7.94
2	M	1,4-dioxane	0.116	0.106	8.6	115	-0.02	11.80
3	M	tertiary butyl alcohol	1.461	1.135	22.3#	103	-0.02	8.06
4	I	pentafluorobenzene	1.000	1.000	0.0	111	-0.01	10.12
5	M	chlorodifluoromethane	0.590	0.657	-11.4	115	0.01	4.40
6	M	dichlorodifluoromethane	0.763	0.768	-0.7	100	0.01	4.38
7	M	chloromethane	0.835	0.777	6.9	96	0.00	4.74
8	M	vinyl chloride	0.837	0.832	0.6	98	0.02	5.03
9		1,3-Butadiene		----------NA----------				
10	M	bromomethane	0.517	0.512	1.0	112	0.00	5.72
11	M	chloroethane	0.354	0.353	0.3	103	0.00	5.90
12	M	vinyl bromide		----------NA----------				
13	M	trichlorofluoromethane	0.821	0.808	1.6	99	0.02	6.40
14	M	pentane		----------NA----------				
15	M	ethyl ether	0.246	0.269	-9.3	115	-0.02	6.78
16	m	2-chloropropane	0.760	0.879	-15.7	126	0.00	7.03
17	M	acrolein	0.115	0.117	-1.7	104	-0.02	7.09
18	M	1,1-dichloroethene	0.721	0.853	-18.3	122	0.00	7.25
19	M	acetone	0.053	0.057	-7.5	112	-0.04	7.30
20	M	allyl chloride	0.261	0.289	-10.7	116	-0.02	7.77
21	M	acetonitrile	0.057	0.055	3.5	110	-0.02	7.79
22	M	iodomethane	0.873	1.042	-19.4	123	0.00	7.56
23	M	iso-butyl alcohol	0.007	0.007#	0.0	102	-0.02	10.42
24	M	carbon disulfide	1.631	2.335	-43.2#	154	0.00	7.69
25	M	methylene chloride	0.591	0.621	-5.1	114	0.00	7.99
26	m	1-chloropropane	0.944	0.874	7.4	113	-0.01	8.00
27	M	methyl acetate	0.438	0.393	10.3	99	-0.02	7.74
28	M	methyl tert butyl ether	1.628	1.601	1.7	107	-0.02	8.27
29	M	trans-1,2-dichloroethene	0.681	0.683	-0.3	104	-0.02	8.33
30	M	di-isopropyl ether	1.521	1.504	1.1	105	-0.01	8.84
31	M	ethyl tert-butyl ether	1.619	1.593	1.6	101	-0.01	9.31
32	M	2-butanone	0.062	0.062	0.0	104	-0.02	9.61
33	M	1,1-dichloroethane	0.833	0.840	-0.8	106	-0.01	8.91
34	M	chloroprene	0.605	0.610	-0.8	105	-0.02	9.00
35	M	acrylonitrile	0.205	0.206	-0.5	107	-0.02	8.32
36	M	vinyl acetate	0.075	0.081	-8.0	113	-0.01	8.87
37	M	ethyl acetate	0.067	0.062	7.5	101	-0.01	9.60
38	M	2,2-dichloropropane	0.746	0.770	-3.2	109	0.00	9.65
39	M	cis-1,2-dichloroethene	0.609	0.530	13.0	102	-0.02	9.65
40	m	methyl acrylate	0.547	0.547	0.0	104	-0.02	9.68
41	M	propionitrile	0.086	0.082	4.7	102	-0.02	9.74

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VE9900-CC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E225530.D
Project: MHIC-592/593 Tanks

42	M	bromochloromethane	0.260	0.255	1.9	102	-0.02	9.97
43	M	tetrahydrofuran	0.075	0.075	0.0	107	-0.01	9.99
44	M	chloroform	0.803	0.765	4.7	101	-0.02	10.01
45	m	t-butyl formate	0.465	0.507	-9.0	111	-0.02	10.03
46	M	Iso-octane	1.818	2.062	-13.4	115	0.00	10.65
47	S	dibromofluoromethane (s)	0.470	0.427	9.1	102	-0.02	10.21
48	S	1,2-dichloroethane-d4 (s)	0.514	0.439	14.6	96	-0.02	10.64
49	M	freon 113	0.391	0.420	-7.4	113	0.02	7.19
50	M	methacrylonitrile	0.214	0.207	3.3	104	-0.02	9.90
51	M	1,1,1-trichloroethane	0.704	0.711	-1.0	102	-0.02	10.25
52		Cyclohexane	0.746	0.829	-11.1	115	-0.01	10.32
53	M	tert-amyl methyl ether	1.727	1.575	8.8	100	-0.01	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	123	-0.01	11.05
55	M	tert amyl alcohol		----------NA----------				
56	M	epichlorohydrin	0.045	0.043	4.4	116	-0.01	12.36
57	M	n-butyl alcohol	0.016	0.015	6.3	110	-0.02	11.17
58	M	tert-amyl ethyl ether		----------NA----------				
59	M	carbon tetrachloride	0.516	0.472	8.5	104	-0.01	10.45
60	M	1,1-dichloropropene	0.471	0.409	13.2	99	-0.01	10.42
61	M	hexane	0.372	0.370	0.5	110	-0.01	8.59
62	M	benzene	1.507	1.281	15.0	101	-0.01	10.69
63	M	heptane	0.227	0.208	8.4	105	-0.01	10.80
64	M	isopropyl acetate	0.166	0.139	16.3	98	-0.01	10.58
65	M	1,2-dichloroethane	0.457	0.371	18.8	94	-0.02	10.72
66		ethyl acrylate		----------NA----------				
67	M	trichloroethene	0.392	0.318	18.9	96	-0.01	11.40
68	M	2-nitropropane		----------NA----------				
69	M	2-chloroethyl vinyl ether	0.147	0.192	-30.6#	149	0.00	12.20
70	M	methylcyclohexane	0.700	0.640	8.6	106	-0.01	11.60
71	M	methyl methacrylate	0.107	0.091	15.0	101	-0.01	11.65
72	M	1,2-dichloropropane	0.370	0.315	14.9	100	-0.02	11.68
73	M	dibromomethane	0.242	0.207	14.5	99	-0.01	11.86
74	M	bromodichloromethane	0.487	0.414	15.0	97	-0.02	11.98
75	M	cis-1,3-dichloropropene	0.592	0.520	12.2	102	-0.01	12.45
76	S	toluene-d8 (s)	1.366	1.140	16.5	104	-0.01	12.74
77	M	4-methyl-2-pentanone	0.176	0.156	11.4	103	-0.01	12.53
78	M	toluene	0.870	0.777	10.7	102	-0.01	12.82
79	M	3-methyl-1-butanol	0.026	0.024	7.7	105	-0.02	12.54
80	M	trans-1,3-dichloropropene	0.544	0.476	12.5	103	-0.01	13.04
81	M	ethyl methacrylate	0.481	0.432	10.2	105	0.00	12.99
82	M	1,1,2-trichloroethane	0.289	0.251	13.1	102	-0.01	13.28
83	M	2-hexanone	0.032	0.027	15.6	103	0.00	13.44
84	I	chlorobenzene-d5	1.000	1.000	0.0	126	-0.01	14.38
85	M	cyclohexanone	0.084	0.039	53.6#	69	-0.02	15.64
86	M	tetrachloroethene	0.474	0.379	20.0	94	-0.01	13.44
87	M	1,3-dichloropropane	0.609	0.520	14.6	105	0.00	13.48
88	M	butyl acetate	0.302	0.254	15.9	103	-0.01	13.49
89	m	3,3-dimethyl-1-butanol	0.070	0.063	10.0	106	-0.02	13.62
90	M	dibromochloromethane	0.432	0.374	13.4	102	-0.01	13.76
91	M	1,2-dibromoethane	0.400	0.351	12.3	107	0.00	13.94
92	M	n-butyl ether	1.788	1.567	12.4	106	0.00	14.26
93	M	chlorobenzene	1.104	0.968	12.3	105	-0.01	14.42
94	M	1,1,1,2-tetrachloroethane	0.460	0.391	15.0	99	0.00	14.49
95	M	ethylbenzene	1.875	1.638	12.6	103	0.00	14.46
96	M	m,p-xylene	0.711	0.634	10.8	104	-0.01	14.57
97	M	o-xylene	0.757	0.675	10.8	103	-0.01	15.04
98	M	butyl acrylate		----------NA----------				
99	M	styrene	1.254	1.113	11.2	106	-0.01	15.06

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VE9900-CC9806
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** E225530.D
Project: MHIC-592/593 Tanks

100	M	bromoform	0.338	0.310	8.3	104	-0.01	15.38
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	122	0.00	16.95
102	M	isopropylbenzene	3.432	3.130	8.8	101	-0.01	15.41
103	S	4-bromofluorobenzene (s)	0.981	0.839	14.5	105	-0.01	15.66
104		cis-1,4-dichloro-2-butene		----------NA----------				
105	M	bromobenzene	0.904	0.796	11.9	105	-0.01	15.88
106	M	1,1,2,2-tetrachloroethane	1.110	0.958	13.7	101	-0.01	15.78
107	M	trans-1,4-dichloro-2-bute	0.247	0.251	-1.6	114	-0.01	15.82
108	M	1,2,3-trichloropropane	0.275	0.238	13.5	102	-0.02	15.87
109	M	n-propylbenzene	3.847	3.500	9.0	104	-0.01	15.86
110	M	p-ethyltoluene		----------NA----------				
111	M	2-chlorotoluene	0.861	0.746	13.4	103	0.00	16.05
112	M	4-chlorotoluene	2.510	2.142	14.7	103	-0.01	16.15
113	M	1,3,5-trimethylbenzene	2.965	2.688	9.3	101	0.00	16.02
114	M	tert-butylbenzene	0.626	0.551	12.0	97	0.00	16.41
115	M	pentachloroethane	0.546	0.522	4.4	110	-0.01	16.54
116	M	1,2,4-trimethylbenzene	2.966	2.637	11.1	101	0.00	16.47
117	M	sec-butylbenzene	4.107	3.719	9.4	101	-0.01	16.65
118	M	1,3-dichlorobenzene	1.895	1.623	14.4	101	-0.01	16.89
119	M	p-isopropyltoluene	3.583	3.112	13.1	101	-0.01	16.78
120	M	1,4-dichlorobenzene	1.920	1.644	14.4	102	-0.01	16.98
121		benzyl chloride	2.061	1.976	4.1	112	-0.01	17.11
122	M	p-diethylbenzene		----------NA----------				
123	M	1,2-dichlorobenzene	1.953	1.656	15.2	99	-0.01	17.42
124	M	n-butylbenzene	1.776	1.605	9.6	104	-0.01	17.24
125	M	1,2,4,5-tetramethylbenzen		----------NA----------				
126	M	1,2-dibromo-3-chloropropa	0.319	0.264	17.2	96	-0.01	18.29
127	m	1,3,5-trichlorobenzene	1.796	1.551	13.6	98	0.00	18.47
128	M	1,2,4-trichlorobenzene	1.671	1.479	11.5	98	0.00	19.21
129	M	hexachlorobutadiene	0.854	0.722	15.5	97	-0.01	19.31
130	M	naphthalene	3.968	3.712	6.5	102	-0.01	19.53
131	M	1,2,3-trichlorobenzene	1.558	1.407	9.7	101	-0.01	19.81
132	M	hexachloroethane	0.666	0.544	18.3	101	0.00	17.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
E223545.D ME9806.M Wed Apr 29 09:20:50 2015 RPT1

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: VV6444-ICC6444
Lab FileID: V152050.D

Response Factor Report MSV

```
Method       : C:\MSDCHEM\1\METHODS\MVS6444.M (RTE Integrator)
Title        : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update  : Fri Apr 24 09:37:13 2015
Response via : Initial Calibration

Calibration Files
1   =V152043.D   4   =V152048.D   100 =V152051.D   50  =V152050.D
20  =V152046.D   200 =V152052.D   8   =V152047.D   0.5 =V152044.D
2   =V152049.D   0.2 =V152045.D       =                =

Compound
        1     4     100   50    20    200   8     0.5   2     0.2    Avg   %RSD
-------------------------------------------------------------------------------

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  tertiary butyl alcohol
     1.767 1.298 1.191 1.380 1.278 1.181 1.273       1.198        1.321   14.56
3)  1,4-dioxane
           0.085 0.097 0.098 0.099 0.097 0.090       0.077        0.092    8.85

4) I   pentafluorobenzene    ----------------ISTD---------------------
5)  propene
                                                                  0.000   -1.00
6)  chlorodifluoromethane
           0.677 0.668 0.680 0.656 0.627 0.689       0.727        0.675    4.52
7)  dichlorodifluoromethane
     0.773 0.805 0.754 0.780 0.726 0.741 0.846 0.617 0.738        0.753    8.39
8)  chloromethane
     0.901 0.829 0.866 0.833 0.765 0.892 0.822       0.777        0.836    5.93
9)  vinyl chloride
     0.796 0.832 0.872 0.847 0.770 0.862 0.861 0.715 0.771 0.674  0.800    8.42
10)  bromomethane
     0.362 0.449 0.464 0.461 0.432 0.462 0.480       0.467        0.447    8.33
11)  chloroethane
     0.412 0.403 0.393 0.396 0.360 0.385 0.406 0.435 0.396        0.398    5.14
12)  trichlorofluoromethane
     0.728 0.759 0.748 0.758 0.684 0.739 0.774 0.779 0.712        0.742    4.11
13)  ethyl ether
     0.197 0.198 0.194 0.197 0.180 0.190 0.195 0.180 0.175        0.190    4.65
14)  2-chloropropane
     1.010 0.877 0.866 0.861 0.817 0.849 0.872 1.076 0.912        0.904    9.31
15)  acrolein
     0.079 0.063       0.068 0.060       0.070       0.065        0.067    9.84
16)  freon 113
     0.363 0.338 0.349 0.350 0.327 0.334 0.345 0.292 0.328        0.336    5.98
17)  1,1-dichloroethene
     0.616 0.677 0.701 0.689 0.652 0.686 0.704 0.671 0.648 0.561  0.661    6.67
18)  acetone
                 0.115 0.119 0.153 0.095 0.149                    0.126   19.39
19)  iso-butyl alcohol
     0.013 0.014 0.014 0.014 0.013 0.014 0.014 0.014 0.013        0.014    4.47
20)  allyl chloride
     0.238 0.221 0.224 0.217 0.221 0.239 0.225 0.183 0.221        0.221    7.29
21)  acetonitrile
     0.137 0.120 0.119 0.117 0.113 0.114 0.126       0.126        0.121    6.35
22)  iodomethane
     0.771 0.802 0.863 0.846 0.753 0.858 0.830 0.730 0.746 0.622  0.782    9.50
23)  carbon disulfide
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VV6444-ICC6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152050.D
Project: MHIC-592/593 Tanks

```
      1.704 1.800 1.802 1.748 1.627 1.780 1.805 1.752 1.658 1.751  1.743    3.55
24)  methylene chloride
             0.491 0.467 0.452 0.436 0.461 0.493       0.557        0.480    8.26
25)  1-chloropropane
             0.916 0.840 0.820 0.809 0.822 0.915       0.883        0.858    5.35
26)  methyl acetate
             0.306 0.273 0.272 0.266 0.253 0.301                    0.278    7.45
27)  methyl tert butyl ether
      1.381 1.211 1.327 1.282 1.188 1.287 1.268       1.270        1.277    4.77
28)  trans-1,2-dichloroethene
      0.641 0.668 0.659 0.645 0.630 0.652 0.658 0.640 0.631 0.506  0.633    7.33
29)  di-isopropyl ether
      1.712 1.514 1.667 1.627 1.530 1.638 1.547 1.713 1.467 1.776  1.619    6.25
30)  2-butanone
             0.036 0.038 0.038 0.037 0.035 0.040                    0.037    4.50
31)  1,1-dichloroethane
      0.724 0.762 0.810 0.801 0.772 0.811 0.794 0.779 0.726 0.753  0.773    4.14
32)  chloroprene
      0.616 0.576 0.628 0.610 0.571 0.610 0.582 0.553 0.564        0.590    4.45
33)  acrylonitrile
      0.103 0.113 0.117 0.118 0.110 0.108 0.122       0.108        0.112    5.66
34)  vinyl acetate
                   0.043 0.044 0.039 0.041 0.039                    0.041    5.61
35)  ethyl tert-butyl ether
      1.539 1.319 1.514 1.452 1.389 1.519 1.353 1.569 1.295 1.538  1.449    7.01
36)  ethyl acetate
             0.052 0.047 0.046 0.049 0.039 0.050                    0.047    9.71
37)  2,2-dichloropropane
      0.815 0.759 0.776 0.766 0.774 0.747 0.801       0.755        0.774    3.00
38)  cis-1,2-dichloroethene
      0.519 0.448 0.466 0.462 0.435 0.466 0.471 0.465 0.423        0.462    5.82
39)  propionitrile
      0.039 0.043 0.044 0.046 0.042 0.041 0.047       0.037        0.042    7.89
40)  methyl acrylate
             0.041 0.043 0.042 0.038 0.040 0.040                    0.041    4.44
41)  methacrylonitrile
      0.107 0.112 0.118 0.119 0.109 0.114 0.119       0.087        0.111    9.64
42)  bromochloromethane
      0.162 0.183 0.200 0.198 0.188 0.200 0.196       0.183        0.189    6.82
43)  tetrahydrofuran
                   0.120 0.122 0.120 0.111 0.135                    0.122    6.96
44)  chloroform
      0.715 0.682 0.713 0.705 0.688 0.711 0.705 0.845 0.668        0.715    7.18
45)  tert-Butyl Formate
      0.318 0.275 0.334 0.324 0.294 0.325 0.298       0.256        0.303    9.02
46)  dibromofluoromethane (s)
      0.380 0.359 0.369 0.369 0.356 0.364 0.367 0.365 0.359 0.364  0.365    1.81
47)  1,2-dichloroethane-d4 (s)
      0.359 0.334 0.352 0.344 0.328 0.348 0.351 0.355 0.329 0.350  0.345    3.17
48)  1,1,1-trichloroethane
      0.689 0.707 0.738 0.736 0.689 0.720 0.725 0.635 0.686 0.664  0.699    4.74
49)  Cyclohexane
      0.709 0.755 0.762 0.768 0.726 0.756 0.776 0.688 0.704 0.550  0.719    9.29

50) I   1,4-difluorobenzene   ----------------ISTD---------------------
51)  methylcyclohexane
      0.651 0.624 0.632 0.650 0.651 0.625 0.637 0.598 0.633 0.527  0.623    6.00
52)  epichlorohydrin
      0.025 0.022 0.022 0.022 0.020 0.021 0.023       0.018        0.022    9.61
53)  n-butyl alcohol
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VV6444-ICC6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152050.D
Project: MHIC-592/593 Tanks

```
            0.008 0.009 0.009 0.008 0.008 0.009                     0.008    5.16
54)  carbon tetrachloride
      0.486 0.514 0.496 0.503 0.486 0.485 0.506 0.485 0.472         0.492    2.67
55)  1,1-dichloropropene
      0.413 0.446 0.437 0.442 0.438 0.433 0.444 0.428 0.432 0.466   0.438    3.12
56)  hexane
            0.419 0.372 0.395 0.408 0.366 0.423       0.427         0.401    6.15
57)  2,2,4-Trimethylpentane
      1.335 1.245 1.400 1.367 1.299 1.459 1.300 1.368 1.296 1.174   1.324    6.08
58)  benzene
      1.292 1.370 1.362 1.378 1.331 1.372 1.366 1.425 1.354         1.361    2.63
59)  tert-amyl methyl ether
      1.093 0.987 1.074 1.057 1.001 1.054 1.005 1.234 1.008 1.292   1.081    9.55
60)  heptane
      0.234 0.226 0.237 0.245 0.251 0.235 0.256 0.251 0.235         0.241    4.17
61)  isopropyl acetate
            0.095 0.103 0.107 0.106 0.096 0.103                     0.102    4.91
62)  1,2-dichloroethane
      0.319 0.349 0.342 0.349 0.331 0.335 0.354 0.327 0.296         0.334    5.44
63)  trichloroethene
      0.292 0.309 0.323 0.320 0.328 0.325 0.321 0.285 0.297 0.302   0.310    4.96
64)  2-chloroethyl vinyl ether
      0.074 0.069 0.081 0.079 0.070 0.080 0.070 0.067 0.065         0.073    8.15
65)  methyl methacrylate
            0.049 0.058 0.058 0.052 0.056 0.056                     0.055    6.68
66)  1,2-dichloropropane
      0.304 0.329 0.339 0.339 0.317 0.340 0.332 0.324 0.318         0.327    3.72
67)  dibromomethane
      0.141 0.167 0.163 0.166 0.151 0.162 0.171 0.132 0.140         0.155    9.15
68)  bromodichloromethane
      0.345 0.384 0.405 0.403 0.386 0.412 0.372 0.364 0.355 0.303   0.373    8.83
69)  2-nitropropane
            0.084 0.069 0.071 0.074 0.067 0.080       0.084         0.075    9.61
70)  cis-1,3-dichloropropene
      0.431 0.463 0.491 0.477 0.451 0.497 0.456 0.447 0.433 0.421   0.457    5.62
71)  toluene-d8 (s)
      1.128 1.106 1.144 1.151 1.114 1.167 1.104 1.119 1.086 1.091   1.121    2.35
72)  4-methyl-2-pentanone
      0.094 0.093 0.107 0.104 0.097 0.099 0.102       0.081         0.097    8.38
73)  toluene
      0.737 0.752 0.814 0.797 0.752 0.833 0.764 0.770 0.721 0.586   0.753    9.03
74)  isoamyl alcohol
      0.016 0.013 0.014 0.014 0.013 0.013 0.014 0.013 0.012         0.014    9.58
75)  trans-1,3-dichloropropene
      0.350 0.369 0.394 0.384 0.376 0.393 0.371 0.382 0.334 0.459   0.381    8.68
76)  ethyl methacrylate
      0.273 0.256 0.309 0.304 0.278 0.305 0.294 0.311 0.243         0.286    8.60
77)  1,1,2-trichloroethane
      0.171 0.174 0.192 0.191 0.169 0.190 0.186 0.186 0.170         0.181    5.39
78)  2-hexanone
            0.090 0.086 0.091 0.078 0.079 0.093       0.076         0.085    8.38

79) I   chlorobenzene-d5      ----------------ISTD---------------------
80)  tetrachloroethene
      0.373 0.438 0.454 0.447 0.439 0.455 0.450 0.414 0.439 0.355   0.427    8.29
81)  1,3-dichloropropane
      0.395 0.451 0.455 0.460 0.437 0.452 0.466 0.444 0.406 0.411   0.438    5.67
82)  butyl acetate
      0.214 0.197 0.190 0.196 0.187 0.180 0.193       0.175         0.192    6.12
83)  3,3-Dimethyl-1-Butanol
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VV6444-ICC6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152050.D
Project: MHIC-592/593 Tanks

```
      0.031 0.026 0.031 0.030 0.026 0.027 0.030 0.028 0.025        0.028    7.58
 84)  dibromochloromethane
      0.268 0.322 0.345 0.342 0.320 0.351 0.324 0.300 0.293        0.318    8.53
 85)  1,2-dibromoethane
      0.232 0.248 0.267 0.265 0.250 0.263 0.262 0.206 0.227        0.247    8.60
 86)  chlorobenzene
      0.920 0.959 1.022 0.996 0.992 1.037 1.008 0.928 0.958 0.921  0.974    4.39
 87)  1,1,1,2-tetrachloroethane
      0.357 0.432 0.459 0.460 0.448 0.464 0.445 0.442 0.426        0.437    7.49
 88)  ethylbenzene
      1.801 1.797 1.883 1.869 1.831 1.895 1.863 1.812 1.798 1.900  1.845    2.27
 89)  m,p-xylene
      0.671 0.703 0.739 0.725 0.724 0.748 0.742 0.690 0.668 0.689  0.710    4.17
 90)  o-xylene
      0.703 0.747 0.815 0.796 0.787 0.813 0.802 0.719 0.704 0.623  0.751    8.39
 91)  styrene
      1.012 1.089 1.139 1.120 1.106 1.165 1.125 1.022 1.055 1.009  1.084    5.21
 92)  bromoform
      0.189 0.216 0.228 0.229 0.211 0.227 0.227 0.181 0.193        0.211    8.93
 93)  cyclohexanone
      0.075 0.079 0.076 0.079 0.083 0.061 0.079 0.079 0.070        0.076    8.82
 94)  4-bromofluorobenzene (s)
      0.491 0.503 0.463 0.479 0.477 0.460 0.503 0.496 0.485 0.482  0.484    3.09

 95) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 96)  isopropylbenzene
      3.192 3.512 4.108 3.882 3.827 4.202 3.568 3.304 3.325        3.658    9.95
 97)  1,1,2,2-tetrachloroethane
      0.598 0.725 0.759 0.741 0.691 0.757 0.724 0.680 0.605        0.698    8.70
 98)  trans-1,4-dichloro-2-butene
             0.204 0.182 0.182 0.187 0.176 0.206                   0.189    6.58
 99)  1,2,3-trichloropropane
             0.146 0.166 0.164 0.162 0.165 0.170       0.140       0.159    7.02
100)  bromobenzene
      0.738 0.778 0.838 0.803 0.784 0.869 0.774 0.749 0.757 0.819  0.791    5.25
101)  n-propylbenzene
      3.762 3.899 4.199 4.037 4.154 4.343 3.903 4.001 3.778 4.861  4.094    7.98
102)  2-chlorotoluene
      0.816 0.835 0.890 0.827 0.866 0.933 0.841 0.840 0.798 1.066  0.871    9.01
103)  4-chlorotoluene
      2.427 2.263 2.361 2.240 2.329 2.455 2.268 2.821 2.299        2.385    7.52
104)  1,3,5-trimethylbenzene
      2.803 2.924 3.453 3.192 3.205 3.614 3.019 2.866 2.749 3.036  3.086    9.13
105)  tert-butylbenzene
             2.507 3.050 2.852 2.738 3.121 2.564       2.430       2.752    9.77
106)  pentachloroethane
             0.514 0.612 0.579 0.532 0.645 0.530                   0.569    9.14
107)  1,2,4-trimethylbenzene
      2.848 2.888 3.258 3.109 3.093 3.386 3.022 3.188 2.726 3.449  3.097    7.55
108)  sec-butylbenzene
             4.029 4.832 4.585 4.514 4.994 4.223       3.862       4.434    9.37
109)  p-isopropyltoluene
      3.187 3.397 3.913 3.685 3.621 4.054 3.477 3.576 3.252 3.770  3.593    7.70
110)  1,3-dichlorobenzene
      1.574 1.654 1.677 1.688 1.718 1.761 1.682 1.706 1.655 2.012  1.713    6.77
111)  1,4-dichlorobenzene
      1.616 1.607 1.643 1.612 1.668 1.716 1.666 1.740 1.609 1.893  1.677    5.29
112)  1,2-dichlorobenzene
      1.595 1.599 1.726 1.677 1.688 1.772 1.676 1.718 1.622 1.766  1.684    3.78
113)  Benzyl Chloride
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VV6444-ICC6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152050.D
Project: MHIC-592/593 Tanks

```
             1.379 1.431 1.455 1.505 1.353 1.549       1.442        1.445    4.70
114)  Indane
                                                                    0.000   -1.00
115)  n-butylbenzene
       1.678 1.771 1.908 1.862 1.959 1.943 1.928 1.893 1.735 2.005  1.868    5.69
116)  hexachloroethane
             0.503 0.715 0.661 0.620 0.759 0.545                    0.634   15.50
117)  1,2-dibromo-3-chloropropane
       0.188 0.192 0.188 0.196 0.183 0.181 0.187       0.206        0.190    4.10
118)  1,3,5-trichlorobenzene
       1.674 1.753 1.811 1.785 1.841 1.905 1.848 1.927 1.841 2.246  1.863    8.20
119)  1,2,4-trichlorobenzene
       1.781 1.713 1.750 1.753 1.795 1.805 1.776 1.970 1.931        1.808    4.74
120)  hexachlorobutadiene
       0.833 0.912 1.018 0.981 0.948 1.042 0.948 0.756 1.013        0.939    9.93
121)  naphthalene
       3.630 3.685 3.645 3.643 3.433 3.500 3.795 4.135 3.678        3.683    5.42
122)  1,2,3-trichlorobenzene
       1.711 1.820 1.791 1.803 1.752 1.796 1.791 2.016 1.883 2.071  1.843    6.24
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MVS6444.M         Fri Apr 24 09:42:54 2015   MSV
```

6.9.10

6

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: VV6444-ICV6444
Lab FileID: V152055.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\V152055.D Vial: 14
Acq On : 14 Apr 2015 9:59 pm Operator: BenM
Sample : ICV6444-50 Inst : MSV
Misc : MS83184,VV6444,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MVS6444.M (RTE Integrator)
Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update : Fri Apr 24 09:37:13 2015
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	105	0.00	7.72
2		tertiary butyl alcohol	1.321	1.224	7.3	93	0.00	7.85
3		1,4-dioxane	0.092	0.089	3.3	95	0.00	11.68
4	I	pentafluorobenzene	1.000	1.000	0.0	110	0.00	9.96
5		propene		----------NA----------				
6		chlorodifluoromethane	0.675	0.648	4.0	104	0.00	4.34
7		dichlorodifluoromethane	0.753	0.623	17.3	87	0.00	4.34
8		chloromethane	0.836	0.756	9.6	99	0.00	4.66
9		vinyl chloride	0.800	0.757	5.4	98	0.00	4.92
10		bromomethane	0.447	0.437	2.2	104	0.00	5.60
11		chloroethane	0.398	0.407	-2.3	113	-0.01	5.76
12		trichlorofluoromethane	0.742	0.655	11.7	95	0.00	6.20
13		ethyl ether	0.190	0.191	-0.5	106	0.00	6.60
14		2-chloropropane	0.904	0.850	6.0	108	0.00	6.83
15		acrolein	0.067	0.063	6.0	102	0.00	6.91
16		freon 113	0.336	0.354	-5.4	111	0.00	6.99
17		1,1-dichloroethene	0.661	0.652	1.4	104	0.00	7.06
18		acetone	0.126	0.103	18.3	94	-0.01	7.12
19		iso-butyl alcohol	0.014	0.013	7.1	101	0.00	10.54
20		allyl chloride	0.221	0.252	-14.0	127	0.00	7.59
21		acetonitrile	0.121	0.118	2.5	111	0.00	7.59
22		iodomethane	0.782	0.790	-1.0	102	0.00	7.36
23		carbon disulfide	1.743	1.681	3.6	105	0.00	7.49
24		methylene chloride	0.480	0.443	7.7	107	0.00	7.79
25		1-chloropropane	0.858	0.818	4.7	109	0.00	7.81
26		methyl acetate	0.278	0.218	21.6	88	0.00	7.57
27		methyl tert butyl ether	1.277	1.199	6.1	103	0.00	8.09
28		trans-1,2-dichloroethene	0.633	0.610	3.6	104	0.00	8.15
29		di-isopropyl ether	1.619	1.570	3.0	106	0.00	8.65
30		2-butanone	0.037	0.035	5.4	102	0.00	9.44
31		1,1-dichloroethane	0.773	0.777	-0.5	106	0.00	8.73
32		chloroprene	0.590	0.541	8.3	97	0.00	8.82
33		acrylonitrile	0.112	0.110	1.8	102	0.00	8.14
34		vinyl acetate	0.041	0.049	-19.5	121	0.00	8.69
35		ethyl tert-butyl ether	1.449	1.355	6.5	102	0.00	9.13
36		ethyl acetate	0.047	0.045	4.3	107	0.00	9.43
37		2,2-dichloropropane	0.774	0.722	6.7	103	0.00	9.47
38		cis-1,2-dichloroethene	0.462	0.437	5.4	103	0.00	9.48
39		propionitrile	0.042	0.041	2.4	99	0.00	9.57
40		methyl acrylate	0.041	0.039	4.9	104	0.00	9.52
41		methacrylonitrile	0.111	0.110	0.9	101	0.00	9.74

Initial Calibration Verification

Job Number: JB93023 **Sample:** VV6444-ICV6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152055.D
Project: MHIC-592/593 Tanks

42		bromochloromethane	0.189	0.183	3.2	101	0.00	9.80
43		tetrahydrofuran	0.122	0.111	9.0	100	0.00	9.83
44		chloroform	0.715	0.671	6.2	104	0.00	9.84
45		tert-Butyl Formate	0.303	0.314	-3.6	106	0.00	9.86
46	S	dibromofluoromethane (s)	0.365	0.360	1.4	107	0.00	10.05
47	S	1,2-dichloroethane-d4 (s)	0.345	0.337	2.3	107	0.00	10.49
48		1,1,1-trichloroethane	0.699	0.685	2.0	102	0.00	10.09
49		Cyclohexane	0.719	0.694	3.5	99	0.00	10.15
50	I	1,4-difluorobenzene	1.000	1.000	0.0	110	0.00	10.91
51		methylcyclohexane	0.623	0.641	-2.9	109	0.00	11.48
52		epichlorohydrin	0.022	0.020	9.1	100	0.00	12.25
53		n-butyl alcohol	0.008	0.008	0.0	101	0.00	11.04
54		carbon tetrachloride	0.492	0.469	4.7	103	0.00	10.29
55		1,1-dichloropropene	0.438	0.398	9.1	99	0.00	10.27
56		hexane	0.401	0.300	25.2	84	0.00	8.40
57		2,2,4-Trimethylpentane	1.324	1.303	1.6	105	0.00	10.49
58		benzene	1.361	1.314	3.5	105	0.00	10.54
59		tert-amyl methyl ether	1.081	0.969	10.4	101	0.00	10.54
60		heptane	0.241	0.254	-5.4	115	0.00	10.65
61		isopropyl acetate	0.102	0.092	9.8	95	0.00	10.43
62		1,2-dichloroethane	0.334	0.324	3.0	102	0.00	10.58
63		trichloroethene	0.310	0.308	0.6	106	0.00	11.27
64		2-chloroethyl vinyl ether	0.073	0.069	5.5	97	0.00	12.09
65		methyl methacrylate	0.055	0.055	0.0	104	0.00	11.53
66		1,2-dichloropropane	0.327	0.321	1.8	104	0.00	11.56
67		dibromomethane	0.155	0.154	0.6	102	0.00	11.74
68		bromodichloromethane	0.373	0.369	1.1	101	0.00	11.87
69		2-nitropropane	0.075	0.064	14.7	99	0.00	12.11
70		cis-1,3-dichloropropene	0.457	0.413	9.6	96	0.00	12.34
71	S	toluene-d8 (s)	1.121	1.114	0.6	107	0.00	12.64
72		4-methyl-2-pentanone	0.097	0.095	2.1	101	0.00	12.43
73		toluene	0.753	0.747	0.8	103	0.00	12.72
74		isoamyl alcohol	0.014	0.012	14.3	94	0.00	12.45
75		trans-1,3-dichloropropene	0.381	0.356	6.6	102	0.00	12.95
76		ethyl methacrylate	0.286	0.261	8.7	95	0.00	12.91
77		1,1,2-trichloroethane	0.181	0.180	0.6	104	0.00	13.20
78		2-hexanone	0.085	0.078	8.2	95	0.00	13.36
79	I	chlorobenzene-d5	1.000	1.000	0.0	111	0.00	14.33
80		tetrachloroethene	0.427	0.434	-1.6	108	0.00	13.35
81		1,3-dichloropropane	0.438	0.430	1.8	104	0.00	13.39
82		butyl acetate	0.192	0.176	8.3	100	0.00	13.42
83		3,3-Dimethyl-1-Butanol	0.028	0.025	10.7	93	0.00	13.55
84		dibromochloromethane	0.318	0.321	-0.9	104	0.00	13.70
85		1,2-dibromoethane	0.247	0.250	-1.2	104	0.00	13.87
86		chlorobenzene	0.974	0.965	0.9	107	0.00	14.36
87		1,1,1,2-tetrachloroethane	0.437	0.429	1.8	103	0.00	14.42
88		ethylbenzene	1.845	1.770	4.1	105	0.00	14.40
89		m,p-xylene	0.710	0.698	1.7	107	0.00	14.51
90		o-xylene	0.751	0.750	0.1	104	0.00	15.00
91		styrene	1.084	1.080	0.4	107	0.00	15.01
92		bromoform	0.211	0.212	-0.5	103	0.00	15.34
93		cyclohexanone	0.076	0.064	15.8	90	0.00	15.61
94	S	4-bromofluorobenzene (s)	0.484	0.476	1.7	110	0.00	15.62
95	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	112	0.00	16.93
96		isopropylbenzene	3.658	3.664	-0.2	106	0.00	15.37
97		1,1,2,2-tetrachloroethane	0.698	0.657	5.9	100	0.00	15.75
98		trans-1,4-dichloro-2-bute	0.189	0.173	8.5	106	0.00	15.79

Initial Calibration Verification

Job Number: JB93023 **Sample:** VV6444-ICV6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152055.D
Project: MHIC-592/593 Tanks

99	1,2,3-trichloropropane	0.159	0.152	4.4	104	0.00	15.84
100	bromobenzene	0.791	0.757	4.3	106	0.00	15.85
101	n-propylbenzene	4.094	4.011	2.0	112	0.00	15.83
102	2-chlorotoluene	0.871	0.798	8.4	108	0.00	16.01
103	4-chlorotoluene	2.385	2.144	10.1	108	0.00	16.12
104	1,3,5-trimethylbenzene	3.086	3.049	1.2	107	0.00	15.99
105	tert-butylbenzene	2.752	2.681	2.6	106	0.00	16.39
106	pentachloroethane	0.569	0.539	5.3	105	0.00	16.51
107	1,2,4-trimethylbenzene	3.097	3.004	3.0	109	0.00	16.44
108	sec-butylbenzene	4.434	4.276	3.6	105	0.00	16.63
109	p-isopropyltoluene	3.593	3.496	2.7	107	0.00	16.75
110	1,3-dichlorobenzene	1.713	1.590	7.2	106	0.00	16.87
111	1,4-dichlorobenzene	1.677	1.572	6.3	110	0.00	16.96
112	1,2-dichlorobenzene	1.684	1.589	5.6	106	0.00	17.41
113	Benzyl Chloride	1.445	1.211	16.2	94	0.00	17.09
114	Indane		----------NA----------				
115	n-butylbenzene	1.868	1.802	3.5	109	0.00	17.22
116	hexachloroethane	0.634	0.628	0.9	107	0.00	17.68
117	1,2-dibromo-3-chloropropa	0.190	0.176	7.4	101	0.00	18.28
118	1,3,5-trichlorobenzene	1.863	1.731	7.1	109	0.00	18.45
119	1,2,4-trichlorobenzene	1.808	1.654	8.5	106	0.00	19.21
120	hexachlorobutadiene	0.939	0.899	4.3	103	0.00	19.31
121	naphthalene	3.683	3.302	10.3	102	0.00	19.56
122	1,2,3-trichlorobenzene	1.843	1.684	8.6	105	0.00	19.86

(#) = Out of Range SPCC's out = 0 CCC's out = 0
V152050.D MVS6444.M Fri Apr 24 09:42:44 2015 MSV

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VV6455-CC6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152297.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\V152297.D Vial: 2
Acq On : 23 Apr 2015 10:02 am Operator: BenM
Sample : cc6444-20 Inst : MSV
Misc : MS79300,VV6455,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MVS6444.M (RTE Integrator)
Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
Last Update : Thu Apr 16 09:43:31 2015
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	-0.02	7.71
2		tertiary butyl alcohol	1.321	1.442	-9.2	115	0.00	7.85
3		1,4-dioxane	0.092	0.110	-19.6	114	0.00	11.67
4	I	pentafluorobenzene	1.000	1.000	0.0	98	0.00	9.95
5		propene		----------NA----------				
6		chlorodifluoromethane	0.675	0.729	-8.0	109	0.00	4.34
7		dichlorodifluoromethane	0.753	0.930	-23.5#	126	0.00	4.34
8		chloromethane	0.836	0.798	4.5	102	-0.01	4.66
9		vinyl chloride	0.800	0.879	-9.9	112	-0.02	4.91
10		bromomethane	0.447	0.522	-16.8	118	0.00	5.60
11		chloroethane	0.398	0.431	-8.3	118	-0.01	5.76
12		trichlorofluoromethane	0.742	0.867	-16.8	124	-0.01	6.19
13		ethyl ether	0.190	0.186	2.1	102	-0.02	6.59
14		2-chloropropane	0.904	0.820	9.3	99	0.00	6.83
15		acrolein	0.067	0.063	6.0	104	0.00	6.91
16		freon 113	0.336	0.473	-40.8#	142	0.00	6.99
17		1,1-dichloroethene	0.661	0.710	-7.4	107	-0.01	7.05
18		acetone	0.126	0.125	0.8	80	-0.01	7.12
19		iso-butyl alcohol	0.014	0.013	7.1	101	-0.01	10.54
20		allyl chloride	0.221	0.221	0.0	98	-0.02	7.58
21		acetonitrile	0.121	0.116	4.1	101	-0.01	7.58
22		iodomethane	0.782	0.900	-15.1	117	0.00	7.36
23		carbon disulfide	1.743	1.842	-5.7	111	-0.01	7.48
24		methylene chloride	0.480	0.478	0.4	108	0.00	7.79
25		1-chloropropane	0.858	0.787	8.3	95	0.00	7.81
26		methyl acetate	0.278	0.227	18.3	84	0.00	7.56
27		methyl tert butyl ether	1.277	1.309	-2.5	108	-0.01	8.08
28		trans-1,2-dichloroethene	0.633	0.642	-1.4	100	-0.01	8.14
29		di-isopropyl ether	1.619	1.682	-3.9	108	0.00	8.65
30		2-butanone	0.037	0.031	16.2	84	0.00	9.44
31		1,1-dichloroethane	0.773	0.740	4.3	94	0.00	8.73
32		chloroprene	0.590	0.588	0.3	101	-0.01	8.81
33		acrylonitrile	0.112	0.099	11.6	89	-0.01	8.13
34		vinyl acetate	0.041	0.049	-19.5	122	-0.01	8.68
35		ethyl tert-butyl ether	1.449	1.576	-8.8	111	0.00	9.12
36		ethyl acetate	0.047	0.047	0.0	95	-0.02	9.41
37		2,2-dichloropropane	0.774	0.821	-6.1	104	0.00	9.47
38		cis-1,2-dichloroethene	0.462	0.429	7.1	97	-0.02	9.47
39		propionitrile	0.042	0.036	14.3	86	0.00	9.57
40		methyl acrylate	0.041	0.032	22.0#	84	-0.01	9.51
41		methacrylonitrile	0.111	0.102	8.1	92	0.00	9.74

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VV6455-CC6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152297.D
Project: MHIC-592/593 Tanks

42		bromochloromethane	0.189	0.185	2.1	96	0.00	9.80
43		tetrahydrofuran	0.122	0.101	17.2	83	0.00	9.83
44		chloroform	0.715	0.640	10.5	91	0.00	9.84
45		tert-Butyl Formate	0.303	0.328	-8.3	109	0.00	9.86
46	S	dibromofluoromethane (s)	0.365	0.349	4.4	96	0.00	10.05
47	S	1,2-dichloroethane-d4 (s)	0.345	0.291	15.7	87	0.00	10.49
48		1,1,1-trichloroethane	0.699	0.743	-6.3	106	0.00	10.09
49		Cyclohexane	0.719	0.851	-18.4	115	-0.01	10.15
50	I	1,4-difluorobenzene	1.000	1.000	0.0	102	0.00	10.91
51		methylcyclohexane	0.623	0.766	-23.0#	120	0.00	11.47
52		epichlorohydrin	0.022	0.022	0.0	111	0.00	12.25
53		n-butyl alcohol	0.008	0.008	0.0	100	0.00	11.04
54		carbon tetrachloride	0.492	0.516	-4.9	108	0.00	10.29
55		1,1-dichloropropene	0.438	0.406	7.3	95	0.00	10.26
56		hexane	0.401	0.453	-13.0	113	0.00	8.40
57		2,2,4-Trimethylpentane	1.324	1.547	-16.8	122	0.00	10.48
58		benzene	1.361	1.232	9.5	94	-0.01	10.54
59		tert-amyl methyl ether	1.081	1.111	-2.8	113	0.00	10.54
60		heptane	0.241	0.274	-13.7	112	0.00	10.65
61		isopropyl acetate	0.102	0.108	-5.9	105	-0.01	10.42
62		1,2-dichloroethane	0.334	0.288	13.8	89	0.00	10.58
63		trichloroethene	0.310	0.298	3.9	93	0.00	11.27
64		2-chloroethyl vinyl ether	0.073	0.068	6.8	100	0.00	12.09
65		methyl methacrylate	0.055	0.053	3.6	103	0.00	11.52
66		1,2-dichloropropane	0.327	0.312	4.6	100	0.00	11.56
67		dibromomethane	0.155	0.150	3.2	101	0.00	11.74
68		bromodichloromethane	0.373	0.366	1.9	97	0.00	11.86
69		2-nitropropane	0.075	0.065	13.3	90	0.00	12.11
70		cis-1,3-dichloropropene	0.457	0.470	-2.8	106	0.00	12.34
71	S	toluene-d8 (s)	1.121	1.202	-7.2	110	0.00	12.64
72		4-methyl-2-pentanone	0.097	0.095	2.1	100	0.00	12.43
73		toluene	0.753	0.804	-6.8	109	0.00	12.72
74		isoamyl alcohol	0.014	0.014	0.0	108	0.00	12.45
75		trans-1,3-dichloropropene	0.381	0.401	-5.2	109	0.00	12.95
76		ethyl methacrylate	0.286	0.307	-7.3	113	0.00	12.90
77		1,1,2-trichloroethane	0.181	0.188	-3.9	114	0.00	13.19
78		2-hexanone	0.085	0.100	-17.6	131	0.00	13.36
79	I	chlorobenzene-d5	1.000	1.000	0.0	117	0.00	14.33
80		tetrachloroethene	0.427	0.417	2.3	111	0.00	13.36
81		1,3-dichloropropane	0.438	0.426	2.7	114	0.00	13.39
82		butyl acetate	0.192	0.200	-4.2	126	0.00	13.42
83		3,3-Dimethyl-1-Butanol	0.028	0.025	10.7	113	0.00	13.55
84		dibromochloromethane	0.318	0.300	5.7	110	0.00	13.69
85		1,2-dibromoethane	0.247	0.253	-2.4	119	0.00	13.87
86		chlorobenzene	0.974	1.011	-3.8	120	0.00	14.36
87		1,1,1,2-tetrachloroethane	0.437	0.411	5.9	108	0.00	14.43
88		ethylbenzene	1.845	1.786	3.2	115	0.00	14.40
89		m,p-xylene	0.710	0.722	-1.7	117	0.00	14.52
90		o-xylene	0.751	0.762	-1.5	114	0.00	15.00
91		styrene	1.084	1.123	-3.6	119	0.00	15.01
92		bromoform	0.211	0.226	-7.1	126	0.00	15.34
93		cyclohexanone	0.076	0.077	-1.3	109	0.00	15.61
94	S	4-bromofluorobenzene (s)	0.484	0.508	-5.0	125	0.00	15.62
95	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	127	0.00	16.93
96		isopropylbenzene	3.658	3.398	7.1	113	0.00	15.37
97		1,1,2,2-tetrachloroethane	0.698	0.684	2.0	125	0.00	15.75
98		trans-1,4-dichloro-2-bute	0.189	0.176	6.9	120	0.00	15.79

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VV6455-CC6444
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** V152297.D
Project: MHIC-592/593 Tanks

99	1,2,3-trichloropropane	0.159	0.164	-3.1	128	0.00	15.84
100	bromobenzene	0.791	0.826	-4.4	134	0.00	15.85
101	n-propylbenzene	4.094	3.838	6.3	117	0.00	15.83
102	2-chlorotoluene	0.871	0.834	4.2	122	0.00	16.02
103	4-chlorotoluene	2.385	2.258	5.3	123	0.00	16.13
104	1,3,5-trimethylbenzene	3.086	2.965	3.9	117	0.00	15.99
105	tert-butylbenzene	2.752	2.352	14.5	109	0.00	16.39
106	pentachloroethane	0.569	0.475	16.5	113	0.00	16.51
107	1,2,4-trimethylbenzene	3.097	2.946	4.9	121	0.00	16.44
108	sec-butylbenzene	4.434	4.025	9.2	113	0.00	16.62
109	p-isopropyltoluene	3.593	3.469	3.5	122	0.00	16.75
110	1,3-dichlorobenzene	1.713	1.719	-0.4	127	0.00	16.86
111	1,4-dichlorobenzene	1.677	1.686	-0.5	128	0.00	16.96
112	1,2-dichlorobenzene	1.684	1.712	-1.7	129	0.00	17.41
113	Benzyl Chloride	1.445	1.515	-4.8	128	0.00	17.09
114	Indane		----------NA----------				
115	n-butylbenzene	1.868	1.854	0.7	120	0.00	17.22
116	hexachloroethane	0.634	0.517	18.5	106	0.00	17.68
117	1,2-dibromo-3-chloropropa	0.190	0.182	4.2	126	0.00	18.27
118	1,3,5-trichlorobenzene	1.863	1.857	0.3	128	0.00	18.45
119	1,2,4-trichlorobenzene	1.808	1.756	2.9	124	0.00	19.21
120	hexachlorobutadiene	0.939	0.894	4.8	120	0.00	19.32
121	naphthalene	3.683	3.245	11.9	120	0.00	19.56
122	1,2,3-trichlorobenzene	1.843	1.698	7.9	123	0.00	19.86

(#) = Out of Range SPCC's out = 0 CCC's out = 0
V152046.D MVS6444.M Thu Apr 23 17:19:13 2015 MSV

6.9.12

6

Initial Calibration Summary

Job Number: JB93023 **Sample:** VX6638-ICC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X153963.D
Project: MHIC-592/593 Tanks

Response Factor Report ACC-VOA-M

```
Method       : C:\MSDCHEM\1\METHODS\MX6638.M (RTE Integrator)
Title        : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Apr 27 08:30:58 2015
Response via : Initial Calibration

Calibration Files
1   =x153958.D   2   =x153962.D   100 =x153964.D   50  =x153963.D
20  =x153959.D   200 =x153965.D   8   =x153960.D   4   =x153961.D
0.5 =x153957.D   0.2 =x153956.D       =                =
```

Compound	1	2	100	50	20	200	8	4	0.5	0.2	Avg	%RSD
1) I tert butyl alcohol-d9 ----------ISTD----------												
2) tertiary butyl alcohol	1.008	1.028	1.027	1.069	0.999	1.005	0.999				1.019	2.47
3) 1,4-dioxane			0.074	0.077	0.078	0.078	0.067	0.066			0.073	7.34
4) I pentafluorobenzene ----------ISTD----------												
5) chlorotrifluoroethene											0.000	-1.00
6) chlorodifluoromethane	0.866	0.768	0.756	0.782	0.814	0.740	0.759	0.748			0.779	5.40
7) dichlorodifluoromethane	0.790	0.874	0.895	0.944	0.825	0.879	0.880				0.869	5.69
8) chloromethane	0.653	0.724	0.739	0.697	0.768	0.601	0.667				0.693	8.21
9) vinyl chloride	0.754	0.796	0.828	0.798	0.809	0.674	0.723				0.769	7.13
10) bromomethane			0.400	0.425	0.405	0.396	0.364	0.429			0.403	5.80
11) chloroethane	0.283	0.243	0.266	0.260	0.245	0.245	0.265				0.258	5.67
12) vinyl bromide											0.000	-1.00
13) trichlorofluoromethane	0.757	0.757	0.786	0.808	0.738	0.734	0.747				0.761	3.53
14) 1,3-butadiene											0.000	-1.00
15) pentane											0.000	-1.00
16) ethyl ether	0.150	0.127	0.151	0.156	0.153	0.156	0.144	0.142			0.147	6.62
17) acrolein	0.053	0.055		0.051	0.050		0.048	0.049			0.051	4.81
18) 1,1-dichloroethene	0.629	0.566	0.578	0.627	0.594	0.579	0.542	0.633			0.594	5.60
19) acetone			0.032	0.028	0.026	0.028	0.024				0.028	11.15
20) allyl chloride	0.162	0.163	0.177	0.176	0.167	0.162	0.184				0.170	5.25
21) acetonitrile			0.030	0.031	0.031	0.029	0.030	0.033			0.031	3.99
22) iodomethane	0.747	0.661	0.742	0.800	0.731	0.765	0.660	0.768	0.661		0.726	7.27
23) iso-butyl alcohol												

Initial Calibration Summary

Job Number: JB93023 **Sample:** VX6638-ICC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X153963.D
Project: MHIC-592/593 Tanks

```
            0.016 0.017 0.016 0.016 0.016 0.018 0.015              0.016    4.93
24)  carbon disulfide
      1.606 1.337 1.317 1.430 1.338 1.342 1.228 1.466 1.600        1.407    9.23
25)  methylene chloride
                  0.349 0.380 0.379 0.349 0.378 0.540              0.396   18.26
26)  methyl acetate
            0.189 0.216 0.214 0.213 0.211 0.199 0.167              0.201    8.89
27)  methyl tert butyl ether
      1.114 1.051 1.098 1.145 1.101 1.084 1.018 1.079 1.123 1.154  1.097    3.79
28)  trans-1,2-dichloroethene
      0.526 0.448 0.463 0.501 0.497 0.460 0.447 0.510 0.430 0.523  0.480    7.20
29)  di-isopropyl ether
      1.439 1.245 1.333 1.379 1.303 1.317 1.218 1.148 1.313 1.203  1.290    6.75
30)  2-butanone
                  0.033 0.030 0.027 0.029 0.022 0.020              0.027   17.90
31)  1,1-dichloroethane
      0.651 0.558 0.595 0.644 0.620 0.602 0.569 0.629 0.567        0.604    5.69
32)  chloroprene
      0.604 0.476 0.458 0.477 0.483 0.456 0.440 0.456 0.531        0.487   10.50
33)  acrylonitrile
                  0.085 0.089 0.086 0.082 0.084 0.085              0.085    2.69
34)  vinyl acetate
                  0.032 0.031 0.031 0.030 0.025                    0.030   10.00
35)  ethyl tert-butyl ether
      1.341 1.174 1.294 1.323 1.247 1.266 1.159 1.051 1.154 1.167  1.217    7.51
36)  ethyl acetate
                  0.034 0.034 0.037 0.033 0.039 0.028              0.034   11.30
37)  2,2-dichloropropane
      0.857 0.684 0.661 0.714 0.708 0.652 0.662 0.758              0.712    9.60
38)  cis-1,2-dichloroethene
      0.425 0.340 0.331 0.357 0.350 0.338 0.322 0.388              0.356    9.55
39)  methyl acrylate
                  0.198 0.188 0.178 0.196 0.160 0.154              0.179   10.39
40)  propionitrile
      0.026 0.025 0.035 0.036 0.035 0.035 0.034 0.034              0.033   13.47
41)  tert-Butyl Formate
      0.331 0.295 0.322 0.329 0.318 0.318 0.297 0.262              0.309    7.54
42)  bromochloromethane
      0.162 0.143 0.159 0.170 0.163 0.164 0.154 0.160              0.159    5.02
43)  tetrahydrofuran
      0.107 0.120 0.099 0.105 0.102 0.100 0.112 0.109              0.107    6.65
44)  chloroform
      0.647 0.572 0.542 0.575 0.563 0.549 0.529 0.624              0.575    7.08
45)  dibromofluoromethane (s)
      0.361 0.365 0.367 0.372 0.359 0.367 0.361 0.354 0.364 0.361  0.363    1.39
46)  1,2-dichloroethane-d4 (s)
      0.328 0.337 0.344 0.350 0.342 0.336 0.347 0.328 0.342 0.343  0.339    2.15
47)  freon 113
            0.329 0.349 0.352 0.368 0.328 0.333 0.313              0.339    5.49
48)  methacrylonitrile
            0.119 0.156 0.156 0.148 0.156 0.143 0.148              0.147    8.91
49)  1,1,1-trichloroethane
      0.702 0.556 0.592 0.623 0.598 0.601 0.547 0.618 0.561        0.600    7.82
50)  cyclohexane
      0.712 0.616 0.607 0.623 0.611 0.598 0.570 0.694              0.629    7.74
51)  tert amyl alcohol
                                                                   0.000   -1.00
52)  iso-octane
      1.550 1.459 1.683 1.613 1.546 1.620 1.344 1.286 1.354        1.495    9.41
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VX6638-ICC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X153963.D
Project: MHIC-592/593 Tanks

```
53) I   1,4-difluorobenzene   ----------------ISTD--------------------
54)  epichlorohydrin
            0.020 0.021 0.021 0.021 0.021 0.022 0.017              0.020    8.31
55)  n-butyl alcohol
            0.007 0.009 0.008 0.008 0.008 0.008 0.007              0.008    8.52
56)  carbon tetrachloride
      0.542 0.427 0.447 0.476 0.466 0.448 0.430 0.494 0.429        0.462    8.19
57)  1,1-dichloropropene
      0.389 0.318 0.333 0.351 0.352 0.340 0.333 0.378 0.337        0.348    6.58
58)  hexane
            0.379 0.302 0.299 0.331 0.285 0.309 0.331              0.319    9.81
59)  benzene
      1.171 0.985 0.946 1.015 1.019 0.973 0.955 1.124 1.176        1.041    8.82
60)  tert-amyl methyl ether
      1.095 0.919 0.936 0.962 0.944 0.926 0.889 0.830 1.007        0.945    7.85
61)  heptane
            0.207 0.182 0.178 0.202 0.172 0.176 0.181              0.186    7.25
62)  isopropyl acetate
      0.715 0.634 0.666 0.643 0.647 0.624 0.651 0.574              0.644    6.14
63)  1,2-dichloroethane
      0.308 0.260 0.287 0.305 0.306 0.287 0.288 0.303 0.246 0.273  0.286    7.34
64)  trichloroethene
      0.287 0.241 0.268 0.279 0.278 0.276 0.256 0.300 0.249        0.270    7.00
65)  ethyl acrylate
                                                                   0.000   -1.00
66)  tert amyl ethyl ether
                                                                   0.000   -1.00
67)  2-nitropropane
            0.092 0.077 0.079 0.081 0.076 0.078 0.080              0.081    6.70
68)  2-chloroethyl vinyl ether
      0.123 0.101 0.113 0.114 0.113 0.113 0.112 0.098 0.109        0.111    6.66
69)  methyl methacrylate
      0.129 0.109 0.127 0.132 0.132 0.129 0.133 0.122              0.127    6.43
70)  1,2-dichloropropane
      0.294 0.249 0.265 0.277 0.271 0.271 0.259 0.287 0.237        0.268    6.62
71)  dibromomethane
      0.143 0.121 0.137 0.144 0.142 0.141 0.140 0.144 0.124        0.138    6.34
72)  methylcyclohexane
            0.563 0.529 0.529 0.551 0.518 0.489 0.477              0.522    5.96
73)  bromodichloromethane
      0.368 0.311 0.342 0.359 0.349 0.354 0.331 0.370 0.309 0.336  0.343    6.28
74)  cis-1,3-dichloropropene
      0.441 0.382 0.417 0.441 0.436 0.435 0.407 0.446 0.348        0.417    7.94
75)  toluene-d8 (s)
      1.189 1.160 1.156 1.164 1.166 1.159 1.185 1.166 1.174 1.184  1.170    1.02
76)  4-methyl-2-pentanone
                  0.088 0.088 0.090 0.087 0.087 0.074              0.086    6.94
77)  toluene
      0.775 0.616 0.597 0.638 0.639 0.625 0.595 0.677 0.732        0.655    9.46
78)  3-methyl-1-butanol
      0.011 0.013 0.014 0.014 0.014 0.013 0.015 0.012              0.013    9.66
79)  trans-1,3-dichloropropene
      0.382 0.340 0.365 0.390 0.391 0.374 0.370 0.399 0.347        0.373    5.38
80)  ethyl methacrylate
      0.298 0.249 0.273 0.287 0.279 0.278 0.283 0.297              0.281    5.54
81)  1,1,2-trichloroethane
      0.168 0.152 0.168 0.177 0.172 0.175 0.167 0.177 0.138        0.166    7.86
82)  2-hexanone
                  0.085 0.084 0.083 0.079 0.097 0.083              0.085    7.37
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VX6638-ICC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X153963.D
Project: MHIC-592/593 Tanks

```
 83) I   chlorobenzene-d5      ----------------ISTD--------------------
 84)  3,3-Dimethyl-1-butanol
            0.034 0.043 0.039 0.038 0.042 0.037 0.031              0.038   10.91
 85)  tetrachloroethene
       0.295 0.248 0.303 0.271 0.266 0.289 0.252 0.292 0.266 0.276  0.276    6.71
 86)  1,3-dichloropropane
       0.375 0.332 0.372 0.377 0.378 0.385 0.369 0.378 0.356 0.389  0.371    4.46
 87)  butyl acetate
                   0.171 0.172 0.183 0.163 0.216 0.211              0.186   12.04
 88)  dibromochloromethane
       0.282 0.248 0.307 0.313 0.300 0.321 0.284 0.298 0.283 0.331  0.297    8.00
 89)  1,2-dibromoethane
       0.237 0.193 0.238 0.241 0.243 0.248 0.232 0.246 0.229 0.216  0.232    7.23
 90)  n-butyl ether
       1.851 1.531 1.481 1.574 1.597 1.530 1.493 1.721 1.569        1.594    7.49
 91)  chlorobenzene
       0.875 0.744 0.790 0.828 0.817 0.836 0.763 0.856 0.838        0.816    5.28
 92)  1,1,1,2-tetrachloroethane
       0.357 0.303 0.357 0.360 0.353 0.375 0.309 0.342 0.294        0.339    8.61
 93)  ethylbenzene
       1.563 1.313 1.326 1.407 1.409 1.385 1.316 1.517 1.578        1.424    7.35
 94)  m,p-xylene
       0.598 0.489 0.513 0.541 0.555 0.541 0.508 0.584 0.530        0.540    6.52
 95)  o-xylene
       0.644 0.513 0.568 0.596 0.583 0.607 0.537 0.606 0.563        0.580    6.81
 96)  styrene
       1.036 0.851 0.893 0.941 0.947 0.933 0.862 0.986 0.985        0.937    6.49
 97)  bromoform
       0.240 0.204 0.245 0.243 0.238 0.249 0.223 0.241 0.224        0.234    6.25

 98) I   1,4-dichlorobenzene-d ----------------ISTD--------------------
 99)  isopropylbenzene
       2.254 1.869 2.222 2.317 2.248 2.386 2.021 2.257 2.096 2.319  2.199    7.17
100)  cis-1,4-dichloro-2-butene
                                                                    0.000   -1.00
101)  Cyclohexanone
       0.099 0.079 0.122 0.107 0.098 0.110 0.104 0.101              0.103   11.93
102)  4-bromofluorobenzene (s)
       0.701 0.694 0.719 0.730 0.726 0.713 0.722 0.712 0.703 0.701  0.712    1.69
103)  bromobenzene
       0.636 0.515 0.583 0.625 0.616 0.616 0.572 0.654 0.697        0.613    8.50
104)  1,1,2,2-tetrachloroethane
       0.493 0.481 0.516 0.537 0.518 0.542 0.510 0.493 0.514 0.541  0.514    4.13
105)  trans-1,4-dichloro-2-butene
                   0.156 0.164 0.172 0.152 0.171 0.180              0.166    6.25
106)  1,2,3-trichloropropane
       0.123 0.100 0.116 0.120 0.122 0.119 0.118 0.124 0.091        0.115    9.92
107)  n-propylbenzene
       2.822 2.229 2.385 2.564 2.584 2.514 2.376 2.761 2.832        2.563    8.27
108)  4-ethyltoluene
                                                                    0.000   -1.00
109)  2-chlorotoluene
       0.637 0.494 0.545 0.579 0.568 0.587 0.528 0.587 0.565        0.566    7.18
110)  4-chlorotoluene
            1.488 1.533 1.617 1.616 1.588 1.520 1.745              1.587    5.39
111)  1,3,5-trimethylbenzene
       2.104 1.713 1.923 2.015 1.981 2.113 1.842 2.049 1.919        1.962    6.59
112)  tert-butylbenzene
       1.738 1.399 1.789 1.776 1.666 2.023 1.571 1.696 1.556        1.690   10.41
113)  pentachloroethane
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** VX6638-ICC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X153963.D
Project: MHIC-592/593 Tanks

```
       0.408 0.358 0.381 0.452 0.433 0.496 0.394 0.407              0.416   10.39
114)  1,2,4-trimethylbenzene
       2.264 1.744 1.947 2.074 2.034 2.077 1.877 2.130 2.148        2.033    7.67
115)  1,2,3-trimethylbenzene
                                                                    0.000   -1.00
116)  sec-butylbenzene
       2.951 2.450 2.832 2.912 2.836 3.108 2.646 2.905 2.571        2.801    7.38
117)  1,3-dichlorobenzene
       1.572 1.218 1.246 1.309 1.333 1.295 1.240 1.408 1.406        1.336    8.34
118)  p-isopropyltoluene
       2.829 2.268 2.448 2.560 2.548 2.665 2.378 2.610 2.820        2.569    7.33
119)  1,4-dichlorobenzene
       1.561 1.248 1.253 1.307 1.336 1.302 1.243 1.419 1.542        1.357    9.07
120)  1,2-dichlorobenzene
       1.468 1.221 1.344 1.397 1.390 1.400 1.291 1.411 1.499        1.380    6.17
121)  benzyl chloride
       1.419 1.268 1.290 1.299 1.378 1.239 1.342 1.194 1.500        1.326    7.16
122)  1,4-diethylbenzene
                                                                    0.000   -1.00
123)  n-butylbenzene
       1.457 1.133 1.291 1.332 1.369 1.344 1.249 1.446 1.335        1.329    7.45
124)  1,2,4,5-tetramethylbenzene
                                                                    0.000   -1.00
125)  1,2-dibromo-3-chloropropane
       0.202 0.147 0.197 0.187 0.181 0.203 0.172 0.177              0.183   10.15
126)  1,3,5-trichlorobenzene
       1.466 1.212 1.562 1.561 1.580 1.696 1.421 1.501 1.363        1.485    9.51
127)  hexachlorobutadiene
       0.837 0.660 0.787 0.784 0.795 0.882 0.734 0.841 0.717        0.782    8.83
128)  naphthalene
                     2.887 2.701 2.380       1.990 1.817            2.355   19.29
129)  1,2,4-trichlorobenzene
                     1.527 1.463 1.402 1.672 1.172 1.110            1.391   15.39
130)  1,2,3-trichlorobenzene
                     1.432 1.354 1.238 1.544 1.026 0.943            1.256   18.66
131)  hexachloroethane
                     0.486 0.465 0.418 0.585 0.368 0.393            0.453   17.30
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MX6638.M          Tue Jun 02 08:41:30 2015   GCMSX
```

6.9.13

6

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: VX6638-ICV6638
Lab FileID: X153968.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\x153968.D Vial: 14
Acq On : 13 Apr 2015 4:43 pm Operator: BenM
Sample : ICV6638-50 Inst : ACC-VOA-M
Misc : MS82874,VX6638,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MX6638.M (RTE Integrator)
Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Apr 14 10:14:48 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	tert butyl alcohol-d9	1.000	1.000	0.0	99	0.00	7.50
2		tertiary butyl alcohol	1.019	0.991	2.7	96	-0.03	7.62
3		1,4-dioxane	0.073	0.074	-1.4	95	0.00	12.36
4	I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	10.21
5	m	chlorotrifluoroethene		----------NA----------				
6		chlorodifluoromethane	0.779	0.693	11.0	90	0.00	3.83
7		dichlorodifluoromethane	0.869	0.779	10.4	89	0.00	3.82
8		chloromethane	0.693	0.654	5.6	90	0.00	4.13
9		vinyl chloride	0.769	0.748	2.7	92	0.00	4.41
10		bromomethane	0.403	0.389	3.5	93	0.00	5.09
11		chloroethane	0.258	0.282	-9.3	108	0.00	5.26
12		vinyl bromide		----------NA----------				
13		trichlorofluoromethane	0.761	0.722	5.1	94	0.00	5.77
14		1,3-butadiene		----------NA----------				
15		pentane		----------NA----------				
16		ethyl ether	0.147	0.157	-6.8	103	0.00	6.20
17		acrolein	0.051	0.052	-2.0	105	0.00	6.53
18		1,1-dichloroethene	0.594	0.633	-6.6	103	0.00	6.67
19		acetone	0.028	0.031	-10.7	111	0.02	6.80
20		allyl chloride	0.170	0.209	-22.9	120	0.00	7.28
21		acetonitrile	0.031	0.033	-6.5	106	-0.01	7.30
22		iodomethane	0.726	0.775	-6.7	99	0.00	7.00
23		iso-butyl alcohol	0.016	0.015	6.3	96	0.00	10.63
24		carbon disulfide	1.407	1.421	-1.0	101	0.00	7.11
25		methylene chloride	0.396	0.376	5.1	101	0.00	7.52
26		methyl acetate	0.201	0.182	9.5	87	0.00	7.29
27		methyl tert butyl ether	1.097	1.045	4.7	93	0.00	7.86
28		trans-1,2-dichloroethene	0.480	0.487	-1.5	99	0.00	7.93
29		di-isopropyl ether	1.290	1.310	-1.6	97	0.00	8.57
30		2-butanone	0.027	0.030	-11.1	104	0.00	9.54
31		1,1-dichloroethane	0.604	0.638	-5.6	101	0.00	8.63
32		chloroprene	0.487	0.454	6.8	97	0.00	8.74
33		acrylonitrile	0.085	0.083	2.4	94	0.00	7.94
34		vinyl acetate	0.030	0.037	-23.3	121	0.00	8.62
35		ethyl tert-butyl ether	1.217	1.203	1.2	93	0.00	9.14
36		ethyl acetate	0.034	0.033	2.9	101	0.01	9.55
37		2,2-dichloropropane	0.712	0.724	-1.7	103	0.00	9.54
38		cis-1,2-dichloroethene	0.356	0.352	1.1	101	0.00	9.54
39		methyl acrylate	0.179	0.186	-3.9	101	0.01	9.65
40		propionitrile	0.033	0.034	-3.0	98	0.00	9.70
41		tert-Butyl Formate	0.309	0.322	-4.2	100	0.00	10.05

Initial Calibration Verification

Job Number: JB93023 **Sample:** VX6638-ICV6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X153968.D
Project: MHIC-592/593 Tanks

42		bromochloromethane	0.159	0.163	-2.5	97	0.00	9.95
43		tetrahydrofuran	0.107	0.099	7.5	97	0.00	9.98
44		chloroform	0.575	0.570	0.9	101	0.00	10.02
45	S	dibromofluoromethane (s)	0.363	0.372	-2.5	102	0.00	10.28
46	S	1,2-dichloroethane-d4 (s)	0.339	0.342	-0.9	100	0.00	10.82
47		freon 113	0.339	0.369	-8.8	107	0.00	6.62
48		methacrylonitrile	0.147	0.150	-2.0	98	0.00	9.91
49		1,1,1-trichloroethane	0.600	0.639	-6.5	104	0.00	10.30
50		cyclohexane	0.629	0.637	-1.3	104	0.00	10.37
51	m	tert amyl alcohol		----------NA----------				
52	m	iso-octane	1.495	1.538	-2.9	97	0.00	10.83
53	I	1,4-difluorobenzene	1.000	1.000	0.0	101	0.00	11.39
54		epichlorohydrin	0.020	0.022	-10.0	101	0.00	13.11
55		n-butyl alcohol	0.008	0.008	0.0	98	0.00	11.61
56		carbon tetrachloride	0.462	0.497	-7.6	105	0.00	10.55
57		1,1-dichloropropene	0.348	0.345	0.9	99	0.00	10.53
58		hexane	0.319	0.297	6.9	100	0.00	8.25
59		benzene	1.041	1.031	1.0	102	0.00	10.88
60		tert-amyl methyl ether	0.945	0.892	5.6	93	0.00	10.91
61		heptane	0.186	0.178	4.3	101	0.00	11.07
62		isopropyl acetate	0.644	0.657	-2.0	103	0.00	10.82
63		1,2-dichloroethane	0.286	0.296	-3.5	98	0.00	10.94
64		trichloroethene	0.270	0.287	-6.3	104	0.00	11.81
65	m	ethyl acrylate		----------NA----------				
66	m	tert amyl ethyl ether		----------NA----------				
67		2-nitropropane	0.081	0.077	4.9	97	0.00	12.93
68		2-chloroethyl vinyl ether	0.111	0.110	0.9	96	0.00	12.93
69		methyl methacrylate	0.127	0.132	-3.9	101	0.00	12.22
70		1,2-dichloropropane	0.268	0.279	-4.1	102	0.00	12.19
71		dibromomethane	0.138	0.140	-1.4	98	0.00	12.41
72		methylcyclohexane	0.522	0.517	1.0	98	0.00	12.06
73		bromodichloromethane	0.343	0.346	-0.9	97	0.00	12.60
74		cis-1,3-dichloropropene	0.417	0.397	4.8	91	0.00	13.21
75	S	toluene-d8 (s)	1.170	1.160	0.9	100	0.00	13.57
76		4-methyl-2-pentanone	0.086	0.088	-2.3	101	0.00	13.35
77		toluene	0.655	0.631	3.7	100	0.00	13.66
78		3-methyl-1-butanol	0.013	0.013	0.0	95	0.00	13.41
79		trans-1,3-dichloropropene	0.373	0.373	0.0	96	0.00	13.98
80		ethyl methacrylate	0.281	0.260	7.5	91	0.00	13.97
81		1,1,2-trichloroethane	0.166	0.172	-3.6	98	0.00	14.27
82		2-hexanone	0.085	0.086	-1.2	103	0.00	14.51
83	I	chlorobenzene-d5	1.000	1.000	0.0	98	0.00	15.60
84		3,3-Dimethyl-1-butanol	0.038	0.039	-2.6	98	0.00	14.75
85		tetrachloroethene	0.276	0.286	-3.6	103	0.00	14.43
86		1,3-dichloropropane	0.371	0.372	-0.3	96	0.00	14.51
87		butyl acetate	0.186	0.167	10.2	95	0.00	14.61
88		dibromochloromethane	0.297	0.304	-2.4	95	0.00	14.85
89		1,2-dibromoethane	0.232	0.235	-1.3	95	0.00	15.04
90	m	n-butyl ether	1.594	1.564	1.9	97	0.00	15.54
91		chlorobenzene	0.816	0.832	-2.0	98	0.00	15.64
92		1,1,1,2-tetrachloroethane	0.339	0.362	-6.8	98	0.00	15.73
93		ethylbenzene	1.424	1.433	-0.6	99	0.00	15.71
94		m,p-xylene	0.540	0.554	-2.6	100	0.00	15.85
95		o-xylene	0.580	0.599	-3.3	98	0.00	16.40
96		styrene	0.937	0.945	-0.9	98	0.00	16.42
97		bromoform	0.234	0.241	-3.0	97	0.00	16.77
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	96	0.00	18.34

Initial Calibration Verification

Job Number: JB93023 **Sample:** VX6638-ICV6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X153968.D
Project: MHIC-592/593 Tanks

99		isopropylbenzene	2.199	2.406	-9.4	100	0.00	16.82
100		cis-1,4-dichloro-2-butene		----------NA----------				
101		Cyclohexanone	0.103	0.112	-8.7	100	0.00	17.06
102	S	4-bromofluorobenzene (s)	0.712	0.731	-2.7	96	0.00	17.08
103		bromobenzene	0.613	0.614	-0.2	95	0.00	17.29
104		1,1,2,2-tetrachloroethane	0.514	0.515	-0.2	92	0.00	17.24
105		trans-1,4-dichloro-2-bute	0.166	0.170	-2.4	100	0.00	17.28
106		1,2,3-trichloropropane	0.115	0.117	-1.7	94	0.00	17.31
107		n-propylbenzene	2.563	2.821	-10.1	106	0.00	17.30
108	m	4-ethyltoluene		----------NA----------				
109		2-chlorotoluene	0.566	0.589	-4.1	98	0.00	17.47
110		4-chlorotoluene	1.587	1.650	-4.0	98	0.00	17.59
111		1,3,5-trimethylbenzene	1.962	2.090	-6.5	100	0.00	17.48
112		tert-butylbenzene	1.690	1.877	-11.1	102	0.00	17.86
113		pentachloroethane	0.416	0.470	-13.0	100	0.00	17.96
114		1,2,4-trimethylbenzene	2.033	2.166	-6.5	101	0.00	17.91
115	m	1,2,3-trimethylbenzene		----------NA----------				
116		sec-butylbenzene	2.801	3.061	-9.3	101	0.00	18.08
117		1,3-dichlorobenzene	1.336	1.340	-0.3	99	0.00	18.28
118		p-isopropyltoluene	2.569	2.720	-5.9	102	0.00	18.21
119		1,4-dichlorobenzene	1.357	1.339	1.3	99	0.00	18.37
120		1,2-dichlorobenzene	1.380	1.392	-0.9	96	0.00	18.76
121		benzyl chloride	1.326	1.319	0.5	98	0.00	18.50
122	m	1,4-diethylbenzene		----------NA----------				
123		n-butylbenzene	1.329	1.471	-10.7	106	0.00	18.62
124	m	1,2,4,5-tetramethylbenzen		----------NA----------				
125		1,2-dibromo-3-chloropropa	0.183	0.185	-1.1	95	0.00	19.50
126		1,3,5-trichlorobenzene	1.485	1.713	-15.4	106	0.00	19.64
127		hexachlorobutadiene	0.782	0.854	-9.2	105	0.00	20.31
128		naphthalene	2.355	2.775	-17.8	99	0.00	20.48
129		1,2,4-trichlorobenzene	1.391	1.596	-14.7	105	0.00	20.22
130	m	1,2,3-trichlorobenzene	1.256	1.462	-16.4	104	0.00	20.70
131		hexachloroethane	0.453	0.496	-9.5	103	0.00	18.98

(#) = Out of Range SPCC's out = 0 CCC's out = 0
x153963.D MX6638.M Tue Apr 14 10:22:18 2015 GCMSX

6.9.14

6

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VX6649-CC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X154235.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\X-...vx6649-6650\x154235.d Vial: 3
Acq On    : 23 Apr 2015  10:32 am                    Operator: BenM
Sample    : cc6638-20                                Inst    : ACC-VOA-MSX
Misc      : MS83841,VX6649,5,,,,1                    Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MX6638.M (RTE Integrator)
Title        : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
Last Update  : Tue Apr 14 10:20:10 2015
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	87	0.01	7.51
2		tertiary butyl alcohol	1.019	1.009	1.0	82	-0.01	7.64
3		1,4-dioxane	0.073	0.075	-2.7	83	0.03	12.38
4	I	pentafluorobenzene	1.000	1.000	0.0	88	0.02	10.23
5	m	chlorotrifluoroethene		----------NA----------				
6		chlorodifluoromethane	0.779	0.908	-16.6	98	0.00	3.83
7		dichlorodifluoromethane	0.869	1.030	-18.5	96	0.00	3.82
8		chloromethane	0.693	0.726	-4.8	91	0.00	4.13
9		vinyl chloride	0.769	0.812	-5.6	89	0.00	4.41
10		bromomethane	0.403	0.420	-4.2	91	0.02	5.10
11		chloroethane	0.258	0.261	-1.2	88	0.01	5.27
12		vinyl bromide		----------NA----------				
13		trichlorofluoromethane	0.761	0.807	-6.0	87	0.01	5.78
14		1,3-butadiene		----------NA----------				
15		pentane		----------NA----------				
16		ethyl ether	0.147	0.143	2.7	81	0.02	6.22
17		acrolein	0.051	0.047	7.8	82	0.02	6.55
18		1,1-dichloroethene	0.594	0.599	-0.8	88	0.02	6.69
19		acetone	0.028	0.018	35.7#	61	0.00	6.80
20		allyl chloride	0.170	0.168	1.2	83	0.02	7.30
21		acetonitrile	0.031	0.032	-3.2	90	0.02	7.34
22		iodomethane	0.726	0.712	1.9	85	0.02	7.01
23		iso-butyl alcohol	0.016	0.016	0.0	85	0.02	10.65
24		carbon disulfide	1.407	1.311	6.8	86	0.02	7.13
25		methylene chloride	0.396	0.346	12.6	80	0.02	7.53
26		methyl acetate	0.201	0.186	7.5	76	0.02	7.30
27		methyl tert butyl ether	1.097	1.041	5.1	83	0.02	7.88
28		trans-1,2-dichloroethene	0.480	0.482	-0.4	85	0.03	7.95
29		di-isopropyl ether	1.290	1.317	-2.1	88	0.02	8.59
30		2-butanone	0.027	0.023	14.8	76	0.03	9.56
31		1,1-dichloroethane	0.604	0.611	-1.2	86	0.02	8.65
32		chloroprene	0.487	0.492	-1.0	89	0.02	8.76
33		acrylonitrile	0.085	0.083	2.4	85	0.03	7.97
34		vinyl acetate	0.030	0.032	-6.7	91	0.03	8.64
35		ethyl tert-butyl ether	1.217	1.217	0.0	85	0.02	9.16
36		ethyl acetate	0.034	0.036	-5.9	86	0.03	9.56
37		2,2-dichloropropane	0.712	0.696	2.2	86	0.02	9.55
38		cis-1,2-dichloroethene	0.356	0.338	5.1	84	0.02	9.57
39		methyl acrylate	0.179	0.154	14.0	76	0.03	9.66
40		propionitrile	0.033	0.032	3.0	80	0.02	9.72
41		tert-Butyl Formate	0.309	0.302	2.3	83	0.03	10.07

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VX6649-CC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X154235.D
Project: MHIC-592/593 Tanks

42		bromochloromethane	0.159	0.157	1.3	84	0.02	9.97
43		tetrahydrofuran	0.107	0.100	6.5	86	0.03	10.01
44		chloroform	0.575	0.557	3.1	87	0.02	10.04
45	S	dibromofluoromethane (s)	0.363	0.367	-1.1	89	0.02	10.30
46	S	1,2-dichloroethane-d4 (s)	0.339	0.367	-8.3	94	0.02	10.84
47		freon 113	0.339	0.384	-13.3	91	0.02	6.64
48		methacrylonitrile	0.147	0.140	4.8	83	0.03	9.93
49		1,1,1-trichloroethane	0.600	0.616	-2.7	90	0.02	10.33
50		cyclohexane	0.629	0.607	3.5	87	0.02	10.38
51	m	tert amyl alcohol		----------NA----------				
52	m	iso-octane	1.495	1.497	-0.1	85	0.02	10.85
53	I	1,4-difluorobenzene	1.000	1.000	0.0	89	0.03	11.41
54		epichlorohydrin	0.020	0.020	0.0	83	0.03	13.14
55		n-butyl alcohol	0.008	0.007	12.5	80	0.03	11.63
56		carbon tetrachloride	0.462	0.473	-2.4	90	0.03	10.57
57		1,1-dichloropropene	0.348	0.342	1.7	87	0.03	10.55
58		hexane	0.319	0.338	-6.0	91	0.02	8.26
59		benzene	1.041	0.979	6.0	86	0.02	10.89
60		tert-amyl methyl ether	0.945	0.862	8.8	81	0.03	10.93
61		heptane	0.186	0.191	-2.7	84	0.02	11.09
62		isopropyl acetate	0.644	0.563	12.6	78	0.02	10.84
63		1,2-dichloroethane	0.286	0.309	-8.0	90	0.02	10.95
64		trichloroethene	0.270	0.264	2.2	85	0.02	11.83
65	m	ethyl acrylate		----------NA----------				
66	m	tert amyl ethyl ether		----------NA----------				
67		2-nitropropane	0.081	0.076	6.2	84	0.03	12.95
68		2-chloroethyl vinyl ether	0.111	0.105	5.4	83	0.02	12.95
69		methyl methacrylate	0.127	0.124	2.4	83	0.03	12.24
70		1,2-dichloropropane	0.268	0.264	1.5	87	0.02	12.21
71		dibromomethane	0.138	0.139	-0.7	87	0.02	12.43
72		methylcyclohexane	0.522	0.523	-0.2	85	0.02	12.08
73		bromodichloromethane	0.343	0.343	0.0	87	0.03	12.62
74		cis-1,3-dichloropropene	0.417	0.420	-0.7	86	0.02	13.22
75	S	toluene-d8 (s)	1.170	1.191	-1.8	91	0.02	13.59
76		4-methyl-2-pentanone	0.086	0.087	-1.2	87	0.02	13.38
77		toluene	0.655	0.619	5.5	86	0.02	13.68
78		3-methyl-1-butanol	0.013	0.013	0.0	81	0.02	13.43
79		trans-1,3-dichloropropene	0.373	0.376	-0.8	86	0.02	14.00
80		ethyl methacrylate	0.281	0.271	3.6	87	0.02	13.99
81		1,1,2-trichloroethane	0.166	0.167	-0.6	87	0.02	14.29
82		2-hexanone	0.085	0.078	8.2	84	0.02	14.53
83	I	chlorobenzene-d5	1.000	1.000	0.0	92	0.02	15.61
84		3,3-Dimethyl-1-butanol	0.038	0.035	7.9	84	0.03	14.78
85		tetrachloroethene	0.276	0.249	9.8	87	0.02	14.45
86		1,3-dichloropropane	0.371	0.349	5.9	85	0.02	14.53
87		butyl acetate	0.186	0.158	15.1	80	0.03	14.63
88		dibromochloromethane	0.297	0.281	5.4	87	0.02	14.87
89		1,2-dibromoethane	0.232	0.222	4.3	84	0.02	15.05
90	m	n-butyl ether	1.594	1.556	2.4	90	0.02	15.56
91		chlorobenzene	0.816	0.780	4.4	88	0.02	15.66
92		1,1,1,2-tetrachloroethane	0.339	0.329	2.9	86	0.02	15.75
93		ethylbenzene	1.424	1.350	5.2	89	0.02	15.73
94		m,p-xylene	0.540	0.525	2.8	87	0.02	15.87
95		o-xylene	0.580	0.556	4.1	88	0.02	16.41
96		styrene	0.937	0.908	3.1	89	0.02	16.44
97		bromoform	0.234	0.230	1.7	89	0.02	16.78
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	93	0.02	18.36

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VX6649-CC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X154235.D
Project: MHIC-592/593 Tanks

99		isopropylbenzene	2.199	2.115	3.8	87	0.02	16.84
100		cis-1,4-dichloro-2-butene		----------NA----------				
101		Cyclohexanone	0.103	0.024	76.7#	23#	0.02	17.08
102	S	4-bromofluorobenzene (s)	0.712	0.739	-3.8	95	0.02	17.09
103		bromobenzene	0.613	0.584	4.7	88	0.02	17.31
104		1,1,2,2-tetrachloroethane	0.514	0.491	4.5	88	0.02	17.26
105		trans-1,4-dichloro-2-bute	0.166	0.155	6.6	84	0.02	17.30
106		1,2,3-trichloropropane	0.115	0.119	-3.5	91	0.02	17.33
107		n-propylbenzene	2.563	2.513	2.0	90	0.02	17.32
108	m	4-ethyltoluene		----------NA----------				
109		2-chlorotoluene	0.566	0.531	6.2	87	0.02	17.49
110		4-chlorotoluene	1.587	1.585	0.1	91	0.02	17.60
111		1,3,5-trimethylbenzene	1.962	1.912	2.5	90	0.02	17.50
112		tert-butylbenzene	1.690	1.536	9.1	86	0.02	17.87
113		pentachloroethane	0.416	0.401	3.6	86	0.02	17.97
114		1,2,4-trimethylbenzene	2.033	1.993	2.0	91	0.02	17.93
115	m	1,2,3-trimethylbenzene		----------NA----------				
116		sec-butylbenzene	2.801	2.705	3.4	89	0.02	18.10
117		1,3-dichlorobenzene	1.336	1.266	5.2	88	0.02	18.30
118		p-isopropyltoluene	2.569	2.459	4.3	90	0.02	18.22
119		1,4-dichlorobenzene	1.357	1.252	7.7	87	0.02	18.39
120		1,2-dichlorobenzene	1.380	1.329	3.7	89	0.02	18.77
121		benzyl chloride	1.326	1.130	14.8	76	0.02	18.52
122	m	1,4-diethylbenzene		----------NA----------				
123		n-butylbenzene	1.329	1.332	-0.2	90	0.02	18.64
124	m	1,2,4,5-tetramethylbenzen		----------NA----------				
125		1,2-dibromo-3-chloropropa	0.183	0.163	10.9	84	0.02	19.52
126		1,3,5-trichlorobenzene	1.485	1.506	-1.4	89	0.02	19.65
127		hexachlorobutadiene	0.782	0.754	3.6	88	0.02	20.32
128		naphthalene	2.355	2.234	5.1	87	0.02	20.50
129		1,2,4-trichlorobenzene	1.391	1.327	4.6	88	0.02	20.24
130	m	1,2,3-trichlorobenzene	1.256	1.177	6.3	88	0.02	20.72
131		hexachloroethane	0.453	0.391	13.7	87	0.02	19.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
x153959.D MX6638.M Fri Apr 24 11:57:10 2015 RPT1

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VX6649-CC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X154236.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\X-...vx6649-6650\x154236.d Vial: 4
Acq On    : 23 Apr 2015  11:19 am                    Operator: BenM
Sample    : cc6638-10                                Inst    : ACC-VOA-MSX
Misc      : MS83841,VX6649,5,,,,1                    Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MX6638.M (RTE Integrator)
Title        : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
Last Update  : Tue Apr 14 10:20:10 2015
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	73	0.02	7.51
2		tertiary butyl alcohol		----------NA----------				
3		1,4-dioxane		----------NA----------				
4	I	pentafluorobenzene	1.000	1.000	0.0	87	0.02	10.23
5	m	chlorotrifluoroethene		----------NA----------				
6		chlorodifluoromethane		----------NA----------				
7		dichlorodifluoromethane		----------NA----------				
8		chloromethane		----------NA----------				
9		vinyl chloride		----------NA----------				
10		bromomethane		----------NA----------				
11		chloroethane		----------NA----------				
12		vinyl bromide		----------NA----------				
13		trichlorofluoromethane		----------NA----------				
14		1,3-butadiene		----------NA----------				
15		pentane		----------NA----------				
16		ethyl ether		----------NA----------				
17		acrolein		----------NA----------				
18		1,1-dichloroethene		----------NA----------				
19		acetone	0.028	0.042	-50.0	151	0.00	6.80
20		allyl chloride		----------NA----------				
21		acetonitrile		----------NA----------				
22		iodomethane		----------NA----------				
23		iso-butyl alcohol		----------NA----------				
24		carbon disulfide		----------NA----------				
25		methylene chloride		----------NA----------				
26		methyl acetate		----------NA----------				
27		methyl tert butyl ether		----------NA----------				
28		trans-1,2-dichloroethene		----------NA----------				
29		di-isopropyl ether		----------NA----------				
30		2-butanone		----------NA----------				
31		1,1-dichloroethane		----------NA----------				
32		chloroprene		----------NA----------				
33		acrylonitrile		----------NA----------				
34		vinyl acetate		----------NA----------				
35		ethyl tert-butyl ether		----------NA----------				
36		ethyl acetate		----------NA----------				
37		2,2-dichloropropane		----------NA----------				
38		cis-1,2-dichloroethene		----------NA----------				
39		methyl acrylate		----------NA----------				
40		propionitrile		----------NA----------				
41		tert-Butyl Formate		----------NA----------				

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VX6649-CC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X154236.D
Project: MHIC-592/593 Tanks

42		bromochloromethane		----------NA----------				
43		tetrahydrofuran		----------NA----------				
44		chloroform		----------NA----------				
45	S	dibromofluoromethane (s)	0.363	0.365	-0.6	87	0.02	10.30
46	S	1,2-dichloroethane-d4 (s)	0.339	0.359	-5.9	90	0.02	10.83
47		freon 113		----------NA----------				
48		methacrylonitrile		----------NA----------				
49		1,1,1-trichloroethane		----------NA----------				
50		cyclohexane		----------NA----------				
51	m	tert amyl alcohol		----------NA----------				
52	m	iso-octane		----------NA----------				
53	I	1,4-difluorobenzene	1.000	1.000	0.0	87	0.02	11.40
54		epichlorohydrin		----------NA----------				
55		n-butyl alcohol		----------NA----------				
56		carbon tetrachloride		----------NA----------				
57		1,1-dichloropropene		----------NA----------				
58		hexane		----------NA----------				
59		benzene		----------NA----------				
60		tert-amyl methyl ether		----------NA----------				
61		heptane		----------NA----------				
62		isopropyl acetate		----------NA----------				
63		1,2-dichloroethane		----------NA----------				
64		trichloroethene		----------NA----------				
65	m	ethyl acrylate		----------NA----------				
66	m	tert amyl ethyl ether		----------NA----------				
67		2-nitropropane		----------NA----------				
68		2-chloroethyl vinyl ether		----------NA----------				
69		methyl methacrylate		----------NA----------				
70		1,2-dichloropropane		----------NA----------				
71		dibromomethane		----------NA----------				
72		methylcyclohexane		----------NA----------				
73		bromodichloromethane		----------NA----------				
74		cis-1,3-dichloropropene		----------NA----------				
75	S	toluene-d8 (s)	1.170	1.169	0.1	86	0.02	13.59
76		4-methyl-2-pentanone		----------NA----------				
77		toluene		----------NA----------				
78		3-methyl-1-butanol		----------NA----------				
79		trans-1,3-dichloropropene		----------NA----------				
80		ethyl methacrylate		----------NA----------				
81		1,1,2-trichloroethane		----------NA----------				
82		2-hexanone		----------NA----------				
83	I	chlorobenzene-d5	1.000	1.000	0.0	85	0.02	15.61
84		3,3-Dimethyl-1-butanol		----------NA----------				
85		tetrachloroethene		----------NA----------				
86		1,3-dichloropropane		----------NA----------				
87		butyl acetate		----------NA----------				
88		dibromochloromethane		----------NA----------				
89		1,2-dibromoethane		----------NA----------				
90	m	n-butyl ether		----------NA----------				
91		chlorobenzene		----------NA----------				
92		1,1,1,2-tetrachloroethane		----------NA----------				
93		ethylbenzene		----------NA----------				
94		m,p-xylene		----------NA----------				
95		o-xylene		----------NA----------				
96		styrene		----------NA----------				
97		bromoform		----------NA----------				
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	84	0.02	18.36

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VX6649-CC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X154236.D
Project: MHIC-592/593 Tanks

99		isopropylbenzene		----------NA----------				
100		cis-1,4-dichloro-2-butene		----------NA----------				
101		Cyclohexanone		----------NA----------				
102	S	4-bromofluorobenzene (s)	0.712	0.743	-4.4	86	0.02	17.09
103		bromobenzene		----------NA----------				
104		1,1,2,2-tetrachloroethane		----------NA----------				
105		trans-1,4-dichloro-2-bute		----------NA----------				
106		1,2,3-trichloropropane		----------NA----------				
107		n-propylbenzene		----------NA----------				
108	m	4-ethyltoluene		----------NA----------				
109		2-chlorotoluene		----------NA----------				
110		4-chlorotoluene		----------NA----------				
111		1,3,5-trimethylbenzene		----------NA----------				
112		tert-butylbenzene		----------NA----------				
113		pentachloroethane		----------NA----------				
114		1,2,4-trimethylbenzene		----------NA----------				
115	m	1,2,3-trimethylbenzene		----------NA----------				
116		sec-butylbenzene		----------NA----------				
117		1,3-dichlorobenzene		----------NA----------				
118		p-isopropyltoluene		----------NA----------				
119		1,4-dichlorobenzene		----------NA----------				
120		1,2-dichlorobenzene		----------NA----------				
121		benzyl chloride		----------NA----------				
122	m	1,4-diethylbenzene		----------NA----------				
123		n-butylbenzene		----------NA----------				
124	m	1,2,4,5-tetramethylbenzen		----------NA----------				
125		1,2-dibromo-3-chloropropa		----------NA----------				
126		1,3,5-trichlorobenzene		----------NA----------				
127		hexachlorobutadiene		----------NA----------				
128		naphthalene		----------NA----------				
129		1,2,4-trichlorobenzene		----------NA----------				
130	m	1,2,3-trichlorobenzene		----------NA----------				
131		hexachloroethane		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
x153960.D MX6638.M Fri Apr 24 11:58:44 2015 RPT1

6.9.16

6

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: VX6651-CC6638
Lab FileID: X154286.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\x154286.D Vial: 2
Acq On : 25 Apr 2015 9:26 am Operator: BenM
Sample : cc6638-20 Inst : ACC-VOA-M
Misc : MS84141,VX6651,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MX6638.M (RTE Integrator)
Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Mon Apr 27 08:30:58 2015
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	99	0.01	7.51
2		tertiary butyl alcohol	1.019	1.122	-10.1	104	0.00	7.64
3		1,4-dioxane	0.073	0.080	-9.6	102	0.02	12.38
4	I	pentafluorobenzene	1.000	1.000	0.0	91	0.01	10.22
5	m	chlorotrifluoroethene		----------NA----------				
6		chlorodifluoromethane	0.779	0.804	-3.2	90	0.00	3.82
7		dichlorodifluoromethane	0.869	1.052	-21.1#	102	-0.01	3.82
8		chloromethane	0.693	0.704	-1.6	92	0.00	4.13
9		vinyl chloride	0.769	0.804	-4.6	92	0.00	4.41
10		bromomethane	0.403	0.370	8.2	83	0.00	5.09
11		chloroethane	0.258	0.251	2.7	88	0.00	5.27
12		vinyl bromide		----------NA----------				
13		trichlorofluoromethane	0.761	0.799	-5.0	90	0.01	5.78
14		1,3-butadiene		----------NA----------				
15		pentane		----------NA----------				
16		ethyl ether	0.147	0.151	-2.7	90	0.02	6.22
17		acrolein	0.051	0.051	0.0	92	0.01	6.54
18		1,1-dichloroethene	0.594	0.627	-5.6	96	0.01	6.68
19		acetone	0.028	0.042	-50.0#	146	0.00	6.81
20		allyl chloride	0.170	0.172	-1.2	89	0.02	7.30
21		acetonitrile	0.031	0.035	-12.9	105	0.01	7.32
22		iodomethane	0.726	0.714	1.7	89	0.01	7.01
23		iso-butyl alcohol	0.016	0.020	-25.0#	112	0.01	10.64
24		carbon disulfide	1.407	1.341	4.7	91	0.01	7.12
25		methylene chloride	0.396	0.353	10.9	85	0.02	7.53
26		methyl acetate	0.201	0.205	-2.0	88	0.02	7.30
27		methyl tert butyl ether	1.097	1.139	-3.8	94	0.00	7.87
28		trans-1,2-dichloroethene	0.480	0.505	-5.2	93	0.02	7.94
29		di-isopropyl ether	1.290	1.390	-7.8	97	0.02	8.59
30		2-butanone	0.027	0.039	-44.4#	135	0.02	9.55
31		1,1-dichloroethane	0.604	0.636	-5.3	94	0.02	8.64
32		chloroprene	0.487	0.489	-0.4	93	0.01	8.75
33		acrylonitrile	0.085	0.092	-8.2	97	0.02	7.96
34		vinyl acetate	0.030	0.038	-26.7#	111	0.02	8.63
35		ethyl tert-butyl ether	1.217	1.282	-5.3	94	0.02	9.16
36		ethyl acetate	0.034	0.043	-26.5#	106	0.03	9.56
37		2,2-dichloropropane	0.712	0.737	-3.5	95	0.02	9.55
38		cis-1,2-dichloroethene	0.356	0.345	3.1	90	0.01	9.56
39		methyl acrylate	0.179	0.180	-0.6	92	0.02	9.66
40		propionitrile	0.033	0.040	-21.2#	104	0.02	9.71
41		tert-Butyl Formate	0.309	0.333	-7.8	96	0.02	10.07

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VX6651-CC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X154286.D
Project: MHIC-592/593 Tanks

42		bromochloromethane	0.159	0.159	0.0	89	0.00	9.96
43		tetrahydrofuran	0.107	0.118	-10.3	106	0.03	10.00
44		chloroform	0.575	0.584	-1.6	95	0.02	10.04
45	S	dibromofluoromethane (s)	0.363	0.381	-5.0	97	0.02	10.30
46	S	1,2-dichloroethane-d4 (s)	0.339	0.370	-9.1	99	0.02	10.83
47		freon 113	0.339	0.372	-9.7	92	0.02	6.64
48		methacrylonitrile	0.147	0.161	-9.5	100	0.02	9.92
49		1,1,1-trichloroethane	0.600	0.619	-3.2	95	0.02	10.32
50		cyclohexane	0.629	0.631	-0.3	94	0.02	10.38
51	m	tert amyl alcohol		----------NA----------				
52	m	iso-octane	1.495	1.638	-9.6	97	0.01	10.84
53	I	1,4-difluorobenzene	1.000	1.000	0.0	93	0.02	11.40
54		epichlorohydrin	0.020	0.024	-20.0	105	0.02	13.12
55		n-butyl alcohol	0.008	0.010	-25.0#	110	0.02	11.63
56		carbon tetrachloride	0.462	0.470	-1.7	94	0.02	10.56
57		1,1-dichloropropene	0.348	0.358	-2.9	95	0.02	10.54
58		hexane	0.319	0.351	-10.0	99	0.01	8.26
59		benzene	1.041	1.006	3.4	92	0.02	10.89
60		tert-amyl methyl ether	0.945	0.940	0.5	93	0.02	10.92
61		heptane	0.186	0.203	-9.1	94	0.01	11.08
62		isopropyl acetate	0.644	0.656	-1.9	95	0.02	10.83
63		1,2-dichloroethane	0.286	0.329	-15.0	100	0.02	10.95
64		trichloroethene	0.270	0.273	-1.1	92	0.02	11.83
65	m	ethyl acrylate		----------NA----------				
66	m	tert amyl ethyl ether		----------NA----------				
67		2-nitropropane	0.081	0.094	-16.0	108	0.02	12.95
68		2-chloroethyl vinyl ether	0.111	0.118	-6.3	98	0.02	12.95
69		methyl methacrylate	0.127	0.137	-7.9	97	0.02	12.23
70		1,2-dichloropropane	0.268	0.275	-2.6	95	0.01	12.20
71		dibromomethane	0.138	0.145	-5.1	95	0.02	12.43
72		methylcyclohexane	0.522	0.542	-3.8	92	0.01	12.07
73		bromodichloromethane	0.343	0.360	-5.0	96	0.02	12.61
74		cis-1,3-dichloropropene	0.417	0.441	-5.8	94	0.02	13.22
75	S	toluene-d8 (s)	1.170	1.164	0.5	93	0.02	13.58
76		4-methyl-2-pentanone	0.086	0.099	-15.1	103	0.02	13.37
77		toluene	0.655	0.623	4.9	91	0.02	13.68
78		3-methyl-1-butanol	0.013	0.016	-23.1#	109	0.01	13.42
79		trans-1,3-dichloropropene	0.373	0.409	-9.7	98	0.01	13.99
80		ethyl methacrylate	0.281	0.296	-5.3	99	0.02	13.98
81		1,1,2-trichloroethane	0.166	0.182	-9.6	99	0.02	14.28
82		2-hexanone	0.085	0.110	-29.4#	124	0.02	14.53
83	I	chlorobenzene-d5	1.000	1.000	0.0	93	0.02	15.61
84		3,3-Dimethyl-1-butanol	0.038	0.045	-18.4	110	0.02	14.77
85		tetrachloroethene	0.276	0.268	2.9	94	0.02	14.45
86		1,3-dichloropropane	0.371	0.396	-6.7	98	0.02	14.52
87		butyl acetate	0.186	0.190	-2.2	97	0.02	14.62
88		dibromochloromethane	0.297	0.314	-5.7	98	0.02	14.87
89		1,2-dibromoethane	0.232	0.247	-6.5	95	0.02	15.05
90	m	n-butyl ether	1.594	1.642	-3.0	96	0.02	15.55
91		chlorobenzene	0.816	0.817	-0.1	93	0.02	15.65
92		1,1,1,2-tetrachloroethane	0.339	0.358	-5.6	95	0.01	15.74
93		ethylbenzene	1.424	1.411	0.9	94	0.02	15.72
94		m,p-xylene	0.540	0.542	-0.4	91	0.02	15.87
95		o-xylene	0.580	0.587	-1.2	94	0.02	16.41
96		styrene	0.937	0.950	-1.4	94	0.02	16.44
97		bromoform	0.234	0.251	-7.3	98	0.01	16.78
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	92	0.01	18.36

Continuing Calibration Summary

Job Number: JB93023 **Sample:** VX6651-CC6638
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** X154286.D
Project: MHIC-592/593 Tanks

99		isopropylbenzene	2.199	2.224	-1.1	91	0.01	16.83
100		cis-1,4-dichloro-2-butene		----------NA----------				
101		Cyclohexanone	0.103	0.149	-44.7#	140	0.01	17.07
102	S	4-bromofluorobenzene (s)	0.712	0.738	-3.7	94	0.02	17.09
103		bromobenzene	0.613	0.601	2.0	90	0.01	17.30
104		1,1,2,2-tetrachloroethane	0.514	0.563	-9.5	100	0.01	17.25
105		trans-1,4-dichloro-2-bute	0.166	0.187	-12.7	100	0.02	17.30
106		1,2,3-trichloropropane	0.115	0.134	-16.5	102	0.01	17.32
107		n-propylbenzene	2.563	2.601	-1.5	93	0.01	17.31
108	m	4-ethyltoluene		----------NA----------				
109		2-chlorotoluene	0.566	0.561	0.9	91	0.01	17.48
110		4-chlorotoluene	1.587	1.668	-5.1	95	0.01	17.60
111		1,3,5-trimethylbenzene	1.962	2.005	-2.2	93	0.01	17.49
112		tert-butylbenzene	1.690	1.663	1.6	92	0.02	17.87
113		pentachloroethane	0.416	0.441	-6.0	94	0.01	17.97
114		1,2,4-trimethylbenzene	2.033	2.060	-1.3	94	0.01	17.92
115	m	1,2,3-trimethylbenzene		----------NA----------				
116		sec-butylbenzene	2.801	2.847	-1.6	93	0.01	18.09
117		1,3-dichlorobenzene	1.336	1.354	-1.3	94	0.01	18.29
118		p-isopropyltoluene	2.569	2.536	1.3	92	0.01	18.22
119		1,4-dichlorobenzene	1.357	1.348	0.7	93	0.01	18.38
120		1,2-dichlorobenzene	1.380	1.405	-1.8	93	0.01	18.77
121		benzyl chloride	1.326	1.409	-6.3	94	0.01	18.51
122	m	1,4-diethylbenzene		----------NA----------				
123		n-butylbenzene	1.329	1.377	-3.6	93	0.01	18.63
124	m	1,2,4,5-tetramethylbenzen		----------NA----------				
125		1,2-dibromo-3-chloropropa	0.183	0.197	-7.7	100	0.01	19.51
126		1,3,5-trichlorobenzene	1.485	1.585	-6.7	93	0.01	19.65
127		hexachlorobutadiene	0.782	0.794	-1.5	92	0.02	20.32
128		naphthalene	2.355	2.554	-8.5	99	0.02	20.49
129		1,2,4-trichlorobenzene	1.391	1.461	-5.0	96	0.02	20.23
130	m	1,2,3-trichlorobenzene	1.256	1.312	-4.5	98	0.02	20.71
131		hexachloroethane	0.453	0.419	7.5	93	0.01	18.99

(#) = Out of Range SPCC's out = 0 CCC's out = 0
x153959.D MX6638.M Mon Apr 27 12:36:26 2015 GCMSX

New Jersey

ACCUTEST LABORATORIES

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225515.D
Acq On : 29 Apr 2015 12:12 am
Operator : ThienN
Sample : jb93023-1
Misc : MS84082,VE9899,4.7,,100,10,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 29 09:01:55 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.953	65	148855	500.00	ug/L	-0.02
4) pentafluorobenzene	10.123	168	245495	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	11.049	114	305640	50.00	ug/L	-0.02
84) chlorobenzene-d5	14.381	117	297016	50.00	ug/L	-0.01
101) 1,4-dichlorobenzene-d4	16.954	152	185573	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.212	113	105204	45.63	ug/L	-0.02
Spiked Amount 50.000	Range 70 - 122		Recovery = 91.26%			
48) 1,2-dichloroethane-d4 (s)	10.636	65	101256	40.13	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 80.26%			
76) toluene-d8 (s)	12.738	98	363723	43.55	ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 87.10%			
103) 4-bromofluorobenzene (s)	15.657	95	155515	42.72	ug/L	-0.01
Spiked Amount 50.000	Range 72 - 130		Recovery = 85.44%			

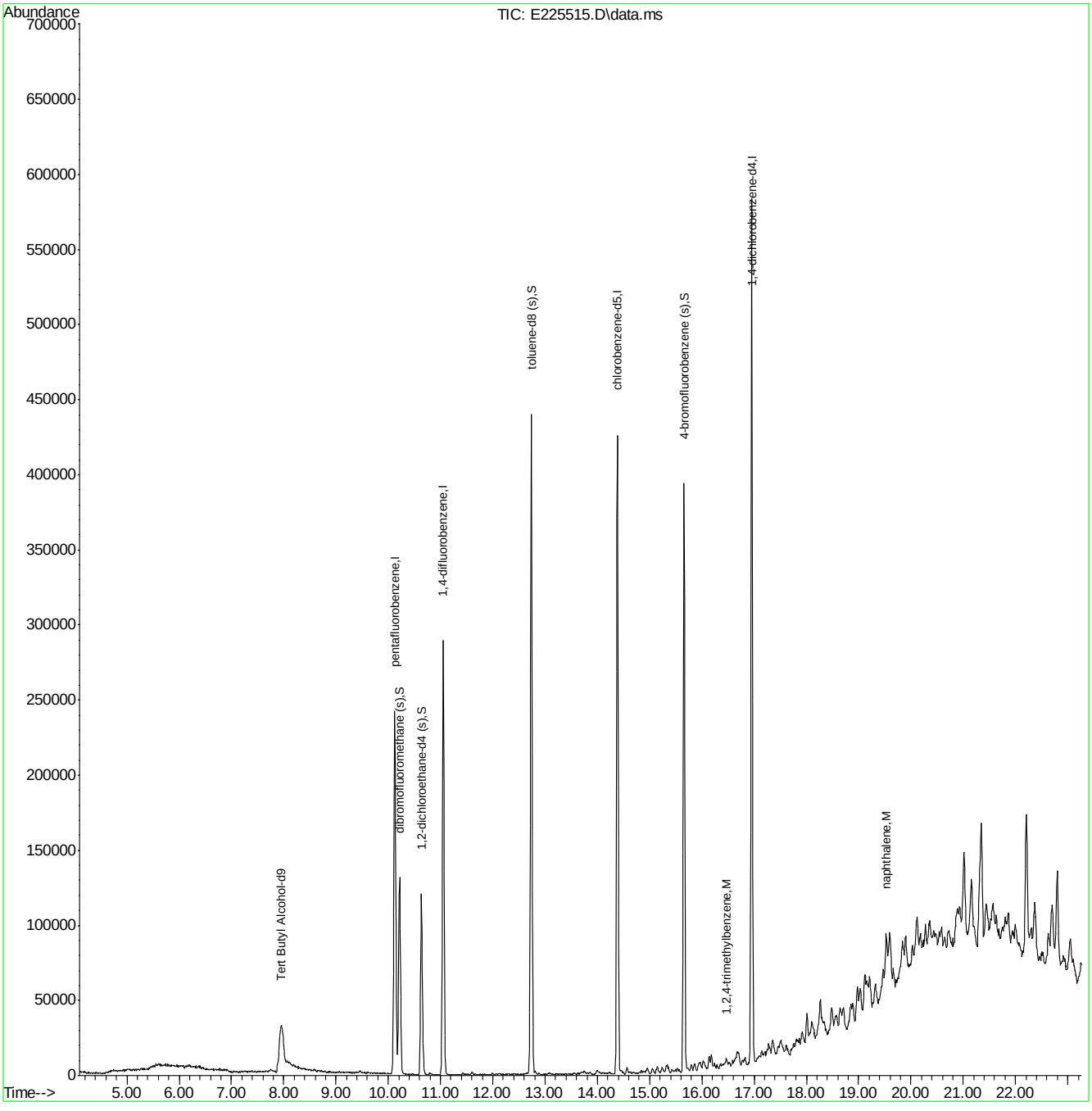
Target Compounds						Qvalue
116) 1,2,4-trimethylbenzene	16.473	105	3540	0.32	ug/L	87
130) naphthalene	19.532	128	7451	0.51	ug/L	95

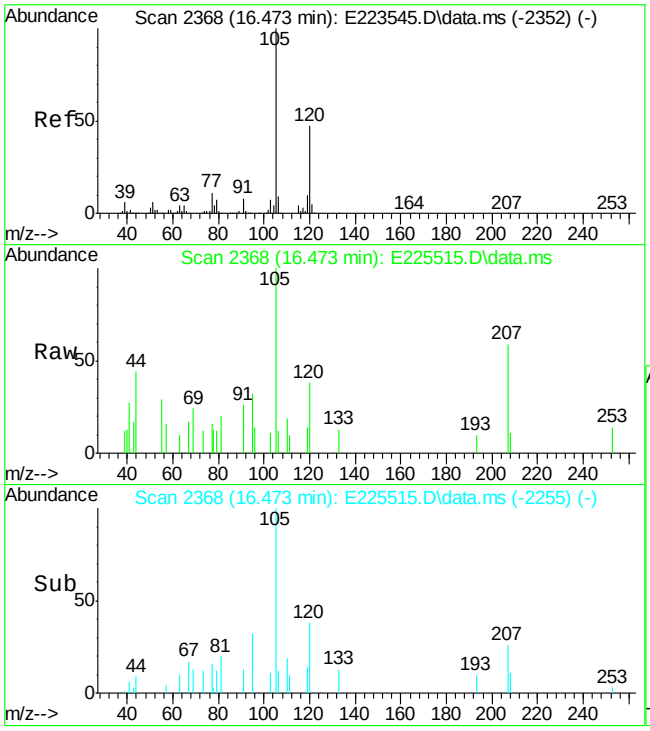
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225515.D
Acq On : 29 Apr 2015 12:12 am
Operator : ThienN
Sample : jb93023-1
Misc : MS84082,VE9899,4.7,,100,10,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 29 09:01:55 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

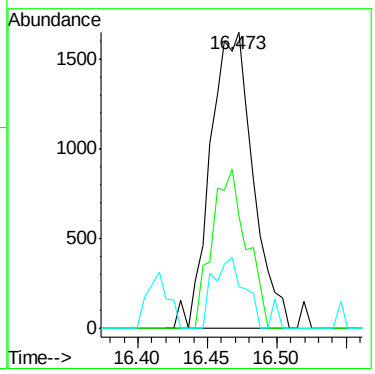


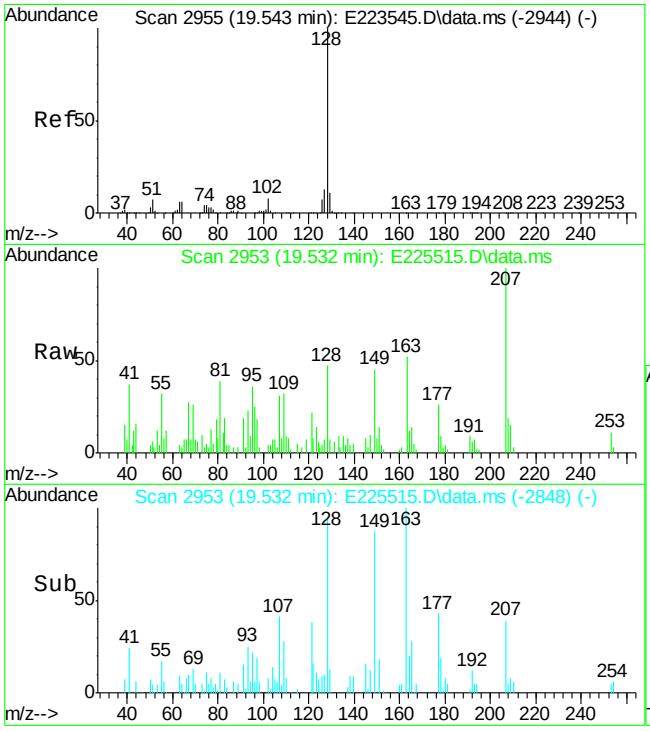


#116
1,2,4-trimethylbenzene
Concen: 0.32 ug/L
RT: 16.473 min Scan# 2368
Delta R.T. -0.000 min
Lab File: E225515.D
Acq: 29 Apr 2015 12:12 am

Tgt Ion:105 Resp: 3540

Ion	Ratio	Lower	Upper
105	100		
120	37.9	17.2	77.2
119	14.0	0.0	39.9

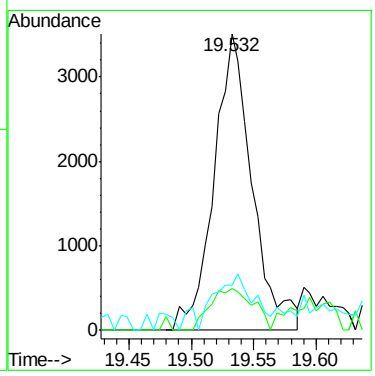




#130
naphthalene
Concen: 0.51 ug/L
RT: 19.532 min Scan# 2953
Delta R.T. -0.011 min
Lab File: E225515.D
Acq: 29 Apr 2015 12:12 am

Tgt Ion:128 Resp: 7451

Ion	Ratio	Lower	Upper
128	100		
129	9.5	0.0	40.9
127	10.4	0.0	42.7



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152305.D
Acq On : 23 Apr 2015 2:16 pm
Operator : BenM
Sample : jb93023-2
Misc : MS84082,VV6455,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 23 17:13:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	148815	500.00	ug/L	0.00
4) pentafluorobenzene	9.96	168	390107	50.00	ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	477581	50.00	ug/L	0.00
79) chlorobenzene-d5	14.32	117	435103	50.00	ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	263048	50.00	ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.05	113	141048	49.48	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 98.96%			
47) 1,2-dichloroethane-d4 (s)	10.49	65	117886	43.78	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 87.56%			
71) toluene-d8 (s)	12.64	98	563081	52.59	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.18%			
94) 4-bromofluorobenzene (s)	15.62	95	220347	52.32	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.64%			

Target Compounds

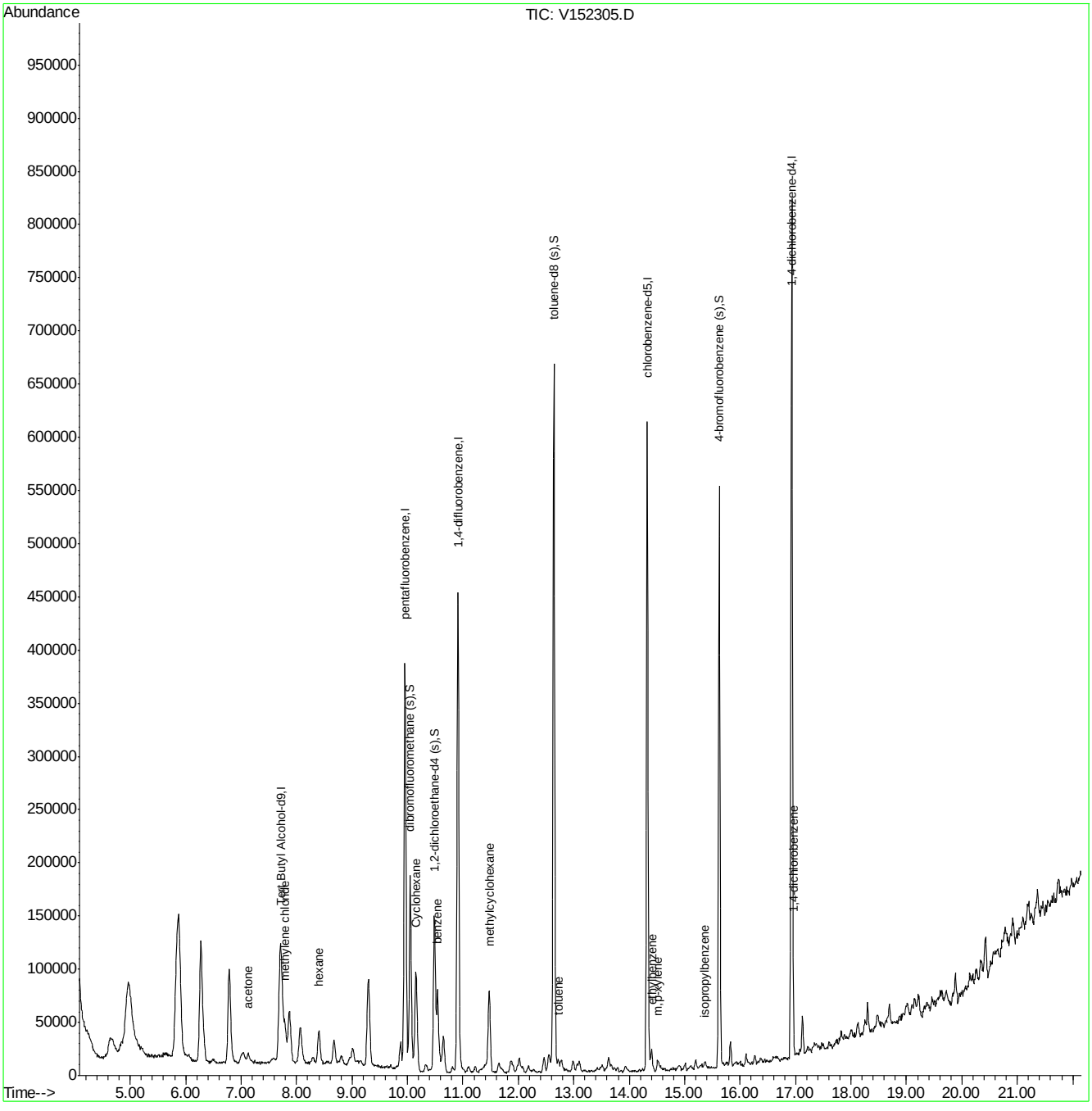
						Qvalue
18) acetone	7.13	43	16855	17.11	ug/L	92
24) methylene chloride	7.80	84	10973	2.93	ug/L	82
49) Cyclohexane	10.15	84	47029	8.38	ug/L #	52
51) methylcyclohexane	11.47	83	44203	7.43	ug/L	96
56) hexane	8.40	57	24195	6.31	ug/L	91
58) benzene	10.54	78	84143	6.47	ug/L	97
73) toluene	12.72	92	4028	0.56	ug/L #	96
88) ethylbenzene	14.40	91	11669	0.73	ug/L	99
89) m,p-xylene	14.52	106	2594	0.42	ug/L	78
96) isopropylbenzene	15.37	105	5106	0.27	ug/L	90
111) 1,4-dichlorobenzene	16.96	146	1922	0.22	ug/L	85

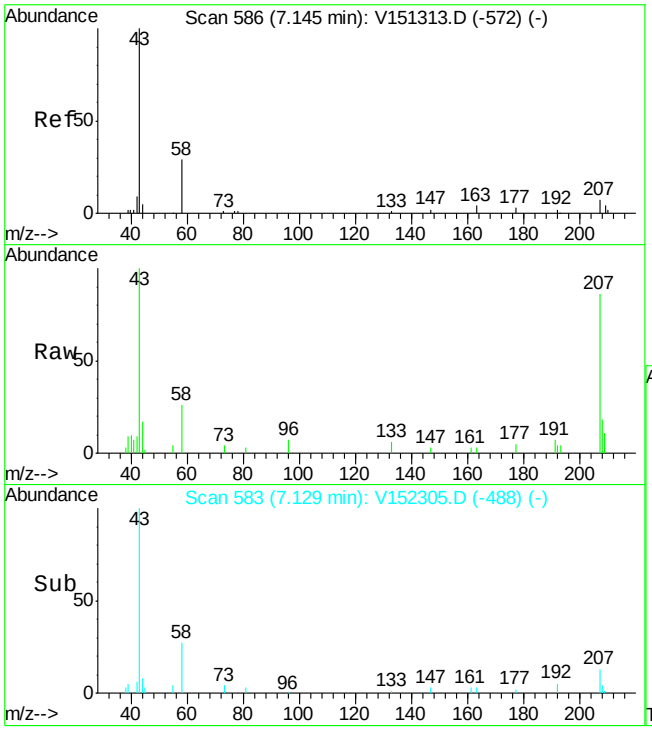
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152305.D
Acq On : 23 Apr 2015 2:16 pm
Operator : BenM
Sample : jb93023-2
Misc : MS84082,VV6455,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 23 17:13:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

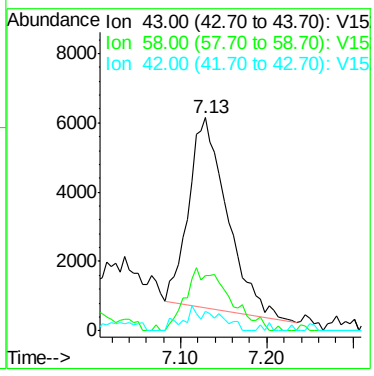


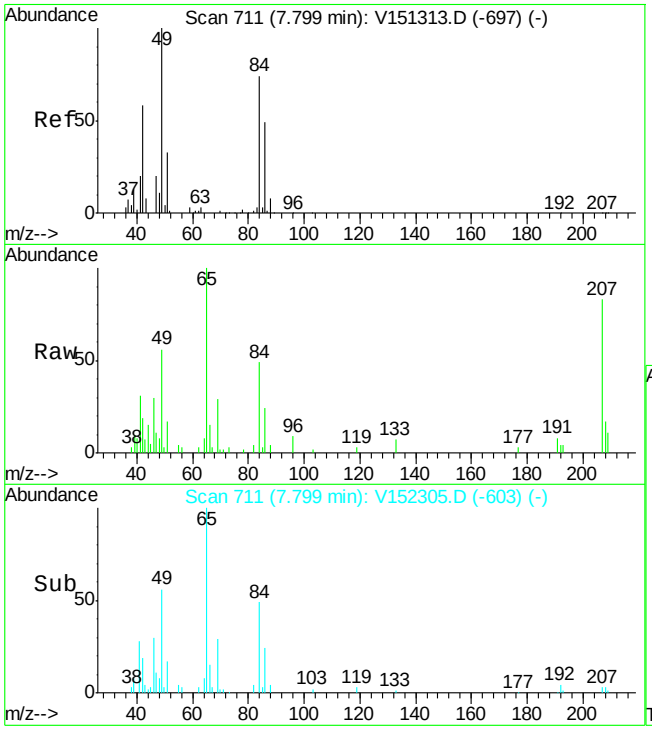


#18
acetone
Concen: 17.11 ug/L
RT: 7.13 min Scan# 583
Delta R.T. -0.01 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion: 43 Resp: 16855

Ion	Ratio	Lower	Upper
43	100		
58	27.2	22.7	42.1
42	9.2	5.6	10.4

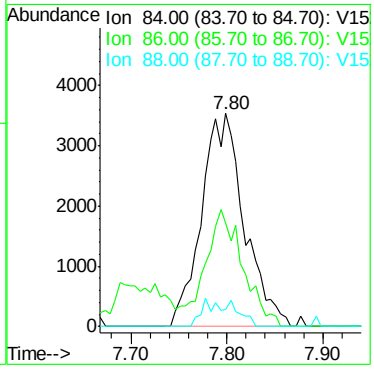


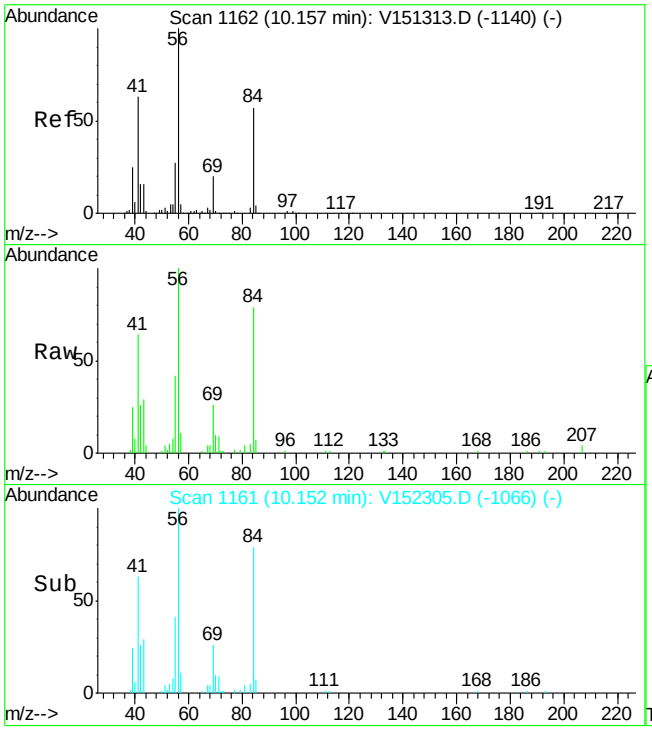


#24
methylene chloride
Concen: 2.93 ug/L
RT: 7.80 min Scan# 711
Delta R.T. 0.01 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion: 84 Resp: 10973

Ion	Ratio	Lower	Upper
84	100		
86	48.3	45.1	83.9
88	8.2	6.6	12.2

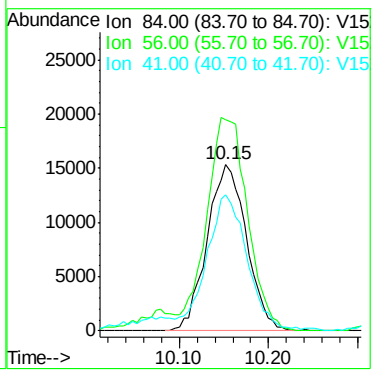


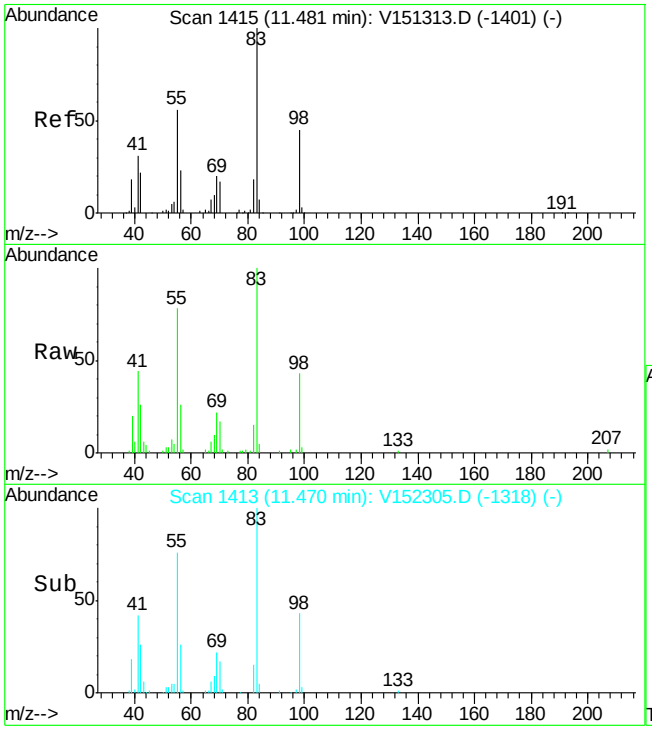


#49
Cyclohexane
Concen: 8.38 ug/L
RT: 10.15 min Scan# 1161
Delta R.T. -0.01 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion: 84 Resp: 47029

Ion	Ratio	Lower	Upper
84	100		
56	126.7	146.2	271.6#
41	79.5	86.2	160.0#

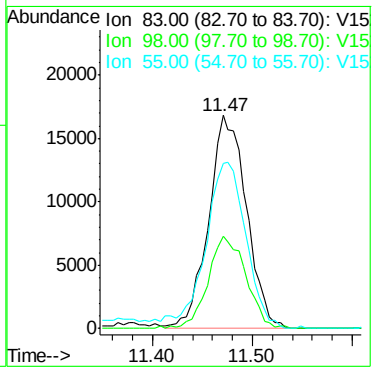


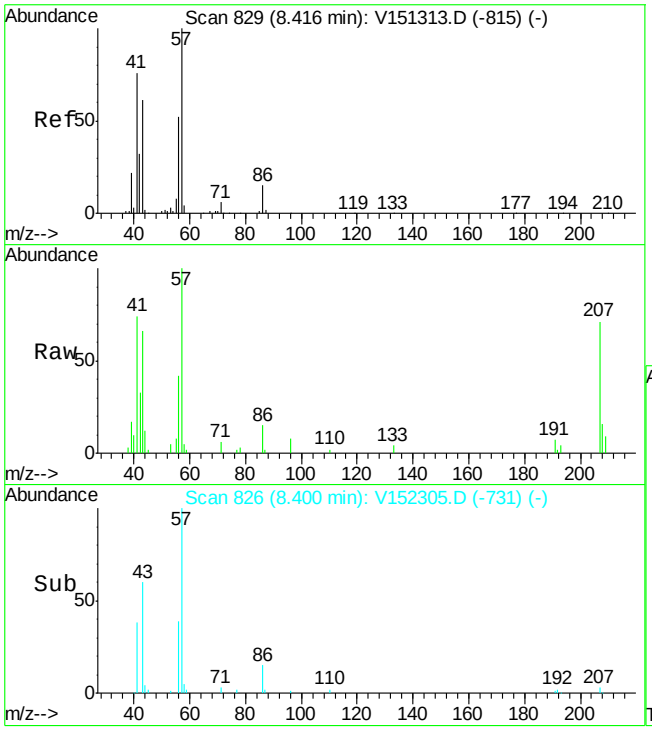


#51
methylcyclohexane
Concen: 7.43 ug/L
RT: 11.47 min Scan# 1413
Delta R.T. -0.01 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion: 83 Resp: 44203

Ion	Ratio	Lower	Upper
83	100		
98	43.1	30.2	56.0
55	77.5	57.8	107.4

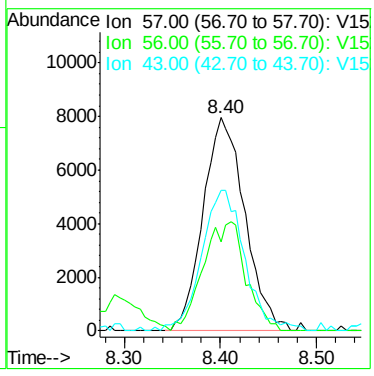


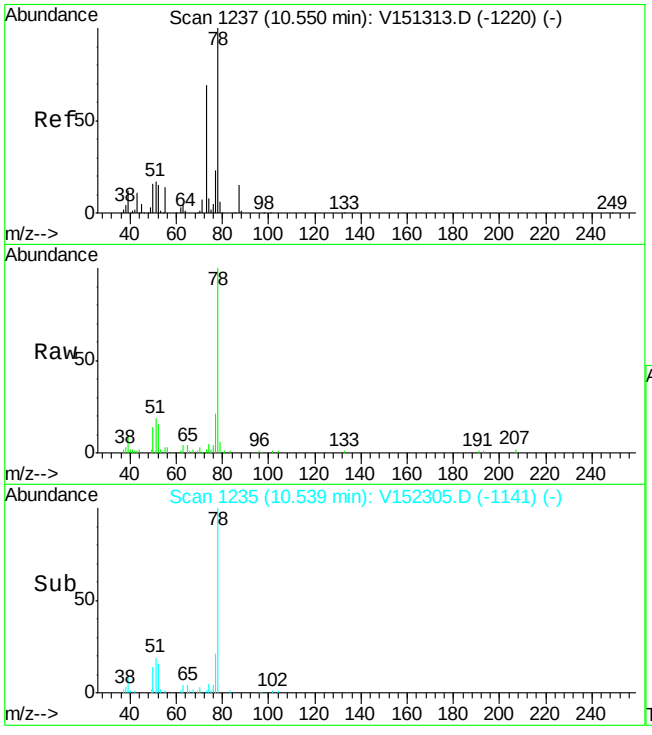


#56
hexane
Concen: 6.31 ug/L
RT: 8.40 min Scan# 826
Delta R.T. -0.01 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion: 57 Resp: 24195

Ion	Ratio	Lower	Upper
57	100		
56	41.9	21.1	81.1
43	63.7	37.8	97.8

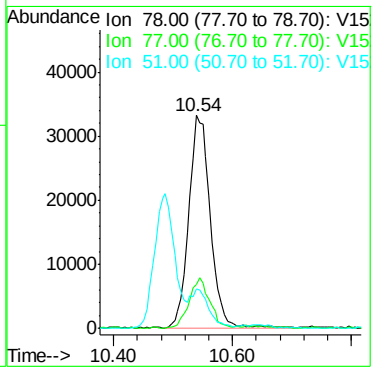




#58
benzene
Concen: 6.47 ug/L
RT: 10.54 min Scan# 1235
Delta R.T. -0.01 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion: 78 Resp: 84143

Ion	Ratio	Lower	Upper
78	100		
77	20.5	0.0	51.9
51	18.8	0.0	47.5



7.1.2

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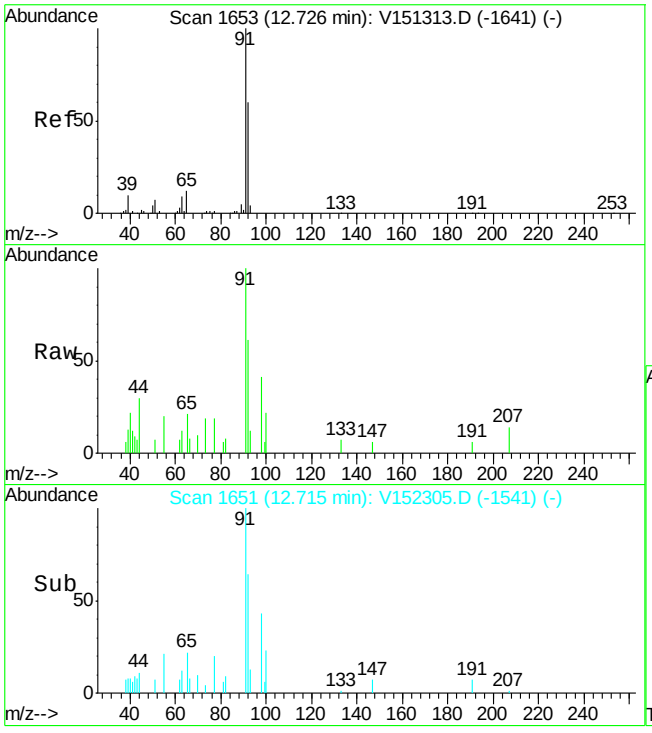
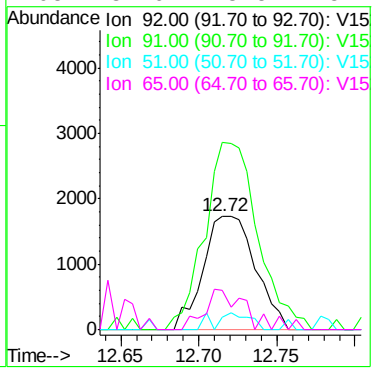
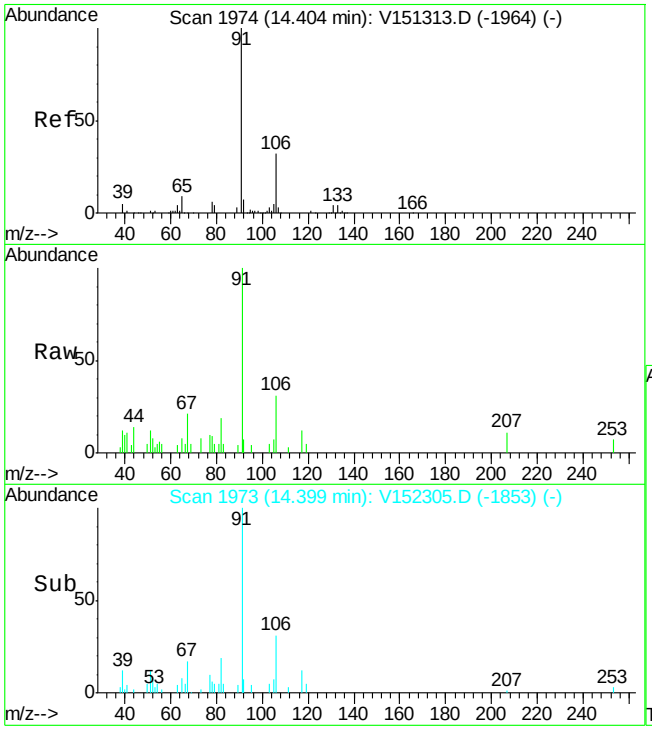


#73
toluene
Concen: 0.56 ug/L
RT: 12.72 min Scan# 1651
Delta R.T. -0.01 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion: 92 Resp: 4028

Ion	Ratio	Lower	Upper
92	100		
91	164.9	115.3	214.1
51	11.2	7.6	14.2
65	34.9	13.5	25.1#

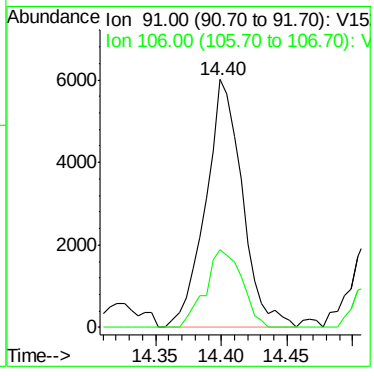




#88
ethylbenzene
Concen: 0.73 ug/L
RT: 14.40 min Scan# 1973
Delta R.T. 0.00 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion: 91 Resp: 11669

Ion	Ratio	Lower	Upper
91	100		
106	31.2	1.5	61.5



7.1.2

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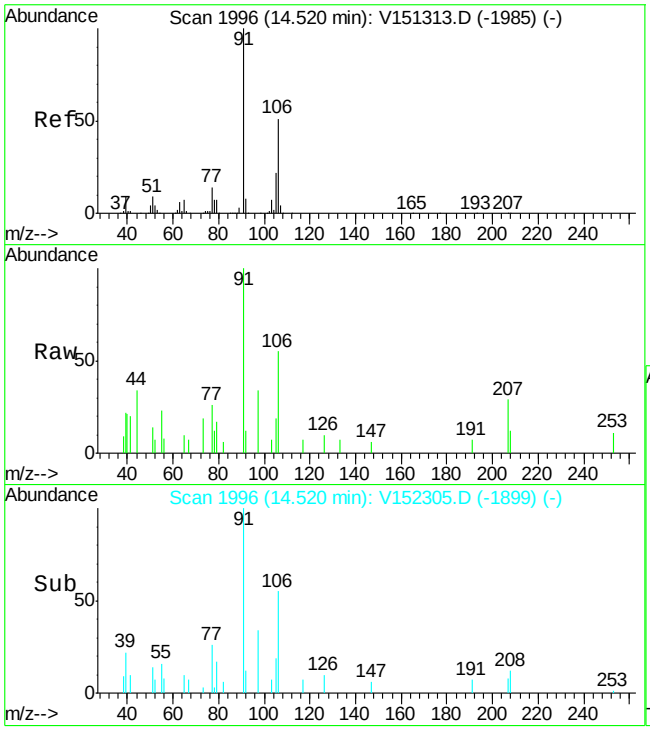
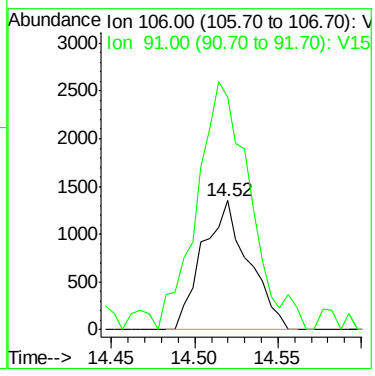
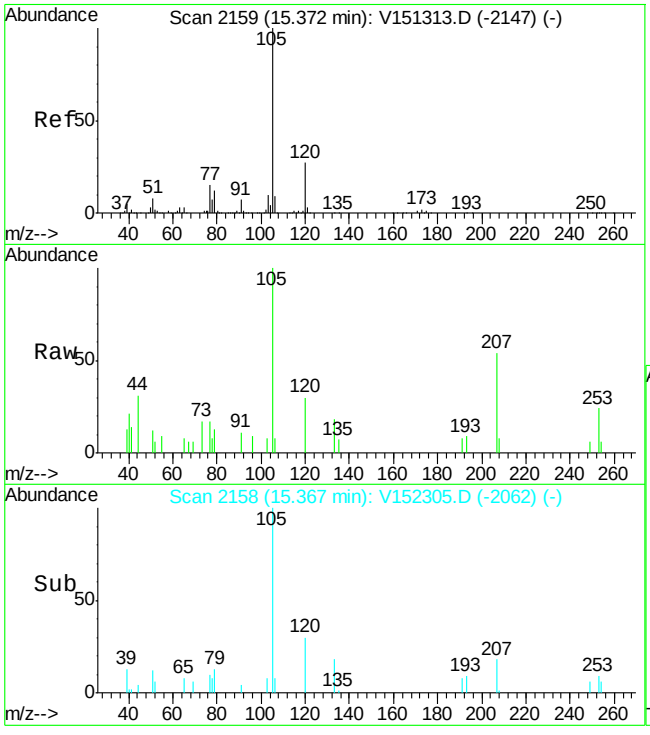


#89
m,p-xylene
Concen: 0.42 ug/L
RT: 14.52 min Scan# 1996
Delta R.T. 0.01 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion:106 Resp: 2594

Ion	Ratio	Lower	Upper
106	100		
91	163.2	137.2	254.8

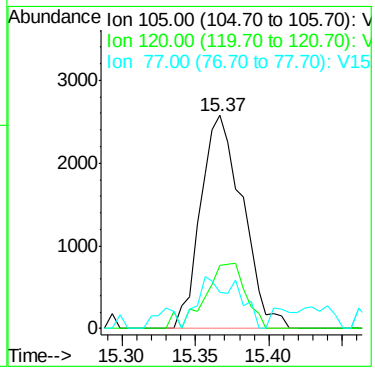


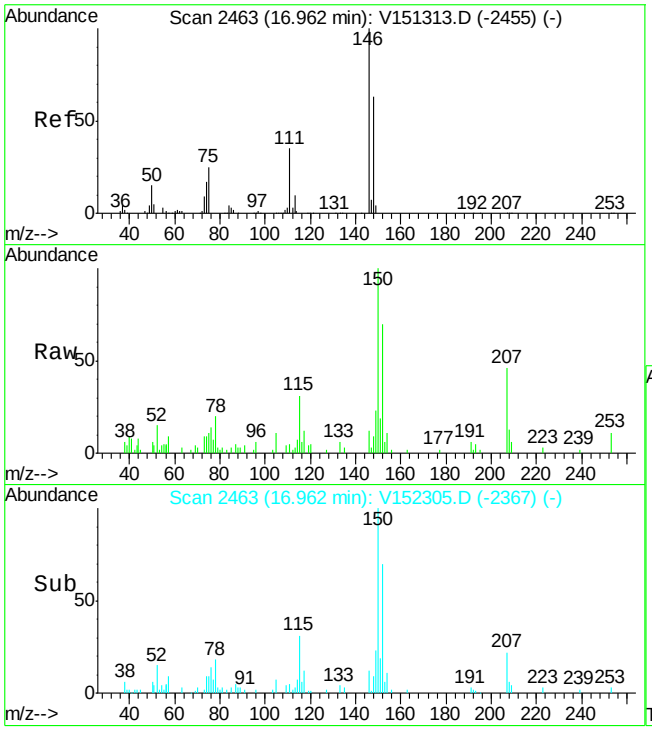


#96
isopropylbenzene
Concen: 0.27 ug/L
RT: 15.37 min Scan# 2158
Delta R.T. 0.00 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion:105 Resp: 5106

Ion	Ratio	Lower	Upper
105	100		
120	29.8	0.0	55.4
77	9.7	0.0	45.1

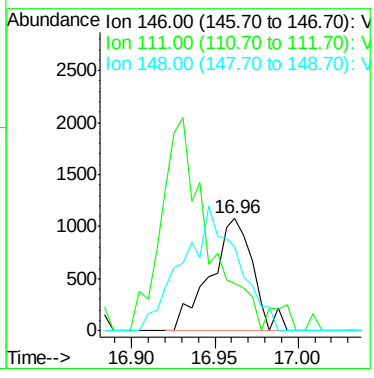




#111
1,4-dichlorobenzene
Concen: 0.22 ug/L
RT: 16.96 min Scan# 2463
Delta R.T. 0.00 min
Lab File: V152305.D
Acq: 23 Apr 2015 2:16 pm

Tgt Ion:146 Resp: 1922

Ion	Ratio	Lower	Upper
146	100		
111	42.6	3.9	63.9
148	74.6	33.4	93.4



7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225469.D
Acq On : 27 Apr 2015 7:48 pm
Operator : ThienN
Sample : jb93023-3
Misc : MS84082,VE9896,4.9,,100,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 28 11:45:23 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.958	65	106051	500.00	ug/L	-0.01
4) pentafluorobenzene	10.123	168	183618	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	11.049	114	228520	50.00	ug/L	-0.02
84) chlorobenzene-d5	14.381	117	211996	50.00	ug/L	-0.01
101) 1,4-dichlorobenzene-d4	16.954	152	140583	50.00	ug/L	0.00

System Monitoring Compounds						
47) dibromofluoromethane (s)	10.218	113	77180	44.76	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 89.52%			
48) 1,2-dichloroethane-d4 (s)	10.636	65	76973	40.79	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 81.58%			
76) toluene-d8 (s)	12.739	98	269012	43.08	ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 86.16%			
103) 4-bromofluorobenzene (s)	15.657	95	114307	41.45	ug/L	-0.01
Spiked Amount 50.000	Range 72 - 130		Recovery = 82.90%			

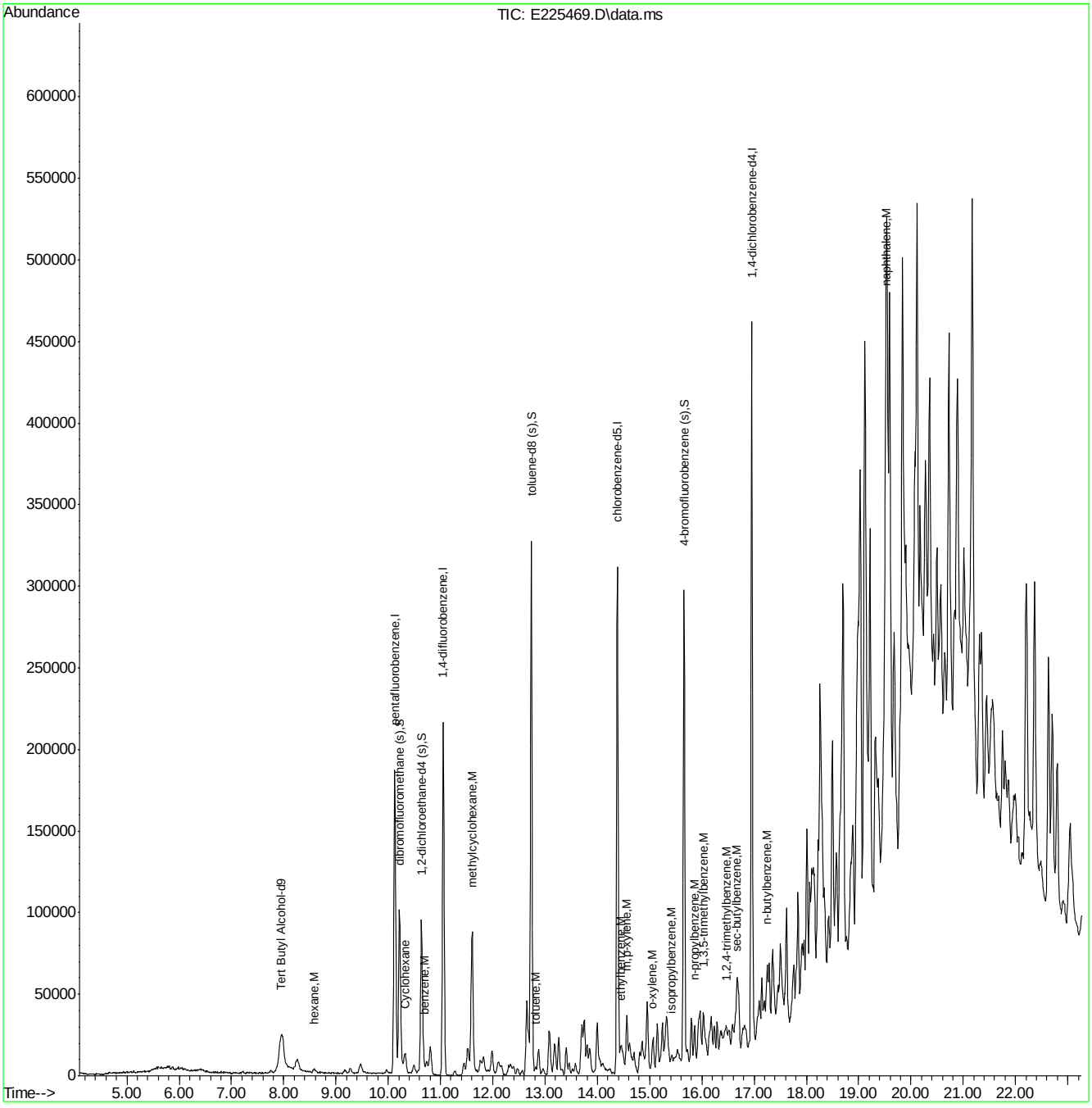
Target Compounds						Qvalue
52) Cyclohexane	10.312	84	5139	1.87	ug/L #	52
61) hexane	8.596	57	1383	0.81	ug/L	95
62) benzene	10.688	78	1630	0.24	ug/L	81
70) methylcyclohexane	11.604	83	50840	15.88	ug/L	98
78) toluene	12.812	92	1537	0.39	ug/L	86
95) ethylbenzene	14.454	91	2528	0.32	ug/L	81
96) m,p-xylene	14.569	106	3462	1.15	ug/L	97
97) o-xylene	15.040	106	1768	0.55	ug/L	81
102) isopropylbenzene	15.406	105	3473	0.36	ug/L	93
109) n-propylbenzene	15.866	91	6792	0.63	ug/L	93
113) 1,3,5-trimethylbenzene	16.018	105	3328	0.40	ug/L	94
116) 1,2,4-trimethylbenzene	16.468	105	7827	0.94	ug/L	95
117) sec-butylbenzene	16.656	105	2633	0.23	ug/L	78
124) n-butylbenzene	17.236	92	2299	0.46	ug/L #	76
130) naphthalene	19.538	128	28428	2.55	ug/L	49

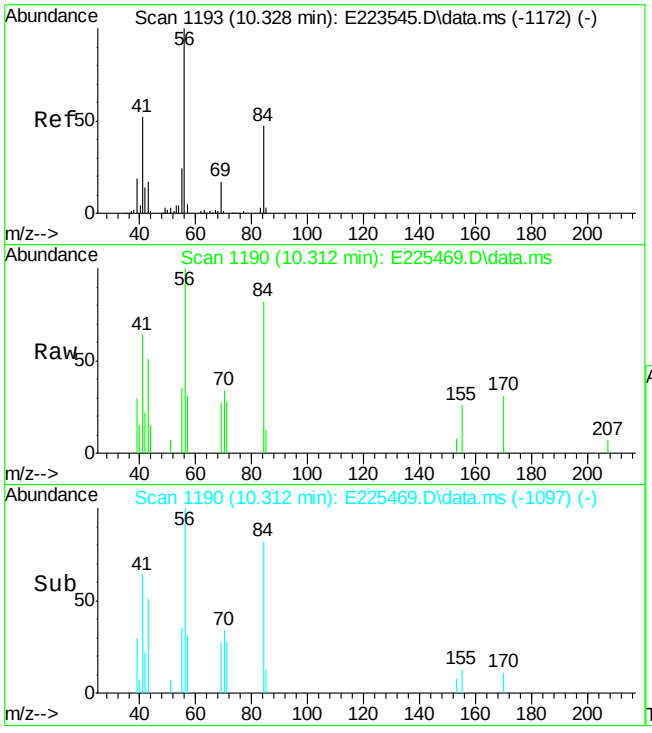
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225469.D
Acq On : 27 Apr 2015 7:48 pm
Operator : ThienN
Sample : jb93023-3
Misc : MS84082,VE9896,4.9,,100,10,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 28 11:45:23 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

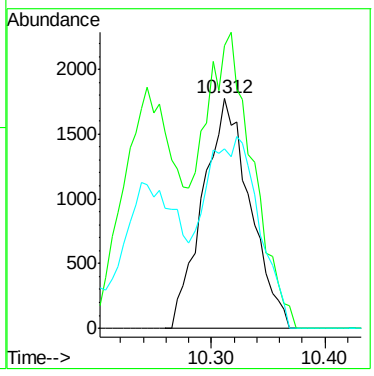


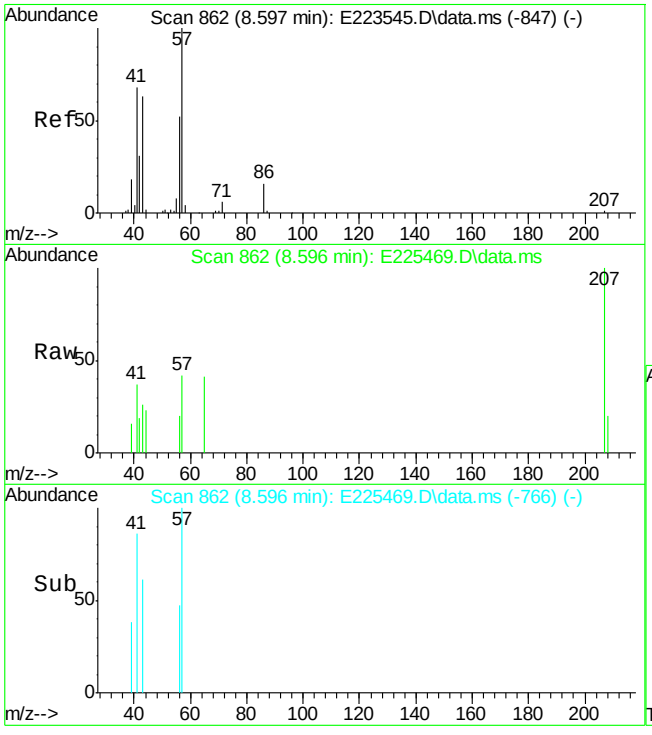


#52
Cyclohexane
Concen: 1.87 ug/L
RT: 10.312 min Scan# 1190
Delta R.T. -0.015 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion: 84 Resp: 5139

Ion	Ratio	Lower	Upper
84	100		
56	122.6	148.7	276.3#
41	78.0	77.9	144.7

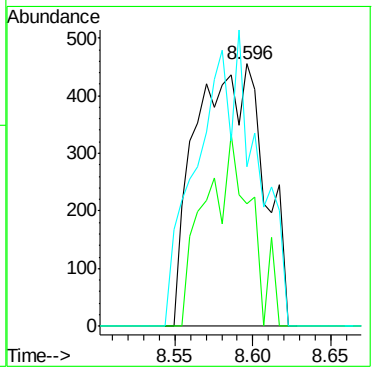




#61
hexane
Concen: 0.81 ug/L
RT: 8.596 min Scan# 862
Delta R.T. -0.000 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

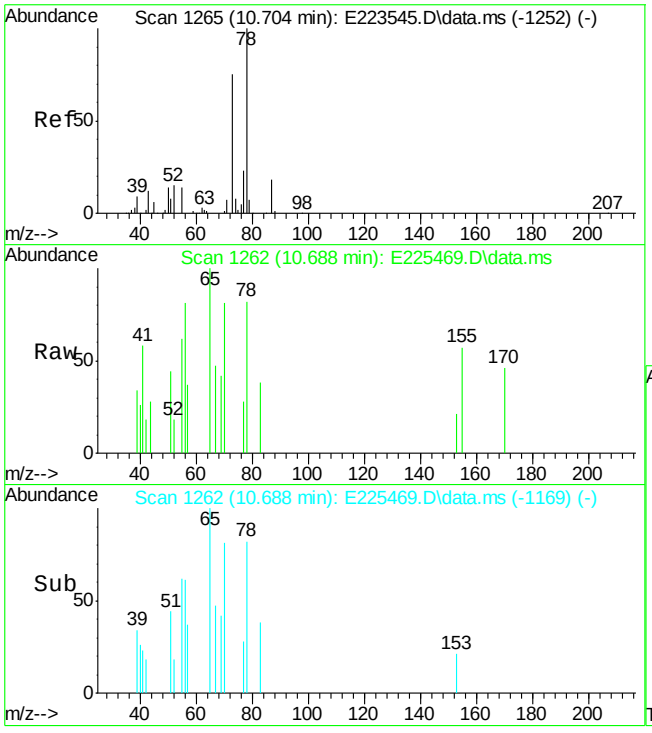
Tgt Ion: 57 Resp: 1383

Ion	Ratio	Lower	Upper
57	100		
56	46.8	21.8	81.8
43	60.7	33.3	93.3



7.1.3

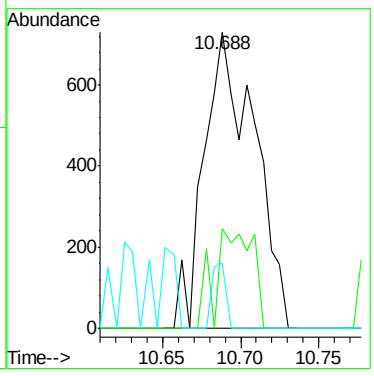
7

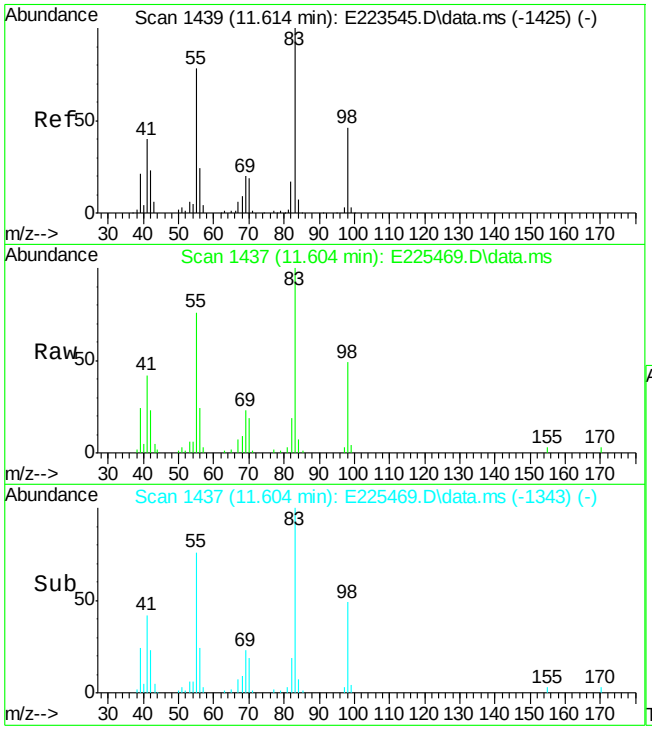


#62
benzene
Concen: 0.24 ug/L
RT: 10.688 min Scan# 1262
Delta R.T. -0.016 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion: 78 Resp: 1630

Ion	Ratio	Lower	Upper
78	100		
77	33.7	0.0	53.0
52	22.1	0.0	45.5

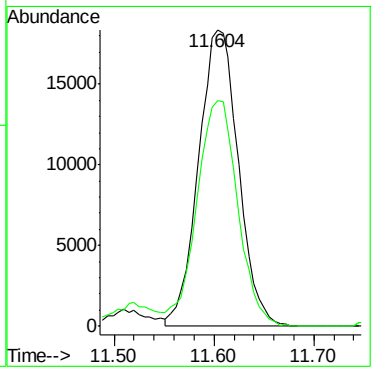


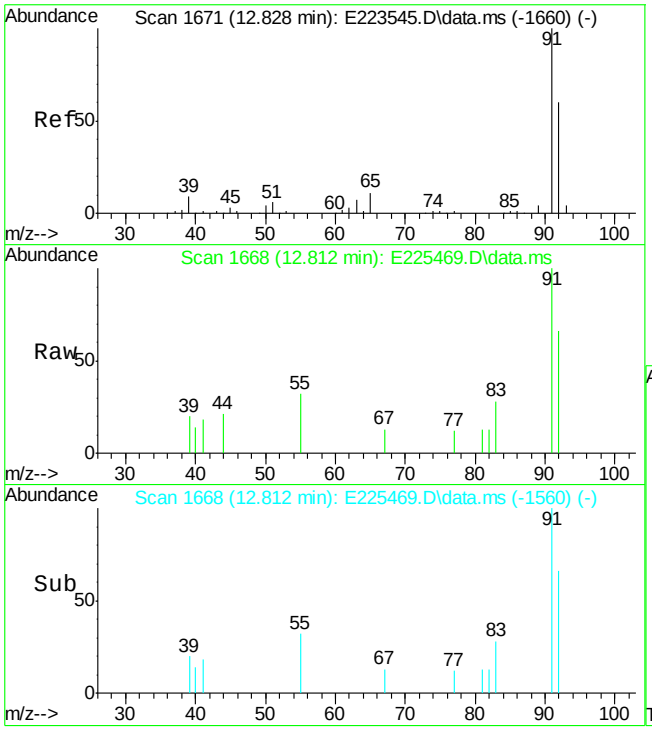


#70
methylcyclohexane
Concen: 15.88 ug/L
RT: 11.604 min Scan# 1437
Delta R.T. -0.010 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion: 83 Resp: 50840

Ion	Ratio	Lower	Upper
83	100		
55	76.0	54.3	100.9

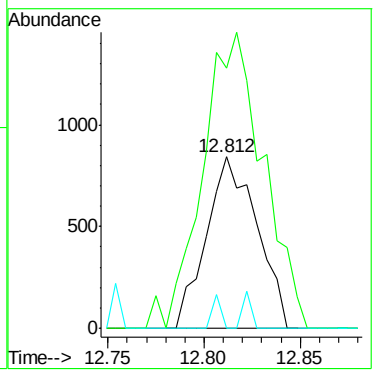


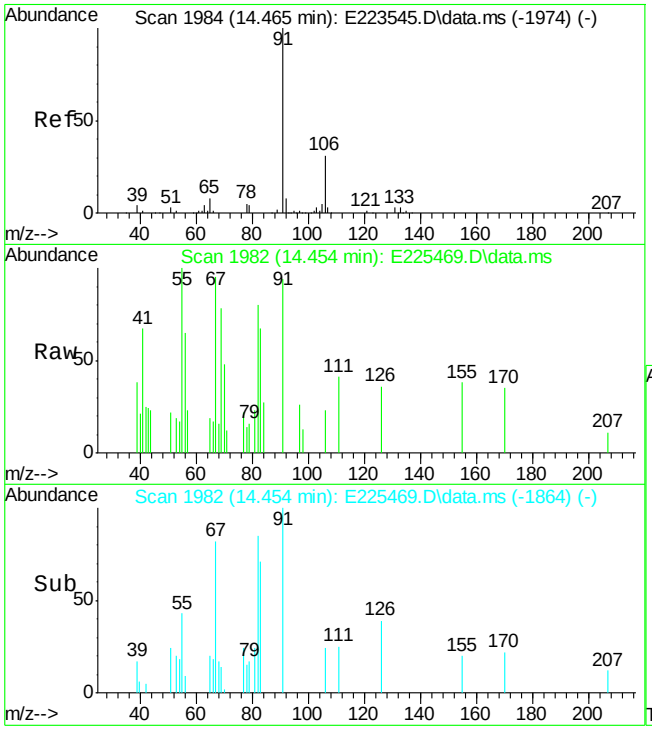


#78
toluene
Concen: 0.39 ug/L
RT: 12.812 min Scan# 1668
Delta R.T. -0.016 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion: 92 Resp: 1537

Ion	Ratio	Lower	Upper
92	100		
91	151.8	137.4	197.4
65	0.0	0.0	48.1

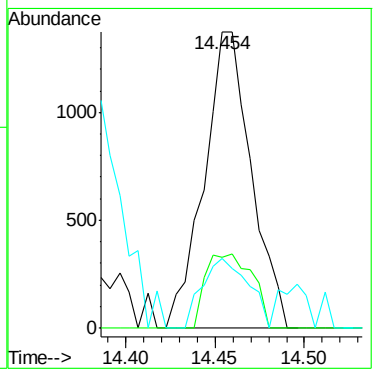


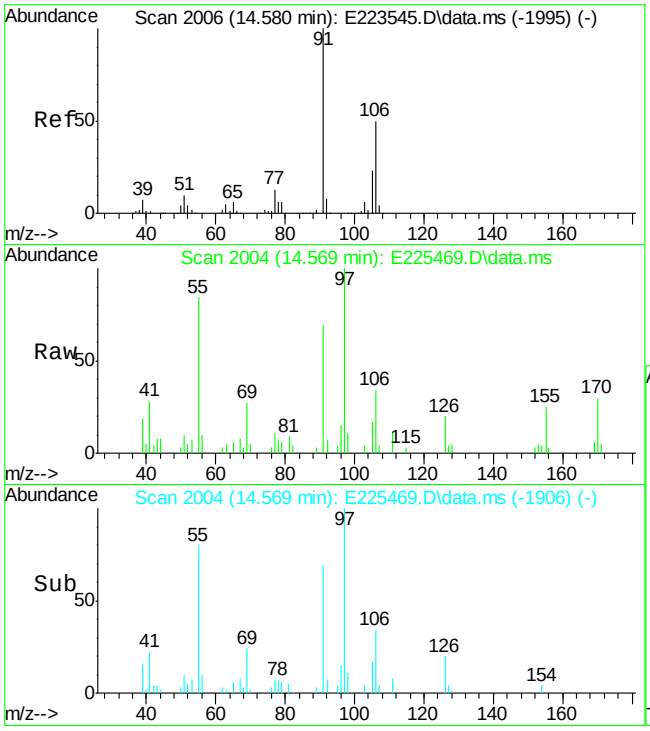


#95
ethylbenzene
Concen: 0.32 ug/L
RT: 14.454 min Scan# 1982
Delta R.T. -0.011 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion: 91 Resp: 2528

Ion	Ratio	Lower	Upper
91	100		
106	24.0	0.6	60.6
77	23.7	0.0	38.8

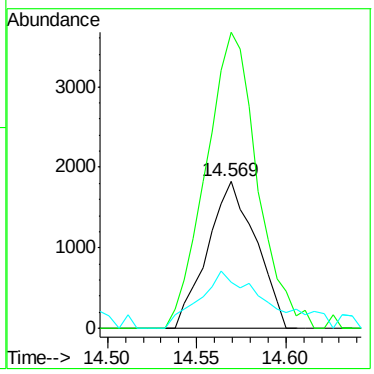


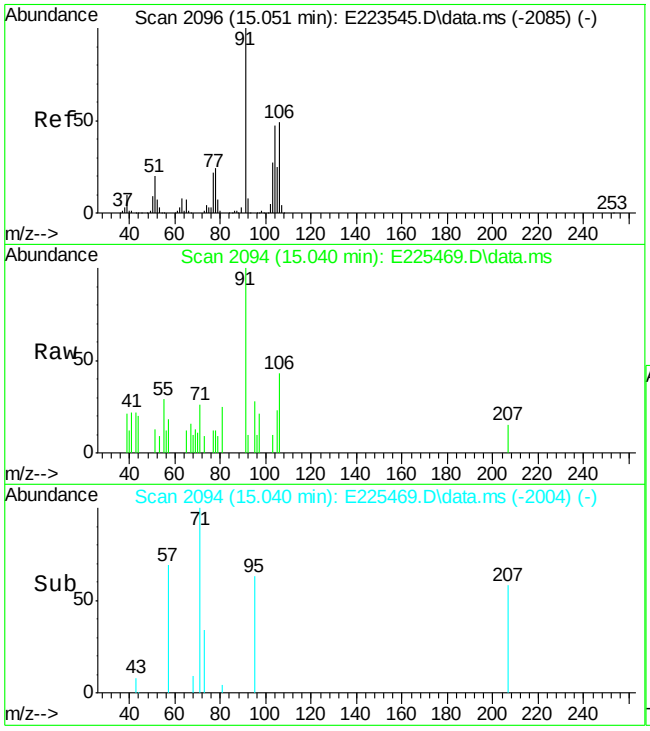


#96
m,p-xylene
Concen: 1.15 ug/L
RT: 14.569 min Scan# 2004
Delta R.T. -0.010 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion:106 Resp: 3462

Ion	Ratio	Lower	Upper
106	100		
91	200.7	168.5	228.5
77	31.0	0.0	54.9

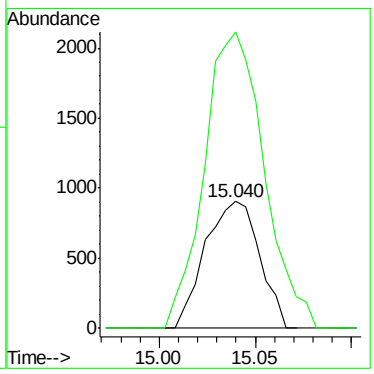


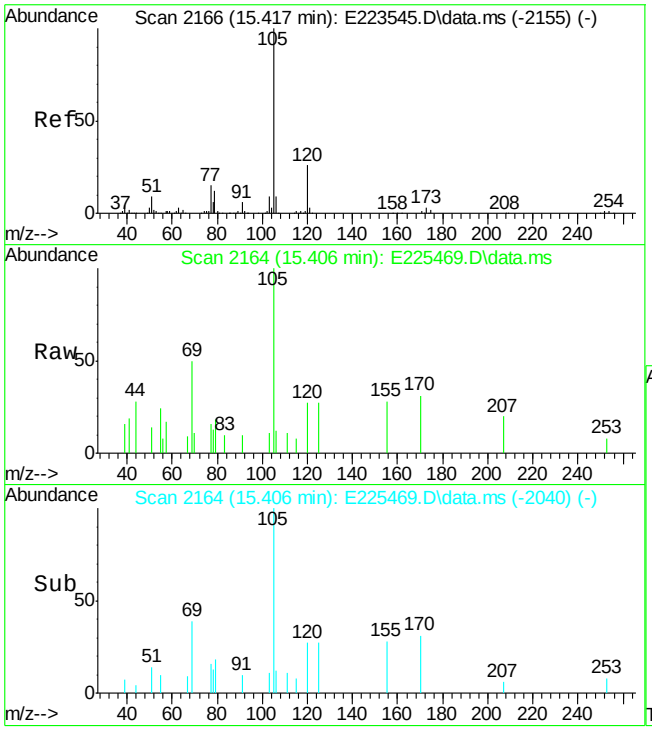


#97
o-xylene
Concen: 0.55 ug/L
RT: 15.040 min Scan# 2094
Delta R.T. -0.011 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion:106 Resp: 1768

Ion	Ratio	Lower	Upper
106	100		
91	234.1	175.4	235.4

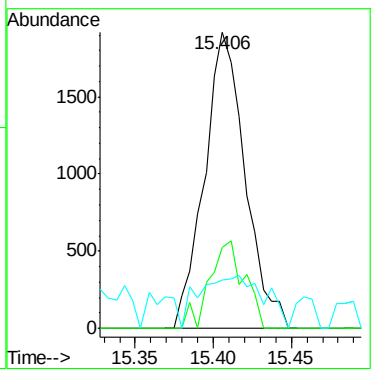


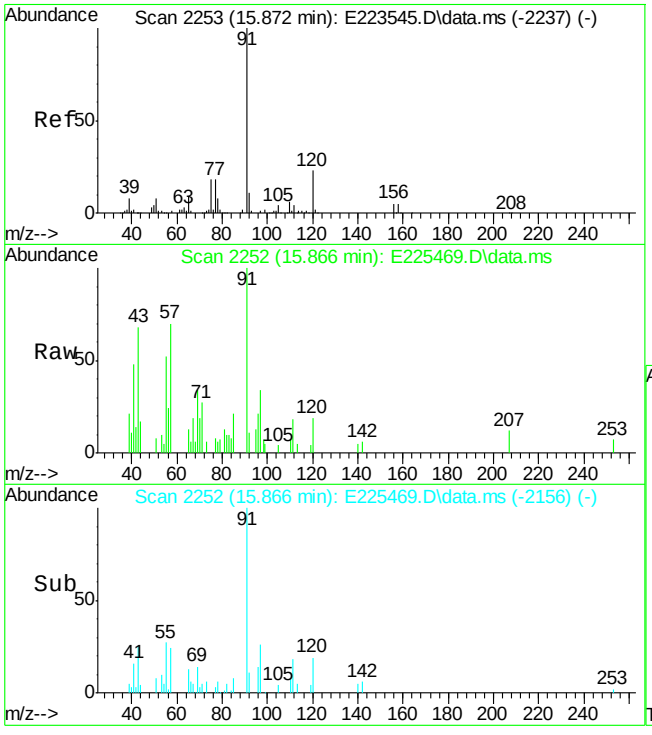


#102
isopropylbenzene
Concen: 0.36 ug/L
RT: 15.406 min Scan# 2164
Delta R.T. -0.011 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion:105 Resp: 3473

Ion	Ratio	Lower	Upper
105	100		
120	27.2	0.0	55.9
77	8.1	0.0	44.5

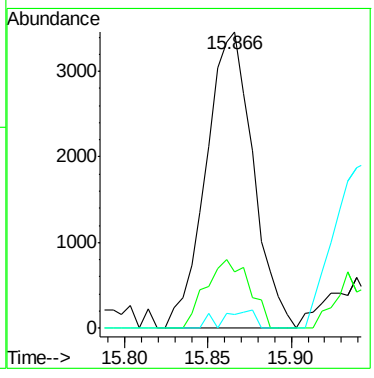


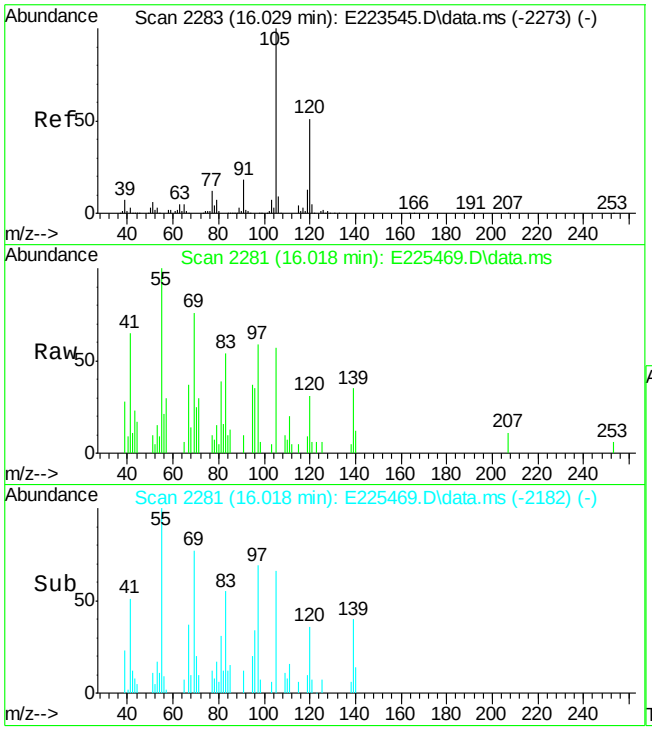


#109
n-propylbenzene
Concen: 0.63 ug/L
RT: 15.866 min Scan# 2252
Delta R.T. -0.006 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion: 91 Resp: 6792

Ion	Ratio	Lower	Upper
91	100		
120	19.0	0.0	52.8
105	4.4	0.0	33.7

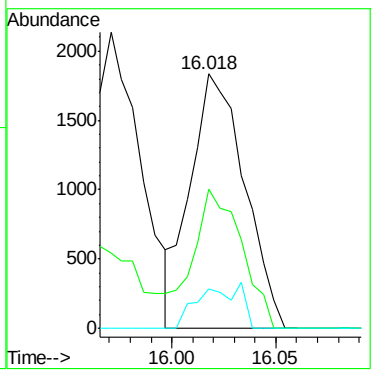


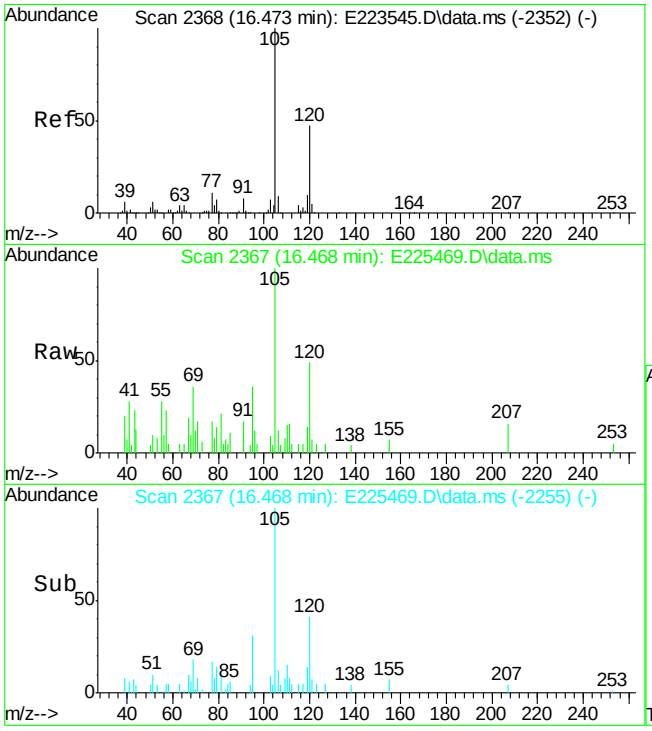


#113
1,3,5-trimethylbenzene
Concen: 0.40 ug/L
RT: 16.018 min Scan# 2281
Delta R.T. -0.011 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion:105 Resp: 3328

Ion	Ratio	Lower	Upper
105	100		
120	54.6	20.8	80.8
119	15.4	0.0	43.0

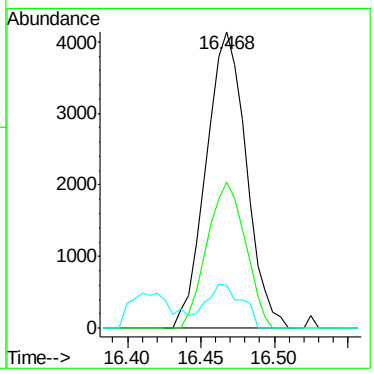




#116
1,2,4-trimethylbenzene
Concen: 0.94 ug/L
RT: 16.468 min Scan# 2367
Delta R.T. -0.006 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

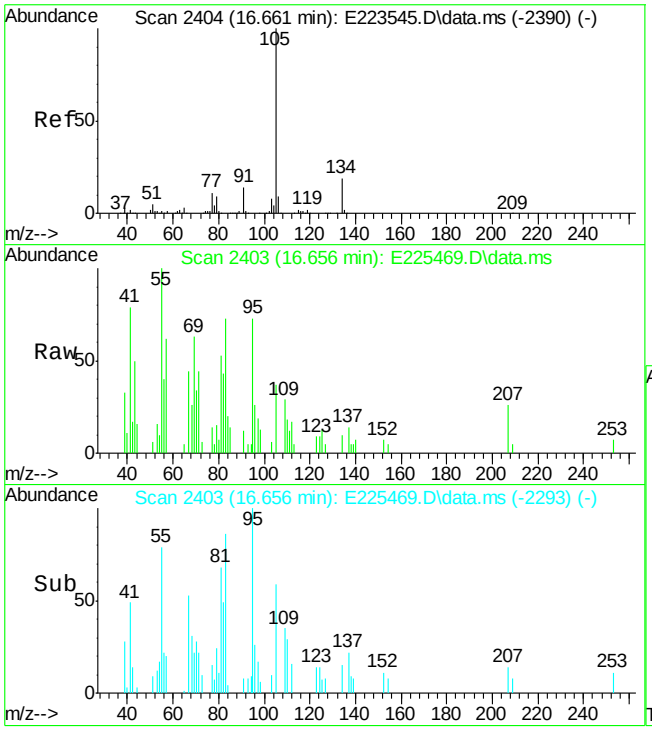
Tgt Ion:105 Resp: 7827

Ion	Ratio	Lower	Upper
105	100		
120	49.4	17.2	77.2
119	14.5	0.0	39.9



7.1.3

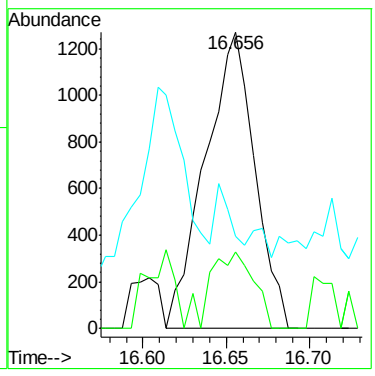
7

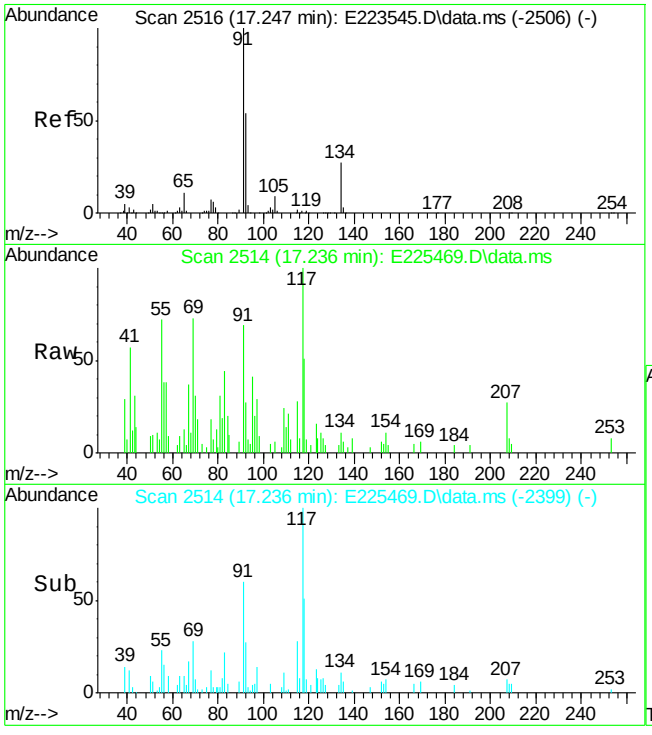


#117
sec-butylbenzene
Concen: 0.23 ug/L
RT: 16.656 min Scan# 2403
Delta R.T. -0.006 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion:105 Resp: 2633

Ion	Ratio	Lower	Upper
105	100		
134	26.0	0.0	49.0
91	1.8	0.0	44.4

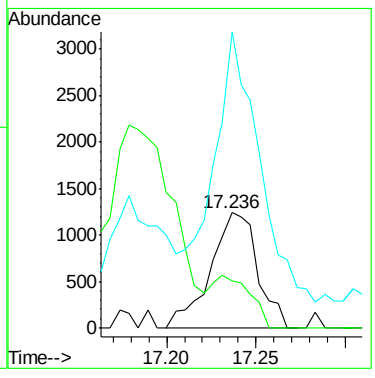


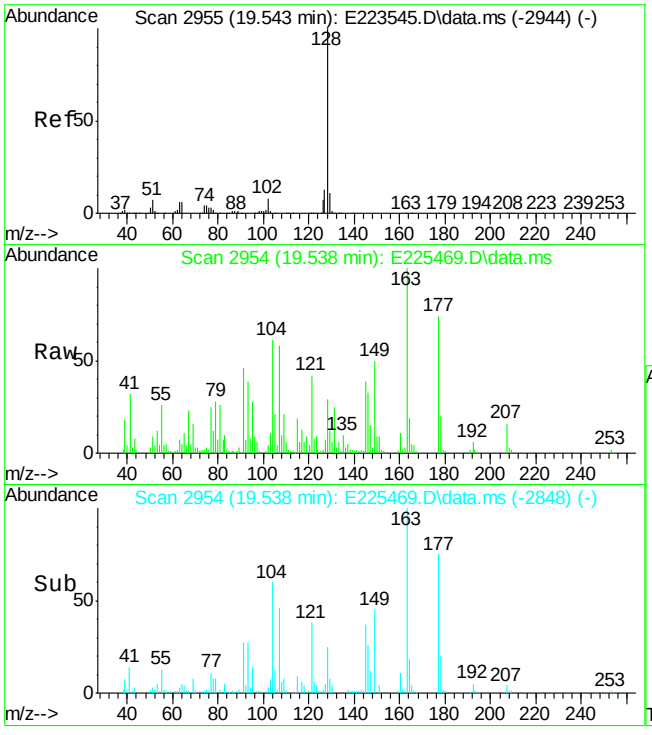


#124
n-butylbenzene
Concen: 0.46 ug/L
RT: 17.236 min Scan# 2514
Delta R.T. -0.011 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion: 92 Resp: 2299

Ion	Ratio	Lower	Upper
92	100		
134	41.0	20.1	80.1
91	221.7	153.6	213.6#

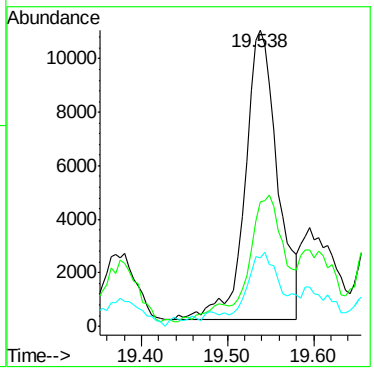




#130
naphthalene
Concen: 2.55 ug/L
RT: 19.538 min Scan# 2954
Delta R.T. -0.006 min
Lab File: E225469.D
Acq: 27 Apr 2015 7:48 pm

Tgt Ion:128 Resp: 28428

Ion	Ratio	Lower	Upper
128	100		
129	40.7	0.0	40.9
127	23.7	0.0	42.7



7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152307.D
Acq On : 23 Apr 2015 3:13 pm
Operator : BenM
Sample : jb93023-4
Misc : MS84082,VV6455,5.9,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 23 17:14:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	150258	500.00 ug/L	0.00
4) pentafluorobenzene	9.95	168	380875	50.00 ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	468134	50.00 ug/L	0.00
79) chlorobenzene-d5	14.33	117	414324	50.00 ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	239612	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.05	113	136487	49.04 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 98.08%		
47) 1,2-dichloroethane-d4 (s)	10.48	65	116155	44.19 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 88.38%		
71) toluene-d8 (s)	12.64	98	549368	52.34 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 104.68%		
94) 4-bromofluorobenzene (s)	15.62	95	205479	51.24 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.48%		

Target Compounds Qvalue

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

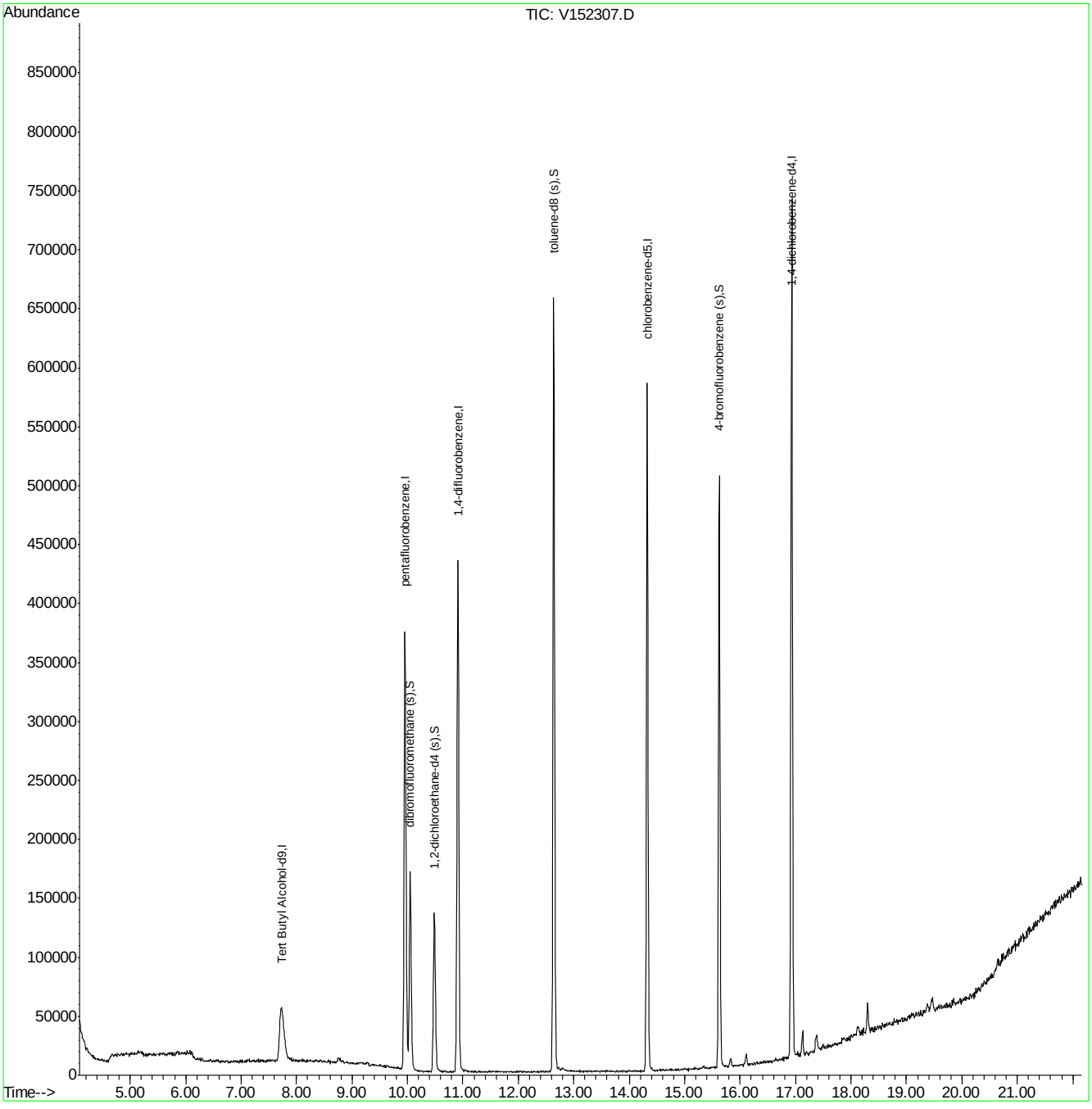
7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152307.D
Acq On : 23 Apr 2015 3:13 pm
Operator : BenM
Sample : jb93023-4
Misc : MS84082,VV6455,5.9,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 23 17:14:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat
08/31/15 13:53

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\DATA OLD\Data 3v19140-3v20293\
Data File : 3V19506.D
Acq On : 4 May 2015 4:59 pm
Operator : thienn
Sample : jb93023-5
Misc : MS84082,V3V809,1.5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 09:55:55 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V793.M
Quant Title : SW-846 Method 8260
QLast Update : Fri Apr 17 18:11:21 2015
Response via : Initial Calibration

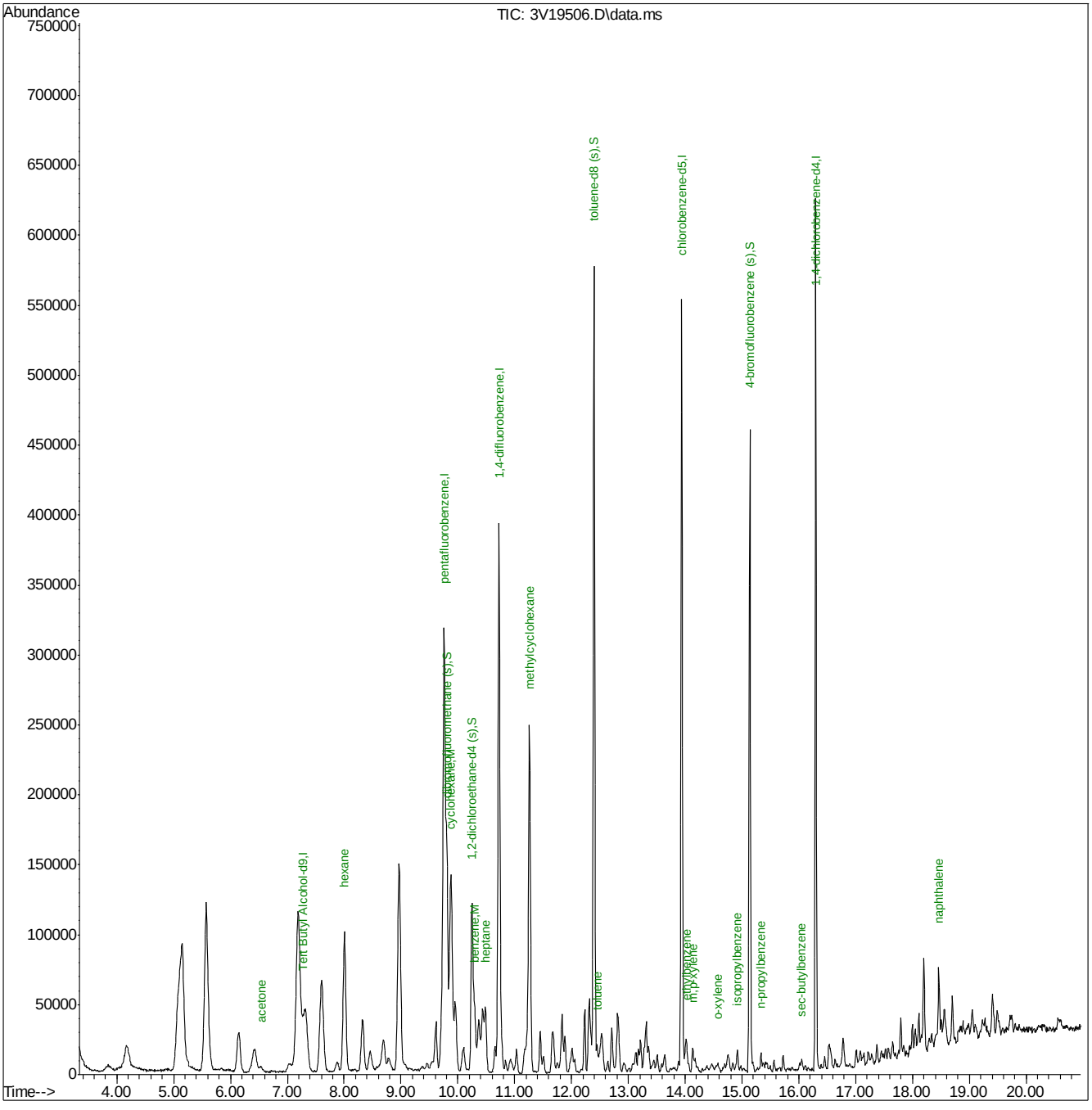
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.274	65	89042	500.00	ug/L	-0.02
5) pentafluorobenzene	9.760	168	307781	50.00	ug/L	0.00
49) 1,4-difluorobenzene	10.724	114	370436	50.00	ug/L	0.00
79) chlorobenzene-d5	13.938	117	319597	50.00	ug/L	0.00
93) 1,4-dichlorobenzene-d4	16.298	152	167834	50.00	ug/L	0.00
System Monitoring Compounds						
43) dibromofluoromethane (s)	9.807	113	122513	49.62	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 99.24%			
44) 1,2-dichloroethane-d4 (s)	10.252	65	112716	50.46	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 100.92%			
71) toluene-d8 (s)	12.397	98	412812	51.60	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 103.20%			
95) 4-bromofluorobenzene (s)	15.134	95	143056	53.24	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 106.48%			
Target Compounds						Qvalue
17) acetone	6.540	58	2971m	20.92	ug/L	
52) cyclohexane	9.880	84	82791	27.55	ug/L	99
55) hexane	8.003	57	86484	39.14	ug/L	94
57) benzene	10.300	78	12751	1.68	ug/L	97
58) heptane	10.483	57	15450	12.29	ug/L	90
67) methylcyclohexane	11.264	83	135228	42.63	ug/L	94
73) toluene	12.465	91	2055	0.24	ug/L	88
88) ethylbenzene	14.027	91	6403	0.64	ug/L	95
89) m,p-xylene	14.132	106	2911m	0.74	ug/L	
90) o-xylene	14.567	106	741	0.18	ug/L #	57
94) isopropylbenzene	14.919	105	8777	0.99	ug/L	97
101) n-propylbenzene	15.338	91	9902	0.94	ug/L	99
108) sec-butylbenzene	16.046	105	4205	0.40	ug/L	81
118) naphthalene	18.463	128	4411	0.55	ug/L #	17

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

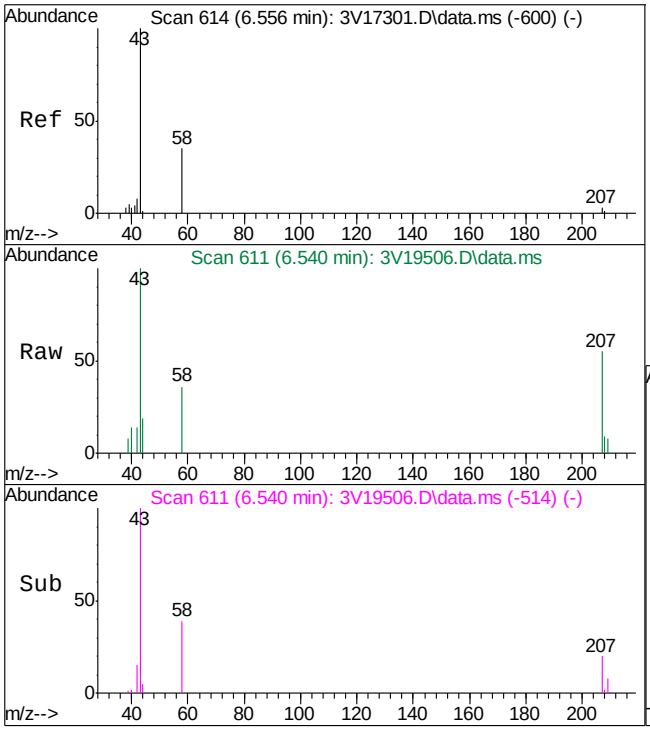
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\DATA OLD\Data 3v19140-3v20293\
Data File : 3V19506.D
Acq On : 4 May 2015 4:59 pm
Operator : thienn
Sample : jb93023-5
Misc : MS84082,V3V809,1.5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 31 09:55:55 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V793.M
Quant Title : SW-846 Method 8260
QLast Update : Fri Apr 17 18:11:21 2015
Response via : Initial Calibration



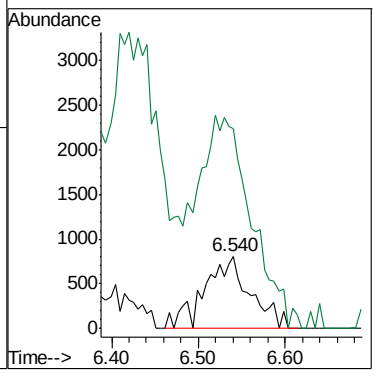
M3V793.M Mon Aug 31 09:56:22 2015 GCMS3V Page: 2

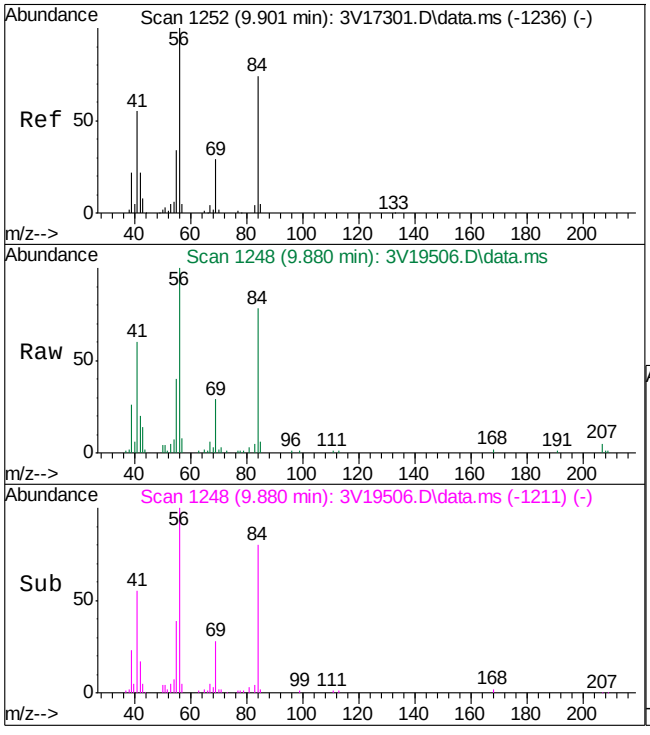


#17
acetone
Concen: 20.92 ug/L m
RT: 6.540 min Scan# 611
Delta R.T. 0.010 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 58 Resp: 2971

Ion	Ratio	Lower	Upper
58	100		
43	277.5	258.4	318.4

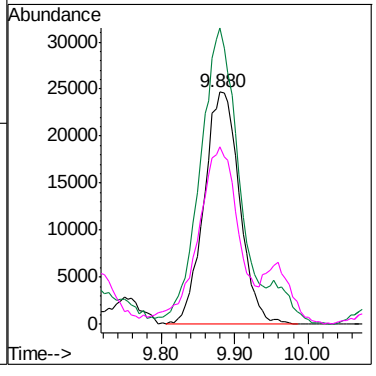


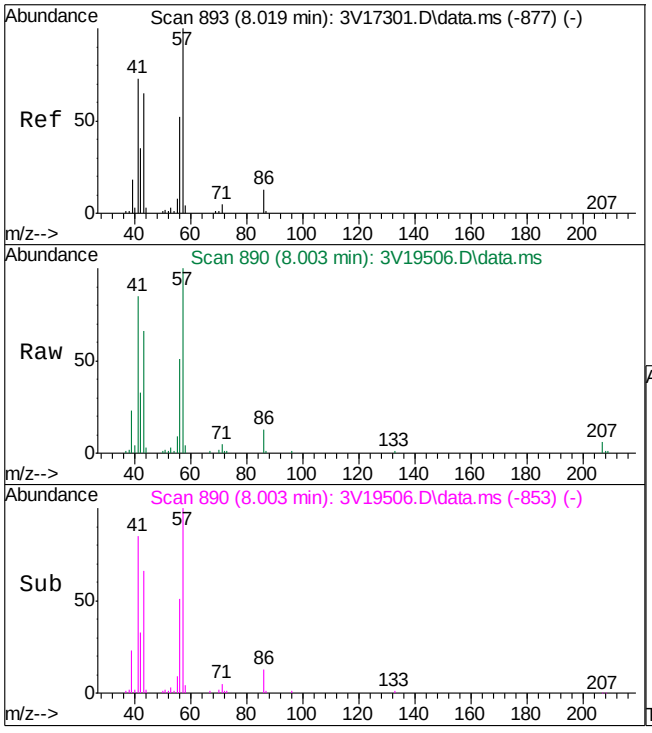


#52
cyclohexane
Concen: 27.55 ug/L
RT: 9.880 min Scan# 1248
Delta R.T. -0.005 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 84 Resp: 82791

Ion	Ratio	Lower	Upper
84	100		
56	123.7	92.4	152.4
41	70.2	39.3	99.3

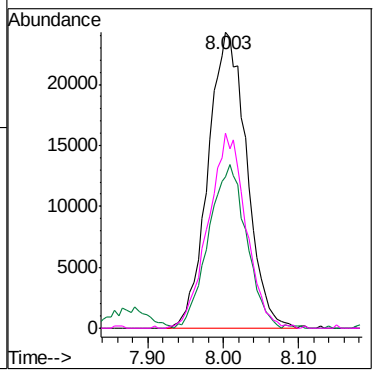


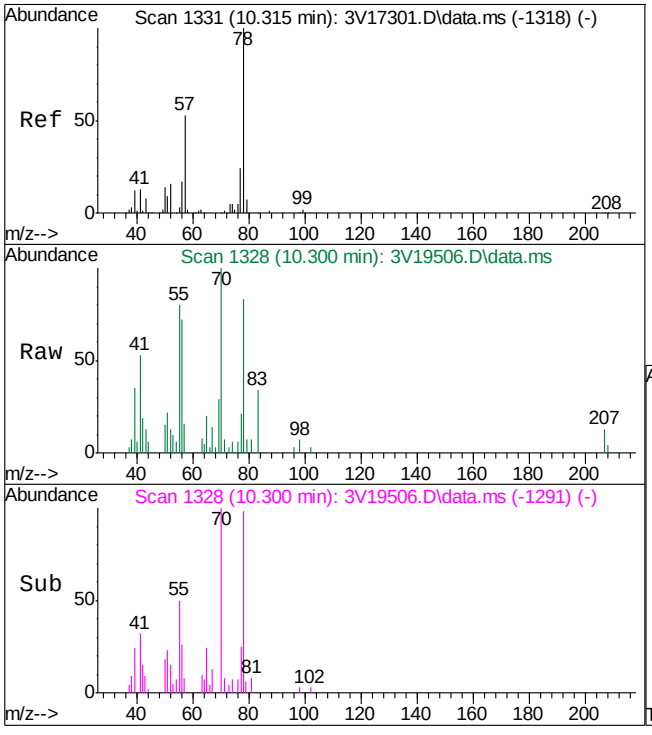


#55
hexane
Concen: 39.14 ug/L
RT: 8.003 min Scan# 890
Delta R.T. -0.005 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 57 Resp: 86484

Ion	Ratio	Lower	Upper
57	100		
56	50.4	28.9	88.9
43	65.9	34.8	94.8

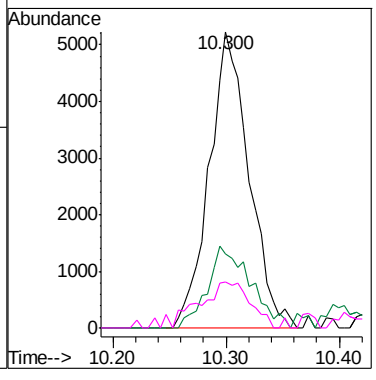


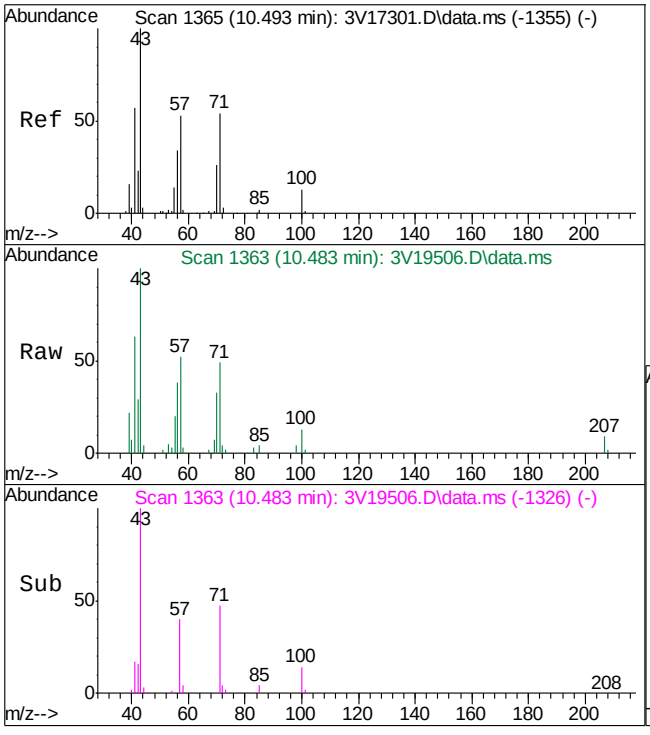


#57
benzene
Concen: 1.68 ug/L
RT: 10.300 min Scan# 1328
Delta R.T. -0.005 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 78 Resp: 12751

Ion	Ratio	Lower	Upper
78	100		
77	25.2	0.0	53.9
52	15.6	0.0	44.5

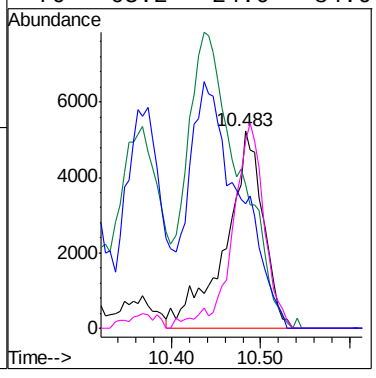


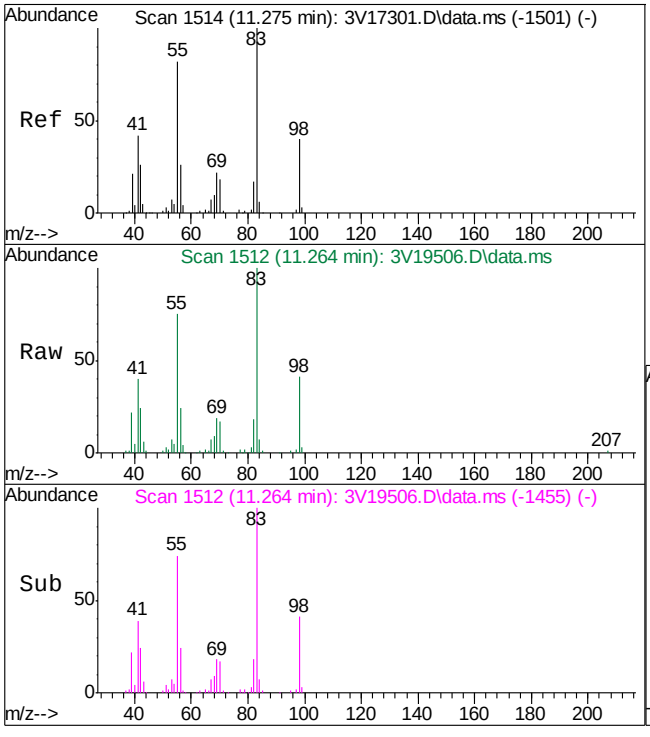


#58
heptane
Concen: 12.29 ug/L
RT: 10.483 min Scan# 1363
Delta R.T. -0.005 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 57 Resp: 15450

Ion	Ratio	Lower	Upper
57	100		
56	67.2	32.5	92.5
71	94.7	74.9	134.9
70	63.2	24.0	84.0

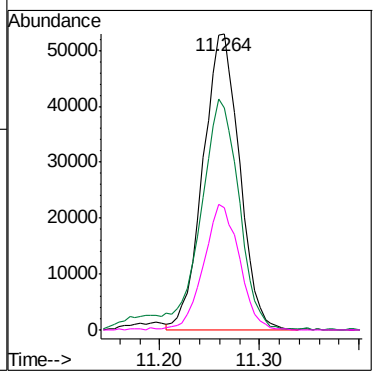


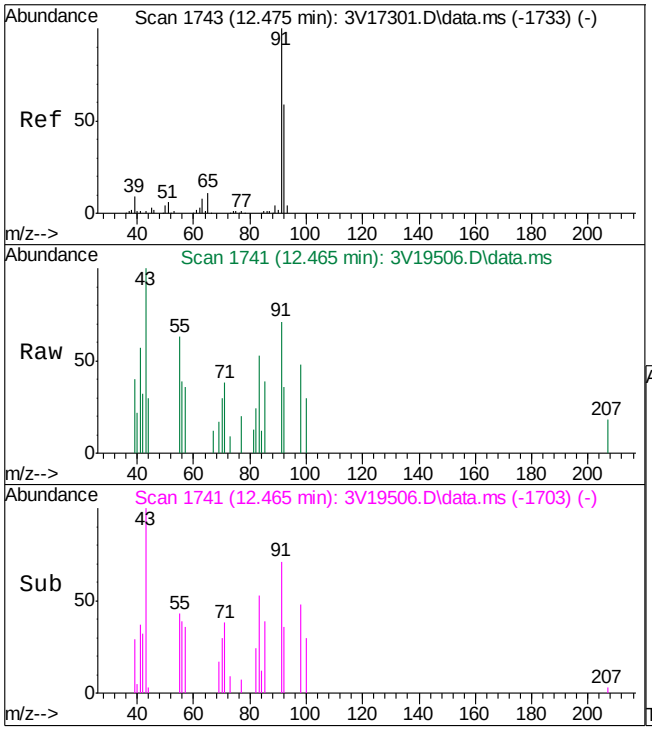


#67
methylcyclohexane
Concen: 42.63 ug/L
RT: 11.264 min Scan# 1512
Delta R.T. -0.000 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 83 Resp: 135228

Ion	Ratio	Lower	Upper
83	100		
55	74.4	52.2	112.2
98	41.2	12.6	72.6

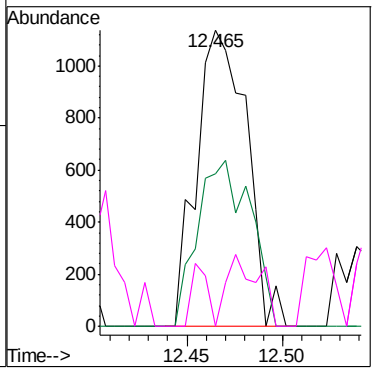


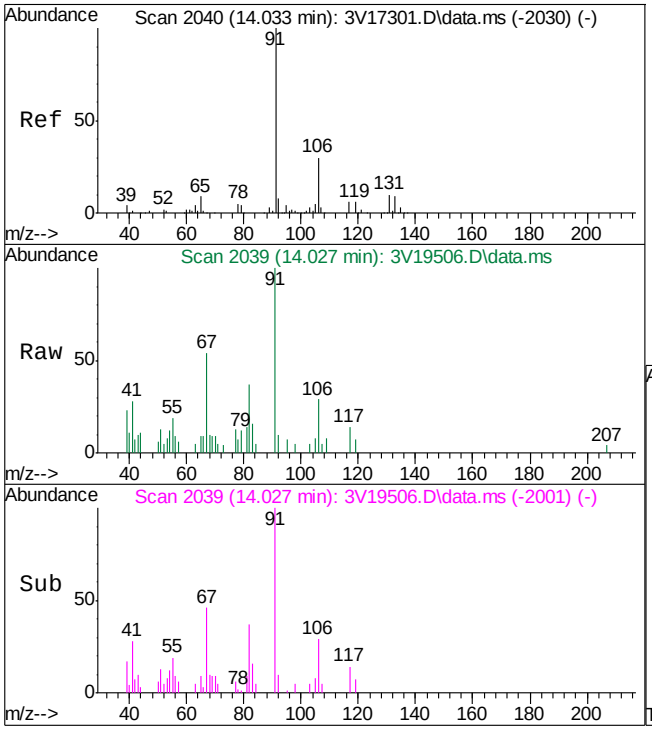


#73
toluene
Concen: 0.24 ug/L
RT: 12.465 min Scan# 1741
Delta R.T. -0.000 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 91 Resp: 2055

Ion	Ratio	Lower	Upper
91	100		
92	51.6	27.5	87.5
65	0.0	0.0	41.7

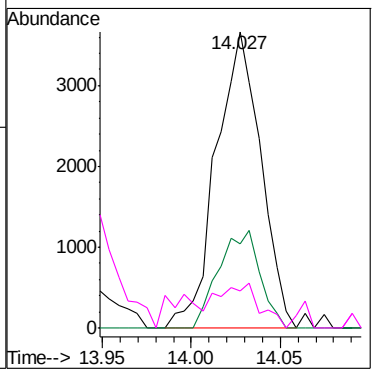


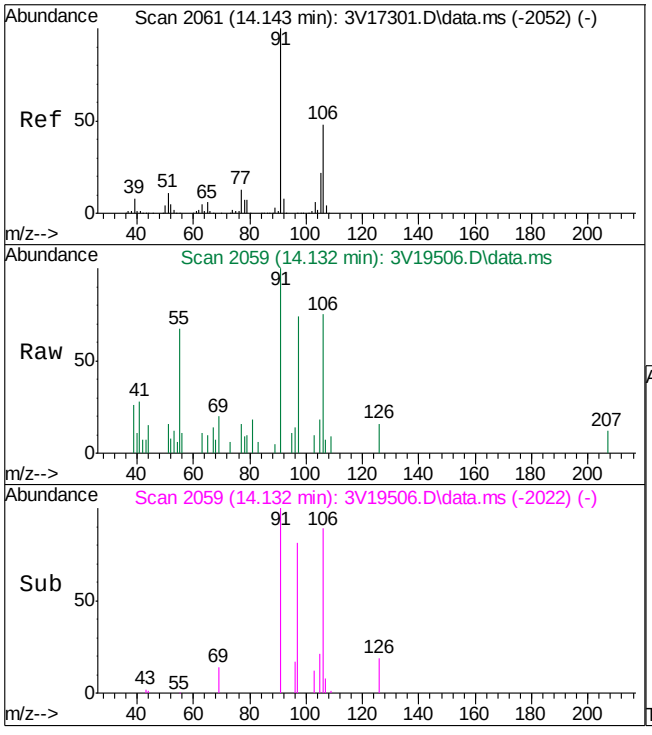


#88
ethylbenzene
Concen: 0.64 ug/L
RT: 14.027 min Scan# 2039
Delta R.T. -0.000 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 91 Resp: 6403

Ion	Ratio	Lower	Upper
91	100		
106	28.6	1.7	61.7
77	8.2	0.0	38.1

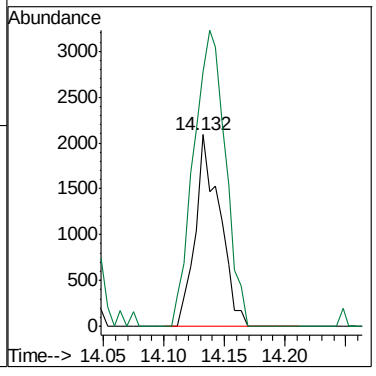


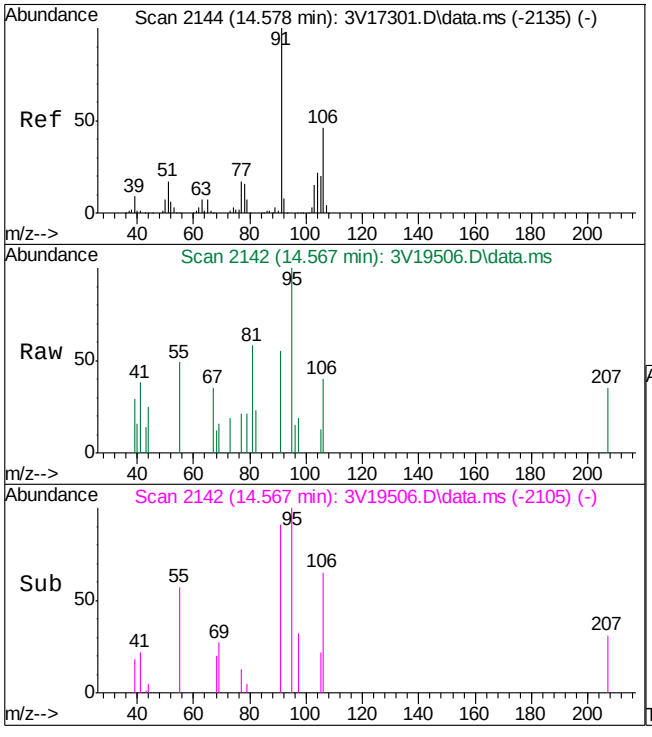


#89
m,p-xylene
Concen: 0.74 ug/L m
RT: 14.132 min Scan# 2059
Delta R.T. -0.005 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion:106 Resp: 2911

Ion	Ratio	Lower	Upper
106	100		
91	133.0	139.9	259.9#

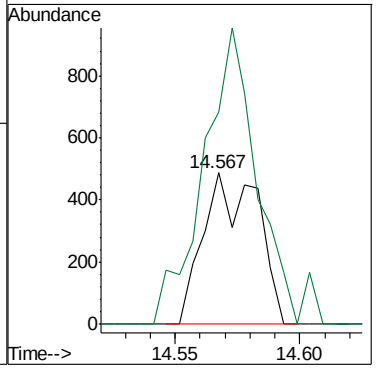


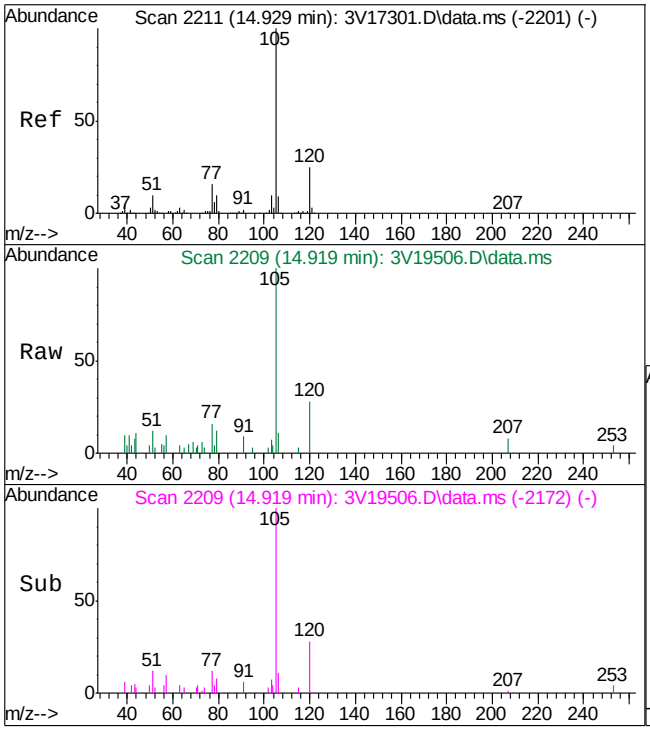


#90
o-xylene
Concen: 0.18 ug/L
RT: 14.567 min Scan# 2142
Delta R.T. -0.005 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion:106 Resp: 741

Ion	Ratio	Lower	Upper
106	100		
91	140.0	144.1	267.7#

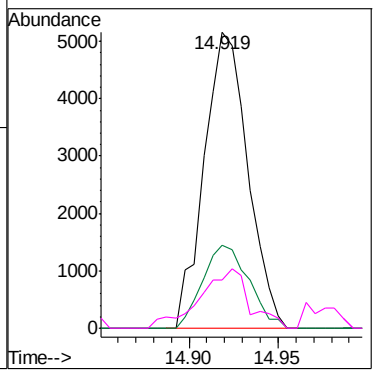


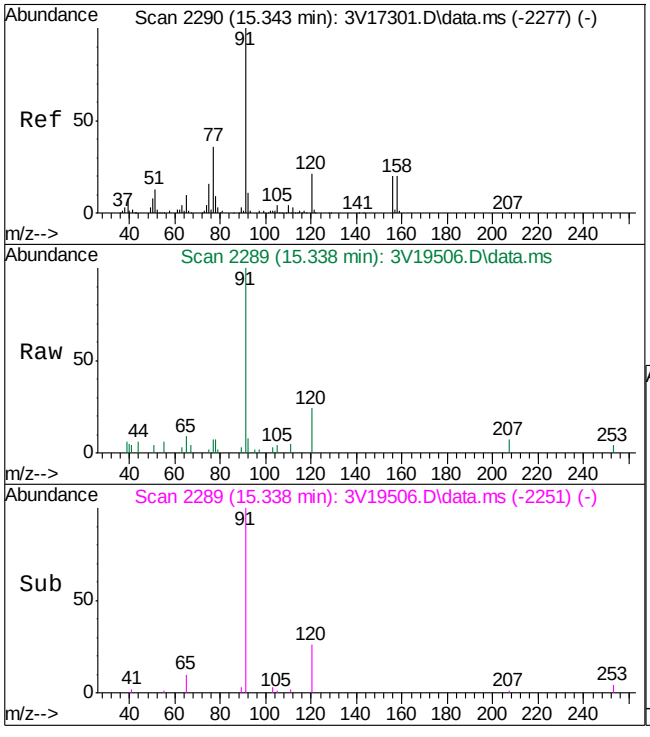


#94
isopropylbenzene
Concen: 0.99 ug/L
RT: 14.919 min Scan# 2209
Delta R.T. -0.005 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion:105 Resp: 8777

Ion	Ratio	Lower	Upper
105	100		
120	27.9	0.0	56.3
77	16.3	0.0	45.4

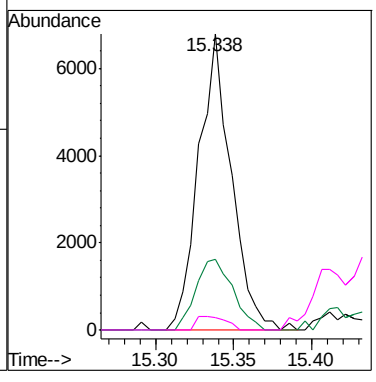


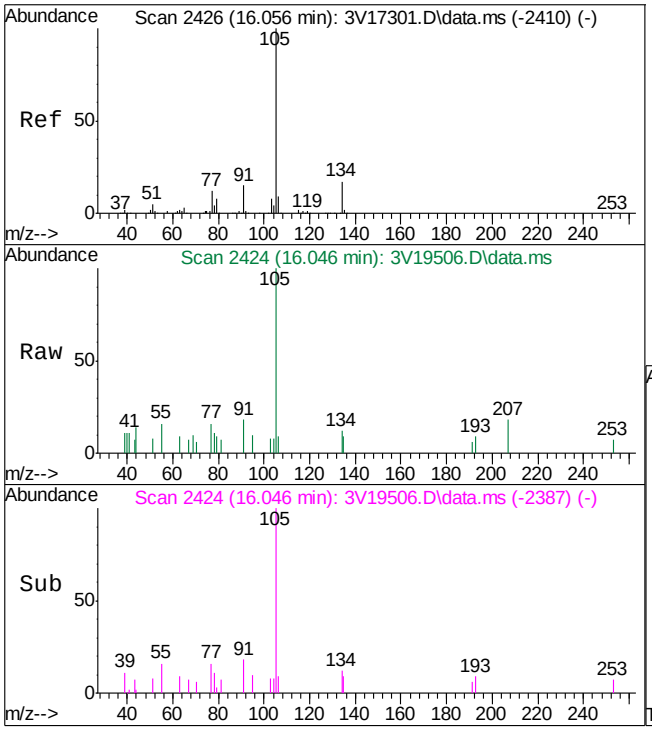


#101
n-propylbenzene
Concen: 0.94 ug/L
RT: 15.338 min Scan# 2289
Delta R.T. -0.000 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion: 91 Resp: 9902

Ion	Ratio	Lower	Upper
91	100		
120	23.7	0.0	53.5
105	4.4	0.0	34.0

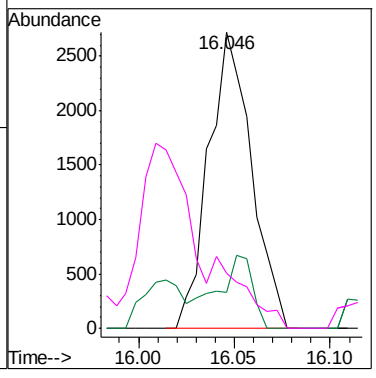


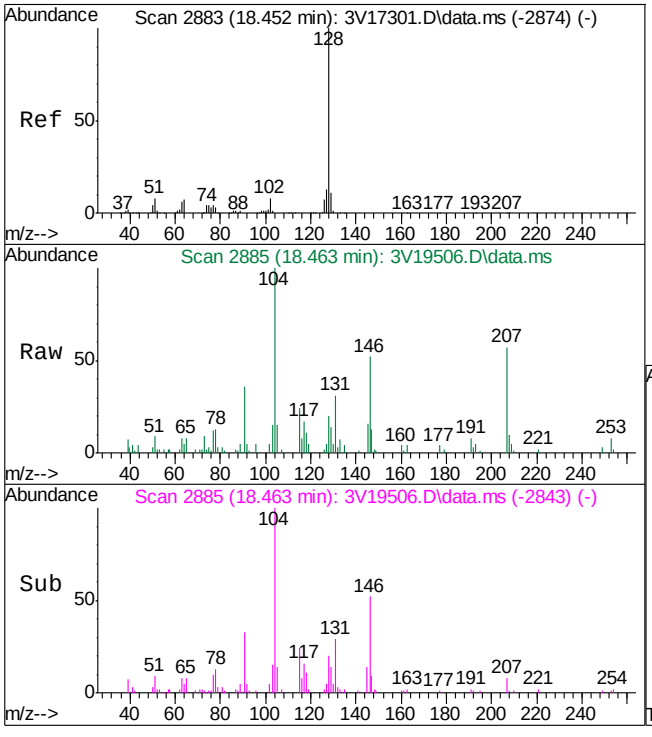


#108
sec-butylbenzene
Concen: 0.40 ug/L
RT: 16.046 min Scan# 2424
Delta R.T. -0.005 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion:105 Resp: 4205

Ion	Ratio	Lower	Upper
105	100		
134	6.2	0.0	48.7
91	18.5	0.0	44.9

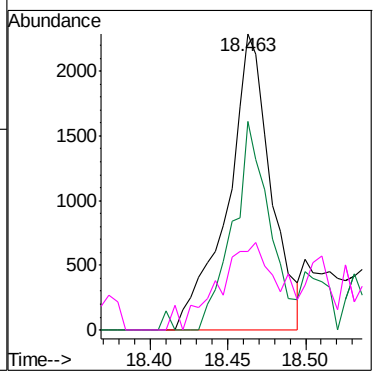




#118
naphthalene
Concen: 0.55 ug/L
RT: 18.463 min Scan# 2885
Delta R.T. 0.021 min
Lab File: 3V19506.D
Acq: 4 May 2015 4:59 pm

Tgt Ion:128 Resp: 4411

Ion	Ratio	Lower	Upper
128	100		
129	63.8	0.0	40.9#
127	26.5	0.0	42.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225548.D
Acq On : 29 Apr 2015 5:41 pm
Operator : ThienN
Sample : jb93023-6
Misc : MS84082,VE9900,5.7,,100,10,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 30 09:12:19 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.953	65	145034	500.00	ug/L	-0.02
4) pentafluorobenzene	10.123	168	238762	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	11.049	114	310706	50.00	ug/L	-0.02
84) chlorobenzene-d5	14.381	117	287255	50.00	ug/L	-0.01
101) 1,4-dichlorobenzene-d4	16.954	152	167836	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.218	113	100168	44.67	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 89.34%			
48) 1,2-dichloroethane-d4 (s)	10.636	65	99584	40.58	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 81.16%			
76) toluene-d8 (s)	12.739	98	362902	42.75	ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 85.50%			
103) 4-bromofluorobenzene (s)	15.657	95	140044	42.53	ug/L	-0.01
Spiked Amount 50.000	Range 72 - 130		Recovery = 85.06%			

Target Compounds

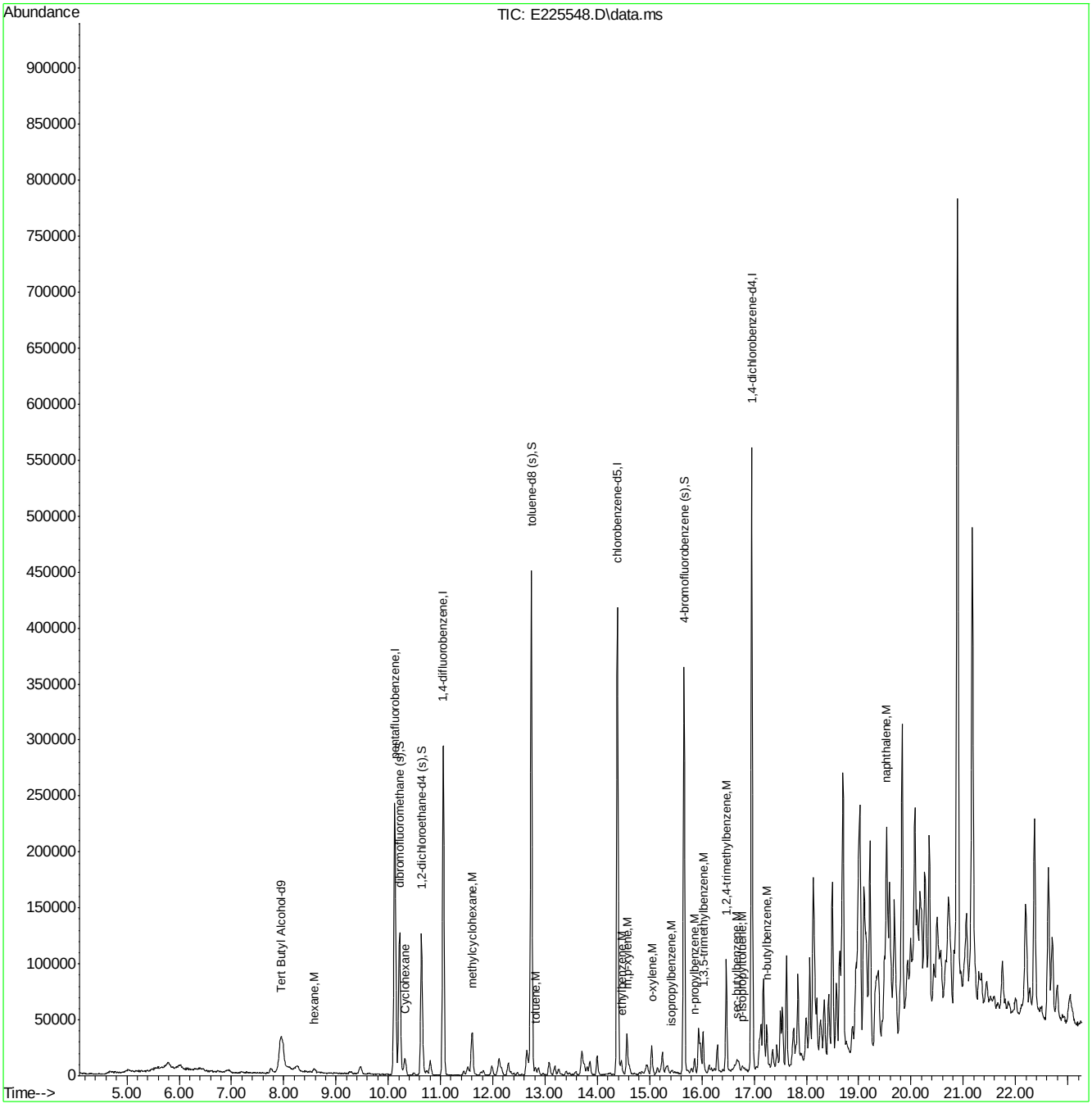
						Qvalue
52) Cyclohexane	10.312	84	5325	1.49	ug/L	66
61) hexane	8.586	57	2497	1.08	ug/L	97
70) methylcyclohexane	11.604	83	23223	5.34	ug/L	99
78) toluene	12.817	92	3125	0.58	ug/L	98
95) ethylbenzene	14.459	91	5454	0.51	ug/L	94
96) m,p-xylene	14.569	106	9598	2.35	ug/L	92
97) o-xylene	15.040	106	8565	1.97	ug/L	89
102) isopropylbenzene	15.411	105	2307	0.20	ug/L	86
109) n-propylbenzene	15.861	91	8116	0.63	ug/L	99
113) 1,3,5-trimethylbenzene	16.023	105	22150	2.23	ug/L	97
116) 1,2,4-trimethylbenzene	16.468	105	66523	6.68	ug/L	96
117) sec-butylbenzene	16.651	105	2929	0.21	ug/L	85
119) p-isopropyltoluene	16.776	119	3095	0.26	ug/L	96
124) n-butylbenzene	17.236	92	3690	0.62	ug/L	89
130) naphthalene	19.532	128	141184	10.60	ug/L	96

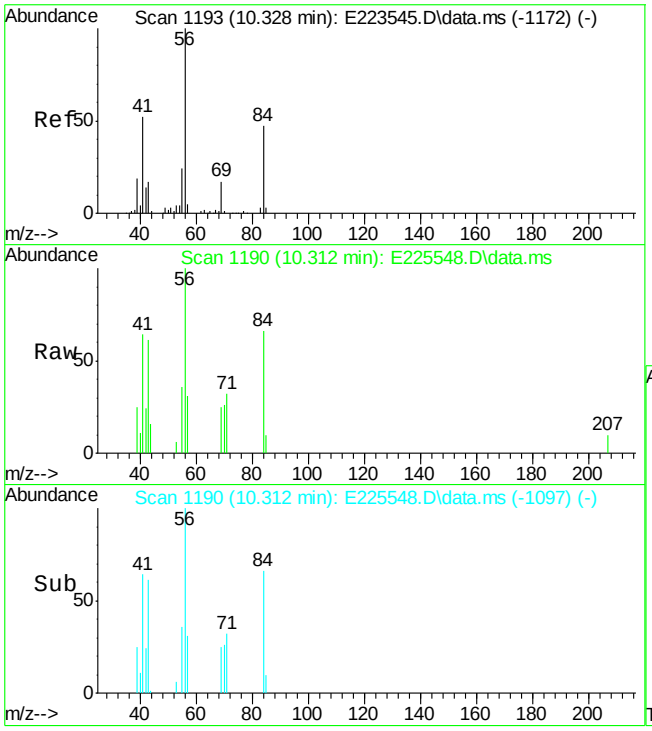
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225548.D
Acq On : 29 Apr 2015 5:41 pm
Operator : ThienN
Sample : jb93023-6
Misc : MS84082,VE9900,5.7,,100,10,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 30 09:12:19 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

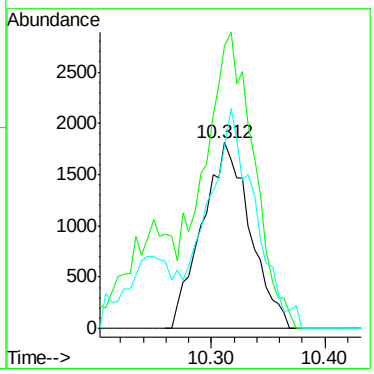


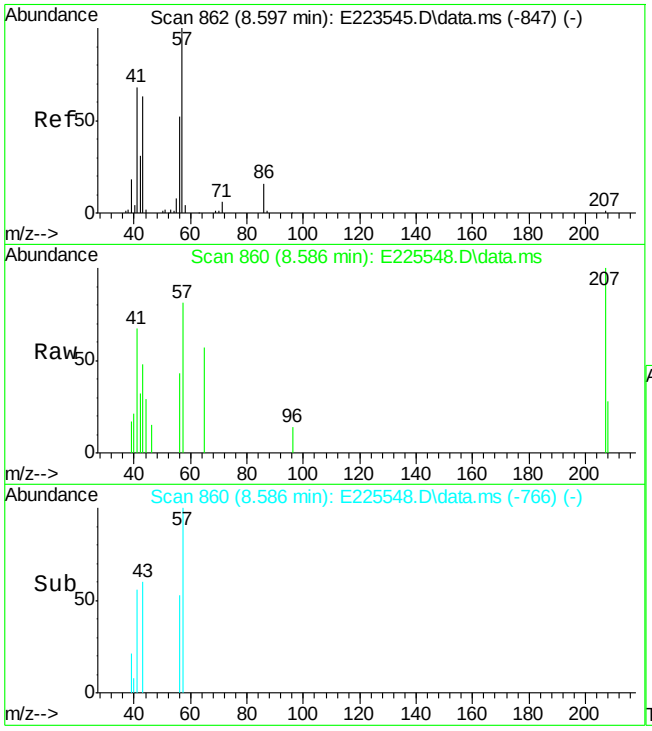


#52
Cyclohexane
Concen: 1.49 ug/L
RT: 10.312 min Scan# 1190
Delta R.T. -0.015 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion: 84 Resp: 5325

Ion	Ratio	Lower	Upper
84	100		
56	152.0	148.7	276.3
41	85.6	77.9	144.7

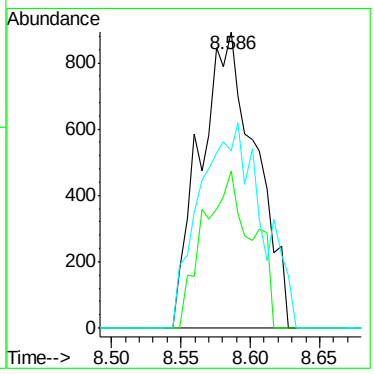


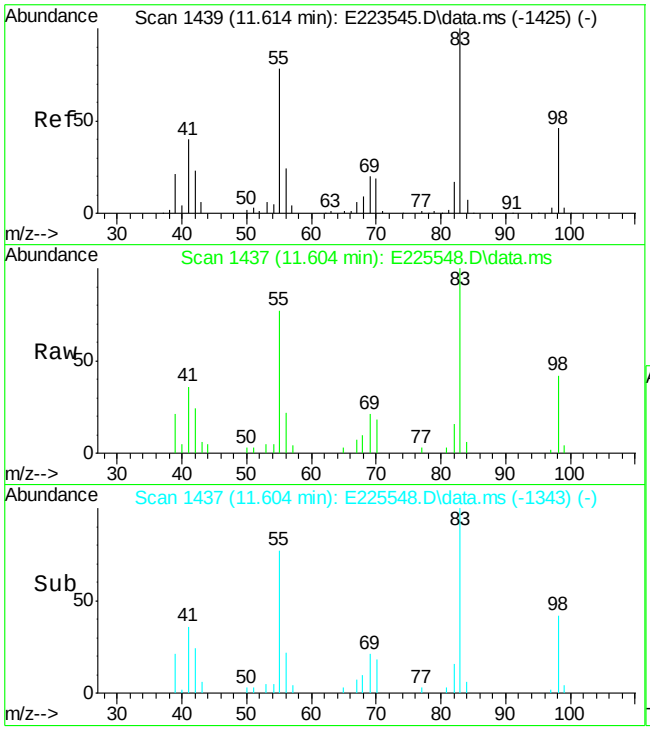


#61
hexane
Concen: 1.08 ug/L
RT: 8.586 min Scan# 860
Delta R.T. -0.011 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion: 57 Resp: 2497

Ion	Ratio	Lower	Upper
57	100		
56	53.0	21.8	81.8
43	59.7	33.3	93.3

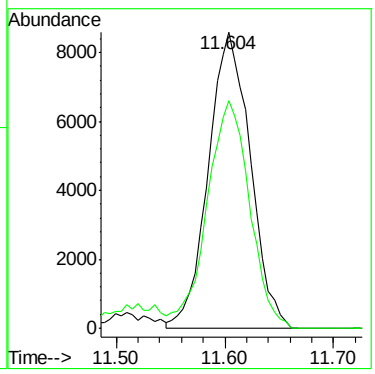


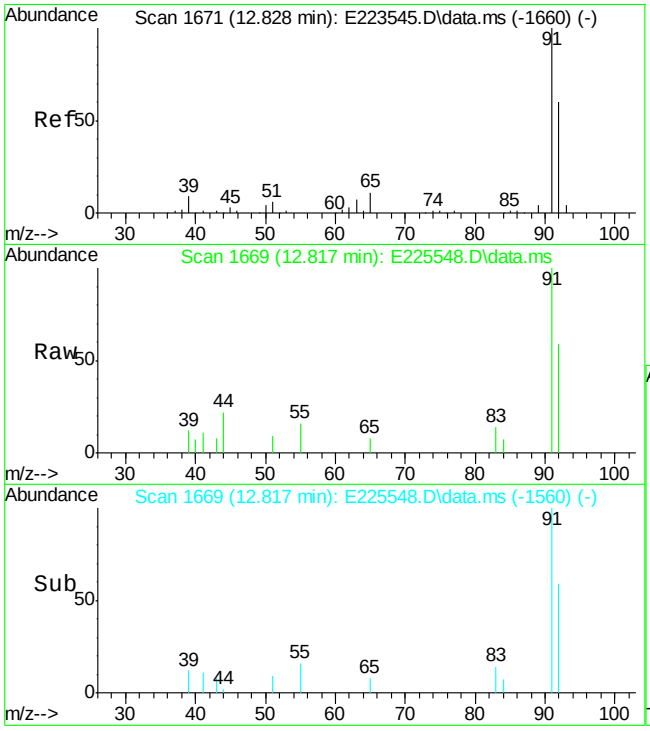


#70
methylcyclohexane
Concen: 5.34 ug/L
RT: 11.604 min Scan# 1437
Delta R.T. -0.010 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion: 83 Resp: 23223

Ion	Ratio	Lower	Upper
83	100		
55	76.8	54.3	100.9

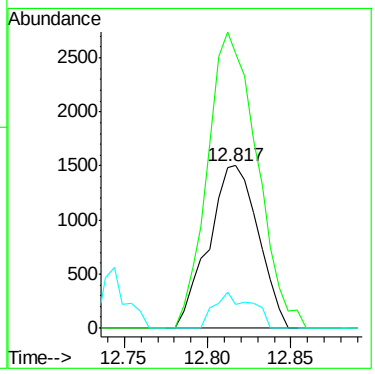


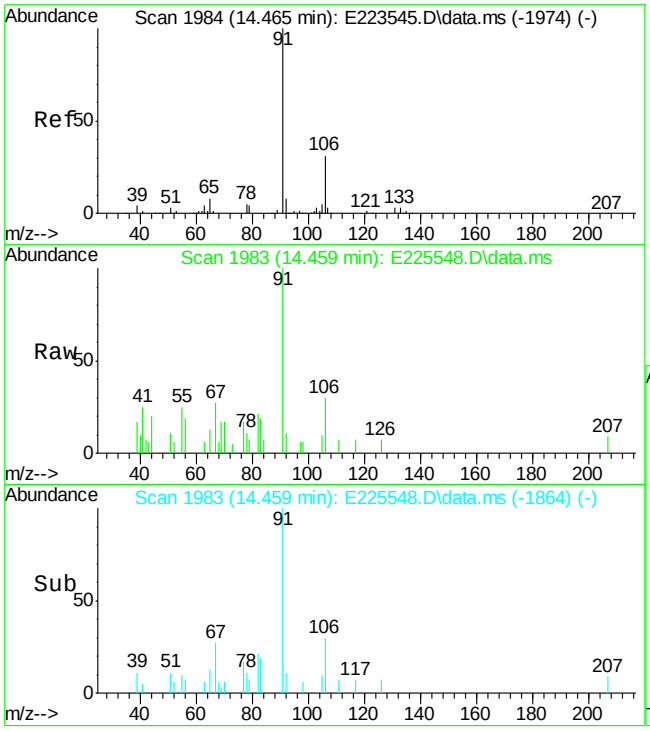


#78
toluene
Concen: 0.58 ug/L
RT: 12.817 min Scan# 1669
Delta R.T. -0.011 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion: 92 Resp: 3125

Ion	Ratio	Lower	Upper
92	100		
91	169.0	137.4	197.4
65	14.3	0.0	48.1

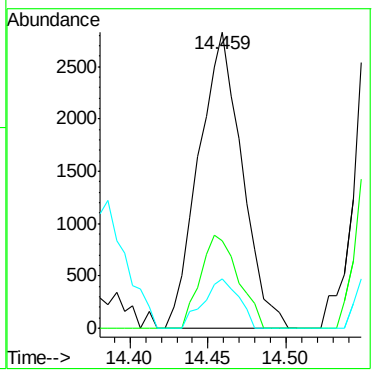


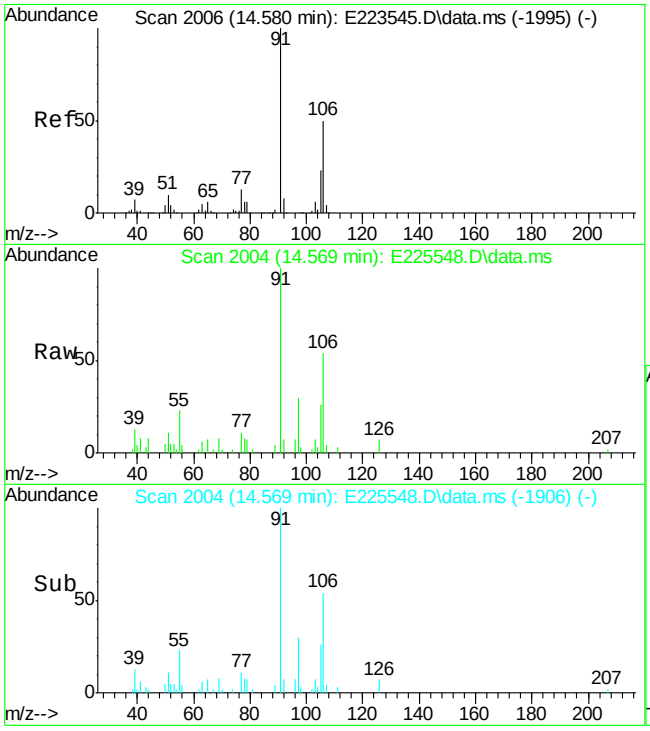


#95
ethylbenzene
Concen: 0.51 ug/L
RT: 14.459 min Scan# 1983
Delta R.T. -0.006 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion: 91 Resp: 5454

Ion	Ratio	Lower	Upper
91	100		
106	29.7	0.6	60.6
77	16.6	0.0	38.8

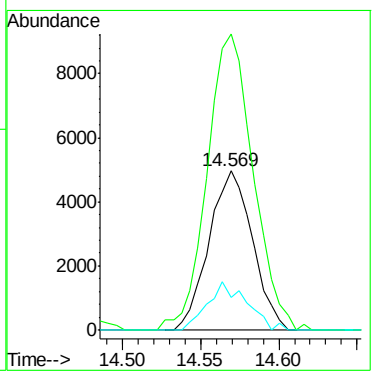


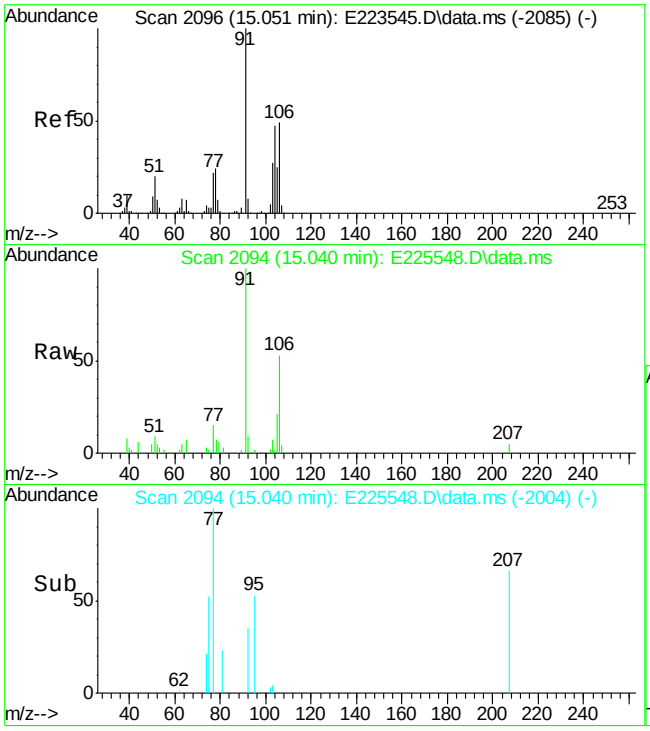


#96
m,p-xylene
Concen: 2.35 ug/L
RT: 14.569 min Scan# 2004
Delta R.T. -0.010 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion:106 Resp: 9598

Ion	Ratio	Lower	Upper
106	100		
91	186.3	168.5	228.5
77	20.6	0.0	54.9

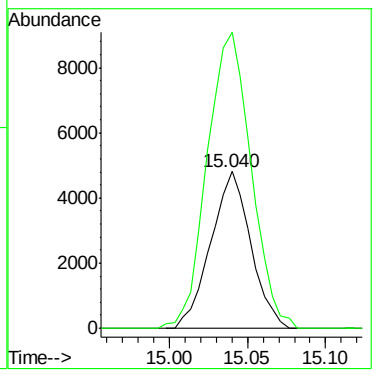


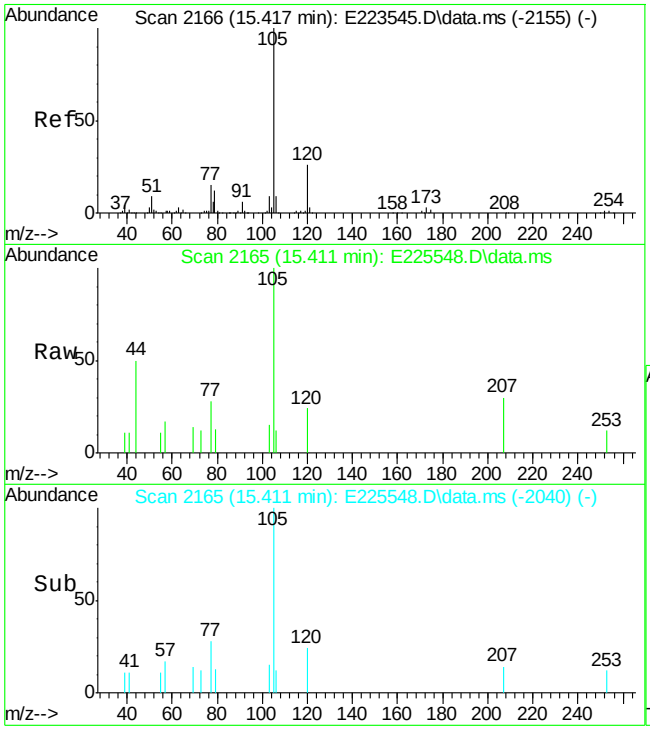


#97
o-xylene
Concen: 1.97 ug/L
RT: 15.040 min Scan# 2094
Delta R.T. -0.011 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion:106 Resp: 8565

Ion	Ratio	Lower	Upper
106	100		
91	188.9	175.4	235.4

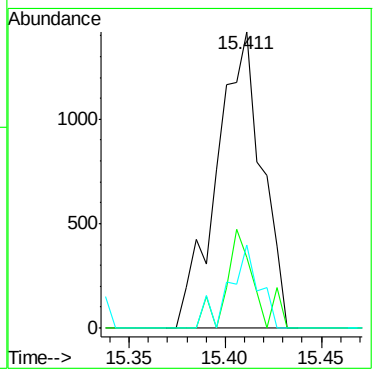


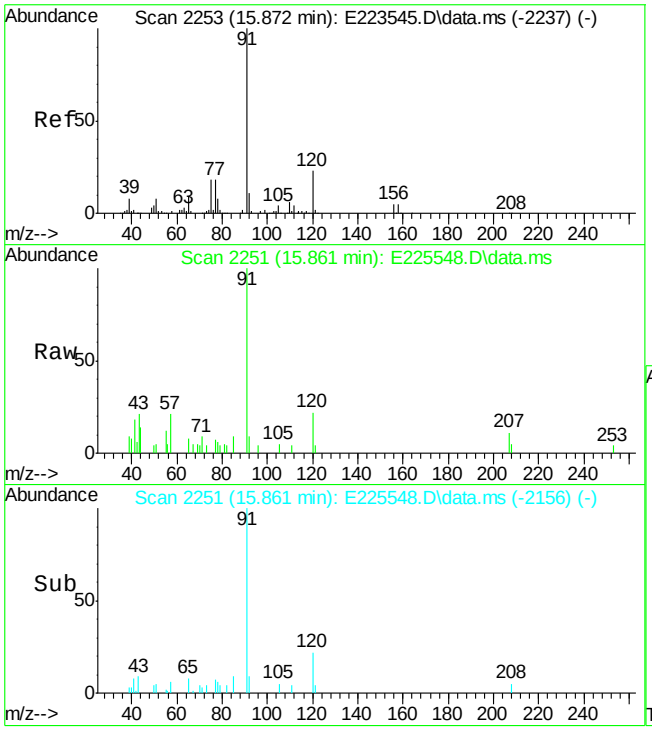


#102
isopropylbenzene
Concen: 0.20 ug/L
RT: 15.411 min Scan# 2165
Delta R.T. -0.006 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion:105 Resp: 2307

Ion	Ratio	Lower	Upper
105	100		
120	23.9	0.0	55.9
77	27.9	0.0	44.5

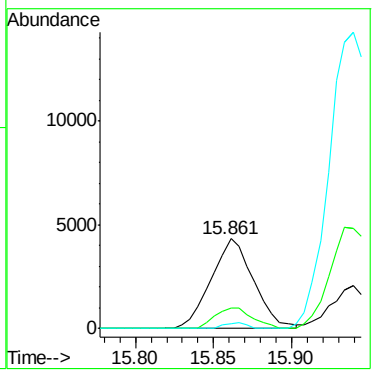


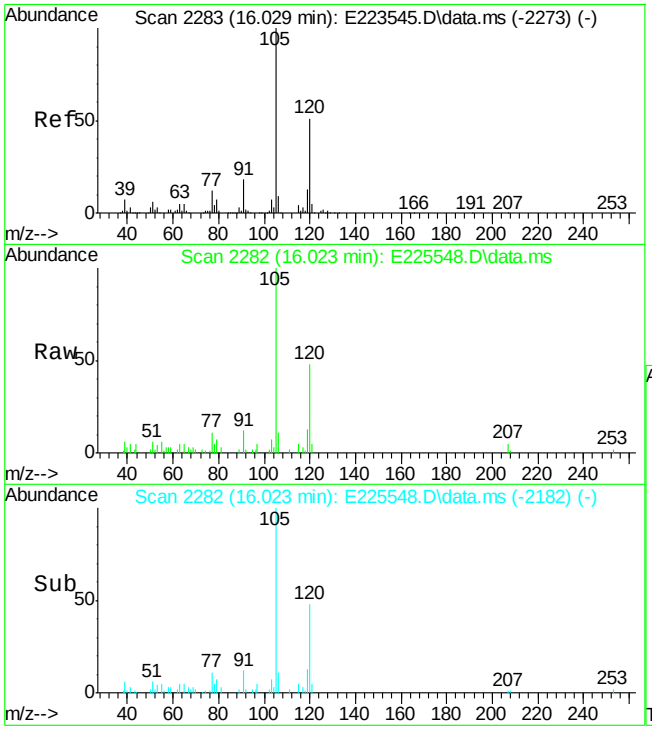


#109
n-propylbenzene
Concen: 0.63 ug/L
RT: 15.861 min Scan# 2251
Delta R.T. -0.011 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion: 91 Resp: 8116

Ion	Ratio	Lower	Upper
91	100		
120	22.3	0.0	52.8
105	5.0	0.0	33.7

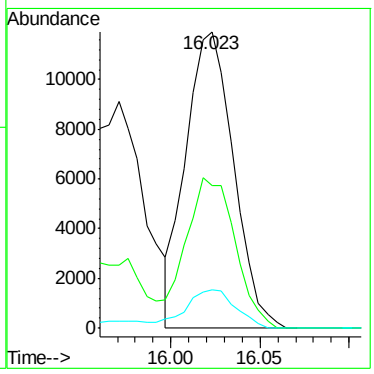


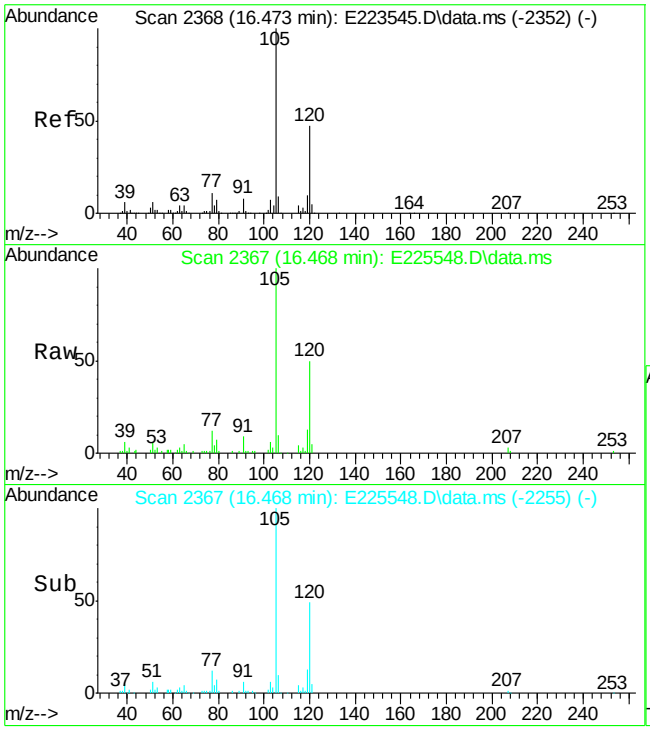


#113
1,3,5-trimethylbenzene
Concen: 2.23 ug/L
RT: 16.023 min Scan# 2282
Delta R.T. -0.006 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion:105 Resp: 22150

Ion	Ratio	Lower	Upper
105	100		
120	48.3	20.8	80.8
119	13.0	0.0	43.0

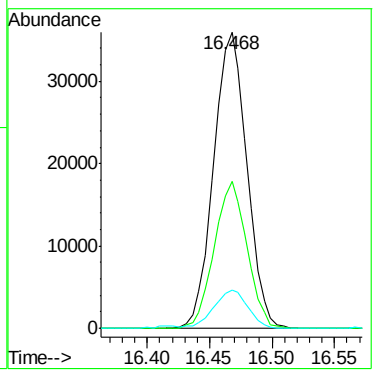


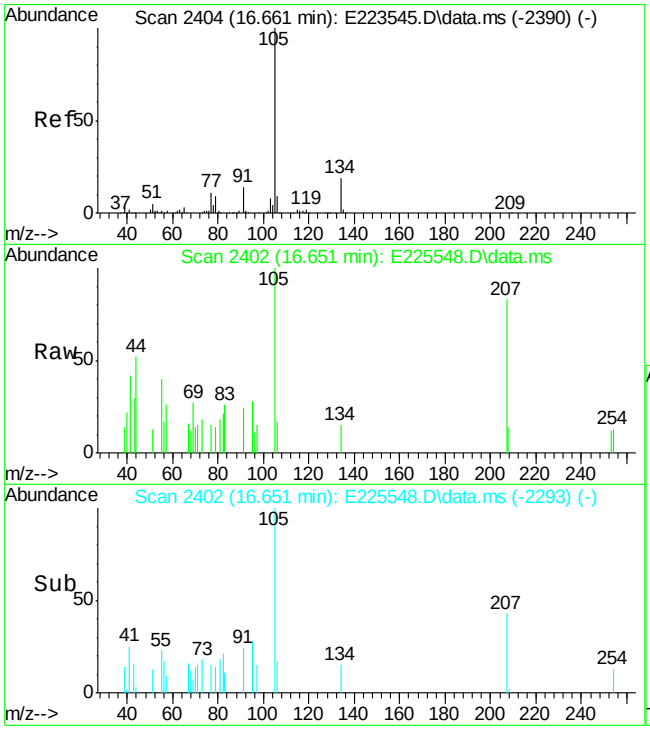


#116
1,2,4-trimethylbenzene
Concen: 6.68 ug/L
RT: 16.468 min Scan# 2367
Delta R.T. -0.006 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion:105 Resp: 66523

Ion	Ratio	Lower	Upper
105	100		
120	49.7	17.2	77.2
119	12.8	0.0	39.9

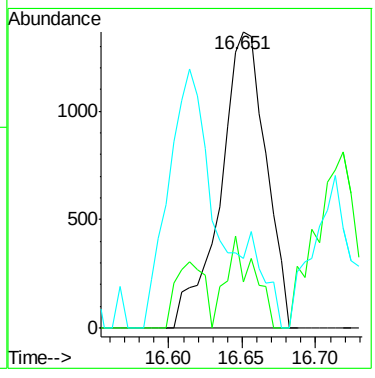


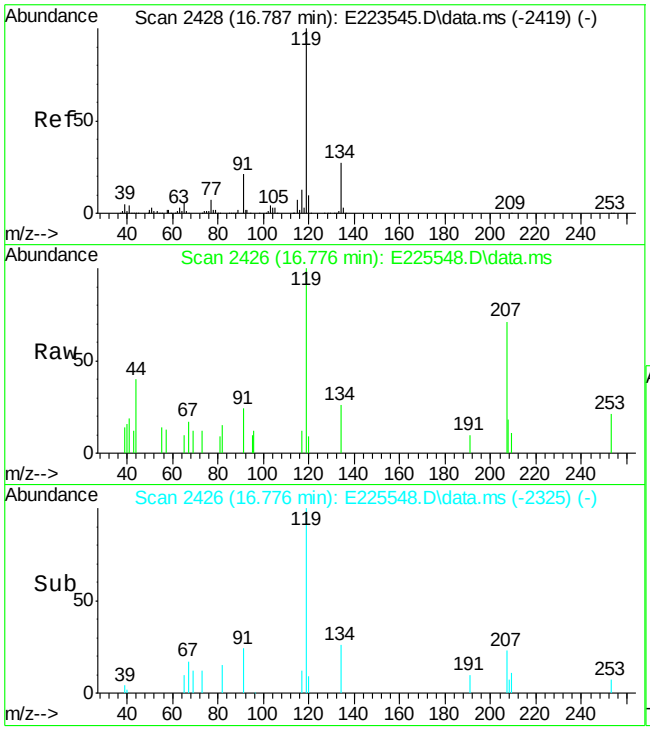


#117
sec-butylbenzene
Concen: 0.21 ug/L
RT: 16.651 min Scan# 2402
Delta R.T. -0.011 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion:105 Resp: 2929

Ion	Ratio	Lower	Upper
105	100		
134	15.5	0.0	49.0
91	4.5	0.0	44.4

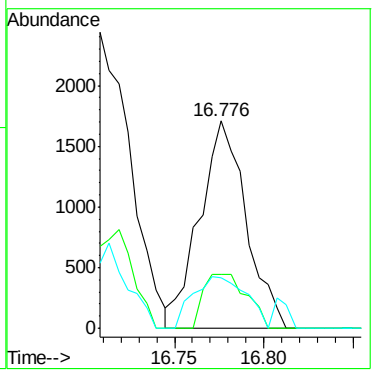


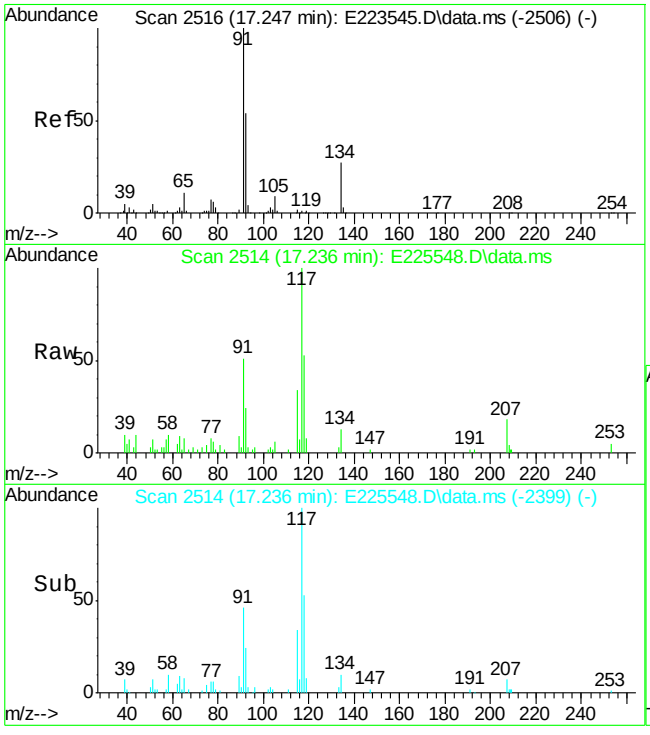


#119
p-isopropyltoluene
Concen: 0.26 ug/L
RT: 16.776 min Scan# 2426
Delta R.T. -0.011 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion:119 Resp: 3095

Ion	Ratio	Lower	Upper
119	100		
134	26.2	0.0	56.7
91	24.2	0.0	50.9

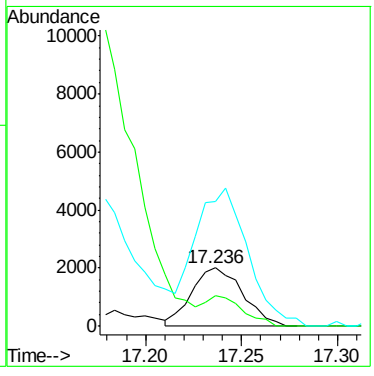


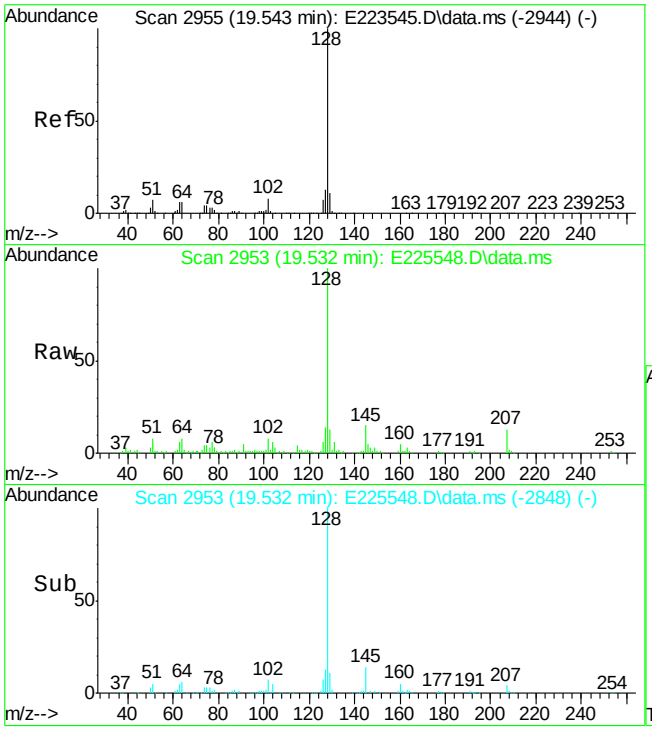


#124
n-butylbenzene
Concen: 0.62 ug/L
RT: 17.236 min Scan# 2514
Delta R.T. -0.011 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion: 92 Resp: 3690

Ion	Ratio	Lower	Upper
92	100		
134	52.8	20.1	80.1
91	201.5	153.6	213.6

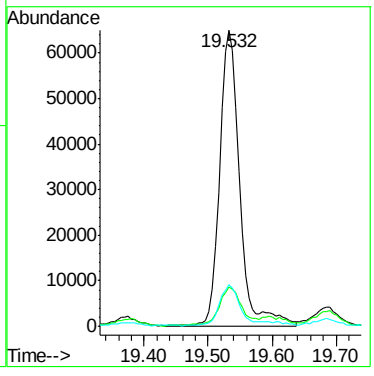




#130
naphthalene
Concen: 10.60 ug/L
RT: 19.532 min Scan# 2953
Delta R.T. -0.011 min
Lab File: E225548.D
Acq: 29 Apr 2015 5:41 pm

Tgt Ion:128 Resp: 141184

Ion	Ratio	Lower	Upper
128	100		
129	13.2	0.0	40.9
127	13.8	0.0	42.7



7.1.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152306.D
Acq On : 23 Apr 2015 2:44 pm
Operator : BenM
Sample : jb93023-7
Misc : MS84082,VV6455,5.4,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 23 17:14:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	138177	500.00	ug/L	0.00
4) pentafluorobenzene	9.96	168	375374	50.00	ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	463425	50.00	ug/L	0.00
79) chlorobenzene-d5	14.33	117	431663	50.00	ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	265819	50.00	ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.05	113	135559	49.42	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 98.84%			
47) 1,2-dichloroethane-d4 (s)	10.48	65	116273	44.88	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 89.76%			
71) toluene-d8 (s)	12.64	98	552697	53.19	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 106.38%			
94) 4-bromofluorobenzene (s)	15.62	95	224387	53.71	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 107.42%			

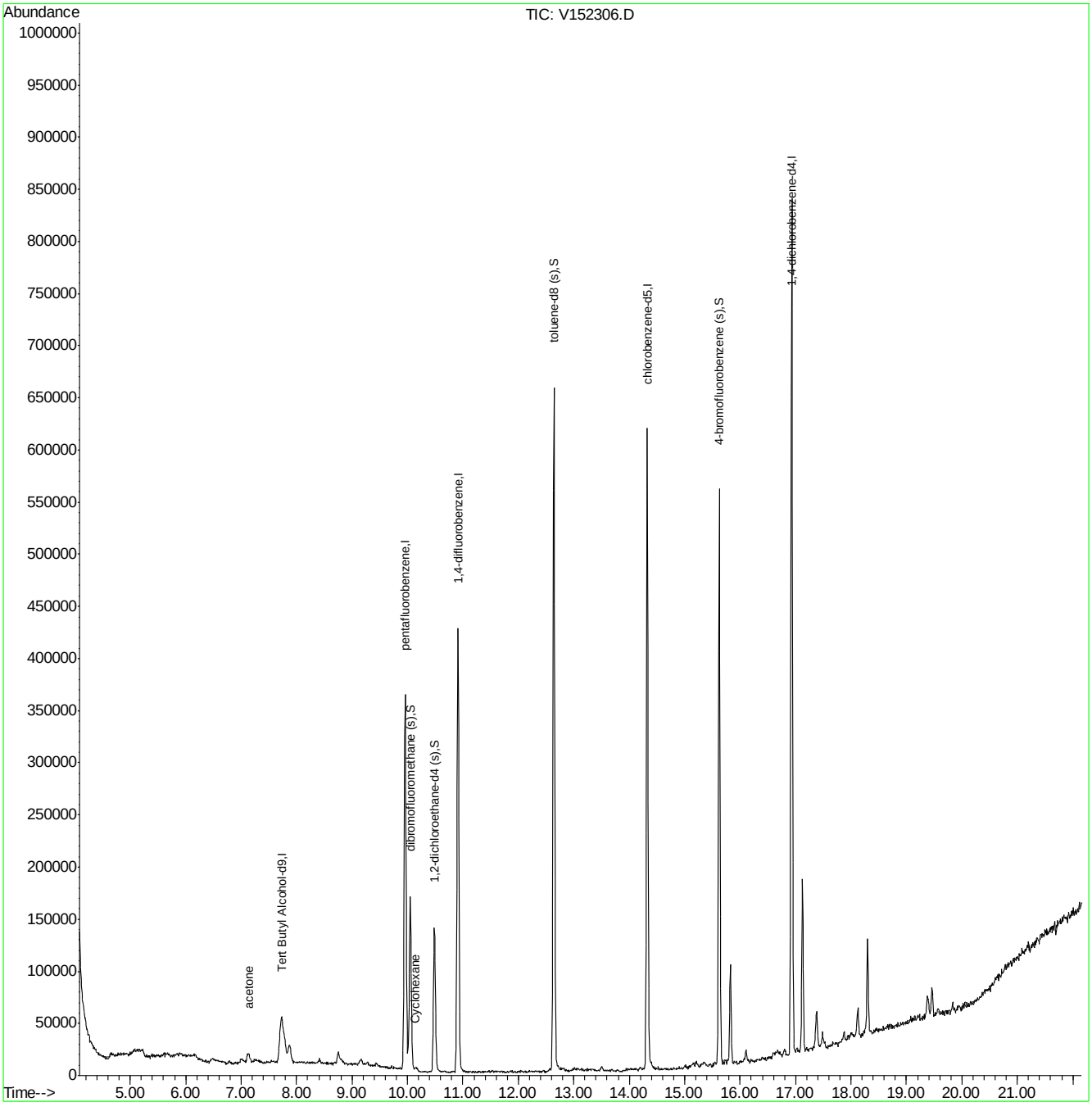
Target Compounds						Qvalue
18) acetone	7.13	43	18198	19.20	ug/L #	96
49) Cyclohexane	10.15	84	1466	0.27	ug/L #	30

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

Quantitation Report (QT Reviewed)

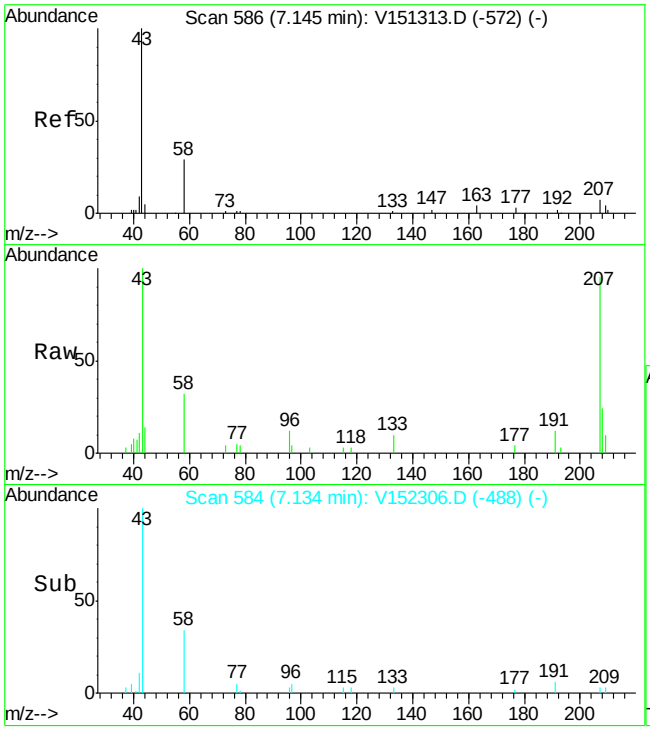
Data Path : C:\MSDCHEM\1\DATA\
Data File : V152306.D
Acq On : 23 Apr 2015 2:44 pm
Operator : BenM
Sample : jb93023-7
Misc : MS84082,VV6455,5.4,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 23 17:14:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration



MVS6444.M Thu Apr 23 17:18:45 2015 MSV

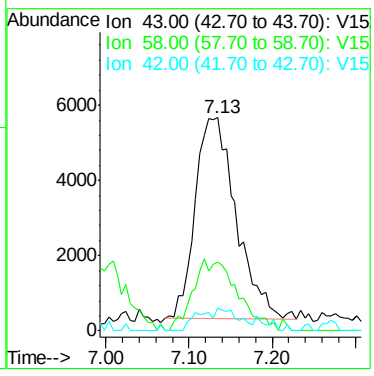
Page: 2

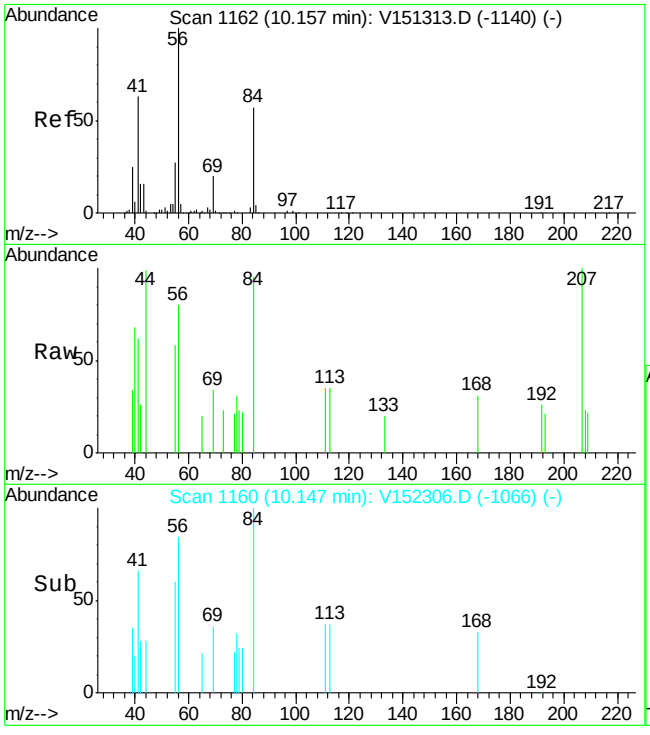


#18
acetone
Concen: 19.20 ug/L
RT: 7.13 min Scan# 584
Delta R.T. 0.00 min
Lab File: V152306.D
Acq: 23 Apr 2015 2:44 pm

Tgt Ion: 43 Resp: 18198

Ion	Ratio	Lower	Upper
43	100		
58	34.1	22.7	42.1
42	11.2	5.6	10.4#

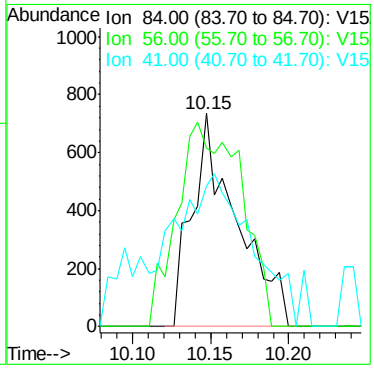




#49
Cyclohexane
Concen: 0.27 ug/L
RT: 10.15 min Scan# 1160
Delta R.T. -0.01 min
Lab File: V152306.D
Acq: 23 Apr 2015 2:44 pm

Tgt Ion: 84 Resp: 1466

Ion	Ratio	Lower	Upper
84	100		
56	83.7	146.2	271.6#
41	65.6	86.2	160.0#



7.1.7

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 08/28/15 14:48

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\Relog\
Data File : E225468.D
Acq On : 27 Apr 2015 7:18 pm
Operator : ThienN
Sample : jb93023-8
Misc : MS84082,VE9896,5.3,,100,10,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 28 10:28:16 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.951	65	90559	500.00	ug/L	-0.02
4) pentafluorobenzene	10.121	168	182065	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	11.052	114	224141	50.00	ug/L	-0.01
84) chlorobenzene-d5	14.384	117	210157	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.952	152	139088	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.216	113	75953	44.42	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 88.84%			
48) 1,2-dichloroethane-d4 (s)	10.634	65	75646	40.42	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 80.84%			
76) toluene-d8 (s)	12.736	98	266934	43.59	ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 87.18%			
103) 4-bromofluorobenzene (s)	15.660	95	109305	40.06	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 80.12%			

Target Compounds						Qvalue
24) carbon disulfide	7.684	76	5345	0.90	ug/L	83
130) naphthalene	19.536	128	5270m	0.48	ug/L	

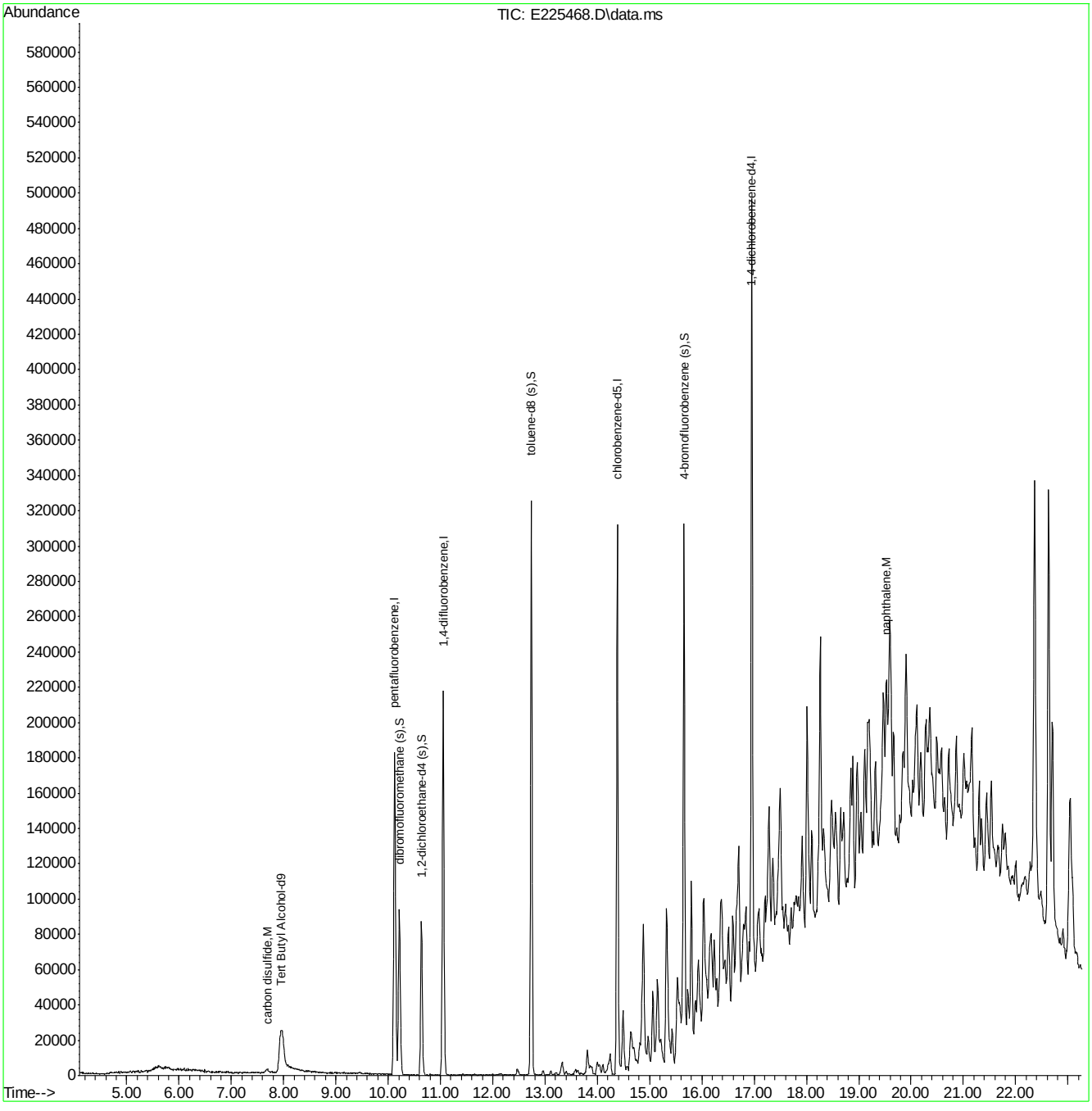
(#) = qualifier out of range (m) = manual integration (+) = signals summed

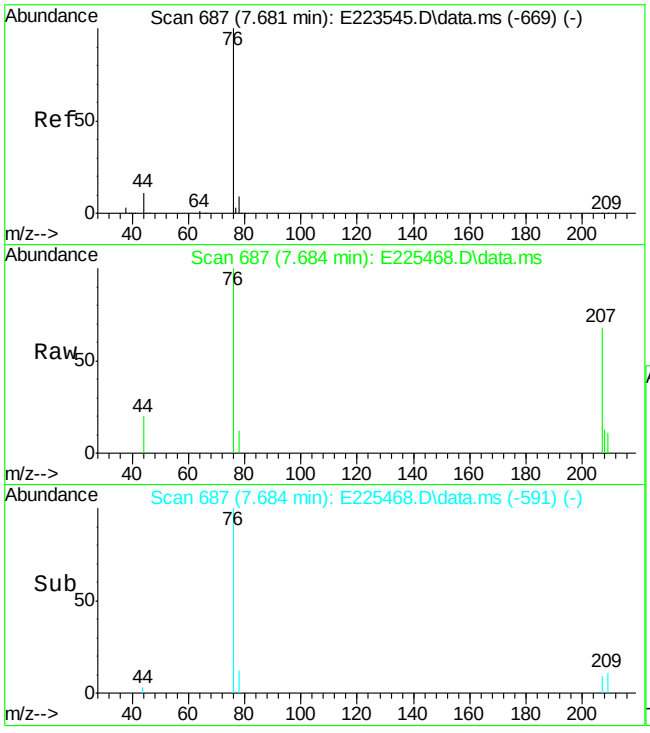
7.1.8
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\Relog\
Data File : E225468.D
Acq On : 27 Apr 2015 7:18 pm
Operator : ThienN
Sample : jb93023-8
Misc : MS84082,VE9896,5.3,,100,10,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 28 10:28:16 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

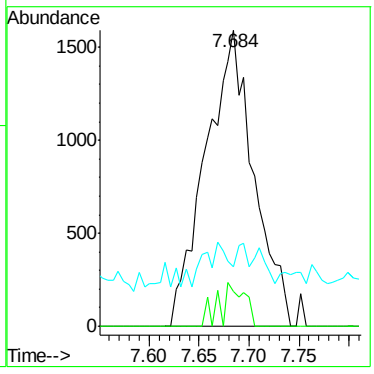


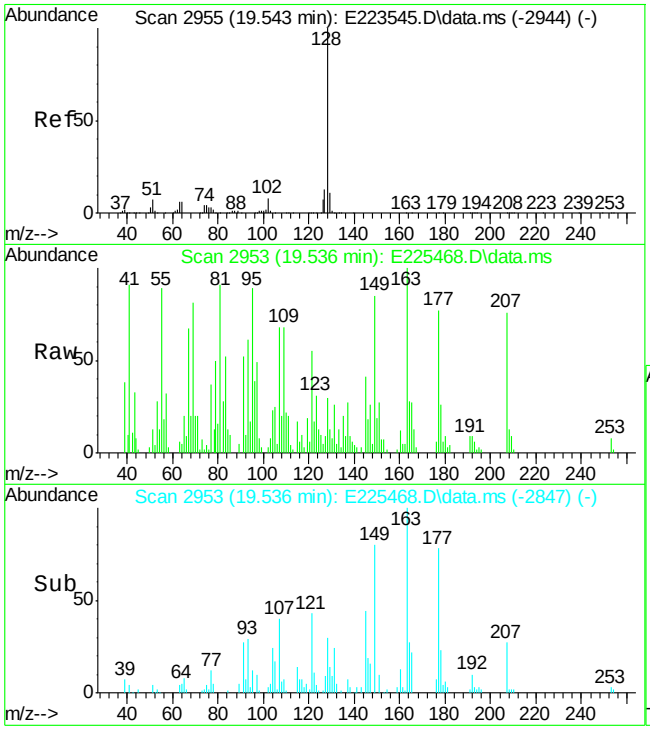


#24
carbon disulfide
Concen: 0.90 ug/L
RT: 7.684 min Scan# 687
Delta R.T. 0.003 min
Lab File: E225468.D
Acq: 27 Apr 2015 7:18 pm

Tgt Ion: 76 Resp: 5345

Ion	Ratio	Lower	Upper
76	100		
78	11.9	0.0	39.3
44	1.8	0.0	41.2

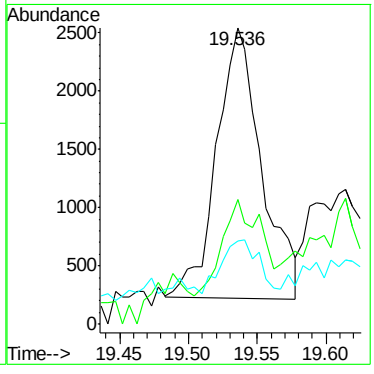




#130
naphthalene
Concen: 0.48 ug/L m
RT: 19.536 min Scan# 2953
Delta R.T. -0.008 min
Lab File: E225468.D
Acq: 27 Apr 2015 7:18 pm

Tgt Ion:128 Resp: 5270

Ion	Ratio	Lower	Upper
128	100		
129	42.2	0.0	40.9#
127	28.0	0.0	42.7



Manual Integrations
APPROVED
(compounds with "m" flag)
Mei Chen
08/31/15 16:41

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : V152312.D
Acq On : 23 Apr 2015 5:47 pm
Operator : BenM
Sample : jb93023-9
Misc : MS84082,VV6455,6.1,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 31 16:33:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	138859	500.00	ug/L	0.00
4) pentafluorobenzene	9.96	168	378002	50.00	ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	470317	50.00	ug/L	0.00
79) chlorobenzene-d5	14.33	117	435834	50.00	ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	250840	50.00	ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.05	113	133181	48.22	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.44%			
47) 1,2-dichloroethane-d4 (s)	10.49	65	115116	44.12	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 88.24%			
71) toluene-d8 (s)	12.64	98	553702	52.51	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.02%			
94) 4-bromofluorobenzene (s)	15.62	95	217857	51.64	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 103.28%			

Target Compounds						Qvalue
56) hexane	8.42	57	1419	0.38	ug/L	80
108) sec-butylbenzene	16.62	105	3846	0.17	ug/L	92
121) naphthalene	19.56	128	24005m	1.30	ug/L	

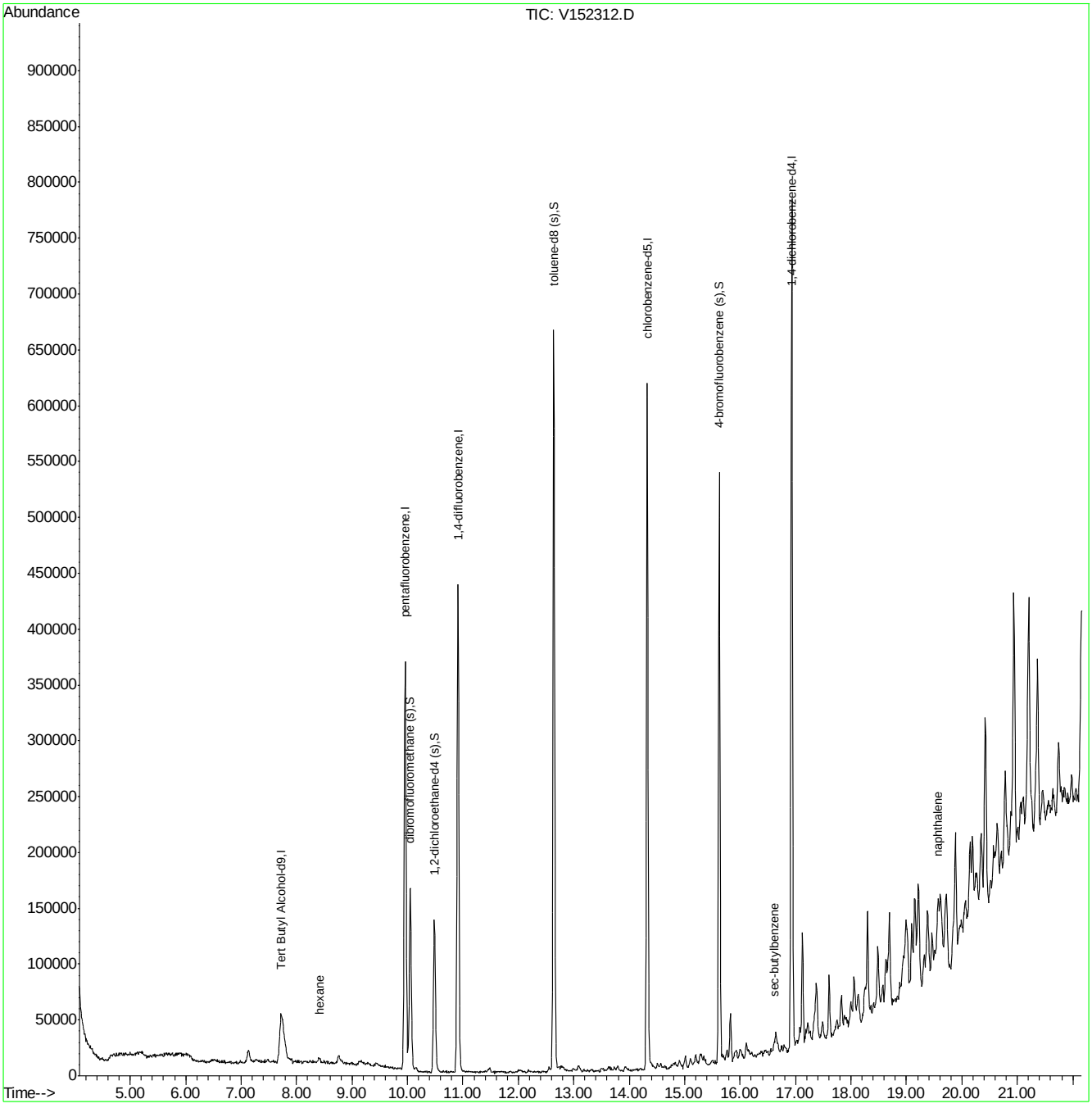
(#) = qualifier out of range (m) = manual integration (+) = signals summed

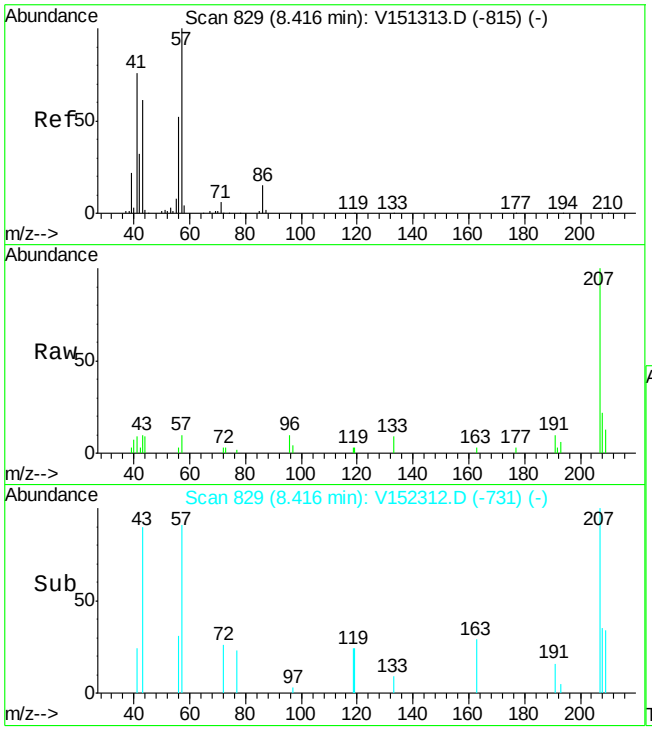
7.1.9
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : V152312.D
Acq On : 23 Apr 2015 5:47 pm
Operator : BenM
Sample : jb93023-9
Misc : MS84082,VV6455,6.1,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 31 16:33:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

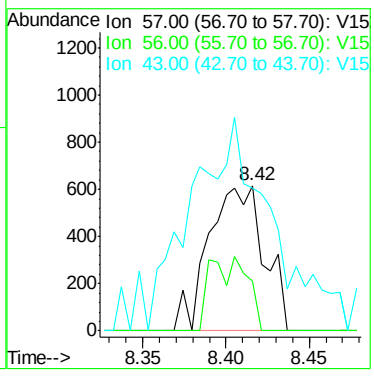


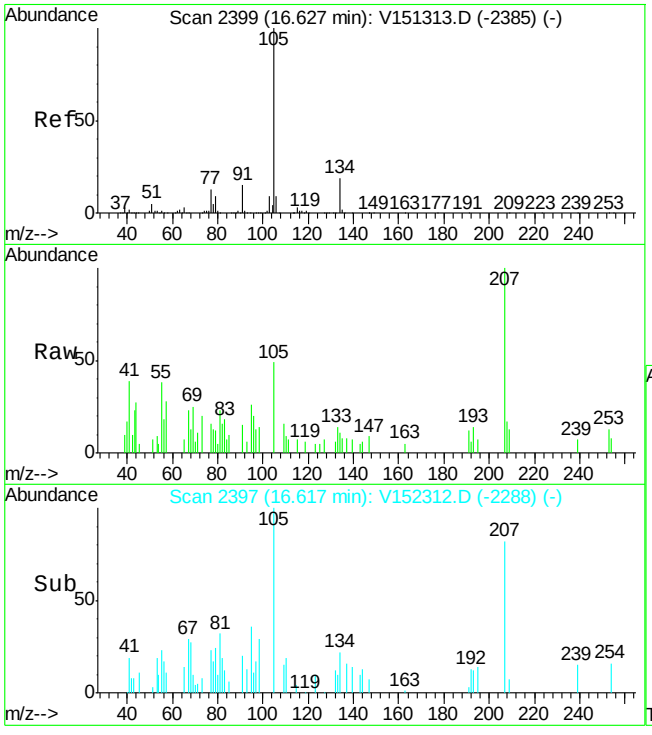


#56
hexane
Concen: 0.38 ug/L
RT: 8.42 min Scan# 829
Delta R.T. 0.01 min
Lab File: V152312.D
Acq: 23 Apr 2015 5:47 pm

Tgt Ion: 57 Resp: 1419

Ion	Ratio	Lower	Upper
57	100		
56	34.0	21.1	81.1
43	54.1	37.8	97.8

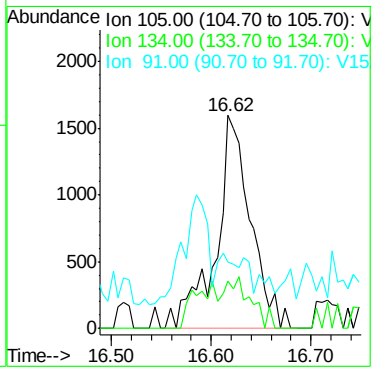


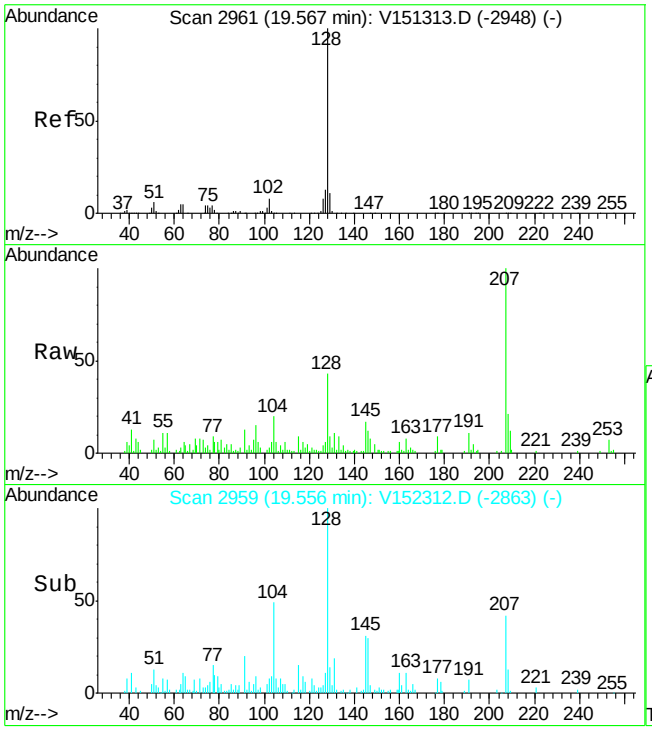


#108
sec-butylbenzene
Concen: 0.17 ug/L
RT: 16.62 min Scan# 2397
Delta R.T. -0.01 min
Lab File: V152312.D
Acq: 23 Apr 2015 5:47 pm

Tgt Ion:105 Resp: 3846

Ion	Ratio	Lower	Upper
105	100		
134	22.4	0.0	48.8
91	17.7	0.0	44.4

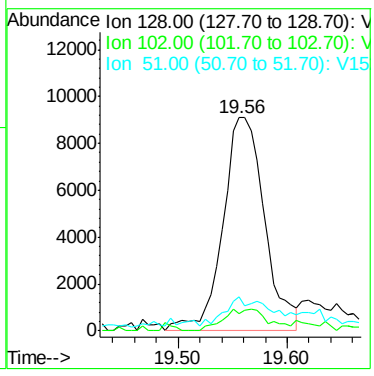




#121
naphthalene
Concen: 1.30 ug/L m
RT: 19.56 min Scan# 2959
Delta R.T. 0.00 min
Lab File: V152312.D
Acq: 23 Apr 2015 5:47 pm

Tgt Ion:128 Resp: 24005

Ion	Ratio	Lower	Upper
128	100		
102	8.1	0.0	37.6
51	15.9	0.0	37.8



7.1.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225517.D
Acq On : 29 Apr 2015 1:13 am
Operator : ThienN
Sample : jb93023-10
Misc : MS84082,VE9899,4.5,,100,10,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 29 09:05:25 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.970	65	149388	500.00	ug/L	0.00
4) pentafluorobenzene	10.124	168	241455	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.050	114	309429	50.00	ug/L	-0.02
84) chlorobenzene-d5	14.382	117	290716	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.955	152	181747	50.00	ug/L	0.00

System Monitoring Compounds						
47) dibromofluoromethane (s)	10.213	113	102741	45.31	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 90.62%			
48) 1,2-dichloroethane-d4 (s)	10.637	65	100914	40.66	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 81.32%			
76) toluene-d8 (s)	12.734	98	365351	43.21	ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 86.42%			
103) 4-bromofluorobenzene (s)	15.658	95	147625	41.40	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 82.80%			

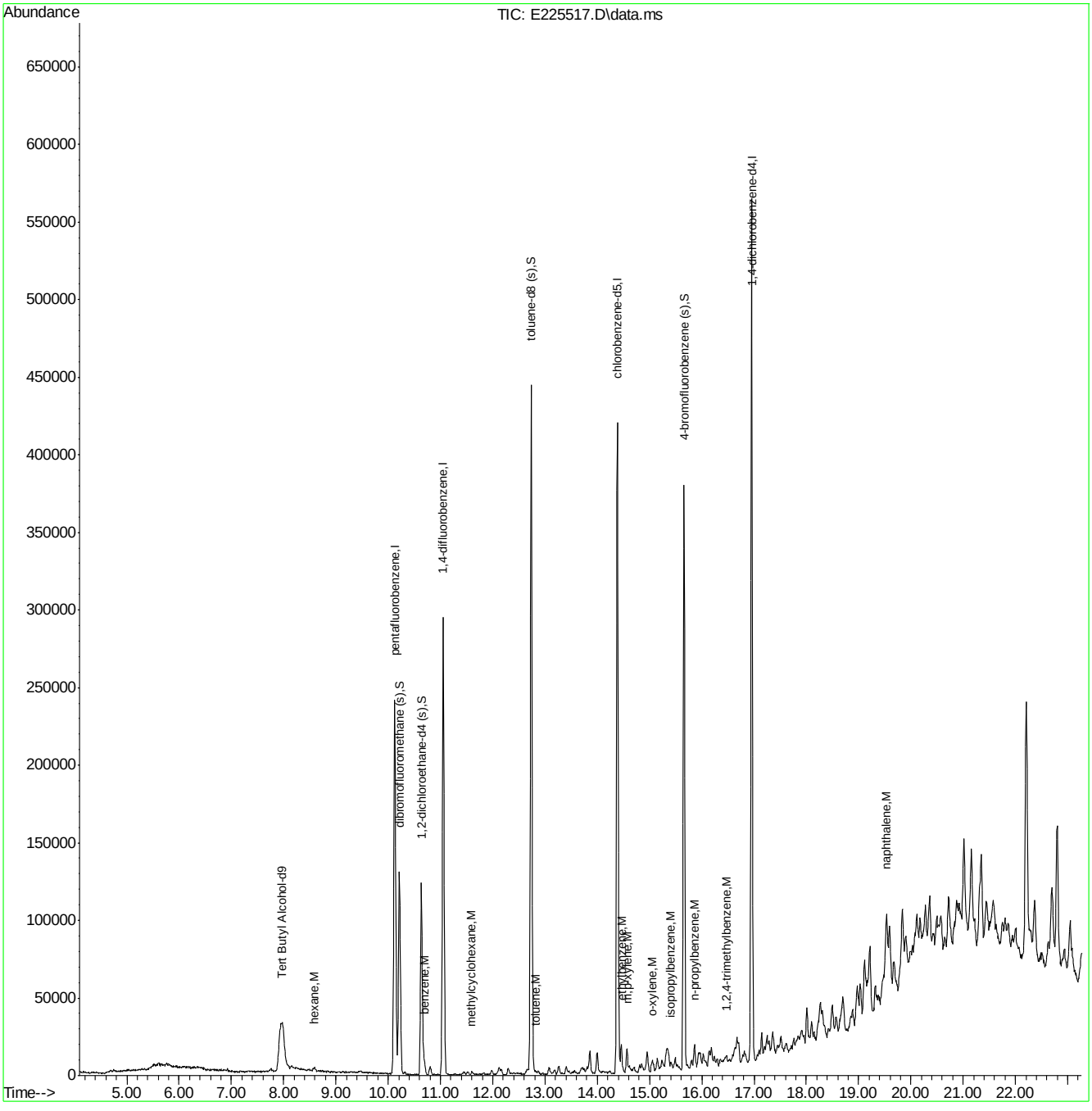
Target Compounds						Qvalue
61) hexane	8.576	57	1442	0.63	ug/L	88
62) benzene	10.689	78	9417	1.01	ug/L	96
70) methylcyclohexane	11.599	83	1395	0.32	ug/L	78
78) toluene	12.813	92	1512	0.28	ug/L	99
95) ethylbenzene	14.455	91	14374	1.32	ug/L	98
96) m,p-xylene	14.570	106	4519	1.09	ug/L #	77
97) o-xylene	15.035	106	1801	0.41	ug/L #	61
102) isopropylbenzene	15.407	105	3829	0.31	ug/L	86
109) n-propylbenzene	15.867	91	5643	0.40	ug/L	92
116) 1,2,4-trimethylbenzene	16.469	105	3572	0.33	ug/L	93
130) naphthalene	19.539	128	9486	0.66	ug/L	90

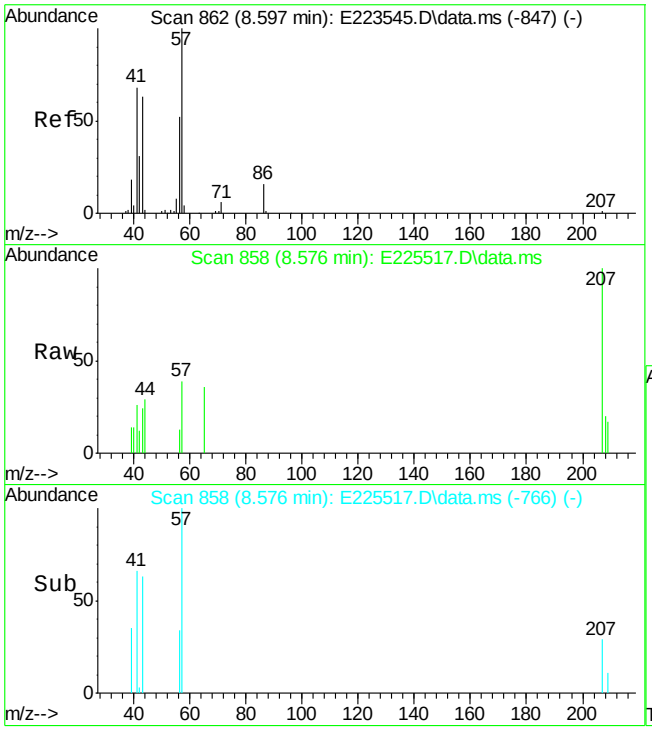
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225517.D
Acq On : 29 Apr 2015 1:13 am
Operator : ThienN
Sample : jb93023-10
Misc : MS84082,VE9899,4.5,,100,10,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 29 09:05:25 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

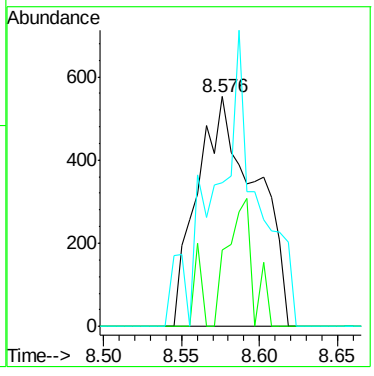


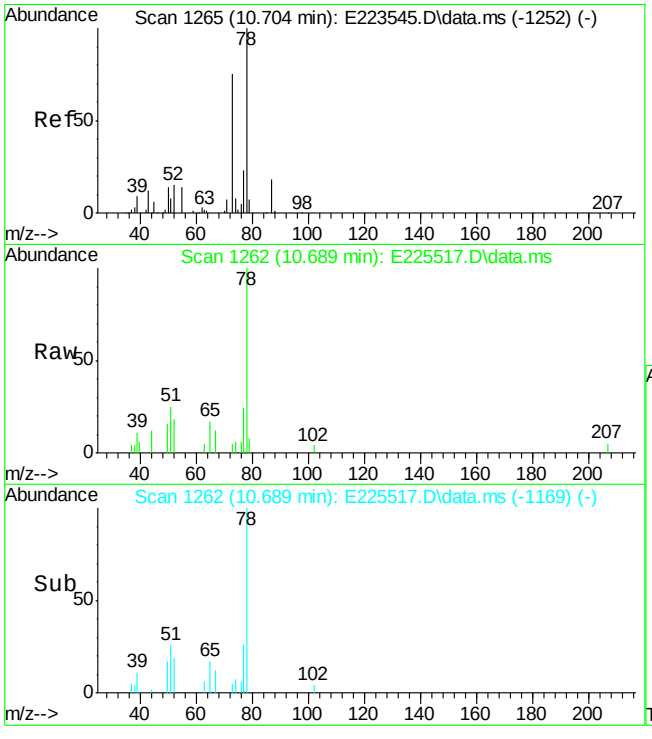


#61
hexane
Concen: 0.63 ug/L
RT: 8.576 min Scan# 858
Delta R.T. -0.020 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion: 57 Resp: 1442

Ion	Ratio	Lower	Upper
57	100		
56	33.5	21.8	81.8
43	62.7	33.3	93.3

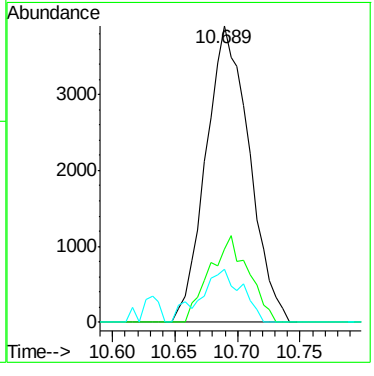


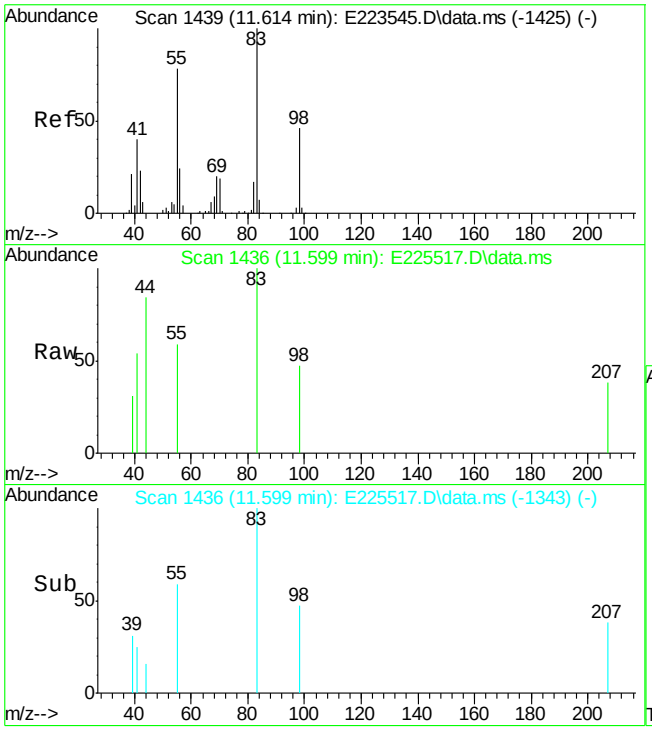


#62
benzene
Concen: 1.01 ug/L
RT: 10.689 min Scan# 1262
Delta R.T. -0.015 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion: 78 Resp: 9417

Ion	Ratio	Lower	Upper
78	100		
77	24.5	0.0	53.0
52	17.9	0.0	45.5

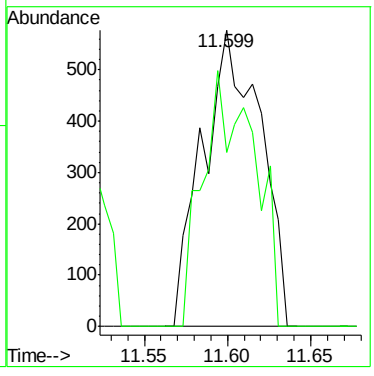


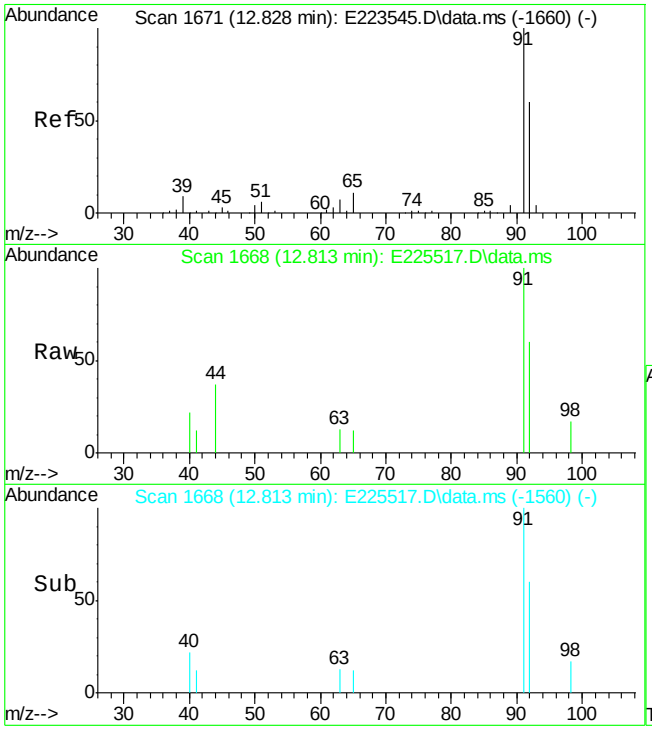


#70
methylcyclohexane
Concen: 0.32 ug/L
RT: 11.599 min Scan# 1436
Delta R.T. -0.015 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion: 83 Resp: 1395

Ion	Ratio	Lower	Upper
83	100		
55	58.8	54.3	100.9

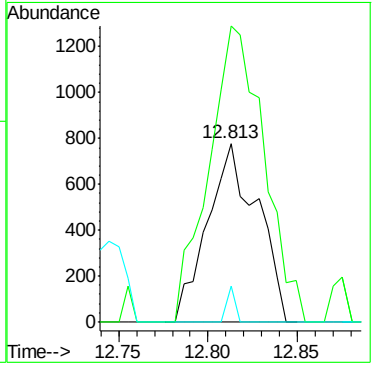


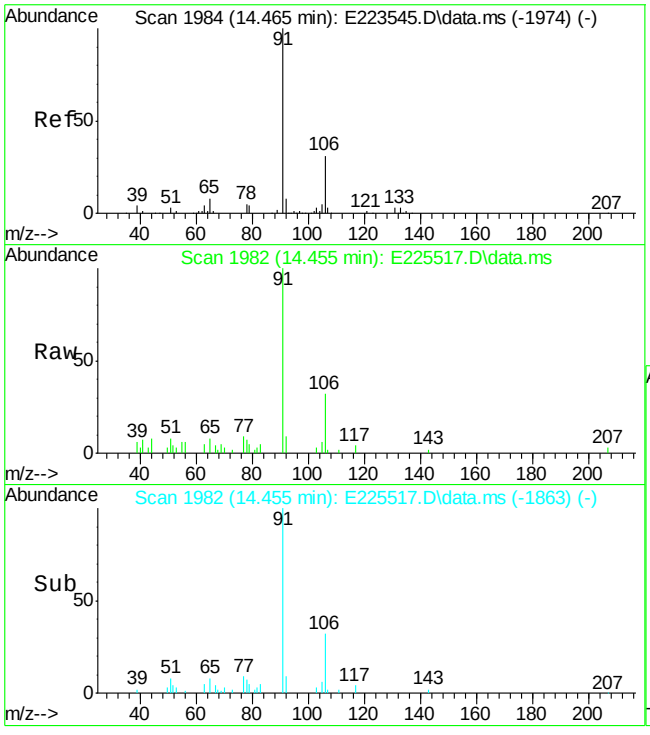


#78
toluene
Concen: 0.28 ug/L
RT: 12.813 min Scan# 1668
Delta R.T. -0.015 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion: 92 Resp: 1512

Ion	Ratio	Lower	Upper
92	100		
91	166.0	137.4	197.4
65	20.3	0.0	48.1

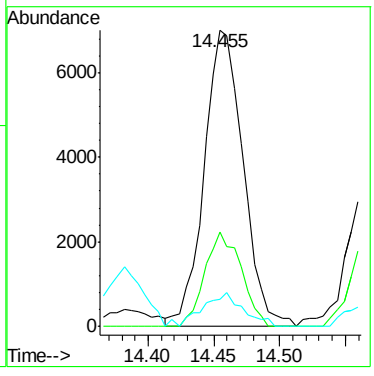


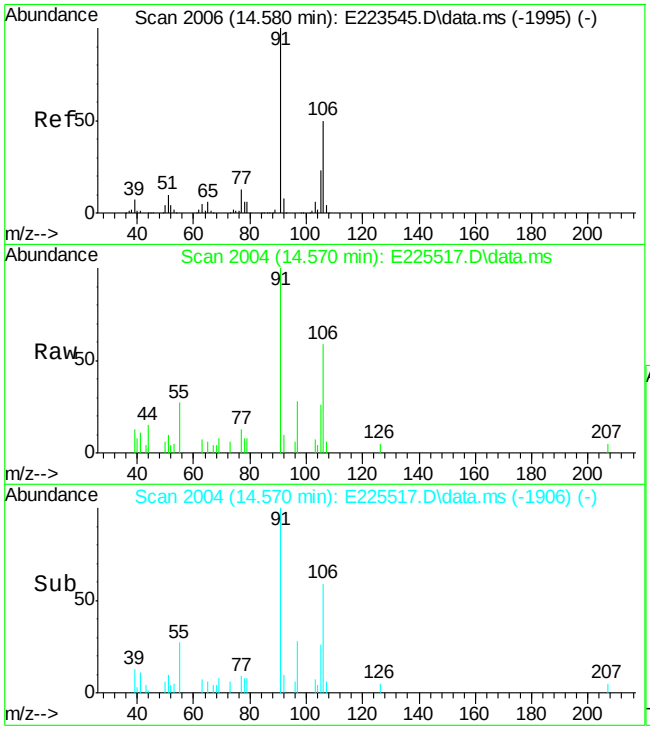


#95
ethylbenzene
Concen: 1.32 ug/L
RT: 14.455 min Scan# 1982
Delta R.T. -0.010 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion: 91 Resp: 14374

Ion	Ratio	Lower	Upper
91	100		
106	31.7	0.6	60.6
77	9.3	0.0	38.8

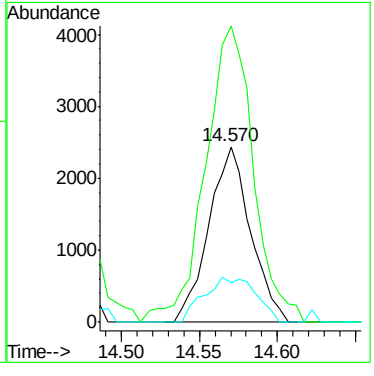


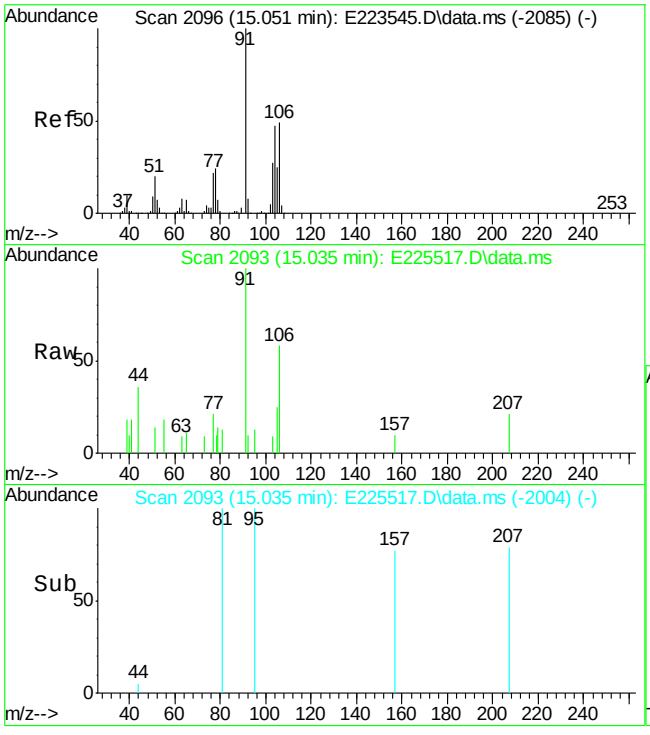


#96
m,p-xylene
Concen: 1.09 ug/L
RT: 14.570 min Scan# 2004
Delta R.T. -0.009 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion:106 Resp: 4519

Ion	Ratio	Lower	Upper
106	100		
91	161.0	168.5	228.5#
77	22.3	0.0	54.9

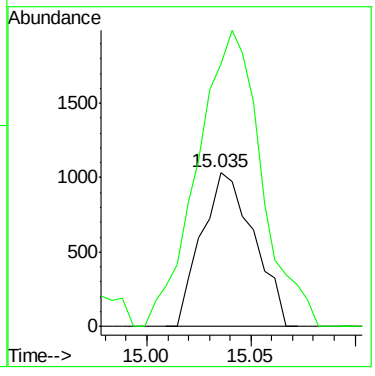


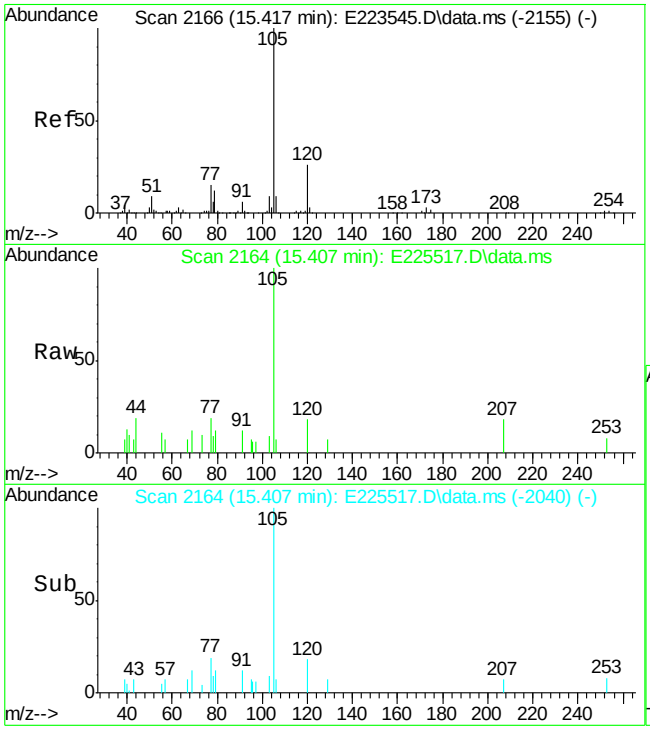


#97
o-xylene
Concen: 0.41 ug/L
RT: 15.035 min Scan# 2093
Delta R.T. -0.015 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion:106 Resp: 1801

Ion	Ratio	Lower	Upper
106	100		
91	144.8	175.4	235.4#

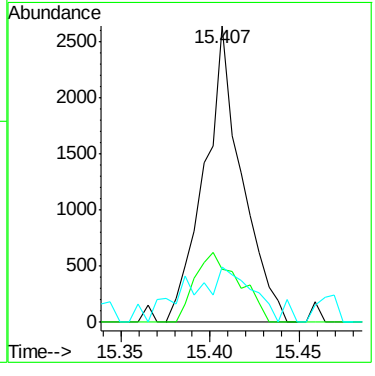


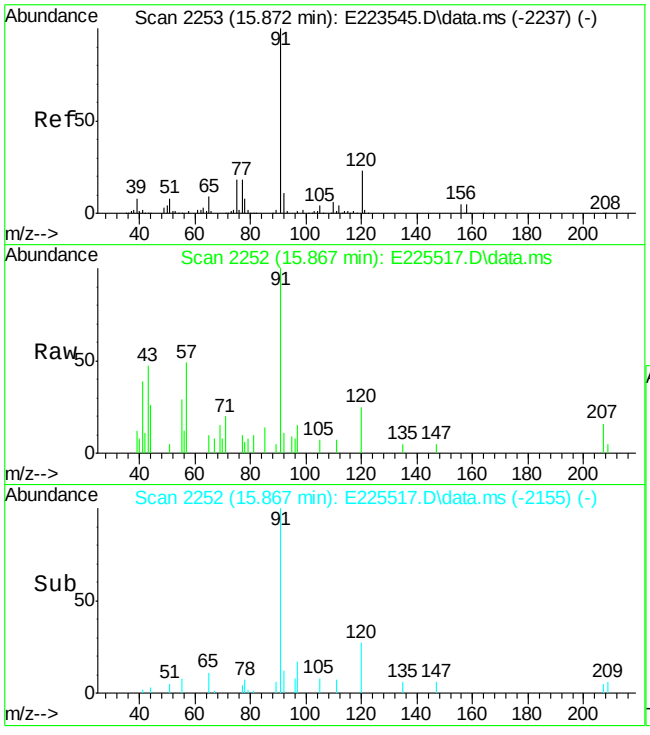


#102
isopropylbenzene
Concen: 0.31 ug/L
RT: 15.407 min Scan# 2164
Delta R.T. -0.010 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion:105 Resp: 3829

Ion	Ratio	Lower	Upper
105	100		
120	17.9	0.0	55.9
77	18.6	0.0	44.5

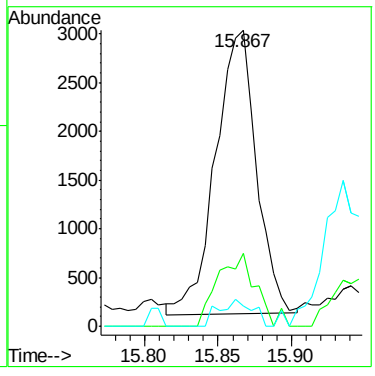


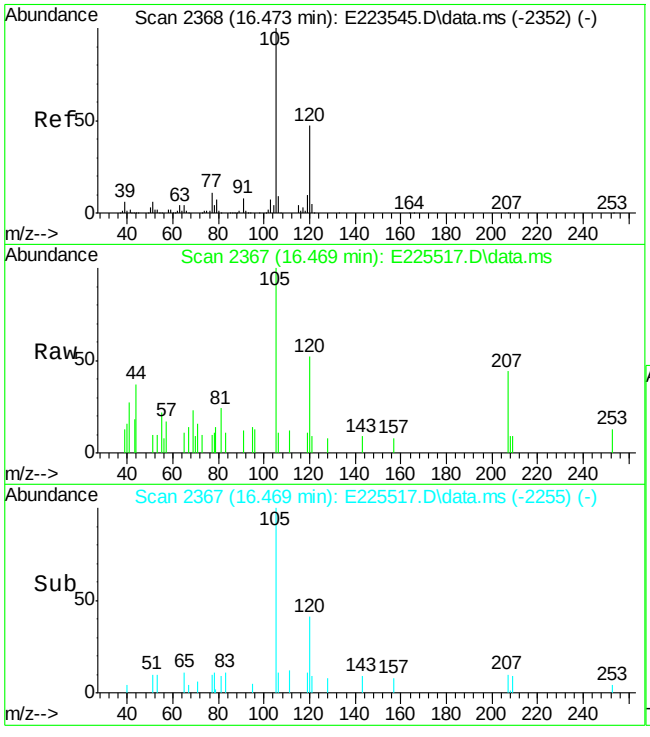


#109
n-propylbenzene
Concen: 0.40 ug/L
RT: 15.867 min Scan# 2252
Delta R.T. -0.005 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion: 91 Resp: 5643

Ion	Ratio	Lower	Upper
91	100		
120	26.3	0.0	52.8
105	7.5	0.0	33.7

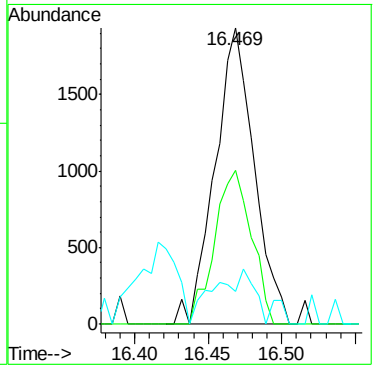




#116
1,2,4-trimethylbenzene
Concen: 0.33 ug/L
RT: 16.469 min Scan# 2367
Delta R.T. -0.005 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

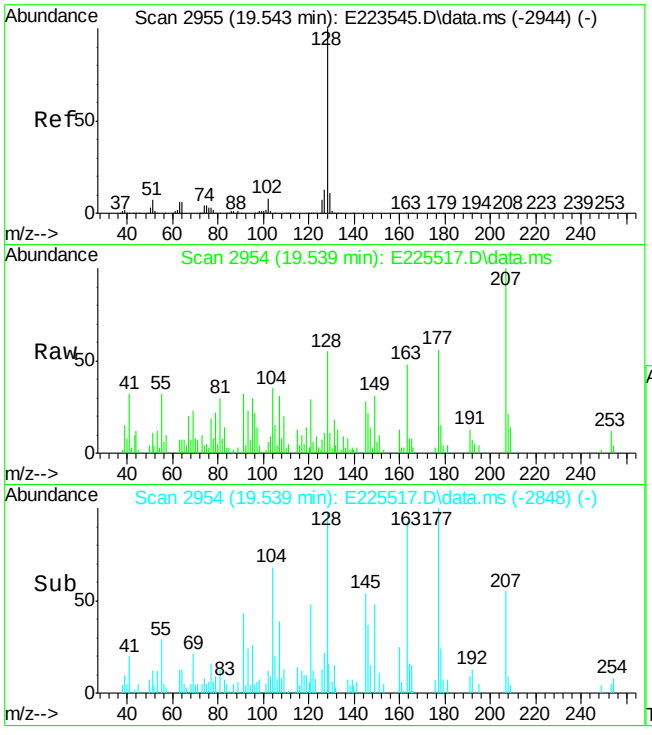
Tgt Ion:105 Resp: 3572

Ion	Ratio	Lower	Upper
105	100		
120	52.1	17.2	77.2
119	11.2	0.0	39.9



7.1.10

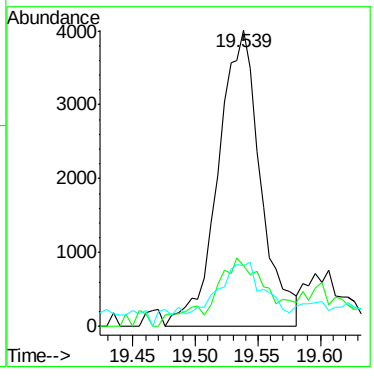
7



#130
naphthalene
Concen: 0.66 ug/L
RT: 19.539 min Scan# 2954
Delta R.T. -0.005 min
Lab File: E225517.D
Acq: 29 Apr 2015 1:13 am

Tgt Ion:128 Resp: 9486

Ion	Ratio	Lower	Upper
128	100		
129	16.8	0.0	40.9
127	14.9	0.0	42.7



7.1.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152313.D
Acq On : 23 Apr 2015 6:15 pm
Operator : BenM
Sample : jb93023-11
Misc : MS84082,VV6455,5.6,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 24 12:07:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	143885	500.00 ug/L	0.00
4) pentafluorobenzene	9.96	168	399685	50.00 ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	498540	50.00 ug/L	0.00
79) chlorobenzene-d5	14.33	117	454003	50.00 ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	281131	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.05	113	142621	48.83 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 97.66%		
47) 1,2-dichloroethane-d4 (s)	10.49	65	121607	44.08 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 88.16%		
71) toluene-d8 (s)	12.64	98	581383	52.01 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 104.02%		
94) 4-bromofluorobenzene (s)	15.62	95	229416	52.21 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.42%		

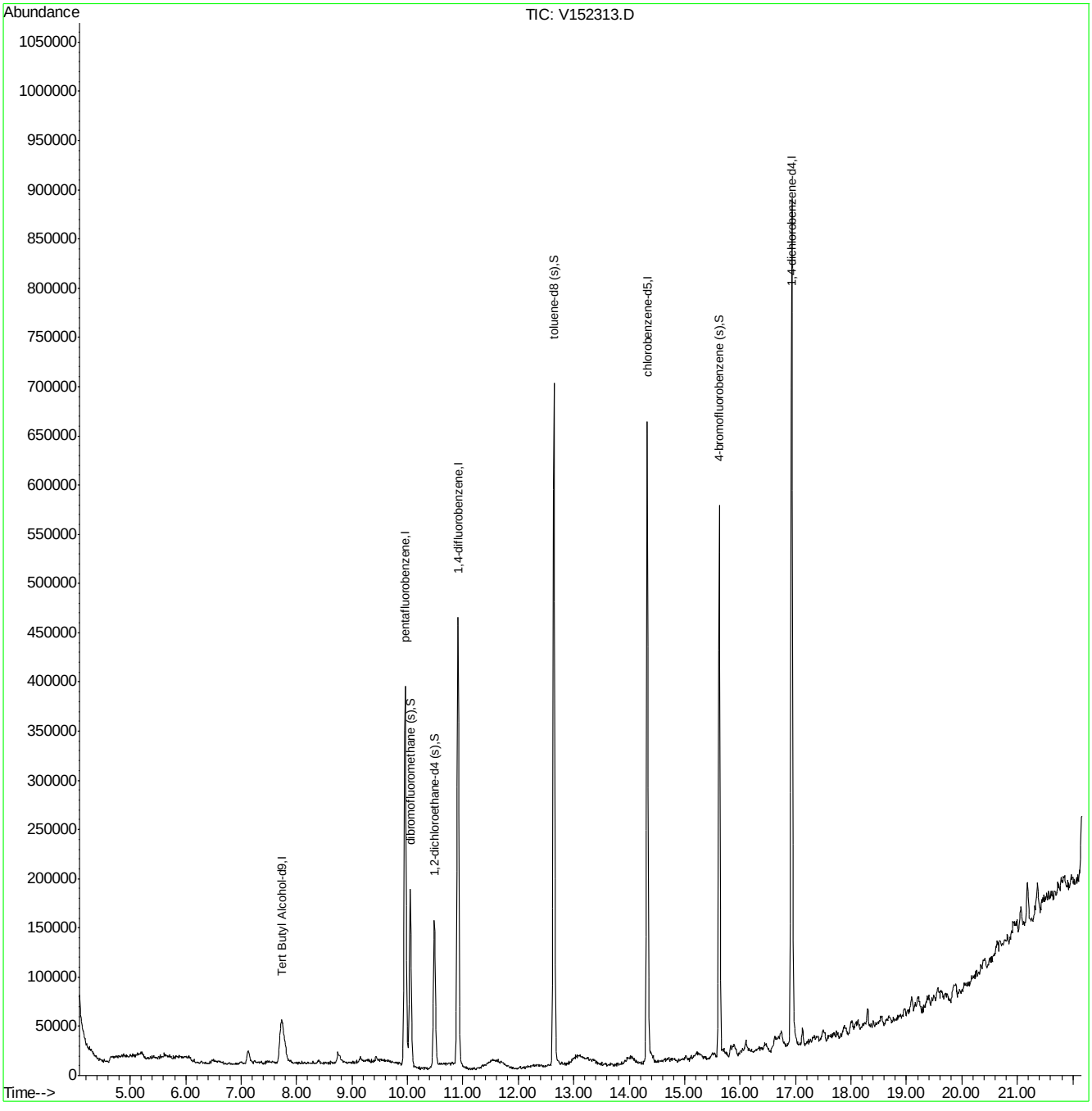
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152313.D
Acq On : 23 Apr 2015 6:15 pm
Operator : BenM
Sample : jb93023-11
Misc : MS84082,VV6455,5.6,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 24 12:07:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225520.D
Acq On : 29 Apr 2015 2:44 am
Operator : ThienN
Sample : jb93023-12
Misc : MS84082,VE9899,6,,100,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 29 09:10:25 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.960	65	143541	500.00	ug/L	0.00
4) pentafluorobenzene	10.125	168	242394	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.051	114	310629	50.00	ug/L	-0.01
84) chlorobenzene-d5	14.383	117	306171	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.956	152	204496	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.214	113	104512	45.91	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 91.82%			
48) 1,2-dichloroethane-d4 (s)	10.633	65	101389	40.70	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 81.40%			
76) toluene-d8 (s)	12.735	98	372753	43.92	ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 87.84%			
103) 4-bromofluorobenzene (s)	15.659	95	155265	38.70	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 77.40%			

Target Compounds

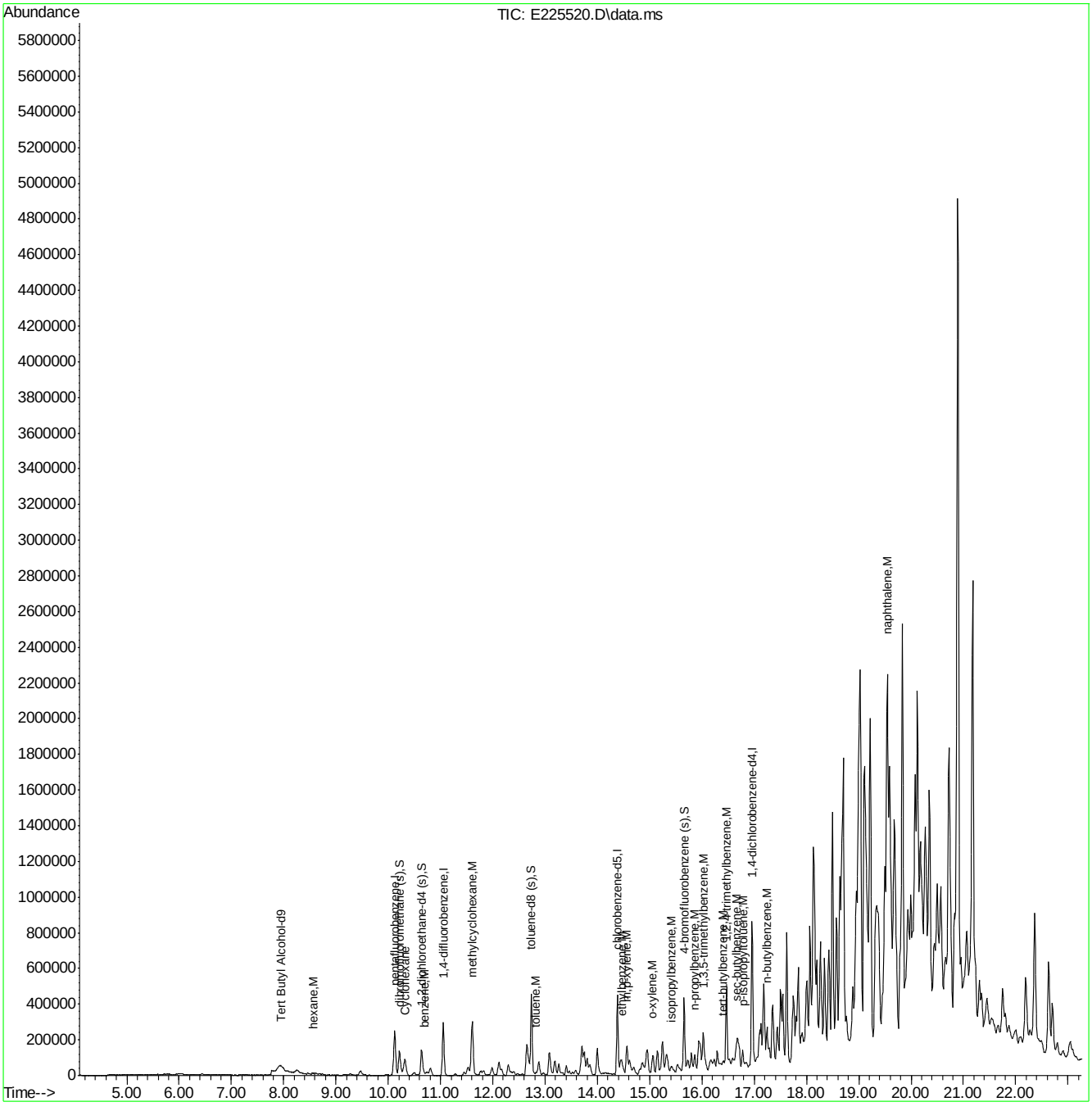
						Qvalue
52) Cyclohexane	10.313	84	40082	11.08	ug/L #	63
61) hexane	8.572	57	3266	1.41	ug/L	89
62) benzene	10.695	78	4702	0.50	ug/L	89
70) methylcyclohexane	11.605	83	181085	41.61	ug/L	97
78) toluene	12.813	92	3610	0.67	ug/L	95
95) ethylbenzene	14.461	91	15430	1.34	ug/L	96
96) m,p-xylene	14.566	106	17335	3.98	ug/L	94
97) o-xylene	15.036	106	8693	1.87	ug/L	89
102) isopropylbenzene	15.408	105	23850	1.70	ug/L	96
109) n-propylbenzene	15.863	91	50666	3.22	ug/L	98
113) 1,3,5-trimethylbenzene	16.025	105	82995	6.84	ug/L	98
114) tert-butylbenzene	16.412	134	1339	0.52	ug/L #	61
116) 1,2,4-trimethylbenzene	16.464	105	305980	25.22	ug/L	98
117) sec-butylbenzene	16.652	105	37157	2.21	ug/L	96
119) p-isopropyltoluene	16.778	119	48134	3.28	ug/L	97
124) n-butylbenzene	17.238	92	26362	3.63	ug/L	87
130) naphthalene	19.534	128	817510	50.38	ug/L	89

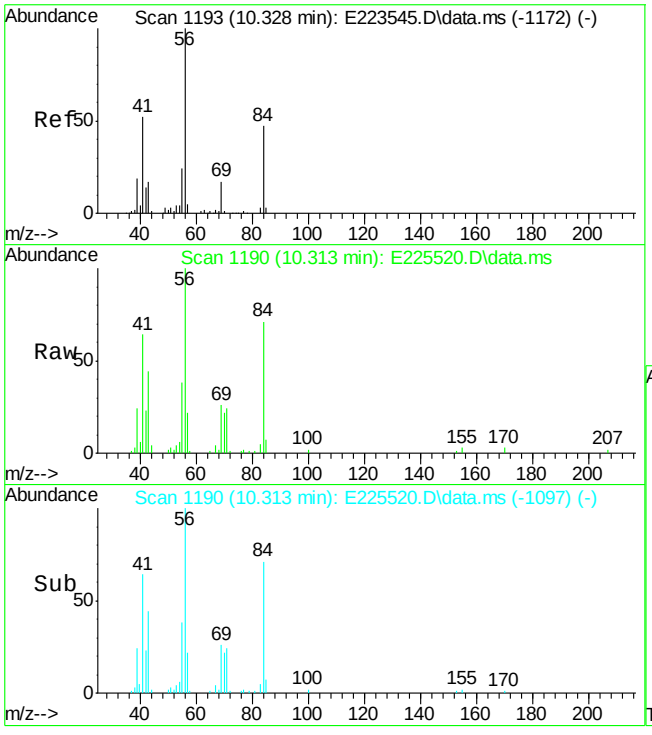
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225520.D
Acq On : 29 Apr 2015 2:44 am
Operator : ThienN
Sample : jb93023-12
Misc : MS84082,VE9899,6,,100,10,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 29 09:10:25 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

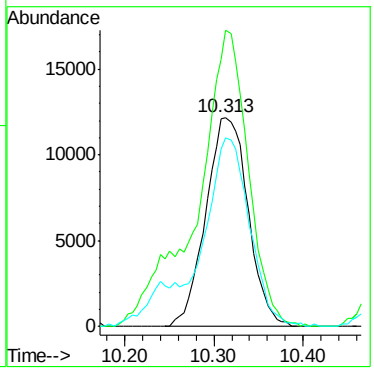


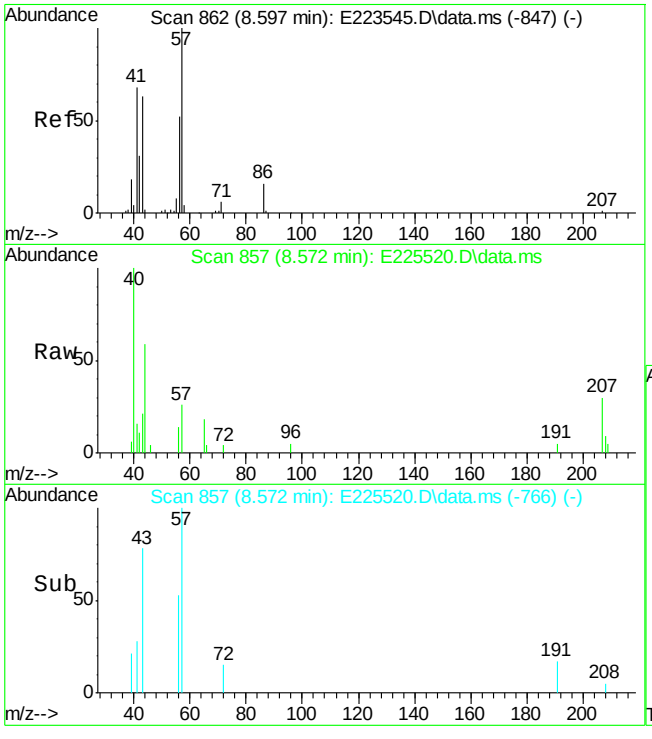


#52
Cyclohexane
Concen: 11.08 ug/L
RT: 10.313 min Scan# 1190
Delta R.T. -0.014 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion: 84 Resp: 40082

Ion	Ratio	Lower	Upper
84	100		
56	140.2	148.7	276.3#
41	89.0	77.9	144.7

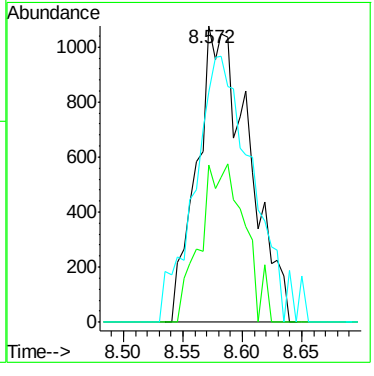


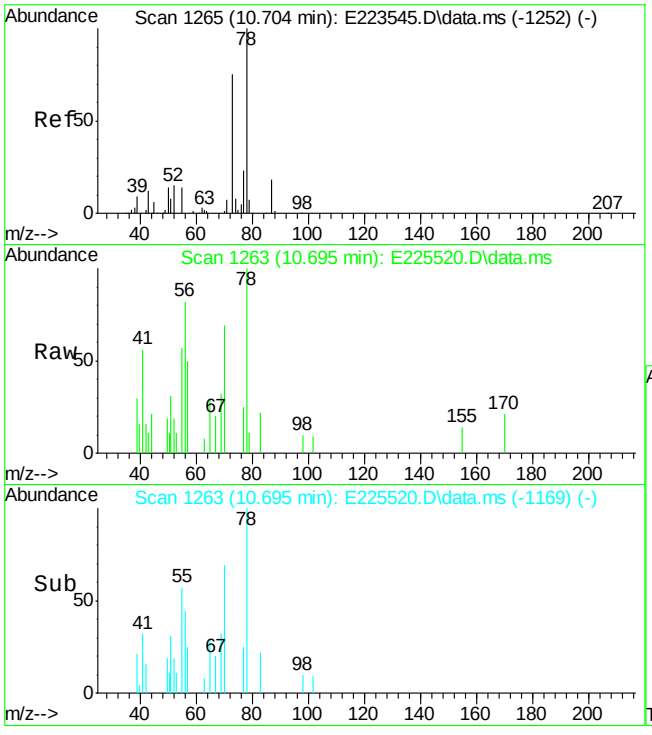


#61
hexane
Concen: 1.41 ug/L
RT: 8.572 min Scan# 857
Delta R.T. -0.025 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion: 57 Resp: 3266

Ion	Ratio	Lower	Upper
57	100		
56	52.9	21.8	81.8
43	77.5	33.3	93.3

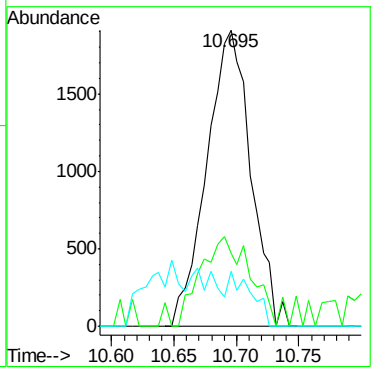


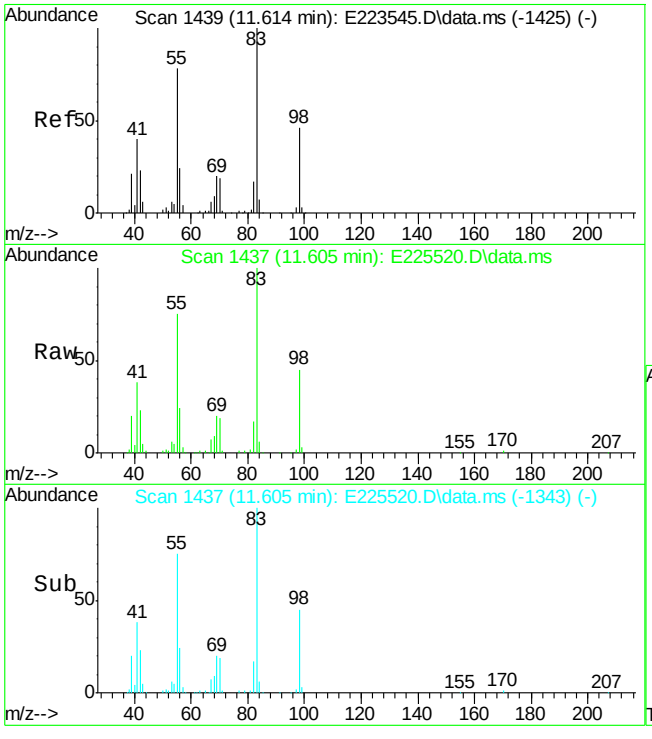


#62
benzene
Concen: 0.50 ug/L
RT: 10.695 min Scan# 1263
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion: 78 Resp: 4702

Ion	Ratio	Lower	Upper
78	100		
77	16.6	0.0	53.0
52	18.5	0.0	45.5

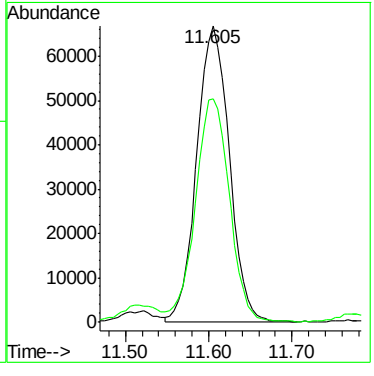




#70
methylcyclohexane
Concen: 41.61 ug/L
RT: 11.605 min Scan# 1437
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion: 83 Resp: 181085

Ion	Ratio	Lower	Upper
83	100		
55	75.3	54.3	100.9



7.1.12

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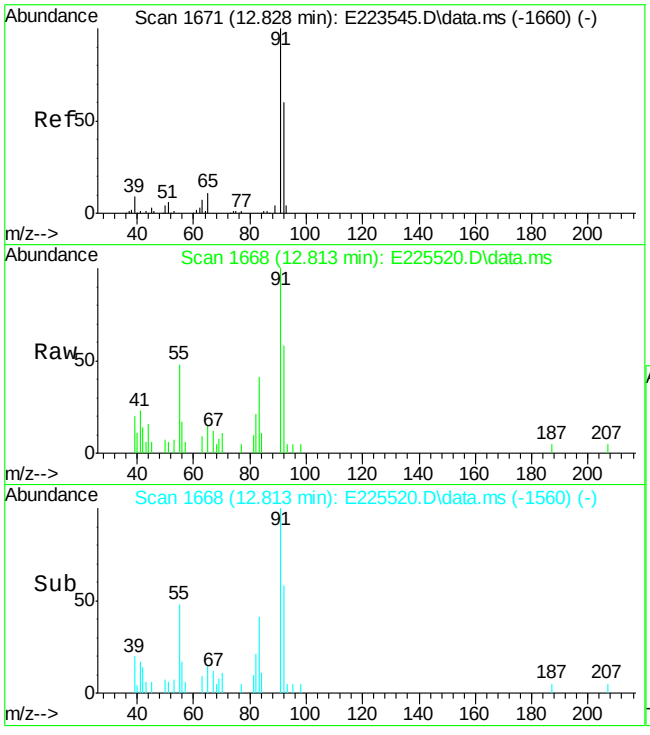
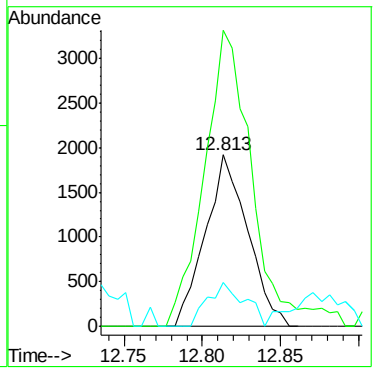
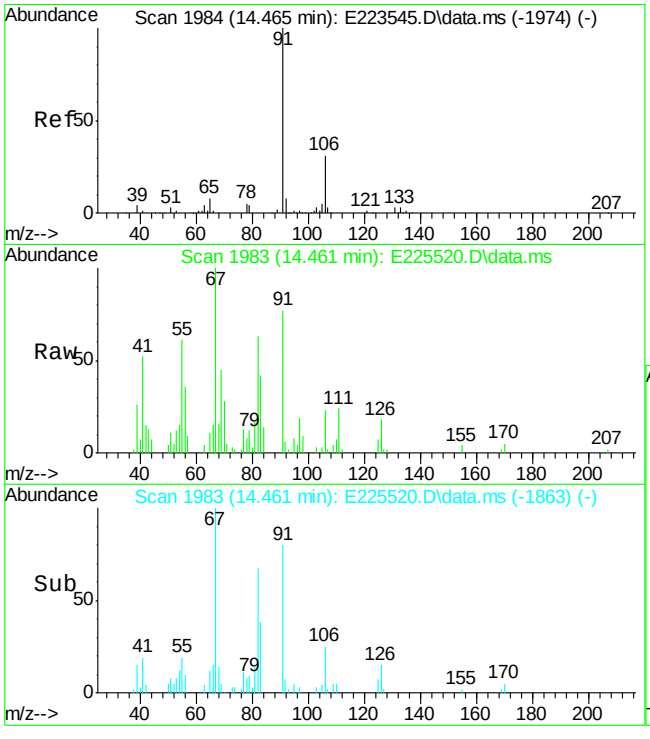


#78
toluene
Concen: 0.67 ug/L
RT: 12.813 min Scan# 1668
Delta R.T. -0.014 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion: 92 Resp: 3610

Ion	Ratio	Lower	Upper
92	100		
91	173.0	137.4	197.4
65	25.7	0.0	48.1

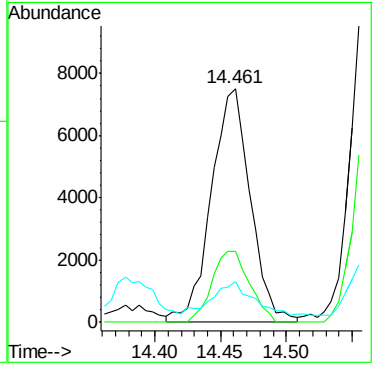


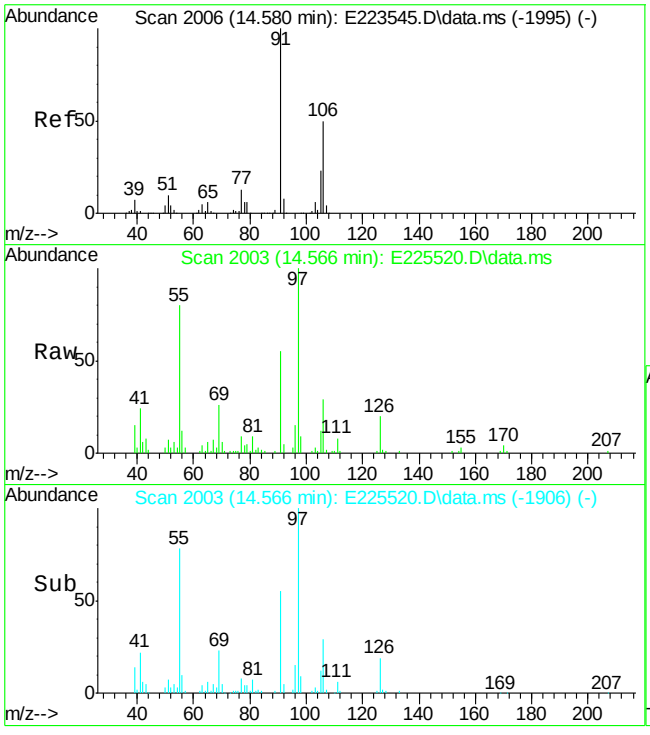


#95
ethylbenzene
Concen: 1.34 ug/L
RT: 14.461 min Scan# 1983
Delta R.T. -0.004 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion: 91 Resp: 15430

Ion	Ratio	Lower	Upper
91	100		
106	30.9	0.6	60.6
77	13.8	0.0	38.8

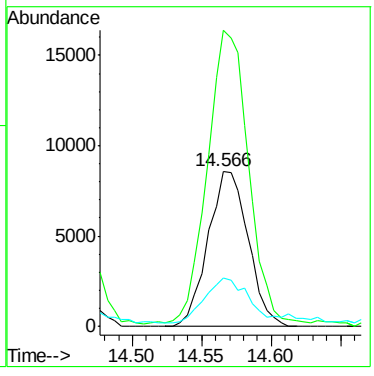


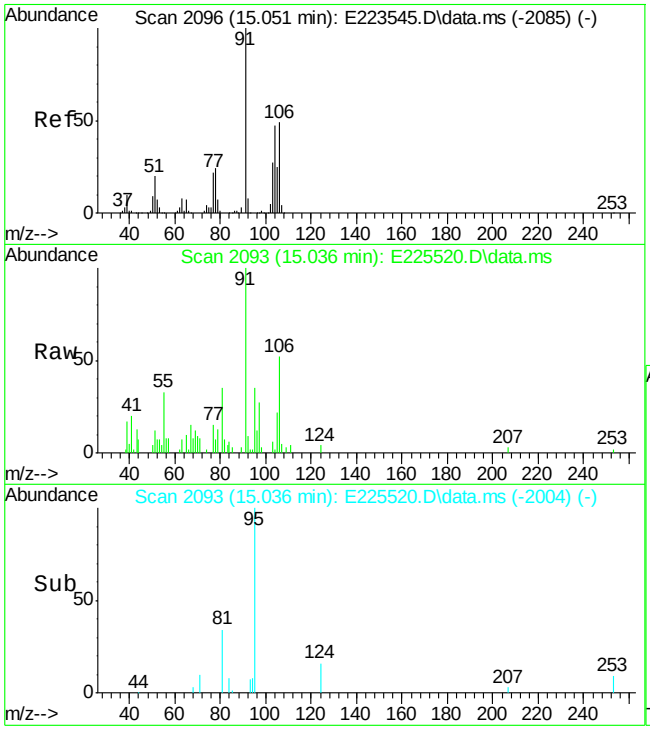


#96
m,p-xylene
Concen: 3.98 ug/L
RT: 14.566 min Scan# 2003
Delta R.T. -0.013 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:106 Resp: 17335

Ion	Ratio	Lower	Upper
106	100		
91	188.8	168.5	228.5
77	28.4	0.0	54.9

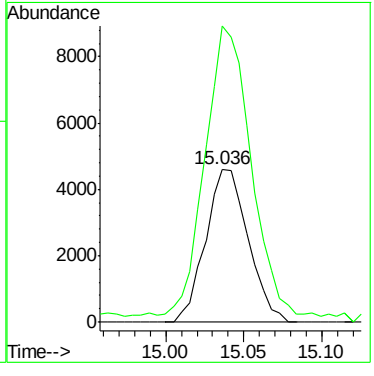


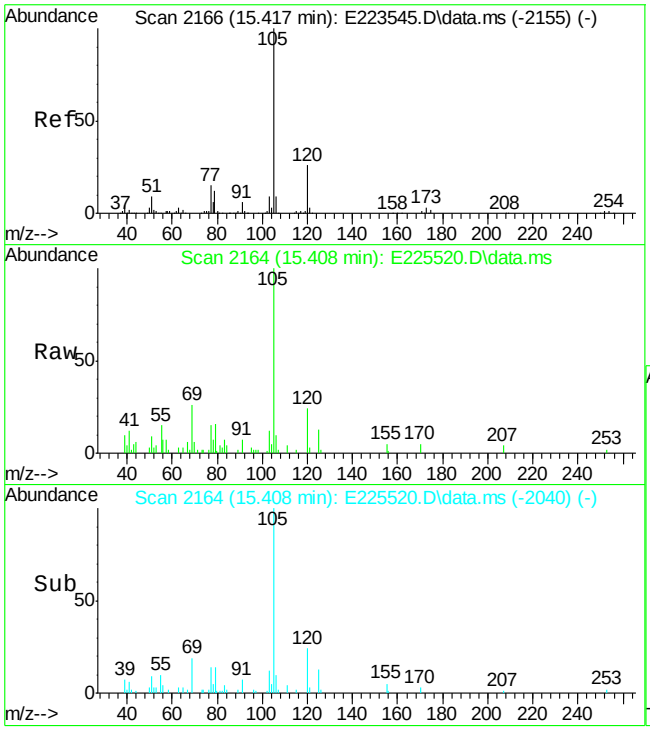


#97
o-xylene
Concen: 1.87 ug/L
RT: 15.036 min Scan# 2093
Delta R.T. -0.014 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:106 Resp: 8693

Ion	Ratio	Lower	Upper
106	100		
91	188.3	175.4	235.4

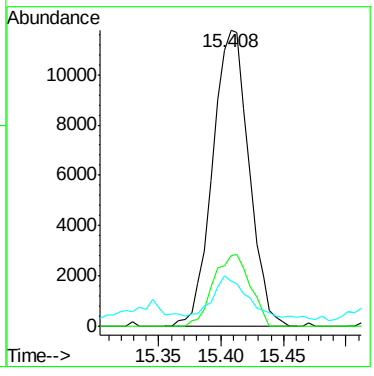


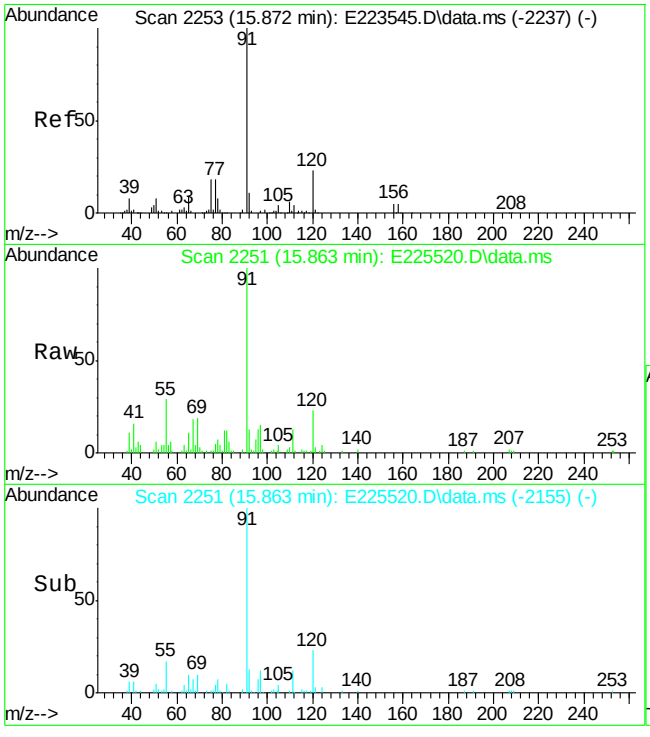


#102
isopropylbenzene
Concen: 1.70 ug/L
RT: 15.408 min Scan# 2164
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:105 Resp: 23850

Ion	Ratio	Lower	Upper
105	100		
120	24.0	0.0	55.9
77	12.3	0.0	44.5

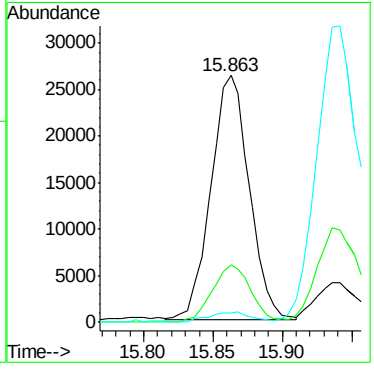


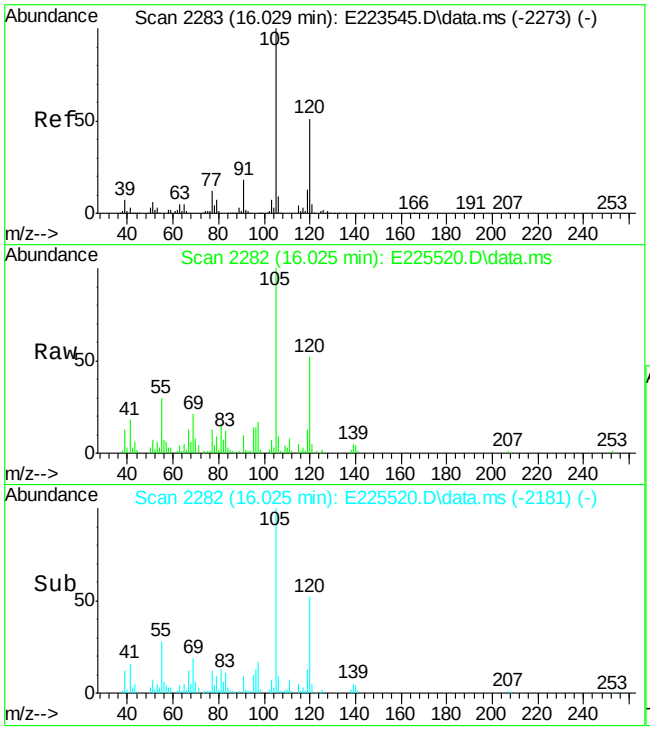


#109
n-propylbenzene
Concen: 3.22 ug/L
RT: 15.863 min Scan# 2251
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion: 91 Resp: 50666

Ion	Ratio	Lower	Upper
91	100		
120	23.6	0.0	52.8
105	3.2	0.0	33.7

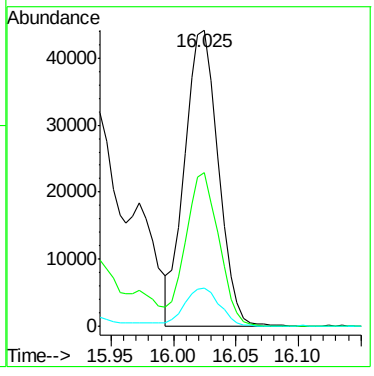


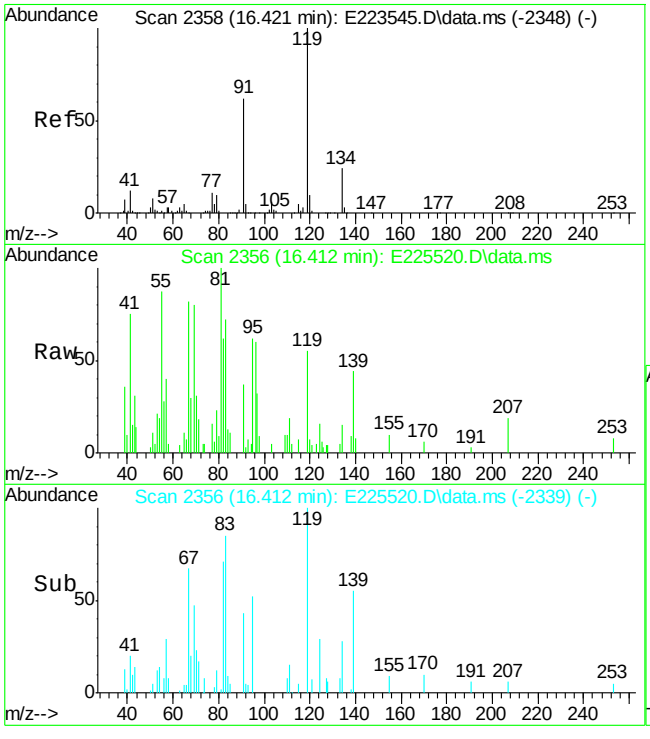


#113
1,3,5-trimethylbenzene
Concen: 6.84 ug/L
RT: 16.025 min Scan# 2282
Delta R.T. -0.004 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:105 Resp: 82995

Ion	Ratio	Lower	Upper
105	100		
120	52.1	20.8	80.8
119	12.9	0.0	43.0

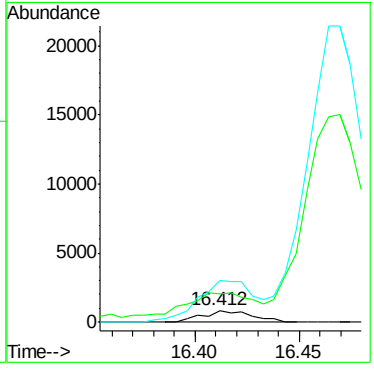




#114
tert-butylbenzene
Concen: 0.52 ug/L
RT: 16.412 min Scan# 2356
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:134 Resp: 1339

Ion	Ratio	Lower	Upper
134	100		
91	176.6	228.1	288.1#
119	327.9	383.5	443.5#



7.1.12

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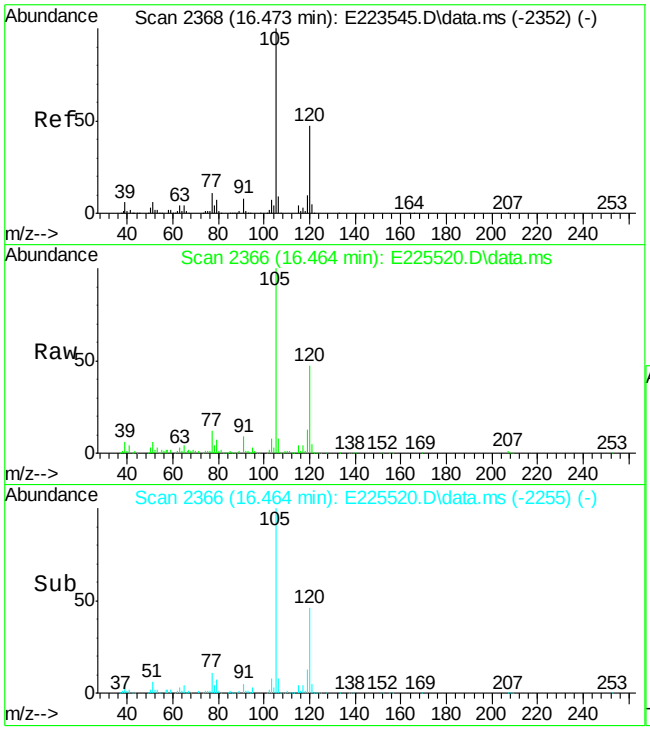
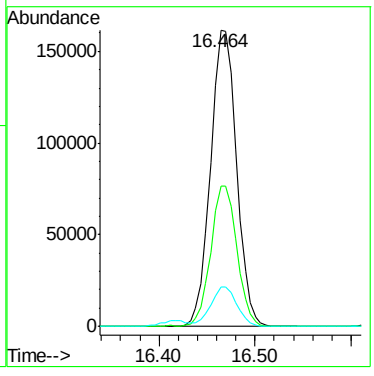
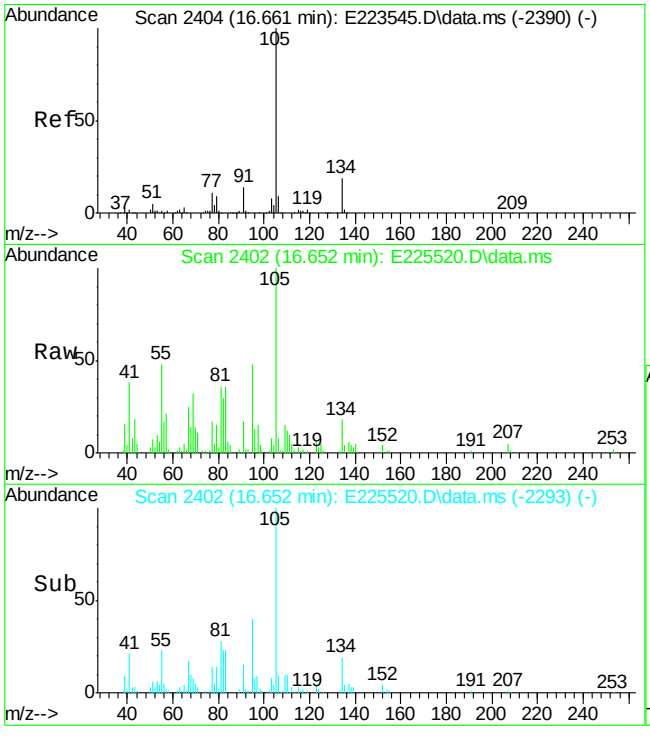


#116
1,2,4-trimethylbenzene
Concen: 25.22 ug/L
RT: 16.464 min Scan# 2366
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:105 Resp: 305980

Ion	Ratio	Lower	Upper
105	100		
120	47.3	17.2	77.2
119	13.3	0.0	39.9

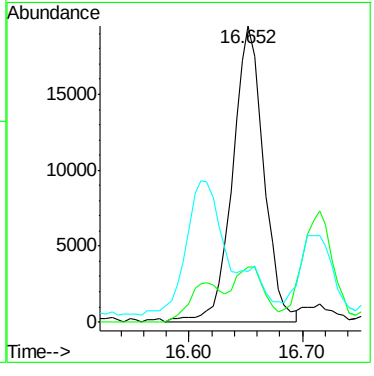


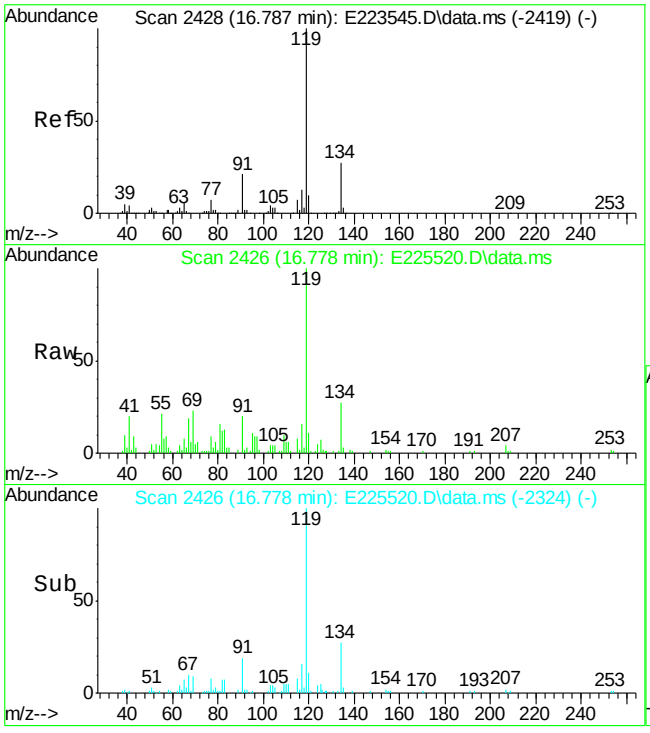


#117
sec-butylbenzene
Concen: 2.21 ug/L
RT: 16.652 min Scan# 2402
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:105 Resp: 37157

Ion	Ratio	Lower	Upper
105	100		
134	18.5	0.0	49.0
91	11.7	0.0	44.4

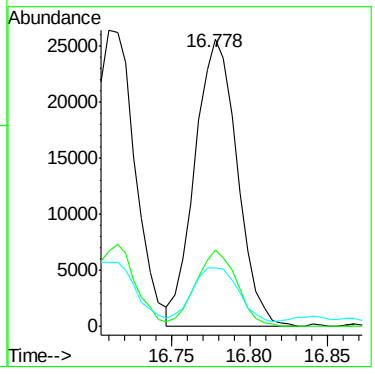


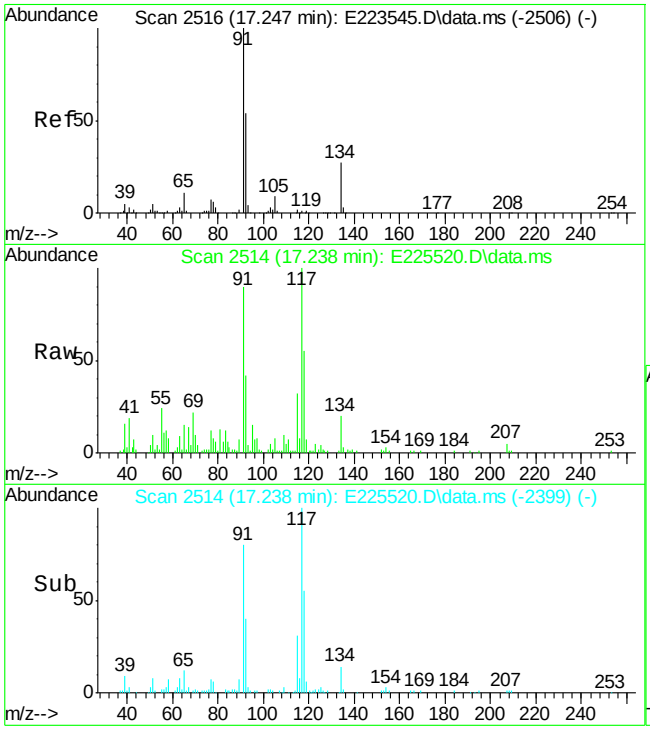


#119
p-isopropyltoluene
Concen: 3.28 ug/L
RT: 16.778 min Scan# 2426
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:119 Resp: 48134

Ion	Ratio	Lower	Upper
119	100		
134	26.8	0.0	56.7
91	17.4	0.0	50.9

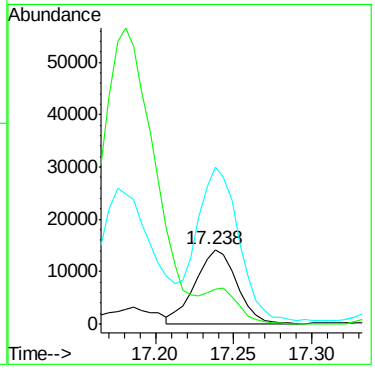




#124
n-butylbenzene
Concen: 3.63 ug/L
RT: 17.238 min Scan# 2514
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion: 92 Resp: 26362

Ion	Ratio	Lower	Upper
92	100		
134	47.3	20.1	80.1
91	206.0	153.6	213.6



7.1.12

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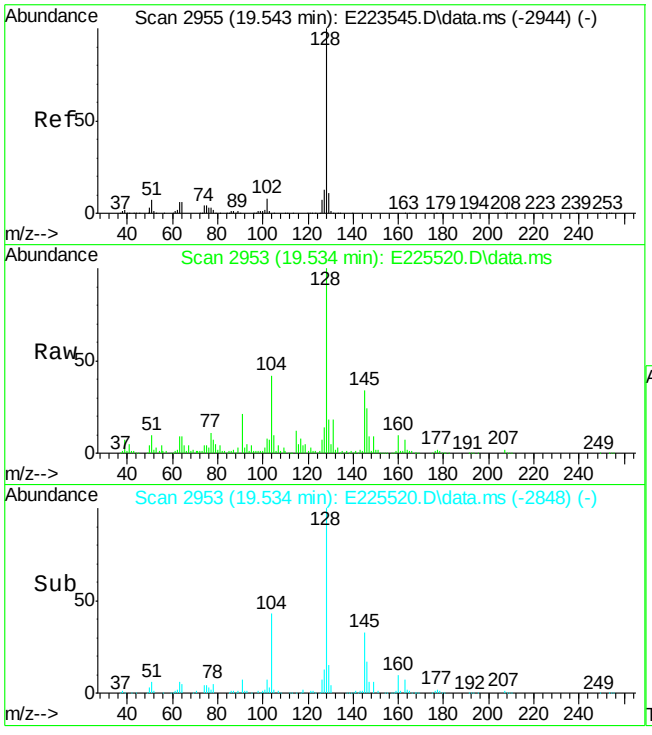
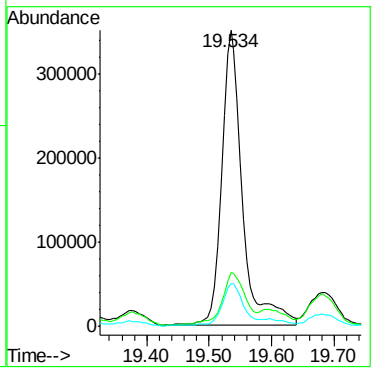


#130
naphthalene
Concen: 50.38 ug/L
RT: 19.534 min Scan# 2953
Delta R.T. -0.009 min
Lab File: E225520.D
Acq: 29 Apr 2015 2:44 am

Tgt Ion:128 Resp: 817510

Ion	Ratio	Lower	Upper
128	100		
129	17.9	0.0	40.9
127	14.3	0.0	42.7



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225467.D
Acq On : 27 Apr 2015 6:47 pm
Operator : ThienN
Sample : jb93023-13
Misc : MS84082,VE9896,7,,100,10,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 28 11:41:37 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.959	65	109561	500.00	ug/L	0.00
4) pentafluorobenzene	10.124	168	176944	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.055	114	222810	50.00	ug/L	0.00
84) chlorobenzene-d5	14.382	117	209754	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.955	152	135860	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.213	113	74957	45.11	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 90.22%			
48) 1,2-dichloroethane-d4 (s)	10.637	65	76354	41.98	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 83.96%			
76) toluene-d8 (s)	12.739	98	266119	43.71	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 87.42%			
103) 4-bromofluorobenzene (s)	15.658	95	112456	42.19	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 84.38%			

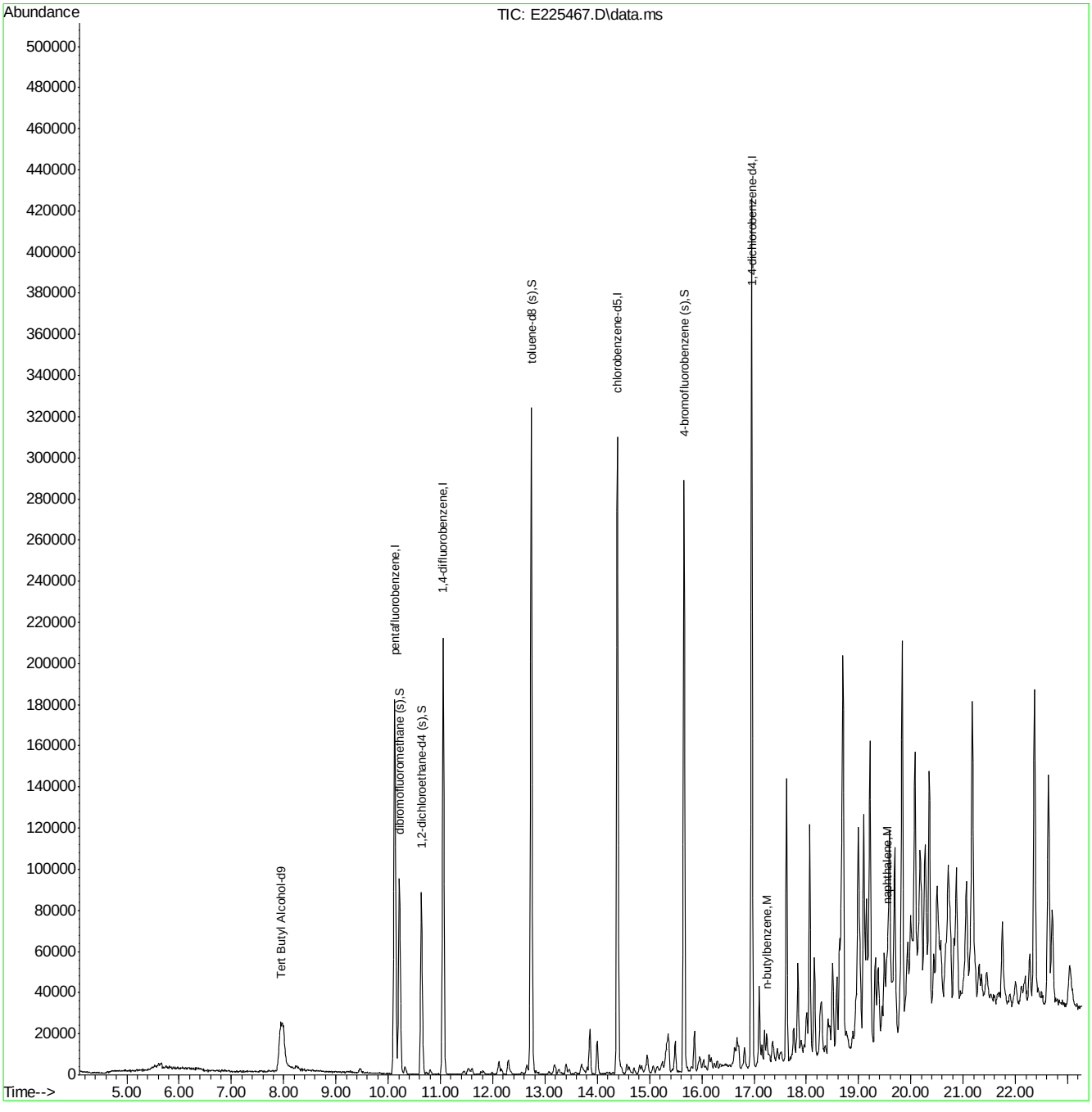
Target Compounds						Qvalue
124) n-butylbenzene	17.243	92	1674	0.35	ug/L	87
130) naphthalene	19.533	128	11230	1.04	ug/L	77

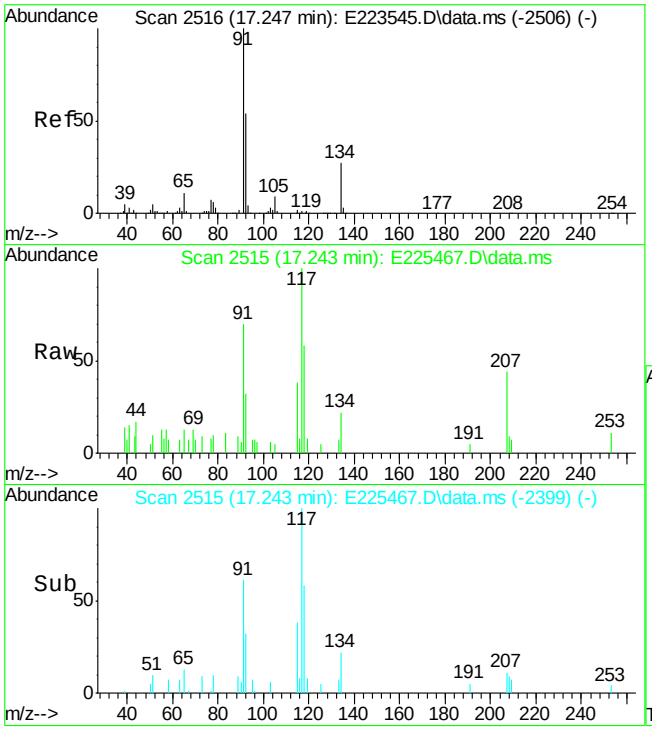
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225467.D
Acq On : 27 Apr 2015 6:47 pm
Operator : ThienN
Sample : jb93023-13
Misc : MS84082,VE9896,7,,100,10,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 28 11:41:37 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

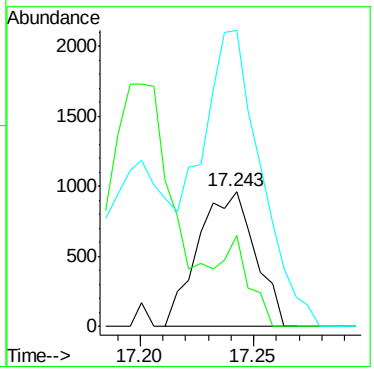


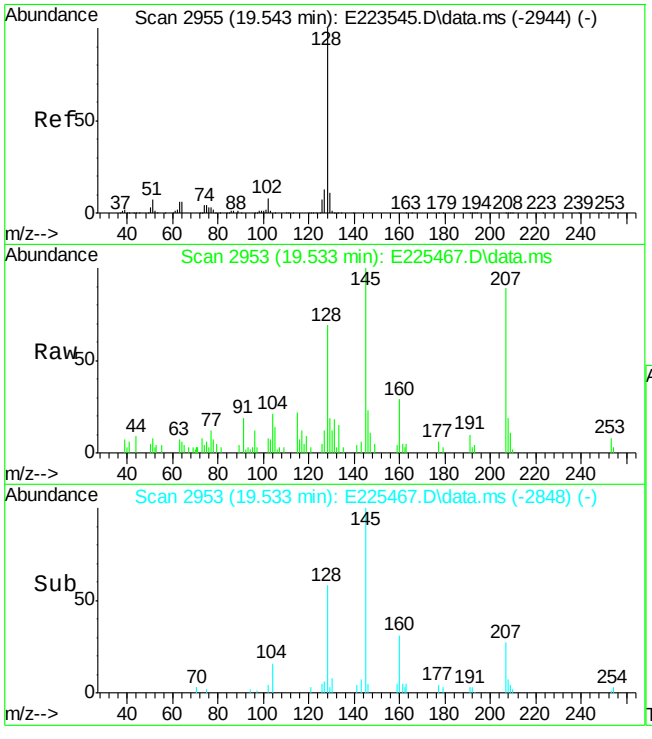


#124
n-butylbenzene
Concen: 0.35 ug/L
RT: 17.243 min Scan# 2515
Delta R.T. -0.005 min
Lab File: E225467.D
Acq: 27 Apr 2015 6:47 pm

Tgt Ion: 92 Resp: 1674

Ion	Ratio	Lower	Upper
92	100		
134	67.4	20.1	80.1
91	197.4	153.6	213.6

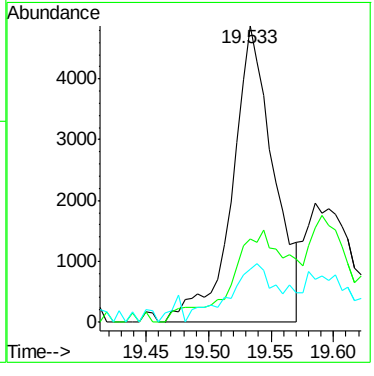




#130
naphthalene
Concen: 1.04 ug/L
RT: 19.533 min Scan# 2953
Delta R.T. -0.010 min
Lab File: E225467.D
Acq: 27 Apr 2015 6:47 pm

Tgt Ion:128 Resp: 11230

Ion	Ratio	Lower	Upper
128	100		
129	28.0	0.0	40.9
127	14.6	0.0	42.7



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152314.D
Acq On : 23 Apr 2015 6:44 pm
Operator : BenM
Sample : jb93023-14
Misc : MS84082,VV6455,5.2,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 24 12:08:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	129611	500.00 ug/L	0.00
4) pentafluorobenzene	9.96	168	340547	50.00 ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	427778	50.00 ug/L	0.00
79) chlorobenzene-d5	14.33	117	391291	50.00 ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	238415	50.00 ug/L	0.00

System Monitoring Compounds					
46) dibromofluoromethane (s)	10.05	113	120830	48.56 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 97.12%		
47) 1,2-dichloroethane-d4 (s)	10.48	65	104235	44.35 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 88.70%		
71) toluene-d8 (s)	12.64	98	509102	53.08 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 106.16%		
94) 4-bromofluorobenzene (s)	15.62	95	197143	52.05 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.10%		

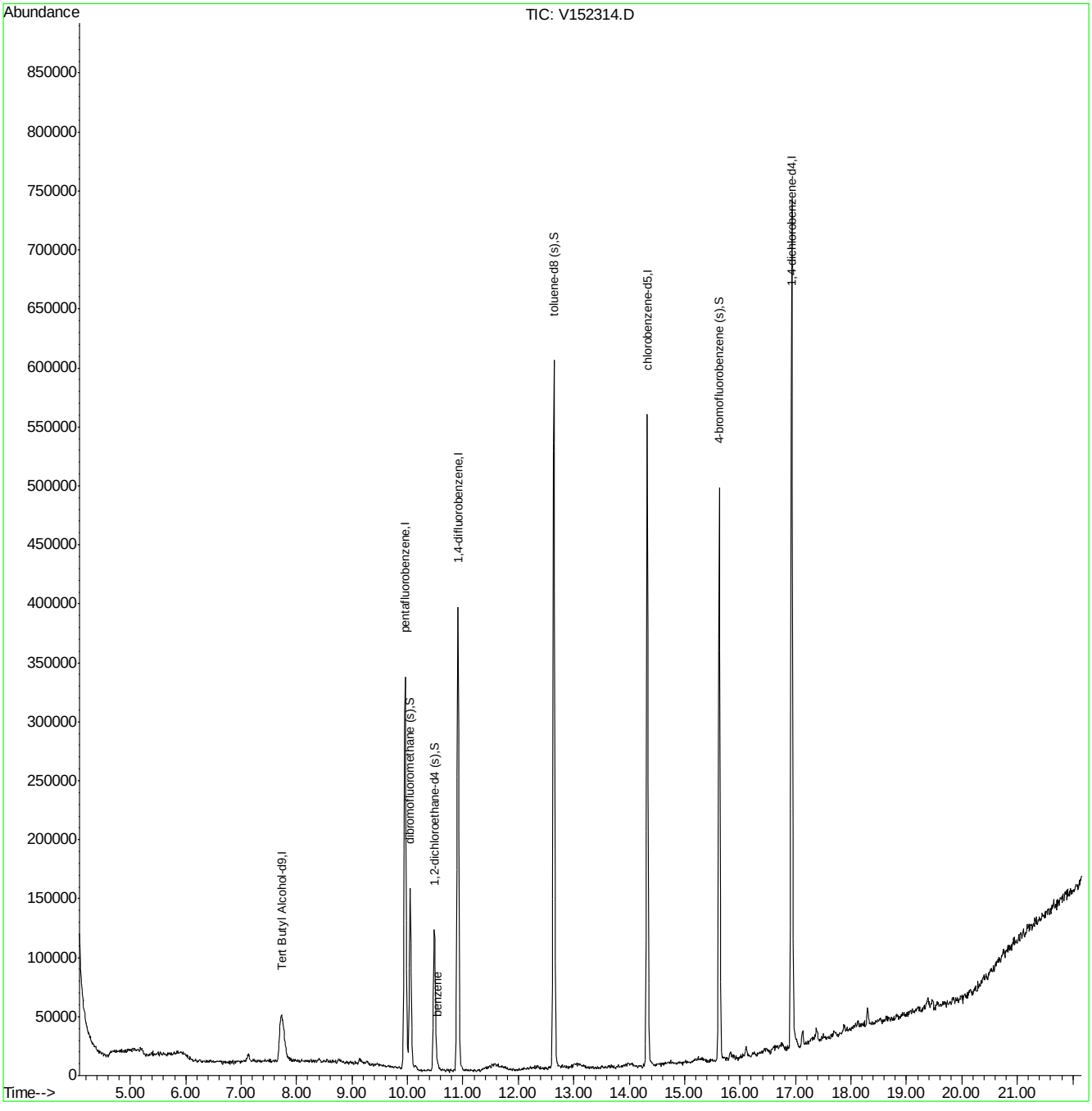
Target Compounds					Qvalue
58) benzene	10.54	78	7052	0.61 ug/L	74

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

Quantitation Report (QT Reviewed)

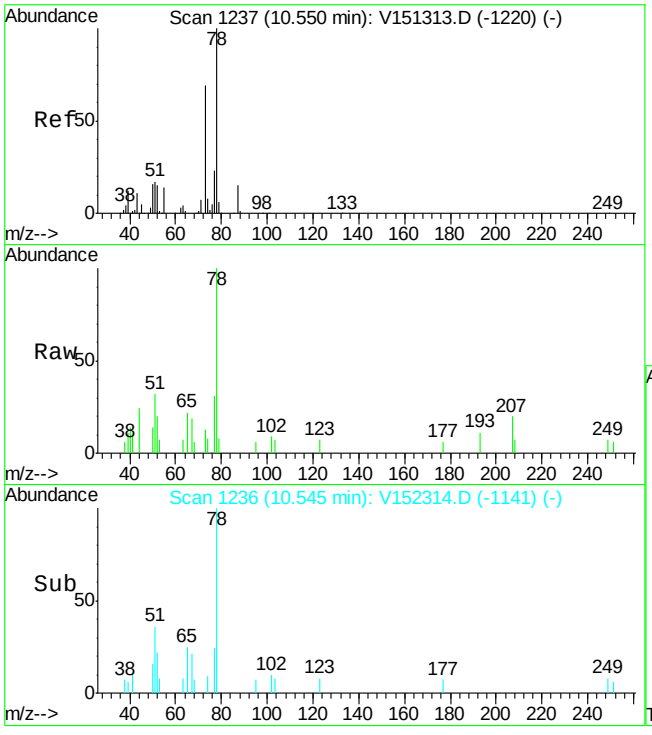
Data Path : C:\MSDCHEM\1\DATA\
Data File : V152314.D
Acq On : 23 Apr 2015 6:44 pm
Operator : BenM
Sample : jb93023-14
Misc : MS84082,VV6455,5.2,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 24 12:08:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration



MVS6444.M Fri Apr 24 12:13:18 2015 MSV

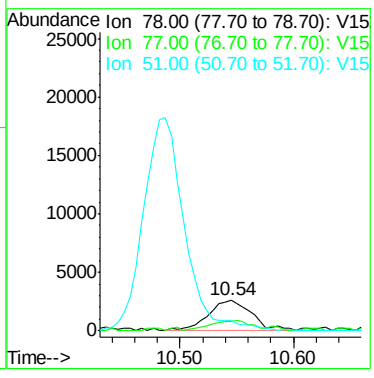
Page: 2



#58
benzene
Concen: 0.61 ug/L
RT: 10.54 min Scan# 1236
Delta R.T. -0.01 min
Lab File: V152314.D
Acq: 23 Apr 2015 6:44 pm

Tgt Ion: 78 Resp: 7052

Ion	Ratio	Lower	Upper
78	100		
77	31.2	0.0	51.9
51	32.4	0.0	47.5



7.1.14

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Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152315.D
Acq On : 23 Apr 2015 7:12 pm
Operator : BenM
Sample : jb93023-15
Misc : MS84082,VV6455,5.5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 24 12:09:25 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.72	65	155047	500.00	ug/L	-0.01
4) pentafluorobenzene	9.95	168	397103	50.00	ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	492127	50.00	ug/L	0.00
79) chlorobenzene-d5	14.33	117	459491	50.00	ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	277200	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.05	113	138722	47.81	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 95.62%			
47) 1,2-dichloroethane-d4 (s)	10.49	65	122422	44.67	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 89.34%			
71) toluene-d8 (s)	12.64	98	589619	53.44	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 106.88%			
94) 4-bromofluorobenzene (s)	15.62	95	234091	52.64	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 105.28%			
Target Compounds						Qvalue
105) tert-butylbenzene	16.38	119	4704	0.31	ug/L #	77
108) sec-butylbenzene	16.63	105	6237	0.25	ug/L	97

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

7.1.15

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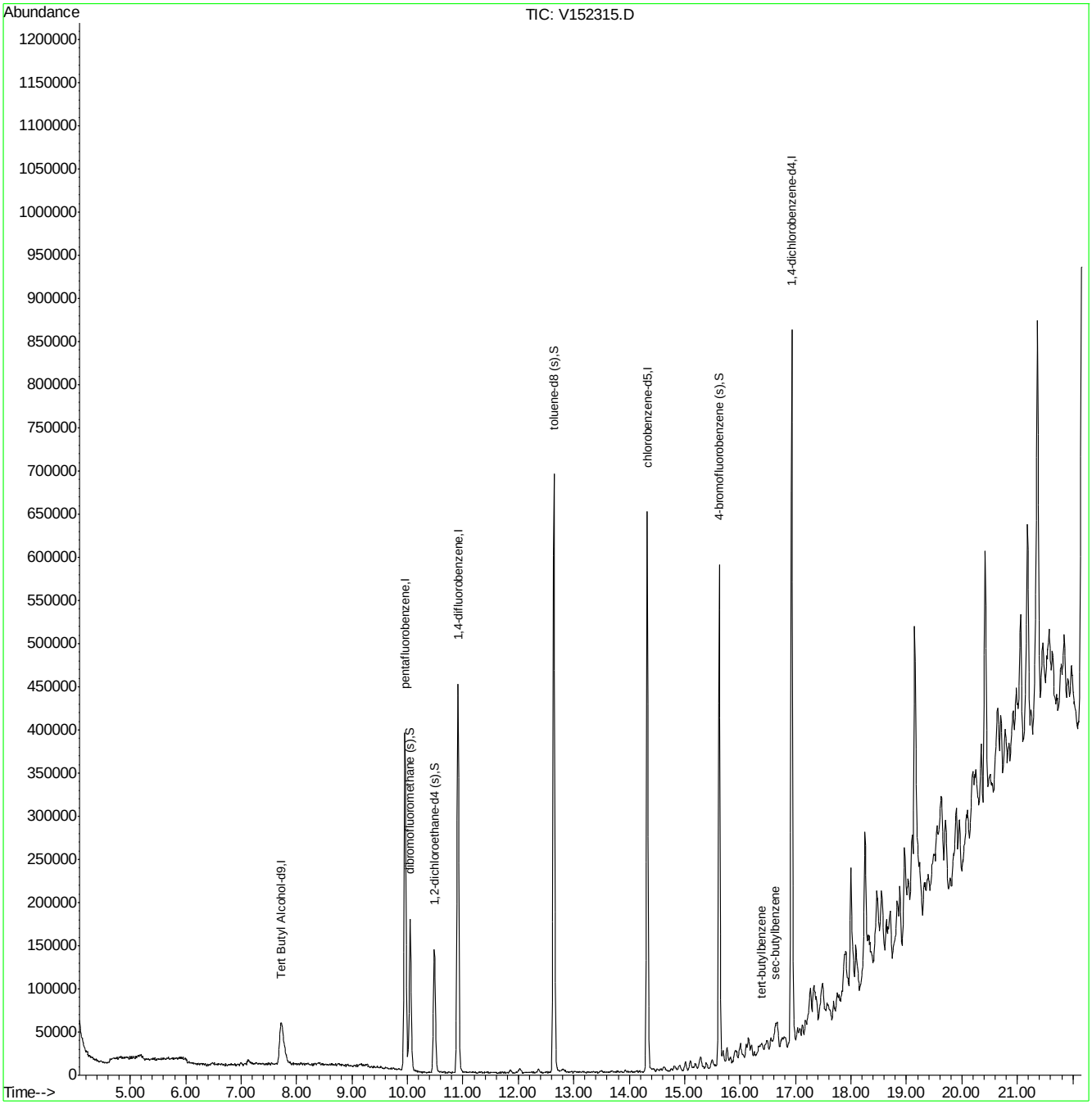
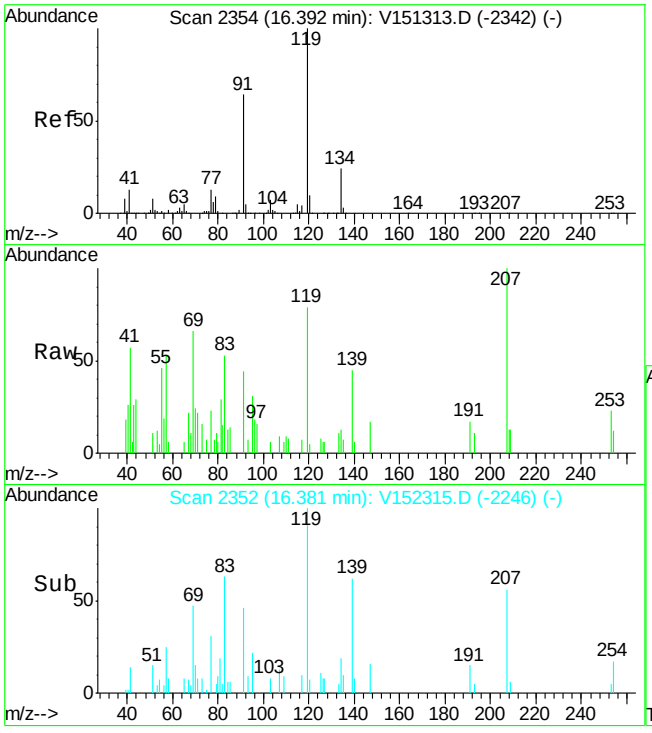
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152315.D
Acq On : 23 Apr 2015 7:12 pm
Operator : BenM
Sample : jb93023-15
Misc : MS84082,VV6455,5.5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 24 12:09:25 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration



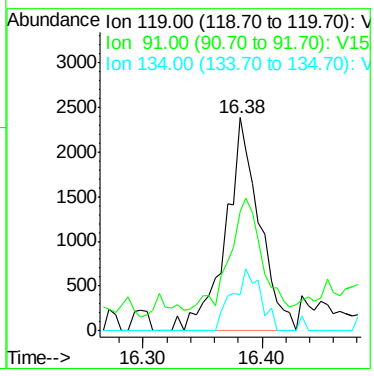
MVS6444.M Fri Apr 24 12:13:19 2015 MSV

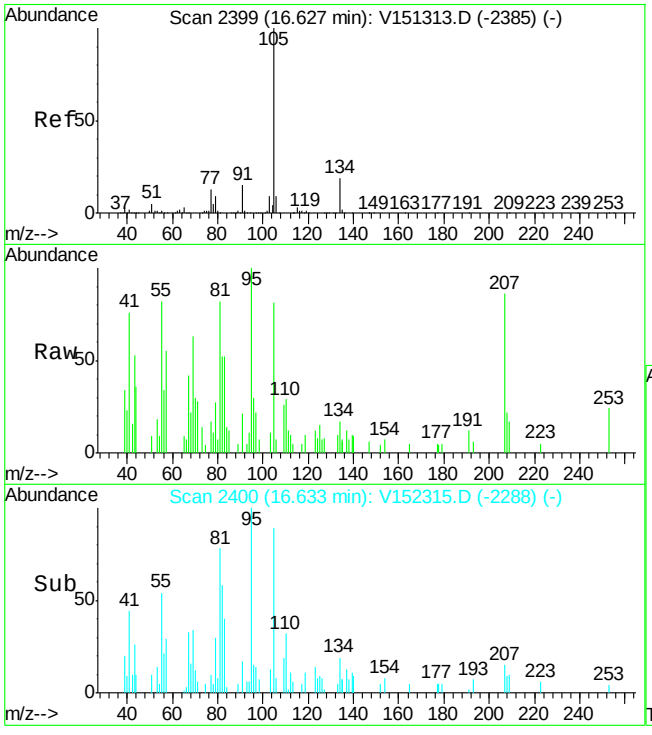


#105
tert-butylbenzene
Concen: 0.31 ug/L
RT: 16.38 min Scan# 2352
Delta R.T. -0.01 min
Lab File: V152315.D
Acq: 23 Apr 2015 7:12 pm

Tgt Ion:119 Resp: 4704

Ion	Ratio	Lower	Upper
119	100		
91	44.5	45.4	84.4#
134	17.0	16.7	30.9

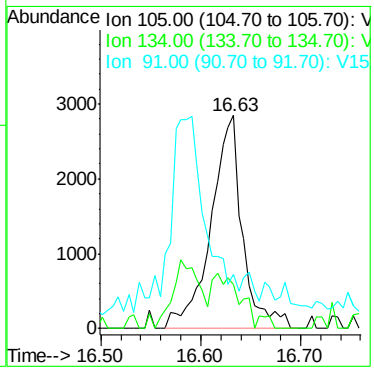




#108
sec-butylbenzene
Concen: 0.25 ug/L
RT: 16.63 min Scan# 2400
Delta R.T. 0.01 min
Lab File: V152315.D
Acq: 23 Apr 2015 7:12 pm

Tgt Ion:105 Resp: 6237

Ion	Ratio	Lower	Upper
105	100		
134	20.8	0.0	48.8
91	14.0	0.0	44.4



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 08/28/15 14:48

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\Relog\
Data File : E225510.D
Acq On : 28 Apr 2015 9:41 pm
Operator : ThienN
Sample : jb93023-16
Misc : MS84082,VE9899,5.7,,100,10,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 28 10:29:10 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.947	65	163255	500.00	ug/L	-0.02
4) pentafluorobenzene	10.123	168	221108	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	11.054	114	282335	50.00	ug/L	-0.01
84) chlorobenzene-d5	14.380	117	268924	50.00	ug/L	-0.01
101) 1,4-dichlorobenzene-d4	16.954	152	168187	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.212	113	94229	45.38	ug/L	-0.02
Spiked Amount 50.000	Range 70 - 122		Recovery = 90.76%			
48) 1,2-dichloroethane-d4 (s)	10.636	65	93624	41.20	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 82.40%			
76) toluene-d8 (s)	12.738	98	335483	43.49	ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 86.98%			
103) 4-bromofluorobenzene (s)	15.657	95	133744	40.53	ug/L	-0.01
Spiked Amount 50.000	Range 72 - 130		Recovery = 81.06%			

Target Compounds						Qvalue
86) tetrachloroethene	13.439	166	1021	0.40	ug/L	79
96) m,p-xylene	14.569	106	1471	0.38	ug/L #	45
130) naphthalene	19.532	128	8360m	0.63	ug/L	

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

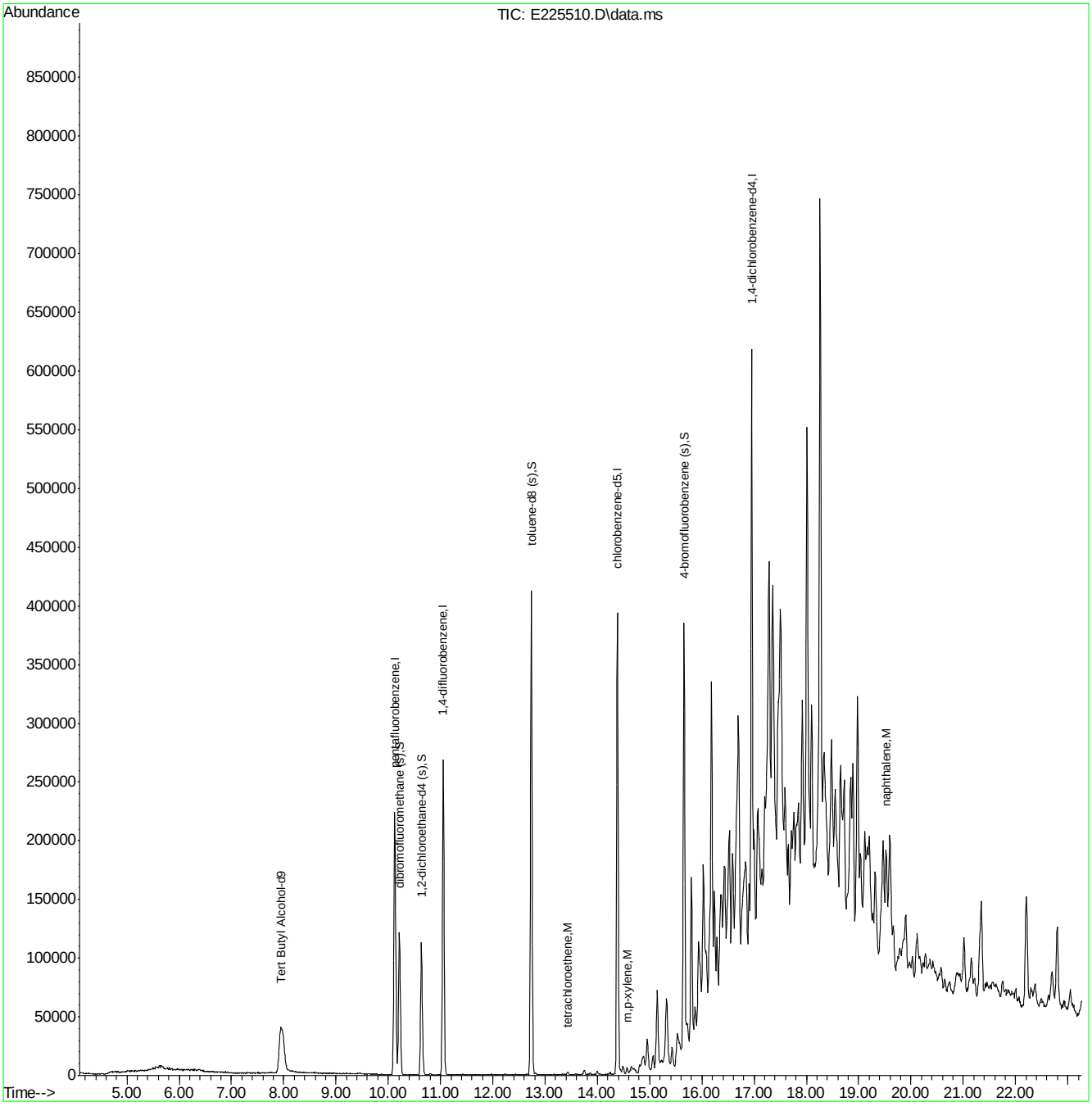
7.1.16

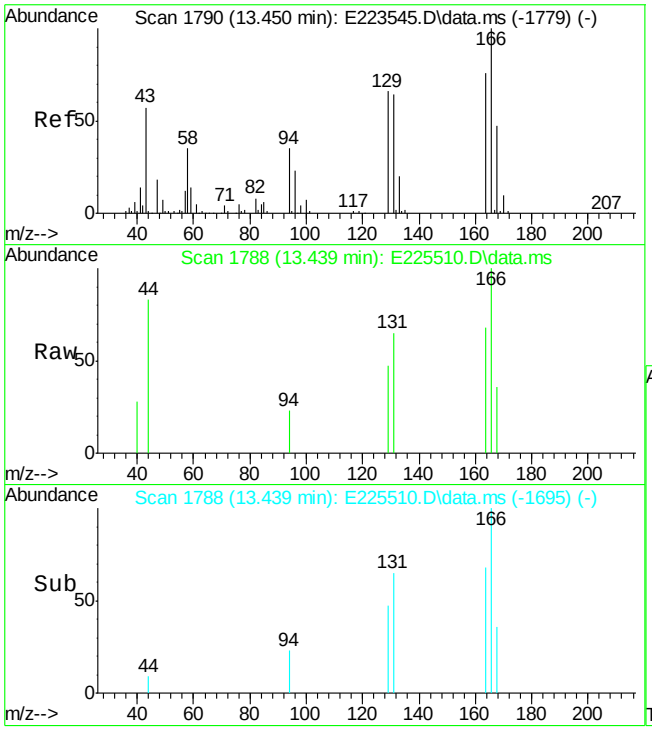
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\Relog\
Data File : E225510.D
Acq On : 28 Apr 2015 9:41 pm
Operator : ThienN
Sample : jb93023-16
Misc : MS84082,VE9899,5.7,,100,10,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 28 10:29:10 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

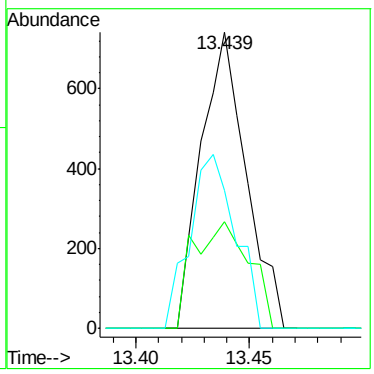


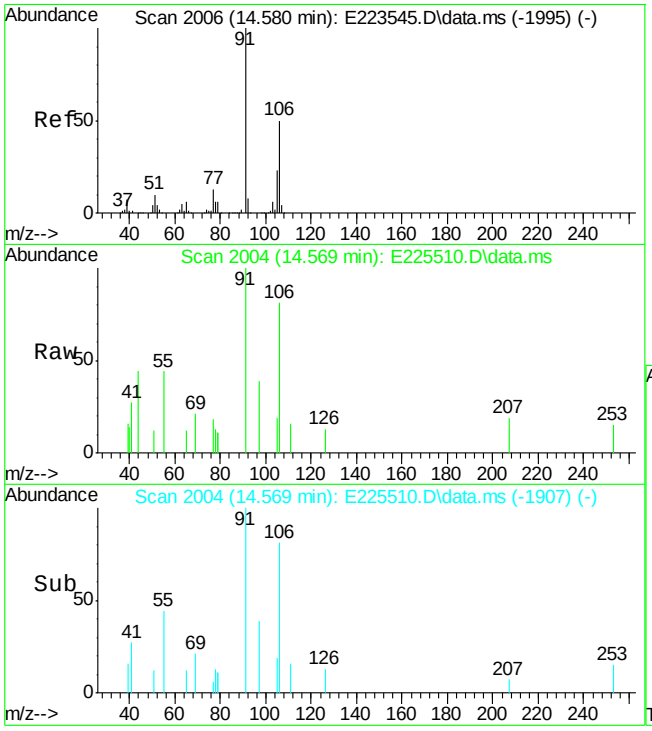


#86
tetrachloroethene
Concen: 0.40 ug/L
RT: 13.439 min Scan# 1788
Delta R.T. -0.011 min
Lab File: E225510.D
Acq: 28 Apr 2015 9:41 pm

Tgt Ion:166 Resp: 1021

Ion	Ratio	Lower	Upper
166	100		
168	36.0	16.7	76.7
129	46.7	35.9	95.9

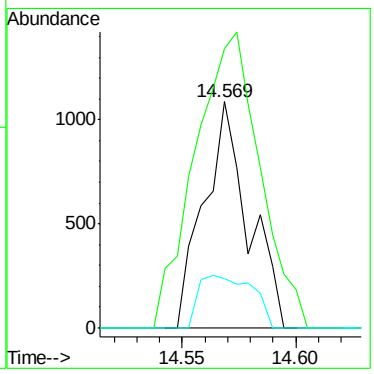


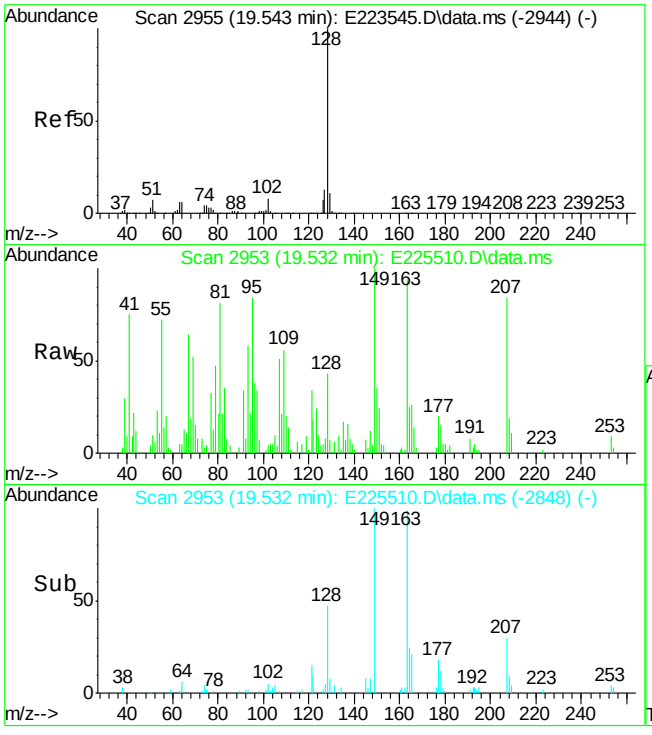


#96
m,p-xylene
Concen: 0.38 ug/L
RT: 14.569 min Scan# 2004
Delta R.T. -0.010 min
Lab File: E225510.D
Acq: 28 Apr 2015 9:41 pm

Tgt Ion:106 Resp: 1471

Ion	Ratio	Lower	Upper
106	100		
91	106.6	168.5	228.5#
77	21.8	0.0	54.9

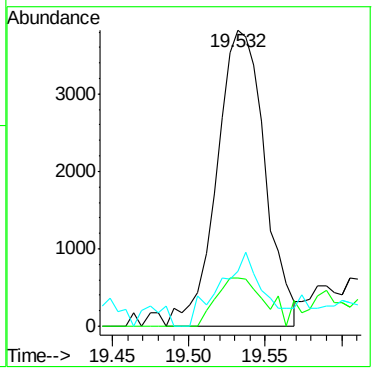




#130
naphthalene
Concen: 0.63 ug/L m
RT: 19.532 min Scan# 2953
Delta R.T. -0.011 min
Lab File: E225510.D
Acq: 28 Apr 2015 9:41 pm

Tgt Ion:128 Resp: 8360

Ion	Ratio	Lower	Upper
128	100		
129	16.4	0.0	40.9
127	18.5	0.0	42.7



7.1.16

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154243.d
Acq On : 23 Apr 2015 3:42 pm
Operator : BenM
Sample : jb93023-17
Misc : MS84082,VX6649,6.2,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 24 12:13:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.524	65	103975	500.00	ug/L	0.03
4) pentafluorobenzene	10.233	168	211816	50.00	ug/L	0.02
53) 1,4-difluorobenzene	11.410	114	251636	50.00	ug/L	0.03
83) chlorobenzene-d5	15.620	117	240059	50.00	ug/L	0.03
98) 1,4-dichlorobenzene-d4	18.361	152	175587	50.00	ug/L	0.02
System Monitoring Compounds						
45) dibromofluoromethane (s)	10.306	113	81103	52.71	ug/L	0.03
Spiked Amount 50.000	Range 48 - 141		Recovery = 105.42%			
46) 1,2-dichloroethane-d4 (s)	10.845	65	79341	55.18	ug/L	0.03
Spiked Amount 50.000	Range 70 - 120		Recovery = 110.36%			
75) toluene-d8 (s)	13.591	98	302994	51.44	ug/L	0.03
Spiked Amount 50.000	Range 78 - 129		Recovery = 102.88%			
102) 4-bromofluorobenzene (s)	17.100	95	135292	54.11	ug/L	0.03
Spiked Amount 50.000	Range 72 - 130		Recovery = 108.22%			
Target Compounds						Qvalue
19) acetone	6.823	58	1986	16.84	ug/L	89

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

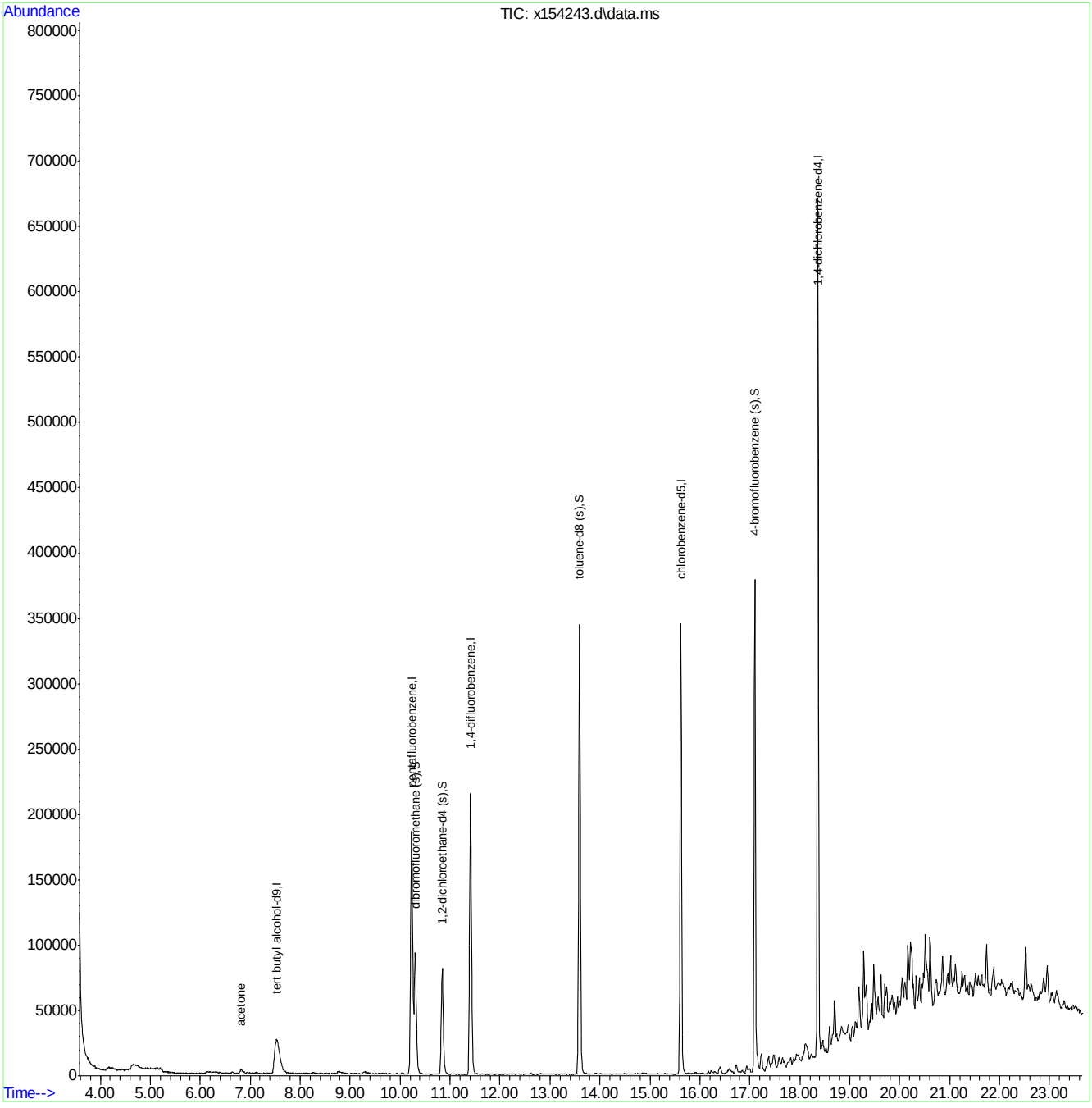
7.1.17

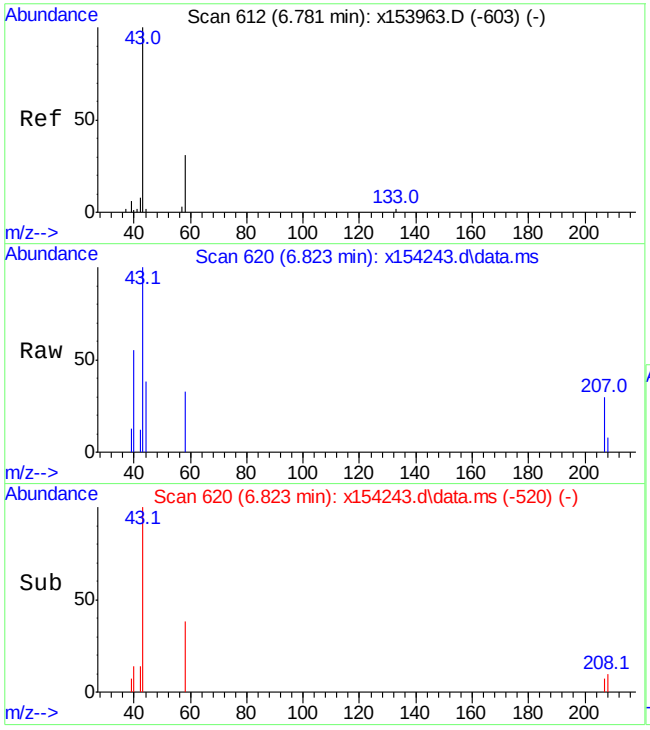
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154243.d
Acq On : 23 Apr 2015 3:42 pm
Operator : BenM
Sample : jb93023-17
Misc : MS84082,VX6649,6.2,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 24 12:13:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration

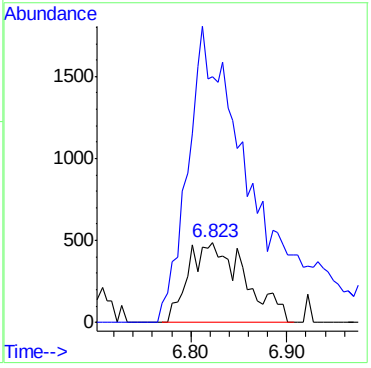




#19
acetone
Concen: 16.84 ug/L
RT: 6.823 min Scan# 620
Delta R.T. 0.023 min
Lab File: x154243.d
Acq: 23 Apr 2015 3:42 pm

Tgt Ion: 58 Resp: 1986

Ion	Ratio	Lower	Upper
58	100		
43	305.9	299.9	359.9



7.1.17

7

Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
04/30/15 11:22

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154244.d
Acq On : 23 Apr 2015 4:11 pm
Operator : BenM
Sample : jb93023-18
Misc : MS84082,VX6649,6.3,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 24 12:17:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.513	65	110538	500.00	ug/L	0.02
4) pentafluorobenzene	10.233	168	215206	50.00	ug/L	0.02
53) 1,4-difluorobenzene	11.409	114	247319	50.00	ug/L	0.03
83) chlorobenzene-d5	15.620	117	229120	50.00	ug/L	0.03
98) 1,4-dichlorobenzene-d4	18.366	152	186761	50.00	ug/L	0.02
System Monitoring Compounds						
45) dibromofluoromethane (s)	10.306	113	79799	51.05	ug/L	0.03
Spiked Amount 50.000	Range 48 - 141		Recovery = 102.10%			
46) 1,2-dichloroethane-d4 (s)	10.839	65	83093	56.88	ug/L	0.02
Spiked Amount 50.000	Range 70 - 120		Recovery = 113.76%			
75) toluene-d8 (s)	13.590	98	280535	48.46	ug/L	0.03
Spiked Amount 50.000	Range 78 - 129		Recovery = 96.92%			
102) 4-bromofluorobenzene (s)	17.100	95	123794	46.55	ug/L	0.03
Spiked Amount 50.000	Range 72 - 130		Recovery = 93.10%			
Target Compounds						Qvalue
19) acetone	6.828	58	2590	21.62	ug/L	88
52) iso-octane	10.865	57	2073513	322.24	ug/L	90
72) methylcyclohexane	12.089	83	53073	20.54	ug/L	89
111) 1,3,5-trimethylbenzene	17.503	105	3623m	0.49	ug/L	
112) tert-butylbenzene	17.874	119	9125	1.45	ug/L	95
114) 1,2,4-trimethylbenzene	17.926	105	3321m	0.44	ug/L	
116) sec-butylbenzene	18.104	105	18087	1.73	ug/L	67
118) p-isopropyltoluene	18.230	119	8511	0.89	ug/L	80

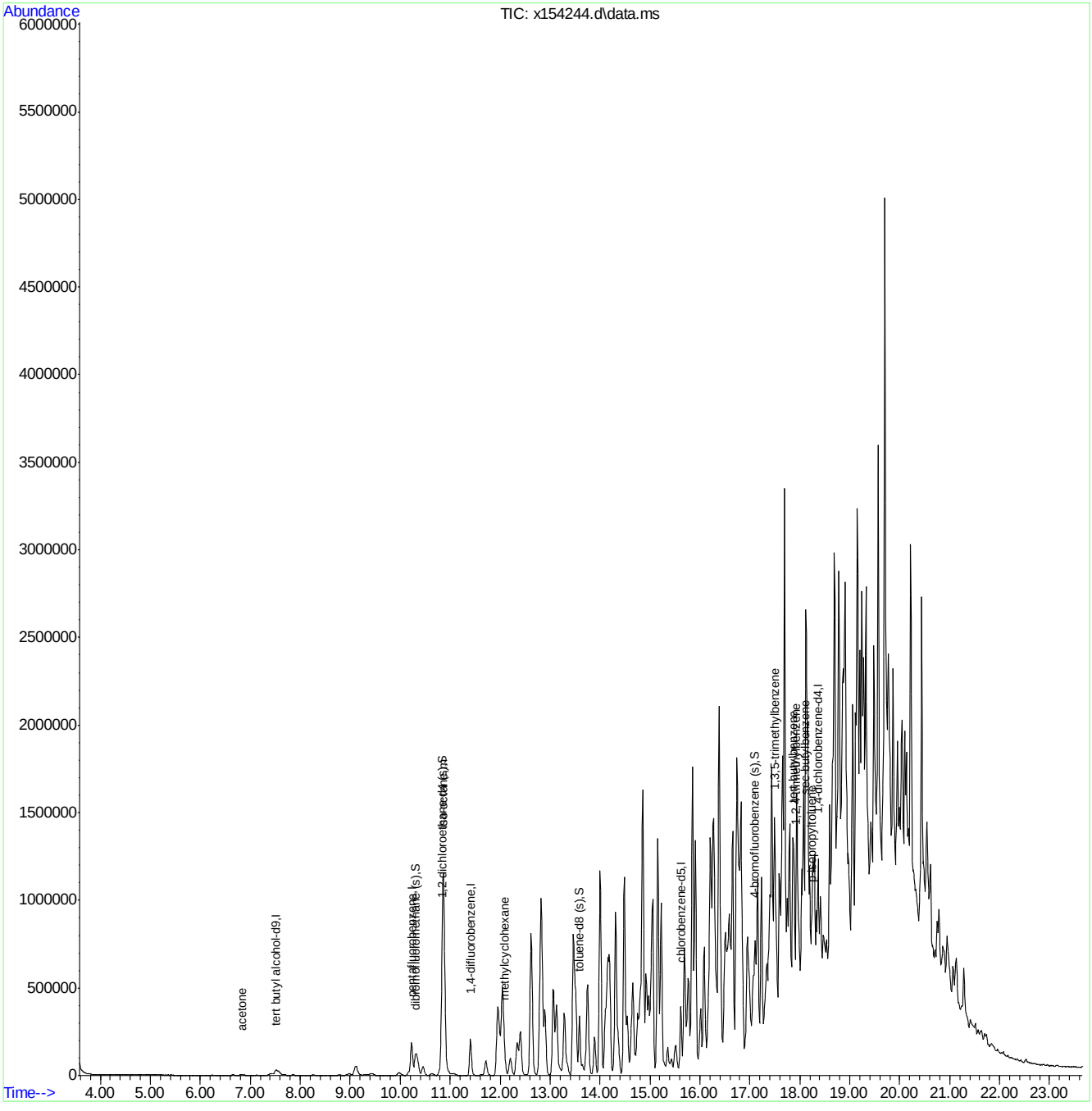
(#) = qualifier out of range (m) = manual integration (+) = signals summed

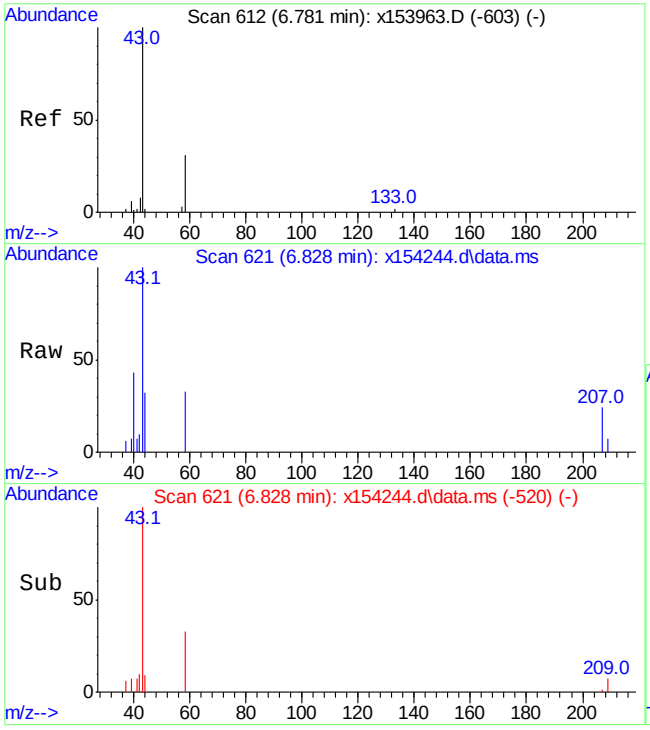
7.1.18
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154244.d
Acq On : 23 Apr 2015 4:11 pm
Operator : BenM
Sample : jb93023-18
Misc : MS84082,VX6649,6.3,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 24 12:17:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration

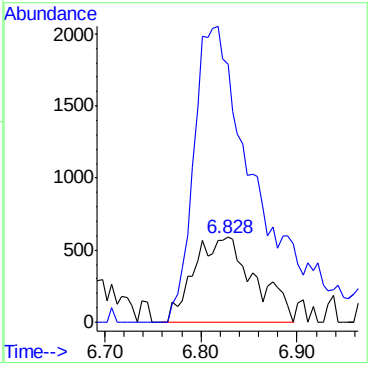


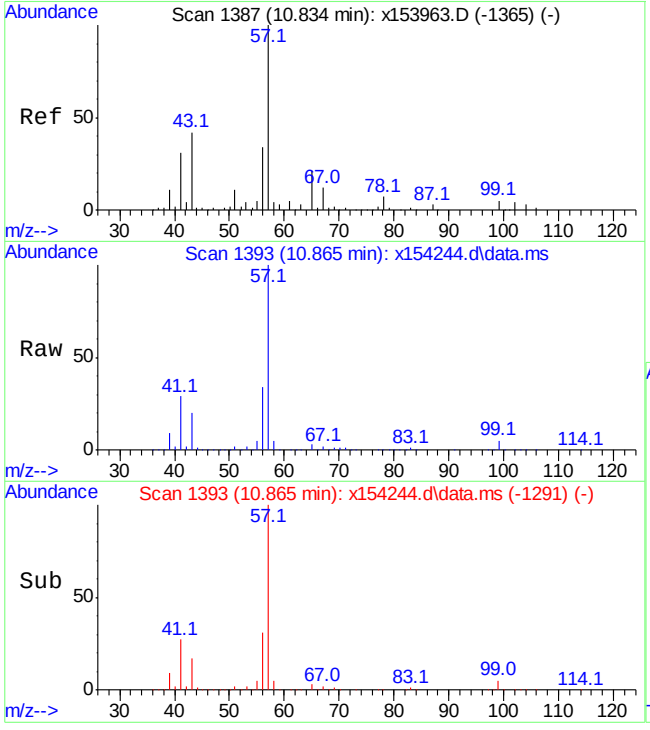


#19
acetone
Concen: 21.62 ug/L
RT: 6.828 min Scan# 621
Delta R.T. 0.028 min
Lab File: x154244.d
Acq: 23 Apr 2015 4:11 pm

Tgt Ion: 58 Resp: 2590

Ion	Ratio	Lower	Upper
58	100		
43	304.1	299.9	359.9

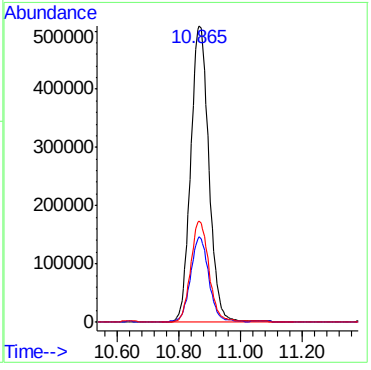


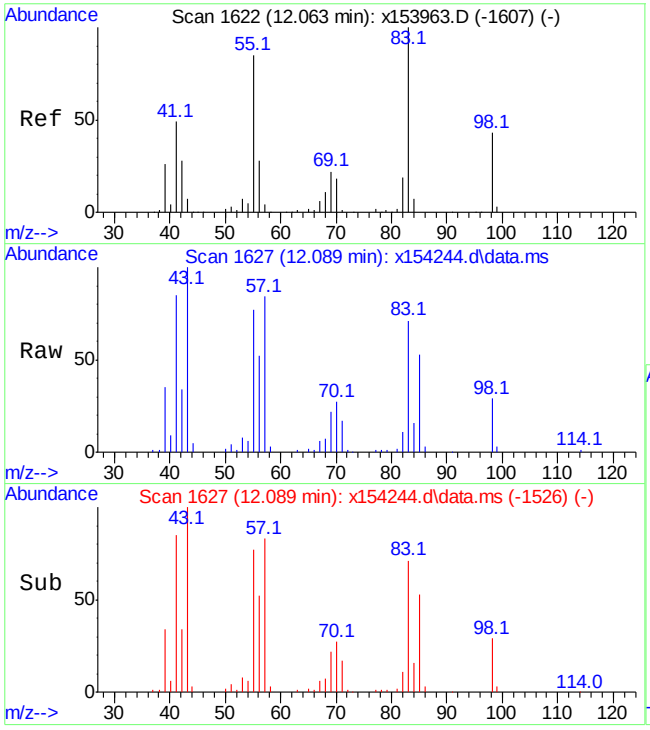


#52
iso-octane
Concen: 322.24 ug/L
RT: 10.865 min Scan# 1393
Delta R.T. 0.031 min
Lab File: x154244.d
Acq: 23 Apr 2015 4:11 pm

Tgt Ion: 57 Resp: 2073513

Ion	Ratio	Lower	Upper
57	100		
41	29.1	10.1	70.1
56	34.4	4.5	64.5

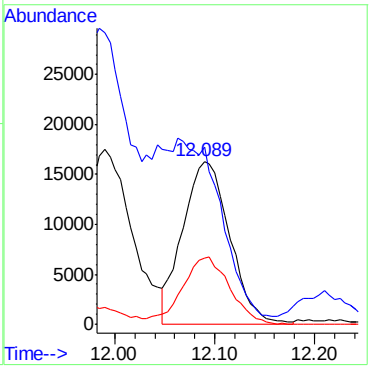


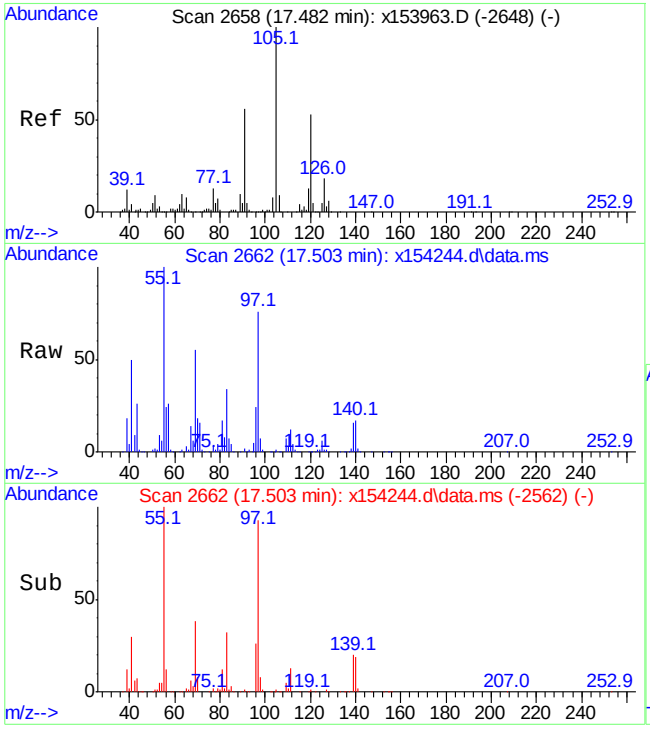


#72
methylcyclohexane
Concen: 20.54 ug/L
RT: 12.089 min Scan# 1627
Delta R.T. 0.026 min
Lab File: x154244.d
Acq: 23 Apr 2015 4:11 pm

Tgt Ion: 83 Resp: 53073

Ion	Ratio	Lower	Upper
83	100		
55	99.2	54.7	114.7
98	41.3	12.8	72.8

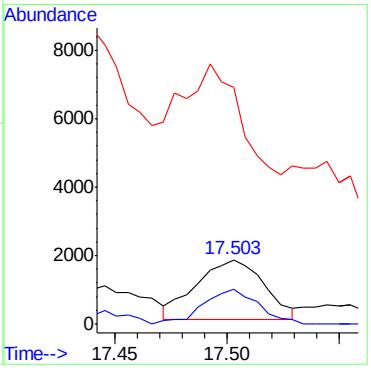


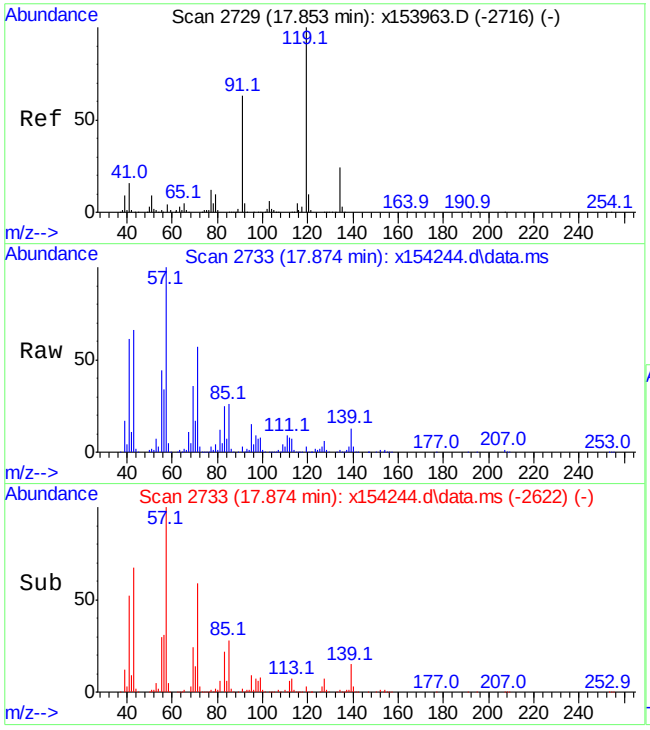


#111
1,3,5-trimethylbenzene
Concen: 0.49 ug/L m
RT: 17.503 min Scan# 2662
Delta R.T. 0.021 min
Lab File: x154244.d
Acq: 23 Apr 2015 4:11 pm

Tgt Ion:105 Resp: 3623

Ion	Ratio	Lower	Upper
105	100		
120	54.5	22.5	82.5
77	368.3	0.0	42.7#

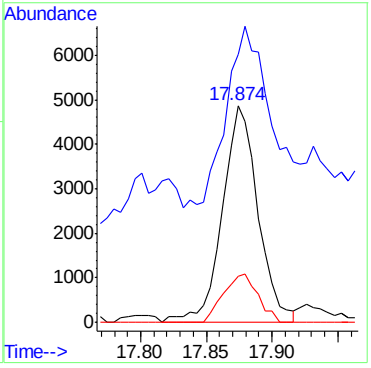


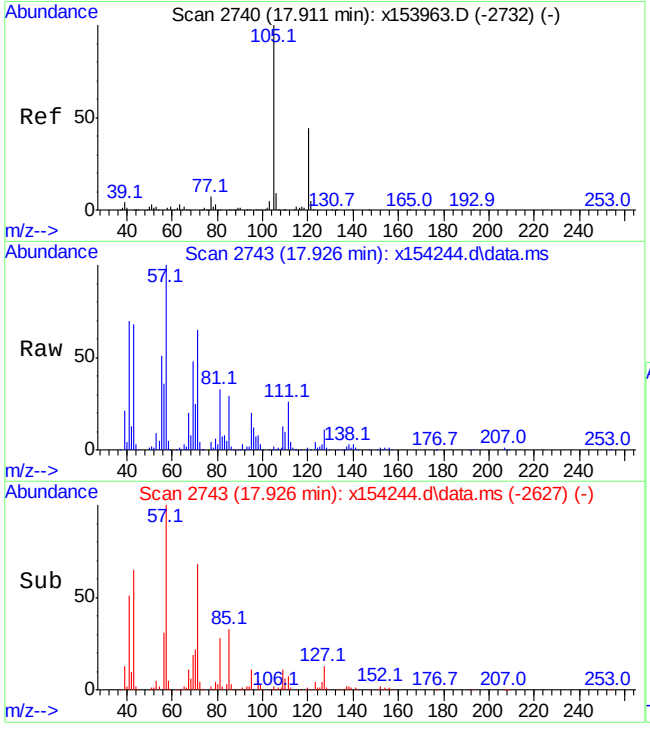


#112
tert-butylbenzene
Concen: 1.45 ug/L
RT: 17.874 min Scan# 2733
Delta R.T. 0.021 min
Lab File: x154244.d
Acq: 23 Apr 2015 4:11 pm

Tgt Ion:119 Resp: 9125

Ion	Ratio	Lower	Upper
119	100		
91	58.9	32.6	92.6
134	21.3	0.0	53.5

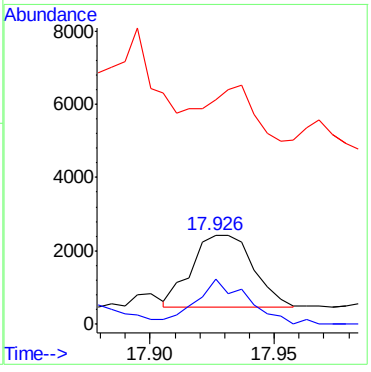


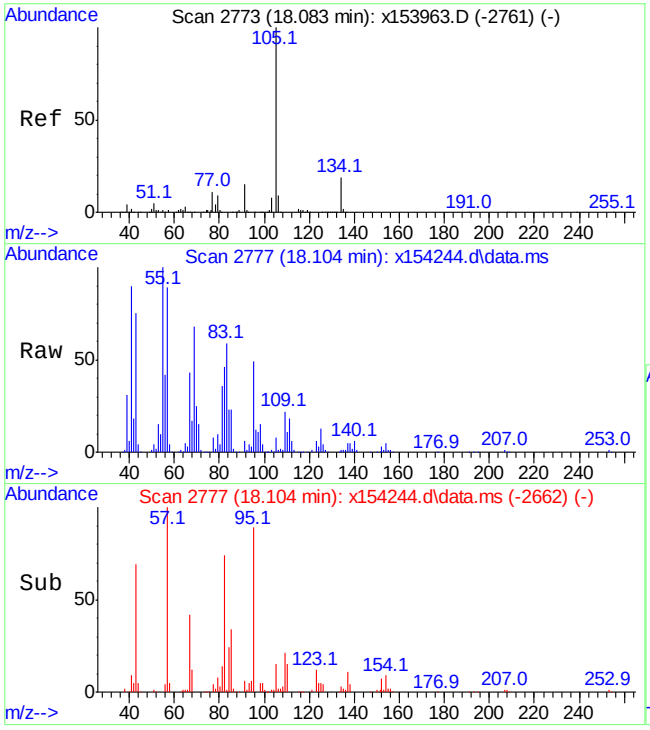


#114
1,2,4-trimethylbenzene
Concen: 0.44 ug/L m
RT: 17.926 min Scan# 2743
Delta R.T. 0.016 min
Lab File: x154244.d
Acq: 23 Apr 2015 4:11 pm

Tgt Ion:105 Resp: 3321

Ion	Ratio	Lower	Upper
105	100		
120	51.0	18.0	78.0
77	252.3	0.0	41.6#

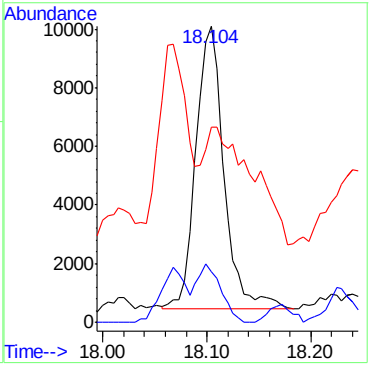


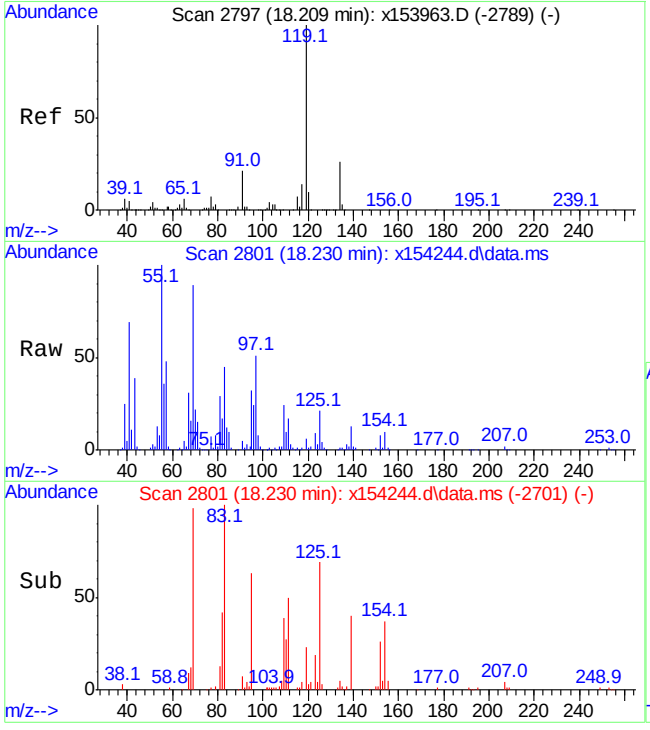


#116
sec-butylbenzene
Concen: 1.73 ug/L
RT: 18.104 min Scan# 2777
Delta R.T. 0.021 min
Lab File: x154244.d
Acq: 23 Apr 2015 4:11 pm

Tgt Ion:105 Resp: 18087

Ion	Ratio	Lower	Upper
105	100		
134	14.7	0.0	49.2
91	41.0	0.0	44.6

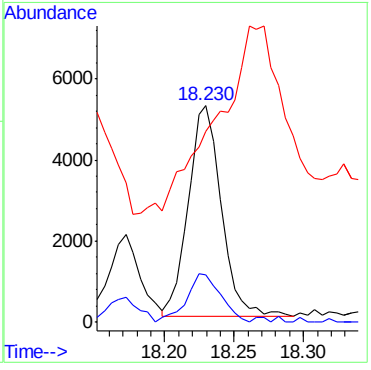




#118
p-isopropyltoluene
Concen: 0.89 ug/L
RT: 18.230 min Scan# 2801
Delta R.T. 0.021 min
Lab File: x154244.d
Acq: 23 Apr 2015 4:11 pm

Tgt Ion:119 Resp: 8511

Ion	Ratio	Lower	Upper
119	100		
134	22.3	0.0	56.3
91	37.9	0.0	51.1



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : X154296.D
Acq On : 25 Apr 2015 3:17 pm
Operator : BenM
Sample : jb93023-19
Misc : MS84082,VX6651,6.7,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 27 13:00:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Apr 27 08:30:58 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.52	65	119548	500.00	ug/L	0.02
4) pentafluorobenzene	10.23	168	237682	50.00	ug/L	0.02
53) 1,4-difluorobenzene	11.41	114	285829	50.00	ug/L	0.03
83) chlorobenzene-d5	15.62	117	268027	50.00	ug/L	0.03
98) 1,4-dichlorobenzene-d4	18.37	152	199332	50.00	ug/L	0.02

System Monitoring Compounds

45) dibromofluoromethane (s)	10.31	113	89757	51.99	ug/L	0.03
Spiked Amount 50.000	Range 70 - 122		Recovery = 103.98%			
46) 1,2-dichloroethane-d4 (s)	10.84	65	89577	55.52	ug/L	0.03
Spiked Amount 50.000	Range 68 - 124		Recovery = 111.04%			
75) toluene-d8 (s)	13.59	98	338846	50.65	ug/L	0.03
Spiked Amount 50.000	Range 77 - 125		Recovery = 101.30%			
102) 4-bromofluorobenzene (s)	17.10	95	145050	51.10	ug/L	0.03
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.20%			

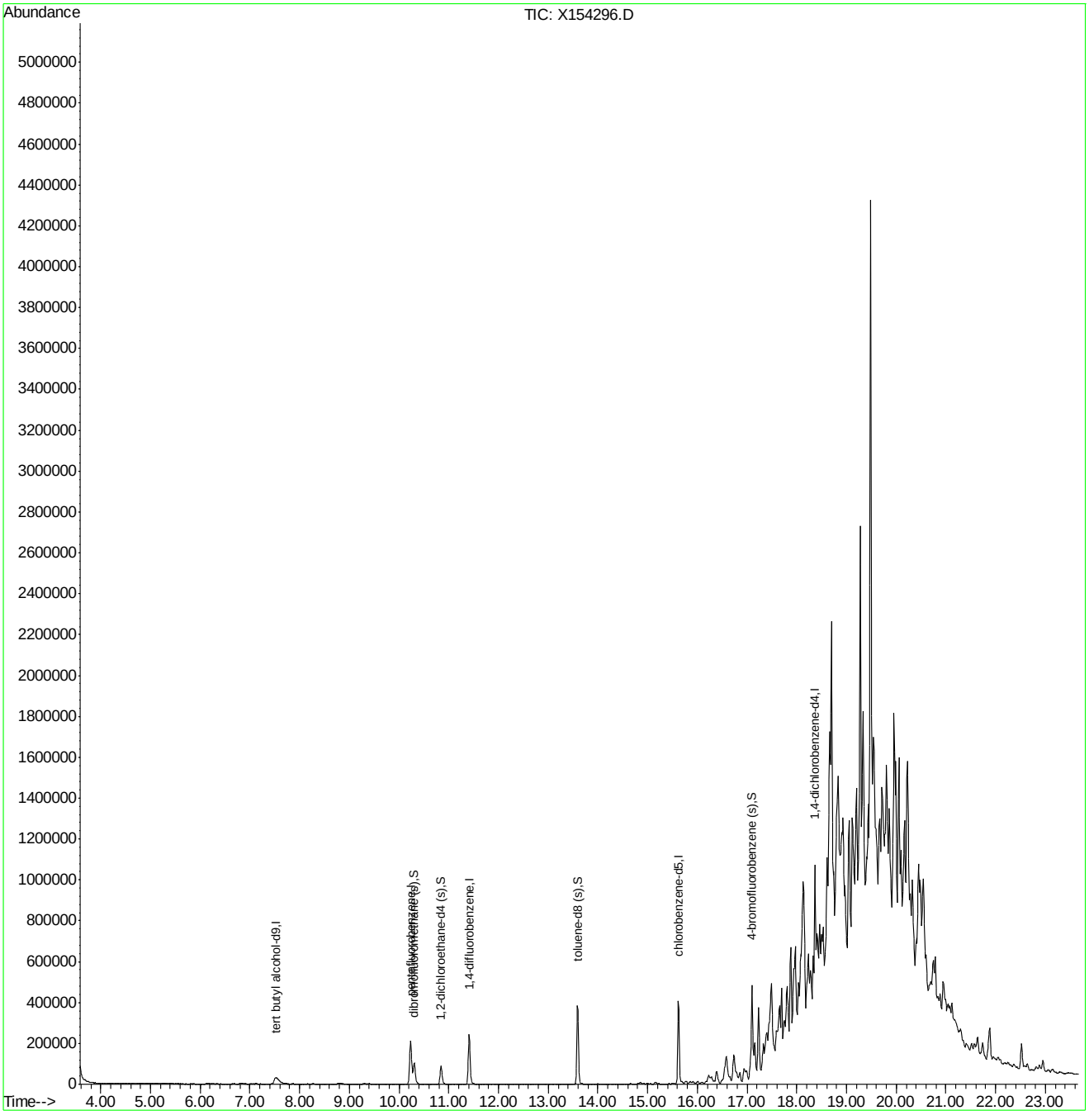
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : X154296.D
Acq On : 25 Apr 2015 3:17 pm
Operator : BenM
Sample : jb93023-19
Misc : MS84082,VX6651,6.7,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 27 13:00:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Apr 27 08:30:58 2015
Response via : Initial Calibration



MX6638.M Mon Apr 27 13:07:59 2015 GCMSX Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152316.D
Acq On : 23 Apr 2015 7:41 pm
Operator : BenM
Sample : jb93023-20
Misc : MS84082,VV6455,6.5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 24 12:10:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.73	65	142962	500.00	ug/L	0.00
4) pentafluorobenzene	9.96	168	385251	50.00	ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	476096	50.00	ug/L	0.00
79) chlorobenzene-d5	14.33	117	432946	50.00	ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	257536	50.00	ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.05	113	137382	48.80	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 97.60%			
47) 1,2-dichloroethane-d4 (s)	10.49	65	119035	44.77	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 89.54%			
71) toluene-d8 (s)	12.64	98	571269	53.52	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 107.04%			
94) 4-bromofluorobenzene (s)	15.62	95	224359	53.54	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 107.08%			

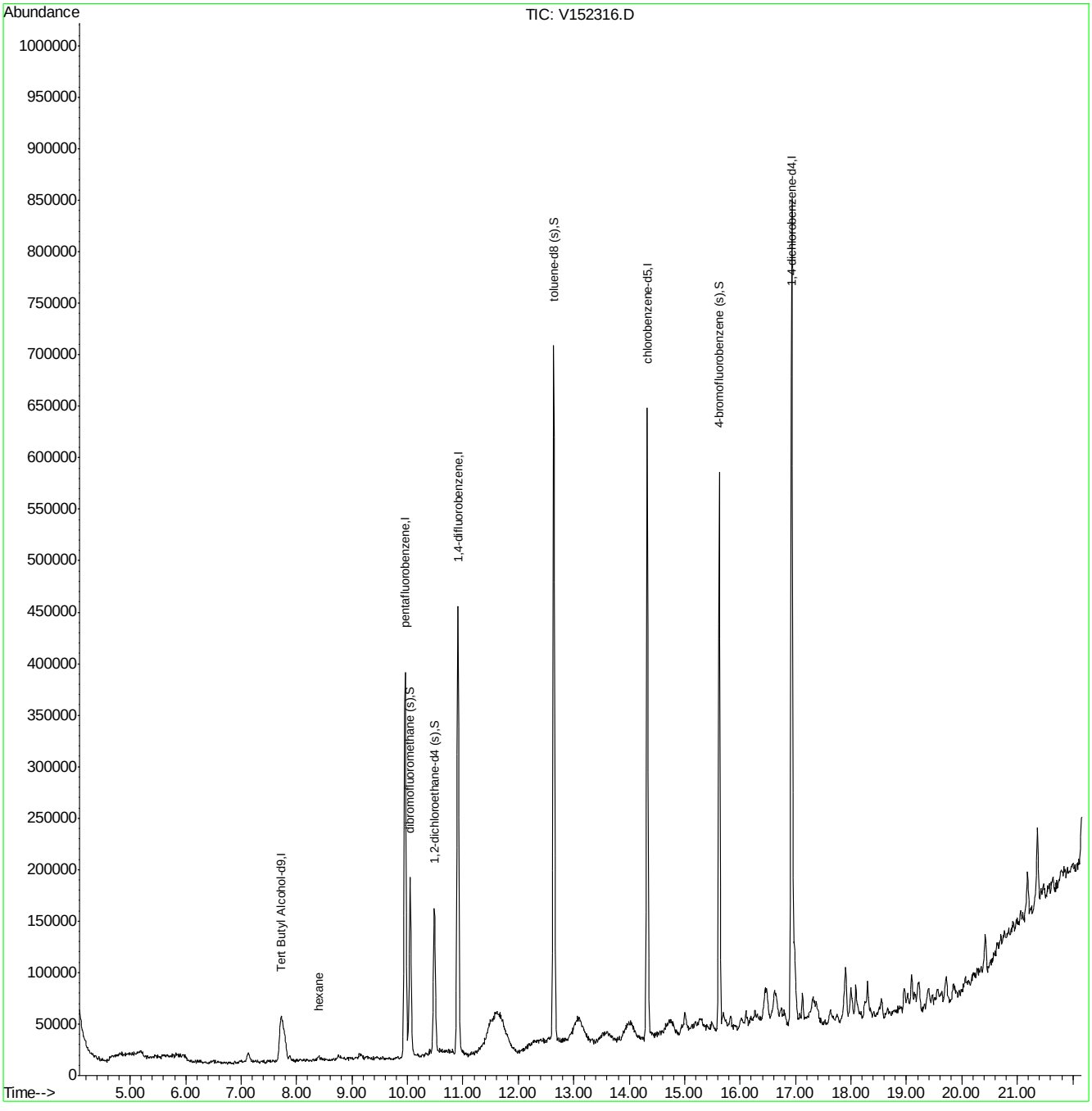
Target Compounds						Qvalue
56) hexane	8.40	57	1738	0.45	ug/L	97

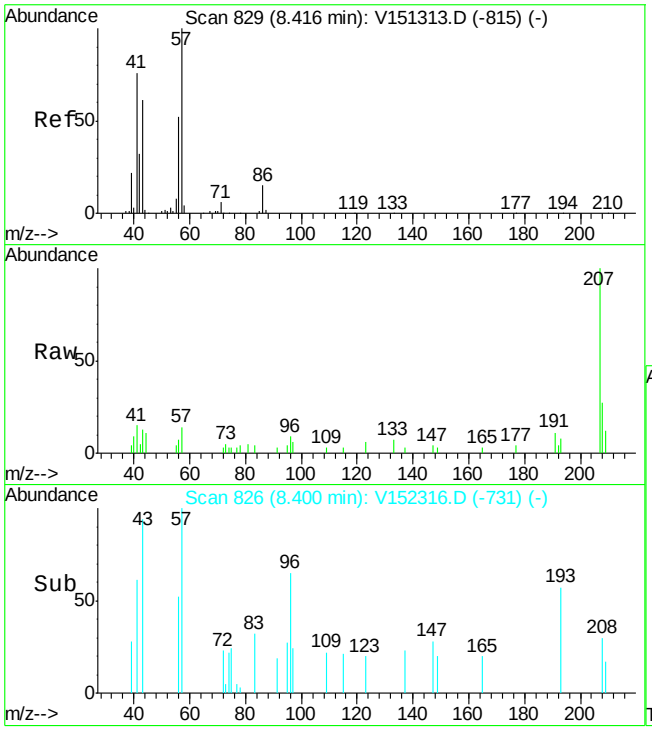
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152316.D
Acq On : 23 Apr 2015 7:41 pm
Operator : BenM
Sample : jb93023-20
Misc : MS84082,VV6455,6.5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 24 12:10:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

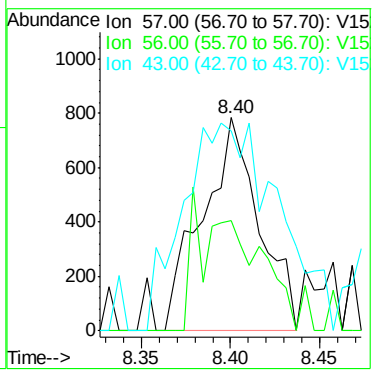




#56
hexane
Concen: 0.45 ug/L
RT: 8.40 min Scan# 826
Delta R.T. -0.01 min
Lab File: V152316.D
Acq: 23 Apr 2015 7:41 pm

Tgt Ion: 57 Resp: 1738

Ion	Ratio	Lower	Upper
57	100		
56	51.8	21.1	81.1
43	64.8	37.8	97.8



7.1.20

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225519.D
Acq On : 29 Apr 2015 2:14 am
Operator : ThienN
Sample : jb93023-21
Misc : MS84082,VE9899,5,,100,10,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 29 09:08:27 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.953	65	130724	500.00	ug/L	-0.02
4) pentafluorobenzene	10.123	168	238856	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	11.054	114	307234	50.00	ug/L	-0.01
84) chlorobenzene-d5	14.386	117	291512	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.954	152	180363	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.212	113	102564	45.72	ug/L	-0.02
Spiked Amount 50.000	Range 70 - 122		Recovery = 91.44%			
48) 1,2-dichloroethane-d4 (s)	10.636	65	100088	40.77	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 81.54%			
76) toluene-d8 (s)	12.738	98	365064	43.49	ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 86.98%			
103) 4-bromofluorobenzene (s)	15.657	95	146983	41.54	ug/L	-0.01
Spiked Amount 50.000	Range 72 - 130		Recovery = 83.08%			

Target Compounds

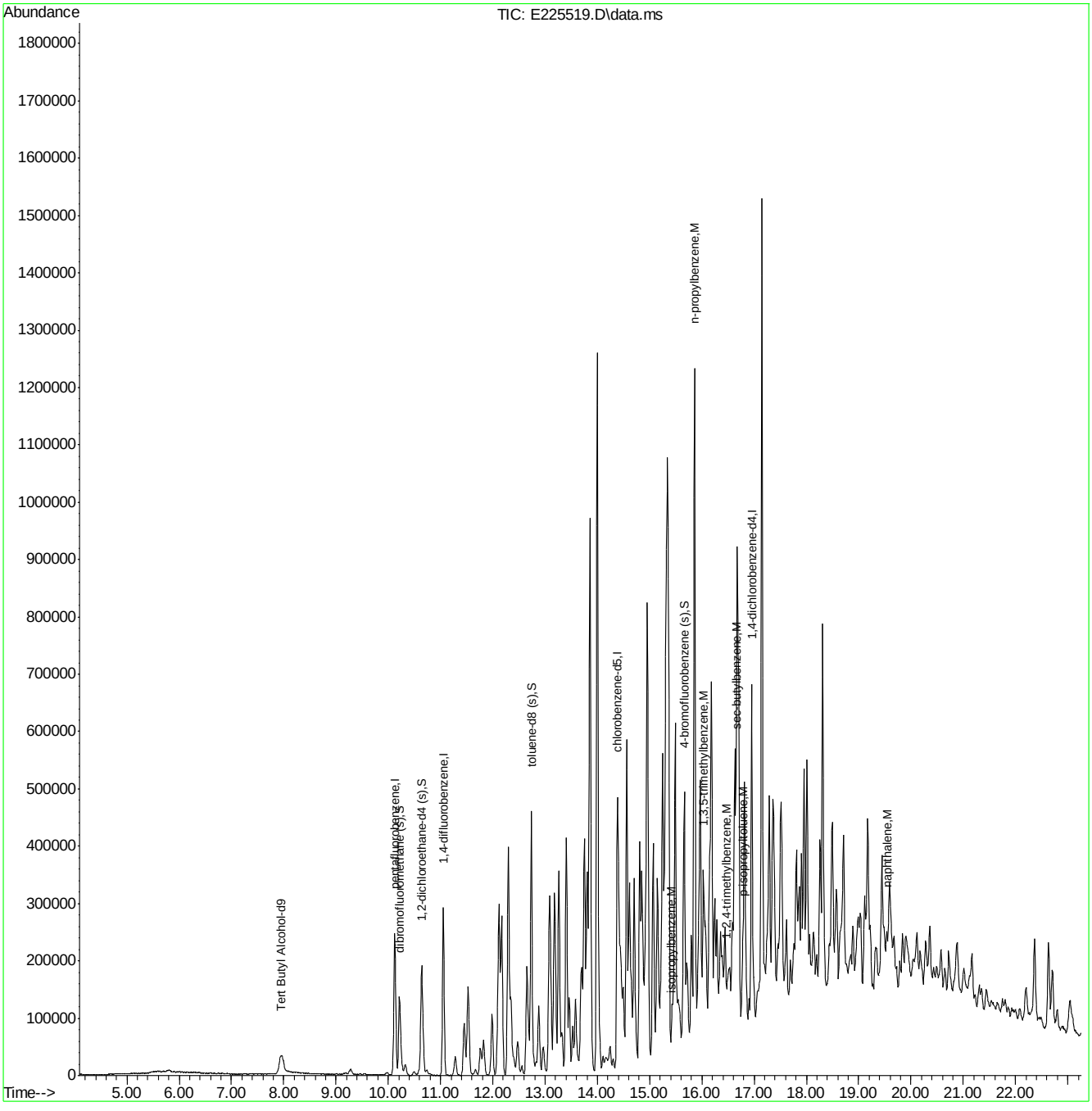
						Qvalue
102) isopropylbenzene	15.406	105	3403	0.27	ug/L	80
109) n-propylbenzene	15.861	91	4843	0.35	ug/L	95
113) 1,3,5-trimethylbenzene	16.028	105	3702	0.35	ug/L	92
116) 1,2,4-trimethylbenzene	16.467	105	5597	0.52	ug/L	96
117) sec-butylbenzene	16.650	105	6913	0.47	ug/L	89
119) p-isopropyltoluene	16.776	119	3846	0.30	ug/L	82
130) naphthalene	19.532	128	22517	1.57	ug/L	89

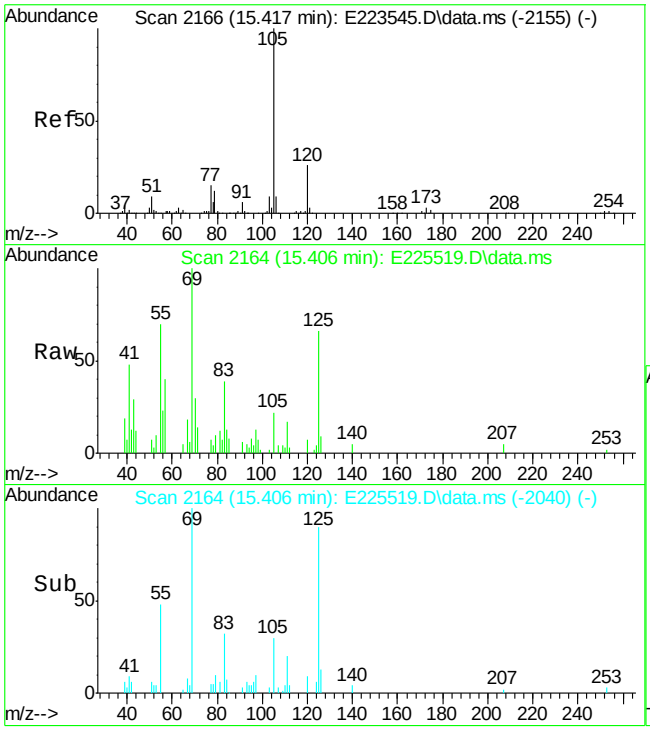
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225519.D
Acq On : 29 Apr 2015 2:14 am
Operator : ThienN
Sample : jb93023-21
Misc : MS84082,VE9899,5,,100,10,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 29 09:08:27 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

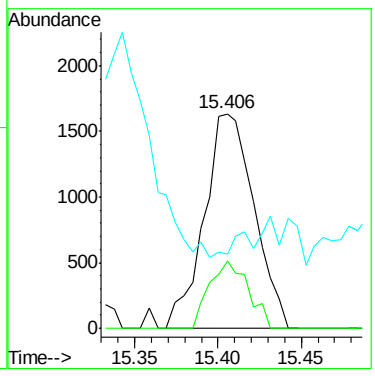


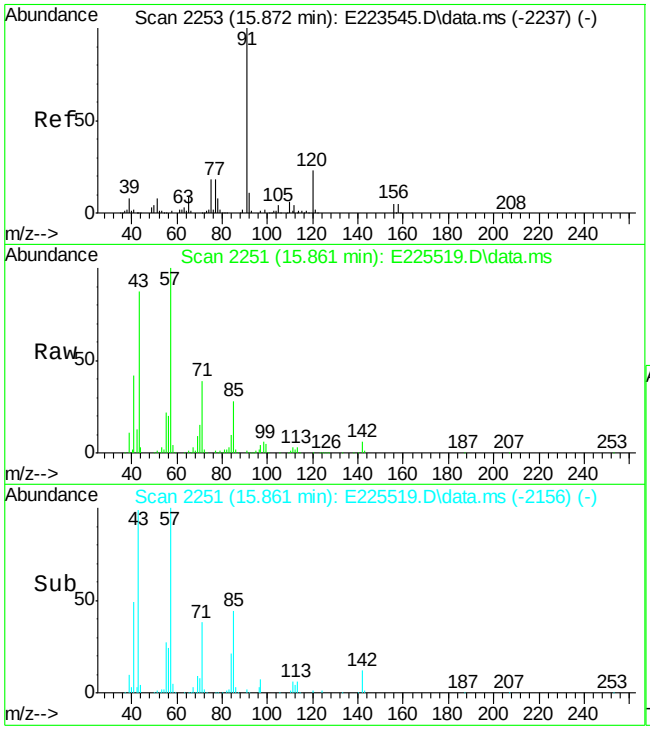


#102
isopropylbenzene
Concen: 0.27 ug/L
RT: 15.406 min Scan# 2164
Delta R.T. -0.011 min
Lab File: E225519.D
Acq: 29 Apr 2015 2:14 am

Tgt Ion:105 Resp: 3403

Ion	Ratio	Lower	Upper
105	100		
120	31.4	0.0	55.9
77	0.0	0.0	44.5

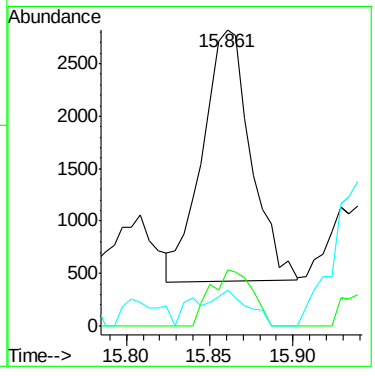


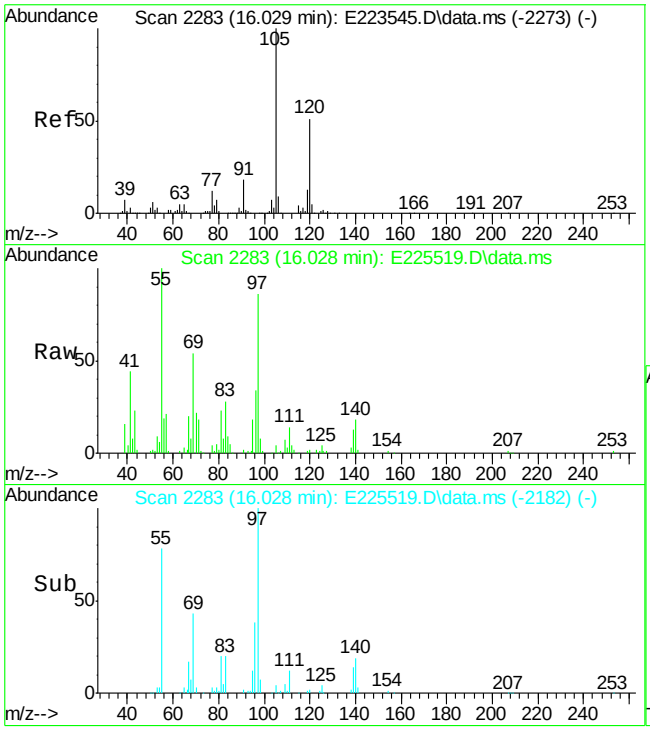


#109
n-propylbenzene
Concen: 0.35 ug/L
RT: 15.861 min Scan# 2251
Delta R.T. -0.011 min
Lab File: E225519.D
Acq: 29 Apr 2015 2:14 am

Tgt Ion: 91 Resp: 4843

Ion	Ratio	Lower	Upper
91	100		
120	22.7	0.0	52.8
105	14.4	0.0	33.7

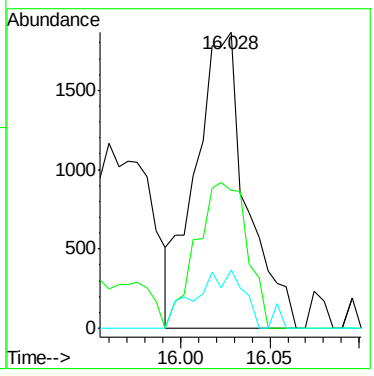


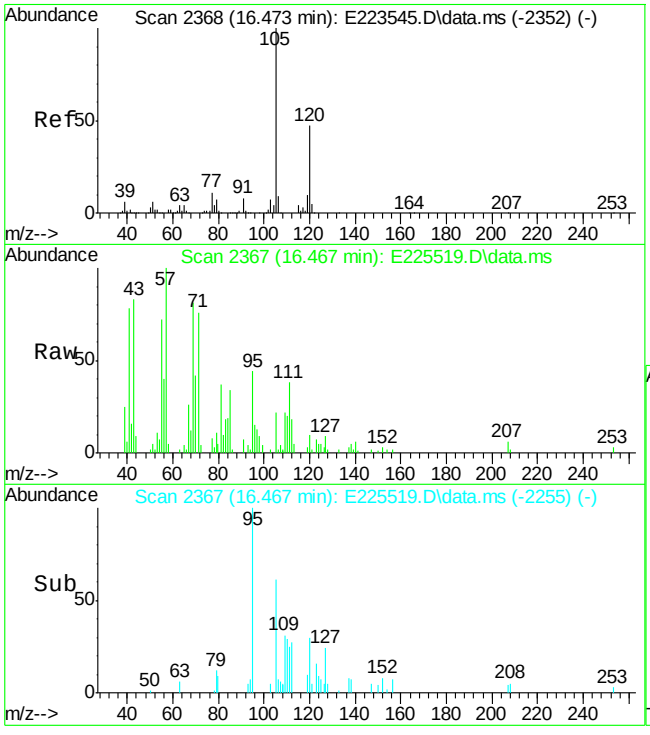


#113
1,3,5-trimethylbenzene
Concen: 0.35 ug/L
RT: 16.028 min Scan# 2283
Delta R.T. -0.001 min
Lab File: E225519.D
Acq: 29 Apr 2015 2:14 am

Tgt Ion:105 Resp: 3702

Ion	Ratio	Lower	Upper
105	100		
120	46.7	20.8	80.8
119	19.8	0.0	43.0

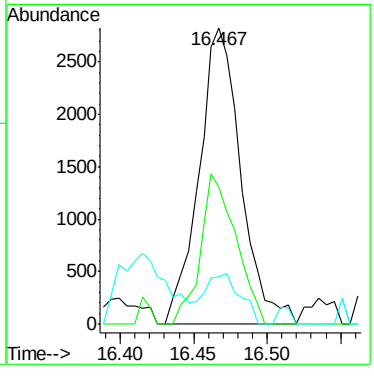


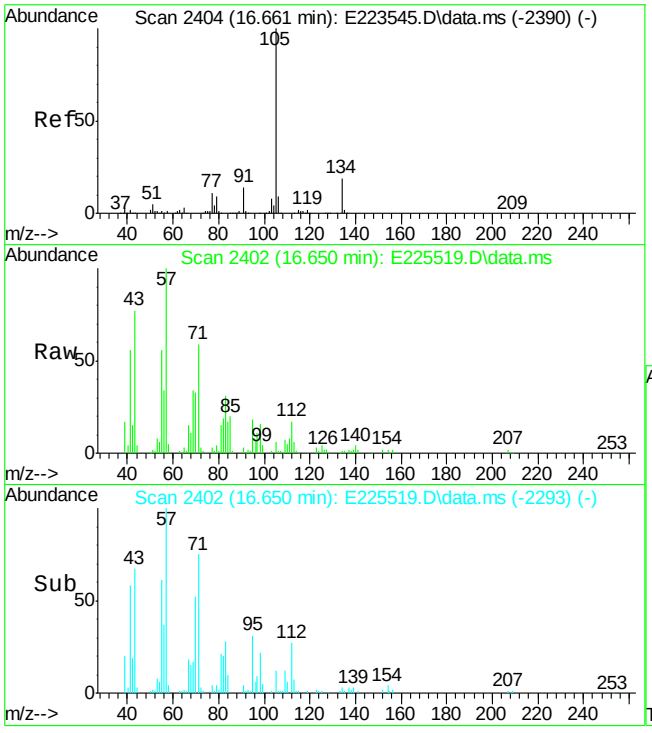


#116
1,2,4-trimethylbenzene
Concen: 0.52 ug/L
RT: 16.467 min Scan# 2367
Delta R.T. -0.006 min
Lab File: E225519.D
Acq: 29 Apr 2015 2:14 am

Tgt Ion:105 Resp: 5597

Ion	Ratio	Lower	Upper
105	100		
120	46.3	17.2	77.2
119	15.8	0.0	39.9

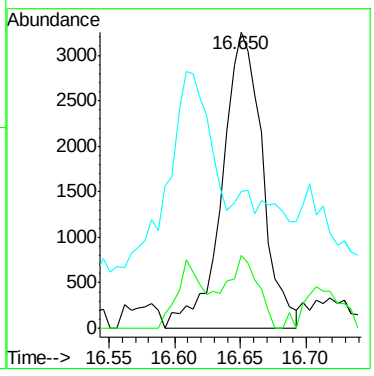


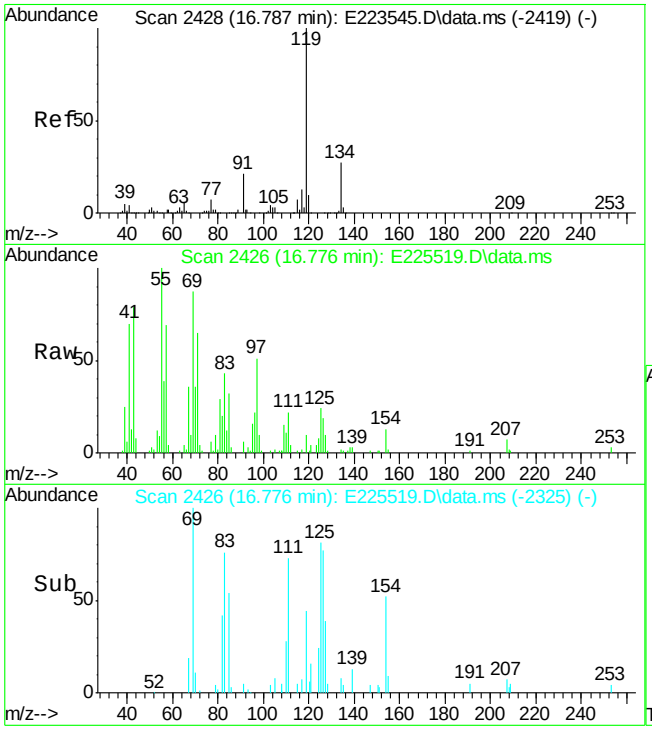


#117
sec-butylbenzene
Concen: 0.47 ug/L
RT: 16.650 min Scan# 2402
Delta R.T. -0.011 min
Lab File: E225519.D
Acq: 29 Apr 2015 2:14 am

Tgt Ion:105 Resp: 6913

Ion	Ratio	Lower	Upper
105	100		
134	24.5	0.0	49.0
91	10.4	0.0	44.4

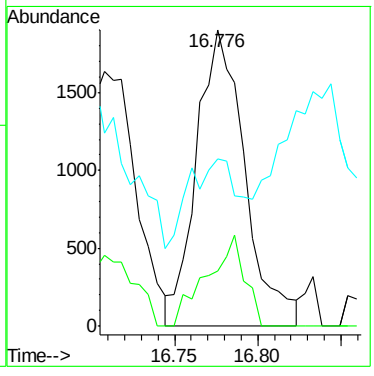


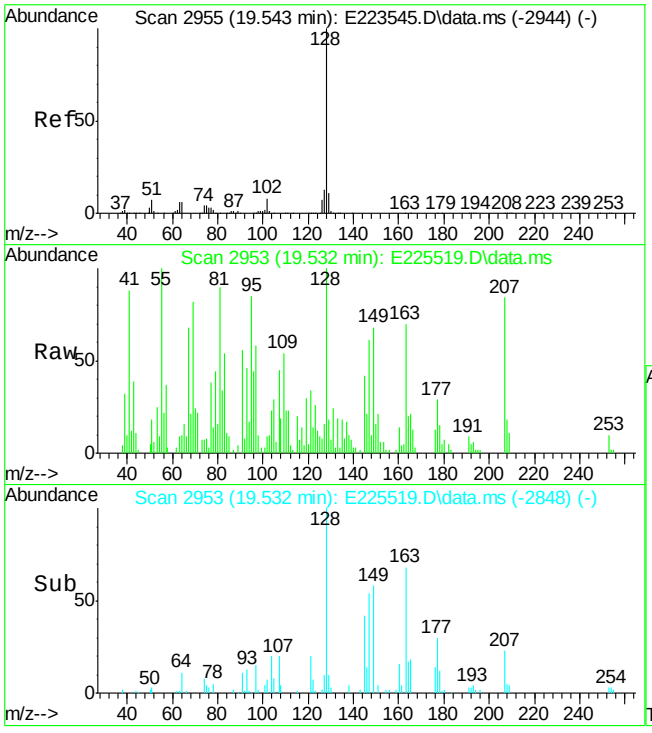


#119
p-isopropyltoluene
Concen: 0.30 ug/L
RT: 16.776 min Scan# 2426
Delta R.T. -0.011 min
Lab File: E225519.D
Acq: 29 Apr 2015 2:14 am

Tgt Ion:119 Resp: 3846

Ion	Ratio	Lower	Upper
119	100		
134	20.4	0.0	56.7
91	33.0	0.0	50.9

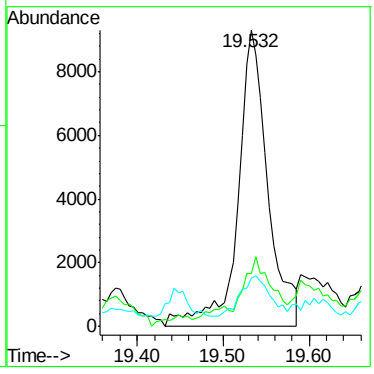




#130
naphthalene
Concen: 1.57 ug/L
RT: 19.532 min Scan# 2953
Delta R.T. -0.011 min
Lab File: E225519.D
Acq: 29 Apr 2015 2:14 am

Tgt Ion:128 Resp: 22517

Ion	Ratio	Lower	Upper
128	100		
129	15.5	0.0	40.9
127	8.9	0.0	42.7



7.1.21

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152317.D
Acq On : 23 Apr 2015 8:09 pm
Operator : BenM
Sample : jb93023-22
Misc : MS84082,VV6455,8.5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 24 12:11:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.72	65	148603	500.00 ug/L	-0.01
4) pentafluorobenzene	9.96	168	423649	50.00 ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	515309	50.00 ug/L	0.00
79) chlorobenzene-d5	14.33	117	480596	50.00 ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	290902	50.00 ug/L	0.00

System Monitoring Compounds					
46) dibromofluoromethane (s)	10.05	113	148683	48.03 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 96.06%		
47) 1,2-dichloroethane-d4 (s)	10.49	65	127226	43.51 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 87.02%		
71) toluene-d8 (s)	12.64	98	632134	54.71 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 109.42%		
94) 4-bromofluorobenzene (s)	15.62	95	243266	52.30 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.60%		

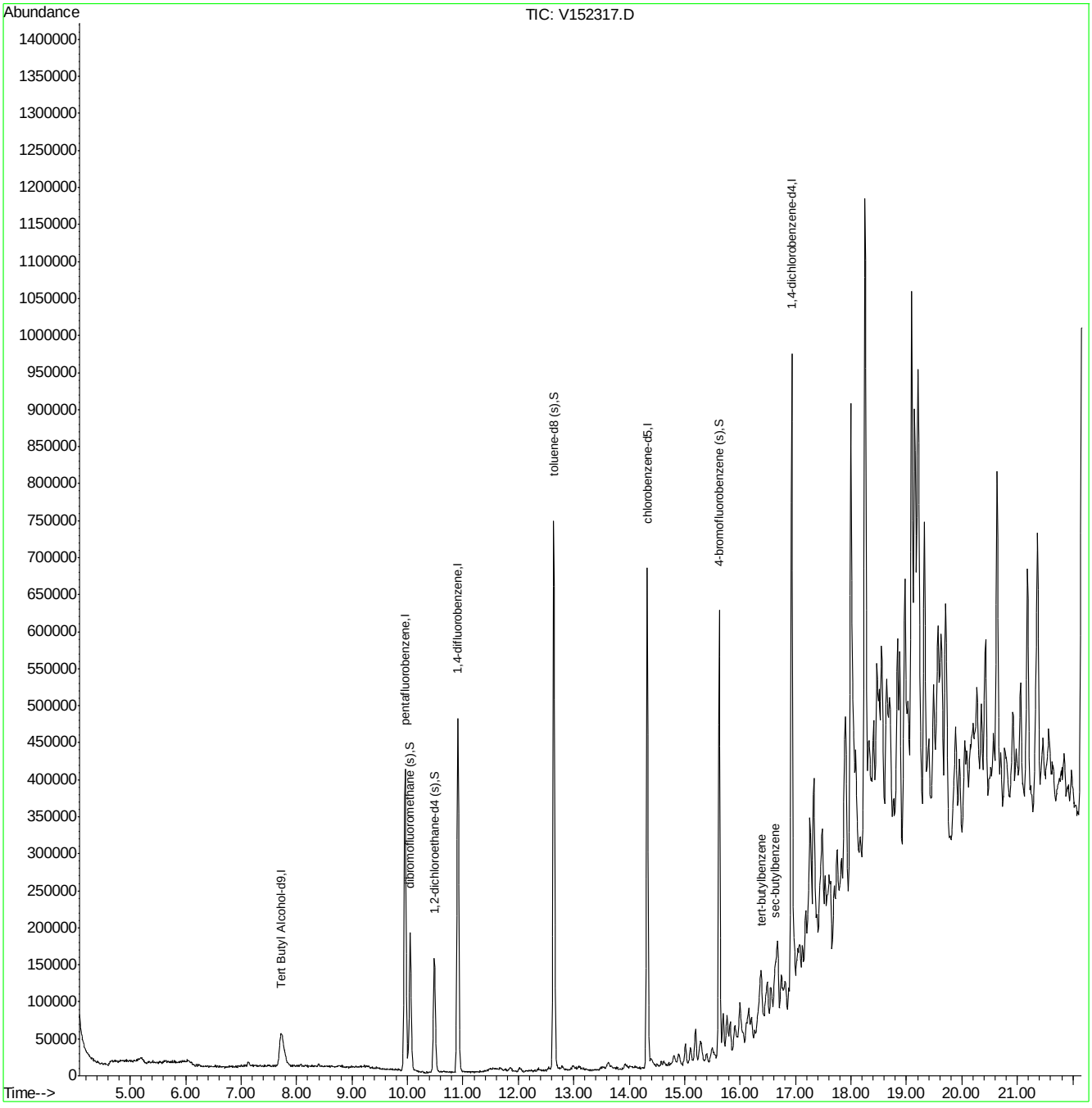
Target Compounds					Qvalue
105) tert-butylbenzene	16.38	119	5451	0.34 ug/L #	76
108) sec-butylbenzene	16.63	105	14676	0.57 ug/L	96

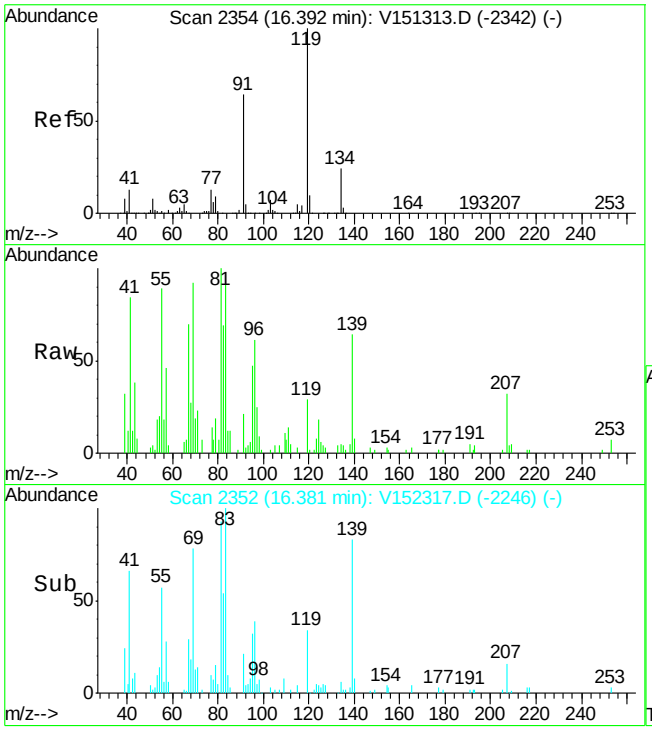
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152317.D
Acq On : 23 Apr 2015 8:09 pm
Operator : BenM
Sample : jb93023-22
Misc : MS84082,VV6455,8.5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 24 12:11:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

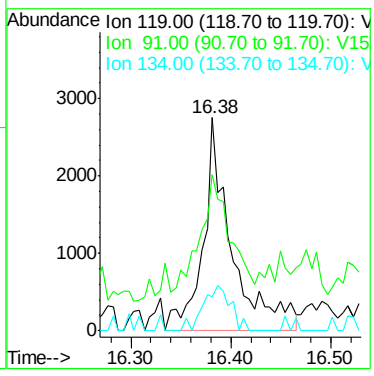


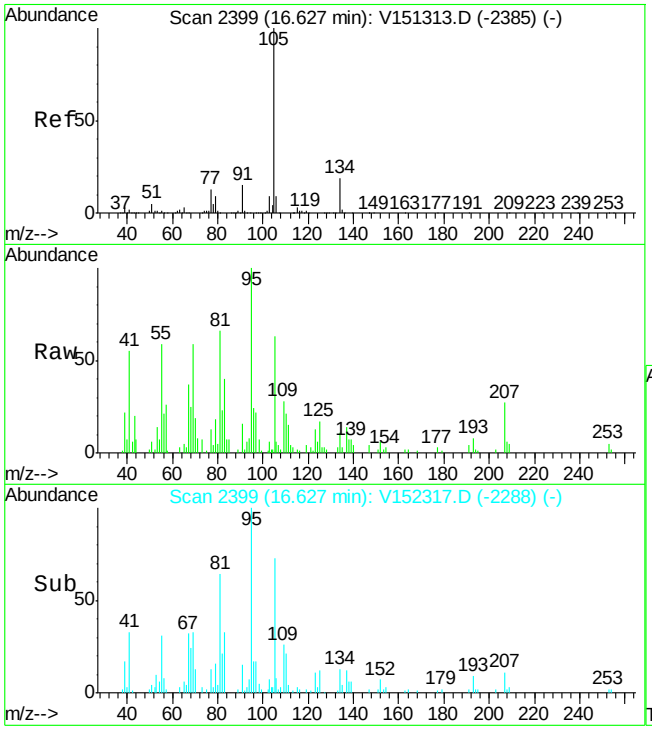


#105
tert-butylbenzene
Concen: 0.34 ug/L
RT: 16.38 min Scan# 2352
Delta R.T. -0.01 min
Lab File: V152317.D
Acq: 23 Apr 2015 8:09 pm

Tgt Ion:119 Resp: 5451

Ion	Ratio	Lower	Upper
119	100		
91	43.6	45.4	84.4#
134	15.9	16.7	30.9#

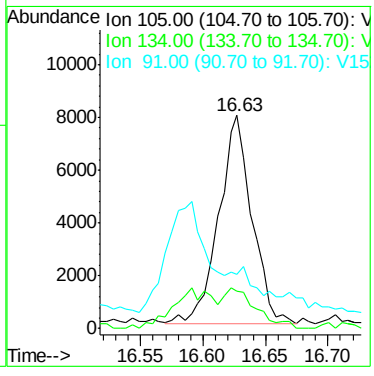




#108
sec-butylbenzene
Concen: 0.57 ug/L
RT: 16.63 min Scan# 2399
Delta R.T. 0.00 min
Lab File: V152317.D
Acq: 23 Apr 2015 8:09 pm

Tgt Ion:105 Resp: 14676

Ion	Ratio	Lower	Upper
105	100		
134	18.0	0.0	48.8
91	11.5	0.0	44.4



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 04/30/15 15:22

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154250.d
Acq On : 23 Apr 2015 7:10 pm
Operator : BenM
Sample : jb93023-23
Misc : MS84082,VX6649,6.0,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 24 12:31:13 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.513	65	111474	500.00	ug/L	0.02
4) pentafluorobenzene	10.227	168	216851	50.00	ug/L	0.02
53) 1,4-difluorobenzene	11.410	114	259321	50.00	ug/L	0.03
83) chlorobenzene-d5	15.615	117	248495	50.00	ug/L	0.02
98) 1,4-dichlorobenzene-d4	18.361	152	191860	50.00	ug/L	0.02
System Monitoring Compounds						
45) dibromofluoromethane (s)	10.301	113	83725	53.15	ug/L	0.02
Spiked Amount 50.000	Range 48 - 141		Recovery = 106.30%			
46) 1,2-dichloroethane-d4 (s)	10.834	65	79203	53.80	ug/L	0.02
Spiked Amount 50.000	Range 70 - 120		Recovery = 107.60%			
75) toluene-d8 (s)	13.585	98	305888	50.39	ug/L	0.02
Spiked Amount 50.000	Range 78 - 129		Recovery = 100.78%			
102) 4-bromofluorobenzene (s)	17.095	95	138035	50.53	ug/L	0.02
Spiked Amount 50.000	Range 72 - 130		Recovery = 101.06%			
Target Compounds						Qvalue
50) cyclohexane	10.390	84	1191m	0.44	ug/L	

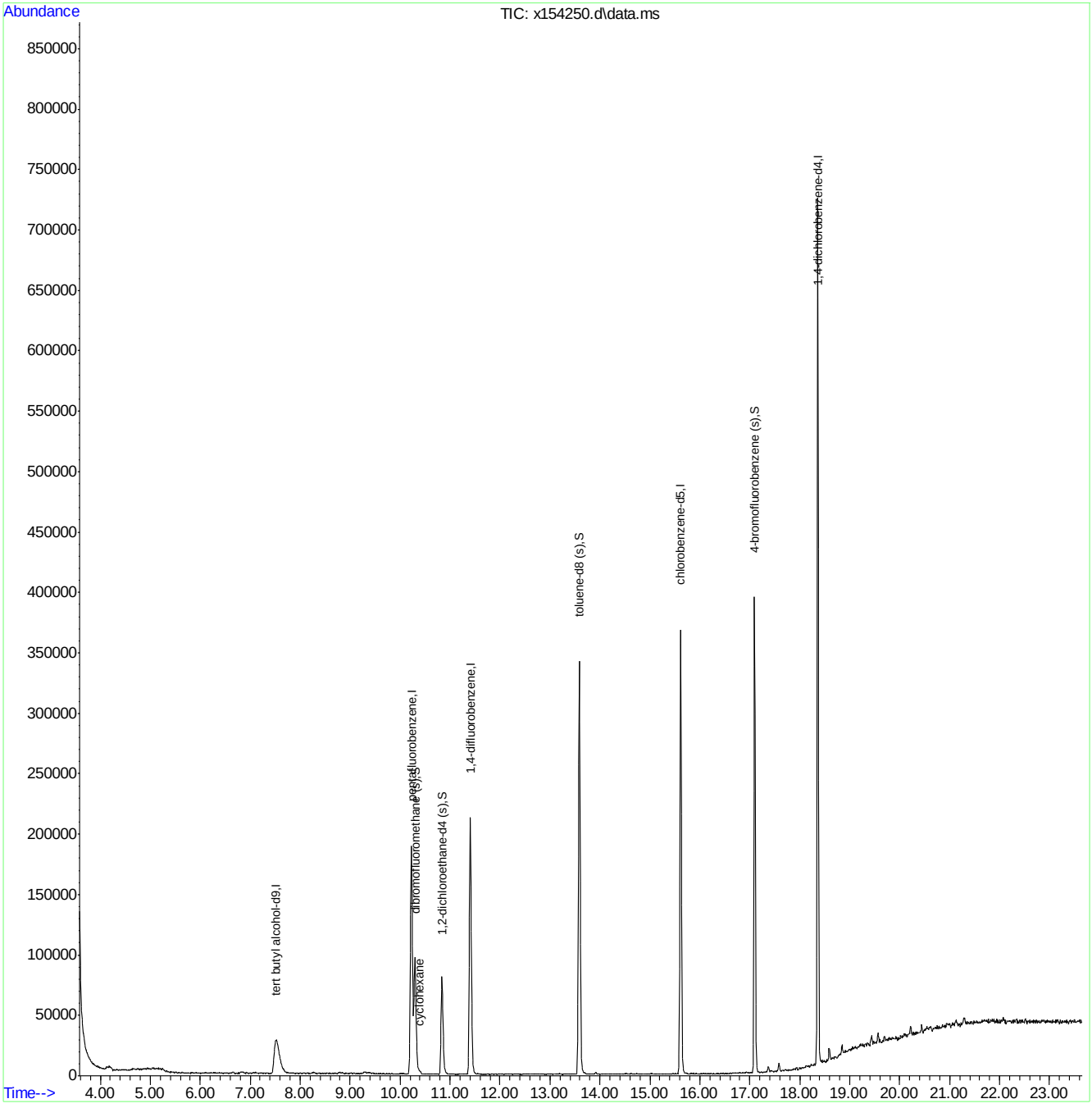
(#) = qualifier out of range (m) = manual integration (+) = signals summed

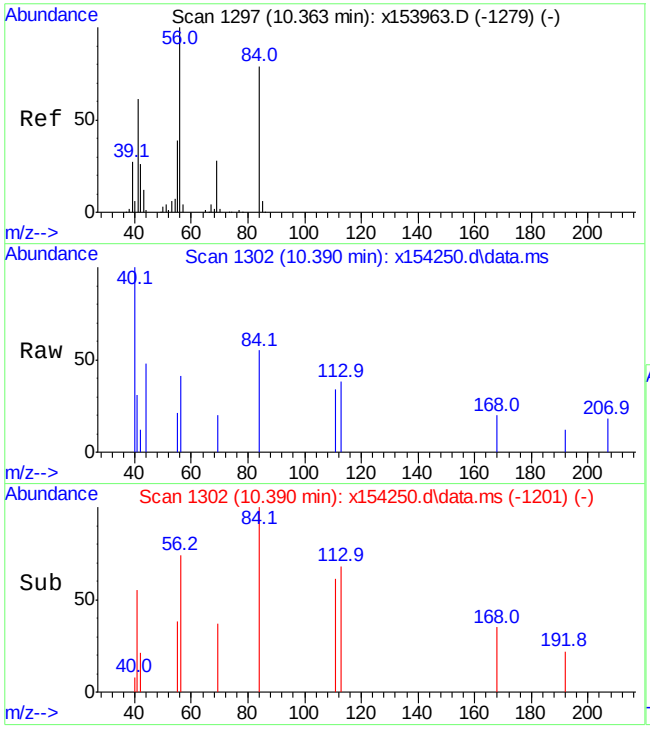
7.1.23
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154250.d
Acq On : 23 Apr 2015 7:10 pm
Operator : BenM
Sample : jb93023-23
Misc : MS84082,VX6649,6.0,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 24 12:31:13 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration

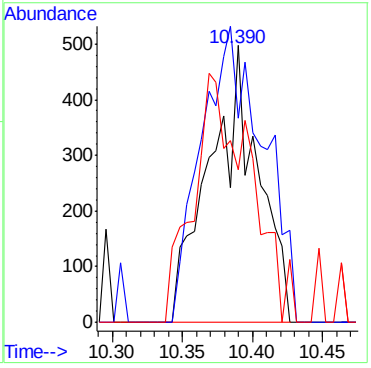




#50
cyclohexane
Concen: 0.44 ug/L m
RT: 10.390 min Scan# 1302
Delta R.T. 0.026 min
Lab File: x154250.d
Acq: 23 Apr 2015 7:10 pm

Tgt Ion: 84 Resp: 1191

Ion	Ratio	Lower	Upper
84	100		
56	73.6	89.1	165.5#
41	55.1	54.7	101.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154249.d
Acq On : 23 Apr 2015 6:40 pm
Operator : BenM
Sample : jb93023-24
Misc : MS84082,VX6649,5.7,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 24 12:30:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.513	65	131846	500.00	ug/L	0.02
4) pentafluorobenzene	10.228	168	272384	50.00	ug/L	0.02
53) 1,4-difluorobenzene	11.404	114	327024	50.00	ug/L	0.02
83) chlorobenzene-d5	15.615	117	310107	50.00	ug/L	0.02
98) 1,4-dichlorobenzene-d4	18.361	152	231523	50.00	ug/L	0.02
System Monitoring Compounds						
45) dibromofluoromethane (s)	10.301	113	102773	51.94	ug/L	0.02
Spiked Amount 50.000	Range 48 - 141		Recovery = 103.88%			
46) 1,2-dichloroethane-d4 (s)	10.840	65	98676	53.36	ug/L	0.02
Spiked Amount 50.000	Range 70 - 120		Recovery = 106.72%			
75) toluene-d8 (s)	13.585	98	388492	50.75	ug/L	0.02
Spiked Amount 50.000	Range 78 - 129		Recovery = 101.50%			
102) 4-bromofluorobenzene (s)	17.095	95	169113	51.30	ug/L	0.02
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.60%			

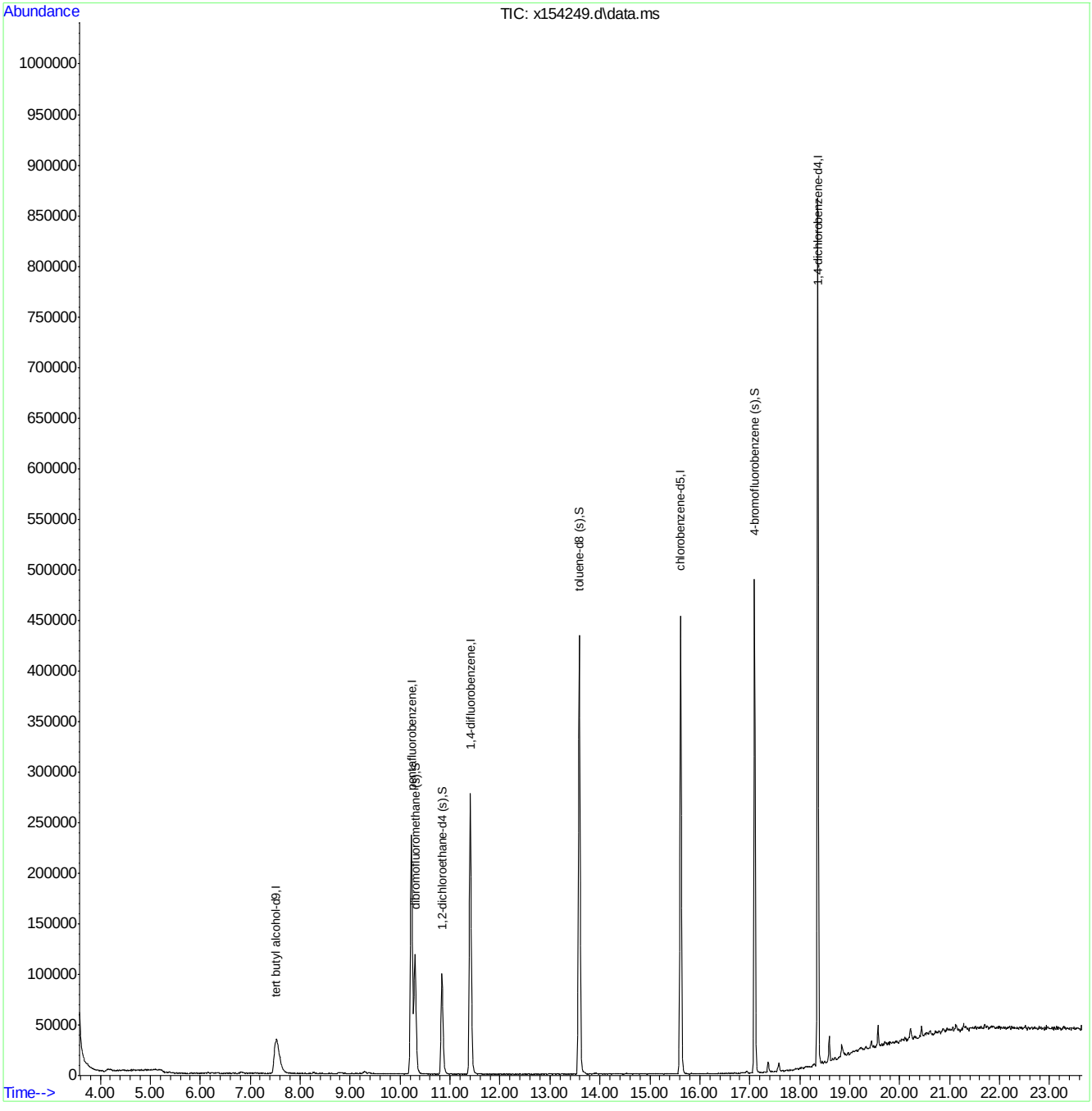
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154249.d
Acq On : 23 Apr 2015 6:40 pm
Operator : BenM
Sample : jb93023-24
Misc : MS84082,VX6649,5.7,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 24 12:30:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3V19490.D
Acq On : 4 May 2015 8:44 am
Operator : thienn
Sample : mb1
Misc : MS84473,V3V809,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 05 11:23:41 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V793.M
Quant Title : SW-846 Method 8260
QLast Update : Fri Apr 17 18:11:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.290	65	99911	500.00	ug/L	0.00
5) pentafluorobenzene	9.760	168	325762	50.00	ug/L	0.00
49) 1,4-difluorobenzene	10.724	114	382036	50.00	ug/L	0.00
79) chlorobenzene-d5	13.938	117	368662	50.00	ug/L	0.00
93) 1,4-dichlorobenzene-d4	16.298	152	186931	50.00	ug/L	0.00
System Monitoring Compounds						
43) dibromofluoromethane (s)	9.802	113	132797	50.82	ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 101.64%			
44) 1,2-dichloroethane-d4 (s)	10.247	65	120951	51.16	ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 102.32%			
71) toluene-d8 (s)	12.397	98	444097	53.83	ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 107.66%			
95) 4-bromofluorobenzene (s)	15.139	95	164614	55.00	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 110.00%			

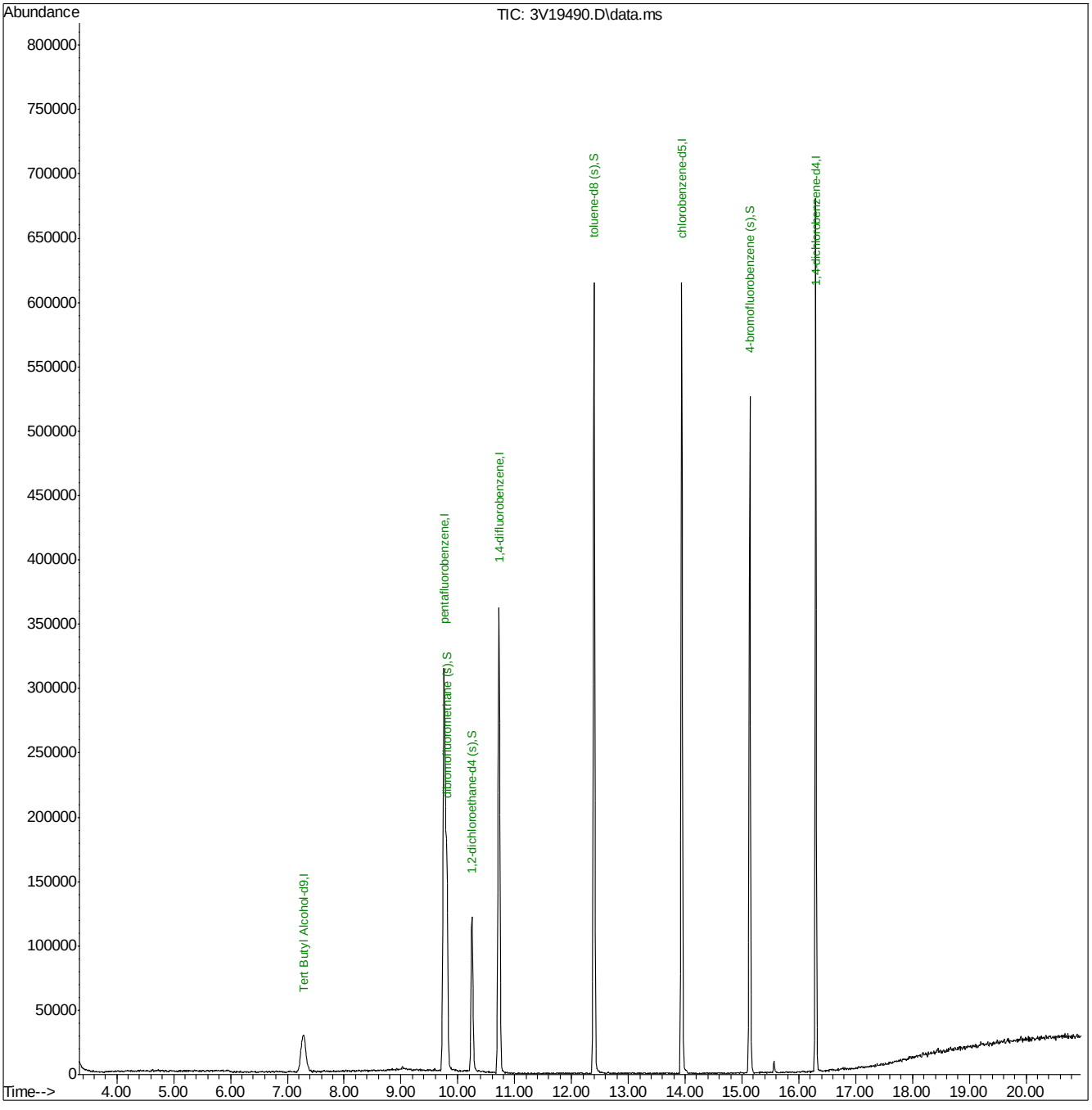
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3V19490.D
Acq On : 4 May 2015 8:44 am
Operator : thienn
Sample : mb1
Misc : MS84473,V3V809,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 05 11:23:41 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3V793.M
Quant Title : SW-846 Method 8260
QLast Update : Fri Apr 17 18:11:21 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225451.D
Acq On : 27 Apr 2015 10:29 am
Operator : ThienN
Sample : mb1
Misc : MS80439,VE9896,5,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 27 16:38:45 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.975	65	93164	500.00	ug/L	0.00
4) pentafluorobenzene	10.124	168	169483	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	11.050	114	207361	50.00	ug/L	-0.02
84) chlorobenzene-d5	14.381	117	200695	50.00	ug/L	-0.01
101) 1,4-dichlorobenzene-d4	16.955	152	130290	50.00	ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.213	113	71101	44.67	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 89.34%			
48) 1,2-dichloroethane-d4 (s)	10.637	65	70436	40.43	ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 80.86%			
76) toluene-d8 (s)	12.734	98	254063	44.84	ug/L	-0.02
Spiked Amount 50.000	Range 77 - 125		Recovery = 89.68%			
103) 4-bromofluorobenzene (s)	15.658	95	107682	42.13	ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 84.26%			

Target Compounds Qvalue

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

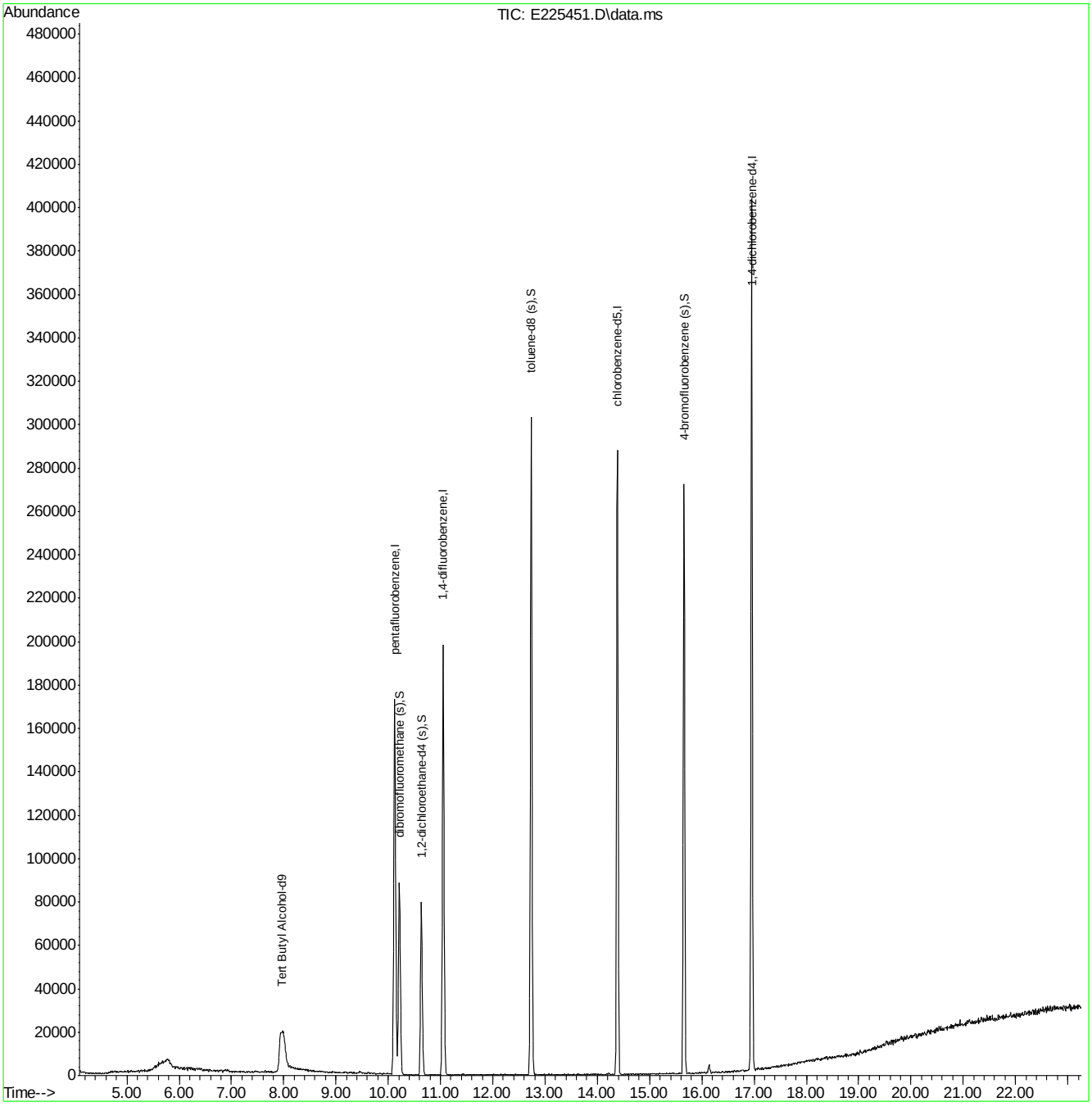
7.2.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225451.D
Acq On : 27 Apr 2015 10:29 am
Operator : ThienN
Sample : mb1
Misc : MS80439,VE9896,5,,100,5,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 27 16:38:45 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225507.D
Acq On : 28 Apr 2015 8:07 pm
Operator : ThienN
Sample : mb
Misc : MS84082,VE9899,5,,100,5,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 29 08:44:26 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.958	65	132715	500.00 ug/L	-0.01
4) pentafluorobenzene	10.123	168	237436	50.00 ug/L	-0.01
54) 1,4-difluorobenzene	11.054	114	312198	50.00 ug/L	-0.01
84) chlorobenzene-d5	14.386	117	296210	50.00 ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.954	152	180991	50.00 ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.212	113	101479	45.51 ug/L	-0.02
Spiked Amount 50.000	Range 70 - 122		Recovery = 91.02%		
48) 1,2-dichloroethane-d4 (s)	10.636	65	99148	40.63 ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 81.26%		
76) toluene-d8 (s)	12.738	98	370965	43.49 ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 86.98%		
103) 4-bromofluorobenzene (s)	15.657	95	152676	43.00 ug/L	-0.01
Spiked Amount 50.000	Range 72 - 130		Recovery = 86.00%		

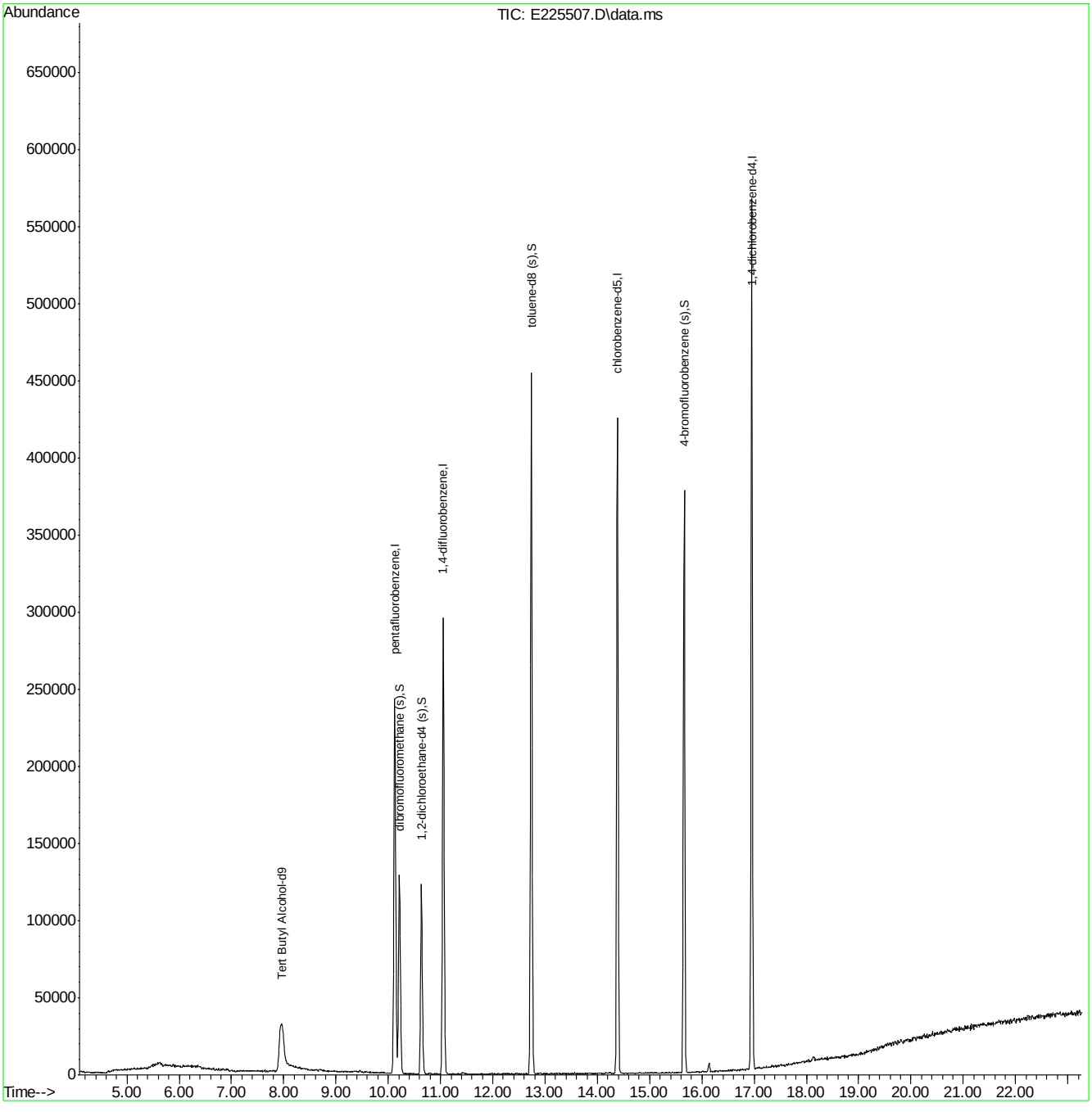
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225507.D
Acq On : 28 Apr 2015 8:07 pm
Operator : ThienN
Sample : mb
Misc : MS84082,VE9899,5,,100,5,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 29 08:44:26 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration



ME9806.M Wed Apr 29 08:44:35 2015 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225532.D
Acq On : 29 Apr 2015 9:16 am
Operator : ThienN
Sample : mb1
Misc : MS84200,VE9900,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 29 12:02:20 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.954	65	131097	500.00 ug/L	-0.02
4) pentafluorobenzene	10.124	168	253044	50.00 ug/L	-0.01
54) 1,4-difluorobenzene	11.050	114	333300	50.00 ug/L	-0.02
84) chlorobenzene-d5	14.382	117	307105	50.00 ug/L	-0.01
101) 1,4-dichlorobenzene-d4	16.955	152	181596	50.00 ug/L	0.00

System Monitoring Compounds

47) dibromofluoromethane (s)	10.213	113	106948	45.00 ug/L	-0.01
Spiked Amount 50.000	Range 70 - 122		Recovery = 90.00%		
48) 1,2-dichloroethane-d4 (s)	10.637	65	106995	41.14 ug/L	-0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 82.28%		
76) toluene-d8 (s)	12.734	98	384536	42.23 ug/L	-0.01
Spiked Amount 50.000	Range 77 - 125		Recovery = 84.46%		
103) 4-bromofluorobenzene (s)	15.658	95	150752	42.32 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 84.64%		

Target Compounds Qvalue

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

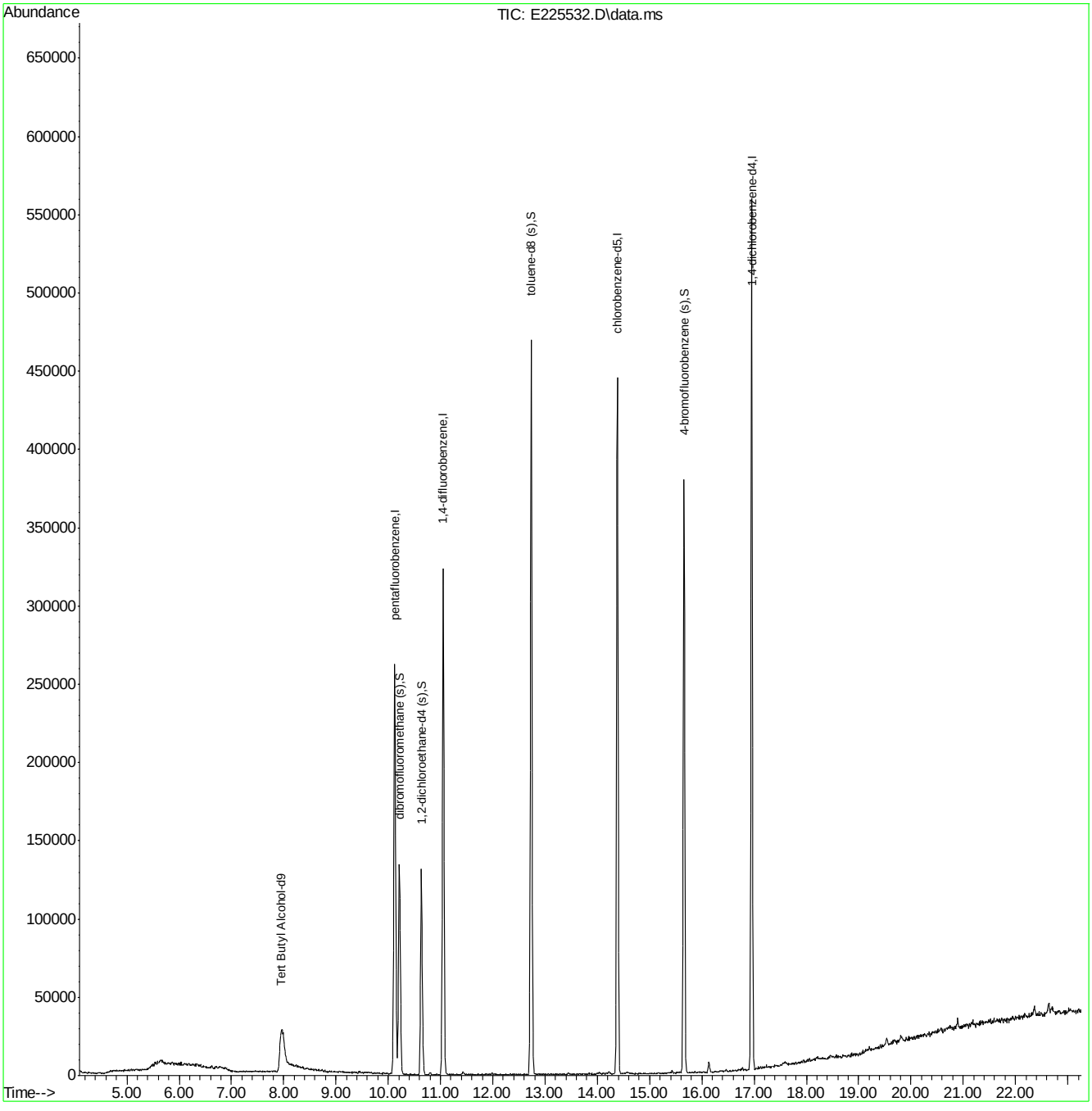
7.2.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : E225532.D
Acq On : 29 Apr 2015 9:16 am
Operator : ThienN
Sample : mb1
Misc : MS84200,VE9900,5,,100,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 29 12:02:20 2015
Quant Method : C:\msdchem\1\METHODS\ME9806.M
Quant Title : SW846 8260C,ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 17:06:03 2015
Response via : Initial Calibration



ME9806.M Wed Apr 29 12:02:38 2015 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152299.D
Acq On : 23 Apr 2015 11:05 am
Operator : BenM
Sample : mb
Misc : MS83841,VV6455,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 23 17:08:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.72	65	122950	500.00 ug/L	-0.01
4) pentafluorobenzene	9.96	168	374743	50.00 ug/L	0.00
50) 1,4-difluorobenzene	10.91	114	459210	50.00 ug/L	0.00
79) chlorobenzene-d5	14.33	117	415544	50.00 ug/L	0.00
95) 1,4-dichlorobenzene-d4	16.93	152	243019	50.00 ug/L	0.00

System Monitoring Compounds

46) dibromofluoromethane (s)	10.05	113	127268	46.48 ug/L	0.00
Spiked Amount 50.000	Range 70 - 122		Recovery = 92.96%		
47) 1,2-dichloroethane-d4 (s)	10.49	65	106659	41.24 ug/L	0.00
Spiked Amount 50.000	Range 68 - 124		Recovery = 82.48%		
71) toluene-d8 (s)	12.64	98	544257	52.86 ug/L	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.72%		
94) 4-bromofluorobenzene (s)	15.62	95	204672	50.89 ug/L	0.00
Spiked Amount 50.000	Range 72 - 130		Recovery = 101.78%		

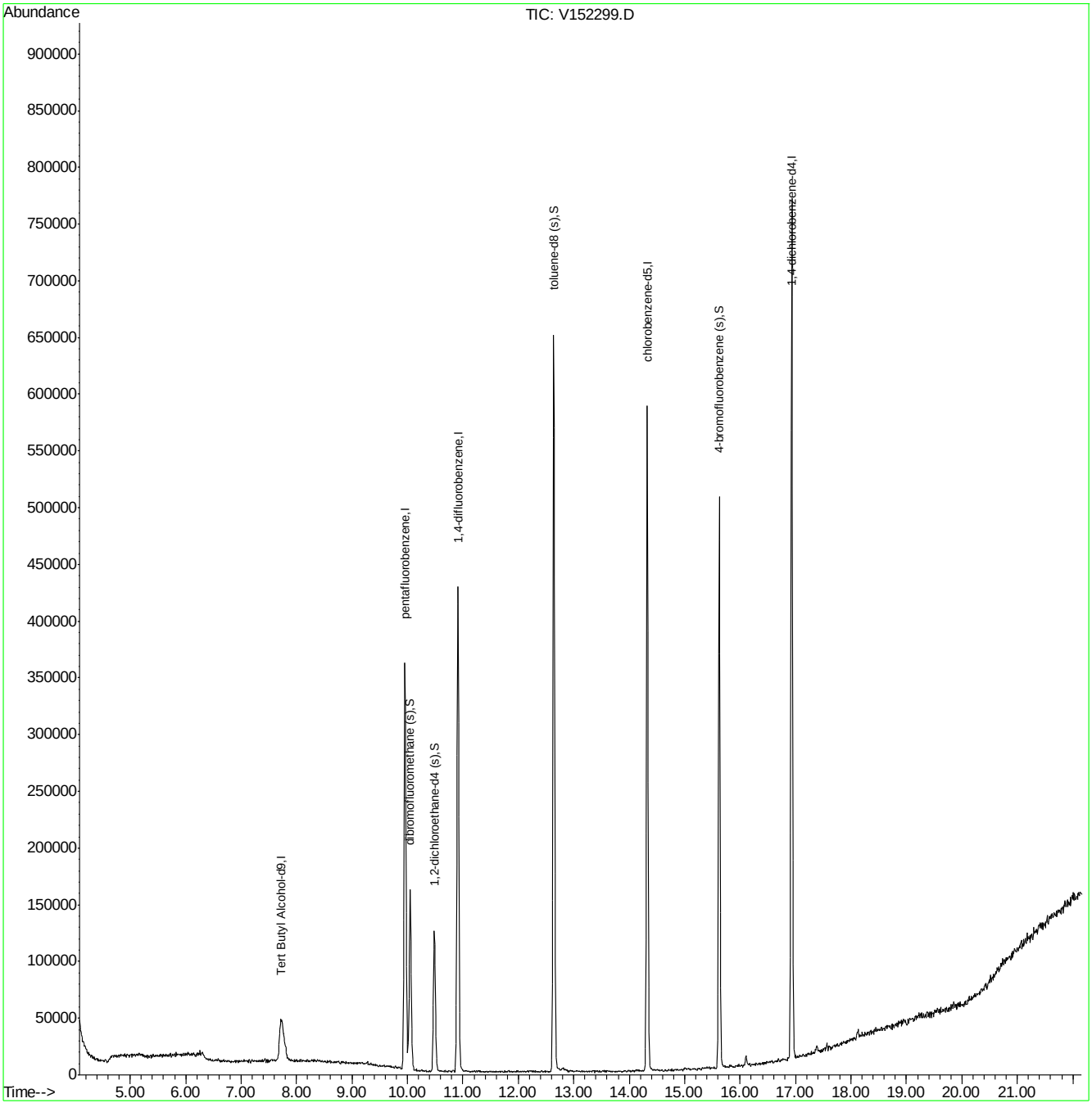
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : V152299.D
Acq On : 23 Apr 2015 11:05 am
Operator : BenM
Sample : mb
Misc : MS83841,VV6455,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 23 17:08:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MVS6444.M
Quant Title : SW846 8260B, ZB624 60m x 0.25mm x 1.4um
QLast Update : Thu Apr 16 09:43:31 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154238.d
Acq On : 23 Apr 2015 12:30 pm
Operator : BenM
Sample : MB
Misc : MS83841,VX6649,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 24 12:08:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.523	65	97984	500.00	ug/L	0.03
4) pentafluorobenzene	10.233	168	229936	50.00	ug/L	0.02
53) 1,4-difluorobenzene	11.409	114	268554	50.00	ug/L	0.03
83) chlorobenzene-d5	15.620	117	257503	50.00	ug/L	0.03
98) 1,4-dichlorobenzene-d4	18.360	152	197017	50.00	ug/L	0.02
System Monitoring Compounds						
45) dibromofluoromethane (s)	10.301	113	83773	50.16	ug/L	0.02
Spiked Amount 50.000	Range 48 - 141		Recovery = 100.32%			
46) 1,2-dichloroethane-d4 (s)	10.845	65	80217	51.39	ug/L	0.03
Spiked Amount 50.000	Range 70 - 120		Recovery = 102.78%			
75) toluene-d8 (s)	13.590	98	319729	50.86	ug/L	0.03
Spiked Amount 50.000	Range 78 - 129		Recovery = 101.72%			
102) 4-bromofluorobenzene (s)	17.100	95	143460	51.14	ug/L	0.03
Spiked Amount 50.000	Range 72 - 130		Recovery = 102.28%			

Target Compounds Qvalue

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

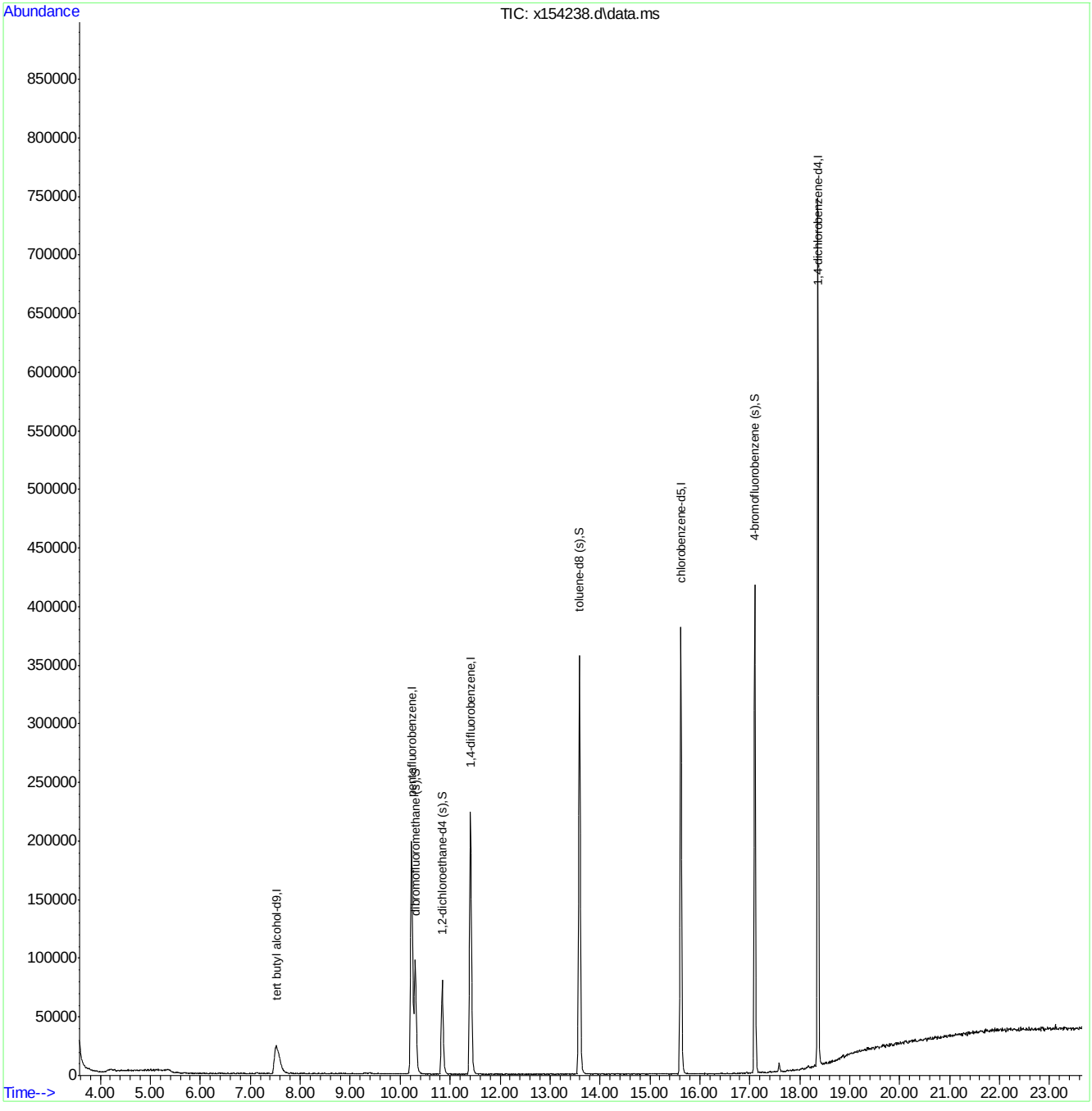
7.2.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\X-CORE\vx6649-6650\
Data File : x154238.d
Acq On : 23 Apr 2015 12:30 pm
Operator : BenM
Sample : MB
Misc : MS83841,VX6649,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 24 12:08:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Apr 14 10:20:10 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : X154288.D
Acq On : 25 Apr 2015 10:36 am
Operator : BenM
Sample : mb
Misc : MS84105,VX6651,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 27 12:38:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Apr 27 08:30:58 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	7.51	65	103614	500.00	ug/L	0.01
4) pentafluorobenzene	10.22	168	236541	50.00	ug/L	0.01
53) 1,4-difluorobenzene	11.40	114	277404	50.00	ug/L	0.02
83) chlorobenzene-d5	15.61	117	262902	50.00	ug/L	0.02
98) 1,4-dichlorobenzene-d4	18.36	152	197760	50.00	ug/L	0.01

System Monitoring Compounds

45) dibromofluoromethane (s)	10.30	113	87435	50.89	ug/L	0.02
Spiked Amount 50.000	Range 70 - 122		Recovery = 101.78%			
46) 1,2-dichloroethane-d4 (s)	10.83	65	82855	51.60	ug/L	0.02
Spiked Amount 50.000	Range 68 - 124		Recovery = 103.20%			
75) toluene-d8 (s)	13.58	98	328617	50.61	ug/L	0.02
Spiked Amount 50.000	Range 77 - 125		Recovery = 101.22%			
102) 4-bromofluorobenzene (s)	17.09	95	146747	52.11	ug/L	0.02
Spiked Amount 50.000	Range 72 - 130		Recovery = 104.22%			

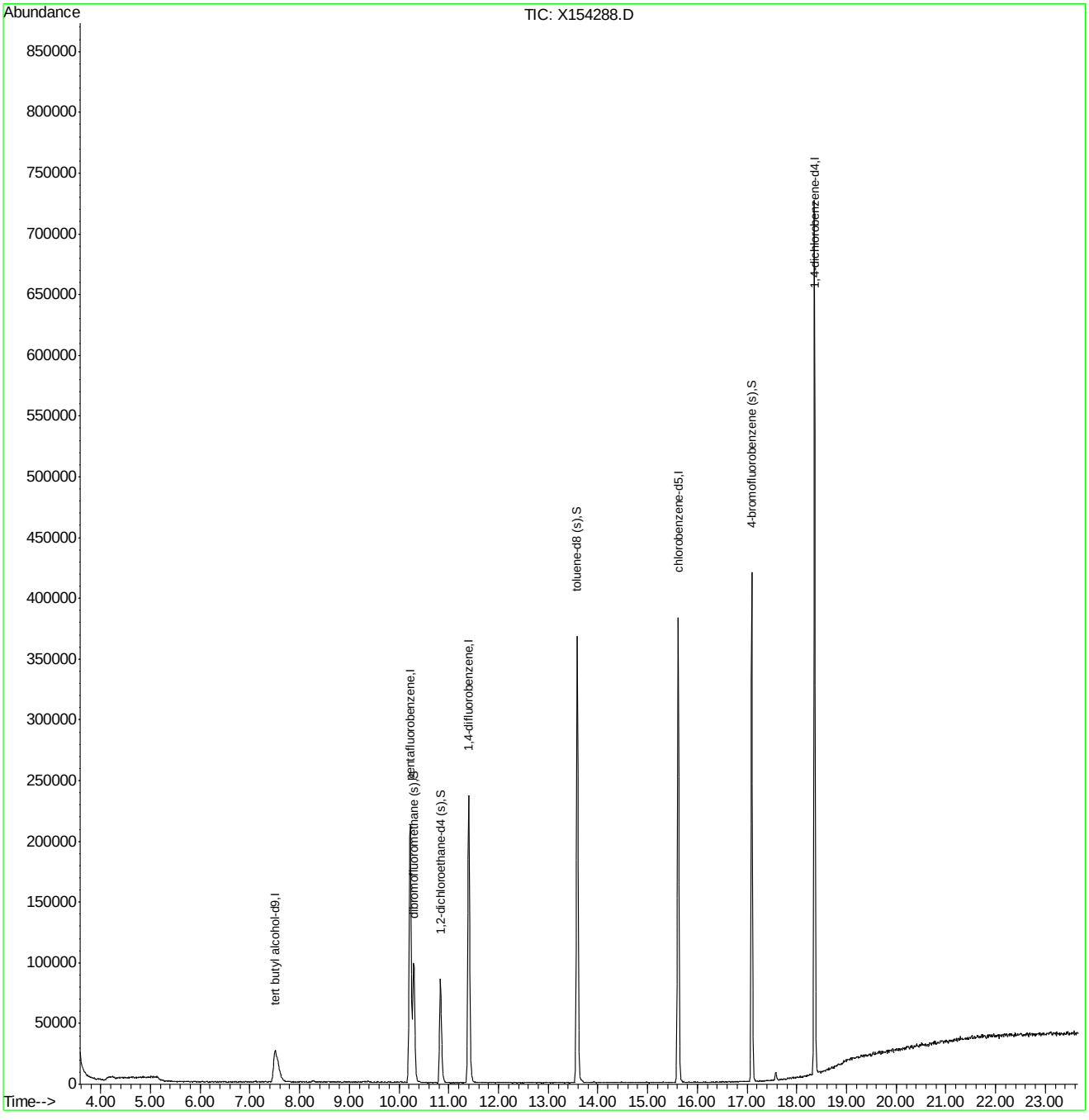
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : X154288.D
Acq On : 25 Apr 2015 10:36 am
Operator : BenM
Sample : mb
Misc : MS84105,VX6651,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 27 12:38:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MX6638.M
Quant Title : Method 8260B/8260C, ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Apr 27 08:30:58 2015
Response via : Initial Calibration



MX6638.M Mon Apr 27 13:06:53 2015 GCMSX Page: 2

New Jersey
ACCUTEST LABORATORIES

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83412-MB1	3E71759.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	170	56	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	41	ug/kg	
95-48-7	2-Methylphenol	ND	67	38	ug/kg	
	3&4-Methylphenol	ND	67	42	ug/kg	
100-02-7	4-Nitrophenol	ND	330	56	ug/kg	
108-95-2	Phenol	ND	67	35	ug/kg	
83-32-9	Acenaphthene	ND	33	9.7	ug/kg	
120-12-7	Anthracene	ND	33	12	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	10	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	11	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	13	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	3.9	ug/kg	
218-01-9	Chrysene	ND	33	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	11	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	7.4	ug/kg	
84-66-2	Diethyl phthalate	ND	67	11	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	29	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	11	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	12	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	19	ug/kg	
85-01-8	Phenanthrene	ND	33	15	ug/kg	
129-00-0	Pyrene	ND	33	13	ug/kg	
110-86-1	Pyridine	ND	67	13	ug/kg	
91-22-5	Quinoline	ND	170	31	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	71%	22-121%
4165-62-2	Phenol-d5	65%	27-119%
118-79-6	2,4,6-Tribromophenol	92%	17-158%
4165-60-0	Nitrobenzene-d5	67%	33-127%
321-60-8	2-Fluorobiphenyl	77%	41-121%

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83412-MB1	3E71759.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8

CAS No.	Surrogate Recoveries		Limits
1718-51-0	Terphenyl-d14	91%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.22	1300	ug/kg	J
	system artifact/aldol-condensation	3.43	280	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83421-MB1	2M73591.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-9, JB93023-10, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20, JB93023-21, JB93023-22

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	170	56	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	41	ug/kg	
95-48-7	2-Methylphenol	ND	67	38	ug/kg	
	3&4-Methylphenol	ND	67	42	ug/kg	
100-02-7	4-Nitrophenol	ND	330	56	ug/kg	
108-95-2	Phenol	ND	67	35	ug/kg	
83-32-9	Acenaphthene	ND	33	9.7	ug/kg	
120-12-7	Anthracene	ND	33	12	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	10	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	11	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	13	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	3.9	ug/kg	
218-01-9	Chrysene	ND	33	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	11	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	7.4	ug/kg	
84-66-2	Diethyl phthalate	ND	67	11	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	29	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	11	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	12	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	19	ug/kg	
85-01-8	Phenanthrene	ND	33	15	ug/kg	
129-00-0	Pyrene	ND	33	13	ug/kg	
110-86-1	Pyridine	ND	67	13	ug/kg	
91-22-5	Quinoline	ND	170	31	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	79%	22-121%
4165-62-2	Phenol-d5	78%	27-119%
118-79-6	2,4,6-Tribromophenol	110%	17-158%
4165-60-0	Nitrobenzene-d5	90%	33-127%
321-60-8	2-Fluorobiphenyl	87%	41-121%

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83421-MB1	2M73591.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-9, JB93023-10, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20, JB93023-21, JB93023-22

CAS No.	Surrogate Recoveries		Limits
1718-51-0	Terphenyl-d14	101%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.28	1600	ug/kg	J
	system artifact	3.42	160	ug/kg	J
	system artifact/aldol-condensation	3.48	350	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83421-MB1	3E71730.D	1	04/29/15	AN	04/26/15	OP83421	E3E3098

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-9, JB93023-10, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20, JB93023-21, JB93023-22

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	170	56	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	41	ug/kg	
95-48-7	2-Methylphenol	ND	67	38	ug/kg	
	3&4-Methylphenol	ND	67	42	ug/kg	
100-02-7	4-Nitrophenol	ND	330	56	ug/kg	
108-95-2	Phenol	ND	67	35	ug/kg	
83-32-9	Acenaphthene	ND	33	9.7	ug/kg	
120-12-7	Anthracene	ND	33	12	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	10	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	11	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	13	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	3.9	ug/kg	
218-01-9	Chrysene	ND	33	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	11	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	7.4	ug/kg	
84-66-2	Diethyl phthalate	ND	67	11	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	29	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	11	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	12	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	19	ug/kg	
85-01-8	Phenanthrene	ND	33	15	ug/kg	
129-00-0	Pyrene	ND	33	13	ug/kg	
110-86-1	Pyridine	ND	67	13	ug/kg	
91-22-5	Quinoline	ND	170	31	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	76%	22-121%
4165-62-2	Phenol-d5	75%	27-119%
118-79-6	2,4,6-Tribromophenol	82%	17-158%
4165-60-0	Nitrobenzene-d5	80%	33-127%
321-60-8	2-Fluorobiphenyl	88%	41-121%

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83421-MB1	3E71730.D	1	04/29/15	AN	04/26/15	OP83421	E3E3098

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-9, JB93023-10, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20, JB93023-21, JB93023-22

CAS No.	Surrogate Recoveries		Limits
1718-51-0	Terphenyl-d14	101%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.23	1300	ug/kg	J
	system artifact/aldol-condensation	3.44	290	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83422-MB1	2M73727.D	1	04/30/15	SW	04/26/15	OP83422	E2M3172

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-23, JB93023-24

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	170	56	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	41	ug/kg	
95-48-7	2-Methylphenol	ND	67	38	ug/kg	
	3&4-Methylphenol	ND	67	42	ug/kg	
100-02-7	4-Nitrophenol	ND	330	56	ug/kg	
108-95-2	Phenol	ND	67	35	ug/kg	
83-32-9	Acenaphthene	ND	33	9.7	ug/kg	
120-12-7	Anthracene	ND	33	12	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	10	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	11	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	13	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	3.9	ug/kg	
218-01-9	Chrysene	ND	33	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	11	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	7.4	ug/kg	
84-66-2	Diethyl phthalate	ND	67	11	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	29	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	11	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	12	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	19	ug/kg	
85-01-8	Phenanthrene	ND	33	15	ug/kg	
129-00-0	Pyrene	ND	33	13	ug/kg	
110-86-1	Pyridine	ND	67	13	ug/kg	
91-22-5	Quinoline	ND	170	31	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	69%	22-121%
4165-62-2	Phenol-d5	69%	27-119%
118-79-6	2,4,6-Tribromophenol	77%	17-158%
4165-60-0	Nitrobenzene-d5	73%	33-127%
321-60-8	2-Fluorobiphenyl	73%	41-121%

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83422-MB1	2M73727.D	1	04/30/15	SW	04/26/15	OP83422	E2M3172

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-23, JB93023-24

CAS No.	Surrogate Recoveries		Limits
1718-51-0	Terphenyl-d14	80%	44-137%

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83522-MB1	Z100910.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-11, JB93023-12

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	170	56	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	41	ug/kg	
95-48-7	2-Methylphenol	ND	67	38	ug/kg	
	3&4-Methylphenol	ND	67	42	ug/kg	
100-02-7	4-Nitrophenol	ND	330	56	ug/kg	
108-95-2	Phenol	ND	67	35	ug/kg	
83-32-9	Acenaphthene	ND	33	9.7	ug/kg	
120-12-7	Anthracene	ND	33	12	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	10	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	11	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	13	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	3.9	ug/kg	
218-01-9	Chrysene	ND	33	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	11	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	7.4	ug/kg	
84-66-2	Diethyl phthalate	ND	67	11	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	29	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	11	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	12	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	19	ug/kg	
85-01-8	Phenanthrene	ND	33	15	ug/kg	
129-00-0	Pyrene	ND	33	13	ug/kg	
110-86-1	Pyridine	ND	67	13	ug/kg	
91-22-5	Quinoline	ND	170	31	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	78%	22-121%
4165-62-2	Phenol-d5	75%	27-119%
118-79-6	2,4,6-Tribromophenol	68%	17-158%
4165-60-0	Nitrobenzene-d5	80%	33-127%
321-60-8	2-Fluorobiphenyl	81%	41-121%

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83522-MB1	Z100910.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-11, JB93023-12

CAS No.	Surrogate Recoveries		Limits
1718-51-0	Terphenyl-d14	97%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.49	690	ug/kg	J
	system artifact/aldol-condensation	3.65	160	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83522-MB1	5P17872.D	1	04/30/15	AP	04/30/15	OP83522	E5P916

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-11, JB93023-12

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	170	56	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	41	ug/kg	
95-48-7	2-Methylphenol	ND	67	38	ug/kg	
	3&4-Methylphenol	ND	67	42	ug/kg	
100-02-7	4-Nitrophenol	ND	330	56	ug/kg	
108-95-2	Phenol	ND	67	35	ug/kg	
83-32-9	Acenaphthene	ND	33	9.7	ug/kg	
120-12-7	Anthracene	ND	33	12	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	10	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	11	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	13	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	3.9	ug/kg	
218-01-9	Chrysene	ND	33	11	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	11	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	7.4	ug/kg	
84-66-2	Diethyl phthalate	ND	67	11	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	29	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	11	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	12	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	19	ug/kg	
85-01-8	Phenanthrene	ND	33	15	ug/kg	
129-00-0	Pyrene	ND	33	13	ug/kg	
110-86-1	Pyridine	ND	67	13	ug/kg	
91-22-5	Quinoline	ND	170	31	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	84%	22-121%
4165-62-2	Phenol-d5	80%	27-119%
118-79-6	2,4,6-Tribromophenol	75%	17-158%
4165-60-0	Nitrobenzene-d5	81%	33-127%
321-60-8	2-Fluorobiphenyl	83%	41-121%

Method Blank Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83522-MB1	5P17872.D	1	04/30/15	AP	04/30/15	OP83522	E5P916

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-11, JB93023-12

CAS No.	Surrogate Recoveries		Limits
1718-51-0	Terphenyl-d14	93%	44-137%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	1.98	650	ug/kg	J
	system artifact	2.41	590	ug/kg	J
	system artifact/aldol-condensation	3.88	140	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83412-BS1	3E71760.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
105-67-9	2,4-Dimethylphenol	1670	1250	75	53-140
51-28-5	2,4-Dinitrophenol	3330	2490	75	38-145
95-48-7	2-Methylphenol	1670	1110	67	55-116
	3&4-Methylphenol	1670	1120	67	55-114
100-02-7	4-Nitrophenol	1670	1360	82	37-171
108-95-2	Phenol	1670	998	60	50-114
83-32-9	Acenaphthene	1670	1350	81	58-123
120-12-7	Anthracene	1670	1410	85	58-123
56-55-3	Benzo(a)anthracene	1670	1270	76	56-119
50-32-8	Benzo(a)pyrene	1670	1300	78	55-129
205-99-2	Benzo(b)fluoranthene	1670	1310	79	54-130
191-24-2	Benzo(g,h,i)perylene	1670	1210	73	49-130
207-08-9	Benzo(k)fluoranthene	1670	1190	71	53-124
92-52-4	1,1'-Biphenyl	1670	1230	74	59-121
218-01-9	Chrysene	1670	1300	78	58-125
53-70-3	Dibenzo(a,h)anthracene	1670	1210	73	52-128
84-74-2	Di-n-butyl phthalate	1670	1380	83	59-146
84-66-2	Diethyl phthalate	1670	1240	74	56-132
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1500	90	60-142
206-44-0	Fluoranthene	1670	1320	79	58-125
86-73-7	Fluorene	1670	1310	79	58-124
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1460	88	50-129
91-57-6	2-Methylnaphthalene	1670	1250	75	50-111
85-01-8	Phenanthrene	1670	1340	80	55-120
129-00-0	Pyrene	1670	1340	80	55-123
110-86-1	Pyridine	1670	797	48	27-103
91-22-5	Quinoline	1670	1200	72	56-125

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	70%	22-121%
4165-62-2	Phenol-d5	67%	27-119%
118-79-6	2,4,6-Tribromophenol	111%	17-158%
4165-60-0	Nitrobenzene-d5	70%	33-127%
321-60-8	2-Fluorobiphenyl	85%	41-121%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83412-BS1	3E71760.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8

CAS No.	Surrogate Recoveries	BSP	Limits
1718-51-0	Terphenyl-d14	86%	44-137%

8.2.1

8

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83421-BS1	2M73592.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-9, JB93023-10, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20, JB93023-21, JB93023-22

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
105-67-9	2,4-Dimethylphenol	1670	1400	84	53-140
51-28-5	2,4-Dinitrophenol	3330	2930	88	38-145
95-48-7	2-Methylphenol	1670	1270	76	55-116
	3&4-Methylphenol	1670	1370	82	55-114
100-02-7	4-Nitrophenol	1670	2240	134	37-171
108-95-2	Phenol	1670	1200	72	50-114
83-32-9	Acenaphthene	1670	1460	88	58-123
120-12-7	Anthracene	1670	1490	89	58-123
56-55-3	Benzo(a)anthracene	1670	1520	91	56-119
50-32-8	Benzo(a)pyrene	1670	1700	102	55-129
205-99-2	Benzo(b)fluoranthene	1670	1600	96	54-130
191-24-2	Benzo(g,h,i)perylene	1670	1590	95	49-130
207-08-9	Benzo(k)fluoranthene	1670	1590	95	53-124
92-52-4	1,1'-Biphenyl	1670	1400	84	59-121
218-01-9	Chrysene	1670	1630	98	58-125
53-70-3	Dibenzo(a,h)anthracene	1670	1600	96	52-128
84-74-2	Di-n-butyl phthalate	1670	1590	95	59-146
84-66-2	Diethyl phthalate	1670	1590	95	56-132
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1690	101	60-142
206-44-0	Fluoranthene	1670	1520	91	58-125
86-73-7	Fluorene	1670	1460	88	58-124
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1680	101	50-129
91-57-6	2-Methylnaphthalene	1670	1360	82	50-111
85-01-8	Phenanthrene	1670	1420	85	55-120
129-00-0	Pyrene	1670	1510	91	55-123
110-86-1	Pyridine	1670	1110	67	27-103
91-22-5	Quinoline	1670	1300	78	56-125

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	79%	22-121%
4165-62-2	Phenol-d5	73%	27-119%
118-79-6	2,4,6-Tribromophenol	124%	17-158%
4165-60-0	Nitrobenzene-d5	88%	33-127%
321-60-8	2-Fluorobiphenyl	94%	41-121%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83421-BS1	2M73592.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-9, JB93023-10, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20, JB93023-21, JB93023-22

CAS No.	Surrogate Recoveries	BSP	Limits
1718-51-0	Terphenyl-d14	107%	44-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83422-BS1	2M73728.D	1	04/30/15	SW	04/26/15	OP83422	E2M3172

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-23, JB93023-24

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
105-67-9	2,4-Dimethylphenol	1670	1530	92	53-140
51-28-5	2,4-Dinitrophenol	3330	2160	65	38-145
95-48-7	2-Methylphenol	1670	1290	77	55-116
	3&4-Methylphenol	1670	1280	77	55-114
100-02-7	4-Nitrophenol	1670	1290	77	37-171
108-95-2	Phenol	1670	1220	73	50-114
83-32-9	Acenaphthene	1670	1400	84	58-123
120-12-7	Anthracene	1670	1410	85	58-123
56-55-3	Benzo(a)anthracene	1670	1400	84	56-119
50-32-8	Benzo(a)pyrene	1670	1470	88	55-129
205-99-2	Benzo(b)fluoranthene	1670	1360	82	54-130
191-24-2	Benzo(g,h,i)perylene	1670	1490	89	49-130
207-08-9	Benzo(k)fluoranthene	1670	1440	86	53-124
92-52-4	1,1'-Biphenyl	1670	1290	77	59-121
218-01-9	Chrysene	1670	1520	91	58-125
53-70-3	Dibenzo(a,h)anthracene	1670	1490	89	52-128
84-74-2	Di-n-butyl phthalate	1670	1390	83	59-146
84-66-2	Diethyl phthalate	1670	1350	81	56-132
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1480	89	60-142
206-44-0	Fluoranthene	1670	1370	82	58-125
86-73-7	Fluorene	1670	1360	82	58-124
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1260	76	50-129
91-57-6	2-Methylnaphthalene	1670	1340	80	50-111
85-01-8	Phenanthrene	1670	1350	81	55-120
129-00-0	Pyrene	1670	1480	89	55-123
110-86-1	Pyridine	1670	1110	67	27-103
91-22-5	Quinoline	1670	1230	74	56-125

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	77%	22-121%
4165-62-2	Phenol-d5	75%	27-119%
118-79-6	2,4,6-Tribromophenol	94%	17-158%
4165-60-0	Nitrobenzene-d5	82%	33-127%
321-60-8	2-Fluorobiphenyl	86%	41-121%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83422-BS1	2M73728.D	1	04/30/15	SW	04/26/15	OP83422	E2M3172

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-23, JB93023-24

CAS No.	Surrogate Recoveries	BSP	Limits
1718-51-0	Terphenyl-d14	95%	44-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83522-BS1	Z100911.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-11, JB93023-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
105-67-9	2,4-Dimethylphenol	1670	1400	84	53-140
51-28-5	2,4-Dinitrophenol	3330	2200	66	38-145
95-48-7	2-Methylphenol	1670	1390	83	55-116
	3&4-Methylphenol	1670	1340	80	55-114
100-02-7	4-Nitrophenol	1670	1350	81	37-171
108-95-2	Phenol	1670	1300	78	50-114
83-32-9	Acenaphthene	1670	1430	86	58-123
120-12-7	Anthracene	1670	1450	87	58-123
56-55-3	Benzo(a)anthracene	1670	1430	86	56-119
50-32-8	Benzo(a)pyrene	1670	1490	89	55-129
205-99-2	Benzo(b)fluoranthene	1670	1430	86	54-130
191-24-2	Benzo(g,h,i)perylene	1670	1350	81	49-130
207-08-9	Benzo(k)fluoranthene	1670	1430	86	53-124
92-52-4	1,1'-Biphenyl	1670	1330	80	59-121
218-01-9	Chrysene	1670	1460	88	58-125
53-70-3	Dibenzo(a,h)anthracene	1670	1330	80	52-128
84-74-2	Di-n-butyl phthalate	1670	1470	88	59-146
84-66-2	Diethyl phthalate	1670	1420	85	56-132
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1660	100	60-142
206-44-0	Fluoranthene	1670	1380	83	58-125
86-73-7	Fluorene	1670	1390	83	58-124
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1320	79	50-129
91-57-6	2-Methylnaphthalene	1670	1280	77	50-111
85-01-8	Phenanthrene	1670	1380	83	55-120
129-00-0	Pyrene	1670	1630	98	55-123
110-86-1	Pyridine	1670	1350	81	27-103
91-22-5	Quinoline	1670	1220	73	56-125

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	78%	22-121%
4165-62-2	Phenol-d5	75%	27-119%
118-79-6	2,4,6-Tribromophenol	69%	17-158%
4165-60-0	Nitrobenzene-d5	70%	33-127%
321-60-8	2-Fluorobiphenyl	81%	41-121%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83522-BS1	Z100911.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-11, JB93023-12

CAS No.	Surrogate Recoveries	BSP	Limits
1718-51-0	Terphenyl-d14	93%	44-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83412-MS	3E71775.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
OP83412-MSD	3E71776.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
JB93020-1	3E71762.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8

CAS No.	Compound	JB93020-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
105-67-9	2,4-Dimethylphenol	ND		1850	1090	59	1860	1100	59	1	32-153/36
51-28-5	2,4-Dinitrophenol	ND		3690	918	25	3720	1160	31	23	10-138/52
95-48-7	2-Methylphenol	ND		1850	1200	65	1860	1180	63	2	34-129/36
	3&4-Methylphenol	ND		1850	1200	65	1860	1230	66	2	35-129/35
100-02-7	4-Nitrophenol	ND		1850	1540	83	1860	1470	79	5	15-178/41
108-95-2	Phenol	ND		1850	1080	58	1860	1060	57	2	29-126/36
83-32-9	Acenaphthene	ND		1850	1580	86	1860	1600	86	1	32-140/36
120-12-7	Anthracene	ND		1850	1750	95	1860	1690	91	3	32-142/38
56-55-3	Benzo(a)anthracene	53.0		1850	1730	91	1860	1640	85	5	30-139/42
50-32-8	Benzo(a)pyrene	54.9		1850	1820	96	1860	1680	87	8	32-145/42
205-99-2	Benzo(b)fluoranthene	74.9		1850	1850	96	1860	1700	87	8	30-147/43
191-24-2	Benzo(g,h,i)perylene	44.4		1850	1800	95	1860	1640	86	9	27-148/41
207-08-9	Benzo(k)fluoranthene	24.3	J	1850	1660	89	1860	1550	82	7	32-138/41
92-52-4	1,1'-Biphenyl	ND		1850	1410	76	1860	1450	78	3	41-133/35
218-01-9	Chrysene	47.4		1850	1780	94	1860	1650	86	8	31-144/42
53-70-3	Dibenzo(a,h)anthracene	ND		1850	1680	91	1860	1590	86	6	35-141/39
84-74-2	Di-n-butyl phthalate	49.6	J	1850	1730	91	1860	1750	91	1	42-153/37
84-66-2	Diethyl phthalate	ND		1850	1550	84	1860	1480	80	5	45-136/35
117-81-7	bis(2-Ethylhexyl)phthalate	ND		1850	2050	111	1860	2010	108	2	42-161/38
206-44-0	Fluoranthene	70.7		1850	1690	88	1860	1630	84	4	27-146/42
86-73-7	Fluorene	ND		1850	1570	85	1860	1580	85	1	37-138/39
193-39-5	Indeno(1,2,3-cd)pyrene	40.8		1850	2070	110	1860	1940	102	6	28-151/41
91-57-6	2-Methylnaphthalene	ND		1850	1430	77	1860	1420	76	1	30-123/36
85-01-8	Phenanthrene	23.4	J	1850	1680	90	1860	1620	86	4	28-142/42
129-00-0	Pyrene	71.7		1850	2010	105	1860	1920	99	5	27-150/42
110-86-1	Pyridine	ND		1850	808	44	1860	771	41	5	10-110/43
91-22-5	Quinoline	ND		1850	1300	70	1860	1350	73	4	27-140/36

CAS No.	Surrogate Recoveries	MS	MSD	JB93020-1	Limits
367-12-4	2-Fluorophenol	72%	68%	82%	22-121%
4165-62-2	Phenol-d5	69%	66%	78%	27-119%
118-79-6	2,4,6-Tribromophenol	125%	124%	110%	17-158%
4165-60-0	Nitrobenzene-d5	71%	69%	82%	33-127%
321-60-8	2-Fluorobiphenyl	93%	91%	93%	41-121%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83412-MS	3E71775.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
OP83412-MSD	3E71776.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099
JB93020-1	3E71762.D	1	04/30/15	SD	04/25/15	OP83412	E3E3099

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8

CAS No.	Surrogate Recoveries	MS	MSD	JB93020-1	Limits
1718-51-0	Terphenyl-d14	111%	107%	107%	44-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83421-MS	2M73613.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165
OP83421-MSD	2M73614.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165
JB93023-9	2M73606.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-9, JB93023-10, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20, JB93023-21, JB93023-22

CAS No.	Compound	JB93023-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
105-67-9	2,4-Dimethylphenol	ND		2120	1620	77	2000	1490	75	8	32-153/36
51-28-5	2,4-Dinitrophenol	ND		4230	ND	0* [a]	3990	ND	0* [a]	nc	10-138/52
95-48-7	2-Methylphenol	ND		2120	1490	70	2000	1390	70	7	34-129/36
	3&4-Methylphenol	ND		2120	1610	76	2000	1510	76	6	35-129/35
100-02-7	4-Nitrophenol	ND		2120	3020	143	2000	2600	130	15	15-178/41
108-95-2	Phenol	ND		2120	1340	63	2000	1270	64	5	29-126/36
83-32-9	Acenaphthene	22.4	J	2120	1760	82	2000	1650	82	6	32-140/36
120-12-7	Anthracene	40.8		2120	1810	84	2000	1660	81	9	32-142/38
56-55-3	Benzo(a)anthracene	93.6		2120	1850	83	2000	1730	82	7	30-139/42
50-32-8	Benzo(a)pyrene	135		2120	2060	91	2000	1890	88	9	32-145/42
205-99-2	Benzo(b)fluoranthene	104		2120	1870	83	2000	1860	88	1	30-147/43
191-24-2	Benzo(g,h,i)perylene	131		2120	2100	93	2000	2010	94	4	27-148/41
207-08-9	Benzo(k)fluoranthene	26.0	J	2120	1770	82	2000	1550	76	13	32-138/41
92-52-4	1,1'-Biphenyl	21.8	J	2120	1560	73	2000	1490	74	5	41-133/35
218-01-9	Chrysene	132		2120	2000	88	2000	1860	87	7	31-144/42
53-70-3	Dibenzo(a,h)anthracene	93.0		2120	1960	88	2000	1840	88	6	35-141/39
84-74-2	Di-n-butyl phthalate	ND		2120	1870	88	2000	1700	85	10	42-153/37
84-66-2	Diethyl phthalate	ND		2120	1930	91	2000	1750	88	10	45-136/35
117-81-7	bis(2-Ethylhexyl)phthalate	187		2120	2600	114	2000	1940	88	29	42-161/38
206-44-0	Fluoranthene	59.6		2120	1770	81	2000	1700	82	4	27-146/42
86-73-7	Fluorene	39.9	J	2120	1800	83	2000	1700	83	6	37-138/39
193-39-5	Indeno(1,2,3-cd)pyrene	105		2120	2150	97	2000	2000	95	7	28-151/41
91-57-6	2-Methylnaphthalene	238		2120	2080	87	2000	2020	89	3	30-123/36
85-01-8	Phenanthrene	172		2120	2060	89	2000	1960	90	5	28-142/42
129-00-0	Pyrene	165		2120	2000	87	2000	1940	89	3	27-150/42
110-86-1	Pyridine	ND		2120	1090	52	2000	1060	53	3	10-110/43
91-22-5	Quinoline	ND		2120	1370	65	2000	1320	66	4	27-140/36

CAS No.	Surrogate Recoveries	MS	MSD	JB93023-9	Limits
367-12-4	2-Fluorophenol	66%	65%	69%	22-121%
4165-62-2	Phenol-d5	66%	65%	70%	27-119%
118-79-6	2,4,6-Tribromophenol	121%	100%	111%	17-158%
4165-60-0	Nitrobenzene-d5	68%	68%	81%	33-127%
321-60-8	2-Fluorobiphenyl	86%	80%	81%	41-121%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83421-MS	2M73613.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165
OP83421-MSD	2M73614.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165
JB93023-9	2M73606.D	1	04/27/15	AN	04/26/15	OP83421	E2M3165

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-9, JB93023-10, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20, JB93023-21, JB93023-22

CAS No.	Surrogate Recoveries	MS	MSD	JB93023-9	Limits
1718-51-0	Terphenyl-d14	98%	91%	93%	44-137%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83422-MS	2M73749.D	1	05/01/15	SW	04/26/15	OP83422	E2M3172
OP83422-MSD	2M73750.D	1	05/01/15	SW	04/26/15	OP83422	E2M3172
JB93041-13	2M73746.D	1	05/01/15	SW	04/26/15	OP83422	E2M3172

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-23, JB93023-24

CAS No.	Compound	JB93041-13 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
105-67-9	2,4-Dimethylphenol	ND		1850	1250	68	1790	1460	82	15	32-153/36
51-28-5	2,4-Dinitrophenol	ND		3690	407	11	3570	316	9* [a]	25	10-138/52
95-48-7	2-Methylphenol	ND		1850	1270	69	1790	1280	72	1	34-129/36
	3&4-Methylphenol	ND		1850	1220	66	1790	1250	70	2	35-129/35
100-02-7	4-Nitrophenol	ND		1850	253	14* [a]	1790	361	20	35	15-178/41
108-95-2	Phenol	ND		1850	1120	61	1790	1140	64	2	29-126/36
83-32-9	Acenaphthene	ND		1850	1400	76	1790	1380	77	1	32-140/36
120-12-7	Anthracene	16.4	J	1850	1450	78	1790	1490	83	3	32-142/38
56-55-3	Benzo(a)anthracene	75.2		1850	1440	74	1790	1530	81	6	30-139/42
50-32-8	Benzo(a)pyrene	89.4		1850	1580	81	1790	1650	87	4	32-145/42
205-99-2	Benzo(b)fluoranthene	122		1850	1480	74	1790	1600	83	8	30-147/43
191-24-2	Benzo(g,h,i)perylene	83.1		1850	1620	83	1790	1700	91	5	27-148/41
207-08-9	Benzo(k)fluoranthene	43.0		1850	1490	78	1790	1560	85	5	32-138/41
92-52-4	1,1'-Biphenyl	ND		1850	1270	69	1790	1210	68	5	41-133/35
218-01-9	Chrysene	84.2		1850	1510	77	1790	1590	84	5	31-144/42
53-70-3	Dibenzo(a,h)anthracene	20.7	J	1850	1550	83	1790	1600	88	3	35-141/39
84-74-2	Di-n-butyl phthalate	ND		1850	1420	77	1790	1420	80	0	42-153/37
84-66-2	Diethyl phthalate	ND		1850	1390	75	1790	1390	78	0	45-136/35
117-81-7	bis(2-Ethylhexyl)phthalate	ND		1850	1530	83	1790	1590	89	4	42-161/38
206-44-0	Fluoranthene	93.3		1850	1390	70	1790	1430	75	3	27-146/42
86-73-7	Fluorene	ND		1850	1420	77	1790	1380	77	3	37-138/39
193-39-5	Indeno(1,2,3-cd)pyrene	69.2		1850	1560	81	1790	1610	86	3	28-151/41
91-57-6	2-Methylnaphthalene	ND		1850	1220	66	1790	1290	72	6	30-123/36
85-01-8	Phenanthrene	41.9		1850	1420	75	1790	1430	78	1	28-142/42
129-00-0	Pyrene	94.3		1850	1500	76	1790	1610	85	7	27-150/42
110-86-1	Pyridine	ND		1850	936	51	1790	970	54	4	10-110/43
91-22-5	Quinoline	ND		1850	1140	62	1790	1220	68	7	27-140/36

CAS No.	Surrogate Recoveries	MS	MSD	JB93041-13	Limits
367-12-4	2-Fluorophenol	29%	41%		22-121%
4165-62-2	Phenol-d5	61%	63%		27-119%
118-79-6	2,4,6-Tribromophenol	16%* [a]	23%		17-158%
4165-60-0	Nitrobenzene-d5	64%	71%	64%	33-127%
321-60-8	2-Fluorobiphenyl	78%	78%	70%	41-121%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83422-MS	2M73749.D	1	05/01/15	SW	04/26/15	OP83422	E2M3172
OP83422-MSD	2M73750.D	1	05/01/15	SW	04/26/15	OP83422	E2M3172
JB93041-13	2M73746.D	1	05/01/15	SW	04/26/15	OP83422	E2M3172

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-23, JB93023-24

CAS No.	Surrogate Recoveries	MS	MSD	JB93041-13	Limits
1718-51-0	Terphenyl-d14	83%	91%	83%	44-137%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83522-MS	Z100920.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033
OP83522-MSD	Z100921.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033
JB93495-27	Z100912.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033
JB93495-27	Z100915.D	20	04/30/15	LK	04/30/15	OP83522	EZ5033

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-11, JB93023-12

CAS No.	Compound	JB93495-27 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
105-67-9	2,4-Dimethylphenol	ND		1710	1940	113	1790	2020	113	4	32-153/36
51-28-5	2,4-Dinitrophenol	ND		3430	1940	57	3590	2000	56	3	10-138/52
95-48-7	2-Methylphenol	ND		1710	1050	61	1790	1030	57	2	34-129/36
	3&4-Methylphenol	ND		1710	1280	75	1790	1250	70	2	35-129/35
100-02-7	4-Nitrophenol	ND		1710	1320	77	1790	1420	79	7	15-178/41
108-95-2	Phenol	ND		1710	1260	73	1790	1250	70	1	29-126/36
83-32-9	Acenaphthene	90.6		1710	1440	79	1790	1480	77	3	32-140/36
120-12-7	Anthracene	32.5	J	1710	1430	82	1790	1460	80	2	32-142/38
56-55-3	Benzo(a)anthracene	14.2	J	1710	1380	80	1790	1430	79	4	30-139/42
50-32-8	Benzo(a)pyrene	15.6	J	1710	1430	82	1790	1530	84	7	32-145/42
205-99-2	Benzo(b)fluoranthene	15.9	J	1710	1360	78	1790	1410	78	4	30-147/43
191-24-2	Benzo(g,h,i)perylene	ND		1710	1340	78	1790	1400	78	4	27-148/41
207-08-9	Benzo(k)fluoranthene	15.5	J	1710	1330	77	1790	1390	77	4	32-138/41
92-52-4	1,1'-Biphenyl	237		1710	1410	68	1790	1450	68	3	41-133/35
218-01-9	Chrysene	12.7	J	1710	1430	83	1790	1480	82	3	31-144/42
53-70-3	Dibenzo(a,h)anthracene	ND		1710	1310	76	1790	1390	77	6	35-141/39
84-74-2	Di-n-butyl phthalate	ND		1710	1460	85	1790	1540	86	5	42-153/37
84-66-2	Diethyl phthalate	ND		1710	1360	79	1790	1410	79	4	45-136/35
117-81-7	bis(2-Ethylhexyl)phthalate	131		1710	1730	93	1790	1810	94	5	42-161/38
206-44-0	Fluoranthene	ND		1710	1340	78	1790	1390	77	4	27-146/42
86-73-7	Fluorene	97.1		1710	1440	78	1790	1470	77	2	37-138/39
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1710	1330	78	1790	1370	76	3	28-151/41
91-57-6	2-Methylnaphthalene	21300 [b]		1710	19200	0* [a]	1790	19300	0* [a]	1	30-123/36
85-01-8	Phenanthrene	166		1710	1490	77	1790	1530	76	3	28-142/42
129-00-0	Pyrene	43.3		1710	1510	86	1790	1580	86	5	27-150/42
110-86-1	Pyridine	ND		1710	1150	67	1790	1100	61	4	10-110/43
91-22-5	Quinoline	ND		1710	1570	92	1790	1590	89	1	27-140/36

CAS No.	Surrogate Recoveries	MS	MSD	JB93495-27	JB93495-27	Limits
367-12-4	2-Fluorophenol	73%	67%	59%	60%	22-121%
4165-62-2	Phenol-d5	69%	64%	51%	60%	27-119%
118-79-6	2,4,6-Tribromophenol	68%	66%	65%	51%	17-158%
4165-60-0	Nitrobenzene-d5	69%	67%	62%	62%	33-127%
321-60-8	2-Fluorobiphenyl	76%	74%	75%	69%	41-121%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP83522-MS	Z100920.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033
OP83522-MSD	Z100921.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033
JB93495-27	Z100912.D	1	04/30/15	LK	04/30/15	OP83522	EZ5033
JB93495-27	Z100915.D	20	04/30/15	LK	04/30/15	OP83522	EZ5033

The QC reported here applies to the following samples: **Method:** SW846 8270D

JB93023-11, JB93023-12

CAS No.	Surrogate Recoveries	MS	MSD	JB93495-27	JB93495-27	Limits
1718-51-0	Terphenyl-d14	82%	83%	82%	68%	44-137%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Result is from Run #2.

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3135-DFTPP
Lab File ID: 2M72894.D
Instrument ID: GCMS2M
Injection Date: 04/08/15
Injection Time: 17:49

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	81736	34.2		Pass
68	Less than 2.0% of mass 69	1692	0.71	(1.65) [a]	Pass
69	Mass 69 relative abundance	102299	42.8		Pass
70	Less than 2.0% of mass 69	575	0.24	(0.56) [a]	Pass
127	40.0 - 60.0% of mass 198	139998	58.5		Pass
197	Less than 1.0% of mass 198	808	0.34		Pass
198	Base peak, 100% relative abundance	239237	100.0		Pass
199	5.0 - 9.0% of mass 198	16591	6.93		Pass
275	10.0 - 30.0% of mass 198	49653	20.8		Pass
365	1.0 - 100.0% of mass 198	7030	2.94		Pass
441	Present, but less than mass 443	26966	11.3	(81.6) [b]	Pass
442	40.0 - 100.0% of mass 198	182677	76.4		Pass
443	17.0 - 23.0% of mass 442	33053	13.8	(18.1) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2M3135-IC3135	2M72895.D	04/08/15	18:01	00:12	Initial cal 100
E2M3135-IC3135	2M72896.D	04/08/15	18:28	00:39	Initial cal 80
E2M3135-ICC3135	2M72897.D	04/08/15	18:54	01:05	Initial cal 50
E2M3135-IC3135	2M72898.D	04/08/15	19:21	01:32	Initial cal 25
E2M3135-IC3135	2M72899.D	04/08/15	19:48	01:59	Initial cal 10
E2M3135-IC3135	2M72900.D	04/08/15	20:15	02:26	Initial cal 5
E2M3135-IC3135	2M72901.D	04/08/15	20:41	02:52	Initial cal 2
E2M3135-IC3135	2M72902.D	04/08/15	21:08	03:19	Initial cal 1
E2M3135-ICV3135	2M72904.D	04/08/15	22:02	04:13	Initial cal verification 50
E2M3135-ICV3135	2M72905.D	04/08/15	22:28	04:39	Initial cal verification 50
E2M3135-ICV3135	2M72908.D	04/08/15	23:49	06:00	Initial cal verification 50
E2M3135-ICV3135	2M72909.D	04/09/15	00:16	06:27	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3137-DFTPP
Lab File ID: 2M72933.D
Instrument ID: GCMS2M
Injection Date: 04/10/15
Injection Time: 15:33

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	62810	31.6		Pass
68	Less than 2.0% of mass 69	1010	0.51	(1.25) [a]	Pass
69	Mass 69 relative abundance	80689	40.6		Pass
70	Less than 2.0% of mass 69	525	0.26	(0.65) [a]	Pass
127	40.0 - 60.0% of mass 198	113803	57.2		Pass
197	Less than 1.0% of mass 198	612	0.31		Pass
198	Base peak, 100% relative abundance	198981	100.0		Pass
199	5.0 - 9.0% of mass 198	13475	6.77		Pass
275	10.0 - 30.0% of mass 198	41170	20.7		Pass
365	1.0 - 100.0% of mass 198	5392	2.71		Pass
441	Present, but less than mass 443	22179	11.1	(84.1) [b]	Pass
442	40.0 - 100.0% of mass 198	151701	76.2		Pass
443	17.0 - 23.0% of mass 442	26380	13.3	(17.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2M3137-IC3137	2M72934.D	04/10/15	15:56	00:23	Initial cal 100
E2M3137-IC3137	2M72935.D	04/10/15	16:26	00:53	Initial cal 1
E2M3137-IC3137	2M72936.D	04/10/15	17:01	01:28	Initial cal 2
E2M3137-IC3137	2M72937.D	04/10/15	17:29	01:56	Initial cal 5
E2M3137-ICC3137	2M72938.D	04/10/15	17:56	02:23	Initial cal 50
E2M3137-IC3137	2M72939.D	04/10/15	18:24	02:51	Initial cal 25
E2M3137-IC3137	2M72940.D	04/10/15	18:51	03:18	Initial cal 10
E2M3137-IC3137	2M72941.D	04/10/15	19:19	03:46	Initial cal 80
E2M3137-ICV3137	2M72942.D	04/10/15	19:46	04:13	Initial cal verification 50
E2M3137-ICV3137	2M72943.D	04/10/15	20:14	04:41	Initial cal verification 50
E2M3137-ICV3137	2M72944.D	04/10/15	20:41	05:08	Initial cal verification 50
E2M3137-ICV3137	2M72945.D	04/10/15	21:08	05:35	Initial cal verification 50
E2M3137-ICV3137	2M72946.D	04/10/15	21:36	06:03	Initial cal verification 50
E2M3137-ICV3137	2M72947.D	04/10/15	22:03	06:30	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3165-DFTPP
Lab File ID: 2M73588.D
Instrument ID: GCMS2M
Injection Date: 04/27/15
Injection Time: 10:39

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	120120	38.0		Pass
68	Less than 2.0% of mass 69	1865	0.59	(1.37) [a]	Pass
69	Mass 69 relative abundance	136119	43.1		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	189173	59.9		Pass
197	Less than 1.0% of mass 198	1235	0.39		Pass
198	Base peak, 100% relative abundance	316053	100.0		Pass
199	5.0 - 9.0% of mass 198	21867	6.92		Pass
275	10.0 - 30.0% of mass 198	74761	23.7		Pass
365	1.0 - 100.0% of mass 198	12676	4.01		Pass
441	Present, but less than mass 443	29667	9.39	(93.7) [b]	Pass
442	40.0 - 100.0% of mass 198	185885	58.8		Pass
443	17.0 - 23.0% of mass 442	31659	10.0	(17.0) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2M3165-CC3137	2M73589.D	04/27/15	10:54	00:15	Continuing cal 25
E2M3165-CC3135	2M73590.D	04/27/15	11:32	00:53	Continuing cal 25
OP83421-MB1	2M73591.D	04/27/15	12:08	01:29	Method Blank
OP83421-BS1	2M73592.D	04/27/15	12:35	01:56	Blank Spike
OP83018B-MB1	2M73594.D	04/27/15	13:02	02:23	Method Blank
OP83018B-BS1	2M73595.D	04/27/15	13:29	02:50	Blank Spike
OP83018B-BSD	2M73596.D	04/27/15	13:56	03:17	Blank Spike Duplicate
OP83057A-MB1	2M73598.D	04/27/15	14:23	03:44	Method Blank
ZZZZZZ	2M73597.D	04/27/15	14:50	04:11	(unrelated sample)
ZZZZZZ	2M73599.D	04/27/15	15:18	04:39	(unrelated sample)
ZZZZZZ	2M73600.D	04/27/15	16:12	05:33	(unrelated sample)
ZZZZZZ	2M73601.D	04/27/15	16:39	06:00	(unrelated sample)
ZZZZZZ	2M73602.D	04/27/15	17:07	06:28	(unrelated sample)
ZZZZZZ	2M73615.D	04/27/15	17:43	07:04	(unrelated sample)
ZZZZZZ	2M73603.D	04/27/15	18:11	07:32	(unrelated sample)
ZZZZZZ	2M73604.D	04/27/15	18:38	07:59	(unrelated sample)
ZZZZZZ	2M73605.D	04/27/15	19:05	08:26	(unrelated sample)
JB93023-9	2M73606.D	04/27/15	19:32	08:53	MH593-9(3.0)
JB93023-10	2M73607.D	04/27/15	19:59	09:20	MH593-10(3.0)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3165-DFTPP
Lab File ID: 2M73588.D
Instrument ID: GCMS2M
Injection Date: 04/27/15
Injection Time: 10:39

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JB93023-14	2M73610.D	04/27/15	21:20	10:41	MH593-14(2.0)
OP83421-MS	2M73613.D	04/27/15	21:47	11:08	Matrix Spike
OP83421-MSD	2M73614.D	04/27/15	22:14	11:35	Matrix Spike Duplicate

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3171-DFTPP
Lab File ID: 2M73708.D
Instrument ID: GCMS2M
Injection Date: 04/30/15
Injection Time: 09:15

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	97702	46.2		Pass
68	Less than 2.0% of mass 69	1736	0.82	(1.74) [a]	Pass
69	Mass 69 relative abundance	99662	47.1		Pass
70	Less than 2.0% of mass 69	1187	0.56	(1.19) [a]	Pass
127	40.0 - 60.0% of mass 198	119744	56.6		Pass
197	Less than 1.0% of mass 198	1429	0.68		Pass
198	Base peak, 100% relative abundance	211410	100.0		Pass
199	5.0 - 9.0% of mass 198	14519	6.87		Pass
275	10.0 - 30.0% of mass 198	55917	26.4		Pass
365	1.0 - 100.0% of mass 198	11121	5.26		Pass
441	Present, but less than mass 443	19301	9.13	(77.9) [b]	Pass
442	40.0 - 100.0% of mass 198	134304	63.5		Pass
443	17.0 - 23.0% of mass 442	24789	11.7	(18.5) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2M3171-IC3171	2M73710.D	04/30/15	10:30	01:15	Initial cal 100
E2M3171-IC3171	2M73711.D	04/30/15	11:01	01:46	Initial cal 1
E2M3171-ICC3171	2M73713.D	04/30/15	12:15	03:00	Initial cal 50
E2M3171-IC3171	2M73714.D	04/30/15	12:42	03:27	Initial cal 80
E2M3171-IC3171	2M73715.D	04/30/15	13:10	03:55	Initial cal 10
E2M3171-IC3171	2M73716.D	04/30/15	13:37	04:22	Initial cal 5
E2M3171-IC3171	2M73717.D	04/30/15	14:04	04:49	Initial cal 2
E2M3171-ICV3171	2M73718.D	04/30/15	14:32	05:17	Initial cal verification 50
E2M3171-ICV3171	2M73719.D	04/30/15	14:59	05:44	Initial cal verification 50
E2M3171-ICV3171	2M73720.D	04/30/15	15:26	06:11	Initial cal verification 50
E2M3171-ICV3171	2M73721.D	04/30/15	15:54	06:39	Initial cal verification 50
E2M3171-ICV3171	2M73722.D	04/30/15	16:21	07:06	Initial cal verification 50
E2M3171-ICV3171	2M73723.D	04/30/15	16:49	07:34	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3172-DFTPP
Lab File ID: 2M73725.D
Instrument ID: GCMS2M
Injection Date: 04/30/15
Injection Time: 18:32

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	103821	47.7		Pass
68	Less than 2.0% of mass 69	2034	0.93	(1.84) [a]	Pass
69	Mass 69 relative abundance	110316	50.6		Pass
70	Less than 2.0% of mass 69	831	0.38	(0.75) [a]	Pass
127	40.0 - 60.0% of mass 198	125528	57.6		Pass
197	Less than 1.0% of mass 198	1300	0.60		Pass
198	Base peak, 100% relative abundance	217813	100.0		Pass
199	5.0 - 9.0% of mass 198	15458	7.10		Pass
275	10.0 - 30.0% of mass 198	59850	27.5		Pass
365	1.0 - 100.0% of mass 198	11118	5.10		Pass
441	Present, but less than mass 443	21280	9.77	(84.8) [b]	Pass
442	40.0 - 100.0% of mass 198	140573	64.5		Pass
443	17.0 - 23.0% of mass 442	25080	11.5	(17.8) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2M3172-CC3171	2M73726.D	04/30/15	18:47	00:15	Continuing cal 50
OP83422-MB1	2M73727.D	04/30/15	19:52	01:20	Method Blank
OP83422-BS1	2M73728.D	04/30/15	20:19	01:47	Blank Spike
ZZZZZZ	2M73729.D	04/30/15	20:46	02:14	(unrelated sample)
ZZZZZZ	2M73730.D	04/30/15	21:14	02:42	(unrelated sample)
ZZZZZZ	2M73731.D	04/30/15	21:41	03:09	(unrelated sample)
ZZZZZZ	2M73732.D	04/30/15	22:08	03:36	(unrelated sample)
ZZZZZZ	2M73733.D	04/30/15	22:35	04:03	(unrelated sample)
ZZZZZZ	2M73734.D	04/30/15	23:02	04:30	(unrelated sample)
ZZZZZZ	2M73735.D	04/30/15	23:29	04:57	(unrelated sample)
ZZZZZZ	2M73736.D	04/30/15	23:56	05:24	(unrelated sample)
ZZZZZZ	2M73738.D	05/01/15	00:50	06:18	(unrelated sample)
ZZZZZZ	2M73739.D	05/01/15	01:17	06:45	(unrelated sample)
JB93023-24	2M73740.D	05/01/15	01:44	07:12	MH592-10(2.0)
JB93023-23	2M73741.D	05/01/15	02:11	07:39	MH592-9(2.0)
ZZZZZZ	2M73742.D	05/01/15	02:38	08:06	(unrelated sample)
ZZZZZZ	2M73743.D	05/01/15	03:04	08:32	(unrelated sample)
ZZZZZZ	2M73744.D	05/01/15	03:31	08:59	(unrelated sample)
ZZZZZZ	2M73745.D	05/01/15	03:58	09:26	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3172-DFTPP
Lab File ID: 2M73725.D
Instrument ID: GCMS2M
Injection Date: 04/30/15
Injection Time: 18:32

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JB93041-13	2M73746.D	05/01/15	04:25	09:53	(used for QC only; not part of job JB93023)
ZZZZZZ	2M73747.D	05/01/15	04:52	10:20	(unrelated sample)
ZZZZZZ	2M73748.D	05/01/15	05:18	10:46	(unrelated sample)
OP83422-MS	2M73749.D	05/01/15	05:45	11:13	Matrix Spike
OP83422-MSD	2M73750.D	05/01/15	06:12	11:40	Matrix Spike Duplicate

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3173-DFTPP
Lab File ID: 2M73755.D
Instrument ID: GCMS2M
Injection Date: 05/01/15
Injection Time: 11:36

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	121614	48.9		Pass
68	Less than 2.0% of mass 69	2457	0.99	(1.89) [a]	Pass
69	Mass 69 relative abundance	129931	52.2		Pass
70	Less than 2.0% of mass 69	837	0.34	(0.64) [a]	Pass
127	40.0 - 60.0% of mass 198	143980	57.9		Pass
197	Less than 1.0% of mass 198	1205	0.48		Pass
198	Base peak, 100% relative abundance	248853	100.0		Pass
199	5.0 - 9.0% of mass 198	17138	6.89		Pass
275	10.0 - 30.0% of mass 198	66064	26.5		Pass
365	1.0 - 100.0% of mass 198	13046	5.24		Pass
441	Present, but less than mass 443	22505	9.04	(85.2) [b]	Pass
442	40.0 - 100.0% of mass 198	147938	59.4		Pass
443	17.0 - 23.0% of mass 442	26424	10.6	(17.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2M3173-CC3171	2M73756.D	05/01/15	11:50	00:14	Continuing cal 25
E2M3173-CC3135	2M73757.D	05/01/15	12:17	00:41	Continuing cal 25
JB93023-10	2M73759.D	05/01/15	13:11	01:35	MH593-10(3.0)
JB93023-13	2M73760.D	05/01/15	14:31	02:55	MH593-13(2.0)
JB93023-17	2M73761.D	05/01/15	14:57	03:21	MH592-3(3.0)
JB93023-18	2M73762.D	05/01/15	15:24	03:48	MH592-4(3.0)
JB93023-19	2M73763.D	05/01/15	15:51	04:15	MH592-5(3.0)
JB93023-20	2M73764.D	05/01/15	16:17	04:41	MH592-6(3.0)
JB93023-21	2M73765.D	05/01/15	16:44	05:08	MH592-7(2.0)
JB93023-15	2M73766.D	05/01/15	17:11	05:35	MH592-1(3.0)
JB93023-16	2M73767.D	05/01/15	17:37	06:01	MH592-2(3.0)
JB93023-22	2M73768.D	05/01/15	18:04	06:28	MH592-8(3.0)
ZZZZZZ	2M73769.D	05/01/15	18:30	06:54	(unrelated sample)
ZZZZZZ	2M73770.D	05/01/15	18:57	07:21	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3055-DFTPP
Lab File ID: 3E70722.D
Instrument ID: GCMS3E
Injection Date: 04/02/15
Injection Time: 11:03

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	56953	38.3		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	67062	45.1		Pass
70	Less than 2.0% of mass 69	348	0.23	(0.52) [a]	Pass
127	40.0 - 60.0% of mass 198	84981	57.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	148725	100.0		Pass
199	5.0 - 9.0% of mass 198	10241	6.89		Pass
275	10.0 - 30.0% of mass 198	39338	26.5		Pass
365	1.0 - 100.0% of mass 198	5114	3.44		Pass
441	Present, but less than mass 443	20232	13.6	(78.8) [b]	Pass
442	40.0 - 100.0% of mass 198	135360	91.0		Pass
443	17.0 - 23.0% of mass 442	25681	17.3	(19.0) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3055-IC3055	3E70723.D	04/02/15	11:15	00:12	Initial cal 100
E3E3055-IC3055	3E70724.D	04/02/15	12:09	01:06	Initial cal 1
E3E3055-ICC3055	3E70725.D	04/02/15	12:44	01:41	Initial cal 50
E3E3055-IC3055	3E70726.D	04/02/15	13:10	02:07	Initial cal 25
E3E3055-IC3055	3E70727.D	04/02/15	13:36	02:33	Initial cal 80
E3E3055-IC3055	3E70728.D	04/02/15	14:02	02:59	Initial cal 10
E3E3055-IC3055	3E70729.D	04/02/15	14:28	03:25	Initial cal 5
E3E3055-IC3055	3E70730.D	04/02/15	14:54	03:51	Initial cal 2

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3056-DFTPP
Lab File ID: 3E70732.D
Instrument ID: GCMS3E
Injection Date: 04/02/15
Injection Time: 16:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	52698	35.5		Pass
68	Less than 2.0% of mass 69	866	0.58	(1.38) [a]	Pass
69	Mass 69 relative abundance	62722	42.2		Pass
70	Less than 2.0% of mass 69	258	0.17	(0.41) [a]	Pass
127	40.0 - 60.0% of mass 198	82109	55.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	148466	100.0		Pass
199	5.0 - 9.0% of mass 198	9761	6.57		Pass
275	10.0 - 30.0% of mass 198	40565	27.3		Pass
365	1.0 - 100.0% of mass 198	5174	3.48		Pass
441	Present, but less than mass 443	19136	12.9	(79.8) [b]	Pass
442	40.0 - 100.0% of mass 198	128448	86.5		Pass
443	17.0 - 23.0% of mass 442	23975	16.1	(18.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3056-IC3056	3E70733.D	04/02/15	17:09	00:12	Initial cal 100
E3E3056-IC3056	3E70734.D	04/02/15	17:35	00:38	Initial cal 80
E3E3056-ICC3056	3E70735.D	04/02/15	18:02	01:05	Initial cal 50
E3E3056-IC3056	3E70736.D	04/02/15	18:28	01:31	Initial cal 25
E3E3056-IC3056	3E70737.D	04/02/15	18:54	01:57	Initial cal 10
E3E3056-IC3056	3E70738.D	04/02/15	19:20	02:23	Initial cal 5
E3E3056-IC3056	3E70739.D	04/02/15	19:47	02:50	Initial cal 2
E3E3056-IC3056	3E70740.D	04/02/15	20:13	03:16	Initial cal 1
E3E3056-ICV3056	3E70741A.D	04/02/15	20:39	03:42	Initial cal verification 50
E3E3056-ICV3055	3E70741.D	04/02/15	20:39	03:42	Initial cal verification 50
E3E3056-ICV3056	3E70742A.D	04/02/15	21:05	04:08	Initial cal verification 50
E3E3056-ICV3055	3E70742.D	04/02/15	21:05	04:08	Initial cal verification 50
E3E3056-ICV3055	3E70744.D	04/02/15	21:57	05:00	Initial cal verification 50
E3E3056-ICV3055	3E70745.D	04/02/15	22:24	05:27	Initial cal verification 50
E3E3056-ICV3056	3E70746.D	04/02/15	22:50	05:53	Initial cal verification 50
E3E3056-ICV3055	3E70746A.D	04/02/15	22:50	05:53	Initial cal verification 50
E3E3056-ICV3056	3E70747.D	04/02/15	23:16	06:19	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3057-DFTPP
Lab File ID: 3E70750.D
Instrument ID: GCMS3E
Injection Date: 04/03/15
Injection Time: 11:00

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	54054	38.3		Pass
68	Less than 2.0% of mass 69	167	0.12	(0.27) [a]	Pass
69	Mass 69 relative abundance	61423	43.5		Pass
70	Less than 2.0% of mass 69	218	0.15	(0.35) [a]	Pass
127	40.0 - 60.0% of mass 198	79217	56.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	141256	100.0		Pass
199	5.0 - 9.0% of mass 198	10029	7.10		Pass
275	10.0 - 30.0% of mass 198	37832	26.8		Pass
365	1.0 - 100.0% of mass 198	4516	3.20		Pass
441	Present, but less than mass 443	16072	11.4	(74.2) [b]	Pass
442	40.0 - 100.0% of mass 198	113685	80.5		Pass
443	17.0 - 23.0% of mass 442	21647	15.3	(19.0) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3057-ICV3055	3E70751.D	04/03/15	11:13	00:13	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3098-DFTPP
Lab File ID: 3E71723.D
Instrument ID: GCMS3E
Injection Date: 04/29/15
Injection Time: 09:26

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	85250	36.7		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	107388	46.2		Pass
70	Less than 2.0% of mass 69	564	0.24	(0.53) [a]	Pass
127	40.0 - 60.0% of mass 198	135005	58.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	232469	100.0		Pass
199	5.0 - 9.0% of mass 198	15009	6.46		Pass
275	10.0 - 30.0% of mass 198	67421	29.0		Pass
365	1.0 - 100.0% of mass 198	7428	3.20		Pass
441	Present, but less than mass 443	4554	1.96	(11.7) [b]	Pass
442	40.0 - 100.0% of mass 198	201890	86.8		Pass
443	17.0 - 23.0% of mass 442	38888	16.7	(19.3) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3098-CC3055	3E71724.D	04/29/15	09:40	00:14	Continuing cal 50
E3E3098-CC3056	3E71725.D	04/29/15	10:09	00:43	Continuing cal 50
OP83240-MB1	3E71728.D	04/29/15	11:32	02:06	Method Blank
OP83456-MB1	3E71729.D	04/29/15	11:58	02:32	Method Blank
OP83421-MB1	3E71730.D	04/29/15	12:25	02:59	Method Blank
ZZZZZZ	3E71732.D	04/29/15	13:18	03:52	(unrelated sample)
OP83456-BS1	3E71738.D	04/29/15	13:45	04:19	Blank Spike
ZZZZZZ	3E71733.D	04/29/15	14:11	04:45	(unrelated sample)
ZZZZZZ	3E71734.D	04/29/15	14:38	05:12	(unrelated sample)
OP83104A-MB1	3E71739.D	04/29/15	15:04	05:38	Method Blank
OP83104A-BS1	3E71740.D	04/29/15	15:31	06:05	Blank Spike
OP83104A-BSD	3E71741.D	04/29/15	15:58	06:32	Blank Spike Duplicate
ZZZZZZ	3E71742.D	04/29/15	16:24	06:58	(unrelated sample)
JB92288-3R	3E71743.D	04/29/15	16:51	07:25	(used for QC only; not part of job JB93023)
ZZZZZZ	3E71744.D	04/29/15	17:18	07:52	(unrelated sample)
JB92288-8R	3E71745.D	04/29/15	17:44	08:18	(used for QC only; not part of job JB93023)
ZZZZZZ	3E71735.D	04/29/15	18:11	08:45	(unrelated sample)
ZZZZZZ	3E71736.D	04/29/15	18:38	09:12	(unrelated sample)
OP83104A-MS2	3E71746.D	04/29/15	19:31	10:05	Matrix Spike

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3098-DFTPP
Lab File ID: 3E71723.D
Instrument ID: GCMS3E
Injection Date: 04/29/15
Injection Time: 09:26

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
OP83104A-MSD2	3E71747.D	04/29/15	19:58	10:32	Matrix Spike Duplicate
OP83104A-MS1	3E71748.D	04/29/15	20:24	10:58	Matrix Spike
OP83104A-MSD1	3E71749.D	04/29/15	20:51	11:25	Matrix Spike Duplicate

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3099-DFTPP
Lab File ID: 3E71752.D
Instrument ID: GCMS3E
Injection Date: 04/29/15
Injection Time: 22:10

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	82381	38.0		Pass
68	Less than 2.0% of mass 69	788	0.36	(0.73) [a]	Pass
69	Mass 69 relative abundance	107594	49.6		Pass
70	Less than 2.0% of mass 69	309	0.14	(0.29) [a]	Pass
127	40.0 - 60.0% of mass 198	126000	58.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	216848	100.0		Pass
199	5.0 - 9.0% of mass 198	14926	6.88		Pass
275	10.0 - 30.0% of mass 198	61696	28.5		Pass
365	1.0 - 100.0% of mass 198	8873	4.09		Pass
441	Present, but less than mass 443	2776	1.28	(7.49) [b]	Pass
442	40.0 - 100.0% of mass 198	187306	86.4		Pass
443	17.0 - 23.0% of mass 442	37040	17.1	(19.8) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3099-CC3055	3E71753.D	04/29/15	22:27	00:17	Continuing cal 25
E3E3099-CC3056	3E71754.D	04/29/15	22:55	00:45	Continuing cal 25
OP83512-MB1	3E71756.D	04/30/15	00:23	02:13	Method Blank
OP83512-BS1	3E71757.D	04/30/15	00:49	02:39	Blank Spike
OP83512-BSD	3E71758.D	04/30/15	01:15	03:05	Blank Spike Duplicate
OP83412-MB1	3E71759.D	04/30/15	01:42	03:32	Method Blank
OP83412-BS1	3E71760.D	04/30/15	02:08	03:58	Blank Spike
ZZZZZZ	3E71761.D	04/30/15	02:34	04:24	(unrelated sample)
JB93020-1	3E71762.D	04/30/15	03:00	04:50	(used for QC only; not part of job JB93023)
ZZZZZZ	3E71763.D	04/30/15	03:26	05:16	(unrelated sample)
ZZZZZZ	3E71764.D	04/30/15	03:52	05:42	(unrelated sample)
JB93023-1	3E71765.D	04/30/15	04:18	06:08	MH593-1(2.0)
JB93023-2	3E71766.D	04/30/15	04:44	06:34	MH593-2(2.0)
ZZZZZZ	3E71767.D	04/30/15	05:10	07:00	(unrelated sample)
ZZZZZZ	3E71768.D	04/30/15	05:36	07:26	(unrelated sample)
ZZZZZZ	3E71769.D	04/30/15	06:02	07:52	(unrelated sample)
ZZZZZZ	3E71770.D	04/30/15	06:28	08:18	(unrelated sample)
ZZZZZZ	3E71771.D	04/30/15	06:53	08:43	(unrelated sample)
JB93023-8	3E71772.D	04/30/15	07:19	09:09	MH593-8(3.0)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3099-DFTPP
Lab File ID: 3E71752.D
Instrument ID: GCMS3E
Injection Date: 04/29/15
Injection Time: 22:10

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
JB93023-7	3E71773.D	04/30/15	07:45	09:35	MH593-7(3.0)
JB93023-5	3E71774.D	04/30/15	08:11	10:01	MH593-5(3.0)
OP83412-MS	3E71775.D	04/30/15	08:37	10:27	Matrix Spike
OP83412-MSD	3E71776.D	04/30/15	09:03	10:53	Matrix Spike Duplicate

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3100-DFTPP
Lab File ID: 3E71783.D
Instrument ID: GCMS3E
Injection Date: 04/30/15
Injection Time: 11:37

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	77435	36.0		Pass
68	Less than 2.0% of mass 69	71	0.03	(0.07) [a]	Pass
69	Mass 69 relative abundance	100579	46.7		Pass
70	Less than 2.0% of mass 69	881	0.41	(0.88) [a]	Pass
127	40.0 - 60.0% of mass 198	121720	56.5		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	215381	100.0		Pass
199	5.0 - 9.0% of mass 198	14161	6.57		Pass
275	10.0 - 30.0% of mass 198	59720	27.7		Pass
365	1.0 - 100.0% of mass 198	10172	4.72		Pass
441	Present, but less than mass 443	3515	1.63	(9.05) [b]	Pass
442	40.0 - 100.0% of mass 198	198698	92.3		Pass
443	17.0 - 23.0% of mass 442	38844	18.0	(19.5) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3100-CC3055	3E71784.D	04/30/15	11:57	00:20	Continuing cal 50
E3E3100-CC3056	3E71785.D	04/30/15	12:24	00:47	Continuing cal 50
OP83507-MB1	3E71788.D	04/30/15	13:43	02:06	Method Blank
OP83507-BS1	3E71789.D	04/30/15	14:10	02:33	Blank Spike
ZZZZZZ	3E71791.D	04/30/15	15:29	03:52	(unrelated sample)
ZZZZZZ	3E71792.D	04/30/15	15:55	04:18	(unrelated sample)
ZZZZZZ	3E71793.D	04/30/15	16:22	04:45	(unrelated sample)
ZZZZZZ	3E71795.D	04/30/15	16:48	05:11	(unrelated sample)
ZZZZZZ	3E71797.D	04/30/15	17:41	06:04	(unrelated sample)
ZZZZZZ	3E71798.D	04/30/15	18:07	06:30	(unrelated sample)
JB93023-3	3E71799.D	04/30/15	18:34	06:57	MH593-3(3.0)
ZZZZZZ	3E71800.D	04/30/15	19:00	07:23	(unrelated sample)
OP83456-MS	3E71804.D	04/30/15	20:44	09:07	Matrix Spike
OP83456-MSD	3E71805.D	04/30/15	21:11	09:34	Matrix Spike Duplicate
OP83507-MS	3E71806.D	04/30/15	21:37	10:00	Matrix Spike
OP83507-MSD	3E71807.D	04/30/15	22:03	10:26	Matrix Spike Duplicate
JB93427-1	3E71808.D	04/30/15	22:29	10:52	(used for QC only; not part of job JB93023)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3101-DFTPP
Lab File ID: 3E71815.D
Instrument ID: GCMS3E
Injection Date: 05/01/15
Injection Time: 10:53

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	59296	36.3		Pass
68	Less than 2.0% of mass 69	326	0.20	(0.41) [a]	Pass
69	Mass 69 relative abundance	80048	49.0		Pass
70	Less than 2.0% of mass 69	390	0.24	(0.49) [a]	Pass
127	40.0 - 60.0% of mass 198	89949	55.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	163306	100.0		Pass
199	5.0 - 9.0% of mass 198	12532	7.67		Pass
275	10.0 - 30.0% of mass 198	46856	28.7		Pass
365	1.0 - 100.0% of mass 198	7439	4.56		Pass
441	Present, but less than mass 443	23266	14.2	(77.7) [b]	Pass
442	40.0 - 100.0% of mass 198	159696	97.8		Pass
443	17.0 - 23.0% of mass 442	29926	18.3	(18.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3101-CC3055	3E71816.D	05/01/15	11:10	00:17	Continuing cal 25
E3E3101-CC3056	3E71817.D	05/01/15	11:36	00:43	Continuing cal 25
ZZZZZZ	3E71820.D	05/01/15	12:55	02:02	(unrelated sample)
ZZZZZZ	3E71821.D	05/01/15	13:21	02:28	(unrelated sample)
ZZZZZZ	3E71823.D	05/01/15	14:12	03:19	(unrelated sample)
ZZZZZZ	3E71824.D	05/01/15	14:38	03:45	(unrelated sample)
ZZZZZZ	3E71825.D	05/01/15	15:04	04:11	(unrelated sample)
ZZZZZZ	3E71826.D	05/01/15	15:29	04:36	(unrelated sample)
ZZZZZZ	3E71827.D	05/01/15	15:55	05:02	(unrelated sample)
ZZZZZZ	3E71827R.D	05/01/15	15:55	05:02	(unrelated sample)
ZZZZZZ	3E71828R.D	05/01/15	16:21	05:28	(unrelated sample)
ZZZZZZ	3E71828.D	05/01/15	16:21	05:28	(unrelated sample)
JB93023-6	3E71829.D	05/01/15	16:47	05:54	MH593-6(3.0)
ZZZZZZ	3E71832.D	05/01/15	18:04	07:11	(unrelated sample)
ZZZZZZ	3E71833.D	05/01/15	18:29	07:36	(unrelated sample)
ZZZZZZ	3E71834.D	05/01/15	18:55	08:02	(unrelated sample)
ZZZZZZ	3E71835.D	05/01/15	19:20	08:27	(unrelated sample)
ZZZZZZ	3E71836.D	05/01/15	19:46	08:53	(unrelated sample)
ZZZZZZ	3E71837.D	05/01/15	20:11	09:18	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3101-DFTPP
Lab File ID: 3E71815.D
Instrument ID: GCMS3E
Injection Date: 05/01/15
Injection Time: 10:53

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	3E71838.D	05/01/15	20:37	09:44	(unrelated sample)
ZZZZZZ	3E71839.D	05/01/15	21:02	10:09	(unrelated sample)
ZZZZZZ	3E71840.D	05/01/15	21:28	10:35	(unrelated sample)
ZZZZZZ	3E71841.D	05/01/15	21:53	11:00	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3103-DFTPP
Lab File ID: 3E71848.D
Instrument ID: GCMS3E
Injection Date: 05/04/15
Injection Time: 12:46

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	80576	38.4		Pass
68	Less than 2.0% of mass 69	301	0.14	(0.30) [a]	Pass
69	Mass 69 relative abundance	101699	48.4		Pass
70	Less than 2.0% of mass 69	806	0.38	(0.79) [a]	Pass
127	40.0 - 60.0% of mass 198	117376	55.9		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	209962	100.0		Pass
199	5.0 - 9.0% of mass 198	14298	6.81		Pass
275	10.0 - 30.0% of mass 198	60688	28.9		Pass
365	1.0 - 100.0% of mass 198	9328	4.44		Pass
441	Present, but less than mass 443	18099	8.62	(52.5) [b]	Pass
442	40.0 - 100.0% of mass 198	186538	88.8		Pass
443	17.0 - 23.0% of mass 442	34442	16.4	(18.5) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3103-CC3055	3E71849.D	05/04/15	13:01	00:15	Continuing cal 25
E3E3103-CC3056	3E71850.D	05/04/15	13:27	00:41	Continuing cal 25
ZZZZZZ	3E71852.D	05/04/15	14:44	01:58	(unrelated sample)
ZZZZZZ	3E71854.D	05/04/15	15:10	02:24	(unrelated sample)
ZZZZZZ	3E71855.D	05/04/15	15:36	02:50	(unrelated sample)
ZZZZZZ	3E71856.D	05/04/15	16:02	03:16	(unrelated sample)
ZZZZZZ	3E71857.D	05/04/15	16:27	03:41	(unrelated sample)
ZZZZZZ	3E71858.D	05/04/15	16:53	04:07	(unrelated sample)
ZZZZZZ	3E71859.D	05/04/15	17:19	04:33	(unrelated sample)
JB93023-6	3E71860.D	05/04/15	17:45	04:59	MH593-6(3.0)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3105-DFTPP
Lab File ID: 3E71866.D
Instrument ID: GCMS3E
Injection Date: 05/05/15
Injection Time: 09:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	87481	41.5		Pass
68	Less than 2.0% of mass 69	17	0.01	(0.02) [a]	Pass
69	Mass 69 relative abundance	110446	52.4		Pass
70	Less than 2.0% of mass 69	499	0.24	(0.45) [a]	Pass
127	40.0 - 60.0% of mass 198	123973	58.8		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	210744	100.0		Pass
199	5.0 - 9.0% of mass 198	13812	6.55		Pass
275	10.0 - 30.0% of mass 198	55581	26.4		Pass
365	1.0 - 100.0% of mass 198	9220	4.37		Pass
441	Present, but less than mass 443	26032	12.4	(75.2) [b]	Pass
442	40.0 - 100.0% of mass 198	175466	83.3		Pass
443	17.0 - 23.0% of mass 442	34632	16.4	(19.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E3E3105-CC3055	3E71867.D	05/05/15	09:33	00:16	Continuing cal 25
E3E3105-CC3056	3E71868.D	05/05/15	10:01	00:44	Continuing cal 25
OP83626-BS1	3E71871.D	05/05/15	11:18	02:01	Blank Spike
OP83580-MB1	3E71872.D	05/05/15	11:46	02:29	Method Blank
OP83580-BS1	3E71873.D	05/05/15	12:12	02:55	Blank Spike
JB93023-4	3E71874.D	05/05/15	12:37	03:20	MH593-4(3.0)
ZZZZZZ	3E71875.D	05/05/15	13:03	03:46	(unrelated sample)
ZZZZZZ	3E71876.D	05/05/15	13:29	04:12	(unrelated sample)
ZZZZZZ	3E71877.D	05/05/15	13:54	04:37	(unrelated sample)
ZZZZZZ	3E71878.D	05/05/15	14:46	05:29	(unrelated sample)
ZZZZZZ	3E71879.D	05/05/15	15:12	05:55	(unrelated sample)
ZZZZZZ	3E71880.D	05/05/15	15:37	06:20	(unrelated sample)
OP83626-MB1	3E71893.D	05/05/15	16:03	06:46	Method Blank
ZZZZZZ	3E71894.D	05/05/15	16:29	07:12	(unrelated sample)
ZZZZZZ	3E71895.D	05/05/15	16:55	07:38	(unrelated sample)
JB93444-3	3E71896.D	05/05/15	17:21	08:04	(used for QC only; not part of job JB93023)
OP83626-MS	3E71897.D	05/05/15	17:47	08:30	Matrix Spike
OP83626-MSD	3E71898.D	05/05/15	18:12	08:55	Matrix Spike Duplicate
ZZZZZZ	3E71881.D	05/05/15	18:38	09:21	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3105-DFTPP
Lab File ID: 3E71866.D
Instrument ID: GCMS3E
Injection Date: 05/05/15
Injection Time: 09:17

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	3E71882.D	05/05/15	19:04	09:47	(unrelated sample)
ZZZZZZ	3E71883.D	05/05/15	19:30	10:13	(unrelated sample)
ZZZZZZ	3E71885.D	05/05/15	20:21	11:04	(unrelated sample)
ZZZZZZ	3E71886.D	05/05/15	20:47	11:30	(unrelated sample)
ZZZZZZ	3E71887.D	05/05/15	21:13	11:56	(unrelated sample)
ZZZZZZ	3E71888.D	05/05/15	21:39	12:22	(unrelated sample)
ZZZZZZ	3E71889.D	05/05/15	22:04	12:47	(unrelated sample)
ZZZZZZ	3E71890.D	05/05/15	22:30	13:13	(unrelated sample)
ZZZZZZ	3E71891.D	05/05/15	22:56	13:39	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E5P913-DFTPP
Lab File ID: 5P17834.D
Instrument ID: GCMS5P
Injection Date: 04/29/15
Injection Time: 10:43

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	19118	40.8		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	21280	45.4		Pass
70	Less than 2.0% of mass 69	175	0.37	(0.82) [a]	Pass
127	40.0 - 60.0% of mass 198	23875	50.9		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	46877	100.0		Pass
199	5.0 - 9.0% of mass 198	3262	6.96		Pass
275	10.0 - 30.0% of mass 198	10995	23.5		Pass
365	1.0 - 100.0% of mass 198	1358	2.90		Pass
441	Present, but less than mass 443	5355	11.4	(71.1) [b]	Pass
442	40.0 - 100.0% of mass 198	37376	79.7		Pass
443	17.0 - 23.0% of mass 442	7528	16.1	(20.1) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P913-IC913	5P17835.D	04/29/15	10:59	00:16	Initial cal 1
E5P913-IC913	5P17836.D	04/29/15	11:28	00:45	Initial cal 100
E5P913-IC913	5P17837.D	04/29/15	11:58	01:15	Initial cal 80
E5P913-ICC913	5P17838.D	04/29/15	12:26	01:43	Initial cal 50
E5P913-IC913	5P17839.D	04/29/15	12:55	02:12	Initial cal 25
E5P913-IC913	5P17840.D	04/29/15	13:24	02:41	Initial cal 10
E5P913-IC913	5P17841.D	04/29/15	13:53	03:10	Initial cal 5
E5P913-IC913	5P17842.D	04/29/15	14:22	03:39	Initial cal 2

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E5P914-DFTPP
Lab File ID: 5P17843.D
Instrument ID: GCMS5P
Injection Date: 04/29/15
Injection Time: 15:02

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	14090	42.5		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	16122	48.6		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	17765	53.5		Pass
197	Less than 1.0% of mass 198	145	0.44		Pass
198	Base peak, 100% relative abundance	33182	100.0		Pass
199	5.0 - 9.0% of mass 198	2243	6.76		Pass
275	10.0 - 30.0% of mass 198	8262	24.9		Pass
365	1.0 - 100.0% of mass 198	1056	3.18		Pass
441	Present, but less than mass 443	4441	13.4	(74.3) [b]	Pass
442	40.0 - 100.0% of mass 198	30061	90.6		Pass
443	17.0 - 23.0% of mass 442	5981	18.0	(19.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P914-IC914	5P17844.D	04/29/15	15:17	00:15	Initial cal 1
E5P914-IC914	5P17845.D	04/29/15	15:46	00:44	Initial cal 2
E5P914-IC914	5P17846.D	04/29/15	16:14	01:12	Initial cal 5
E5P914-IC914	5P17847.D	04/29/15	16:43	01:41	Initial cal 10
E5P914-IC914	5P17848.D	04/29/15	17:12	02:10	Initial cal 25
E5P914-ICC914	5P17849.D	04/29/15	17:40	02:38	Initial cal 50
E5P914-IC914	5P17850.D	04/29/15	18:09	03:07	Initial cal 80
E5P914-IC914	5P17851.D	04/29/15	18:38	03:36	Initial cal 100
E5P914-ICV913	5P17853.D	04/29/15	19:35	04:33	Initial cal verification 50
E5P914-ICV913	5P17854.D	04/29/15	20:04	05:02	Initial cal verification 50
E5P914-ICV914	5P17854A.D	04/29/15	20:04	05:02	Initial cal verification 50
E5P914-ICV913	5P17855.D	04/29/15	20:32	05:30	Initial cal verification 50
E5P914-ICV914	5P17855A.D	04/29/15	20:32	05:30	Initial cal verification 50
E5P914-ICV913	5P17856.D	04/29/15	21:01	05:59	Initial cal verification 50
E5P914-ICV913	5P17857A.D	04/29/15	21:30	06:28	Initial cal verification 50
E5P914-ICV914	5P17857.D	04/29/15	21:30	06:28	Initial cal verification 50
E5P914-ICV914	5P17858.D	04/29/15	21:58	06:56	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E5P915-DFTPP
Lab File ID: 5P17866.D
Instrument ID: GCMS5P
Injection Date: 04/30/15
Injection Time: 11:15

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	16522	37.8		Pass
68	Less than 2.0% of mass 69	340	0.78	(1.72) [a]	Pass
69	Mass 69 relative abundance	19787	45.3		Pass
70	Less than 2.0% of mass 69	167	0.38	(0.84) [a]	Pass
127	40.0 - 60.0% of mass 198	23323	53.4		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	43653	100.0		Pass
199	5.0 - 9.0% of mass 198	2935	6.72		Pass
275	10.0 - 30.0% of mass 198	10346	23.7		Pass
365	1.0 - 100.0% of mass 198	1156	2.65		Pass
441	Present, but less than mass 443	4886	11.2	(69.2) [b]	Pass
442	40.0 - 100.0% of mass 198	35602	81.6		Pass
443	17.0 - 23.0% of mass 442	7059	16.2	(19.8) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P915-ICV913	5P17867.D	04/30/15	11:28	00:13	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E5P916-DFTPP
Lab File ID: 5P17868.D
Instrument ID: GCMS5P
Injection Date: 04/30/15
Injection Time: 12:12

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	13988	36.6		Pass
68	Less than 2.0% of mass 69	173	0.45	(0.97) [a]	Pass
69	Mass 69 relative abundance	17758	46.4		Pass
70	Less than 2.0% of mass 69	74	0.19	(0.42) [a]	Pass
127	40.0 - 60.0% of mass 198	20747	54.2		Pass
197	Less than 1.0% of mass 198	148	0.39		Pass
198	Base peak, 100% relative abundance	38269	100.0		Pass
199	5.0 - 9.0% of mass 198	2681	7.01		Pass
275	10.0 - 30.0% of mass 198	8678	22.7		Pass
365	1.0 - 100.0% of mass 198	1135	2.97		Pass
441	Present, but less than mass 443	5243	13.7	(77.2) [b]	Pass
442	40.0 - 100.0% of mass 198	35280	92.2		Pass
443	17.0 - 23.0% of mass 442	6793	17.8	(19.3) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E5P916-CC913	5P17869.D	04/30/15	12:26	00:14	Continuing cal 50
E5P916-CC914	5P17870.D	04/30/15	12:55	00:43	Continuing cal 50
OP83420-MB1	5P17871.D	04/30/15	13:24	01:12	Method Blank
OP83522-MB1	5P17872.D	04/30/15	13:52	01:40	Method Blank
ZZZZZZ	5P17873.D	04/30/15	14:21	02:09	(unrelated sample)
ZZZZZZ	5P17874.D	04/30/15	14:50	02:38	(unrelated sample)
ZZZZZZ	5P17877.D	04/30/15	15:19	03:07	(unrelated sample)
ZZZZZZ	5P17878.D	04/30/15	15:47	03:35	(unrelated sample)
ZZZZZZ	5P17875.D	04/30/15	16:16	04:04	(unrelated sample)
ZZZZZZ	5P17876.D	04/30/15	16:44	04:32	(unrelated sample)
ZZZZZZ	5P17879.D	04/30/15	17:12	05:00	(unrelated sample)
ZZZZZZ	5P17880.D	04/30/15	17:41	05:29	(unrelated sample)
ZZZZZZ	5P17881.D	04/30/15	18:10	05:58	(unrelated sample)
ZZZZZZ	5P17882.D	04/30/15	18:39	06:27	(unrelated sample)
ZZZZZZ	5P17883.D	04/30/15	19:07	06:55	(unrelated sample)
ZZZZZZ	5P17884.D	04/30/15	19:35	07:23	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: EZ5015-DFTPP
Lab File ID: Z100601.D
Instrument ID: GCMSZ
Injection Date: 04/17/15
Injection Time: 20:24

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	22530	54.9		Pass
68	Less than 2.0% of mass 69	176	0.43	(0.87) [a]	Pass
69	Mass 69 relative abundance	20170	49.1		Pass
70	Less than 2.0% of mass 69	124	0.30	(0.61) [a]	Pass
127	40.0 - 60.0% of mass 198	24365	59.4		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	41050	100.0		Pass
199	5.0 - 9.0% of mass 198	2785	6.78		Pass
275	10.0 - 30.0% of mass 198	9647	23.5		Pass
365	1.0 - 100.0% of mass 198	1259	3.07		Pass
441	Present, but less than mass 443	4757	11.6	(75.9) [b]	Pass
442	40.0 - 100.0% of mass 198	31741	77.3		Pass
443	17.0 - 23.0% of mass 442	6271	15.3	(19.8) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5015-IC5015	Z100602.D	04/17/15	20:40	00:16	Initial cal 100
EZ5015-IC5015	Z100603.D	04/17/15	21:11	00:47	Initial cal 80
EZ5015-ICC5015	Z100604.D	04/17/15	21:43	01:19	Initial cal 50
EZ5015-IC5015	Z100605.D	04/17/15	22:14	01:50	Initial cal 25
EZ5015-IC5015	Z100606.D	04/17/15	22:46	02:22	Initial cal 10
EZ5015-IC5015	Z100607.D	04/17/15	23:17	02:53	Initial cal 5
EZ5015-IC5015	Z100608.D	04/17/15	23:48	03:24	Initial cal 2
EZ5015-IC5015	Z100609.D	04/18/15	00:20	03:56	Initial cal 1
EZ5015-ICV5015	Z100611A.D	04/18/15	01:22	04:58	Initial cal verification 50
EZ5015-ICV5014	Z100611.D	04/18/15	01:22	04:58	Initial cal verification 50
EZ5015-ICV5015	Z100612A.D	04/18/15	01:54	05:30	Initial cal verification 50
EZ5015-ICV5014	Z100612.D	04/18/15	01:54	05:30	Initial cal verification 50
EZ5015-ICV5014	Z100613.D	04/18/15	02:25	06:01	Initial cal verification 50
EZ5015-ICV5014	Z100614.D	04/18/15	02:56	06:32	Initial cal verification 50
EZ5015-ICV5014	Z100615.D	04/18/15	03:28	07:04	Initial cal verification 50
EZ5015-ICV5015	Z100615A.D	04/18/15	03:28	07:04	Initial cal verification 50
EZ5015-ICV5015	Z100616.D	04/18/15	03:59	07:35	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: EZ5031-DFTPP
Lab File ID: Z100887.D
Instrument ID: GCMSZ
Injection Date: 04/29/15
Injection Time: 21:15

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	30650	51.3		Pass
68	Less than 2.0% of mass 69	330	0.55	(1.12) [a]	Pass
69	Mass 69 relative abundance	29496	49.3		Pass
70	Less than 2.0% of mass 69	168	0.28	(0.57) [a]	Pass
127	40.0 - 60.0% of mass 198	35533	59.4		Pass
197	Less than 1.0% of mass 198	340	0.57		Pass
198	Base peak, 100% relative abundance	59773	100.0		Pass
199	5.0 - 9.0% of mass 198	4409	7.38		Pass
275	10.0 - 30.0% of mass 198	14247	23.8		Pass
365	1.0 - 100.0% of mass 198	1736	2.90		Pass
441	Present, but less than mass 443	8126	13.6	(75.1) [b]	Pass
442	40.0 - 100.0% of mass 198	58805	98.4		Pass
443	17.0 - 23.0% of mass 442	10823	18.1	(18.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5031-IC5031	Z100888.D	04/29/15	21:38	00:23	Initial cal 100
EZ5031-IC5031	Z100889.D	04/29/15	22:10	00:55	Initial cal 1
EZ5031-IC5031	Z100890.D	04/29/15	22:42	01:27	Initial cal 80
EZ5031-IC5031	Z100891.D	04/29/15	23:13	01:58	Initial cal 2
EZ5031-ICC5031	Z100892.D	04/29/15	23:45	02:30	Initial cal 50
EZ5031-IC5031	Z100893.D	04/30/15	00:16	03:01	Initial cal 5
EZ5031-IC5031	Z100894.D	04/30/15	00:48	03:33	Initial cal 25
EZ5031-IC5031	Z100895.D	04/30/15	01:20	04:05	Initial cal 10
EZ5031-ICV5031	Z100896.D	04/30/15	01:51	04:36	Initial cal verification 50
EZ5031-ICV5031	Z100897.D	04/30/15	02:23	05:08	Initial cal verification 50
EZ5031-ICV5031	Z100898.D	04/30/15	02:54	05:39	Initial cal verification 50
EZ5031-ICV5031	Z100900.D	04/30/15	03:57	06:42	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: EZ5032-DFTPP
Lab File ID: Z100902.D
Instrument ID: GCMSZ
Injection Date: 04/30/15
Injection Time: 09:34

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	31853	51.8		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	30705	50.0		Pass
70	Less than 2.0% of mass 69	202	0.33	(0.66) [a]	Pass
127	40.0 - 60.0% of mass 198	36569	59.5		Pass
197	Less than 1.0% of mass 198	164	0.27		Pass
198	Base peak, 100% relative abundance	61434	100.0		Pass
199	5.0 - 9.0% of mass 198	4139	6.74		Pass
275	10.0 - 30.0% of mass 198	13525	22.0		Pass
365	1.0 - 100.0% of mass 198	1452	2.36		Pass
441	Present, but less than mass 443	6999	11.4	(77.0) [b]	Pass
442	40.0 - 100.0% of mass 198	46072	75.0		Pass
443	17.0 - 23.0% of mass 442	9089	14.8	(19.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5032-ICV5031	Z100903.D	04/30/15	09:48	00:14	Initial cal verification 50
EZ5032-ICV5031	Z100906.D	04/30/15	11:22	01:48	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: EZ5033-DFTPP
Lab File ID: Z100907.D
Instrument ID: GCMSZ
Injection Date: 04/30/15
Injection Time: 11:50

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	33315	53.1		Pass
68	Less than 2.0% of mass 69	352	0.56	(1.08) [a]	Pass
69	Mass 69 relative abundance	32523	51.8		Pass
70	Less than 2.0% of mass 69	78	0.12	(0.24) [a]	Pass
127	40.0 - 60.0% of mass 198	36976	58.9		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	62770	100.0		Pass
199	5.0 - 9.0% of mass 198	4400	7.01		Pass
275	10.0 - 30.0% of mass 198	14776	23.5		Pass
365	1.0 - 100.0% of mass 198	1587	2.53		Pass
441	Present, but less than mass 443	7414	11.8	(78.8) [b]	Pass
442	40.0 - 100.0% of mass 198	48397	77.1		Pass
443	17.0 - 23.0% of mass 442	9406	15.0	(19.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5033-CC5031	Z100908.D	04/30/15	12:05	00:15	Continuing cal 50
EZ5033-CC5015	Z100909.D	04/30/15	12:37	00:47	Continuing cal 50
OP83522-MB1	Z100910.D	04/30/15	13:10	01:20	Method Blank
OP83522-BS1	Z100911.D	04/30/15	13:42	01:52	Blank Spike
JB93495-27	Z100912.D	04/30/15	14:13	02:23	(used for QC only; not part of job JB93023)
ZZZZZZ	Z100913.D	04/30/15	14:45	02:55	(unrelated sample)
ZZZZZZ	Z100914.D	04/30/15	15:17	03:27	(unrelated sample)
JB93495-27	Z100915.D	04/30/15	15:56	04:06	(used for QC only; not part of job JB93023)
ZZZZZZ	Z100916.D	04/30/15	16:28	04:38	(unrelated sample)
ZZZZZZ	Z100917.D	04/30/15	16:59	05:09	(unrelated sample)
JB93023-11	Z100919.D	04/30/15	18:34	06:44	MH593-11(3.0)
OP83522-MS	Z100920.D	04/30/15	19:06	07:16	Matrix Spike
OP83522-MSD	Z100921.D	04/30/15	19:37	07:47	Matrix Spike Duplicate
JB93023-12	Z100922.D	04/30/15	20:09	08:19	MH593-12(3.0)
JB93023-12	Z100923.D	04/30/15	20:42	08:52	MH593-12(3.0)

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E2M3165-CC3137	**Injection Date:**	04/27/15
Lab File ID:	2M73589.D	**Injection Time:**	10:54
Instrument ID:	GCMS2M	**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	563344	4.72	2241457	5.81	1262519	7.89	2068709	10.06	1866343	14.23	1725042	16.34
Upper Limit [a]	1126688	5.22	4482914	6.31	2525038	8.39	4137418	10.56	3732686	14.73	3450084	16.84
Lower Limit [b]	281672	4.22	1120729	5.31	631260	7.39	1034355	9.56	933172	13.73	862521	15.84

Lab Sample ID	IS 1 AREA	IS 1 RT	IS 2 AREA	IS 2 RT	IS 3 AREA	IS 3 RT	IS 4 AREA	IS 4 RT	IS 5 AREA	IS 5 RT	IS 6 AREA	IS 6 RT
OP83421-MB1	533638	4.72	2096065	5.81	1115365	7.88	1729498	10.06	1435439	14.23	1294573	16.34
OP83421-BS1	507373	4.72	2043267	5.81	1056583	7.88	1644124	10.06	1324658	14.23	1214412	16.34
OP83018B-MB1	570790	4.72	2281425	5.81	1303411	7.88	2165759	10.06	1966357	14.23	1916877	16.34
OP83018B-BS1	552885	4.71	2173600	5.81	1161764	7.88	1873861	10.06	1587150	14.23	1447409	16.34
OP83018B-BSD	551893	4.71	2224689	5.81	1166976	7.89	1930003	10.06	1685840	14.23	1580686	16.34
OP83057A-MB1	810342	4.72	3198980	5.81	1715411	7.88	2724859	10.06	2363935	14.23	2225324	16.34
ZZZZZZ	599438	4.71	2325339	5.81	1292330	7.88	2083354	10.06	1717752	14.23	1660987	16.34
ZZZZZZ	703186	4.72	2790190	5.81	1522993	7.88	2435659	10.06	1996064	14.23	1886731	16.34
ZZZZZZ	468177	4.72	1806932	5.81	979510	7.89	1435919	10.07	1198594	14.23	1133072	16.35
ZZZZZZ	409151	4.72	1624964	5.81	911253	7.88	1480362	10.06	1246453	14.23	1220865	16.34
ZZZZZZ	450979	4.72	1769691	5.81	989108	7.88	1579611	10.06	1370778	14.23	1344299	16.34
ZZZZZZ	561239	4.72	2200092	5.81	1247718	7.89	1986622	10.06	1622137	14.24	1503779	16.36
ZZZZZZ	442974	4.72	1754030	5.81	990057	7.89	1581616	10.07	1239915	14.24	1234052	16.35
ZZZZZZ	439545	4.72	1669723	5.81	906652	7.89	1412050	10.06	1211077	14.23	1191620	16.35
ZZZZZZ	426316	4.72	1633653	5.81	884291	7.89	1382193	10.07	1224505	14.24	1194346	16.35
JB93023-9	425744	4.72	1659762	5.81	926603	7.90	1441235	10.07	1207398	14.24	1192759	16.36
JB93023-10	399035	4.72	1555817	5.81	859434	7.90	1315070	10.08	1093836	14.31	1523379	16.55
JB93023-14	370358	4.72	1441809	5.83	813045	7.91	1259309	10.09	1107855	14.27	1054638	16.39
OP83421-MS	371804	4.73	1593430	5.83	801561	7.91	1265192	10.09	1004439	14.28	984732	16.39
OP83421-MSD	352810	4.73	1518275	5.83	754641	7.91	1204086	10.09	966689	14.28	951819	16.39

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.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E2M3172-CC3171	**Injection Date:**	04/30/15
Lab File ID:	2M73726.D	**Injection Time:**	18:47
Instrument ID:	GCMS2M	**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	251802	4.66	948281	5.75	586321	7.81	1037382	9.98	1009228	14.15	958322	16.26
Upper Limit [a]	503604	5.16	1896562	6.25	1172642	8.31	2074764	10.48	2018456	14.65	1916644	16.76
Lower Limit [b]	125901	4.16	474141	5.25	293161	7.31	518691	9.48	504614	13.65	479161	15.76

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP83422-MB1	289704	4.66	1058935	5.75	612739	7.80	998025	9.98	951604	14.14	865264	16.25
OP83422-BS1	240997	4.66	892938	5.75	511864	7.81	875573	9.98	809296	14.15	787410	16.25
ZZZZZZ	255087	4.66	925915	5.75	547429	7.81	920698	9.98	808920	14.14	767454	16.25
ZZZZZZ	252624	4.66	933145	5.75	566699	7.81	951233	9.98	853697	14.14	824261	16.25
ZZZZZZ	245522	4.66	919377	5.75	550213	7.81	939897	9.98	826413	14.14	746333	16.25
ZZZZZZ	247789	4.67	917929	5.75	535607	7.81	916106	9.98	830437	14.14	776863	16.25
ZZZZZZ	243553	4.66	901539	5.75	520899	7.81	892729	9.98	862902	14.14	822214	16.25
ZZZZZZ	249738	4.66	932132	5.75	556343	7.81	943657	9.98	872258	14.14	816236	16.25
ZZZZZZ	243524	4.66	906812	5.75	533744	7.81	915516	9.98	855492	14.14	816692	16.25
ZZZZZZ	237650	4.66	867354	5.75	504439	7.80	859351	9.98	836601	14.14	796377	16.25
ZZZZZZ	243323	4.67	891444	5.75	521639	7.80	894713	9.98	855498	14.14	839913	16.25
ZZZZZZ	244698	4.66	914968	5.75	557073	7.80	945987	9.98	861368	14.14	805463	16.25
JB93023-24	244785	4.66	890991	5.75	518592	7.81	886094	9.98	792233	14.14	738617	16.25
JB93023-23	237048	4.66	871559	5.75	516729	7.80	895265	9.98	836653	14.14	781071	16.25
ZZZZZZ	247335	4.66	899409	5.75	539479	7.81	925098	9.98	846778	14.14	790554	16.25
ZZZZZZ	237557	4.68	918088	5.76	556183	7.81	983037	9.98	876856	14.14	803982	16.25
ZZZZZZ	243650	4.66	901494	5.75	526330	7.80	873520	9.98	762874	14.14	740098	16.26
ZZZZZZ	226023	4.66	842774	5.75	502825	7.80	883172	9.98	745342	14.14	690306	16.25
JB93041-13	242914	4.66	889242	5.75	540718	7.81	899831	9.98	751239	14.15	741213	16.26
ZZZZZZ	233987	4.66	880708	5.75	538487	7.81	887618	9.98	770921	14.14	658727	16.26
ZZZZZZ	226178	4.67	891561	5.75	553620	7.81	934691	9.98	767570	14.15	737729	16.26
OP83422-MS	232562	4.66	975472	5.75	537392	7.81	895231	9.98	803448	14.15	737513	16.27
OP83422-MSD	228990	4.66	874496	5.75	536214	7.81	872607	9.98	757604	14.15	723989	16.26

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.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E2M3173-CC3171	**Injection Date:**	05/01/15
Lab File ID:	2M73756.D	**Injection Time:**	11:50
Instrument ID:	GCMS2M	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	290606	4.66	1104205	5.75	667434	7.80	1164347	9.97	1128919	14.14	1035236	16.24
Upper Limit [a]	581212	5.16	2208410	6.25	1334868	8.30	2328694	10.47	2257838	14.64	2070472	16.74
Lower Limit [b]	145303	4.16	552103	5.25	333717	7.30	582174	9.47	564460	13.64	517618	15.74

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
JB93023-10	239920	4.66	880511	5.74	542254	7.80	939590	9.97	834371	14.14	822235	16.27
JB93023-13	454824	4.66	1680742	5.75	1040661	7.80	1803279	9.98	1663953	14.16	1610978	16.29
JB93023-17	256909	4.66	921116	5.75	561819	7.80	923650	9.98	843008	14.14	824512	16.26
JB93023-18	256909	4.66	919771	5.75	515140	7.81	845865	9.98	793318	14.14	790150	16.26
JB93023-19	267090	4.66	952765	5.75	551899	7.80	956493	9.97	856428	14.14	827119	16.26
JB93023-20	268983	4.66	964602	5.75	569379	7.80	976680	9.97	866602	14.14	846428	16.26
JB93023-21	273876	4.66	941449	5.75	556276	7.80	948427	9.98	846222	14.14	825743	16.26
JB93023-15	271939	4.66	960779	5.75	550052	7.80	894898	9.98	827116	14.14	821766	16.26
JB93023-16	270266	4.66	914737	5.75	584479	7.80	995775	9.98	888493	14.14	861638	16.26
JB93023-22	225893	4.66	982752	5.75	607508	7.83	1034798	10.01	849221	14.16	843555	16.27
ZZZZZZ	255977	4.66	957170	5.75	578045	7.82	963980	10.00	958552	14.19	1174362	16.32
ZZZZZZ	247023	4.66	912379	5.75	564558	7.82	936409	9.99	865231	14.16	861922	16.29

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.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E3E3098-CC3055	**Injection Date:**	04/29/15
Lab File ID:	3E71724.D	**Injection Time:**	09:40
Instrument ID:	GCMS3E	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	320634	4.68	1275122	5.77	761009	7.84	1273564	10.02	1366287	14.21	1309645	16.33
Upper Limit [a]	641268	5.18	2550244	6.27	1522018	8.34	2547128	10.52	2732574	14.71	2619290	16.83
Lower Limit [b]	160317	4.18	637561	5.27	380505	7.34	636782	9.52	683144	13.71	654823	15.83

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP83240-MB1	283319	4.68	1160075	5.76	668563	7.83	1071015	10.01	1050442	14.20	1042801	16.32
OP83456-MB1	261999	4.68	1001150	5.76	552345	7.83	833205	10.01	723094	14.20	717669	16.32
OP83421-MB1	290308	4.68	1116808	5.76	600759	7.83	897599	10.01	790019	14.20	763332	16.32
ZZZZZZ	265059	4.68	1003268	5.76	558714	7.83	867574	10.01	846760	14.20	809751	16.33
OP83456-BS1	276595	4.68	1030838	5.77	557291	7.84	865980	10.02	832763	14.20	755329	16.32
ZZZZZZ	279498	4.68	1025135	5.76	559699	7.83	902152	10.01	883803	14.20	834634	16.33
ZZZZZZ	253396	4.68	977812	5.76	563666	7.83	886853	10.02	873638	14.20	785283	16.33
OP83104A-MB1	274868	4.68	1068955	5.76	631050	7.84	987719	10.01	978360	14.20	889578	16.33
OP83104A-BS1	260108	4.68	1003640	5.76	585599	7.84	918398	10.01	916976	14.20	872119	16.32
OP83104A-BSD	274089	4.68	1074357	5.76	627638	7.84	974599	10.01	963360	14.20	933735	16.33
ZZZZZZ	269495[c]	4.68	1007148[c]	5.76	541592[c]	7.83	852571[c]	10.01	817241[c]	14.21	842916[c]	16.34
JB92288-3R	287768	4.68	1059321	5.77	606519	7.84	975143	10.02	859618	14.20	848351	16.33
ZZZZZZ	267431	4.68	1024623	5.76	586450	7.84	951293	10.02	895517	14.20	832110	16.33
JB92288-8R	243987	4.68	967556	5.77	602024	7.86	851656	10.03	756248	14.20	742794	16.33
ZZZZZZ	299630	4.68	1085110	5.76	611775	7.83	986084	10.02	995805	14.20	945221	16.34
ZZZZZZ	275417	4.68	1041951	5.77	592904	7.84	958629	10.02	871770	14.21	845930	16.33
OP83104A-MS2	288768	4.68	1164122	5.78	723220	7.86	992549	10.04	1041508	14.22	1033536	16.34
OP83104A-MSD2	279893	4.68	1114020	5.78	678577	7.86	995278	10.04	898905	14.22	877834	16.34
OP83104A-MS1	274573	4.68	1062762	5.77	595162	7.84	968883	10.02	957277	14.22	863113	16.34
OP83104A-MSD1	296151	4.68	1121226	5.77	639392	7.84	1042034	10.02	992471	14.22	907277	16.34

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) This compound in BS is outside in house QC limits bias low.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E3E3099-CC3055	**Injection Date:**	04/29/15
Lab File ID:	3E71753.D	**Injection Time:**	22:27
Instrument ID:	GCMS3E	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	275913	4.67	1049569	5.76	616645	7.83	1023601	10.01	1067104	14.20	1005389	16.32
Upper Limit [a]	551826	5.17	2099138	6.26	1233290	8.33	2047202	10.51	2134208	14.70	2010778	16.82
Lower Limit [b]	137957	4.17	524785	5.26	308323	7.33	511801	9.51	533552	13.70	502695	15.82

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP83512-MB1	246408	4.67	972672	5.76	532751	7.83	845718	10.01	793119	14.19	786582	16.32
OP83512-BS1	258501	4.67	993165	5.76	523335	7.83	833743	10.01	808645	14.20	771581	16.32
OP83512-BSD	303500	4.67	1156753	5.76	606595	7.83	955320	10.01	922408	14.20	842702	16.32
OP83412-MB1	264065	4.67	1024151	5.76	546503	7.83	852805	10.01	758799	14.19	735042	16.32
OP83412-BS1	285889	4.67	1054248	5.76	559932	7.83	863615	10.01	839622	14.20	801670	16.32
ZZZZZZ	259898	4.67	999063	5.76	549781	7.83	872952	10.01	849514	14.19	854086	16.32
JB93020-1	234569	4.67	882436	5.76	484691	7.83	764289	10.01	713840	14.19	654460	16.32
ZZZZZZ	258681	4.67	945821	5.76	509478	7.83	789061	10.01	711546	14.19	651384	16.32
ZZZZZZ	267734	4.67	985562	5.76	529993	7.83	804659	10.01	712890	14.19	641373	16.32
JB93023-1	271688	4.67	941479	5.76	494617	7.83	744212	10.01	705298	14.22	741132	16.35
JB93023-2	332281	4.67	1172607	5.76	615068	7.83	929059	10.01	674817	14.20	654878	16.33
ZZZZZZ	318312	4.67	1121950	5.76	581714	7.83	857291	10.01	652424	14.20	590976	16.32
ZZZZZZ	349299	4.67	1203324	5.76	603816	7.83	880207	10.01	698118	14.20	606749	16.32
ZZZZZZ	316361	4.67	1091197	5.76	554056	7.83	810058	10.01	661445	14.20	567304	16.32
ZZZZZZ	325870	4.67	1128809	5.76	574874	7.83	814978	10.01	677893	14.20	570787	16.32
ZZZZZZ	333534	4.67	1183385	5.76	592522	7.83	811242	10.01	659330	14.20	572644	16.32
JB93023-8	280873	4.67	1048350	5.76	592738	7.83	985755	10.02	756752	14.20	627959	16.32
JB93023-7	337404	4.67	1201323	5.76	596889	7.83	858964	10.01	665538	14.19	585277	16.32
JB93023-5	355017	4.67	1240524	5.76	628931	7.83	894404	10.01	693147	14.20	600665	16.32
OP83412-MS	334879	4.67	1217773	5.76	616731	7.83	905305	10.01	740780	14.20	604712	16.32
OP83412-MSD	352702	4.67	1268346	5.76	655081	7.83	953260	10.01	789522	14.20	640946	16.32

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.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E3E3100-CC3055	**Injection Date:**	04/30/15
Lab File ID:	3E71784.D	**Injection Time:**	11:57
Instrument ID:	GCMS3E	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	299140	4.66	1160029	5.75	682879	7.82	1143342	10.00	1233852	14.19	1036202	16.31
Upper Limit [a]	598280	5.16	2320058	6.25	1365758	8.32	2286684	10.50	2467704	14.69	2072404	16.81
Lower Limit [b]	149570	4.16	580015	5.25	341440	7.32	571671	9.50	616926	13.69	518101	15.81

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP83507-MB1	297998	4.66	1117592	5.75	611161	7.82	949403	9.99	881128	14.18	844199	16.31
OP83507-BS1	312553	4.66	1162712	5.75	633930	7.82	1004919	10.00	1008398	14.19	929472	16.31
ZZZZZZ	282770	4.66	1071879	5.75	596048	7.81	936347	9.99	889566	14.18	846435	16.30
ZZZZZZ	264475	4.66	1012121	5.75	577215	7.81	939885	10.00	858804	14.18	794971	16.31
ZZZZZZ	253990	4.66	986799	5.75	572040	7.81	905013	10.00	959826	14.21	868009	16.33
ZZZZZZ	243345	4.66	935250	5.75	553187	7.81	923773	9.99	949110	14.18	861619	16.31
ZZZZZZ	257669	4.66	989048	5.75	560395	7.81	903313	9.99	860215	14.19	834716	16.32
ZZZZZZ	280480	4.67	1037239	5.75	588358	7.82	953871	10.00	866322	14.20	863604	16.33
JB93023-3 [c]	216863	4.67	866879	5.75	526319	7.82	861395	10.01	794215	14.23	777248	16.35
ZZZZZZ	255819	4.67	1019391	5.75	608523	7.82	1009897	10.01	909631	14.20	928527	16.34
OP83456-MS	248070	4.67	936007	5.76	542022	7.84	879699	10.03	835872	14.24	892426	16.37
OP83456-MSD	235936	4.67	891117	5.76	503966	7.83	806857	10.02	784172	14.23	811041	16.36
OP83507-MS	266865	4.67	1034379	5.76	593905	7.83	981361	10.02	883433	14.23	877234	16.37
OP83507-MSD	247614	4.67	943707	5.76	528656	7.83	867092	10.02	793817	14.23	801033	16.37
JB93427-1	246026	4.67	901745	5.76	531078	7.83	879900	10.02	792359	14.23	839535	16.36

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

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

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E3E3101-CC3055	**Injection Date:**	05/01/15
Lab File ID:	3E71816.D	**Injection Time:**	11:10
Instrument ID:	GCMS3E	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	242780	4.66	951518	5.74	577468	7.81	956872	9.99	1034818	14.18	981456	16.31
Upper Limit [a]	485560	5.16	1903036	6.24	1154936	8.31	1913744	10.49	2069636	14.68	1962912	16.81
Lower Limit [b]	121390	4.16	475759	5.24	288734	7.31	478436	9.49	517409	13.68	490728	15.81

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	212733	4.66	846651	5.74	514643	7.81	856554	9.99	868012	14.18	846251	16.31
ZZZZZZ	224815	4.66	860895	5.75	521672	7.81	850697	9.99	888699	14.19	895443	16.32
ZZZZZZ	200348	4.66	784802	5.75	470420	7.81	770003	9.99	756622	14.18	687741	16.31
ZZZZZZ	237482	4.66	884068	5.75	510261	7.81	798295	9.99	788935	14.18	691106	16.31
ZZZZZZ	250751	4.66	964157	5.75	563444	7.81	887235	9.99	887941	14.18	792613	16.31
ZZZZZZ	247873	4.66	906953	5.75	512857	7.81	798351	9.99	776323	14.18	712067	16.31
ZZZZZZ	230339	4.66	865250	5.75	504522	7.81	786964	9.99	819675	14.19	769411	16.32
ZZZZZZ	230339	4.66	865250	5.75	504522	7.81	786964	9.99	819675	14.19	769411	16.32
ZZZZZZ	248240	4.66	906203	5.75	526265	7.81	816625	10.00	874995	14.20	816804	16.33
ZZZZZZ	248240	4.66	906203	5.75	526265	7.81	816625	10.00	874995	14.20	816804	16.33
JB93023-6 [c]	213481	4.66	832545	5.75	545379	7.82	880058	10.03	1436735	14.37	976452	16.49
ZZZZZZ	216462	4.66	818585	5.75	462044	7.82	739538	10.00	712506	14.19	689722	16.32
ZZZZZZ	200412	4.66	760980	5.75	446818	7.81	701905	10.00	717023	14.19	654735	16.32
ZZZZZZ	208786	4.66	769448	5.75	476272	7.81	744619	10.00	745138	14.19	674481	16.32
ZZZZZZ	182761	4.66	693300	5.75	409082	7.81	664087	10.00	684146	14.19	601386	16.32
ZZZZZZ	207634	4.66	790238	5.75	465203	7.81	746112	10.00	784288	14.19	685284	16.32
ZZZZZZ	207544	4.66	780534	5.75	471705	7.81	773438	9.99	794507	14.18	701018	16.32
ZZZZZZ	216939	4.66	820758	5.75	498282	7.81	786205	9.99	814706	14.19	744355	16.32
ZZZZZZ	225105	4.66	844595	5.75	509933	7.81	804069	9.99	807430	14.18	744907	16.32
ZZZZZZ	198960	4.66	736065	5.75	444487	7.81	718524	9.99	697517	14.18	631540	16.31
ZZZZZZ	235302	4.66	889588	5.75	522786	7.81	853846	9.99	852069	14.19	830586	16.33

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Elevated detection limit due to high final volume of viscous extract and dilution.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E3E3103-CC3055	**Injection Date:**	05/04/15
Lab File ID:	3E71849.D	**Injection Time:**	13:01
Instrument ID:	GCMS3E	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	222456	4.65	879347	5.73	533863	7.80	856706	9.97	949022	14.16	881475	16.29
Upper Limit [a]	444912	5.15	1758694	6.23	1067726	8.30	1713412	10.47	1898044	14.66	1762950	16.79
Lower Limit [b]	111228	4.15	439674	5.23	266932	7.30	428353	9.47	474511	13.66	440738	15.79

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	244145	4.65	939094	5.73	535691	7.79	810592	9.97	725161	14.16	676748	16.28
ZZZZZZ	208148	4.65	770812	5.73	445059	7.79	670992	9.97	603943	14.16	568972	16.28
ZZZZZZ	226436	4.65	852084	5.73	483961	7.79	733527	9.97	657508	14.16	625366	16.28
ZZZZZZ	228295	4.65	857292	5.73	493716	7.79	752546	9.97	702189	14.16	683423	16.29
ZZZZZZ	218246	4.65	801768	5.73	442514	7.79	700159	9.97	650399	14.16	636375	16.29
ZZZZZZ	244764	4.65	886726	5.73	501889	7.80	773724	9.97	740017	14.16	731279	16.29
ZZZZZZ	320708	4.66	1153657	5.75	582271	7.80	893350	9.97	847610	14.18	871465	16.31
JB93023-6	195862	4.65	766295	5.73	485310	7.80	779007	9.97	733423	14.18	701456	16.30

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.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E3E3105-CC3055	**Injection Date:**	05/05/15
Lab File ID:	3E71867.D	**Injection Time:**	09:33
Instrument ID:	GCMS3E	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	229860	4.71	918304	5.80	546001	7.88	927845	10.06	1002844	14.26	973631	16.39
Upper Limit [a]	459720	5.21	1836608	6.30	1092002	8.38	1855690	10.56	2005688	14.76	1947262	16.89
Lower Limit [b]	114930	4.21	459152	5.30	273001	7.38	463923	9.56	501422	13.76	486816	15.89

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP83626-BS1	250715	4.71	1053061	5.80	548622	7.88	856298	10.06	887958	14.26	844320	16.39
OP83580-MB1	196994	4.71	782129	5.80	475602	7.88	797009	10.06	794835	14.25	762459	16.38
OP83580-BS1	198578	4.71	778403	5.80	473424	7.88	786046	10.06	818759	14.26	795731	16.39
JB93023-4	207315	4.71	789035	5.80	453975	7.88	743065	10.06	760656	14.26	735018	16.40
ZZZZZZ	213648	4.71	798782	5.81	470019	7.88	777967	10.06	748443	14.26	702398	16.39
ZZZZZZ	193086	4.71	769908	5.80	460973	7.88	763579	10.06	696296	14.26	641659	16.39
ZZZZZZ	196445	4.71	784833	5.80	477193	7.88	783996	10.06	733894	14.26	651178	16.39
ZZZZZZ	223193	4.71	832165	5.80	518434	7.88	849191	10.06	818379	14.26	749766	16.39
ZZZZZZ	196043	4.71	769025	5.80	470866	7.88	774178	10.06	736723	14.26	658325	16.39
ZZZZZZ	206782	4.71	803336	5.80	494053	7.88	813341	10.06	784766	14.26	733238	16.39
OP83626-MB1	189869	4.71	727427	5.80	435281	7.88	698093	10.06	738930	14.26	704945	16.39
ZZZZZZ	120501	4.71	476715	5.80	285362	7.88	457136*	10.06	468013*	14.26	441202*	16.40
ZZZZZZ	195111	4.71	744091	5.80	448732	7.88	731570	10.06	711909	14.26	694794	16.40
JB93444-3	211677	4.71	801451	5.80	453633	7.88	748199	10.06	697924	14.26	664444	16.39
OP83626-MS	210412	4.71	805490	5.81	457449	7.88	736093	10.06	737705	14.27	648587	16.40
OP83626-MSD	220863	4.71	838298	5.81	483108	7.88	767452	10.06	776147	14.27	683163	16.40
ZZZZZZ	191272	4.71	767810	5.80	472546	7.88	758187	10.06	757142	14.26	659687	16.39
ZZZZZZ	176740	4.71	698510	5.80	431394	7.88	714100	10.06	716828	14.26	632127	16.39
ZZZZZZ	200973	4.71	790472	5.80	483417	7.88	797054	10.06	770823	14.26	704623	16.39
ZZZZZZ	203669	4.71	792001	5.80	519692	7.88	793640	10.07	758839	14.26	701106	16.40
ZZZZZZ	210223	4.71	809622	5.80	493900	7.88	810832	10.06	783376	14.26	720165	16.39
ZZZZZZ	195160	4.71	757704	5.80	469105	7.88	743754	10.06	751349	14.26	713386	16.39
ZZZZZZ	196044	4.71	763932	5.80	467290	7.88	760063	10.06	770059	14.26	744007	16.39
ZZZZZZ	185781	4.71	720428	5.80	440312	7.88	714223	10.06	731065	14.26	702570	16.39
ZZZZZZ	171244	4.71	655476	5.80	401259	7.88	647837	10.06	665476	14.26	671149	16.39
ZZZZZZ	191820	4.71	759257	5.80	462529	7.88	745467	10.06	758886	14.26	708423	16.39

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.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E3E3105-CC3055	**Injection Date:**	05/05/15
Lab File ID:	3E71867.D	**Injection Time:**	09:33
Instrument ID:	GCMS3E	**Method:**	SW846 8270D

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**

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

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	E5P916-CC913	**Injection Date:**	04/30/15
Lab File ID:	5P17869.D	**Injection Time:**	12:26
Instrument ID:	GCMS5P	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	90548	5.74	359151	7.24	202325	9.36	294650	11.19	287663	14.99	297177	17.06
Upper Limit [a]	181096	6.24	718302	7.74	404650	9.86	589300	11.69	575326	15.49	594354	17.56
Lower Limit [b]	45274	5.24	179576	6.74	101163	8.86	147325	10.69	143832	14.49	148589	16.56

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP83420-MB1	90584	5.74	369591	7.24	195254	9.36	273797	11.19	243438	14.98	243959	17.05
OP83522-MB1	72744	5.74	295017	7.24	156494	9.36	215579	11.19	196371	14.98	195588	17.05
ZZZZZZ	68716	5.75	264219	7.25	159639	9.36	227614	11.19	219758	15.00	232463	17.08
ZZZZZZ	68160	5.75	258224	7.25	158939	9.36	219065	11.19	201971	14.98	209847	17.06
ZZZZZZ	91487	5.74	366788	7.24	216187	9.36	313849	11.19	292040	14.98	297437	17.06
ZZZZZZ	75189	5.74	302670	7.24	180355	9.36	266089	11.19	251284	14.98	249634	17.06
ZZZZZZ	74086	5.75	278916	7.25	171756	9.36	241005	11.19	222682	14.98	220885	17.06
ZZZZZZ	85599	5.74	334334	7.25	191863	9.36	273043	11.19	266144	15.00	278494	17.08
ZZZZZZ	94277	5.74	372561	7.24	215612	9.36	305201	11.20	282761	14.99	294746	17.06
ZZZZZZ	86259	5.74	348831	7.24	192107	9.36	283729	11.19	253879	14.99	267591	17.07
ZZZZZZ	89574	5.74	353501	7.24	194358	9.36	277129	11.20	261712	15.01	271665	17.09
ZZZZZZ	94879	5.74	387541	7.24	211113	9.37	299255	11.20	279914	15.00	287386	17.07
ZZZZZZ	94875	5.74	375658	7.24	199989	9.37	284199	11.20	253585	15.00	256690	17.07
ZZZZZZ	74924	5.74	330075	7.24	185174	9.37	269703	11.20	260472	15.00	259589	17.07

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.

Semivolatile Internal Standard Area Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Check Std:	EZ5033-CC5031	**Injection Date:**	04/30/15
Lab File ID:	Z100908.D	**Injection Time:**	12:05
Instrument ID:	GCMSZ	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	156661	4.89	615094	5.81	338585	7.27	557681	9.22	471683	14.55	445082	17.59
Upper Limit [a]	313322	5.39	1230188	6.31	677170	7.77	1115362	9.72	943366	15.05	890164	18.09
Lower Limit [b]	78331	4.39	307547	5.31	169293	6.77	278841	8.72	235842	14.05	222541	17.09

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP83522-MB1	125375	4.89	480408	5.81	259282	7.27	417113	9.21	326055	14.53	294143	17.58
OP83522-BS1	119332	4.89	511775	5.81	243000	7.27	393270	9.21	322538	14.53	296049	17.58
JB93495-27	109632	4.90	291057*	5.82	238509	7.27	394539	9.22	344694	14.53	315867	17.58
ZZZZZZ	99179	4.90	249909*	5.82	234060	7.27	371043	9.21	316136	14.53	303074	17.59
ZZZZZZ	98635	4.89	343662	5.82	216035	7.27	355594	9.21	310081	14.53	281981	17.59
JB93495-27	113876	4.89	433934	5.81	253957	7.27	433396	9.22	375160	14.55	338748	17.59
ZZZZZZ	113383	4.89	427314	5.81	258592	7.27	432687	9.22	381075	14.54	336811	17.59
ZZZZZZ	105889	4.89	420303	5.81	247015	7.27	408121	9.22	353902	14.54	311207	17.59
JB93023-11	118474	4.89	454570	5.81	234462	7.27	371794	9.22	319202	14.54	294451	17.59
OP83522-MS	98462	4.90	321104	5.82	210055	7.28	336553	9.22	293512	14.55	292363	17.60
OP83522-MSD	102996	4.90	327858	5.82	213491	7.27	342821	9.22	297405	14.55	292195	17.59
JB93023-12 [c]	100642	4.89	366630	5.81	180763	7.29	310466	9.25	298513	14.61	339074	17.68
JB93023-12	105573	4.89	408633	5.81	202809	7.29	349418	9.24	318118	14.59	322034	17.65

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Dilution required due to viscosity of the extract matrix

Semivolatile Surrogate Recovery Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JB93023-1	3E71765.D	69	64	103	71	83	95
JB93023-2	3E71766.D	68	63	97	72	84	103
JB93023-3	3E71799.D	48	55	92	58	74	93
JB93023-4	3E71874.D	75	72	112	78	87	94
JB93023-5	3E71774.D	72	65	107	75	90	113
JB93023-6	3E71860.D	0* [a]	0* [a]	0* [a]	0* [a]	0* [a]	0* [a]
JB93023-6	3E71829.D	62	69	139	80	82	96
JB93023-7	3E71773.D	69	63	107	72	87	114
JB93023-8	3E71772.D	73	70	100	73	85	115
JB93023-9	2M73606.D	69	70	111	81	81	93
JB93023-10	2M73759.D	59	64	73	70	73	79
JB93023-10	2M73607.D	73	75	108	85	83	87
JB93023-11	Z100919.D	64	64	62	65	72	78
JB93023-12	Z100922.D	66	68	59	78	76	69
JB93023-12	Z100923.D	58	61	51	65	69	68
JB93023-13	2M73760.D	65	69	74	66	69	72
JB93023-14	2M73610.D	64	64	101	74	77	88
JB93023-15	2M73766.D	68	71	82	75	80	87
JB93023-16	2M73767.D	69	67	74	83	75	81
JB93023-17	2M73761.D	60	67	69	71	72	86
JB93023-18	2M73762.D	70	74	70	78	81	82
JB93023-19	2M73763.D	70	70	74	76	78	88
JB93023-20	2M73764.D	71	74	83	78	81	90
JB93023-21	2M73765.D	69	71	78	79	82	93
JB93023-22	2M73768.D	82	79	60	75	66	81
JB93023-23	2M73741.D	71	73	76	75	76	84
JB93023-24	2M73740.D	64	66	69	70	72	81
OP83412-BS1	3E71760.D	70	67	111	70	85	86
OP83412-MB1	3E71759.D	71	65	92	67	77	91
OP83412-MS	3E71775.D	72	69	125	71	93	111
OP83412-MSD	3E71776.D	68	66	124	69	91	107
OP83421-BS1	2M73592.D	79	73	124	88	94	107
OP83421-MB1	2M73591.D	79	78	110	90	87	101
OP83421-MB1	3E71730.D	76	75	82	80	88	101
OP83421-MS	2M73613.D	66	66	121	68	86	98
OP83421-MSD	2M73614.D	65	65	100	68	80	91
OP83422-BS1	2M73728.D	77	75	94	82	86	95
OP83422-MB1	2M73727.D	69	69	77	73	73	80
OP83422-MS	2M73749.D	29	61	16* [b]	64	78	83
OP83422-MSD	2M73750.D	41	63	23	71	78	91

Semivolatile Surrogate Recovery Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
OP83522-BS1	Z100911.D	78	75	69	70	81	93
OP83522-MB1	Z100910.D	78	75	68	80	81	97
OP83522-MB1	5P17872.D	84	80	75	81	83	93
OP83522-MS	Z100920.D	73	69	68	69	76	82
OP83522-MSD	Z100921.D	67	64	66	67	74	83

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	22-121%
S2 = Phenol-d5	27-119%
S3 = 2,4,6-Tribromophenol	17-158%
S4 = Nitrobenzene-d5	33-127%
S5 = 2-Fluorobiphenyl	41-121%
S6 = Terphenyl-d14	44-137%

(a) Outside control limits due to dilution.
(b) Outside control limits due to matrix interference.

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3135-ICC3135
Lab FileID: 2M72897.D

```
                          Response Factor Report  MS

  Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri Apr 10 19:58:22 2015
  Last Update  : Fri Apr 10 19:58:22 2015
  Response via : Initial Calibration

  Calibration Files
  2   =2m72901.D   5   =2m72900.D   25  =2m72898.D   80  =2m72896.D
  100 =2m72895.D   50  =2m72897.D   1   =2m72902.D   10  =2m72899.D

   Compound         2     5     25    80    100   50    1     10    Avg %RSD
  ---------------------------------------------------------------------------
102)     1,4-Dichlorobenzene-d ----------------ISTD---------------------
103) Benzaldehyde 1.532 1.261 1.177 1.005 0.891 1.138 1.351 1.205 1.195  16.57

104)     Acenaphthene-d10a     ----------------ISTD---------------------
105) 1,2,4,5-Tetr 0.512 0.412 0.402 0.397 0.392 0.404 0.471 0.404 0.424  10.21

106)     Chrysene-d12a         ----------------ISTD---------------------
107) Benzidine    0.333 0.350 0.510 0.348       0.487       0.409 0.406  18.83
108) 1-chloroocta 0.343 0.316 0.344 0.341 0.334 0.342 0.279 0.331 0.329   6.74

109)     Phenanthrene-d10a     ----------------ISTD---------------------
110) Atrazine     0.096 0.080 0.088 0.092 0.091 0.091 0.079 0.088 0.088   6.67
111) o-terphenyl  0.531 0.447 0.457 0.452 0.443 0.462 0.462 0.451 0.463   6.13

112)     Naphthalene-d8a       ----------------ISTD---------------------
113) Hydroquinone 0.303 0.294 0.343 0.355 0.347 0.363 0.242 0.319 0.321  12.54
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M2M3137.M         Fri Apr 10 23:41:07 2015
```

8.7.1

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3135-ICV3135
Lab FileID: 2M72904.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3135\2m72904.D          Vial: 11
Acq On    :  8 Apr 2015  10:02 pm                    Operator: sarad
Sample    : icv3135-50                               Inst    : MS
Misc      : op82859,e2m3135                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri Apr 10 19:58:22 2015
Last Update  : Fri Apr 10 19:58:22 2015
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.
104	Acenaphthene-d10a	1.000	1.000	0.0	94	0.00	8.15
105	1,2,4,5-Tetrachlorobenzen	0.424	0.400	5.7	93	0.00	7.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897.D M2M3137.M Fri Apr 10 23:39:33 2015

8.7.2

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3135-ICV3135
Lab FileID: 2M72905.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3135\2m72905.D          Vial: 12
Acq On    :  8 Apr 2015  10:28 pm                    Operator: sarad
Sample    : icv3135-50                               Inst    : MS
Misc      : op82859,e2m3135                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri Apr 10 19:58:22 2015
Last Update  : Fri Apr 10 19:58:22 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	111	0.00	4.91
103	Benzaldehyde	1.195	1.201	-0.5	118	0.00	4.57
109	Phenanthrene-d10a	1.000	1.000	0.0	99	0.00	10.34
110	Atrazine	0.088	0.089	-1.1	97	0.00	9.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897.D M2M3137.M Fri Apr 10 23:39:34 2015

8.7.3

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3135-ICV3135
Lab FileID: 2M72908.D

```
                    Evaluate Continuing Calibration Report

  Data File : C:\msdchem\1\DATA\e2m3135\2m72908.D          Vial: 15
  Acq On    :  8 Apr 2015  11:49 pm                    Operator: sarad
  Sample    : icv3135-50                               Inst    : MS
  Misc      : op82859,e2m3135                          Multiplr: 1.00
  MS Integration Params: rteint.p

  Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri Apr 10 19:58:22 2015
  Last Update  : Fri Apr 10 19:58:22 2015
  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.
  ---------------------------------------------------------------------------
106     Chrysene-d12a               1.000   1.000      0.0  135   0.00   14.53
107     Benzidine                   0.406   1.143    -181.5# 316#  0.01   12.50
 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     2m72897.D  M2M3137.M        Fri Apr 10 23:39:35 2015
```

8.7.4

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3135-ICV3135
Lab FileID: 2M72909.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3135\2m72909.D          Vial: 16
Acq On    :  9 Apr 2015  12:16 am                    Operator: sarad
Sample    : icv3135-50                               Inst    : MS
Misc      : op82859,e2m3135                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri Apr 10 19:58:22 2015
Last Update  : Fri Apr 10 19:58:22 2015
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.
112	Naphthalene-d8a	1.000	1.000	0.0	108	0.00	6.03
113	Hydroquinone	0.321	0.479	-49.2#	142	0.02	6.45

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897.D M2M3137.M Fri Apr 10 23:39:36 2015

8.7.5

8

Initial Calibration Summary

Job Number: JB93023 **Sample:** E2M3137-ICC3137
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M72938.D
Project: MHIC-592/593 Tanks

Response Factor Report MS

Method : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun Apr 12 14:53:02 2015
Last Update : Sun Apr 12 14:53:02 2015
Response via : Initial Calibration

Calibration Files
2 =2m72936.D 5 =2m72937.D 25 =2m72939.D 80 =2m72941.D
100 =2m72934.D 50 =2m72938.D 1 =2m72935.D 10 =2m72940.D

Compound	2	5	25	80	100	50	1	10	Avg	%RSD
1) I 1,4-Dichlorobenzene-d	----------ISTD----------									
2) 1,4-Dioxane	0.645	0.745	0.674	0.650	0.647	0.642	0.746	0.682	0.679	6.39
3) Pyridine	1.663	1.882	1.721	1.715	1.725	1.678	1.948	1.743	1.759	5.75
4) N-Nitrosodim	0.952	1.075	0.985	0.949	0.969	0.956	1.097	0.982	0.996	5.78
5) 2-Fluorophen	1.407	1.631	1.507	1.461	1.463	1.478	1.673	1.516	1.517	5.95
6) Indene	2.439	2.876	2.543	2.107	2.041	2.349	2.987	2.642	2.498	13.46
7) Cumene	3.498	4.066	3.625	3.231	3.211	3.417	4.246	3.694	3.624	10.28
8) Phenol-d5	1.791	2.180	1.954	1.830	1.831	1.874	2.104	1.952	1.939	7.17
9) Phenol	2.035	2.371	2.184	2.007	1.980	2.085	2.520	2.179	2.170	8.72
10) Aniline	2.346	2.752	2.453	2.266	2.272	2.339	2.884	2.525	2.480	9.23
11) bis(2-Chloro	1.455	1.635	1.467	1.375	1.374	1.411	1.662	1.477	1.482	7.45
12) 2-Chlorophen	1.516	1.720	1.575	1.446	1.436	1.508	1.757	1.580	1.567	7.54
13) Decane	1.101	1.266	1.108	0.988	0.994	1.043	1.361	1.140	1.125	11.61
14) 1,3-Dichloro	1.582	1.820	1.652	1.497	1.470	1.577	1.939	1.677	1.652	9.68
15) 1,4-Dichloro	1.590	1.847	1.666	1.471	1.458	1.578	1.947	1.705	1.658	10.38
16) Benzyl alcoh	0.943	1.106	1.018	0.956	0.955	0.974	1.132	1.002	1.011	7.10
17) 1,2-Dichloro	1.490	1.722	1.553	1.352	1.346	1.471	1.800	1.600	1.542	10.53
18) Acetophenone	2.082	2.350	2.041	1.626	1.615	1.824	2.444	2.160	2.018	15.33
19) 2-Methylphen	1.320	1.529	1.431	1.275	1.254	1.363	1.614	1.413	1.400	8.88
20) 2,2'-oxybis(	1.463	1.621	1.428	1.232	1.210	1.327	1.781	1.474	1.442	13.35
21) 3&4-Methylph	1.376	1.625	1.460	1.191	1.172	1.327	1.639	1.516	1.413	12.68
22) n-Nitroso-di	0.952	1.116	0.958	0.780	0.781	0.851	1.208	1.017	0.958	16.06
23) Hexachloroet	0.429	0.515	0.464	0.424	0.421	0.444	0.533	0.469	0.462	9.10
24) I Naphthalene-d8	----------ISTD----------									
25) Nitrobenzene	0.340	0.409	0.372	0.351	0.352	0.359	0.432	0.374	0.374	8.52
26) Nitrobenzene	0.347	0.407	0.369	0.345	0.347	0.357	0.408	0.373	0.369	7.02
27) Quinoline	0.679	0.806	0.756	0.723	0.723	0.733	0.826	0.751	0.749	6.32
28) Isophorone	0.645	0.744	0.669	0.632	0.637	0.649	0.777	0.680	0.679	7.87
29) 2-Nitropheno	0.167	0.209	0.203	0.193	0.192	0.200	0.207	0.196	0.196	6.72
30) 2,4-Dimethyl	0.314	0.369	0.345	0.328	0.329	0.337	0.373	0.346	0.343	5.98
31) Benzoic acid	0.160	0.215	0.252	0.287	0.297	0.276	0.210	0.215	0.239	19.60
32) bis(2-Chloro	0.387	0.473	0.423	0.394	0.395	0.409	0.494	0.431	0.426	9.16
33) 2,4-Dichloro	0.245	0.304	0.286	0.271	0.267	0.284	0.304	0.280	0.280	6.98
34) 2,6-Dichloro	0.260	0.309	0.289	0.254	0.255	0.277	0.314	0.283	0.280	8.33
35) 1,3,5-Trichl	0.314	0.368	0.327	0.287	0.281	0.310	0.376	0.336	0.325	10.58
36) 1,2,4-Trichl	0.280	0.322	0.296	0.270	0.269	0.285	0.348	0.303	0.297	9.21
37) 1,2,3-Trichl	0.296	0.337	0.304	0.274	0.270	0.293	0.349	0.312	0.304	9.07
38) Naphthalene	1.088	1.269	1.134	1.011	0.998	1.081	1.327	1.163	1.134	10.26
39) 4-Chloroanil	0.409	0.505	0.466	0.418	0.414	0.449	0.517	0.465	0.455	9.01
40) 2,3-Dichloro	0.317	0.387	0.347	0.296	0.294	0.319	0.395	0.354	0.339	11.44
41) Caprolactam	0.118	0.144	0.133	0.131	0.134	0.130	0.166	0.132	0.136	10.30
42) Hexachlorobu	0.130	0.153	0.137	0.120	0.117	0.130	0.163	0.140	0.136	11.51
43) 4-Chloro-3-m	0.263	0.314	0.309	0.294	0.297	0.303	0.326	0.298	0.300	6.17
44) 2-Methylnaph	0.549	0.645	0.587	0.524	0.522	0.559	0.660	0.590	0.580	8.91
45) 1-Methylnaph	0.601	0.705	0.632	0.566	0.563	0.608	0.737	0.650	0.633	9.90

Initial Calibration Summary

Job Number: JB93023 **Sample:** E2M3137-ICC3137
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M72938.D
Project: MHIC-592/593 Tanks

```
46) Dimethylnaph 0.583 0.701 0.633 0.575 0.565 0.608 0.721 0.646 0.629   9.17

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.155 0.209 0.230 0.218 0.211 0.225 0.170 0.211 0.204  13.19
49) 2,4,6-Trichl 0.295 0.350 0.329 0.289 0.283 0.307 0.343 0.331 0.316   8.12
50) 2,4,5-Trichl 0.279 0.363 0.344 0.333 0.329 0.342 0.333 0.332 0.332   7.17
51) 2-Fluorobiph 1.209 1.380 1.270 1.127 1.098 1.202 1.412 1.298 1.250   8.97
52) 2-Chloronaph 1.017 1.206 1.108 1.019 0.998 1.071 1.253 1.117 1.099   8.41
53) Biphenyl     1.501 1.729 1.564 1.396 1.368 1.504 1.780 1.624 1.558   9.43
54) 2-Nitroanili 0.258 0.316 0.317 0.309 0.312 0.310 0.306 0.310 0.305   6.29
55) Dimethylphth 1.131 1.289 1.182 1.134 1.120 1.161 1.335 1.203 1.194   6.59
56) Acenaphthyle 1.752 2.078 1.909 1.781 1.748 1.868 2.061 1.932 1.891   6.88
57) 2,6-Dinitrot 0.187 0.241 0.257 0.265 0.263 0.260 0.237 0.243 0.244  10.45
58) 3-Nitroanili 0.297 0.354 0.353 0.359 0.352 0.356 0.321 0.346 0.342   6.41
59) Acenaphthene 1.092 1.278 1.164 1.061 1.031 1.123 1.330 1.174 1.157   8.99
60) 2,4-Dinitrop 0.023 0.054 0.124 0.164 0.164 0.145       0.075 0.107  52.66
         ----- Quadratic regression -----                Coefficient =  0.9989
              Response Ratio = -0.02377 + 0.14110 *A + 0.00597 *A^2

61) 4-Nitropheno 0.121 0.141 0.145 0.154 0.158 0.154 0.122 0.140 0.142   9.97
62) Dibenzofuran 1.455 1.673 1.505 1.361 1.315 1.453 1.757 1.546 1.508   9.89
63) 2,4-Dinitrot 0.253 0.337 0.357 0.342 0.338 0.353 0.273 0.345 0.325  11.99
64) 2,3,4,6-Tetr 0.210 0.257 0.254 0.247 0.242 0.250 0.260 0.245 0.246   6.34
65) Diethylphtha 1.102 1.284 1.179 1.125 1.118 1.158 1.368 1.198 1.191   7.69
66) Fluorene     1.189 1.365 1.240 1.088 1.063 1.175 1.372 1.282 1.222   9.45
67) 4-Chlorophen 0.485 0.571 0.523 0.452 0.437 0.489 0.596 0.535 0.511  10.88
68) 4-Nitroanili 0.285 0.367 0.363 0.356 0.353 0.365 0.348 0.363 0.350   7.78

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro-       0.069 0.115 0.137 0.136 0.127       0.084 0.111  25.39
            ----- Linear regression -----  Coefficient =  0.9993
              Response Ratio = -0.01354 + 0.14133 *A

71) n-Nitrosodip 0.484 0.569 0.533 0.509 0.494 0.520 0.606 0.527 0.530   7.55
72) 1,2-Diphenyl 0.765 0.895 0.821 0.785 0.781 0.809 0.918 0.830 0.825   6.61
73) 2,4,6-Tribro 0.073 0.089 0.082 0.082 0.081 0.082 0.083 0.081 0.082   5.37
74) 4-Bromopheny 0.169 0.192 0.173 0.169 0.164 0.173 0.197 0.172 0.176   6.66
75) Hexachlorobe 0.173 0.199 0.178 0.166 0.163 0.175 0.210 0.183 0.181   8.82
76) Pentachlorop 0.086 0.111 0.121 0.114 0.112 0.119 0.094 0.110 0.108  11.25
77) Phenanthrene 1.135 1.299 1.167 1.061 1.043 1.131 1.365 1.190 1.174   9.43
78) Anthracene   1.099 1.257 1.179 1.087 1.056 1.144 1.289 1.189 1.163   7.08
79) Carbazole    1.021 1.214 1.140 1.056 1.039 1.110 1.226 1.129 1.117   6.87
80) Di-n-butylph 1.146 1.369 1.323 1.270 1.259 1.329 1.358 1.276 1.291   5.53
81) Fluoranthene 0.976 1.133 1.078 1.012 1.008 1.057 1.145 1.066 1.059   5.64
82) Octadecane   0.413 0.505 0.468 0.425 0.419 0.451 0.514 0.470 0.458   8.40

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.229 1.459 1.387 1.306 1.333 1.343 1.480 1.338 1.359   5.99
85) Terphenyl-d1 0.737 0.854 0.820 0.780 0.797 0.804 0.857 0.774 0.803   5.04
86) Butylbenzylp 0.541 0.669 0.668 0.666 0.689 0.672 0.678 0.613 0.650   7.56
87) Butyl steara 0.269 0.332 0.343 0.330 0.346 0.343 0.312 0.319 0.324   7.85
88) Benzo[a]anth 1.083 1.199 1.133 1.015 1.030 1.079 1.384 1.117 1.130  10.44
89) 3,3'-Dichlor 0.350 0.426 0.416 0.364 0.358 0.390 0.419 0.394 0.390   7.59
90) Chrysene     0.968 1.123 1.093 1.034 1.064 1.071 1.158 1.036 1.068   5.47
91) bis(2-Ethylh 0.715 0.874 0.938 0.921 0.958 0.943 0.884 0.835 0.883   9.00

92) I   Perylene-d12          ----------------ISTD---------------------
93) Di-n-octylph 1.293 1.557 1.738 1.714 1.753 1.770 1.600 1.480 1.613  10.32
94) Benzo[b]fluo 1.089 1.204 1.225 1.129 1.169 1.154 1.306 1.139 1.177   5.72
95) Benzo[k]fluo 0.986 1.192 1.211 1.110 1.071 1.197 1.244 1.145 1.144   7.45
```

8.7.6

8

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3137-ICC3137
Lab FileID: 2M72938.D

```
 96) Benzo[a]pyre 0.886 1.010 1.071 1.048 1.066 1.076 1.031 0.957 1.018   6.49
 97) Indeno[1,2,3 0.775 0.930 1.043 1.099 1.144 1.058 0.960 0.836 0.980  13.17
 98) Dibenz(a,h)a 0.736 0.851 0.918 0.934 0.967 0.945 0.880 0.787 0.877   9.27
 99) Dibenz[a,h]a 0.868 0.974 1.072 1.063 1.085 1.090 1.049 0.923 1.015   8.23
100) 7,12-Dimethy 0.445 0.552 0.572 0.502 0.502 0.543 0.525 0.530 0.522   7.52
101) Benzo[g,h,i] 0.876 0.979 1.006 1.034 1.060 1.029 1.022 0.901 0.989   6.69
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M2M3137.M         Mon Apr 13 12:07:28 2015
```

8.7.6

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3137-ICV3137
Lab FileID: 2M72942.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3137\2m72942.D          Vial: 10
Acq On    : 10 Apr 2015   7:46 pm                    Operator: ashleyn
Sample    : icv3137-50                               Inst    : MS
Misc      : op82859,e2m3137                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun Apr 12 14:53:02 2015
Last Update  : Sun Apr 12 14:53:02 2015
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	106	-0.02	4.89
9	t	Phenol	2.170	1.831	15.6	93	-0.02	4.62
12	t	2-Chlorophenol	1.567	1.470	6.2	103	-0.02	4.73
19	t	2-Methylphenol	1.400	1.336	4.6	103	-0.02	5.08
21	t	3&4-Methylphenol	1.413	1.424	-0.8	113	-0.02	5.21
24	I	Naphthalene-d8	1.000	1.000	0.0	102	-0.03	6.01
29	t	2-Nitrophenol	0.196	0.194	1.0	99	-0.02	5.64
30	t	2,4-Dimethylphenol	0.343	0.336	2.0	102	-0.02	5.68
31	t	Benzoic acid	0.239	0.238	0.4	88	-0.02	5.77
33	t	2,4-Dichlorophenol	0.280	0.270	3.6	97	-0.03	5.87
34	t	2,6-Dichlorophenol	0.280	0.274	2.1	101	-0.03	6.09
43	t	4-Chloro-3-methylphenol	0.300	0.287	4.3	97	-0.03	6.60
47	I	Acenaphthene-d10	1.000	1.000	0.0	97	-0.03	8.13
49	t	2,4,6-Trichlorophenol	0.316	0.323	-2.2	102	-0.03	7.13
50	t	2,4,5-Trichlorophenol	0.332	0.349	-5.1	99	-0.03	7.17
		----------	True	Calc.	% Drift		----------	
60	t	2,4-Dinitrophenol	100.000	76.640	23.4	62	-0.04	8.21
		----------	AvgRF	CCRF	% Dev		----------	
61	t	4-Nitrophenol	0.142	0.143	-0.7	90	-0.03	8.32
64		2,3,4,6-Tetrachlorophenol	0.246	0.231	6.1	89	-0.03	8.60
69	I	Phenanthrene-d10	1.000	1.000	0.0	97	-0.04	10.31
		----------	True	Calc.	% Drift		----------	
70	t	4,6-Dinitro-2-methylpheno	50.000	37.483	25.0	73	-0.04	8.99
76	t	Pentachlorophenol	0.108	0.112	-3.7	90	-0.04	10.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897.D M2M3137.M Sun Apr 12 14:56:15 2015

8.7.7

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3137-ICV3137
Lab FileID: 2M72943.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3137\2m72943.D Vial: 11
Acq On : 10 Apr 2015 8:14 pm Operator: ashleyn
Sample : icv3137-50 Inst : MS
Misc : op82859,e2m3137 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun Apr 12 14:53:02 2015
Last Update : Sun Apr 12 14:53:02 2015
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	108	-0.02	4.89
4	t	N-Nitrosodimethylamine	0.996	0.982	1.4	111	0.00	2.77
11	t	bis(2-Chloroethyl)ether	1.482	1.437	3.0	110	-0.02	4.68
14	t	1,3-Dichlorobenzene	1.652	1.525	7.7	105	-0.02	4.85
15	t	1,4-Dichlorobenzene	1.658	1.526	8.0	105	-0.02	4.91
17	t	1,2-Dichlorobenzene	1.542	1.478	4.2	109	-0.02	5.03
20	t	2,2'-oxybis(1-Chloropropa	1.442	1.389	3.7	113	-0.02	5.10
22	t	n-Nitroso-di-n-propylamin	0.958	0.929	3.0	118	-0.03	5.20
23	t	Hexachloroethane	0.462	0.435	5.8	106	-0.02	5.31
24	I	Naphthalene-d8	1.000	1.000	0.0	106	-0.03	6.01
26	t	Nitrobenzene	0.369	0.346	6.2	102	-0.02	5.36
28	t	Isophorone	0.679	0.673	0.9	109	-0.03	5.56
32	t	bis(2-Chloroethoxy)methan	0.426	0.424	0.5	110	-0.02	5.76
36	t	1,2,4-Trichlorobenzene	0.297	0.284	4.4	105	-0.02	5.96
38	t	Naphthalene	1.134	1.037	8.6	101	-0.02	6.04
42	t	Hexachlorobutadiene	0.136	0.130	4.4	105	-0.02	6.17
47	I	Acenaphthene-d10	1.000	1.000	0.0	99	-0.03	8.13
48	t	Hexachlorocyclopentadiene	0.204	0.210	-2.9	92	-0.03	6.99
52	t	2-Chloronaphthalene	1.099	1.050	4.5	98	-0.03	7.38
55	t	Dimethylphthalate	1.194	1.118	6.4	96	-0.03	7.77
56	t	Acenaphthylene	1.891	1.650	12.7	88	-0.03	7.93
57	t	2,6-Dinitrotoluene	0.244	0.236	3.3	90	-0.03	7.84
59	t	Acenaphthene	1.157	1.127	2.6	100	-0.03	8.17
63	t	2,4-Dinitrotoluene	0.325	0.303	6.8	85	-0.03	8.40
65	t	Diethylphthalate	1.191	1.105	7.2	95	-0.03	8.77
66	t	Fluorene	1.222	1.141	6.6	97	-0.03	8.91
67	t	4-Chlorophenyl-phenylethe	0.511	0.483	5.5	98	-0.03	8.92
69	I	Phenanthrene-d10	1.000	1.000	0.0	101	-0.04	10.31
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.530	0.505	4.7	98	-0.03	9.10
72	t	1,2-Diphenylhydrazine	0.825	0.784	5.0	98	-0.03	9.15
74	t	4-Bromophenyl-phenylether	0.176	0.163	7.4	95	-0.03	9.65
75	t	Hexachlorobenzene	0.181	0.160	11.6	92	-0.03	9.74
77	t	Phenanthrene	1.174	1.017	13.4	91	-0.04	10.35
78	t	Anthracene	1.163	1.033	11.2	91	-0.03	10.43
80	t	Di-n-butylphthalate	1.291	1.177	8.8	89	-0.03	11.31
81	t	Fluoranthene	1.059	0.927	12.5	88	-0.04	12.21

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3137-ICV3137
Lab FileID: 2M72943.D

83	I	Chrysene-d12	1.000	1.000	0.0	89	-0.04	14.50
84	t	Pyrene	1.359	1.308	3.8	87	-0.04	12.56
86	t	Butylbenzylphthalate	0.650	0.650	0.0	86	-0.04	13.69
88	t	Benzo[a]anthracene	1.130	0.994	12.0	82	-0.04	14.48
90	t	Chrysene	1.068	1.045	2.2	87	-0.04	14.53
91	t	bis(2-Ethylhexyl)phthalat	0.883	0.885	-0.2	83	-0.04	14.64
92	I	Perylene-d12	1.000	1.000	0.0	87	-0.05	16.60
93	t	Di-n-octylphthalate	1.613	1.685	-4.5	83	-0.04	15.62
94	t	Benzo[b]fluoranthene	1.177	1.083	8.0	82	-0.05	16.08
95	t	Benzo[k]fluoranthene	1.144	1.101	3.8	80	-0.05	16.12
96	t	Benzo[a]pyrene	1.018	1.020	-0.2	83	-0.05	16.52
97	t	Indeno[1,2,3-cd]pyrene	0.980	0.952	2.9	79	-0.07	18.23
99	t	Dibenz[a,h]anthracene	1.015	1.009	0.6	81	-0.07	18.27
101	t	Benzo[g,h,i]perylene	0.989	0.984	0.5	84	-0.08	18.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897.D M2M3137.M Sun Apr 12 14:56:16 2015

8.7.8

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3137-ICV3137
Lab FileID: 2M72944.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3137\2m72944.D Vial: 12
Acq On : 10 Apr 2015 8:41 pm Operator: ashleyn
Sample : icv3137-50 Inst : MS
Misc : op82859,e2m3137 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun Apr 12 14:53:02 2015
Last Update : Sun Apr 12 14:53:02 2015
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	111	-0.02	4.89
2	t	1,4-Dioxane	0.679	0.636	6.3	110	0.00	2.49
6	t	Indene	2.498	2.604	-4.2	123	-0.02	5.10
7	t	Cumene	3.624	3.320	8.4	108	-0.01	4.30
13	t	Decane	1.125	1.015	9.8	108	-0.02	4.76
18	t	Acetophenone	2.018	1.944	3.7	119	-0.02	5.21
24	I	Naphthalene-d8	1.000	1.000	0.0	126	-0.03	6.01
27	t	Quinoline	0.749	0.617	17.6	106	-0.03	6.38
40	t	2,3-Dichloroaniline	0.339	0.242	28.6	95	-0.03	7.13
41	t	Caprolactam	0.136	0.099	27.2	96	-0.05	6.42
45	t	1-Methylnaphthalene	0.633	0.498	21.3	103	-0.03	6.91
46	t	Dimethylnaphthalene	0.629	0.497	21.0	103	-0.03	7.56
47	I	Acenaphthene-d10	1.000	1.000	0.0	101	-0.03	8.13
53	t	Biphenyl	1.558	1.541	1.1	104	-0.03	7.36
69	I	Phenanthrene-d10	1.000	1.000	0.0	101	-0.04	10.31
82	t	Octadecane	0.458	0.454	0.9	102	-0.04	10.25

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897.D M2M3137.M Sun Apr 12 14:56:17 2015

8.7.9

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3137-ICV3137
Lab FileID: 2M72945.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3137\2m72945.D          Vial: 13
Acq On    : 10 Apr 2015   9:08 pm                    Operator: ashleyn
Sample    : icv3137-50                               Inst    : MS
Misc      : op82859,e2m3137                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun Apr 12 14:53:02 2015
Last Update  : Sun Apr 12 14:53:02 2015
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	104	-0.02	4.89
3	t	Pyridine	1.759	1.649	6.3	102	0.08	2.88
10		Aniline	2.480	2.383	3.9	106	-0.02	4.64
16	t	Benzyl alcohol	1.011	0.965	4.5	103	-0.02	5.00
24	I	Naphthalene-d8	1.000	1.000	0.0	106	-0.03	6.01
39	t	4-Chloroaniline	0.455	0.448	1.5	106	-0.02	6.08
44	t	2-Methylnaphthalene	0.580	0.577	0.5	109	-0.03	6.79
47	I	Acenaphthene-d10	1.000	1.000	0.0	105	-0.03	8.13
54	t	2-Nitroaniline	0.305	0.299	2.0	101	-0.03	7.51
58	t	3-Nitroaniline	0.342	0.333	2.6	98	-0.03	8.07
62	t	Dibenzofuran	1.508	1.472	2.4	107	-0.03	8.41
68	t	4-Nitroaniline	0.350	0.306	12.6	88	-0.04	8.94
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	-0.04	10.31
79	t	Carbazole	1.117	1.014	9.2	94	-0.03	10.69

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2m72897.D  M2M3137.M        Sun Apr 12 14:56:18 2015
```

8.7.10

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3137-ICV3137
Lab FileID: 2M72946.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3137\2m72946.D          Vial: 14
Acq On    : 10 Apr 2015   9:36 pm                    Operator: ashleyn
Sample    : icv3137-50                               Inst    : MS
Misc      : op82859,e2m3137                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun Apr 12 14:53:02 2015
Last Update  : Sun Apr 12 14:53:02 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	-0.02	4.89
5	S	2-Fluorophenol	1.517	1.512	0.3	117	-0.01	3.91
8	S	Phenol-d5	1.939	1.839	5.2	112	-0.02	4.61
24	I	Naphthalene-d8	1.000	1.000	0.0	111	-0.03	6.01
25	S	Nitrobenzene-d5	0.374	0.379	-1.3	117	-0.02	5.34
47	I	Acenaphthene-d10	1.000	1.000	0.0	102	-0.03	8.13
51	S	2-Fluorobiphenyl	1.250	1.315	-5.2	111	-0.03	7.23
69	I	Phenanthrene-d10	1.000	1.000	0.0	102	-0.04	10.31
73	S	2,4,6-Tribromophenol	0.082	0.076	7.3	94	-0.04	9.26
83	I	Chrysene-d12	1.000	1.000	0.0	85	-0.05	14.49
85	S	Terphenyl-d14	0.803	0.957	-19.2	102	-0.04	12.86

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897.D M2M3137.M Sun Apr 12 14:56:19 2015

8.7.11

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3137-ICV3137
Lab FileID: 2M72947.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3137\2m72947.D          Vial: 15
Acq On    : 10 Apr 2015  10:03 pm                    Operator: ashleyn
Sample    : icv3137-50                               Inst    : MS
Misc      : op82859,e2m3137                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun Apr 12 14:53:02 2015
Last Update  : Sun Apr 12 14:53:02 2015
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	103	-0.05	14.49
89 t	3,3'-Dichlorobenzidine	0.390	0.340	12.8	90	-0.04	14.47

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897.D M2M3137.M Sun Apr 12 14:56:20 2015

8.7.12

8

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3165-CC3137
Lab FileID: 2M73589.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3165\2m73589.D Vial: 2
Acq On : 27 Apr 2015 10:54 am Operator: ashleyn
Sample : cc3137-25 Inst : MS
Misc : op83380,e2m3165, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3137.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Mon Apr 27 13:22:00 2015
Last Update : Mon Apr 27 13:22:00 2015
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	95	0.00	4.72
2	t	1,4-Dioxane	0.679	0.607	10.6	86	0.00	2.30
3	t	Pyridine	1.759	1.613	8.3	89	0.00	2.63
4	t	N-Nitrosodimethylamine	0.996	0.938	5.8	91	0.00	2.59
5	S	2-Fluorophenol	1.517	1.507	0.7	95	0.00	3.77
6	t	Indene	2.498	2.489	0.4	93	0.00	4.92
7	t	Cumene	3.624	3.724	-2.8	98	0.00	4.12
8	S	Phenol-d5	1.939	1.876	3.2	92	0.00	4.47
9	t	Phenol	2.170	2.048	5.6	89	0.00	4.48
10		Aniline	2.480	1.861	25.0#	72	0.00	4.48
11	t	bis(2-Chloroethyl)ether	1.482	1.432	3.4	93	0.00	4.51
12	t	2-Chlorophenol	1.567	1.559	0.5	94	0.00	4.57
13	t	Decane	1.125	1.352	-20.2#	116	0.00	4.59
14	t	1,3-Dichlorobenzene	1.652	1.662	-0.6	96	0.00	4.68
15	t	1,4-Dichlorobenzene	1.658	1.666	-0.5	95	0.00	4.73
16	t	Benzyl alcohol	1.011	0.965	4.5	90	0.00	4.83
17	t	1,2-Dichlorobenzene	1.542	1.564	-1.4	96	0.00	4.85
18	t	Acetophenone	2.018	2.084	-3.3	97	0.00	5.03
19	t	2-Methylphenol	1.400	1.316	6.0	88	0.00	4.93
20	t	2,2'-oxybis(1-Chloropropa	1.442	1.559	-8.1	104	0.00	4.93
21	t	3&4-Methylphenol	1.413	1.469	-4.0	96	0.00	5.06
22	t	n-Nitroso-di-n-propylamin	0.958	1.004	-4.8	100	0.00	5.03
23	t	Hexachloroethane	0.462	0.505	-9.3	104	0.00	5.12
24	I	Naphthalene-d8	1.000	1.000	0.0	94	0.00	5.81
25	S	Nitrobenzene-d5	0.374	0.410	-9.6	104	0.00	5.16
26	t	Nitrobenzene	0.369	0.404	-9.5	104	0.00	5.18
27	t	Quinoline	0.749	0.745	0.5	93	0.00	6.18
28	t	Isophorone	0.679	0.693	-2.1	98	0.00	5.38
29	t	2-Nitrophenol	0.196	0.209	-6.6	98	0.00	5.46
30	t	2,4-Dimethylphenol	0.343	0.326	5.0	89	0.00	5.50
31	t	Benzoic acid	0.239	0.311	-30.1#	117	0.00	5.61
32	t	bis(2-Chloroethoxy)methan	0.426	0.421	1.2	94	0.00	5.57
33	t	2,4-Dichlorophenol	0.280	0.300	-7.1	99	0.00	5.69
34	t	2,6-Dichlorophenol	0.280	0.297	-6.1	97	0.00	5.90
35		1,3,5-Trichlorobenzene	0.325	0.344	-5.8	99	0.00	5.47
36	t	1,2,4-Trichlorobenzene	0.297	0.312	-5.1	100	0.00	5.76
37		1,2,3-Trichlorobenzene	0.304	0.325	-6.9	101	0.00	5.98
38	t	Naphthalene	1.134	1.121	1.1	93	0.00	5.83
39	t	4-Chloroaniline	0.455	0.428	5.9	87	0.00	5.89
40	t	2,3-Dichloroaniline	0.339	0.351	-3.5	95	0.00	6.91
41	t	Caprolactam	0.136	0.165	-21.3#	117	0.00	6.25

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E2M3165-CC3137
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73589.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.136	0.158	-16.2	109	0.00	5.95
43	t	4-Chloro-3-methylphenol	0.300	0.328	-9.3	100	0.00	6.42
44	t	2-Methylnaphthalene	0.580	0.587	-1.2	95	0.00	6.57
45	t	1-Methylnaphthalene	0.633	0.640	-1.1	96	0.00	6.69
46	t	Dimethylnaphthalene	0.629	0.646	-2.7	96	0.00	7.33
47	I	Acenaphthene-d10	1.000	1.000	0.0	95	0.00	7.89
48	t	Hexachlorocyclopentadiene	0.204	0.234	-14.7	97	0.00	6.76
49	t	2,4,6-Trichlorophenol	0.316	0.362	-14.6	105	0.00	6.92
50	t	2,4,5-Trichlorophenol	0.332	0.376	-13.3	104	0.00	6.98
51	S	2-Fluorobiphenyl	1.250	1.310	-4.8	98	0.00	7.01
52	t	2-Chloronaphthalene	1.099	1.130	-2.8	97	0.00	7.16
53	t	Biphenyl	1.558	1.578	-1.3	96	0.00	7.13
54	t	2-Nitroaniline	0.305	0.374	-22.6#	113	0.00	7.30
55	t	Dimethylphthalate	1.194	1.292	-8.2	104	0.00	7.54
56	t	Acenaphthylene	1.891	1.951	-3.2	97	0.00	7.69
57	t	2,6-Dinitrotoluene	0.244	0.293	-20.1#	108	0.00	7.62
58	t	3-Nitroaniline	0.342	0.351	-2.6	95	0.00	7.85
59	t	Acenaphthene	1.157	1.170	-1.1	96	0.00	7.93
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	62.800	-25.6#	131	0.00	8.00
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.142	0.230	-62.0#	151	0.00	8.16
62	t	Dibenzofuran	1.508	1.545	-2.5	98	0.00	8.17
63	t	2,4-Dinitrotoluene	0.325	0.398	-22.5#	106	0.00	8.18
64		2,3,4,6-Tetrachlorophenol	0.246	0.288	-17.1	108	0.00	8.37
65	t	Diethylphthalate	1.191	1.351	-13.4	109	0.00	8.54
66	t	Fluorene	1.222	1.279	-4.7	98	0.00	8.67
67	t	4-Chlorophenyl-phenylethe	0.511	0.563	-10.2	103	0.00	8.68
68	t	4-Nitroaniline	0.350	0.320	8.6	84	0.00	8.72
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	0.00	10.06
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	29.084	-16.3	128	0.00	8.77
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.530	0.519	2.1	100	0.00	8.86
72	t	1,2-Diphenylhydrazine	0.825	0.842	-2.1	105	0.00	8.91
73	S	2,4,6-Tribromophenol	0.082	0.103	-25.6#	129	0.00	9.02
74	t	4-Bromophenyl-phenylether	0.176	0.193	-9.7	114	0.00	9.40
75	t	Hexachlorobenzene	0.181	0.206	-13.8	119	0.00	9.49
76	t	Pentachlorophenol	0.108	0.124	-14.8	105	0.00	9.81
77	t	Phenanthrene	1.174	1.155	1.6	102	0.00	10.10
78	t	Anthracene	1.163	1.153	0.9	100	0.00	10.17
79	t	Carbazole	1.117	1.113	0.4	100	0.00	10.45
80	t	Di-n-butylphthalate	1.291	1.407	-9.0	109	0.00	11.06
81	t	Fluoranthene	1.059	1.143	-7.9	109	0.00	11.95
82	t	Octadecane	0.458	0.517	-12.9	113	0.00	9.99
83	I	Chrysene-d12	1.000	1.000	0.0	112	0.00	14.23
84	t	Pyrene	1.359	1.331	2.1	107	0.00	12.30
85	S	Terphenyl-d14	0.803	0.854	-6.4	116	0.00	12.60
86	t	Butylbenzylphthalate	0.650	0.703	-8.2	118	0.00	13.43
87		Butyl stearate	0.324	0.379	-17.0	123	0.00	13.58
88	t	Benzo[a]anthracene	1.130	1.145	-1.3	113	0.00	14.22
89	t	3,3'-Dichlorobenzidine	0.390	0.414	-6.2	111	0.00	14.22
90	t	Chrysene	1.068	1.094	-2.4	112	0.00	14.27

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E2M3165-CC3137
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73589.D
Project: MHIC-592/593 Tanks

91	t	bis(2-Ethylhexyl)phthalat	0.883	0.974	-10.3	116	0.00	14.38
92	I	Perylene-d12	1.000	1.000	0.0	114	0.00	16.34
93	t	Di-n-octylphthalate	1.613	1.826	-13.2	120	0.00	15.36
94	t	Benzo[b]fluoranthene	1.177	1.258	-6.9	117	0.00	15.82
95	t	Benzo[k]fluoranthene	1.144	1.227	-7.3	116	0.00	15.86
96	t	Benzo[a]pyrene	1.018	1.112	-9.2	118	0.00	16.26
97	t	Indeno[1,2,3-cd]pyrene	0.980	1.156	-18.0	126	0.00	17.87
98	t	Dibenz(a,h)acridine	0.877	1.010	-15.2	126	0.00	17.52
99	t	Dibenz[a,h]anthracene	1.015	1.122	-10.5	119	0.00	17.91
100	t	7,12-Dimethylbenz(a)anthr	0.522	0.543	-4.0	108	0.00	15.82
101	t	Benzo[g,h,i]perylene	0.989	1.069	-8.1	121	0.00	18.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m73589.D M2M3137.M Mon Apr 27 13:23:05 2015

8.7.13

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E2M3165-CC3135
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73590.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3165\2m73590.D          Vial: 3
Acq On    : 27 Apr 2015  11:32 am                    Operator: ashleyn
Sample    : cc3135-25                                Inst    : MS
Misc      : op83380,e2m3165,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M2M3137eph.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Mon Apr 27 13:25:12 2015
Last Update  : Mon Apr 27 13:25:12 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	75	0.00	4.72
103	Benzaldehyde	1.195	1.094	8.5	70	0.00	4.39
104	Acenaphthene-d10a	1.000	1.000	0.0	72	0.00	7.88
105	1,2,4,5-Tetrachlorobenzen	0.424	0.476	-12.3	85	0.00	6.77
106	Chrysene-d12a	1.000	1.000	0.0	84	0.00	14.23
107	Benzidine	0.406	0.354	12.8	58	0.00	12.21
108 s	1-chlorooctadecane	0.329	0.376	-14.3	91	0.00	11.88
109	Phenanthrene-d10a	1.000	1.000	0.0	77	0.00	10.06
110	Atrazine	0.088	0.104	-18.2	91	0.00	9.70
111 s	o-terphenyl	0.463	0.529	-14.3	89	0.00	10.69
112	Naphthalene-d8a	1.000	1.000	0.0	71	0.00	5.81
113	Hydroquinone	0.321	0.349	-8.7	72	0.00	6.26

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2m73590.D  M2M3137eph.M       Mon Apr 27 13:26:30 2015
```

8.7.14

8

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3171-ICC3171
Lab FileID: 2M73713.D

Response Factor Report MS

Method : C:\MSDCHEM\1\METHODS\M2M3171.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 12:15:44 2015
Last Update : Fri May 01 12:15:44 2015
Response via : Initial Calibration

Calibration Files
2 =2m72901a.D 5 =2m72900a.D 25 =2m72898a.D 80 =2m72896a.D
100 =2m72895a.D 50 =2m72897a.D 1 =2m72902a.D 10 =2m72899a.D

Compound	2	5	25	80	100	50	1	10	Avg	%RSD
1) I 1,4-Dichlorobenzene-d					ISTD					
2) 1,4-Dioxane	0.555	0.659	0.634	0.568	0.626	0.587	0.760	0.585	0.622	10.63
3) Pyridine	1.424	1.851	1.797	1.635	1.750	1.697	1.921	1.752	1.728	8.77
4) N-Nitrosodim	0.930	1.073	1.003	0.912	0.967	0.917	1.159	1.004	0.996	8.57
5) 2-Fluorophen	1.286	1.553	1.563	1.385	1.391	1.435	1.715	1.467	1.475	9.02
6) Indene	2.405	2.890	2.627	2.163	2.164	2.377	3.162	2.601	2.548	13.66
7) Cumene	3.761	4.386	4.100	3.557	3.540	3.766	4.742	4.052	3.988	10.51
8) Phenol-d5	1.690	2.072	1.936	1.566	1.612	1.692	2.279	1.915	1.845	13.47
9) Phenol	1.830	2.302	2.133	1.741	1.763	1.892	2.474	2.066	2.025	13.16
10) Aniline	2.296	2.474	2.473	1.429		2.222	2.919	2.145	2.280	19.85
11) bis(2-Chloro	1.452	1.662	1.573	1.363	1.366	1.424	1.916	1.573	1.541	12.04
12) 2-Chlorophen	1.396	1.641	1.581	1.297	1.252	1.426	1.933	1.541	1.508	14.48
13) Decane	1.406	1.664	1.472	1.139	1.080	1.317	1.947	1.491	1.440	19.42
14) 1,3-Dichloro	1.577	1.804	1.664	1.383	1.367	1.511	1.993	1.667	1.621	13.01
15) 1,4-Dichloro	1.521	1.787	1.676	1.396	1.380	1.542	1.964	1.667	1.617	12.26
16) Benzyl alcoh	0.821	1.108	1.009	0.839	0.862	0.894	1.146	1.009	0.961	13.00
17) 1,2-Dichloro	1.479	1.696	1.577	1.273	1.263	1.408	1.927	1.579	1.525	14.54
18) Acetophenone	2.214	2.570	2.363	2.025	2.003	2.110	2.905	2.360	2.319	13.15
19) 2-Methylphen	1.174	1.464	1.435	1.197	1.177	1.274	1.575	1.366	1.333	11.30
20) 2,2'-oxybis(	1.707	1.935	1.727	1.306	1.272	1.502		1.727	1.597	15.34
21) 3&4-Methylph	1.213	1.561	1.557	1.323	1.290	1.412	1.725	1.482	1.445	11.68
22) n-Nitroso-di	1.172	1.270	1.196	1.017	1.014	1.061	1.410	1.183	1.165	11.60
23) Hexachloroet	0.549	0.665	0.575	0.519	0.500	0.546	0.716	0.599	0.584	12.67
24) I Naphthalene-d8					ISTD					
25) Nitrobenzene	0.423	0.513	0.469	0.436	0.425	0.451	0.570	0.480	0.471	10.69
26) Nitrobenzene	0.436	0.548	0.482	0.441	0.430	0.461	0.565	0.487	0.481	10.58
27) Quinoline	0.725	0.856	0.804	0.722	0.735	0.737	0.969	0.790	0.792	10.79
28) Isophorone	0.763	0.866	0.802	0.672	0.668	0.744	0.980	0.794	0.786	13.03
29) 2-Nitropheno	0.200	0.242	0.220	0.183	0.181	0.200	0.284	0.220	0.216	15.72
30) 2,4-Dimethyl	0.259	0.310	0.420	0.370	0.365	0.397	0.316	0.320	0.345	15.27
31) Benzoic acid	0.255	0.321	0.357	0.337	0.350	0.342	0.312	0.332	0.326	9.82
32) bis(2-Chloro	0.422	0.519	0.482	0.414	0.403	0.435	0.557	0.484	0.465	11.82
33) 2,4-Dichloro	0.305	0.354	0.338	0.294	0.278	0.312	0.411	0.329	0.328	12.71
34) 2,6-Dichloro	0.301	0.355	0.334	0.278	0.271	0.307	0.420	0.325	0.324	14.79
35) 1,3,5-Trichl	0.389	0.429	0.384	0.328	0.315	0.360	0.471	0.389	0.383	13.27
36) 1,2,4-Trichl	0.343	0.412	0.344	0.313	0.303	0.333	0.444	0.365	0.357	13.61
37) 1,2,3-Trichl	0.345	0.408	0.366	0.325	0.314	0.343	0.444	0.377	0.365	11.95
38) Naphthalene	1.116	1.271	1.169	1.008	0.986	1.078	1.467	1.173	1.158	13.40
39) 4-Chloroanil	0.425	0.505	0.479	0.353	0.345	0.440	0.587	0.461	0.449	17.61
40) 2,3-Dichloro	0.392	0.452	0.402	0.356	0.345	0.381	0.507	0.415	0.406	12.97
41) Caprolactam	0.178	0.208	0.193	0.134	0.127	0.183	0.223	0.192	0.180	18.57
42) Hexachlorobu	0.201	0.233	0.211	0.197	0.189	0.200	0.264	0.213	0.214	11.29
43) 4-Chloro-3-m	0.317	0.399	0.371	0.340	0.341	0.352	0.431	0.372	0.365	9.92
44) 2-Methylnaph	0.601	0.688	0.631	0.547	0.533	0.587	0.793	0.622	0.625	13.39
45) 1-Methylnaph	0.652	0.741	0.683	0.591	0.584	0.636	0.865	0.681	0.679	13.39

Initial Calibration Summary

Job Number: JB93023 **Sample:** E2M3171-ICC3171
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73713.D
Project: MHIC-592/593 Tanks

```
46) Dimethylnaph 0.710 0.815 0.734 0.669 0.651 0.707 0.942 0.764 0.749  12.51

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy       0.222 0.283 0.297 0.298 0.292       0.254 0.275  11.06
49) 2,4,6-Trichl 0.355 0.420 0.412 0.362 0.358 0.380 0.482 0.404 0.397  10.84
50) 2,4,5-Trichl 0.380 0.440 0.441 0.384 0.377 0.402 0.498 0.412 0.417   9.99
51) 2-Fluorobiph 1.368 1.547 1.469 1.239 1.225 1.334 1.767 1.449 1.425  12.45
52) 2-Chloronaph 1.144 1.269 1.212 1.039 1.022 1.114 1.367 1.175 1.168   9.89
53) Biphenyl     1.590 1.767 1.684 1.418 1.418 1.530 1.968 1.659 1.629  11.32
54) 2-Nitroanili 0.362 0.483 0.438 0.432 0.429 0.419 0.524 0.428 0.439  10.76
55) Dimethylphth 1.272 1.451 1.399 1.221 1.230 1.276 1.659 1.359 1.358  10.79
56) Acenaphthyle 1.905 2.129 2.108 1.789 1.782 1.930 2.302 2.018 1.995   8.99
57) 2,6-Dinitrot 0.265 0.323 0.314 0.282 0.282 0.292 0.382 0.315 0.307  11.89
58) 3-Nitroanili 0.290 0.356 0.358 0.321 0.323 0.337 0.376 0.349 0.339   7.92
59) Acenaphthene 1.150 1.330 1.242 1.083 1.090 1.157 1.473 1.233 1.220  10.78
60) 2,4-Dinitrop 0.058 0.147 0.200 0.217 0.221 0.199 0.124 0.187 0.169  33.03
         ----- Quadratic regression -----               Coefficient =  0.9997
              Response Ratio = -0.00746 + 0.19123 *A + 0.00635 *A^2

61) 4-Nitropheno 0.172 0.266 0.278 0.287 0.291 0.270 0.271 0.272 0.263  14.38
62) Dibenzofuran 1.648 1.912 1.771 1.455 1.433 1.629 2.119 1.776 1.718  13.34
63) 2,4-Dinitrot 0.373 0.444 0.433 0.393 0.390 0.414 0.508 0.432 0.423   9.95
64) 2,3,4,6-Tetr 0.288 0.358 0.371 0.326 0.328 0.344 0.404 0.338 0.345   9.96
65) Diethylphtha 1.310 1.542 1.476 1.323 1.322 1.392 1.757 1.463 1.448  10.41
66) Fluorene     1.299 1.569 1.457 1.236 1.259 1.347 1.725 1.465 1.420  11.85
67) 4-Chlorophen 0.670 0.749 0.703 0.589 0.587 0.645 0.877 0.703 0.690  13.67
68) 4-Nitroanili 0.268 0.359 0.360 0.331 0.329 0.339 0.416 0.335 0.342  12.09

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro- 0.079 0.144 0.158 0.152 0.149 0.153 0.123 0.143 0.138  18.90
71) n-Nitrosodip 0.496 0.579 0.571 0.489 0.485 0.528 0.637 0.547 0.542   9.81
72) 1,2-Diphenyl 0.801 0.982 0.943 0.836 0.812 0.886 1.033 0.914 0.901   9.22
73) 2,4,6-Tribro 0.111 0.116 0.124 0.111 0.110 0.116 0.133 0.116 0.117   6.78
74) 4-Bromopheny 0.206 0.240 0.235 0.202 0.198 0.221 0.251 0.226 0.222   8.58
75) Hexachlorobe 0.219 0.258 0.243 0.210 0.206 0.232 0.290 0.241 0.237  11.55
76) Pentachlorop 0.096 0.132 0.145 0.133 0.131 0.138 0.134 0.128 0.130  11.19
77) Phenanthrene 1.085 1.251 1.176 1.013 0.995 1.100 1.400 1.135 1.144  11.57
78) Anthracene   1.060 1.198 1.215 1.011 0.992 1.118 1.350 1.142 1.136  10.44
79) Carbazole    1.030 1.220 1.205 1.032 1.015 1.115 1.403 1.138 1.145  11.41
80) Di-n-butylph 1.232 1.474 1.436 1.296 1.260 1.355 1.605 1.381 1.380   8.95
81) Fluoranthene 1.214 1.372 1.328 1.171 1.172 1.249 1.513 1.282 1.288   8.97
82) Octadecane   0.503 0.587 0.563 0.450 0.444 0.505 0.610 0.531 0.524  11.58

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.232 1.388 1.445 1.219 1.258 1.346 1.553 1.304 1.343   8.58
85) Terphenyl-d1 0.830 0.929 0.961 0.793 0.819 0.895 1.035 0.871 0.892   9.10
86) Butylbenzylp 0.552 0.636 0.683 0.566 0.585 0.635 0.715 0.607 0.622   9.09
87) Butyl steara 0.321 0.364 0.376 0.291 0.306 0.345 0.403 0.336 0.343  10.85
88) Benzo[a]anth 1.159 1.285 1.296 1.094 1.183 1.195 1.490 1.154 1.232  10.07
89) 3,3'-Dichlor 0.392 0.467 0.464 0.410 0.441 0.446 0.540 0.437 0.450   9.88
90) Chrysene     1.083 1.190 1.223 1.006 1.049 1.142 1.381 1.120 1.149  10.23
91) bis(2-Ethylh 0.777 0.879 0.934 0.788 0.807 0.865 0.986 0.829 0.858   8.55

92) I   Perylene-d12          ----------------ISTD---------------------
93) Di-n-octylph 1.384 1.596 1.789 1.479 1.522 1.555 1.811 1.454 1.574   9.77
94) Benzo[b]fluo 1.213 1.366 1.426 1.267 1.384 1.309 1.615 1.216 1.350   9.82
95) Benzo[k]fluo 1.158 1.305 1.373 1.094 1.064 1.248 1.532 1.204 1.247  12.40
96) Benzo[a]pyre 1.097 1.200 1.258 1.056 1.086 1.168 1.366 1.086 1.165   9.14
97) Indeno[1,2,3 1.291 1.453 1.445 1.244 1.306 1.346 1.646 1.302 1.379   9.46
98) Dibenz(a,h)a 0.982 1.086 1.096 0.954 0.988 1.033 1.252 0.984 1.047   9.32
```

8.7.15

8

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3171-ICC3171
Lab FileID: 2M73713.D

```
 99) Dibenz[a,h]a 1.058 1.210 1.229 1.036 1.052 1.134 1.355 1.077 1.144   9.81
100) 7,12-Dimethy 0.316 0.412 0.670 0.529 0.555 0.597 0.468 0.433 0.498  22.72
          ----- Quadratic regression -----                Coefficient =  0.9955
               Response Ratio = -0.01558 + 0.64239 *A + -0.03763 *A^2

101) Benzo[g,h,i] 1.018 1.154 1.164 1.012 1.051 1.083 1.343 1.015 1.105  10.28
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M2M3171.M         Fri May 01 12:16:05 2015
```

8.7.15

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3171-ICV3171
Lab FileID: 2M73718.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3171\2m73718.D          Vial: 11
Acq On    : 30 Apr 2015   2:32 pm                    Operator: ashleyn
Sample    : icv3171-50                               Inst    : MS
Misc      : op83504,e2m3171,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M2M3171.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Thu Apr 30 15:07:15 2015
Last Update  : Thu Apr 30 15:07:15 2015
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	109	0.00	4.66
9	t	Phenol	2.025	1.649	18.6	95	0.00	4.43
12	t	2-Chlorophenol	1.508	1.306	13.4	100	0.00	4.52
19	t	2-Methylphenol	1.333	1.198	10.1	103	0.00	4.88
21	t	3&4-Methylphenol	1.445	1.251	13.4	97	0.00	5.00
24	I	Naphthalene-d8	1.000	1.000	0.0	104	0.00	5.75
29	t	2-Nitrophenol	0.216	0.200	7.4	104	0.00	5.40
30	t	2,4-Dimethylphenol	0.345	0.354	-2.6	93	0.00	5.44
31	t	Benzoic acid	0.326	0.295	9.5	90	0.02	5.57
33	t	2,4-Dichlorophenol	0.328	0.289	11.9	96	0.00	5.63
34	t	2,6-Dichlorophenol	0.324	0.296	8.6	100	0.00	5.84
43	t	4-Chloro-3-methylphenol	0.365	0.319	12.6	94	0.00	6.35
47	I	Acenaphthene-d10	1.000	1.000	0.0	94	0.00	7.81
49	t	2,4,6-Trichlorophenol	0.397	0.383	3.5	94	0.00	6.85
50	t	2,4,5-Trichlorophenol	0.417	0.402	3.6	94	0.00	6.90
		----------	True	Calc.	% Drift		----------	
60	t	2,4-Dinitrophenol	100.000	76.432	23.6	68	0.00	7.93
		----------	AvgRF	CCRF	% Dev		----------	
61	t	4-Nitrophenol	0.263	0.233	11.4	81	0.00	8.08
64		2,3,4,6-Tetrachlorophenol	0.345	0.312	9.6	85	0.00	8.30
69	I	Phenanthrene-d10	1.000	1.000	0.0	93	-0.01	9.98
70	t	4,6-Dinitro-2-methylpheno	0.138	0.119	13.8	72	0.00	8.70
76	t	Pentachlorophenol	0.130	0.126	3.07	84	0.00	9.72

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m73713.D M2M3171.M Thu Apr 30 15:21:33 2015

8.7.16

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E2M3171-ICV3171
Lab FileID: 2M73719.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3171\2m73719.D          Vial: 12
Acq On    : 30 Apr 2015   2:59 pm                    Operator: ashleyn
Sample    : icv3171-50                               Inst    : MS
Misc      : op83504,e2m3171,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\msdchem\1\METHODS\M2M3171.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Thu Apr 30 15:07:15 2015
Last Update  : Thu Apr 30 15:07:15 2015
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	101	0.00	4.66
3	t	Pyridine	1.728	1.717	0.6	102	0.09	2.65
10		Aniline	2.280	2.370	-3.9	107	0.00	4.43
16	t	Benzyl alcohol	0.961	1.011	-5.2	114	0.00	4.78
24	I	Naphthalene-d8	1.000	1.000	0.0	108	0.00	5.75
39	t	4-Chloroaniline	0.449	0.411	8.5	101	0.00	5.83
44	t	2-Methylnaphthalene	0.625	0.601	3.8	111	0.00	6.50
47	I	Acenaphthene-d10	1.000	1.000	0.0	106	0.00	7.81
54	t	2-Nitroaniline	0.439	0.401	8.7	102	0.00	7.23
58	t	3-Nitroaniline	0.339	0.299	11.8	95	0.00	7.78
62	t	Dibenzofuran	1.718	1.641	4.5	107	0.00	8.10
68	t	4-Nitroaniline	0.342	0.269	21.3	85	0.00	8.65
69	I	Phenanthrene-d10	1.000	1.000	0.0	111	-0.01	9.98
79	t	Carbazole	1.145	0.928	19.0	92	0.00	10.38

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2m73713.D  M2M3171.M        Thu Apr 30 15:32:35 2015
```

8.7.17

8

Initial Calibration Verification

Job Number: JB93023 **Sample:** E2M3171-ICV3171
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73720.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3171\2m73720.D Vial: 13
Acq On : 30 Apr 2015 3:26 pm Operator: ashleyn
Sample : icv3171-50 Inst : MS
Misc : op83504,e2m3171, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3171.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Thu Apr 30 15:07:15 2015
Last Update : Thu Apr 30 15:07:15 2015
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	117	0.00	4.66
4	t	N-Nitrosodimethylamine	0.996	0.906	9.0	116	0.00	2.53
11	t	bis(2-Chloroethyl)ether	1.541	1.390	9.8	115	0.00	4.47
14	t	1,3-Dichlorobenzene	1.621	1.411	13.0	110	0.00	4.62
15	t	1,4-Dichlorobenzene	1.617	1.434	11.3	109	0.00	4.68
17	t	1,2-Dichlorobenzene	1.525	1.369	10.2	114	0.00	4.80
20	t	2,2'-oxybis(1-Chloropropa	1.597	1.601	-0.3	125	0.00	4.87
22	t	n-Nitroso-di-n-propylamin	1.165	1.044	10.4	116	0.00	4.98
23	t	Hexachloroethane	0.584	0.525	10.1	113	0.00	5.07
24	I	Naphthalene-d8	1.000	1.000	0.0	115	0.00	5.75
26	t	Nitrobenzene	0.481	0.436	9.4	109	0.00	5.12
28	t	Isophorone	0.786	0.754	4.1	116	0.00	5.32
32	t	bis(2-Chloroethoxy)methan	0.465	0.447	3.9	118	0.00	5.51
36	t	1,2,4-Trichlorobenzene	0.357	0.326	8.7	112	0.00	5.70
38	t	Naphthalene	1.158	1.013	12.5	108	0.00	5.77
42	t	Hexachlorobutadiene	0.214	0.202	5.6	116	0.00	5.89
47	I	Acenaphthene-d10	1.000	1.000	0.0	109	0.00	7.81
48	t	Hexachlorocyclopentadiene	0.275	0.250	9.1	92	0.00	6.69
52	t	2-Chloronaphthalene	1.168	1.068	8.6	104	0.00	7.08
55	t	Dimethylphthalate	1.358	1.210	10.9	103	0.00	7.47
56	t	Acenaphthylene	1.995	1.642	17.7	92	0.00	7.62
57	t	2,6-Dinitrotoluene	0.307	0.267	13.0	100	0.00	7.55
59	t	Acenaphthene	1.220	1.136	6.9	107	0.00	7.85
63	t	2,4-Dinitrotoluene	0.423	0.345	18.4	90	0.00	8.11
65	t	Diethylphthalate	1.448	1.261	12.9	98	0.00	8.46
66	t	Fluorene	1.420	1.263	11.1	102	0.00	8.59
67	t	4-Chlorophenyl-phenylethe	0.690	0.620	10.1	104	0.00	8.60
69	I	Phenanthrene-d10	1.000	1.000	0.0	106	-0.01	9.98
71	t	n-Nitrosodiphenylamine	0.542	0.511	5.7	103	0.00	8.78
72	t	1,2-Diphenylhydrazine	0.901	0.866	3.9	104	0.00	8.83
74	t	4-Bromophenyl-phenylether	0.222	0.207	6.8	100	0.00	9.32
75	t	Hexachlorobenzene	0.237	0.214	9.7	98	0.00	9.41
77	t	Phenanthrene	1.144	0.986	13.8	95	0.00	10.01
78	t	Anthracene	1.136	1.013	10.8	96	0.00	10.09
80	t	Di-n-butylphthalate	1.380	1.211	12.2	95	0.00	10.98
81	t	Fluoranthene	1.288	1.097	14.8	93	0.00	11.87
83	I	Chrysene-d12	1.000	1.000	0.0	102	-0.01	14.15

Initial Calibration Verification

Job Number: JB93023 **Sample:** E2M3171-ICV3171
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73720.D
Project: MHIC-592/593 Tanks

84	t	Pyrene	1.343	1.215	9.5	92	0.00	12.22
86	t	Butylbenzylphthalate	0.622	0.567	8.8	91	0.00	13.35
88	t	Benzo[a]anthracene	1.232	1.039	15.7	89	0.00	14.13
90	t	Chrysene	1.149	1.044	9.1	93	0.00	14.19
91	t	bis(2-Ethylhexyl)phthalat	0.858	0.766	10.7	91	0.00	14.30
92	I	Perylene-d12	1.000	1.000	0.0	98	-0.01	16.26
93	t	Di-n-octylphthalate	1.574	1.434	8.9	90	0.00	15.28
94	t	Benzo[b]fluoranthene	1.350	1.165	13.7	87	0.00	15.74
95	t	Benzo[k]fluoranthene	1.247	1.087	12.8	85	0.00	15.78
96	t	Benzo[a]pyrene	1.165	1.092	6.3	91	0.00	16.18
97	t	Indeno[1,2,3-cd]pyrene	1.379	1.290	6.5	94	0.00	17.76
99	t	Dibenz[a,h]anthracene	1.144	1.090	4.7	94	0.00	17.80
101	t	Benzo[g,h,i]perylene	1.105	1.052	4.8	95	0.01	18.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m73713.D M2M3171.M Thu Apr 30 16:54:22 2015

8.7.18

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3171-ICV3171
Lab FileID: 2M73721.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3171\2m73721.D          Vial: 14
Acq On    : 30 Apr 2015   3:54 pm                    Operator: ashleyn
Sample    : icv3171-50                               Inst    : MS
Misc      : op83504,e2m3171,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3171.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 12:15:44 2015
Last Update  : Fri May 01 12:15:44 2015
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	119	0.00	4.66
2	t	1,4-Dioxane	0.622	0.528	15.1	107	0.00	2.23
6	t	Indene	2.548	2.435	4.4	122	0.00	4.86
7	t	Cumene	3.988	3.451	13.5	109	0.00	4.07
13	t	Decane	1.440	1.190	17.4	108	0.00	4.54
18	t	Acetophenone	2.319	1.955	15.7	111	0.00	4.98
24	I	Naphthalene-d8	1.000	1.000	0.0	120	0.00	5.75
27	t	Quinoline	0.792	0.638	19.4	104	0.00	6.11
40	t	2,3-Dichloroaniline	0.406	0.298	26.6	93	0.00	6.84
41	t	Caprolactam	0.180	0.142	21.1	93	0.00	6.17
45	t	1-Methylnaphthalene	0.679	0.548	19.3	103	0.00	6.62
46	t	Dimethylnaphthalene	0.749	0.598	20.2	101	0.00	7.26
47	I	Acenaphthene-d10	1.000	1.000	0.0	109	0.00	7.81
53	t	Biphenyl	1.629	1.436	11.8	103	0.00	7.06
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	-0.01	9.98
82	t	Octadecane	0.524	0.473	9.7	97	0.00	9.92
92	I	Perylene-d12	1.000	1.000	0.0	89	-0.02	16.25
		----------	True	Calc.	% Drift		----------	
100	t	7,12-Dimethylbenz(a)anthr	50.000	35.319	29.4	55	0.00	15.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897a.D M2M3171.M Fri May 01 12:26:10 2015

8.7.19

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3171-ICV3171
Lab FileID: 2M73722.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e2m3171\2m73722.D          Vial: 15
Acq On    : 30 Apr 2015   4:21 pm                    Operator: ashleyn
Sample    : icv3171-50                               Inst    : MS
Misc      : op83504,e2m3171,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3171.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Thu Apr 30 15:07:15 2015
Last Update  : Thu Apr 30 15:07:15 2015
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	128	0.00	4.66
5	S	2-Fluorophenol	1.475	1.294	12.3	115	0.00	3.71
8	S	Phenol-d5	1.845	1.603	13.1	121	0.00	4.42
24	I	Naphthalene-d8	1.000	1.000	0.0	125	0.00	5.75
25	S	Nitrobenzene-d5	0.471	0.440	6.6	122	0.00	5.11
47	I	Acenaphthene-d10	1.000	1.000	0.0	116	0.00	7.81
51	S	2-Fluorobiphenyl	1.425	1.358	4.7	118	0.00	6.94
69	I	Phenanthrene-d10	1.000	1.000	0.0	115	-0.01	9.98
73	S	2,4,6-Tribromophenol	0.117	0.102	12.8	101	0.00	8.94
83	I	Chrysene-d12	1.000	1.000	0.0	107	-0.02	14.14
85	S	Terphenyl-d14	0.892	0.855	4.1	102	0.00	12.52

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2m73713.D  M2M3171.M        Thu Apr 30 17:08:38 2015
```

8.7.20

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3171-ICV3171
Lab FileID: 2M73723.D

```
                    Evaluate Continuing Calibration Report

 Data File : C:\msdchem\1\DATA\e2m3171\2m73723.D          Vial: 16
 Acq On    : 30 Apr 2015   4:49 pm                    Operator: ashleyn
 Sample    : icv3171-50                               Inst    : MS
 Misc      : op83504,e2m3171,                         Multiplr: 1.00
 MS Integration Params: rteint.p

 Method       : C:\MSDCHEM\1\METHODS\M2M3171.M (RTE Integrator)
 Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Thu Apr 30 15:07:15 2015
 Last Update  : Thu Apr 30 15:07:15 2015
 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  105  -0.02   14.14
89 t   3,3'-Dichlorobenzidine      0.450   0.438      2.7  104   0.00   14.14
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
    2m73713.D  M2M3171.M        Thu Apr 30 17:18:20 2015
```

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3172-CC3171
Lab FileID: 2M73726.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e2m3172\2m73726.D Vial: 2
Acq On : 30 Apr 2015 6:47 pm Operator: saraw
Sample : cc3171-50 Inst : MS
Misc : op83504,e2m3172, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3171.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 15:59:33 2015
Last Update : Fri May 01 15:59:33 2015
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	102	0.00	4.66
2	t	1,4-Dioxane	0.622	0.603	3.1	105	0.00	2.22
3	t	Pyridine	1.728	1.669	3.4	101	0.00	2.55
4	t	N-Nitrosodimethylamine	0.996	0.937	5.9	104	0.00	2.52
5	S	2-Fluorophenol	1.475	1.393	5.6	99	0.00	3.71
6	t	Indene	2.548	2.359	7.4	101	0.00	4.86
7	t	Cumene	3.988	3.765	5.6	102	0.00	4.07
8	S	Phenol-d5	1.845	1.706	7.5	103	0.00	4.42
9	t	Phenol	2.025	1.900	6.2	103	0.00	4.43
10		Aniline	2.280	2.183	4.3	100	0.00	4.42
11	t	bis(2-Chloroethyl)ether	1.541	1.400	9.1	101	0.00	4.47
12	t	2-Chlorophenol	1.508	1.384	8.2	99	0.00	4.52
13	t	Decane	1.440	1.302	9.6	101	0.00	4.54
14	t	1,3-Dichlorobenzene	1.621	1.501	7.4	102	0.00	4.62
15	t	1,4-Dichlorobenzene	1.617	1.521	5.9	101	0.00	4.68
16	t	Benzyl alcohol	0.961	0.874	9.1	100	0.00	4.78
17	t	1,2-Dichlorobenzene	1.525	1.409	7.6	102	0.00	4.80
18	t	Acetophenone	2.319	2.100	9.4	102	0.00	4.98
19	t	2-Methylphenol	1.333	1.234	7.4	99	0.00	4.88
20	t	2,2'-oxybis(1-Chloropropa	1.597	1.487	6.9	101	0.00	4.87
21	t	3&4-Methylphenol	1.445	1.379	4.6	100	0.00	5.00
22	t	n-Nitroso-di-n-propylamin	1.165	1.064	8.7	103	0.00	4.98
23	t	Hexachloroethane	0.584	0.562	3.8	105	0.00	5.06
24	I	Naphthalene-d8	1.000	1.000	0.0	102	0.00	5.75
25	S	Nitrobenzene-d5	0.471	0.450	4.5	101	0.00	5.11
26	t	Nitrobenzene	0.481	0.463	3.7	102	0.00	5.12
27	t	Quinoline	0.792	0.741	6.4	102	0.00	6.11
28	t	Isophorone	0.786	0.747	5.0	102	0.00	5.32
29	t	2-Nitrophenol	0.216	0.201	6.9	102	0.00	5.40
30	t	2,4-Dimethylphenol	0.345	0.396	-14.8	101	0.00	5.45
31	t	Benzoic acid	0.326	0.340	-4.3	101	0.00	5.57
32	t	bis(2-Chloroethoxy)methan	0.465	0.440	5.4	103	0.00	5.51
33	t	2,4-Dichlorophenol	0.328	0.310	5.5	101	0.00	5.63
34	t	2,6-Dichlorophenol	0.324	0.306	5.6	101	0.00	5.84
35		1,3,5-Trichlorobenzene	0.383	0.360	6.0	101	0.00	5.41
36	t	1,2,4-Trichlorobenzene	0.357	0.332	7.0	101	0.00	5.70
37		1,2,3-Trichlorobenzene	0.365	0.346	5.2	102	0.00	5.92
38	t	Naphthalene	1.158	1.089	6.0	103	0.00	5.77
39	t	4-Chloroaniline	0.449	0.433	3.6	100	0.00	5.83
40	t	2,3-Dichloroaniline	0.406	0.383	5.7	102	0.00	6.84
41	t	Caprolactam	0.180	0.182	-1.1	101	0.00	6.21

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E2M3172-CC3171
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73726.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.214	0.204	4.7	103	0.00	5.89
43	t	4-Chloro-3-methylphenol	0.365	0.349	4.4	101	0.00	6.36
44	t	2-Methylnaphthalene	0.625	0.586	6.2	101	0.00	6.50
45	t	1-Methylnaphthalene	0.679	0.631	7.1	101	0.00	6.62
46	t	Dimethylnaphthalene	0.749	0.692	7.6	99	0.00	7.26
47	I	Acenaphthene-d10	1.000	1.000	0.0	101	0.00	7.81
48	t	Hexachlorocyclopentadiene	0.275	0.295	-7.3	102	0.00	6.69
49	t	2,4,6-Trichlorophenol	0.397	0.383	3.5	102	0.00	6.85
50	t	2,4,5-Trichlorophenol	0.417	0.400	4.1	101	0.00	6.91
51	S	2-Fluorobiphenyl	1.425	1.326	6.9	101	0.00	6.94
52	t	2-Chloronaphthalene	1.168	1.104	5.5	100	0.00	7.08
53	t	Biphenyl	1.629	1.534	5.8	101	0.00	7.06
54	t	2-Nitroaniline	0.439	0.426	3.0	103	0.00	7.23
55	t	Dimethylphthalate	1.358	1.280	5.7	102	0.00	7.47
56	t	Acenaphthylene	1.995	1.896	5.0	99	0.00	7.62
57	t	2,6-Dinitrotoluene	0.307	0.293	4.6	102	0.00	7.55
58	t	3-Nitroaniline	0.339	0.331	2.4	100	0.00	7.78
59	t	Acenaphthene	1.220	1.157	5.2	101	0.00	7.85
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	95.179	4.8	98	0.00	7.93
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.263	0.271	-3.0	101	0.00	8.08
62	t	Dibenzofuran	1.718	1.639	4.6	102	0.00	8.09
63	t	2,4-Dinitrotoluene	0.423	0.405	4.3	99	0.00	8.11
64		2,3,4,6-Tetrachlorophenol	0.345	0.346	-0.3	102	0.00	8.30
65	t	Diethylphthalate	1.448	1.385	4.4	101	0.00	8.46
66	t	Fluorene	1.420	1.373	3.3	103	0.00	8.59
67	t	4-Chlorophenyl-phenylethe	0.690	0.658	4.6	103	0.00	8.60
68	t	4-Nitroaniline	0.342	0.341	0.3	102	0.00	8.65
69	I	Phenanthrene-d10	1.000	1.000	0.0	102	0.00	9.98
70	t	4,6-Dinitro-2-methylpheno	0.138	0.147	-6.5	98	0.00	8.71
71	t	n-Nitrosodiphenylamine	0.542	0.522	3.7	101	0.00	8.78
72	t	1,2-Diphenylhydrazine	0.901	0.898	0.3	104	0.00	8.83
73	S	2,4,6-Tribromophenol	0.117	0.115	1.7	101	0.00	8.94
74	t	4-Bromophenyl-phenylether	0.222	0.218	1.8	101	0.00	9.32
75	t	Hexachlorobenzene	0.237	0.232	2.1	102	0.00	9.41
76	t	Pentachlorophenol	0.130	0.137	-5.4	101	0.00	9.73
77	t	Phenanthrene	1.144	1.071	6.4	100	0.00	10.02
78	t	Anthracene	1.136	1.099	3.3	101	0.00	10.09
79	t	Carbazole	1.145	1.099	4.0	101	0.00	10.37
80	t	Di-n-butylphthalate	1.380	1.340	2.9	101	0.00	10.98
81	t	Fluoranthene	1.288	1.237	4.0	101	0.00	11.87
82	t	Octadecane	0.524	0.513	2.1	104	0.00	9.91
83	I	Chrysene-d12	1.000	1.000	0.0	102	0.00	14.15
84	t	Pyrene	1.343	1.362	-1.4	104	0.00	12.22
85	S	Terphenyl-d14	0.892	0.897	-0.6	103	0.00	12.52
86	t	Butylbenzylphthalate	0.622	0.624	-0.3	101	0.00	13.35
87		Butyl stearate	0.343	0.344	-0.3	102	0.00	13.50
88	t	Benzo[a]anthracene	1.232	1.171	5.0	100	0.00	14.13
89	t	3,3'-Dichlorobenzidine	0.450	0.446	0.9	102	0.00	14.14
90	t	Chrysene	1.149	1.145	0.3	103	0.00	14.19
91	t	bis(2-Ethylhexyl)phthalat	0.858	0.854	0.5	101	0.00	14.30
92	I	Perylene-d12	1.000	1.000	0.0	100	0.00	16.26
93	t	Di-n-octylphthalate	1.574	1.545	1.8	100	0.00	15.28

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E2M3172-CC3171
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73726.D
Project: MHIC-592/593 Tanks

94	t	Benzo[b]fluoranthene	1.350	1.341	0.7	103	0.00	15.74
95	t	Benzo[k]fluoranthene	1.247	1.234	1.0	99	0.00	15.78
96	t	Benzo[a]pyrene	1.165	1.198	-2.8	103	0.00	16.18
97	t	Indeno[1,2,3-cd]pyrene	1.379	1.270	7.9	95	0.00	17.77
98	t	Dibenz(a,h)acridine	1.047	1.068	-2.0	104	0.00	17.42
99	t	Dibenz[a,h]anthracene	1.144	1.168	-2.1	103	0.00	17.80
		----------	True	Calc.	% Drift	----------		
100	t	7,12-Dimethylbenz(a)anthr	50.000	51.228	-2.5	100	0.00	15.74
		----------	AvgRF	CCRF	% Dev	----------		
101	t	Benzo[g,h,i]perylene	1.105	1.111	-0.5	103	0.00	18.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72897a.D M2M3171.M Fri May 01 16:01:05 2015

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E2M3173-CC3171
Lab FileID: 2M73756.D

Evaluate Continuing Calibration Report

Data File : C:\acslims\e2m3173\2m73756.D Vial: 2
Acq On : 1 May 2015 11:50 am Operator: ashleyn
Sample : cc3171-25 Inst : MS
Misc : op83422,e2m3173, Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2M3171.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
Last Update : Sun May 03 18:29:27 2015
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	101	0.00	4.66
2	t	1,4-Dioxane	0.622	0.623	-0.2	99	0.02	2.22
3	t	Pyridine	1.728	1.739	-0.6	97	0.01	2.55
4	t	N-Nitrosodimethylamine	0.996	0.973	2.3	98	0.02	2.53
5	S	2-Fluorophenol	1.475	1.473	0.1	95	0.00	3.71
6	t	Indene	2.548	2.557	-0.4	98	0.00	4.86
7	t	Cumene	3.988	4.046	-1.5	99	0.00	4.07
8	S	Phenol-d5	1.845	1.879	-1.8	98	0.00	4.42
9	t	Phenol	2.025	2.130	-5.2	101	0.00	4.43
10		Aniline	2.280	2.434	-6.8	99	0.00	4.42
11	t	bis(2-Chloroethyl)ether	1.541	1.529	0.8	98	0.00	4.46
12	t	2-Chlorophenol	1.508	1.515	-0.5	96	0.00	4.51
13	t	Decane	1.440	1.427	0.9	98	0.00	4.53
14	t	1,3-Dichlorobenzene	1.621	1.637	-1.0	99	0.00	4.62
15	t	1,4-Dichlorobenzene	1.617	1.668	-3.2	100	0.00	4.67
16	t	Benzyl alcohol	0.961	0.990	-3.0	99	0.00	4.77
17	t	1,2-Dichlorobenzene	1.525	1.513	0.8	97	0.00	4.79
18	t	Acetophenone	2.319	2.355	-1.6	100	0.00	4.97
19	t	2-Methylphenol	1.333	1.363	-2.3	96	0.00	4.87
20	t	2,2'-oxybis(1-Chloropropa	1.597	1.658	-3.8	97	0.00	4.87
21	t	3&4-Methylphenol	1.445	1.533	-6.1	99	0.00	5.00
22	t	n-Nitroso-di-n-propylamin	1.165	1.157	0.7	97	0.00	4.97
23	t	Hexachloroethane	0.584	0.575	1.5	101	0.00	5.06
24	I	Naphthalene-d8	1.000	1.000	0.0	99	0.01	5.75
25	S	Nitrobenzene-d5	0.471	0.481	-2.1	102	0.00	5.10
26	t	Nitrobenzene	0.481	0.489	-1.7	101	0.00	5.12
27	t	Quinoline	0.792	0.786	0.8	97	0.00	6.10
28	t	Isophorone	0.786	0.791	-0.6	98	0.00	5.32
29	t	2-Nitrophenol	0.216	0.221	-2.3	100	0.00	5.39
30	t	2,4-Dimethylphenol	0.345	0.427	-23.8#	101	0.00	5.43
31	t	Benzoic acid	0.326	0.336	-3.1	94	-0.01	5.55
32	t	bis(2-Chloroethoxy)methan	0.465	0.468	-0.6	96	0.00	5.50
33	t	2,4-Dichlorophenol	0.328	0.331	-0.9	97	0.00	5.62
34	t	2,6-Dichlorophenol	0.324	0.331	-2.2	98	0.00	5.84
35		1,3,5-Trichlorobenzene	0.383	0.387	-1.0	100	0.00	5.40
36	t	1,2,4-Trichlorobenzene	0.357	0.363	-1.7	105	0.00	5.69
37		1,2,3-Trichlorobenzene	0.365	0.372	-1.9	101	0.00	5.91
38	t	Naphthalene	1.158	1.163	-0.4	99	0.00	5.77
39	t	4-Chloroaniline	0.449	0.477	-6.2	99	0.00	5.83
40	t	2,3-Dichloroaniline	0.406	0.407	-0.2	100	0.00	6.83
41	t	Caprolactam	0.180	0.188	-4.4	97	-0.01	6.18

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E2M3173-CC3171
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73756.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.214	0.224	-4.7	105	0.00	5.88
43	t	4-Chloro-3-methylphenol	0.365	0.370	-1.4	99	0.00	6.35
44	t	2-Methylnaphthalene	0.625	0.632	-1.1	100	0.00	6.49
45	t	1-Methylnaphthalene	0.679	0.687	-1.2	100	0.00	6.61
46	t	Dimethylnaphthalene	0.749	0.751	-0.3	102	0.00	7.25
47	I	Acenaphthene-d10	1.000	1.000	0.0	100	0.00	7.80
48	t	Hexachlorocyclopentadiene	0.275	0.288	-4.7	102	0.00	6.68
49	t	2,4,6-Trichlorophenol	0.397	0.412	-3.8	100	0.00	6.84
50	t	2,4,5-Trichlorophenol	0.417	0.433	-3.8	98	0.00	6.90
51	S	2-Fluorobiphenyl	1.425	1.449	-1.7	99	0.00	6.93
52	t	2-Chloronaphthalene	1.168	1.199	-2.7	99	0.00	7.08
53	t	Biphenyl	1.629	1.651	-1.4	98	0.00	7.06
54	t	2-Nitroaniline	0.439	0.454	-3.4	104	0.00	7.22
55	t	Dimethylphthalate	1.358	1.379	-1.5	99	0.00	7.46
56	t	Acenaphthylene	1.995	2.047	-2.6	98	0.00	7.61
57	t	2,6-Dinitrotoluene	0.307	0.303	1.3	97	0.00	7.54
58	t	3-Nitroaniline	0.339	0.362	-6.8	102	0.00	7.77
59	t	Acenaphthene	1.220	1.248	-2.3	101	0.00	7.85
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	44.034	11.9	85	0.00	7.93
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.263	0.286	-8.7	103	0.00	8.08
62	t	Dibenzofuran	1.718	1.744	-1.5	99	0.00	8.09
63	t	2,4-Dinitrotoluene	0.423	0.444	-5.0	103	0.00	8.10
64		2,3,4,6-Tetrachlorophenol	0.345	0.357	-3.5	97	0.00	8.29
65	t	Diethylphthalate	1.448	1.463	-1.0	100	0.00	8.45
66	t	Fluorene	1.420	1.477	-4.0	102	0.00	8.57
67	t	4-Chlorophenyl-phenylethe	0.690	0.711	-3.0	102	0.00	8.59
68	t	4-Nitroaniline	0.342	0.346	-1.2	97	0.00	8.64
69	I	Phenanthrene-d10	1.000	1.000	0.0	101	0.00	9.97
70	t	4,6-Dinitro-2-methylpheno	0.138	0.147	-6.5	93	0.00	8.69
71	t	n-Nitrosodiphenylamine	0.542	0.556	-2.6	98	0.00	8.77
72	t	1,2-Diphenylhydrazine	0.901	0.938	-4.1	100	0.00	8.82
73	S	2,4,6-Tribromophenol	0.117	0.125	-6.8	101	0.00	8.93
74	t	4-Bromophenyl-phenylether	0.222	0.226	-1.8	97	0.00	9.31
75	t	Hexachlorobenzene	0.237	0.243	-2.5	101	0.00	9.40
76	t	Pentachlorophenol	0.130	0.144	-10.8	99	0.00	9.72
77	t	Phenanthrene	1.144	1.165	-1.8	100	0.00	10.00
78	t	Anthracene	1.136	1.190	-4.8	98	0.00	10.08
79	t	Carbazole	1.145	1.191	-4.0	99	0.00	10.36
80	t	Di-n-butylphthalate	1.380	1.438	-4.2	101	0.00	10.97
81	t	Fluoranthene	1.288	1.326	-3.0	100	0.00	11.86
82	t	Octadecane	0.524	0.543	-3.6	97	0.00	9.91
83	I	Chrysene-d12	1.000	1.000	0.0	101	0.00	14.14
84	t	Pyrene	1.343	1.446	-7.7	101	0.00	12.21
85	S	Terphenyl-d14	0.892	0.960	-7.6	101	0.00	12.51
86	t	Butylbenzylphthalate	0.622	0.674	-8.4	100	0.00	13.33
87		Butyl stearate	0.343	0.376	-9.6	101	0.00	13.50
88	t	Benzo[a]anthracene	1.232	1.277	-3.7	100	0.00	14.12
89	t	3,3'-Dichlorobenzidine	0.450	0.473	-5.1	103	0.00	14.13
90	t	Chrysene	1.149	1.201	-4.5	99	0.00	14.17
91	t	bis(2-Ethylhexyl)phthalat	0.858	0.914	-6.5	99	0.00	14.29
92	I	Perylene-d12	1.000	1.000	0.0	104	0.00	16.24
93	t	Di-n-octylphthalate	1.574	1.699	-7.9	99	0.00	15.27

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E2M3173-CC3171
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73756.D
Project: MHIC-592/593 Tanks

94	t	Benzo[b]fluoranthene	1.350	1.437	-6.4	105	0.00	15.73
95	t	Benzo[k]fluoranthene	1.247	1.295	-3.8	98	0.00	15.76
96	t	Benzo[a]pyrene	1.165	1.240	-6.4	103	0.00	16.16
97	t	Indeno[1,2,3-cd]pyrene	1.379	1.250	9.4	90	0.00	17.75
98	t	Dibenz(a,h)acridine	1.047	1.109	-5.9	105	0.00	17.40
99	t	Dibenz[a,h]anthracene	1.144	1.239	-8.3	105	0.00	17.77
		----------	True	Calc.	% Drift	----------		
100	t	7,12-Dimethylbenz(a)anthr	25.000	27.126	-8.5	100	0.00	15.72
		----------	AvgRF	CCRF	% Dev	----------		
101	t	Benzo[g,h,i]perylene	1.105	1.161	-5.1	104	0.00	18.18

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2m72898a.D M2M3171.M Sun May 03 19:55:45 2015 ACC-VOA-DESK4

8.7.23
8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E2M3173-CC3135
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 2M73757.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : Z:\ANDREW\Andrew OUT\e2m3173\2m73757.D       Vial: 3
Acq On    :  1 May 2015  12:17 pm                    Operator: ashleyn
Sample    : cc3135-25                                Inst    : MS
Misc      : op83422,e2m3173,                         Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\M2M3171.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 12:15:44 2015
Last Update  : Fri May 01 12:15:44 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	48#	-0.25	4.66
103	Benzaldehyde	1.195	1.113	6.9	45#	-0.23	4.34
104	Acenaphthene-d10a	1.000	1.000	0.0	46#	-0.35	7.80
105	1,2,4,5-Tetrachlorobenzen	0.424	0.585	-38.0#	67	-0.33	6.69
106	Chrysene-d12a	1.000	1.000	0.0	64	-0.40	14.13
107	Benzidine	0.406	0.481	-18.5	61	-0.37	12.12
108 s	1-chlorooctadecane	0.329	0.343	-4.3	64	-0.39	11.79
109	Phenanthrene-d10a	1.000	1.000	0.0	55	-0.38	9.97
110	Atrazine	0.088	0.118	-34.1#	73	-0.35	9.61
111 s	o-terphenyl	0.463	0.608	-31.3#	73	-0.39	10.60
112	Naphthalene-d8a	1.000	1.000	0.0	43#	-0.29	5.75
113	Hydroquinone	0.321	0.355	-10.6	44#	-0.25	6.19

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 2m72898a.D M2M3171.M        Tue May 05 10:29:03 2015
```

8.7.24

8

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E3E3055-ICC3055
Lab FileID: 3E70725.D

Response Factor Report MS3E

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 17:03:01 2015
Last Update : Fri Apr 03 17:03:01 2015
Response via : Initial Calibration

Calibration Files
2 =3E70730.D 5 =3E70729.D 25 =3E70725.D 80 =3E70727.D
100 =3E70723.D 50 =3E70725.D 1 =3E70724.D 10 =3E70728.D

Compound	2	5	25	80	100	50	1	10	Avg	%RSD
1) I 1,4-Dichlorobenzene-d					ISTD					
2) 1,4-Dioxane	0.639	0.604	0.634	0.624	0.607	0.637	0.677	0.635	0.632	3.57
3) Pyridine	1.649	1.530	1.686	1.640	1.605	1.654	1.737	1.680	1.648	3.73
4) N-Nitrosodim	0.952	0.957	1.007	0.982	0.955	1.005	0.957	0.991	0.976	2.40
5) 2-Fluorophen	1.204	1.233	1.304	1.288	1.255	1.323	1.315	1.298	1.278	3.31
6) Indene	2.534	2.457	2.458	2.325	2.251	2.404	2.447	2.478	2.419	3.75
7) Cumene	3.832	3.752	3.797	3.647	3.511	3.736	4.016	3.883	3.772	4.03
8) Phenol-d5	1.572	1.571	1.687	1.652	1.591	1.681	1.528	1.663	1.618	3.70
9) Phenol	1.940	1.969	2.075	1.993	1.936	2.054	1.938	2.071	1.997	3.05
10) Aniline	2.245	2.183	2.195	1.802	1.728	2.068	2.308	2.174	2.088	10.12
11) bis(2-Chloro	1.455	1.455	1.478	1.427	1.383	1.459	1.463	1.466	1.448	2.09
12) 2-Chlorophen	1.482	1.482	1.580	1.510	1.474	1.547	1.479	1.545	1.512	2.65
13) Decane	1.325	1.319	1.328	1.255	1.225	1.293	1.399	1.344	1.311	4.11
14) 1,3-Dichloro	1.817	1.748	1.763	1.687	1.621	1.731	1.805	1.772	1.743	3.68
15) 1,4-Dichloro	1.854	1.796	1.789	1.713	1.644	1.767	1.846	1.795	1.775	3.89
16) Benzyl alcoh	0.858	0.858	0.943	0.943	0.908	0.964	0.865	0.911	0.906	4.64
17) 1,2-Dichloro	1.750	1.668	1.657	1.596	1.530	1.633	1.788	1.644	1.658	4.93
18) Acetophenone	2.156	2.138	2.156	2.005	1.899	2.064	2.255	2.179	2.106	5.34
19) 2-Methylphen	1.167	1.214	1.307	1.251	1.209	1.306	1.212	1.281	1.243	4.12
20) 2,2'-oxybis(	0.559	0.544	0.546	0.529	0.508	0.550	0.562	0.555	0.544	3.29
21) 3&4-Methylph	1.136	1.212	1.391	1.337	1.269	1.372	1.118	1.329	1.270	8.29
22) n-Nitroso-di	1.071	1.079	1.116	1.048	1.016	1.072	1.070	1.100	1.072	2.84
23) Hexachloroet	0.523	0.528	0.554	0.540	0.512	0.551	0.539	0.555	0.538	2.92
24) I Naphthalene-d8					ISTD					
25) Nitrobenzene	0.369	0.377	0.391	0.396	0.383	0.396	0.380	0.392	0.386	2.59
26) Nitrobenzene	0.417	0.431	0.438	0.440	0.425	0.442	0.423	0.439	0.432	2.13
27) Quinoline	0.671	0.680	0.734	0.720	0.707	0.739	0.619	0.720	0.699	5.76
28) Isophorone	0.724	0.724	0.748	0.744	0.714	0.758	0.700	0.748	0.733	2.72
29) 2-Nitropheno	0.180	0.194	0.205	0.217	0.208	0.216	0.171	0.201	0.199	8.19
30) 2,4-Dimethyl	0.282	0.317	0.357	0.381	0.372	0.378	0.269	0.324	0.335	13.08
31) Benzoic acid			0.227	0.279	0.283	0.270		0.181	0.248	17.62
32) bis(2-Chloro	0.426	0.445	0.439	0.444	0.423	0.450	0.432	0.443	0.438	2.21
33) 2,4-Dichloro	0.220	0.253	0.309	0.303	0.295	0.314	0.203	0.281	0.272	15.53
34) 2,6-Dichloro	0.256	0.280	0.307	0.297	0.287	0.306	0.241	0.291	0.283	8.32
35) 1,3,5-Trichl	0.362	0.367	0.352	0.351	0.331	0.357	0.378	0.360	0.357	3.86
36) 1,2,4-Trichl	0.351	0.341	0.340	0.339	0.325	0.340	0.337	0.343	0.340	2.18
37) 1,2,3-Trichl	0.329	0.332	0.327	0.323	0.309	0.326	0.338	0.330	0.327	2.62
38) Naphthalene	1.117	1.106	1.083	1.084	1.043	1.099	1.144	1.098	1.097	2.67
39) 4-Chloroanil	0.415	0.425	0.451	0.422	0.408	0.458	0.408	0.446	0.429	4.62
40) 2,3-Dichloro	0.368	0.369	0.371	0.354	0.346	0.364	0.354	0.366	0.361	2.47
41) Caprolactam	0.108	0.128	0.142	0.143	0.145	0.145	0.121	0.137	0.134	10.00
42) Hexachlorobu	0.200	0.189	0.189	0.187	0.179	0.191	0.187	0.193	0.189	3.10
43) 4-Chloro-3-m	0.299	0.311	0.333	0.330	0.327	0.337	0.310	0.320	0.321	4.10
44) 2-Methylnaph	0.595	0.605	0.600	0.591	0.572	0.602	0.601	0.605	0.596	1.82
45) 1-Methylnaph	0.672	0.664	0.659	0.642	0.628	0.657	0.662	0.654	0.655	2.12

Initial Calibration Summary

Job Number: JB93023 **Sample:** E3E3055-ICC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E70725.D
Project: MHIC-592/593 Tanks

```
46) Dimethylnaph 0.673 0.679 0.674 0.654 0.639 0.675 0.679 0.667 0.668   2.12

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.229 0.266 0.310 0.354 0.339 0.337 0.206 0.297 0.292  18.47
49) 2,4,6-Trichl 0.327 0.328 0.361 0.367 0.361 0.368 0.339 0.353 0.350   4.85
50) 2,4,5-Trichl 0.302 0.356 0.362 0.369 0.361 0.366 0.306 0.358 0.348   7.80
51) 2-Fluorobiph 1.294 1.290 1.268 1.285 1.232 1.283 1.293 1.271 1.277   1.61
52) 2-Chloronaph 1.262 1.215 1.215 1.214 1.181 1.229 1.217 1.227 1.220   1.83
53) Biphenyl     1.626 1.592 1.588 1.601 1.558 1.574 1.585 1.610 1.592   1.32
54) 2-Nitroanili 0.283 0.312 0.342 0.360 0.357 0.352 0.312 0.340 0.332   8.17
55) Dimethylphth 1.336 1.355 1.374 1.371 1.339 1.373 1.362 1.348 1.357   1.12
56) Acenaphthyle 1.840 1.854 1.880 1.879 1.825 1.886 1.809 1.879 1.856   1.58
57) 2,6-Dinitrot 0.237 0.269 0.302 0.317 0.309 0.313 0.249 0.289 0.285  10.76
58) 3-Nitroanili 0.270 0.298 0.330 0.340 0.340 0.344 0.253 0.316 0.311  11.12
59) Acenaphthene 1.195 1.168 1.156 1.154 1.153 1.156 1.192 1.157 1.166   1.49
60) 2,4-Dinitrop 0.019 0.047 0.130 0.183 0.179 0.165       0.090 0.116  56.64
         ----- Quadratic regression -----                Coefficient =  0.9964
              Response Ratio = -0.01624 + 0.13667 *A + 0.01046 *A^2

61) 4-Nitropheno 0.129 0.125 0.174 0.190 0.190 0.184 0.128 0.145 0.158  18.52
62) Dibenzofuran 1.623 1.610 1.577 1.543 1.497 1.554 1.659 1.579 1.580   3.21
63) 2,4-Dinitrot 0.299 0.366 0.418 0.425 0.420 0.425 0.303 0.392 0.381  14.00
64) 2,3,4,6-Tetr 0.250 0.282 0.319 0.333 0.327 0.331 0.258 0.299 0.300  11.08
65) Diethylphtha 1.324 1.359 1.377 1.376 1.348 1.377 1.528 1.352 1.380   4.54
66) Fluorene     1.298 1.273 1.305 1.293 1.278 1.287 1.282 1.304 1.290   0.91
67) 4-Chlorophen 0.691 0.643 0.640 0.632 0.615 0.629 0.673 0.648 0.646   3.81
68) 4-Nitroanili 0.293 0.311 0.354 0.342 0.335 0.344 0.249 0.340 0.321  10.94

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro-       0.063 0.124 0.149 0.147 0.147       0.098 0.121  28.61
            ----- Linear regression -----  Coefficient =  0.9992
              Response Ratio = -0.01317 + 0.15370 *A

71) n-Nitrosodip 0.528 0.561 0.586 0.576 0.562 0.597 0.541 0.563 0.564   3.96
72) 1,2-Diphenyl 0.792 0.811 0.885 0.869 0.865 0.895 0.826 0.848 0.849   4.30
73) 2,4,6-Tribro 0.076 0.085 0.104 0.112 0.110 0.113 0.075 0.094 0.096  16.33
74) 4-Bromopheny 0.213 0.214 0.231 0.228 0.223 0.237 0.200 0.217 0.220   5.39
75) Hexachlorobe 0.249 0.247 0.256 0.256 0.249 0.261 0.248 0.250 0.252   2.06
76) Pentachlorop 0.088 0.109 0.154 0.168 0.166 0.169       0.138 0.142  22.68
            ----- Linear regression -----  Coefficient =  0.9990
              Response Ratio = -0.01089 + 0.16905 *A

77) Phenanthrene 1.119 1.098 1.116 1.076 1.055 1.129 1.175 1.082 1.106   3.37
78) Anthracene   1.074 1.072 1.127 1.082 1.064 1.140 1.075 1.085 1.090   2.56
79) Carbazole    1.020 1.035 1.104 1.071 1.053 1.125 1.025 1.083 1.064   3.57
80) Di-n-butylph 1.188 1.252 1.411 1.414 1.387 1.469 1.253 1.330 1.338   7.35
81) Fluoranthene 1.048 1.059 1.162 1.165 1.137 1.193 1.097 1.109 1.121   4.64
82) Octadecane   0.423 0.442 0.490 0.479 0.477 0.499 0.451 0.466 0.466   5.51

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.172 1.087 1.168 1.182 1.052 1.186 1.205 1.176 1.154   4.65
85) Terphenyl-d1 0.778 0.723 0.805 0.830 0.732 0.822 0.805 0.794 0.786   5.03
86) Butylbenzylp 0.515 0.500 0.590 0.614 0.551 0.615 0.553 0.581 0.565   7.56
87) Butyl steara 0.216 0.220 0.278 0.292 0.264 0.292 0.245 0.267 0.259  11.46
88) Benzo[a]anth 1.142 1.032 1.112 1.162 1.029 1.152 1.273 1.125 1.128   6.89
89) 3,3'-Dichlor 0.378 0.362 0.421 0.448 0.391 0.444 0.378 0.423 0.406   8.03
90) Chrysene     1.086 0.996 1.050 1.073 0.946 1.077 1.143 1.058 1.054   5.68
91) bis(2-Ethylh 0.669 0.671 0.806 0.832 0.746 0.844 0.760 0.789 0.764   8.78

92) I   Perylene-d12          ----------------ISTD---------------------
```

8.7.25

8

Initial Calibration Summary

Job Number: JB93023 **Sample:** E3E3055-ICC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E70725.D
Project: MHIC-592/593 Tanks

```
 93) Di-n-octylph 1.110 1.213 1.445 1.621 1.467 1.526 1.269 1.427 1.385  12.40
 94) Benzo[b]fluo 1.199 1.147 1.237 1.366 1.253 1.274 1.260 1.238 1.247   5.04
 95) Benzo[k]fluo 1.184 1.131 1.170 1.261 1.103 1.196 1.226 1.246 1.190   4.60
 96) Benzo[a]pyre 1.011 0.976 1.071 1.163 1.044 1.097 1.050 1.083 1.062   5.33
 97) Indeno[1,2,3 0.924 0.963 1.111 1.278 1.163 1.183 0.988 1.115 1.091  11.21
 98) Dibenz(a,h)a 0.909 0.910 1.043 1.162 1.029 1.075 1.058 1.064 1.031   8.22
 99) Dibenz[a,h]a 1.040 1.012 1.140 1.250 1.104 1.178 1.140 1.163 1.129   6.74
100) 7,12-Dimethy 0.423 0.441 0.572 0.645 0.583 0.602 0.417 0.525 0.526  16.87
101) Benzo[g,h,i] 0.977 0.950 1.060 1.161 1.038 1.101 1.086 1.090 1.058   6.48
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M3E3055.M         Fri Apr 03 17:03:18 2015   MS3E
```

8.7.25

8

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E3E3056-ICC3056
Lab FileID: 3E70735.D

```
                          Response Factor Report  MS3E

  Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 08:53:38 2015
  Last Update  : Fri Apr 03 08:53:38 2015
  Response via : Initial Calibration

  Calibration Files
  2   =3E70739a.D  5   =3E70738a.D  25  =3E70736a.D  80  =3E70734a.D
  100 =3E70733a.D  50  =3E70735a.D  1   =3E70740a.D  10  =3E70737a.D

   Compound         2     5     25    80    100   50    1     10    Avg %RSD
  ---------------------------------------------------------------------------
102)     1,4-Dichlorobenzene-d ----------------ISTD---------------------
103) Benzaldehyde 1.437 1.151 1.119 1.043 0.984 1.134 1.307 1.161 1.167  12.34

104)     Acenaphthene-d10a     ----------------ISTD---------------------
105) 1,2,4,5-Tetr 0.582 0.480 0.461 0.469 0.454 0.464 0.536 0.472 0.490   9.19

106)     Phenanthrene-d10a     ----------------ISTD---------------------
107) Atrazine     0.116 0.098 0.106 0.105 0.106 0.108 0.091 0.105 0.104   6.93
108) o-Terphenyl  0.712 0.612 0.585 0.563 0.556 0.583 0.614 0.600 0.603   8.10
109) 1-Chloroocta 0.305 0.277 0.282 0.276 0.276 0.288 0.258 0.280 0.280   4.64

110) I   Chrysene-d12a         ----------------ISTD---------------------
111) benzidine    0.259 0.272 0.393 0.295 0.282 0.403       0.326 0.318  18.29

112) I   Naphthalene-d8a       ----------------ISTD---------------------
113) Hydroquinone 0.301 0.292 0.314 0.330 0.334 0.324 0.305 0.309 0.314   4.71
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M3E3055.M         Fri Apr 03 11:00:19 2015   MS3E
```

8.7.26

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3056-ICV3056
Lab FileID: 3E70741A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E3E3056\3E70741a.D         Vial: 10
Acq On    :  2 Apr 2015   8:39 pm                    Operator: ashleyn
Sample    : icv3056-50                               Inst    : MS3E
Misc      : op82671,e3e3056,                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 09:42:09 2015
Last Update  : Fri Apr 03 09:42:09 2015
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.
104	Acenaphthene-d10a	1.000	1.000	0.0	102	0.00	8.09
105	1,2,4,5-Tetrachlorobenzen	0.490	0.479	2.2	105	0.00	6.96

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70747.D M3E3055.M Fri Apr 03 10:17:30 2015 MS3E

8.7.27

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3056-ICV3055
Lab FileID: 3E70741.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3056\3E70741.D Vial: 10
Acq On : 2 Apr 2015 8:39 pm Operator: ashleyn
Sample : icv3055-50 Inst : MS3E
Misc : op82671,e3e3056, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 17:03:01 2015
Last Update : Fri Apr 03 17:03:01 2015
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	90	0.00	4.87
4	t	N-Nitrosodimethylamine	0.976	0.853	12.6	76	0.02	2.73
11	t	bis(2-Chloroethyl)ether	1.448	1.249	13.7	77	0.00	4.65
14	t	1,3-Dichlorobenzene	1.743	1.504	13.7	78	0.00	4.82
15	t	1,4-Dichlorobenzene	1.775	1.535	13.5	78	0.00	4.88
17	t	1,2-Dichlorobenzene	1.658	1.457	12.1	80	0.00	5.00
20	t	2,2'-oxybis(1-Chloropropa	0.544	0.467	14.2	76	0.00	5.07
22	t	n-Nitroso-di-n-propylamin	1.072	0.888	17.2	75	0.00	5.18
23	t	Hexachloroethane	0.538	0.496	7.8	81	0.00	5.28
24	I	Naphthalene-d8	1.000	1.000	0.0	85	0.00	5.98
26	t	Nitrobenzene	0.432	0.362	16.2	70	0.00	5.33
28	t	Isophorone	0.733	0.682	7.0	77	0.00	5.53
32	t	bis(2-Chloroethoxy)methan	0.438	0.395	9.8	75	0.00	5.73
36	t	1,2,4-Trichlorobenzene	0.340	0.312	8.2	78	0.00	5.93
38	t	Naphthalene	1.097	1.041	5.1	81	0.00	6.01
42	t	Hexachlorobutadiene	0.189	0.181	4.2	81	0.00	6.14
47	I	Acenaphthene-d10	1.000	1.000	0.0	84	0.00	8.09
48	t	Hexachlorocyclopentadiene	0.292	0.296	-1.4	74	0.00	6.96
52	t	2-Chloronaphthalene	1.220	1.051	13.9	72	0.00	7.35
55	t	Dimethylphthalate	1.357	1.151	15.2	70	0.00	7.73
56	t	Acenaphthylene	1.856	1.588	14.4	71	0.00	7.90
57	t	2,6-Dinitrotoluene	0.285	0.233	18.2	62	0.00	7.81
59	t	Acenaphthene	1.166	1.109	4.9	81	0.00	8.14
63	t	2,4-Dinitrotoluene	0.381	0.288	24.4	57	-0.01	8.36
65	t	Diethylphthalate	1.380	1.118	19.0	68	0.00	8.74
66	t	Fluorene	1.290	1.186	8.1	77	0.00	8.88
67	t	4-Chlorophenyl-phenylethe	0.646	0.549	15.0	73	0.00	8.89
69	I	Phenanthrene-d10	1.000	1.000	0.0	85	0.00	10.28
71	t	n-Nitrosodiphenylamine	0.564	0.477	15.4	68	0.00	9.06
72	t	1,2-Diphenylhydrazine	0.849	0.732	13.8	70	0.00	9.12
74	t	4-Bromophenyl-phenylether	0.220	0.195	11.4	70	0.00	9.62
75	t	Hexachlorobenzene	0.252	0.213	15.5	70	0.00	9.71
77	t	Phenanthrene	1.106	0.998	9.8	76	-0.01	10.32
78	t	Anthracene	1.090	1.008	7.5	76	0.00	10.40
80	t	Di-n-butylphthalate	1.338	1.113	16.8	65	0.00	11.28
81	t	Fluoranthene	1.121	0.999	10.9	72	0.00	12.19

Initial Calibration Verification

Job Number: JB93023 **Sample:** E3E3056-ICV3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E70741.D
Project: MHIC-592/593 Tanks

83	I	Chrysene-d12	1.000	1.000	0.0	80	0.00	14.48
84	t	Pyrene	1.154	1.055	8.6	71	0.00	12.54
86	t	Butylbenzylphthalate	0.565	0.482	14.7	62	0.00	13.67
88	t	Benzo[a]anthracene	1.128	0.968	14.2	67	0.00	14.46
90	t	Chrysene	1.054	0.971	7.9	72	0.00	14.51
91	t	bis(2-Ethylhexyl)phthalat	0.764	0.645	15.6	61	0.00	14.63
92	I	Perylene-d12	1.000	1.000	0.0	76	0.00	16.59
93	t	Di-n-octylphthalate	1.385	1.193	13.9	60	0.00	15.61
94	t	Benzo[b]fluoranthene	1.247	1.051	15.7	63	-0.01	16.07
95	t	Benzo[k]fluoranthene	1.190	1.054	11.4	67	-0.01	16.11
96	t	Benzo[a]pyrene	1.062	0.990	6.8	69	-0.01	16.51
97	t	Indeno[1,2,3-cd]pyrene	1.091	0.934	14.4	60	-0.01	18.23
99	t	Dibenz[a,h]anthracene	1.129	0.993	12.0	64	-0.02	18.26
101	t	Benzo[g,h,i]perylene	1.058	0.941	11.1	65	-0.01	18.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70735a.D M3E3055.M Mon Apr 06 08:45:05 2015 MS3E

8.7.28

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3056-ICV3055
Lab FileID: 3E70742.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3056\3E70742.D Vial: 11
Acq On : 2 Apr 2015 9:05 pm Operator: ashleyn
Sample : icv3055-50 Inst : MS3E
Misc : op82671,e3e3056, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 17:03:01 2015
Last Update : Fri Apr 03 17:03:01 2015
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	4.86
2	t	1,4-Dioxane	0.632	0.594	6.0	87	0.03	2.46
6	t	Indene	2.419	2.434	-0.6	94	0.00	5.07
7	t	Cumene	3.772	3.481	7.7	87	0.00	4.27
13	t	Decane	1.311	1.140	13.0	82	0.00	4.74
18	t	Acetophenone	2.106	1.908	9.4	86	0.00	5.18
24	I	Naphthalene-d8	1.000	1.000	0.0	92	0.00	5.98
27	t	Quinoline	0.699	0.669	4.3	84	0.00	6.35
40	t	2,3-Dichloroaniline	0.361	0.277	23.3	70	0.00	7.09
41	t	Caprolactam	0.134	0.109	18.7	69	-0.04	6.40
45	t	1-Methylnaphthalene	0.655	0.586	10.5	82	0.00	6.87
46	t	Dimethylnaphthalene	0.668	0.605	9.4	83	0.00	7.53
47	I	Acenaphthene-d10	1.000	1.000	0.0	89	0.00	8.09
53	t	Biphenyl	1.592	1.483	6.8	84	0.00	7.33
69	I	Phenanthrene-d10	1.000	1.000	0.0	92	0.00	10.28
82	t	Octadecane	0.466	0.412	11.6	76	0.00	10.23
83	I	Chrysene-d12	1.000	1.000	0.0	78	0.00	14.47
92	I	Perylene-d12	1.000	1.000	0.0	70	0.00	16.59
100	t	7,12-Dimethylbenz(a)anthr	0.526	0.482	8.4	56	-0.02	16.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70735a.D M3E3055.M Mon Apr 06 09:44:47 2015 MS3E

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3056-ICV3056
Lab FileID: 3E70742A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E3E3056\3E70742a.D         Vial: 11
Acq On    :  2 Apr 2015   9:05 pm                    Operator: ashleyn
Sample    : icv3056-50                               Inst    : MS3E
Misc      : op82671,e3e3056,                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 09:42:09 2015
Last Update  : Fri Apr 03 09:42:09 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	116	0.00	4.86
103	Benzaldehyde	1.167	1.128	3.3	116	0.00	4.52
106	Phenanthrene-d10a	1.000	1.000	0.0	109	0.00	10.28
107	Atrazine	0.104	0.103	1.0	105	0.00	9.90

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70747.D M3E3055.M Fri Apr 03 10:18:27 2015 MS3E

8.7.30

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E3E3056-ICV3055
Lab FileID: 3E70744.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3056\3E70744.D Vial: 13
Acq On : 2 Apr 2015 9:57 pm Operator: ashleyn
Sample : icv3055-50 Inst : MS3E
Misc : op82671,e3e3056, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 17:03:01 2015
Last Update : Fri Apr 03 17:03:01 2015
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	90	0.00	4.86
5	S	2-Fluorophenol	1.278	1.297	-1.5	89	0.01	3.88
8	S	Phenol-d5	1.618	1.578	2.5	85	0.00	4.57
24	I	Naphthalene-d8	1.000	1.000	0.0	86	0.00	5.98
25	S	Nitrobenzene-d5	0.386	0.394	-2.1	86	0.00	5.31
47	I	Acenaphthene-d10	1.000	1.000	0.0	84	0.00	8.09
51	S	2-Fluorobiphenyl	1.277	1.364	-6.8	89	0.00	7.20
69	I	Phenanthrene-d10	1.000	1.000	0.0	84	0.00	10.28
73	S	2,4,6-Tribromophenol	0.096	0.095	1.0	70	-0.01	9.23
83	I	Chrysene-d12	1.000	1.000	0.0	76	0.00	14.47
85	S	Terphenyl-d14	0.786	0.855	-8.8	79	0.00	12.84
92	I	Perylene-d12	1.000	1.000	0.0	69	0.00	16.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70735a.D M3E3055.M Mon Apr 06 09:44:25 2015 MS3E

8.7.31

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3056-ICV3055
Lab FileID: 3E70745.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3056\3E70745.D Vial: 14
Acq On : 2 Apr 2015 10:24 pm Operator: ashleyn
Sample : icv3055-50 Inst : MS3E
Misc : op82671,e3e3056, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 17:03:01 2015
Last Update : Fri Apr 03 17:03:01 2015
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	92	0.00	4.86
3	t	Pyridine	1.648	1.536	6.8	85	0.13	2.88
10		Aniline	2.088	1.994	4.5	88	0.00	4.61
16	t	Benzyl alcohol	0.906	0.886	2.2	84	0.00	4.97
24	I	Naphthalene-d8	1.000	1.000	0.0	91	0.00	5.98
39	t	4-Chloroaniline	0.429	0.392	8.6	78	0.00	6.05
44	t	2-Methylnaphthalene	0.596	0.598	-0.3	90	0.00	6.75
47	I	Acenaphthene-d10	1.000	1.000	0.0	91	0.00	8.09
54	t	2-Nitroaniline	0.332	0.283	14.8	73	0.00	7.48
62	t	Dibenzofuran	1.580	1.533	3.0	90	0.00	8.38
68	t	4-Nitroaniline	0.321	0.250	22.1	66	-0.01	8.91
69	I	Phenanthrene-d10	1.000	1.000	0.0	91	0.00	10.28
79	t	Carbazole	1.064	0.921	13.4	74	0.00	10.66
83	I	Chrysene-d12	1.000	1.000	0.0	76	0.00	14.47
92	I	Perylene-d12	1.000	1.000	0.0	68	0.00	16.59

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70735a.D M3E3055.M Mon Apr 06 08:44:28 2015 MS3E

8.7.32

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E3E3056-ICV3055
Lab FileID: 3E70746A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E3E3056\3E70746a.D         Vial: 15
Acq On    :  2 Apr 2015  10:50 pm                    Operator: ashleyn
Sample    : icv3055-50                               Inst    : MS3E
Misc      : op82671,e3e3056,                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 17:03:01 2015
Last Update  : Fri Apr 03 17:03:01 2015
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	106	0.00	14.47
89	t	3,3'-Dichlorobenzidine	0.406	0.476	-17.2	114	0.00	14.46
92	I	Perylene-d12	1.000	1.000	0.0	104	0.00	16.59

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 3E70735a.D M3E3055.M        Mon Apr 06 09:45:42 2015   MS3E
```

8.7.33

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3056-ICV3056
Lab FileID: 3E70746.D

```
                    Evaluate Continuing Calibration Report

  Data File : C:\msdchem\1\DATA\E3E3056\3E70746.D          Vial: 15
  Acq On    :  2 Apr 2015  10:50 pm                    Operator: ashleyn
  Sample    : icv3056-50                               Inst    : MS3E
  Misc      : op82671,e3e3056,                         Multiplr: 1.00
  MS Integration Params: lscint.p

  Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 09:42:09 2015
  Last Update  : Fri Apr 03 09:42:09 2015
  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.
  ---------------------------------------------------------------------------
110 I   Chrysene-d12a               1.000   1.000      0.0  116   0.00   14.47
111 T   benzidine                   0.318   0.893    -180.8# 257#  0.00   12.44
 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     3E70747.D  M3E3055.M        Fri Apr 03 09:43:12 2015   MS3E
```

8.7.34

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3056-ICV3056
Lab FileID: 3E70747.D

Evaluate Continuing Calibration Report

```
  Data File : C:\msdchem\1\DATA\E3E3056\3E70747.D          Vial: 16
  Acq On    :  2 Apr 2015  11:16 pm                    Operator: ashleyn
  Sample    : icv3056-50                               Inst    : MS3E
  Misc      : op82671,e3e3056,                         Multiplr: 1.00
  MS Integration Params: lscint.p

  Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 09:42:09 2015
  Last Update  : Fri Apr 03 09:42:09 2015
  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.
  ---------------------------------------------------------------------------
112 I   Naphthalene-d8              1.000   1.000      0.0   96   0.00    5.98
113 T   Hydroquinone                0.314   0.436    -38.9# 129   0.00    6.39
 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     3E70747.D  M3E3055.M        Fri Apr 03 09:43:13 2015   MS3E
```

8.7.35

8

Initial Calibration Verification

Job Number: JB93023 **Sample:** E3E3057-ICV3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E70751.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E3E3057\3E70751.D          Vial: 2
Acq On    :  3 Apr 2015  11:13 am                    Operator: ashleyn
Sample    : icv3055-50                               Inst    : MS3E
Misc      : op82671,e3e3057,                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuFri Apr 03 17:03:01 2015
Last Update  : Fri Apr 03 17:03:01 2015
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	4.86
9	t	Phenol	1.997	1.710	14.4	69	-0.01	4.58
12	t	2-Chlorophenol	1.512	1.407	6.9	75	0.00	4.69
19	t	2-Methylphenol	1.243	1.298	-4.4	82	-0.01	5.05
21	t	3&4-Methylphenol	1.270	1.377	-8.4	83	-0.01	5.17
24	I	Naphthalene-d8	1.000	1.000	0.0	83	-0.02	5.97
29	t	2-Nitrophenol	0.199	0.202	-1.5	78	-0.01	5.60
30	t	2,4-Dimethylphenol	0.335	0.369	-10.1	81	-0.01	5.64
31	t	Benzoic acid	0.248	0.276	-11.3	85	0.00	5.74
33	t	2,4-Dichlorophenol	0.272	0.294	-8.1	78	-0.02	5.83
34	t	2,6-Dichlorophenol	0.283	0.299	-5.7	81	-0.02	6.05
43	t	4-Chloro-3-methylphenol	0.321	0.314	2.2	77	-0.02	6.56
47	I	Acenaphthene-d10	1.000	1.000	0.0	85	-0.02	8.08
49	t	2,4,6-Trichlorophenol	0.350	0.349	0.3	81	-0.02	7.09
50	t	2,4,5-Trichlorophenol	0.348	0.368	-5.7	86	-0.02	7.13
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	103.426	-3.4	74	-0.03	8.16
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.158	0.168	-6.3	78	-0.02	8.27
64		2,3,4,6-Tetrachlorophenol	0.300	0.300	0.0	77	-0.02	8.55
69	I	Phenanthrene-d10	1.000	1.000	0.0	90	-0.02	10.27
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	41.130	17.7	71	-0.03	8.94
		----------	AvgRF	CCRF	% Dev	----------		
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	100.000	93.768	6.2	80	-0.02	10.00
		----------	AvgRF	CCRF	% Dev	----------		
83	I	Chrysene-d12	1.000	1.000	0.0	81	-0.03	14.46

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70735a.D M3E3055.M Mon Apr 06 08:45:46 2015 MS3E

8.7.36

8

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E3E3098-CC3055
Lab FileID: 3E71724.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3098\3E71724.D Vial: 2
Acq On : 29 Apr 2015 9:40 am Operator: ashleyn
Sample : cc3055-50 Inst : MS3E
Misc : op83411,e3e3098, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 16 17:12:46 2015
Last Update : Thu Apr 16 17:12:46 2015
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	93	-0.03	4.68
2	t	1,4-Dioxane	0.632	0.491	22.3#	72	-0.03	2.24
3	t	Pyridine	1.648	1.262	23.4#	71	-0.03	2.57
4	t	N-Nitrosodimethylamine	0.976	0.713	26.9#	66	-0.02	2.54
5	S	2-Fluorophenol	1.278	1.336	-4.5	94	-0.02	3.73
6	t	Indene	2.419	2.534	-4.8	98	-0.03	4.88
7	t	Cumene	3.772	3.531	6.4	88	-0.04	4.08
8	S	Phenol-d5	1.618	1.691	-4.5	94	-0.02	4.44
9	t	Phenol	1.997	1.886	5.6	86	-0.02	4.45
10		Aniline	2.088	1.708	18.2	77	-0.03	4.44
11	t	bis(2-Chloroethyl)ether	1.448	1.195	17.5	76	-0.03	4.48
12	t	2-Chlorophenol	1.512	1.509	0.2	91	-0.03	4.53
13	t	Decane	1.311	1.069	18.5	77	-0.04	4.55
14	t	1,3-Dichlorobenzene	1.743	1.621	7.0	87	-0.03	4.64
15	t	1,4-Dichlorobenzene	1.775	1.666	6.1	88	-0.03	4.69
16	t	Benzyl alcohol	0.906	0.899	0.8	87	-0.03	4.80
17	t	1,2-Dichlorobenzene	1.658	1.549	6.6	89	-0.03	4.81
18	t	Acetophenone	2.106	2.110	-0.2	95	-0.03	5.00
19	t	2-Methylphenol	1.243	1.255	-1.0	90	-0.02	4.90
20	t	2,2'-oxybis(1-Chloropropa	0.544	0.520	4.4	88	-0.03	4.89
21	t	3&4-Methylphenol	1.270	1.352	-6.5	92	-0.02	5.02
22	t	n-Nitroso-di-n-propylamin	1.072	0.991	7.6	86	-0.03	5.00
23	t	Hexachloroethane	0.538	0.490	8.9	83	-0.04	5.08
24	I	Naphthalene-d8	1.000	1.000	0.0	96	-0.04	5.77
25	S	Nitrobenzene-d5	0.386	0.369	4.4	90	-0.03	5.13
26	t	Nitrobenzene	0.432	0.368	14.8	80	-0.03	5.14
27	t	Quinoline	0.699	0.733	-4.9	95	-0.03	6.14
28	t	Isophorone	0.733	0.611	16.6	78	-0.03	5.34
29	t	2-Nitrophenol	0.199	0.224	-12.6	100	-0.03	5.42
30	t	2,4-Dimethylphenol	0.335	0.342	-2.1	87	-0.03	5.47
31	t	Benzoic acid	0.248	0.292	-17.7	104	0.03	5.61
32	t	bis(2-Chloroethoxy)methan	0.438	0.374	14.6	80	-0.04	5.53
33	t	2,4-Dichlorophenol	0.272	0.293	-7.7	90	-0.03	5.65
34	t	2,6-Dichlorophenol	0.283	0.292	-3.2	92	-0.03	5.86
35		1,3,5-Trichlorobenzene	0.357	0.354	0.8	95	-0.03	5.43
36	t	1,2,4-Trichlorobenzene	0.340	0.313	7.9	89	-0.04	5.72
37		1,2,3-Trichlorobenzene	0.327	0.320	2.1	95	-0.04	5.94
38	t	Naphthalene	1.097	1.127	-2.7	99	-0.04	5.79
39	t	4-Chloroaniline	0.429	0.434	-1.2	91	-0.03	5.85
40	t	2,3-Dichloroaniline	0.361	0.370	-2.5	98	-0.03	6.87
41	t	Caprolactam	0.134	0.116	13.4	77	0.00	6.25

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3098-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71724.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.189	0.168	11.1	85	-0.04	5.91
43	t	4-Chloro-3-methylphenol	0.321	0.336	-4.7	96	-0.02	6.39
44	t	2-Methylnaphthalene	0.596	0.627	-5.2	100	-0.04	6.52
45	t	1-Methylnaphthalene	0.655	0.691	-5.5	101	-0.04	6.64
46	t	Dimethylnaphthalene	0.668	0.720	-7.8	103	-0.04	7.29
47	I	Acenaphthene-d10	1.000	1.000	0.0	100	-0.04	7.84
48	t	Hexachlorocyclopentadiene	0.292	0.191	34.6#	57	-0.04	6.71
49	t	2,4,6-Trichlorophenol	0.350	0.347	0.9	94	-0.03	6.88
50	t	2,4,5-Trichlorophenol	0.348	0.356	-2.3	97	-0.02	6.94
51	S	2-Fluorobiphenyl	1.277	1.305	-2.2	102	-0.04	6.96
52	t	2-Chloronaphthalene	1.220	1.124	7.9	91	-0.04	7.11
53	t	Biphenyl	1.592	1.608	-1.0	102	-0.04	7.09
54	t	2-Nitroaniline	0.332	0.341	-2.7	97	-0.03	7.26
55	t	Dimethylphthalate	1.357	1.287	5.2	94	-0.04	7.49
56	t	Acenaphthylene	1.856	1.950	-5.1	103	-0.04	7.65
57	t	2,6-Dinitrotoluene	0.285	0.297	-4.2	95	-0.03	7.58
58	t	3-Nitroaniline	0.311	0.350	-12.5	102	-0.03	7.81
59	t	Acenaphthene	1.166	1.209	-3.7	104	-0.04	7.89
			True	Calc.	% Drift			
60	t	2,4-Dinitrophenol	100.000	116.194	-16.2	114	-0.02	7.97
			AvgRF	CCRF	% Dev			
61	t	4-Nitrophenol	0.158	0.187	-18.4	102	0.00	8.13
62	t	Dibenzofuran	1.580	1.578	0.1	101	-0.04	8.13
63	t	2,4-Dinitrotoluene	0.381	0.421	-10.5	99	-0.02	8.15
64		2,3,4,6-Tetrachlorophenol	0.300	0.291	3.0	88	-0.03	8.33
65	t	Diethylphthalate	1.380	1.352	2.0	98	-0.04	8.49
66	t	Fluorene	1.290	1.345	-4.3	104	-0.04	8.62
67	t	4-Chlorophenyl-phenylethe	0.646	0.591	8.5	94	-0.05	8.63
68	t	4-Nitroaniline	0.321	0.346	-7.8	101	-0.01	8.70
69	I	Phenanthrene-d10	1.000	1.000	0.0	106	-0.04	10.02
			True	Calc.	% Drift			
70	t	4,6-Dinitro-2-methylpheno	50.000	48.925	2.2	101	-0.02	8.75
			AvgRF	CCRF	% Dev			
71	t	n-Nitrosodiphenylamine	0.564	0.537	4.8	96	-0.04	8.81
72	t	1,2-Diphenylhydrazine	0.849	0.750	11.7	89	-0.04	8.86
73	S	2,4,6-Tribromophenol	0.096	0.115	-19.8	109	-0.04	8.98
74	t	4-Bromophenyl-phenylether	0.220	0.200	9.1	90	-0.04	9.35
75	t	Hexachlorobenzene	0.252	0.217	13.9	88	-0.04	9.45
			True	Calc.	% Drift			
76	t	Pentachlorophenol	100.000	82.024	18.0	85	-0.03	9.78
			AvgRF	CCRF	% Dev			
77	t	Phenanthrene	1.106	1.127	-1.9	106	-0.04	10.06
78	t	Anthracene	1.090	1.136	-4.2	106	-0.04	10.13
79	t	Carbazole	1.064	1.089	-2.3	103	-0.03	10.41
80	t	Di-n-butylphthalate	1.338	1.408	-5.2	102	-0.04	11.02
81	t	Fluoranthene	1.121	1.129	-0.7	101	-0.04	11.92
82	t	Octadecane	0.466	0.401	13.9	85	-0.05	9.95
83	I	Chrysene-d12	1.000	1.000	0.0	109	-0.04	14.21
84	t	Pyrene	1.154	1.095	5.1	100	-0.04	12.27
85	S	Terphenyl-d14	0.786	0.762	3.1	101	-0.04	12.57
86	t	Butylbenzylphthalate	0.565	0.579	-2.5	103	-0.05	13.39

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3098-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71724.D
Project: MHIC-592/593 Tanks

87		Butyl stearate	0.259	0.236	8.9	88	-0.06	13.55
88	t	Benzo[a]anthracene	1.128	1.064	5.7	100	-0.04	14.19
89	t	3,3'-Dichlorobenzidine	0.406	0.416	-2.5	102	-0.04	14.19
90	t	Chrysene	1.054	0.979	7.1	99	-0.03	14.25
91	t	bis(2-Ethylhexyl)phthalat	0.764	0.844	-10.5	109	-0.05	14.34
92	I	Perylene-d12	1.000	1.000	0.0	109	-0.04	16.33
93	t	Di-n-octylphthalate	1.385	1.530	-10.5	109	-0.05	15.33
94	t	Benzo[b]fluoranthene	1.247	1.191	4.5	101	-0.03	15.81
95	t	Benzo[k]fluoranthene	1.190	1.118	6.1	101	-0.03	15.85
96	t	Benzo[a]pyrene	1.062	1.014	4.5	100	-0.03	16.25
97	t	Indeno[1,2,3-cd]pyrene	1.091	1.191	-9.2	109	-0.03	17.88
98	t	Dibenz(a,h)acridine	1.031	0.929	9.9	94	-0.03	17.52
99	t	Dibenz[a,h]anthracene	1.129	1.027	9.0	95	-0.04	17.91
100	t	7,12-Dimethylbenz(a)anthr	0.526	0.559	-6.3	101	-0.04	15.80
101	t	Benzo[g,h,i]perylene	1.058	0.929	12.2	92	-0.03	18.33

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E71243.D M3E3055.M Wed Apr 29 11:49:39 2015 MS3E

8.7.37

8

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3098-CC3056
Lab FileID: 3E71725.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E3E3098\3E71725.D          Vial: 3
Acq On    : 29 Apr 2015  10:09 am                    Operator: ashleyn
Sample    : cc3056-50                                Inst    : MS3E
Misc      : op83411,e3e3098,                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 16 17:12:46 2015
Last Update  : Thu Apr 16 17:12:46 2015
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.
102		1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	117	-0.03	4.68
103		Benzaldehyde	1.167	0.902	22.7#	93	-0.03	4.35
104		Acenaphthene-d10a	1.000	1.000	0.0	114	-0.05	7.83
105		1,2,4,5-Tetrachlorobenzen	0.490	0.507	-3.5	124	-0.04	6.73
106		Phenanthrene-d10a	1.000	1.000	0.0	113	-0.04	10.02
107		Atrazine	0.104	0.120	-15.4	126	-0.04	9.66
108	I	Chrysene-d12a	1.000	1.000	0.0	100	-0.04	14.20
109	T	benzidine	0.318	0.409	-28.6#	102	-0.04	12.17
110	I	Naphthalene-d8a	1.000	1.000	0.0	121	-0.04	5.76
111	T	Hydroquinone	0.314	0.333	-6.1	124	-0.02	6.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E71243.D M3E3055.M Wed Apr 29 11:47:10 2015 MS3E

8.7.38

8

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3099-CC3055
Lab FileID: 3E71753.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3099\3E71753.D Vial: 2
Acq On : 29 Apr 2015 10:27 pm Operator: sarad
Sample : cc3055-25 Inst : MS3E
Misc : op83411,e3e3099, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 10:52:33 2015
Last Update : Thu Apr 30 10:52:33 2015
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	93	0.00	4.67
2	t	1,4-Dioxane	0.632	0.450	28.8#	66	0.00	2.23
3	t	Pyridine	1.648	1.198	27.3#	66	0.00	2.57
4	t	N-Nitrosodimethylamine	0.976	0.664	32.0#	62	0.00	2.53
5	S	2-Fluorophenol	1.278	1.196	6.4	86	0.00	3.72
6	t	Indene	2.419	2.389	1.2	91	0.00	4.87
7	t	Cumene	3.772	3.376	10.5	83	0.00	4.07
8	S	Phenol-d5	1.618	1.575	2.7	87	0.00	4.43
9	t	Phenol	1.997	1.776	11.1	80	0.00	4.44
10		Aniline	2.088	1.696	18.8	72	0.00	4.43
11	t	bis(2-Chloroethyl)ether	1.448	1.141	21.2#	72	0.00	4.47
12	t	2-Chlorophenol	1.512	1.426	5.7	84	0.00	4.53
13	t	Decane	1.311	0.977	25.5#	69	0.00	4.54
14	t	1,3-Dichlorobenzene	1.743	1.553	10.9	82	0.00	4.63
15	t	1,4-Dichlorobenzene	1.775	1.588	10.5	83	0.00	4.68
16	t	Benzyl alcohol	0.906	0.813	10.3	80	0.00	4.79
17	t	1,2-Dichlorobenzene	1.658	1.512	8.8	85	0.00	4.81
18	t	Acetophenone	2.106	1.946	7.6	84	0.00	4.99
19	t	2-Methylphenol	1.243	1.160	6.7	83	0.00	4.89
20	t	2,2'-oxybis(1-Chloropropa	0.544	0.482	11.4	82	0.00	4.88
21	t	3&4-Methylphenol	1.270	1.294	-1.9	87	0.00	5.01
22	t	n-Nitroso-di-n-propylamin	1.072	0.926	13.6	77	0.00	4.99
23	t	Hexachloroethane	0.538	0.473	12.1	80	0.00	5.07
24	I	Naphthalene-d8	1.000	1.000	0.0	90	0.00	5.76
25	S	Nitrobenzene-d5	0.386	0.365	5.4	84	0.00	5.12
26	t	Nitrobenzene	0.432	0.368	14.8	76	0.00	5.13
27	t	Quinoline	0.699	0.720	-3.0	88	0.00	6.13
28	t	Isophorone	0.733	0.612	16.5	74	0.00	5.33
29	t	2-Nitrophenol	0.199	0.212	-6.5	94	0.00	5.41
30	t	2,4-Dimethylphenol	0.335	0.321	4.2	81	0.00	5.45
31	t	Benzoic acid	0.248	0.266	-7.3	106	0.00	5.58
32	t	bis(2-Chloroethoxy)methan	0.438	0.357	18.5	73	0.00	5.52
33	t	2,4-Dichlorophenol	0.272	0.285	-4.8	83	0.00	5.65
34	t	2,6-Dichlorophenol	0.283	0.283	0.0	83	0.00	5.85
35		1,3,5-Trichlorobenzene	0.357	0.345	3.4	88	0.00	5.42
36	t	1,2,4-Trichlorobenzene	0.340	0.312	8.2	83	0.00	5.71
37		1,2,3-Trichlorobenzene	0.327	0.314	4.0	87	0.00	5.93
38	t	Naphthalene	1.097	1.093	0.4	91	0.00	5.78
39	t	4-Chloroaniline	0.429	0.433	-0.9	87	0.00	5.84
40	t	2,3-Dichloroaniline	0.361	0.360	0.3	88	0.00	6.86
41	t	Caprolactam	0.134	0.113	15.7	72	0.00	6.21

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3099-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71753.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.189	0.166	12.2	79	0.00	5.90
43	t	4-Chloro-3-methylphenol	0.321	0.316	1.6	85	0.00	6.38
44	t	2-Methylnaphthalene	0.596	0.614	-3.0	92	0.00	6.51
45	t	1-Methylnaphthalene	0.655	0.670	-2.3	92	0.00	6.63
46	t	Dimethylnaphthalene	0.668	0.686	-2.7	92	0.00	7.28
47	I	Acenaphthene-d10	1.000	1.000	0.0	91	0.00	7.83
48	t	Hexachlorocyclopentadiene	0.292	0.161	44.9#	48#	0.00	6.70
49	t	2,4,6-Trichlorophenol	0.350	0.340	2.9	86	0.00	6.87
50	t	2,4,5-Trichlorophenol	0.348	0.354	-1.7	89	0.00	6.93
51	S	2-Fluorobiphenyl	1.277	1.295	-1.4	93	0.00	6.95
52	t	2-Chloronaphthalene	1.220	1.084	11.1	81	0.00	7.10
53	t	Biphenyl	1.592	1.582	0.6	91	0.00	7.08
54	t	2-Nitroaniline	0.332	0.331	0.3	88	0.00	7.25
55	t	Dimethylphthalate	1.357	1.254	7.6	83	0.00	7.48
56	t	Acenaphthylene	1.856	1.883	-1.5	91	0.00	7.64
57	t	2,6-Dinitrotoluene	0.285	0.291	-2.1	88	0.00	7.57
58	t	3-Nitroaniline	0.311	0.331	-6.4	91	0.00	7.80
59	t	Acenaphthene	1.166	1.184	-1.5	93	0.00	7.88
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	58.836	-17.7	116	0.00	7.97
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.158	0.177	-12.0	93	0.00	8.13
62	t	Dibenzofuran	1.580	1.543	2.3	89	0.00	8.12
63	t	2,4-Dinitrotoluene	0.381	0.415	-8.9	91	0.00	8.14
64		2,3,4,6-Tetrachlorophenol	0.300	0.268	10.7	77	0.00	8.32
65	t	Diethylphthalate	1.380	1.341	2.8	89	0.00	8.48
66	t	Fluorene	1.290	1.270	1.6	89	0.00	8.61
67	t	4-Chlorophenyl-phenylethe	0.646	0.571	11.6	81	0.00	8.62
68	t	4-Nitroaniline	0.321	0.315	1.9	81	0.00	8.68
69	I	Phenanthrene-d10	1.000	1.000	0.0	94	0.00	10.01
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	25.020	-0.1	101	0.00	8.74
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.564	0.516	8.5	83	0.00	8.80
72	t	1,2-Diphenylhydrazine	0.849	0.721	15.1	76	0.00	8.86
73	S	2,4,6-Tribromophenol	0.096	0.112	-16.7	101	0.00	8.97
74	t	4-Bromophenyl-phenylether	0.220	0.195	11.4	79	0.00	9.34
75	t	Hexachlorobenzene	0.252	0.211	16.3	77	0.00	9.44
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	37.669	24.7#	72	0.00	9.77
		----------	AvgRF	CCRF	% Dev	----------		
77	t	Phenanthrene	1.106	1.079	2.4	91	0.00	10.05
78	t	Anthracene	1.090	1.115	-2.3	93	0.00	10.12
79	t	Carbazole	1.064	1.062	0.2	90	0.00	10.41
80	t	Di-n-butylphthalate	1.338	1.334	0.3	89	0.00	11.01
81	t	Fluoranthene	1.121	1.104	1.5	89	0.00	11.91
82	t	Octadecane	0.466	0.383	17.8	73	0.00	9.94
83	I	Chrysene-d12	1.000	1.000	0.0	93	0.00	14.20
84	t	Pyrene	1.154	1.094	5.2	87	0.00	12.26
85	S	Terphenyl-d14	0.786	0.752	4.3	87	0.00	12.56
86	t	Butylbenzylphthalate	0.565	0.579	-2.5	91	0.00	13.38

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3099-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71753.D
Project: MHIC-592/593 Tanks

87		Butyl stearate	0.259	0.233	10.0	78	0.00	13.54
88	t	Benzo[a]anthracene	1.128	1.055	6.5	88	0.00	14.18
89	t	3,3'-Dichlorobenzidine	0.406	0.406	0.0	90	0.00	14.18
90	t	Chrysene	1.054	0.963	8.6	85	0.00	14.24
91	t	bis(2-Ethylhexyl)phthalat	0.764	0.838	-9.7	97	0.00	14.33
92	I	Perylene-d12	1.000	1.000	0.0	91	0.00	16.32
93	t	Di-n-octylphthalate	1.385	1.520	-9.7	96	0.00	15.32
94	t	Benzo[b]fluoranthene	1.247	1.185	5.0	88	0.00	15.80
95	t	Benzo[k]fluoranthene	1.190	1.096	7.9	86	0.00	15.84
96	t	Benzo[a]pyrene	1.062	1.004	5.5	86	0.00	16.24
97	t	Indeno[1,2,3-cd]pyrene	1.091	1.189	-9.0	98	0.00	17.87
98	t	Dibenz(a,h)acridine	1.031	0.918	11.0	80	0.00	17.50
99	t	Dibenz[a,h]anthracene	1.129	1.021	9.6	82	0.00	17.90
100	t	7,12-Dimethylbenz(a)anthr	0.526	0.534	-1.5	85	0.00	15.79
101	t	Benzo[g,h,i]perylene	1.058	0.945	10.7	81	0.00	18.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70736a.D M3E3055.M Thu Apr 30 10:54:11 2015 MS3E

8.7.39

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3099-CC3056
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71754.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E3E3099\3E71754.D          Vial: 3
Acq On    : 29 Apr 2015  10:55 pm                    Operator: sarad
Sample    : cc3056-25                                Inst    : MS3E
Misc      : op83411,e3e3099,                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 16 17:12:46 2015
Last Update  : Thu Apr 16 17:12:46 2015
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.
102		1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	106	-0.04	4.67
103		Benzaldehyde	1.167	1.004	14.0	95	-0.04	4.35
104		Acenaphthene-d10a	1.000	1.000	0.0	102	-0.05	7.83
105		1,2,4,5-Tetrachlorobenzen	0.490	0.504	-2.9	111	-0.05	6.72
106		Phenanthrene-d10a	1.000	1.000	0.0	103	-0.05	10.01
107		Atrazine	0.104	0.116	-11.5	113	-0.05	9.65
108	I	Chrysene-d12a	1.000	1.000	0.0	91	-0.05	14.20
109	T	benzidine	0.318	0.503	-58.2#	117	-0.05	12.17
110	I	Naphthalene-d8a	1.000	1.000	0.0	112	-0.05	5.76
111	T	Hydroquinone	0.314	0.304	3.2	108	-0.02	6.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70736a.D M3E3055.M Thu Apr 30 11:13:46 2015 MS3E

8.7.40

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3100-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71784.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3100\3E71784.D Vial: 2
Acq On : 30 Apr 2015 11:57 am Operator: ashleyn
Sample : cc3055-50 Inst : MS3E
Misc : op83412,e3e3100, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 16 17:12:46 2015
Last Update : Thu Apr 16 17:12:46 2015
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	87	-0.05	4.66
2	t	1,4-Dioxane	0.632	0.453	28.3#	62	-0.06	2.21
3	t	Pyridine	1.648	1.226	25.6#	65	-0.05	2.56
4	t	N-Nitrosodimethylamine	0.976	0.675	30.8#	58	-0.05	2.52
5	S	2-Fluorophenol	1.278	1.311	-2.6	86	-0.03	3.71
6	t	Indene	2.419	2.467	-2.0	89	-0.05	4.87
7	t	Cumene	3.772	3.501	7.2	82	-0.05	4.06
8	S	Phenol-d5	1.618	1.610	0.5	83	-0.03	4.43
9	t	Phenol	1.997	1.838	8.0	78	-0.03	4.44
10		Aniline	2.088	1.617	22.6#	68	-0.04	4.42
11	t	bis(2-Chloroethyl)ether	1.448	1.179	18.6	70	-0.04	4.46
12	t	2-Chlorophenol	1.512	1.501	0.7	85	-0.04	4.52
13	t	Decane	1.311	1.030	21.4#	69	-0.05	4.54
14	t	1,3-Dichlorobenzene	1.743	1.613	7.5	81	-0.04	4.63
15	t	1,4-Dichlorobenzene	1.775	1.660	6.5	82	-0.05	4.68
16	t	Benzyl alcohol	0.906	0.878	3.1	79	-0.04	4.78
17	t	1,2-Dichlorobenzene	1.658	1.573	5.1	84	-0.05	4.80
18	t	Acetophenone	2.106	2.036	3.3	86	-0.05	4.98
19	t	2-Methylphenol	1.243	1.193	4.0	80	-0.04	4.88
20	t	2,2'-oxybis(1-Chloropropa	0.544	0.505	7.2	80	-0.05	4.87
21	t	3&4-Methylphenol	1.270	1.287	-1.3	82	-0.03	5.00
22	t	n-Nitroso-di-n-propylamin	1.072	0.945	11.8	77	-0.04	4.98
23	t	Hexachloroethane	0.538	0.497	7.6	78	-0.05	5.06
24	I	Naphthalene-d8	1.000	1.000	0.0	88	-0.05	5.75
25	S	Nitrobenzene-d5	0.386	0.370	4.1	82	-0.04	5.11
26	t	Nitrobenzene	0.432	0.367	15.0	73	-0.04	5.13
27	t	Quinoline	0.699	0.734	-5.0	87	-0.05	6.12
28	t	Isophorone	0.733	0.615	16.1	71	-0.05	5.33
29	t	2-Nitrophenol	0.199	0.226	-13.6	92	-0.05	5.40
30	t	2,4-Dimethylphenol	0.335	0.337	-0.6	78	-0.04	5.45
31	t	Benzoic acid	0.248	0.267	-7.7	87	0.00	5.59
32	t	bis(2-Chloroethoxy)methan	0.438	0.363	17.1	71	-0.05	5.51
33	t	2,4-Dichlorophenol	0.272	0.294	-8.1	82	-0.04	5.64
34	t	2,6-Dichlorophenol	0.283	0.301	-6.4	86	-0.05	5.84
35		1,3,5-Trichlorobenzene	0.357	0.358	-0.3	88	-0.05	5.41
36	t	1,2,4-Trichlorobenzene	0.340	0.312	8.2	80	-0.05	5.70
37		1,2,3-Trichlorobenzene	0.327	0.326	0.3	88	-0.05	5.92
38	t	Naphthalene	1.097	1.116	-1.7	89	-0.05	5.78
39	t	4-Chloroaniline	0.429	0.431	-0.5	83	-0.05	5.83
40	t	2,3-Dichloroaniline	0.361	0.367	-1.7	88	-0.05	6.84
41	t	Caprolactam	0.134	0.111	17.2	67	-0.02	6.23

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3100-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71784.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.189	0.172	9.0	79	-0.06	5.89
43	t	4-Chloro-3-methylphenol	0.321	0.327	-1.9	85	-0.04	6.37
44	t	2-Methylnaphthalene	0.596	0.616	-3.4	90	-0.06	6.51
45	t	1-Methylnaphthalene	0.655	0.689	-5.2	92	-0.06	6.62
46	t	Dimethylnaphthalene	0.668	0.706	-5.7	92	-0.06	7.27
47	I	Acenaphthene-d10	1.000	1.000	0.0	90	-0.06	7.82
48	t	Hexachlorocyclopentadiene	0.292	0.193	33.9#	51	-0.06	6.69
49	t	2,4,6-Trichlorophenol	0.350	0.356	-1.7	87	-0.05	6.86
50	t	2,4,5-Trichlorophenol	0.348	0.367	-5.5	90	-0.04	6.93
51	S	2-Fluorobiphenyl	1.277	1.348	-5.6	94	-0.06	6.94
52	t	2-Chloronaphthalene	1.220	1.114	8.7	81	-0.06	7.09
53	t	Biphenyl	1.592	1.619	-1.7	92	-0.06	7.07
54	t	2-Nitroaniline	0.332	0.335	-0.9	85	-0.05	7.24
55	t	Dimethylphthalate	1.357	1.276	6.0	83	-0.06	7.48
56	t	Acenaphthylene	1.856	1.959	-5.5	93	-0.06	7.63
57	t	2,6-Dinitrotoluene	0.285	0.304	-6.7	87	-0.05	7.56
58	t	3-Nitroaniline	0.311	0.341	-9.6	89	-0.05	7.79
59	t	Acenaphthene	1.166	1.225	-5.1	95	-0.06	7.87
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	113.045	-13.0	99	-0.03	7.96
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.158	0.175	-10.8	85	-0.01	8.12
62	t	Dibenzofuran	1.580	1.567	0.8	90	-0.06	8.11
63	t	2,4-Dinitrotoluene	0.381	0.426	-11.8	90	-0.04	8.13
64		2,3,4,6-Tetrachlorophenol	0.300	0.275	8.3	75	-0.05	8.31
65	t	Diethylphthalate	1.380	1.335	3.3	87	-0.06	8.47
66	t	Fluorene	1.290	1.346	-4.3	94	-0.06	8.60
67	t	4-Chlorophenyl-phenylethe	0.646	0.609	5.7	87	-0.07	8.60
68	t	4-Nitroaniline	0.321	0.330	-2.8	86	-0.03	8.67
69	I	Phenanthrene-d10	1.000	1.000	0.0	95	-0.06	10.00
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	50.097	-0.2	93	-0.03	8.73
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.564	0.528	6.4	84	-0.06	8.79
72	t	1,2-Diphenylhydrazine	0.849	0.730	14.0	78	-0.06	8.84
73	S	2,4,6-Tribromophenol	0.096	0.118	-22.9#	100	-0.05	8.96
74	t	4-Bromophenyl-phenylether	0.220	0.199	9.5	80	-0.06	9.33
75	t	Hexachlorobenzene	0.252	0.222	11.9	81	-0.06	9.43
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	100.000	77.092	22.9#	71	-0.05	9.75
		----------	AvgRF	CCRF	% Dev	----------		
77	t	Phenanthrene	1.106	1.123	-1.5	95	-0.06	10.04
78	t	Anthracene	1.090	1.118	-2.6	94	-0.06	10.11
79	t	Carbazole	1.064	1.081	-1.6	92	-0.05	10.40
80	t	Di-n-butylphthalate	1.338	1.395	-4.3	91	-0.06	11.00
81	t	Fluoranthene	1.121	1.151	-2.7	92	-0.06	11.90
82	t	Octadecane	0.466	0.389	16.5	74	-0.07	9.93
83	I	Chrysene-d12	1.000	1.000	0.0	98	-0.06	14.19
84	t	Pyrene	1.154	1.115	3.4	92	-0.06	12.25
85	S	Terphenyl-d14	0.786	0.761	3.2	91	-0.06	12.55
86	t	Butylbenzylphthalate	0.565	0.579	-2.5	92	-0.07	13.36

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3100-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71784.D
Project: MHIC-592/593 Tanks

87		Butyl stearate	0.259	0.230	11.2	77	-0.08	13.53
88	t	Benzo[a]anthracene	1.128	1.060	6.0	90	-0.06	14.17
89	t	3,3'-Dichlorobenzidine	0.406	0.417	-2.7	92	-0.06	14.17
90	t	Chrysene	1.054	0.965	8.4	88	-0.05	14.23
91	t	bis(2-Ethylhexyl)phthalat	0.764	0.824	-7.9	96	-0.07	14.32
92	I	Perylene-d12	1.000	1.000	0.0	86	-0.05	16.31
93	t	Di-n-octylphthalate	1.385	1.640	-18.4	92	-0.07	15.31
94	t	Benzo[b]fluoranthene	1.247	1.258	-0.9	85	-0.04	15.80
95	t	Benzo[k]fluoranthene	1.190	1.119	6.0	80	-0.04	15.84
96	t	Benzo[a]pyrene	1.062	1.023	3.7	80	-0.05	16.24
97	t	Indeno[1,2,3-cd]pyrene	1.091	1.298	-19.0	94	-0.05	17.86
98	t	Dibenz(a,h)acridine	1.031	0.998	3.2	80	-0.05	17.50
99	t	Dibenz[a,h]anthracene	1.129	1.123	0.5	82	-0.06	17.89
100	t	7,12-Dimethylbenz(a)anthr	0.526	0.579	-10.1	83	-0.06	15.78
101	t	Benzo[g,h,i]perylene	1.058	1.033	2.4	81	-0.05	18.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E71243.D M3E3055.M Thu Apr 30 23:44:52 2015 MS3E

8.7.41

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3100-CC3056
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71785.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3100\3E71785.D Vial: 3
Acq On : 30 Apr 2015 12:24 pm Operator: ashleyn
Sample : cc3056-50 Inst : MS3E
Misc : op83412,e3e3100, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\msdchem\1\METHODS\M3E3055eph.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 23:36:57 2015
Last Update : Thu Apr 30 23:36:57 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	108	-0.20	4.66
103	Benzaldehyde	1.167	0.883	24.3#	84	-0.18	4.34
104	Acenaphthene-d10a	1.000	1.000	0.0	105	-0.27	7.82
105	1,2,4,5-Tetrachlorobenzen	0.490	0.501	-2.2	113	-0.26	6.71
106	Phenanthrene-d10a	1.000	1.000	0.0	108	-0.28	10.00
107	Atrazine	0.104	0.118	-13.5	118	-0.27	9.64
108 s	o-Terphenyl	0.603	0.601	0.3	111	-0.30	10.63
109 s	1-Chlorooctadecane	0.280	0.259	7.5	97	-0.30	11.82
110 I	Chrysene-d12a	1.000	1.000	0.0	98	-0.29	14.18
111 T	benzidine	0.318	0.399	-25.5#	97	-0.28	12.15
112 I	Naphthalene-d8a	1.000	1.000	0.0	111	0.00	5.75
113 T	Hydroquinone	0.314	0.329	-4.8	112	-0.18	6.21
114 i	Chrysene-d12b	1.000	1.000	0.0	98	0.00	14.18
115	2,3,7,8-TCDD		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70735a.D M3E3055eph.M Thu Apr 30 23:43:03 2015 MS3E

8.7.42

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3101-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71816.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3101\3E71816.D Vial: 2
Acq On : 1 May 2015 11:10 am Operator: ashleyn
Sample : cc3055-25 Inst : MS3E
Misc : op83507,e3e3101, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 16 17:12:46 2015
Last Update : Thu Apr 16 17:12:46 2015
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	82	-0.05	4.66
2	t	1,4-Dioxane	0.632	0.493	22.0#	64	-0.06	2.21
3	t	Pyridine	1.648	1.289	21.8#	63	-0.05	2.55
4	t	N-Nitrosodimethylamine	0.976	0.687	29.6#	56	-0.04	2.52
5	S	2-Fluorophenol	1.278	1.212	5.2	76	-0.04	3.71
6	t	Indene	2.419	2.421	-0.1	81	-0.05	4.86
7	t	Cumene	3.772	3.590	4.8	78	-0.06	4.06
8	S	Phenol-d5	1.618	1.636	-1.1	80	-0.03	4.42
9	t	Phenol	1.997	1.864	6.7	74	-0.04	4.43
10		Aniline	2.088	1.746	16.4	65	-0.05	4.42
11	t	bis(2-Chloroethyl)ether	1.448	1.239	14.4	69	-0.05	4.46
12	t	2-Chlorophenol	1.512	1.427	5.6	74	-0.05	4.51
13	t	Decane	1.311	1.079	17.7	67	-0.06	4.53
14	t	1,3-Dichlorobenzene	1.743	1.528	12.3	71	-0.05	4.61
15	t	1,4-Dichlorobenzene	1.775	1.625	8.5	75	-0.05	4.67
16	t	Benzyl alcohol	0.906	0.844	6.8	74	-0.05	4.78
17	t	1,2-Dichlorobenzene	1.658	1.497	9.7	74	-0.05	4.79
18	t	Acetophenone	2.106	2.085	1.0	79	-0.05	4.98
19	t	2-Methylphenol	1.243	1.231	1.0	77	-0.04	4.88
20	t	2,2'-oxybis(1-Chloropropa	0.544	0.492	9.6	74	-0.05	4.87
21	t	3&4-Methylphenol	1.270	1.328	-4.6	78	-0.04	5.00
22	t	n-Nitroso-di-n-propylamin	1.072	1.010	5.8	74	-0.05	4.97
23	t	Hexachloroethane	0.538	0.527	2.0	78	-0.06	5.06
24	I	Naphthalene-d8	1.000	1.000	0.0	82	-0.06	5.74
25	S	Nitrobenzene-d5	0.386	0.396	-2.6	83	-0.05	5.10
26	t	Nitrobenzene	0.432	0.385	10.9	72	-0.05	5.12
27	t	Quinoline	0.699	0.703	-0.6	78	-0.06	6.11
28	t	Isophorone	0.733	0.633	13.6	69	-0.06	5.32
29	t	2-Nitrophenol	0.199	0.214	-7.5	85	-0.05	5.40
30	t	2,4-Dimethylphenol	0.335	0.331	1.2	76	-0.05	5.44
31	t	Benzoic acid	0.248	0.248	0.0	90	-0.02	5.57
32	t	bis(2-Chloroethoxy)methan	0.438	0.370	15.5	69	-0.06	5.51
33	t	2,4-Dichlorophenol	0.272	0.290	-6.6	77	-0.05	5.63
34	t	2,6-Dichlorophenol	0.283	0.297	-4.9	79	-0.05	5.84
35		1,3,5-Trichlorobenzene	0.357	0.358	-0.3	83	-0.06	5.40
36	t	1,2,4-Trichlorobenzene	0.340	0.321	5.6	77	-0.06	5.70
37		1,2,3-Trichlorobenzene	0.327	0.326	0.3	82	-0.06	5.91
38	t	Naphthalene	1.097	1.078	1.7	81	-0.06	5.76
39	t	4-Chloroaniline	0.429	0.429	0.0	78	-0.05	5.83
40	t	2,3-Dichloroaniline	0.361	0.369	-2.2	81	-0.06	6.84
41	t	Caprolactam	0.134	0.115	14.2	67	-0.05	6.19

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3101-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71816.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.189	0.183	3.2	79	-0.06	5.89
43	t	4-Chloro-3-methylphenol	0.321	0.330	-2.8	81	-0.05	6.36
44	t	2-Methylnaphthalene	0.596	0.604	-1.3	82	-0.07	6.50
45	t	1-Methylnaphthalene	0.655	0.669	-2.1	83	-0.07	6.61
46	t	Dimethylnaphthalene	0.668	0.679	-1.6	82	-0.07	7.26
47	I	Acenaphthene-d10	1.000	1.000	0.0	85	-0.07	7.81
48	t	Hexachlorocyclopentadiene	0.292	0.138	52.7#	38#	-0.07	6.68
49	t	2,4,6-Trichlorophenol	0.350	0.352	-0.6	83	-0.06	6.85
50	t	2,4,5-Trichlorophenol	0.348	0.347	0.3	82	-0.05	6.91
51	S	2-Fluorobiphenyl	1.277	1.290	-1.0	87	-0.07	6.94
52	t	2-Chloronaphthalene	1.220	1.113	8.8	78	-0.06	7.09
53	t	Biphenyl	1.592	1.505	5.5	81	-0.07	7.06
54	t	2-Nitroaniline	0.332	0.350	-5.4	88	-0.06	7.23
55	t	Dimethylphthalate	1.357	1.254	7.6	78	-0.07	7.46
56	t	Acenaphthylene	1.856	1.807	2.6	82	-0.07	7.62
57	t	2,6-Dinitrotoluene	0.285	0.293	-2.8	83	-0.06	7.55
58	t	3-Nitroaniline	0.311	0.314	-1.0	81	-0.06	7.78
59	t	Acenaphthene	1.166	1.124	3.6	83	-0.07	7.86
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	56.462	-12.9	103	-0.04	7.95
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.158	0.163	-3.2	80	-0.02	8.11
62	t	Dibenzofuran	1.580	1.526	3.4	83	-0.07	8.10
63	t	2,4-Dinitrotoluene	0.381	0.413	-8.4	84	-0.05	8.12
64		2,3,4,6-Tetrachlorophenol	0.300	0.259	13.7	69	-0.06	8.31
65	t	Diethylphthalate	1.380	1.275	7.6	79	-0.07	8.45
66	t	Fluorene	1.290	1.284	0.5	84	-0.07	8.59
67	t	4-Chlorophenyl-phenylethe	0.646	0.616	4.6	82	-0.07	8.60
68	t	4-Nitroaniline	0.321	0.321	0.0	77	-0.05	8.66
69	I	Phenanthrene-d10	1.000	1.000	0.0	88	-0.07	9.99
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	25.444	-1.8	96	-0.04	8.73
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.564	0.527	6.6	79	-0.07	8.78
72	t	1,2-Diphenylhydrazine	0.849	0.747	12.0	74	-0.07	8.83
73	S	2,4,6-Tribromophenol	0.096	0.118	-22.9#	99	-0.06	8.95
74	t	4-Bromophenyl-phenylether	0.220	0.207	5.9	79	-0.07	9.32
75	t	Hexachlorobenzene	0.252	0.222	11.9	76	-0.07	9.42
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	33.730	32.5#	60	-0.05	9.75
		----------	AvgRF	CCRF	% Dev	----------		
77	t	Phenanthrene	1.106	1.093	1.2	86	-0.07	10.02
78	t	Anthracene	1.090	1.111	-1.9	86	-0.07	10.10
79	t	Carbazole	1.064	1.044	1.9	83	-0.06	10.39
80	t	Di-n-butylphthalate	1.338	1.304	2.5	81	-0.08	10.98
81	t	Fluoranthene	1.121	1.152	-2.8	87	-0.07	11.89
82	t	Octadecane	0.466	0.406	12.9	73	-0.09	9.92
83	I	Chrysene-d12	1.000	1.000	0.0	90	-0.06	14.18
84	t	Pyrene	1.154	1.120	2.9	86	-0.07	12.24
85	S	Terphenyl-d14	0.786	0.755	3.9	85	-0.07	12.54
86	t	Butylbenzylphthalate	0.565	0.534	5.5	81	-0.09	13.35

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3101-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71816.D
Project: MHIC-592/593 Tanks

87		Butyl stearate	0.259	0.230	11.2	74	-0.09	13.51
88	t	Benzo[a]anthracene	1.128	1.059	6.1	86	-0.07	14.16
89	t	3,3'-Dichlorobenzidine	0.406	0.408	-0.5	87	-0.07	14.16
90	t	Chrysene	1.054	0.975	7.5	84	-0.06	14.22
91	t	bis(2-Ethylhexyl)phthalat	0.764	0.762	0.3	85	-0.09	14.31
92	I	Perylene-d12	1.000	1.000	0.0	89	-0.06	16.31
93	t	Di-n-octylphthalate	1.385	1.439	-3.9	89	-0.09	15.30
94	t	Benzo[b]fluoranthene	1.247	1.156	7.3	83	-0.06	15.78
95	t	Benzo[k]fluoranthene	1.190	1.136	4.5	87	-0.06	15.82
96	t	Benzo[a]pyrene	1.062	1.008	5.1	84	-0.06	16.23
97	t	Indeno[1,2,3-cd]pyrene	1.091	1.220	-11.8	98	-0.06	17.85
98	t	Dibenz(a,h)acridine	1.031	0.954	7.5	82	-0.07	17.48
99	t	Dibenz[a,h]anthracene	1.129	1.053	6.7	82	-0.07	17.87
100	t	7,12-Dimethylbenz(a)anthr	0.526	0.520	1.1	81	-0.07	15.77
101	t	Benzo[g,h,i]perylene	1.058	0.965	8.8	81	-0.07	18.29

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70736a.D M3E3055.M Fri May 01 14:55:13 2015 MS3E

8.7.43

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3101-CC3056
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71817.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3101\3E71817.D Vial: 3
Acq On : 1 May 2015 11:36 am Operator: ashleyn
Sample : cc3056-25 Inst : MS3E
Misc : op83507,e3e3101, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 16 17:12:46 2015
Last Update : Thu Apr 16 17:12:46 2015
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.
102		1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	98	-0.05	4.66
103		Benzaldehyde	1.167	1.020	12.6	89	-0.05	4.34
104		Acenaphthene-d10a	1.000	1.000	0.0	100	-0.07	7.81
105		1,2,4,5-Tetrachlorobenzen	0.490	0.532	-8.6	115	-0.07	6.70
106		Phenanthrene-d10a	1.000	1.000	0.0	103	-0.07	9.99
107		Atrazine	0.104	0.118	-13.5	115	-0.07	9.63
108	I	Chrysene-d12a	1.000	1.000	0.0	94	-0.07	14.18
109	T	benzidine	0.318	0.562	-76.7#	135	-0.07	12.15
110	I	Naphthalene-d8a	1.000	1.000	0.0	106	-0.06	5.74
111	T	Hydroquinone	0.314	0.303	3.5	102	-0.04	6.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E70736a.D M3E3055.M Fri May 01 14:56:19 2015 MS3E

8.7.44

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Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: E3E3103-CC3055
Lab FileID: 3E71849.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3103\3E71849.D Vial: 2
Acq On : 4 May 2015 1:01 pm Operator: ashleyn
Sample : cc3055-25 Inst : MS3E
Misc : op83507,e3e3103, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue May 05 13:32:22 2015
Last Update : Tue May 05 13:32:22 2015
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	75	0.00	4.65
2	t	1,4-Dioxane	0.632	0.486	23.1#	58	0.00	2.20
3	t	Pyridine	1.648	1.352	18.0	60	0.00	2.53
4	t	N-Nitrosodimethylamine	0.976	0.713	26.9#	53	0.00	2.50
5	S	2-Fluorophenol	1.278	1.247	2.4	72	0.00	3.69
6	t	Indene	2.419	2.393	1.1	73	0.00	4.85
7	t	Cumene	3.772	3.586	4.9	71	0.00	4.05
8	S	Phenol-d5	1.618	1.650	-2.0	74	0.00	4.41
9	t	Phenol	1.997	1.873	6.2	68	0.00	4.42
10		Aniline	2.088	1.786	14.5	61	0.00	4.41
11	t	bis(2-Chloroethyl)ether	1.448	1.211	16.4	62	0.00	4.45
12	t	2-Chlorophenol	1.512	1.440	4.8	69	0.00	4.51
13	t	Decane	1.311	1.079	17.7	61	0.00	4.52
14	t	1,3-Dichlorobenzene	1.743	1.562	10.4	67	0.00	4.61
15	t	1,4-Dichlorobenzene	1.775	1.609	9.4	68	0.00	4.66
16	t	Benzyl alcohol	0.906	0.850	6.2	68	0.00	4.77
17	t	1,2-Dichlorobenzene	1.658	1.507	9.1	68	0.00	4.78
18	t	Acetophenone	2.106	2.137	-1.5	75	0.00	4.97
19	t	2-Methylphenol	1.243	1.228	1.2	71	0.00	4.87
20	t	2,2'-oxybis(1-Chloropropa	0.544	0.504	7.4	69	0.00	4.86
21	t	3&4-Methylphenol	1.270	1.322	-4.1	72	0.00	4.99
22	t	n-Nitroso-di-n-propylamin	1.072	1.006	6.2	68	0.00	4.97
23	t	Hexachloroethane	0.538	0.524	2.6	71	0.00	5.05
24	I	Naphthalene-d8	1.000	1.000	0.0	76	0.00	5.73
25	S	Nitrobenzene-d5	0.386	0.401	-3.9	77	0.00	5.10
26	t	Nitrobenzene	0.432	0.393	9.0	68	0.00	5.11
27	t	Quinoline	0.699	0.692	1.0	71	0.00	6.10
28	t	Isophorone	0.733	0.638	13.0	65	0.00	5.31
29	t	2-Nitrophenol	0.199	0.213	-7.0	79	0.00	5.38
30	t	2,4-Dimethylphenol	0.335	0.329	1.8	70	0.00	5.43
31	t	Benzoic acid	0.248	0.265	-6.9	88	0.00	5.56
32	t	bis(2-Chloroethoxy)methan	0.438	0.371	15.3	64	0.00	5.50
33	t	2,4-Dichlorophenol	0.272	0.288	-5.9	71	0.00	5.62
34	t	2,6-Dichlorophenol	0.283	0.290	-2.5	71	0.00	5.82
35		1,3,5-Trichlorobenzene	0.357	0.355	0.6	76	0.00	5.39
36	t	1,2,4-Trichlorobenzene	0.340	0.308	9.4	68	0.00	5.68
37		1,2,3-Trichlorobenzene	0.327	0.321	1.8	74	0.00	5.90
38	t	Naphthalene	1.097	1.065	2.9	74	0.00	5.75
39	t	4-Chloroaniline	0.429	0.419	2.3	70	0.00	5.81
40	t	2,3-Dichloroaniline	0.361	0.366	-1.4	74	0.00	6.82
41	t	Caprolactam	0.134	0.119	11.2	64	0.00	6.18

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3103-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71849.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.189	0.175	7.4	70	0.00	5.87
43	t	4-Chloro-3-methylphenol	0.321	0.332	-3.4	75	0.00	6.35
44	t	2-Methylnaphthalene	0.596	0.596	0.0	75	0.00	6.49
45	t	1-Methylnaphthalene	0.655	0.644	1.7	74	0.00	6.60
46	t	Dimethylnaphthalene	0.668	0.674	-0.9	76	0.00	7.25
47	I	Acenaphthene-d10	1.000	1.000	0.0	79	0.00	7.80
48	t	Hexachlorocyclopentadiene	0.292	0.115	60.6#	29#	0.00	6.67
49	t	2,4,6-Trichlorophenol	0.350	0.341	2.6	74	0.00	6.84
50	t	2,4,5-Trichlorophenol	0.348	0.354	-1.7	77	0.00	6.90
51	S	2-Fluorobiphenyl	1.277	1.292	-1.2	80	0.00	6.92
52	t	2-Chloronaphthalene	1.220	1.082	11.3	70	0.00	7.07
53	t	Biphenyl	1.592	1.479	7.1	74	0.00	7.04
54	t	2-Nitroaniline	0.332	0.350	-5.4	81	0.00	7.21
55	t	Dimethylphthalate	1.357	1.262	7.0	72	0.00	7.45
56	t	Acenaphthylene	1.856	1.776	4.3	75	0.00	7.60
57	t	2,6-Dinitrotoluene	0.285	0.290	-1.8	76	0.00	7.53
58	t	3-Nitroaniline	0.311	0.319	-2.6	76	0.00	7.77
59	t	Acenaphthene	1.166	1.110	4.8	76	0.00	7.84
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	47.886	4.2	79	0.00	7.94
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.158	0.172	-8.9	78	0.00	8.09
62	t	Dibenzofuran	1.580	1.481	6.3	74	0.00	8.08
63	t	2,4-Dinitrotoluene	0.381	0.406	-6.6	77	0.00	8.11
64		2,3,4,6-Tetrachlorophenol	0.300	0.268	10.7	66	0.00	8.29
65	t	Diethylphthalate	1.380	1.290	6.5	74	0.00	8.44
66	t	Fluorene	1.290	1.285	0.4	78	0.00	8.57
67	t	4-Chlorophenyl-phenylethe	0.646	0.598	7.4	74	0.00	8.58
68	t	4-Nitroaniline	0.321	0.294	8.4	66	0.00	8.64
69	I	Phenanthrene-d10	1.000	1.000	0.0	78	0.00	9.97
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	24.517	1.9	82	0.00	8.71
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.564	0.521	7.6	70	0.00	8.77
72	t	1,2-Diphenylhydrazine	0.849	0.794	6.5	70	0.00	8.81
73	S	2,4,6-Tribromophenol	0.096	0.119	-24.0#	90	0.00	8.94
74	t	4-Bromophenyl-phenylether	0.220	0.205	6.8	70	0.00	9.31
75	t	Hexachlorobenzene	0.252	0.225	10.7	69	0.00	9.40
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	35.215	29.6#	56	0.00	9.73
		----------	AvgRF	CCRF	% Dev	----------		
77	t	Phenanthrene	1.106	1.109	-0.3	78	0.00	10.01
78	t	Anthracene	1.090	1.125	-3.2	78	0.00	10.09
79	t	Carbazole	1.064	1.062	0.2	76	0.00	10.36
80	t	Di-n-butylphthalate	1.338	1.372	-2.5	76	0.00	10.96
81	t	Fluoranthene	1.121	1.150	-2.6	78	0.00	11.87
82	t	Octadecane	0.466	0.428	8.2	69	0.00	9.90
83	I	Chrysene-d12	1.000	1.000	0.0	83	0.00	14.16
84	t	Pyrene	1.154	1.081	6.3	77	0.00	12.22
85	S	Terphenyl-d14	0.786	0.744	5.3	76	0.00	12.52
86	t	Butylbenzylphthalate	0.565	0.536	5.1	75	0.00	13.34

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3103-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71849.D
Project: MHIC-592/593 Tanks

87		Butyl stearate	0.259	0.234	9.7	69	0.00	13.50
88	t	Benzo[a]anthracene	1.128	1.042	7.6	77	0.00	14.15
89	t	3,3'-Dichlorobenzidine	0.406	0.400	1.5	79	0.00	14.15
90	t	Chrysene	1.054	0.951	9.8	75	0.00	14.20
91	t	bis(2-Ethylhexyl)phthalat	0.764	0.776	-1.6	80	0.00	14.30
92	I	Perylene-d12	1.000	1.000	0.0	80	0.00	16.29
93	t	Di-n-octylphthalate	1.385	1.473	-6.4	82	0.00	15.28
94	t	Benzo[b]fluoranthene	1.247	1.216	2.5	79	0.00	15.77
95	t	Benzo[k]fluoranthene	1.190	1.106	7.1	76	0.00	15.80
96	t	Benzo[a]pyrene	1.062	1.028	3.2	77	0.00	16.21
97	t	Indeno[1,2,3-cd]pyrene	1.091	1.285	-17.8	93	0.00	17.82
98	t	Dibenz(a,h)acridine	1.031	0.986	4.4	76	0.00	17.46
99	t	Dibenz[a,h]anthracene	1.129	1.087	3.7	76	0.00	17.85
100	t	7,12-Dimethylbenz(a)anthr	0.526	0.536	-1.9	75	0.00	15.75
101	t	Benzo[g,h,i]perylene	1.058	1.022	3.4	77	0.00	18.26

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E71849.D M3E3055.M Tue May 05 13:33:26 2015 MS3E

8.7.45

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Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3103-CC3056
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71850.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3103\3E71850.D Vial: 3
Acq On : 4 May 2015 1:27 pm Operator: ashleyn
Sample : cc3056-25 Inst : MS3E
Misc : op83507,e3e3103, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue May 05 13:34:23 2015
Last Update : Tue May 05 13:34:23 2015
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.
102		1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	87	0.00	4.65
103		Benzaldehyde	1.167	1.014	13.1	79	0.00	4.33
104		Acenaphthene-d10a	1.000	1.000	0.0	88	0.00	7.79
105		1,2,4,5-Tetrachlorobenzen	0.490	0.535	-9.2	102	0.00	6.68
106		Phenanthrene-d10a	1.000	1.000	0.0	88	0.00	9.97
107		Atrazine	0.104	0.124	-19.2	104	0.00	9.61
108	I	Chrysene-d12a	1.000	1.000	0.0	81	0.00	14.16
109	T	benzidine	0.318	0.359	-12.9	74	0.00	12.13
110	I	Naphthalene-d8a	1.000	1.000	0.0	93	0.00	5.73
111	T	Hydroquinone	0.314	0.313	0.3	92	0.00	6.19

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E71850.D M3E3055.M Tue May 05 13:35:11 2015 MS3E

8.7.46

8

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E3E3105-CC3055
Lab FileID: 3E71867.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E3E3105\3E71867.D Vial: 2
Acq On : 5 May 2015 9:33 am Operator: ashleyn
Sample : cc3055-25 Inst : MS3E
Misc : op83507,e3e3105, Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue May 05 16:28:44 2015
Last Update : Tue May 05 16:28:44 2015
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	78	0.00	4.71
2	t	1,4-Dioxane	0.632	0.481	23.9#	59	0.00	2.28
3	t	Pyridine	1.648	1.272	22.8#	59	0.00	2.61
4	t	N-Nitrosodimethylamine	0.976	0.736	24.6#	57	0.00	2.58
5	S	2-Fluorophenol	1.278	1.264	1.1	75	0.00	3.75
6	t	Indene	2.419	2.462	-1.8	78	0.00	4.91
7	t	Cumene	3.772	3.705	1.8	76	0.00	4.11
8	S	Phenol-d5	1.618	1.640	-1.4	76	0.00	4.46
9	t	Phenol	1.997	1.894	5.2	71	0.00	4.47
10		Aniline	2.088	1.771	15.2	63	0.00	4.46
11	t	bis(2-Chloroethyl)ether	1.448	1.215	16.1	64	0.00	4.51
12	t	2-Chlorophenol	1.512	1.460	3.4	72	0.00	4.56
13	t	Decane	1.311	1.103	15.9	65	0.00	4.58
14	t	1,3-Dichlorobenzene	1.743	1.547	11.2	68	0.00	4.66
15	t	1,4-Dichlorobenzene	1.775	1.598	10.0	69	0.00	4.72
16	t	Benzyl alcohol	0.906	0.896	1.1	74	0.00	4.82
17	t	1,2-Dichlorobenzene	1.658	1.539	7.2	72	0.00	4.84
18	t	Acetophenone	2.106	2.208	-4.8	80	0.00	5.03
19	t	2-Methylphenol	1.243	1.285	-3.4	76	0.00	4.92
20	t	2,2'-oxybis(1-Chloropropa	0.544	0.498	8.5	71	0.00	4.91
21	t	3&4-Methylphenol	1.270	1.360	-7.1	76	0.00	5.04
22	t	n-Nitroso-di-n-propylamin	1.072	1.028	4.1	72	0.00	5.03
23	t	Hexachloroethane	0.538	0.530	1.5	74	0.00	5.11
24	I	Naphthalene-d8	1.000	1.000	0.0	79	0.00	5.80
25	S	Nitrobenzene-d5	0.386	0.404	-4.7	81	0.00	5.15
26	t	Nitrobenzene	0.432	0.408	5.6	74	0.00	5.17
27	t	Quinoline	0.699	0.699	0.0	75	0.00	6.17
28	t	Isophorone	0.733	0.660	10.0	70	0.00	5.37
29	t	2-Nitrophenol	0.199	0.212	-6.5	82	0.00	5.45
30	t	2,4-Dimethylphenol	0.335	0.338	-0.9	75	0.00	5.49
31	t	Benzoic acid	0.248	0.284	-14.5	99	0.00	5.62
32	t	bis(2-Chloroethoxy)methan	0.438	0.367	16.2	66	0.00	5.56
33	t	2,4-Dichlorophenol	0.272	0.287	-5.5	73	0.00	5.68
34	t	2,6-Dichlorophenol	0.283	0.284	-0.4	73	0.00	5.89
35		1,3,5-Trichlorobenzene	0.357	0.350	2.0	78	0.00	5.45
36	t	1,2,4-Trichlorobenzene	0.340	0.314	7.6	73	0.00	5.75
37		1,2,3-Trichlorobenzene	0.327	0.324	0.9	78	0.00	5.97
38	t	Naphthalene	1.097	1.070	2.5	78	0.00	5.82
39	t	4-Chloroaniline	0.429	0.434	-1.2	76	0.00	5.88
40	t	2,3-Dichloroaniline	0.361	0.365	-1.1	78	0.00	6.90
41	t	Caprolactam	0.134	0.122	9.0	68	0.00	6.25

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3105-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71867.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.189	0.177	6.3	74	0.00	5.94
43	t	4-Chloro-3-methylphenol	0.321	0.342	-6.5	81	0.00	6.42
44	t	2-Methylnaphthalene	0.596	0.593	0.5	78	0.00	6.56
45	t	1-Methylnaphthalene	0.655	0.666	-1.7	80	0.00	6.67
46	t	Dimethylnaphthalene	0.668	0.686	-2.7	80	0.00	7.32
47	I	Acenaphthene-d10	1.000	1.000	0.0	81	0.00	7.88
48	t	Hexachlorocyclopentadiene	0.292	0.122	58.2#	32#	0.00	6.74
49	t	2,4,6-Trichlorophenol	0.350	0.352	-0.6	79	0.00	6.91
50	t	2,4,5-Trichlorophenol	0.348	0.360	-3.4	80	0.00	6.97
51	S	2-Fluorobiphenyl	1.277	1.290	-1.0	82	0.00	6.99
52	t	2-Chloronaphthalene	1.220	1.114	8.7	74	0.00	7.14
53	t	Biphenyl	1.592	1.537	3.5	78	0.00	7.12
54	t	2-Nitroaniline	0.332	0.379	-14.2	89	0.00	7.29
55	t	Dimethylphthalate	1.357	1.322	2.6	78	0.00	7.52
56	t	Acenaphthylene	1.856	1.859	-0.2	80	0.00	7.68
57	t	2,6-Dinitrotoluene	0.285	0.301	-5.6	80	0.00	7.62
58	t	3-Nitroaniline	0.311	0.323	-3.9	79	0.00	7.85
59	t	Acenaphthene	1.166	1.150	1.4	80	0.00	7.92
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	59.198	-18.4	103	0.00	8.02
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.158	0.201	-27.2#	94	0.00	8.17
62	t	Dibenzofuran	1.580	1.588	-0.5	81	0.00	8.17
63	t	2,4-Dinitrotoluene	0.381	0.420	-10.2	81	0.00	8.19
64		2,3,4,6-Tetrachlorophenol	0.300	0.277	7.7	70	0.00	8.37
65	t	Diethylphthalate	1.380	1.366	1.0	80	0.00	8.52
66	t	Fluorene	1.290	1.345	-4.3	83	0.00	8.65
67	t	4-Chlorophenyl-phenylethe	0.646	0.624	3.4	79	0.00	8.66
68	t	4-Nitroaniline	0.321	0.321	0.0	73	0.00	8.72
69	I	Phenanthrene-d10	1.000	1.000	0.0	85	0.00	10.06
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	25.441	-1.8	93	0.00	8.79
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.564	0.518	8.2	75	0.00	8.85
72	t	1,2-Diphenylhydrazine	0.849	0.794	6.5	76	0.00	8.90
73	S	2,4,6-Tribromophenol	0.096	0.112	-16.7	92	0.00	9.02
74	t	4-Bromophenyl-phenylether	0.220	0.202	8.2	75	0.00	9.39
75	t	Hexachlorobenzene	0.252	0.221	12.3	73	0.00	9.49
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	37.789	24.4#	66	0.00	9.81
		----------	AvgRF	CCRF	% Dev	----------		
77	t	Phenanthrene	1.106	1.090	1.4	83	0.00	10.10
78	t	Anthracene	1.090	1.101	-1.0	83	0.00	10.18
79	t	Carbazole	1.064	1.061	0.3	82	0.00	10.46
80	t	Di-n-butylphthalate	1.338	1.349	-0.8	81	0.00	11.05
81	t	Fluoranthene	1.121	1.161	-3.6	85	0.00	11.96
82	t	Octadecane	0.466	0.416	10.7	72	0.00	9.98
83	I	Chrysene-d12	1.000	1.000	0.0	87	0.00	14.26
84	t	Pyrene	1.154	1.117	3.2	84	0.00	12.32
85	S	Terphenyl-d14	0.786	0.750	4.6	81	0.00	12.61
86	t	Butylbenzylphthalate	0.565	0.550	2.7	81	0.00	13.43

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3105-CC3055
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71867.D
Project: MHIC-592/593 Tanks

87		Butyl stearate	0.259	0.244	5.8	76	0.00	13.58
88	t	Benzo[a]anthracene	1.128	1.065	5.6	84	0.00	14.24
89	t	3,3'-Dichlorobenzidine	0.406	0.407	-0.2	84	0.00	14.24
90	t	Chrysene	1.054	0.977	7.3	81	0.00	14.30
91	t	bis(2-Ethylhexyl)phthalat	0.764	0.765	-0.1	83	0.00	14.38
92	I	Perylene-d12	1.000	1.000	0.0	88	0.00	16.39
93	t	Di-n-octylphthalate	1.385	1.429	-3.2	88	0.00	15.37
94	t	Benzo[b]fluoranthene	1.247	1.150	7.8	82	0.00	15.86
95	t	Benzo[k]fluoranthene	1.190	1.106	7.1	84	0.00	15.90
96	t	Benzo[a]pyrene	1.062	1.007	5.2	83	0.00	16.31
97	t	Indeno[1,2,3-cd]pyrene	1.091	1.239	-13.6	99	0.00	17.96
98	t	Dibenz(a,h)acridine	1.031	0.962	6.7	82	0.00	17.59
99	t	Dibenz[a,h]anthracene	1.129	1.055	6.6	82	0.00	17.99
100	t	7,12-Dimethylbenz(a)anthr	0.526	0.516	1.9	80	0.00	15.85
101	t	Benzo[g,h,i]perylene	1.058	0.986	6.8	82	0.00	18.41

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3E71867.D M3E3055.M Tue May 05 16:30:18 2015 MS3E

8.7.47

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E3E3105-CC3056
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 3E71868.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\E3E3105\3E71868.D          Vial: 3
Acq On    :  5 May 2015  10:01 am                    Operator: ashleyn
Sample    : cc3056-25                                Inst    : MS3E
Misc      : op83507,e3e3105,                         Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M3E3055.M (RTE Integrator)
Title        : Semi Volatile  GC/MS,zb-5msi 30m x .25mm x .25MoTuTue May 05 16:39:28 2015
Last Update  : Tue May 05 16:39:28 2015
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.
102		1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	91	0.00	4.71
103		Benzaldehyde	1.167	1.029	11.8	83	0.00	4.38
104		Acenaphthene-d10a	1.000	1.000	0.0	94	0.00	7.88
105		1,2,4,5-Tetrachlorobenzen	0.490	0.531	-8.4	109	0.00	6.76
106		Phenanthrene-d10a	1.000	1.000	0.0	98	0.00	10.06
107		Atrazine	0.104	0.121	-16.3	112	0.00	9.70
108	I	Chrysene-d12a	1.000	1.000	0.0	91	0.00	14.26
109	T	benzidine	0.318	0.465	-46.2#	107	0.00	12.22
110	I	Naphthalene-d8a	1.000	1.000	0.0	99	0.00	5.80
111	T	Hydroquinone	0.314	0.315	-0.3	99	0.00	6.26

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 3E71868.D  M3E3055.M        Tue May 05 16:40:35 2015   MS3E
```

8.7.48

8

Initial Calibration Summary

Job Number: JB93023 **Sample:** E5P913-ICC913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17838.D
Project: MHIC-592/593 Tanks

Response Factor Report MS5P

Method : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Wed Apr 29 14:52:10 2015
Response via : Initial Calibration

Calibration Files
2 =5p17842.D 5 =5p17841.D 25 =5p17839.D 80 =5p17837.D
100 =5p17836.D 50 =5p17838.D 1 =5p17835.D 10 =5p17840.D

Compound	2	5	25	80	100	50	1	10	Avg	%RSD
1) I 1,4-Dichlorobenzene-d					ISTD					
2) 1,4-Dioxane	0.622	0.627	0.579	0.522	0.518	0.557	0.813	0.564	0.600	15.80
3) Pyridine	1.464	1.700	1.598	1.468	1.478	1.479	1.740	1.498	1.553	7.23
4) N-Nitrosodim	0.851	0.962	0.909	0.833	0.828	0.833	1.029	0.891	0.892	8.12
5) 2-Fluorophen	1.392	1.575	1.500	1.378	1.385	1.389	1.693	1.468	1.472	7.69
6) Indene	2.332	2.663	2.481	2.200	2.167	2.239	2.843	2.404	2.416	9.83
7) Cumene	3.443	3.832	3.613	3.203	3.194	3.305	4.202	3.585	3.547	9.70
8) Phenol-d5	1.598	1.883	1.736	1.558	1.568	1.598	2.099	1.742	1.723	10.97
9) Phenol	1.842	2.040	1.934	1.705	1.726	1.787	2.318	1.914	1.908	10.48
10) Aniline	2.009	2.172	2.135	1.371	1.345	1.931		1.923	1.841	18.64
11) bis(2-Chloro	1.184	1.395	1.347	1.196	1.203	1.208	1.682	1.327	1.318	12.75
12) 2-Chlorophen	1.379	1.608	1.522	1.389	1.386	1.411	1.771	1.503	1.496	9.22
13) Decane	1.439	1.579	1.467	1.225	1.177	1.375	1.824	1.493	1.447	14.05
14) 1,3-Dichloro	1.501	1.744	1.657	1.480	1.462	1.533	2.047	1.633	1.632	11.91
15) 1,4-Dichloro	1.596	1.844	1.692	1.501	1.494	1.528	1.926	1.653	1.654	9.69
16) Benzyl alcoh	0.867	1.021	0.923	0.854	0.858	0.860	1.098	0.944	0.928	9.69
17) 1,2-Dichloro	1.463	1.723	1.570	1.421	1.392	1.456	1.783	1.545	1.544	9.24
18) Acetophenone	2.036	2.264	2.058	1.885	1.889	1.914	2.459	2.119	2.078	9.68
19) 2-Methylphen	1.163	1.395	1.322	1.176	1.162	1.224	1.484	1.282	1.276	9.27
20) 2,2'-oxybis(	1.901	2.142	1.976	1.656	1.589	1.777	2.610	1.976	1.953	16.44
21) 3&4-Methylph	1.299	1.497	1.410	1.262	1.252	1.280	1.533	1.376	1.364	7.98
22) n-Nitroso-di	1.003	1.095	0.986	0.888	0.874	0.888	1.210	0.983	0.991	11.70
23) Hexachloroet	0.504	0.561	0.525	0.486	0.476	0.485	0.622	0.525	0.523	9.31
24) I Naphthalene-d8					ISTD					
25) Nitrobenzene	0.337	0.398	0.375	0.344	0.341	0.343	0.432	0.371	0.368	9.14
26) Nitrobenzene	0.340	0.403	0.378	0.343	0.341	0.341	0.449	0.371	0.371	10.54
27) Quinoline	0.633	0.754	0.699	0.651	0.649	0.638	0.784	0.688	0.687	8.19
28) Isophorone	0.582	0.690	0.635	0.554	0.542	0.585	0.750	0.636	0.622	11.43
29) 2-Nitropheno	0.178	0.227	0.207	0.202	0.197	0.195	0.213	0.204	0.203	7.02
30) 2,4-Dimethyl	0.225	0.278	0.352	0.317	0.319	0.318	0.243	0.276	0.291	14.77
31) Benzoic acid	0.159	0.238	0.254	0.275	0.270	0.255	0.225	0.257	0.242	15.32
32) bis(2-Chloro	0.370	0.429	0.397	0.364	0.364	0.368	0.447	0.394	0.392	8.10
33) 2,4-Dichloro	0.268	0.328	0.302	0.288	0.281	0.285	0.348	0.308	0.301	8.80
34) 2,6-Dichloro	0.259	0.321	0.302	0.273	0.271	0.281	0.333	0.294	0.292	8.85
35) 1,3,5-Trichl	0.313	0.378	0.345	0.314	0.304	0.316	0.394	0.337	0.338	9.82
36) 1,2,4-Trichl	0.281	0.333	0.309	0.287	0.283	0.283	0.346	0.304	0.303	8.20
37) 1,2,3-Trichl	0.288	0.340	0.316	0.288	0.284	0.293	0.391	0.314	0.314	11.59
38) Naphthalene	0.997	1.149	1.031	0.936	0.921	0.956	1.252	1.035	1.035	10.99
39) 4-Chloroanil	0.384	0.468	0.437	0.353	0.346	0.404	0.501	0.414	0.413	13.04
40) 2,3-Dichloro	0.342	0.406	0.375	0.351	0.342	0.347	0.416	0.370	0.369	7.89
41) Caprolactam	0.184	0.220	0.208	0.203	0.206	0.194	0.241	0.205	0.208	8.20
42) Hexachlorobu	0.142	0.174	0.156	0.148	0.142	0.149	0.200	0.158	0.159	12.39
43) 4-Chloro-3-m	0.269	0.333	0.311	0.298	0.293	0.289	0.356	0.304	0.307	8.90
44) 2-Methylnaph	0.557	0.630	0.584	0.541	0.526	0.539	0.663	0.578	0.577	8.28
45) 1-Methylnaph	0.664	0.785	0.716	0.659	0.651	0.652	0.840	0.712	0.710	9.84

Initial Calibration Summary

Job Number: JB93023 **Sample:** E5P913-ICC913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17838.D
Project: MHIC-592/593 Tanks

```
46) Dimethylnaph 0.568 0.680 0.613 0.573 0.564 0.578 0.707 0.609 0.612   8.89

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.259 0.299 0.330 0.290 0.284 0.309 0.343 0.290 0.301   8.86
49) 2,4,6-Trichl 0.315 0.384 0.385 0.344 0.336 0.350 0.430 0.357 0.363   9.96
50) 2,4,5-Trichl 0.345 0.412 0.396 0.366 0.374 0.369 0.449 0.370 0.385   8.49
51) 2-Fluorobiph 1.238 1.450 1.339 1.184 1.162 1.246 1.537 1.288 1.305  10.01
52) 2-Chloronaph 1.121 1.288 1.227 1.076 1.055 1.118 1.391 1.183 1.182   9.70
53) Biphenyl     1.427 1.625 1.519 1.367 1.331 1.428 1.800 1.519 1.502  10.17
54) 2-Nitroanili 0.358 0.428 0.421 0.376 0.374 0.383 0.477 0.415 0.404   9.63
55) Dimethylphth 1.218 1.410 1.325 1.176 1.198 1.218 1.506 1.307 1.295   8.95
56) Acenaphthyle 1.771 1.977 1.897 1.685 1.672 1.747 2.138 1.860 1.843   8.61
57) 2,6-Dinitrot 0.248 0.298 0.298 0.280 0.287 0.282 0.335 0.286 0.289   8.39
58) 3-Nitroanili 0.298 0.355 0.364 0.329 0.333 0.342 0.382 0.349 0.344   7.31
59) Acenaphthene 1.108 1.195 1.152 1.025 1.011 1.058 1.318 1.136 1.125   8.95
60) 2,4-Dinitrop 0.080 0.131 0.158 0.178 0.183 0.163 0.119 0.148 0.145  23.44
         ----- Quadratic regression -----                Coefficient =  0.9999
              Response Ratio = -0.00383 + 0.14939 *A + 0.00702 *A^2

61) 4-Nitropheno 0.132 0.177 0.179 0.170 0.168 0.170 0.174 0.176 0.168   9.04
62) Dibenzofuran 1.571 1.728 1.636 1.409 1.397 1.479 1.878 1.588 1.586  10.29
63) 2,4-Dinitrot 0.319 0.406 0.415 0.382 0.380 0.385 0.475 0.399 0.395  10.96
64) 2,3,4,6-Tetr 0.267 0.316 0.299 0.283 0.287 0.287 0.321 0.289 0.294   6.02
65) Diethylphtha 1.219 1.370 1.305 1.173 1.183 1.200 1.483 1.277 1.276   8.42
66) Fluorene     1.256 1.430 1.339 1.174 1.160 1.234 1.542 1.320 1.307   9.97
67) 4-Chlorophen 0.521 0.604 0.562 0.489 0.475 0.512 0.632 0.551 0.543  10.08
68) 4-Nitroanili 0.299 0.374 0.371 0.328 0.333 0.356 0.424 0.365 0.356  10.49

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro- 0.095 0.142 0.156 0.165 0.166 0.156 0.130 0.155 0.145  16.14
71) n-Nitrosodip 0.567 0.637 0.614 0.539 0.527 0.552 0.717 0.596 0.594  10.50
72) 1,2-Diphenyl 0.870 0.962 0.941 0.804 0.774 0.837 1.073 0.905 0.896  10.80
73) 2,4,6-Tribro 0.102 0.119 0.122 0.116 0.114 0.114 0.139 0.115 0.118   8.71
74) 4-Bromopheny 0.182 0.227 0.221 0.199 0.195 0.202 0.244 0.209 0.210   9.49
75) Hexachlorobe 0.216 0.254 0.236 0.216 0.210 0.223 0.267 0.232 0.232   8.67
76) Pentachlorop 0.137 0.162 0.173 0.159 0.156 0.162 0.176 0.158 0.160   7.34
77) Phenanthrene 1.180 1.299 1.242 1.097 1.078 1.134 1.459 1.211 1.213  10.22
78) Anthracene   1.165 1.303 1.287 1.126 1.077 1.159 1.449 1.226 1.224   9.77
79) Carbazole    1.179 1.325 1.275 1.145 1.100 1.179 1.463 1.252 1.240   9.36
80) Di-n-butylph 1.372 1.616 1.583 1.413 1.373 1.451 1.775 1.533 1.515   9.26
81) Fluoranthene 1.181 1.351 1.313 1.194 1.145 1.201 1.493 1.264 1.268   9.05
82) Octadecane   0.835 0.917 0.874 0.717 0.658 0.792 0.991 0.873 0.832  12.92

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.250 1.423 1.420 1.195 1.230 1.324 1.535 1.306 1.335   8.67
85) Terphenyl-d1 0.766 0.846 0.861 0.741 0.752 0.808 0.900 0.798 0.809   6.95
86) Butylbenzylp 0.619 0.703 0.727 0.622 0.643 0.680 0.776 0.662 0.679   8.04
87) Butyl steara 0.511 0.571 0.591 0.455 0.445 0.530 0.653 0.534 0.536  12.91
88) Benzo[a]anth 1.187 1.269 1.284 1.070 1.091 1.189 1.561 1.167 1.227  12.56
89) 3,3'-Dichlor 0.390 0.448 0.463 0.384 0.389 0.437 0.495 0.428 0.429   9.26
90) Chrysene     1.069 1.189 1.183 1.025 1.037 1.107 1.300 1.090 1.125   8.26
91) bis(2-Ethylh 0.852 1.015 1.022 0.888 0.902 0.969 1.134 0.943 0.966   9.39

92) I   Perylene-d12          ----------------ISTD---------------------
93) Di-n-octylph 1.495 1.747 1.762 1.538 1.538 1.601 1.894 1.634 1.651   8.36
94) Benzo[b]fluo 1.109 1.224 1.244 1.091 1.145 1.127 1.354 1.134 1.179   7.56
95) Benzo[k]fluo 1.079 1.199 1.148 0.966 0.938 1.039 1.273 1.093 1.092  10.36
96) Benzo[a]pyre 0.957 1.098 1.099 0.944 0.956 1.002 1.236 0.995 1.036   9.78
97) Indeno[1,2,3 1.029 1.169 1.173 1.116 1.102 1.118 1.322 1.072 1.138   7.76
98) Dibenz(a,h)a 0.923 1.050 1.057 0.951 0.949 0.985 1.168 0.981 1.008   7.92
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** E5P913-ICC913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17838.D
Project: MHIC-592/593 Tanks

```
 99) Dibenz[a,h]a 1.013 1.179 1.173 1.040 1.030 1.067 1.296 1.071 1.109   8.85
100) 7,12-Dimethy 0.314 0.377 0.561 0.467 0.476 0.508 0.451 0.405 0.445  17.49
101) Benzo[g,h,i] 1.006 1.155 1.115 1.010 1.021 1.046 1.246 1.041 1.080   7.90
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M5P913.M          Wed Apr 29 14:52:19 2015   RPT1
```

Initial Calibration Summary

Job Number: JB93023 **Sample:** E5P914-ICC914
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17849.D
Project: MHIC-592/593 Tanks

```
                         Response Factor Report  MS5P

  Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
  Last Update  : Thu Apr 30 08:23:58 2015
  Response via : Initial Calibration

  Calibration Files
  2   =5p17845a.D  5   =5p17846a.D  25  =5p17848a.D  80  =5p17850a.D
  100 =5p17851a.D  50  =5p17849a.D  1   =5p17844a.D  10  =5p17847a.D

   Compound         2     5     25    80    100   50    1     10    Avg %RSD
  ---------------------------------------------------------------------------
102)     1,4-Dichlorobenzene-d ----------------ISTD---------------------
103) Benzaldehyde 1.600 1.275 1.033 0.834       0.904 1.381 1.184 1.173  23.16
          ----- Quadratic regression -----                Coefficient =  0.9994
               Response Ratio = 0.02856 + 1.03229 *A + -0.10788 *A^2


104)     Acenaphthene-d10a     ----------------ISTD---------------------
105) 1,2,4,5-Tetr 0.622 0.487 0.436 0.435 0.422 0.434 0.532 0.459 0.478  14.33

106)     Chrysene-d12a         ----------------ISTD---------------------
107) Benzidine    0.609 0.666 0.602 0.487 0.442 0.517 0.583 0.661 0.571  14.29
108) 1-chloroocta 0.639 0.513 0.488 0.446 0.425 0.456 0.574 0.505 0.506  14.06

109)     Phenanthrene-d10a     ----------------ISTD---------------------
110) Atrazine     0.126 0.110 0.102 0.099 0.098 0.102 0.124 0.105 0.108  10.02
111) o-terphenyl  0.743 0.625 0.547 0.517 0.527 0.538 0.654 0.574 0.591  13.24

112) I   Naphthalene-d8a       ----------------ISTD---------------------
113) Hydroquinone 0.346 0.220 0.332 0.354 0.345 0.350       0.286 0.319  15.51
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           M5P913.M          Thu Apr 30 08:24:11 2015   RPT1
```

8.7.50

8

Initial Calibration Verification

Job Number: JB93023 **Sample:** E5P914-ICV913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17853.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p914\5p17853.D          Vial: 11
Acq On    : 29 Apr 2015   7:35 pm                   Operator: alicjap
Sample    : icv913-50                               Inst    : MS5P
Misc      : op83290,e5p914                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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	63	0.00	5.75
3	t	Pyridine	1.553	1.553	0.0	66	0.05	2.86
10		Aniline	1.841	2.185	-18.7	71	0.02	5.38
16	t	Benzyl alcohol	0.928	1.023	-10.2	74	0.01	5.92
24	I	Naphthalene-d8	1.000	1.000	0.0	69	0.00	7.25
39	t	4-Chloroaniline	0.413	0.403	2.4	69	0.00	7.35
44	t	2-Methylnaphthalene	0.577	0.563	2.4	72	0.00	8.11
47	I	Acenaphthene-d10	1.000	1.000	0.0	69	0.00	9.38
54	t	2-Nitroaniline	0.404	0.388	4.0	70	0.00	8.83
58	t	3-Nitroaniline	0.344	0.323	6.1	65	0.00	9.33
62	t	Dibenzofuran	1.586	1.511	4.7	70	0.00	9.62
68	t	4-Nitroaniline	0.356	0.295	17.1	57	0.00	10.06
69	I	Phenanthrene-d10	1.000	1.000	0.0	74	0.00	11.20
79	t	Carbazole	1.240	1.043	15.9	65	0.00	11.52

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 5p17849a.D M5P913.M         Thu Apr 30 08:48:28 2015   RPT1
```

8.7.51

8

Initial Calibration Verification

Job Number: JB93023 **Sample:** E5P914-ICV913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17854.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\e5p914\5p17854.D Vial: 12
Acq On : 29 Apr 2015 8:04 pm Operator: alicjap
Sample : icv913-50 Inst : MS5P
Misc : op83290,e5p914 Multiplr: 1.00
MS Integration Params: lscint.p

Method : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update : Thu Apr 30 08:23:58 2015
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	73	0.00	5.75
4	t	N-Nitrosodimethylamine	0.892	0.793	11.1	69	-0.01	2.75
11	t	bis(2-Chloroethyl)ether	1.318	1.238	6.1	74	0.00	5.44
14	t	1,3-Dichlorobenzene	1.632	1.509	7.5	71	0.00	5.68
15	t	1,4-Dichlorobenzene	1.654	1.526	7.7	73	0.00	5.76
17	t	1,2-Dichlorobenzene	1.544	1.464	5.2	73	0.00	5.95
20	t	2,2'-oxybis(1-Chloropropa	1.953	1.553	20.5	63	0.00	6.08
22	t	n-Nitroso-di-n-propylamin	0.991	0.944	4.7	77	0.00	6.23
23	t	Hexachloroethane	0.523	0.481	8.0	72	0.00	6.34
24	I	Naphthalene-d8	1.000	1.000	0.0	74	0.00	7.25
26	t	Nitrobenzene	0.371	0.339	8.6	73	0.00	6.42
28	t	Isophorone	0.622	0.624	-0.3	79	0.00	6.70
32	t	bis(2-Chloroethoxy)methan	0.392	0.390	0.5	78	0.00	6.98
36	t	1,2,4-Trichlorobenzene	0.303	0.284	6.3	74	0.00	7.19
38	t	Naphthalene	1.035	0.918	11.3	71	0.00	7.28
42	t	Hexachlorobutadiene	0.159	0.149	6.3	74	0.00	7.45
47	I	Acenaphthene-d10	1.000	1.000	0.0	75	0.00	9.38
48	t	Hexachlorocyclopentadiene	0.301	0.270	10.3	66	0.00	8.32
52	t	2-Chloronaphthalene	1.182	1.085	8.2	73	0.00	8.70
55	t	Dimethylphthalate	1.295	1.187	8.3	73	0.00	9.07
56	t	Acenaphthylene	1.843	1.529	17.0	66	0.00	9.20
57	t	2,6-Dinitrotoluene	0.289	0.257	11.1	69	0.00	9.12
59	t	Acenaphthene	1.125	1.052	6.5	75	0.00	9.41
63	t	2,4-Dinitrotoluene	0.395	0.319	19.2	62	0.00	9.61
65	t	Diethylphthalate	1.276	1.155	9.5	73	0.00	9.93
66	t	Fluorene	1.307	1.175	10.1	72	0.00	10.04
67	t	4-Chlorophenyl-phenylethe	0.543	0.492	9.4	73	0.00	10.05
69	I	Phenanthrene-d10	1.000	1.000	0.0	74	0.00	11.20
71	t	n-Nitrosodiphenylamine	0.594	0.563	5.2	75	0.00	10.19
72	t	1,2-Diphenylhydrazine	0.896	0.853	4.8	75	0.00	10.24
74	t	4-Bromophenyl-phenylether	0.210	0.187	11.0	68	0.00	10.65
75	t	Hexachlorobenzene	0.232	0.212	8.6	70	0.00	10.73
77	t	Phenanthrene	1.213	1.075	11.4	70	0.00	11.23
78	t	Anthracene	1.224	1.090	10.9	69	0.00	11.30
80	t	Di-n-butylphthalate	1.515	1.390	8.3	71	0.00	12.03
81	t	Fluoranthene	1.268	1.140	10.1	70	0.00	12.86
83	I	Chrysene-d12	1.000	1.000	0.0	77	0.00	15.01
84	t	Pyrene	1.335	1.169	12.4	68	0.00	13.18

Initial Calibration Verification

Job Number: JB93023 **Sample:** E5P914-ICV913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17854.D
Project: MHIC-592/593 Tanks

86	t	Butylbenzylphthalate	0.679	0.640	5.7	73	0.00	14.22
88	t	Benzo[a]anthracene	1.227	1.080	12.0	70	0.00	14.99
90	t	Chrysene	1.125	1.039	7.6	73	0.00	15.04
91	t	bis(2-Ethylhexyl)phthalat	0.966	0.901	6.7	72	0.00	15.13
92	I	Perylene-d12	1.000	1.000	0.0	74	-0.02	17.07
93	t	Di-n-octylphthalate	1.651	1.579	4.4	73	0.00	16.10
94	t	Benzo[b]fluoranthene	1.179	1.018	13.7	67	0.01	16.56
95	t	Benzo[k]fluoranthene	1.092	0.989	9.4	71	0.01	16.60
96	t	Benzo[a]pyrene	1.036	0.976	5.8	73	0.00	17.00
97	t	Indeno[1,2,3-cd]pyrene	1.138	1.031	9.4	69	0.02	18.69
99	t	Dibenz[a,h]anthracene	1.109	1.014	8.6	71	0.00	18.72
101	t	Benzo[g,h,i]perylene	1.080	0.993	8.1	71	0.02	19.15

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Thu Apr 30 08:50:48 2015 RPT1

8.7.52

8

Initial Calibration Verification

Job Number: JB93023 **Sample:** E5P914-ICV914
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17854A.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p914\5p17854a.D          Vial: 12
Acq On    : 29 Apr 2015   8:04 pm                    Operator: alicjap
Sample    : icv914-50                                Inst    : MS5P
Misc      : op83290,e5p914                           Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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.
104	Acenaphthene-d10a	1.000	1.000	0.0	61	0.00	9.38
105	1,2,4,5-Tetrachlorobenzen	0.478	0.418	12.6	59	0.00	8.32

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Thu Apr 30 08:58:19 2015 RPT1

8.7.53

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E5P914-ICV913
Lab FileID: 5P17855.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p914\5p17855.D          Vial: 13
Acq On    : 29 Apr 2015   8:32 pm                   Operator: alicjap
Sample    : icv913-50                               Inst    : MS5P
Misc      : op83290,e5p914                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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	76	0.00	5.74
2	t	1,4-Dioxane	0.600	0.485	19.2	66	0.00	2.44
6	t	Indene	2.416	2.329	3.6	79	0.00	6.05
7	t	Cumene	3.547	3.096	12.7	71	0.00	4.84
13	t	Decane	1.447	1.097	24.2	60	0.00	5.59
18	t	Acetophenone	2.078	1.848	11.1	73	0.00	6.22
24	I	Naphthalene-d8	1.000	1.000	0.0	75	0.00	7.25
27	t	Quinoline	0.687	0.615	10.5	72	0.00	7.67
41	t	Caprolactam	0.208	0.166	20.2	64	0.01	7.74
45	t	1-Methylnaphthalene	0.710	0.630	11.3	73	0.00	8.23
46	t	Dimethylnaphthalene	0.612	0.525	14.2	68	0.00	8.87
47	I	Acenaphthene-d10	1.000	1.000	0.0	74	0.00	9.37
53	t	Biphenyl	1.502	1.377	8.3	72	0.00	8.68
69	I	Phenanthrene-d10	1.000	1.000	0.0	72	0.00	11.20
82	t	Octadecane	0.832	0.710	14.7	65	0.00	11.12
92	I	Perylene-d12	1.000	1.000	0.0	68	-0.02	17.07
100	t	7,12-Dimethylbenz(a)anthr	0.445	0.351	21.1	47#	0.00	16.56

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 5p17849a.D M5P913.M         Thu Apr 30 08:51:54 2015   RPT1
```

8.7.54

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E5P914-ICV914
Lab FileID: 5P17855A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p914\5p17855a.D          Vial: 13
Acq On    : 29 Apr 2015   8:32 pm                    Operator: alicjap
Sample    : icv914-50                                Inst    : MS5P
Misc      : op83290,e5p914                           Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	64	0.00	5.74
	----------	True	Calc.	% Drift	----------		
103	Benzaldehyde	50.000	63.039	-26.1	79	0.00	5.24
109	Phenanthrene-d10a	1.000	1.000	0.0	56	0.00	11.20
110	Atrazine	0.108	0.104	3.7	58	-0.01	10.87

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Thu Apr 30 08:59:43 2015 RPT1

8.7.55
8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E5P914-ICV913
Lab FileID: 5P17856.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p914\5p17856.D          Vial: 14
Acq On    : 29 Apr 2015   9:01 pm                   Operator: alicjap
Sample    : icv913-50                               Inst    : MS5P
Misc      : op83290,e5p914                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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	82	0.00	5.74
5	S	2-Fluorophenol	1.472	1.339	9.0	79	0.00	4.27
8	S	Phenol-d5	1.723	1.511	12.3	78	0.00	5.34
24	I	Naphthalene-d8	1.000	1.000	0.0	83	0.00	7.25
25	S	Nitrobenzene-d5	0.368	0.363	1.4	88	0.00	6.39
47	I	Acenaphthene-d10	1.000	1.000	0.0	79	0.00	9.37
51	S	2-Fluorobiphenyl	1.305	1.269	2.8	81	0.00	8.56
69	I	Phenanthrene-d10	1.000	1.000	0.0	81	0.00	11.20
73	S	2,4,6-Tribromophenol	0.118	0.097	17.8	69	0.00	10.33
83	I	Chrysene-d12	1.000	1.000	0.0	78	-0.01	15.00
85	S	Terphenyl-d14	0.809	0.801	1.0	77	0.00	13.45

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 5p17849a.D M5P913.M         Thu Apr 30 08:53:32 2015   RPT1
```

8.7.56

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E5P914-ICV913
Lab FileID: 5P17857A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p914\5p17857a.D          Vial: 15
Acq On    : 29 Apr 2015   9:30 pm                    Operator: alicjap
Sample    : icv913-50                                Inst    : MS5P
Misc      : op83290,e5p914                           Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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	200	0.00	15.01
89	t	3,3'-Dichlorobenzidine	0.429	0.337	21.4	154	0.01	14.98

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Thu Apr 30 11:57:10 2015 RPT1

8.7.57

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E5P914-ICV914
Lab FileID: 5P17857.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p914\5p17857.D          Vial: 15
Acq On    : 29 Apr 2015   9:30 pm                   Operator: alicjap
Sample    : icv914-50                               Inst    : MS5P
Misc      : op83290,e5p914                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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.
106	Chrysene-d12a	1.000	1.000	0.0	137	0.00	15.01
107	Benzidine	0.571	0.698	-22.2	185	0.00	13.08

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Thu Apr 30 08:54:13 2015 RPT1

8.7.58

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E5P914-ICV914
Lab FileID: 5P17858.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p914\5p17858.D          Vial: 16
Acq On    : 29 Apr 2015   9:58 pm                   Operator: alicjap
Sample    : icv914-50                               Inst    : MS5P
Misc      : op83290,e5p914                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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.
112 I	Naphthalene-d8a	1.000	1.000	0.0	81	0.00	7.25
113	Hydroquinone	0.319	0.355	-11.3	82	-0.02	7.77

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Thu Apr 30 11:57:12 2015 RPT1

8.7.59

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E5P915-ICV913
Lab FileID: 5P17867.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p915\5p17867.D          Vial: 2
Acq On    : 30 Apr 2015  11:28 am                   Operator: alicjap
Sample    : icv913-50                               Inst    : MS5P
Misc      : op83290,e5p915                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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	97	-0.01	5.74
9	t	Phenol	1.908	1.677	12.1	91	0.00	5.35
12	t	2-Chlorophenol	1.496	1.410	5.7	97	0.00	5.50
19	t	2-Methylphenol	1.276	1.257	1.5	99	-0.01	6.05
21	t	3&4-Methylphenol	1.364	1.307	4.2	99	0.00	6.23
24	I	Naphthalene-d8	1.000	1.000	0.0	96	-0.01	7.24
29	t	2-Nitrophenol	0.203	0.198	2.5	97	-0.01	6.78
30	t	2,4-Dimethylphenol	0.291	0.307	-5.5	93	-0.01	6.86
31	t	Benzoic acid	0.242	0.229	5.4	86	0.06	7.00
33	t	2,4-Dichlorophenol	0.301	0.282	6.3	95	-0.01	7.08
34	t	2,6-Dichlorophenol	0.292	0.285	2.4	97	-0.01	7.35
43	t	4-Chloro-3-methylphenol	0.307	0.280	8.8	93	-0.01	7.94
47	I	Acenaphthene-d10	1.000	1.000	0.0	91	-0.01	9.36
49	t	2,4,6-Trichlorophenol	0.363	0.347	4.4	90	-0.01	8.45
50	t	2,4,5-Trichlorophenol	0.385	0.382	0.8	94	-0.02	8.49
		----------	True	Calc.	% Drift		----------	
60	t	2,4-Dinitrophenol	100.000	95.08	4.9	82	0.00	9.43
		----------	AvgRF	CCRF	% Dev		----------	
61	t	4-Nitrophenol	0.168	0.164	2.4	88	-0.01	9.54
64		2,3,4,6-Tetrachlorophenol	0.294	0.266	9.5	84	-0.01	9.77
69	I	Phenanthrene-d10	1.000	1.000	0.0	92	-0.02	11.19
70	t	4,6-Dinitro-2-methylpheno	0.145	0.134	7.6	79	-0.01	10.09
76	t	Pentachlorophenol	0.160	0.154	3.8	88	-0.02	10.96

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Thu Apr 30 11:52:18 2015 RPT1

8.7.60

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E5P916-CC913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17869.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p916\5p17869.D          Vial: 2
Acq On    : 30 Apr 2015  12:26 pm                   Operator: alicjap
Sample    : cc913-50                                Inst    : MS5P
Misc      : op83290,e5p916                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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	111	-0.01	5.74
2	t	1,4-Dioxane	0.600	0.574	4.3	114	-0.02	2.43
3	t	Pyridine	1.553	1.530	1.5	115	-0.04	2.78
4	t	N-Nitrosodimethylamine	0.892	0.864	3.1	115	-0.02	2.74
5	S	2-Fluorophenol	1.472	1.389	5.6	111	-0.01	4.26
6	t	Indene	2.416	2.255	6.7	112	-0.01	6.04
7	t	Cumene	3.547	3.350	5.6	112	-0.01	4.83
8	S	Phenol-d5	1.723	1.609	6.6	111	0.00	5.34
9	t	Phenol	1.908	1.828	4.2	113	0.00	5.35
10		Aniline	1.841	1.930	-4.8	111	0.00	5.36
11	t	bis(2-Chloroethyl)ether	1.318	1.226	7.0	112	0.00	5.44
12	t	2-Chlorophenol	1.496	1.422	4.9	112	0.00	5.50
13	t	Decane	1.447	1.169	19.2	94	-0.01	5.58
14	t	1,3-Dichlorobenzene	1.632	1.519	6.9	110	0.00	5.67
15	t	1,4-Dichlorobenzene	1.654	1.518	8.2	110	-0.01	5.75
16	t	Benzyl alcohol	0.928	0.898	3.2	116	0.00	5.90
17	t	1,2-Dichlorobenzene	1.544	1.460	5.4	111	-0.01	5.93
18	t	Acetophenone	2.078	1.943	6.5	112	0.00	6.21
19	t	2-Methylphenol	1.276	1.235	3.2	112	0.00	6.05
20	t	2,2'-oxybis(1-Chloropropa	1.953	1.593	18.4	99	-0.01	6.07
21	t	3&4-Methylphenol	1.364	1.332	2.3	115	0.00	6.23
22	t	n-Nitroso-di-n-propylamin	0.991	0.926	6.6	116	0.00	6.22
23	t	Hexachloroethane	0.523	0.463	11.5	106	-0.01	6.33
24	I	Naphthalene-d8	1.000	1.000	0.0	110	-0.01	7.24
25	S	Nitrobenzene-d5	0.368	0.350	4.9	112	0.00	6.38
26	t	Nitrobenzene	0.371	0.351	5.4	113	-0.01	6.41
27	t	Quinoline	0.687	0.665	3.2	115	0.00	7.67
28	t	Isophorone	0.622	0.606	2.6	114	-0.01	6.69
29	t	2-Nitrophenol	0.203	0.200	1.5	113	0.00	6.79
30	t	2,4-Dimethylphenol	0.291	0.322	-10.7	111	-0.01	6.86
31	t	Benzoic acid	0.242	0.271	-12.0	117	0.07	7.01
32	t	bis(2-Chloroethoxy)methan	0.392	0.375	4.3	112	-0.01	6.97
33	t	2,4-Dichlorophenol	0.301	0.288	4.3	111	-0.01	7.08
34	t	2,6-Dichlorophenol	0.292	0.285	2.4	112	0.00	7.35
35		1,3,5-Trichlorobenzene	0.338	0.316	6.5	110	-0.01	6.81
36	t	1,2,4-Trichlorobenzene	0.303	0.288	5.0	112	0.00	7.18
37		1,2,3-Trichlorobenzene	0.314	0.297	5.4	112	0.00	7.45
38	t	Naphthalene	1.035	0.968	6.5	111	-0.01	7.27
39	t	4-Chloroaniline	0.413	0.404	2.2	110	0.00	7.34
40	t	2,3-Dichloroaniline	0.369	0.359	2.7	114	-0.01	8.45
41	t	Caprolactam	0.208	0.196	5.8	111	0.04	7.76

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E5P916-CC913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17869.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.159	0.145	8.8	107	-0.01	7.44
43	t	4-Chloro-3-methylphenol	0.307	0.297	3.3	113	0.00	7.95
44	t	2-Methylnaphthalene	0.577	0.551	4.5	112	0.00	8.10
45	t	1-Methylnaphthalene	0.710	0.680	4.2	115	0.00	8.22
46	t	Dimethylnaphthalene	0.612	0.585	4.4	112	-0.01	8.86
47	I	Acenaphthene-d10	1.000	1.000	0.0	114	-0.01	9.36
48	t	Hexachlorocyclopentadiene	0.301	0.301	0.0	111	0.00	8.31
49	t	2,4,6-Trichlorophenol	0.363	0.352	3.0	114	0.00	8.46
50	t	2,4,5-Trichlorophenol	0.385	0.373	3.1	115	0.00	8.50
51	S	2-Fluorobiphenyl	1.305	1.212	7.1	111	0.00	8.56
52	t	2-Chloronaphthalene	1.182	1.125	4.8	115	0.00	8.69
53	t	Biphenyl	1.502	1.390	7.5	111	0.00	8.68
54	t	2-Nitroaniline	0.404	0.385	4.7	114	0.00	8.82
55	t	Dimethylphthalate	1.295	1.221	5.7	114	0.00	9.06
56	t	Acenaphthylene	1.843	1.756	4.7	114	-0.01	9.19
57	t	2,6-Dinitrotoluene	0.289	0.284	1.7	115	0.00	9.12
58	t	3-Nitroaniline	0.344	0.340	1.2	113	0.00	9.32
59	t	Acenaphthene	1.125	1.051	6.6	113	-0.01	9.40
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	102.996	-3.0	120	0.00	9.44
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.168	0.171	-1.8	115	0.00	9.54
62	t	Dibenzofuran	1.586	1.493	5.9	115	0.00	9.62
63	t	2,4-Dinitrotoluene	0.395	0.393	0.5	116	0.00	9.61
64		2,3,4,6-Tetrachlorophenol	0.294	0.287	2.4	114	-0.01	9.77
65	t	Diethylphthalate	1.276	1.204	5.6	114	0.00	9.92
66	t	Fluorene	1.307	1.256	3.9	116	0.00	10.03
67	t	4-Chlorophenyl-phenylethe	0.543	0.508	6.4	113	-0.01	10.04
68	t	4-Nitroaniline	0.356	0.367	-3.1	117	0.00	10.06
69	I	Phenanthrene-d10	1.000	1.000	0.0	114	-0.02	11.19
70	t	4,6-Dinitro-2-methylpheno	0.145	0.160	-10.3	117	0.00	10.10
71	t	n-Nitrosodiphenylamine	0.594	0.558	6.1	116	0.00	10.19
72	t	1,2-Diphenylhydrazine	0.896	0.834	6.9	114	-0.01	10.23
73	S	2,4,6-Tribromophenol	0.118	0.111	5.9	111	-0.01	10.32
74	t	4-Bromophenyl-phenylether	0.210	0.199	5.2	113	-0.01	10.64
75	t	Hexachlorobenzene	0.232	0.213	8.2	109	-0.01	10.71
76	t	Pentachlorophenol	0.160	0.161	-0.6	114	-0.01	10.96
77	t	Phenanthrene	1.213	1.141	5.9	115	-0.01	11.22
78	t	Anthracene	1.224	1.151	6.0	114	-0.01	11.29
79	t	Carbazole	1.240	1.197	3.5	116	0.00	11.51
80	t	Di-n-butylphthalate	1.515	1.480	2.3	117	-0.01	12.02
81	t	Fluoranthene	1.268	1.204	5.0	115	-0.01	12.85
82	t	Octadecane	0.832	0.755	9.3	109	-0.01	11.11
83	I	Chrysene-d12	1.000	1.000	0.0	118	-0.02	14.99
84	t	Pyrene	1.335	1.313	1.6	117	-0.01	13.17
85	S	Terphenyl-d14	0.809	0.796	1.6	116	-0.02	13.43
86	t	Butylbenzylphthalate	0.679	0.682	-0.4	118	-0.01	14.20
87		Butyl stearate	0.536	0.515	3.9	114	-0.01	14.35
88	t	Benzo[a]anthracene	1.227	1.192	2.9	118	-0.01	14.97
89	t	3,3'-Dichlorobenzidine	0.429	0.424	1.2	114	-0.01	14.96
90	t	Chrysene	1.125	1.088	3.3	116	-0.01	15.03
91	t	bis(2-Ethylhexyl)phthalat	0.966	0.979	-1.3	119	-0.02	15.12
92	I	Perylene-d12	1.000	1.000	0.0	116	-0.03	17.06
93	t	Di-n-octylphthalate	1.651	1.661	-0.6	120	-0.02	16.09

Continuing Calibration Summary

Job Number: JB93023 **Sample:** E5P916-CC913
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** 5P17869.D
Project: MHIC-592/593 Tanks

94	t	Benzo[b]fluoranthene	1.179	1.142	3.1	117	0.00	16.54
95	t	Benzo[k]fluoranthene	1.092	1.056	3.3	118	0.00	16.59
96	t	Benzo[a]pyrene	1.036	1.013	2.2	117	-0.01	16.98
97	t	Indeno[1,2,3-cd]pyrene	1.138	1.131	0.6	117	0.00	18.67
98	t	Dibenz(a,h)acridine	1.008	0.990	1.8	116	-0.01	18.29
99	t	Dibenz[a,h]anthracene	1.109	1.092	1.5	118	-0.01	18.71
100	t	7,12-Dimethylbenz(a)anthr	0.445	0.512	-15.1	117	0.00	16.55
101	t	Benzo[g,h,i]perylene	1.080	1.069	1.0	118	0.00	19.13

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Fri May 01 14:37:59 2015 RPT1

8.7.61

8

Continuing Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: E5P916-CC914
Lab FileID: 5P17870.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\e5p916\5p17870.D          Vial: 3
Acq On    : 30 Apr 2015  12:55 pm                   Operator: alicjap
Sample    : cc914-50                                Inst    : MS5P
Misc      : op83290,e5p916                          Multiplr: 1.00
MS Integration Params: lscint.p

Method       : C:\MSDCHEM\1\METHODS\M5P913.M (RTE Integrator)
Title        : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
Last Update  : Thu Apr 30 08:23:58 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	98	-0.01	5.74
	----------	True	Calc.	% Drift	----------		
103	Benzaldehyde	50.000	53.570	-7.1	105	-0.01	5.22
	----------	AvgRF	CCRF	% Dev	----------		
104	Acenaphthene-d10a	1.000	1.000	0.0	95	-0.01	9.36
105	1,2,4,5-Tetrachlorobenzen	0.478	0.480	-0.4	105	-0.01	8.31
106	Chrysene-d12a	1.000	1.000	0.0	84	-0.02	14.98
107	Benzidine	0.571	0.578	-1.2	94	-0.02	13.06
108 s	1-chlorooctadecane	0.506	0.546	-7.9	100	-0.02	12.76
109	Phenanthrene-d10a	1.000	1.000	0.0	93	-0.01	11.19
110	Atrazine	0.108	0.110	-1.9	100	-0.02	10.87
111 s	o-terphenyl	0.591	0.576	2.5	99	-0.02	11.72
112 I	Naphthalene-d8a	1.000	1.000	0.0	97	-0.01	7.24
113	Hydroquinone	0.319	0.373	-16.9	103	-0.03	7.76

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5p17849a.D M5P913.M Thu Apr 30 16:07:02 2015 RPT1

8.7.62

8

Initial Calibration Summary

Job Number: JB93023 **Sample:** EZ5015-ICC5015
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100604.D
Project: MHIC-592/593 Tanks

```
                         Response Factor Report  MSZ

  Method       : C:\MSDCHEM\1\METHODS\MZ5015.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
  Last Update  : Mon Apr 20 10:00:45 2015
  Response via : Initial Calibration

  Calibration Files
  100 =Z100602.D   80  =Z100603.D   50  =Z100604.D   25  =Z100605.D
  10  =Z100606.D   5   =Z100607.D   2   =Z100608.D   1   =Z100609.D

   Compound         100   80    50    25    10    5     2     1     Avg %RSD
  ---------------------------------------------------------------------------


102)     1,4-Dichlorobenzene-d ----------------ISTD---------------------
103) Benzaldehyde       0.939 1.008 1.217 1.303 1.362 1.703 1.549 1.297  21.11
          ----- Quadratic regression -----                Coefficient =  0.9985
               Response Ratio = 0.02737 + 1.18779 *A + -0.13423 *A^2


104)     Phenanthrene-d10a     ----------------ISTD---------------------
105) 1-chloroocta 0.437 0.452 0.476 0.488 0.494 0.459 0.505 0.426 0.467   6.01
106) o-terphenyl  0.448 0.464 0.496 0.525 0.556 0.564 0.669 0.615 0.542  13.86
107) Atrazine     0.089 0.091 0.096 0.095 0.100 0.091 0.109 0.084 0.094   8.11

108)     Chrysene-d12a         ----------------ISTD---------------------
109) Benzidine    0.527 0.482 0.534 0.629 0.583 0.445 0.442 0.333 0.497  18.61

110)     Acenaphthene-d10a     ----------------ISTD---------------------
111) 1,2,4,5-Tetr 0.381 0.400 0.427 0.461 0.487 0.500 0.620 0.595 0.484  17.90

112) I   Naphthalene-d8       ----------------ISTD---------------------
113) Hydroquinone 0.370 0.372 0.381 0.369 0.323 0.258 0.274       0.335  15.25

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

           MZ5014.M          Mon Apr 20 10:00:58 2015   RTE
```

8.7.63

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: EZ5015-ICV5015
Lab FileID: Z100611A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5014\Z100611a.D          Vial: 19
Acq On    : 18 Apr 2015   1:22 am                    Operator: linseyk
Sample    : icv5015-50                               Inst    : MSZ
Misc      : op82759,ez5015,1000,,,1,1                Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5014.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Mon Apr 20 10:00:45 2015
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.
110	Acenaphthene-d10a	1.000	1.000	0.0	80	0.00	7.38
111	1,2,4,5-Tetrachlorobenzen	0.484	0.410	15.3	77	0.00	6.56

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100604.D MZ5014.M Mon Apr 20 10:04:15 2015 RTE

8.7.64

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: EZ5015-ICV5015
Lab FileID: Z100612A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5014\Z100612a.D          Vial: 20
Acq On    : 18 Apr 2015   1:54 am                    Operator: linseyk
Sample    : icv5015-50                               Inst    : MSZ
Misc      : op82759,ez5015,1000,,,1,1                Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5014.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Mon Apr 20 10:00:45 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	93	0.00	4.97
	----------	True	Calc.	% Drift	----------		
103	Benzaldehyde	50.000	59.762	-19.5	110	0.00	4.65
	----------	AvgRF	CCRF	% Dev	----------		
104	Phenanthrene-d10a	1.000	1.000	0.0	85	0.00	9.36
107	Atrazine	0.094	0.097	-3.2	85	0.01	8.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100604.D MZ5014.M Mon Apr 20 10:06:28 2015 RTE

8.7.65

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: EZ5015-ICV5015
Lab FileID: Z100615A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5014\Z100615a.D          Vial: 23
Acq On    : 18 Apr 2015   3:28 am                    Operator: linseyk
Sample    : icv5015-50                               Inst    : MSZ
Misc      : op82759,ez5015,1000,,,1,1                Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5014.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Mon Apr 20 10:00:45 2015
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.
108	Chrysene-d12a	1.000	1.000	0.0	86	0.00	14.71
109	Benzidine	0.497	0.708	-42.5#	114	0.00	11.92

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100604.D MZ5014.M Mon Apr 20 10:07:56 2015 RTE

8.7.66

8

Initial Calibration Verification

Job Number: JB93023 **Sample:** EZ5015-ICV5015
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100616.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5014\Z100616.D          Vial: 24
Acq On    : 18 Apr 2015   3:59 am                   Operator: linseyk
Sample    : icv5015-50                              Inst    : MSZ
Misc      : op82759,ez5015,1000,,,1,1               Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5014.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Mon Apr 20 10:00:45 2015
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.
112 I	Naphthalene-d8a	1.000	1.000	0.0	74	0.00	5.89
113	Hydroquinone	0.335	0.388	-15.8	76	0.00	6.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100604.D MZ5014.M Mon Apr 20 10:02:24 2015 RTE

8.7.67

8

Initial Calibration Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: EZ5031-ICC5031
Lab FileID: Z100892.D

Response Factor Report MSZ

Method : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Apr 30 10:18:59 2015
Response via : Initial Calibration

Calibration Files
100 =Z100888.D 80 =Z100890.D 50 =Z100892.D 25 =Z100894.D
10 =Z100895.D 5 =Z100893.D 2 =Z100891.D 1 =Z100889.D

Compound	100	80	50	25	10	5	2	1	Avg	%RSD
1) I 1,4-Dichlorobenzene-d					ISTD					
2) 1,4-Dioxane	0.601	0.610	0.611	0.640	0.619	0.668	0.620	0.810	0.648	10.67
3) Pyridine	1.629	1.616	1.637	1.672	1.658	1.750	1.451	1.600	1.627	5.21
4) N-Nitrosodim	0.900	0.895	0.903	0.905	0.939	1.008	0.830	1.106	0.936	9.06
5) 2-Fluorophen	1.463	1.469	1.484	1.501	1.516	1.648	1.361	1.753	1.524	7.97
6) Indene	1.958	2.056	2.211	2.398	2.510	2.830	2.426	3.144	2.442	16.15
7) Cumene	3.497	3.599	3.734	3.889	3.951	4.313	3.659	4.674	3.915	10.17
8) Phenol-d5	1.856	1.853	1.908	1.974	1.987	2.208	1.879	2.325	1.999	8.77
9) Phenol	1.873	1.912	2.035	2.125	2.211	2.349	2.106	2.491	2.138	9.80
10) Aniline	1.478	1.526	1.836	2.116	2.163	2.526	2.305		1.993	19.79
11) bis(2-Chloro	1.356	1.347	1.365	1.429	1.483	1.566	1.377	1.815	1.467	10.87
12) 2-Chlorophen	1.429	1.448	1.514	1.608	1.649	1.829	1.479	1.970	1.616	12.02
13) Decane	1.369	1.472	1.625	1.807	1.861	2.109	1.807	2.273	1.790	16.97
14) 1,3-Dichloro	1.480	1.483	1.550	1.661	1.673	1.804	1.573	1.987	1.651	10.51
15) 1,4-Dichloro	1.448	1.477	1.549	1.650	1.688	1.861	1.578	2.061	1.664	12.42
16) Benzyl alcoh	0.876	0.870	0.886	0.942	0.970	0.998	0.872	1.003	0.927	6.24
17) 1,2-Dichloro	1.334	1.362	1.448	1.513	1.575	1.774	1.476	1.950	1.554	13.54
18) Acetophenone	1.750	1.804	1.911	2.106	2.187	2.467	2.092	2.715	2.129	15.48
19) 2-Methylphen	1.067	1.107	1.191	1.255	1.319	1.460	1.220	1.482	1.263	11.97
20) 2,2'-oxybis(	0.385	0.398	0.429	0.464	0.479	0.553	0.456	0.564	0.466	14.01
21) 3&4-Methylph	1.139	1.172	1.227	1.351	1.373	1.543	1.271	1.645	1.340	13.27
22) n-Nitroso-di	0.886	0.910	0.969	1.072	1.116	1.223	1.025	1.274	1.059	13.25
23) Hexachloroet	0.450	0.450	0.466	0.486	0.520	0.547	0.453	0.612	0.498	11.69
24) I Naphthalene-d8					ISTD					
25) Nitrobenzene	0.398	0.406	0.413	0.433	0.441	0.483	0.418	0.530	0.440	10.21
26) Nitrobenzene	0.376	0.385	0.396	0.416	0.435	0.468	0.390	0.507	0.422	10.86
27) Quinoline	0.698	0.721	0.730	0.759	0.756	0.823	0.677	0.864	0.753	8.32
28) Isophorone	0.617	0.640	0.678	0.721	0.744	0.791	0.655	0.860	0.713	11.62
29) 2-Nitropheno	0.189	0.199	0.203	0.211	0.220	0.236	0.180	0.246	0.210	10.67
30) 2,4-Dimethyl	0.342	0.351	0.339	0.350	0.310	0.312	0.245	0.292	0.318	11.43
31) Benzoic Acid	0.333	0.328	0.322	0.305	0.298	0.279	0.208	0.237	0.289	15.66
32) bis(2-Chloro	0.390	0.404	0.417	0.435	0.446	0.480	0.431	0.542	0.443	10.95
33) 2,4-Dichloro	0.260	0.269	0.278	0.291	0.303	0.323	0.271	0.322	0.290	8.42
34) 2,6-Dichloro	0.243	0.253	0.269	0.290	0.294	0.319	0.274	0.342	0.286	11.61
35) 1,3,5-Trichl	0.289	0.309	0.327	0.357	0.367	0.398	0.342	0.423	0.351	12.63
36) 1,2,4-Trichl	0.280	0.289	0.306	0.319	0.332	0.357	0.316	0.371	0.321	9.74
37) 1,2,3-Trichl	0.285	0.296	0.311	0.330	0.345	0.375	0.330	0.399	0.334	11.51
38) Naphthalene	0.963	1.007	1.051	1.116	1.152	1.253	1.090	1.380	1.127	12.06
39) 4-Chloroanil	0.351	0.369	0.410	0.446	0.458	0.507	0.472	0.559	0.446	15.48
40) 2,3-Dichloro	0.308	0.323	0.336	0.362	0.371	0.401	0.334	0.462	0.362	13.78
41) Caprolactam	0.216	0.208	0.211	0.214	0.215	0.232	0.188		0.212	6.19
42) Hexachlorobu	0.145	0.149	0.154	0.171	0.169	0.187	0.154	0.204	0.167	12.25
43) 4-Chloro-3-m	0.328	0.331	0.337	0.350	0.354	0.374	0.329	0.416	0.352	8.54
44) 2-Methylnaph	0.517	0.546	0.568	0.594	0.631	0.676	0.582	0.746	0.608	12.25
45) 1-Methylnaph	0.566	0.594	0.617	0.658	0.667	0.727	0.649	0.811	0.661	11.80

8.7.68

8

Initial Calibration Summary

Job Number: JB93023 **Sample:** EZ5031-ICC5031
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100892.D
Project: MHIC-592/593 Tanks

```
46) Dimethylnaph 0.567 0.592 0.621 0.662 0.676 0.739 0.661 0.796 0.664  11.35

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.276 0.282 0.311 0.333 0.313 0.321 0.252 0.322 0.301   9.34
49) 2,4,6-Trichl 0.316 0.320 0.346 0.374 0.371 0.398 0.333 0.428 0.361  10.95
50) 2,4,5-Trichl 0.353 0.355 0.375 0.401 0.389 0.430 0.390 0.465 0.395   9.58
51) 2-Fluorobiph 1.129 1.161 1.241 1.347 1.334 1.441 1.315 1.597 1.320  11.46
52) 2-Chloronaph 1.019 1.045 1.118 1.208 1.234 1.307 1.181 1.483 1.199  12.47
53) Biphenyl     1.417 1.452 1.571 1.684 1.691 1.846 1.611 2.028 1.663  12.11
54) 2-Nitroanili 0.414 0.419 0.433 0.458 0.450 0.473 0.417 0.501 0.446   6.89
55) Dimethylphth 1.206 1.210 1.274 1.369 1.360 1.454 1.277 1.593 1.343   9.81
56) Acenaphthyle 1.758 1.802 1.901 2.051 2.033 2.151 1.903 2.424 2.003  10.73
57) 2,6-Dinitrot 0.280 0.281 0.294 0.306 0.301 0.317 0.258 0.320 0.295   7.07
58) 3-Nitroanili 0.350 0.352 0.373 0.381 0.382 0.400 0.334 0.425 0.375   7.82
59) Acenaphthene 1.063 1.085 1.161 1.248 1.249 1.363 1.272 1.492 1.242  11.45
60) 2,4-Dinitrop 0.205 0.207 0.205 0.203 0.192 0.156 0.096       0.180  22.85
         ----- Quadratic regression -----                Coefficient =  1.0000
              Response Ratio = -0.01266 + 0.21468 *A + -0.00143 *A^2

61) 4-Nitropheno 0.233 0.229 0.237 0.246 0.238 0.231 0.174 0.241 0.229   9.93
62) Dibenzofuran 1.401 1.424 1.513 1.626 1.618 1.785 1.631 1.974 1.622  11.67
63) 2,4-Dinitrot 0.401 0.399 0.421 0.431 0.431 0.433 0.332 0.447 0.412   8.77
64) 2,3,4,6-Tetr 0.302 0.302 0.317 0.325 0.318 0.322 0.284 0.346 0.314   5.91
65) Diethylphtha 1.296 1.313 1.381 1.464 1.456 1.563 1.359 1.647 1.435   8.56
66) Fluorene     1.166 1.195 1.276 1.377 1.367 1.480 1.311 1.637 1.351  11.37
67) 4-Chlorophen 0.498 0.506 0.548 0.590 0.587 0.631 0.554 0.755 0.584  14.08
68) 4-Nitroanili 0.371 0.370 0.393 0.406 0.385 0.416 0.354 0.420 0.389   6.05

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro- 0.151 0.151 0.158 0.151 0.145 0.137             0.149   4.69
71) n-Nitrosodip 0.481 0.495 0.524 0.562 0.546 0.582 0.514 0.626 0.541   8.89
72) 1,2-Diphenyl 0.802 0.819 0.876 0.926 0.920 0.990 0.845 1.053 0.904   9.56
73) 2,4,6-Tribro 0.112 0.110 0.116 0.120 0.115 0.120 0.091 0.121 0.113   8.62
74) 4-Bromopheny 0.189 0.190 0.207 0.220 0.206 0.212 0.189 0.234 0.206   7.94
75) Hexachlorobe 0.202 0.206 0.217 0.234 0.227 0.257 0.207 0.250 0.225   9.20
76) Pentachlorop 0.139 0.140 0.147 0.149 0.137 0.138 0.098 0.119 0.134  12.67
77) Phenanthrene 1.063 1.087 1.174 1.253 1.226 1.342 1.156 1.473 1.222  11.10
78) Anthracene   1.066 1.099 1.183 1.270 1.217 1.331 1.149 1.450 1.221  10.40
79) Carbazole    1.027 1.047 1.130 1.186 1.168 1.226 1.027 1.356 1.146   9.94
80) Di-n-butylph 1.367 1.389 1.477 1.533 1.503 1.539 1.249 1.623 1.460   8.11
81) Fluoranthene 1.125 1.139 1.221 1.253 1.245 1.327 1.089 1.431 1.229   9.22
82) Octadecane   0.606 0.636 0.708 0.758 0.749 0.793 0.668 0.824 0.718  10.71

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.238 1.207 1.341 1.364 1.257 1.358 1.195 1.478 1.305   7.44
85) Butyl steara 0.442 0.440 0.494 0.491 0.454 0.472 0.371 0.445 0.451   8.62
86) Terphenyl-d1 0.802 0.773 0.858 0.872 0.813 0.851 0.734 0.938 0.830   7.65
87) Butylbenzylp 0.674 0.649 0.708 0.699 0.644 0.650 0.524 0.663 0.651   8.69
88) Benzo[a]anth 1.153 1.110 1.233 1.221 1.172 1.236 1.083 1.362 1.196   7.31
89) 3,3'-Dichlor 0.416 0.404 0.446 0.453 0.402 0.409 0.349 0.439 0.415   8.00
90) Chrysene     1.054 1.020 1.135 1.173 1.069 1.164 1.063 1.341 1.127   9.08
91) bis(2-Ethylh 0.919 0.890 0.983 0.957 0.887 0.884 0.723 0.920 0.896   8.73

92) I   Perylene-d12          ----------------ISTD---------------------
93) Di-n-octylph 1.684 1.616 1.776 1.752 1.583 1.629 1.215 1.583 1.605  10.82
94) Benzo[b]fluo 1.245 1.183 1.307 1.349 1.214 1.282 1.088 1.402 1.259   7.88
95) Benzo[k]fluo 1.066 1.083 1.216 1.274 1.168 1.299 1.099 1.342 1.193   8.84
96) Benzo[a]pyre 1.061 1.037 1.148 1.177 1.065 1.135 0.943 1.178 1.093   7.49
97) Indeno[1,2,3 1.090 1.052 1.132 1.157 1.049 1.128 0.904 1.205 1.090   8.40
98) Dibenz(a,h)a 0.997 0.968 1.080 1.077 0.986 1.030 0.866 1.109 1.014   7.72
```

8.7.68

8

Initial Calibration Summary

Job Number: JB93023 **Sample:** EZ5031-ICC5031
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100892.D
Project: MHIC-592/593 Tanks

```
 99) Dibenz[a,h]a 1.060 1.044 1.175 1.166 1.050 1.097 0.951 1.242 1.098   8.39
100) 7,12-Dimethy 0.533 0.518 0.583 0.593 0.433 0.392 0.310 0.394 0.469  21.75
          ----- Quadratic regression -----                Coefficient =  0.9976
               Response Ratio = -0.01858 + 0.61974 *A + -0.03501 *A^2

101) Benzo[g,h,i] 1.040 1.025 1.144 1.177 1.066 1.158 0.961 1.213 1.098   7.98

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

          MZ5031.M          Thu Apr 30 10:24:55 2015   RTE
```

8.7.68

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: EZ5031-ICV5031
Lab FileID: Z100896.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5031\Z100896.D          Vial: 10
Acq On    : 30 Apr 2015   1:51 am                   Operator: sarad
Sample    : icv5031-50                              Inst    : MSZ
Misc      : op83450,ez5031,1000,,,1,1               Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Apr 30 08:51:54 2015
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	98	0.00	4.89
9	t	Phenol	2.138	1.748	18.2	84	0.00	4.64
12	t	2-Chlorophenol	1.616	1.423	11.9	92	0.00	4.74
19	t	2-Methylphenol	1.263	1.209	4.3	99	0.00	5.07
21	t	3&4-Methylphenol	1.340	1.273	5.0	102	0.00	5.18
24	I	Naphthalene-d8	1.000	1.000	0.0	92	0.00	5.81
29	t	2-Nitrophenol	0.210	0.202	3.8	92	0.00	5.53
30	t	2,4-Dimethylphenol	0.318	0.344	-8.2	93	0.00	5.56
31		Benzoic Acid	0.289	0.272	5.9	78	0.02	5.65
33	t	2,4-Dichlorophenol	0.290	0.270	6.9	89	0.00	5.71
34		2,6-Dichlorophenol	0.286	0.266	7.0	91	0.00	5.86
43	t	4-Chloro-3-methylphenol	0.352	0.314	10.8	86	0.00	6.21
47	I	Acenaphthene-d10	1.000	1.000	0.0	87	0.00	7.27
49	t	2,4,6-Trichlorophenol	0.361	0.352	2.5	89	0.00	6.56
50	t	2,4,5-Trichlorophenol	0.395	0.381	3.5	89	0.00	6.60
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	86.250	13.8	74	0.00	7.32
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.229	0.225	1.7	83	0.00	7.39
64		2,3,4,6-Tetrachlorophenol	0.314	0.289	8.0	80	0.00	7.63
69	I	Phenanthrene-d10	1.000	1.000	0.0	90	0.00	9.22
70	t	4,6-Dinitro-2-methylpheno	0.149	0.125	16.1	72	0.00	7.94
76	t	Pentachlorophenol	0.134	0.134	0.0	84	0.00	8.93

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100892.D MZ5031.M Thu Apr 30 08:54:06 2015 RTE

8.7.69

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: EZ5031-ICV5031
Lab FileID: Z100897.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5031\Z100897.D          Vial: 11
Acq On    : 30 Apr 2015   2:23 am                   Operator: sarad
Sample    : icv5031-50                              Inst    : MSZ
Misc      : op83450,ez5031,1000,,,1,1               Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Apr 30 08:51:54 2015
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	82	0.00	4.89
3	t	Pyridine	1.627	1.637	-0.6	82	0.07	2.88
10	t	Aniline	1.993	2.289	-14.9	103	0.01	4.66
16	t	Benzyl alcohol	0.927	0.985	-6.3	91	0.00	4.99
24	I	Naphthalene-d8	1.000	1.000	0.0	88	0.00	5.81
39	t	4-Chloroaniline	0.446	0.425	4.7	91	0.00	5.86
44	t	2-Methylnaphthalene	0.608	0.571	6.1	88	0.00	6.34
47	I	Acenaphthene-d10	1.000	1.000	0.0	86	0.00	7.27
54	t	2-Nitroaniline	0.446	0.420	5.8	83	0.00	6.83
58	t	3-Nitroaniline	0.375	0.335	10.7	77	0.00	7.22
62	t	Dibenzofuran	1.622	1.512	6.8	86	0.00	7.49
68	t	4-Nitroaniline	0.389	0.325	16.5	71	0.00	7.90
69	I	Phenanthrene-d10	1.000	1.000	0.0	91	0.00	9.22
79	t	Carbazole	1.146	0.947	17.4	77	0.00	9.62

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 Z100892.D  MZ5031.M         Thu Apr 30 08:57:52 2015   RTE
```

8.7.70

8

Initial Calibration Verification

Job Number: JB93023 **Sample:** EZ5031-ICV5031
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100898.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EZ5031\Z100898.D Vial: 12
Acq On : 30 Apr 2015 2:54 am Operator: sarad
Sample : icv5031-50 Inst : MSZ
Misc : op83450,ez5031,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Apr 30 08:51:54 2015
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	105	0.00	4.89
4	t	N-Nitrosodimethylamine	0.936	0.828	11.5	96	0.00	2.78
11	t	bis(2-Chloroethyl)ether	1.467	1.371	6.5	106	0.00	4.69
14	t	1,3-Dichlorobenzene	1.651	1.472	10.8	100	0.00	4.85
15	t	1,4-Dichlorobenzene	1.664	1.491	10.4	101	0.00	4.90
17	t	1,2-Dichlorobenzene	1.554	1.434	7.7	104	0.00	5.01
20	t	2,2'-oxybis(1-Chloropropa	0.466	0.442	5.2	108	0.00	5.08
22	t	n-Nitroso-di-n-propylamin	1.059	0.993	6.2	108	0.00	5.17
23	t	Hexachloroethane	0.498	0.455	8.6	103	0.00	5.27
24	I	Naphthalene-d8	1.000	1.000	0.0	102	0.00	5.81
26	t	Nitrobenzene	0.422	0.390	7.6	100	0.00	5.30
28	t	Isophorone	0.713	0.697	2.2	105	0.00	5.47
32	t	bis(2-Chloroethoxy)methan	0.443	0.437	1.4	107	0.00	5.62
36	t	1,2,4-Trichlorobenzene	0.321	0.302	5.9	101	0.00	5.77
38	t	Naphthalene	1.127	1.008	10.6	98	0.00	5.83
42	t	Hexachlorobutadiene	0.167	0.159	4.8	105	0.00	5.91
47	I	Acenaphthene-d10	1.000	1.000	0.0	102	0.00	7.27
48	t	Hexachlorocyclopentadiene	0.301	0.294	2.3	96	0.00	6.47
52	t	2-Chloronaphthalene	1.199	1.092	8.9	99	0.00	6.75
55	t	Dimethylphthalate	1.343	1.200	10.6	96	0.00	6.99
56	t	Acenaphthylene	2.003	1.640	18.1	88	0.00	7.14
57	t	2,6-Dinitrotoluene	0.295	0.262	11.2	91	0.00	7.04
59	t	Acenaphthene	1.242	1.136	8.5	99	0.00	7.31
63	t	2,4-Dinitrotoluene	0.412	0.349	15.3	84	0.00	7.46
65	t	Diethylphthalate	1.435	1.265	11.8	93	0.00	7.74
66	t	Fluorene	1.351	1.191	11.8	95	0.00	7.89
67	t	4-Chlorophenyl-phenylethe	0.584	0.517	11.5	96	0.00	7.88
69	I	Phenanthrene-d10	1.000	1.000	0.0	100	0.00	9.22
71	t	n-Nitrosodiphenylamine	0.541	0.509	5.9	97	0.00	8.03
72	t	1,2-Diphenylhydrazine	0.904	0.831	8.1	95	0.00	8.09
74	t	4-Bromophenyl-phenylether	0.206	0.190	7.8	92	0.00	8.54
75	t	Hexachlorobenzene	0.225	0.202	10.2	93	0.00	8.65
77	t	Phenanthrene	1.222	1.067	12.7	91	0.00	9.26
78	t	Anthracene	1.221	1.090	10.7	92	0.00	9.34
80	t	Di-n-butylphthalate	1.460	1.320	9.6	89	0.00	10.31
81	t	Fluoranthene	1.229	1.076	12.4	88	0.00	11.44
83	I	Chrysene-d12	1.000	1.000	0.0	97	0.00	14.55
84	t	Pyrene	1.305	1.190	8.8	86	0.00	11.89

Initial Calibration Verification

Job Number: JB93023 **Sample:** EZ5031-ICV5031
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100898.D
Project: MHIC-592/593 Tanks

87	t	Butylbenzylphthalate	0.651	0.630	3.2	86	0.00	13.47
88	t	Benzo[a]anthracene	1.196	1.067	10.8	84	0.00	14.52
90	t	Chrysene	1.127	1.022	9.3	87	0.00	14.60
91	t	bis(2-Ethylhexyl)phthalat	0.896	0.861	3.9	85	0.00	14.87
92	I	Perylene-d12	1.000	1.000	0.0	89	0.00	17.60
93	t	Di-n-octylphthalate	1.605	1.685	-5.0	85	0.00	16.30
94	t	Benzo[b]fluoranthene	1.259	1.126	10.6	77	0.01	16.84
95	t	Benzo[k]fluoranthene	1.193	1.109	7.0	81	0.00	16.90
96	t	Benzo[a]pyrene	1.093	1.082	1.0	84	0.01	17.48
97	t	Indeno[1,2,3-cd]pyrene	1.090	0.998	8.4	79	0.01	19.53
99	t	Dibenz[a,h]anthracene	1.098	0.989	9.9	75	0.02	19.59
101	t	Benzo[g,h,i]perylene	1.098	1.014	7.7	79	0.02	19.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100892.D MZ5031.M Thu Apr 30 09:01:23 2015 RTE

8.7.71

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: EZ5031-ICV5031
Lab FileID: Z100900.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5031\Z100900.D          Vial: 14
Acq On    : 30 Apr 2015   3:57 am                   Operator: sarad
Sample    : icv5031-50                              Inst    : MSZ
Misc      : op83450,ez5031,1000,,,1,1               Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Apr 30 08:51:54 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	115	0.00	4.89
5	S	2-Fluorophenol	1.524	1.336	12.3	103	0.00	3.92
8	S	Phenol-d5	1.999	1.680	16.0	101	0.00	4.62
24	I	Naphthalene-d8	1.000	1.000	0.0	112	0.00	5.81
25	S	Nitrobenzene-d5	0.440	0.410	6.8	112	0.00	5.29
47	I	Acenaphthene-d10	1.000	1.000	0.0	107	0.00	7.27
51	S	2-Fluorobiphenyl	1.320	1.262	4.4	108	0.00	6.63
69	I	Phenanthrene-d10	1.000	1.000	0.0	108	0.00	9.22
73	S	2,4,6-Tribromophenol	0.113	0.098	13.3	92	0.00	8.20
83	I	Chrysene-d12	1.000	1.000	0.0	106	-0.01	14.54
86	S	Terphenyl-d14	0.830	0.801	3.5	99	0.00	12.31

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 Z100892.D  MZ5031.M         Thu Apr 30 09:06:15 2015   RTE
```

8.7.72

8

Initial Calibration Verification

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks
Sample: EZ5032-ICV5031
Lab FileID: Z100903.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5032\Z100903.D          Vial: 2
Acq On    : 30 Apr 2015   9:48 am                   Operator: linseyk
Sample    : icv5031-50                              Inst    : MSZ
Misc      : op83450,ez5032,1000,,,1,1               Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Apr 30 10:18:59 2015
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	98	0.00	4.89
2		1,4-Dioxane	0.648	0.583	10.0	94	0.02	2.51
6	t	Indene	2.442	2.337	4.3	104	0.00	5.07
7	t	Cumene	3.915	3.373	13.8	89	0.00	4.30
13	t	Decane	1.790	1.541	13.9	93	0.00	4.77
18	t	Acetophenone	2.129	1.828	14.1	94	0.00	5.17
24	I	Naphthalene-d8	1.000	1.000	0.0	108	0.00	5.81
27	t	Quinoline	0.753	0.570	24.3	84	0.00	6.06
40	t	2,3-Dichloroaniline	0.362	0.243	32.9#	78	0.00	6.56
41	t	Caprolactam	0.212	0.150	29.2	77	0.00	6.09
45	t	1-Methylnaphthalene	0.661	0.487	26.3	85	0.00	6.41
46	t	Dimethylnaphthalene	0.664	0.489	26.4	85	0.00	6.86
47	I	Acenaphthene-d10	1.000	1.000	0.0	94	0.00	7.27
53	t	Biphenyl	1.663	1.402	15.7	84	0.00	6.71
69	I	Phenanthrene-d10	1.000	1.000	0.0	90	-0.01	9.21
82	t	Octadecane	0.718	0.630	12.3	80	0.00	9.10
92	I	Perylene-d12	1.000	1.000	0.0	67	-0.02	17.59
		----------	True	Calc.	% Drift		----------	
100	t	7,12-Dimethylbenz(a)anthr	50.000	47.558	4.9	62	0.00	16.85

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100892.D MZ5031.M Thu Apr 30 10:20:49 2015 RTE

8.7.73

8

Initial Calibration Verification

Job Number: JB93023 **Sample:** EZ5032-ICV5031
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100906.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5032\Z100906.D          Vial: 5
Acq On    : 30 Apr 2015  11:22 am                   Operator: linseyk
Sample    : icv5031-50                              Inst    : MSZ
Misc      : op83450,ez5032,1000,,,1,1               Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Apr 30 10:29:04 2015
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	81	-0.02	14.53
89	t	3,3'-Dichlorobenzidine	0.415	0.427	-2.9	77	0.00	14.55

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100604.D MZ5031.M Thu Apr 30 11:52:37 2015 RTE

8.7.74

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** EZ5033-CC5031
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100908.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EZ5033\Z100908.D Vial: 2
Acq On : 30 Apr 2015 12:05 pm Operator: linseyk
Sample : cc5031-50 Inst : MSZ
Misc : op83450,ez5033,1000,,,1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Apr 30 12:30:07 2015
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	114	0.00	4.89
2		1,4-Dioxane	0.648	0.640	1.2	119	0.00	2.49
3	t	Pyridine	1.627	1.648	-1.3	115	0.00	2.80
4	t	N-Nitrosodimethylamine	0.936	0.919	1.8	116	0.00	2.77
5	S	2-Fluorophenol	1.524	1.518	0.4	116	0.00	3.92
6	t	Indene	2.442	2.254	7.7	116	0.00	5.08
7	t	Cumene	3.915	3.786	3.3	115	0.00	4.30
8	S	Phenol-d5	1.999	1.937	3.1	116	-0.01	4.62
9	t	Phenol	2.138	2.045	4.3	114	-0.01	4.64
10	t	Aniline	1.993	1.861	6.6	115	0.00	4.65
11	t	bis(2-Chloroethyl)ether	1.467	1.387	5.5	116	-0.01	4.69
12	t	2-Chlorophenol	1.616	1.519	6.0	114	0.00	4.74
13	t	Decane	1.790	1.653	7.7	116	0.00	4.77
14	t	1,3-Dichlorobenzene	1.651	1.579	4.4	116	0.00	4.85
15	t	1,4-Dichlorobenzene	1.664	1.556	6.5	114	0.00	4.90
16	t	Benzyl alcohol	0.927	0.913	1.5	117	-0.01	4.99
17	t	1,2-Dichlorobenzene	1.554	1.447	6.9	114	0.00	5.01
18	t	Acetophenone	2.129	1.911	10.2	114	0.00	5.18
19	t	2-Methylphenol	1.263	1.205	4.6	115	-0.01	5.07
20	t	2,2'-oxybis(1-Chloropropa	0.466	0.433	7.1	115	-0.01	5.08
21	t	3&4-Methylphenol	1.340	1.252	6.6	116	-0.01	5.18
22	t	n-Nitroso-di-n-propylamin	1.059	0.977	7.7	115	-0.02	5.17
23	t	Hexachloroethane	0.498	0.469	5.8	115	0.00	5.26
24	I	Naphthalene-d8	1.000	1.000	0.0	115	0.00	5.81
25	S	Nitrobenzene-d5	0.440	0.414	5.9	116	-0.01	5.29
26	t	Nitrobenzene	0.422	0.396	6.2	115	-0.01	5.30
27	t	Quinoline	0.753	0.727	3.5	115	-0.03	6.07
28	t	Isophorone	0.713	0.687	3.6	117	-0.01	5.47
29	t	2-Nitrophenol	0.210	0.204	2.9	116	0.00	5.53
30	t	2,4-Dimethylphenol	0.318	0.343	-7.9	117	-0.01	5.56
31		Benzoic Acid	0.289	0.315	-9.0	113	-0.05	5.66
32	t	bis(2-Chloroethoxy)methan	0.443	0.413	6.8	114	-0.01	5.62
33	t	2,4-Dichlorophenol	0.290	0.280	3.4	116	-0.01	5.71
34		2,6-Dichlorophenol	0.286	0.270	5.6	116	0.00	5.87
35	t	1,3,5-Trichlorobenzene	0.351	0.327	6.8	116	0.00	5.54
36	t	1,2,4-Trichlorobenzene	0.321	0.306	4.7	115	0.00	5.77
37	t	1,2,3-Trichlorobenzene	0.334	0.308	7.8	114	0.00	5.93
38	t	Naphthalene	1.127	1.049	6.9	115	0.00	5.83
39	t	4-Chloroaniline	0.446	0.416	6.7	117	-0.01	5.86
40	t	2,3-Dichloroaniline	0.362	0.336	7.2	115	0.00	6.56
41	t	Caprolactam	0.212	0.206	2.8	113	-0.03	6.13

Continuing Calibration Summary

Job Number: JB93023 **Sample:** EZ5033-CC5031
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100908.D
Project: MHIC-592/593 Tanks

42	t	Hexachlorobutadiene	0.167	0.145	13.2	108	0.00	5.91
43	t	4-Chloro-3-methylphenol	0.352	0.338	4.0	116	-0.02	6.21
44	t	2-Methylnaphthalene	0.608	0.569	6.4	116	-0.01	6.33
45	t	1-Methylnaphthalene	0.661	0.614	7.1	115	-0.01	6.41
46	t	Dimethylnaphthalene	0.664	0.625	5.9	116	-0.01	6.86
47	I	Acenaphthene-d10	1.000	1.000	0.0	116	-0.01	7.27
48	t	Hexachlorocyclopentadiene	0.301	0.274	9.0	102	0.00	6.47
49	t	2,4,6-Trichlorophenol	0.361	0.343	5.0	115	-0.01	6.56
50	t	2,4,5-Trichlorophenol	0.395	0.375	5.1	116	-0.02	6.60
51	S	2-Fluorobiphenyl	1.320	1.233	6.6	115	-0.01	6.63
52	t	2-Chloronaphthalene	1.199	1.114	7.1	116	-0.01	6.74
53	t	Biphenyl	1.663	1.554	6.6	115	-0.01	6.72
54	t	2-Nitroaniline	0.446	0.428	4.0	115	-0.02	6.83
55	t	Dimethylphthalate	1.343	1.273	5.2	116	-0.01	6.99
56	t	Acenaphthylene	2.003	1.925	3.9	118	-0.01	7.13
57	t	2,6-Dinitrotoluene	0.295	0.293	0.7	116	-0.02	7.04
58	t	3-Nitroaniline	0.375	0.367	2.1	114	-0.02	7.22
59	t	Acenaphthene	1.242	1.154	7.1	115	-0.01	7.31
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	89.499	10.5	104	-0.02	7.32
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.229	0.235	-2.6	115	-0.02	7.40
62	t	Dibenzofuran	1.622	1.519	6.4	117	-0.02	7.49
63	t	2,4-Dinitrotoluene	0.412	0.414	-0.5	114	-0.02	7.47
64		2,3,4,6-Tetrachlorophenol	0.314	0.293	6.7	107	-0.02	7.63
65	t	Diethylphthalate	1.435	1.377	4.0	116	-0.02	7.74
66	t	Fluorene	1.351	1.271	5.9	116	-0.02	7.89
67	t	4-Chlorophenyl-phenylethe	0.584	0.542	7.2	115	-0.02	7.88
68	t	4-Nitroaniline	0.389	0.378	2.8	112	-0.04	7.92
69	I	Phenanthrene-d10	1.000	1.000	0.0	116	-0.02	9.22
70	t	4,6-Dinitro-2-methylpheno	0.149	0.148	0.7	109	-0.02	7.95
71	t	n-Nitrosodiphenylamine	0.541	0.526	2.8	117	-0.02	8.03
72	t	1,2-Diphenylhydrazine	0.904	0.874	3.3	116	-0.02	8.09
73	S	2,4,6-Tribromophenol	0.113	0.096	15.0	97	-0.02	8.20
74	t	4-Bromophenyl-phenylether	0.206	0.190	7.8	107	-0.02	8.54
75	t	Hexachlorobenzene	0.225	0.204	9.3	109	-0.02	8.64
76	t	Pentachlorophenol	0.134	0.138	-3.0	109	-0.02	8.94
77	t	Phenanthrene	1.222	1.173	4.0	116	-0.02	9.26
78	t	Anthracene	1.221	1.185	2.9	116	-0.02	9.34
79	t	Carbazole	1.146	1.128	1.6	116	-0.02	9.62
80	t	Di-n-butylphthalate	1.460	1.472	-0.8	116	-0.02	10.31
81	t	Fluoranthene	1.229	1.207	1.8	115	-0.03	11.44
82	t	Octadecane	0.718	0.703	2.1	115	-0.02	9.10
83	I	Chrysene-d12	1.000	1.000	0.0	104	-0.03	14.55
84	t	Pyrene	1.305	1.486	-13.9	115	-0.03	11.89
85		Butyl stearate	0.451	0.532	-18.0	112	-0.03	13.73
86	S	Terphenyl-d14	0.830	0.881	-6.1	107	-0.02	12.30
87	t	Butylbenzylphthalate	0.651	0.784	-20.4#	115	-0.02	13.46
88	t	Benzo[a]anthracene	1.196	1.224	-2.3	103	-0.03	14.52
89	t	3,3'-Dichlorobenzidine	0.415	0.453	-9.2	106	-0.03	14.55
90	t	Chrysene	1.127	1.122	0.4	103	-0.04	14.60
91	t	bis(2-Ethylhexyl)phthalat	0.896	1.044	-16.5	111	-0.02	14.87
92	I	Perylene-d12	1.000	1.000	0.0	101	-0.03	17.59
93	t	Di-n-octylphthalate	1.605	1.972	-22.9#	112	-0.03	16.30

8.7.75

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** EZ5033-CC5031
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100908.D
Project: MHIC-592/593 Tanks

94	t	Benzo[b]fluoranthene	1.259	1.259	0.0	97	-0.06	16.84
95	t	Benzo[k]fluoranthene	1.193	1.228	-2.9	102	-0.05	16.91
96	t	Benzo[a]pyrene	1.093	1.112	-1.7	97	-0.04	17.48
97	t	Indeno[1,2,3-cd]pyrene	1.090	1.008	7.5	90	-0.04	19.53
98	t	Dibenz(a,h)acridine	1.014	0.989	2.5	92	-0.04	19.16
99	t	Dibenz[a,h]anthracene	1.098	1.075	2.1	92	-0.04	19.59
			True	Calc.	% Drift			
100	t	7,12-Dimethylbenz(a)anthr	50.000	52.533	-5.1	101	-0.04	16.86
			AvgRF	CCRF	% Dev			
101	t	Benzo[g,h,i]perylene	1.098	1.017	7.4	89	-0.05	19.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100604.D MZ5031.M Thu Apr 30 14:14:51 2015 RTE

8.7.5

8

Continuing Calibration Summary

Job Number: JB93023 **Sample:** EZ5033-CC5015
Account: SECORPAE Stantec Consulting Services Inc. **Lab FileID:** Z100909.D
Project: MHIC-592/593 Tanks

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5033\Z100909.D          Vial: 3
Acq On    : 30 Apr 2015  12:37 pm                   Operator: linseyk
Sample    : cc5015-50                               Inst    : MSZ
Misc      : op83450,ez5033,1000,,,1,1               Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5031.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Apr 30 12:30:07 2015
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.
102	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	104	0.00	4.89
	----------	True	Calc.	% Drift	----------		
103	Benzaldehyde	50.000	44.781	10.4	98	-0.09	4.56
	----------	AvgRF	CCRF	% Dev	----------		
104	Phenanthrene-d10a	1.000	1.000	0.0	106	-0.02	9.21
105 s	1-chlorooctadecane	0.467	0.454	2.8	102	-0.15	11.36
106 s	o-terphenyl	0.542	0.523	3.5	112	-0.14	9.90
107	Atrazine	0.094	0.103	-9.6	114	-0.11	8.79
108	Chrysene-d12a	1.000	1.000	0.0	95	-0.04	14.53
109	Benzidine	0.497	0.598	-20.3#	107	-0.15	11.76
110	Acenaphthene-d10a	1.000	1.000	0.0	103	-0.02	7.27
111	1,2,4,5-Tetrachlorobenzen	0.484	0.485	-0.2	117	-0.09	6.47
112 I	Naphthalene-d8a	1.000	1.000	0.0	102	-0.01	5.81
113	Hydroquinone	0.335	0.364	-8.7	97	-0.07	6.09

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Z100604.D MZ5031.M Thu Apr 30 14:14:53 2015 RTE

8.7.76

8

New Jersey

ACCUTEST LABORATORIES

GC/MS Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
05/01/15 12:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71765.D
Acq On : 30 Apr 2015 4:18 am
Operator : sarad
Sample : jb93023-1
Misc : op83412,e3e3099,31.6,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 30 15:42:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.673	152	271688	40.00 ppm	0.00
24) Naphthalene-d8	5.759	136	941479	40.00 ppm	0.00
47) Acenaphthene-d10	7.829	164	494617	40.00 ppm	0.00
69) Phenanthrene-d10	10.011	188	744212	40.00 ppm	0.00
83) Chrysene-d12	14.215	240	705298	40.00 ppm	0.01
92) Perylene-d12	16.355	264	741132	40.00 ppm	0.03
102) 1,4-Dichlorobenzene-d4a	4.673	152	271688	40.00 ppm	0.00
104) Acenaphthene-d10a	7.829	164	494617	40.00 ppm	0.00
106) Phenanthrene-d10a	10.011	188	744212	40.00 ppm	0.00
108) Chrysene-d12a	14.215	240	705298	40.00 ppm	0.01
110) Naphthalene-d8a	5.759	136	941479	40.00 ppm	0.00
112) Chrysene-d12b	14.215	240	705298	40.00 ppm	0.01

System Monitoring Compounds					
5) 2-Fluorophenol	3.721	112	301117	34.70 ppm	0.00
Spiked Amount 50.000			Recovery = 69.40%		
8) Phenol-d5	4.438	99	353567	32.17 ppm	0.00
Spiked Amount 50.000			Recovery = 64.34%		
25) Nitrobenzene-d5	5.112	82	324179	35.72 ppm	0.00
Spiked Amount 50.000			Recovery = 71.44%		
51) 2-Fluorobiphenyl	6.952	172	655280	41.49 ppm	0.00
Spiked Amount 50.000			Recovery = 82.98%		
73) 2,4,6-Tribromophenol	8.974	330	92027	51.41 ppm	0.00
Spiked Amount 50.000			Recovery = 102.82%		
85) Terphenyl-d14	12.573	244	661314	47.71 ppm	0.02
Spiked Amount 50.000			Recovery = 95.42%		

Target Compounds					Qvalue
38) Naphthalene	5.781	128	12368	0.48 ppm	92
44) 2-Methylnaphthalene	6.513	141	50683	3.61 ppm	96
53) Biphenyl	7.075	154	10093	0.51 ppm	85
59) Acenaphthene	7.872	153	16091	1.12 ppm	95
66) Fluorene	8.605	166	35841	2.25 ppm	86
77) Phenanthrene	10.043	178	207976	10.10 ppm	93
78) Anthracene	10.124	178	31245	1.54 ppm	74
81) Fluoranthene	11.921	202	38850	1.86 ppm	93
84) Pyrene	12.268	202	231966	11.40 ppm	93
88) Benzo[a]anthracene	14.199	228	73835	3.71 ppm	82
90) Chrysene	14.242	228	218283	11.75 ppm	95
94) Benzo[b]fluoranthene	15.825	252	42025m	1.82 ppm	
96) Benzo[a]pyrene	16.275	252	77372	3.93 ppm	88
101) Benzo[g,h,i]perylene	18.355	276	66045	3.37 ppm	90

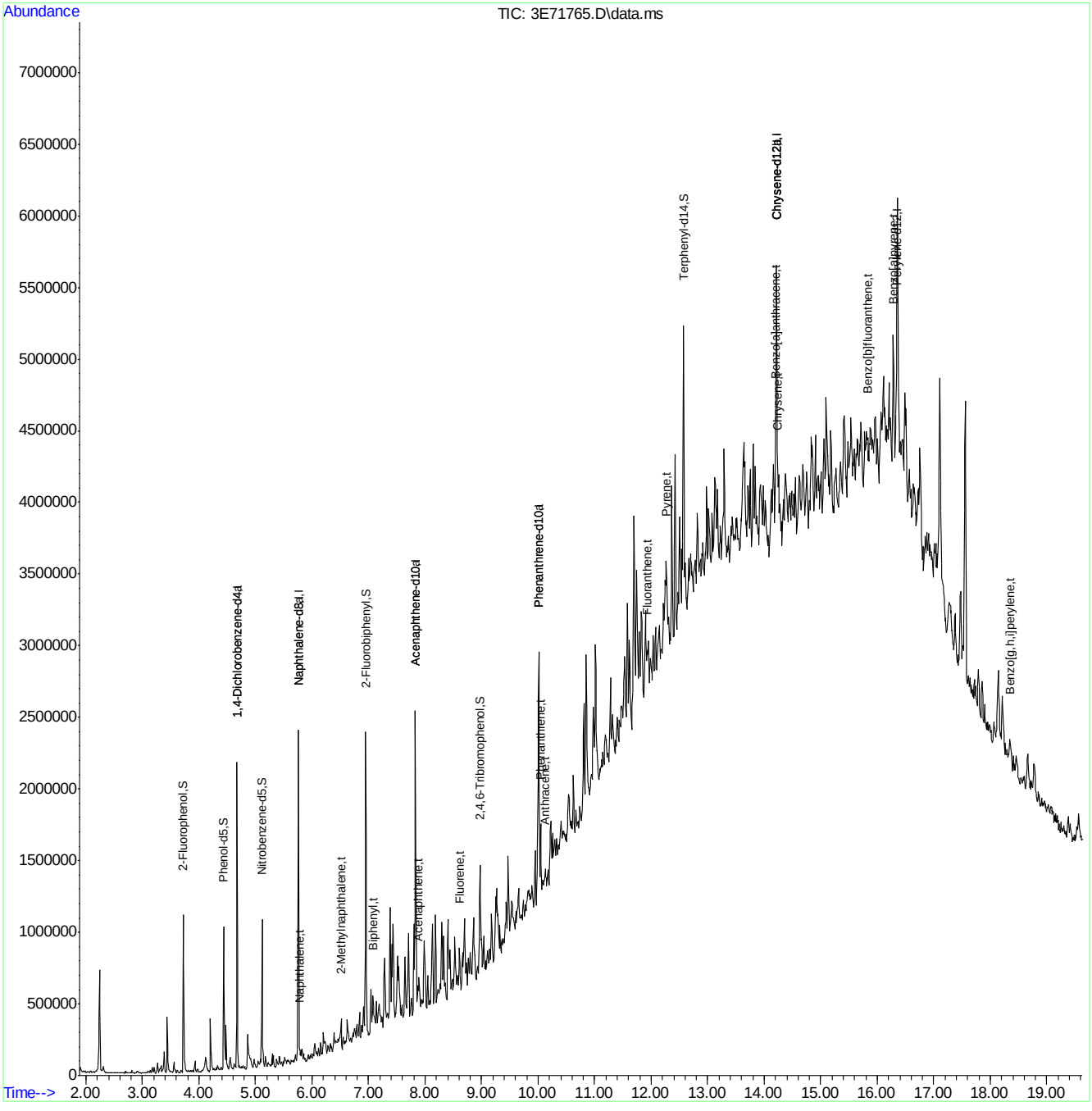
(#) = qualifier out of range (m) = manual integration (+) = signals summed

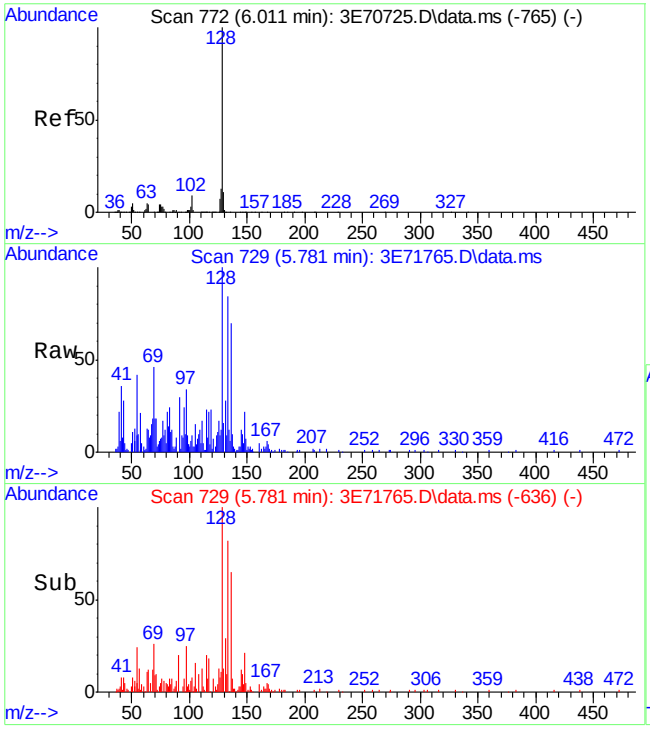
9.1.1
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71765.D
Acq On : 30 Apr 2015 4:18 am
Operator : sarad
Sample : jb93023-1
Misc : op83412,e3e3099,31.6,,,1,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 30 15:42:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration

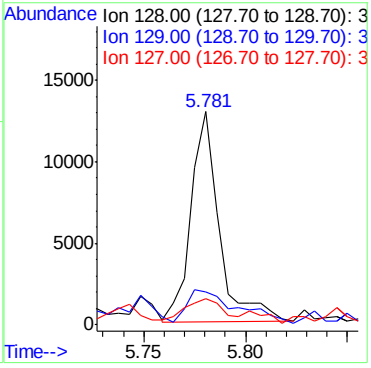


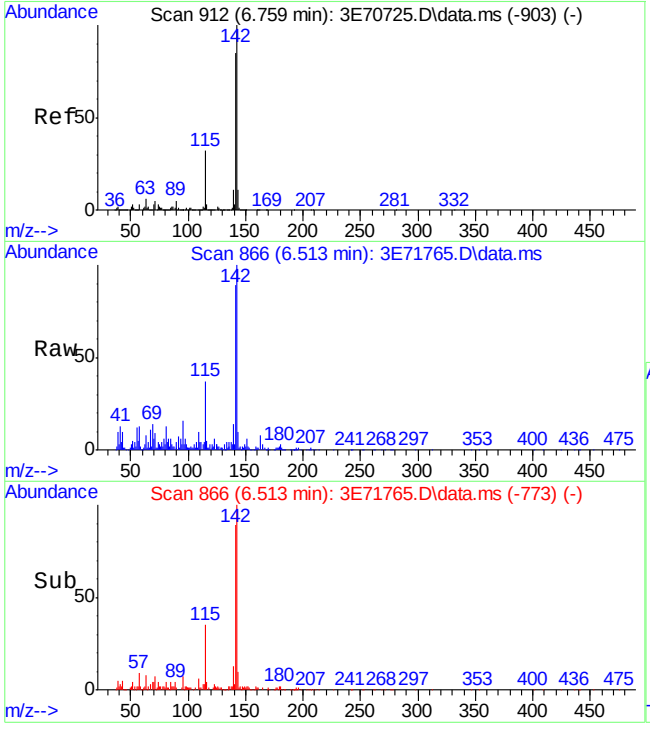


#38
Naphthalene
Concen: 0.48 ppm
RT: 5.781 min Scan# 729
Delta R.T. 0.000 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:128 Resp: 12368

Ion	Ratio	Lower	Upper
128	100		
129	13.5	0.0	40.6
127	9.3	0.0	42.8

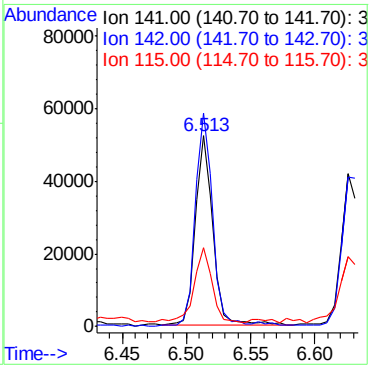




#44
2-Methylnaphthalene
Concen: 3.61 ppm
RT: 6.513 min Scan# 866
Delta R.T. 0.000 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

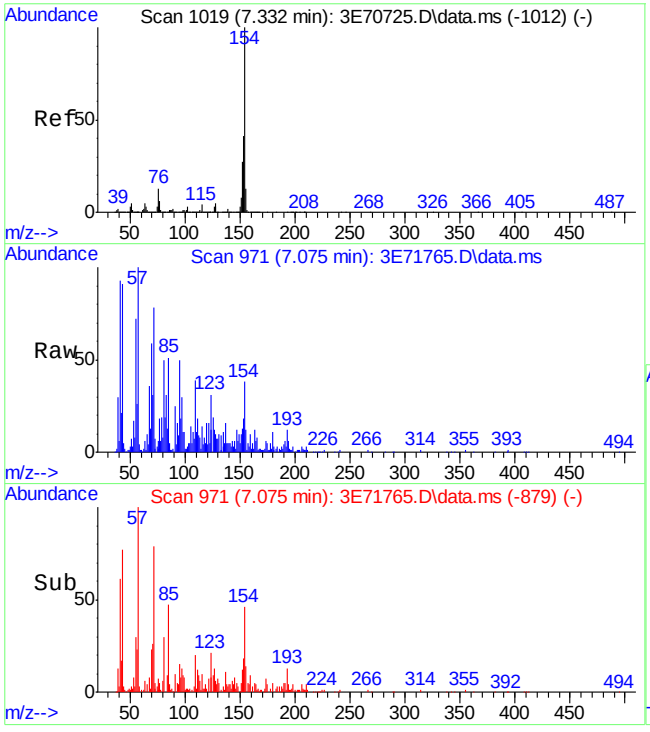
Tgt Ion:141 Resp: 50683

Ion	Ratio	Lower	Upper
141	100		
142	112.0	87.8	147.8
115	38.6	7.4	67.4



9.1.1

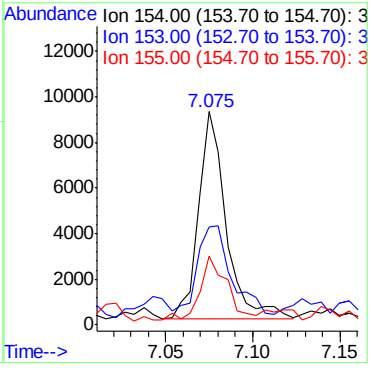
9

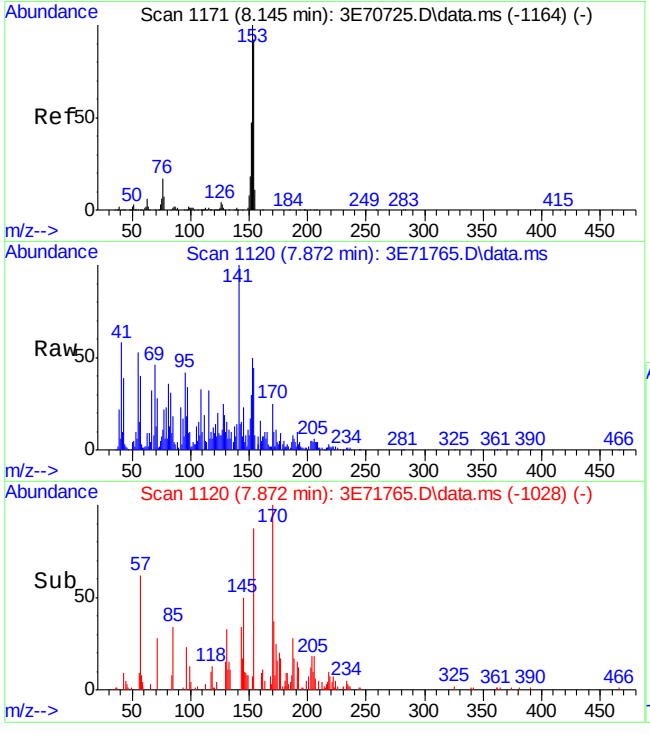


#53
Biphenyl
Concen: 0.51 ppm
RT: 7.075 min Scan# 971
Delta R.T. -0.005 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:154 Resp: 10093

Ion	Ratio	Lower	Upper
154	100		
153	36.3	10.6	70.6
155	28.4	0.0	42.6

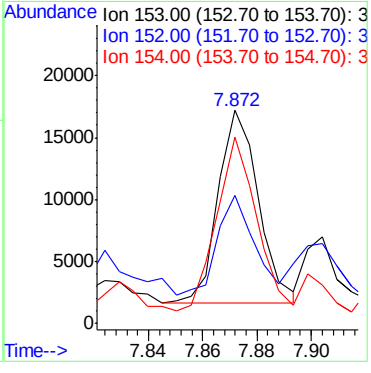


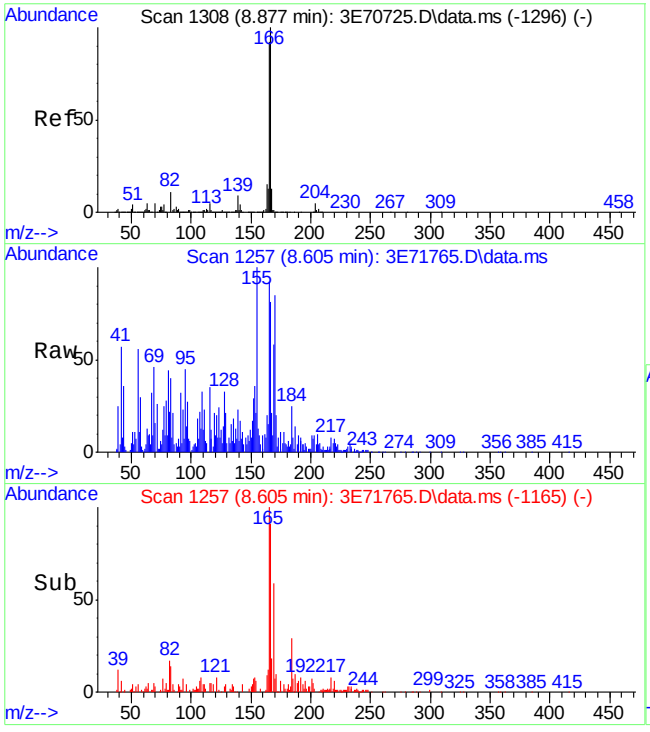


#59
Acenaphthene
Concen: 1.12 ppm
RT: 7.872 min Scan# 1120
Delta R.T. -0.005 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:153 Resp: 16091

Ion	Ratio	Lower	Upper
153	100		
152	40.1	17.4	77.4
154	90.2	58.2	118.2

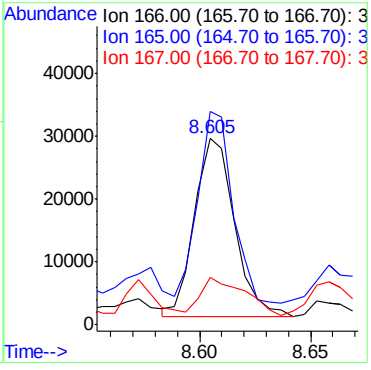


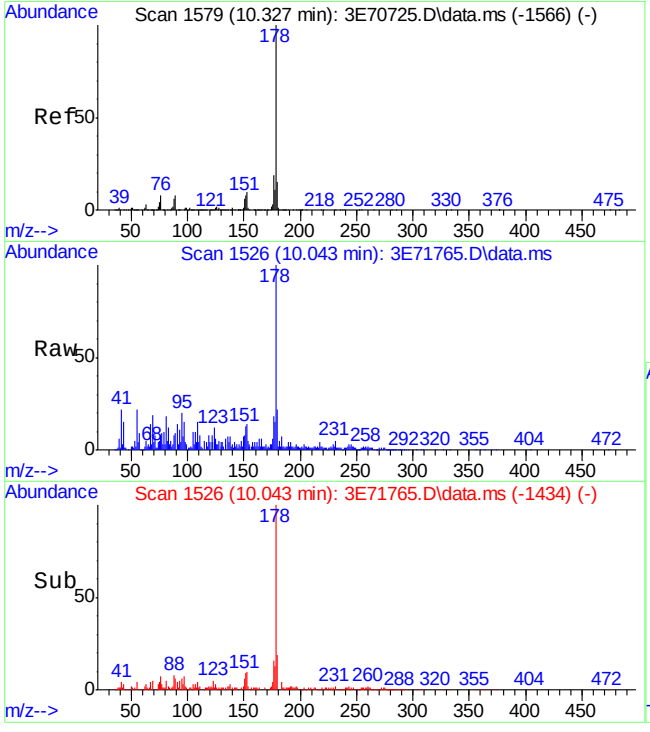


#66
Fluorene
Concen: 2.25 ppm
RT: 8.605 min Scan# 1257
Delta R.T. -0.005 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:166 Resp: 35841

Ion	Ratio	Lower	Upper
166	100		
165	105.2	62.2	122.2
167	18.3	0.0	43.2

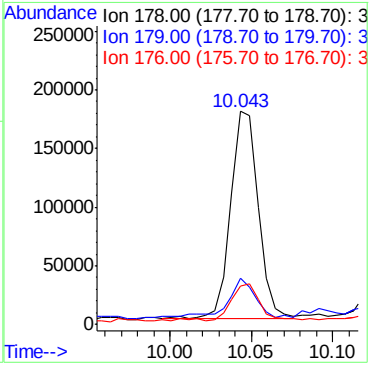


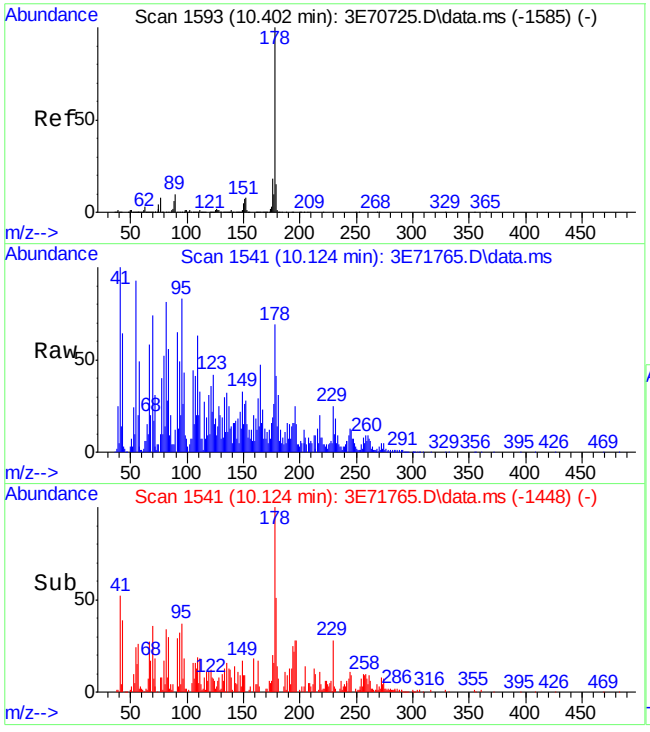


#77
Phenanthrene
Concen: 10.10 ppm
RT: 10.043 min Scan# 1526
Delta R.T. -0.005 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:178 Resp: 207976

Ion	Ratio	Lower	Upper
178	100		
179	18.9	0.0	45.1
176	16.4	0.0	48.5

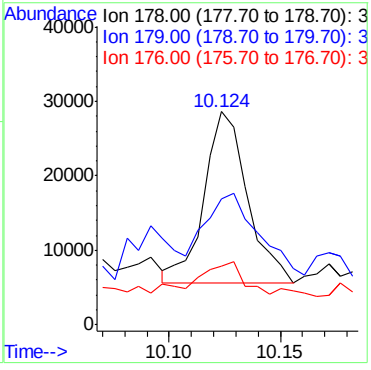


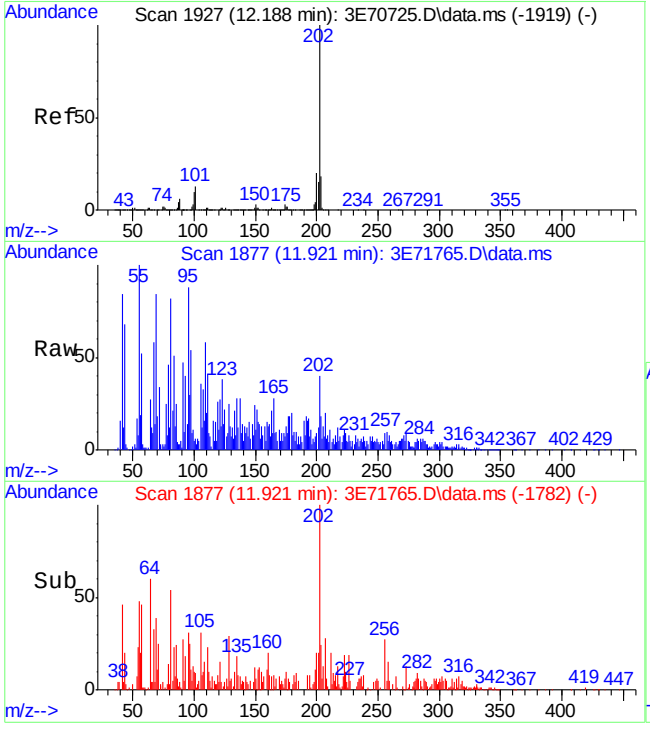


#78
Anthracene
Concen: 1.54 ppm
RT: 10.124 min Scan# 1541
Delta R.T. 0.000 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:178 Resp: 31245

Ion	Ratio	Lower	Upper
178	100		
179	33.1	0.0	45.3
176	13.0	0.0	48.0

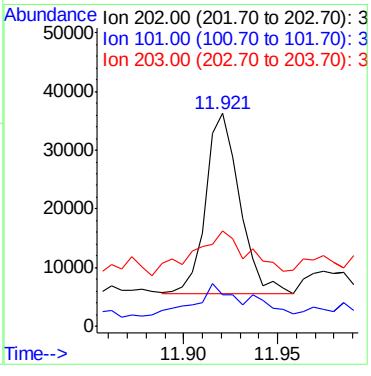


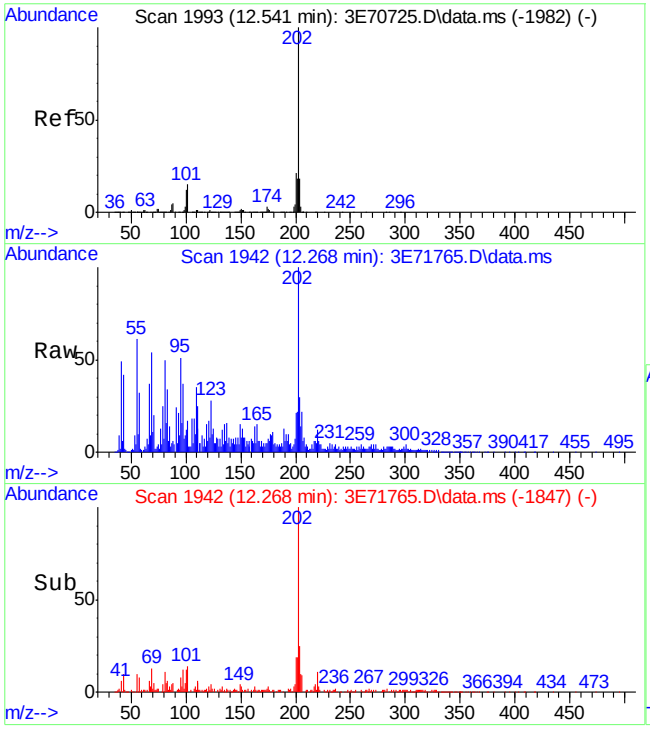


#81
Fluoranthene
Concen: 1.86 ppm
RT: 11.921 min Scan# 1877
Delta R.T. 0.011 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:202 Resp: 38850

Ion	Ratio	Lower	Upper
202	100		
101	9.8	0.0	43.3
203	19.7	0.0	47.5

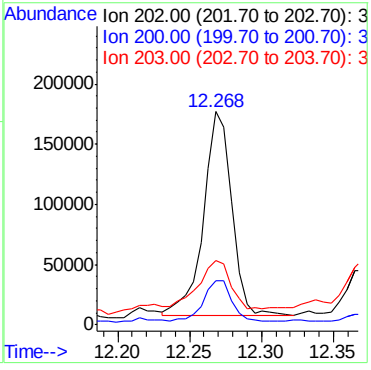


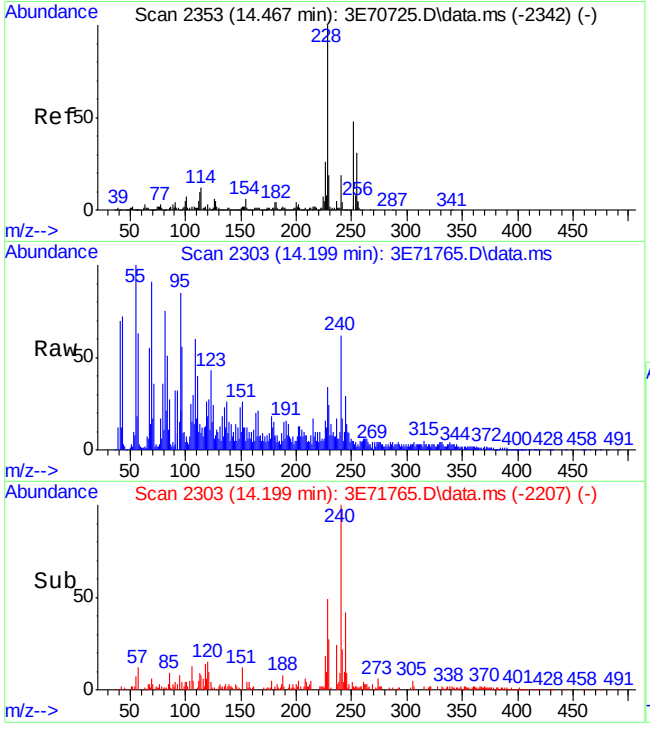


#84
Pyrene
Concen: 11.40 ppm
RT: 12.268 min Scan# 1942
Delta R.T. 0.011 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:202 Resp: 231966

Ion	Ratio	Lower	Upper
202	100		
200	19.4	0.0	50.7
203	23.0	0.0	48.0

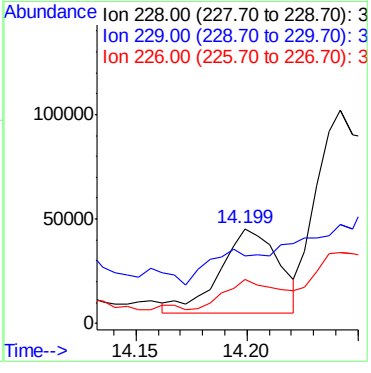




#88
Benzo[a]anthracene
Concen: 3.71 ppm
RT: 14.199 min Scan# 2303
Delta R.T. 0.016 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

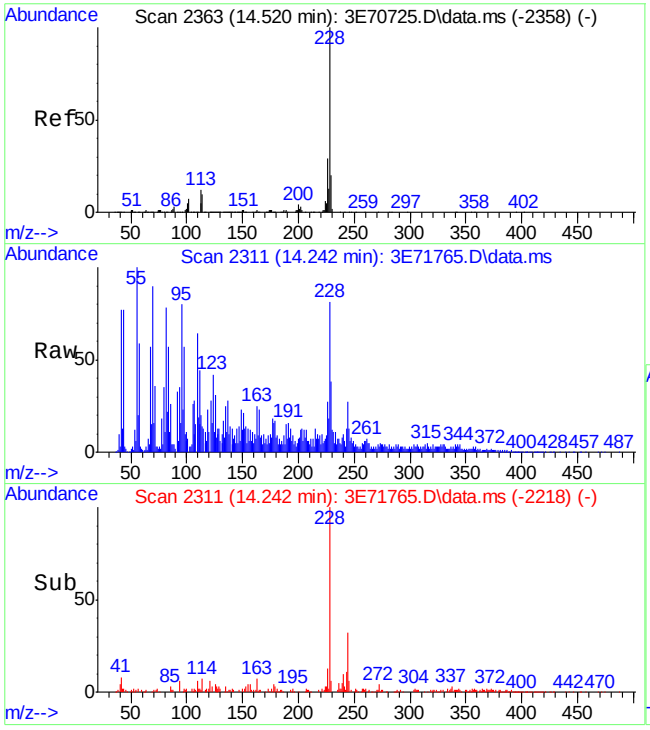
Tgt Ion:228 Resp: 73835

Ion	Ratio	Lower	Upper
228	100		
229	4.1	0.0	48.8
226	29.9	0.0	56.4



9.1.1

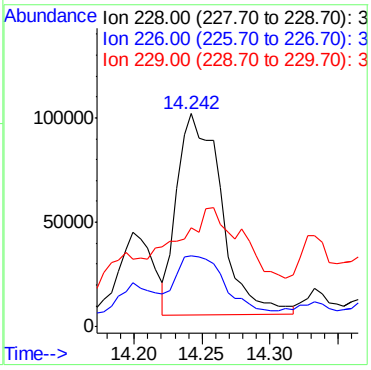
9

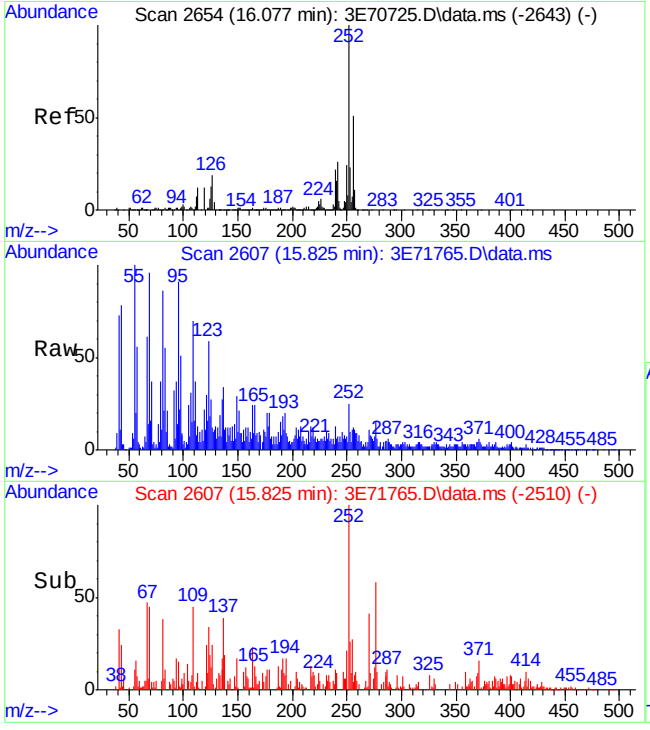


#90
Chrysene
Concen: 11.75 ppm
RT: 14.242 min Scan# 2311
Delta R.T. 0.000 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:228 Resp: 218283

Ion	Ratio	Lower	Upper
228	100		
226	25.4	0.0	58.5
229	18.2	0.0	49.5

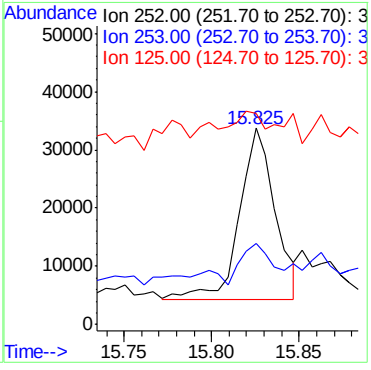


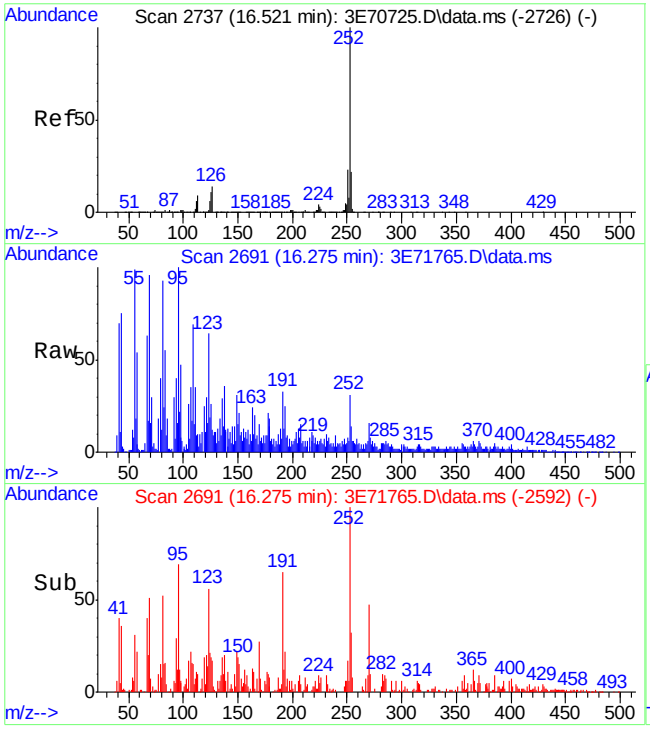


#94
Benzo[b]fluoranthene
Concen: 1.82 ppm m
RT: 15.825 min Scan# 2607
Delta R.T. 0.021 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:252 Resp: 42025

Ion	Ratio	Lower	Upper
252	100		
253	41.2	0.0	53.5
125	107.6	0.0	42.6#

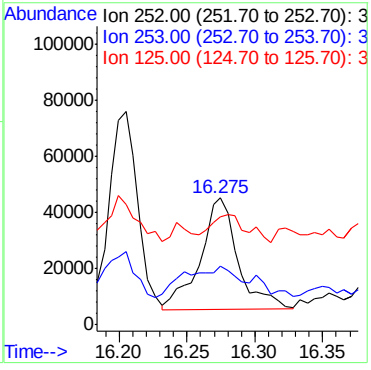


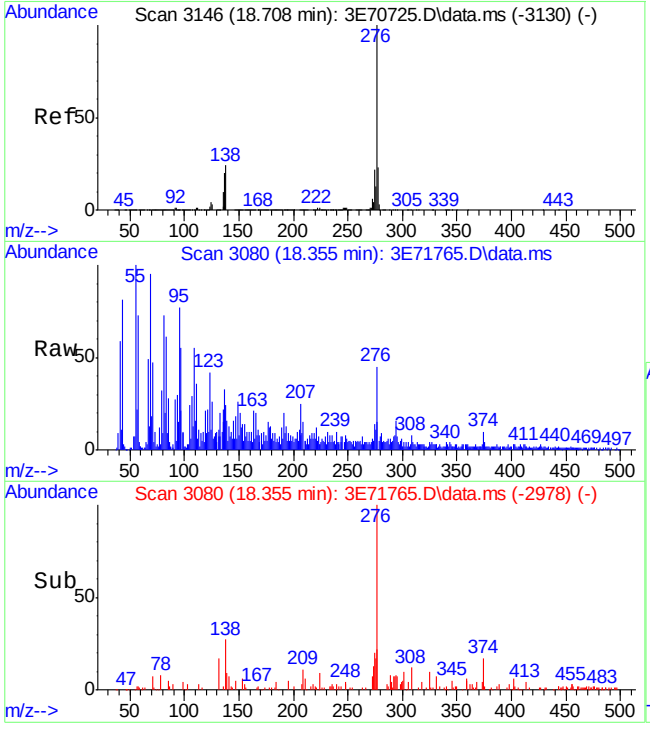


#96
Benzo[a]pyrene
Concen: 3.93 ppm
RT: 16.275 min Scan# 2691
Delta R.T. 0.032 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:252 Resp: 77372

Ion	Ratio	Lower	Upper
252	100		
253	26.4	0.0	51.7
125	17.8	0.0	41.3

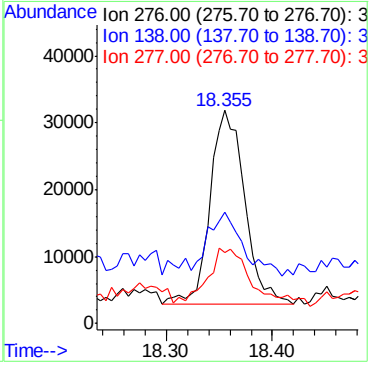




#101
Benzo[g,h,i]perylene
Concen: 3.37 ppm
RT: 18.355 min Scan# 3080
Delta R.T. 0.048 min
Lab File: 3E71765.D
Acq: 30 Apr 2015 4:18 am

Tgt Ion:276 Resp: 66045

Ion	Ratio	Lower	Upper
276	100		
138	32.5	0.0	53.9
277	22.6	0.0	53.5



9.1.1

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71766.D
Acq On : 30 Apr 2015 4:44 am
Operator : sarad
Sample : jb93023-2
Misc : op83412,e3e3099,31.2,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 30 15:44:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.674	152	332281	40.00 ppm	0.00
24) Naphthalene-d8	5.759	136	1172607	40.00 ppm	0.00
47) Acenaphthene-d10	7.835	164	615068	40.00 ppm	0.00
69) Phenanthrene-d10	10.011	188	929059	40.00 ppm	0.00
83) Chrysene-d12	14.205	240	674817	40.00 ppm	0.00
92) Perylene-d12	16.328	264	654878	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.674	152	332281	40.00 ppm	0.00
104) Acenaphthene-d10a	7.835	164	615068	40.00 ppm	0.00
106) Phenanthrene-d10a	10.011	188	929059	40.00 ppm	0.00
108) Chrysene-d12a	14.205	240	674817	40.00 ppm	0.00
110) Naphthalene-d8a	5.759	136	1172607	40.00 ppm	0.00
112) Chrysene-d12b	14.205	240	674817	40.00 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	3.727	112	361390	34.05 ppm	0.00
Spiked Amount 50.000			Recovery	= 68.10%	
8) Phenol-d5	4.438	99	421088	31.33 ppm	0.00
Spiked Amount 50.000			Recovery	= 62.66%	
25) Nitrobenzene-d5	5.117	82	404678	35.80 ppm	0.00
Spiked Amount 50.000			Recovery	= 71.60%	
51) 2-Fluorobiphenyl	6.957	172	828992	42.21 ppm	0.00
Spiked Amount 50.000			Recovery	= 84.42%	
73) 2,4,6-Tribromophenol	8.974	330	108062	48.36 ppm	0.00
Spiked Amount 50.000			Recovery	= 96.72%	
85) Terphenyl-d14	12.563	244	685088	51.66 ppm	0.00
Spiked Amount 50.000			Recovery	= 103.32%	

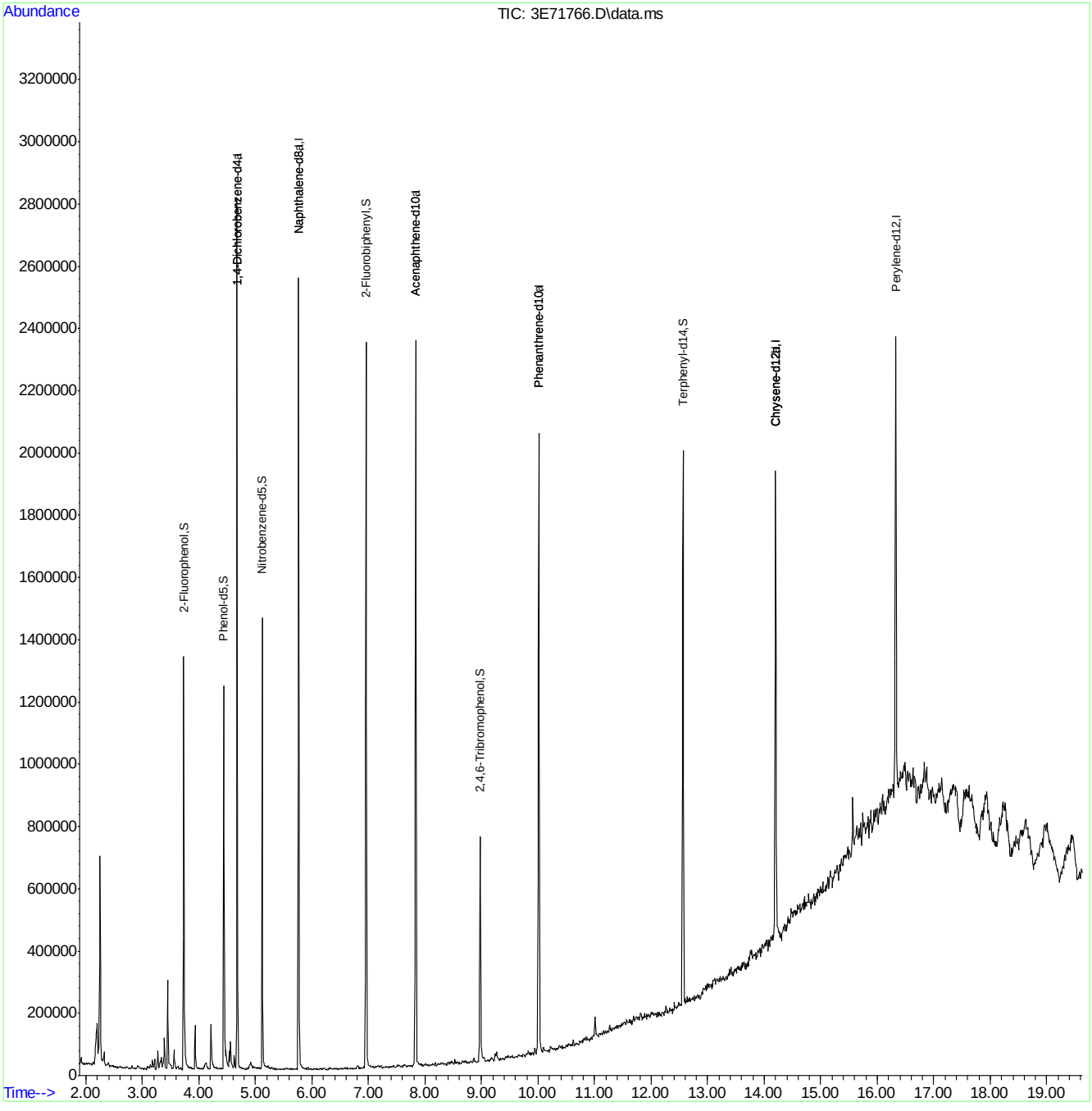
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71766.D
Acq On : 30 Apr 2015 4:44 am
Operator : sarad
Sample : jb93023-2
Misc : op83412,e3e3099,31.2,,,1,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 30 15:44:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration



M3E3055.M Thu Apr 30 15:44:29 2015 MS3E

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
05/03/15 17:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3100\
Data File : 3E71799.D
Acq On : 30 Apr 2015 6:34 pm
Operator : ashleyn
Sample : jb93023-3
Misc : op83412,e3e3100,30.9,,,1,10
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 01 15:26:42 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 01 08:42:41 2015
QLast Update : Fri May 01 08:42:41 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.668	152	216863	40.00 ppm	0.00
24) Naphthalene-d8	5.754	136	866879	40.00 ppm	0.00
47) Acenaphthene-d10	7.824	164	526319	40.00 ppm	0.00
69) Phenanthrene-d10	10.011	188	861395	40.00 ppm	0.02
83) Chrysene-d12	14.226	240	794215	40.00 ppm	0.04
92) Perylene-d12	16.355	264	777248	40.00 ppm	0.04
102) 1,4-Dichlorobenzene-d4a	4.668	152	216863	40.00 ppm	0.00
104) Acenaphthene-d10a	7.824	164	526319	40.00 ppm	0.00
106) Phenanthrene-d10a	10.011	188	861395	40.00 ppm	0.02
108) Chrysene-d12a	14.226	240	794215	40.00 ppm	0.04
110) Naphthalene-d8a	5.754	136	866879	40.00 ppm	0.00
112) Chrysene-d12b	14.226	240	794215	40.00 ppm	0.04
System Monitoring Compounds					
5) 2-Fluorophenol	3.727	112	16733	2.42 ppm	0.02
Spiked Amount 50.000			Recovery	= 4.84%	
8) Phenol-d5	4.444	99	24225	2.76 ppm	0.02
Spiked Amount 50.000			Recovery	= 5.52%	
25) Nitrobenzene-d5	5.117	82	24365	2.92 ppm	0.00
Spiked Amount 50.000			Recovery	= 5.84%	
51) 2-Fluorobiphenyl	6.947	172	62505	3.72 ppm	0.00
Spiked Amount 50.000			Recovery	= 7.44%	
73) 2,4,6-Tribromophenol	8.968	330	9578	4.62 ppm	0.00
Spiked Amount 50.000			Recovery	= 9.24%	
85) Terphenyl-d14	12.573	244	72536	4.65 ppm	0.03
Spiked Amount 50.000			Recovery	= 9.30%	
Target Compounds					Qvalue
44) 2-Methylnaphthalene	6.508	141	25886m	2.00 ppm	
59) Acenaphthene	7.867	153	36517	2.38 ppm	91
66) Fluorene	8.605	166	44144	2.60 ppm	88
77) Phenanthrene	10.044	178	184783m	7.76 ppm	
81) Fluoranthene	11.926	202	140850	5.83 ppm	99
84) Pyrene	12.279	202	1547907	67.58 ppm	96
88) Benzo[a]anthracene	14.210	228	236842m	10.57 ppm	
90) Chrysene	14.264	228	634021m	30.31 ppm	
94) Benzo[b]fluoranthene	15.831	252	137392m	5.67 ppm	
96) Benzo[a]pyrene	16.275	252	340895m	16.52 ppm	
97) Indeno[1,2,3-cd]pyrene	17.901	276	61841m	2.92 ppm	
101) Benzo[g,h,i]perylene	18.355	276	244425	11.89 ppm	92

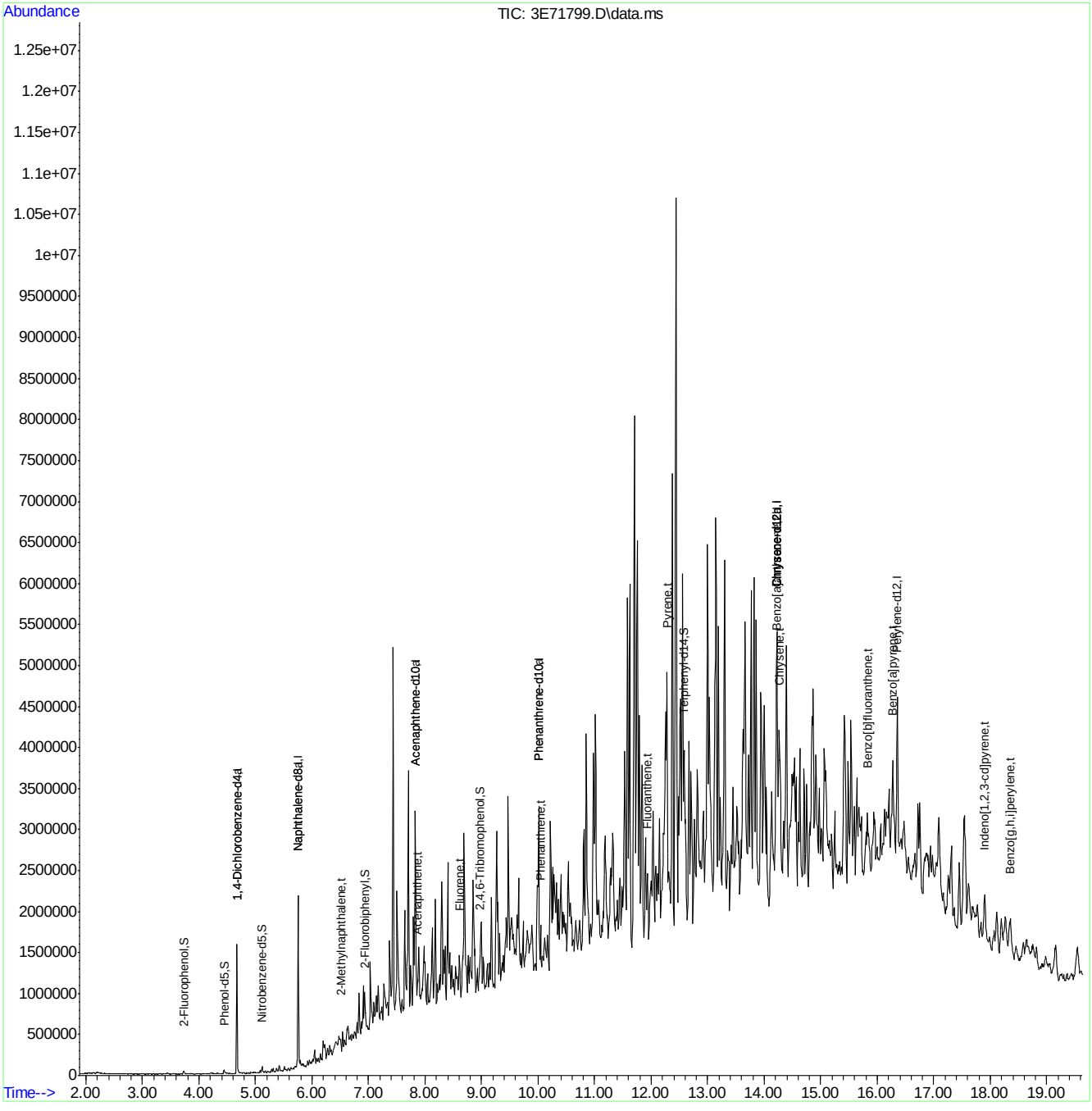
(#) = qualifier out of range (m) = manual integration (+) = signals summed

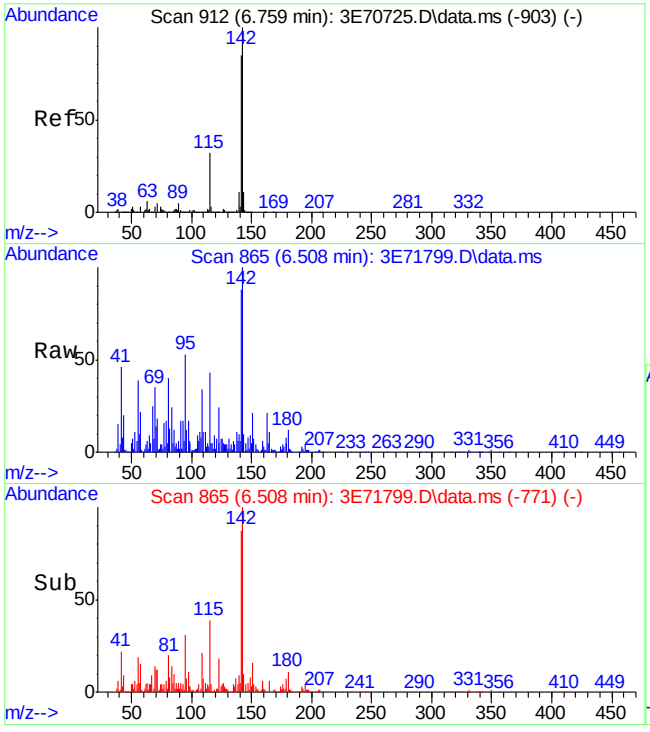
9.1.3
9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3100\
Data File : 3E71799.D
Acq On : 30 Apr 2015 6:34 pm
Operator : ashleyn
Sample : jb93023-3
Misc : op83412,e3e3100,30.9,,,1,10
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 01 15:26:42 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuFri May 01 08:42:41 2015
QLast Update : Fri May 01 08:42:41 2015
Response via : Initial Calibration

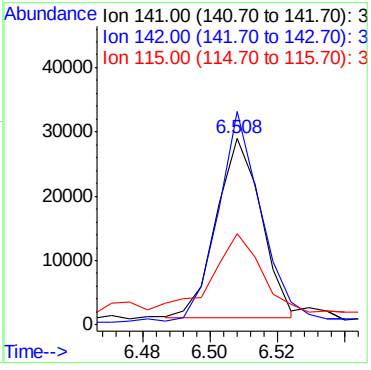


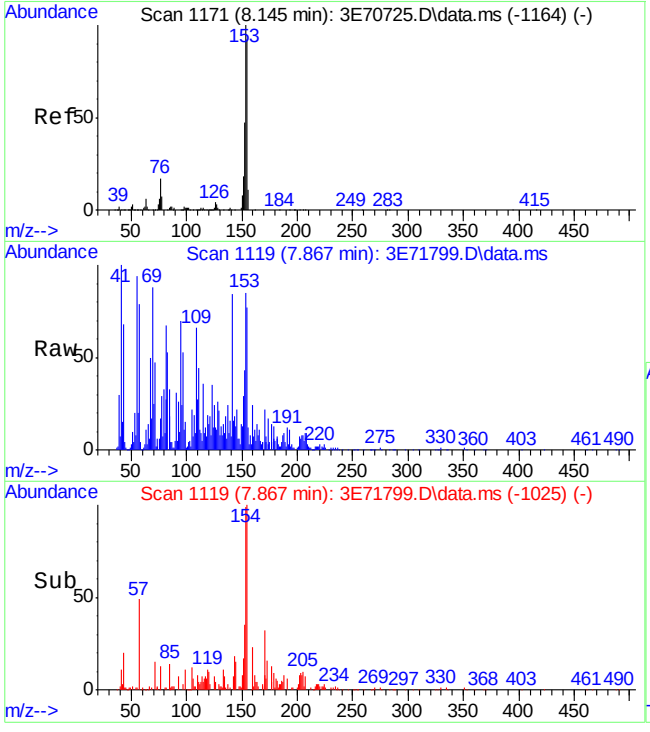


#44
2-Methylnaphthalene
Concen: 2.00 ppm m
RT: 6.508 min Scan# 865
Delta R.T. 0.000 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:141 Resp: 25886

Ion	Ratio	Lower	Upper
141	100		
142	114.2	87.8	147.8
115	48.7	7.4	67.4

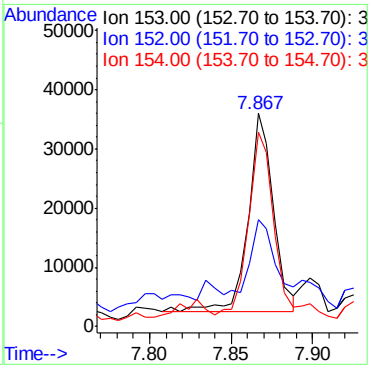




#59
Acenaphthene
Concen: 2.38 ppm
RT: 7.867 min Scan# 1119
Delta R.T. 0.000 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

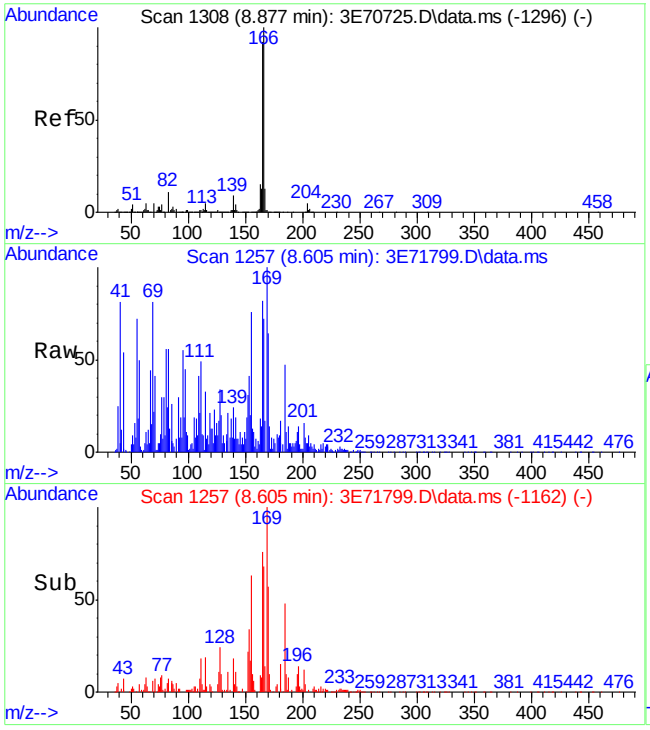
Tgt Ion:153 Resp: 36517

Ion	Ratio	Lower	Upper
153	100		
152	38.9	17.4	77.4
154	94.3	58.2	118.2



9.1.3

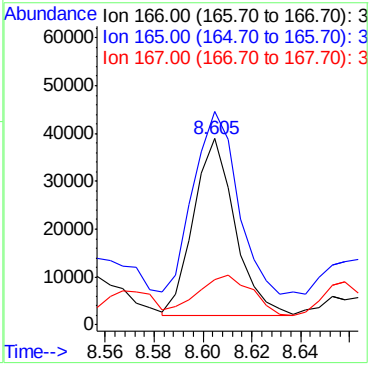
9

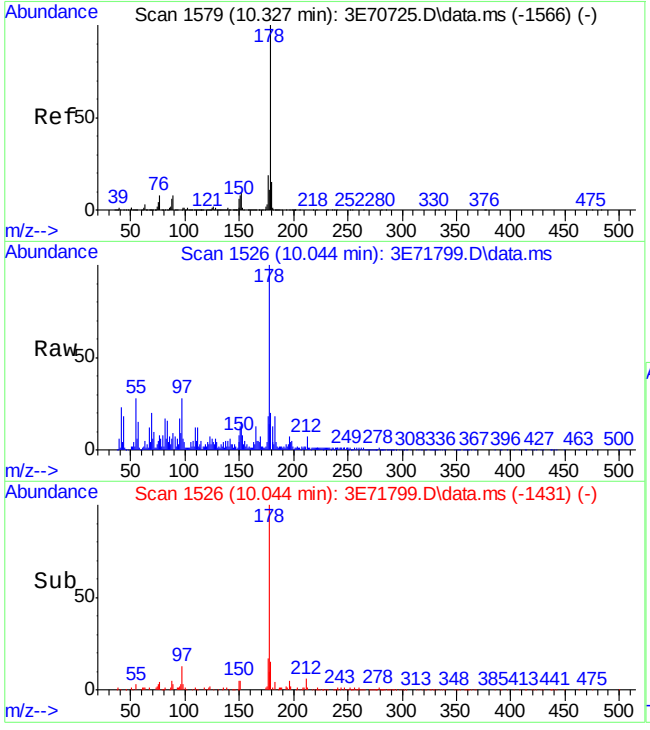


#66
Fluorene
Concen: 2.60 ppm
RT: 8.605 min Scan# 1257
Delta R.T. 0.005 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:166 Resp: 44144

Ion	Ratio	Lower	Upper
166	100		
165	103.9	62.2	122.2
167	18.9	0.0	43.2

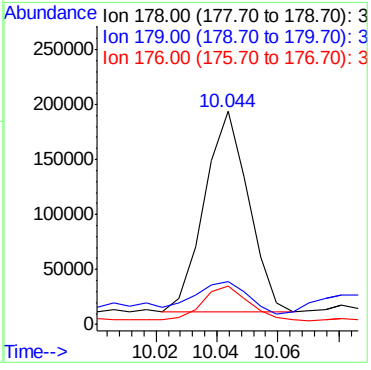


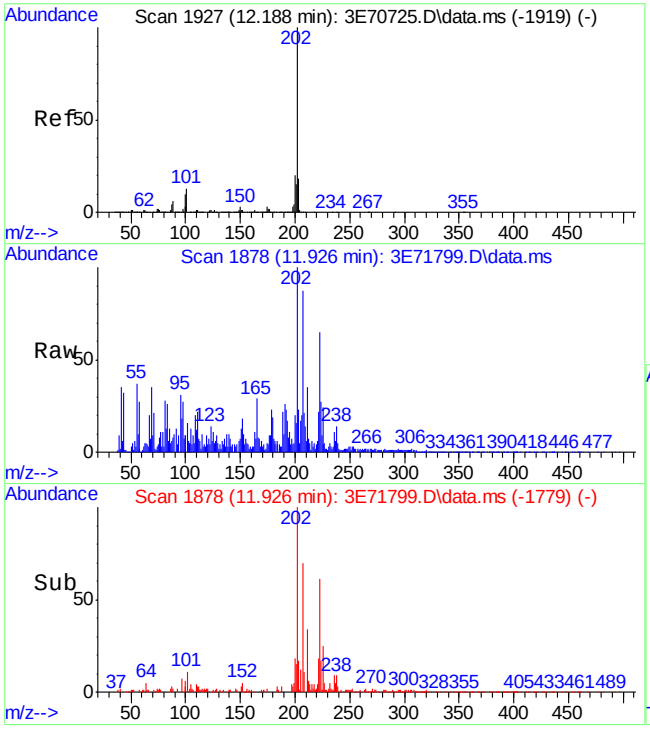


#77
Phenanthrene
Concen: 7.76 ppm m
RT: 10.044 min Scan# 1526
Delta R.T. 0.005 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:178 Resp: 184783

Ion	Ratio	Lower	Upper
178	100		
179	20.3	0.0	45.1
176	18.0	0.0	48.5

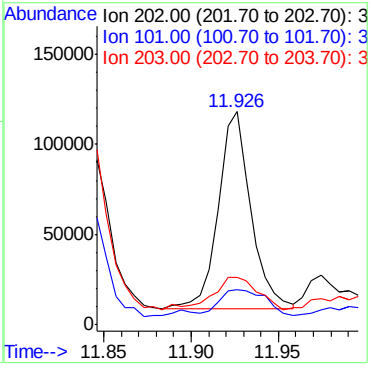


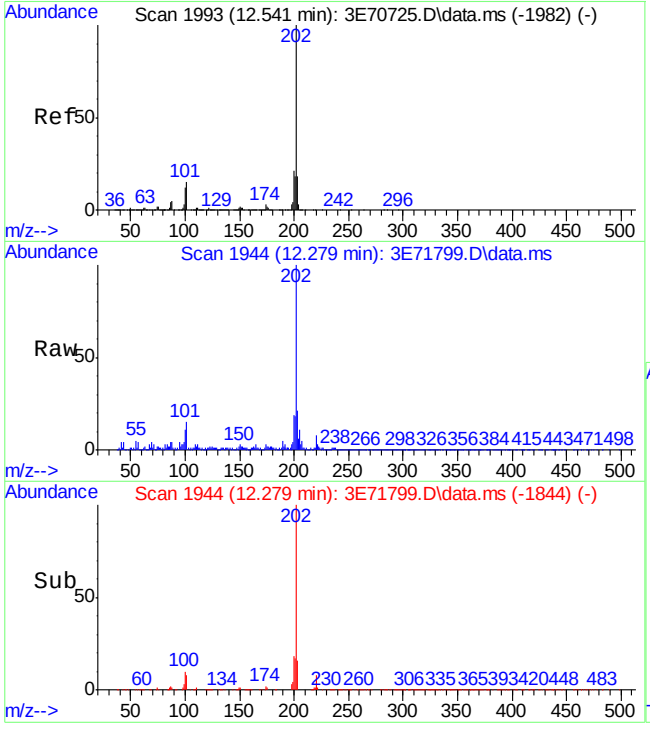


#81
Fluoranthene
Concen: 5.83 ppm
RT: 11.926 min Scan# 1878
Delta R.T. 0.027 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:202 Resp: 140850

Ion	Ratio	Lower	Upper
202	100		
101	13.4	0.0	43.3
203	16.5	0.0	47.5

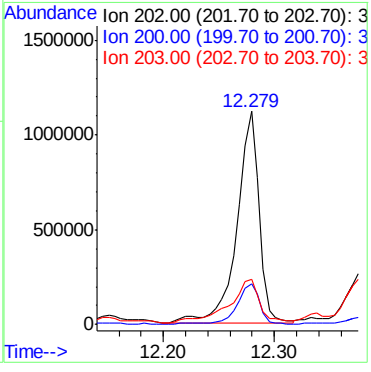


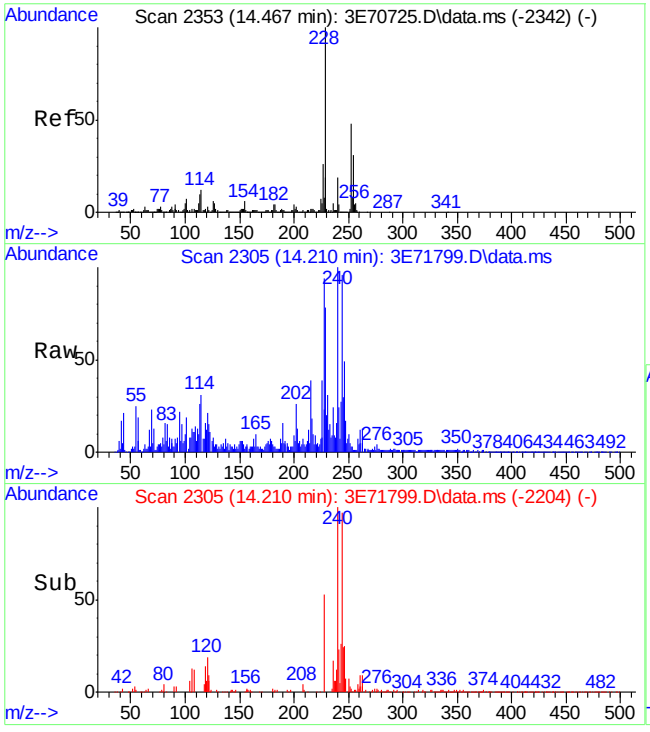


#84
Pyrene
Concen: 67.58 ppm
RT: 12.279 min Scan# 1944
Delta R.T. 0.032 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:202 Resp: 1547907

Ion	Ratio	Lower	Upper
202	100		
200	19.0	0.0	50.7
203	20.3	0.0	48.0

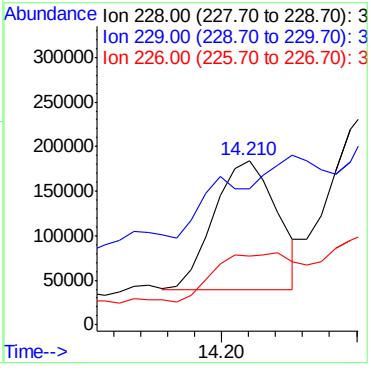


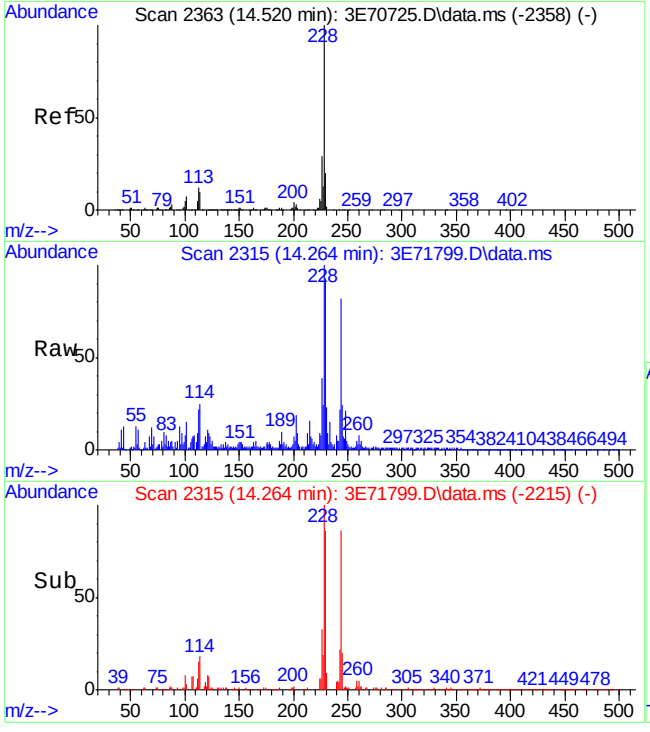


#88
Benzo[a]anthracene
Concen: 10.57 ppm m
RT: 14.210 min Scan# 2305
Delta R.T. 0.038 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:228 Resp: 236842

Ion	Ratio	Lower	Upper
228	100		
229	83.0	0.0	48.8#
226	41.7	0.0	56.4

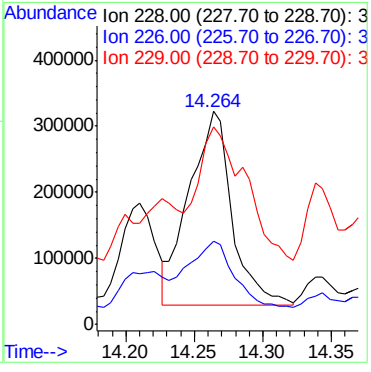




#90
Chrysene
Concen: 30.31 ppm m
RT: 14.264 min Scan# 2315
Delta R.T. 0.032 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

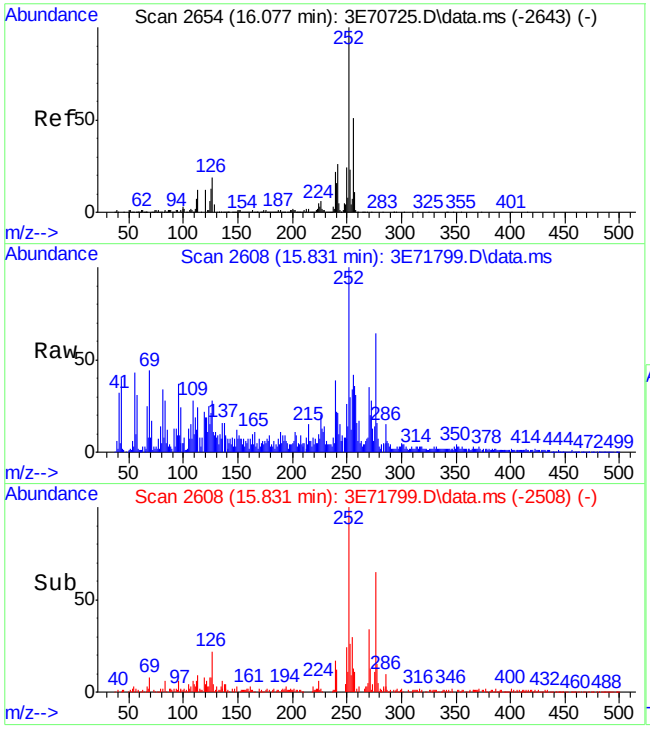
Tgt Ion:228 Resp: 634021

Ion	Ratio	Lower	Upper
228	100		
226	38.9	0.0	58.5
229	92.9	0.0	49.5#



9.1.3

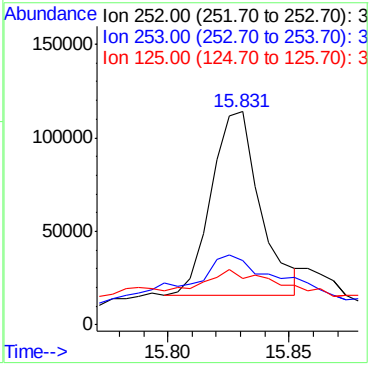
9

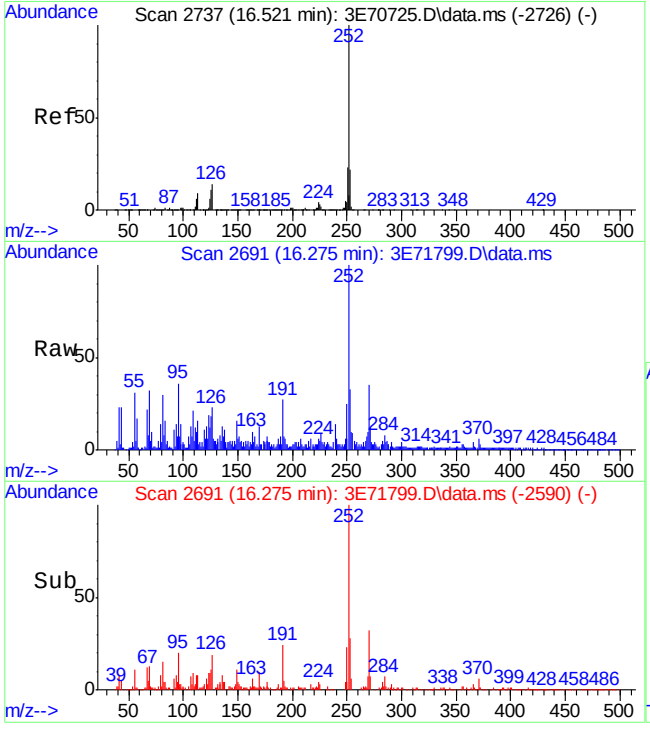


#94
Benzo[b]fluoranthene
Concen: 5.67 ppm m
RT: 15.831 min Scan# 2608
Delta R.T. 0.032 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:252 Resp: 137392

Ion	Ratio	Lower	Upper
252	100		
253	30.4	0.0	53.5
125	21.5	0.0	42.6

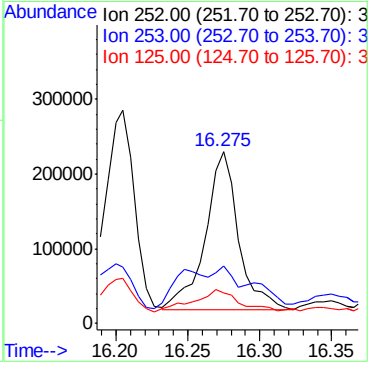


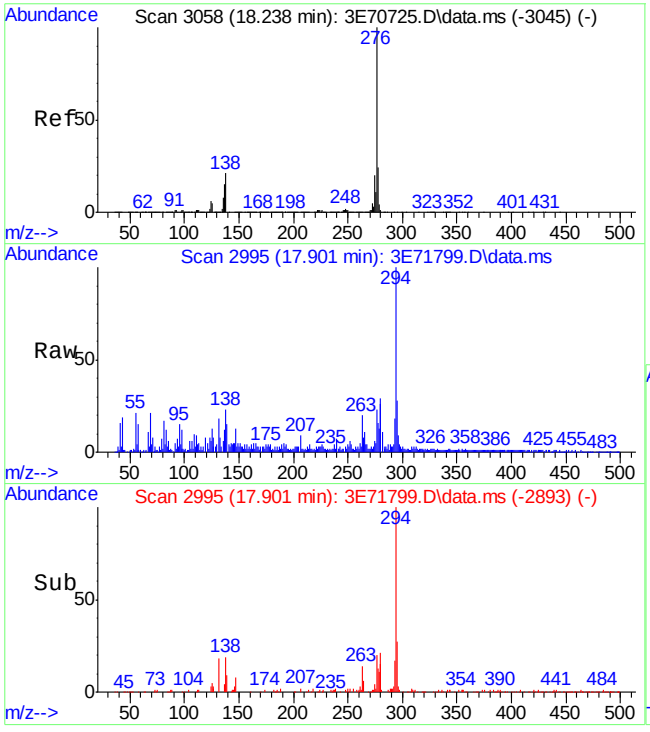


#96
Benzo[a]pyrene
Concen: 16.52 ppm m
RT: 16.275 min Scan# 2691
Delta R.T. 0.038 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:252 Resp: 340895

Ion	Ratio	Lower	Upper
252	100		
253	33.2	0.0	51.7
125	17.9	0.0	41.3

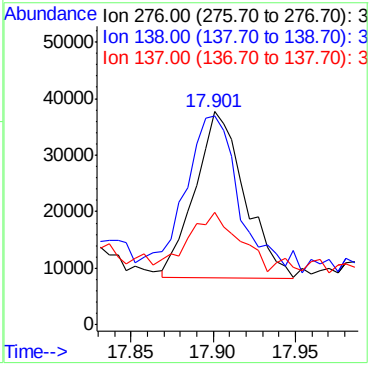


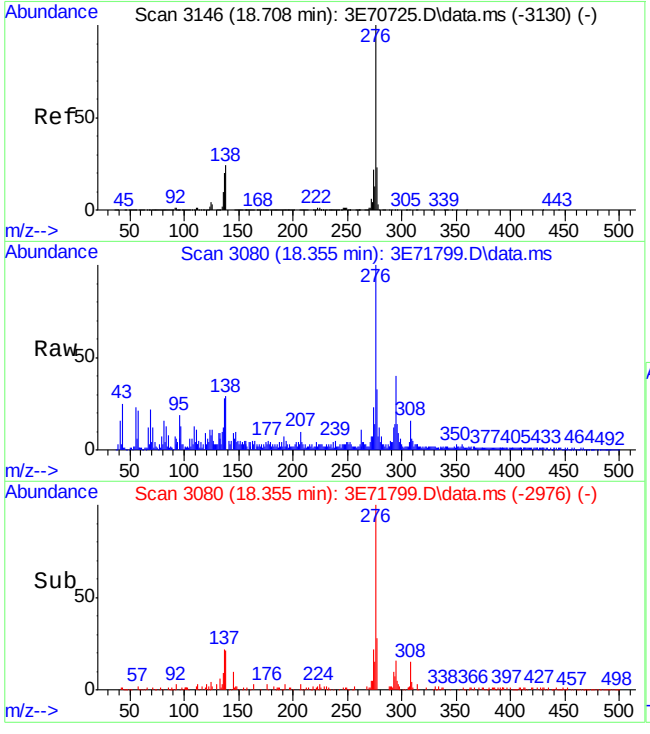


#97
Indeno[1,2,3-cd]pyrene
Concen: 2.92 ppm m
RT: 17.901 min Scan# 2995
Delta R.T. 0.043 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:276 Resp: 61841

Ion	Ratio	Lower	Upper
276	100		
138	98.1	0.0	48.4#
137	52.5	0.0	44.2#

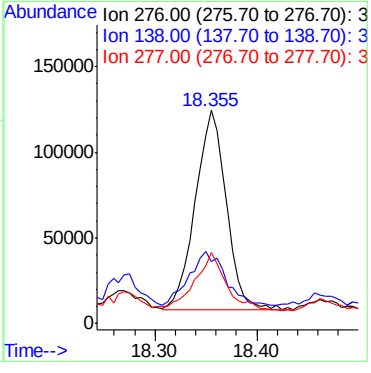




#101
Benzo[g,h,i]perylene
Concen: 11.89 ppm
RT: 18.355 min Scan# 3080
Delta R.T. 0.054 min
Lab File: 3E71799.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:276 Resp: 244425

Ion	Ratio	Lower	Upper
276	100		
138	21.0	0.0	53.9
277	28.2	0.0	53.5



9.1.3

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3105\
Data File : 3E71874.D
Acq On : 5 May 2015 12:37 pm
Operator : ashleyn
Sample : jb93023-4
Misc : op83412,e3e3105,31.3
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 05 16:57:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue May 05 16:49:35 2015
QLast Update : Tue May 05 16:49:35 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.705	152	207315	40.00 ppm	0.00
24) Naphthalene-d8	5.802	136	789035	40.00 ppm	0.00
47) Acenaphthene-d10	7.877	164	453975	40.00 ppm	0.00
69) Phenanthrene-d10	10.059	188	743065	40.00 ppm	0.00
83) Chrysene-d12	14.258	240	760656	40.00 ppm	0.00
92) Perylene-d12	16.398	264	735018	40.00 ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.705	152	207315	40.00 ppm	0.00
104) Acenaphthene-d10a	7.877	164	453975	40.00 ppm	0.00
106) Phenanthrene-d10a	10.059	188	743065	40.00 ppm	0.00
108) Chrysene-d12a	14.258	240	760656	40.00 ppm	0.00
110) Naphthalene-d8a	5.802	136	789035	40.00 ppm	0.00
112) Chrysene-d12b	14.258	240	760656	40.00 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	3.753	112	249449	37.67 ppm	0.00
Spiked Amount 50.000			Recovery	= 75.34%	
8) Phenol-d5	4.470	99	302796	36.11 ppm	0.01
Spiked Amount 50.000			Recovery	= 72.22%	
25) Nitrobenzene-d5	5.155	82	295900	38.90 ppm	0.00
Spiked Amount 50.000			Recovery	= 77.80%	
51) 2-Fluorobiphenyl	6.995	172	628719	43.37 ppm	0.00
Spiked Amount 50.000			Recovery	= 86.74%	
73) 2,4,6-Tribromophenol	9.016	330	99776	55.83 ppm	0.00
Spiked Amount 50.000			Recovery	= 111.66%	
85) Terphenyl-d14	12.611	244	703441	47.06 ppm	0.00
Spiked Amount 50.000			Recovery	= 94.12%	

Target Compounds					Qvalue
101) Benzo[g,h,i]perylene	18.430	276	62067	3.19 ppm	96

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

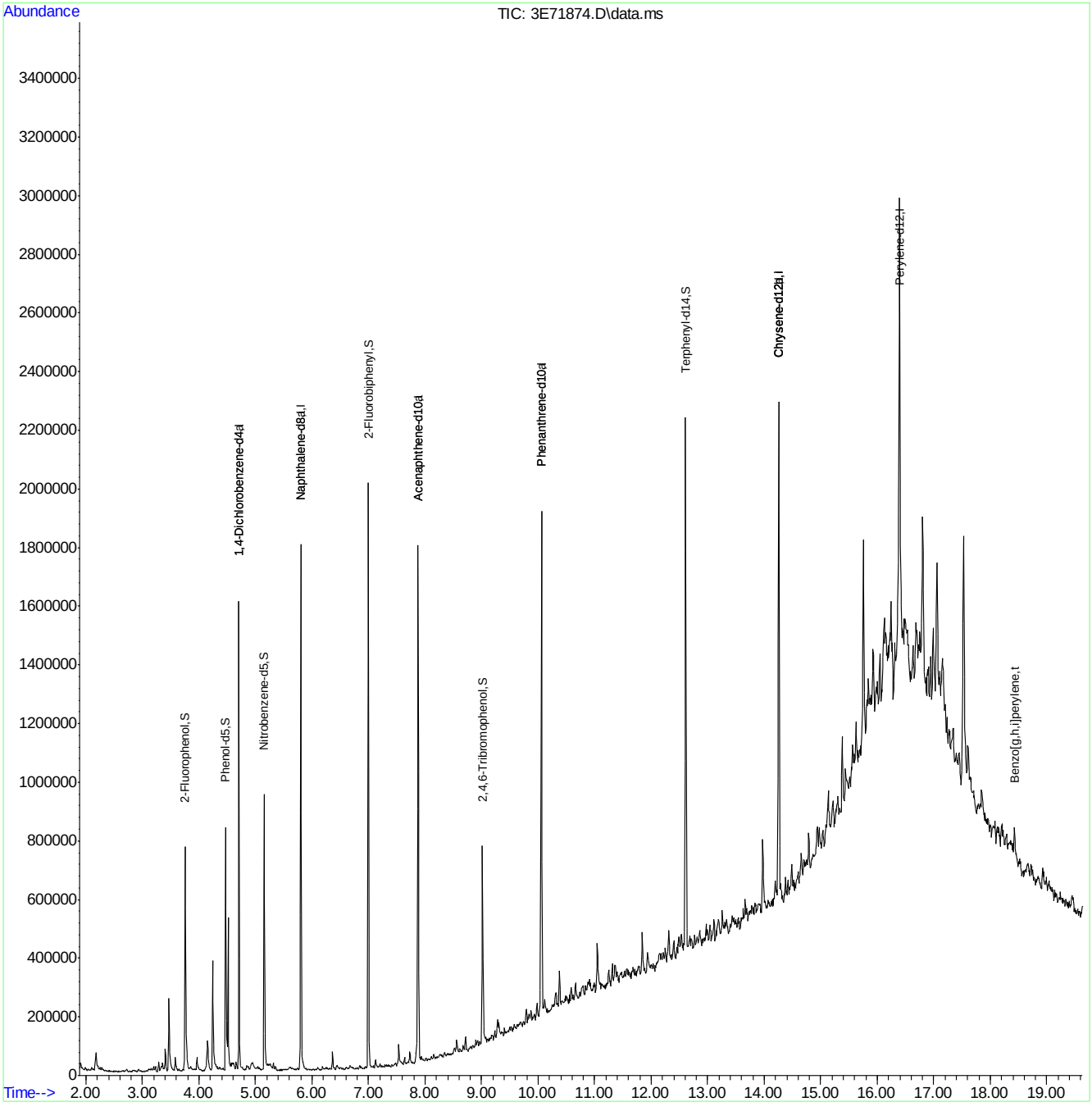
9.1.4

9

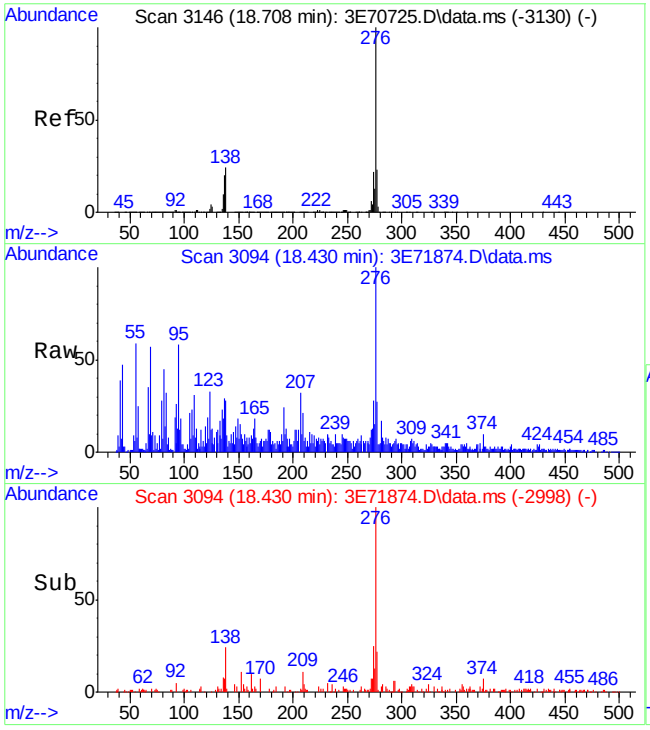
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3105\
Data File : 3E71874.D
Acq On : 5 May 2015 12:37 pm
Operator : ashleyn
Sample : jb93023-4
Misc : op83412,e3e3105,31.3
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 05 16:57:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue May 05 16:49:35 2015
QLast Update : Tue May 05 16:49:35 2015
Response via : Initial Calibration



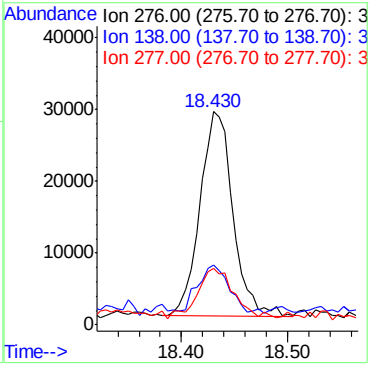
M3E3055.M Tue May 05 16:58:16 2015 MS3E



#101
Benzo[g,h,i]perylene
Concen: 3.19 ppm
RT: 18.430 min Scan# 3094
Delta R.T. 0.016 min
Lab File: 3E71874.D
Acq: 5 May 2015 12:37 pm

Tgt Ion:276 Resp: 62067

Ion	Ratio	Lower	Upper
276	100		
138	21.2	0.0	53.9
277	21.9	0.0	53.5



9.1.4

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71774.D
Acq On : 30 Apr 2015 8:11 am
Operator : sarad
Sample : jb93023-5
Misc : op83412,e3e3099,30.9,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 30 16:07:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.673	152	355017	40.00	ppm	0.00
24) Naphthalene-d8	5.759	136	1240524	40.00	ppm	0.00
47) Acenaphthene-d10	7.829	164	628931	40.00	ppm	0.00
69) Phenanthrene-d10	10.011	188	894404	40.00	ppm	0.00
83) Chrysene-d12	14.199	240	693147	40.00	ppm	0.00
92) Perylene-d12	16.323	264	600665	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.673	152	355017	40.00	ppm	0.00
104) Acenaphthene-d10a	7.829	164	628931	40.00	ppm	0.00
106) Phenanthrene-d10a	10.011	188	894404	40.00	ppm	0.00
108) Chrysene-d12a	14.199	240	693147	40.00	ppm	0.00
110) Naphthalene-d8a	5.759	136	1240524	40.00	ppm	0.00
112) Chrysene-d12b	14.199	240	693147	40.00	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	3.727	112	409884	36.15	ppm	0.00
Spiked Amount 50.000			Recovery = 72.30%			
8) Phenol-d5	4.433	99	464162	32.32	ppm	0.00
Spiked Amount 50.000			Recovery = 64.64%			
25) Nitrobenzene-d5	5.117	82	450061	37.63	ppm	0.00
Spiked Amount 50.000			Recovery = 75.26%			
51) 2-Fluorobiphenyl	6.952	172	904135	45.02	ppm	0.00
Spiked Amount 50.000			Recovery = 90.04%			
73) 2,4,6-Tribromophenol	8.974	330	114869	53.40	ppm	0.00
Spiked Amount 50.000			Recovery = 106.80%			
85) Terphenyl-d14	12.563	244	768808	56.44	ppm	0.00
Spiked Amount 50.000			Recovery = 112.88%			

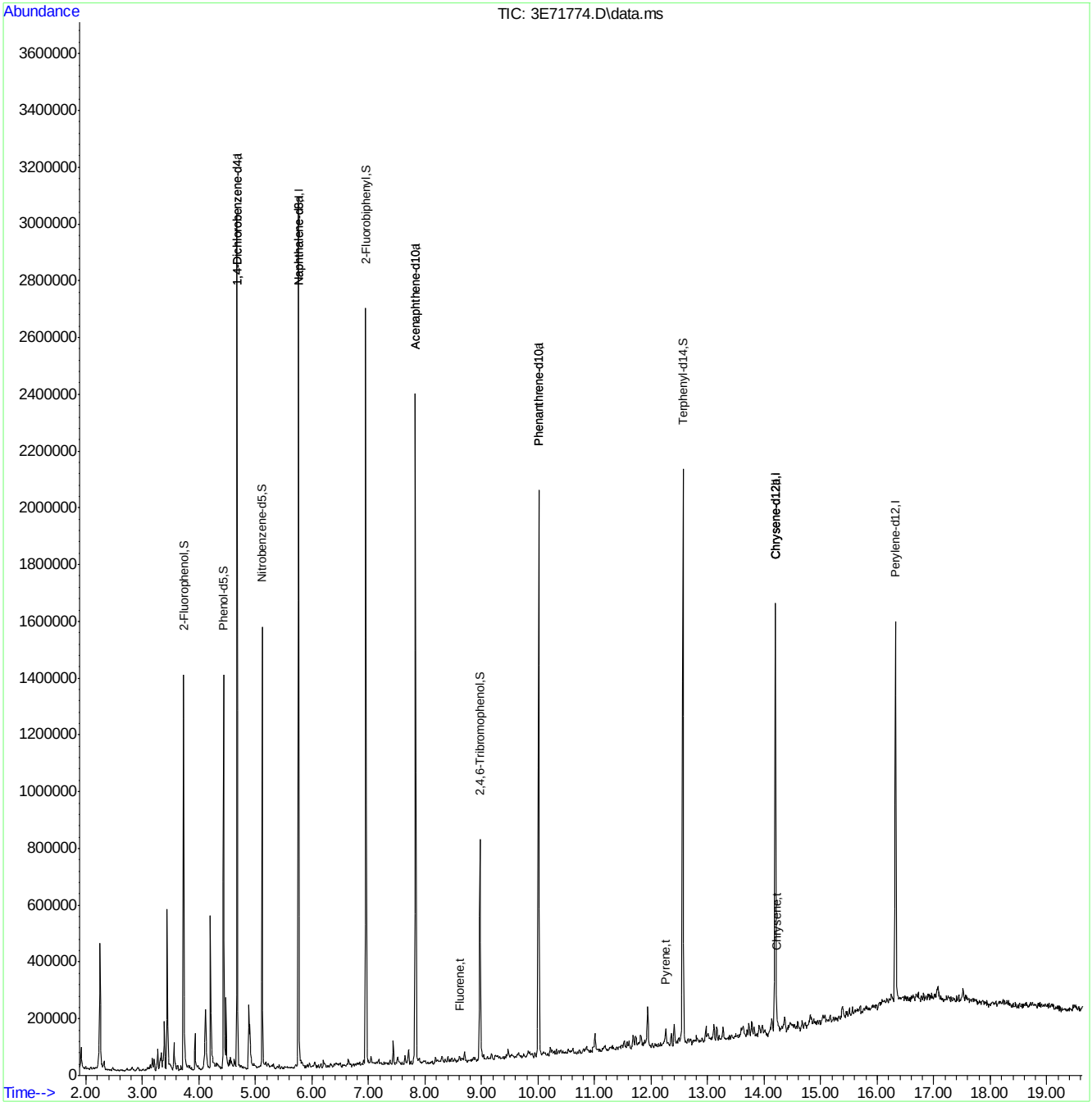
Target Compounds						Qvalue
66) Fluorene	8.610	166	6981	0.34	ppm	87
84) Pyrene	12.258	202	24747	1.24	ppm	96
90) Chrysene	14.221	228	14434	0.79	ppm	71

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

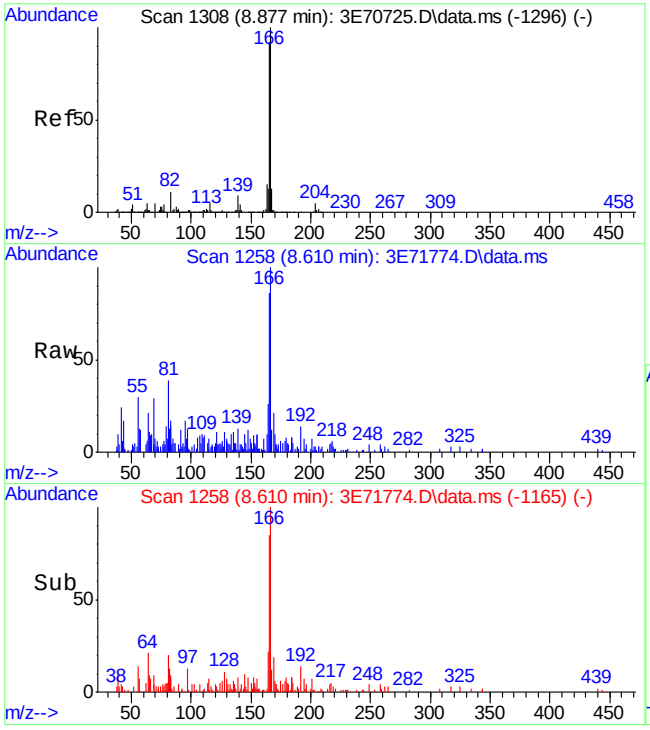
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71774.D
Acq On : 30 Apr 2015 8:11 am
Operator : sarad
Sample : jb93023-5
Misc : op83412,e3e3099,30.9,,,1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 30 16:07:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration



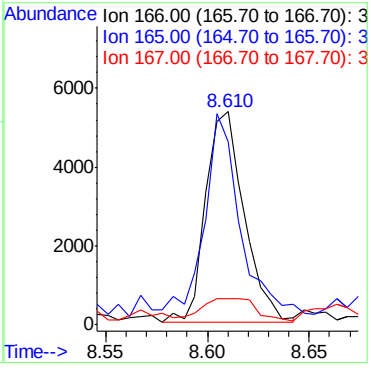
M3E3055.M Thu Apr 30 16:07:34 2015 MS3E

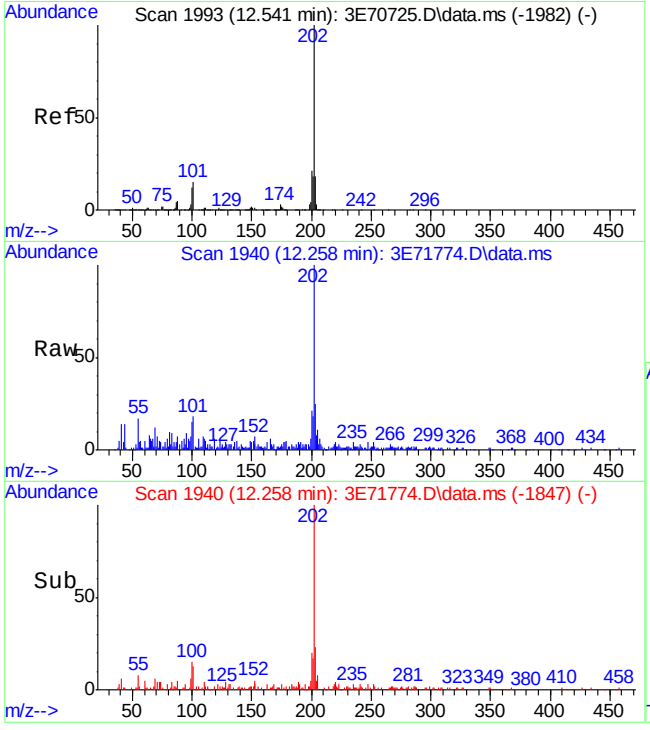


#66
Fluorene
Concen: 0.34 ppm
RT: 8.610 min Scan# 1258
Delta R.T. 0.000 min
Lab File: 3E71774.D
Acq: 30 Apr 2015 8:11 am

Tgt Ion:166 Resp: 6981

Ion	Ratio	Lower	Upper
166	100		
165	79.4	62.2	122.2
167	8.8	0.0	43.2

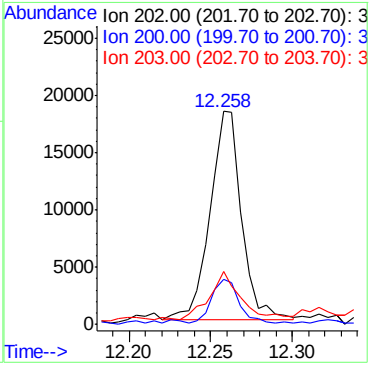




#84
Pyrene
Concen: 1.24 ppm
RT: 12.258 min Scan# 1940
Delta R.T. 0.000 min
Lab File: 3E71774.D
Acq: 30 Apr 2015 8:11 am

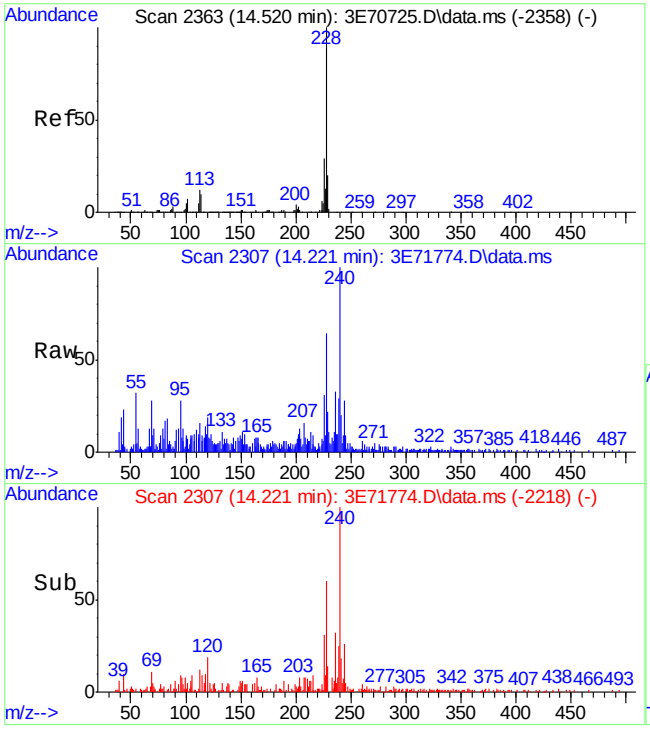
Tgt Ion:202 Resp: 24747

Ion	Ratio	Lower	Upper
202	100		
200	21.1	0.0	50.7
203	21.7	0.0	48.0



9.1.5

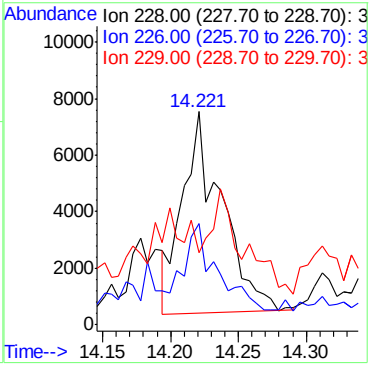
9



#90
Chrysene
Concen: 0.79 ppm
RT: 14.221 min Scan# 2307
Delta R.T. -0.021 min
Lab File: 3E71774.D
Acq: 30 Apr 2015 8:11 am

Tgt Ion:228 Resp: 14434

Ion	Ratio	Lower	Upper
228	100		
226	46.7	0.0	58.5
229	9.5	0.0	49.5



9.1.5

9

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
05/06/15 12:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3101\
Data File : 3E71829.D
Acq On : 1 May 2015 4:47 pm
Operator : ashleyn
Sample : jb93023-6
Misc : op83412,e3e3101,31.2,,,5,2
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 06 12:02:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed May 06 11:36:36 2015
QLast Update : Wed May 06 11:37:13 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.663	152	213481	40.00 ppm	0.00
24) Naphthalene-d8	5.749	136	832545	40.00 ppm	0.00
47) Acenaphthene-d10	7.824	164	545379	40.00 ppm	0.00
69) Phenanthrene-d10	10.028	188	880058	40.00 ppm	0.00
83) Chrysene-d12	14.371	240	1436735	40.00 ppm	0.00
92) Perylene-d12	16.489	264	976452	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.663	152	213481	40.00 ppm	0.00
104) Acenaphthene-d10a	7.824	164	545379	40.00 ppm	0.00
106) Phenanthrene-d10a	10.028	188	880058	40.00 ppm	0.00
108) Chrysene-d12a	14.371	240	1436735	40.00 ppm	0.00
110) Naphthalene-d8a	5.749	136	832545	40.00 ppm	0.00
112) Chrysene-d12b	14.371	240	1435623	40.00 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	3.727	112	21135	3.10 ppm	-0.05
Spiked Amount 50.000			Recovery	= 6.20%	
8) Phenol-d5	4.438	99	29887	3.46 ppm	0.16
Spiked Amount 50.000			Recovery	= 6.92%	
25) Nitrobenzene-d5	5.112	82	32196	4.01 ppm	-0.11
Spiked Amount 50.000			Recovery	= 8.02%	
51) 2-Fluorobiphenyl	6.936	172	71799	4.12 ppm	-0.10
Spiked Amount 50.000			Recovery	= 8.24%	
73) 2,4,6-Tribromophenol	8.985	330	14735	6.96 ppm	0.04
Spiked Amount 50.000			Recovery	= 13.92%	
85) Terphenyl-d14	12.713	244	135972m	4.82 ppm	0.10
Spiked Amount 50.000			Recovery	= 9.64%	

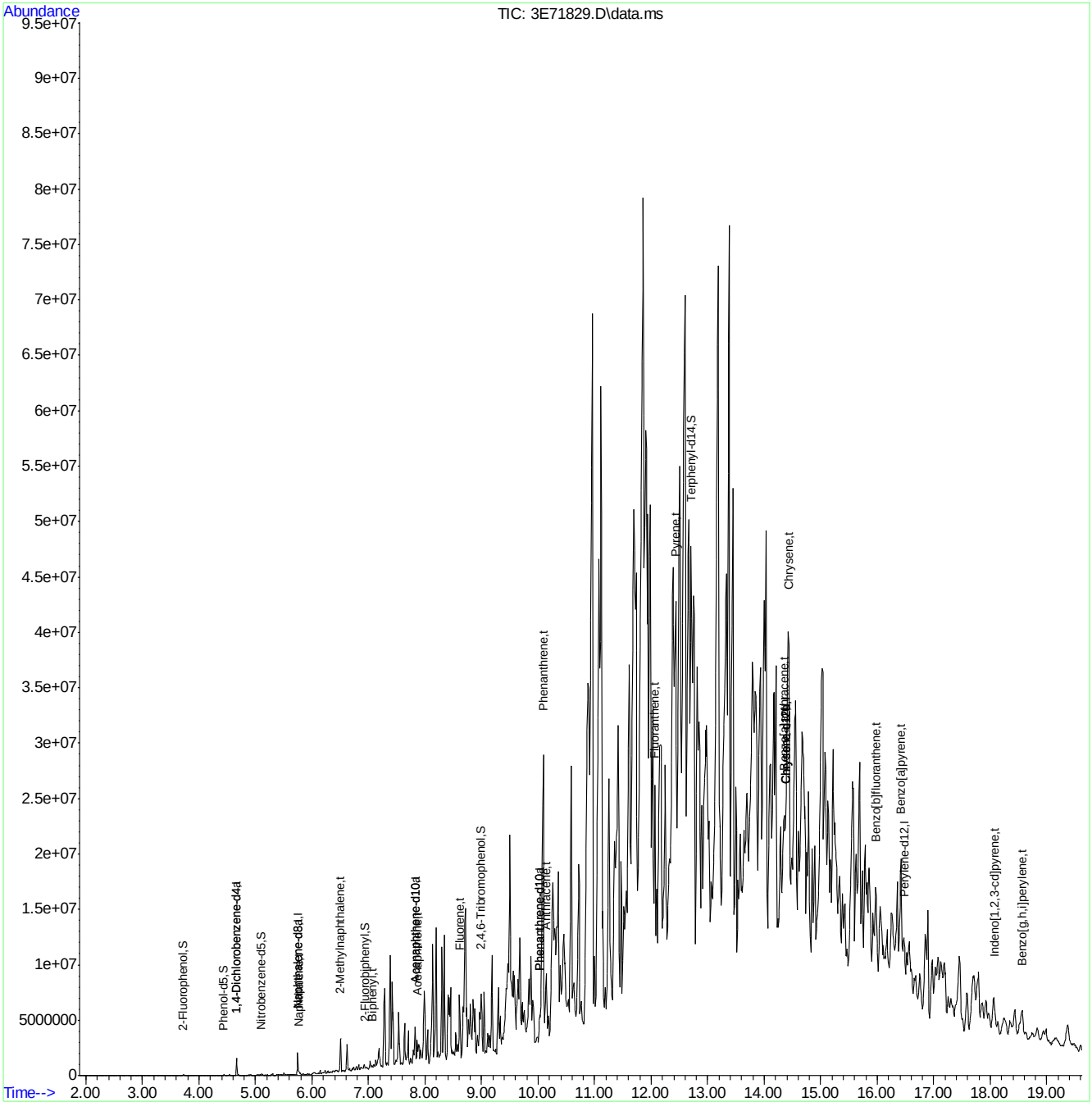
Target Compounds					Qvalue
38) Naphthalene	5.770	128	77997	3.42 ppm	94
44) 2-Methylnaphthalene	6.508	141	803480	64.73 ppm	98
53) Biphenyl	7.064	154	31882	1.47 ppm	96
59) Acenaphthene	7.867	153	267066m	16.79 ppm	
66) Fluorene	8.610	166	927570	52.74 ppm	98
77) Phenanthrene	10.086	178	17824226m	732.31 ppm	
78) Anthracene	10.151	178	1183440m	49.36 ppm	
81) Fluoranthene	12.060	202	3087732m	125.16 ppm	
84) Pyrene	12.429	202	28002969	675.87 ppm	96
88) Benzo[a]anthracene	14.360	228	3049032m	75.23 ppm	
90) Chrysene	14.435	228	13208582m	349.03 ppm	
94) Benzo[b]fluoranthene	15.975	252	2008182	65.99 ppm	99
96) Benzo[a]pyrene	16.419	252	4224615m	162.99 ppm	
97) Indeno[1,2,3-cd]pyrene	18.077	276	502666m	18.88 ppm	
101) Benzo[g,h,i]perylene	18.564	276	2152793	83.35 ppm	96

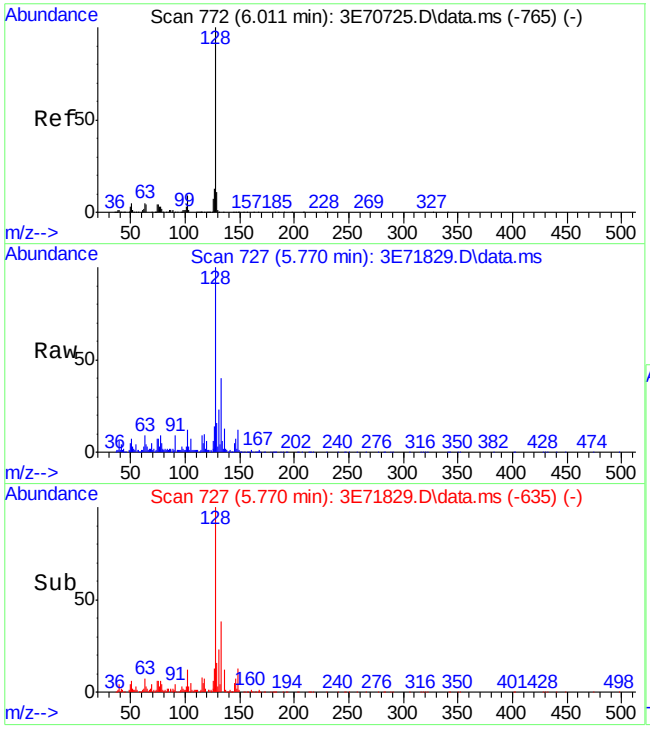
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3101\
Data File : 3E71829.D
Acq On : 1 May 2015 4:47 pm
Operator : ashleyn
Sample : jb93023-6
Misc : op83412,e3e3101,31.2,,,5,2
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 06 12:02:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuWed May 06 11:36:36 2015
QLast Update : Wed May 06 11:37:13 2015
Response via : Initial Calibration

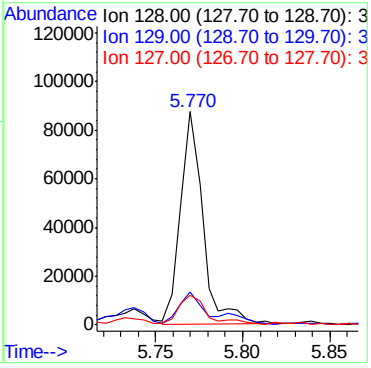


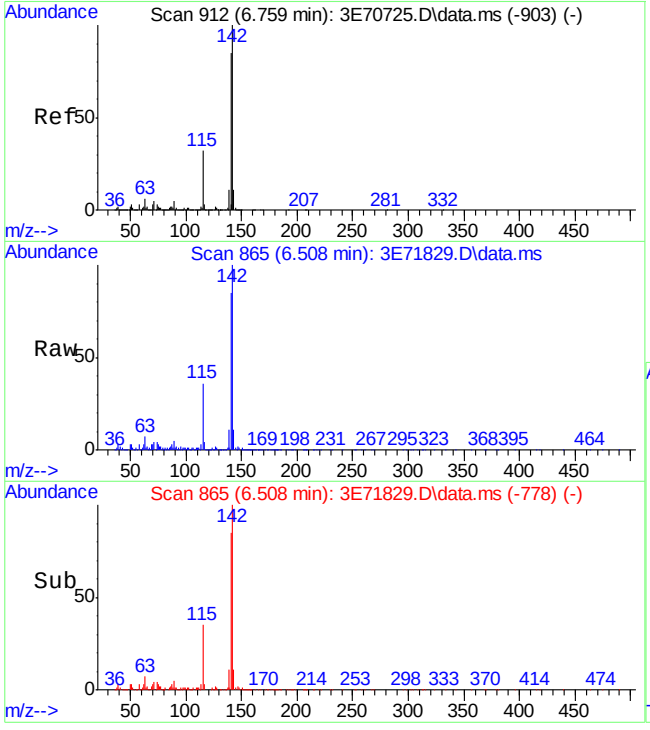


#38
Naphthalene
Concen: 3.42 ppm
RT: 5.770 min Scan# 727
Delta R.T. -0.011 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:128 Resp: 77997

Ion	Ratio	Lower	Upper
128	100		
129	15.2	0.0	40.6
127	13.3	0.0	42.8

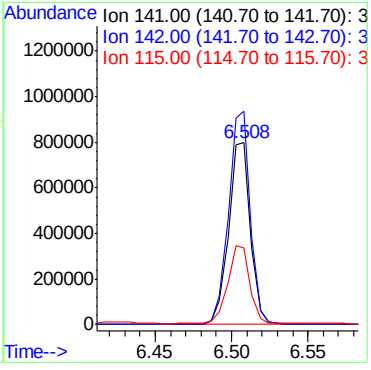




#44
2-Methylnaphthalene
Concen: 64.73 ppm
RT: 6.508 min Scan# 865
Delta R.T. -0.037 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

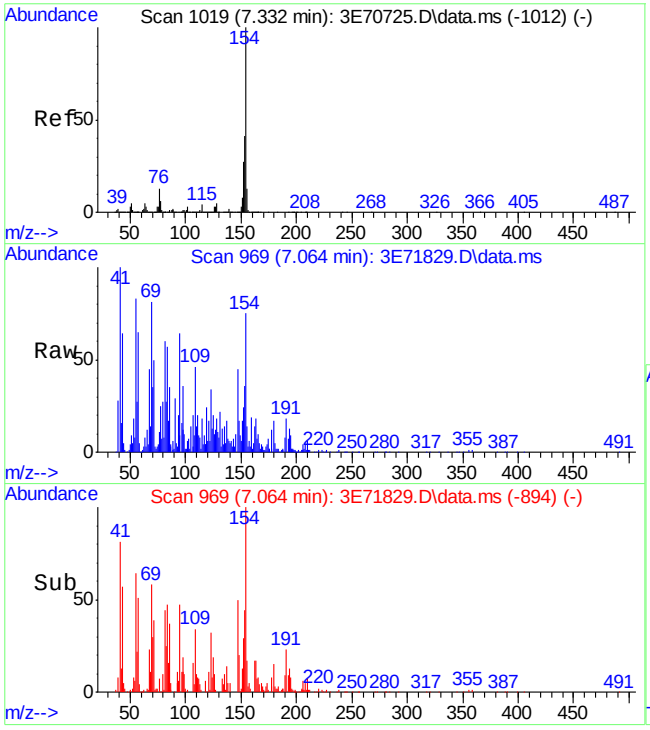
Tgt Ion:141 Resp: 803480

Ion	Ratio	Lower	Upper
141	100		
142	117.3	87.8	147.8
115	41.5	7.4	67.4



9.1.6

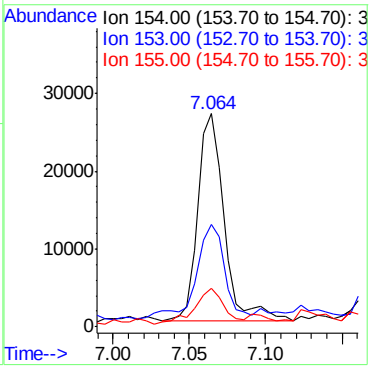
9

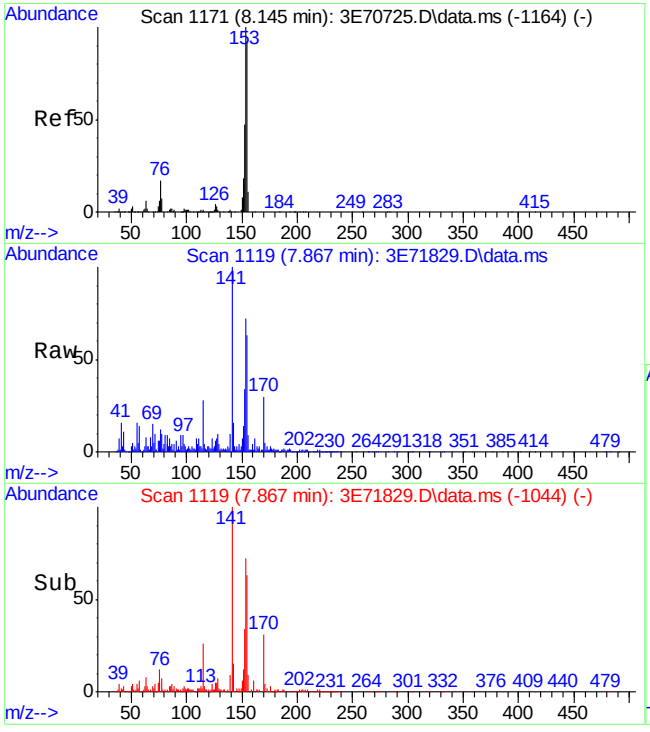


#53
Biphenyl
Concen: 1.47 ppm
RT: 7.064 min Scan# 969
Delta R.T. -0.101 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:154 Resp: 31882

Ion	Ratio	Lower	Upper
154	100		
153	42.1	10.6	70.6
155	16.1	0.0	42.6

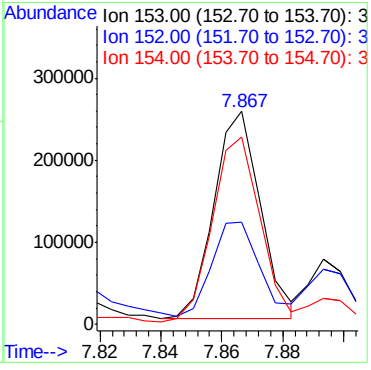




#59
Acenaphthene
Concen: 16.79 ppm m
RT: 7.867 min Scan# 1119
Delta R.T. -0.101 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

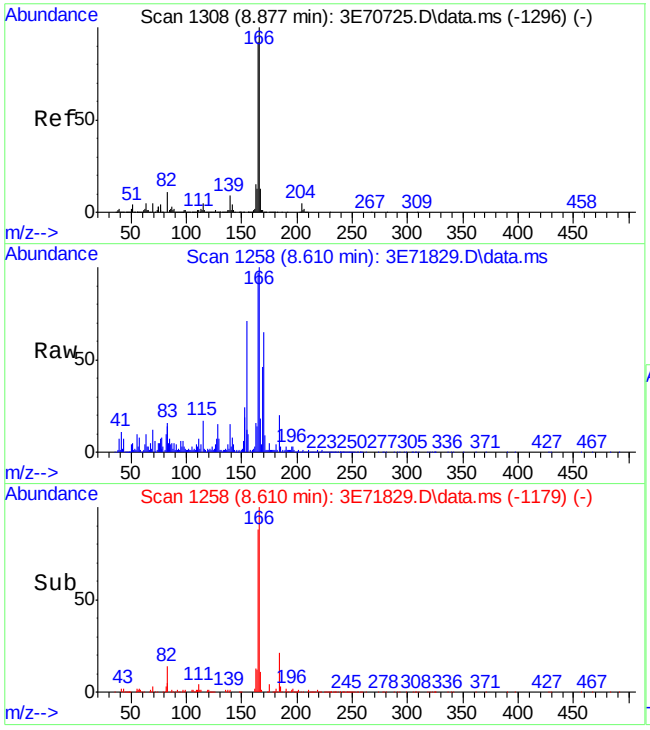
Tgt Ion:153 Resp: 267066

Ion	Ratio	Lower	Upper
153	100		
152	47.8	17.4	77.4
154	87.7	58.2	118.2



9.1.6

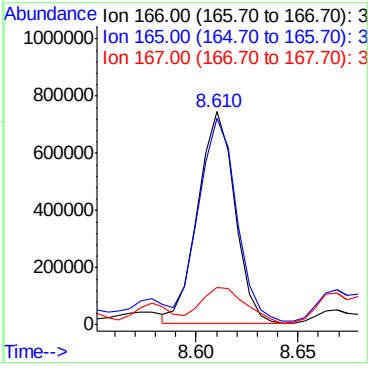
9

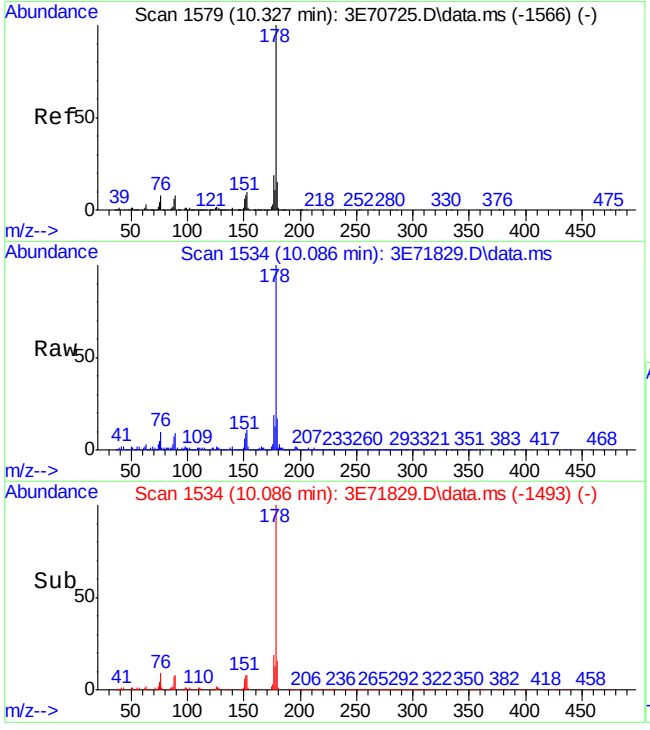


#66
Fluorene
Concen: 52.74 ppm
RT: 8.610 min Scan# 1258
Delta R.T. -0.080 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:166 Resp: 927570

Ion	Ratio	Lower	Upper
166	100		
165	94.1	62.2	122.2
167	13.2	0.0	43.2

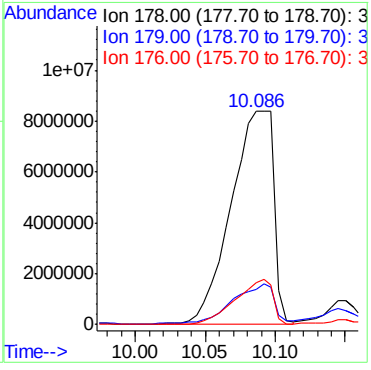


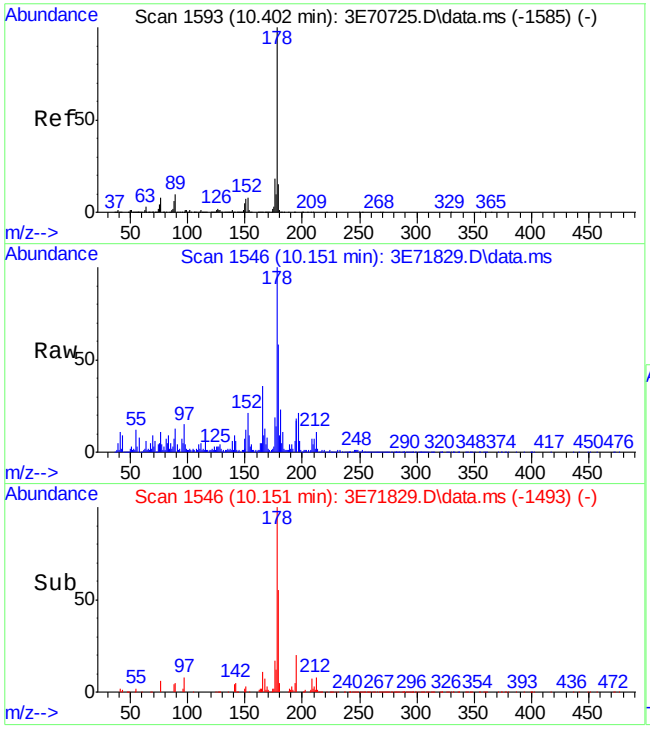


#77
Phenanthrene
Concen: 732.31 ppm m
RT: 10.086 min Scan# 1534
Delta R.T. -0.283 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:178 Resp:17824226

Ion	Ratio	Lower	Upper
178	100		
179	16.5	0.0	45.1
176	19.4	0.0	48.5

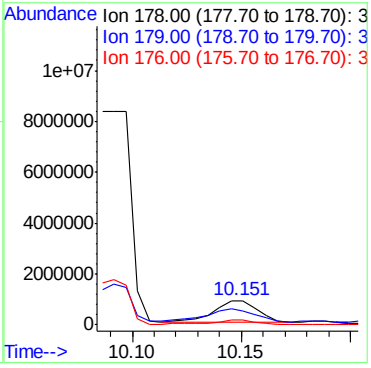


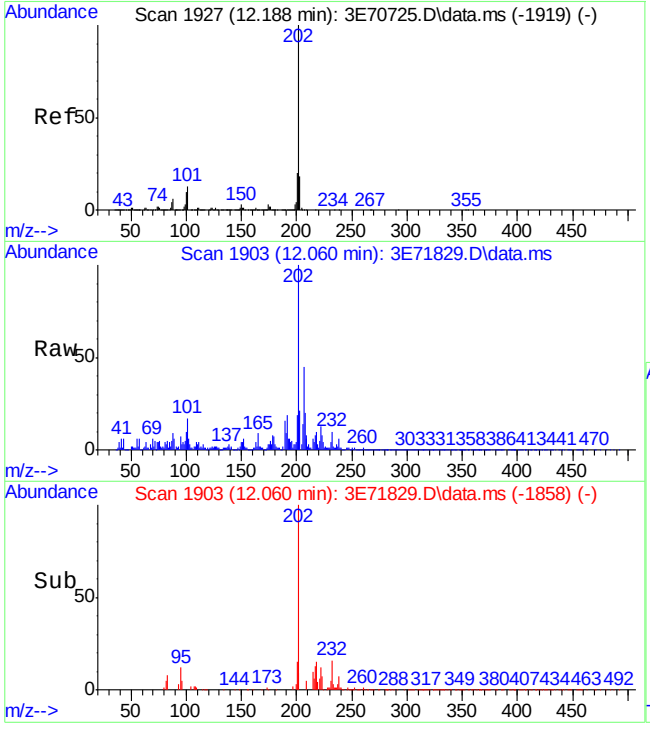


#78
Anthracene
Concen: 49.36 ppm m
RT: 10.151 min Scan# 1546
Delta R.T. -0.219 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:178 Resp: 1183440

Ion	Ratio	Lower	Upper
178	100		
179	57.9	0.0	45.3#
176	18.5	0.0	48.0

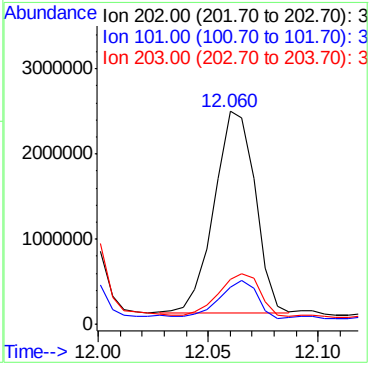


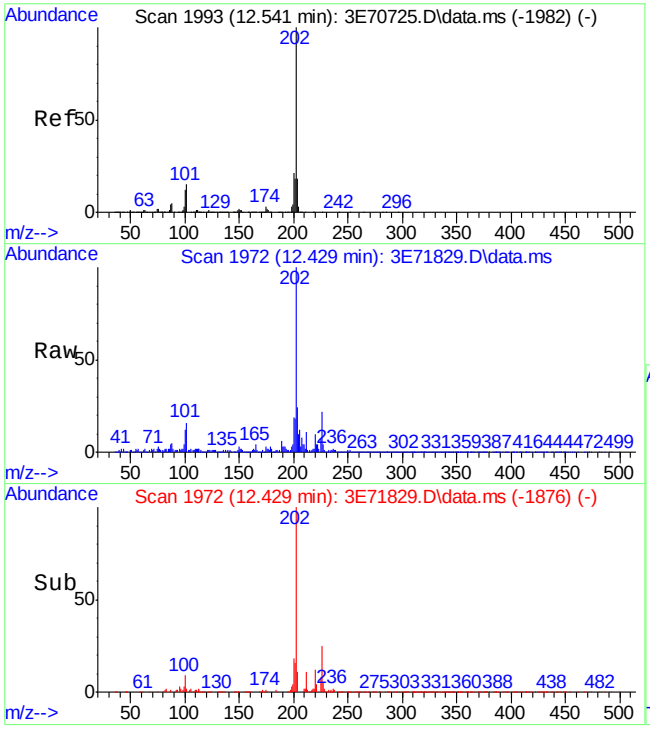


#81
Fluoranthene
Concen: 125.16 ppm m
RT: 12.060 min Scan# 1903
Delta R.T. -0.262 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:202 Resp: 3087732

Ion	Ratio	Lower	Upper
202	100		
101	17.3	0.0	43.3
203	21.2	0.0	47.5

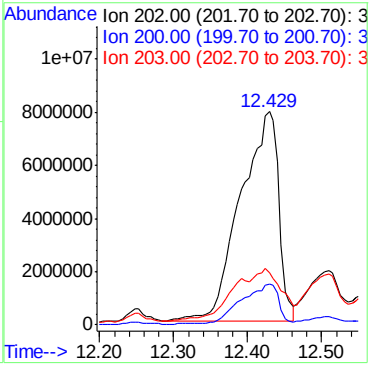


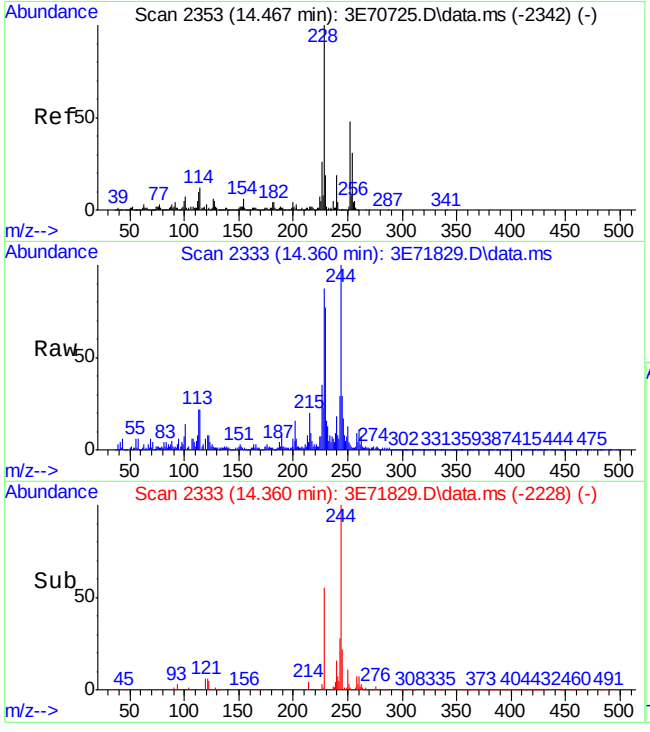


#84
Pyrene
Concen: 675.87 ppm
RT: 12.429 min Scan# 1972
Delta R.T. 0.011 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:202 Resp:28002969

Ion	Ratio	Lower	Upper
202	100		
200	19.3	0.0	50.7
203	20.1	0.0	48.0

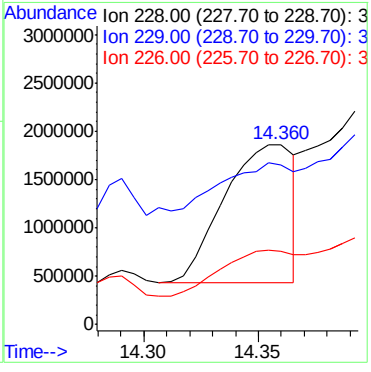




#88
Benzo[a]anthracene
Concen: 75.23 ppm m
RT: 14.360 min Scan# 2333
Delta R.T. 0.059 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

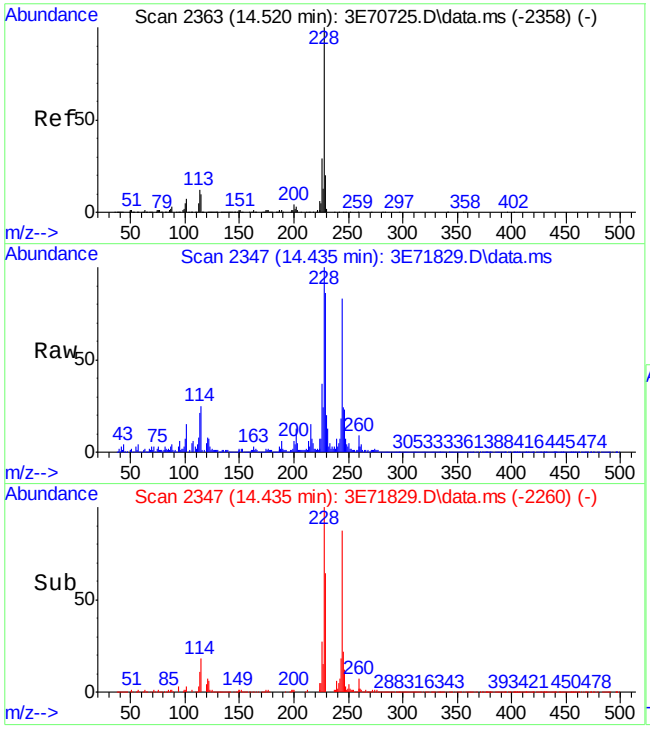
Tgt Ion:228 Resp: 3049032

Ion	Ratio	Lower	Upper
228	100		
229	88.7	0.0	48.8#
226	40.7	0.0	56.4



9.1.6

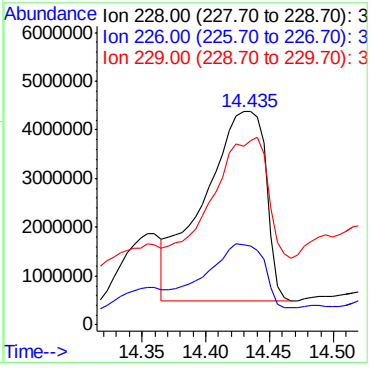
9

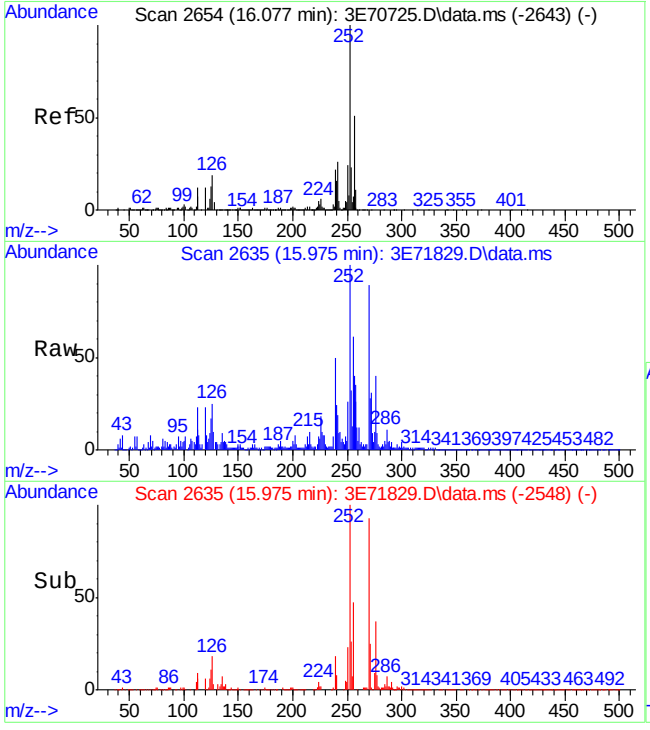


#90
Chrysene
Concen: 349.03 ppm m
RT: 14.435 min Scan# 2347
Delta R.T. -0.037 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:228 Resp:13208582

Ion	Ratio	Lower	Upper
228	100		
226	36.8	0.0	58.5
229	86.2	0.0	49.5#

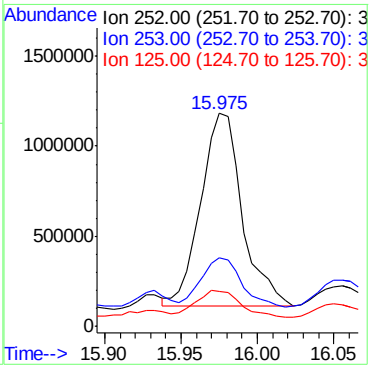


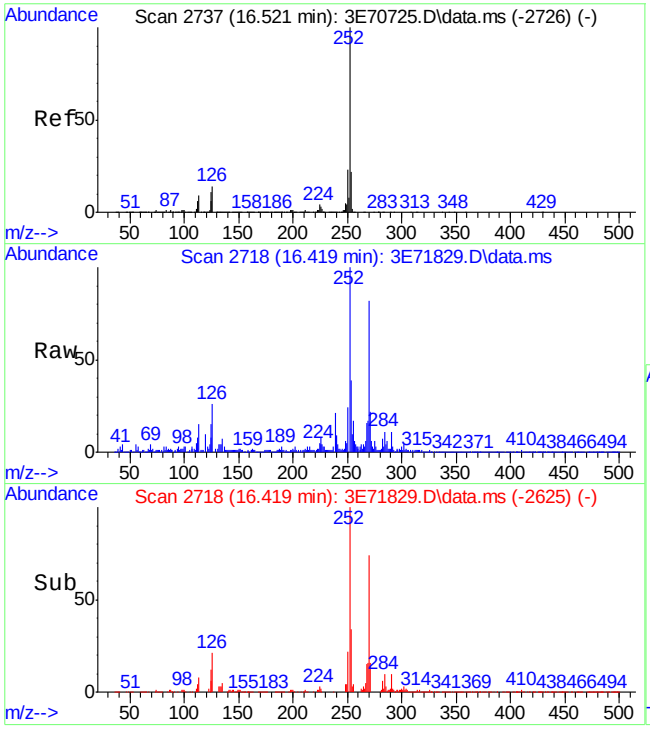


#94
Benzo[b]fluoranthene
Concen: 65.99 ppm
RT: 15.975 min Scan# 2635
Delta R.T. -0.037 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:252 Resp: 2008182

Ion	Ratio	Lower	Upper
252	100		
253	23.1	0.0	53.5
125	12.4	0.0	42.6

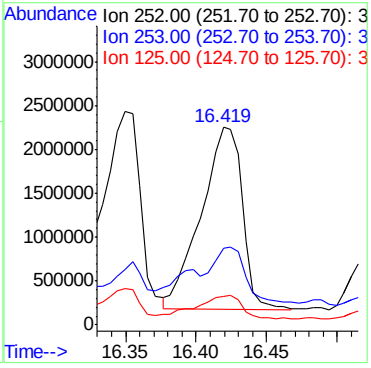


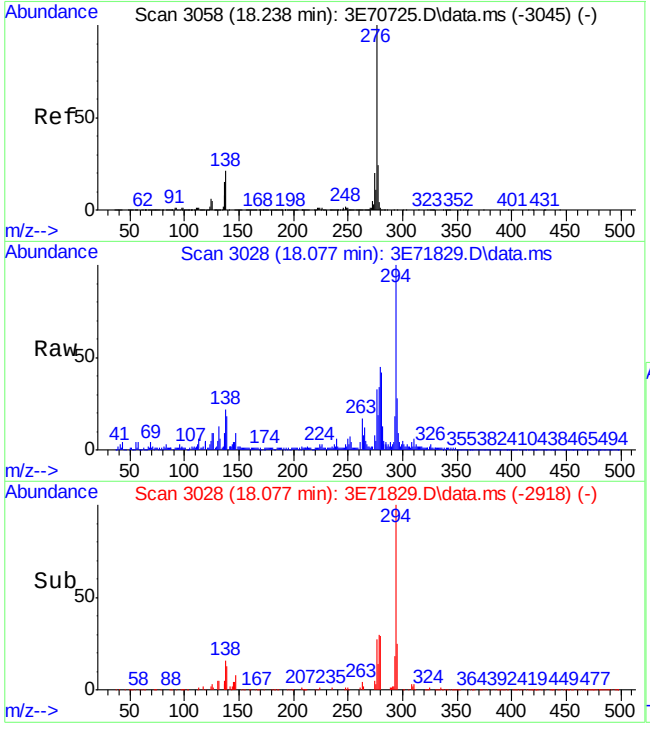


#96
Benzo[a]pyrene
Concen: 162.99 ppm m
RT: 16.419 min Scan# 2718
Delta R.T. -0.005 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:252 Resp: 4224615

Ion	Ratio	Lower	Upper
252	100		
253	38.7	0.0	51.7
125	14.6	0.0	41.3

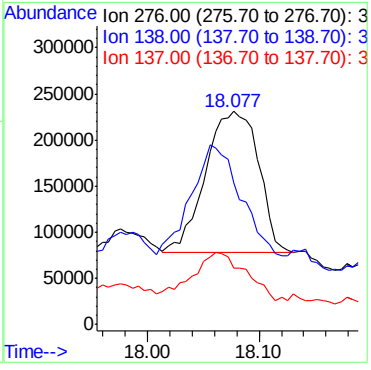


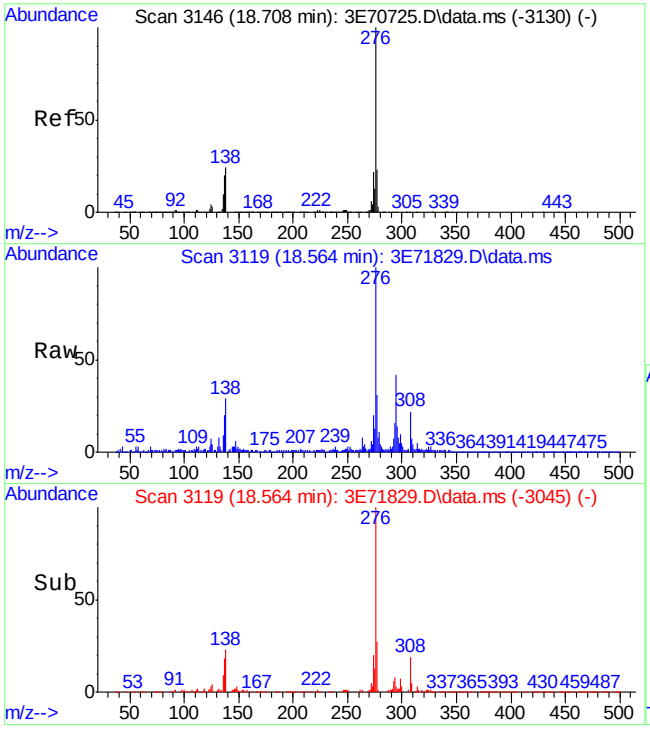


#97
Indeno[1,2,3-cd]pyrene
Concen: 18.88 ppm m
RT: 18.077 min Scan# 3028
Delta R.T. 0.086 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:276 Resp: 502666

Ion	Ratio	Lower	Upper
276	100		
138	66.6	0.0	48.4#
137	26.4	0.0	44.2

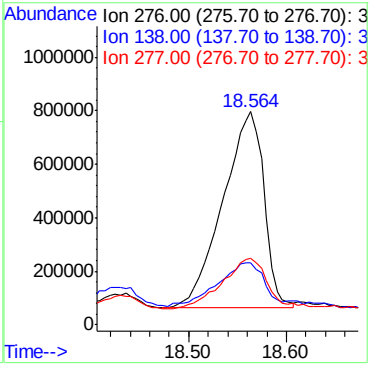




#101
Benzo[g,h,i]perylene
Concen: 83.35 ppm
RT: 18.564 min Scan# 3119
Delta R.T. -0.107 min
Lab File: 3E71829.D
Acq: 1 May 2015 4:47 pm

Tgt Ion:276 Resp: 2152793

Ion	Ratio	Lower	Upper
276	100		
138	20.8	0.0	53.9
277	24.6	0.0	53.5



9.1.6

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
05/06/15 12:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3103\
Data File : 3E71860.D
Acq On : 4 May 2015 5:45 pm
Operator : ashleyn
Sample : jb93023-6
Misc : op83412,e3e3103,31.2,,,5,40
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 05 16:10:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue May 05 08:47:26 2015
QLast Update : Tue May 05 08:47:26 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.652	152	195862	40.00 ppm	0.00
24) Naphthalene-d8	5.732	136	766295	40.00 ppm	0.00
47) Acenaphthene-d10	7.797	164	485310	40.00 ppm	0.00
69) Phenanthrene-d10	9.974	188	779007	40.00 ppm	0.00
83) Chrysene-d12	14.178	240	733423	40.00 ppm	0.02
92) Perylene-d12	16.301	264	701456	40.00 ppm	0.02
102) 1,4-Dichlorobenzene-d4a	4.652	152	195862	40.00 ppm	0.00
104) Acenaphthene-d10a	7.797	164	485310	40.00 ppm	0.00
106) Phenanthrene-d10a	9.974	188	779007	40.00 ppm	0.00
108) Chrysene-d12a	14.178	240	733423	40.00 ppm	0.02
110) Naphthalene-d8a	5.732	136	766295	40.00 ppm	0.00
112) Chrysene-d12b	14.178	240	733423	40.00 ppm	0.02

System Monitoring Compounds					
5) 2-Fluorophenol	0.000	112	0	0.00 ppm	
Spiked Amount 50.000			Recovery	=	0.00%
8) Phenol-d5	0.000	99	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	=	0.00%
25) Nitrobenzene-d5	0.000	82	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	=	0.00%
51) 2-Fluorobiphenyl	0.000	172	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	=	0.00%
73) 2,4,6-Tribromophenol	0.000	330	0d	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%

Target Compounds					Qvalue
44) 2-Methylnaphthalene	6.487	141	34959	3.06 ppm	96
59) Acenaphthene	7.840	153	12676	0.90 ppm	96
66) Fluorene	8.572	166	39784	2.54 ppm	84
77) Phenanthrene	10.011	178	670431	31.12 ppm	99
78) Anthracene	10.086	178	42166m	1.99 ppm	
81) Fluoranthene	11.883	202	102227m	4.68 ppm	
84) Pyrene	12.236	202	827741	39.14 ppm	93
88) Benzo[a]anthracene	14.156	228	140668m	6.80 ppm	
90) Chrysene	14.215	228	383016	19.83 ppm	82
94) Benzo[b]fluoranthene	15.772	252	65960	3.02 ppm	91
96) Benzo[a]pyrene	16.221	252	153258	8.23 ppm	93
101) Benzo[g,h,i]perylene	18.275	276	83608	4.51 ppm	98

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

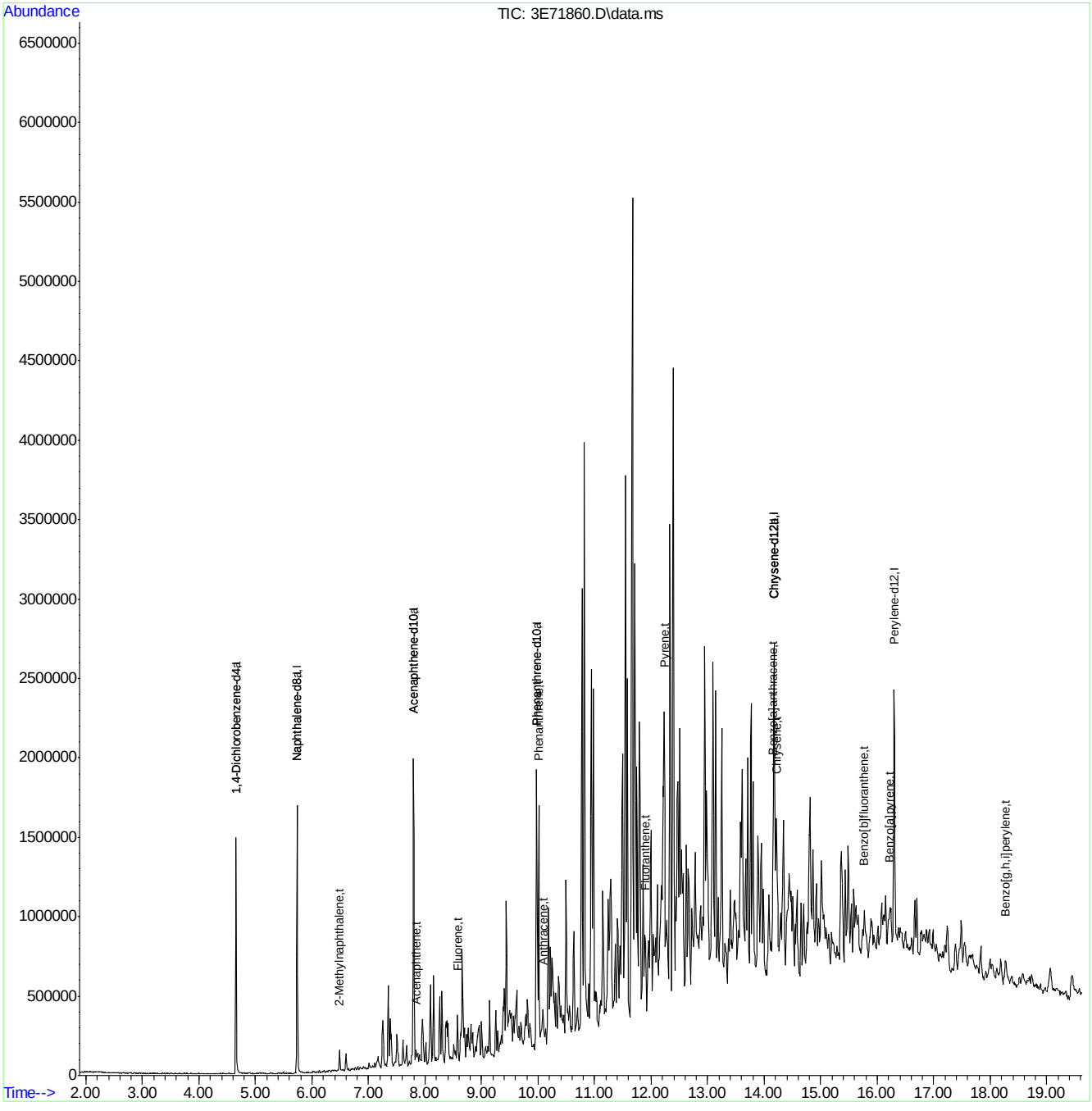
9.1.7

9

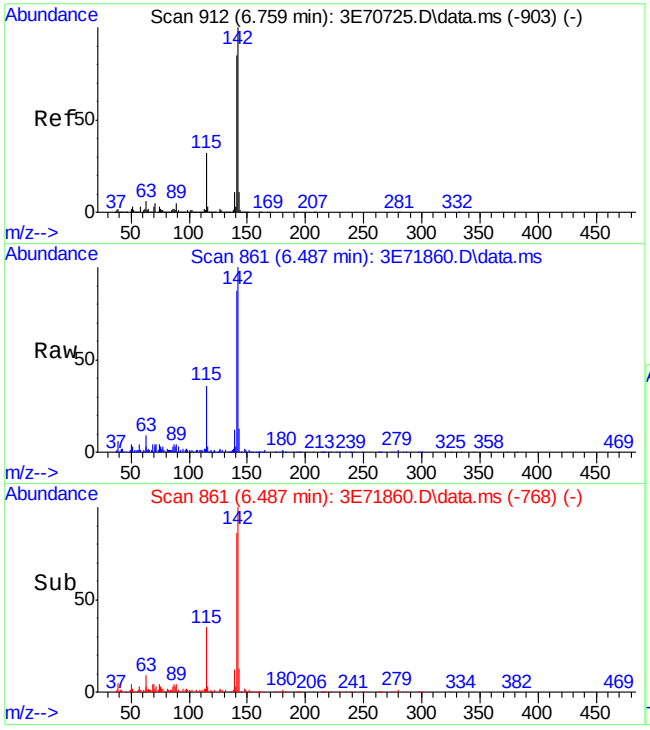
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3103\
Data File : 3E71860.D
Acq On : 4 May 2015 5:45 pm
Operator : ashleyn
Sample : jb93023-6
Misc : op83412,e3e3103,31.2,,,5,40
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 05 16:10:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuTue May 05 08:47:26 2015
QLast Update : Tue May 05 08:47:26 2015
Response via : Initial Calibration



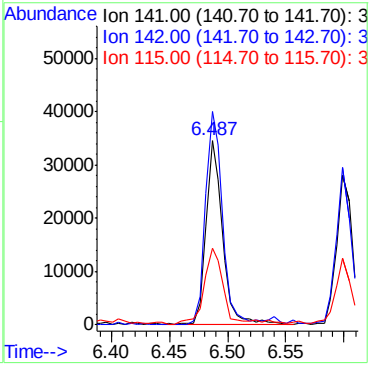
M3E3055.M Tue May 05 16:11:12 2015 MS3E Page: 2

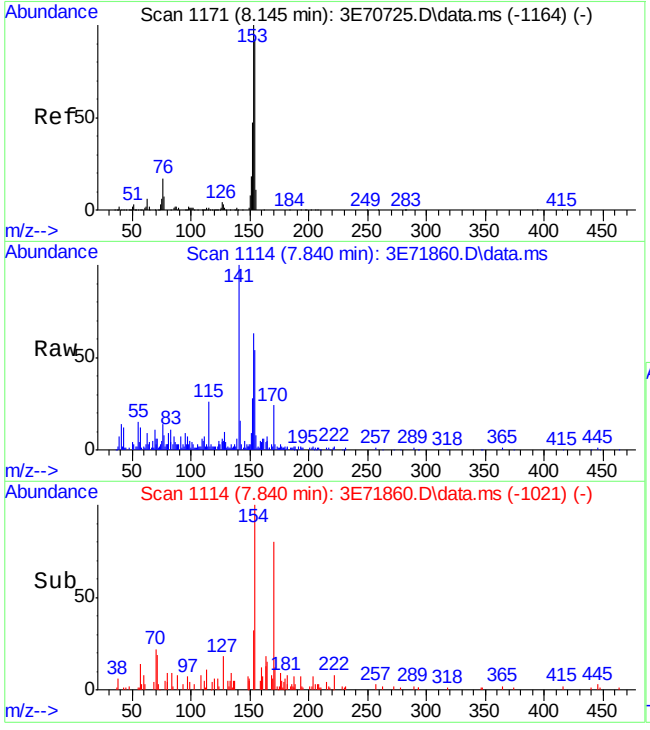


#44
2-Methylnaphthalene
Concen: 3.06 ppm
RT: 6.487 min Scan# 861
Delta R.T. -0.000 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:141 Resp: 34959

Ion	Ratio	Lower	Upper
141	100		
142	114.2	87.8	147.8
115	40.2	7.4	67.4

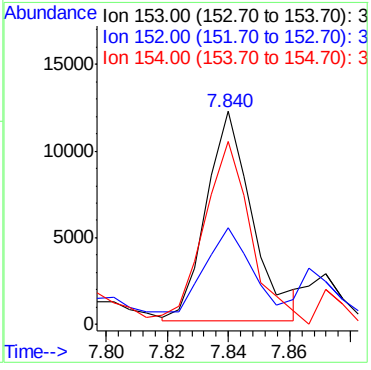


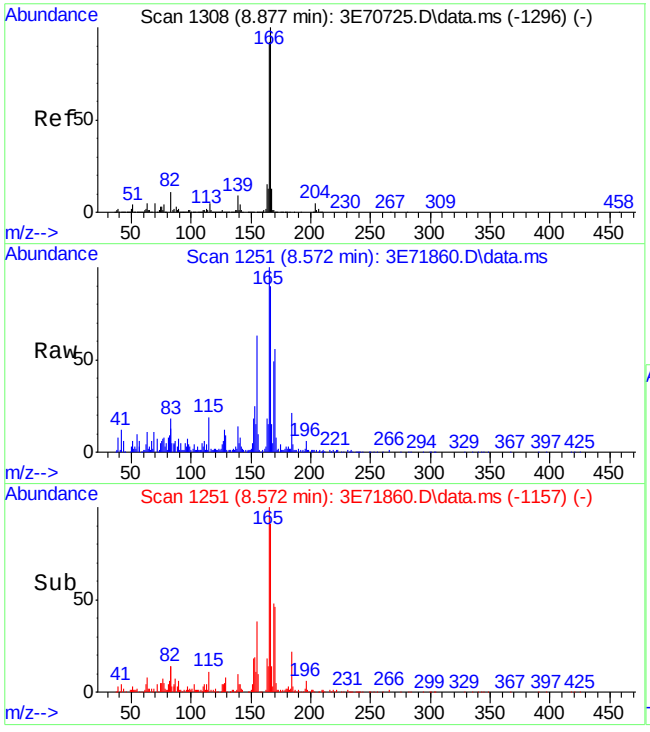


#59
Acenaphthene
Concen: 0.90 ppm
RT: 7.840 min Scan# 1114
Delta R.T. -0.000 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:153 Resp: 12676

Ion	Ratio	Lower	Upper
153	100		
152	40.5	17.4	77.4
154	89.4	58.2	118.2

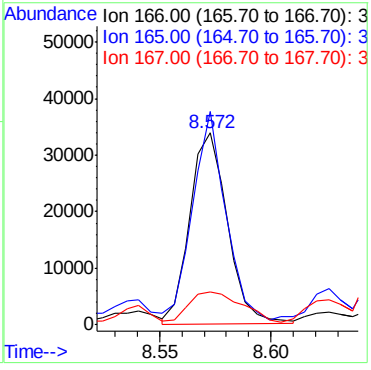


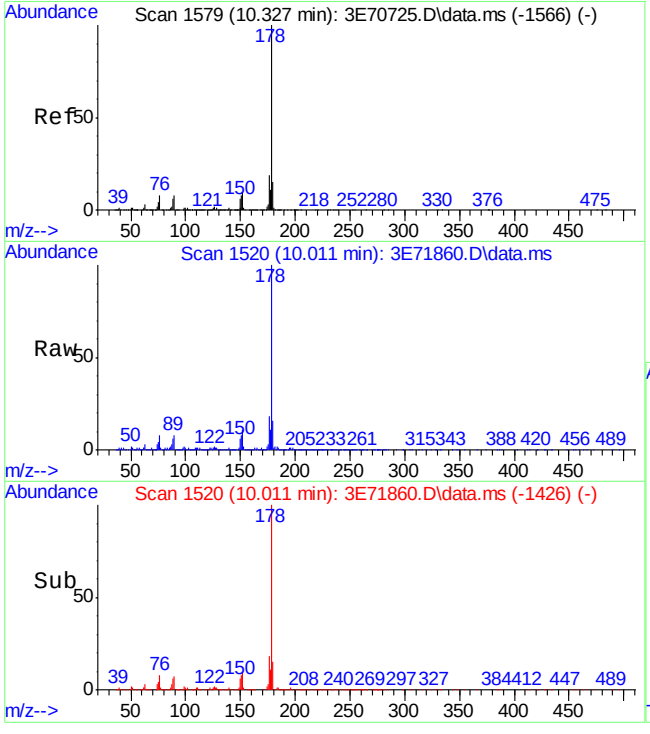


#66
Fluorene
Concen: 2.54 ppm
RT: 8.572 min Scan# 1251
Delta R.T. 0.005 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:166 Resp: 39784

Ion	Ratio	Lower	Upper
166	100		
165	108.8	62.2	122.2
167	14.8	0.0	43.2

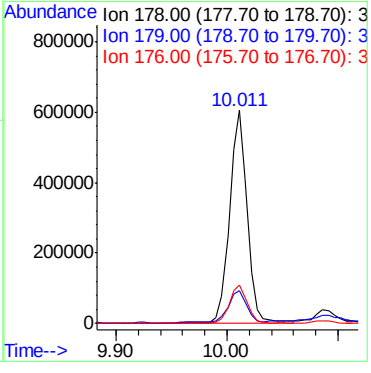




#77
Phenanthrene
Concen: 31.12 ppm
RT: 10.011 min Scan# 1520
Delta R.T. 0.005 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

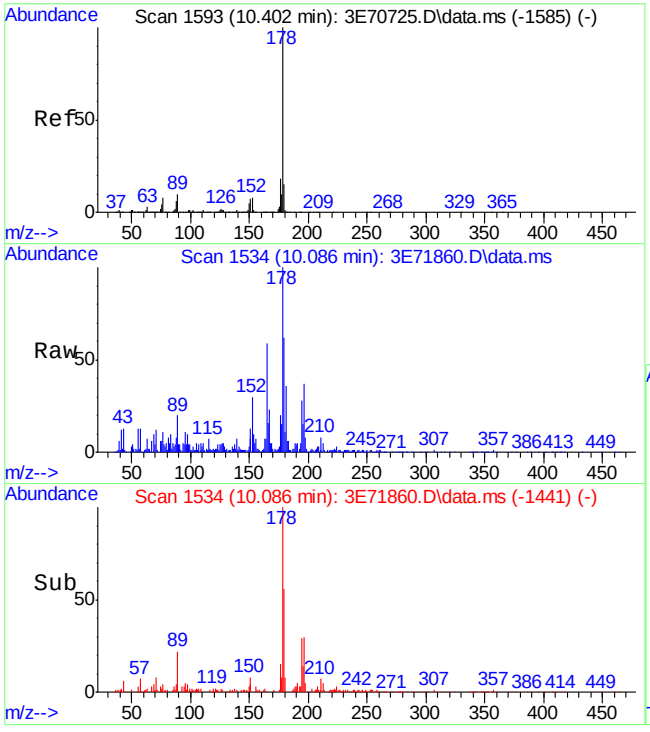
Tgt Ion:178 Resp: 670431

Ion	Ratio	Lower	Upper
178	100		
179	14.8	0.0	45.1
176	18.2	0.0	48.5



9.1.7

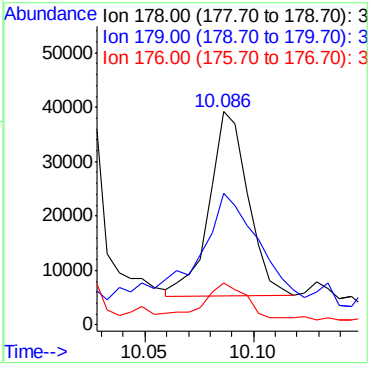
9

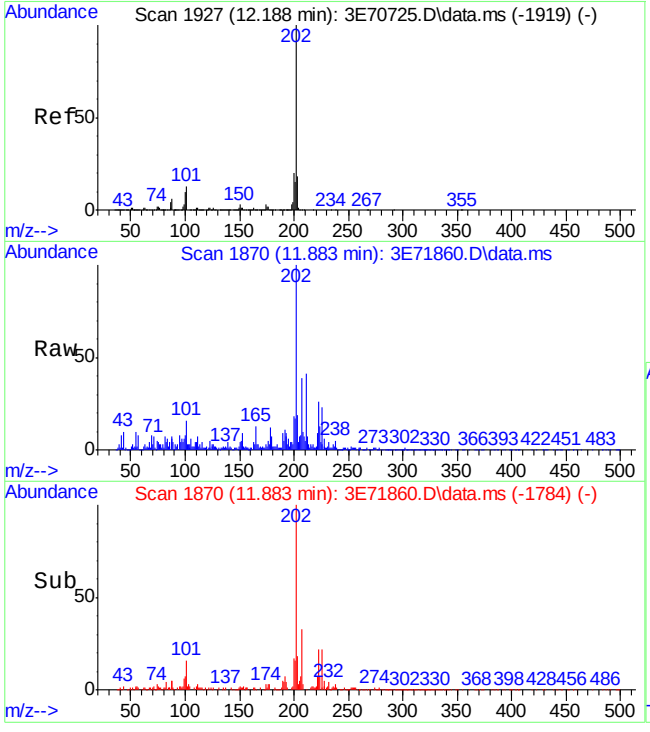


#78
Anthracene
Concen: 1.99 ppm m
RT: 10.086 min Scan# 1534
Delta R.T. -0.000 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:178 Resp: 42166

Ion	Ratio	Lower	Upper
178	100		
179	61.9	0.0	45.3#
176	19.8	0.0	48.0

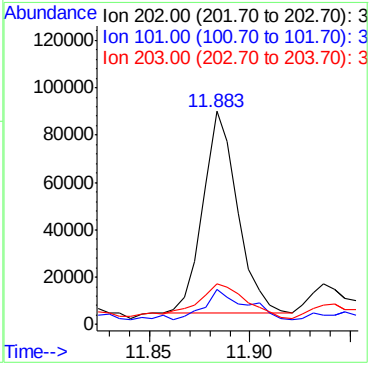




#81
Fluoranthene
Concen: 4.68 ppm m
RT: 11.883 min Scan# 1870
Delta R.T. -0.037 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

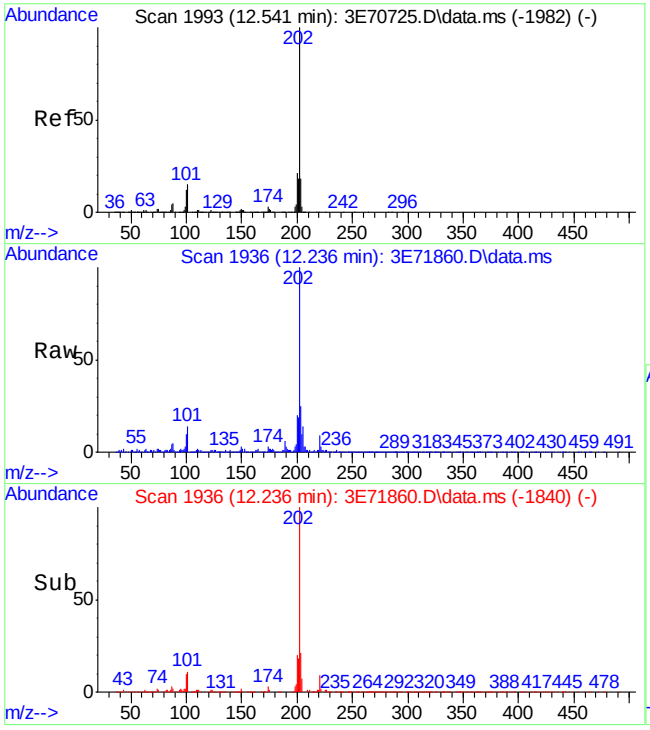
Tgt Ion:202 Resp: 102227

Ion	Ratio	Lower	Upper
202	100		
101	16.4	0.0	43.3
203	19.3	0.0	47.5



9.1.7

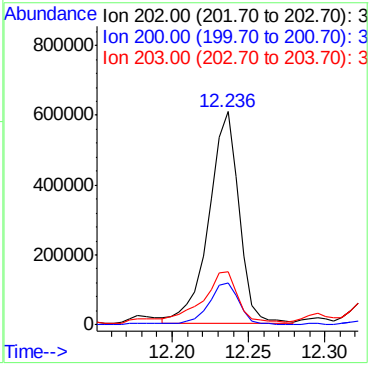
9

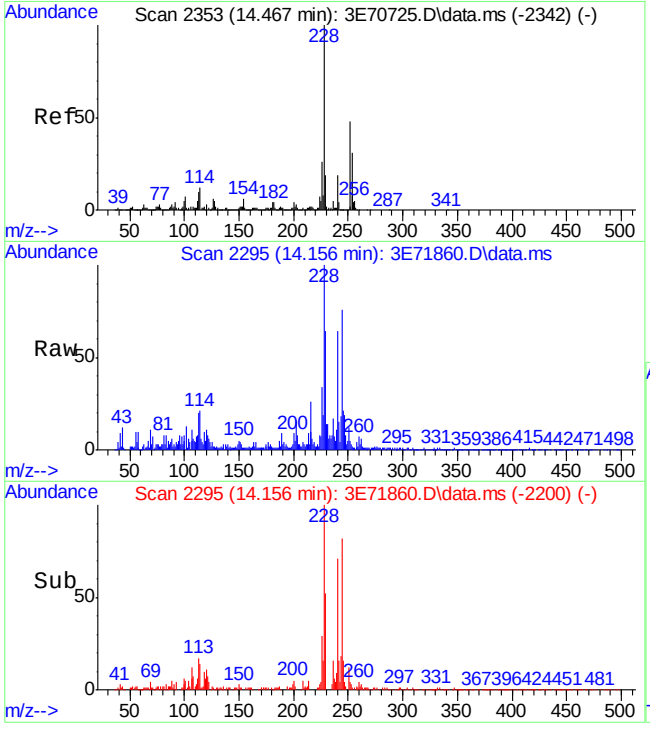


#84
Pyrene
Concen: 39.14 ppm
RT: 12.236 min Scan# 1936
Delta R.T. 0.016 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:202 Resp: 827741

Ion	Ratio	Lower	Upper
202	100		
200	19.7	0.0	50.7
203	23.1	0.0	48.0

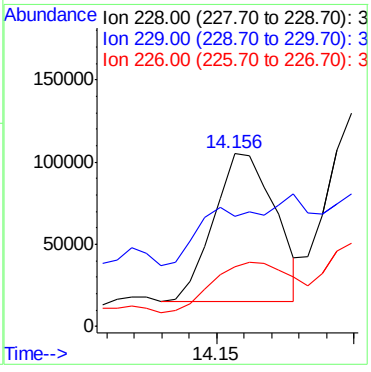




#88
Benzo[a]anthracene
Concen: 6.80 ppm m
RT: 14.156 min Scan# 2295
Delta R.T. 0.011 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

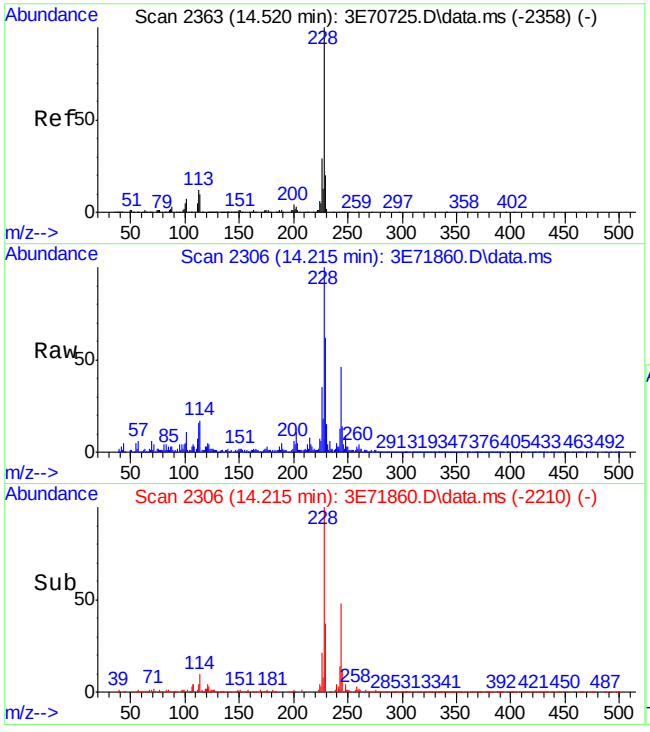
Tgt Ion:228 Resp: 140668

Ion	Ratio	Lower	Upper
228	100		
229	64.0	0.0	48.8#
226	34.5	0.0	56.4



9.1.7

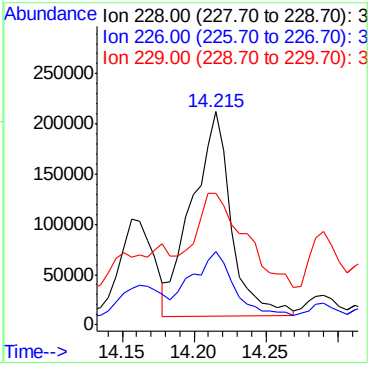
9

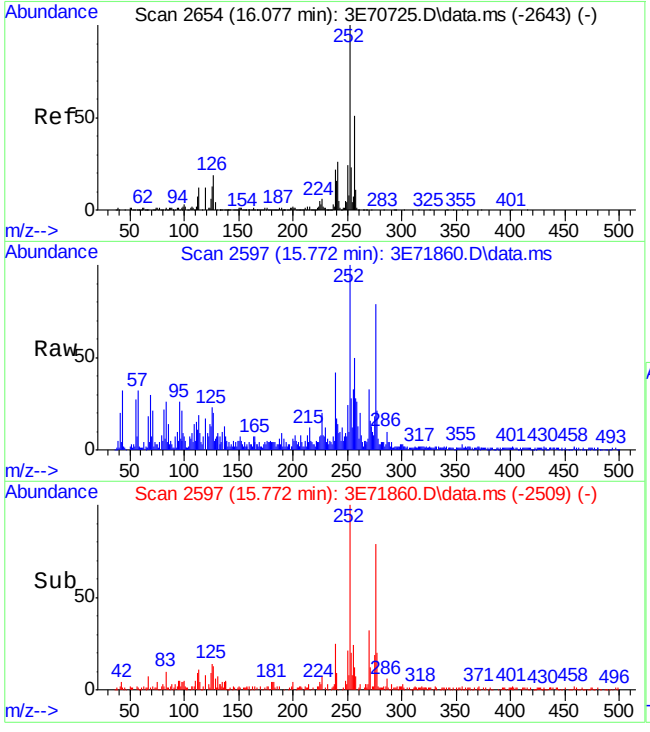


#90
Chrysene
Concen: 19.83 ppm
RT: 14.215 min Scan# 2306
Delta R.T. 0.016 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:228 Resp: 383016

Ion	Ratio	Lower	Upper
228	100		
226	28.9	0.0	58.5
229	39.3	0.0	49.5

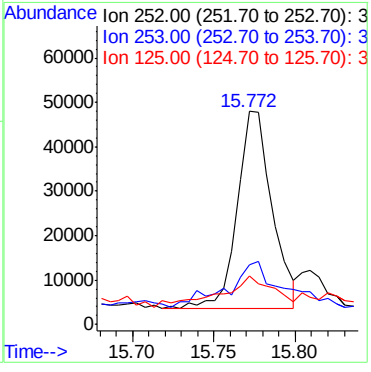


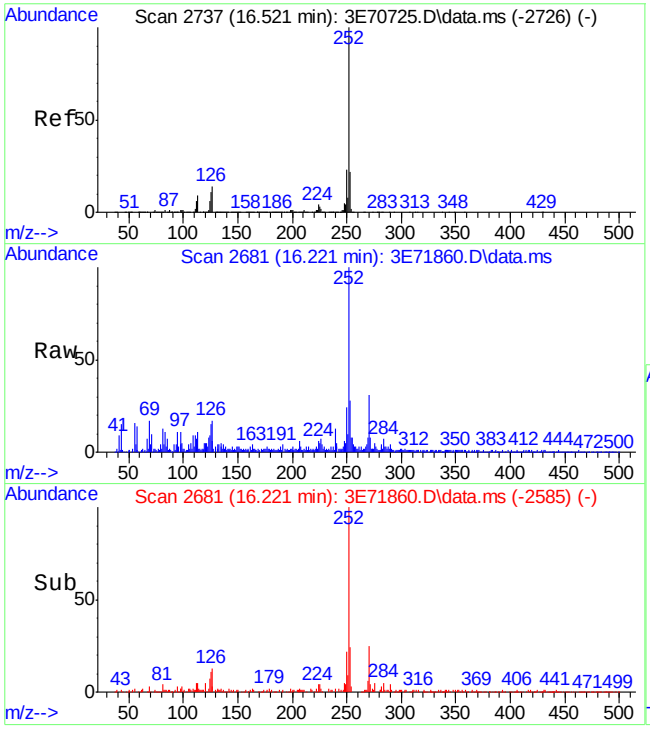


#94
Benzo[b]fluoranthene
Concen: 3.02 ppm
RT: 15.772 min Scan# 2597
Delta R.T. -0.027 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:252 Resp: 65960

Ion	Ratio	Lower	Upper
252	100		
253	17.7	0.0	53.5
125	13.6	0.0	42.6

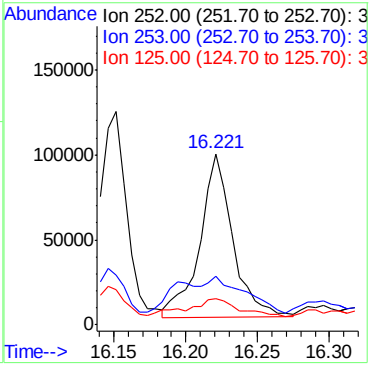


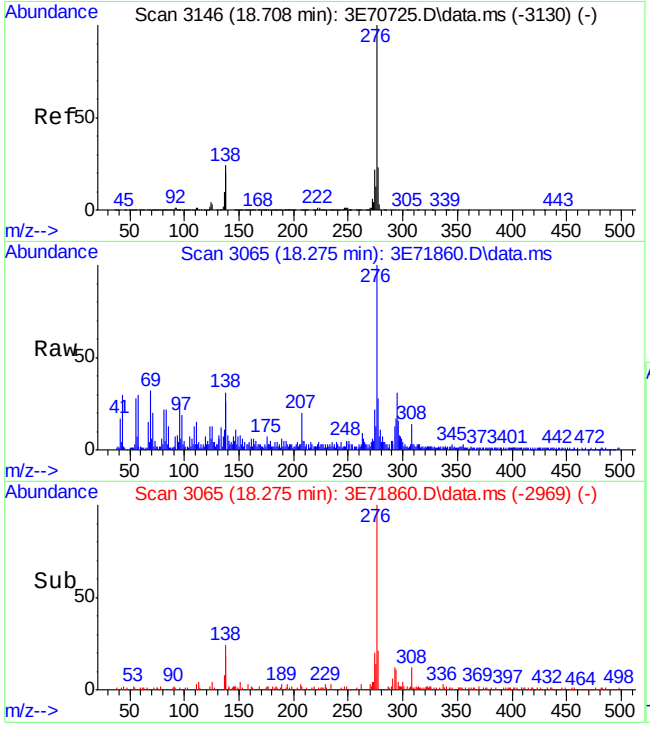


#96
Benzo[a]pyrene
Concen: 8.23 ppm
RT: 16.221 min Scan# 2681
Delta R.T. 0.016 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:252 Resp: 153258

Ion	Ratio	Lower	Upper
252	100		
253	18.5	0.0	51.7
125	8.7	0.0	41.3

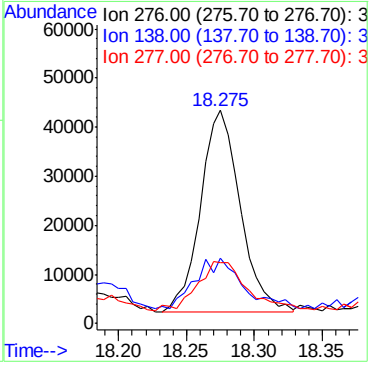




#101
Benzo[g,h,i]perylene
Concen: 4.51 ppm
RT: 18.275 min Scan# 3065
Delta R.T. 0.016 min
Lab File: 3E71860.D
Acq: 4 May 2015 5:45 pm

Tgt Ion:276 Resp: 83608

Ion	Ratio	Lower	Upper
276	100		
138	23.9	0.0	53.9
277	21.3	0.0	53.5



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71773.D
Acq On : 30 Apr 2015 7:45 am
Operator : sarad
Sample : jb93023-7
Misc : op83412,e3e3099,30.7,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 30 16:05:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.673	152	337404	40.00	ppm	0.00
24) Naphthalene-d8	5.759	136	1201323	40.00	ppm	0.00
47) Acenaphthene-d10	7.829	164	596889	40.00	ppm	0.00
69) Phenanthrene-d10	10.011	188	858964	40.00	ppm	0.00
83) Chrysene-d12	14.194	240	665538	40.00	ppm	-0.01
92) Perylene-d12	16.323	264	585277	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.673	152	337404	40.00	ppm	0.00
104) Acenaphthene-d10a	7.829	164	596889	40.00	ppm	0.00
106) Phenanthrene-d10a	10.011	188	858964	40.00	ppm	0.00
108) Chrysene-d12a	14.194	240	665538	40.00	ppm	-0.01
110) Naphthalene-d8a	5.759	136	1201323	40.00	ppm	0.00
112) Chrysene-d12b	14.194	240	665538	40.00	ppm	-0.01

System Monitoring Compounds						
5) 2-Fluorophenol	3.727	112	374024	34.71	ppm	0.00
Spiked Amount 50.000			Recovery = 69.42%			
8) Phenol-d5	4.433	99	429460	31.46	ppm	0.00
Spiked Amount 50.000			Recovery = 62.92%			
25) Nitrobenzene-d5	5.117	82	417633	36.06	ppm	0.00
Spiked Amount 50.000			Recovery = 72.12%			
51) 2-Fluorobiphenyl	6.952	172	826950	43.39	ppm	0.00
Spiked Amount 50.000			Recovery = 86.78%			
73) 2,4,6-Tribromophenol	8.974	330	110991	53.72	ppm	0.00
Spiked Amount 50.000			Recovery = 107.44%			
85) Terphenyl-d14	12.563	244	746088	57.04	ppm	0.00
Spiked Amount 50.000			Recovery = 114.08%			

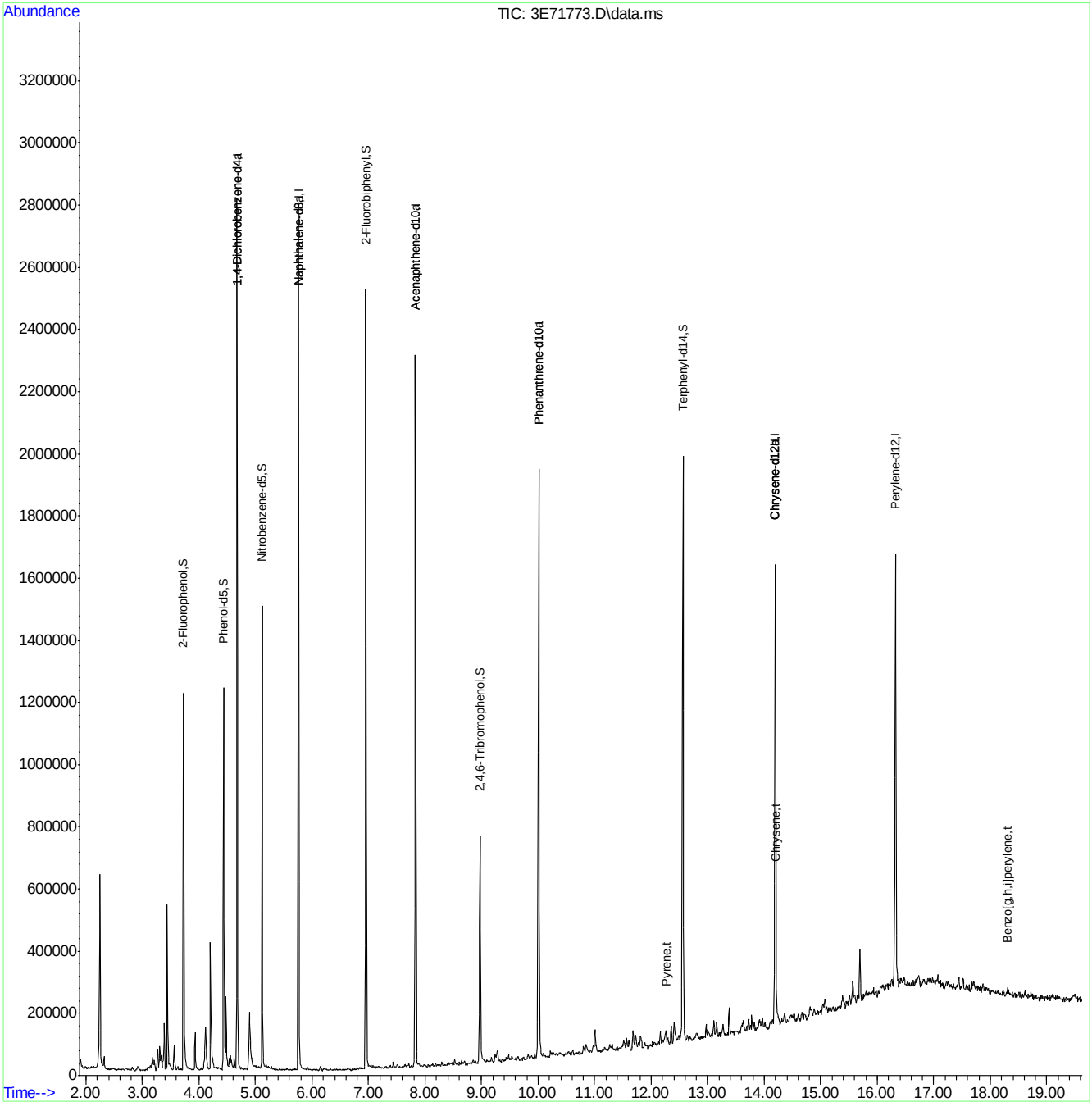
Target Compounds						Qvalue
84) Pyrene	12.258	202	18539	0.97	ppm	93
90) Chrysene	14.215	228	14065	0.80	ppm	86
101) Benzo[g,h,i]perylene	18.312	276	13246	0.86	ppm	85

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

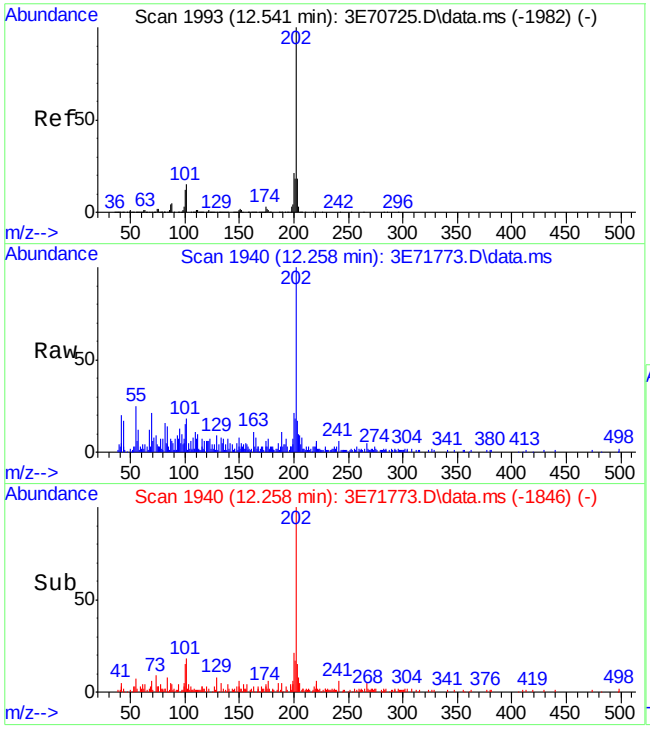
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71773.D
Acq On : 30 Apr 2015 7:45 am
Operator : sarad
Sample : jb93023-7
Misc : op83412,e3e3099,30.7,,,1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 30 16:05:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration



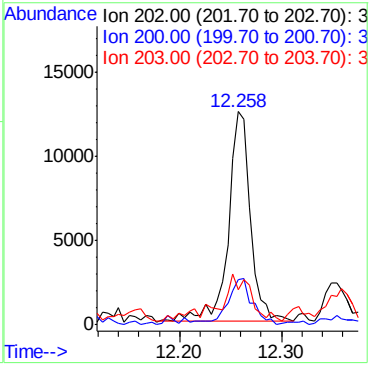
M3E3055.M Thu Apr 30 16:05:55 2015 MS3E

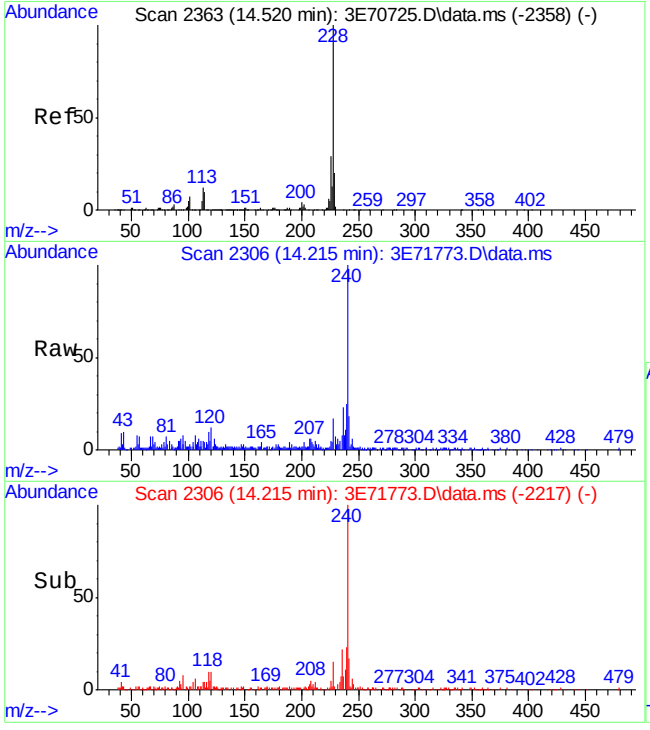


#84
Pyrene
Concen: 0.97 ppm
RT: 12.258 min Scan# 1940
Delta R.T. 0.000 min
Lab File: 3E71773.D
Acq: 30 Apr 2015 7:45 am

Tgt Ion:202 Resp: 18539

Ion	Ratio	Lower	Upper
202	100		
200	20.4	0.0	50.7
203	12.2	0.0	48.0

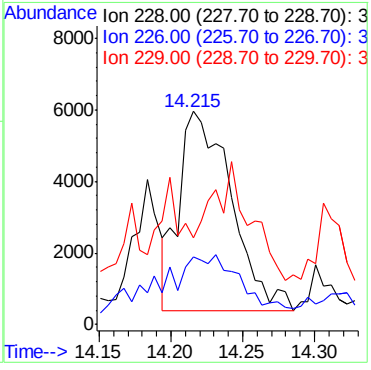


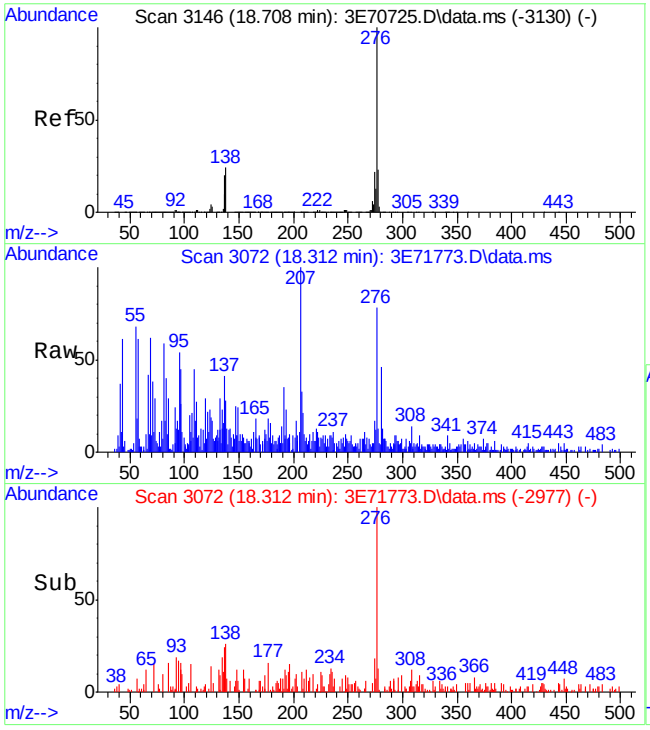


#90
Chrysene
Concen: 0.80 ppm
RT: 14.215 min Scan# 2306
Delta R.T. -0.027 min
Lab File: 3E71773.D
Acq: 30 Apr 2015 7:45 am

Tgt Ion:228 Resp: 14065

Ion	Ratio	Lower	Upper
228	100		
226	26.5	0.0	58.5
229	6.4	0.0	49.5

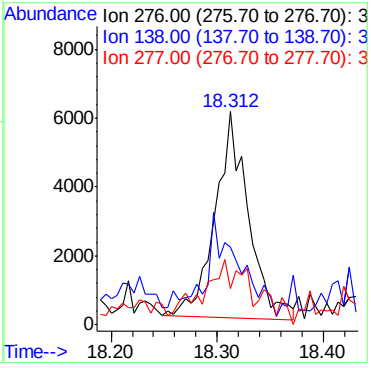




#101
Benzo[g,h,i]perylene
Concen: 0.86 ppm
RT: 18.312 min Scan# 3072
Delta R.T. 0.006 min
Lab File: 3E71773.D
Acq: 30 Apr 2015 7:45 am

Tgt Ion:276 Resp: 13246

Ion	Ratio	Lower	Upper
276	100		
138	22.2	0.0	53.9
277	10.8	0.0	53.5



9.1.8

9

Manual Integrations APPROVED (compounds with "m" flag)
Nina Pandya
05/03/15 17:35

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71772.D
Acq On : 30 Apr 2015 7:19 am
Operator : sarad
Sample : jb93023-8
Misc : op83412,e3e3099,30.2,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 05 08:43:09 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.673	152	280873	40.00 ppm	0.00
24) Naphthalene-d8	5.759	136	1048350	40.00 ppm	0.00
47) Acenaphthene-d10	7.835	164	592738	40.00 ppm	0.00
69) Phenanthrene-d10	10.022	188	985755	40.00 ppm	0.01
83) Chrysene-d12	14.205	240	756752	40.00 ppm	0.00
92) Perylene-d12	16.323	264	627959	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.673	152	280873	40.00 ppm	0.00
104) Acenaphthene-d10a	7.835	164	592738	40.00 ppm	0.00
106) Phenanthrene-d10a	10.022	188	985755	40.00 ppm	0.01
108) Chrysene-d12a	14.205	240	756752	40.00 ppm	0.00
110) Naphthalene-d8a	5.759	136	1048350	40.00 ppm	0.00
112) Chrysene-d12b	14.205	240	756752	40.00 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	3.721	112	329106	36.68 ppm	0.00
Spiked Amount 50.000			Recovery	= 73.36%	
8) Phenol-d5	4.433	99	397850	35.02 ppm	0.00
Spiked Amount 50.000			Recovery	= 70.04%	
25) Nitrobenzene-d5	5.117	82	369395	36.55 ppm	0.00
Spiked Amount 50.000			Recovery	= 73.10%	
51) 2-Fluorobiphenyl	6.957	172	800456	42.29 ppm	0.00
Spiked Amount 50.000			Recovery	= 84.58%	
73) 2,4,6-Tribromophenol	8.979	330	118148	49.83 ppm	0.00
Spiked Amount 50.000			Recovery	= 99.66%	
85) Terphenyl-d14	12.573	244	851718	57.27 ppm	0.02
Spiked Amount 50.000			Recovery	= 114.54%	

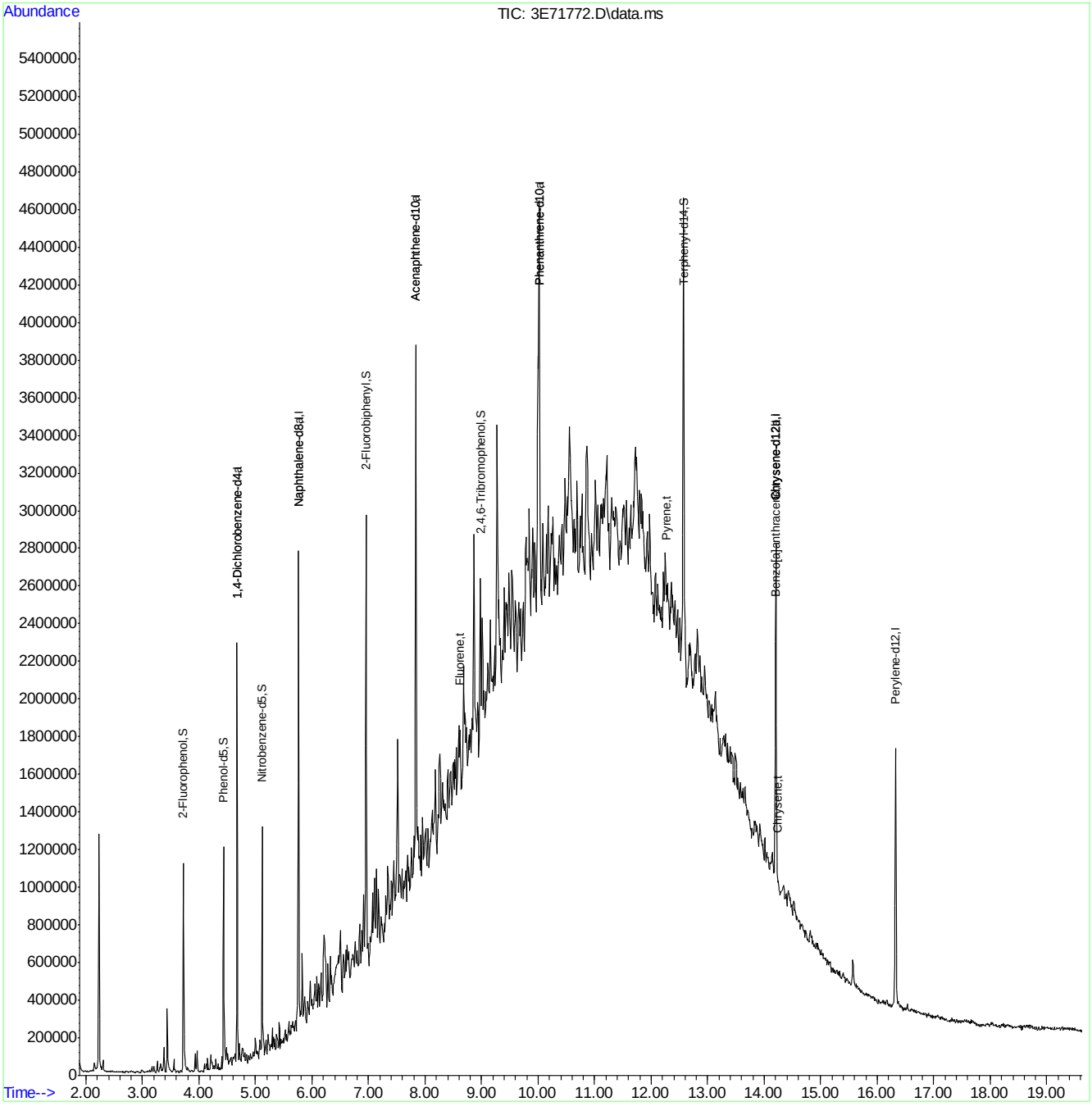
Target Compounds					Qvalue
66) Fluorene	8.610	166	17683m	0.93 ppm	
84) Pyrene	12.274	202	37906	1.74 ppm	92
88) Benzo[a]anthracene	14.194	228	13911	0.65 ppm	76
90) Chrysene	14.242	228	14370	0.72 ppm	79

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

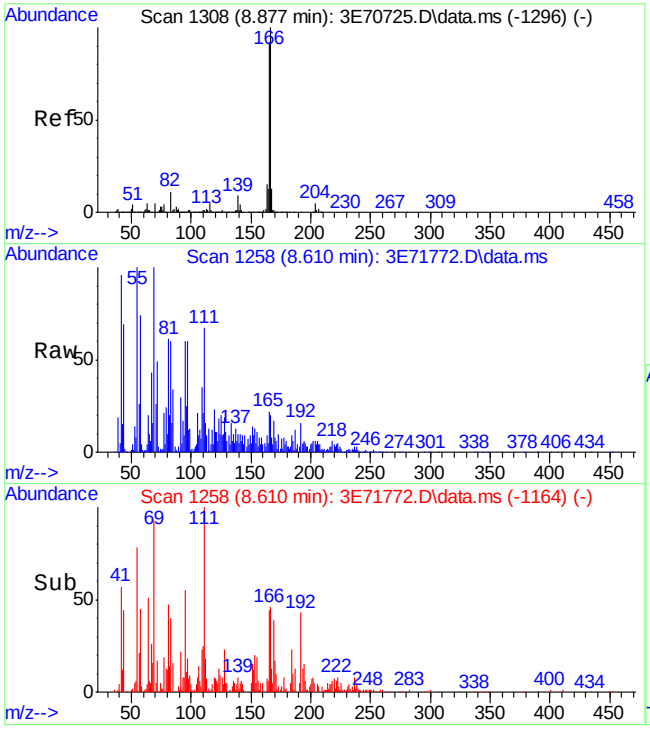
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71772.D
Acq On : 30 Apr 2015 7:19 am
Operator : sarad
Sample : jb93023-8
Misc : op83412,e3e3099,30.2,,,1,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 05 08:43:09 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration



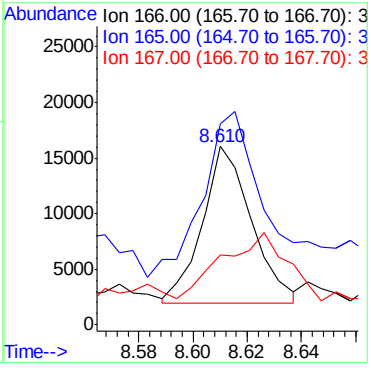
M3E3055.M Tue May 05 08:43:19 2015 MS3E

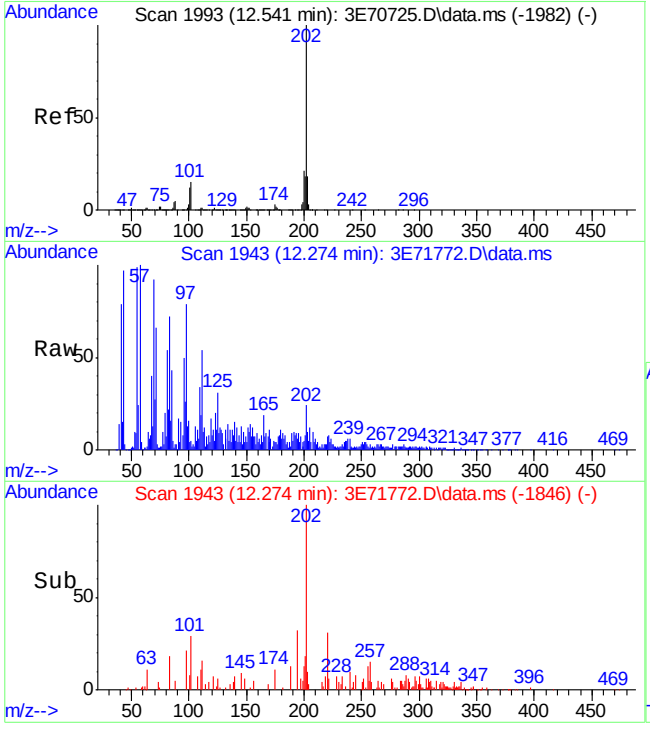


#66
Fluorene
Concen: 0.93 ppm m
RT: 8.610 min Scan# 1258
Delta R.T. 0.000 min
Lab File: 3E71772.D
Acq: 30 Apr 2015 7:19 am

Tgt Ion:166 Resp: 17683

Ion	Ratio	Lower	Upper
166	100		
165	112.8	62.2	122.2
167	39.2	0.0	43.2

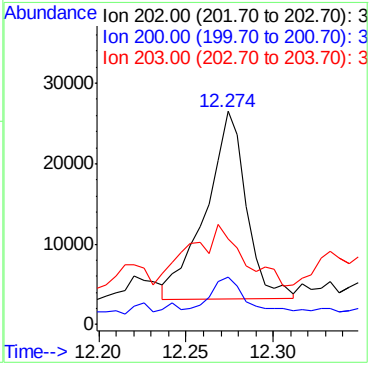


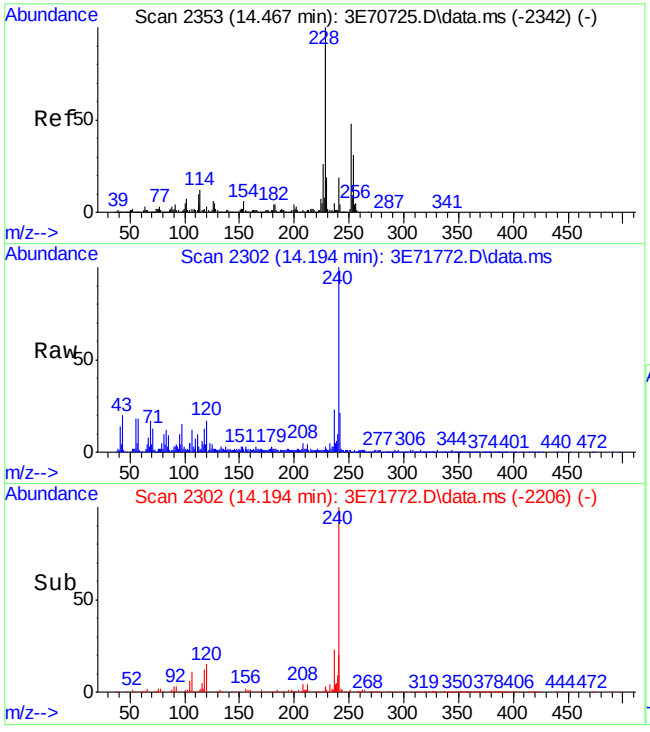


#84
Pyrene
Concen: 1.74 ppm
RT: 12.274 min Scan# 1943
Delta R.T. 0.016 min
Lab File: 3E71772.D
Acq: 30 Apr 2015 7:19 am

Tgt Ion:202 Resp: 37906

Ion	Ratio	Lower	Upper
202	100		
200	18.5	0.0	50.7
203	22.7	0.0	48.0

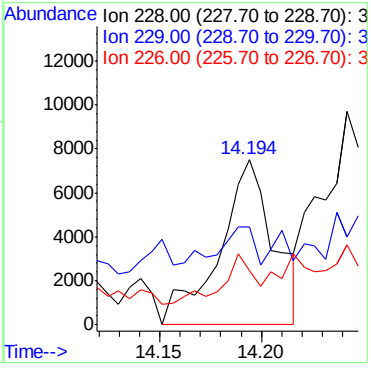


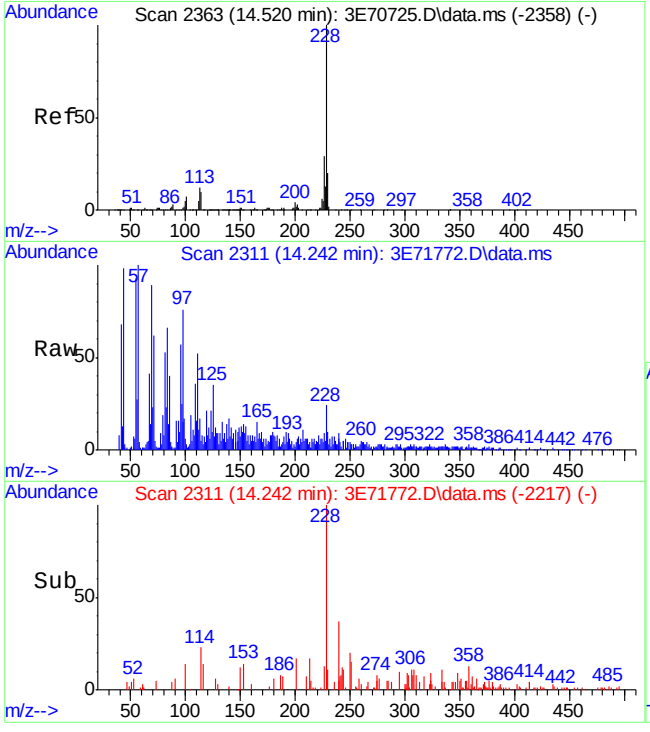


#88
Benzo[a]anthracene
Concen: 0.65 ppm
RT: 14.194 min Scan# 2302
Delta R.T. 0.011 min
Lab File: 3E71772.D
Acq: 30 Apr 2015 7:19 am

Tgt Ion:228 Resp: 13911

Ion	Ratio	Lower	Upper
228	100		
229	17.9	0.0	48.8
226	6.0	0.0	56.4

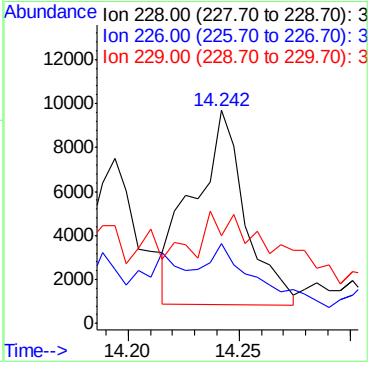




#90
Chrysene
Concen: 0.72 ppm
RT: 14.242 min Scan# 2311
Delta R.T. 0.000 min
Lab File: 3E71772.D
Acq: 30 Apr 2015 7:19 am

Tgt Ion:228 Resp: 14370

Ion	Ratio	Lower	Upper
228	100		
226	16.5	0.0	58.5
229	11.3	0.0	49.5



Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3165\
Data File : 2m73606.D
Acq On : 27 Apr 2015 7:32 pm
Operator : ashleyn
Sample : jb93023-9
Misc : op83421,e2m3165,31.7
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 28 20:59:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Tue Apr 28 07:56:53 2015
QLast Update : Tue Apr 28 07:56:53 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.718	152	425744	40.00	ppm	0.00
24) Naphthalene-d8	5.815	136	1659762	40.00	ppm	0.00
47) Acenaphthene-d10	7.895	164	926603	40.00	ppm	0.00
69) Phenanthrene-d10	10.072	188	1441235	40.00	ppm	0.01
83) Chrysene-d12	14.244	240	1207398	40.00	ppm	0.01
92) Perylene-d12	16.357	264	1192759	40.00	ppm	0.02
102) 1,4-Dichlorobenzene-d4a	4.718	152	425744	40.00	ppm	0.00
104) Acenaphthene-d10a	7.895	164	926603	40.00	ppm	0.00
106) Chrysene-d12a	14.244	240	1207398	40.00	ppm	0.01
108) Phenanthrene-d10a	10.072	188	1441235	40.00	ppm	0.01
110) Naphthalene-d8a	5.815	136	1659762	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	3.772	112	557333	34.52	ppm	0.00
Spiked Amount 50.000			Recovery = 69.04%			
8) Phenol-d5	4.478	99	722366	34.99	ppm	0.00
Spiked Amount 50.000			Recovery = 69.98%			
25) Nitrobenzene-d5	5.162	82	630626	40.67	ppm	0.00
Spiked Amount 50.000			Recovery = 81.34%			
51) 2-Fluorobiphenyl	7.013	172	1175251	40.60	ppm	0.00
Spiked Amount 50.000			Recovery = 81.20%			
73) 2,4,6-Tribromophenol	9.035	330	162543	55.26	ppm	0.01
Spiked Amount 50.000			Recovery = 110.52%			
85) Terphenyl-d14	12.613	244	1123688	46.36	ppm	0.01
Spiked Amount 50.000			Recovery = 92.72%			
Target Compounds						Qvalue
38) Naphthalene	5.836	128	62593	1.33	ppm	97
44) 2-Methylnaphthalene	6.574	141	142756	5.94	ppm	96
53) Biphenyl	7.136	154	19612	0.54	ppm	96
59) Acenaphthene	7.933	153	15013	0.56	ppm	87
62) Dibenzofuran	8.179	168	27532	0.79	ppm	60
66) Fluorene	8.666	166	28213	1.00	ppm	92
77) Phenanthrene	10.104	178	181227	4.29	ppm	98
78) Anthracene	10.179	178	42659	1.02	ppm	86
81) Fluoranthene	11.971	202	56792	1.49	ppm	95
84) Pyrene	12.313	202	169011	4.12	ppm	96
86) Butylbenzylphthalate	13.431	149	33894	1.73	ppm	89
88) Benzo[a]anthracene	14.228	228	79723	2.34	ppm	96
90) Chrysene	14.282	228	106120	3.29	ppm	95
91) bis(2-Ethylhexyl)phtha...	14.362	149	124881	4.68	ppm	91
94) Benzo[b]fluoranthene	15.828	252	91523	2.61	ppm	96
95) Benzo[k]fluoranthene	15.865	252	22144	0.65	ppm	75
96) Benzo[a]pyrene	16.271	252	102464	3.38	ppm	97
97) Indeno[1,2,3-cd]pyrene	17.887	276	76824	2.63	ppm	97
99) Dibenz[a,h]anthracene	17.919	278	70327	2.32	ppm	91
101) Benzo[g,h,i]perylene	18.331	276	96811	3.28	ppm	90

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3165\
Data File : 2m73606.D
Acq On : 27 Apr 2015 7:32 pm
Operator : ashleyn
Sample : jb93023-9
Misc : op83421,e2m3165,31.7
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 28 20:59:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Tue Apr 28 07:56:53 2015
QLast Update : Tue Apr 28 07:56:53 2015
Response via : Initial Calibration

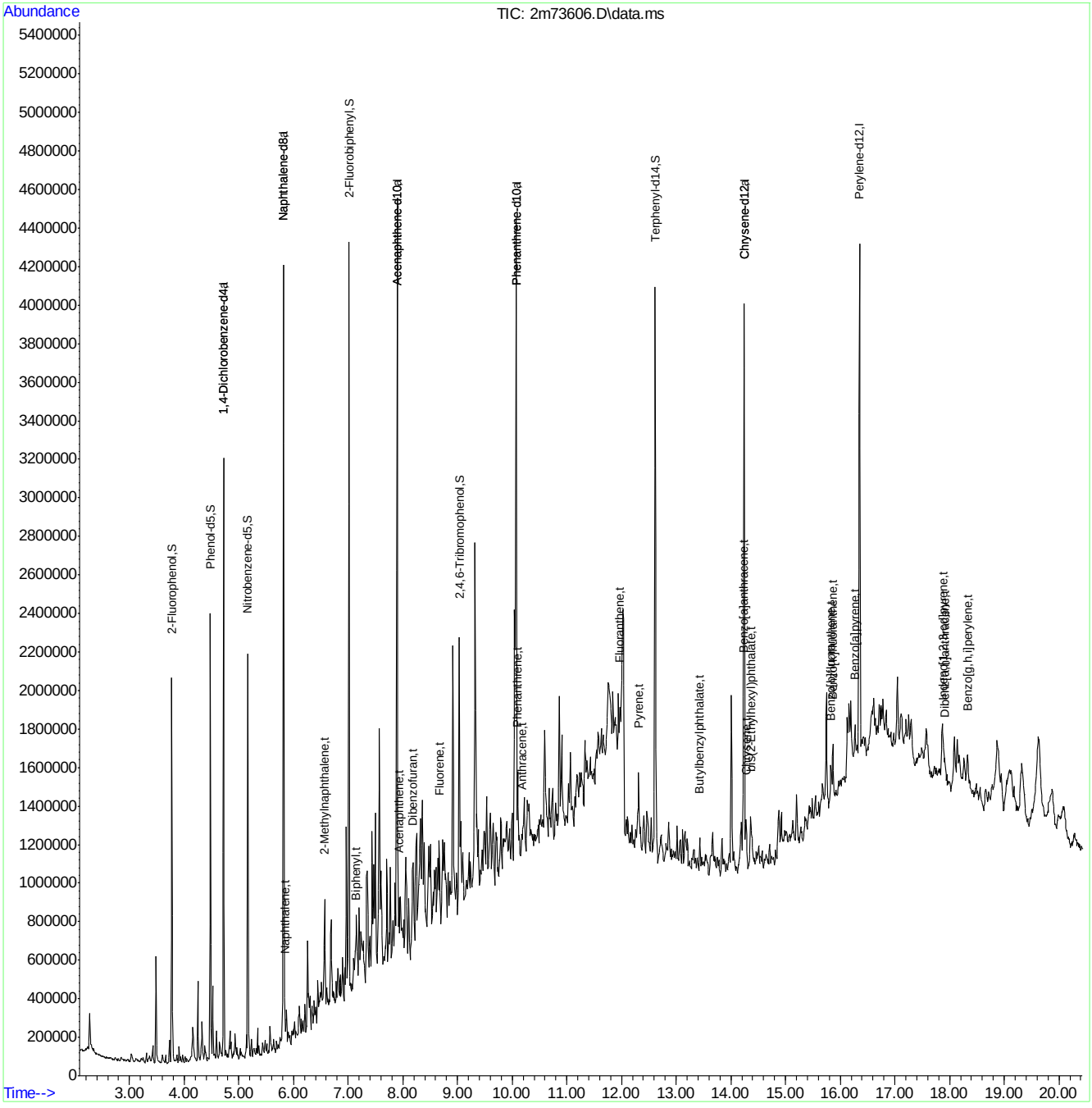
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

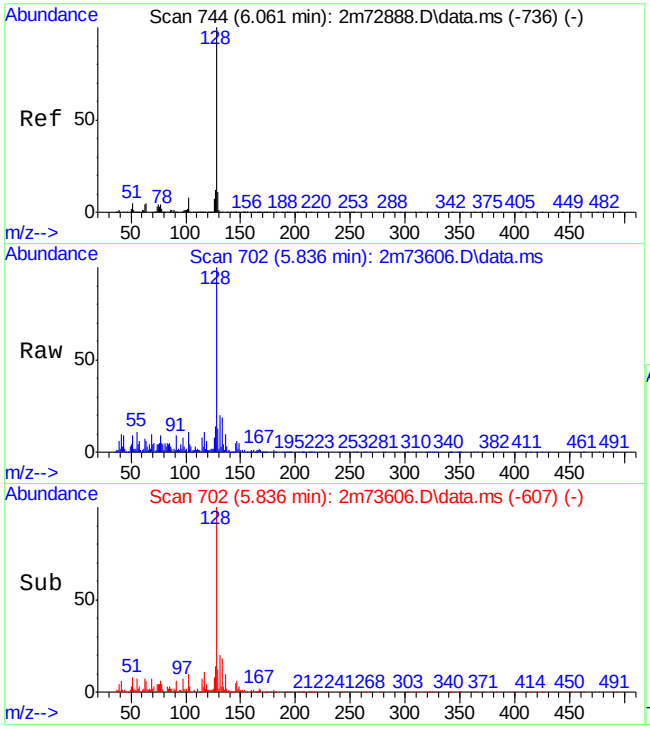
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3165\
Data File : 2m73606.D
Acq On : 27 Apr 2015 7:32 pm
Operator : ashleyn
Sample : jb93023-9
Misc : op83421,e2m3165,31.7
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 28 20:59:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Tue Apr 28 07:56:53 2015
QLast Update : Tue Apr 28 07:56:53 2015
Response via : Initial Calibration

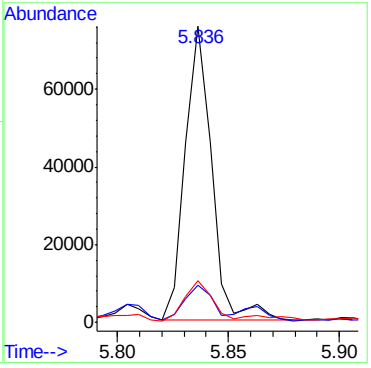


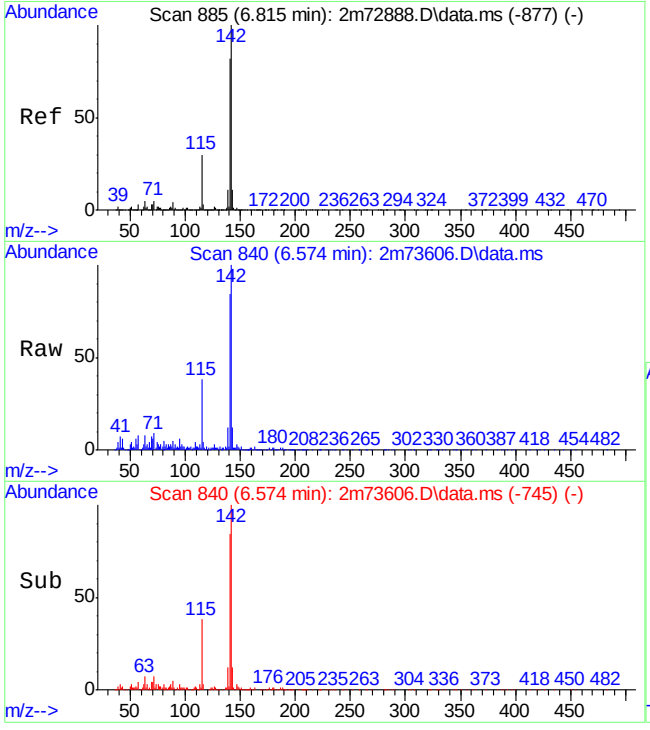


#38
Naphthalene
Concen: 1.33 ppm
RT: 5.836 min Scan# 702
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:128 Resp: 62593

Ion	Ratio	Lower	Upper
128	100		
129	12.1	0.0	40.9
127	13.2	0.0	42.4

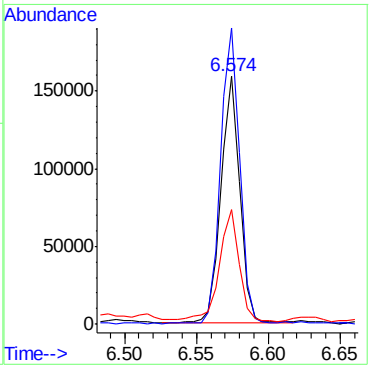


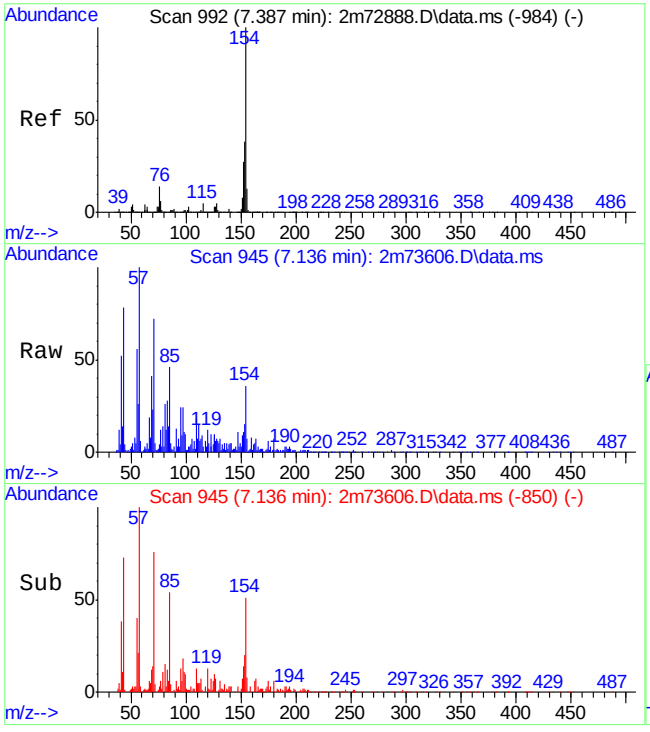


#44
2-Methylnaphthalene
Concen: 5.94 ppm
RT: 6.574 min Scan# 840
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:141 Resp: 142756

Ion	Ratio	Lower	Upper
141	100		
142	119.8	91.3	151.3
115	44.2	6.9	66.9

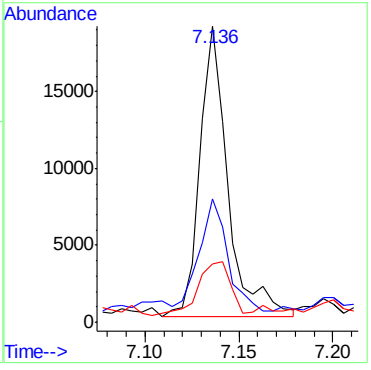


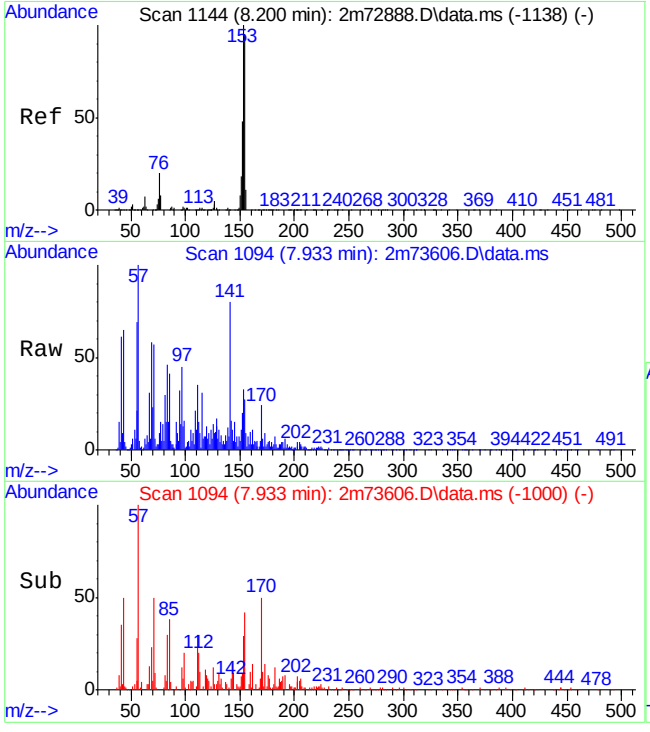


#53
Biphenyl
Concen: 0.54 ppm
RT: 7.136 min Scan# 945
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:154 Resp: 19612

Ion	Ratio	Lower	Upper
154	100		
153	37.1	8.3	68.3
155	16.5	0.0	42.9

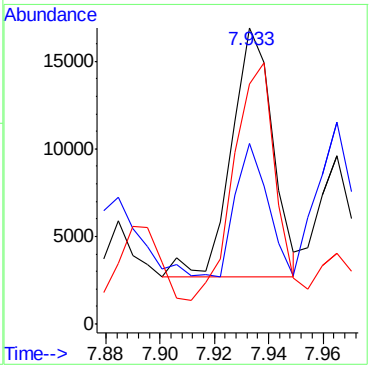


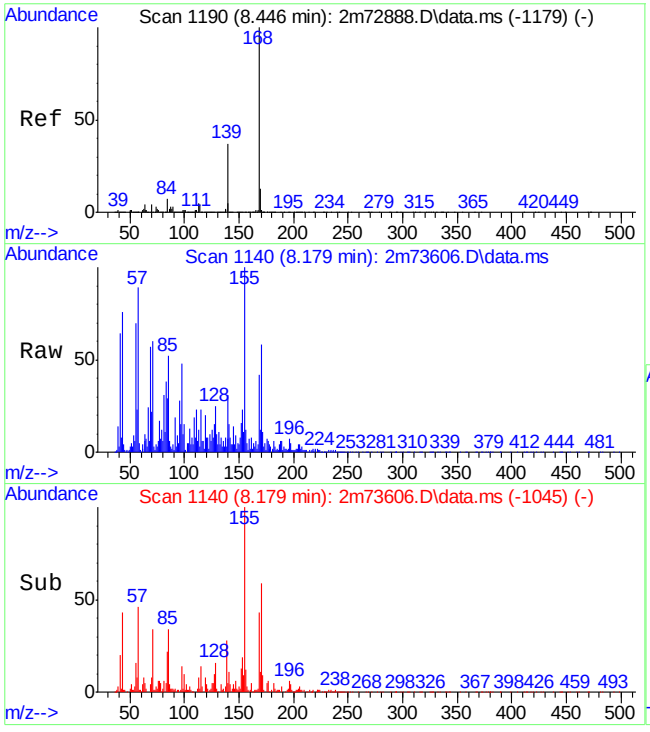


#59
Acenaphthene
Concen: 0.56 ppm
RT: 7.933 min Scan# 1094
Delta R.T. 0.000 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:153 Resp: 15013

Ion	Ratio	Lower	Upper
153	100		
152	54.6	17.8	77.8
154	78.3	62.9	122.9

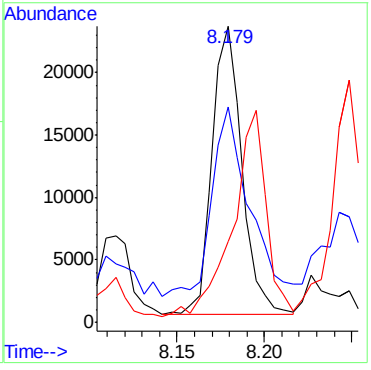


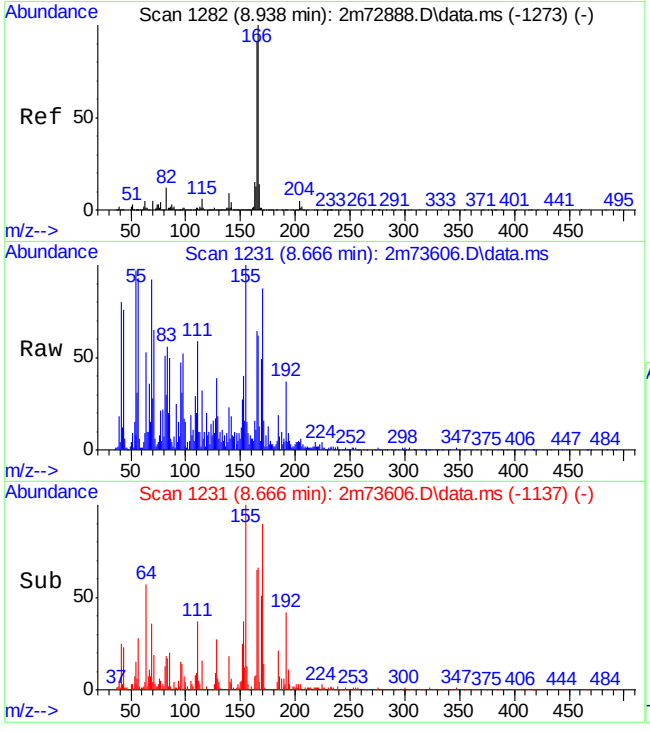


#62
Dibenzofuran
Concen: 0.79 ppm
RT: 8.179 min Scan# 1140
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:168 Resp: 27532

Ion	Ratio	Lower	Upper
168	100		
139	63.7	7.4	67.4
169	25.4	0.0	43.3

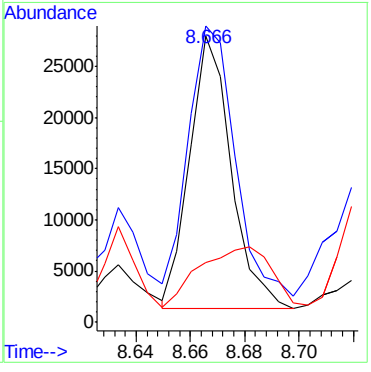


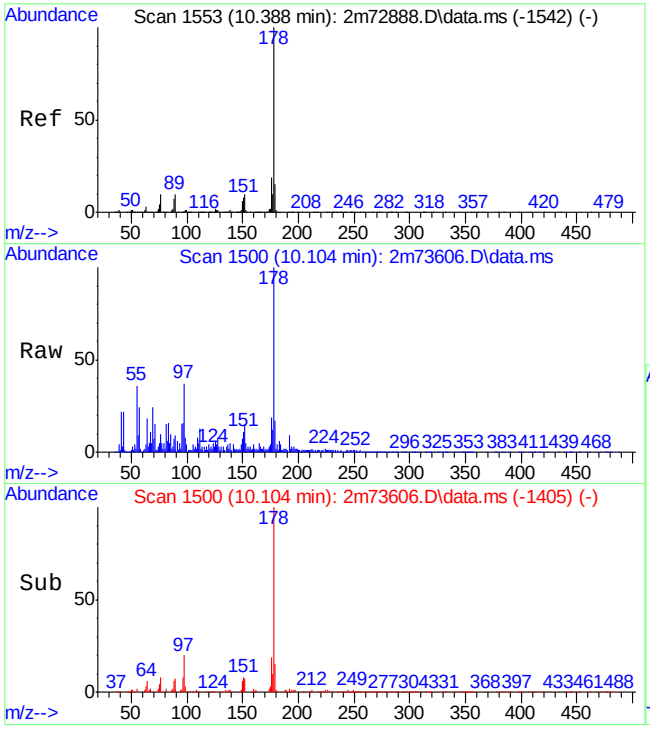


#66
Fluorene
Concen: 1.00 ppm
RT: 8.666 min Scan# 1231
Delta R.T. 0.000 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:166 Resp: 28213

Ion	Ratio	Lower	Upper
166	100		
165	98.5	61.1	121.1
167	16.0	0.0	43.5

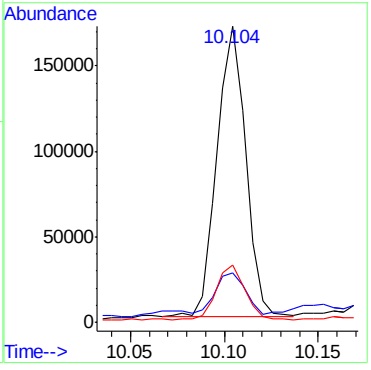


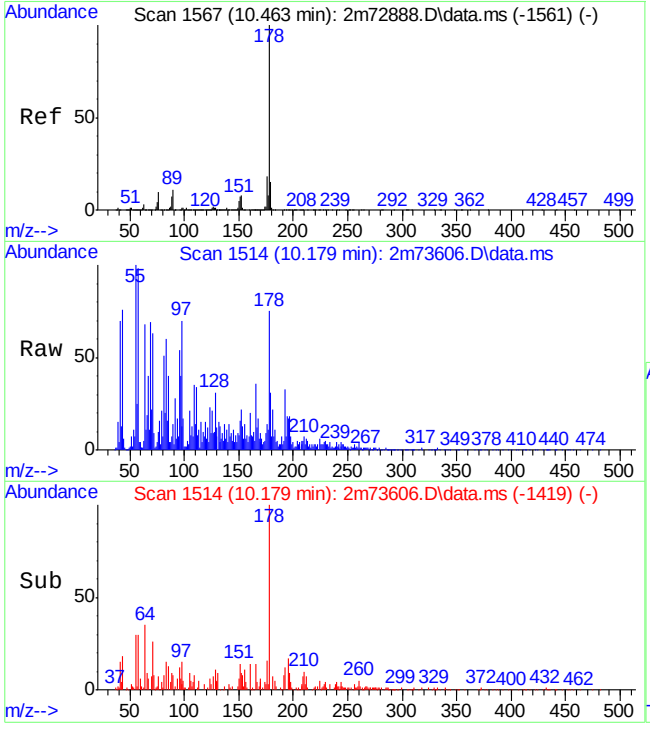


#77
Phenanthrene
Concen: 4.29 ppm
RT: 10.104 min Scan# 1500
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:178 Resp: 181227

Ion	Ratio	Lower	Upper
178	100		
179	12.8	0.0	45.0
176	18.8	0.0	48.8

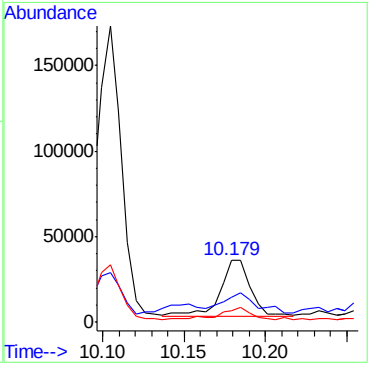




#78
Anthracene
Concen: 1.02 ppm
RT: 10.179 min Scan# 1514
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

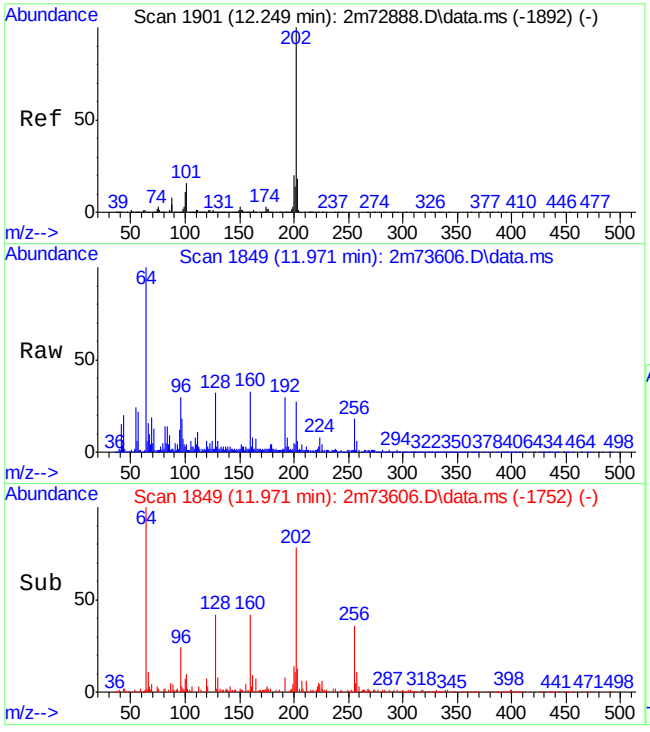
Tgt Ion:178 Resp: 42659

Ion	Ratio	Lower	Upper
178	100		
179	25.1	0.0	45.2
176	15.8	0.0	48.4



9.1.10

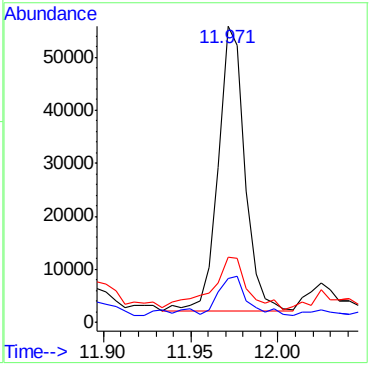
9

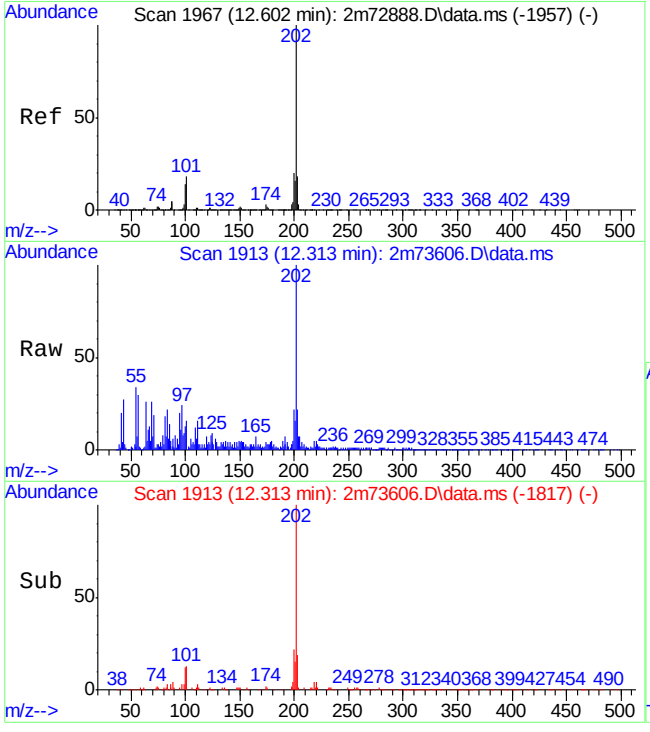


#81
Fluoranthene
Concen: 1.49 ppm
RT: 11.971 min Scan# 1849
Delta R.T. 0.016 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:202 Resp: 56792

Ion	Ratio	Lower	Upper
202	100		
101	11.9	0.0	46.3
203	17.8	0.0	47.5

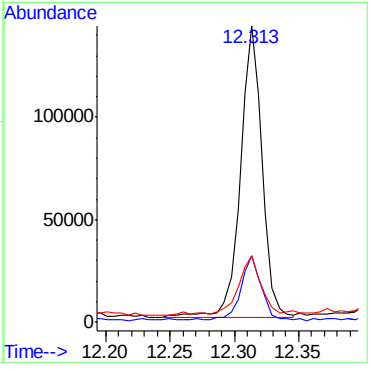


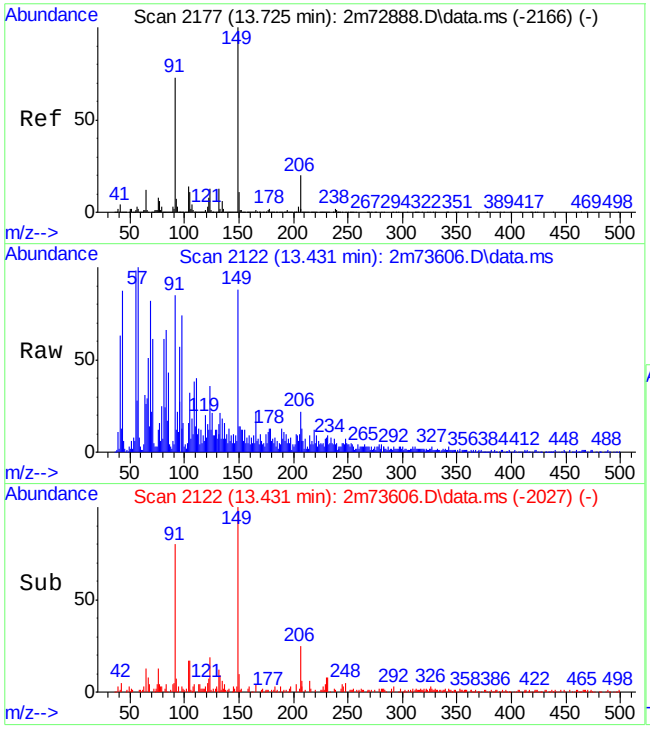


#84
Pyrene
Concen: 4.12 ppm
RT: 12.313 min Scan# 1913
Delta R.T. 0.011 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:202 Resp: 169011

Ion	Ratio	Lower	Upper
202	100		
200	22.1	0.0	50.4
203	19.8	0.0	48.2

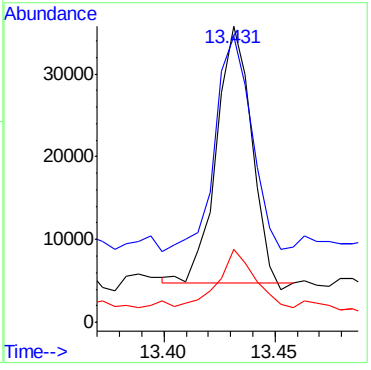


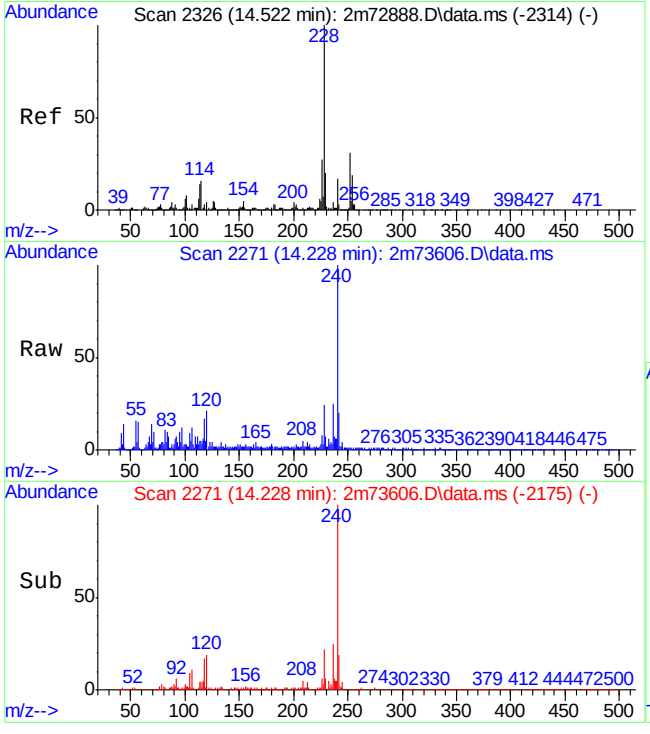


#86
Butylbenzylphthalate
Concen: 1.73 ppm
RT: 13.431 min Scan# 2122
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:149 Resp: 33894

Ion	Ratio	Lower	Upper
149	100		
91	83.7	42.5	102.5
206	21.6	0.0	49.6

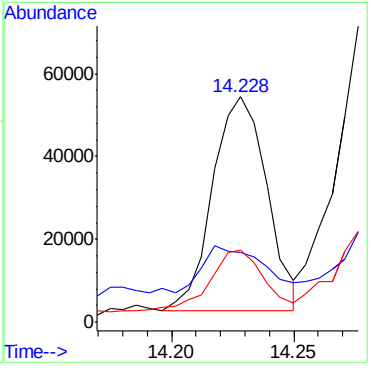




#88
Benzo[a]anthracene
Concen: 2.34 ppm
RT: 14.228 min Scan# 2271
Delta R.T. 0.011 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

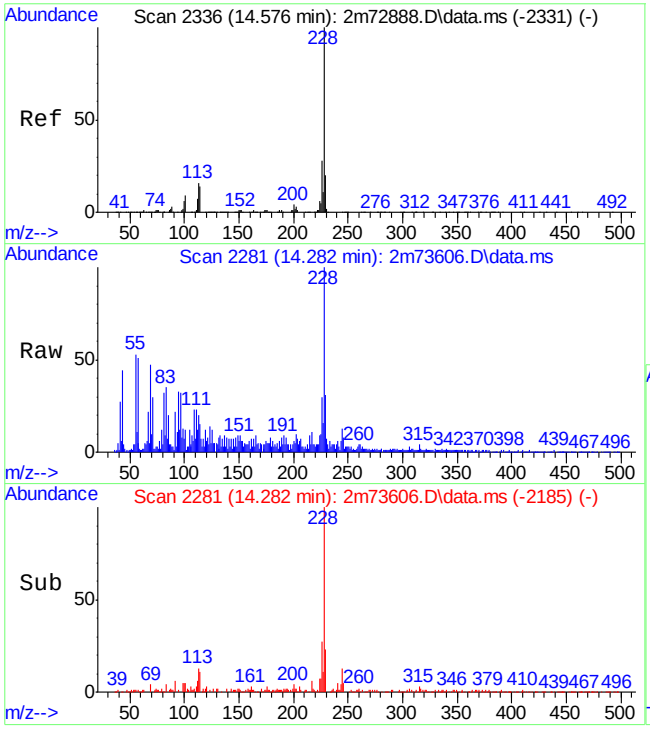
Tgt Ion:228 Resp: 79723

Ion	Ratio	Lower	Upper
228	100		
229	16.7	0.0	49.7
226	27.5	0.0	56.6



9.1.10

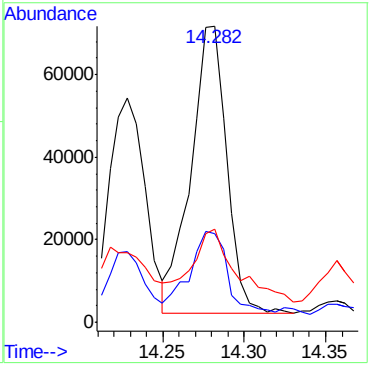
9

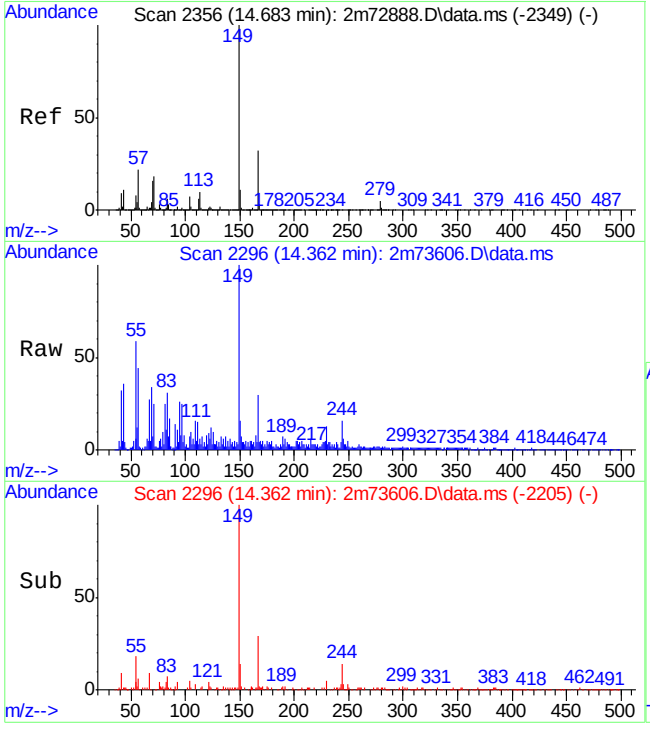


#90
Chrysene
Concen: 3.29 ppm
RT: 14.282 min Scan# 2281
Delta R.T. 0.011 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:228 Resp: 106120

Ion	Ratio	Lower	Upper
228	100		
226	26.9	0.0	58.1
229	23.5	0.0	49.6

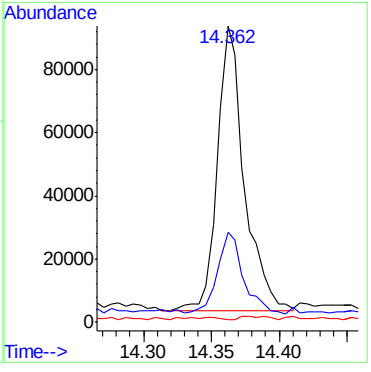


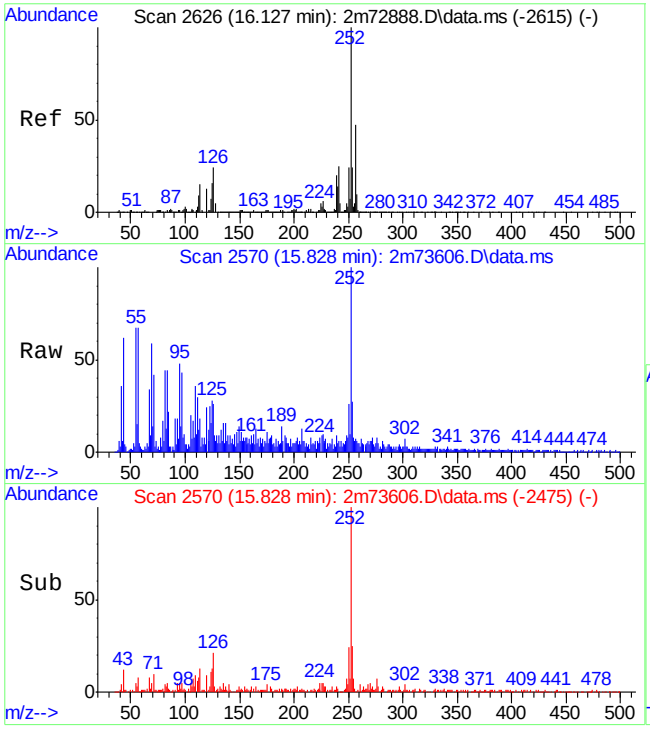


#91
bis(2-Ethylhexyl)phthalate
Concen: 4.68 ppm
RT: 14.362 min Scan# 2296
Delta R.T. -0.016 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:149 Resp: 124881

Ion	Ratio	Lower	Upper
149	100		
167	27.0	1.7	61.7
279	0.0	0.0	35.1

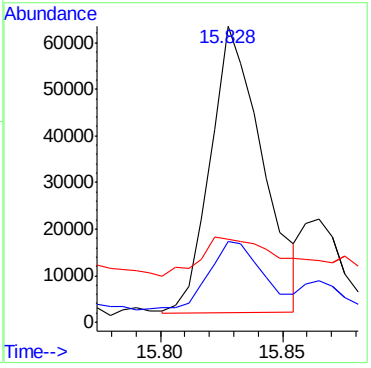


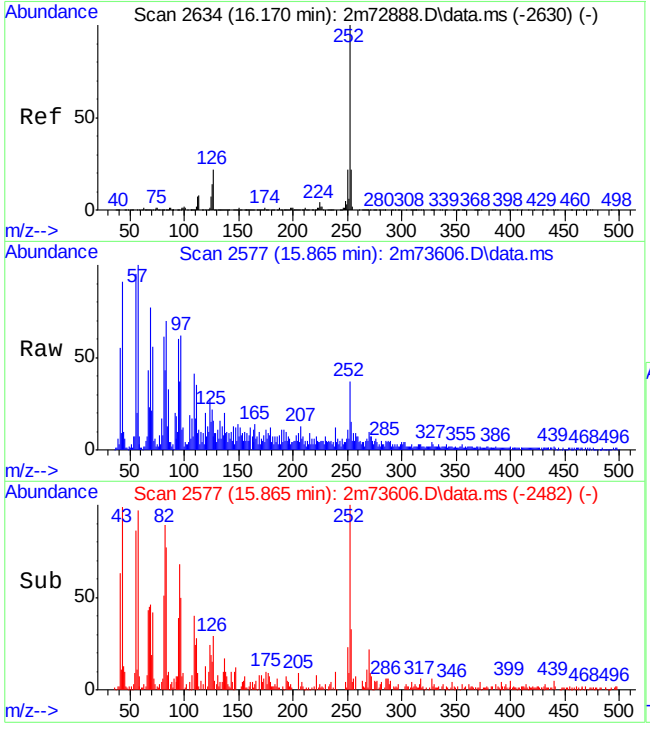


#94
Benzo[b]fluoranthene
Concen: 2.61 ppm
RT: 15.828 min Scan# 2570
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:252 Resp: 91523

Ion	Ratio	Lower	Upper
252	100		
253	23.7	0.0	53.8
125	11.2	0.0	45.5

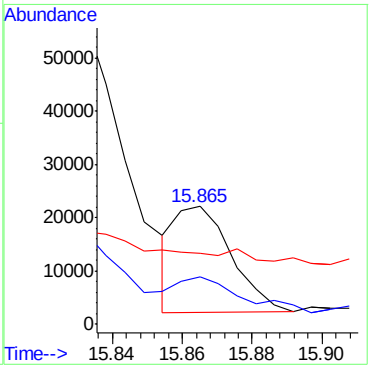


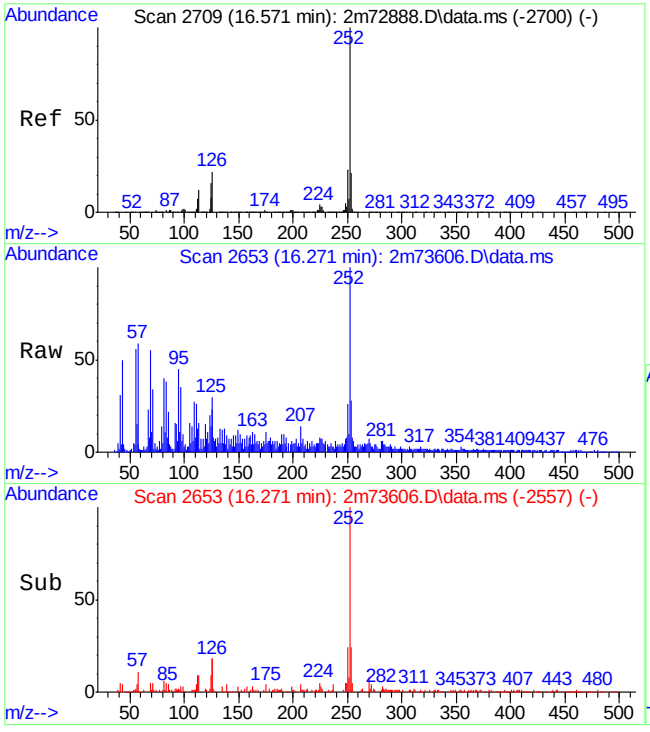


#95
Benzo[k]fluoranthene
Concen: 0.65 ppm
RT: 15.865 min Scan# 2577
Delta R.T. 0.006 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:252 Resp: 22144

Ion	Ratio	Lower	Upper
252	100		
253	31.7	0.0	51.8
125	1.1	0.0	44.5

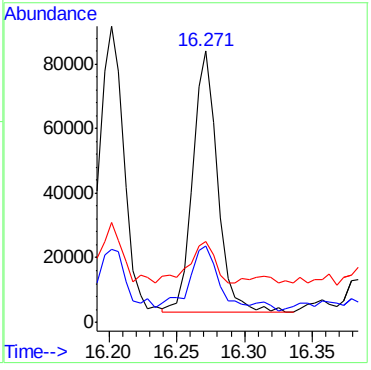


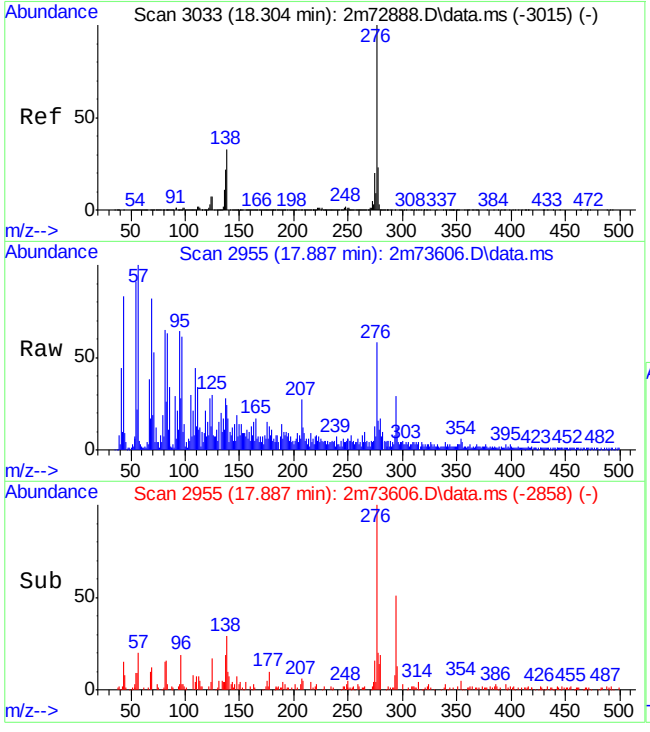


#96
Benzo[a]pyrene
Concen: 3.38 ppm
RT: 16.271 min Scan# 2653
Delta R.T. 0.011 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:252 Resp: 102464

Ion	Ratio	Lower	Upper
252	100		
253	22.7	0.0	51.5
125	14.7	0.0	46.4

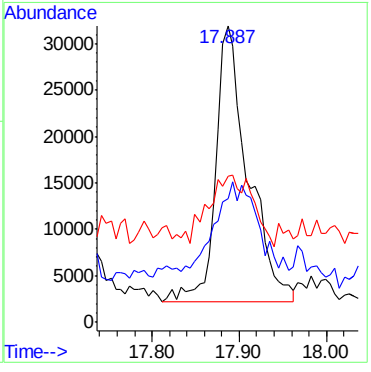




#97
Indeno[1,2,3-cd]pyrene
Concen: 2.63 ppm
RT: 17.887 min Scan# 2955
Delta R.T. 0.016 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:276 Resp: 76824

Ion	Ratio	Lower	Upper
276	100		
138	25.7	0.0	57.9
137	20.9	0.0	50.1



9.1.10

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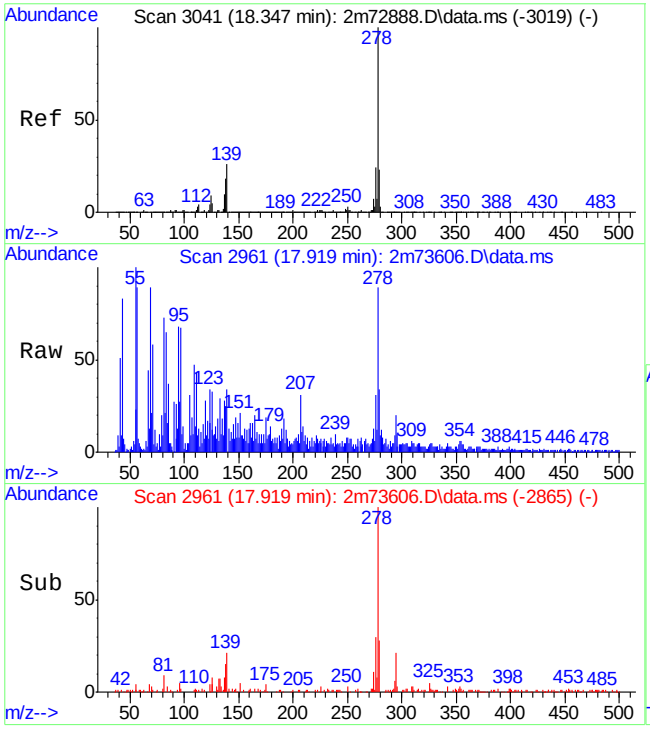
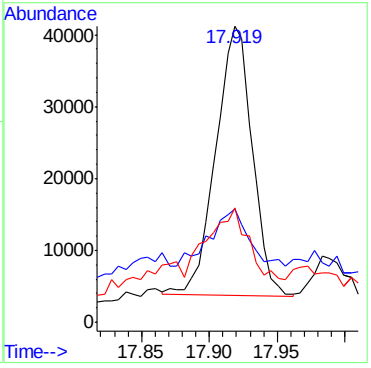
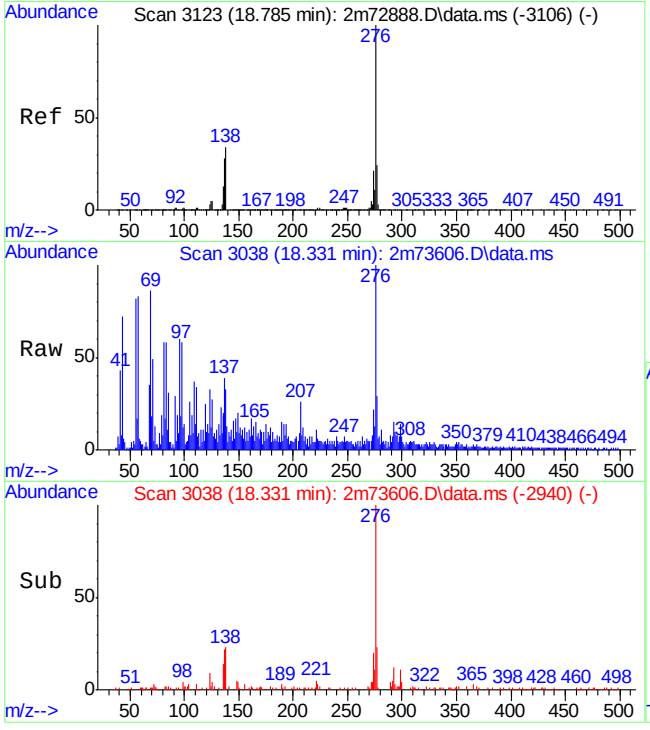


#99
Dibenz[a,h]anthracene
Concen: 2.32 ppm
RT: 17.919 min Scan# 2961
Delta R.T. 0.011 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:278 Resp: 70327

Ion	Ratio	Lower	Upper
278	100		
139	17.7	0.0	55.8
279	22.2	0.0	53.2

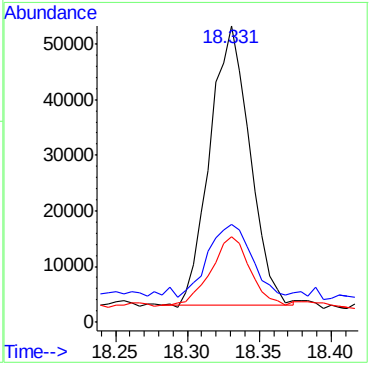




#101
Benzo[g,h,i]perylene
Concen: 3.28 ppm
RT: 18.331 min Scan# 3038
Delta R.T. 0.022 min
Lab File: 2m73606.D
Acq: 27 Apr 2015 7:32 pm

Tgt Ion:276 Resp: 96811

Ion	Ratio	Lower	Upper
276	100		
138	25.1	4.2	64.2
277	24.1	0.0	53.5



9.1.10

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/04/15 14:18

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3165\
Data File : 2m73607.D
Acq On : 27 Apr 2015 7:59 pm
Operator : ashleyn
Sample : jb93023-10
Misc : op83421,e2m3165,33.1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 28 21:04:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Tue Apr 28 07:56:53 2015
QLast Update : Tue Apr 28 08:47:02 2015
Response via : Initial Calibration

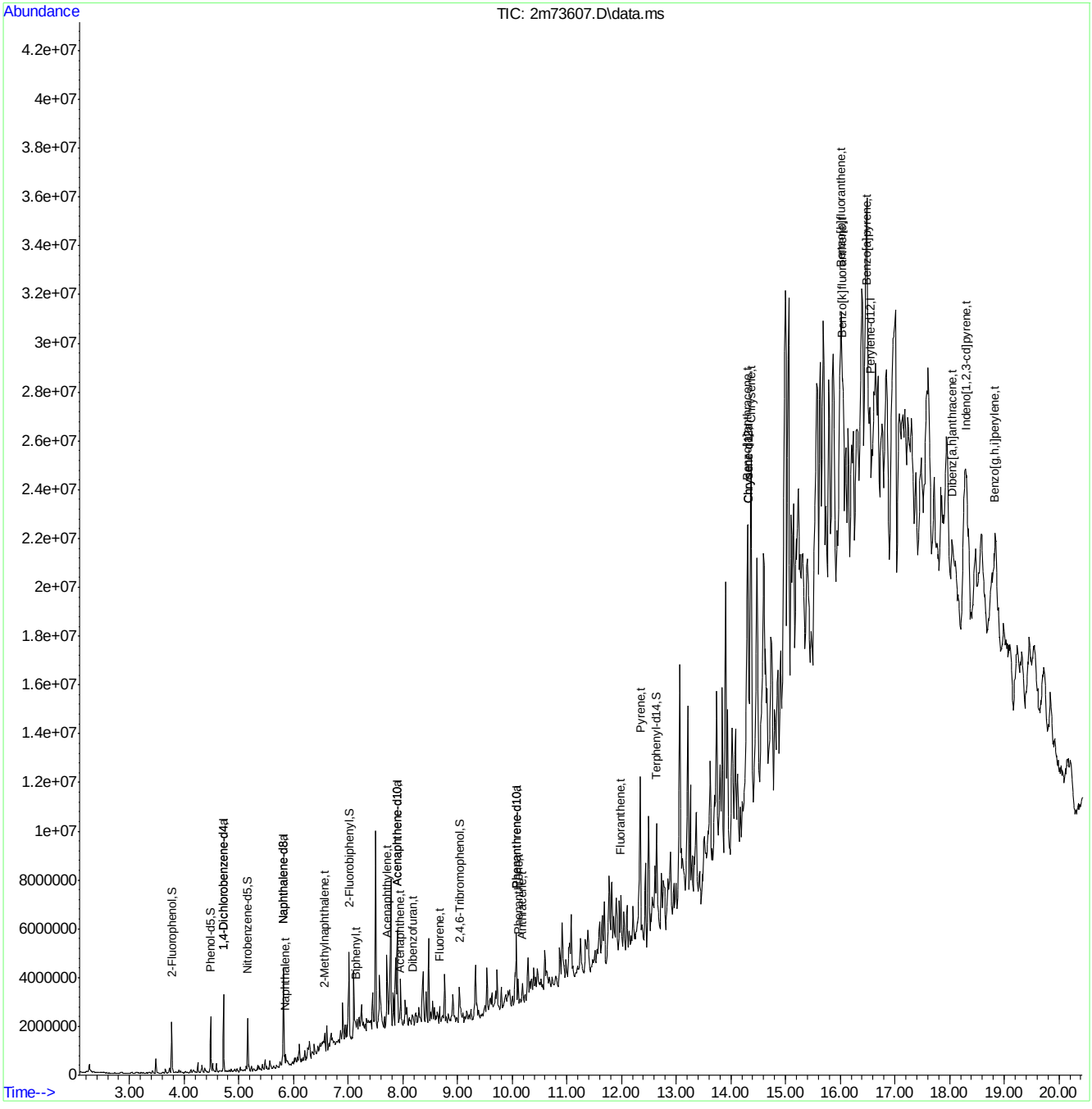
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.718	152	399035	40.00	ppm	0.00
24) Naphthalene-d8	5.815	136	1555817	40.00	ppm	0.00
47) Acenaphthene-d10	7.896	164	859434	40.00	ppm	0.00
69) Phenanthrene-d10	10.078	188	1315070	40.00	ppm	0.00
83) Chrysene-d12	14.314	240	1093836	40.00	ppm	0.00
92) Perylene-d12	16.550	264	1523379	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.718	152	399035	40.00	ppm	0.00
104) Acenaphthene-d10a	7.896	164	859434	40.00	ppm	0.00
106) Chrysene-d12a	14.314	240	1093836	40.00	ppm	0.00
108) Phenanthrene-d10a	10.078	188	1315070	40.00	ppm	0.00
110) Naphthalene-d8a	5.815	136	1555817	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	3.772	112	554698	36.65	ppm	0.00
Spiked Amount 50.000			Recovery	=	73.30%	
8) Phenol-d5	4.483	99	725745	37.51	ppm	0.00
Spiked Amount 50.000			Recovery	=	75.02%	
25) Nitrobenzene-d5	5.162	82	618945	42.59	ppm	0.00
Spiked Amount 50.000			Recovery	=	85.18%	
51) 2-Fluorobiphenyl	7.013	172	1116737	41.59	ppm	0.00
Spiked Amount 50.000			Recovery	=	83.18%	
73) 2,4,6-Tribromophenol	9.035	330	145112	54.07	ppm	0.00
Spiked Amount 50.000			Recovery	=	108.14%	
85) Terphenyl-d14	12.640	244	955185	43.50	ppm	0.00
Spiked Amount 50.000			Recovery	=	87.00%	
Target Compounds						Qvalue
38) Naphthalene	5.836	128	108980	2.47	ppm	97
44) 2-Methylnaphthalene	6.574	141	176920	7.85	ppm	97
53) Biphenyl	7.136	154	28293	0.85	ppm	97
56) Acenaphthylene	7.703	152	97571	2.40	ppm	60
59) Acenaphthene	7.938	153	69289	2.79	ppm	93
62) Dibenzofuran	8.179	168	36552	1.13	ppm	77
66) Fluorene	8.671	166	95227	3.63	ppm	92
77) Phenanthrene	10.110	178	504051	13.06	ppm	98
78) Anthracene	10.185	178	251025	6.57	ppm	97
81) Fluoranthene	11.987	202	807907	23.20	ppm	94
84) Pyrene	12.346	202	3874501	104.23	ppm	98
88) Benzo[a]anthracene	14.303	228	8343522m	269.96	ppm	
90) Chrysene	14.367	228	7894866m	270.21	ppm	
94) Benzo[b]fluoranthene	16.015	252	9744740m	217.42	ppm	
95) Benzo[k]fluoranthene	16.036	252	990263m	22.72	ppm	
96) Benzo[a]pyrene	16.480	252	13326621	343.70	ppm	92
97) Indeno[1,2,3-cd]pyrene	18.299	276	6831213m	182.94	ppm	
99) Dibenz[a,h]anthracene	18.047	278	3398744m	87.88	ppm	
101) Benzo[g,h,i]perylene	18.828	276	7877588m	209.24	ppm	

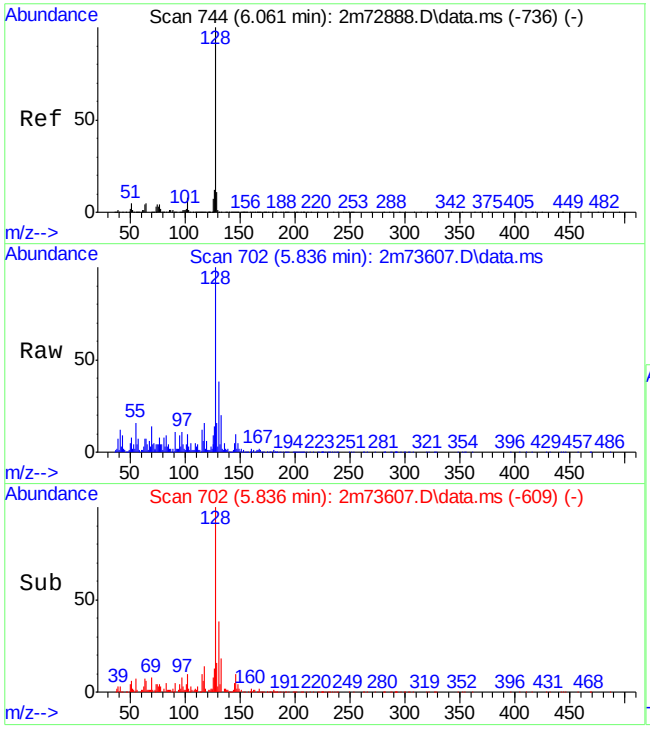
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3165\
Data File : 2m73607.D
Acq On : 27 Apr 2015 7:59 pm
Operator : ashleyn
Sample : jb93023-10
Misc : op83421,e2m3165,33.1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 28 21:04:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Tue Apr 28 07:56:53 2015
QLast Update : Tue Apr 28 08:47:02 2015
Response via : Initial Calibration

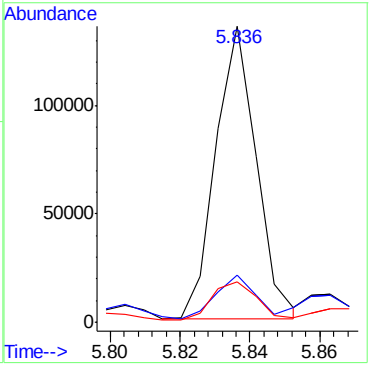


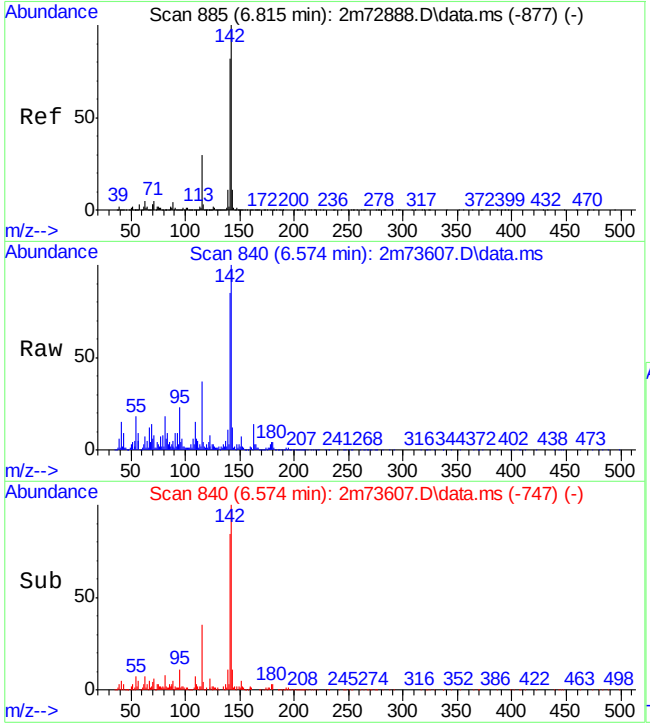


#38
Naphthalene
Concen: 2.47 ppm
RT: 5.836 min Scan# 702
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:128 Resp: 108980

Ion	Ratio	Lower	Upper
128	100		
129	12.9	0.0	40.9
127	12.9	0.0	42.4

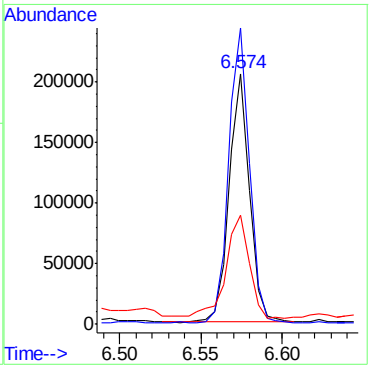


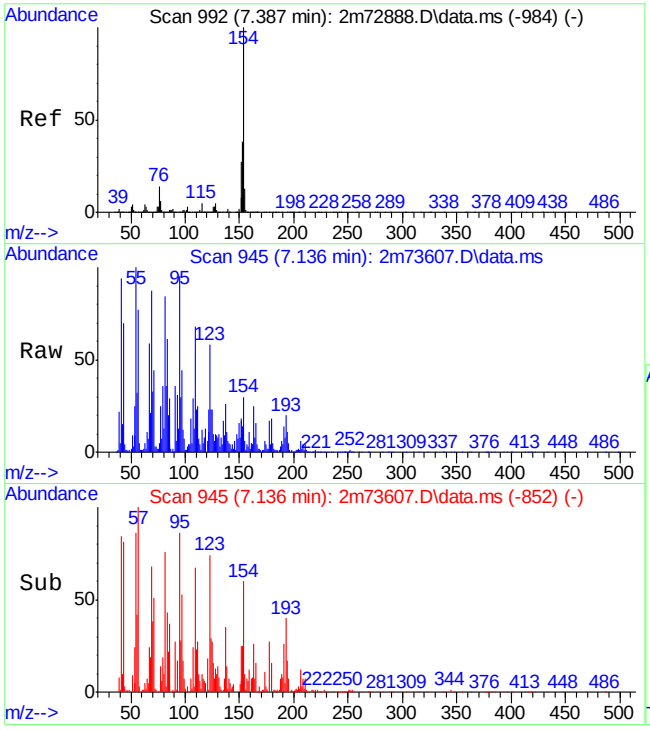


#44
2-Methylnaphthalene
Concen: 7.85 ppm
RT: 6.574 min Scan# 840
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:141 Resp: 176920

Ion	Ratio	Lower	Upper
141	100		
142	118.9	91.3	151.3
115	41.1	6.9	66.9

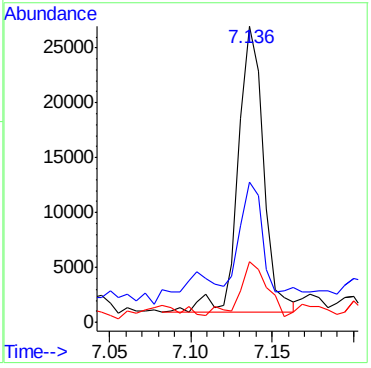


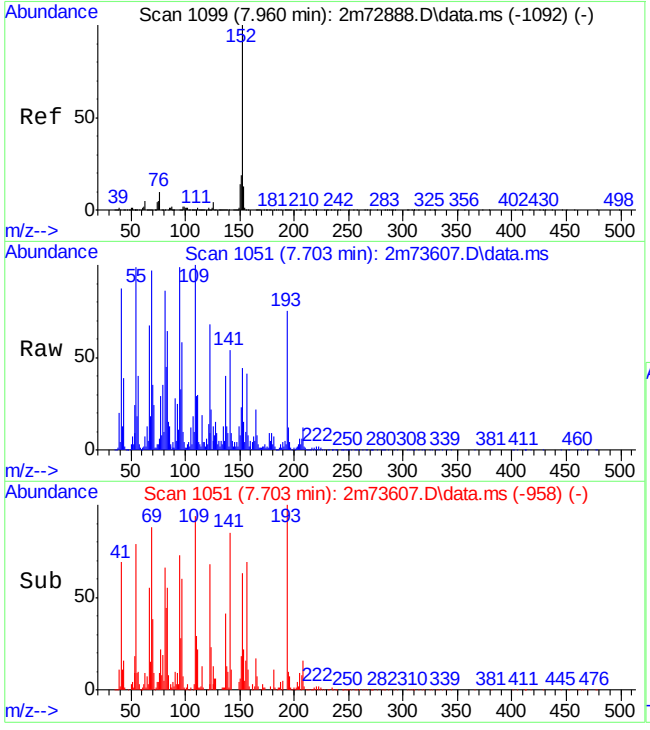


#53
Biphenyl
Concen: 0.85 ppm
RT: 7.136 min Scan# 945
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:154 Resp: 28293

Ion	Ratio	Lower	Upper
154	100		
153	38.0	8.3	68.3
155	16.8	0.0	42.9

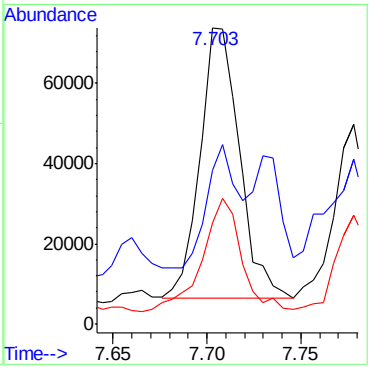




#56
Acenaphthylene
Concen: 2.40 ppm
RT: 7.703 min Scan# 1051
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:152 Resp: 97571

Ion	Ratio	Lower	Upper
152	100		
151	34.5	0.0	48.7
153	31.0	0.0	42.6



9.1.11

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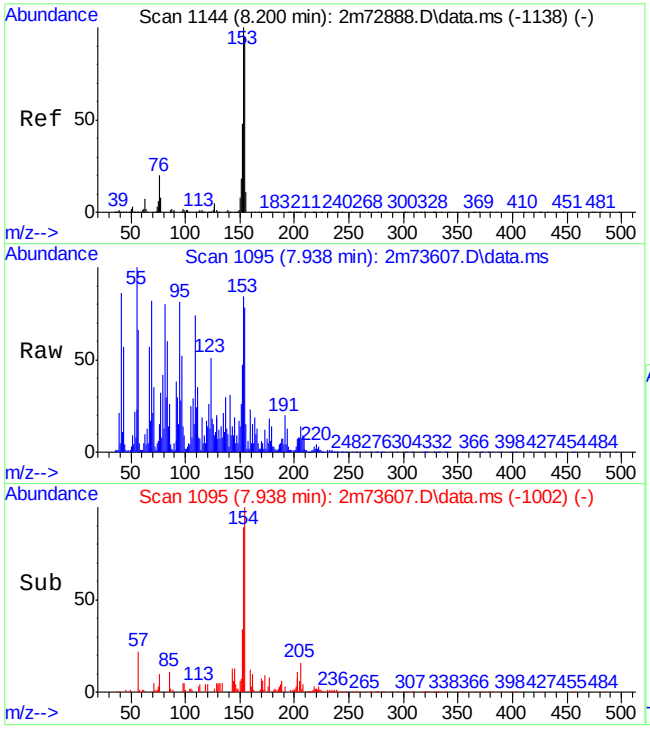
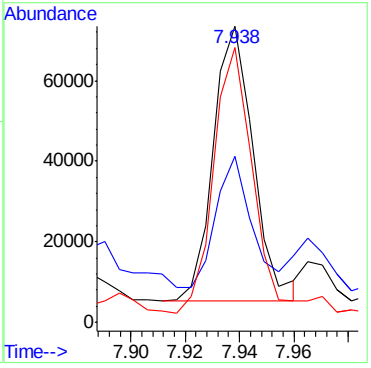
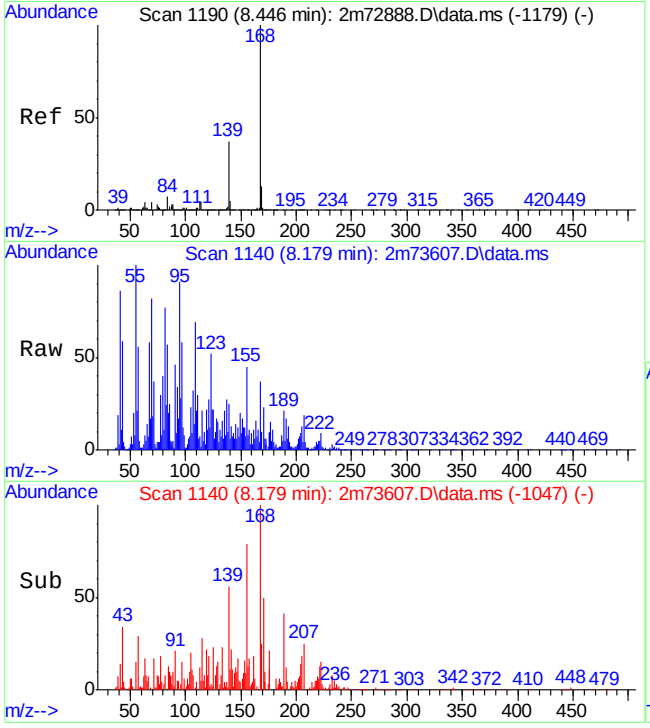


#59
Acenaphthene
Concen: 2.79 ppm
RT: 7.938 min Scan# 1095
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:153 Resp: 69289

Ion	Ratio	Lower	Upper
153	100		
152	41.1	17.8	77.8
154	97.8	62.9	122.9

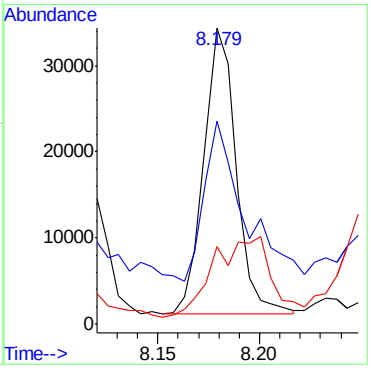




#62
Dibenzofuran
Concen: 1.13 ppm
RT: 8.179 min Scan# 1140
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

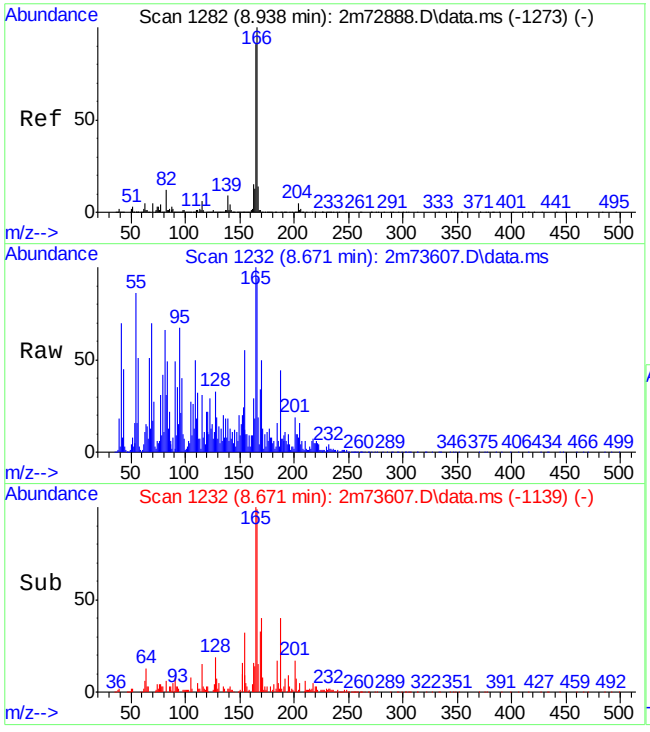
Tgt Ion:168 Resp: 36552

Ion	Ratio	Lower	Upper
168	100		
139	51.5	7.4	67.4
169	22.1	0.0	43.3



9.1.11

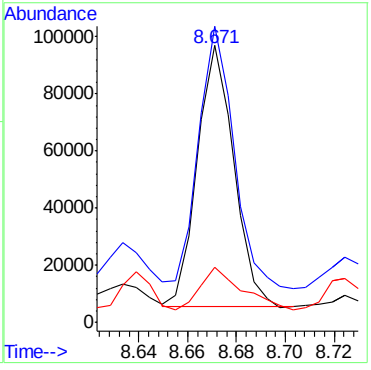
9

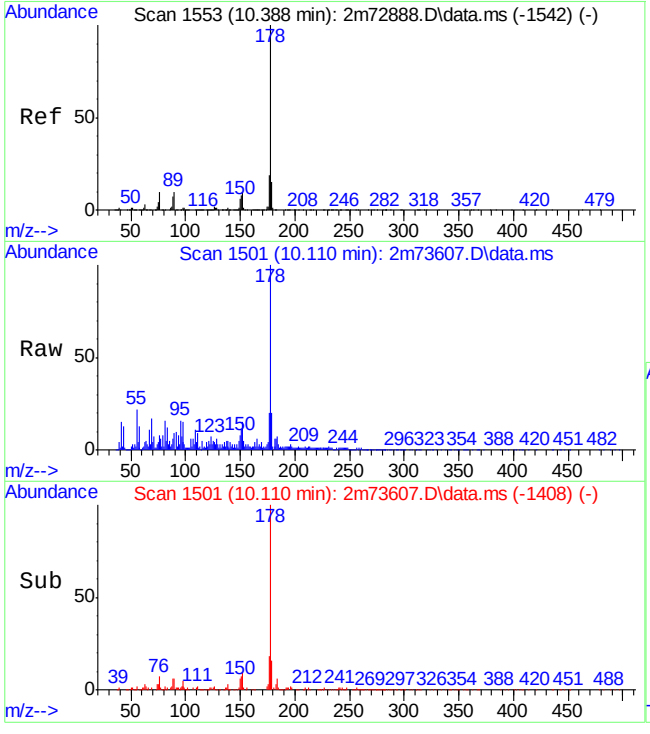


#66
Fluorene
Concen: 3.63 ppm
RT: 8.671 min Scan# 1232
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:166 Resp: 95227

Ion	Ratio	Lower	Upper
166	100		
165	99.4	61.1	121.1
167	15.8	0.0	43.5

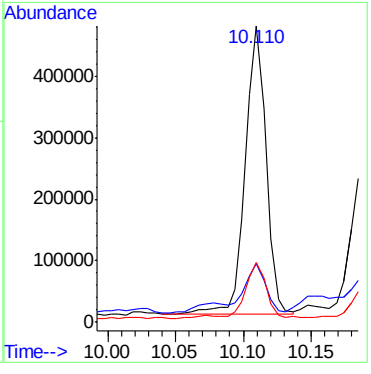




#77
Phenanthrene
Concen: 13.06 ppm
RT: 10.110 min Scan# 1501
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

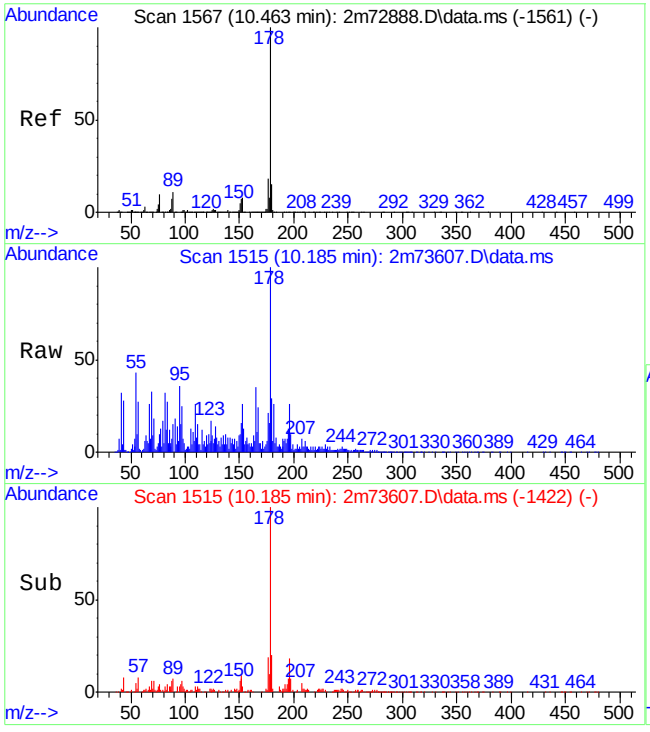
Tgt Ion:178 Resp: 504051

Ion	Ratio	Lower	Upper
178	100		
179	16.4	0.0	45.0
176	19.0	0.0	48.8



9.1.11

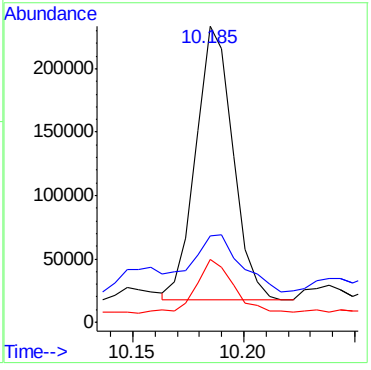
9

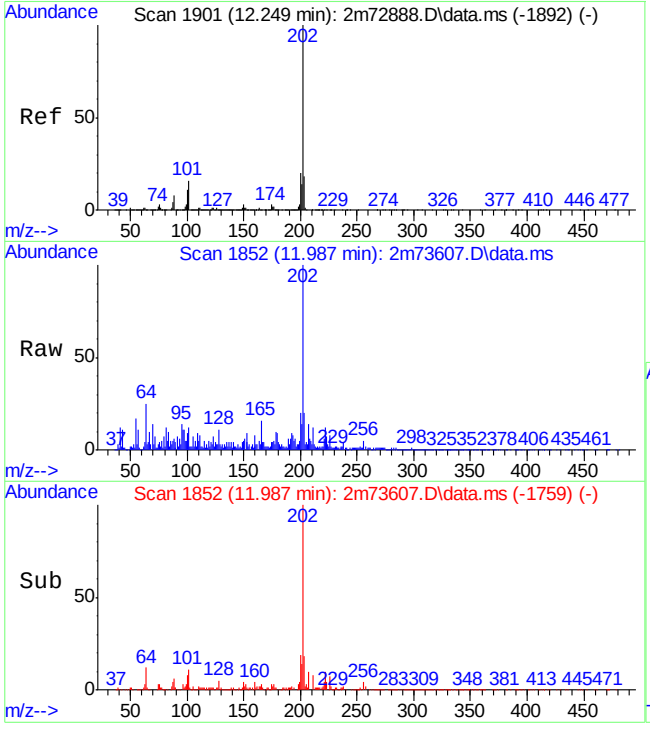


#78
Anthracene
Concen: 6.57 ppm
RT: 10.185 min Scan# 1515
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:178 Resp: 251025

Ion	Ratio	Lower	Upper
178	100		
179	17.1	0.0	45.2
176	19.1	0.0	48.4

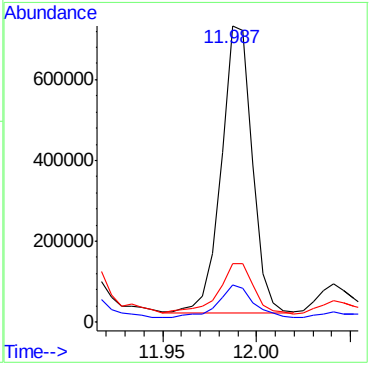




#81
Fluoranthene
Concen: 23.20 ppm
RT: 11.987 min Scan# 1852
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

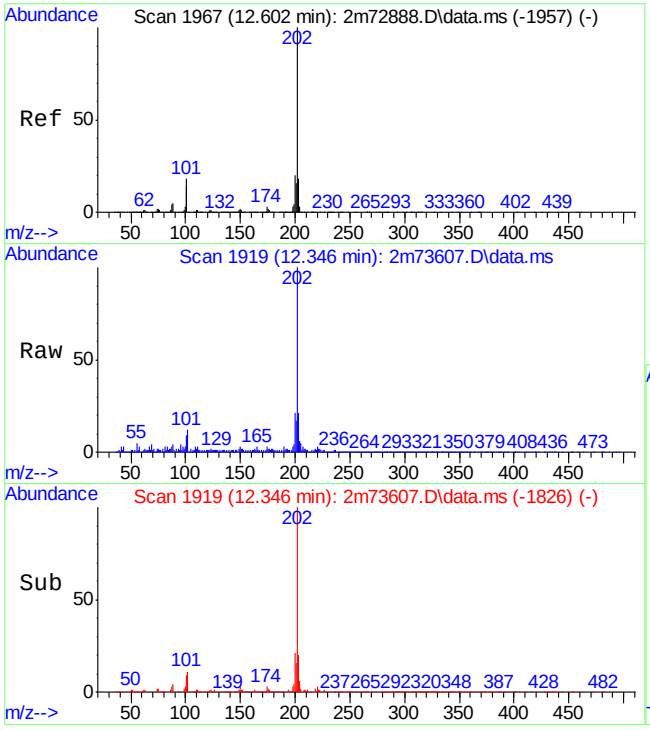
Tgt Ion:202 Resp: 807907

Ion	Ratio	Lower	Upper
202	100		
101	11.1	0.0	46.3
203	17.2	0.0	47.5



9.1.11

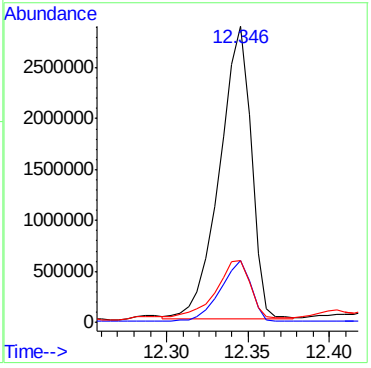
9

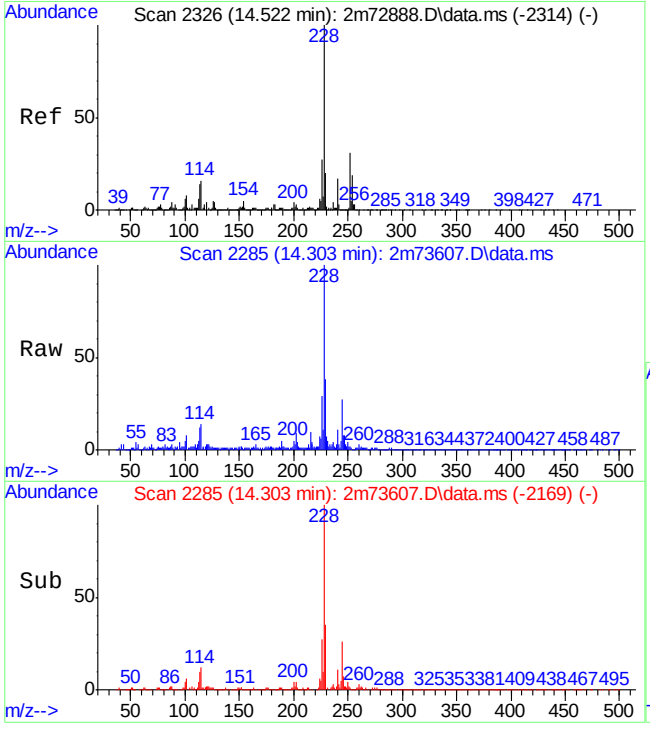


#84
Pyrene
Concen: 104.23 ppm
RT: 12.346 min Scan# 1919
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:202 Resp: 3874501

Ion	Ratio	Lower	Upper
202	100		
200	20.9	0.0	50.4
203	19.5	0.0	48.2

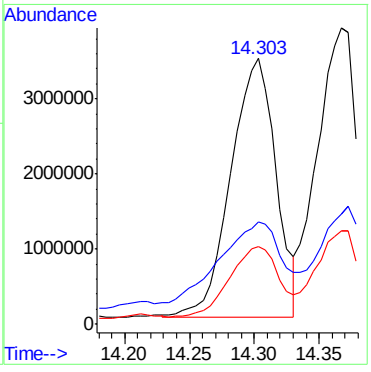


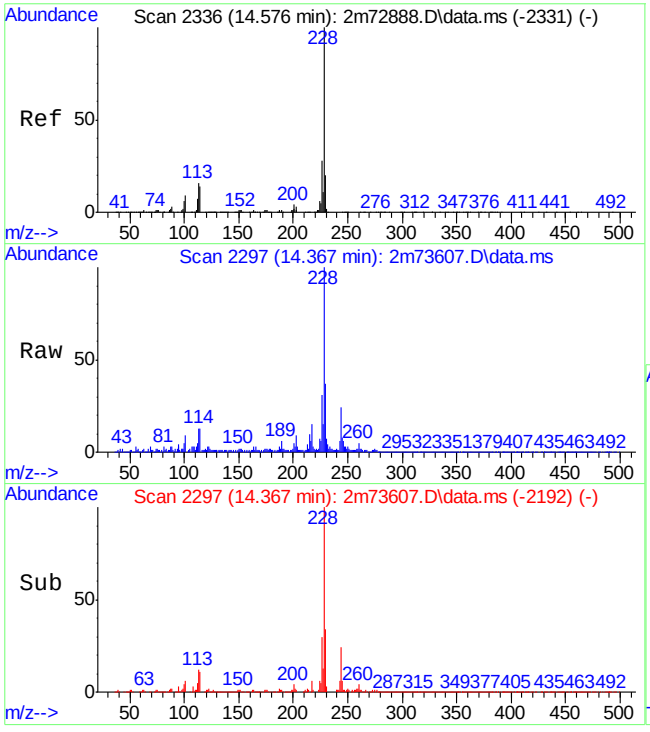


#88
Benzo[a]anthracene
Concen: 269.96 ppm m
RT: 14.303 min Scan# 2285
Delta R.T. 0.123 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:228 Resp: 8343522

Ion	Ratio	Lower	Upper
228	100		
229	38.4	0.0	49.7
226	29.3	0.0	56.6

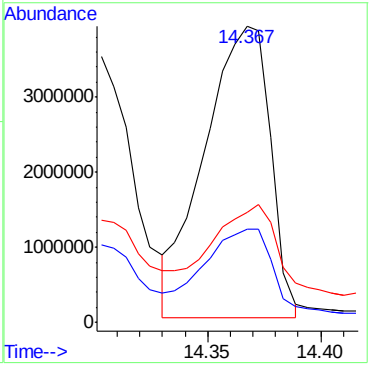


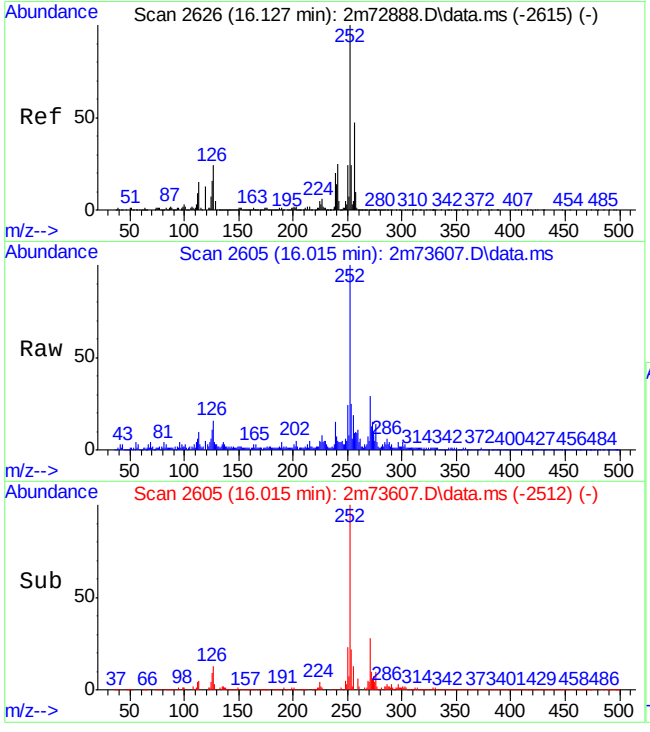


#90
Chrysene
Concen: 270.21 ppm m
RT: 14.367 min Scan# 2297
Delta R.T. 0.064 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:228 Resp: 7894866

Ion	Ratio	Lower	Upper
228	100		
226	31.3	0.0	58.1
229	37.1	0.0	49.6

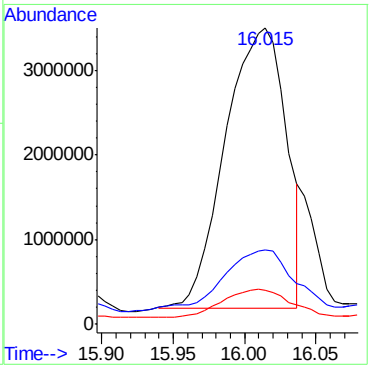




#94
Benzo[b]fluoranthene
Concen: 217.42 ppm m
RT: 16.015 min Scan# 2605
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:252 Resp: 9744740

Ion	Ratio	Lower	Upper
252	100		
253	25.1	0.0	53.8
125	11.2	0.0	45.5



9.1.11

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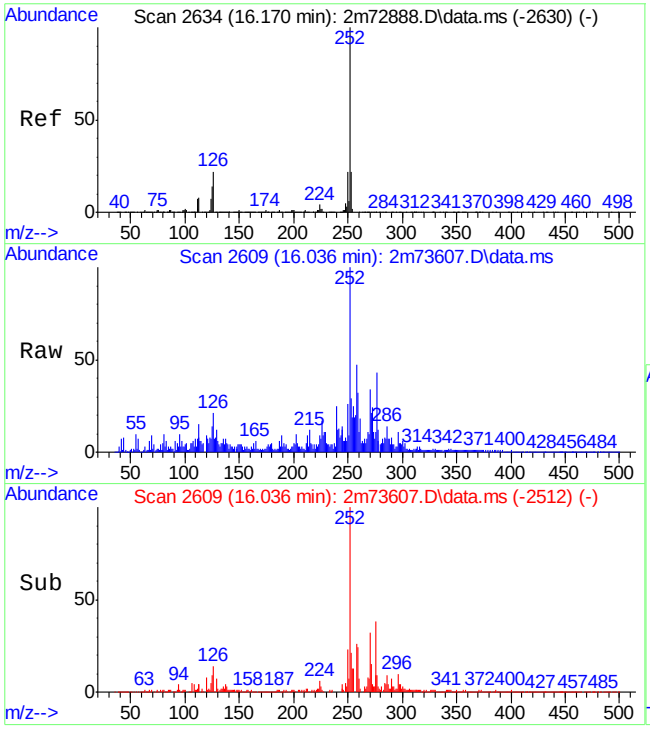
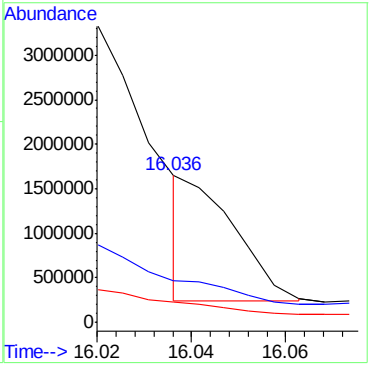
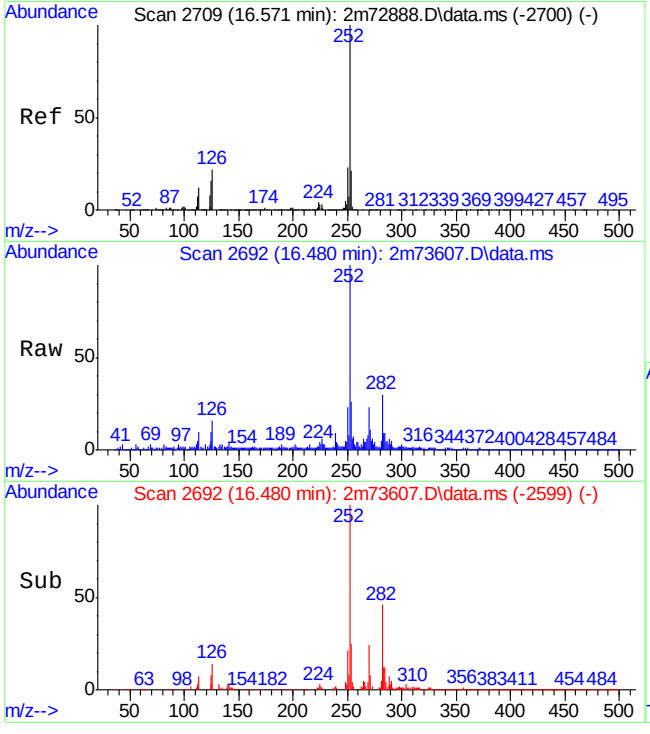


#95
Benzo[k]fluoranthene
Concen: 22.72 ppm m
RT: 16.036 min Scan# 2609
Delta R.T. 0.021 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:252 Resp: 990263

Ion	Ratio	Lower	Upper
252	100		
253	28.6	0.0	51.8
125	13.8	0.0	44.5

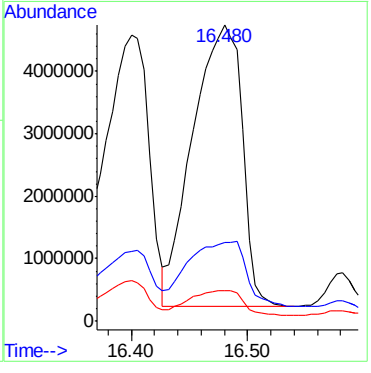




#96
Benzo[a]pyrene
Concen: 343.70 ppm
RT: 16.480 min Scan# 2692
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:252 Resp:13326621

Ion	Ratio	Lower	Upper
252	100		
253	21.3	0.0	51.5
125	8.4	0.0	46.4



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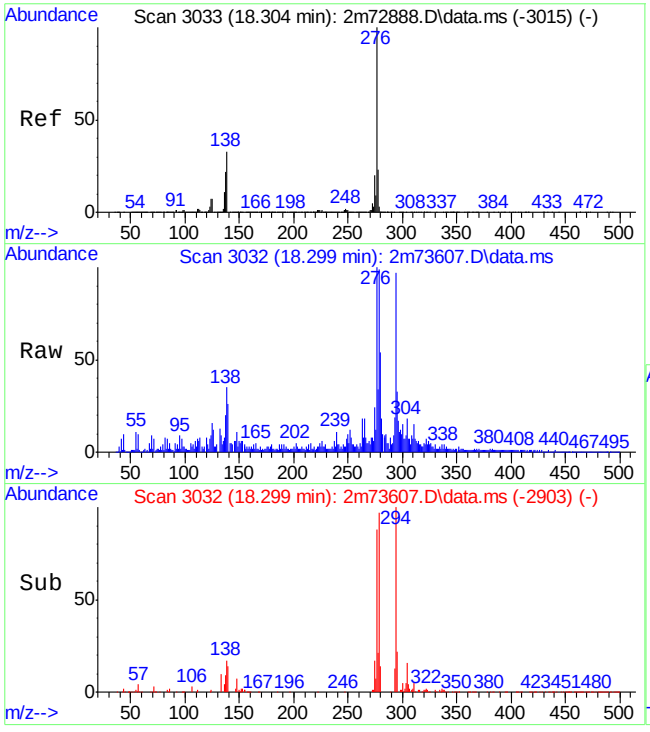
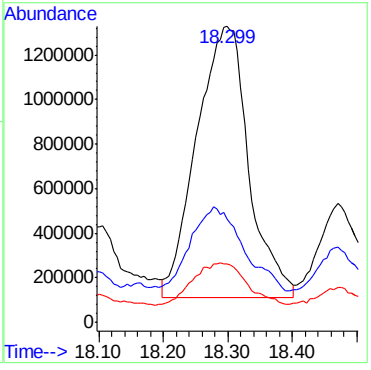
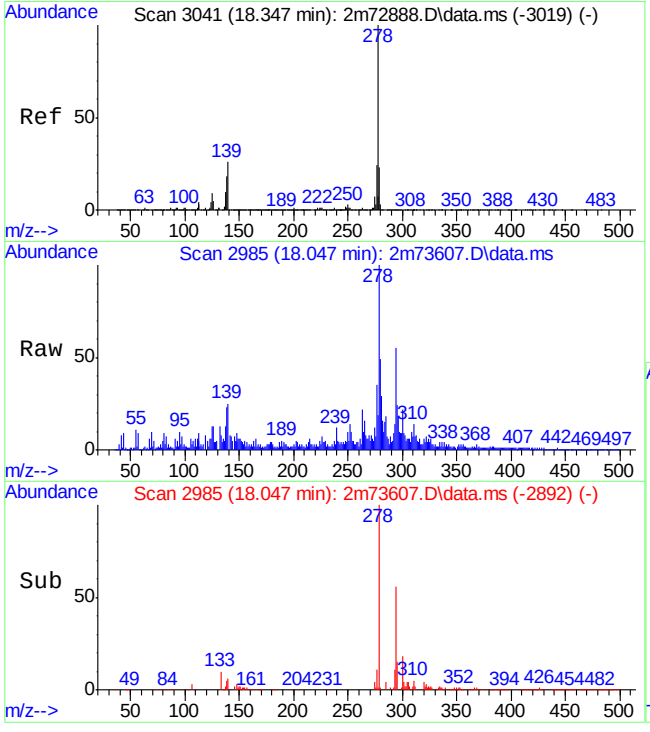


#97
Indeno[1,2,3-cd]pyrene
Concen: 182.94 ppm m
RT: 18.299 min Scan# 3032
Delta R.T. 0.193 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:276 Resp: 6831213

Ion	Ratio	Lower	Upper
276	100		
138	34.8	0.0	57.9
137	19.7	0.0	50.1

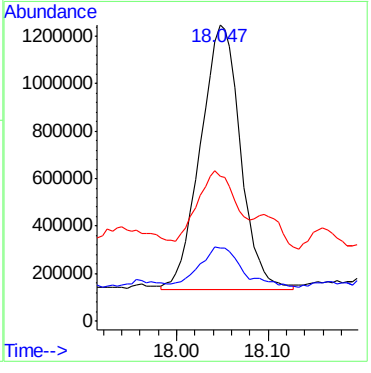




#99
Dibenz[a,h]anthracene
Concen: 87.88 ppm m
RT: 18.047 min Scan# 2985
Delta R.T. 0.000 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:278 Resp: 3398744

Ion	Ratio	Lower	Upper
278	100		
139	24.6	0.0	55.8
279	48.9	0.0	53.2



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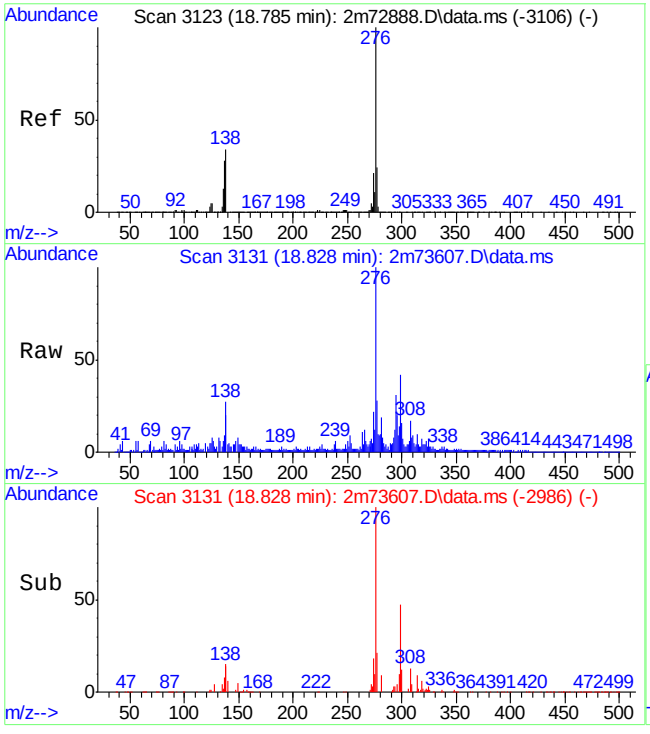
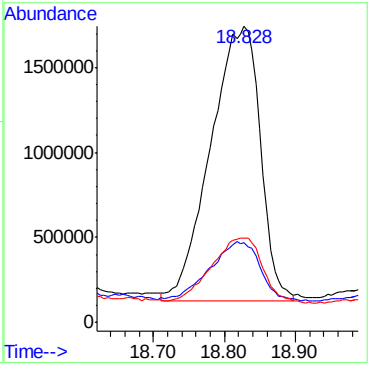


#101
Benzo[g,h,i]perylene
Concen: 209.24 ppm m
RT: 18.828 min Scan# 3131
Delta R.T. 0.278 min
Lab File: 2m73607.D
Acq: 27 Apr 2015 7:59 pm

Tgt Ion:276 Resp: 7877588

Ion	Ratio	Lower	Upper
276	100		
138	26.9	4.2	64.2
277	28.4	0.0	53.5



9.1.11

9

Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/04/15 14:18

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73759.D
Acq On : 1 May 2015 1:11 pm
Operator : ashleyn
Sample : jb93023-10
Misc : op83421,e2m3173,33.1,,,1,10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 03 19:01:22 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

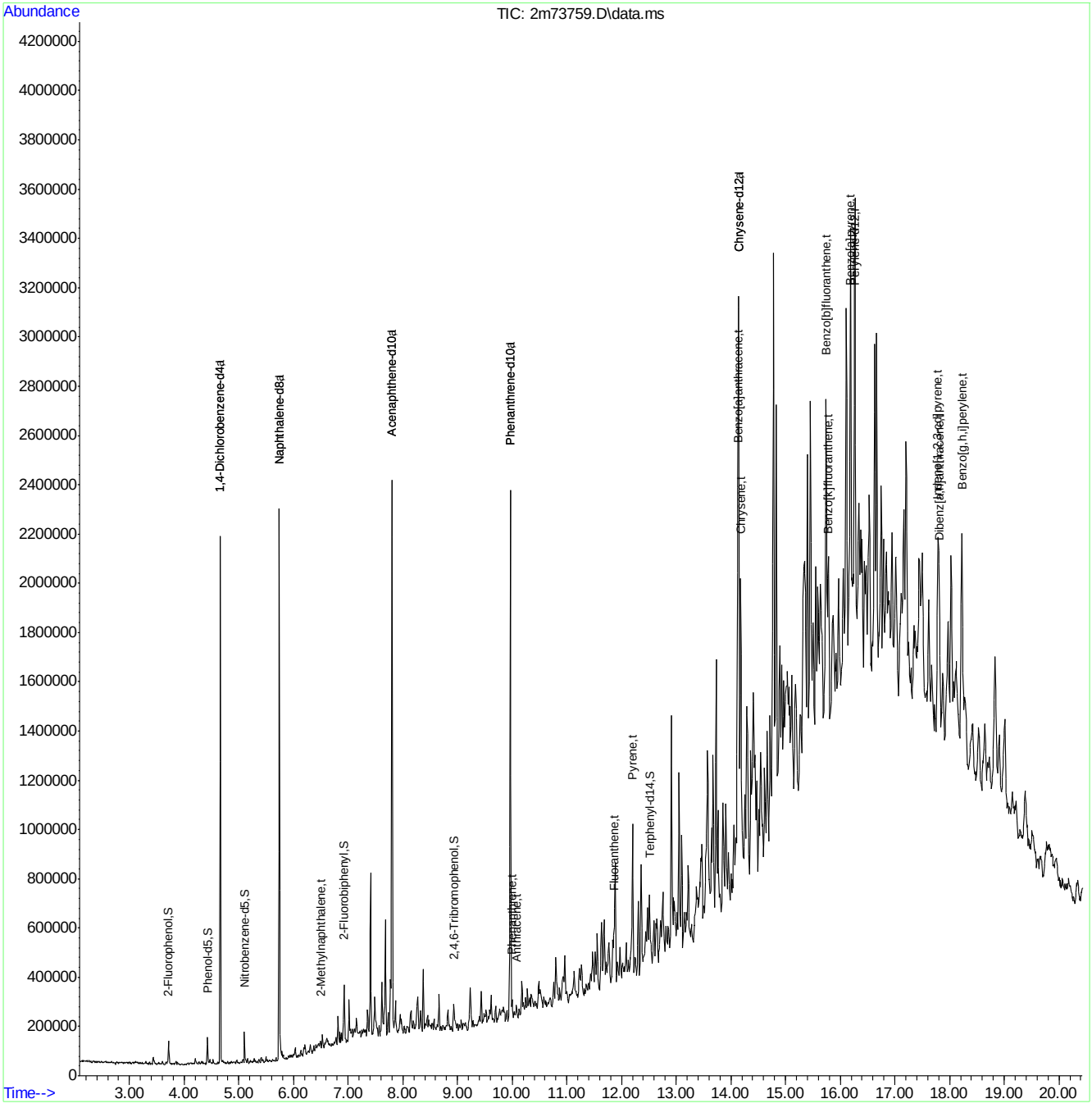
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.659	152	239920	40.00 ppm	0.00
24) Naphthalene-d8	5.740	136	880511	40.00 ppm	0.00
47) Acenaphthene-d10	7.799	164	542254	40.00 ppm	0.00
69) Phenanthrene-d10	9.965	188	939590	40.00 ppm	0.00
83) Chrysene-d12	14.143	240	834371	40.00 ppm	0.01
92) Perylene-d12	16.266	264	822235	40.00 ppm	0.02
102) 1,4-Dichlorobenzene-d4a	4.659	152	239920	40.00 ppm	0.00
104) Acenaphthene-d10a	7.799	164	542254	40.00 ppm	0.00
106) Chrysene-d12a	14.143	240	834371	40.00 ppm	0.01
109) Phenanthrene-d10a	9.965	188	939590	40.00 ppm	0.00
112) Naphthalene-d8a	5.740	136	880511	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	26245	2.97 ppm	0.01
Spiked Amount 50.000			Recovery	= 5.94%	
8) Phenol-d5	4.424	99	35464	3.20 ppm	0.01
Spiked Amount 50.000			Recovery	= 6.40%	
25) Nitrobenzene-d5	5.103	82	36503	3.52 ppm	0.00
Spiked Amount 50.000			Recovery	= 7.04%	
51) 2-Fluorobiphenyl	6.927	172	70914	3.67 ppm	0.00
Spiked Amount 50.000			Recovery	= 7.34%	
73) 2,4,6-Tribromophenol	8.933	330	10052	3.65 ppm	0.00
Spiked Amount 50.000			Recovery	= 7.30%	
85) Terphenyl-d14	12.511	244	73905	3.97 ppm	0.00
Spiked Amount 50.000			Recovery	= 7.94%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
Target Compounds					Qvalue
44) 2-Methylnaphthalene	6.494	141	10078m	0.73 ppm	
77) Phenanthrene	10.003	178	29465	1.10 ppm	98
78) Anthracene	10.083	178	15558	0.58 ppm	96
81) Fluoranthene	11.859	202	62839	2.08 ppm	96
84) Pyrene	12.206	202	309958	11.06 ppm	97
88) Benzo[a]anthracene	14.127	228	566532	22.04 ppm	96
90) Chrysene	14.180	228	545254	22.74 ppm	97
94) Benzo[b]fluoranthene	15.742	252	599984m	21.63 ppm	
95) Benzo[k]fluoranthene	15.774	252	161981m	6.32 ppm	
96) Benzo[a]pyrene	16.186	252	897017	37.47 ppm	99
97) Indeno[1,2,3-cd]pyrene	17.785	276	344693	12.16 ppm	82
99) Dibenz[a,h]anthracene	17.812	278	371276	15.79 ppm	96
101) Benzo[g,h,i]perylene	18.229	276	481867	21.21 ppm	97

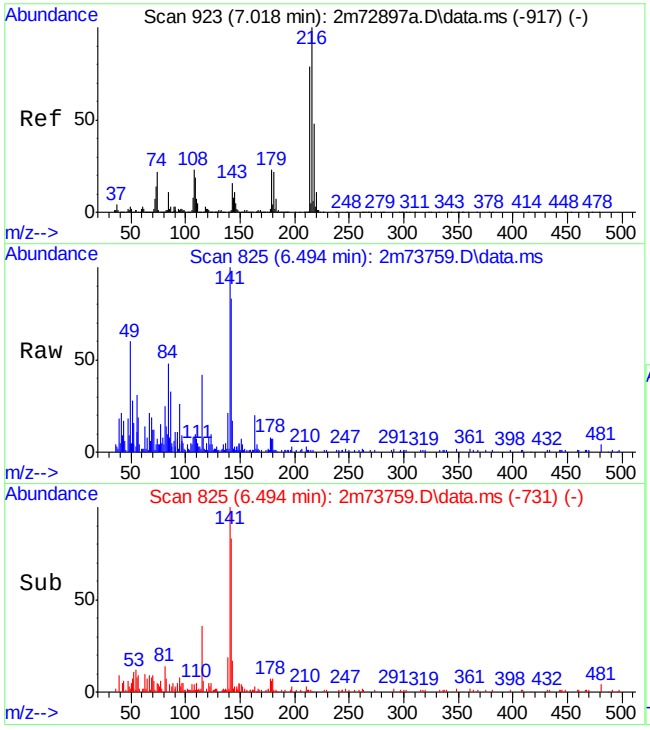
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73759.D
Acq On : 1 May 2015 1:11 pm
Operator : ashleyn
Sample : jb93023-10
Misc : op83421,e2m3173,33.1,,,1,10
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 03 19:01:22 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

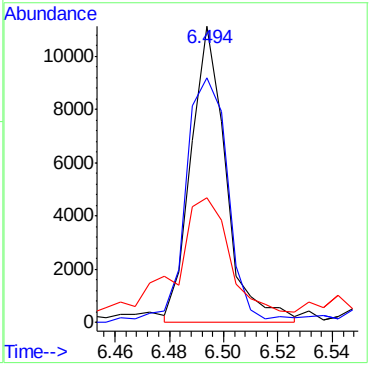


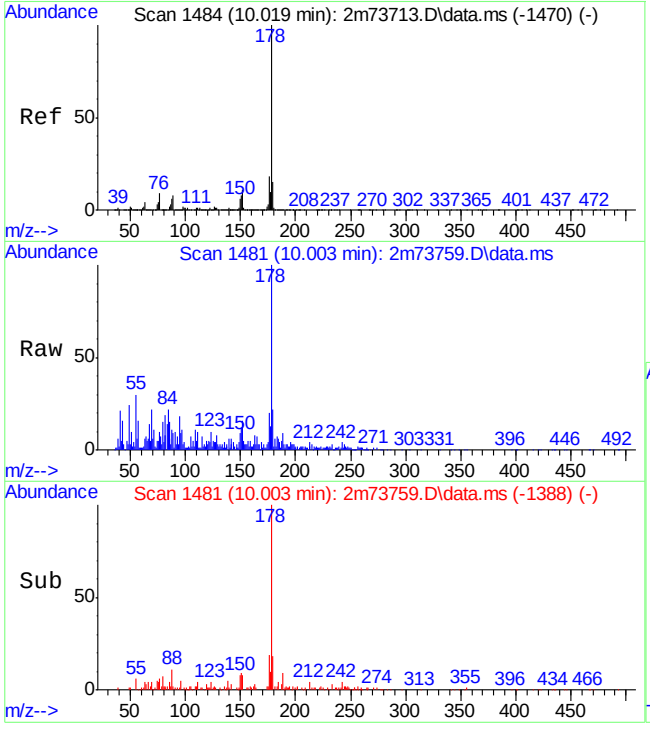


#44
2-Methylnaphthalene
Concen: 0.73 ppm m
RT: 6.494 min Scan# 825
Delta R.T. 0.005 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:141 Resp: 10078

Ion	Ratio	Lower	Upper
141	100		
142	82.6	91.6	151.6#
115	42.0	23.7	83.7

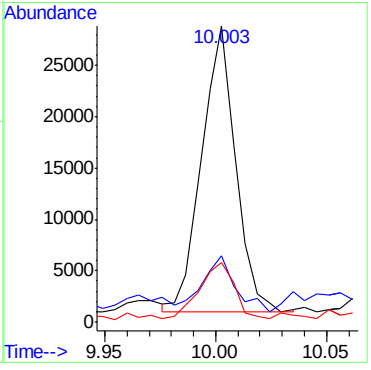




#77
Phenanthrene
Concen: 1.10 ppm
RT: 10.003 min Scan# 1481
Delta R.T. 0.000 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:178 Resp: 29465

Ion	Ratio	Lower	Upper
178	100		
179	13.8	0.0	46.0
176	19.5	0.0	49.5



9.1.12
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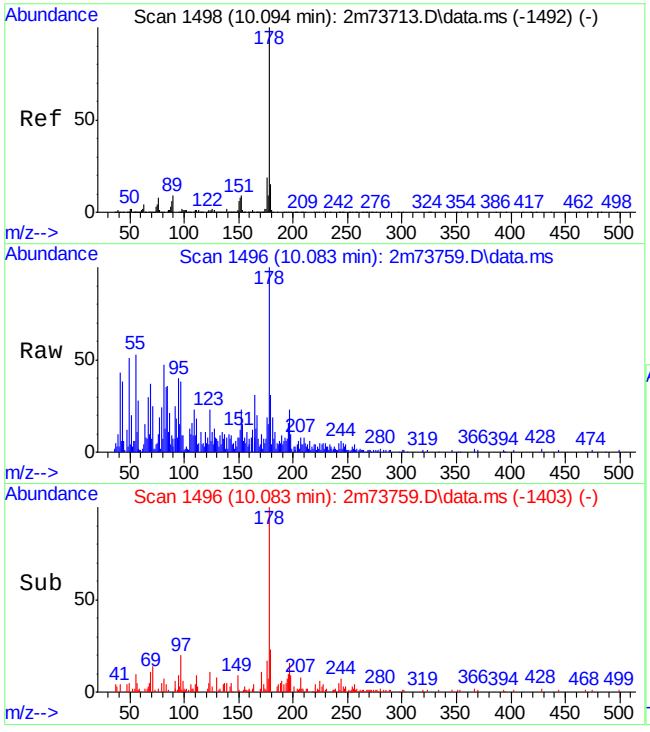
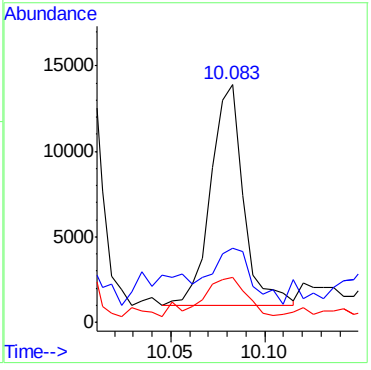
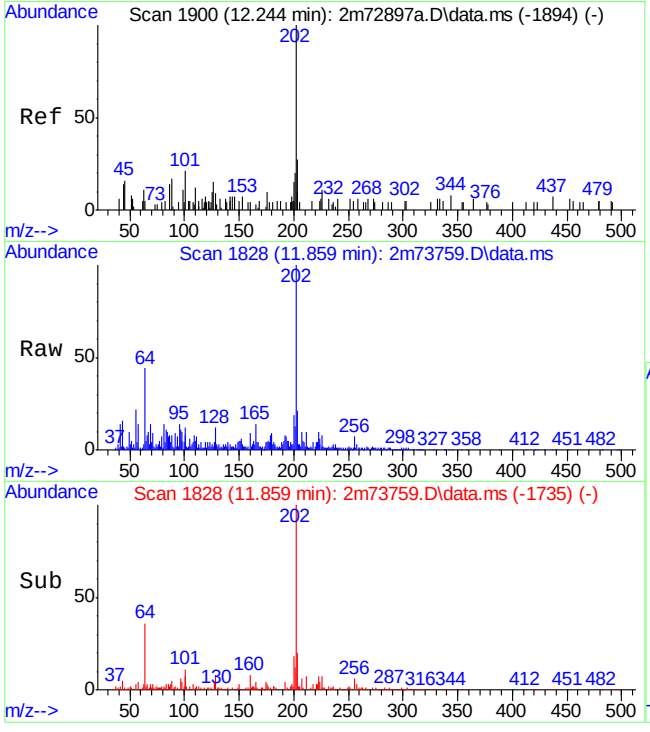


#78
Anthracene
Concen: 0.58 ppm
RT: 10.083 min Scan# 1496
Delta R.T. 0.000 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:178 Resp: 15558

Ion	Ratio	Lower	Upper
178	100		
179	13.5	0.0	45.6
176	16.9	0.0	48.2

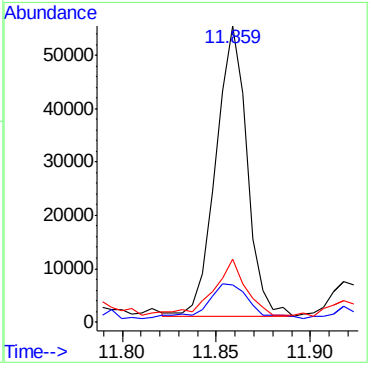




#81
Fluoranthene
Concen: 2.08 ppm
RT: 11.859 min Scan# 1828
Delta R.T. 0.000 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:202 Resp: 62839

Ion	Ratio	Lower	Upper
202	100		
101	12.9	0.0	40.9
203	18.7	0.0	47.1



9.1.12

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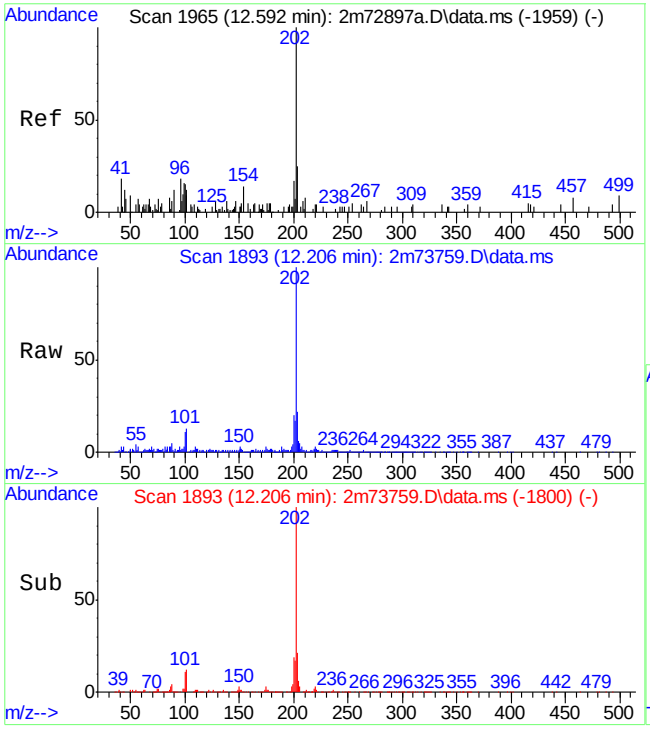
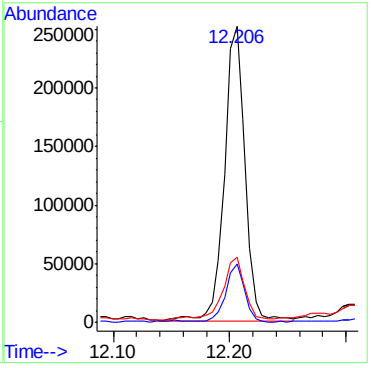
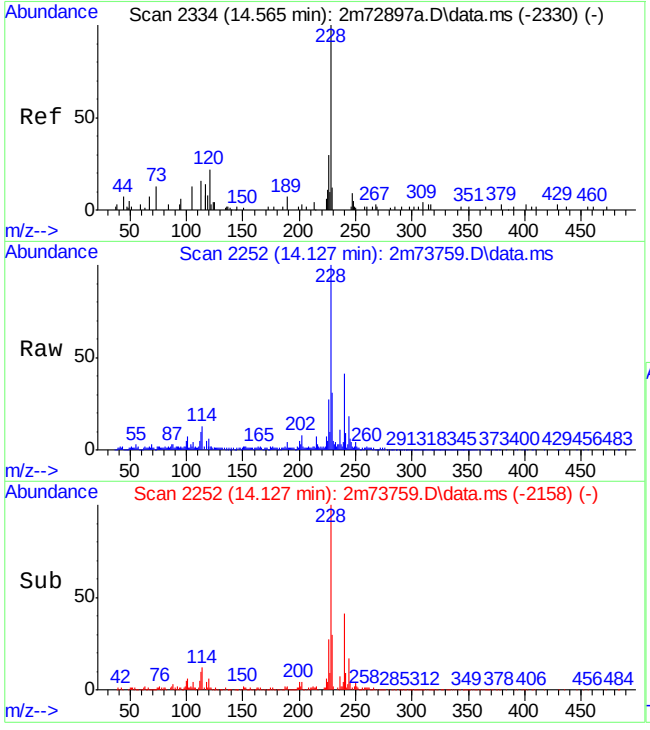


#84
Pyrene
Concen: 11.06 ppm
RT: 12.206 min Scan# 1893
Delta R.T. 0.000 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:202 Resp: 309958

Ion	Ratio	Lower	Upper
202	100		
200	19.4	0.0	50.2
203	21.1	0.0	49.0

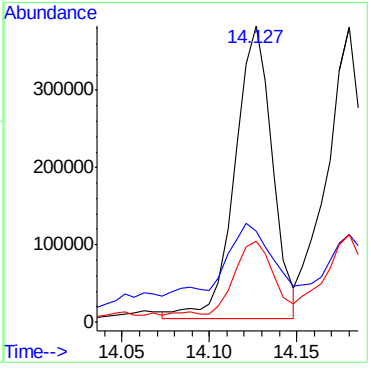


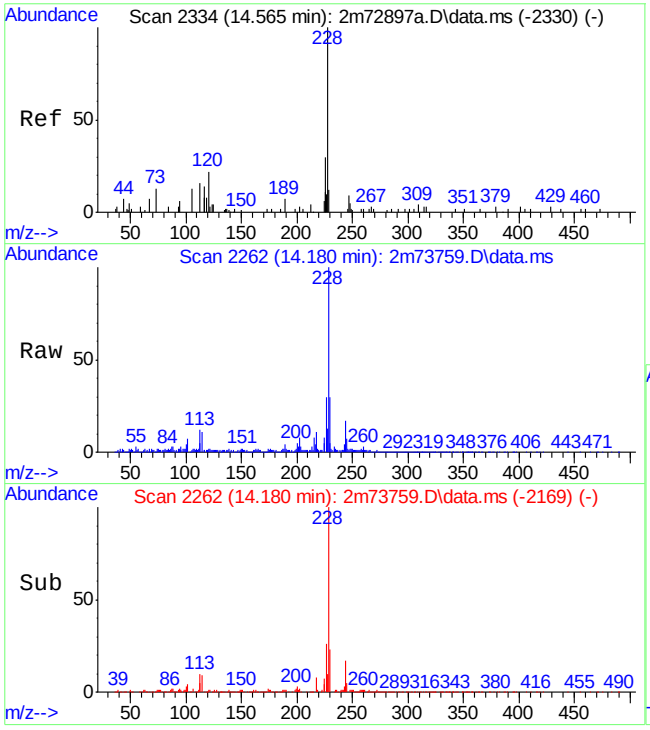


#88
Benzo[a]anthracene
Concen: 22.04 ppm
RT: 14.127 min Scan# 2252
Delta R.T. 0.005 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:228 Resp: 566532

Ion	Ratio	Lower	Upper
228	100		
229	22.0	0.0	49.1
226	24.9	0.0	56.2

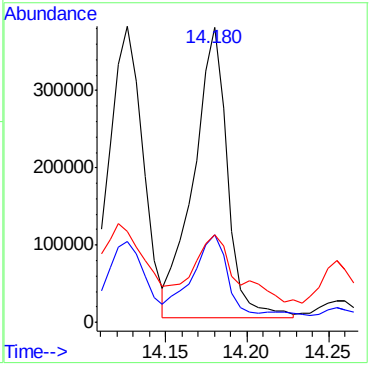


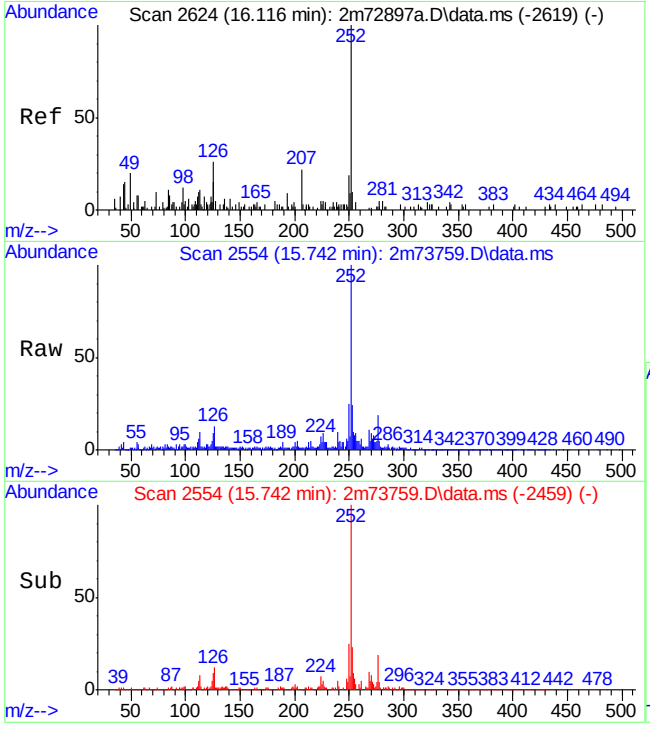


#90
Chrysene
Concen: 22.74 ppm
RT: 14.180 min Scan# 2262
Delta R.T. 0.000 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:228 Resp: 545254

Ion	Ratio	Lower	Upper
228	100		
226	27.1	0.0	57.9
229	21.5	0.0	49.3

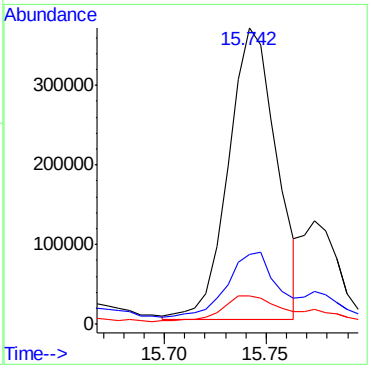




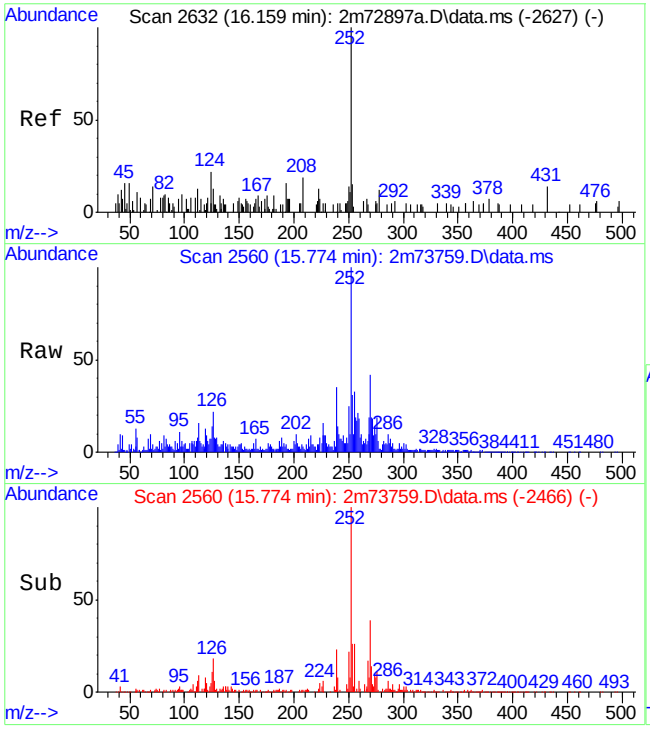
#94
Benzo[b]fluoranthene
Concen: 21.63 ppm m
RT: 15.742 min Scan# 2554
Delta R.T. 0.011 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:252 Resp: 599984

Ion	Ratio	Lower	Upper
252	100		
253	23.7	0.0	52.5
125	9.5	0.0	39.4



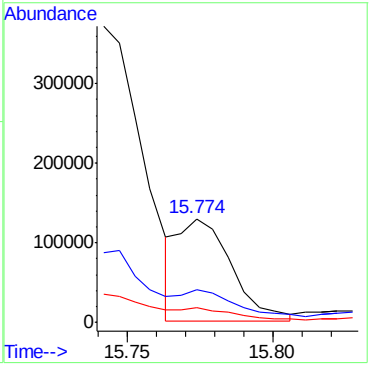
9.1.12
9

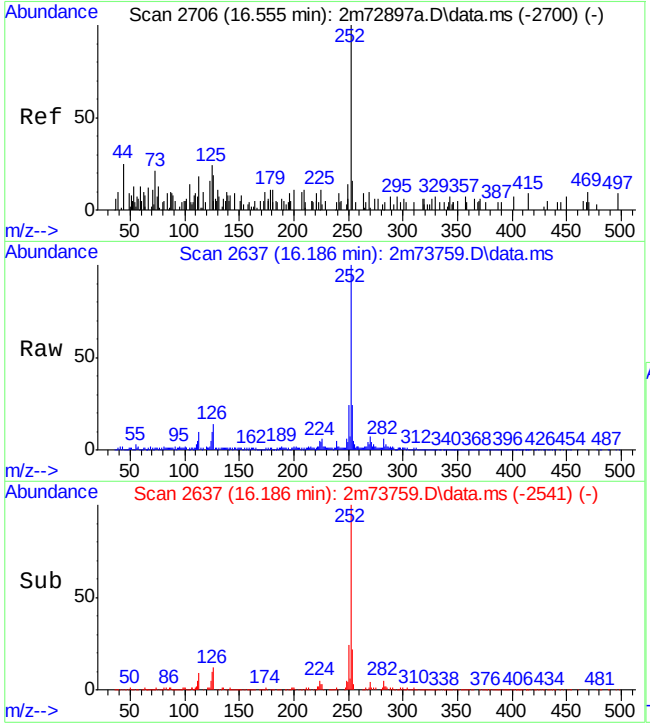


#95
Benzo[k]fluoranthene
Concen: 6.32 ppm m
RT: 15.774 min Scan# 2560
Delta R.T. 0.005 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:252 Resp: 161981

Ion	Ratio	Lower	Upper
252	100		
253	31.4	0.0	51.5
125	13.8	0.0	38.6

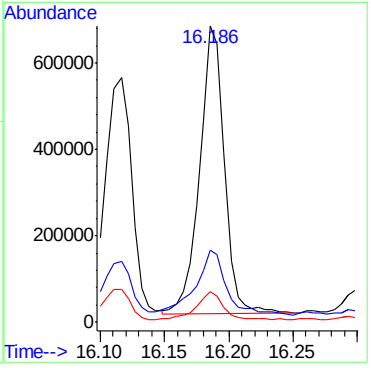


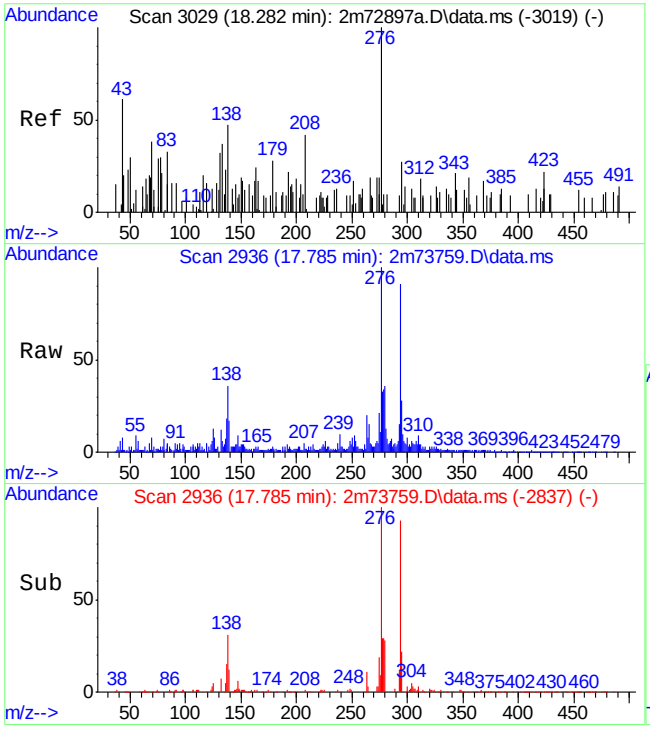


#96
Benzo[a]pyrene
Concen: 37.47 ppm
RT: 16.186 min Scan# 2637
Delta R.T. 0.016 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:252 Resp: 897017

Ion	Ratio	Lower	Upper
252	100		
253	21.8	0.0	51.9
125	9.4	0.0	40.1

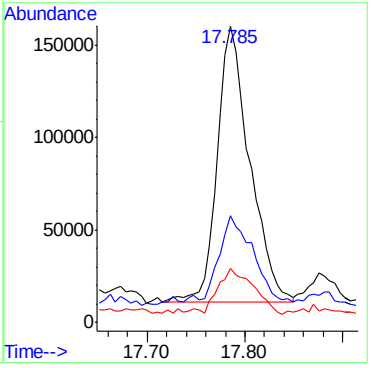


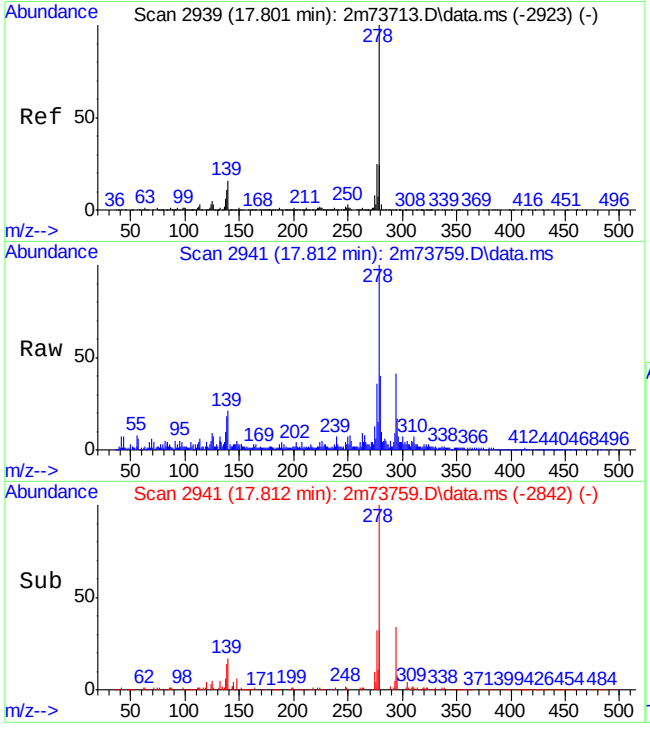


#97
Indeno[1,2,3-cd]pyrene
Concen: 12.16 ppm
RT: 17.785 min Scan# 2936
Delta R.T. 0.032 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:276 Resp: 344693

Ion	Ratio	Lower	Upper
276	100		
138	31.4	0.0	49.3
137	16.5	0.0	44.1

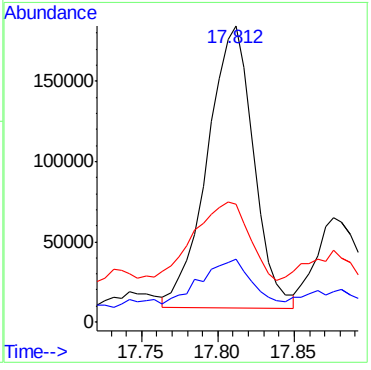




#99
Dibenz[a,h]anthracene
Concen: 15.79 ppm
RT: 17.812 min Scan# 2941
Delta R.T. 0.032 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

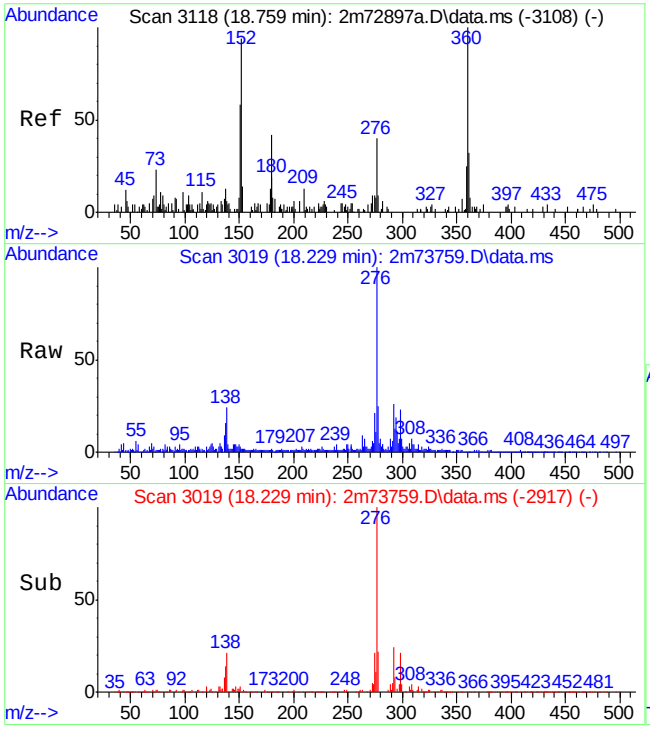
Tgt Ion:278 Resp: 371276

Ion	Ratio	Lower	Upper
278	100		
139	15.3	0.0	47.1
279	25.1	0.0	53.4



9.1.12

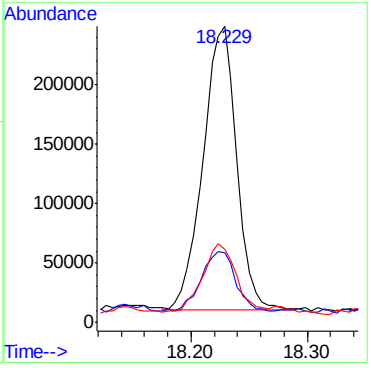
9



#101
Benzo[g,h,i]perylene
Concen: 21.21 ppm
RT: 18.229 min Scan# 3019
Delta R.T. 0.048 min
Lab File: 2m73759.D
Acq: 1 May 2015 1:11 pm

Tgt Ion:276 Resp: 481867

Ion	Ratio	Lower	Upper
276	100		
138	20.6	0.0	52.0
277	21.8	0.0	53.5



9.1.12

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EZ5033\
Data File : Z100919.D
Acq On : 30 Apr 2015 6:34 pm
Operator : sarad
Sample : jb93023-11
Misc : op83522,ez5033,30.6,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 04 15:04:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\MZ5031.M
Quant Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
QLast Update : Thu Apr 30 14:29:25 2015
Response via : Initial Calibration

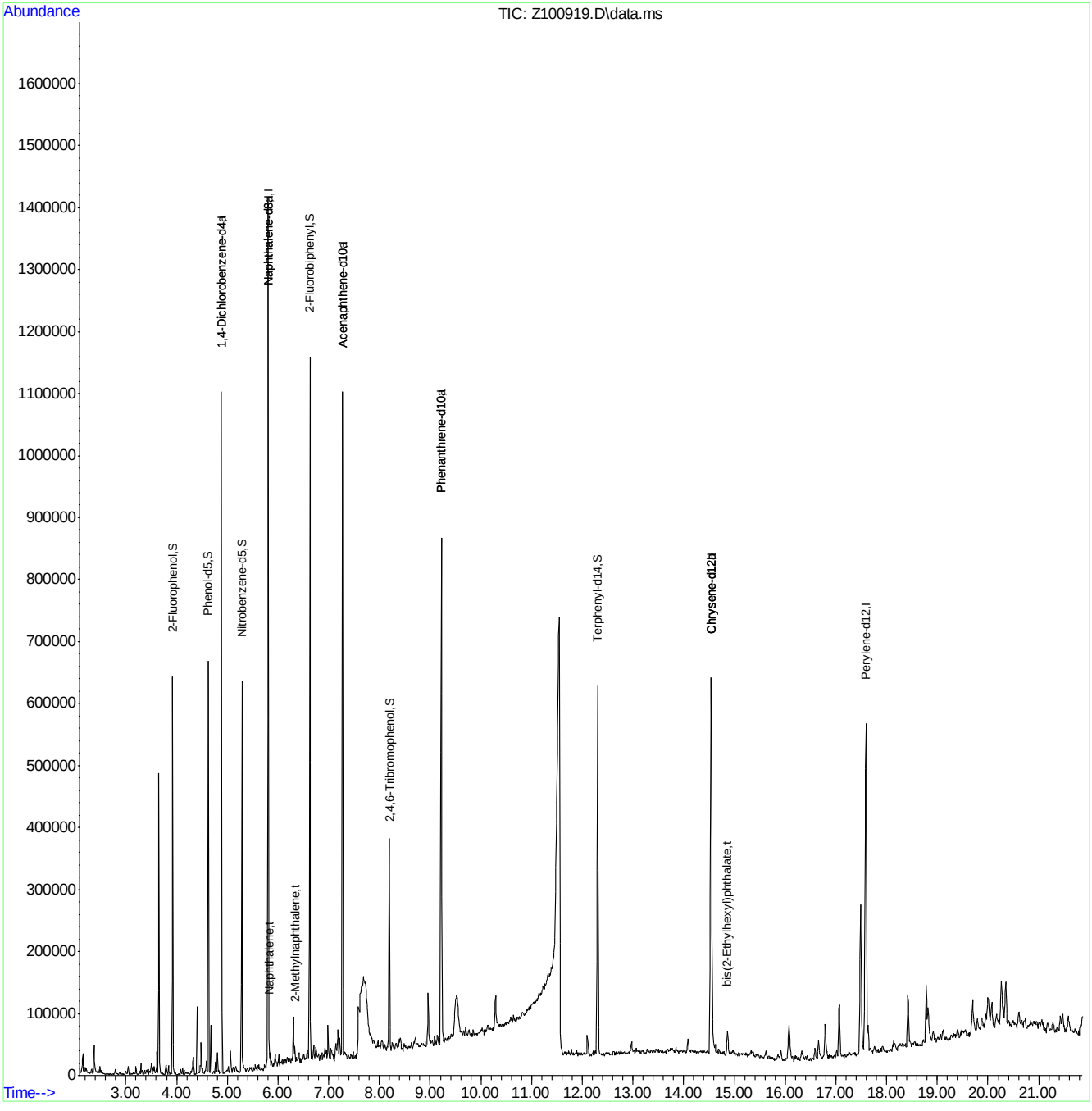
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.886	152	118474	40.00	ppm	0.00
24) Naphthalene-d8	5.805	136	454570	40.00	ppm	0.00
47) Acenaphthene-d10	7.274	164	234462	40.00	ppm	0.00
69) Phenanthrene-d10	9.219	188	371794	40.00	ppm	0.00
83) Chrysene-d12	14.540	240	319202	40.00	ppm	-0.01
92) Perylene-d12	17.590	264	294451	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.886	152	118474	40.00	ppm	-0.12
104) Phenanthrene-d10a	9.219	188	371794	40.00	ppm	0.00
108) Chrysene-d12a	14.540	240	319202	40.00	ppm	-0.01
110) Acenaphthene-d10a	7.274	164	234462	40.00	ppm	0.00
112) Naphthalene-d8a	5.805	136	454570	40.00	ppm	0.00
114) Chrysene-d12b	14.540	240	319202	40.00	ppm	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	3.925	112	144510	32.01	ppm	0.00
Spiked Amount 50.000			Recovery	=	64.02%	
8) Phenol-d5	4.625	99	190092	32.11	ppm	0.00
Spiked Amount 50.000			Recovery	=	64.22%	
25) Nitrobenzene-d5	5.287	82	162457	32.47	ppm	0.00
Spiked Amount 50.000			Recovery	=	64.94%	
51) 2-Fluorobiphenyl	6.628	172	279381	36.10	ppm	0.00
Spiked Amount 50.000			Recovery	=	72.20%	
73) 2,4,6-Tribromophenol	8.199	330	32754	31.18	ppm	0.00
Spiked Amount 50.000			Recovery	=	62.36%	
86) Terphenyl-d14	12.301	244	258218	38.98	ppm	0.00
Spiked Amount 50.000			Recovery	=	77.96%	
105) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount 50.000			Recovery	=	0.00%	
106) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount 50.000			Recovery	=	0.00%	
Target Compounds						Qvalue
38) Naphthalene	5.821	128	5395	0.42	ppm	91
44) 2-Methylnaphthalene	6.334	141	2744	0.40	ppm	99
91) bis(2-Ethylhexyl)phtha...	14.860	149	8873	1.24	ppm	95

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

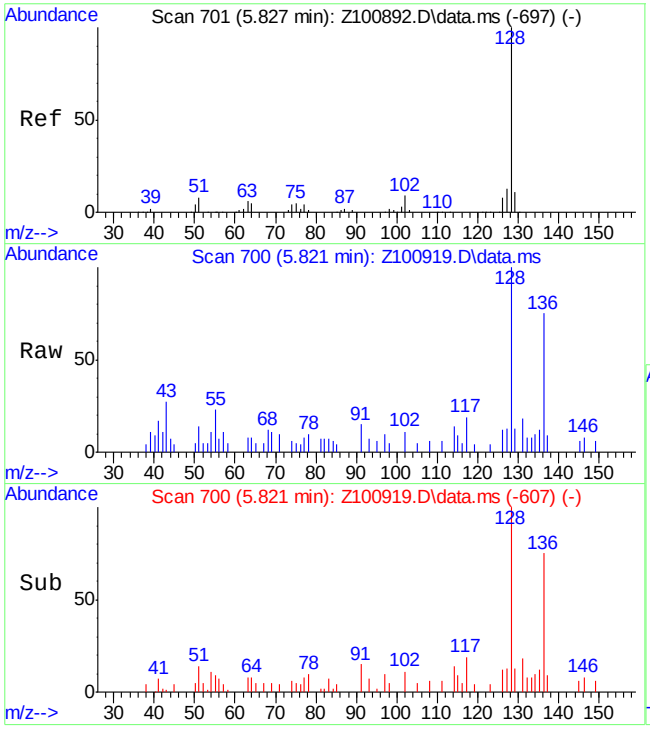
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EZ5033\
Data File : Z100919.D
Acq On : 30 Apr 2015 6:34 pm
Operator : sarad
Sample : jb93023-11
Misc : op83522,ez5033,30.6,,,1,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 04 15:04:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\MZ5031.M
Quant Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
QLast Update : Thu Apr 30 14:29:25 2015
Response via : Initial Calibration



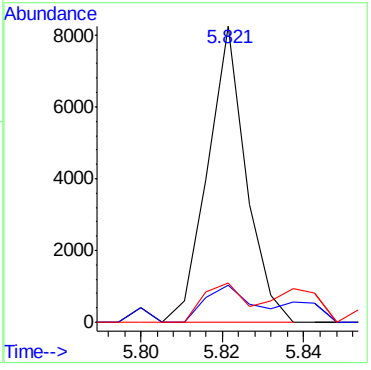
MZ5031.M Mon May 04 15:04:51 2015 RTE

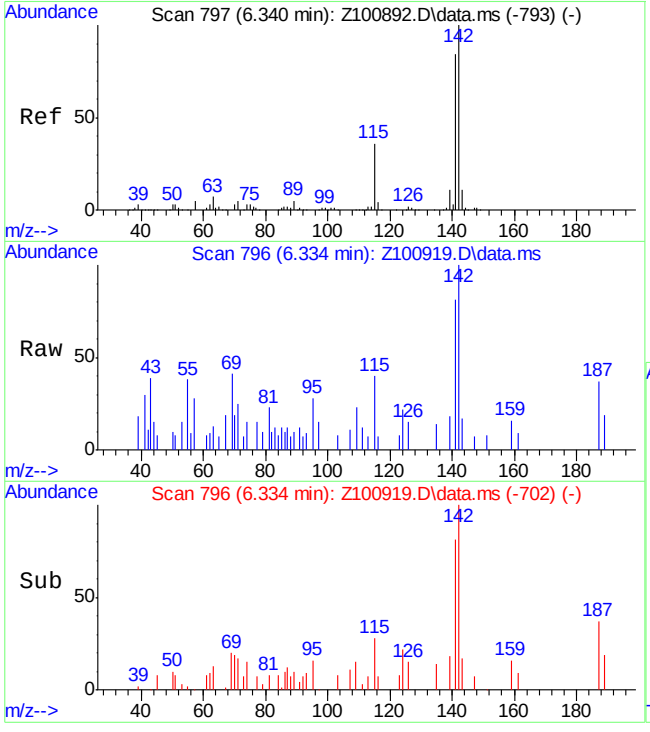


#38
Naphthalene
Concen: 0.42 ppm
RT: 5.821 min Scan# 700
Delta R.T. -0.005 min
Lab File: Z100919.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:128 Resp: 5395

Ion	Ratio	Lower	Upper
128	100		
129	9.3	0.0	40.3
127	7.6	0.0	42.9

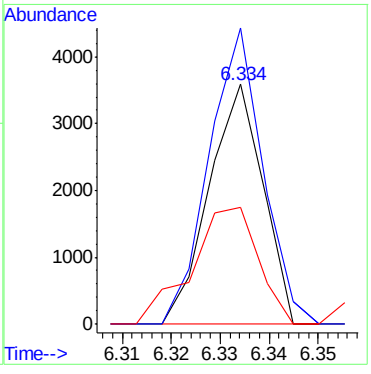




#44
2-Methylnaphthalene
Concen: 0.40 ppm
RT: 6.334 min Scan# 796
Delta R.T. 0.000 min
Lab File: Z100919.D
Acq: 30 Apr 2015 6:34 pm

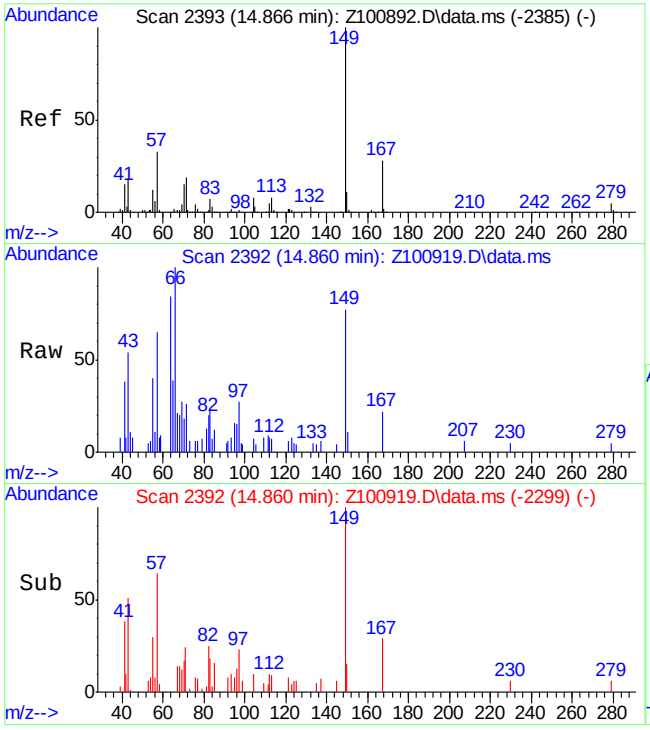
Tgt Ion:141 Resp: 2744

Ion	Ratio	Lower	Upper
141	100		
142	118.7	88.8	148.8
115	41.7	14.5	74.5



9.1.13

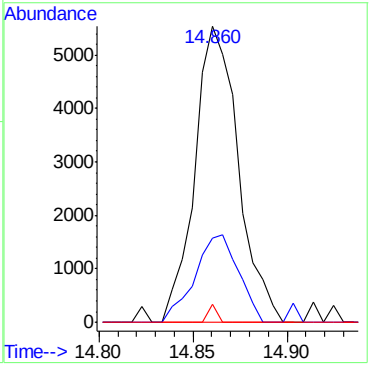
9



#91
bis(2-Ethylhexyl)phthalate
Concen: 1.24 ppm
RT: 14.860 min Scan# 2392
Delta R.T. -0.005 min
Lab File: Z100919.D
Acq: 30 Apr 2015 6:34 pm

Tgt Ion:149 Resp: 8873

Ion	Ratio	Lower	Upper
149	100		
167	25.3	0.0	57.9
279	5.9	0.0	35.2



9.1.13

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EZ5033\
Data File : Z100922.D
Acq On : 30 Apr 2015 8:09 pm
Operator : sarad
Sample : jb93023-12
Misc : op83522,ez5033,15.3,,,1,4
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 01 13:34:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\MZ5031.M
Quant Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
QLast Update : Thu Apr 30 14:29:25 2015
Response via : Initial Calibration

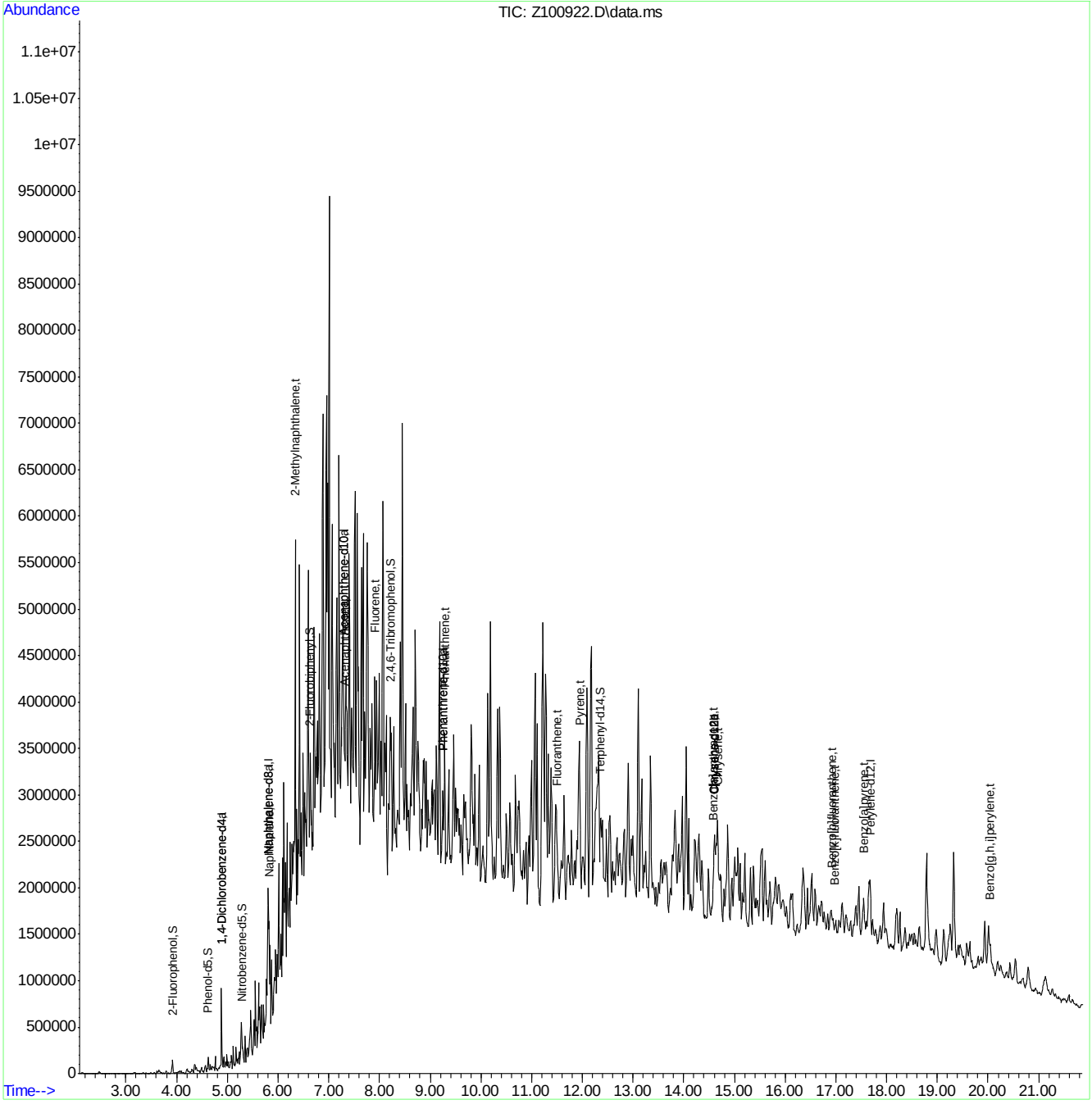
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.886	152	100642	40.00	ppm	0.00
24) Naphthalene-d8	5.810	136	366630	40.00	ppm	0.00
47) Acenaphthene-d10	7.290	164	180763	40.00	ppm	0.02
69) Phenanthrene-d10	9.246	188	310466	40.00	ppm	0.03
83) Chrysene-d12	14.609	240	298513	40.00	ppm	0.06
92) Perylene-d12	17.676	264	339074	40.00	ppm	0.09
102) 1,4-Dichlorobenzene-d4a	4.886	152	100642	40.00	ppm	-0.12
104) Phenanthrene-d10a	9.246	188	310466	40.00	ppm	0.03
108) Chrysene-d12a	14.609	240	298513	40.00	ppm	0.06
110) Acenaphthene-d10a	7.290	164	180763	40.00	ppm	0.02
112) Naphthalene-d8a	5.810	136	366630	40.00	ppm	0.00
114) Chrysene-d12b	14.609	240	298513	40.00	ppm	0.06
System Monitoring Compounds						
5) 2-Fluorophenol	3.919	112	31441	8.20	ppm	0.00
Spiked Amount 50.000			Recovery	=	16.40%	
8) Phenol-d5	4.625	99	42970	8.55	ppm	0.00
Spiked Amount 50.000			Recovery	=	17.10%	
25) Nitrobenzene-d5	5.287	82	39583	9.81	ppm	0.00
Spiked Amount 50.000			Recovery	=	19.62%	
51) 2-Fluorobiphenyl	6.633	172	56541	9.48	ppm	0.00
Spiked Amount 50.000			Recovery	=	18.96%	
73) 2,4,6-Tribromophenol	8.220	330	6462	7.37	ppm	0.02
Spiked Amount 50.000			Recovery	=	14.74%	
86) Terphenyl-d14	12.360	244	53762	8.68	ppm	0.06
Spiked Amount 50.000			Recovery	=	17.36%	
105) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount 50.000			Recovery	=	0.00%	
106) o-terphenyl	0.000	230	0d	0.00	ppm	
Spiked Amount 50.000			Recovery	=	0.00%	
Target Compounds						Qvalue
38) Naphthalene	5.821	128	114750	11.11	ppm	98
44) 2-Methylnaphthalene	6.345	141	962466	172.84	ppm	97
59) Acenaphthene	7.322	153	126408	22.53	ppm	87
66) Fluorene	7.910	166	200845	32.89	ppm	94
77) Phenanthrene	9.288	178	860217	90.72	ppm	98
81) Fluoranthene	11.495	202	101341	10.63	ppm	99
84) Pyrene	11.949	202	693448	71.21	ppm	96
88) Benzo[a]anthracene	14.588	228	186296	20.87	ppm	73
90) Chrysene	14.673	228	413499	49.15	ppm	93
94) Benzo[b]fluoranthene	16.912	252	67598	6.33	ppm	95
95) Benzo[k]fluoranthene	16.965	252	10357	1.02	ppm	84
96) Benzo[a]pyrene	17.553	252	173253	18.70	ppm	80
101) Benzo[g,h,i]perylene	20.042	276	143841	15.45	ppm	95

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

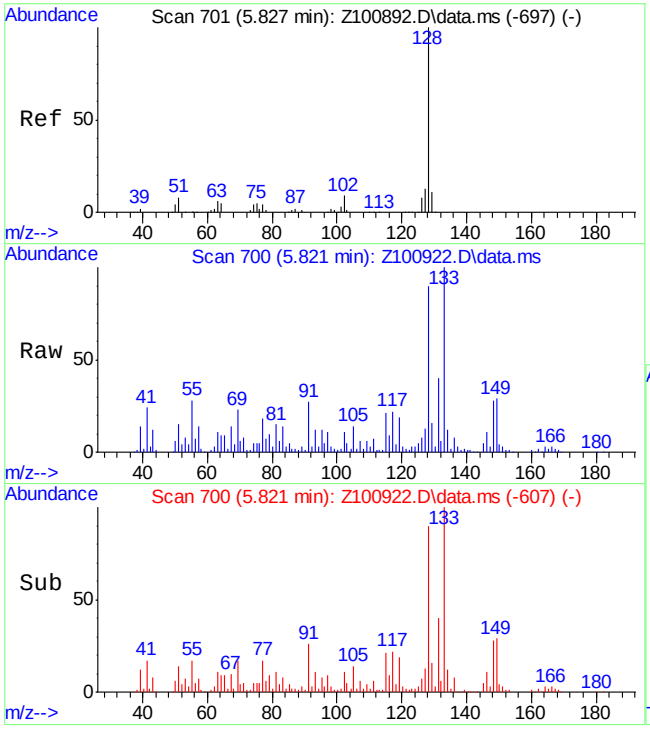
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EZ5033\
Data File : Z100922.D
Acq On : 30 Apr 2015 8:09 pm
Operator : sarad
Sample : jb93023-12
Misc : op83522,ez5033,15.3,,,1,4
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 01 13:34:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\MZ5031.M
Quant Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
QLast Update : Thu Apr 30 14:29:25 2015
Response via : Initial Calibration



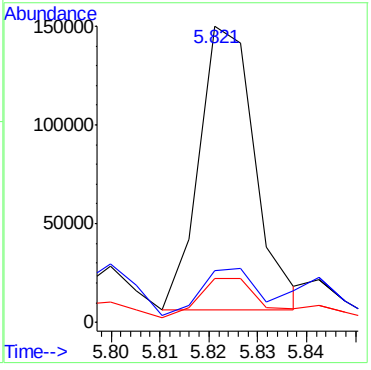
MZ5031.M Fri May 01 13:34:53 2015 RTE Page: 2

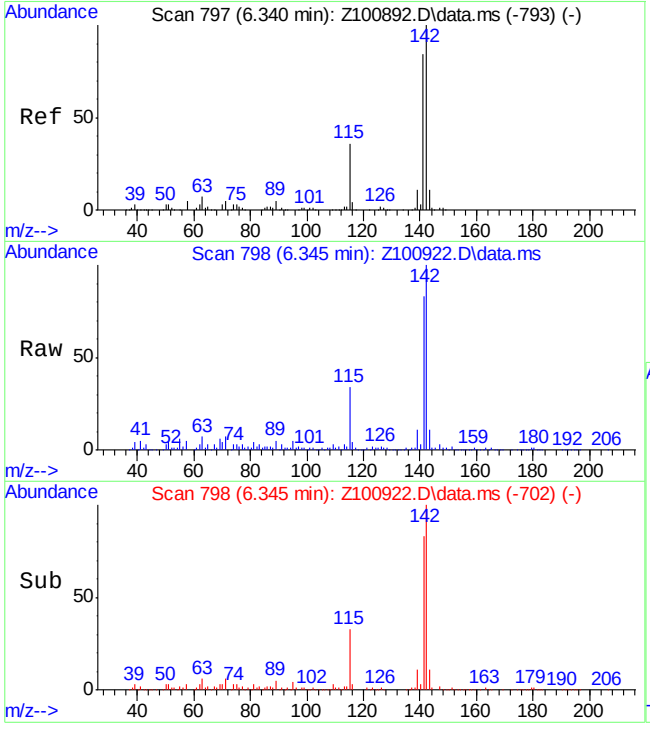


#38
Naphthalene
Concen: 11.11 ppm
RT: 5.821 min Scan# 700
Delta R.T. -0.005 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:128 Resp: 114750

Ion	Ratio	Lower	Upper
128	100		
129	11.9	0.0	40.3
127	12.8	0.0	42.9

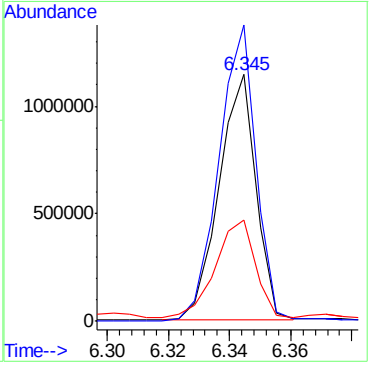


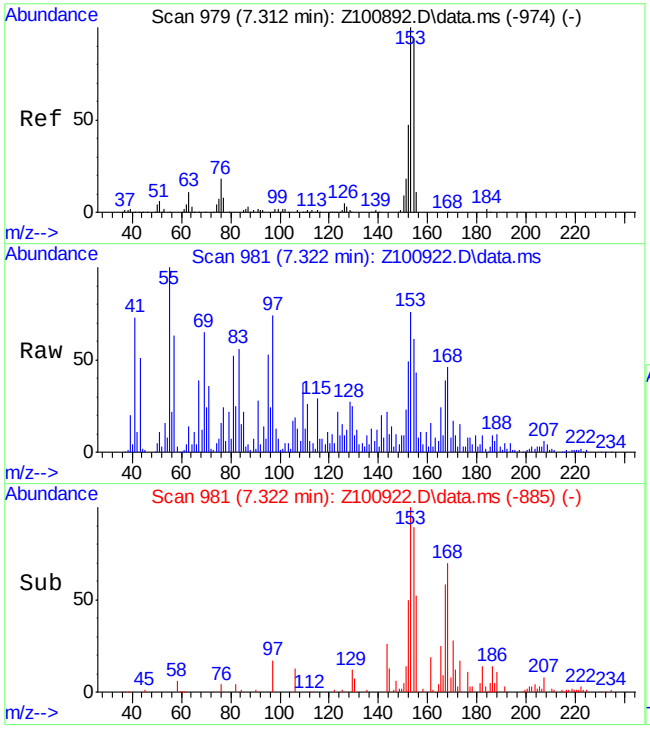


#44
2-Methylnaphthalene
Concen: 172.84 ppm
RT: 6.345 min Scan# 798
Delta R.T. 0.011 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:141 Resp: 962466

Ion	Ratio	Lower	Upper
141	100		
142	120.5	88.8	148.8
115	40.1	14.5	74.5

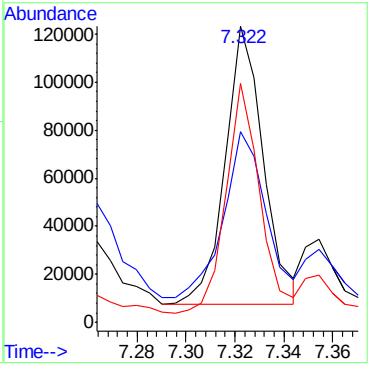


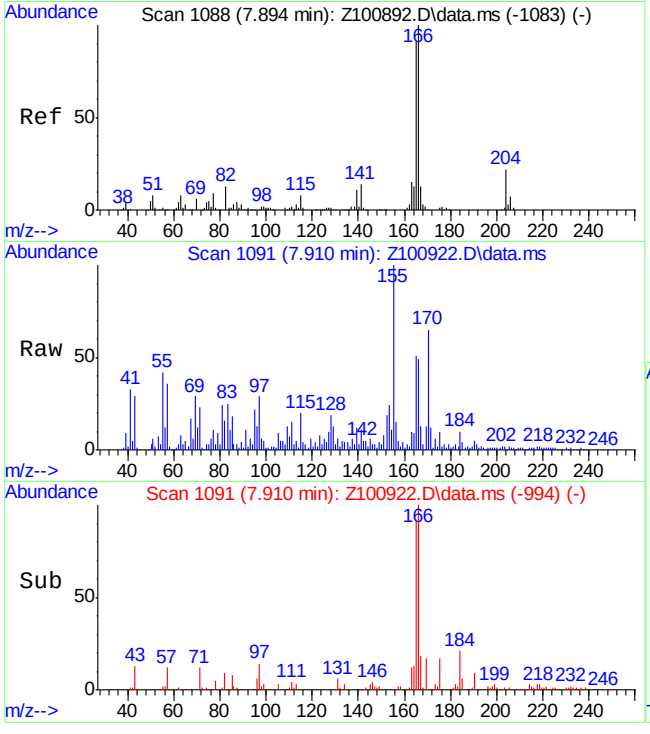


#59
Acenaphthene
Concen: 22.53 ppm
RT: 7.322 min Scan# 981
Delta R.T. 0.011 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:153 Resp: 126408

Ion	Ratio	Lower	Upper
153	100		
152	59.5	16.0	76.0
154	83.5	62.7	122.7

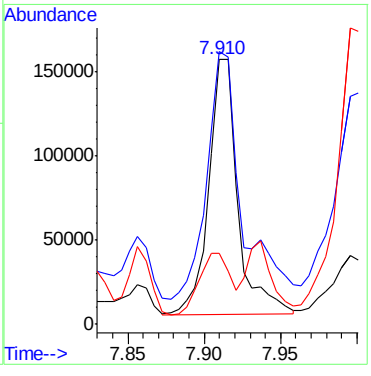


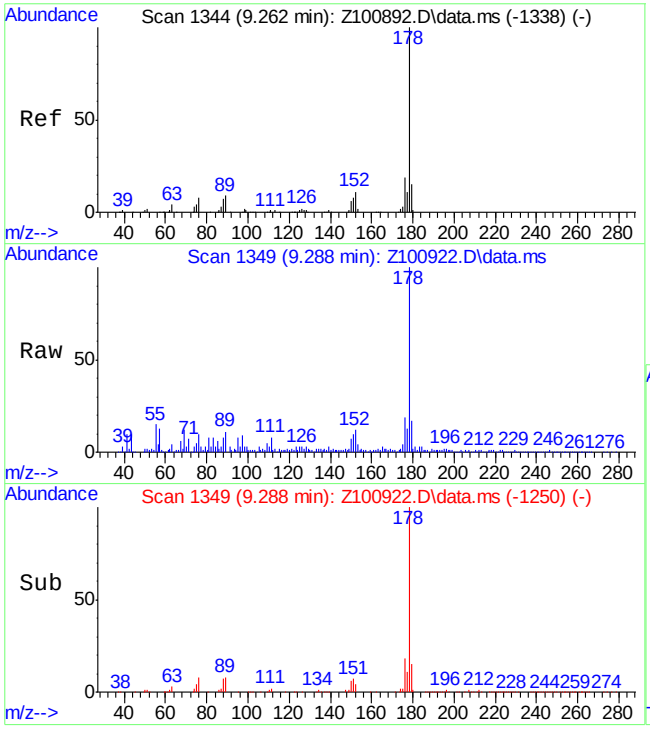


#66
Fluorene
Concen: 32.89 ppm
RT: 7.910 min Scan# 1091
Delta R.T. 0.016 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:166 Resp: 200845

Ion	Ratio	Lower	Upper
166	100		
165	94.9	61.2	121.2
167	22.1	0.0	43.1

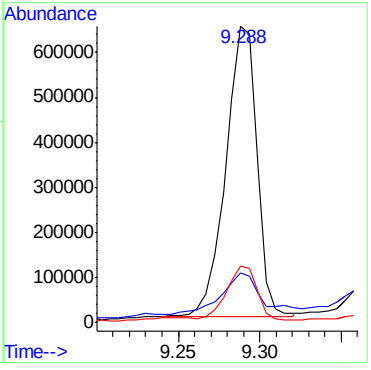


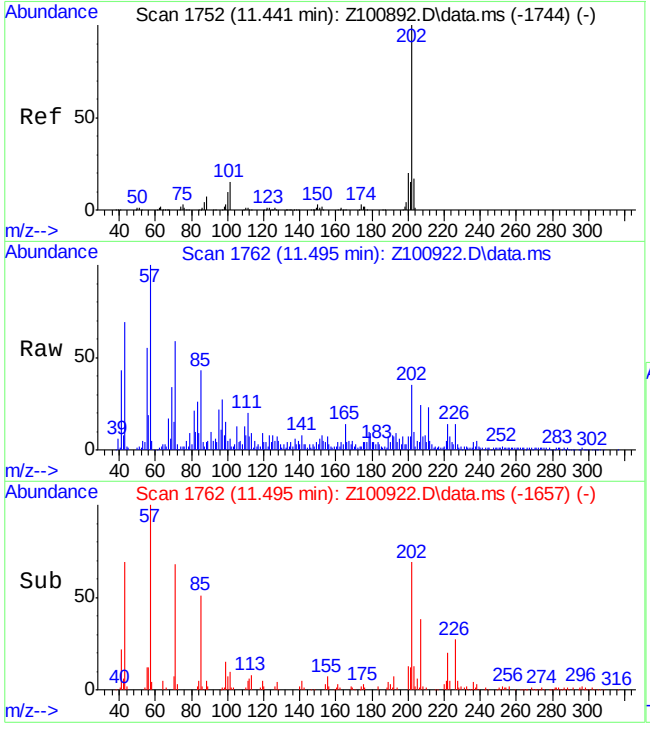


#77
Phenanthrene
Concen: 90.72 ppm
RT: 9.288 min Scan# 1349
Delta R.T. 0.027 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:178 Resp: 860217

Ion	Ratio	Lower	Upper
178	100		
179	13.0	0.0	44.5
176	18.3	0.0	48.3

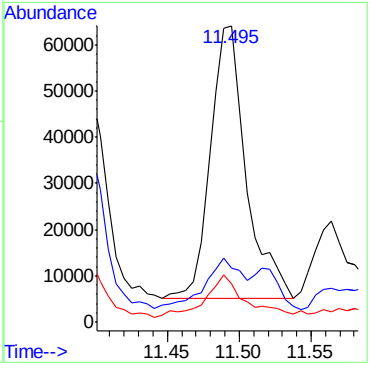




#81
Fluoranthene
Concen: 10.63 ppm
RT: 11.495 min Scan# 1762
Delta R.T. 0.059 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:202 Resp: 101341

Ion	Ratio	Lower	Upper
202	100		
101	13.9	0.0	44.5
100	11.3	0.0	40.9



9.1.14

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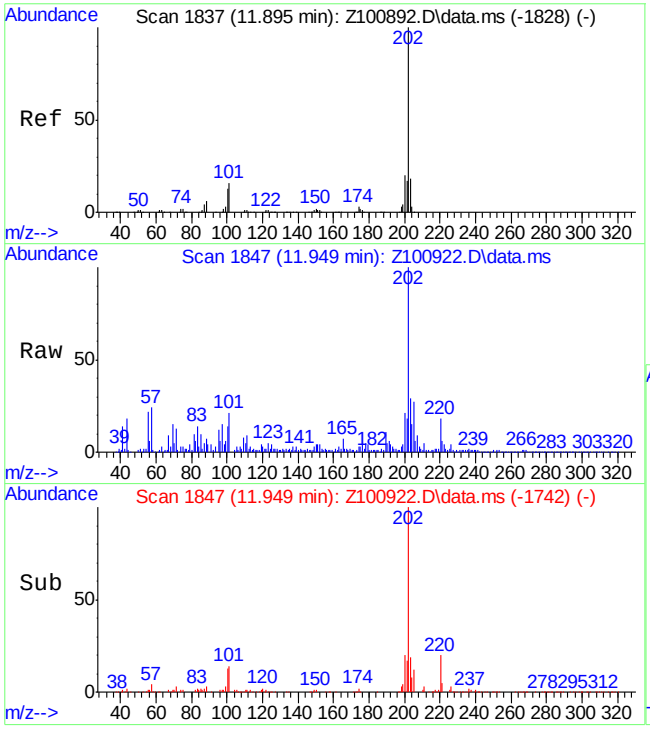
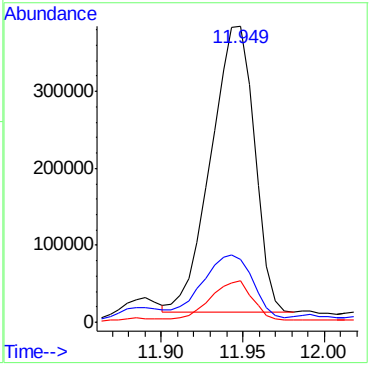
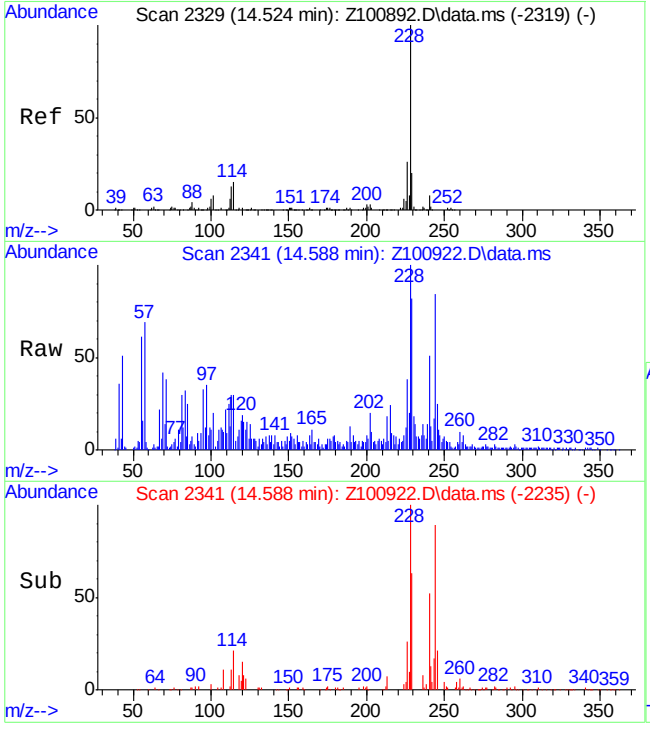


#84
Pyrene
Concen: 71.21 ppm
RT: 11.949 min Scan# 1847
Delta R.T. 0.059 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:202 Resp: 693448

Ion	Ratio	Lower	Upper
202	100		
101	19.2	0.0	47.0
100	13.7	0.0	42.7

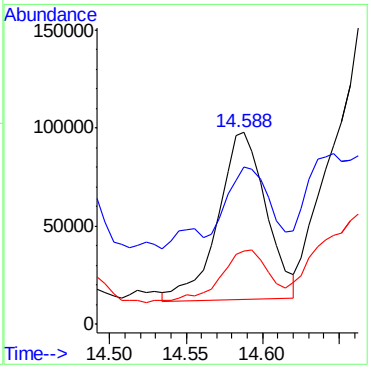


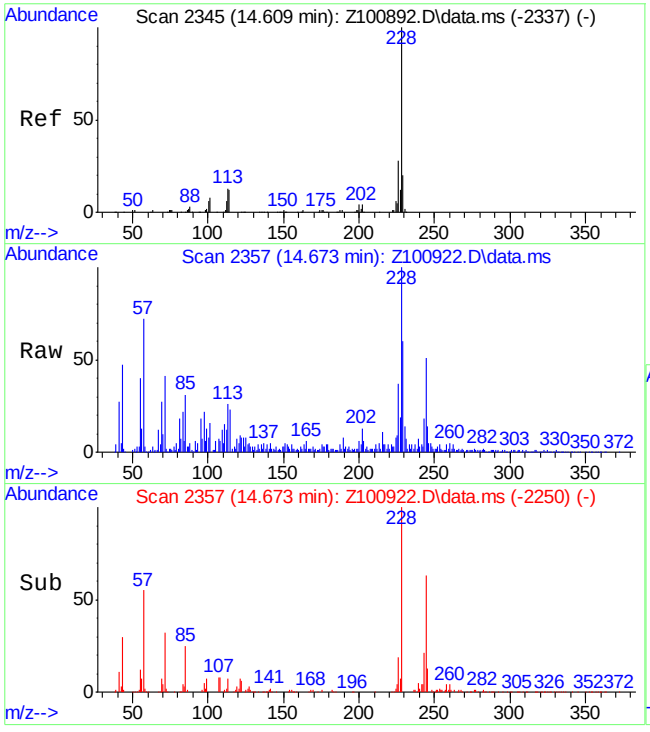


#88
Benzo[a]anthracene
Concen: 20.87 ppm
RT: 14.588 min Scan# 2341
Delta R.T. 0.064 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:228 Resp: 186296

Ion	Ratio	Lower	Upper
228	100		
229	48.4	0.0	49.8
226	26.3	0.0	56.3

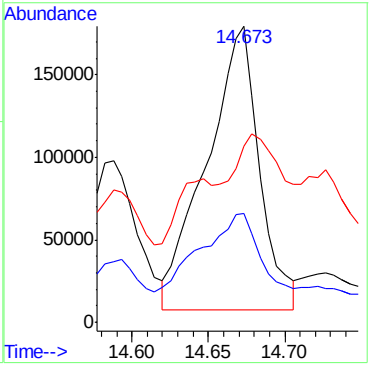


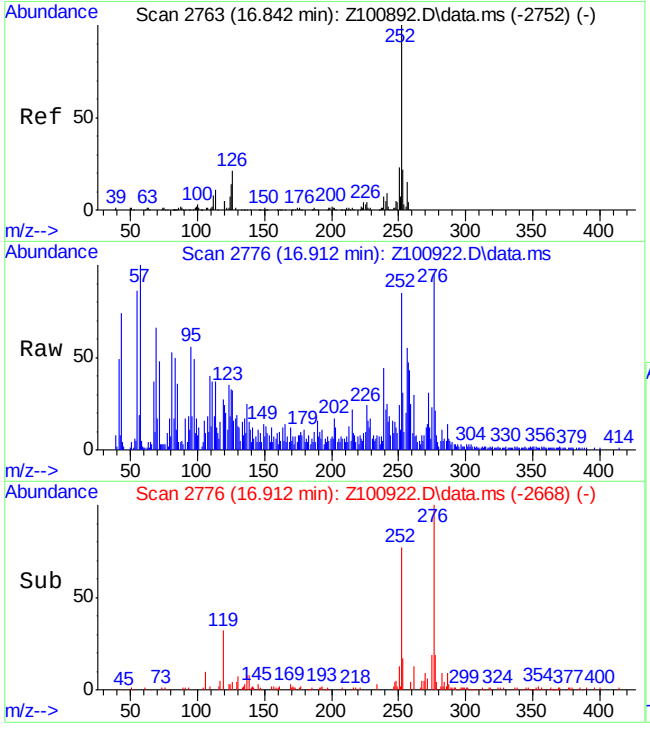


#90
Chrysene
Concen: 49.15 ppm
RT: 14.673 min Scan# 2357
Delta R.T. 0.069 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:228 Resp: 413499

Ion	Ratio	Lower	Upper
228	100		
226	29.2	0.0	59.4
229	26.7	0.0	49.2

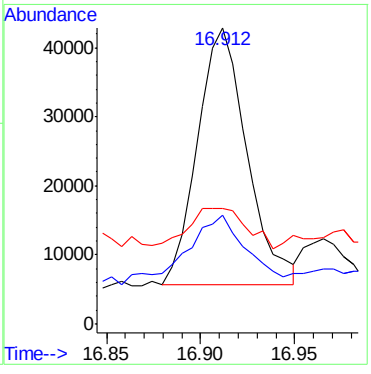




#94
Benzo[b]fluoranthene
Concen: 6.33 ppm
RT: 16.912 min Scan# 2776
Delta R.T. 0.075 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:252 Resp: 67598

Ion	Ratio	Lower	Upper
252	100		
253	23.5	0.0	50.4
125	12.6	0.0	44.1



9.1.14

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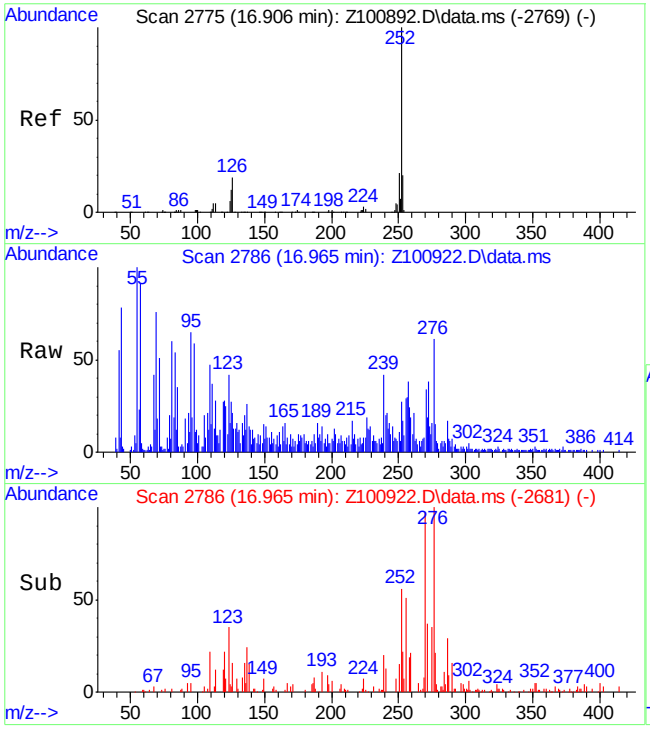
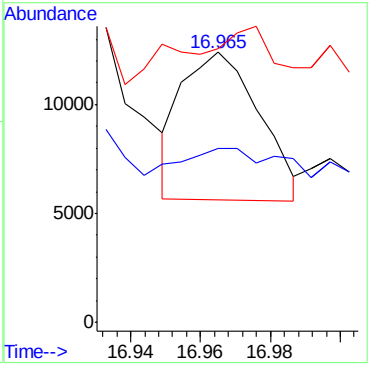
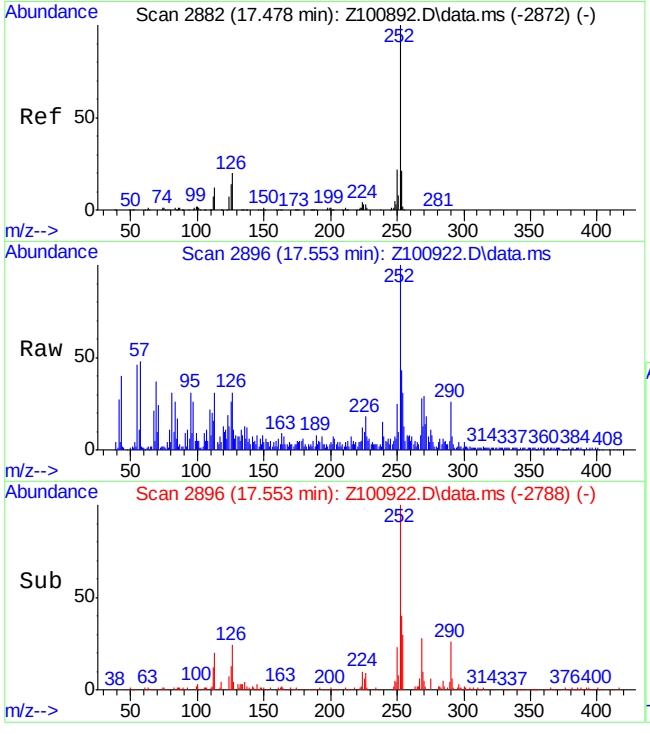


#95
Benzo[k]fluoranthene
Concen: 1.02 ppm
RT: 16.965 min Scan# 2786
Delta R.T. 0.059 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:252 Resp: 10357

Ion	Ratio	Lower	Upper
252	100		
253	12.5	0.0	50.2
125	7.2	0.0	43.5

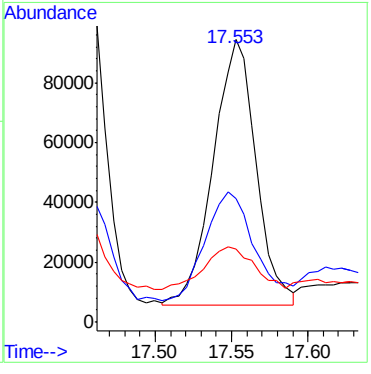




#96
Benzo[a]pyrene
Concen: 18.70 ppm
RT: 17.553 min Scan# 2896
Delta R.T. 0.075 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:252 Resp: 173253

Ion	Ratio	Lower	Upper
252	100		
253	36.4	0.0	51.1
125	14.3	0.0	44.8



9.1.14

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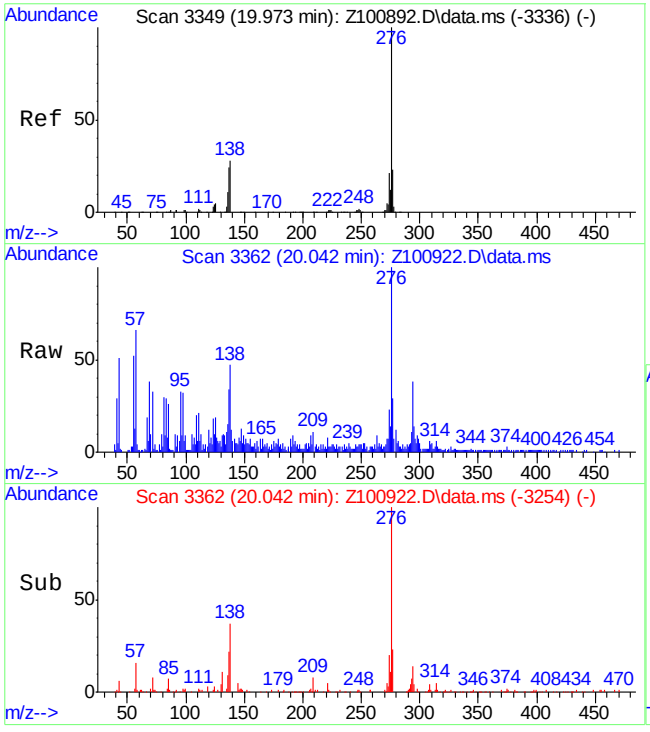
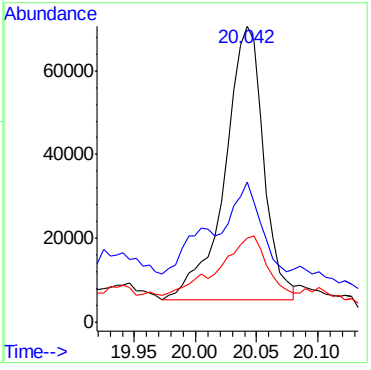


#101
Benzo[g,h,i]perylene
Concen: 15.45 ppm
RT: 20.042 min Scan# 3362
Delta R.T. 0.075 min
Lab File: Z100922.D
Acq: 30 Apr 2015 8:09 pm

Tgt Ion:276 Resp: 143841

Ion	Ratio	Lower	Upper
276	100		
138	33.8	0.0	59.8
277	21.2	0.0	52.4



9.1.14

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EZ5033\
Data File : Z100923.D
Acq On : 30 Apr 2015 8:42 pm
Operator : sarad
Sample : jb93023-12
Misc : op83522,ez5033,15.3,,,1,8
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 04 15:05:07 2015
Quant Method : C:\MSDCHEM\1\METHODS\MZ5031.M
Quant Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
QLast Update : Thu Apr 30 14:29:25 2015
Response via : Initial Calibration

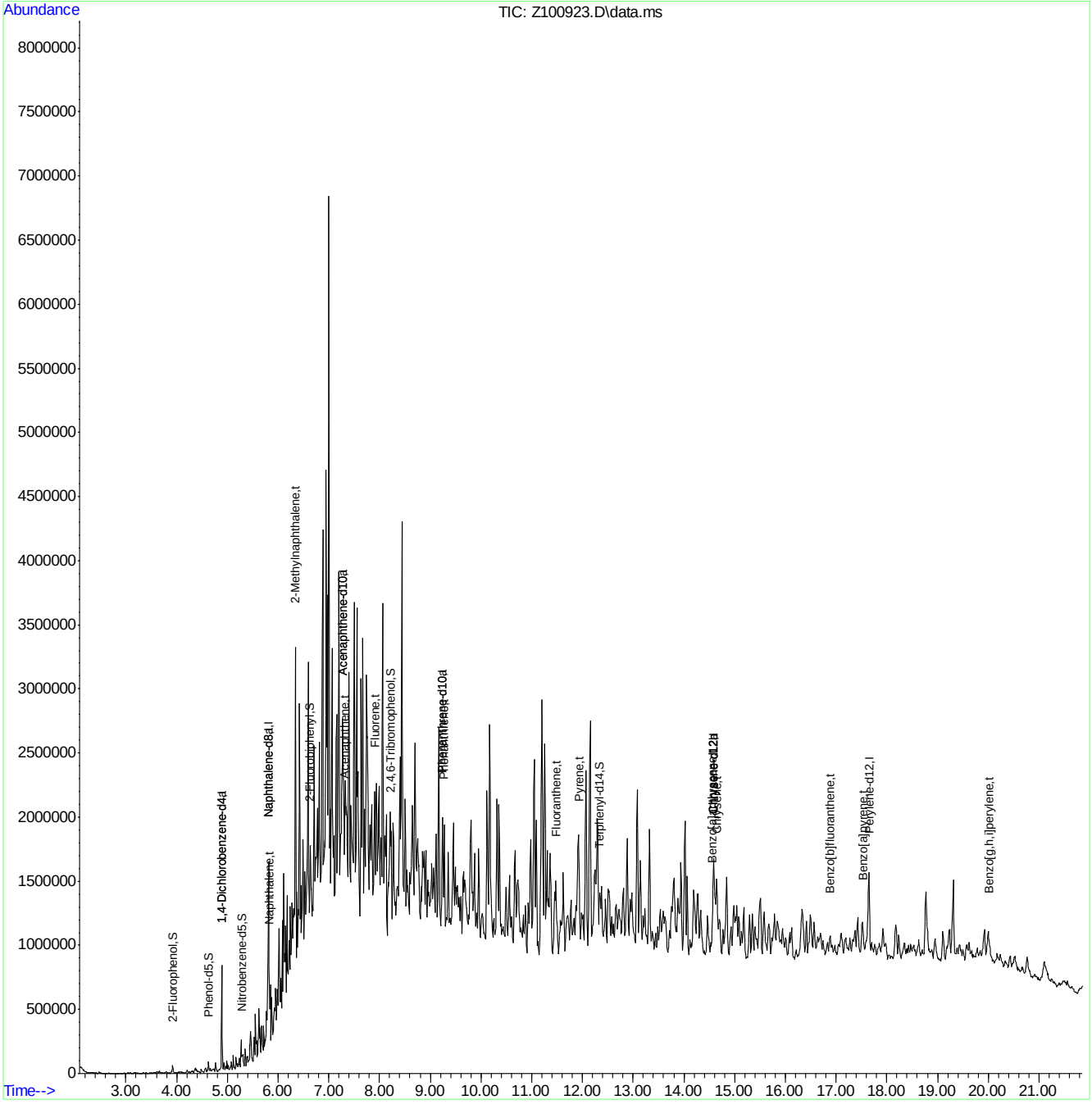
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.892	152	105573	40.00 ppm	0.00
24) Naphthalene-d8	5.811	136	408633	40.00 ppm	0.00
47) Acenaphthene-d10	7.285	164	202809	40.00 ppm	0.01
69) Phenanthrene-d10	9.241	188	349418	40.00 ppm	0.02
83) Chrysene-d12	14.588	240	318118	40.00 ppm	0.04
92) Perylene-d12	17.655	264	322034	40.00 ppm	0.06
102) 1,4-Dichlorobenzene-d4a	4.892	152	105573	40.00 ppm	-0.11
104) Phenanthrene-d10a	9.241	188	349418	40.00 ppm	0.02
108) Chrysene-d12a	14.588	240	318118	40.00 ppm	0.04
110) Acenaphthene-d10a	7.285	164	202809	40.00 ppm	0.01
112) Naphthalene-d8a	5.811	136	408633	40.00 ppm	0.00
114) Chrysene-d12b	14.588	240	318118	40.00 ppm	0.04
System Monitoring Compounds					
5) 2-Fluorophenol	3.925	112	14532	3.61 ppm	0.00
Spiked Amount 50.000			Recovery	= 7.22%	
8) Phenol-d5	4.625	99	19961	3.78 ppm	0.00
Spiked Amount 50.000			Recovery	= 7.56%	
25) Nitrobenzene-d5	5.287	82	18378	4.09 ppm	0.00
Spiked Amount 50.000			Recovery	= 8.18%	
51) 2-Fluorobiphenyl	6.634	172	28926	4.32 ppm	0.00
Spiked Amount 50.000			Recovery	= 8.64%	
73) 2,4,6-Tribromophenol	8.215	330	3144	3.18 ppm	0.01
Spiked Amount 50.000			Recovery	= 6.36%	
86) Terphenyl-d14	12.339	244	28195	4.27 ppm	0.04
Spiked Amount 50.000			Recovery	= 8.54%	
105) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
106) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
Target Compounds					Qvalue
38) Naphthalene	5.827	128	57984	5.04 ppm	95
44) 2-Methylnaphthalene	6.340	141	512517	82.58 ppm	99
59) Acenaphthene	7.317	153	66209	10.52 ppm	86
66) Fluorene	7.905	166	103274	15.08 ppm	97
77) Phenanthrene	9.278	178	457168	42.84 ppm	99
81) Fluoranthene	11.474	202	53098	4.95 ppm	94
84) Pyrene	11.928	202	356370	34.34 ppm	96
88) Benzo[a]anthracene	14.567	228	87669	9.21 ppm	74
90) Chrysene	14.647	228	204923	22.86 ppm	94
94) Benzo[b]fluoranthene	16.885	252	34070	3.36 ppm	94
96) Benzo[a]pyrene	17.527	252	77802	8.84 ppm	82
101) Benzo[g,h,i]perylene	20.011	276	65735	7.44 ppm	95

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

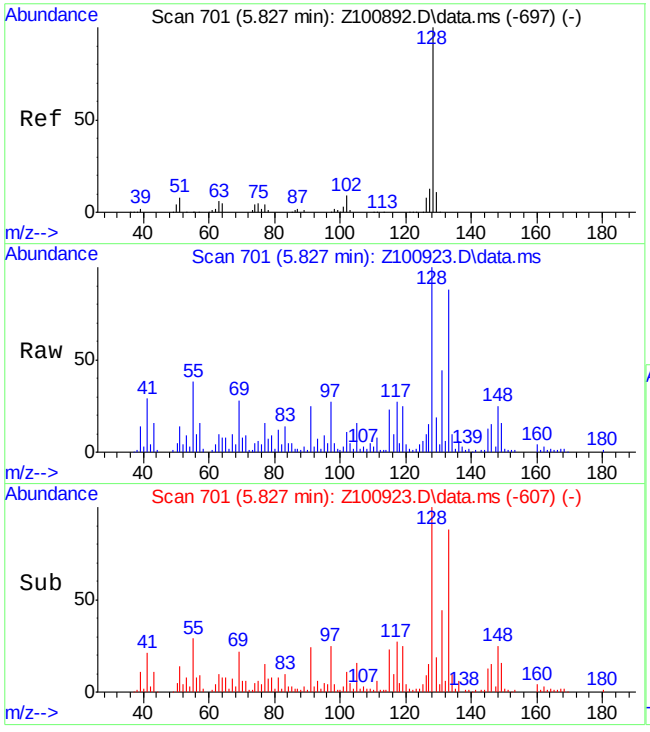
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EZ5033\
Data File : Z100923.D
Acq On : 30 Apr 2015 8:42 pm
Operator : sarad
Sample : jb93023-12
Misc : op83522,ez5033,15.3,,,1,8
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 04 15:05:07 2015
Quant Method : C:\MSDCHEM\1\METHODS\MZ5031.M
Quant Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
QLast Update : Thu Apr 30 14:29:25 2015
Response via : Initial Calibration



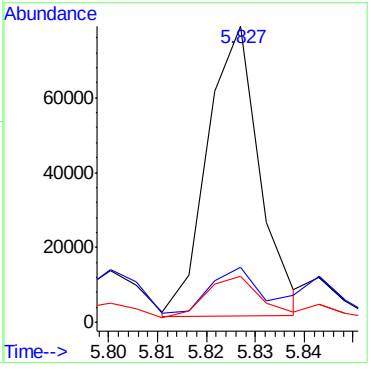
MZ5031.M Mon May 04 15:05:11 2015 RTE Page: 2

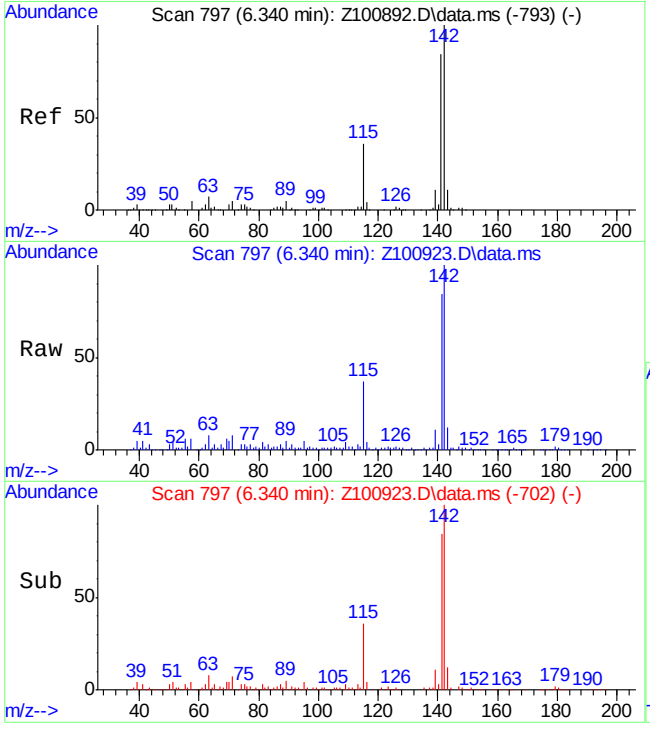


#38
Naphthalene
Concen: 5.04 ppm
RT: 5.827 min Scan# 701
Delta R.T. 0.000 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:128 Resp: 57984

Ion	Ratio	Lower	Upper
128	100		
129	13.6	0.0	40.3
127	13.8	0.0	42.9

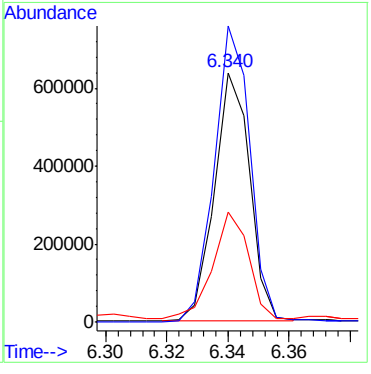


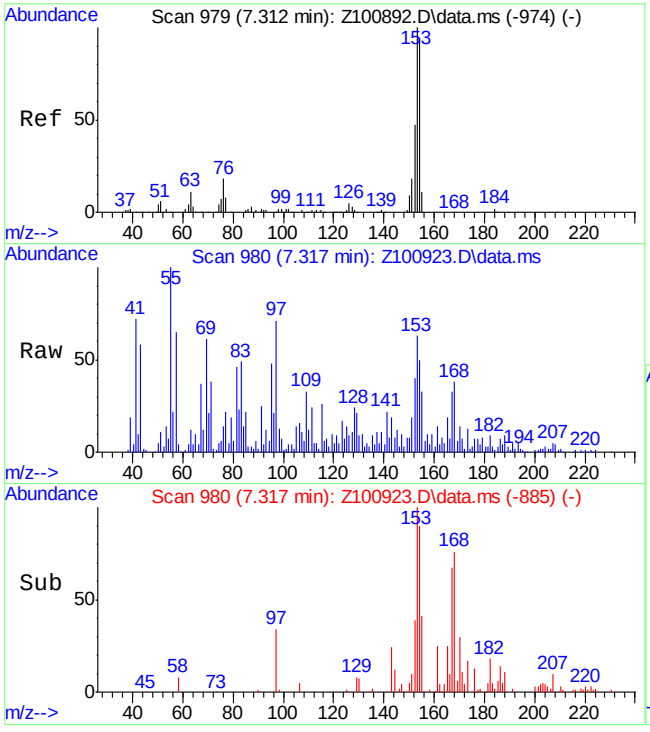


#44
2-Methylnaphthalene
Concen: 82.58 ppm
RT: 6.340 min Scan# 797
Delta R.T. 0.006 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:141 Resp: 512517

Ion	Ratio	Lower	Upper
141	100		
142	119.0	88.8	148.8
115	43.1	14.5	74.5

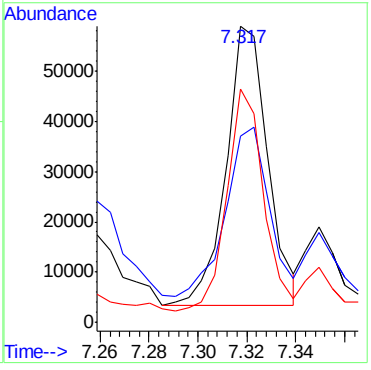


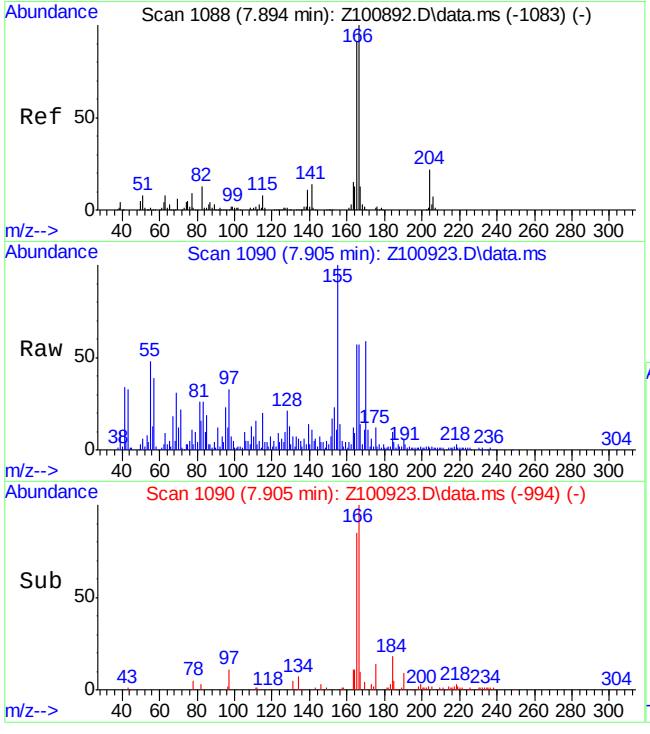


#59
Acenaphthene
Concen: 10.52 ppm
RT: 7.317 min Scan# 980
Delta R.T. 0.006 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:153 Resp: 66209

Ion	Ratio	Lower	Upper
153	100		
152	57.4	16.0	76.0
154	81.2	62.7	122.7

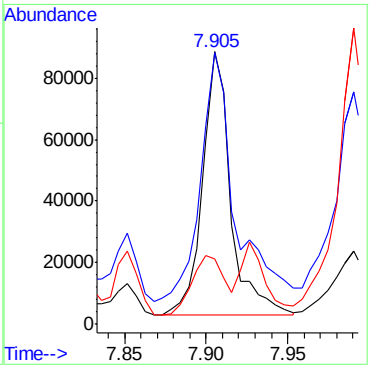




#66
Fluorene
Concen: 15.08 ppm
RT: 7.905 min Scan# 1090
Delta R.T. 0.011 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:166 Resp: 103274

Ion	Ratio	Lower	Upper
166	100		
165	91.9	61.2	121.2
167	19.8	0.0	43.1



9.1.15

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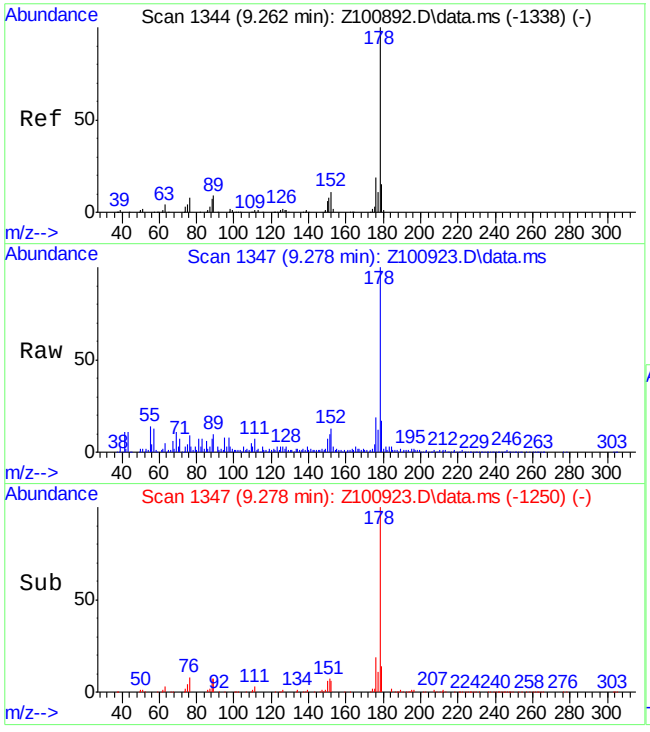
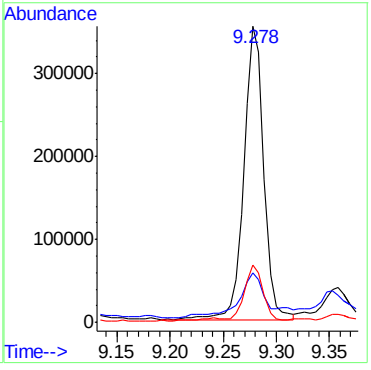
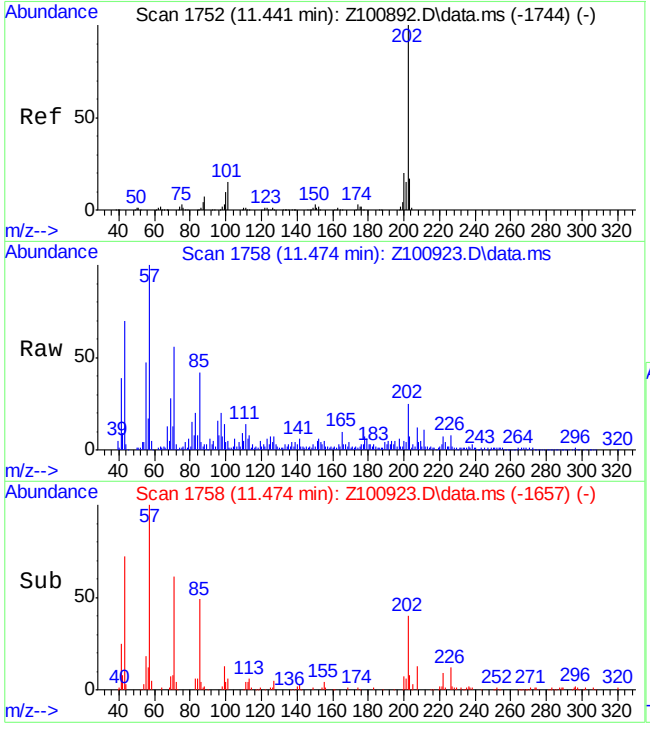


#77
Phenanthrene
Concen: 42.84 ppm
RT: 9.278 min Scan# 1347
Delta R.T. 0.016 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:178 Resp: 457168

Ion	Ratio	Lower	Upper
178	100		
179	13.8	0.0	44.5
176	18.8	0.0	48.3

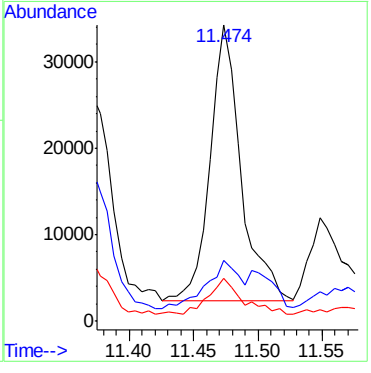


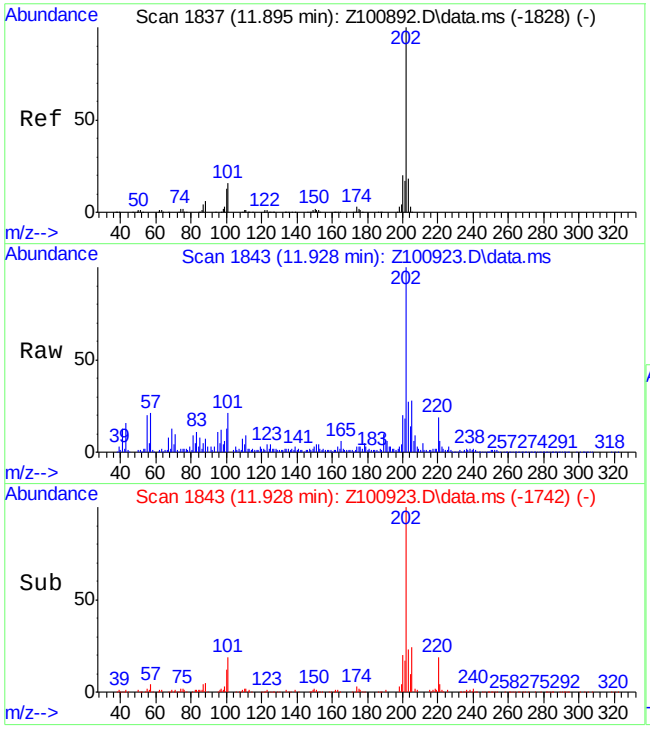


#81
Fluoranthene
Concen: 4.95 ppm
RT: 11.474 min Scan# 1758
Delta R.T. 0.038 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:202 Resp: 53098

Ion	Ratio	Lower	Upper
202	100		
101	17.1	0.0	44.5
100	12.7	0.0	40.9

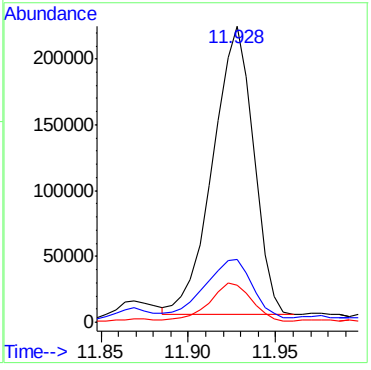


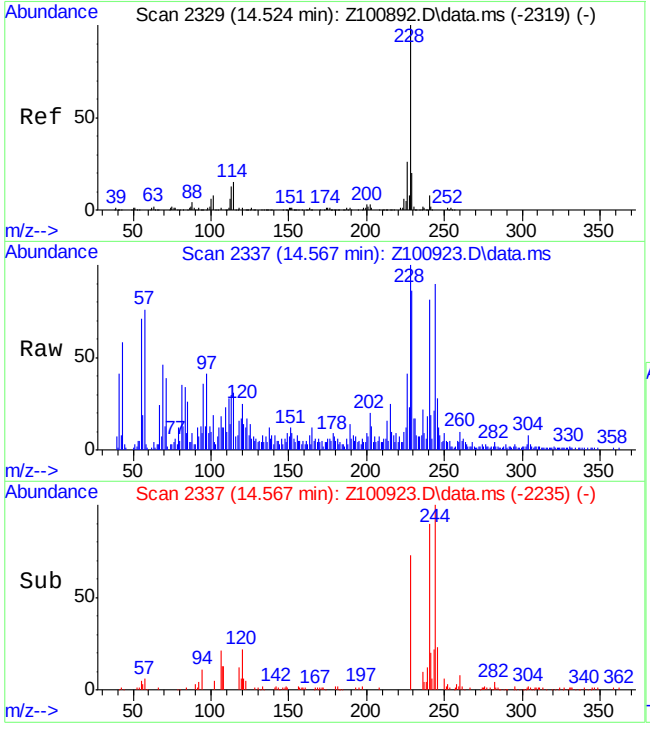


#84
Pyrene
Concen: 34.34 ppm
RT: 11.928 min Scan# 1843
Delta R.T. 0.038 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:202 Resp: 356370

Ion	Ratio	Lower	Upper
202	100		
101	19.7	0.0	47.0
100	12.4	0.0	42.7

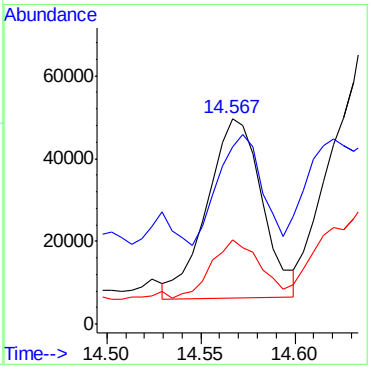




#88
Benzo[a]anthracene
Concen: 9.21 ppm
RT: 14.567 min Scan# 2337
Delta R.T. 0.043 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

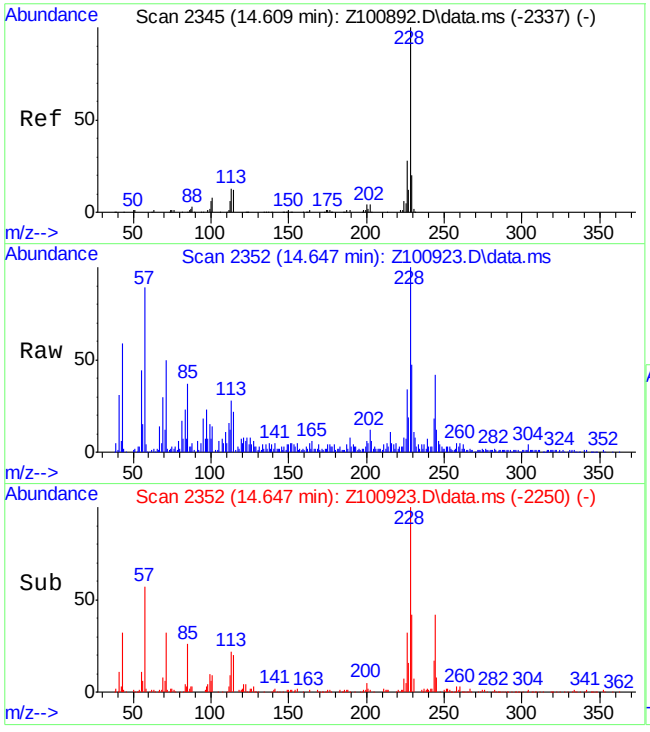
Tgt Ion:228 Resp: 87669

Ion	Ratio	Lower	Upper
228	100		
229	42.8	0.0	49.8
226	30.2	0.0	56.3



9.1.15

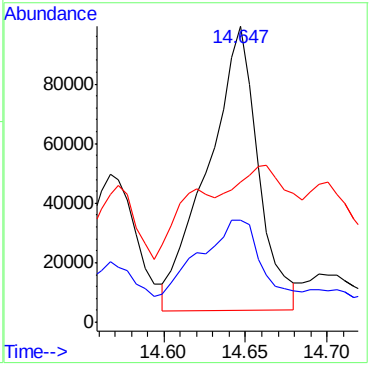
9

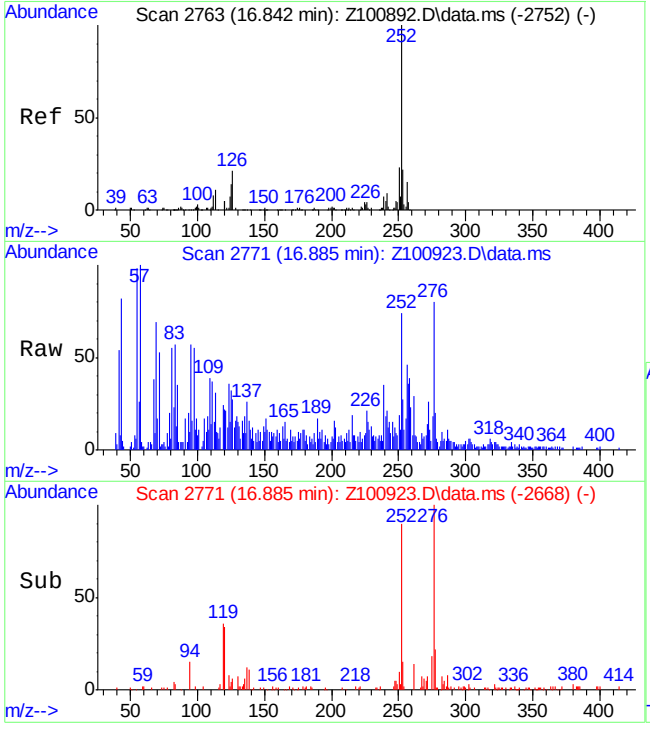


#90
Chrysene
Concen: 22.86 ppm
RT: 14.647 min Scan# 2352
Delta R.T. 0.043 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:228 Resp: 204923

Ion	Ratio	Lower	Upper
228	100		
226	28.0	0.0	59.4
229	14.3	0.0	49.2

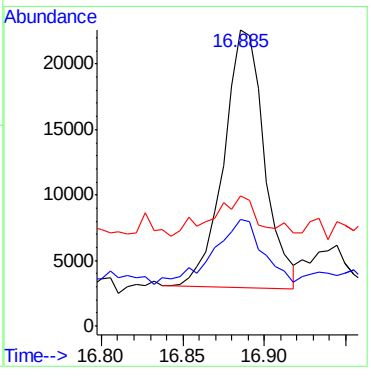


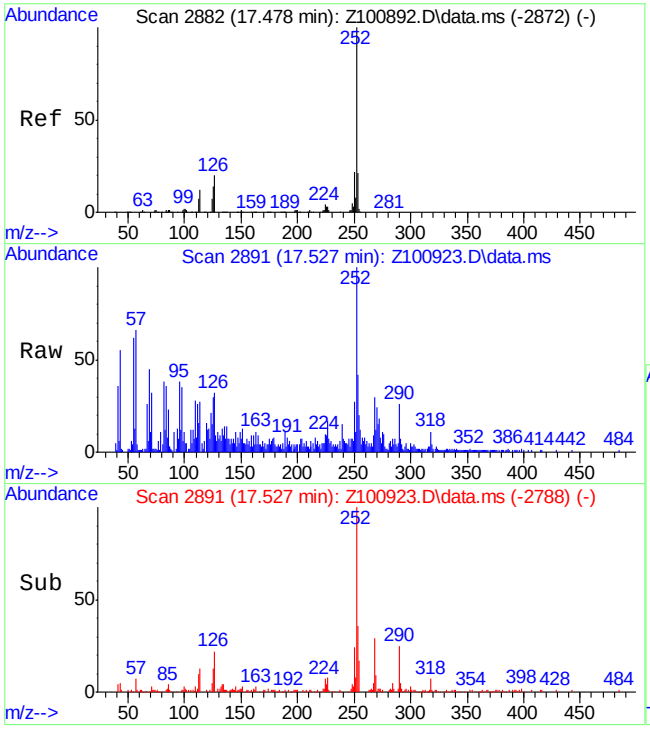


#94
Benzo[b]fluoranthene
Concen: 3.36 ppm
RT: 16.885 min Scan# 2771
Delta R.T. 0.048 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:252 Resp: 34070

Ion	Ratio	Lower	Upper
252	100		
253	24.8	0.0	50.4
125	14.2	0.0	44.1

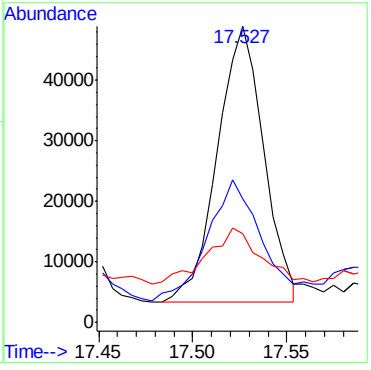


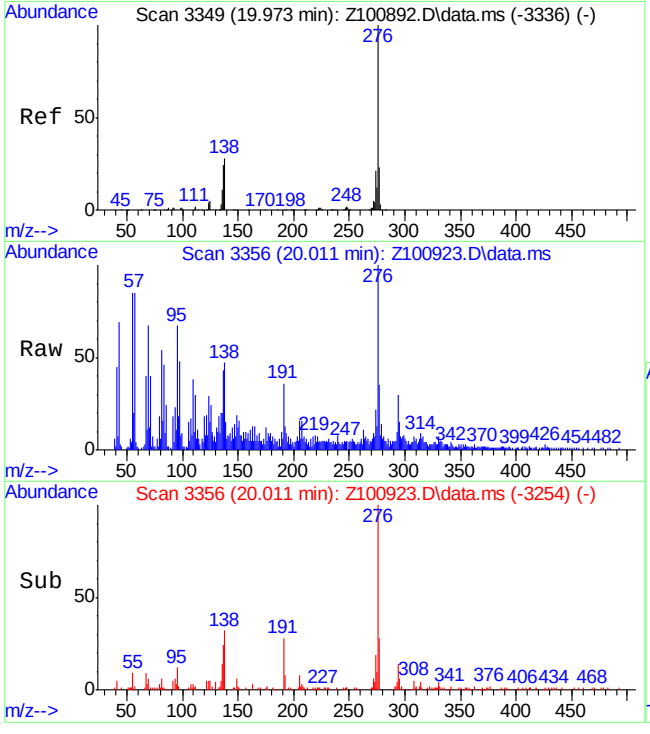


#96
Benzo[a]pyrene
Concen: 8.84 ppm
RT: 17.527 min Scan# 2891
Delta R.T. 0.048 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:252 Resp: 77802

Ion	Ratio	Lower	Upper
252	100		
253	33.4	0.0	51.1
125	17.5	0.0	44.8

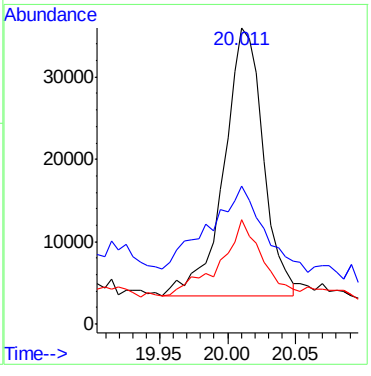




#101
Benzo[g,h,i]perylene
Concen: 7.44 ppm
RT: 20.011 min Scan# 3356
Delta R.T. 0.043 min
Lab File: Z100923.D
Acq: 30 Apr 2015 8:42 pm

Tgt Ion:276 Resp: 65735

Ion	Ratio	Lower	Upper
276	100		
138	30.1	0.0	59.8
277	27.8	0.0	52.4



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/04/15 14:24

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3173\
Data File : 2m73760.D
Acq On : 1 May 2015 2:31 pm
Operator : ashleyn
Sample : jb93023-13
Misc : op83421,e2m3173,30.2,,,1,2
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 14:29:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.660	152	454824	40.00	ppm	0.00
24) Naphthalene-d8	5.745	136	1680742	40.00	ppm	0.01
47) Acenaphthene-d10	7.805	164	1040661	40.00	ppm	0.00
69) Phenanthrene-d10	9.976	188	1803279	40.00	ppm	0.01
83) Chrysene-d12	14.164	240	1663953	40.00	ppm	0.03
92) Perylene-d12	16.287	264	1610978	40.00	ppm	0.04
102) 1,4-Dichlorobenzene-d4a	4.660	152	454824	40.00	ppm	0.00
104) Acenaphthene-d10a	7.805	164	1040661	40.00	ppm	0.00
106) Chrysene-d12a	14.164	240	1664625	40.00	ppm	0.03
109) Phenanthrene-d10a	9.976	188	1803279	40.00	ppm	0.01
112) Naphthalene-d8a	5.745	136	1680742	40.00	ppm	0.01

System Monitoring Compounds						
5) 2-Fluorophenol	3.707	112	271464	16.19	ppm	0.00
Spiked Amount 50.000			Recovery = 32.38%			
8) Phenol-d5	4.419	99	363714	17.33	ppm	0.00
Spiked Amount 50.000			Recovery = 34.66%			
25) Nitrobenzene-d5	5.098	82	328167	16.58	ppm	0.00
Spiked Amount 50.000			Recovery = 33.16%			
51) 2-Fluorobiphenyl	6.933	172	641002	17.29	ppm	0.00
Spiked Amount 50.000			Recovery = 34.58%			
73) 2,4,6-Tribromophenol	8.938	330	97237	18.39	ppm	0.00
Spiked Amount 50.000			Recovery = 36.78%			
85) Terphenyl-d14	12.527	244	664569	17.92	ppm	0.02
Spiked Amount 50.000			Recovery = 35.84%			
108) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount 50.000			Recovery = 0.00%			
111) o-terphenyl	0.000	230	0d	0.00	ppm	
Spiked Amount 50.000			Recovery = 0.00%			

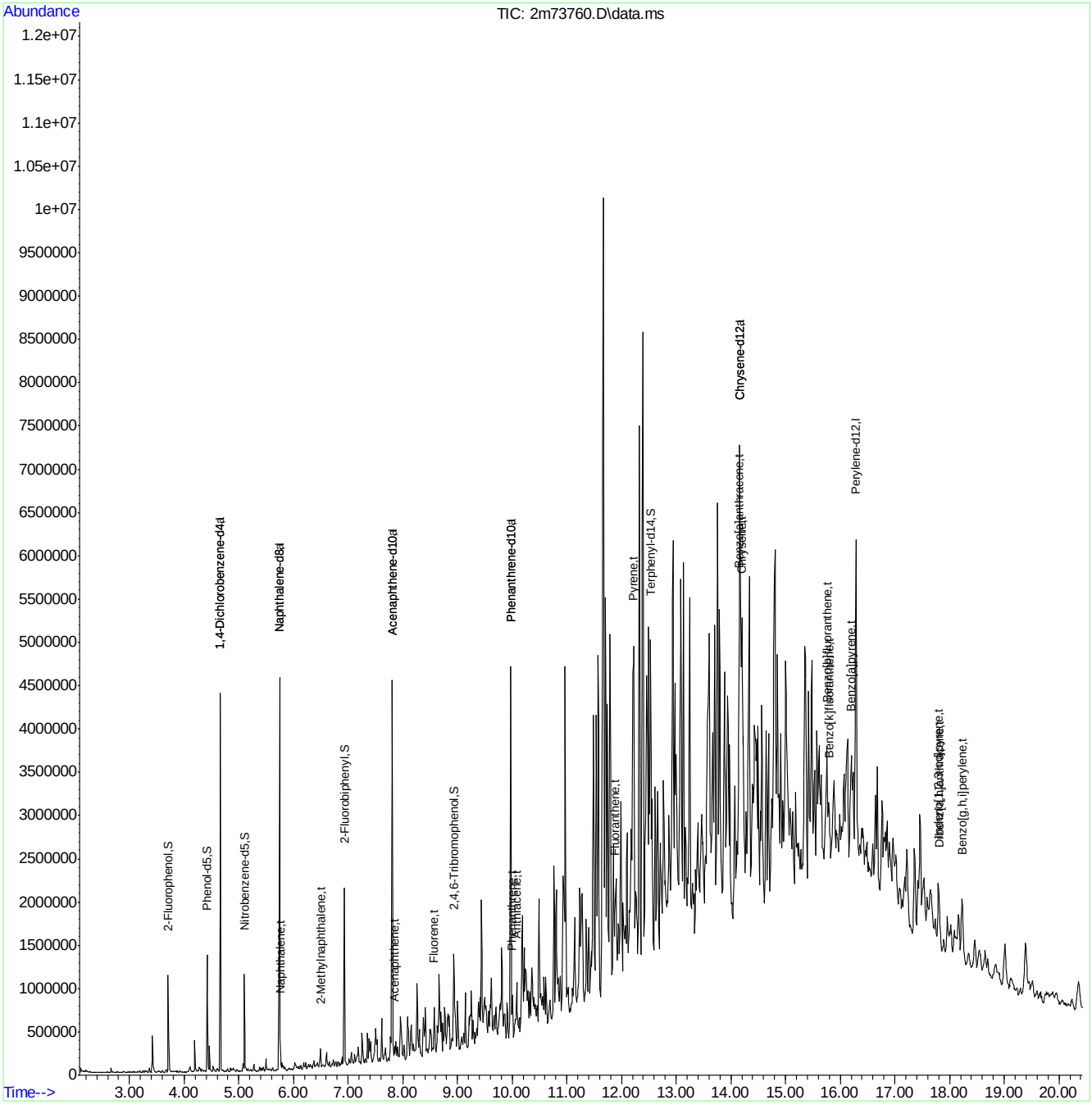
Target Compounds						Qvalue
38) Naphthalene	5.761	128	30281	0.62	ppm	95
44) 2-Methylnaphthalene	6.494	141	48559	1.85	ppm	97
59) Acenaphthene	7.847	153	30737	0.97	ppm	98
66) Fluorene	8.575	166	68342	1.85	ppm	97
77) Phenanthrene	10.008	178	152745	2.96	ppm	96
78) Anthracene	10.083	178	151790	2.96	ppm	86
81) Fluoranthene	11.875	202	220220	3.79	ppm	94
84) Pyrene	12.228	202	1678392	30.03	ppm	94
88) Benzo[a]anthracene	14.148	228	587169	11.46	ppm	92
90) Chrysene	14.207	228	1648507	34.48	ppm	79
94) Benzo[b]fluoranthene	15.758	252	232899	4.28	ppm	93
95) Benzo[k]fluoranthene	15.795	252	42735	0.85	ppm	72
96) Benzo[a]pyrene	16.202	252	523840	11.17	ppm	98
97) Indeno[1,2,3-cd]pyrene	17.801	276	127425m	2.29	ppm	
99) Dibenz[a,h]anthracene	17.812	278	109114m	2.37	ppm	
101) Benzo[g,h,i]perylene	18.234	276	405951	9.12	ppm	96

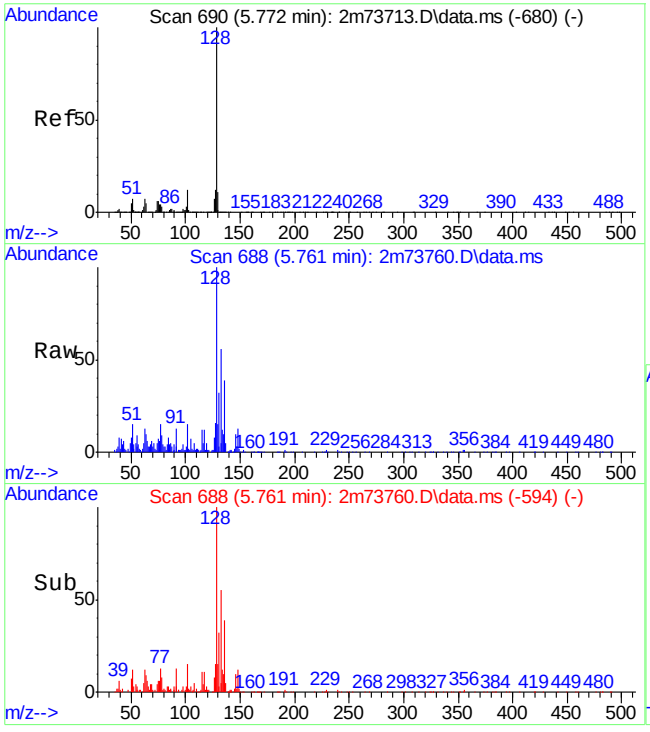
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3173\
Data File : 2m73760.D
Acq On : 1 May 2015 2:31 pm
Operator : ashleyn
Sample : jb93023-13
Misc : op83421,e2m3173,30.2,,,1,2
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 14:29:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

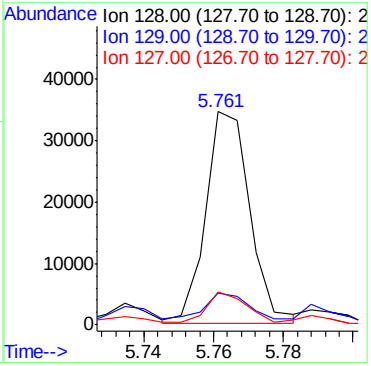


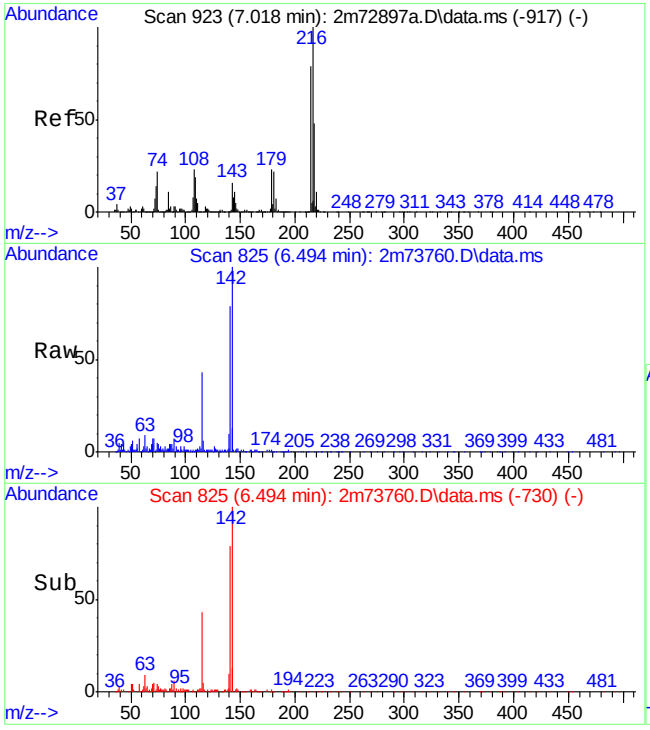


#38
Naphthalene
Concen: 0.62 ppm
RT: 5.761 min Scan# 688
Delta R.T. 0.000 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:128 Resp: 30281

Ion	Ratio	Lower	Upper
128	100		
129	12.4	0.0	41.1
127	14.4	0.0	42.2

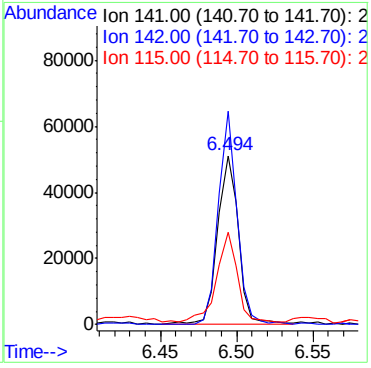




#44
2-Methylnaphthalene
Concen: 1.85 ppm
RT: 6.494 min Scan# 825
Delta R.T. 0.006 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

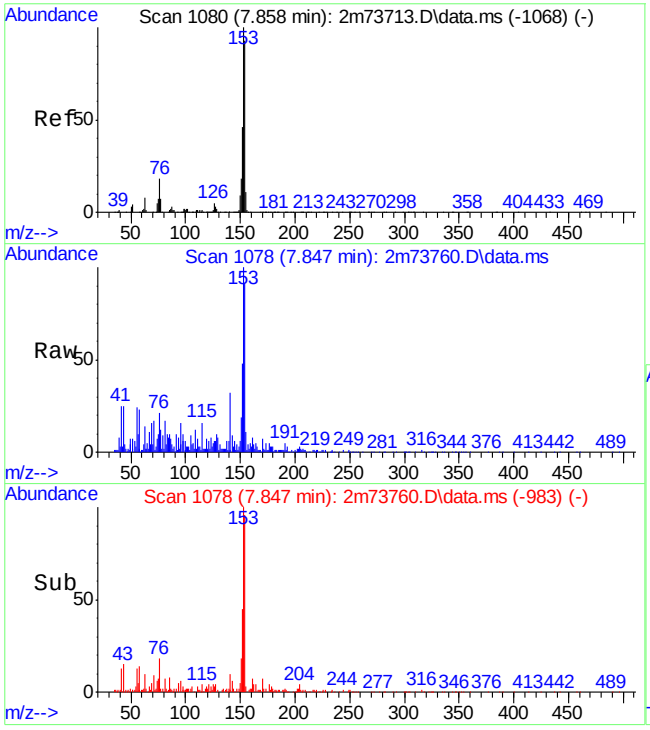
Tgt Ion:141 Resp: 48559

Ion	Ratio	Lower	Upper
141	100		
142	126.3	91.6	151.6
115	52.7	23.7	83.7



9.1.16

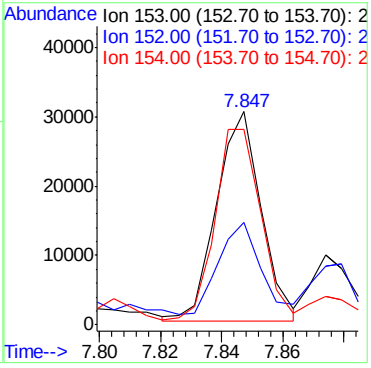
9

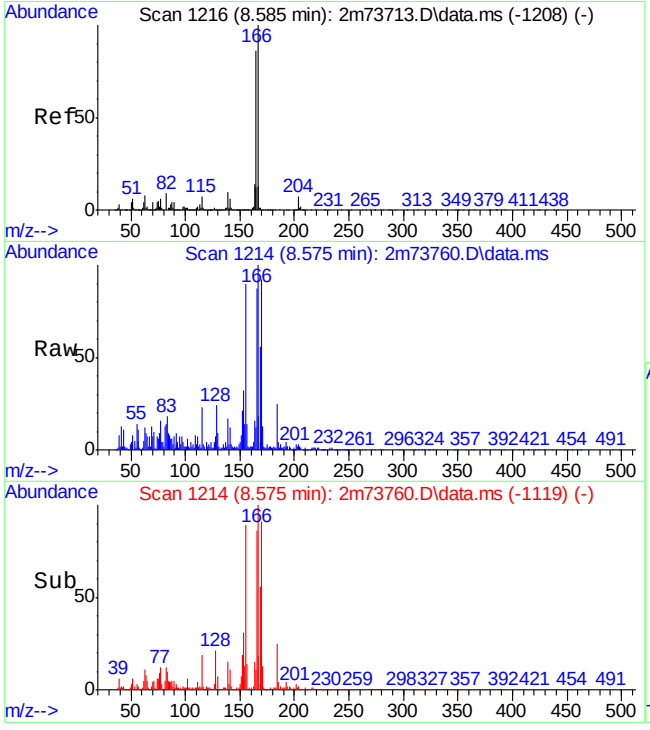


#59
Acenaphthene
Concen: 0.97 ppm
RT: 7.847 min Scan# 1078
Delta R.T. 0.006 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:153 Resp: 30737

Ion	Ratio	Lower	Upper
153	100		
152	42.0	16.6	76.6
154	93.1	62.9	122.9

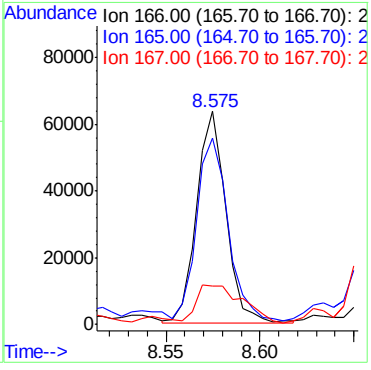




#66
Fluorene
Concen: 1.85 ppm
RT: 8.575 min Scan# 1214
Delta R.T. 0.006 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

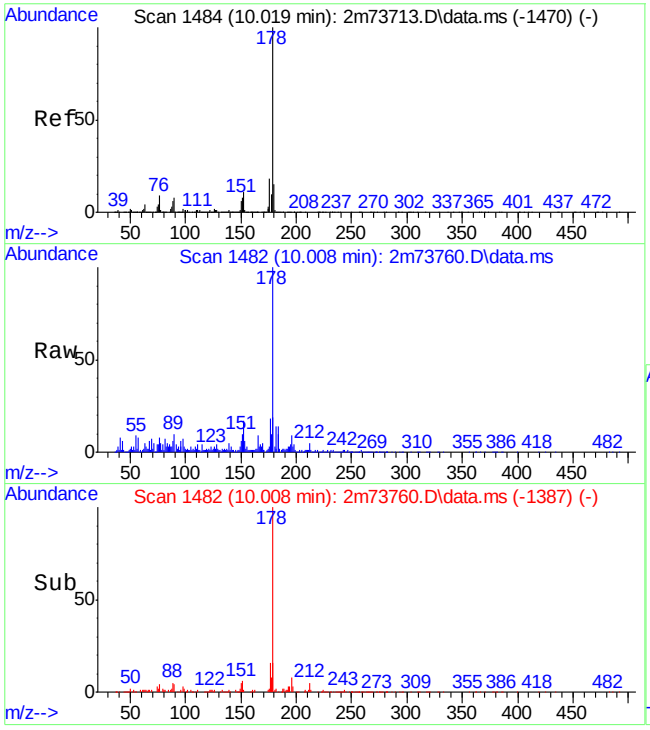
Tgt Ion:166 Resp: 68342

Ion	Ratio	Lower	Upper
166	100		
165	84.2	51.9	111.9
167	16.5	0.0	43.6



9.1.16

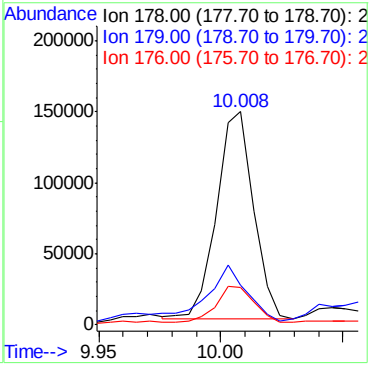
9

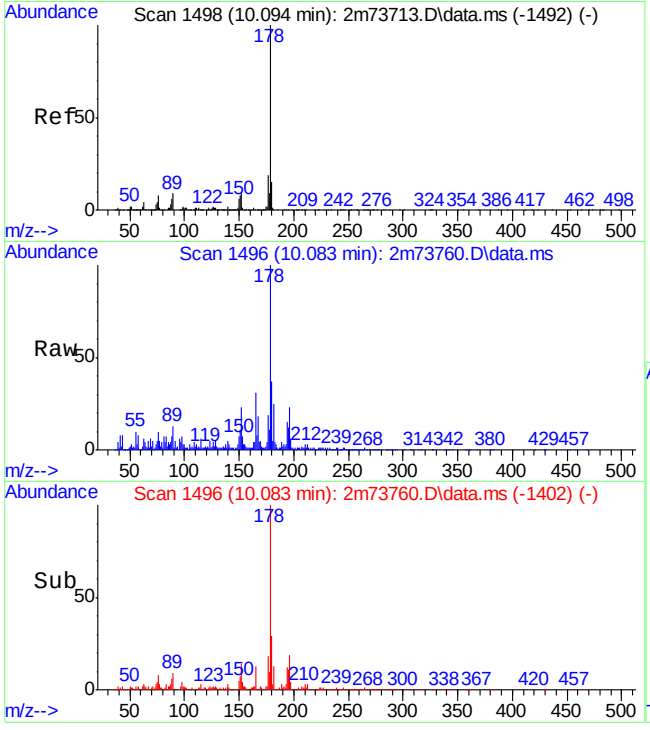


#77
Phenanthrene
Concen: 2.96 ppm
RT: 10.008 min Scan# 1482
Delta R.T. 0.006 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:178 Resp: 152745

Ion	Ratio	Lower	Upper
178	100		
179	14.7	0.0	46.0
176	17.2	0.0	49.5

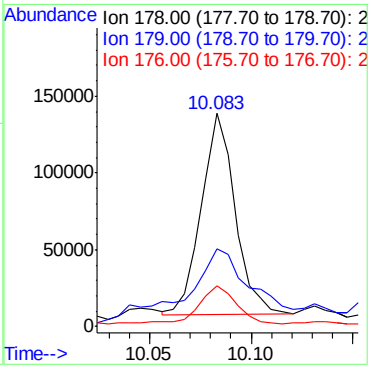




#78
Anthracene
Concen: 2.96 ppm
RT: 10.083 min Scan# 1496
Delta R.T. 0.000 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

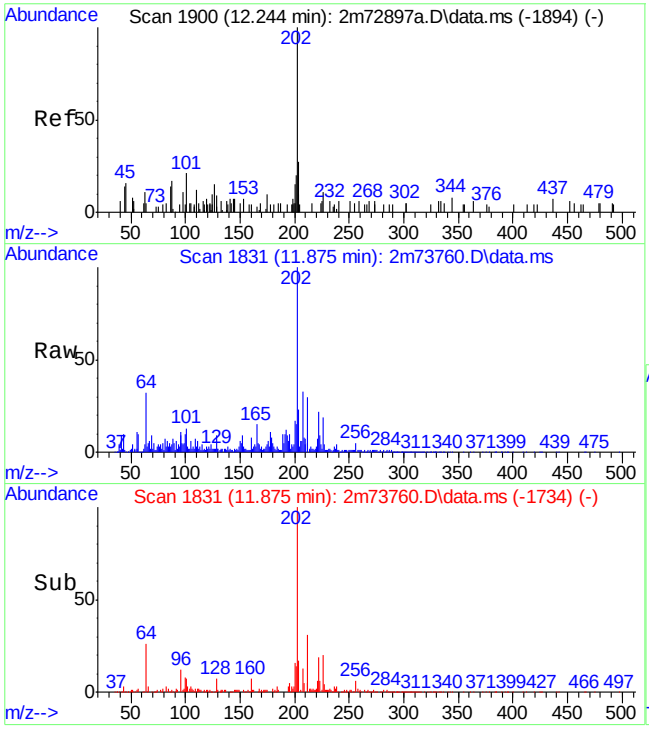
Tgt Ion:178 Resp: 151790

Ion	Ratio	Lower	Upper
178	100		
179	28.6	0.0	45.6
176	18.4	0.0	48.2



9.1.16

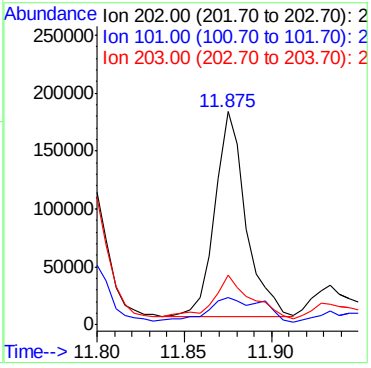
9

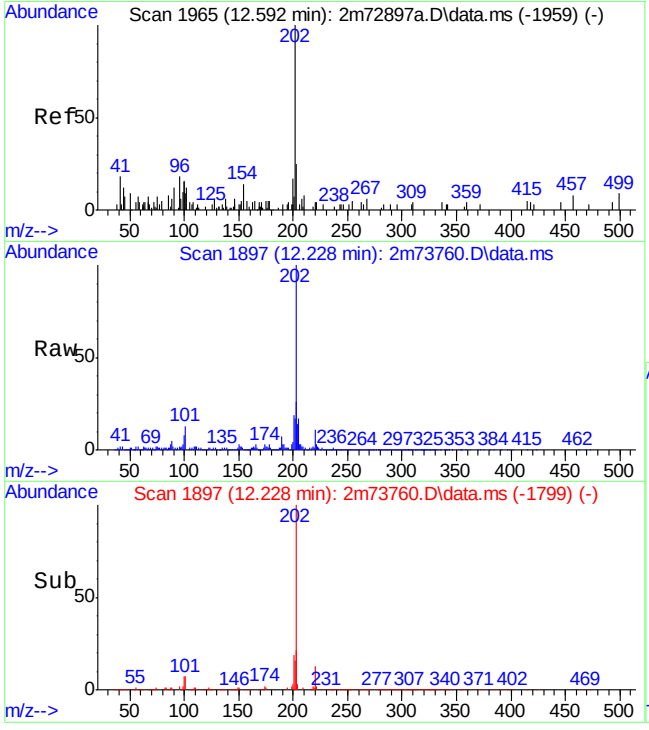


#81
Fluoranthene
Concen: 3.79 ppm
RT: 11.875 min Scan# 1831
Delta R.T. 0.016 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:202 Resp: 220220

Ion	Ratio	Lower	Upper
202	100		
101	11.6	0.0	40.9
203	20.6	0.0	47.1

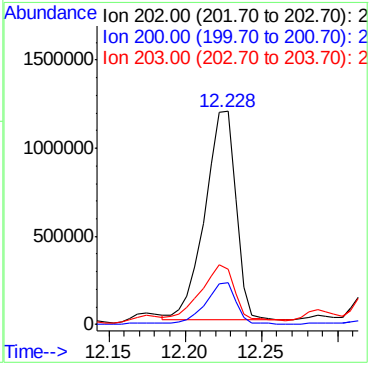


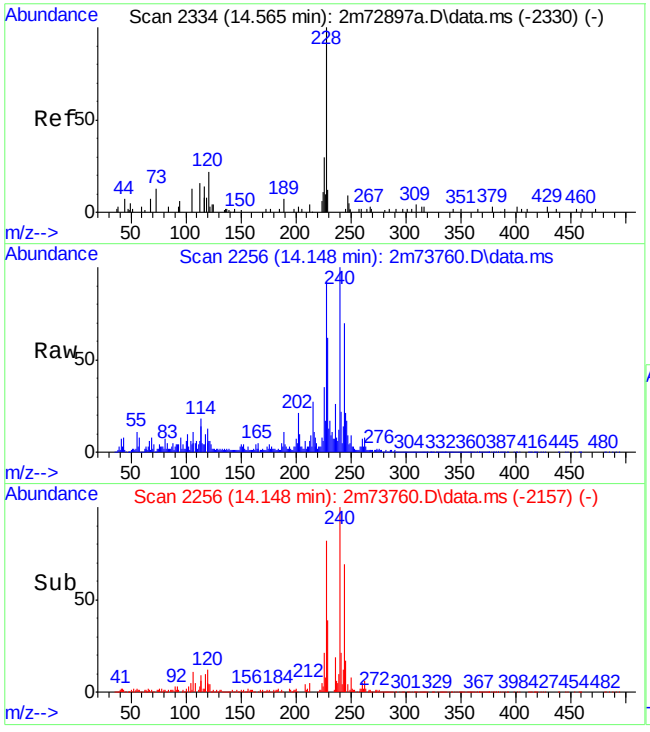


#84
Pyrene
Concen: 30.03 ppm
RT: 12.228 min Scan# 1897
Delta R.T. 0.022 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:202 Resp: 1678392

Ion	Ratio	Lower	Upper
202	100		
200	19.5	0.0	50.2
203	24.0	0.0	49.0

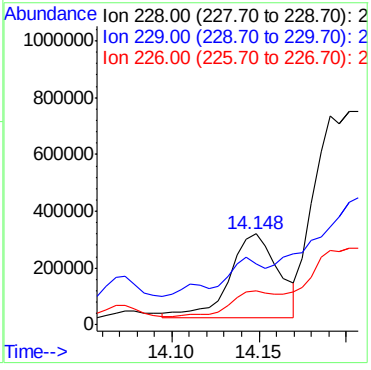


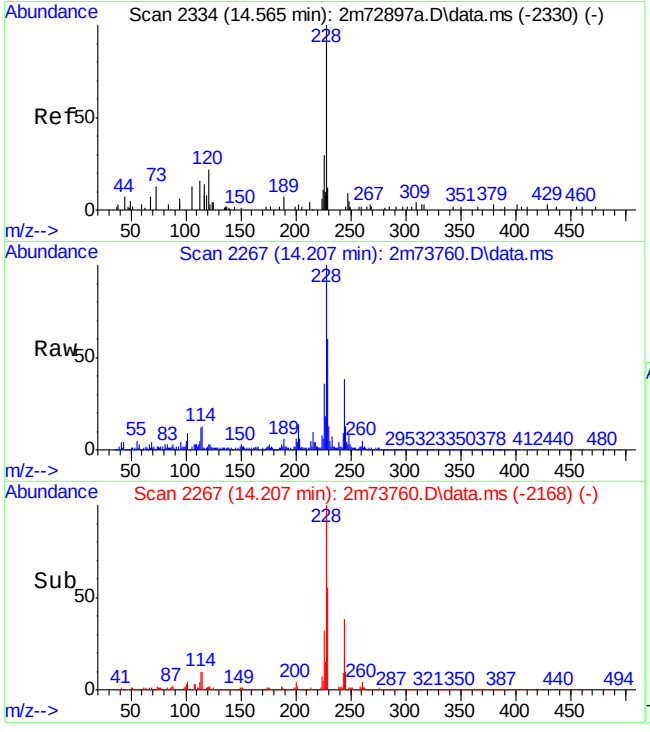


#88
Benzo[a]anthracene
Concen: 11.46 ppm
RT: 14.148 min Scan# 2256
Delta R.T. 0.027 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:228 Resp: 587169

Ion	Ratio	Lower	Upper
228	100		
229	17.1	0.0	49.1
226	20.7	0.0	56.2

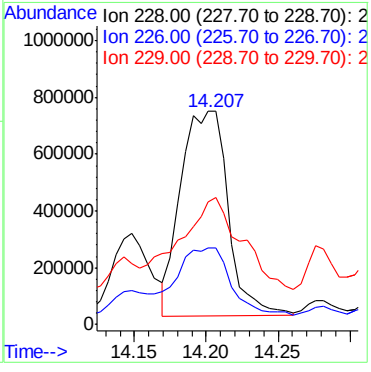


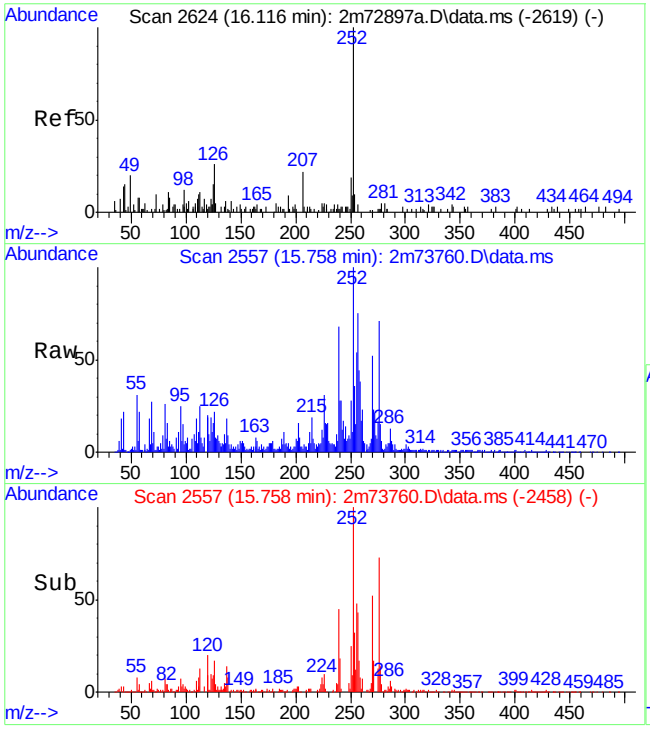


#90
Chrysene
Concen: 34.48 ppm
RT: 14.207 min Scan# 2267
Delta R.T. 0.027 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:228 Resp: 1648507

Ion	Ratio	Lower	Upper
228	100		
226	29.6	0.0	57.9
229	40.0	0.0	49.3

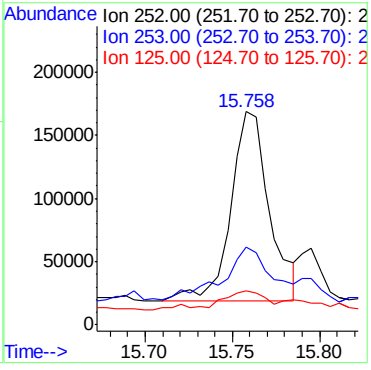


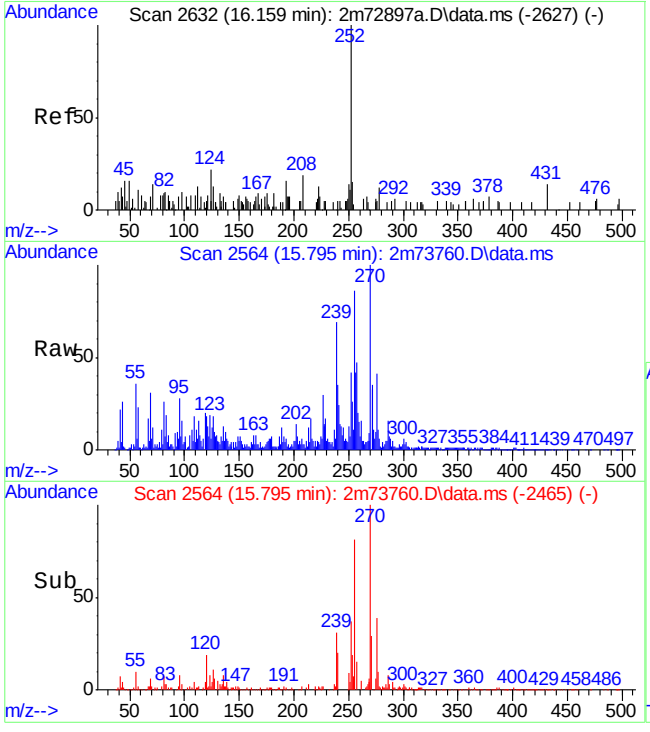


#94
Benzo[b]fluoranthene
Concen: 4.28 ppm
RT: 15.758 min Scan# 2557
Delta R.T. 0.027 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:252 Resp: 232899

Ion	Ratio	Lower	Upper
252	100		
253	26.1	0.0	52.5
125	7.4	0.0	39.4

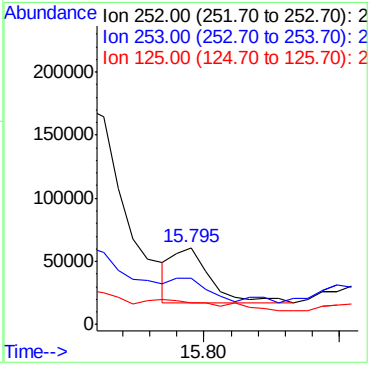


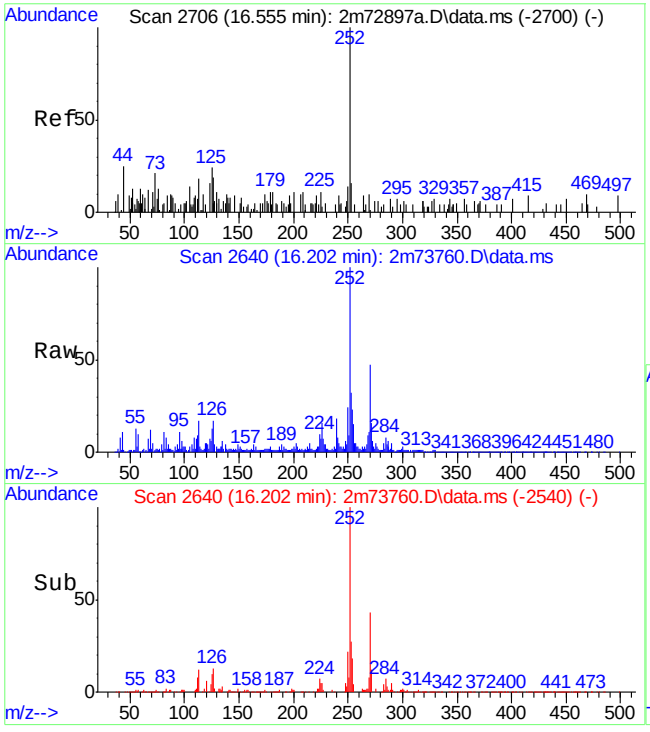


#95
Benzo[k]fluoranthene
Concen: 0.85 ppm
RT: 15.795 min Scan# 2564
Delta R.T. 0.027 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:252 Resp: 42735

Ion	Ratio	Lower	Upper
252	100		
253	37.7	0.0	51.5
125	3.9	0.0	38.6

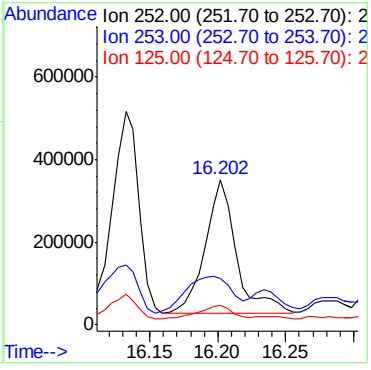


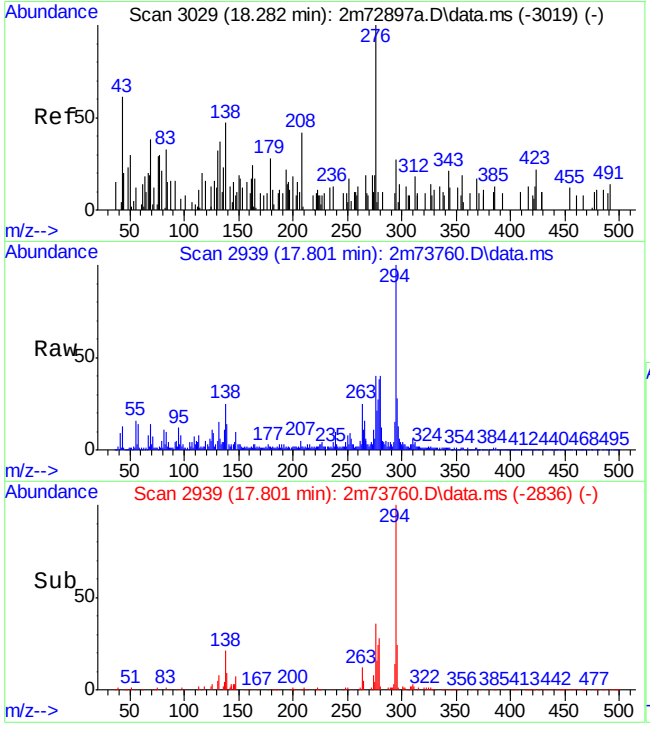


#96
Benzo[a]pyrene
Concen: 11.17 ppm
RT: 16.202 min Scan# 2640
Delta R.T. 0.032 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:252 Resp: 523840

Ion	Ratio	Lower	Upper
252	100		
253	23.4	0.0	51.9
125	10.0	0.0	40.1

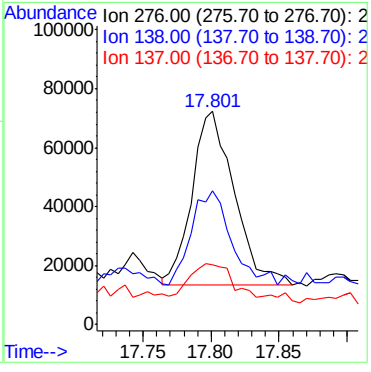


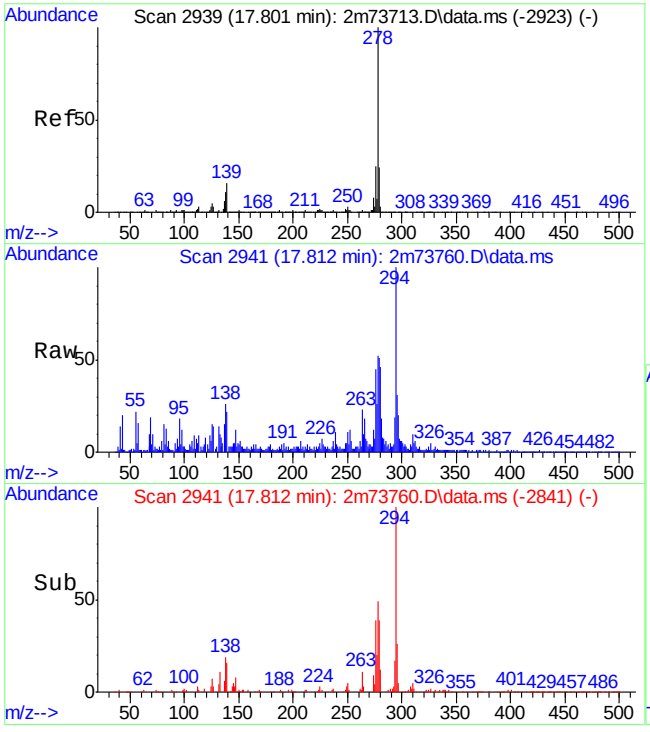


#97
Indeno[1,2,3-cd]pyrene
Concen: 2.29 ppm m
RT: 17.801 min Scan# 2939
Delta R.T. 0.048 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:276 Resp: 127425

Ion	Ratio	Lower	Upper
276	100		
138	62.6	0.0	49.3#
137	28.0	0.0	44.1

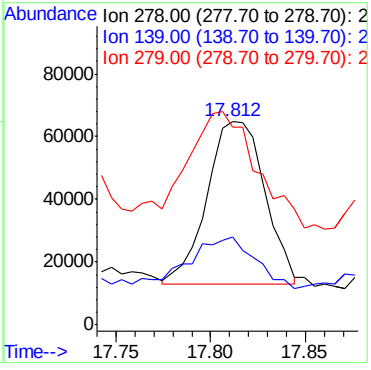


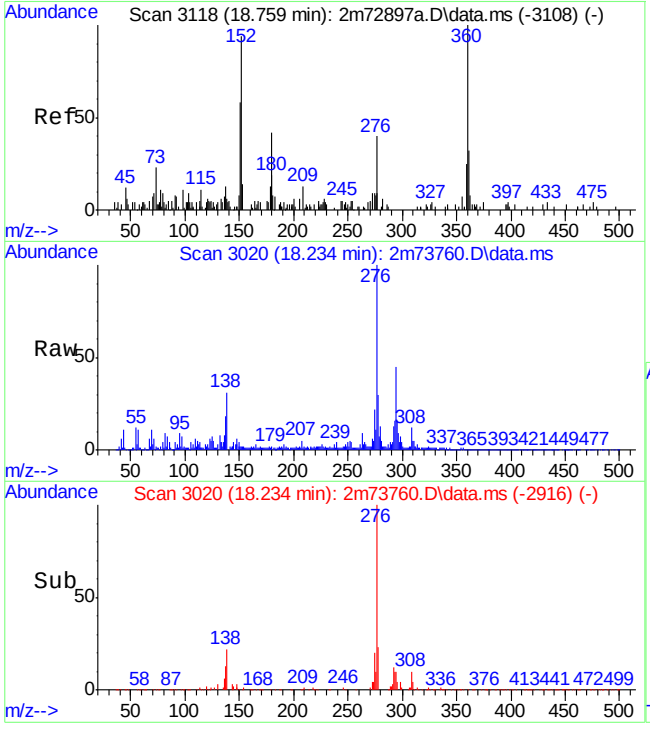


#99
Dibenz[a,h]anthracene
Concen: 2.37 ppm m
RT: 17.812 min Scan# 2941
Delta R.T. 0.032 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:278 Resp: 109114

Ion	Ratio	Lower	Upper
278	100		
139	43.3	0.0	47.1
279	97.3	0.0	53.4#

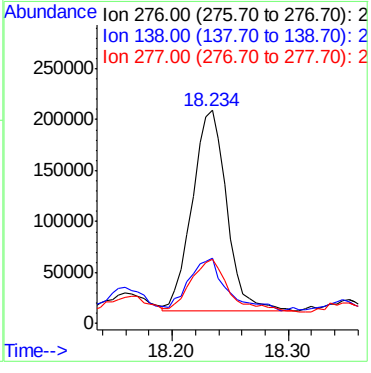




#101
Benzo[g,h,i]perylene
Concen: 9.12 ppm
RT: 18.234 min Scan# 3020
Delta R.T. 0.054 min
Lab File: 2m73760.D
Acq: 1 May 2015 2:31 pm

Tgt Ion:276 Resp: 405951

Ion	Ratio	Lower	Upper
276	100		
138	24.4	0.0	52.0
277	25.5	0.0	53.5



9.1.16

9

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3165\
Data File : 2m73610.D
Acq On : 27 Apr 2015 9:20 pm
Operator : ashleyn
Sample : jb93023-14
Misc : op83421,e2m3165,31.0
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 28 21:15:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Tue Apr 28 07:56:53 2015
QLast Update : Tue Apr 28 07:56:53 2015
Response via : Initial Calibration

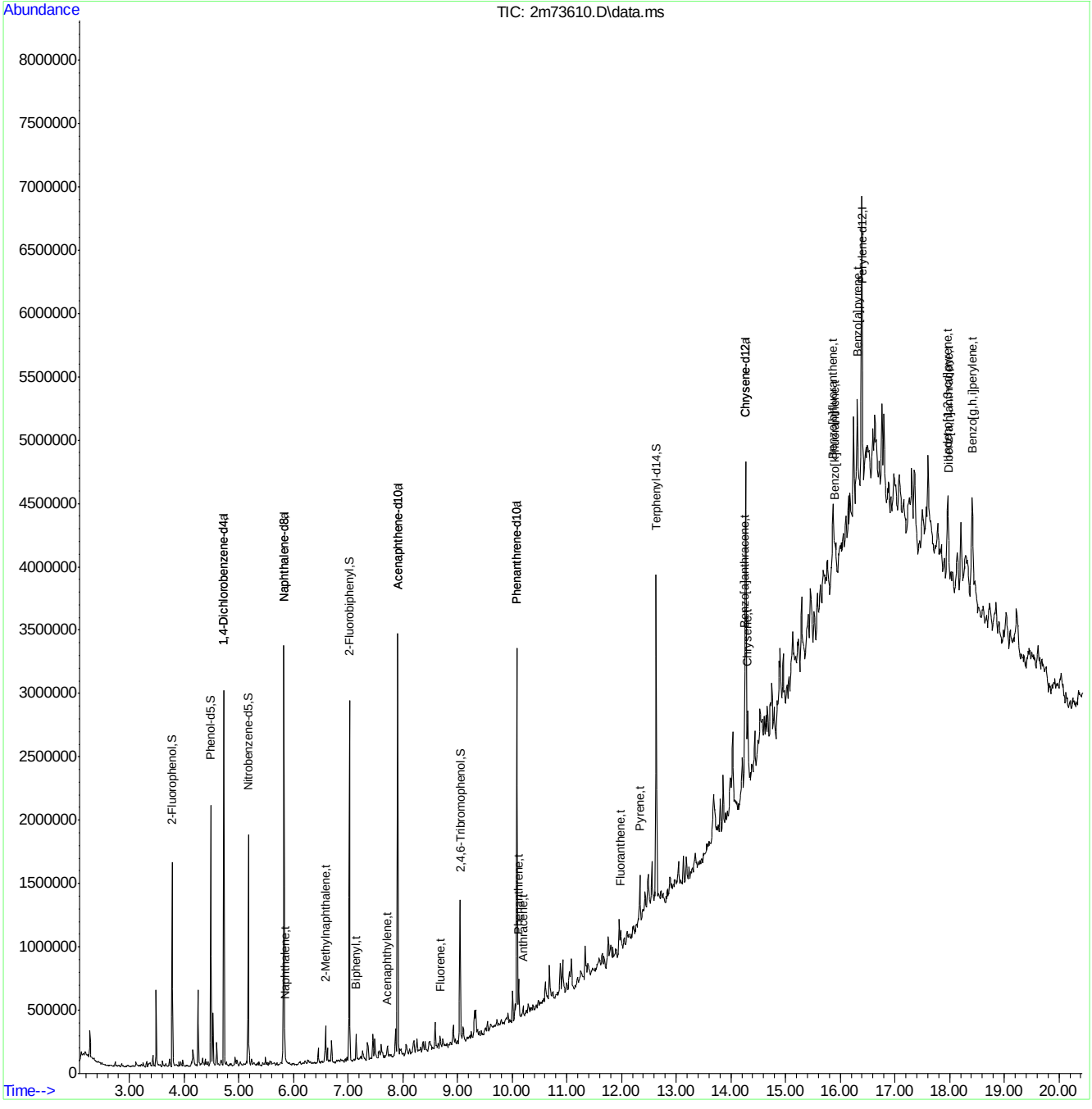
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.724	152	370358	40.00	ppm	0.00
24) Naphthalene-d8	5.826	136	1441809	40.00	ppm	0.01
47) Acenaphthene-d10	7.906	164	813045	40.00	ppm	0.02
69) Phenanthrene-d10	10.088	188	1259309	40.00	ppm	0.03
83) Chrysene-d12	14.271	240	1107855	40.00	ppm	0.04
92) Perylene-d12	16.394	264	1054638	40.00	ppm	0.05
102) 1,4-Dichlorobenzene-d4a	4.724	152	370358	40.00	ppm	0.00
104) Acenaphthene-d10a	7.906	164	813045	40.00	ppm	0.02
106) Chrysene-d12a	14.271	240	1107855	40.00	ppm	0.04
108) Phenanthrene-d10a	10.088	188	1259309	40.00	ppm	0.03
110) Naphthalene-d8a	5.826	136	1441809	40.00	ppm	0.01
System Monitoring Compounds						
5) 2-Fluorophenol	3.782	112	449824	32.02	ppm	0.02
Spiked Amount 50.000			Recovery = 64.04%			
8) Phenol-d5	4.488	99	575292	32.04	ppm	0.02
Spiked Amount 50.000			Recovery = 64.08%			
25) Nitrobenzene-d5	5.173	82	500266	37.14	ppm	0.01
Spiked Amount 50.000			Recovery = 74.28%			
51) 2-Fluorobiphenyl	7.024	172	976924	38.46	ppm	0.02
Spiked Amount 50.000			Recovery = 76.92%			
73) 2,4,6-Tribromophenol	9.051	330	129582	50.42	ppm	0.03
Spiked Amount 50.000			Recovery = 100.84%			
85) Terphenyl-d14	12.634	244	983004	44.20	ppm	0.03
Spiked Amount 50.000			Recovery = 88.40%			
Target Compounds						Qvalue
38) Naphthalene	5.842	128	51455	1.26	ppm	95
44) 2-Methylnaphthalene	6.585	141	75126	3.60	ppm	96
53) Biphenyl	7.147	154	17370	0.55	ppm	100
56) Acenaphthylene	7.708	152	20072	0.52	ppm	93
66) Fluorene	8.682	166	10607	0.43	ppm	96
77) Phenanthrene	10.121	178	135875	3.68	ppm	97
78) Anthracene	10.201	178	44120	1.21	ppm	91
81) Fluoranthene	11.987	202	80404	2.41	ppm	97
84) Pyrene	12.335	202	173609	4.61	ppm	98
88) Benzo[a]anthracene	14.255	228	155743	4.98	ppm	93
90) Chrysene	14.309	228	211643	7.15	ppm	99
94) Benzo[b]fluoranthene	15.870	252	312673	10.08	ppm	92
95) Benzo[k]fluoranthene	15.902	252	61287	2.03	ppm	79
96) Benzo[a]pyrene	16.309	252	326142	12.15	ppm	96
97) Indeno[1,2,3-cd]pyrene	17.962	276	257410	9.96	ppm	87
99) Dibenz[a,h]anthracene	17.978	278	273482	10.21	ppm	87
101) Benzo[g,h,i]perylene	18.411	276	462156	17.73	ppm	87

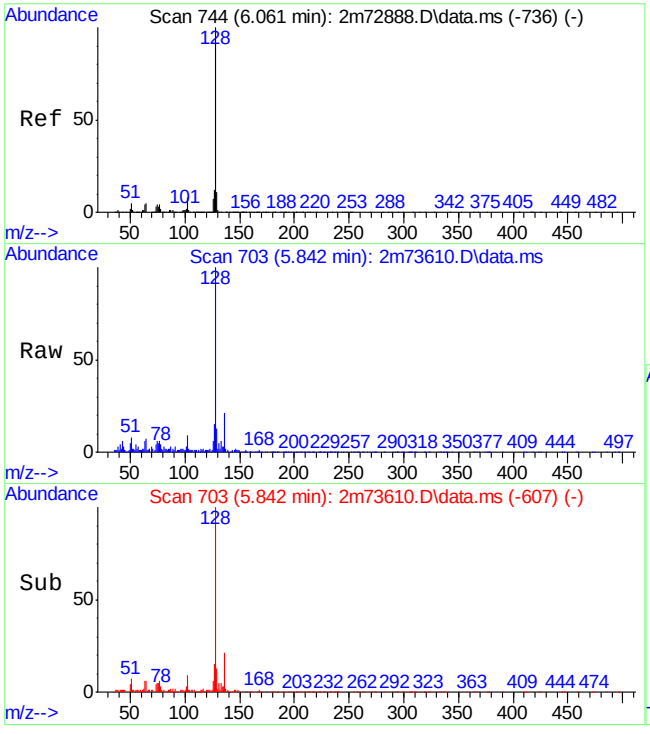
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3165\
Data File : 2m73610.D
Acq On : 27 Apr 2015 9:20 pm
Operator : ashleyn
Sample : jb93023-14
Misc : op83421,e2m3165,31.0
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Apr 28 21:15:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Tue Apr 28 07:56:53 2015
QLast Update : Tue Apr 28 07:56:53 2015
Response via : Initial Calibration

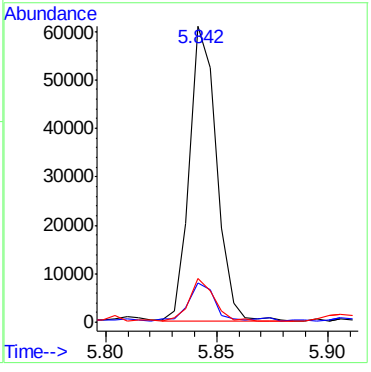


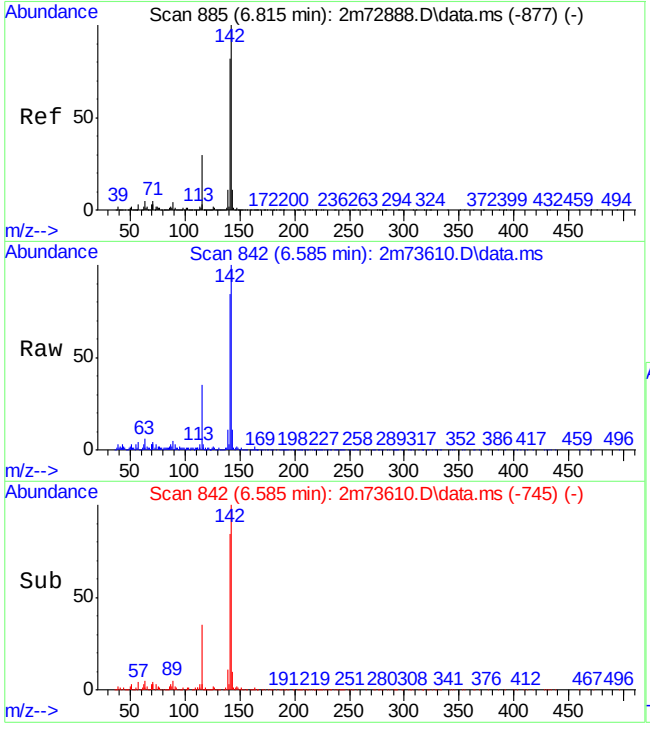


#38
Naphthalene
Concen: 1.26 ppm
RT: 5.842 min Scan# 703
Delta R.T. 0.011 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:128 Resp: 51455

Ion	Ratio	Lower	Upper
128	100		
129	12.5	0.0	40.9
127	14.3	0.0	42.4

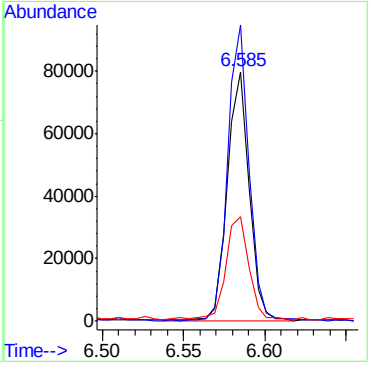




#44
2-Methylnaphthalene
Concen: 3.60 ppm
RT: 6.585 min Scan# 842
Delta R.T. 0.016 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:141 Resp: 75126

Ion	Ratio	Lower	Upper
141	100		
142	118.5	91.3	151.3
115	41.2	6.9	66.9



9.1.17

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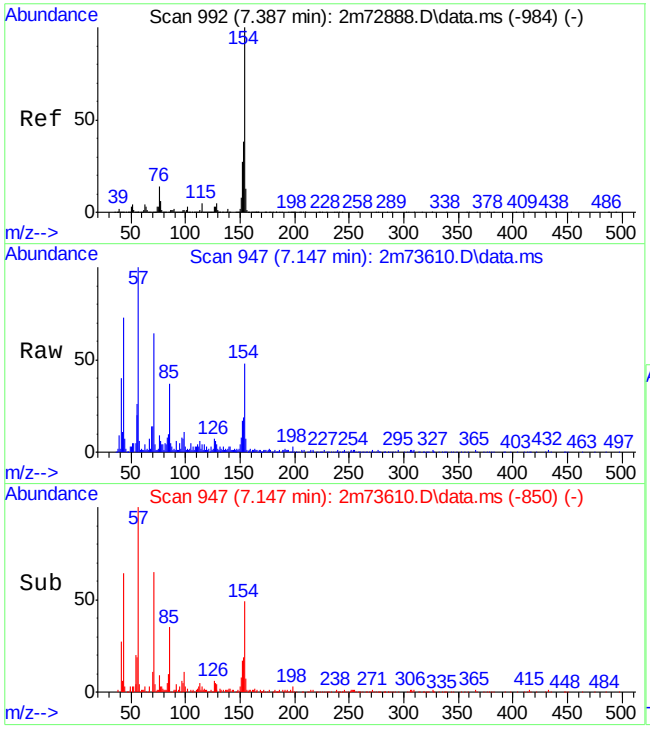
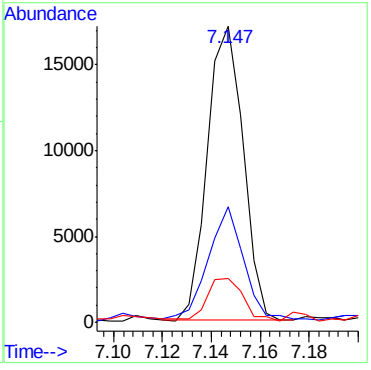
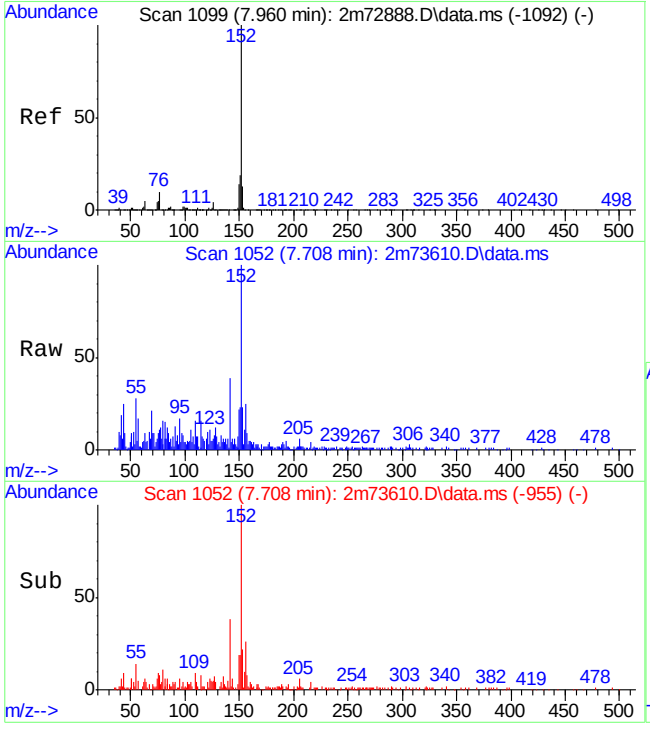


#53
Biphenyl
Concen: 0.55 ppm
RT: 7.147 min Scan# 947
Delta R.T. 0.016 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:154 Resp: 17370

Ion	Ratio	Lower	Upper
154	100		
153	38.1	8.3	68.3
155	12.8	0.0	42.9

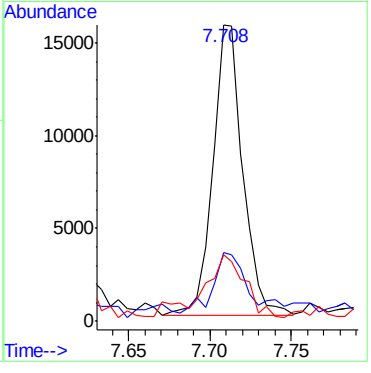


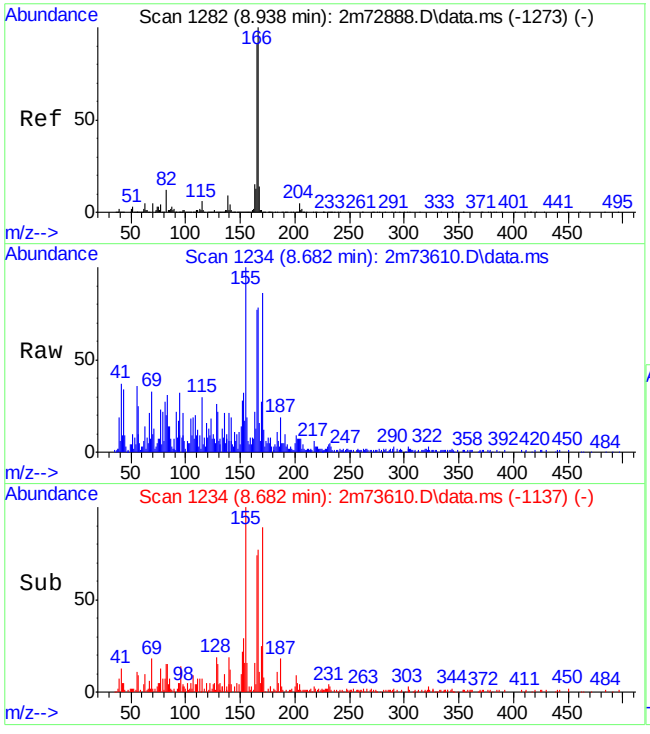


#56
Acenaphthylene
Concen: 0.52 ppm
RT: 7.708 min Scan# 1052
Delta R.T. 0.016 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:152 Resp: 20072

Ion	Ratio	Lower	Upper
152	100		
151	17.4	0.0	48.7
153	18.2	0.0	42.6

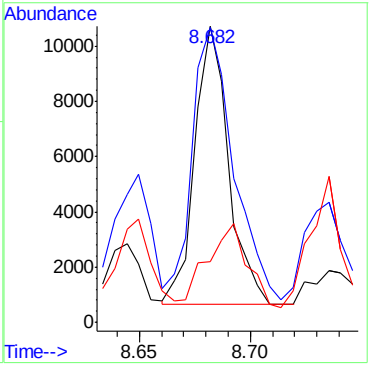


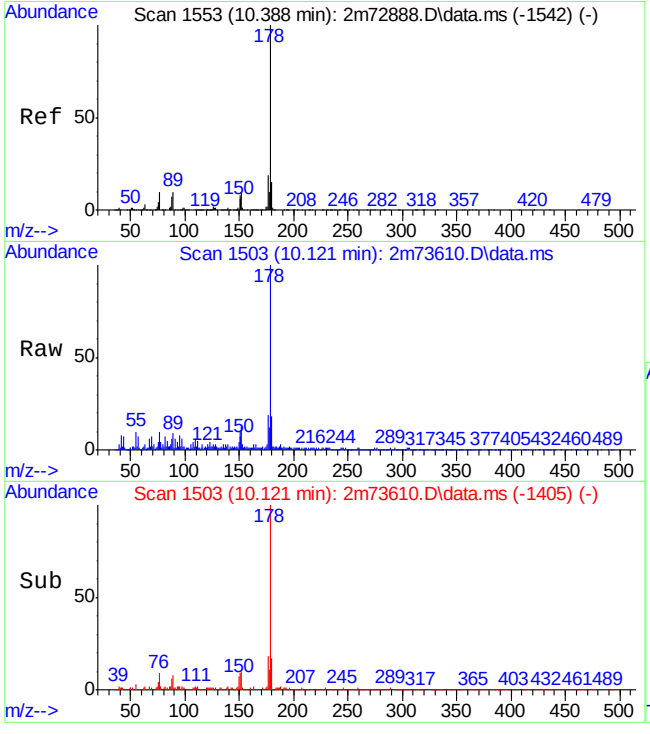


#66
Fluorene
Concen: 0.43 ppm
RT: 8.682 min Scan# 1234
Delta R.T. 0.016 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:166 Resp: 10607

Ion	Ratio	Lower	Upper
166	100		
165	94.4	61.1	121.1
167	10.8	0.0	43.5

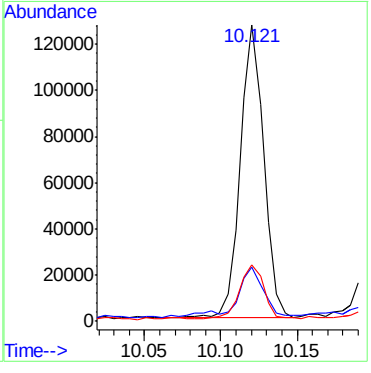




#77
Phenanthrene
Concen: 3.68 ppm
RT: 10.121 min Scan# 1503
Delta R.T. 0.022 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:178 Resp: 135875

Ion	Ratio	Lower	Upper
178	100		
179	16.9	0.0	45.0
176	18.1	0.0	48.8



9.1.17

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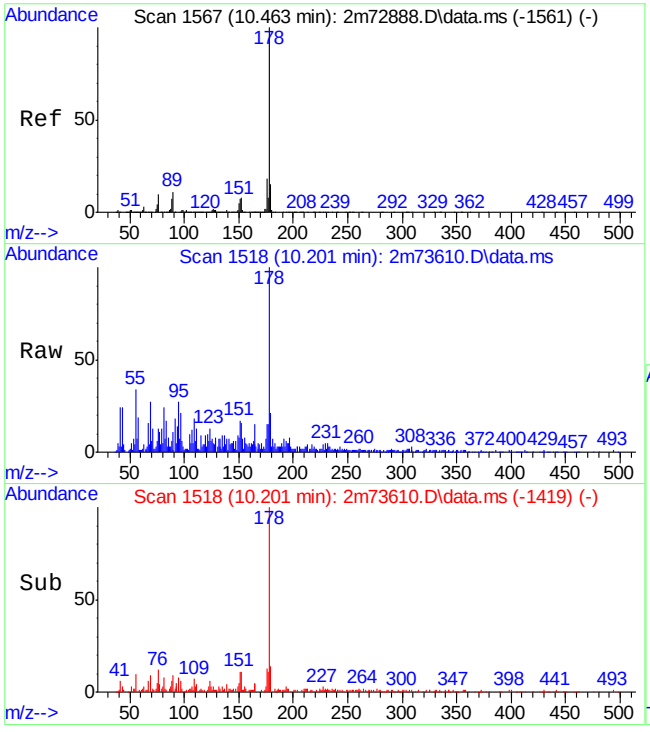
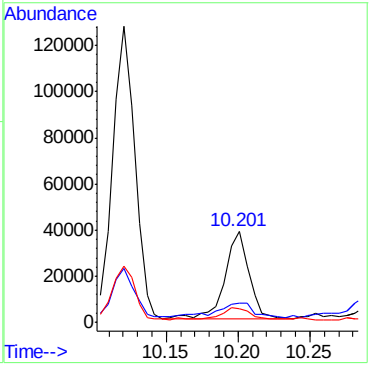
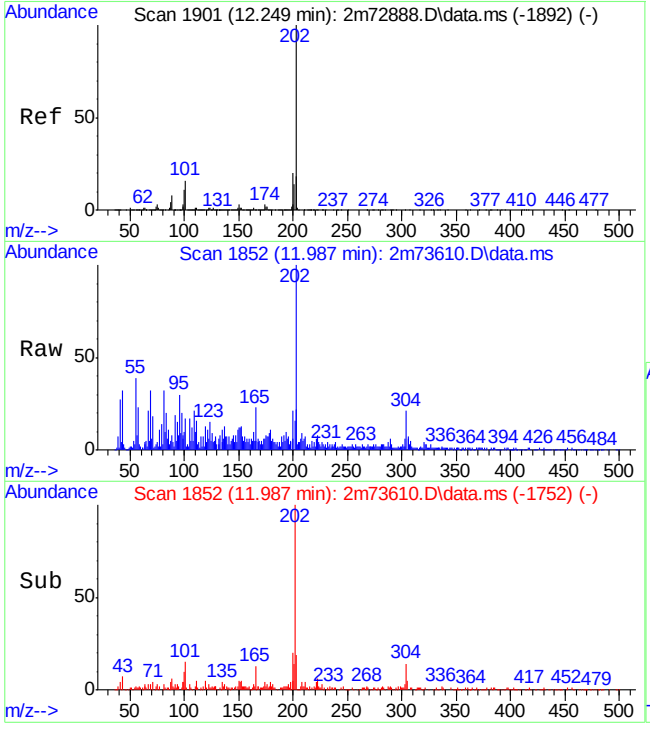


#78
Anthracene
Concen: 1.21 ppm
RT: 10.201 min Scan# 1518
Delta R.T. 0.027 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:178 Resp: 44120

Ion	Ratio	Lower	Upper
178	100		
179	14.7	0.0	45.2
176	11.6	0.0	48.4

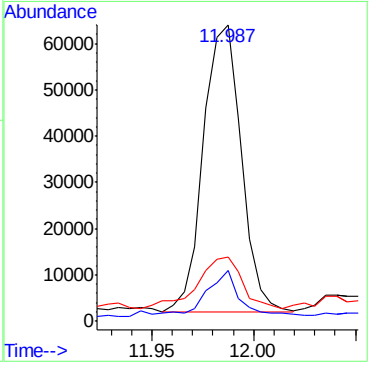




#81
Fluoranthene
Concen: 2.41 ppm
RT: 11.987 min Scan# 1852
Delta R.T. 0.032 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:202 Resp: 80404

Ion	Ratio	Lower	Upper
202	100		
101	15.2	0.0	46.3
203	16.2	0.0	47.5



9.1.17

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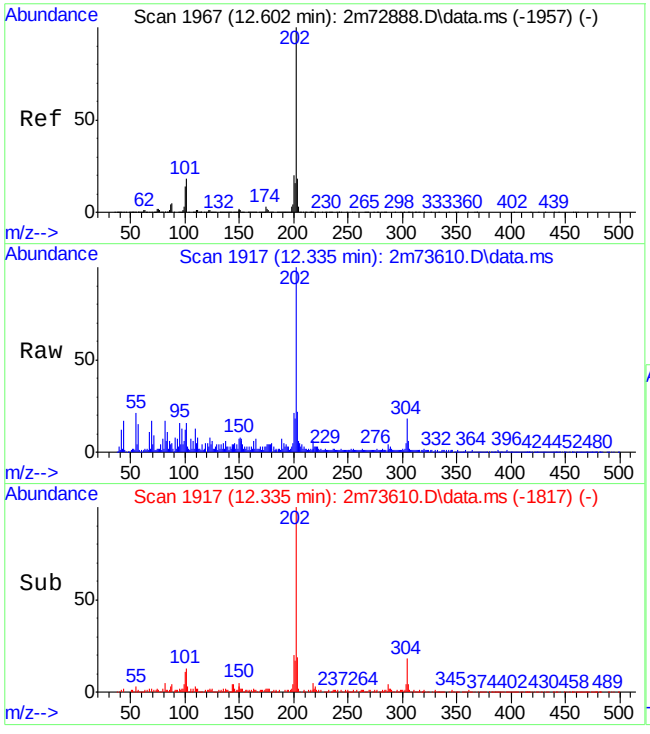
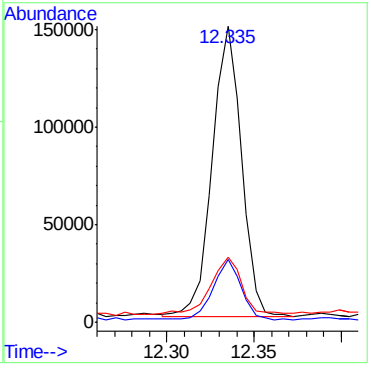
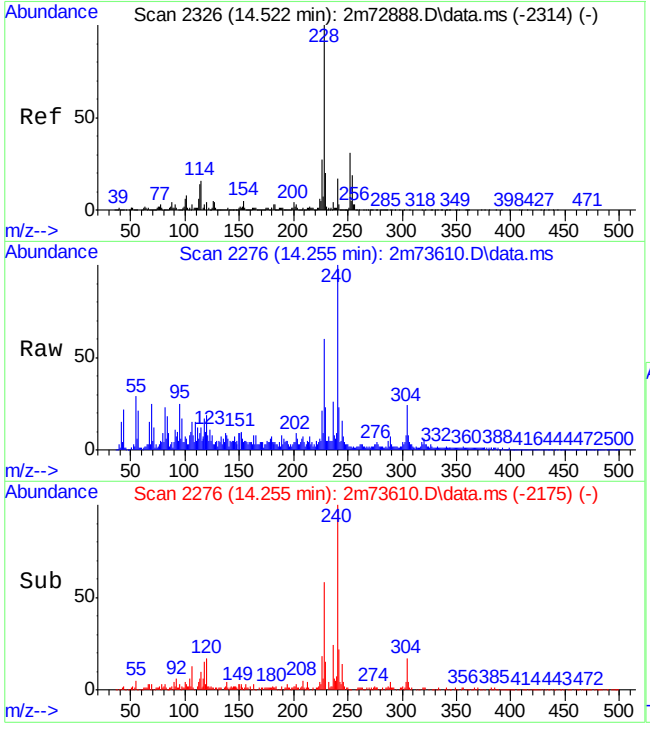


#84
Pyrene
Concen: 4.61 ppm
RT: 12.335 min Scan# 1917
Delta R.T. 0.032 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:202 Resp: 173609

Ion	Ratio	Lower	Upper
202	100		
200	20.7	0.0	50.4
203	19.5	0.0	48.2

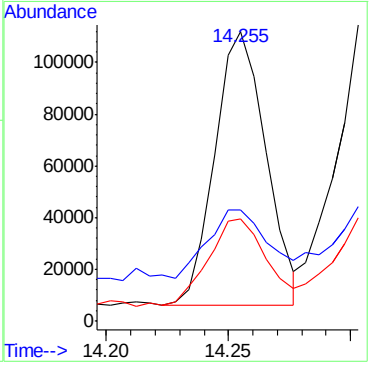




#88
Benzo[a]anthracene
Concen: 4.98 ppm
RT: 14.255 min Scan# 2276
Delta R.T. 0.038 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

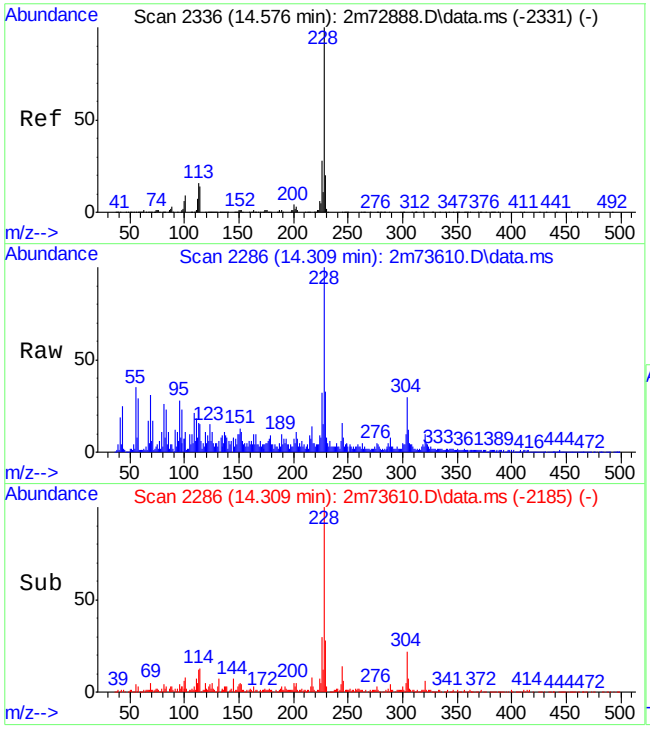
Tgt Ion:228 Resp: 155743

Ion	Ratio	Lower	Upper
228	100		
229	22.7	0.0	49.7
226	30.3	0.0	56.6



9.1.17

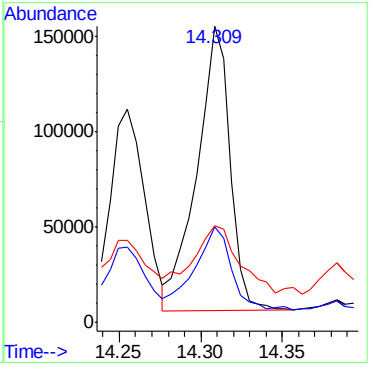
9

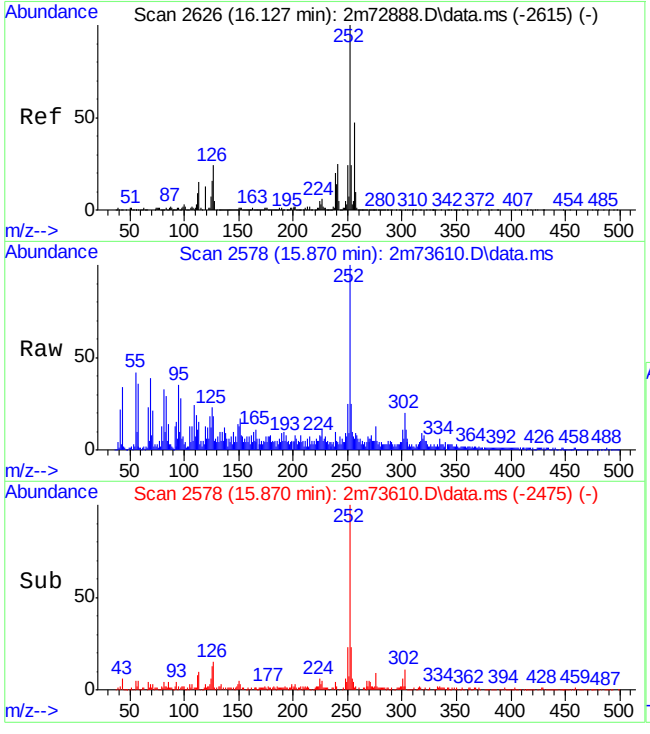


#90
Chrysene
Concen: 7.15 ppm
RT: 14.309 min Scan# 2286
Delta R.T. 0.038 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:228 Resp: 211643

Ion	Ratio	Lower	Upper
228	100		
226	28.4	0.0	58.1
229	20.8	0.0	49.6

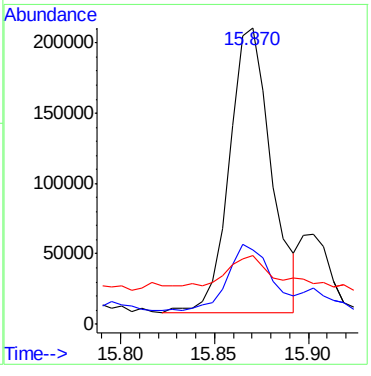




#94
Benzo[b]fluoranthene
Concen: 10.08 ppm
RT: 15.870 min Scan# 2578
Delta R.T. 0.048 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

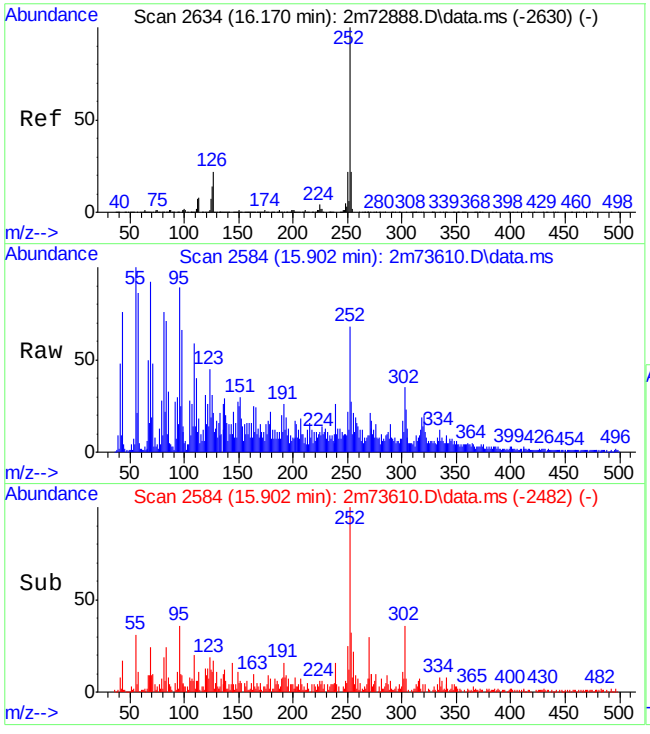
Tgt Ion:252 Resp: 312673

Ion	Ratio	Lower	Upper
252	100		
253	21.1	0.0	53.8
125	10.5	0.0	45.5



9.1.17

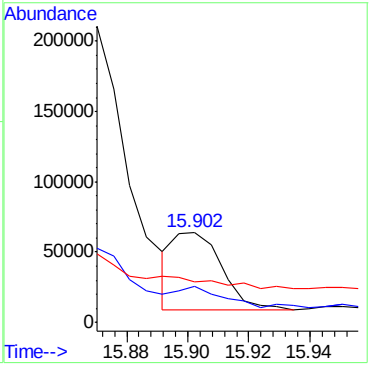
9

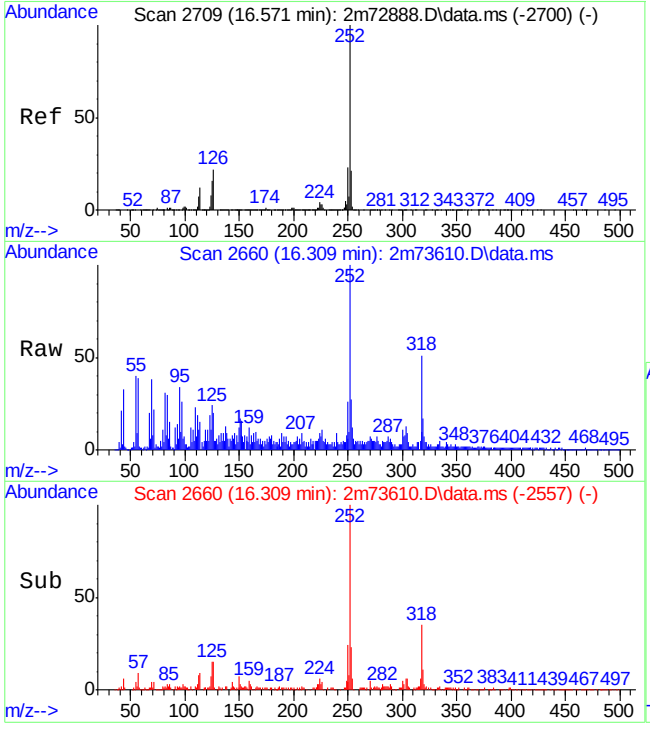


#95
Benzo[k]fluoranthene
Concen: 2.03 ppm
RT: 15.902 min Scan# 2584
Delta R.T. 0.043 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:252 Resp: 61287

Ion	Ratio	Lower	Upper
252	100		
253	28.3	0.0	51.8
125	1.3	0.0	44.5

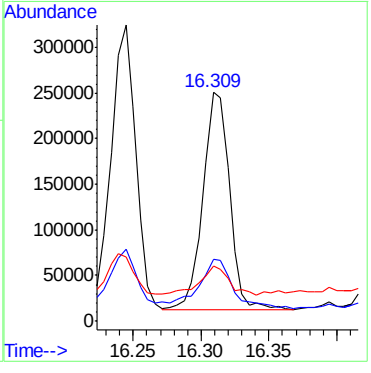




#96
Benzo[a]pyrene
Concen: 12.15 ppm
RT: 16.309 min Scan# 2660
Delta R.T. 0.048 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

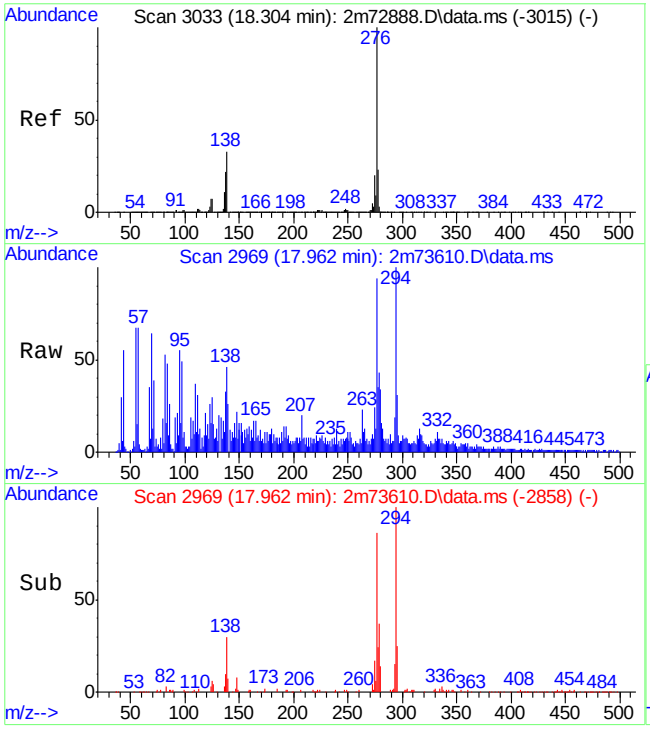
Tgt Ion:252 Resp: 326142

Ion	Ratio	Lower	Upper
252	100		
253	21.2	0.0	51.5
125	12.5	0.0	46.4



9.1.17

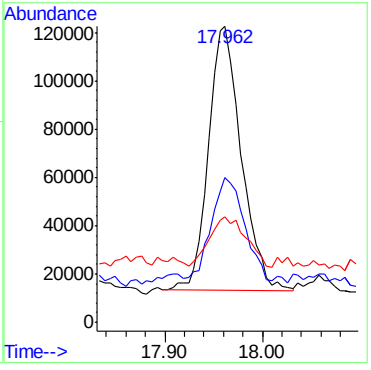
9

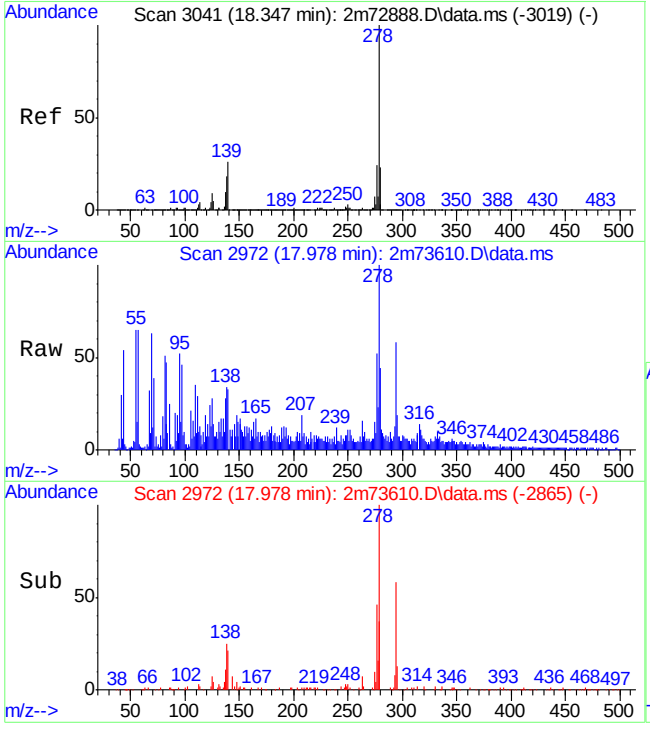


#97
Indeno[1,2,3-cd]pyrene
Concen: 9.96 ppm
RT: 17.962 min Scan# 2969
Delta R.T. 0.091 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:276 Resp: 257410

Ion	Ratio	Lower	Upper
276	100		
138	37.5	0.0	57.9
137	17.5	0.0	50.1

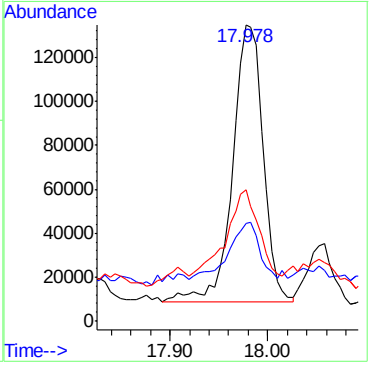




#99
Dibenz[a,h]anthracene
Concen: 10.21 ppm
RT: 17.978 min Scan# 2972
Delta R.T. 0.070 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

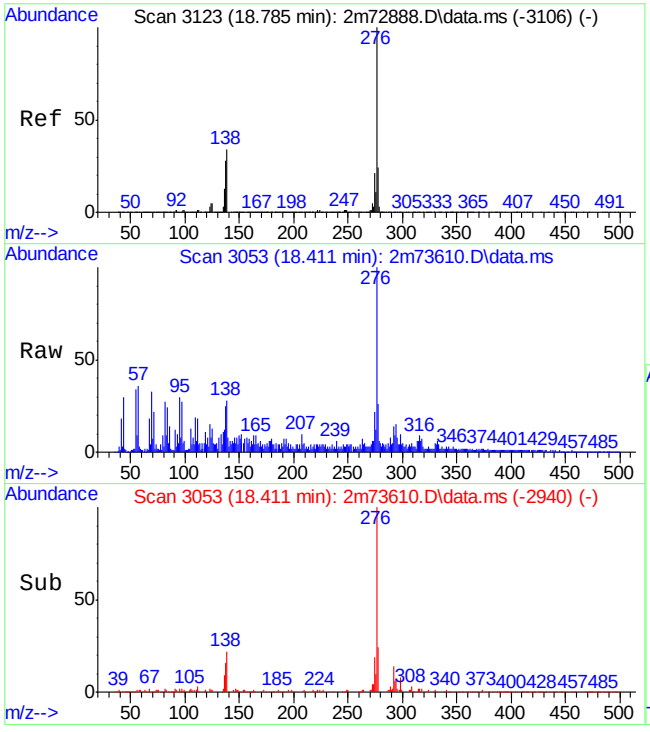
Tgt Ion:278 Resp: 273482

Ion	Ratio	Lower	Upper
278	100		
139	19.9	0.0	55.8
279	30.2	0.0	53.2



9.1.17

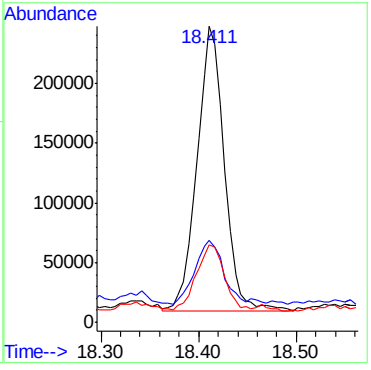
9



#101
Benzo[g,h,i]perylene
Concen: 17.73 ppm
RT: 18.411 min Scan# 3053
Delta R.T. 0.102 min
Lab File: 2m73610.D
Acq: 27 Apr 2015 9:20 pm

Tgt Ion:276 Resp: 462156

Ion	Ratio	Lower	Upper
276	100		
138	22.0	4.2	64.2
277	22.8	0.0	53.5



9.1.17

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3173\
Data File : 2m73766.D
Acq On : 1 May 2015 5:11 pm
Operator : ashleyn
Sample : jb93023-15
Misc : op83421,e2m3173,30.0
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 04 14:30:42 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.660	152	271939	40.00 ppm	0.00
24) Naphthalene-d8	5.745	136	960779	40.00 ppm	0.01
47) Acenaphthene-d10	7.805	164	550052	40.00 ppm	0.00
69) Phenanthrene-d10	9.976	188	894898	40.00 ppm	0.01
83) Chrysene-d12	14.143	240	827116	40.00 ppm	0.01
92) Perylene-d12	16.261	264	821766	40.00 ppm	0.02
102) 1,4-Dichlorobenzene-d4a	4.660	152	271939	40.00 ppm	0.00
104) Acenaphthene-d10a	7.805	164	550052	40.00 ppm	0.00
106) Chrysene-d12a	14.143	240	827116	40.00 ppm	0.01
109) Phenanthrene-d10a	9.976	188	894898	40.00 ppm	0.01
112) Naphthalene-d8a	5.745	136	960779	40.00 ppm	0.01

System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	340599	33.98 ppm	0.01
Spiked Amount 50.000			Recovery	= 67.96%	
8) Phenol-d5	4.424	99	443607	35.36 ppm	0.01
Spiked Amount 50.000			Recovery	= 70.72%	
25) Nitrobenzene-d5	5.103	82	424480	37.53 ppm	0.00
Spiked Amount 50.000			Recovery	= 75.06%	
51) 2-Fluorobiphenyl	6.933	172	784227	40.03 ppm	0.00
Spiked Amount 50.000			Recovery	= 80.06%	
73) 2,4,6-Tribromophenol	8.944	330	107859	41.11 ppm	0.01
Spiked Amount 50.000			Recovery	= 82.22%	
85) Terphenyl-d14	12.522	244	805979	43.72 ppm	0.02
Spiked Amount 50.000			Recovery	= 87.44%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	

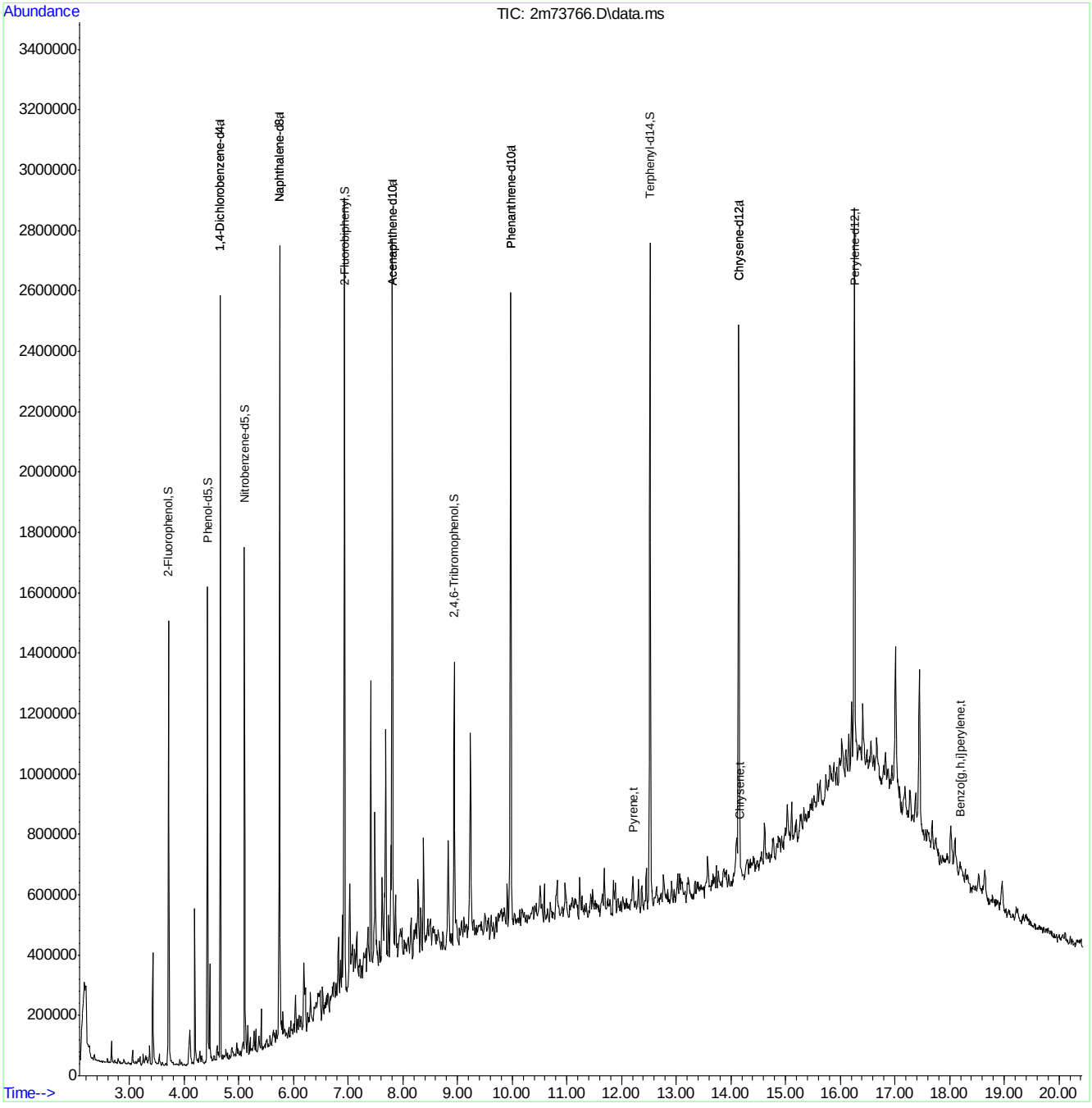
Target Compounds					Qvalue
84) Pyrene	12.212	202	49527	1.78 ppm	98
90) Chrysene	14.175	228	16151	0.68 ppm	70
101) Benzo[g,h,i]perylene	18.192	276	19281	0.85 ppm	91

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

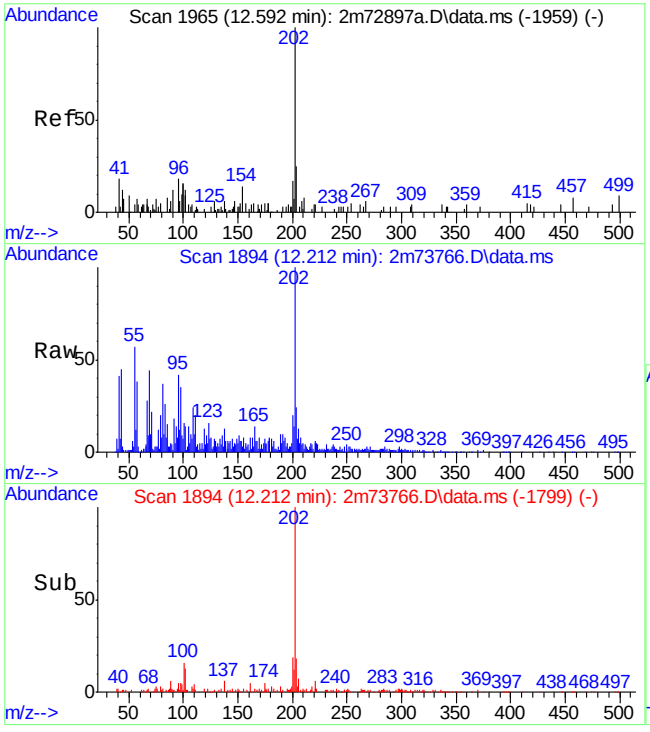
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3173\
Data File : 2m73766.D
Acq On : 1 May 2015 5:11 pm
Operator : ashleyn
Sample : jb93023-15
Misc : op83421,e2m3173,30.0
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 04 14:30:42 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration



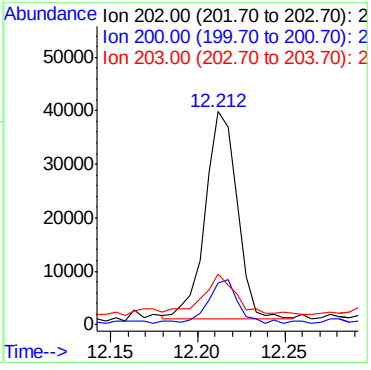
M2M3171.M Mon May 04 14:30:48 2015 Page: 2

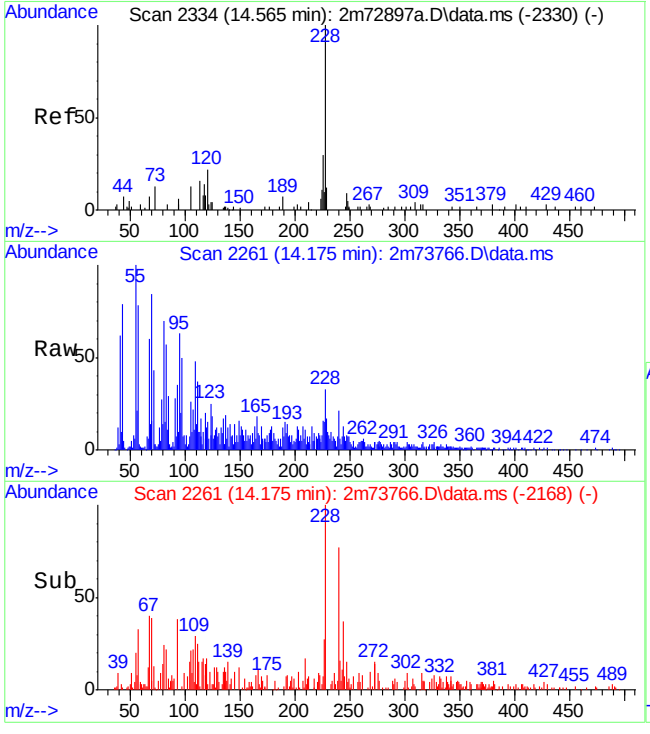


#84
Pyrene
Concen: 1.78 ppm
RT: 12.212 min Scan# 1894
Delta R.T. 0.006 min
Lab File: 2m73766.D
Acq: 1 May 2015 5:11 pm

Tgt Ion:202 Resp: 49527

Ion	Ratio	Lower	Upper
202	100		
200	18.5	0.0	50.2
203	19.1	0.0	49.0

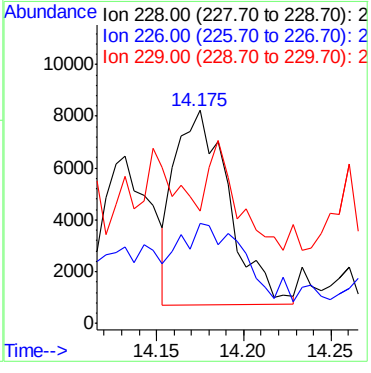




#90
Chrysene
Concen: 0.68 ppm
RT: 14.175 min Scan# 2261
Delta R.T. -0.005 min
Lab File: 2m73766.D
Acq: 1 May 2015 5:11 pm

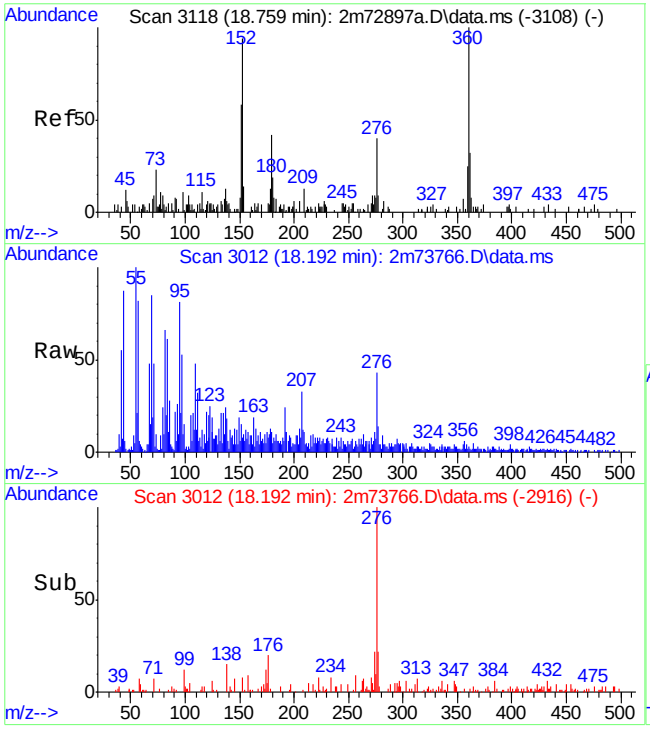
Tgt Ion:228 Resp: 16151

Ion	Ratio	Lower	Upper
228	100		
226	39.1	0.0	57.9
229	0.0	0.0	49.3



9.1.18

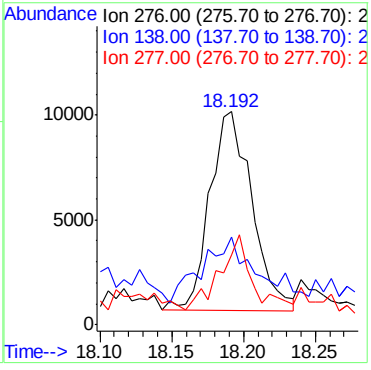
9



#101
Benzo[g,h,i]perylene
Concen: 0.85 ppm
RT: 18.192 min Scan# 3012
Delta R.T. 0.011 min
Lab File: 2m73766.D
Acq: 1 May 2015 5:11 pm

Tgt Ion:276 Resp: 19281

Ion	Ratio	Lower	Upper
276	100		
138	28.7	0.0	52.0
277	25.2	0.0	53.5



9.1.18

9

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73767.D
Acq On : 1 May 2015 5:37 pm
Operator : ashleyn
Sample : jb93023-16
Misc : op83421,e2m3173,33.0
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 03 19:38:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

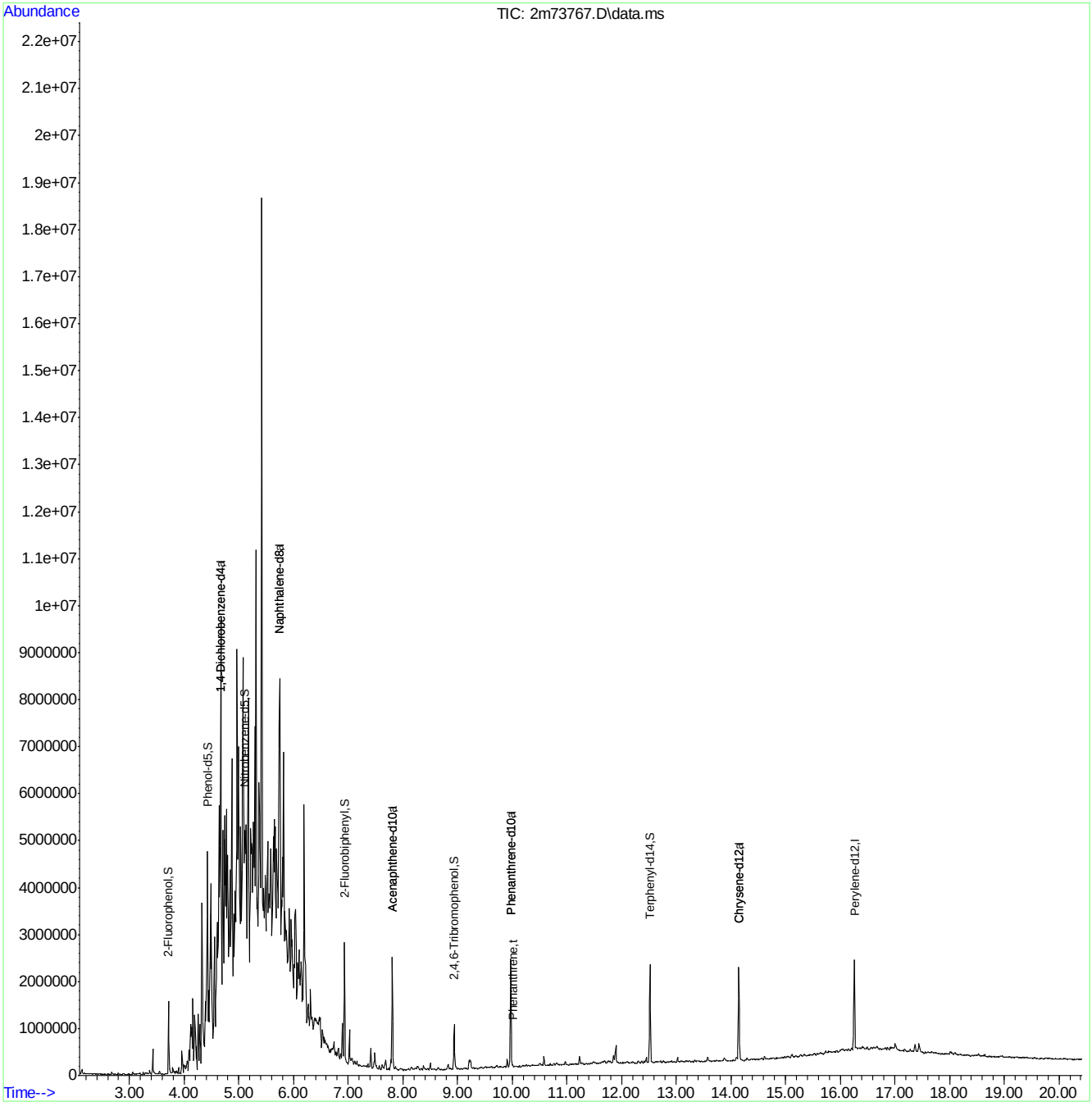
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.665	152	270266	40.00 ppm	0.01
24) Naphthalene-d8	5.750	136	914737	40.00 ppm	0.02
47) Acenaphthene-d10	7.804	164	584479	40.00 ppm	0.00
69) Phenanthrene-d10	9.976	188	995775	40.00 ppm	0.01
83) Chrysene-d12	14.142	240	888493	40.00 ppm	0.01
92) Perylene-d12	16.261	264	861638	40.00 ppm	0.02
102) 1,4-Dichlorobenzene-d4a	4.665	152	270266	40.00 ppm	0.01
104) Acenaphthene-d10a	7.804	164	584479	40.00 ppm	0.00
106) Chrysene-d12a	14.142	240	888493	40.00 ppm	0.01
109) Phenanthrene-d10a	9.976	188	995775	40.00 ppm	0.01
112) Naphthalene-d8a	5.750	136	915421	40.00 ppm	0.02
System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	342416	34.37 ppm	0.01
Spiked Amount 50.000			Recovery	= 68.74%	
8) Phenol-d5	4.424	99	420018	33.69 ppm	0.01
Spiked Amount 50.000			Recovery	= 67.38%	
25) Nitrobenzene-d5	5.103	82	445997	41.41 ppm	0.00
Spiked Amount 50.000			Recovery	= 82.82%	
51) 2-Fluorobiphenyl	6.933	172	784244	37.67 ppm	0.00
Spiked Amount 50.000			Recovery	= 75.34%	
73) 2,4,6-Tribromophenol	8.938	330	108032	37.01 ppm	0.00
Spiked Amount 50.000			Recovery	= 74.02%	
85) Terphenyl-d14	12.522	244	798220	40.31 ppm	0.02
Spiked Amount 50.000			Recovery	= 80.62%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
Target Compounds					Qvalue
77) Phenanthrene	10.008	178	19361	0.68 ppm	93

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

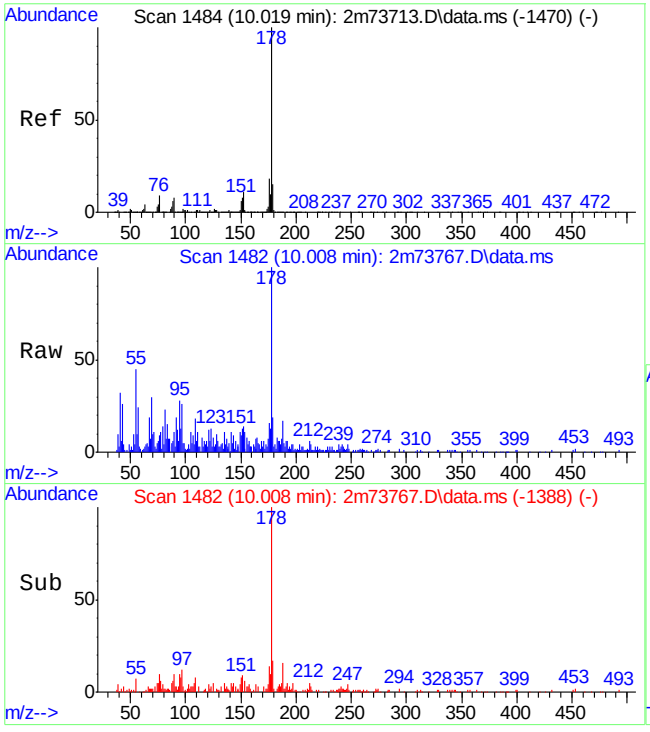
Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73767.D
Acq On : 1 May 2015 5:37 pm
Operator : ashleyn
Sample : jb93023-16
Misc : op83421,e2m3173,33.0
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 03 19:38:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration



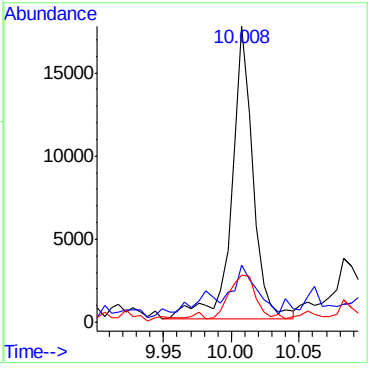
M2M3171.M Sun May 03 19:38:13 2015 ACC-VOA-DESK4 Page: 2



#77
Phenanthrene
Concen: 0.68 ppm
RT: 10.008 min Scan# 1482
Delta R.T. 0.005 min
Lab File: 2m73767.D
Acq: 1 May 2015 5:37 pm

Tgt Ion:178 Resp: 19361

Ion	Ratio	Lower	Upper
178	100		
179	15.2	0.0	46.0
176	14.2	0.0	49.5



9.1.19

9

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73761.D
Acq On : 1 May 2015 2:57 pm
Operator : ashleyn
Sample : jb93023-17
Misc : op83421,e2m3173,31.0
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 19:08:14 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.660	152	256909	40.00	ppm	0.00
24) Naphthalene-d8	5.745	136	921116	40.00	ppm	0.01
47) Acenaphthene-d10	7.805	164	561819	40.00	ppm	0.00
69) Phenanthrene-d10	9.976	188	923650	40.00	ppm	0.01
83) Chrysene-d12	14.143	240	843008	40.00	ppm	0.01
92) Perylene-d12	16.255	264	824512	40.00	ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.660	152	256909	40.00	ppm	0.00
104) Acenaphthene-d10a	7.805	164	561819	40.00	ppm	0.00
106) Chrysene-d12a	14.143	240	843008	40.00	ppm	0.01
109) Phenanthrene-d10a	9.976	188	923650	40.00	ppm	0.01
112) Naphthalene-d8a	5.745	136	921116	40.00	ppm	0.01
System Monitoring Compounds						
5) 2-Fluorophenol	3.713	112	282894	29.87	ppm	0.01
Spiked Amount 50.000			Recovery = 59.74%			
8) Phenol-d5	4.424	99	396584	33.46	ppm	0.01
Spiked Amount 50.000			Recovery = 66.92%			
25) Nitrobenzene-d5	5.104	82	385852	35.58	ppm	0.00
Spiked Amount 50.000			Recovery = 71.16%			
51) 2-Fluorobiphenyl	6.933	172	724697	36.22	ppm	0.00
Spiked Amount 50.000			Recovery = 72.44%			
73) 2,4,6-Tribromophenol	8.938	330	93622	34.57	ppm	0.00
Spiked Amount 50.000			Recovery = 69.14%			
85) Terphenyl-d14	12.517	244	804838	42.83	ppm	0.01
Spiked Amount 50.000			Recovery = 85.66%			
108) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount 50.000			Recovery = 0.00%			
111) 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

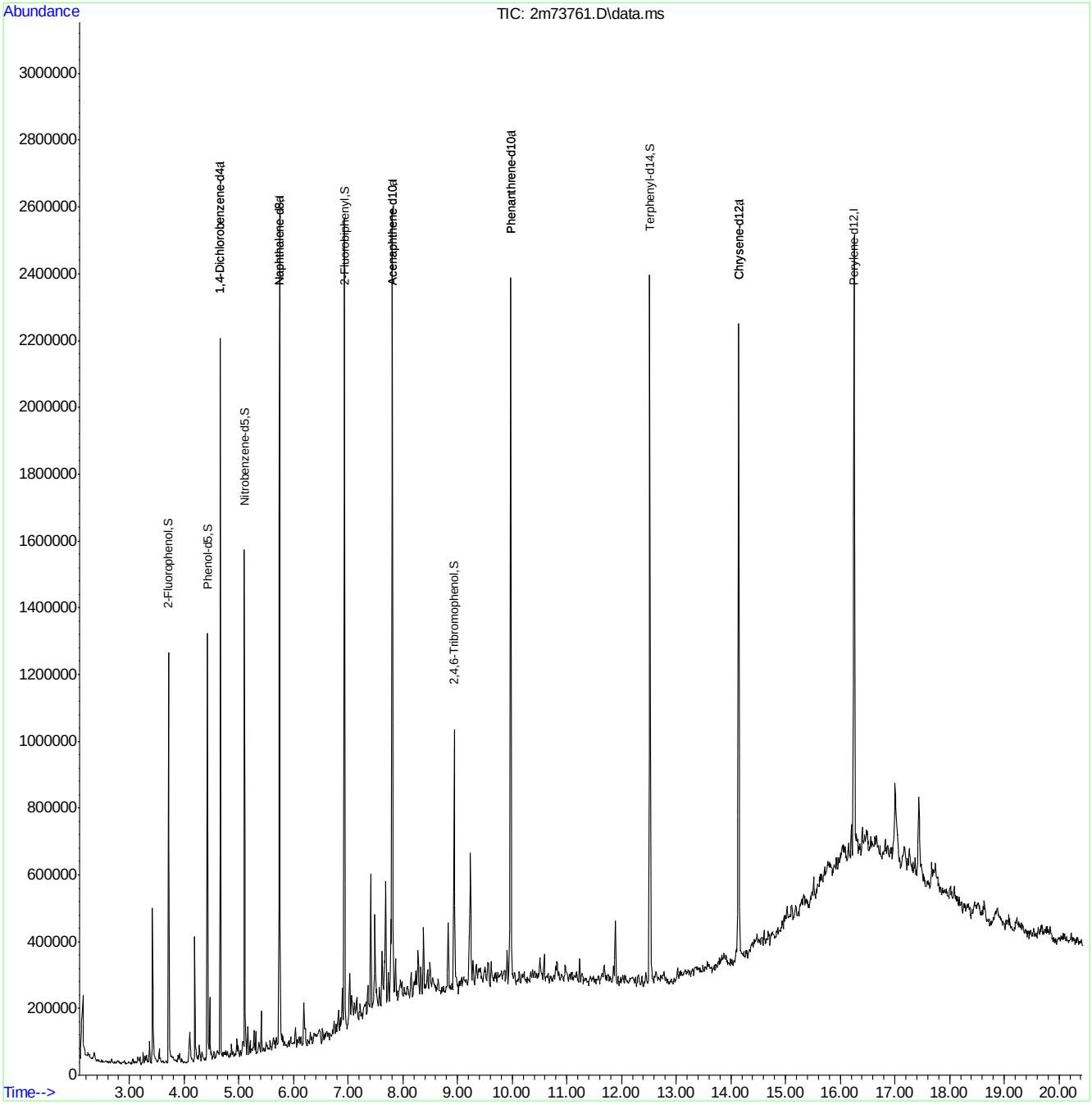
9.1.20

9

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73761.D
Acq On : 1 May 2015 2:57 pm
Operator : ashleyn
Sample : jb93023-17
Misc : op83421,e2m3173,31.0
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 19:08:14 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3173\
Data File : 2m73762.D
Acq On : 1 May 2015 3:24 pm
Operator : ashleyn
Sample : jb93023-18
Misc : op83421,e2m3173,33.6
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 14:30:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.660	152	256909	40.00 ppm	0.00
24) Naphthalene-d8	5.745	136	919771	40.00 ppm	0.01
47) Acenaphthene-d10	7.810	164	515140	40.00 ppm	0.01
69) Phenanthrene-d10	9.981	188	845865	40.00 ppm	0.02
83) Chrysene-d12	14.143	240	793318	40.00 ppm	0.01
92) Perylene-d12	16.255	264	790150	40.00 ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.660	152	256351	40.00 ppm	0.00
104) Acenaphthene-d10a	7.810	164	515140	40.00 ppm	0.01
106) Chrysene-d12a	14.143	240	793318	40.00 ppm	0.01
109) Phenanthrene-d10a	9.981	188	845865	40.00 ppm	0.02
112) Naphthalene-d8a	5.745	136	919771	40.00 ppm	0.01

System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	329210	34.76 ppm	0.01
Spiked Amount 50.000			Recovery	= 69.52%	
8) Phenol-d5	4.419	99	435847	36.77 ppm	0.00
Spiked Amount 50.000			Recovery	= 73.54%	
25) Nitrobenzene-d5	5.104	82	424644	39.21 ppm	0.00
Spiked Amount 50.000			Recovery	= 78.42%	
51) 2-Fluorobiphenyl	6.933	172	740804	40.38 ppm	0.00
Spiked Amount 50.000			Recovery	= 80.76%	
73) 2,4,6-Tribromophenol	8.944	330	87080	35.12 ppm	0.01
Spiked Amount 50.000			Recovery	= 70.24%	
85) Terphenyl-d14	12.522	244	727137	41.12 ppm	0.02
Spiked Amount 50.000			Recovery	= 82.24%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	

Target Compounds					Qvalue
77) Phenanthrene	10.014	178	16471	0.68 ppm	95
84) Pyrene	12.217	202	16924	0.64 ppm	96

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

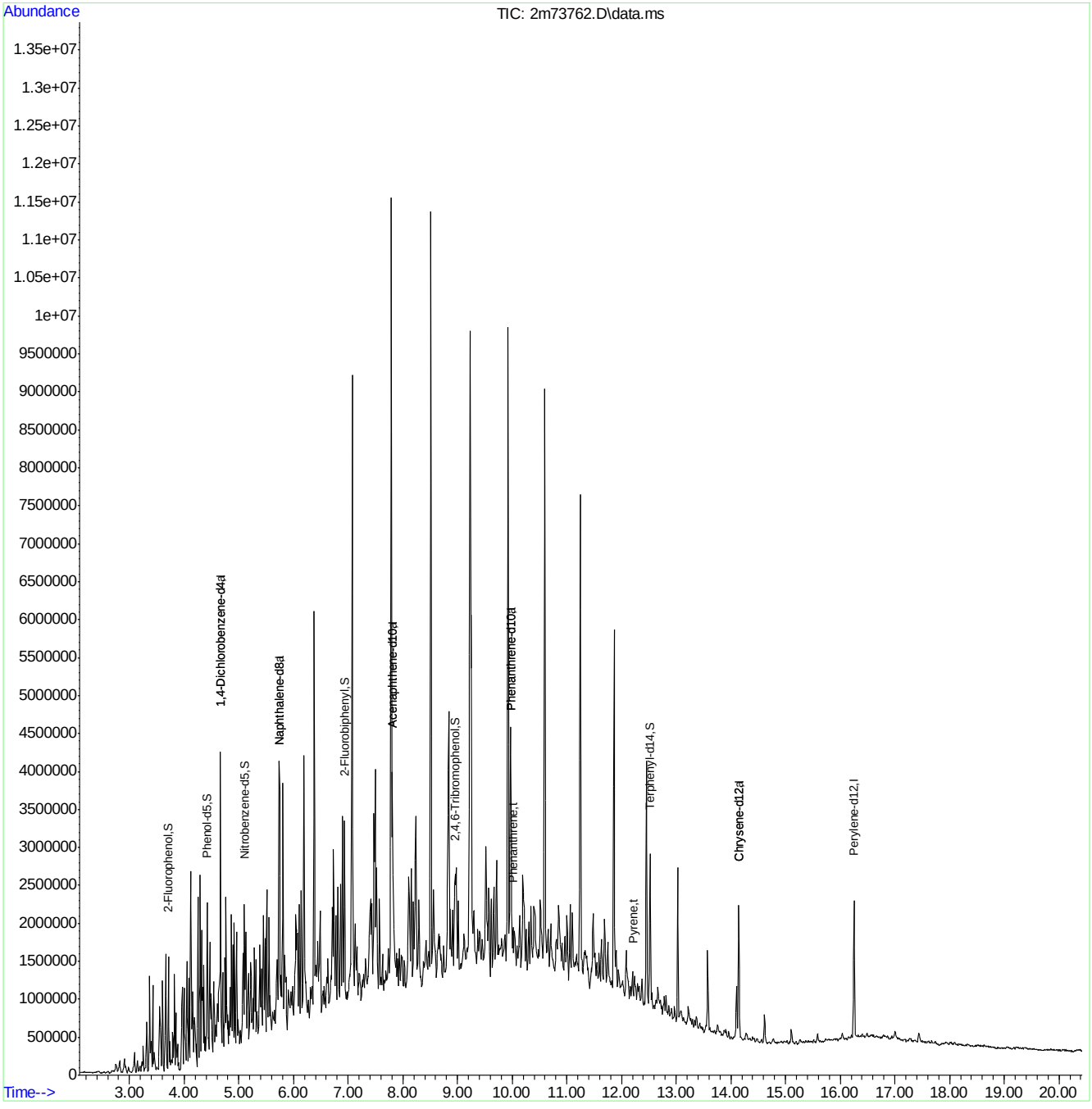
9.1.21

9

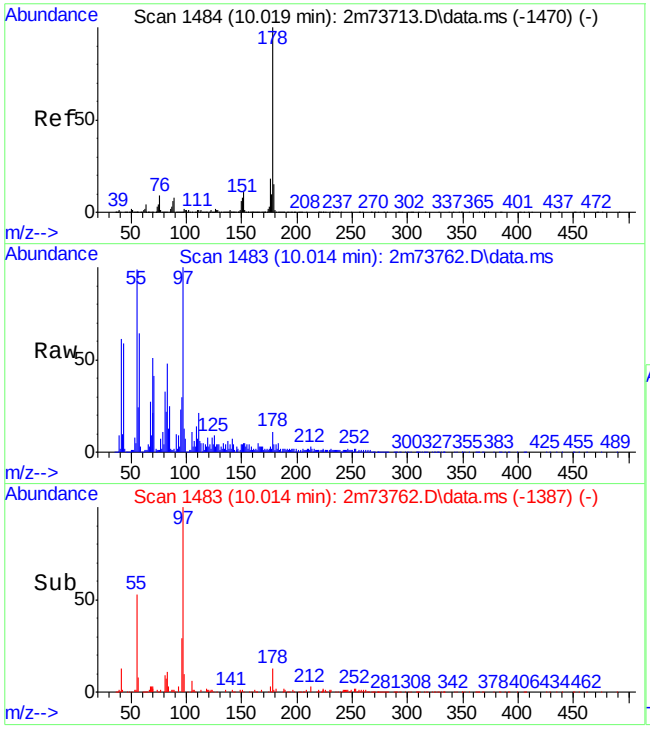
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3173\
Data File : 2m73762.D
Acq On : 1 May 2015 3:24 pm
Operator : ashleyn
Sample : jb93023-18
Misc : op83421,e2m3173,33.6
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 14:30:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration



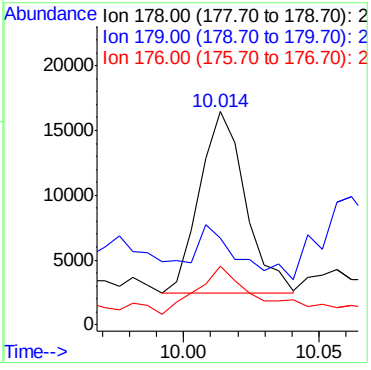
M2M3171.M Mon May 04 14:30:20 2015 Page: 2

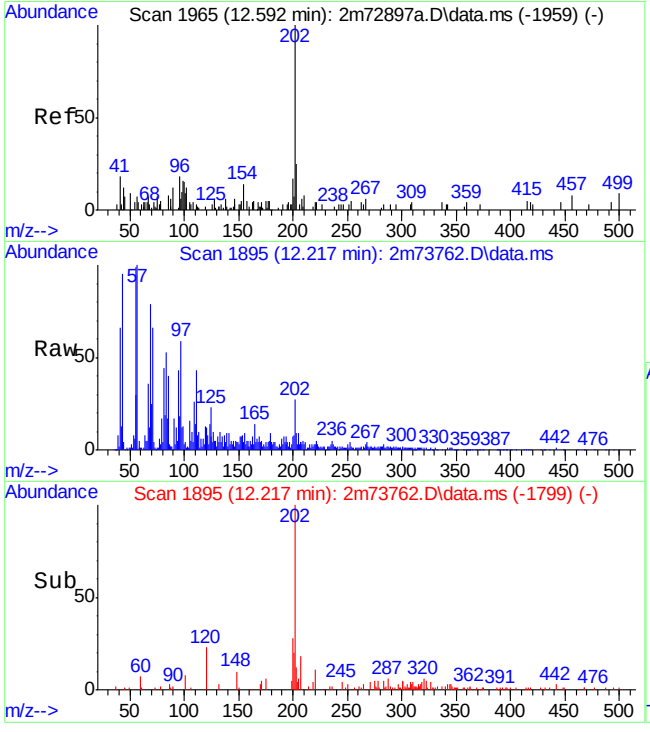


#77
Phenanthrene
Concen: 0.68 ppm
RT: 10.014 min Scan# 1483
Delta R.T. 0.011 min
Lab File: 2m73762.D
Acq: 1 May 2015 3:24 pm

Tgt Ion:178 Resp: 16471

Ion	Ratio	Lower	Upper
178	100		
179	17.8	0.0	46.0
176	22.5	0.0	49.5

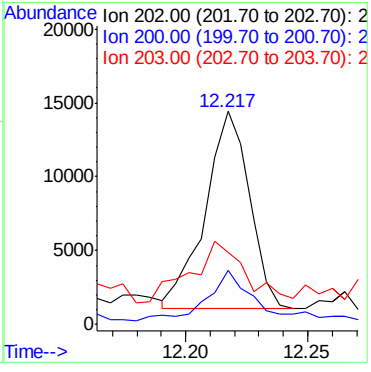




#84
Pyrene
Concen: 0.64 ppm
RT: 12.217 min Scan# 1895
Delta R.T. 0.011 min
Lab File: 2m73762.D
Acq: 1 May 2015 3:24 pm

Tgt Ion:202 Resp: 16924

Ion	Ratio	Lower	Upper
202	100		
200	22.9	0.0	50.2
203	19.7	0.0	49.0



9.1.21

9

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73763.D
Acq On : 1 May 2015 3:51 pm
Operator : ashleyn
Sample : jb93023-19
Misc : op83421,e2m3173,30.6
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 03 19:15:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.659	152	267090	40.00 ppm	0.00
24) Naphthalene-d8	5.745	136	952765	40.00 ppm	0.01
47) Acenaphthene-d10	7.804	164	551899	40.00 ppm	0.00
69) Phenanthrene-d10	9.971	188	956493	40.00 ppm	0.00
83) Chrysene-d12	14.142	240	856428	40.00 ppm	0.01
92) Perylene-d12	16.255	264	827119	40.00 ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.659	152	267090	40.00 ppm	0.00
104) Acenaphthene-d10a	7.804	164	551899	40.00 ppm	0.00
106) Chrysene-d12a	14.142	240	856428	40.00 ppm	0.01
109) Phenanthrene-d10a	9.971	188	956493	40.00 ppm	0.00
112) Naphthalene-d8a	5.745	136	953663	40.00 ppm	0.01
System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	346324	35.17 ppm	0.01
Spiked Amount 50.000			Recovery	= 70.34%	
8) Phenol-d5	4.419	99	433714	35.20 ppm	0.00
Spiked Amount 50.000			Recovery	= 70.40%	
25) Nitrobenzene-d5	5.103	82	425675	37.95 ppm	0.00
Spiked Amount 50.000			Recovery	= 75.90%	
51) 2-Fluorobiphenyl	6.933	172	768624	39.10 ppm	0.00
Spiked Amount 50.000			Recovery	= 78.20%	
73) 2,4,6-Tribromophenol	8.938	330	103082	36.76 ppm	0.00
Spiked Amount 50.000			Recovery	= 73.52%	
85) Terphenyl-d14	12.516	244	837672	43.88 ppm	0.01
Spiked Amount 50.000			Recovery	= 87.76%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) 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

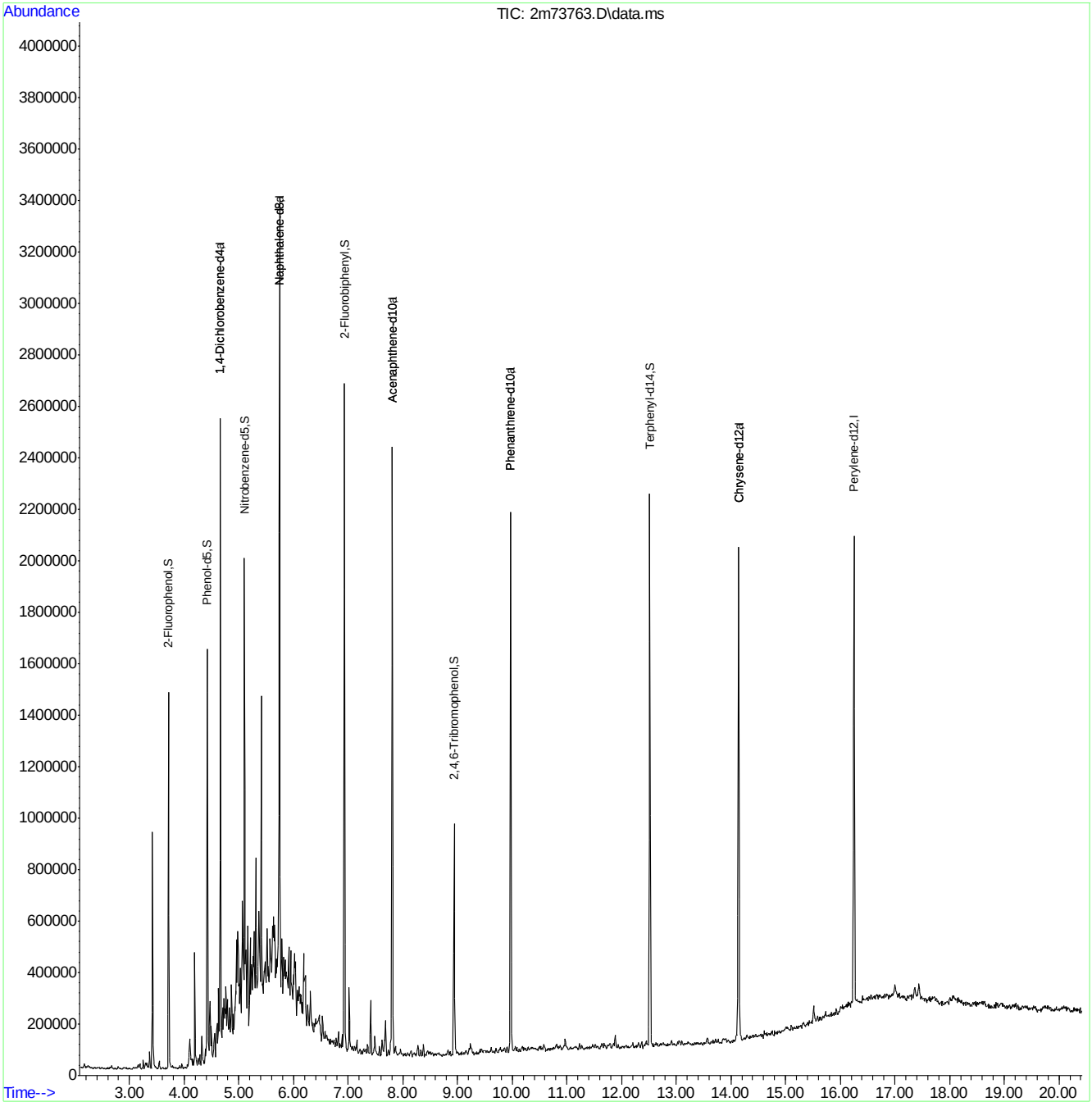
9.1.22

9

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73763.D
Acq On : 1 May 2015 3:51 pm
Operator : ashleyn
Sample : jb93023-19
Misc : op83421,e2m3173,30.6
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 03 19:15:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73764.D
Acq On : 1 May 2015 4:17 pm
Operator : ashleyn
Sample : jb93023-20
Misc : op83421,e2m3173,30.0
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 03 19:20:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.659	152	268983	40.00 ppm	0.00
24) Naphthalene-d8	5.745	136	964602	40.00 ppm	0.01
47) Acenaphthene-d10	7.804	164	569379	40.00 ppm	0.00
69) Phenanthrene-d10	9.971	188	976680	40.00 ppm	0.00
83) Chrysene-d12	14.143	240	866602	40.00 ppm	0.01
92) Perylene-d12	16.255	264	846428	40.00 ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.659	152	268983	40.00 ppm	0.00
104) Acenaphthene-d10a	7.804	164	569379	40.00 ppm	0.00
106) Chrysene-d12a	14.143	240	866602	40.00 ppm	0.01
109) Phenanthrene-d10a	9.971	188	976680	40.00 ppm	0.00
112) Naphthalene-d8a	5.745	136	964602	40.00 ppm	0.01
System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	354142	35.71 ppm	0.01
Spiked Amount 50.000			Recovery	= 71.42%	
8) Phenol-d5	4.419	99	459875	37.06 ppm	0.00
Spiked Amount 50.000			Recovery	= 74.12%	
25) Nitrobenzene-d5	5.103	82	443140	39.02 ppm	0.00
Spiked Amount 50.000			Recovery	= 78.04%	
51) 2-Fluorobiphenyl	6.933	172	818711	40.37 ppm	0.00
Spiked Amount 50.000			Recovery	= 80.74%	
73) 2,4,6-Tribromophenol	8.938	330	118403	41.35 ppm	0.00
Spiked Amount 50.000			Recovery	= 82.70%	
85) Terphenyl-d14	12.517	244	869059	44.99 ppm	0.01
Spiked Amount 50.000			Recovery	= 89.98%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
Target Compounds					Qvalue
84) Pyrene	12.206	202	11752	0.40 ppm	86

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

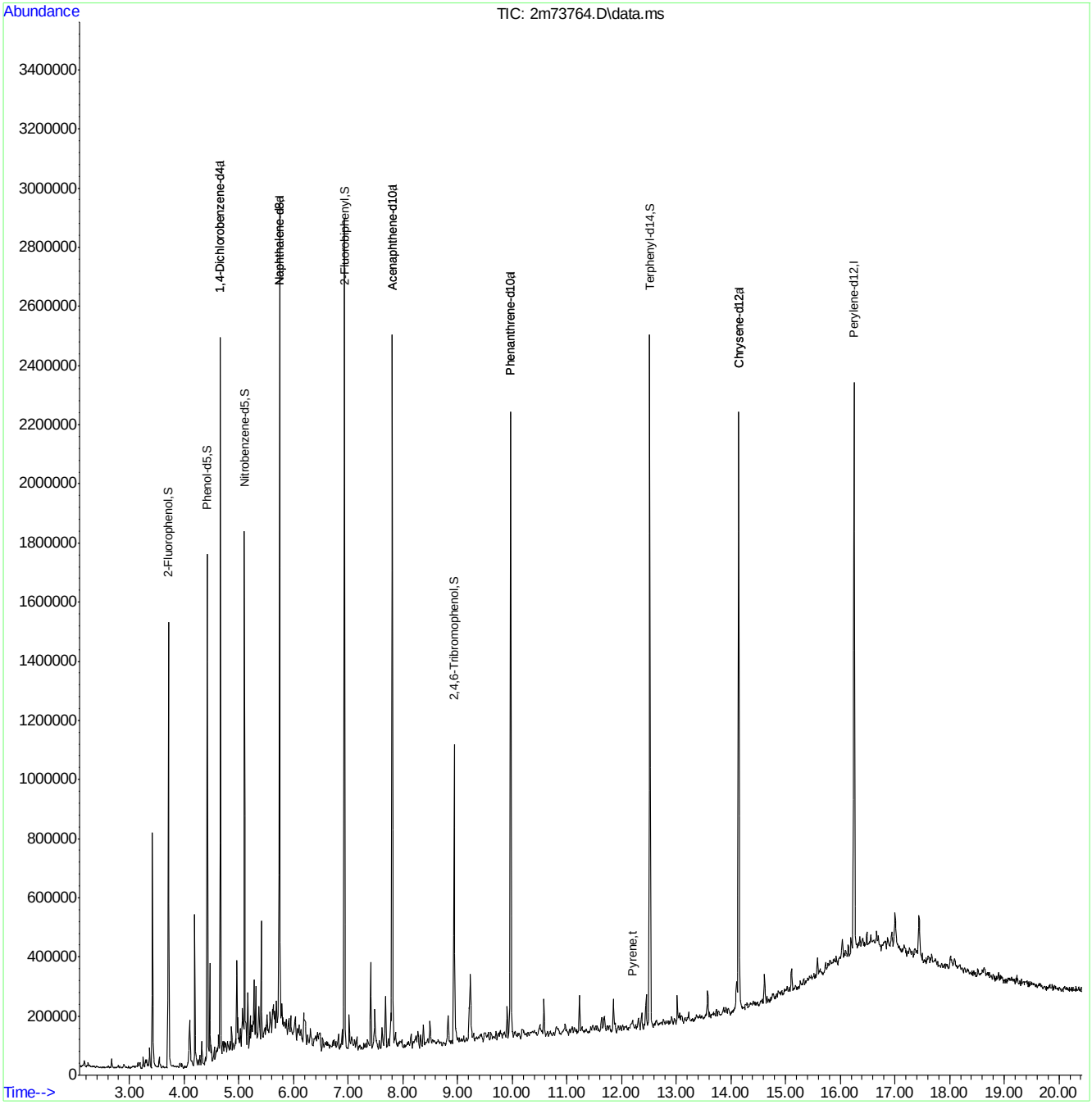
9.1.23

9

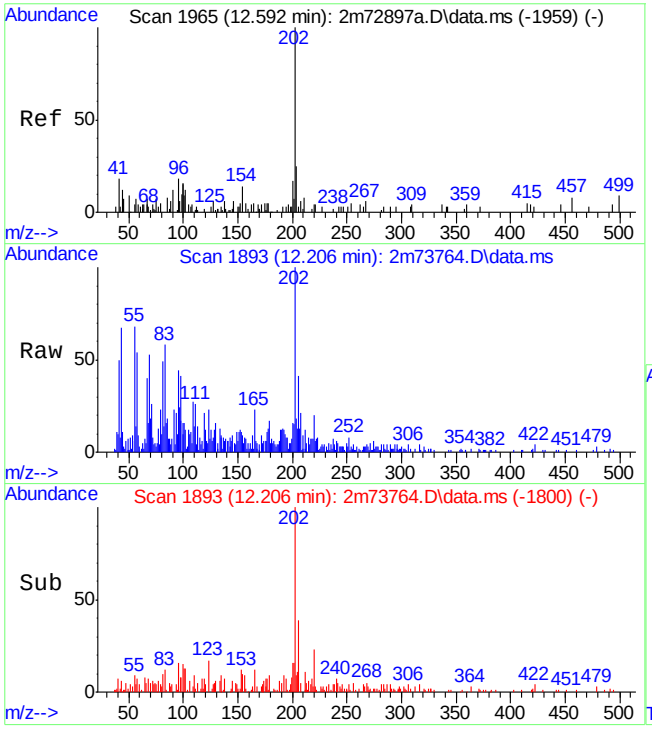
Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73764.D
Acq On : 1 May 2015 4:17 pm
Operator : ashleyn
Sample : jb93023-20
Misc : op83421,e2m3173,30.0
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 03 19:20:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration



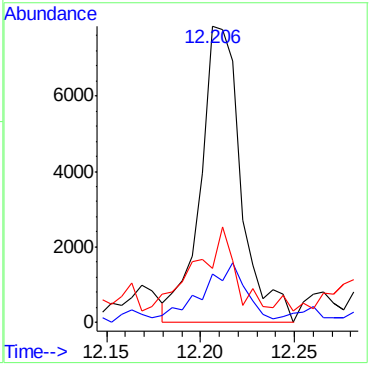
M2M3171.M Sun May 03 19:20:10 2015 ACC-VOA-DESK4 Page: 2



#84
Pyrene
Concen: 0.40 ppm
RT: 12.206 min Scan# 1893
Delta R.T. 0.000 min
Lab File: 2m73764.D
Acq: 1 May 2015 4:17 pm

Tgt Ion:202 Resp: 11752

Ion	Ratio	Lower	Upper
202	100		
200	14.3	0.0	50.2
203	12.0	0.0	49.0



9.1.23

9

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73765.D
Acq On : 1 May 2015 4:44 pm
Operator : ashleyn
Sample : jb93023-21
Misc : op83421,e2m3173,30.0
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 03 19:23:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.660	152	273876	40.00 ppm	0.00
24) Naphthalene-d8	5.745	136	941449	40.00 ppm	0.01
47) Acenaphthene-d10	7.805	164	556276	40.00 ppm	0.00
69) Phenanthrene-d10	9.976	188	948427	40.00 ppm	0.01
83) Chrysene-d12	14.143	240	846222	40.00 ppm	0.01
92) Perylene-d12	16.255	264	825743	40.00 ppm	0.01
102) 1,4-Dichlorobenzene-d4a	4.660	152	273876	40.00 ppm	0.00
104) Acenaphthene-d10a	7.805	164	556276	40.00 ppm	0.00
106) Chrysene-d12a	14.143	240	846222	40.00 ppm	0.01
109) Phenanthrene-d10a	9.976	188	948427	40.00 ppm	0.01
112) Naphthalene-d8a	5.745	136	941449	40.00 ppm	0.01
System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	346395	34.31 ppm	0.01
Spiked Amount 50.000			Recovery	= 68.62%	
8) Phenol-d5	4.419	99	447431	35.41 ppm	0.00
Spiked Amount 50.000			Recovery	= 70.82%	
25) Nitrobenzene-d5	5.104	82	437074	39.43 ppm	0.00
Spiked Amount 50.000			Recovery	= 78.86%	
51) 2-Fluorobiphenyl	6.933	172	814705	41.12 ppm	0.00
Spiked Amount 50.000			Recovery	= 82.24%	
73) 2,4,6-Tribromophenol	8.938	330	108723	39.10 ppm	0.00
Spiked Amount 50.000			Recovery	= 78.20%	
85) Terphenyl-d14	12.517	244	880505	46.68 ppm	0.01
Spiked Amount 50.000			Recovery	= 93.36%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	

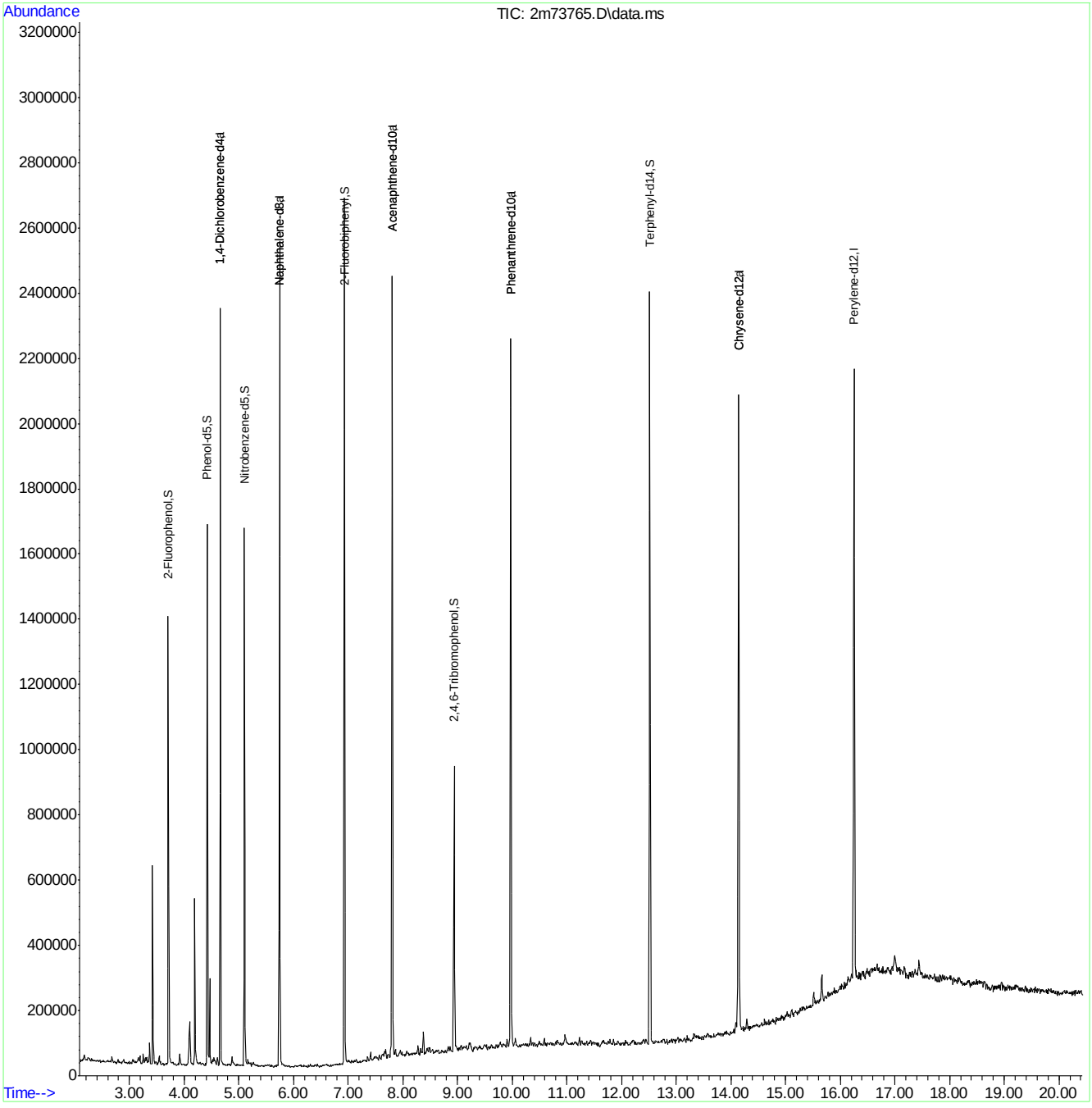
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\acslims\e2m3173\
Data File : 2m73765.D
Acq On : 1 May 2015 4:44 pm
Operator : ashleyn
Sample : jb93023-21
Misc : op83421,e2m3173,30.0
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 03 19:23:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Kristi Schollenberger 05/04/15 14:40

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3173\
Data File : 2m73768.D
Acq On : 1 May 2015 6:04 pm
Operator : ashleyn
Sample : jb93023-22
Misc : op83421,e2m3173,30.0
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 04 14:31:09 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.665	152	225893	40.00 ppm	0.01
24) Naphthalene-d8	5.750	136	982752	40.00 ppm	0.02
47) Acenaphthene-d10	7.826	164	607508	40.00 ppm	0.03
69) Phenanthrene-d10	10.008	188	1034798	40.00 ppm	0.04
83) Chrysene-d12	14.164	240	849221	40.00 ppm	0.03
92) Perylene-d12	16.271	264	843555	40.00 ppm	0.03
102) 1,4-Dichlorobenzene-d4a	4.665	152	225893	40.00 ppm	0.01
104) Acenaphthene-d10a	7.826	164	607508	40.00 ppm	0.03
106) Chrysene-d12a	14.164	240	849221	40.00 ppm	0.03
109) Phenanthrene-d10a	10.008	188	1034798	40.00 ppm	0.04
112) Naphthalene-d8a	5.750	136	981918	40.00 ppm	0.02

System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	340505	40.89 ppm	0.01
Spiked Amount 50.000			Recovery	= 81.78%	
8) Phenol-d5	4.424	99	414191	39.74 ppm	0.01
Spiked Amount 50.000			Recovery	= 79.48%	
25) Nitrobenzene-d5	5.103	82	433772	37.49 ppm	0.00
Spiked Amount 50.000			Recovery	= 74.98%	
51) 2-Fluorobiphenyl	6.943	172	712894	32.95 ppm	0.02
Spiked Amount 50.000			Recovery	= 65.90%	
73) 2,4,6-Tribromophenol	8.965	330	91235	30.07 ppm	0.03
Spiked Amount 50.000			Recovery	= 60.14%	
85) Terphenyl-d14	12.549	244	770335	40.70 ppm	0.04
Spiked Amount 50.000			Recovery	= 81.40%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	

Target Compounds					Qvalue
77) Phenanthrene	10.040	178	57509	1.94 ppm	95
84) Pyrene	12.244	202	132614	4.65 ppm	96
88) Benzo[a]anthracene	14.142	228	12297m	0.47 ppm	
90) Chrysene	14.185	228	40131	1.64 ppm	97
94) Benzo[b]fluoranthene	15.747	252	13247	0.47 ppm	92
96) Benzo[a]pyrene	16.186	252	14637	0.60 ppm	74
101) Benzo[g,h,i]perylene	18.197	276	16929	0.73 ppm	81

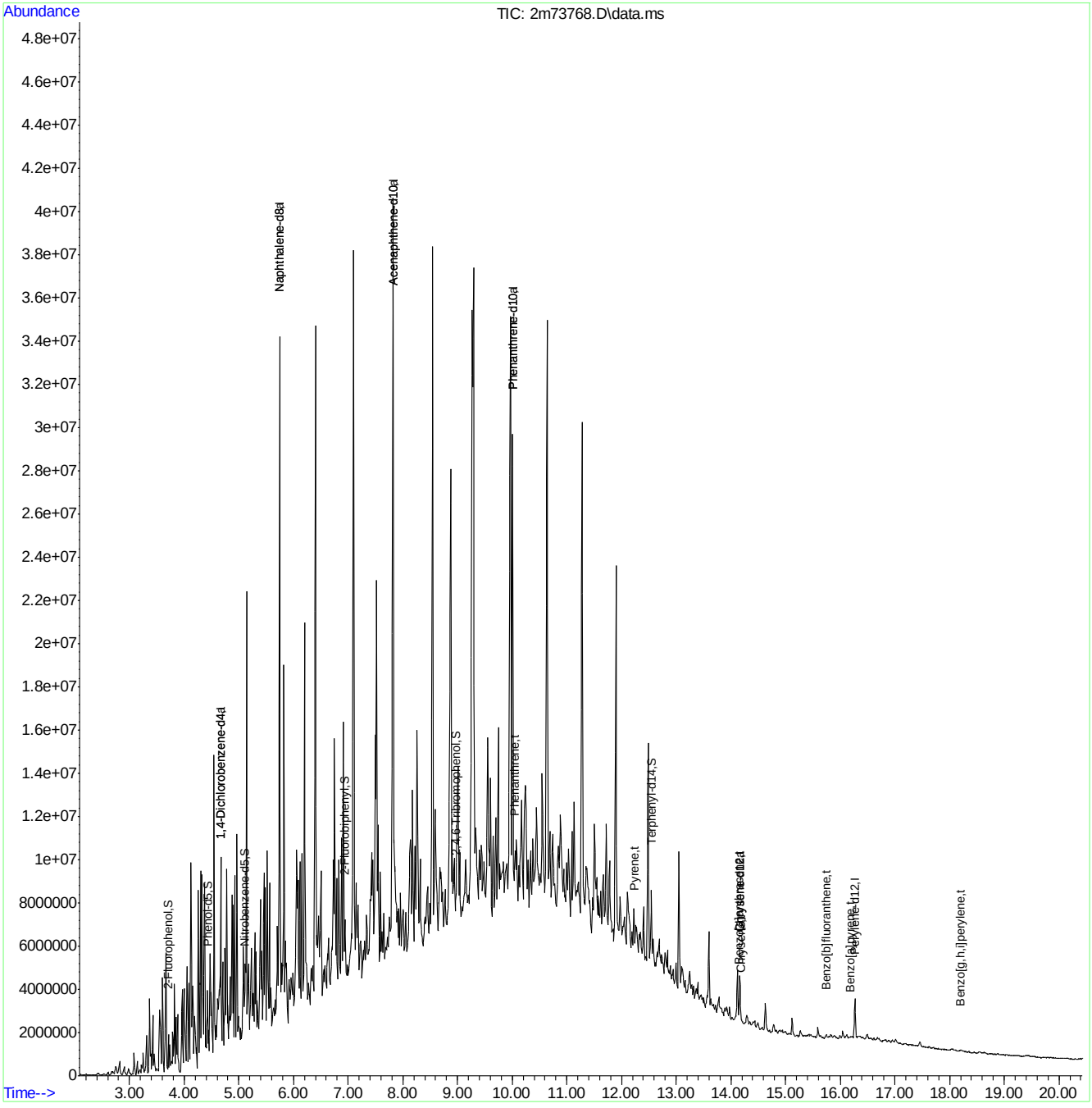
(#) = qualifier out of range (m) = manual integration (+) = signals summed

9.1.25
9

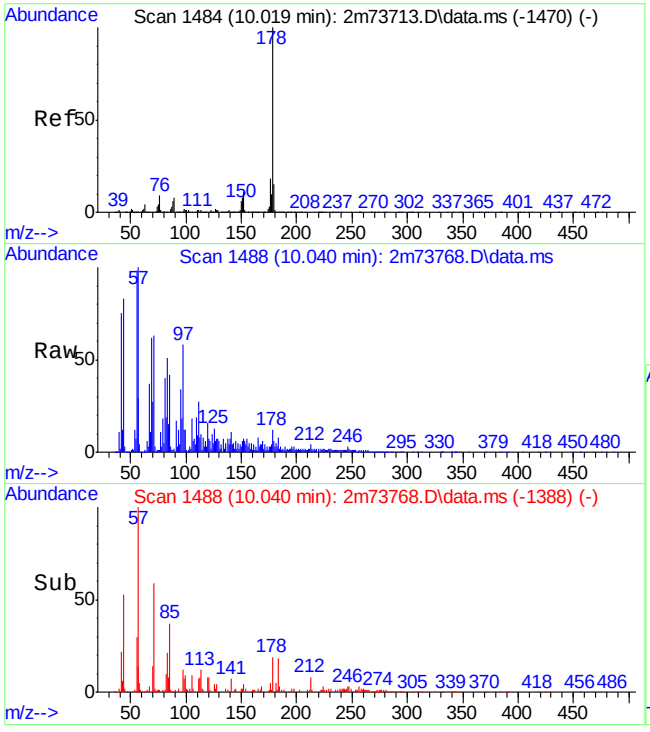
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3173\
Data File : 2m73768.D
Acq On : 1 May 2015 6:04 pm
Operator : ashleyn
Sample : jb93023-22
Misc : op83421,e2m3173,30.0
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 04 14:31:09 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Sun May 03 18:29:27 2015
QLast Update : Sun May 03 18:29:27 2015
Response via : Initial Calibration



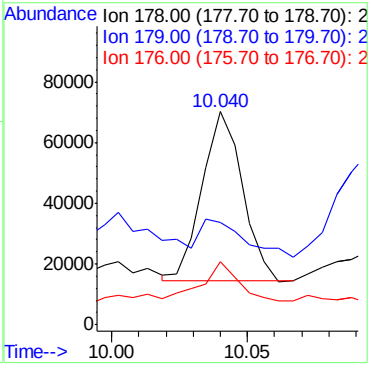
M2M3171.M Mon May 04 14:31:13 2015 Page: 2

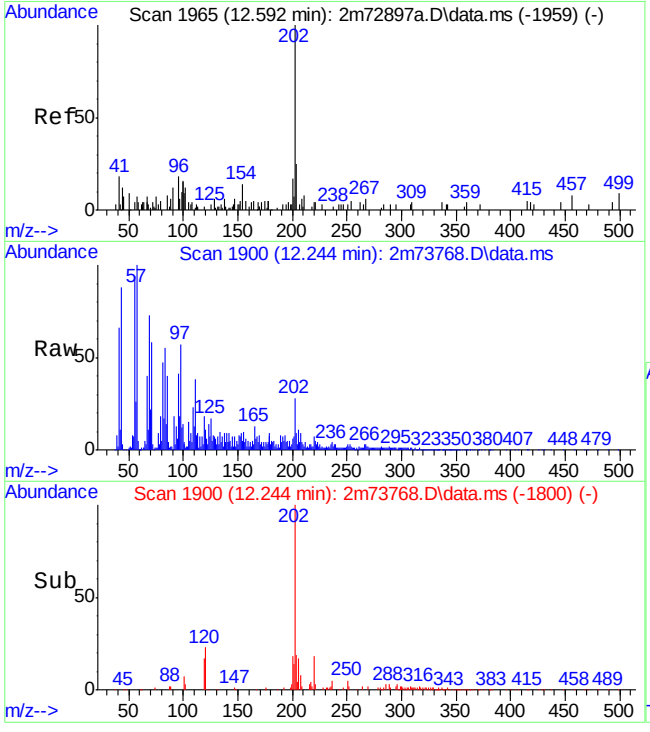


#77
Phenanthrene
Concen: 1.94 ppm
RT: 10.040 min Scan# 1488
Delta R.T. 0.037 min
Lab File: 2m73768.D
Acq: 1 May 2015 6:04 pm

Tgt Ion:178 Resp: 57509

Ion	Ratio	Lower	Upper
178	100		
179	15.5	0.0	46.0
176	23.0	0.0	49.5

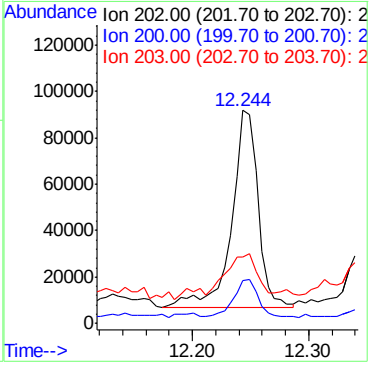




#84
Pyrene
Concen: 4.65 ppm
RT: 12.244 min Scan# 1900
Delta R.T. 0.037 min
Lab File: 2m73768.D
Acq: 1 May 2015 6:04 pm

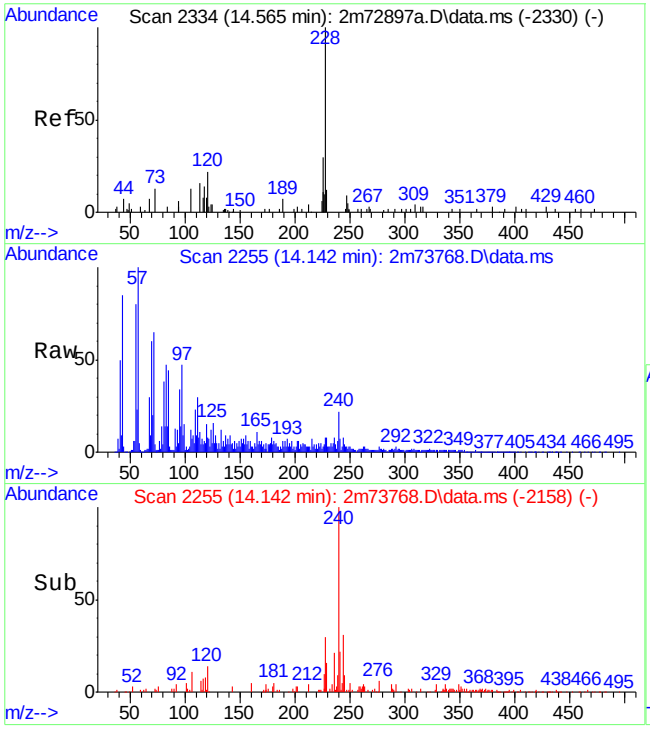
Tgt Ion:202 Resp: 132614

Ion	Ratio	Lower	Upper
202	100		
200	17.8	0.0	50.2
203	19.8	0.0	49.0



9.1.25

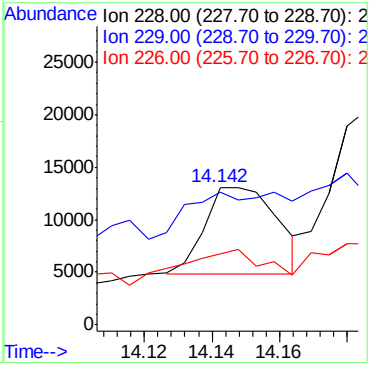
9

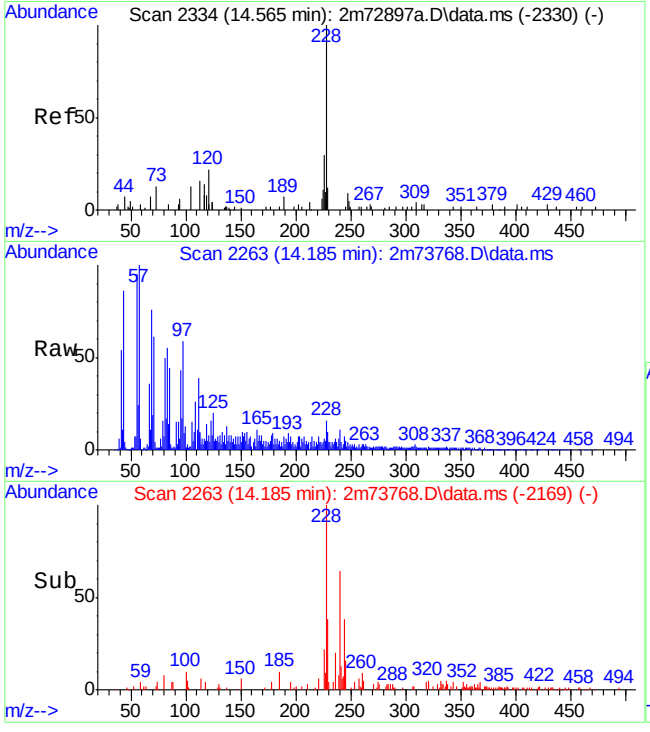


#88
Benzo[a]anthracene
Concen: 0.47 ppm m
RT: 14.142 min Scan# 2255
Delta R.T. 0.021 min
Lab File: 2m73768.D
Acq: 1 May 2015 6:04 pm

Tgt Ion:228 Resp: 12297

Ion	Ratio	Lower	Upper
228	100		
229	96.3	0.0	49.1#
226	51.4	0.0	56.2

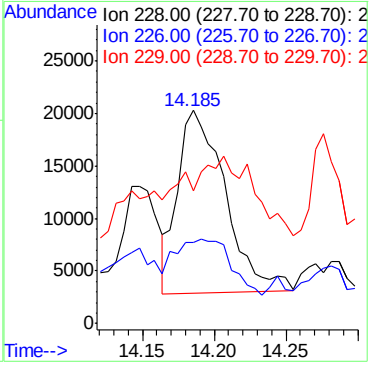


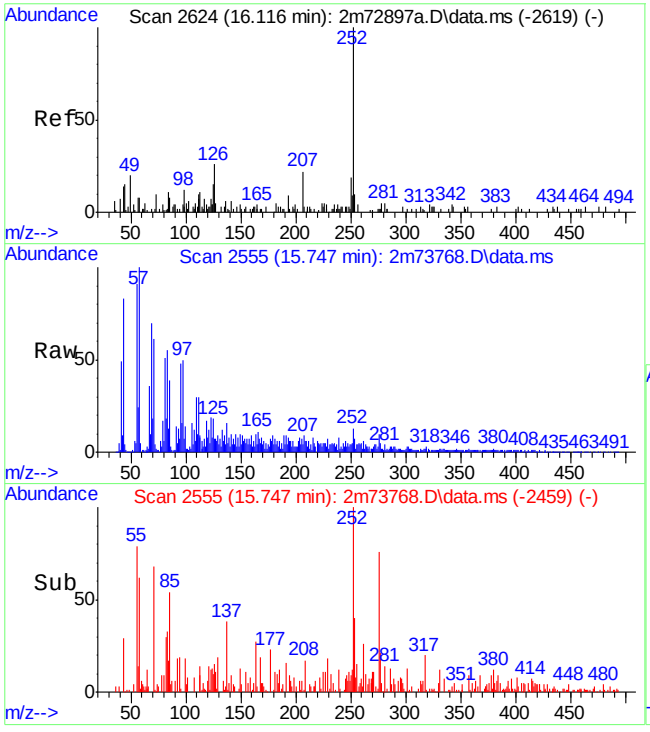


#90
Chrysene
Concen: 1.64 ppm
RT: 14.185 min Scan# 2263
Delta R.T. 0.005 min
Lab File: 2m73768.D
Acq: 1 May 2015 6:04 pm

Tgt Ion:228 Resp: 40131

Ion	Ratio	Lower	Upper
228	100		
226	26.2	0.0	57.9
229	17.7	0.0	49.3

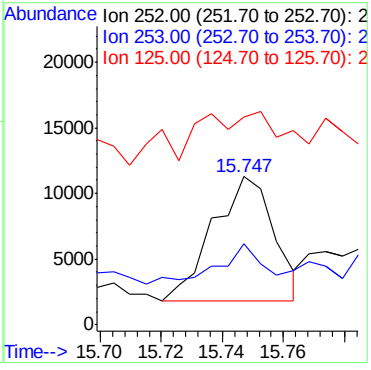


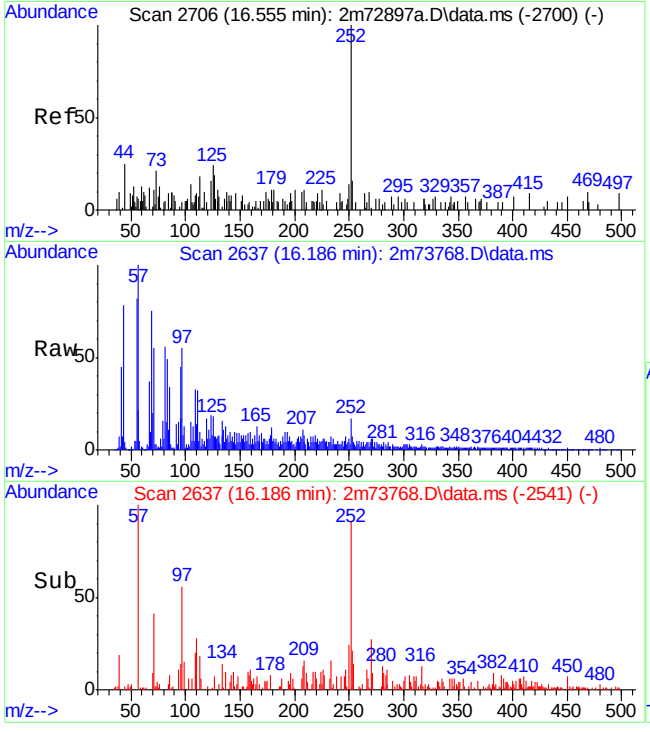


#94
Benzo[b]fluoranthene
Concen: 0.47 ppm
RT: 15.747 min Scan# 2555
Delta R.T. 0.016 min
Lab File: 2m73768.D
Acq: 1 May 2015 6:04 pm

Tgt Ion:252 Resp: 13247

Ion	Ratio	Lower	Upper
252	100		
253	27.0	0.0	52.5
125	11.4	0.0	39.4

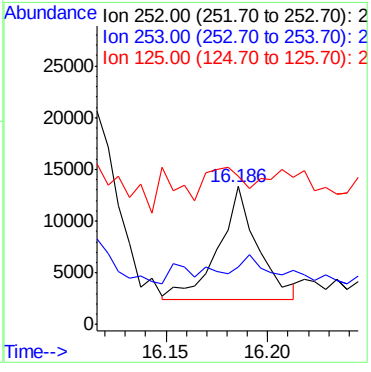


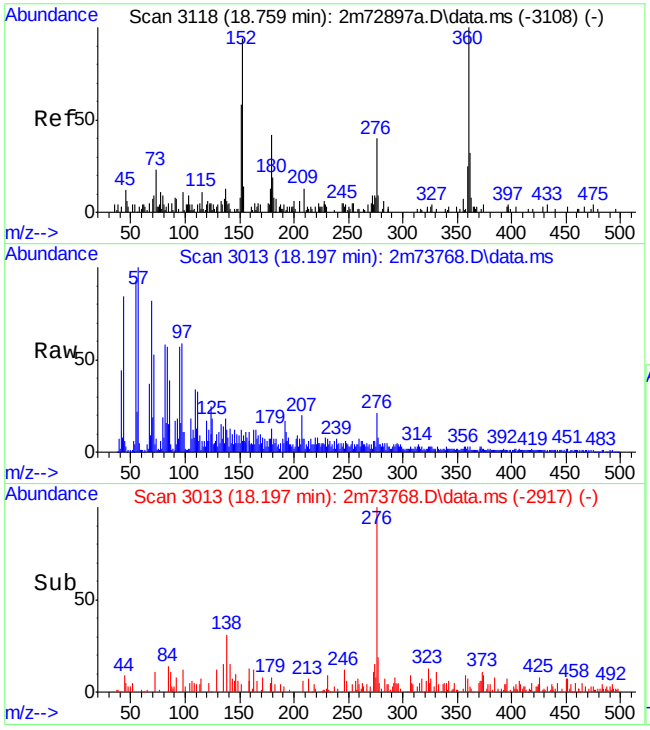


#96
Benzo[a]pyrene
Concen: 0.60 ppm
RT: 16.186 min Scan# 2637
Delta R.T. 0.016 min
Lab File: 2m73768.D
Acq: 1 May 2015 6:04 pm

Tgt Ion:252 Resp: 14637

Ion	Ratio	Lower	Upper
252	100		
253	9.9	0.0	51.9
125	0.0	0.0	40.1

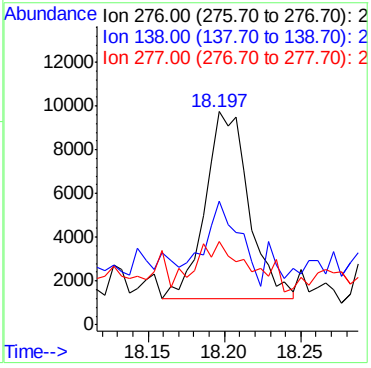




#101
Benzo[g,h,i]perylene
Concen: 0.73 ppm
RT: 18.197 min Scan# 3013
Delta R.T. 0.016 min
Lab File: 2m73768.D
Acq: 1 May 2015 6:04 pm

Tgt Ion:276 Resp: 16929

Ion	Ratio	Lower	Upper
276	100		
138	32.2	0.0	52.0
277	15.1	0.0	53.5



9.1.25

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3172\
Data File : 2m73741.D
Acq On : 1 May 2015 2:11 am
Operator : saraw
Sample : jb93023-23
Misc : op83422,e2m3172,34.0
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 01 16:34:26 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 16:09:14 2015
QLast Update : Fri May 01 16:09:14 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.665	152	237048	40.00	ppm	0.00
24) Naphthalene-d8	5.745	136	871559	40.00	ppm	0.00
47) Acenaphthene-d10	7.804	164	516729	40.00	ppm	0.00
69) Phenanthrene-d10	9.976	188	895265	40.00	ppm	0.00
83) Chrysene-d12	14.137	240	836653	40.00	ppm	-0.02
92) Perylene-d12	16.250	264	781071	40.00	ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.665	152	237048	40.00	ppm	0.00
104) Acenaphthene-d10a	7.804	164	516729	40.00	ppm	0.00
106) Chrysene-d12a	14.137	240	836653	40.00	ppm	-0.02
109) Phenanthrene-d10a	9.976	188	895265	40.00	ppm	0.00
112) Naphthalene-d8a	5.745	136	871559	40.00	ppm	0.00

System Monitoring Compounds						
5) 2-Fluorophenol	3.713	112	310378	35.52	ppm	0.00
Spiked Amount 50.000			Recovery = 71.04%			
8) Phenol-d5	4.424	99	401599	36.72	ppm	0.00
Spiked Amount 50.000			Recovery = 73.44%			
25) Nitrobenzene-d5	5.103	82	385489	37.57	ppm	0.00
Spiked Amount 50.000			Recovery = 75.14%			
51) 2-Fluorobiphenyl	6.938	172	700030	38.04	ppm	0.00
Spiked Amount 50.000			Recovery = 76.08%			
73) 2,4,6-Tribromophenol	8.938	330	99126	37.77	ppm	0.00
Spiked Amount 50.000			Recovery = 75.54%			
85) Terphenyl-d14	12.517	244	784396	42.06	ppm	0.00
Spiked Amount 50.000			Recovery = 84.12%			
108) 1-chlorooctadecane	0.000	57	0d	0.00	ppm	
Spiked Amount 50.000			Recovery = 0.00%			
111) o-terphenyl	0.000	230	0	0.00	ppm	
Spiked Amount 50.000			Recovery = 0.00%			

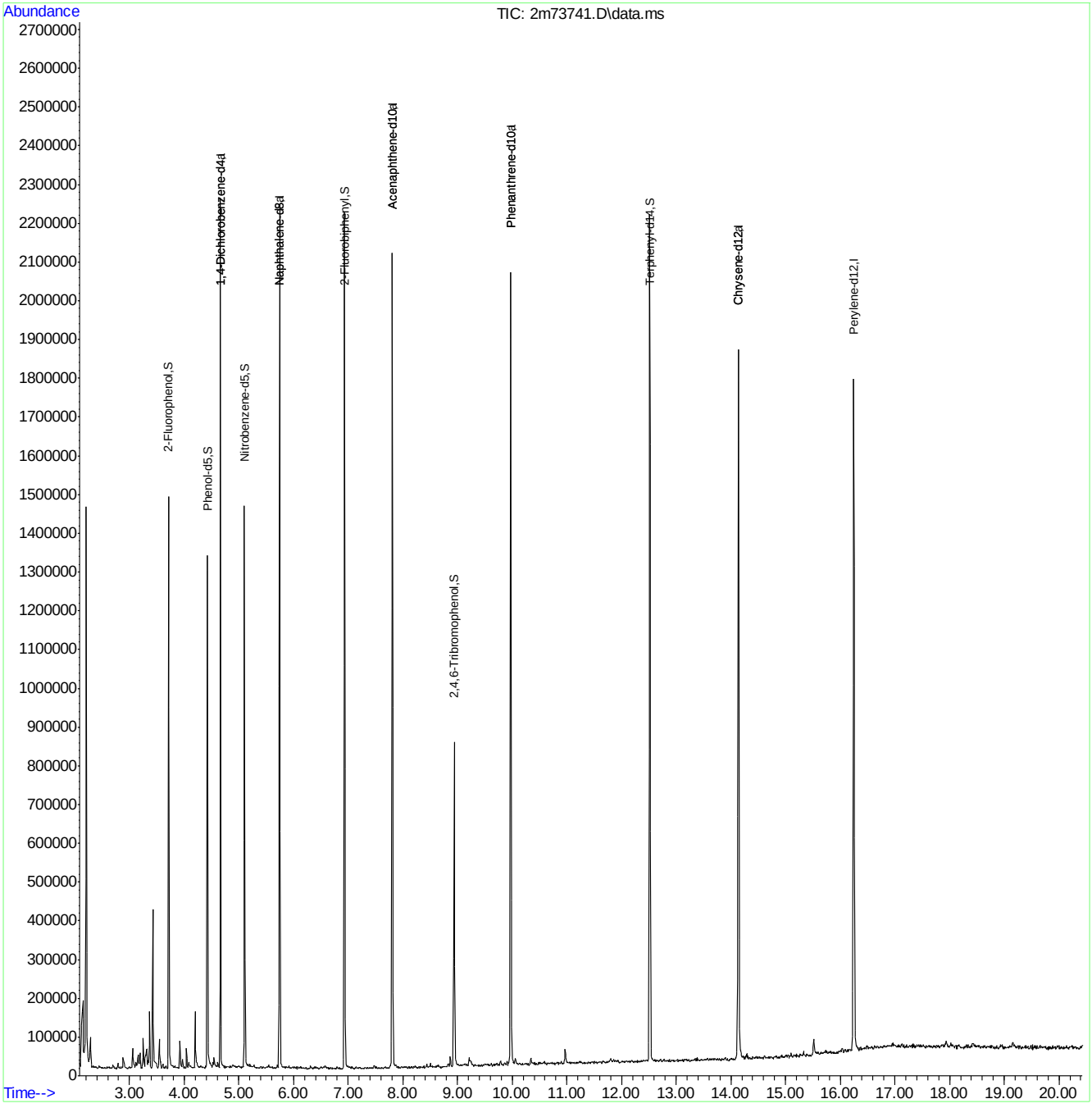
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3172\
Data File : 2m73741.D
Acq On : 1 May 2015 2:11 am
Operator : saraw
Sample : jb93023-23
Misc : op83422,e2m3172,34.0
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 01 16:34:26 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 16:09:14 2015
QLast Update : Fri May 01 16:09:14 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3172\
Data File : 2m73740.D
Acq On : 1 May 2015 1:44 am
Operator : saraw
Sample : jb93023-24
Misc : op83422,e2m3172,33.7
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 01 16:32:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 16:09:14 2015
QLast Update : Fri May 01 16:09:14 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.665	152	244785	40.00 ppm	0.00
24) Naphthalene-d8	5.751	136	890991	40.00 ppm	0.00
47) Acenaphthene-d10	7.810	164	518592	40.00 ppm	0.00
69) Phenanthrene-d10	9.976	188	886094	40.00 ppm	0.00
83) Chrysene-d12	14.143	240	792233	40.00 ppm	-0.01
92) Perylene-d12	16.250	264	738617	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.665	152	244785	40.00 ppm	0.00
104) Acenaphthene-d10a	7.810	164	518592	40.00 ppm	0.00
106) Chrysene-d12a	14.143	240	792233	40.00 ppm	-0.01
109) Phenanthrene-d10a	9.976	188	886094	40.00 ppm	0.00
112) Naphthalene-d8a	5.751	136	890991	40.00 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	3.713	112	288329	31.95 ppm	0.00
Spiked Amount 50.000			Recovery	= 63.90%	
8) Phenol-d5	4.424	99	372479	32.98 ppm	0.00
Spiked Amount 50.000			Recovery	= 65.96%	
25) Nitrobenzene-d5	5.103	82	364945	34.79 ppm	0.00
Spiked Amount 50.000			Recovery	= 69.58%	
51) 2-Fluorobiphenyl	6.933	172	664136	35.96 ppm	0.00
Spiked Amount 50.000			Recovery	= 71.92%	
73) 2,4,6-Tribromophenol	8.938	330	89737	34.54 ppm	0.00
Spiked Amount 50.000			Recovery	= 69.08%	
85) Terphenyl-d14	12.517	244	716849	40.60 ppm	0.00
Spiked Amount 50.000			Recovery	= 81.20%	
108) 1-chlorooctadecane	0.000	57	0d	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	

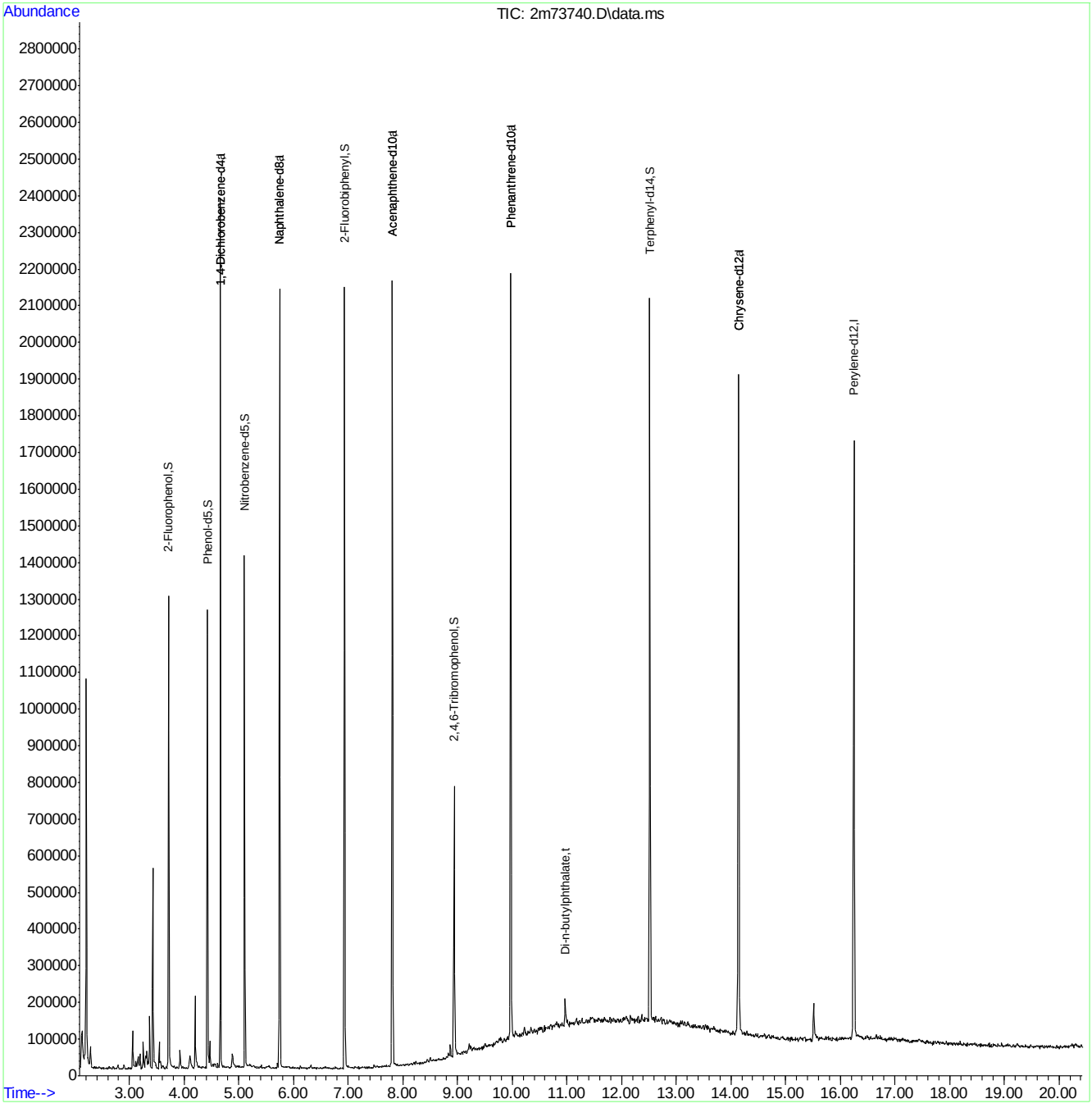
Target Compounds					Qvalue
80) Di-n-butylphthalate	10.976	149	30816	1.01 ppm	97

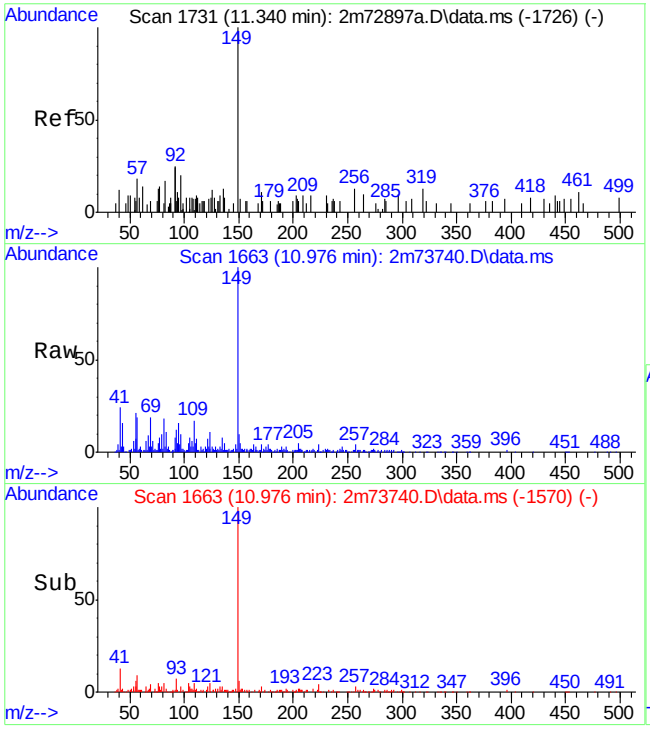
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3172\
Data File : 2m73740.D
Acq On : 1 May 2015 1:44 am
Operator : saraw
Sample : jb93023-24
Misc : op83422,e2m3172,33.7
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 01 16:32:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 16:09:14 2015
QLast Update : Fri May 01 16:09:14 2015
Response via : Initial Calibration

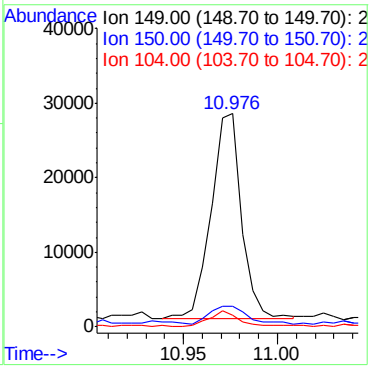




#80
Di-n-butylphthalate
Concen: 1.01 ppm
RT: 10.976 min Scan# 1663
Delta R.T. -0.000 min
Lab File: 2m73740.D
Acq: 1 May 2015 1:44 am

Tgt Ion:149 Resp: 30816

Ion	Ratio	Lower	Upper
149	100		
150	8.1	0.0	38.9
104	4.8	0.0	36.2



9.1.27

9

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3165\
Data File : 2m73591.D
Acq On : 27 Apr 2015 12:08 pm
Operator : ashleyn
Sample : op83421-mb1
Misc : op83421,e2m3165,30.0
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 27 15:10:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Apr 22 16:54:46 2015
QLast Update : Wed Apr 22 16:54:46 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.718	152	533638	40.00 ppm	-0.06
24) Naphthalene-d8	5.809	136	2096065	40.00 ppm	-0.09
47) Acenaphthene-d10	7.885	164	1115365	40.00 ppm	-0.10
69) Phenanthrene-d10	10.056	188	1729498	40.00 ppm	-0.11
83) Chrysene-d12	14.228	240	1435439	40.00 ppm	-0.12
92) Perylene-d12	16.336	264	1294573	40.00 ppm	-0.13
102) 1,4-Dichlorobenzene-d4a	4.718	152	533638	40.00 ppm	-0.06
104) Acenaphthene-d10a	7.885	164	1115365	40.00 ppm	-0.10
106) Chrysene-d12a	14.228	240	1435439	40.00 ppm	-0.12
108) Phenanthrene-d10a	10.056	188	1729498	40.00 ppm	-0.11
110) Naphthalene-d8a	5.809	136	2096065	40.00 ppm	-0.09

System Monitoring Compounds					
5) 2-Fluorophenol	3.766	112	795127	39.29 ppm	-0.06
Spiked Amount 50.000			Recovery	= 78.58%	
8) Phenol-d5	4.472	99	1008748	38.99 ppm	-0.06
Spiked Amount 50.000			Recovery	= 77.98%	
25) Nitrobenzene-d5	5.162	82	881677	45.03 ppm	-0.07
Spiked Amount 50.000			Recovery	= 90.06%	
51) 2-Fluorobiphenyl	7.008	172	1522889	43.71 ppm	-0.09
Spiked Amount 50.000			Recovery	= 87.42%	
73) 2,4,6-Tribromophenol	9.019	330	193415	54.80 ppm	-0.11
Spiked Amount 50.000			Recovery	= 109.60%	
85) Terphenyl-d14	12.602	244	1456194	50.53 ppm	-0.11
Spiked Amount 50.000			Recovery	= 101.06%	

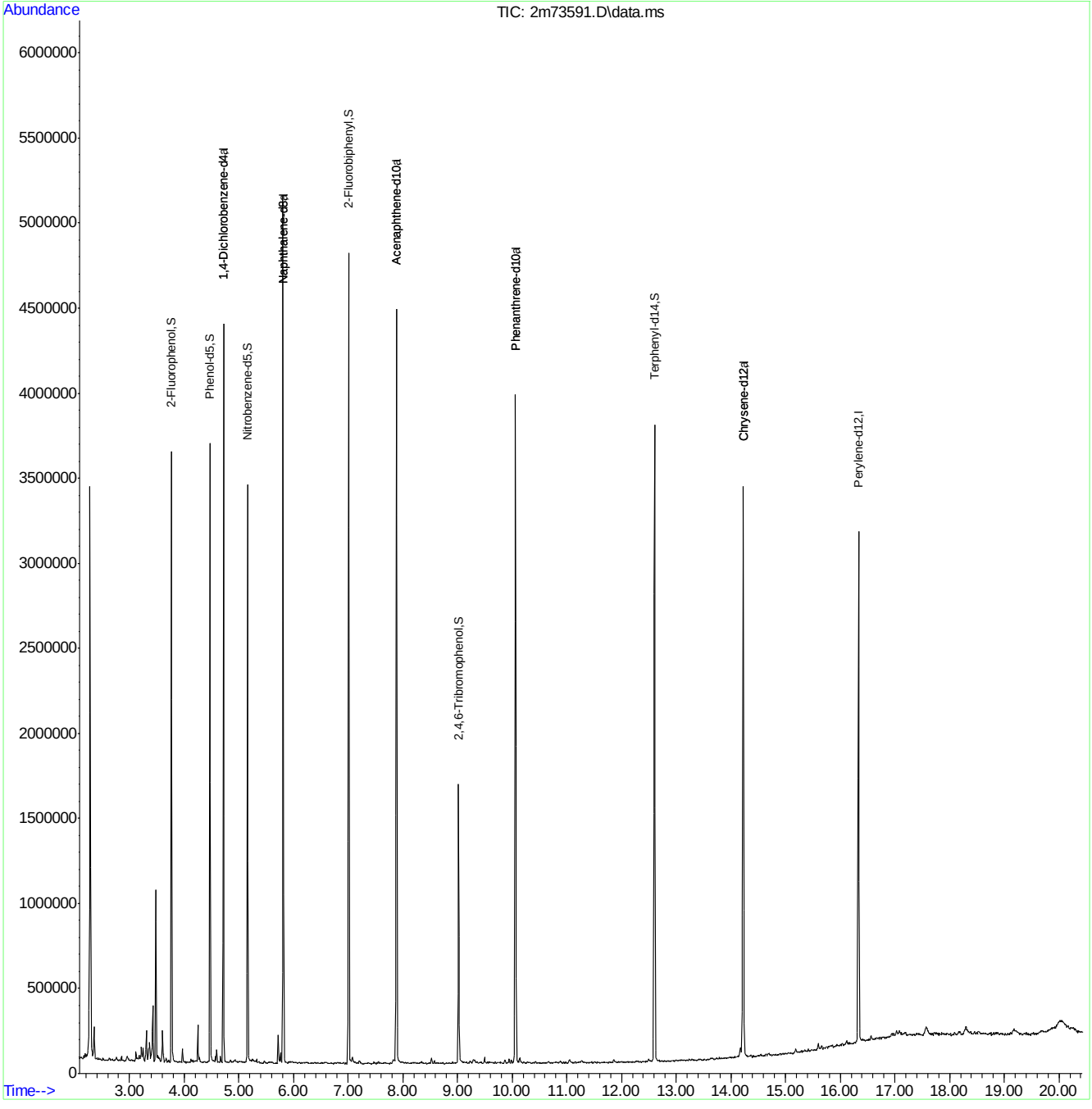
Target Compounds Qvalue

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

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3165\
Data File : 2m73591.D
Acq On : 27 Apr 2015 12:08 pm
Operator : ashleyn
Sample : op83421-mb1
Misc : op83421,e2m3165,30.0
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 27 15:10:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3137.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Wed Apr 22 16:54:46 2015
QLast Update : Wed Apr 22 16:54:46 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3172\
Data File : 2m73727.D
Acq On : 30 Apr 2015 7:52 pm
Operator : saraw
Sample : op83422-mb1
Misc : op83422,e2m3172,30.0
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 01 15:42:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 09:45:41 2015
QLast Update : Fri May 01 09:55:50 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.665	152	289704	40.00 ppm	0.00
24) Naphthalene-d8	5.745	136	1058935	40.00 ppm	0.00
47) Acenaphthene-d10	7.804	164	612739	40.00 ppm	0.00
69) Phenanthrene-d10	9.976	188	998025	40.00 ppm	0.00
83) Chrysene-d12	14.142	240	951604	40.00 ppm	0.00
92) Perylene-d12	16.250	264	865264	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.665	152	289704	40.00 ppm	0.00
104) Acenaphthene-d10a	7.804	164	612739	40.00 ppm	0.00
106) Chrysene-d12a	14.142	240	951604	40.00 ppm	0.00
109) Phenanthrene-d10a	9.976	188	998025	40.00 ppm	0.00
112) Naphthalene-d8a	5.745	136	1058935	40.00 ppm	0.00

System Monitoring Compounds					
5) 2-Fluorophenol	3.707	112	370229	34.67 ppm	0.00
Spiked Amount 50.000			Recovery	= 69.34%	
8) Phenol-d5	4.419	99	459756	34.40 ppm	0.00
Spiked Amount 50.000			Recovery	= 68.80%	
25) Nitrobenzene-d5	5.103	82	454486	36.45 ppm	0.00
Spiked Amount 50.000			Recovery	= 72.90%	
51) 2-Fluorobiphenyl	6.933	172	801647	36.73 ppm	0.00
Spiked Amount 50.000			Recovery	= 73.46%	
73) 2,4,6-Tribromophenol	8.938	330	112351	38.40 ppm	0.00
Spiked Amount 50.000			Recovery	= 76.80%	
85) Terphenyl-d14	12.517	244	848130	39.99 ppm	0.00
Spiked Amount 50.000			Recovery	= 79.98%	
108) 1-chlorooctadecane	0.000	57	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
111) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	

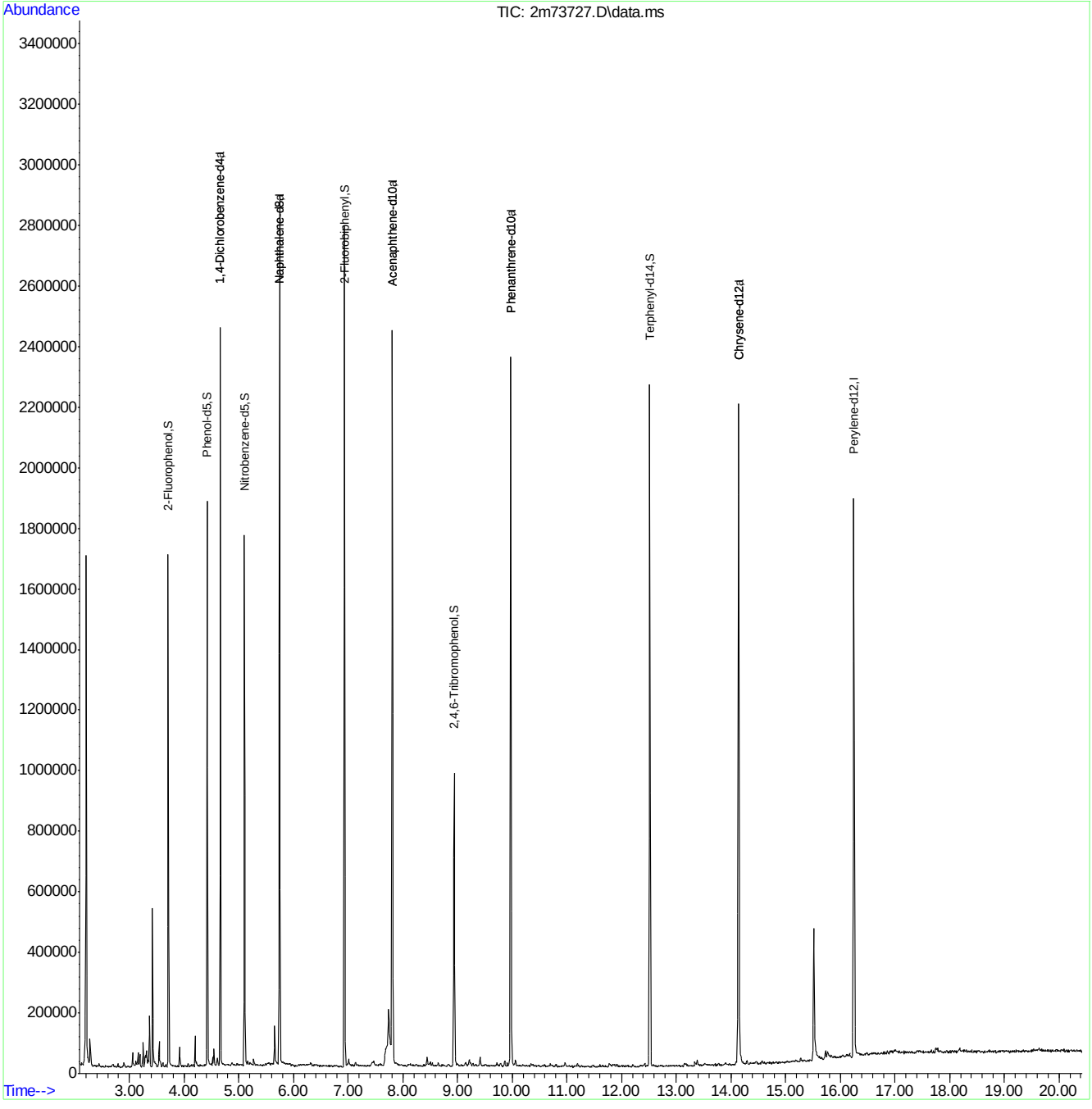
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e2m3172\
Data File : 2m73727.D
Acq On : 30 Apr 2015 7:52 pm
Operator : saraw
Sample : op83422-mb1
Misc : op83422,e2m3172,30.0
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 01 15:42:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M2M3171.M
Quant Title : Semi Volatile GC/MS, rtx-5msi30mx .25mmx .25umMon Fri May 01 09:45:41 2015
QLast Update : Fri May 01 09:55:50 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB93023

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3098\
Data File : 3E71730.D
Acq On : 29 Apr 2015 12:25 pm
Operator : ashleyn
Sample : op83421-mb1
Misc : op83421,e3e3098,30.0
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 29 12:57:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 16 17:12:46 2015
QLast Update : Thu Apr 16 17:12:46 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.679	152	290308	40.00 ppm	-0.03
24) Naphthalene-d8	5.765	136	1116808	40.00 ppm	-0.04
47) Acenaphthene-d10	7.834	164	600759	40.00 ppm	-0.05
69) Phenanthrene-d10	10.011	188	897599	40.00 ppm	-0.05
83) Chrysene-d12	14.199	240	790019	40.00 ppm	-0.05
92) Perylene-d12	16.323	264	763332	40.00 ppm	-0.04
102) 1,4-Dichlorobenzene-d4a	4.679	152	290308	40.00 ppm	-0.03
104) Acenaphthene-d10a	7.834	164	600759	40.00 ppm	-0.05
106) Phenanthrene-d10a	10.011	188	897599	40.00 ppm	-0.05
108) Chrysene-d12a	14.199	240	790019	40.00 ppm	-0.05
110) Naphthalene-d8a	5.765	136	1116808	40.00 ppm	-0.04
112) Chrysene-d12b	14.199	240	790019	40.00 ppm	-0.05

System Monitoring Compounds					
5) 2-Fluorophenol	3.727	112	353295	38.10 ppm	-0.02
Spiked Amount 50.000			Recovery = 76.20%		
8) Phenol-d5	4.438	99	441615	37.60 ppm	-0.02
Spiked Amount 50.000			Recovery = 75.20%		
25) Nitrobenzene-d5	5.123	82	429353	39.88 ppm	-0.03
Spiked Amount 50.000			Recovery = 79.76%		
51) 2-Fluorobiphenyl	6.957	172	848394	44.23 ppm	-0.05
Spiked Amount 50.000			Recovery = 88.46%		
73) 2,4,6-Tribromophenol	8.974	330	88472	40.98 ppm	-0.04
Spiked Amount 50.000			Recovery = 81.96%		
85) Terphenyl-d14	12.563	244	784753	50.55 ppm	-0.05
Spiked Amount 50.000			Recovery = 101.10%		

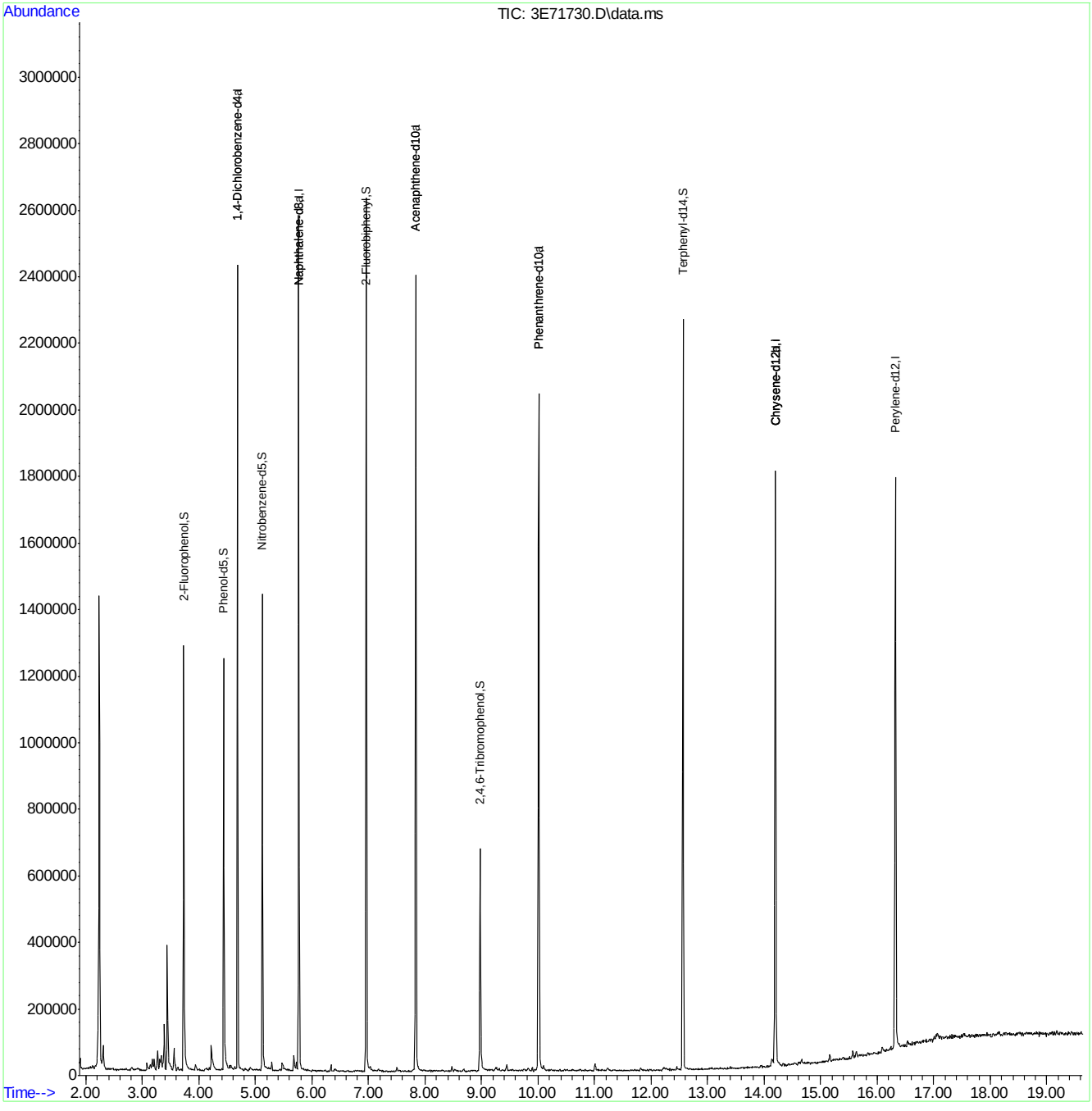
Target Compounds Qvalue

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

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3098\
Data File : 3E71730.D
Acq On : 29 Apr 2015 12:25 pm
Operator : ashleyn
Sample : op83421-mb1
Misc : op83421,e3e3098,30.0
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 29 12:57:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 16 17:12:46 2015
QLast Update : Thu Apr 16 17:12:46 2015
Response via : Initial Calibration



M3E3055.M Wed Apr 29 12:58:20 2015 MS3E

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71759.D
Acq On : 30 Apr 2015 1:42 am
Operator : sarad
Sample : op83412-mb1
Misc : op83412,e3e3099,30.0,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 30 12:24:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.673	152	264065	40.00 ppm	0.00
24) Naphthalene-d8	5.759	136	1024151	40.00 ppm	0.00
47) Acenaphthene-d10	7.829	164	546503	40.00 ppm	0.00
69) Phenanthrene-d10	10.006	188	852805	40.00 ppm	0.00
83) Chrysene-d12	14.194	240	758799	40.00 ppm	-0.01
92) Perylene-d12	16.317	264	735042	40.00 ppm	0.00
102) 1,4-Dichlorobenzene-d4a	4.673	152	264065	40.00 ppm	0.00
104) Acenaphthene-d10a	7.829	164	546503	40.00 ppm	0.00
106) Phenanthrene-d10a	10.006	188	852805	40.00 ppm	0.00
108) Chrysene-d12a	14.194	240	758799	40.00 ppm	-0.01
110) Naphthalene-d8a	5.759	136	1024151	40.00 ppm	0.00
112) Chrysene-d12b	14.194	240	758799	40.00 ppm	-0.01

System Monitoring Compounds					
5) 2-Fluorophenol	3.721	112	297313	35.25 ppm	0.00
Spiked Amount 50.000			Recovery = 70.50%		
8) Phenol-d5	4.433	99	348027	32.58 ppm	0.00
Spiked Amount 50.000			Recovery = 65.16%		
25) Nitrobenzene-d5	5.117	82	330341	33.46 ppm	0.00
Spiked Amount 50.000			Recovery = 66.92%		
51) 2-Fluorobiphenyl	6.952	172	667771	38.27 ppm	0.00
Spiked Amount 50.000			Recovery = 76.54%		
73) 2,4,6-Tribromophenol	8.968	330	94142	45.90 ppm	0.00
Spiked Amount 50.000			Recovery = 91.80%		
85) Terphenyl-d14	12.557	244	678705	45.51 ppm	0.00
Spiked Amount 50.000			Recovery = 91.02%		

Target Compounds	Qvalue

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

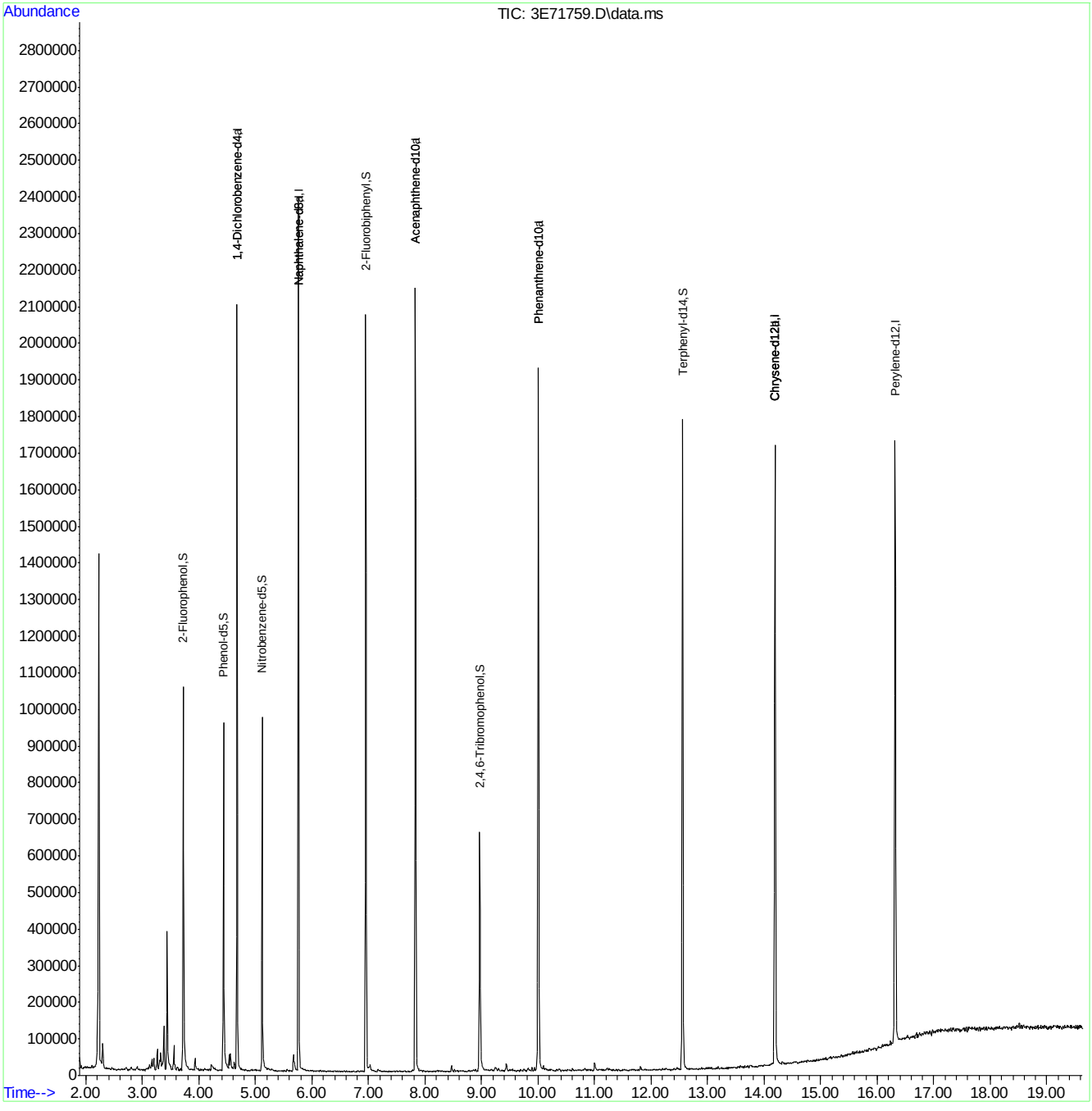
9.2.4

9

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\DATA\E3E3099\
Data File : 3E71759.D
Acq On : 30 Apr 2015 1:42 am
Operator : sarad
Sample : op83412-mb1
Misc : op83412,e3e3099,30.0,,,1,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 30 12:24:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M3E3055.M
Quant Title : Semi Volatile GC/MS,zb-5msi 30m x .25mm x .25MoTuThu Apr 30 09:20:05 2015
QLast Update : Thu Apr 30 09:20:05 2015
Response via : Initial Calibration



M3E3055.M Thu Apr 30 12:25:14 2015 MS3E

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e5p916\
Data File : 5p17872.D
Acq On : 30 Apr 2015 1:52 pm
Operator : alicjap
Sample : op83522-mb1
Misc : op83522,e5p916,30.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 30 16:08:10 2015
Quant Method : C:\MSDCHEM\1\METHODS\M5P913.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu Apr 30 08:23:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	5.737	152	72744	40.00 ppm	-0.01
24) Naphthalene-d8	7.238	136	295017	40.00 ppm	-0.01
47) Acenaphthene-d10	9.359	164	156494	40.00 ppm	-0.02
69) Phenanthrene-d10	11.186	188	215579	40.00 ppm	-0.02
83) Chrysene-d12	14.979	240	196371	40.00 ppm	-0.03
92) Perylene-d12	17.052	264	195588	40.00 ppm	-0.04
102) 1,4-Dichlorobenzene-d4a	5.737	152	72744	40.00 ppm	-0.01
104) Acenaphthene-d10a	9.359	164	156494	40.00 ppm	-0.02
106) Chrysene-d12a	14.979	240	196371	40.00 ppm	-0.03
109) Phenanthrene-d10a	11.186	188	215579	40.00 ppm	-0.02
112) Naphthalene-d8a	7.238	136	295017	40.00 ppm	-0.01
System Monitoring Compounds					
5) 2-Fluorophenol	4.263	112	111867	41.78 ppm	-0.01
Spiked Amount 50.000				Recovery = 83.56%	
8) Phenol-d5	5.331	99	125052	39.92 ppm	0.00
Spiked Amount 50.000				Recovery = 79.84%	
25) Nitrobenzene-d5	6.378	82	109306	40.31 ppm	-0.01
Spiked Amount 50.000				Recovery = 80.62%	
51) 2-Fluorobiphenyl	8.553	172	211508	41.41 ppm	-0.01
Spiked Amount 50.000				Recovery = 82.82%	
73) 2,4,6-Tribromophenol	10.316	330	23859	37.64 ppm	-0.02
Spiked Amount 50.000				Recovery = 75.28%	
85) Terphenyl-d14	13.430	244	185149	46.61 ppm	-0.02
Spiked Amount 50.000				Recovery = 93.22%	
108) 1-chlorooctadecane	0.000	57	0	0.00 ppm	
Spiked Amount 50.000				Recovery = 0.00%	
111) o-terphenyl	0.000	230	0	0.00 ppm	
Spiked Amount 50.000				Recovery = 0.00%	

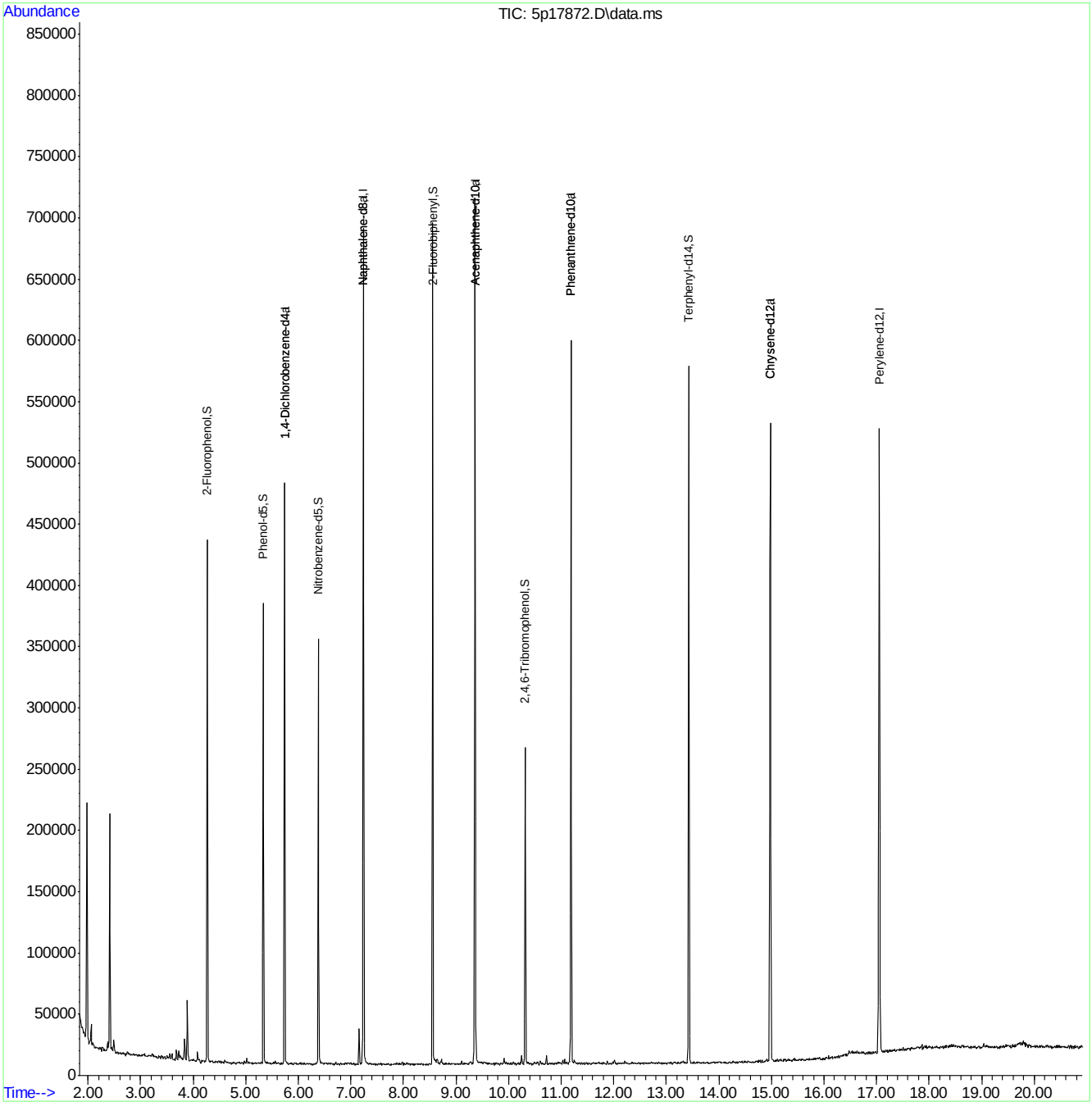
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\e5p916\
Data File : 5p17872.D
Acq On : 30 Apr 2015 1:52 pm
Operator : alicjap
Sample : op83522-mb1
Misc : op83522,e5p916,30.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 30 16:08:10 2015
Quant Method : C:\MSDCHEM\1\METHODS\M5P913.M
Quant Title : Semi Volatile GC/MS, zb-5msi 30mx .25mmx .25um
QLast Update : Thu Apr 30 08:23:58 2015
Response via : Initial Calibration



M5P913.M Thu Apr 30 16:08:21 2015 RPT1 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EZ5033\
Data File : Z100910.D
Acq On : 30 Apr 2015 1:10 pm
Operator : linseyk
Sample : op83522-mb1
Misc : op83522,ez5033,30.0,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 30 14:30:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\MZ5031.M
Quant Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
QLast Update : Thu Apr 30 12:30:07 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	4.886	152	125375	40.00 ppm	0.00
24) Naphthalene-d8	5.805	136	480408	40.00 ppm	-0.01
47) Acenaphthene-d10	7.269	164	259282	40.00 ppm	-0.02
69) Phenanthrene-d10	9.214	188	417113	40.00 ppm	-0.02
83) Chrysene-d12	14.529	240	326055	40.00 ppm	-0.05
92) Perylene-d12	17.580	264	294143	40.00 ppm	-0.04
102) 1,4-Dichlorobenzene-d4a	4.886	152	125375	40.00 ppm	0.00
104) Phenanthrene-d10a	9.214	188	417113	40.00 ppm	-0.02
108) Chrysene-d12a	14.529	240	326055	40.00 ppm	-0.05
110) Acenaphthene-d10a	7.269	164	259282	40.00 ppm	-0.02
112) Naphthalene-d8a	5.805	136	480408	40.00 ppm	-0.01
114) Chrysene-d12b	14.529	240	326055	40.00 ppm	-0.05
System Monitoring Compounds					
5) 2-Fluorophenol	3.919	112	187495	39.24 ppm	0.00
Spiked Amount 50.000			Recovery	= 78.48%	
8) Phenol-d5	4.619	99	236470	37.75 ppm	-0.02
Spiked Amount 50.000			Recovery	= 75.50%	
25) Nitrobenzene-d5	5.282	82	212255	40.15 ppm	-0.02
Spiked Amount 50.000			Recovery	= 80.30%	
51) 2-Fluorobiphenyl	6.628	172	345088	40.32 ppm	-0.01
Spiked Amount 50.000			Recovery	= 80.64%	
73) 2,4,6-Tribromophenol	8.193	330	39905	33.86 ppm	-0.03
Spiked Amount 50.000			Recovery	= 67.72%	
86) Terphenyl-d14	12.296	244	327441	48.39 ppm	-0.03
Spiked Amount 50.000			Recovery	= 96.78%	
105) 1-chlorooctadecane	0.000	57	0	0.00 ppm	
Spiked Amount 50.000			Recovery	= 0.00%	
106) 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

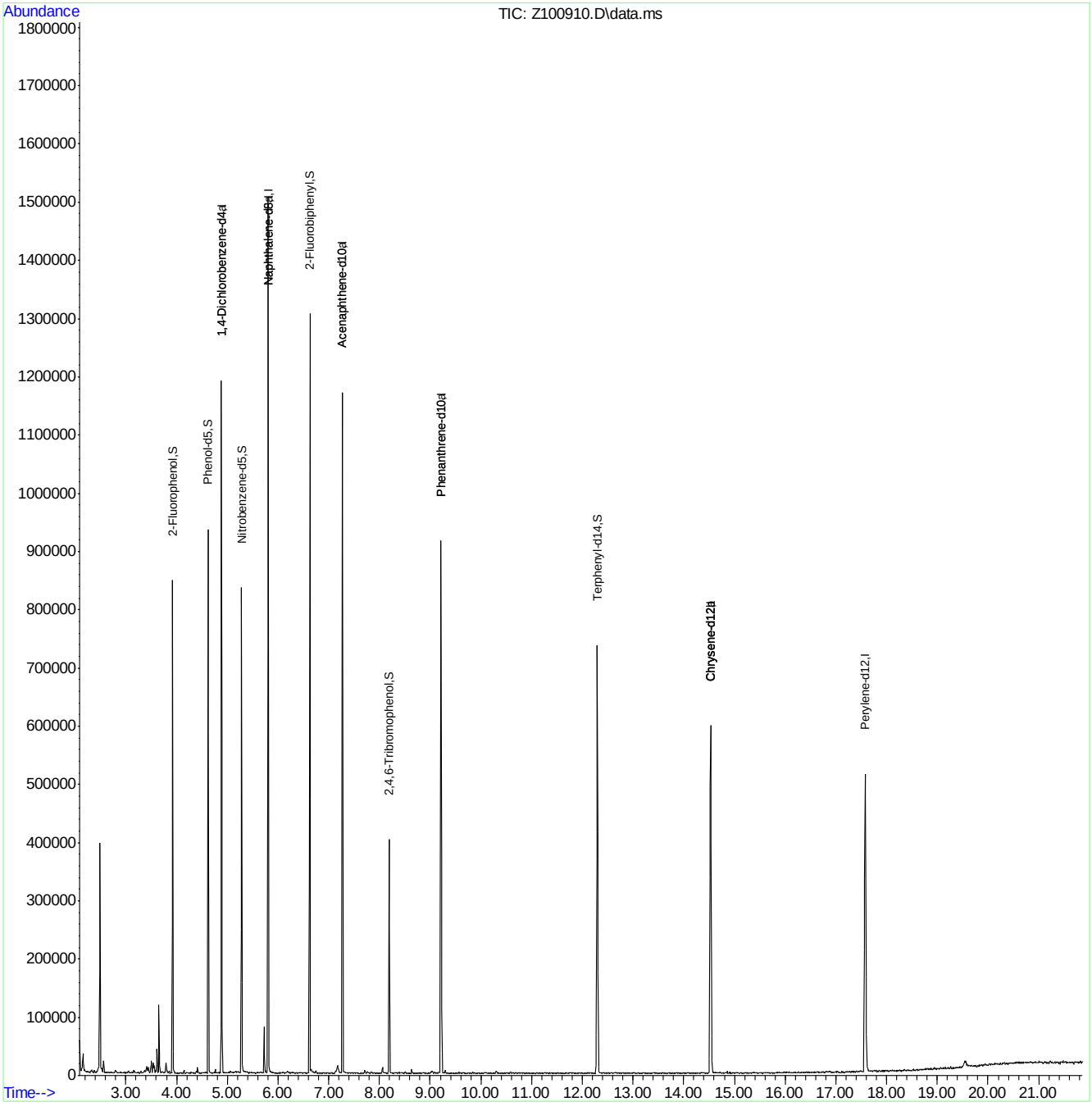
9.2.6

9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\EZ5033\
Data File : Z100910.D
Acq On : 30 Apr 2015 1:10 pm
Operator : linseyk
Sample : op83522-mb1
Misc : op83522,ez5033,30.0,,,1,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 30 14:30:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\MZ5031.M
Quant Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
QLast Update : Thu Apr 30 12:30:07 2015
Response via : Initial Calibration



New Jersey
ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA36544
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:36	MA36544-STD1	1		STDA
10:43	MA36544-STD2	1		STDB
10:49	ZZZZZZ	1		
10:55	ZZZZZZ	1		
11:01	MA36544-ICV1	1		
11:14	MA36544-ICB1	1		
11:19	MA36544-ICCV1	1		
11:36	MA36544-CCB1	1		
11:41	MA36544-CRI1	1		
11:47	MA36544-CRID1	1		
11:53	MA36544-CRIA1	1		
11:59	MA36544-CRID2	1		
12:05	MA36544-ICSA1	1		
12:12	MA36544-ICSAB1	1		
12:18	ZZZZZZ	1		
12:24	ZZZZZZ	1		
12:30	ZZZZZZ	1		
12:36	MA36544-CCV1	1		
12:42	MA36544-CCB2	1		
12:48	ZZZZZZ	1		
12:54	ZZZZZZ	1		
13:00	ZZZZZZ	1		
13:07	ZZZZZZ	1		
13:13	ZZZZZZ	1		
13:19	ZZZZZZ	1		
13:25	ZZZZZZ	1		
13:31	MA36544-CCV2	1		
13:37	MA36544-CCB3	1		
13:44	MP86053-MB1	1		
13:50	MP86053-MB2	1		
13:56	MP86053-B1	1		
14:02	MP86053-B2	1		
14:08	MP86053-S1	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA36544
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:14	MP86053-S2	1		
14:20	JB93119-1	1		(sample used for QC only; not part of login JB93023)
14:26	MP86053-SD1	5		
14:32	ZZZZZZ	1		
14:38	MA36544-CCV3	1		
14:44	MA36544-CCB4	1		
14:50	ZZZZZZ	1		
14:56	ZZZZZZ	1		
15:02	MP86072-MB1	1		
15:09	MP86072-B1	1		
15:15	MP86072-S1	1		
15:21	MP86072-S2	1		
15:27	JB92900-1	1		(sample used for QC only; not part of login JB93023)
15:33	MP86072-SD1	5		
15:39	ZZZZZZ	1		
15:45	MA36544-CCV4	1		
15:51	MA36544-CCB5	1		
15:57	ZZZZZZ	2		
16:03	ZZZZZZ	1		
16:09	ZZZZZZ	1		
16:15	ZZZZZZ	1		
16:21	ZZZZZZ	1		
16:27	ZZZZZZ	1		
16:33	ZZZZZZ	1		
16:39	ZZZZZZ	1		
16:46	MA36544-CCV5	1		
16:52	MA36544-CCB6	1		
16:58	MA36544-CRI2	1		
17:04	MA36544-CRID3	1		
17:10	MA36544-CRIA2	1		
17:16	MA36544-ICSA2	1		
17:23	MA36544-ICSAB2	1		
17:29	MA36544-CCV6	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA36544
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:35	MA36544-CCB7	1		
17:41	MP86107-MB1	1		
17:47	MP86107-B1	1		
17:53	MP86107-S1	1		
17:59	MP86107-S2	1		
18:05	JB93023-7	1		
18:11	MP86107-SD1	5		
18:17	JB93023-1	1		
18:23	JB93023-2	1		
18:29	JB93023-3	1		
18:35	MA36544-CCV7	1		
18:41	MA36544-CCB8	1		
18:48	JB93023-4	1		
18:54	JB93023-5	1		
19:00	JB93023-6	1		
19:06	JB93023-8	1		
19:12	JB93023-9	1		
19:18	JB93023-10	1		
19:24	JB93023-11	1		
19:30	JB93023-12	1		
19:36	JB93023-13	1		
19:42	MA36544-CCV8	1		
19:48	MA36544-CCB9	1		
19:54	JB93023-14	1		
20:00	JB93023-15	1		
20:06	JB93023-16	1		
20:12	JB93023-17	1		
20:18	JB93023-18	1		
20:24	JB93023-19	1		
20:30	JB93023-20	1		
20:36	JB93023-11	1		
20:42	MA36544-CCV9	1		
20:48	MA36544-CCB10	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA36544
Parameters: Co,Pb,Ni,V,Zn

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	20:55	ZZZZZZ	1		
	21:05	MA36544-CCV10	1		
	21:11	MA36544-CCB11	1		
	21:22	MA36544-CCV11	1		
	21:28	MA36544-CCB12	1		
	21:34	ZZZZZZ	1		
	21:40	JB93023-1	2		
---------->	Last reportable sample/prep for job JB93023				
	21:46	ZZZZZZ	1		
	21:52	MA36544-CRI3	1		
	21:58	MA36544-CRID4	1		
	22:05	MA36544-CRIA3	1		
	22:11	ZZZZZZ	1		
	22:17	MA36544-CCV12	1		
	22:23	MA36544-CCB13	1		
---------->	Last reportable CCB for job JB93023				
	22:29	ZZZZZZ	1		
	22:35	ZZZZZZ	1		
	22:41	ZZZZZZ	1		
	22:48	ZZZZZZ	1		
	22:54	ZZZZZZ	1		
	23:00	ZZZZZZ	1		
	23:06	ZZZZZZ	1		
	23:12	ZZZZZZ	1		
	23:18	ZZZZZZ	1		
	23:25	ZZZZZZ	1		
	23:31	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA36544
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:36	MA36544-STD1	1665 R	78143 R	31523 R	3930 R
10:43	MA36544-STD2	1552	70474	30226	3717
10:49	ZZZZZZ	1601	73256	30079	3813
10:55	ZZZZZZ	1684	72861	32087	3950
11:01	MA36544-ICV1	1627	73561	30897	3844
11:14	MA36544-ICB1	1694	77669	31384	3958
11:19	MA36544-ICCV1	1615	73039	30964	3833
11:36	MA36544-CCB1	1695	77986	31732	3962
11:41	MA36544-CRI1	1659	76792	31363	3906
11:47	MA36544-CRID1	No results reported for the elements associated with this internal standard.			
11:53	MA36544-CRIA1	1683	78335	31706	3951
11:59	MA36544-CRID2	1649	77605	31912	3898
12:05	MA36544-ICSA1	1471	67050	29837	3507
12:12	MA36544-ICSAB1	1488	67039	29901	3523
12:18	ZZZZZZ	1603	81321	32318	3994
12:24	ZZZZZZ	1626	77436	999999 !	4015
12:30	ZZZZZZ	1643	79291	33698	4039
12:36	MA36544-CCV1	1626	73813	31185	3865
12:42	MA36544-CCB2	1721	80303	31727	4002
12:48	ZZZZZZ	1624	78575	29668	3979
12:54	ZZZZZZ	1695	78595	31954	3994
13:00	ZZZZZZ	1649	999999 !	31123	4040
13:07	ZZZZZZ	1670	74370	999999 !	4069
13:13	ZZZZZZ	1665	999999 !	32678	4040
13:19	ZZZZZZ	1714	76615	30598	4078
13:25	ZZZZZZ	1717	79273	31375	4013
13:31	MA36544-CCV2	1690	74416	30687	3939
13:37	MA36544-CCB3	1773	79752	31340	4064
13:44	MP86053-MB1	1720	79268	31675	3993
13:50	MP86053-MB2	1706	78852	31593	3966
13:56	MP86053-B1	1674	76307	31538	3950
14:02	MP86053-B2	1654	75509	31010	3903
14:08	MP86053-S1	1704	75516	30973	3987

INTERNAL STANDARD SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA36544
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:14	MP86053-S2	1684	75379	30816	3946
14:20	JB93119-1	1758	78505	31403	4093
14:26	MP86053-SD1	1780	79145	31200	4079
14:32	ZZZZZZ	1683	74084	30582	3945
14:38	MA36544-CCV3	1720	74395	30428	3974
14:44	MA36544-CCB4	1785	79218	31022	4069
14:50	ZZZZZZ	1700	72883	30136	3970
14:56	ZZZZZZ	1670	73368	30191	3912
15:02	MP86072-MB1	1752	78904	31144	4031
15:09	MP86072-B1	1728	74668	30399	3995
15:15	MP86072-S1	1753	75822	31034	4013
15:21	MP86072-S2	1760	75945	31014	4016
15:27	JB92900-1	1798	78745	31496	4084
15:33	MP86072-SD1	1799	79381	31143	4093
15:39	ZZZZZZ	1696	74732	30977	4058
15:45	MA36544-CCV4	1728	74597	30854	3986
15:51	MA36544-CCB5	1814	79624	30896	4124
15:57	ZZZZZZ	1735	76523	30900	4071
16:03	ZZZZZZ	1764	77222	31611	4055
16:09	ZZZZZZ	1738	77904	31419	4013
16:15	ZZZZZZ	1734	78395	31284	3987
16:21	ZZZZZZ	1733	75682	30702	4042
16:27	ZZZZZZ	1730	75226	30908	3942
16:33	ZZZZZZ	1731	75706	28895	3942
16:39	ZZZZZZ	1692	72978	30452	3786
16:46	MA36544-CCV5	1747	74804	30094	4008
16:52	MA36544-CCB6	1814	79455	30870	4107
16:58	MA36544-CRI2	1794	78046	30473	4082
17:04	MA36544-CRID3	1796	79029	30691	4073
17:10	MA36544-CRIA2	1810	80557	30601	4106
17:16	MA36544-ICSA2	1588	67483	28791	3658
17:23	MA36544-ICSAB2	1600	68368	28780	3651
17:29	MA36544-CCV6	1733	75141	30054	3982

INTERNAL STANDARD SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA36544
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:35	MA36544-CCB7	1811	80023	30794	4108
17:41	MP86107-MB1	1755	78794	30806	4021
17:47	MP86107-B1	1733	75395	30254	4008
17:53	MP86107-S1	1734	73978	30419	4004
17:59	MP86107-S2	1738	74619	30616	4003
18:05	JB93023-7	1769	76631	31059	4074
18:11	MP86107-SD1	1788	78339	30745	4091
18:17	JB93023-1	1655	73698	30597	4079
18:23	JB93023-2	1774	75587	32063	4054
18:29	JB93023-3	1788	77869	31676	4070
18:35	MA36544-CCV7	1741	74852	30037	3999
18:41	MA36544-CCB8	1814	79446	30435	4094
18:48	JB93023-4	1607	69878	29169	3694
18:54	JB93023-5	1738	75179	30351	4016
19:00	JB93023-6	1737	76448	31034	3958
19:06	JB93023-8	1775	76937	31414	4016
19:12	JB93023-9	1816	79422	32176	3964
19:18	JB93023-10	1726	76618	31105	3953
19:24	JB93023-11	No results reported for the elements associated with this internal standard.			
19:30	JB93023-12	1700	75296	31368	3933
19:36	JB93023-13	1723	76557	31829	3945
19:42	MA36544-CCV8	1687	74052	30241	3929
19:48	MA36544-CCB9	1743	79021	31090	4016
19:54	JB93023-14	1747	78232	32002	4008
20:00	JB93023-15	1700	76868	31573	3930
20:06	JB93023-16	1679	75474	31150	3904
20:12	JB93023-17	1725	77382	31777	3993
20:18	JB93023-18	1699	77207	31865	3971
20:24	JB93023-19	1701	76825	31953	3990
20:30	JB93023-20	1688	77367	33508	3845
20:36	JB93023-11	1802	82225	34165	3924
20:42	MA36544-CCV9	1640	73345	32792	3870
20:48	MA36544-CCB10	1704	78777	31285	3969

INTERNAL STANDARD SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
Analyst: BS Run ID: MA36544
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:55	ZZZZZZ	1612	74125	31041	3780
21:05	MA36544-CCV10	1768	65489	27633	4111
21:11	MA36544-CCB11	1832	68599	28089	4350
21:22	MA36544-CCV11	1730	64559	28007	4057
21:28	MA36544-CCB12	1793	68531	28127	4298
21:34	ZZZZZZ	1674	64468	28281	3889
21:40	JB93023-1	1698	65766	28055	4161
21:46	ZZZZZZ	1792	68915	28117	4307
21:52	MA36544-CRI3	1769	68289	28065	4255
21:58	MA36544-CRID4	1775	68641	28109	4268
22:05	MA36544-CRIA3	1779	68413	28170	4280
22:11	ZZZZZZ	1719	60277	27754	4056
22:17	MA36544-CCV12	1706	65500	27574	4027
22:23	MA36544-CCB13	1784	68163	27514	4288
22:29	ZZZZZZ	1773	70484	28087	4289
22:35	ZZZZZZ	1761	68545	28213	4252
22:41	ZZZZZZ	1781	68823	28186	4276
22:48	ZZZZZZ	1772	68782	28162	4272
22:54	ZZZZZZ	1759	69093	28241	4263
23:00	ZZZZZZ	1639	63505	26707	3869
23:06	ZZZZZZ	1769	68894	29078	4260
23:12	ZZZZZZ	1782	68620	29008	4278
23:18	ZZZZZZ	1791	62991	28335	4035
23:25	ZZZZZZ	1634	63237	26443	3866
23:31	ZZZZZZ	1767	68780	28123	4268

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 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA36544 Units: ug/l

Time:			11:14		11:36		12:42		13:37	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	11	anr							
Antimony	6.0	1.1								
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.2								
Bismuth	20	1.1								
Boron	100	.7								
Cadmium	3.0	.2								
Calcium	5000	8.6	anr							
Chromium	10	.4								
Cobalt	50	.2	-0.10	<50	0.10	<50	0.10	<50	0.10	<50
Copper	10	.6	anr							
Iron	100	4.4	anr							
Lead	3.0	1.2	0.60	<3.0	0.70	<3.0	-0.40	<3.0	0.80	<3.0
Lithium	20	1								
Magnesium	5000	36	anr							
Manganese	15	.1	anr							
Molybdenum	20	.2								
Nickel	10	.4	-0.40	<10	-0.10	<10	-0.40	<10	-0.30	<10
Palladium	50	1.6								
Potassium	10000	16								
Selenium	10	1.9								
Silicon	200	2.9								
Silver	10	.6	anr							
Sodium	10000	5.7								
Sulfur	50	4.1								
Strontium	10	.1								
Thallium	2.0	1.8								
Tin	10	1								
Titanium	10	.3								
Tungsten	50	1.2								
Vanadium	50	.4	-0.10	<50	0.0	<50	-0.30	<50	0.0	<50
Zinc	20	.6	0.0	<20	0.10	<20	0.0	<20	-0.20	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA36544 Units: ug/l

Time:			11:14		11:36		12:42		13:37	
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

10.1.2
10

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA36544 Units: ug/l

Time:			14:44		15:51		16:52		17:35	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	11	anr							
Antimony	6.0	1.1								
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.2								
Bismuth	20	1.1								
Boron	100	.7								
Cadmium	3.0	.2								
Calcium	5000	8.6	anr							
Chromium	10	.4								
Cobalt	50	.2	0.30	<50	0.10	<50	0.10	<50	0.10	<50
Copper	10	.6	anr							
Iron	100	4.4	anr							
Lead	3.0	1.2	0.90	<3.0	1.5	<3.0	1.1	<3.0	1.2	<3.0
Lithium	20	1								
Magnesium	5000	36	anr							
Manganese	15	.1	anr							
Molybdenum	20	.2								
Nickel	10	.4	-0.60	<10	-0.80	<10	-0.90	<10	-0.50	<10
Palladium	50	1.6								
Potassium	10000	16								
Selenium	10	1.9								
Silicon	200	2.9								
Silver	10	.6	anr							
Sodium	10000	5.7								
Sulfur	50	4.1								
Strontium	10	.1								
Thallium	2.0	1.8								
Tin	10	1								
Titanium	10	.3								
Tungsten	50	1.2								
Vanadium	50	.4	0.20	<50	0.20	<50	0.10	<50	-0.20	<50
Zinc	20	.6	-0.40	<20	0.0	<20	0.20	<20	-0.10	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA36544 Units: ug/l

Time:			14:44		15:51		16:52		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

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA36544 Units: ug/l

Time:			18:41		19:48		20:48		21:11	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	11	anr							
Antimony	6.0	1.1								
Arsenic	3.0	1.2	anr							
Barium	200	.2	anr							
Beryllium	1.0	.2								
Bismuth	20	1.1								
Boron	100	.7								
Cadmium	3.0	.2								
Calcium	5000	8.6	anr							
Chromium	10	.4								
Cobalt	50	.2	0.10	<50	0.20	<50	0.0	<50	0.60	<50
Copper	10	.6	anr							
Iron	100	4.4	anr							
Lead	3.0	1.2	1.1	<3.0	0.80	<3.0	1.4	<3.0	4.2	* (a)
Lithium	20	1								
Magnesium	5000	36	anr							
Manganese	15	.1	anr							
Molybdenum	20	.2								
Nickel	10	.4	-0.80	<10	-0.60	<10	-0.30	<10	0.0	<10
Palladium	50	1.6								
Potassium	10000	16								
Selenium	10	1.9								
Silicon	200	2.9								
Silver	10	.6	anr							
Sodium	10000	5.7								
Sulfur	50	4.1								
Strontium	10	.1								
Thallium	2.0	1.8								
Tin	10	1								
Titanium	10	.3								
Tungsten	50	1.2								
Vanadium	50	.4	0.30	<50	0.10	<50	-0.10	<50	-0.10	<50
Zinc	20	.6	-0.10	<20	0.20	<20	0.20	<20	0.20	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA36544 Units: ug/l

Time:			18:41		19:48		20:48		21:11	
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
(a) No AQ samples reported for this element in the area bracketed by this QC.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA36544 Units: ug/l

Time:			21:28		22:23	
Sample ID:			CCB12		CCB13	
Metal	RL	IDL	raw	final	raw	final
Aluminum	200	11	anr			
Antimony	6.0	1.1				
Arsenic	3.0	1.2	anr			
Barium	200	.2	anr			
Beryllium	1.0	.2				
Bismuth	20	1.1				
Boron	100	.7				
Cadmium	3.0	.2				
Calcium	5000	8.6	anr			
Chromium	10	.4				
Cobalt	50	.2	0.90	<50	0.80	<50
Copper	10	.6	anr			
Iron	100	4.4	anr			
Lead	3.0	1.2	3.9	* (a)	4.8	* (a)
Lithium	20	1				
Magnesium	5000	36	anr			
Manganese	15	.1	anr			
Molybdenum	20	.2				
Nickel	10	.4	0.20	<10	0.0	<10
Palladium	50	1.6				
Potassium	10000	16				
Selenium	10	1.9				
Silicon	200	2.9				
Silver	10	.6	anr			
Sodium	10000	5.7				
Sulfur	50	4.1				
Strontium	10	.1				
Thallium	2.0	1.8				
Tin	10	1				
Titanium	10	.3				
Tungsten	50	1.2				
Vanadium	50	.4	0.10	<50	0.0	<50
Zinc	20	.6	0.10	<20	0.0	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA36544 Units: ug/l

Time:			21:28		22:23	
Sample ID:			CCB12		CCB13	
Metal	RL	IDL	raw	final	raw	final
Zirconium	10	.2				

(*) Outside of QC limits
(anr) Analyte not requested
(a) No AQ samples reported for this element in the area bracketed by this QC.

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		11:19	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony			
Arsenic	anr		
Barium	anr		
Beryllium			
Bismuth			
Boron			
Cadmium			
Calcium	anr		
Chromium			
Cobalt	2000	1990	99.5
Copper	anr		
Iron	anr		
Lead	2000	2040	102.0
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	2000	2040	102.0
Palladium			
Potassium			
Selenium			
Silicon			
Silver	anr		
Sodium			
Sulfur			
Strontium			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium	2000	2020	101.0
Zinc	2000	2040	102.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		11:19	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		11:01			12:36			13:31	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium	anr								
Chromium									
Cobalt	2000	1950	97.5	2000	1940	97.0	2000	1960	98.0
Copper	anr								
Iron	anr								
Lead	2000	2030	101.5	2000	1980	99.0	2000	2040	102.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	2000	2000	100.0	2000	1990	99.5	2000	2030	101.5
Palladium									
Potassium									
Selenium									
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	2000	2000	100.0	2000	1960	98.0	2000	1990	99.5
Zinc	2000	2030	101.5	2000	1990	99.5	2000	2010	100.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		11:01			12:36			13:31	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

10.1.4
10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		14:38			15:45			16:46	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium	anr								
Chromium									
Cobalt	2000	1960	98.0	2000	1970	98.5	2000	1970	98.5
Copper	anr								
Iron	anr								
Lead	2000	2070	103.5	2000	2080	104.0	2000	2090	104.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	2000	2050	102.5	2000	2060	103.0	2000	2060	103.0
Palladium									
Potassium									
Selenium									
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	2000	1990	99.5	2000	2000	100.0	2000	2010	100.5
Zinc	2000	1990	99.5	2000	2000	100.0	2000	2000	100.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		14:38			15:45			16:46	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		17:29			18:35			19:42	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium	anr								
Chromium									
Cobalt	2000	1980	99.0	2000	1970	98.5	2000	1970	98.5
Copper	anr								
Iron	anr								
Lead	2000	2090	104.5	2000	2090	104.5	2000	2070	103.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	2000	2070	103.5	2000	2070	103.5	2000	2050	102.5
Palladium									
Potassium									
Selenium									
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	2000	2000	100.0	2000	2000	100.0	2000	1990	99.5
Zinc	2000	2020	101.0	2000	2010	100.5	2000	2000	100.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		17:29			18:35			19:42	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		20:42			21:05			21:22	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	anr								
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium	anr								
Chromium									
Cobalt	2000	1960	98.0	2000	1930	96.5	2000	1910	95.5
Copper	anr								
Iron	anr								
Lead	2000	2040	102.0	2000	1990	99.5	2000	1960	98.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	2000	2030	101.5	2000	1970	98.5	2000	1940	97.0
Palladium									
Potassium									
Selenium									
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium	2000	1980	99.0	2000	2080	104.0	2000	2070	103.5
Zinc	2000	2000	100.0	2000	1880	94.0	2000	1850	92.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		20:42			21:05			21:22	
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

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		22:17	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony			
Arsenic	anr		
Barium	anr		
Beryllium			
Bismuth			
Boron			
Cadmium			
Calcium	anr		
Chromium			
Cobalt	2000	1930	96.5
Copper	anr		
Iron	anr		
Lead	2000	1950	97.5
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	2000	1940	97.0
Palladium			
Potassium			
Selenium			
Silicon			
Silver	anr		
Sodium			
Sulfur			
Strontium			
Thallium			
Tin			
Titanium			
Tungsten			
Vanadium	2000	2050	102.5
Zinc	2000	1870	93.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA36544 Units: ug/l

Time:		22:17	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

10.1.4
10

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA36544 Units: ug/l

Time:				11:41		11:53		11:59	
Sample ID:	CRI	CRIA	CRID	CRI1		CRIA1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0						
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0						
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0						
Calcium	5000	2000	1000	anr					
Chromium	10		2.0						
Cobalt	50		3.0	50.9	101.8			3.1	103.3
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	2.1	70.0	20.8	104.0		
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	10.2	102.0			4.0	100.0
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0						
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000						
Sulfur	50								
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	50.5	101.0			1.9	95.0
Zinc	20		10	22.3	111.5			11.5	115.0

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA36544 Units: ug/l

Time:				11:41		11:53		11:59	
Sample ID:	CRI	CRIA	CRID	CRI1		CRIA1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

10.1.5
10

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA36544 Units: ug/l

Time:				16:58		17:04		17:10	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID3		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0						
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0						
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0						
Calcium	5000	2000	1000	anr					
Chromium	10		2.0						
Cobalt	50		3.0	50.2	100.4	3.4	113.3		
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	3.5	116.7			20.5	102.5
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	10.0	100.0	4.1	102.5		
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0						
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000						
Sulfur	50								
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	51.0	102.0	2.1	105.0		
Zinc	20		10	21.9	109.5	11.8	118.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA36544 Units: ug/l

Time:				16:58		17:04		17:10	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID3		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA36544 Units: ug/l

Time:				21:52		21:58		22:05	
Sample ID:	CRI	CRIA	CRID	CRI3		CRID4		CRIA3	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0						
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0						
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0						
Calcium	5000	2000	1000	anr					
Chromium	10		2.0						
Cobalt	50		3.0	49.2	98.4	3.4	113.3		
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	6.7	223.3*(a			23.5	117.5
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	9.5	95.0	4.0	100.0		
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0						
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000						
Sulfur	50								
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	51.5	103.0	1.9	95.0		
Zinc	20		10	20.7	103.5	10.8	108.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA36544 Units: ug/l

Time:				21:52		21:58		22:05	
Sample ID:	CRI	CRIA	CRID	CRI3		CRID4		CRIA3	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested
(a) No AQ samples reported for this element in the area bracketed by this QC.

10.1.5
10

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA36544 Units: ug/l

Time:			12:05		12:12		17:16		17:23	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	500000	100.0	504000	100.8	512000	102.4	523000	104.6
Antimony		1000	5.2		1000	100.0	4.0		989	98.9
Arsenic		1000	-0.60		878	87.8	0.50		876	87.6
Barium		500	-1.5		487	97.4	-1.4		505	101.0
Beryllium		500	-0.10		486	97.2	-0.20		509	101.8
Bismuth		500	-18		487	97.4	-22		459	91.8
Boron			1.3		0.90		0.40		3.1	
Cadmium		1000	2.1		1020	102.0	1.6		1010	101.0
Calcium	400000	400000	364000	91.0	364000	91.0	375000	93.8	378000	94.5
Chromium		500	2.6		467	93.4	2.4		482	96.4
Cobalt		500	3.4		483	96.6	3.4		488	97.6
Copper		500	3.6		491	98.2	4.0		490	98.0
Iron	200000	200000	229000	114.5	184000	92.0	231000	115.5	188000	94.0
Lead		1000	-0.90		958	95.8	4.6		1000	100.0
Lithium		500	7.3		543	108.6	8.2		563	112.6
Magnesium	500000	500000	494000	98.8	498000	99.6	516000	103.2	527000	105.4
Manganese		500	2.0		473	94.6	-2.9		468	93.6
Molybdenum		500	-2.6		489	97.8	-2.0		468	93.6
Nickel		1000	-2.7		948	94.8	-3.3		983	98.3
Palladium		500	-2.0		549	109.8	1.1		550	110.0
Potassium			179		194		186		203	
Selenium		1000	3.5		991	99.1	8.1		979	97.9
Silicon			-0.50		-5.1		2.4		0.10	
Silver		1000	2.0		1060	106.0	-4.0		1070	107.0
Sodium			-16		1.1		-20		-11	
Sulfur		500	-18		477	95.4	-20		461	92.2
Strontium			-4.8		-4.9		-5.0		-5.1	
Thallium		1000	-3.2		921	92.1	-1.3		917	91.7
Tin			-1.8		-2.8		-2.3		-3.0	
Titanium			-0.50		-0.10		-0.20		-0.30	
Tungsten		500	5.1		504	100.8	5.4		485	97.0
Vanadium		500	2.7		473	94.6	5.2		481	96.2
Zinc		1000	-1.3		931	93.1	-1.9		936	93.6

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SD042915M1.ICP Date Analyzed: 04/29/15 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA36544 Units: ug/l

Time:			12:05		12:12		17:16		17:23	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	3.2		474	94.8	0.60		488	97.6

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
Analyst: BS Run ID: MA36545
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:55	MA36545-STD1	1		STDA
11:01	MA36545-STD2	1		STDB
11:07	ZZZZZZ	1		
11:13	ZZZZZZ	1		
11:19	MA36545-ICV1	1		
11:35	MA36545-ICB1	1		
11:39	MA36545-ICCV1	1		
11:57	MA36545-CCB1	1		
12:02	MA36545-CRI1	1		
12:09	MA36545-CRID1	1		
12:15	MA36545-CRIA1	1		
12:21	MA36545-CRID2	1		
12:27	MA36545-ICSA1	1		
12:33	MA36545-ICSAB1	1		
12:39	ZZZZZZ	1		
12:46	MA36545-ICSA2	1		
12:52	MA36545-ICSAB2	1		
12:59	MA36545-CCV1	1		
13:04	MA36545-CCB2	1		
13:10	MP86092-MB1	1		
13:17	MP86092-B1	1		
13:22	MP86092-S1	1		
13:28	MP86092-S2	1		
13:34	JB92809-1	1		(sample used for QC only; not part of login JB93023)
13:40	MP86092-SD1	5		
13:46	ZZZZZZ	1		
13:52	ZZZZZZ	1		
13:58	ZZZZZZ	1		
14:04	MA36545-CCV2	1		
14:10	MA36545-CCB3	1		
14:16	ZZZZZZ	1		
14:22	ZZZZZZ	1		
14:28	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
Analyst: BS Run ID: MA36545
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:34	ZZZZZZ	1		
14:39	ZZZZZZ	1		
14:45	ZZZZZZ	1		
14:51	ZZZZZZ	1		
14:57	ZZZZZZ	1		
15:03	ZZZZZZ	1		
15:09	MA36545-CCV3	1		
15:15	MA36545-CCB4	1		
15:21	ZZZZZZ	1		
15:27	ZZZZZZ	1		
15:33	ZZZZZZ	1		
15:39	ZZZZZZ	1		
15:45	ZZZZZZ	1		
15:51	ZZZZZZ	1		
15:57	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:09	MA36545-CCV4	1		
16:15	MA36545-CCB5	1		
16:21	MP86106-MB1	1		
16:27	MP86106-B1	1		
16:33	MP86106-S1	1		
16:39	MP86106-S2	1		
16:45	JB92813-9	1		(sample used for QC only; not part of login JB93023)
16:50	MP86106-SD1	5		
16:56	ZZZZZZ	1		
17:02	ZZZZZZ	1		
17:08	ZZZZZZ	1		
17:14	MA36545-CCV5	1		
17:20	MA36545-CCB6	1		
17:26	ZZZZZZ	1		
17:32	ZZZZZZ	1		
17:38	ZZZZZZ	1		
17:44	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
Analyst: BS Run ID: MA36545
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:50	ZZZZZZ	1		
17:56	ZZZZZZ	1		
18:02	ZZZZZZ	1		
18:08	ZZZZZZ	1		
18:14	MA36545-CCV6	1		
18:20	MA36545-CCB7	1		
18:26	ZZZZZZ	1		
18:32	ZZZZZZ	1		
18:38	ZZZZZZ	1		
18:44	ZZZZZZ	1		
18:49	JB93023-21	1		
18:55	JB93023-22	1		
19:01	JB93023-23	1		
19:07	JB93023-24	1		
---------->	Last reportable sample/prep for job JB93023			
19:13	ZZZZZZ	2		
19:19	MA36545-CCV7	1		
19:25	MA36545-CCB8	1		
19:31	MA36545-CRI2	1		
19:37	MA36545-CRID3	1		
19:43	MA36545-CRIA2	1		
19:49	MA36545-ICSA3	1		
19:56	MA36545-ICSAB3	1		
20:02	ZZZZZZ	1		
20:08	ZZZZZZ	1		
20:14	ZZZZZZ	1		
20:35	MA36545-CCV8	1		
20:41	MA36545-CCB9	1		
---------->	Last reportable CCB for job JB93023			
20:47	ZZZZZZ	1		
20:53	ZZZZZZ	1		
20:59	ZZZZZZ	1		
21:05	ZZZZZZ	1		
21:12	ZZZZZZ	1		
21:18	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
Analyst: BS Run ID: MA36545
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
21:24	ZZZZZZ	1		
21:30	ZZZZZZ	1		
21:36	ZZZZZZ	1		
21:42	MA36545-CCV9	1		
21:48	MA36545-CCB10	1		
22:28	ZZZZZZ	1		
22:33	ZZZZZZ	1		
22:39	ZZZZZZ	1		
22:45	ZZZZZZ	1		
22:51	ZZZZZZ	1		
22:57	ZZZZZZ	1		
23:03	MA36545-CCV10	1		
23:08	MA36545-CCB11	1		
23:15	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
Analyst: BS Run ID: MA36545
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:55	MA36545-STD1	1699 R	42738 R	14212 R	6593 R
11:01	MA36545-STD2	1588	39245	13925	5610
11:07	ZZZZZZ	1640	40516	14089	5875
11:13	ZZZZZZ	1728	43045	14344	6633
11:19	MA36545-ICV1	1657	40915	14315	5863
11:35	MA36545-ICB1	1733	43149	14305	6637
11:39	MA36545-ICCV1	1640	40670	14174	5821
11:57	MA36545-CCB1	1713	43107	14411	6555
12:02	MA36545-CRI1	1682	41776	14330	6332
12:09	MA36545-CRID1	No results reported for the elements associated with this internal standard.			
12:15	MA36545-CRIA1	1718	42798	14372	6509
12:21	MA36545-CRID2	1732	42711	14341	6551
12:27	MA36545-ICSA1	1520	37043	13598	5121
12:33	MA36545-ICSAB1	1507	37071	13690	5044
12:39	ZZZZZZ	1674	41727	14170	6376
12:46	MA36545-ICSA2	1526	37152	13604	5075
12:52	MA36545-ICSAB2	1509	36931	13503	5023
12:59	MA36545-CCV1	1678	41026	14136	5861
13:04	MA36545-CCB2	1750	43765	14259	6597
13:10	MP86092-MB1	1724	43071	14633	6518
13:17	MP86092-B1	1685	41586	14179	6049
13:22	MP86092-S1	1708	41649	14383	5933
13:28	MP86092-S2	1716	41890	14396	5970
13:34	JB92809-1	1777	43348	14431	6455
13:40	MP86092-SD1	1783	43785	14320	6673
13:46	ZZZZZZ	1778	43880	14590	6443
13:52	ZZZZZZ	1798	45171	14506	6550
13:58	ZZZZZZ	1802	43315	14527	6615
14:04	MA36545-CCV2	1733	41990	14074	6169
14:10	MA36545-CCB3	1828	44524	14265	7015
14:16	ZZZZZZ	1831	44010	14574	6501
14:22	ZZZZZZ	1819	44171	14567	6618
14:28	ZZZZZZ	1853	45227	14880	6552

INTERNAL STANDARD SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
Analyst: BS Run ID: MA36545
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:34	ZZZZZZ	1788	43445	14619	6309
14:39	ZZZZZZ	1803	43619	14706	6298
14:45	ZZZZZZ	1806	44016	14529	6456
14:51	ZZZZZZ	1792	44855	14574	6397
14:57	ZZZZZZ	1820	43387	14573	6451
15:03	ZZZZZZ	1802	43790	14645	6345
15:09	MA36545-CCV3	1728	41915	14129	5955
15:15	MA36545-CCB4	1817	44411	14317	6731
15:21	ZZZZZZ	1764	44222	14301	6609
15:27	ZZZZZZ	1799	43639	14615	6300
15:33	ZZZZZZ	1756	42745	14727	5989
15:39	ZZZZZZ	1799	43669	14603	6285
15:45	ZZZZZZ	1902	45882	15793	5864
15:51	ZZZZZZ	1833	44190	15211	5908
15:57	ZZZZZZ	1839	44232	14985	6175
16:03	ZZZZZZ	1833	44202	14889	6109
16:09	MA36545-CCV4	1756	42268	14097	6098
16:15	MA36545-CCB5	1839	44749	14276	6915
16:21	MP86106-MB1	1820	44824	14321	6912
16:27	MP86106-B1	1766	42836	14180	6376
16:33	MP86106-S1	1770	43232	14641	6206
16:39	MP86106-S2	1784	43452	14689	6232
16:45	JB92813-9	1836	44985	14769	6622
16:50	MP86106-SD1	1836	44605	14452	6800
16:56	ZZZZZZ	1829	44785	14683	6563
17:02	ZZZZZZ	1821	44419	14635	6511
17:08	ZZZZZZ	1821	44112	14661	6490
17:14	MA36545-CCV5	1733	42180	14250	6021
17:20	MA36545-CCB6	1826	44741	14384	6819
17:26	ZZZZZZ	1810	43941	14800	6393
17:32	ZZZZZZ	1823	44944	14801	6432
17:38	ZZZZZZ	1790	44546	14781	6395
17:44	ZZZZZZ	1815	44584	14724	6424

INTERNAL STANDARD SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
Analyst: BS Run ID: MA36545
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:50	ZZZZZZ	1788	43632	14589	6352
17:56	ZZZZZZ	1816	44107	14767	6229
18:02	ZZZZZZ	1834	44958	14865	6411
18:08	ZZZZZZ	1809	44234	14803	6549
18:14	MA36545-CCV6	1768	42652	14145	6186
18:20	MA36545-CCB7	1837	44981	14372	6973
18:26	ZZZZZZ	1827	44322	14789	6559
18:32	ZZZZZZ	1859	45039	14710	6762
18:38	ZZZZZZ	1849	45101	14645	6778
18:44	ZZZZZZ	1747	43154	14273	6831
18:49	JB93023-21	1868	44151	14841	6477
18:55	JB93023-22	1857	44286	14908	6498
19:01	JB93023-23	1864	43284	14944	6539
19:07	JB93023-24	1826	44258	15016	6443
19:13	ZZZZZZ	1798	44137	14383	6914
19:19	MA36545-CCV7	1775	42484	14117	6350
19:25	MA36545-CCB8	1849	45399	14465	7136
19:31	MA36545-CRI2	1821	44640	14417	6964
19:37	MA36545-CRID3	1829	44913	14483	7072
19:43	MA36545-CRIA2	1828	44953	14789	7089
19:49	MA36545-ICSA3	1608	38816	13955	5495
19:56	MA36545-ICSAB3	1605	38360	13881	5488
20:02	ZZZZZZ	1825	44915	14505	7105
20:08	ZZZZZZ	1832	45090	14457	7153
20:14	ZZZZZZ	1827	45111	14462	7181
20:35	MA36545-CCV8	1715	42192	14355	6260
20:41	MA36545-CCB9	1785	44678	14637	7062
20:47	ZZZZZZ	1804	44556	14514	7103
20:53	ZZZZZZ	1771	44318	14538	7013
20:59	ZZZZZZ	1770	44407	14562	7028
21:05	ZZZZZZ	1624	39183	13914	5963
21:12	ZZZZZZ	1786	44268	14510	7051
21:18	ZZZZZZ	1761	44122	14486	6957

INTERNAL STANDARD SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
Analyst: BS Run ID: MA36545
Parameters: Co,Pb,Ni,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
21:24	ZZZZZZ	1786	41139	14924	6202
21:30	ZZZZZZ	1588	39964	13884	5926
21:36	ZZZZZZ	1759	44120	14435	7048
21:42	MA36545-CCV9	1674	41822	14358	6229
21:48	MA36545-CCB10	1742	44533	14371	6995
22:28	ZZZZZZ	1682	42193	14495	6455
22:33	ZZZZZZ	1689	42126	14489	6450
22:39	ZZZZZZ	1690	42204	14505	6440
22:45	ZZZZZZ	1690	42260	14512	6443
22:51	ZZZZZZ	1692	42379	14534	6472
22:57	ZZZZZZ	1697	42220	14559	6472
23:03	MA36545-CCV10	1701	41981	14339	6332
23:08	MA36545-CCB11	1780	44543	14442	7133
23:15	ZZZZZZ	9165 !	164090 !	38414 !	32487 !

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 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA36545 Units: ug/l

Time:			11:35		11:57		13:04		14:10	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	500	13	anr							
Antimony	20	1.2	anr							
Arsenic	20	1	anr							
Barium	200	.5	anr							
Beryllium	2.0	.1	anr							
Bismuth	20	1.8								
Boron	100	2.7								
Cadmium	5.0	.2	anr							
Calcium	5000	13								
Chromium	10	.4	anr							
Cobalt	50	.3	-0.10	<50	0.0	<50	0.0	<50	-0.10	<50
Copper	25	.4	anr							
Iron	500	5.7								
Lead	20	.7	-0.70	<20	-0.10	<20	-0.10	<20	0.90	<20
Lithium	20	2.7								
Magnesium	5000	36								
Manganese	15	.2	anr							
Molybdenum	20	.6	anr							
Nickel	40	.6	0.40	<40	0.60	<40	0.40	<40	0.30	<40
Palladium	50	1.5								
Potassium	10000	63								
Selenium	20	1.8	anr							
Silicon	200	1.2								
Silver	5.0	.6	anr							
Sodium	10000	17								
Strontium	10	.3								
Sulfur	50	5.3								
Thallium	10	1.4	anr							
Tin	50	.7								
Titanium	10	.5								
Tungsten	50	1.4								
Vanadium	50	.4	0.10	<50	0.40	<50	0.20	<50	0.20	<50
Zinc	50	3.3	0.40	<50	0.30	<50	0.20	<50	0.0	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA36545 Units: ug/l

Time:			11:35		11:57		13:04		14:10	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	20	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA36545 Units: ug/l

Time:			15:15		16:15		17:20		18:20	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	500	13	anr							
Antimony	20	1.2	anr							
Arsenic	20	1	anr							
Barium	200	.5	anr							
Beryllium	2.0	.1	anr							
Bismuth	20	1.8								
Boron	100	2.7								
Cadmium	5.0	.2	anr							
Calcium	5000	13								
Chromium	10	.4	anr							
Cobalt	50	.3	0.0	<50	-0.10	<50	-0.30	<50	0.10	<50
Copper	25	.4	anr							
Iron	500	5.7								
Lead	20	.7	0.80	<20	1.0	<20	-0.30	<20	1.4	<20
Lithium	20	2.7								
Magnesium	5000	36								
Manganese	15	.2	anr							
Molybdenum	20	.6	anr							
Nickel	40	.6	1.1	<40	0.60	<40	0.50	<40	0.90	<40
Palladium	50	1.5								
Potassium	10000	63								
Selenium	20	1.8	anr							
Silicon	200	1.2								
Silver	5.0	.6	anr							
Sodium	10000	17								
Strontium	10	.3								
Sulfur	50	5.3								
Thallium	10	1.4	anr							
Tin	50	.7								
Titanium	10	.5								
Tungsten	50	1.4								
Vanadium	50	.4	0.90	<50	0.40	<50	0.30	<50	0.70	<50
Zinc	50	3.3	0.60	<50	0.10	<50	0.10	<50	0.50	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA36545 Units: ug/l

Time:			15:15		16:15		17:20		18:20	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	20	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA36545 Units: ug/l

Time:			19:25		20:41	
Sample ID:			CCB8		CCB9	
Metal	RL	IDL	raw	final	raw	final
Aluminum	500	13	anr			
Antimony	20	1.2	anr			
Arsenic	20	1	anr			
Barium	200	.5	anr			
Beryllium	2.0	.1	anr			
Bismuth	20	1.8				
Boron	100	2.7				
Cadmium	5.0	.2	anr			
Calcium	5000	13				
Chromium	10	.4	anr			
Cobalt	50	.3	0.10	<50	-0.10	<50
Copper	25	.4	anr			
Iron	500	5.7				
Lead	20	.7	0.30	<20	-0.10	<20
Lithium	20	2.7				
Magnesium	5000	36				
Manganese	15	.2	anr			
Molybdenum	20	.6	anr			
Nickel	40	.6	0.40	<40	0.50	<40
Palladium	50	1.5				
Potassium	10000	63				
Selenium	20	1.8	anr			
Silicon	200	1.2				
Silver	5.0	.6	anr			
Sodium	10000	17				
Strontium	10	.3				
Sulfur	50	5.3				
Thallium	10	1.4	anr			
Tin	50	.7				
Titanium	10	.5				
Tungsten	50	1.4				
Vanadium	50	.4	0.80	<50	0.50	<50
Zinc	50	3.3	0.60	<50	0.20	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA36545 Units: ug/l

Time:			19:25		20:41	
Sample ID:			CCB8		CCB9	
Metal	RL	IDL	raw	final	raw	final
Zirconium	20	.3				

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: to % Recovery Run ID: MA36545 Units: ug/l

Time:		11:39	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt	2000	2000	100.0
Copper	anr		
Iron			
Lead	2000	2020	101.0
Lithium			
Magnesium			
Manganese	anr		
Molybdenum	anr		
Nickel	2000	2020	101.0
Palladium			
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium			
Strontium			
Sulfur			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	2000	1960	98.0
Zinc	2000	2010	100.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: to % Recovery Run ID: MA36545 Units: ug/l

Time:		11:39	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA36545 Units: ug/l

Time:		11:19			12:59			14:04	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	2000	1970	98.5	2000	2000	100.0	2000	1960	98.0
Copper	anr								
Iron									
Lead	2000	2030	101.5	2000	2030	101.5	2000	1980	99.0
Lithium									
Magnesium									
Manganese	anr								
Molybdenum	anr								
Nickel	2000	2000	100.0	2000	2010	100.5	2000	2040	102.0
Palladium									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	2000	1960	98.0	2000	1910	95.5	2000	1840	92.0
Zinc	2000	2020	101.0	2000	1980	99.0	2000	2020	101.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA36545 Units: ug/l

Time:		11:19			12:59			14:04	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

10.2.4
10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA36545 Units: ug/l

Time:		15:09			16:09			17:14	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	2000	2000	100.0	2000	2000	100.0	2000	1990	99.5
Copper	anr								
Iron									
Lead	2000	2030	101.5	2000	2020	101.0	2000	2020	101.0
Lithium									
Magnesium									
Manganese	anr								
Molybdenum	anr								
Nickel	2000	2020	101.0	2000	2030	101.5	2000	2010	100.5
Palladium									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	2000	1850	92.5	2000	1860	93.0	2000	1870	93.5
Zinc	2000	1970	98.5	2000	2000	100.0	2000	1980	99.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA36545 Units: ug/l

Time:		15:09			16:09			17:14	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA36545 Units: ug/l

Time:		18:14			19:19			20:35	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	2000	1980	99.0	2000	1950	97.5	2000	1950	97.5
Copper	anr								
Iron									
Lead	2000	2000	100.0	2000	1980	99.0	2000	1990	99.5
Lithium									
Magnesium									
Manganese	anr								
Molybdenum	anr								
Nickel	2000	2030	101.5	2000	2010	100.5	2000	2000	100.0
Palladium									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	2000	1850	92.5	2000	1980	99.0	2000	2020	101.0
Zinc	2000	2000	100.0	2000	2040	102.0	2000	2070	103.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA36545 Units: ug/l

Time:		18:14			19:19			20:35	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA36545 Units: ug/l

Time:				12:02		12:15		12:21	
Sample ID:	CRI	CRIA	CRID	CRI1		CRIA1		CRID2	
Metal	True	True	True	Results	% Rec	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						
Cadmium	3.0		1.0	anr					
Calcium	5000	2000	1000						
Chromium	10		2.0	anr					
Cobalt	50		3.0	48.8	97.6			2.7	90.0
Copper	10		2.0	anr					
Iron	100	500							
Lead	3.0	20	2.5	2.7	90.0	19.5	97.5	2.1	84.0
Lithium	20								
Magnesium	5000	2000	100						
Manganese	15		3.0	anr					
Molybdenum	20			anr					
Nickel	10		4.0	10.1	101.0			4.3	107.5
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000						
Strontium	10								
Sulfur	50								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	49.4	98.8			1.8	90.0
Zinc	20		10	22.0	110.0			11.5	115.0

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA36545 Units: ug/l

Time:				12:02		12:15		12:21	
Sample ID:	CRI	CRIA	CRID	CRI1		CRIA1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA36545 Units: ug/l

Time:				19:31		19:37		19:43	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID3		CRIA2	
Metal	True	True	True	Results	% Rec	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						
Cadmium	3.0		1.0	anr					
Calcium	5000	2000	1000						
Chromium	10		2.0	anr					
Cobalt	50		3.0	47.7	95.4	2.7	90.0		
Copper	10		2.0	anr					
Iron	100	500							
Lead	3.0	20	2.5	2.3	76.7	2.7	108.0	20.5	102.5
Lithium	20								
Magnesium	5000	2000	100						
Manganese	15		3.0	anr					
Molybdenum	20			anr					
Nickel	10		4.0	9.9	99.0	4.2	105.0		
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		1.0	anr					
Sodium	5000		1000						
Strontium	10								
Sulfur	50								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	49.2	98.4	2.0	100.0		
Zinc	20		10	22.6	113.0	11.6	116.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA36545 Units: ug/l

Time:				19:31		19:37		19:43	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID3		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

10.2.5
10

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA36545 Units: ug/l

Time:			12:27		12:33		12:46		12:52	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	495000	99.0	505000	101.0	495000	99.0	516000	103.2
Antimony		1000	0.30		998	99.8	1.1		993	99.3
Arsenic		1000	-1.0		881	88.1	2.5		882	88.2
Barium		500	-0.80		487	97.4	-0.70		496	99.2
Beryllium		500	-0.10		483	96.6	-0.20		490	98.0
Bismuth		500	-8.7		498	99.6	-7.0		497	99.4
Boron			-5.5		-7.5		-5.4		-7.1	
Cadmium		1000	0.60		999	99.9	0.50		998	99.8
Calcium	400000	400000	365000	91.3	354000	88.5	366000	91.5	360000	90.0
Chromium		500	2.3		493	98.6	1.8		496	99.2
Cobalt		500	0.40		481	96.2	0.30		483	96.6
Copper		500	3.0		514	102.8	2.6		517	103.4
Iron	200000	200000	240000	120.0	194000	97.0	202000	101.0	198000	99.0
Lead		1000	5.5		946	94.6	5.6		952	95.2
Lithium		500	6.7		548	109.6	7.1		556	111.2
Magnesium	500000	500000	501000	100.2	497000	99.4	498000	99.6	503000	100.6
Manganese		500	-3.6		477	95.4	-2.5		477	95.4
Molybdenum		500	1.1		474	94.8	0.50		473	94.6
Nickel		1000	2.1		950	95.0	2.0		948	94.8
Palladium		500	-19		552	110.4	-16		552	110.4
Potassium			-70		-51		-42		-37	
Selenium		1000	0.30		999	99.9	4.8		1000	100.0
Silicon			-29		-31		-26		-32	
Silver		1000	-1.8		1060	106.0	-2.2		1070	107.0
Sodium			-4.9		-2.1		-2.5		0.50	
Strontium			0.20		0.30		0.40		0.40	
Sulfur		500	17.2		510	102.0	14.6		508	101.6
Thallium		1000	1.3		936	93.6	-0.70		945	94.5
Tin			4.8		1.2		3.9		2.8	
Titanium			2.0		4.7		1.9		4.8	
Tungsten		500	20.6		489	97.8	17.8		484	96.8
Vanadium		500	4.2		464	92.8	3.6		463	92.6
Zinc		1000	3.3		913	91.3	-2.7		911	91.1

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA36545 Units: ug/l

Time:			12:27		12:33		12:46		12:52	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-6.8		459	91.8	-4.0		468	93.6

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA36545 Units: ug/l

Time:			19:49		19:56	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	484000	96.8	497000	99.4
Antimony		1000	1.2		972	97.2
Arsenic		1000	-1.2		864	86.4
Barium		500	-0.90		474	94.8
Beryllium		500	-0.10		490	98.0
Bismuth		500	-5.6		479	95.8
Boron			-4.4		-8.1	
Cadmium		1000	0.70		993	99.3
Calcium	400000	400000	376000	94.0	368000	92.0
Chromium		500	2.1		488	97.6
Cobalt		500	0.50		469	93.8
Copper		500	0.70		499	99.8
Iron	200000	200000	195000	97.5	189000	94.5
Lead		1000	1.6		929	92.9
Lithium		500	6.3		546	109.2
Magnesium	500000	500000	502000	100.4	509000	101.8
Manganese		500	-2.6		498	99.6
Molybdenum		500	0.70		479	95.8
Nickel		1000	1.4		938	93.8
Palladium		500	-20		532	106.4
Potassium			-23		-4.7	
Selenium		1000	11.6		999	99.9
Silicon			-24		-31	
Silver		1000	6.3		1030	103.0
Sodium			-18		-13	
Strontium			-0.50		-0.50	
Sulfur		500	12.7		505	101.0
Thallium		1000	0.20		914	91.4
Tin			3.7		3.8	
Titanium			1.9		5.0	
Tungsten		500	16.1		490	98.0
Vanadium		500	2.3		485	97.0
Zinc		1000	-2.9		945	94.5

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

File ID: SB042915M1.ICP Date Analyzed: 04/29/15 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA36545 Units: ug/l

Time:			19:49		19:56	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Zirconium		500	-5.1		471	94.2

(*) Outside of QC limits
(anr) Analyte not requested

10.2.6

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BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.3	3.2		
Antimony	2.0	.12	.31		
Arsenic	2.0	.099	.13		
Barium	20	.05	.053		
Beryllium	0.20	.0099	.041		
Bismuth	2.0	.18	.37		
Boron	9.9	.27	.42		
Cadmium	0.50	.02	.042		
Calcium	500	1.3	2.5		
Chromium	0.99	.04	.098		
Cobalt	5.0	.03	.04	-0.030	<5.0
Copper	2.5	.04	.14		
Iron	50	.56	3.3		
Lead	2.0	.069	.17	0.059	<2.0
Lithium	2.0	.27	.33		
Magnesium	500	3.5	8.9		
Manganese	1.5	.02	.036		
Molybdenum	2.0	.059	.15		
Nickel	4.0	.059	.05	0.050	<4.0
Palladium	5.0	.15	.35		
Potassium	990	6.3	7.3		
Selenium	2.0	.18	.23		
Silicon	20	.12	1.7		
Silver	0.50	.059	.18		
Sodium	990	1.7	1.5		
Strontium	0.99	.03	.025		
Sulfur	5.0	.52	.69		
Thallium	0.99	.14	.19		
Tin	5.0	.069	1.1		
Titanium	0.99	.05	.21		
Tungsten	5.0	.14	.43		
Vanadium	5.0	.04	.073	0.020	<5.0
Zinc	5.0	.33	.76	0.48	<5.0

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.03	.11		

Associated samples MP86106: JB93023-21, JB93023-22, JB93023-23, JB93023-24

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	JB92813-9 Original	MS	Spikelot MPSPK	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt	3.8	232	240	95.0	75-125
Copper	anr				
Iron					
Lead	164	360	240	81.6	75-125
Lithium					
Magnesium					
Manganese	anr				
Molybdenum	anr				
Nickel	10.1	243	240	96.9	75-125
Palladium					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Sulfur					
Thallium	anr				
Tin					
Titanium					
Tungsten					
Vanadium	19.6	235	240	89.6	75-125
Zinc	172	396	240	93.2	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	JB92813-9 Original MS	Spikelot MPSPK	% Rec	QC Limits
Zirconium				

Associated samples MP86106: JB93023-21, JB93023-22, JB93023-23, JB93023-24

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	JB92813-9 Original	MSD	Spikelot MPSPK	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt	3.8	227	245	91.1	2.2	20
Copper	anr					
Iron						
Lead	164	334	245	69.4N(a)	7.5	20
Lithium						
Magnesium						
Manganese	anr					
Molybdenum	anr					
Nickel	10.1	238	245	93.0	2.1	20
Palladium						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	19.6	227	245	84.6	3.5	20
Zinc	172	398	245	92.2	0.5	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106 | Methods: SW846 6010C
Matrix Type: SOLID | Units: mg/kg

Prep Date: 04/29/15

Metal	JB92813-9 Original MSD	Spikelot MPSPK	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP86106: JB93023-21, JB93023-22, JB93023-23, JB93023-24

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	BSP Result	Spikelot MPSPK	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt	188	196	95.9	80-120
Copper	anr			
Iron				
Lead	188	196	95.9	80-120
Lithium				
Magnesium				
Manganese	anr			
Molybdenum	anr			
Nickel	192	196	97.9	80-120
Palladium				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	180	196	91.8	80-120
Zinc	194	196	98.9	80-120

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	BSP Result	Spikelot MPSPK	% Rec	QC Limits
Zirconium				

Associated samples MP86106: JB93023-21, JB93023-22, JB93023-23, JB93023-24

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/29/15

Metal	JB92813-9 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt	30.3	29.1	4.0	0-10
Copper	anr			
Iron				
Lead	1300	1280	1.5	0-10
Lithium				
Magnesium				
Manganese	anr			
Molybdenum	anr			
Nickel	79.9	81.1	1.5	0-10
Palladium				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	155	155	0.0	0-10
Zinc	1360	1400	2.4	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86106
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/29/15

Metal	JB92813-9 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP86106: JB93023-21, JB93023-22, JB93023-23, JB93023-24

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.1	3.2		
Antimony	2.0	.11	.31		
Arsenic	2.0	.12	.13		
Barium	20	.02	.053		
Beryllium	0.20	.02	.041		
Bismuth	2.0	.11	.37		
Boron	9.9	.069	.42		
Cadmium	0.50	.02	.042		
Calcium	500	.85	2.5		
Chromium	0.99	.04	.098		
Cobalt	5.0	.02	.04	0.030	<5.0
Copper	2.5	.059	.14		
Iron	50	.44	3.3		
Lead	2.0	.12	.17	0.069	<2.0
Lithium	2.0	.099	.33		
Magnesium	500	3.6	8.9		
Manganese	1.5	.0099	.036		
Molybdenum	2.0	.02	.15		
Nickel	4.0	.04	.05	-0.020	<4.0
Palladium	5.0	.16	.35		
Potassium	990	1.6	7.3		
Selenium	2.0	.19	.23		
Silicon	20	.29	1.7		
Silver	0.50	.059	.18		
Sodium	990	.56	1.5		
Strontium	0.99	.0099	.025		
Sulfur	5.0	.41	.69		
Thallium	0.99	.18	.19		
Tin	5.0	.099	1.1		
Titanium	0.99	.03	.21		
Tungsten	5.0	.12	.43		
Vanadium	5.0	.04	.073	0.040	<5.0
Zinc	5.0	.059	.76	0.83	<5.0

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.02	.11		

Associated samples MP86107: JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8, JB93023-9, JB93023-10, JB93023-11, JB93023-12, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	JB93023-7 Original	MS	Spikelot MPSPK	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt	8.7	249	249	96.5	75-125
Copper					
Iron					
Lead	15.8	261	249	98.4	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	14.4	267	249	101.4	75-125
Palladium					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium	43.3	296	249	101.5	75-125
Zinc	96.6	341	249	98.1	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	JB93023-7 Original MS	Spikelot MPSPK	% Rec	QC Limits
Zirconium				

Associated samples MP86107: JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8, JB93023-9, JB93023-10, JB93023-11, JB93023-12, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	JB93023-7 Original	MSD	Spikelot MPSPK	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt	8.7	232	244	91.4	7.1	20
Copper						
Iron						
Lead	15.8	267	244	102.9	2.3	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	14.4	248	244	95.7	7.4	20
Palladium						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium	43.3	271	244	93.2	8.8	20
Zinc	96.6	319	244	91.1	6.7	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	JB93023-7 Original MSD	Spikelot MPSPK	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP86107: JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8, JB93023-9, JB93023-10, JB93023-11, JB93023-12, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20

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

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	BSP Result	Spikelot MPSPK	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt	188	196	95.9	80-120
Copper				
Iron				
Lead	197	196	100.5	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	197	196	100.5	80-120
Palladium				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium	193	196	98.4	80-120
Zinc	192	196	97.9	80-120

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 04/29/15

Metal	BSP Result	Spikelot MPSPK	% Rec	QC Limits
Zirconium				

Associated samples MP86107: JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8, JB93023-9, JB93023-10, JB93023-11, JB93023-12, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/29/15

Metal	JB93023-7 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt	73.6	76.0	3.3	0-10
Copper				
Iron				
Lead	133	139	4.4	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	122	123	1.2	0-10
Palladium				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium	365	370	1.4	0-10
Zinc	815	880	8.0	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JB93023
Account: SECORPAE - Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

QC Batch ID: MP86107
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 04/29/15

Metal	JB93023-7 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP86107: JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8, JB93023-9, JB93023-10, JB93023-11, JB93023-12, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New Jersey

ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: JB93023-1 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-1(2.0)

Wet Weight (Total)	34.76	g
Tare Weight	26.16	g
Dry Weight (Total)	33.3	g
Solids, Percent	83	%

Sample: JB93023-2 **Analyzed:** 28-APR-15 by KP **Method:** ASTM 4643-00
ClientID: MH593-2(2.0)

Wet Weight (Total)	30.39	g
Tare Weight	24.22	g
Dry Weight (Total)	29.4	g
Solids, Percent	84	%

Sample: JB93023-3 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-3(3.0)

Wet Weight (Total)	25.33	g
Tare Weight	18.6	g
Dry Weight (Total)	24.16	g
Solids, Percent	82.6	%

Sample: JB93023-4 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-4(3.0)

Wet Weight (Total)	35.14	g
Tare Weight	27.31	g
Dry Weight (Total)	34.23	g
Solids, Percent	88.4	%

Sample: JB93023-5 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-5(3.0)

Wet Weight (Total)	29.14	g
Tare Weight	23.04	g
Dry Weight (Total)	27.96	g
Solids, Percent	80.7	%

Sample: JB93023-6 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-6(3.0)

Wet Weight (Total)	33.51	g
Tare Weight	25.69	g
Dry Weight (Total)	32.19	g
Solids, Percent	83.1	%

Percent Solids Raw Data Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: JB93023-7 **Analyzed:** 28-APR-15 by KP **Method:** ASTM 4643-00
ClientID: MH593-7(3.0)

Wet Weight (Total)	34.19	g
Tare Weight	28.82	g
Dry Weight (Total)	33.13	g
Solids, Percent	80.3	%

Sample: JB93023-8 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-8(3.0)

Wet Weight (Total)	34.8	g
Tare Weight	24.9	g
Dry Weight (Total)	32.92	g
Solids, Percent	81	%

Sample: JB93023-9 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-9(3.0)

Wet Weight (Total)	36.56	g
Tare Weight	28.44	g
Dry Weight (Total)	34.84	g
Solids, Percent	78.8	%

Sample: JB93023-10 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-10(3.0)

Wet Weight (Total)	33.26	g
Tare Weight	25.4	g
Dry Weight (Total)	31.81	g
Solids, Percent	81.6	%

Sample: JB93023-11 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-11(3.0)

Wet Weight (Total)	35.92	g
Tare Weight	26.23	g
Dry Weight (Total)	33.85	g
Solids, Percent	78.6	%

Sample: JB93023-12 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-12(3.0)

Wet Weight (Total)	29.81	g
Tare Weight	23.24	g
Dry Weight (Total)	28.74	g
Solids, Percent	83.7	%

Percent Solids Raw Data Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: JB93023-13 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-13(2.0)

Wet Weight (Total)	32.2	g
Tare Weight	23.55	g
Dry Weight (Total)	30.59	g
Solids, Percent	81.4	%

Sample: JB93023-14 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH593-14(2.0)

Wet Weight (Total)	37.13	g
Tare Weight	27.51	g
Dry Weight (Total)	35.8	g
Solids, Percent	86.2	%

Sample: JB93023-15 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-1(3.0)

Wet Weight (Total)	35.47	g
Tare Weight	27.77	g
Dry Weight (Total)	34.29	g
Solids, Percent	84.7	%

Sample: JB93023-16 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-2(3.0)

Wet Weight (Total)	36.98	g
Tare Weight	28.22	g
Dry Weight (Total)	35.81	g
Solids, Percent	86.6	%

Sample: JB93023-17 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-3(3.0)

Wet Weight (Total)	37.87	g
Tare Weight	28.17	g
Dry Weight (Total)	35.85	g
Solids, Percent	79.2	%

Sample: JB93023-18 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-4(3.0)

Wet Weight (Total)	32.92	g
Tare Weight	25.82	g
Dry Weight (Total)	31.47	g
Solids, Percent	79.6	%

Percent Solids Raw Data Summary

Job Number: JB93023
Account: SECORPAE Stantec Consulting Services Inc.
Project: MHIC-592/593 Tanks

Sample: JB93023-19 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-5(3.0)

Wet Weight (Total)	34.12	g
Tare Weight	25.75	g
Dry Weight (Total)	32.44	g
Solids, Percent	79.9	%

Sample: JB93023-20 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-6(3.0)

Wet Weight (Total)	35.21	g
Tare Weight	27.17	g
Dry Weight (Total)	33.76	g
Solids, Percent	82	%

Sample: JB93023-21 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-7(2.0)

Wet Weight (Total)	36.49	g
Tare Weight	28.12	g
Dry Weight (Total)	34.99	g
Solids, Percent	82.1	%

Sample: JB93023-22 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-8(3.0)

Wet Weight (Total)	39.08	g
Tare Weight	29.62	g
Dry Weight (Total)	37.32	g
Solids, Percent	81.4	%

Sample: JB93023-23 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-9(2.0)

Wet Weight (Total)	34.58	g
Tare Weight	25.87	g
Dry Weight (Total)	33.02	g
Solids, Percent	82.1	%

Sample: JB93023-24 **Analyzed:** 28-APR-15 by KP **Method:** SM2540 G-97
ClientID: MH592-10(2.0)

Wet Weight (Total)	36.92	g
Tare Weight	28.19	g
Dry Weight (Total)	35.35	g
Solids, Percent	82	%

New Jersey

ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

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

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

NE

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # JB93023

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City / State / Zip: Dayton NJ 08810
Project Contact / E-mail: MarieM MarieM@accutest.com
Phone # / Fax #: 732-329-0200
Sampler(s) Name(s) / Phone: SA/SR

Project Information

Project Name: MHIC-592/593 Tanks
Street
City / State
Project #
Client Purchase Order #
Project Manager

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

Requested Analysis (see TEST CODE sheet)

Matrix Codes

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

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8011EDB	LAB USE ONLY
1	MH593-1(2.0)		4/22/15	8:05:00 AM	SA/SR	SO	1					1				X	SUB
2	MH593-2(2.0)		4/22/15	8:12:00 AM	SA/SR	SO	1					1				X	SUB
3	MH593-3(3.0)		4/22/15	11:18:00 AM	SA/SR	SO	1					1				X	SUB
4	MH593-4(3.0)		4/22/15	8:30:00 AM	SA/SR	SO	1					1				X	SUB
5	MH593-5(3.0)		4/22/15	8:42:00 AM	SA/SR	SO	1					1				X	SUB
6	MH593-6(3.0)		4/22/15	8:55:00 AM	SA/SR	SO	1					1				X	SUB
7	MH593-7(3.0)		4/22/15	9:10:00 AM	SA/SR	SO	1					1				X	SUB
8	MH593-8(3.0)		4/22/15	9:20:00 AM	SA/SR	SO	1					1				X	SUB
9	MH593-9(3.0)		4/22/15	10:25:00 AM	SA/SR	SO	1					1				X	SUB
10	MH593-10(3.0)		4/22/15	11:37:00 AM	SA/SR	SO	1					1				X	SUB
11	MH593-11(3.0)		4/22/15	10:52:00 AM	SA/SR	SO	1					1				X	SUB
12	MH593-12(3.0)		4/22/15	11:05:00 AM	SA/SR	SO	1					1				X	SUB

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 5/6/2015

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other REDT2

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

1OF

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 BVassalo	4/23/15 12:00	1 Fed Ex	2 FX	4/24/15 9:30	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 398	Intact / Not intact	Preserved where applicable / On Ice ☑ Cooler Temp. 1.1°C

12.1 12

JB93023: Chain of Custody
Page 1 of 3
Accutest Labs of New England, Inc.

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # JB93023

Client / Reporting Information

Company Name: Accutest Laboratories
Street Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Project Contact: MarieM E-mail: MarieM@accutest.com
Phone #: 732-329-0200 Fax #:
Sampler(s) Name(s): SA/SR Phone:

Project Information

Project Name: MHIC-592/593 Tanks
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

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

Requested Analysis (see TEST CODE sheet): V8011EDB

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

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8011EDB	LAB USE ONLY
13	MH593-13(2.0)		4/22/15	11:30:00 AM	SA/SR	SO	1					1				X	SUB
14	MH593-14(2.0)		4/22/15	11:44:00 AM	SA/SR	SO	1					1				X	SUB
15	MH592-1(3.0)		4/22/15	11:58:00 AM	SA/SR	SO	1					1				X	SUB
16	MH592-2(3.0)		4/22/15	2:25:00 PM	SA/SR	SO	1					1				X	SUB
17	MH592-3(3.0)		4/22/15	12:22:00 PM	SA/SR	SO	1					1				X	SUB
18	MH592-4(3.0)		4/22/15	12:39:00 PM	SA/SR	SO	1					1				X	SUB
19	MH592-5(3.0)		4/22/15	12:50:00 PM	SA/SR	SO	1					1				X	SUB
20	MH592-6(3.0)		4/22/15	1:35:00 PM	SA/SR	SO	1					1				X	SUB
21	MH592-7(2.0)		4/22/15	1:51:00 PM	SA/SR	SO	1					1				X	SUB
22	MH592-8(2.0)		4/22/15	1:00:00 PM	SA/SR	SO	1					1				X	SUB
23	MH592-9(2.0)		4/22/15	1:15:00 PM	SA/SR	SO	1					1				X	SUB
24	MH593-10(2.0)		4/22/15	1:25:00 PM	SA/SR	SO	1					1				X	SUB

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 5/6/2015

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other REDT2

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 BYAshilles	4/23/15 12:00	1 FedEx	2 FX	4/24/15 9:30	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 578	Preserved where applicable	On Ice / Cooler Temp.

- [ ] Intact
- [ ] Not intact

12.1 12

JB93023: Chain of Custody
Page 2 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB93023 **Client:** ACNJ **Project:** SUB

Date / Time Received: 4/24/2015 9:30:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.1/1.1);

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

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	G1;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

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

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

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

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

Comments

Accutest Laboratories
V:(508) 481-6200
495 Technology Center West, Bldg One
F: (508) 481-7753
Marlborough, MA 01752
www/accutest.com

JB93023: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

Accutest New Jersey

Job No: JB93023

SECORPAE: MHIC-592/593 Tanks
Project No: SECORPAE64126

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-1 Collected: 22-APR-15 08:05 By: SA/SR Received: 22-APR-15 By: MH593-1(2.0)						
JB93023-1	SW846 8011	29-APR-15 05:53	NK	27-APR-15	AW	V8011EDB
JB93023-2 Collected: 22-APR-15 08:12 By: SA/SR Received: 22-APR-15 By: MH593-2(2.0)						
JB93023-2	SW846 8011	29-APR-15 06:21	NK	27-APR-15	AW	V8011EDB
JB93023-3 Collected: 22-APR-15 11:18 By: SA/SR Received: 22-APR-15 By: MH593-3(3.0)						
JB93023-3	SW846 8011	29-APR-15 06:49	NK	27-APR-15	AW	V8011EDB
JB93023-4 Collected: 22-APR-15 08:30 By: SA/SR Received: 22-APR-15 By: MH593-4(3.0)						
JB93023-4	SW846 8011	29-APR-15 07:17	NK	27-APR-15	AW	V8011EDB
JB93023-5 Collected: 22-APR-15 08:42 By: SA/SR Received: 22-APR-15 By: MH593-5(3.0)						
JB93023-5	SW846 8011	29-APR-15 07:46	NK	27-APR-15	AW	V8011EDB
JB93023-6 Collected: 22-APR-15 08:55 By: SA/SR Received: 22-APR-15 By: MH593-6(3.0)						
JB93023-6	SW846 8011	29-APR-15 08:14	NK	27-APR-15	AW	V8011EDB
JB93023-7 Collected: 22-APR-15 09:10 By: SA/SR Received: 22-APR-15 By: MH593-7(3.0)						
JB93023-7	SW846 8011	29-APR-15 08:43	NK	27-APR-15	AW	V8011EDB
JB93023-8 Collected: 22-APR-15 09:20 By: SA/SR Received: 22-APR-15 By: MH593-8(3.0)						
JB93023-8	SW846 8011	29-APR-15 09:12	NK	27-APR-15	AW	V8011EDB

Internal Sample Tracking Chronicle

Accutest New Jersey

Job No: JB93023

SECORPAE: MHIC-592/593 Tanks
Project No: SECORPAE64126

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-9 Collected: 22-APR-15 10:25 By: SA/SR Received: 22-APR-15 By: MH593-9(3.0)						
JB93023-9	SW846 8011	29-APR-15 09:42	NK	27-APR-15	AW	V8011EDB
JB93023-10 Collected: 22-APR-15 10:37 By: SA/SR Received: 22-APR-15 By: MH593-10(3.0)						
JB93023-10	SW846 8011	29-APR-15 10:12	NK	27-APR-15	AW	V8011EDB
JB93023-11 Collected: 22-APR-15 10:52 By: SA/SR Received: 22-APR-15 By: MH593-11(3.0)						
JB93023-11	SW846 8011	29-APR-15 11:10	NK	27-APR-15	AW	V8011EDB
JB93023-12 Collected: 22-APR-15 11:05 By: SA/SR Received: 22-APR-15 By: MH593-12(3.0)						
JB93023-12	SW846 8011	29-APR-15 11:40	NK	27-APR-15	AW	V8011EDB
JB93023-13 Collected: 22-APR-15 11:30 By: SA/SR Received: 22-APR-15 By: MH593-13(2.0)						
JB93023-13	SW846 8011	30-APR-15 11:59	NK	27-APR-15	AW	V8011EDB
JB93023-14 Collected: 22-APR-15 11:44 By: SA/SR Received: 22-APR-15 By: MH593-14(2.0)						
JB93023-14	SW846 8011	29-APR-15 12:38	NK	27-APR-15	AW	V8011EDB
JB93023-15 Collected: 22-APR-15 11:58 By: SA/SR Received: 22-APR-15 By: MH592-1(3.0)						
JB93023-15	SW846 8011	29-APR-15 13:07	NK	27-APR-15	AW	V8011EDB
JB93023-16 Collected: 22-APR-15 14:25 By: SA/SR Received: 22-APR-15 By: MH592-2(3.0)						
JB93023-16	SW846 8011	29-APR-15 13:36	NK	27-APR-15	AW	V8011EDB

Internal Sample Tracking Chronicle

Accutest New Jersey

Job No: JB93023

SECORPAE: MHIC-592/593 Tanks
Project No: SECORPAE64126

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB93023-17	Collected: 22-APR-15 12:22 By: SA/SR		Received: 22-APR-15 By:			
MH592-3(3.0)						
JB93023-17	SW846 8011	29-APR-15 14:05	NK	27-APR-15	AW	V8011EDB
JB93023-18	Collected: 22-APR-15 12:39 By: SA/SR		Received: 22-APR-15 By:			
MH592-4(3.0)						
JB93023-18	SW846 8011	29-APR-15 14:33	NK	27-APR-15	AW	V8011EDB
JB93023-19	Collected: 22-APR-15 12:50 By: SA/SR		Received: 22-APR-15 By:			
MH592-5(3.0)						
JB93023-19	SW846 8011	29-APR-15 15:02	NK	27-APR-15	AW	V8011EDB
JB93023-20	Collected: 22-APR-15 13:35 By: SA/SR		Received: 22-APR-15 By:			
MH592-6(3.0)						
JB93023-20	SW846 8011	29-APR-15 15:31	NK	27-APR-15	AW	V8011EDB
JB93023-21	Collected: 22-APR-15 13:51 By: SA/SR		Received: 22-APR-15 By:			
MH592-7(2.0)						
JB93023-21	SW846 8011	29-APR-15 00:57	NK	27-APR-15	AW	V8011EDB
JB93023-22	Collected: 22-APR-15 13:00 By: SA/SR		Received: 22-APR-15 By:			
MH592-8(3.0)						
JB93023-22	SW846 8011	29-APR-15 01:27	NK	27-APR-15	AW	V8011EDB
JB93023-23	Collected: 22-APR-15 13:15 By: SA/SR		Received: 22-APR-15 By:			
MH592-9(2.0)						
JB93023-23	SW846 8011	29-APR-15 01:57	NK	27-APR-15	AW	V8011EDB
JB93023-24	Collected: 22-APR-15 13:25 By: SA/SR		Received: 22-APR-15 By:			
MH592-10(2.0)						
JB93023-24	SW846 8011	29-APR-15 02:26	NK	27-APR-15	AW	V8011EDB

Accutest Internal Chain of Custody

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-1.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-1.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-1.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-2.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-2.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-2.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-3.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-3.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-3.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-4.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-4.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-4.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-5.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-5.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-5.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-6.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-6.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-6.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-7.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-7.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-7.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-8.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-8.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-8.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-9.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-9.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-9.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-10.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-10.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-10.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-11.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-11.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-11.1	Scott Parsick		06/23/15 11:35	Disposed

Accutest Internal Chain of Custody

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-12.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-12.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-12.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-13.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-13.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-13.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-14.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-14.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-14.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-15.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-15.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-15.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-16.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-16.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-16.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-17.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-17.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-17.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-18.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-18.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-18.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-19.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-19.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-19.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-20.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-20.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-20.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-21.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-21.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-21.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-22.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-22.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-22.1	Scott Parsick		06/23/15 11:35	Disposed

Accutest Internal Chain of Custody

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Received: 04/22/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB93023-23.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-23.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-23.1	Scott Parsick		06/23/15 11:35	Disposed
JB93023-24.1	Walk In Ref #9	Nicole Estey	04/27/15 14:27	Retrieve from Storage
JB93023-24.1	Nicole Estey	Walk In Ref #9	04/27/15 21:44	Return to Storage
JB93023-24.1	Scott Parsick		06/23/15 11:35	Disposed

New Jersey

ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

(Accutest Labs of New England, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42837-MB	BB62988.D	1	04/28/15	NK	04/27/15	OP42837	GBB3427

The QC reported here applies to the following samples: **Method:** SW846 8011

JB93023-21, JB93023-22, JB93023-23, JB93023-24

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.5	0.41	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	101%	70-170%
460-00-4	Bromofluorobenzene (S)	108%	70-170%

Method Blank Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42847-MB	BB62991.D	1	04/28/15	NK	04/27/15	OP42847	GBB3427

The QC reported here applies to the following samples: **Method:** SW846 8011

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8, JB93023-9, JB93023-10, JB93023-11, JB93023-12, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	2.4	0.41	ug/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	110%	70-170%
460-00-4	Bromofluorobenzene (S)	112%	70-170%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42837-BS	BB62989.D	1	04/28/15	NK	04/27/15	OP42837	GBB3427
OP42837-BSD	BB62990.D	1	04/28/15	NK	04/27/15	OP42837	GBB3427

The QC reported here applies to the following samples: **Method:** SW846 8011

JB93023-21, JB93023-22, JB93023-23, JB93023-24

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	32.9	33.2	101	32.6	98	2	59-133/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	Bromofluorobenzene (S)	100%	99%	70-170%
460-00-4	Bromofluorobenzene (S)	101%	100%	70-170%

13.2.1
13

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42847-BS	BB62992.D	1	04/28/15	NK	04/27/15	OP42847	GBB3427
OP42847-BSD	BB62993.D	1	04/28/15	NK	04/27/15	OP42847	GBB3427

The QC reported here applies to the following samples: **Method:** SW846 8011

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8, JB93023-9, JB93023-10, JB93023-11, JB93023-12, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	32.8	33.9	103	33.9	105	0	59-133/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	Bromofluorobenzene (S)	107%	109%	70-170%
460-00-4	Bromofluorobenzene (S)	106%	106%	70-170%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42837-MS	BB62994.D	1	04/28/15	NK	04/27/15	OP42837	GBB3427
OP42837-MSD	BB62995.D	1	04/28/15	NK	04/27/15	OP42837	GBB3427
MC38153-1	BB62996.D	1	04/28/15	NK	04/27/15	OP42837	GBB3427

The QC reported here applies to the following samples: **Method:** SW846 8011

JB93023-21, JB93023-22, JB93023-23, JB93023-24

CAS No.	Compound	MC38153-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		39.2	41.3	105	39.4	41.5	106	0	74-147/30

CAS No.	Surrogate Recoveries	MS	MSD	MC38153-1	Limits
460-00-4	Bromofluorobenzene (S)	113%	95%	107%	70-170%
460-00-4	Bromofluorobenzene (S)	113%	99%	114%	70-170%

13.3.1

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* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42847-MS	BB63007.D	1	04/29/15	NK	04/27/15	OP42847	GBB3427
OP42847-MSD	BB63008.D	1	04/29/15	NK	04/27/15	OP42847	GBB3427
JB93023-15	BB63025.D	1	04/29/15	NK	04/27/15	OP42847	GBB3427

The QC reported here applies to the following samples: **Method:** SW846 8011

JB93023-1, JB93023-2, JB93023-3, JB93023-4, JB93023-5, JB93023-6, JB93023-7, JB93023-8, JB93023-9, JB93023-10, JB93023-11, JB93023-12, JB93023-13, JB93023-14, JB93023-15, JB93023-16, JB93023-17, JB93023-18, JB93023-19, JB93023-20

CAS No.	Compound	JB93023-15 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		38.3	45.7	120	39.3	48.9	124	7	74-147/30

CAS No.	Surrogate Recoveries	MS	MSD	JB93023-15	Limits
460-00-4	Bromofluorobenzene (S)	88%	103%	86%	70-170%
460-00-4	Bromofluorobenzene (S)	105%	117%	127%	70-170%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Method: SW846 8011 **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
JB93023-1	BB63010.D	96	99
JB93023-2	BB63011.D	79	116
JB93023-3	BB63012.D	111	143
JB93023-4	BB63013.D	85	134
JB93023-5	BB63014.D	73	111
JB93023-6	BB63015.D	94	132
JB93023-7	BB63016.D	70	113
JB93023-8	BB63017.D	70	110
JB93023-9	BB63018.D	85	123
JB93023-10	BB63019.D	82	105
JB93023-11	BB63021.D	83	116
JB93023-12	BB63022.D	80	105
JB93023-13	BB63033.D	98	107
JB93023-14	BB63024.D	72	113
JB93023-15	BB63025.D	86	127
JB93023-16	BB63026.D	85	128
JB93023-17	BB63027.D	77	115
JB93023-18	BB63028.D	78	124
JB93023-19	BB63029.D	75	108
JB93023-20	BB63030.D	83	114
JB93023-21	BB63000.D	119	120
JB93023-22	BB63001.D	108	114
JB93023-23	BB63002.D	94	113
JB93023-24	BB63003.D	97	113
OP42837-BS	BB62989.D	100	101
OP42837-BSD	BB62990.D	99	100
OP42837-MB	BB62988.D	101	108
OP42837-MS	BB62994.D	113	113
OP42837-MSD	BB62995.D	95	99
OP42847-BS	BB62992.D	107	106
OP42847-BSD	BB62993.D	109	106
OP42847-MB	BB62991.D	110	112
OP42847-MS	BB63007.D	88	105
OP42847-MSD	BB63008.D	103	117

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	70-170%

Volatile Surrogate Recovery Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Method: SW846 8011 **Matrix:** SO

Samples and QC shown here apply to the above method

Surrogate Compounds	Recovery Limits

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Check Std:	GBB3427-ICC3427	**Injection Date:**	04/28/15
Lab File ID:	BB62984.D	**Injection Time:**	17:10
Instrument ID:	GCBB	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	6.87	7.22

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP42837-MB	BB62988.D	04/28/15	19:06	6.87	7.22
OP42837-BS	BB62989.D	04/28/15	19:35	6.87	7.22
OP42837-BSD	BB62990.D	04/28/15	20:04	6.86	7.22
OP42847-MB	BB62991.D	04/28/15	20:33	6.87	7.22
OP42847-BS	BB62992.D	04/28/15	21:02	6.87	7.22
OP42847-BSD	BB62993.D	04/28/15	21:32	6.87	7.22
OP42837-MS	BB62994.D	04/28/15	22:02	6.86	7.21
OP42837-MSD	BB62995.D	04/28/15	22:31	6.87	7.22
MC38153-1	BB62996.D	04/28/15	23:00	6.87	7.22
ZZZZZZ	BB62997.D	04/28/15	23:30	6.87	7.21

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Check Std:	GBB3427-CC3427	**Injection Date:**	04/28/15
Lab File ID:	BB62998.D	**Injection Time:**	23:58
Instrument ID:	GCBB	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	6.87	7.22

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BB62999.D	04/29/15	00:28	6.87	7.21
JB93023-21	BB63000.D	04/29/15	00:57	6.87	7.22
JB93023-22	BB63001.D	04/29/15	01:27	6.86	7.21
JB93023-23	BB63002.D	04/29/15	01:57	6.87	7.21
JB93023-24	BB63003.D	04/29/15	02:26	6.87	7.21
ZZZZZZ	BB63004.D	04/29/15	02:55	6.87	7.21
ZZZZZZ	BB63005.D	04/29/15	03:25	6.87	7.21
ZZZZZZ	BB63006.D	04/29/15	03:55	6.86	7.21
OP42847-MS	BB63007.D	04/29/15	04:25	6.86	7.21
OP42847-MSD	BB63008.D	04/29/15	04:54	6.87	7.21

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Check Std:	GBB3427-CC3427	**Injection Date:**	04/29/15
Lab File ID:	BB63009.D	**Injection Time:**	05:24
Instrument ID:	GCBB	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	6.86	7.21

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
JB93023-1	BB63010.D	04/29/15	05:53	6.86	7.21
JB93023-2	BB63011.D	04/29/15	06:21	6.86	7.22
JB93023-3	BB63012.D	04/29/15	06:49	6.86	7.21
JB93023-4	BB63013.D	04/29/15	07:17	6.87	7.22
JB93023-5	BB63014.D	04/29/15	07:46	6.86	7.21
JB93023-6	BB63015.D	04/29/15	08:14	6.86	7.21
JB93023-7	BB63016.D	04/29/15	08:43	6.87	7.21
JB93023-8	BB63017.D	04/29/15	09:12	6.87	7.21
JB93023-9	BB63018.D	04/29/15	09:42	6.87	7.21
JB93023-10	BB63019.D	04/29/15	10:12	6.86	7.21

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Check Std:	GBB3427-CC3427	**Injection Date:**	04/29/15
Lab File ID:	BB63020.D	**Injection Time:**	10:41
Instrument ID:	GCBB	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	6.86	7.21

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
JB93023-11	BB63021.D	04/29/15	11:10	6.87	7.21
JB93023-12	BB63022.D	04/29/15	11:40	6.86	7.21
JB93023-14	BB63024.D	04/29/15	12:38	6.87	7.21
JB93023-15	BB63025.D	04/29/15	13:07	6.87	7.21
JB93023-16	BB63026.D	04/29/15	13:36	6.87	7.22
JB93023-17	BB63027.D	04/29/15	14:05	6.87	7.21
JB93023-18	BB63028.D	04/29/15	14:33	6.87	7.22
JB93023-19	BB63029.D	04/29/15	15:02	6.87	7.22
JB93023-20	BB63030.D	04/29/15	15:31	6.87	7.22
GBB3427-ECC3427	BB63031.D	04/29/15	16:00	6.87	7.22

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Check Std:	GBB3428-CC3427	**Injection Date:**	04/30/15
Lab File ID:	BB63032.D	**Injection Time:**	11:30
Instrument ID:	GCBB	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	6.87	7.22

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
JB93023-13	BB63033.D	04/30/15	11:59	6.87	7.21
GBB3428-ECC3427	BB63034.D	04/30/15	12:27	6.87	7.21

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Sample: GBB3427-ICC3427
Lab FileID: BB62984.D

```
                         Response Factor Report  GCBB

  Method       : C:\msdchem\1\METHODS\EDS150428.M (ChemStation Integrator)
  Title        : v8011edb soil
  Last Update  : Wed Apr 29 11:30:08 2015
  Response via : Initial Calibration

  Calibration Files
  1   =BB62986.d   2   =BB62985.d   3   =BB62984.d   4   =BB62983.d
  5      =BB62982.d    6      =BB62981.d

        Compound              1     2     3     4     5     6     Avg    %RSD
  ---------------------------------------------------------------------------
  1)     1,2-Dibromoethane   0.857 0.883 0.847 1.056 0.908 0.921 0.912 E6   8.35
  2) s   4-Bromofluorobenzen 3.968 4.029 3.920 3.819 3.304 2.922 3.660 E4  12.19
          ----- Quadratic regression -----                Coefficient =  0.9999
               Response Ratio = -66284.30336 + 41066.10067 *A + -4.92971 *A^2

  3)     1,2-Dibromo-3-chlor 1.317 1.339 1.291 1.504 1.267 1.301 1.337 E6   6.41

Signal #2

  1)     1,2-Dibromoethane   5.981 5.925 5.915 7.042 6.713 7.661 6.539 E6  11.07
          ----- Quadratic regression -----                Coefficient =  0.9986
               Response Ratio = 2012586.65103 + 5906766.62673 *A + 370.29580 *A^2

  2) s   4-Bromofluorobenzen 3.889 4.008 4.145 4.381 4.337 5.351 4.352 E5  12.05
          ----- Quadratic regression -----                Coefficient =  0.9997
               Response Ratio = 546667.83383 + 408292.57634 *A + -111.93837 *A^2

  3)     1,2-Dibromo-3-chlor 0.895 0.914 0.898 1.096 0.864 0.927 0.932 E7   8.89
 ---------------------------------------------------------------------------
 (#) = Out of Range

           EDS150428.M        Wed Apr 29 11:30:23 2015
```

13.6.1

13

Initial Calibration Verification

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks

Sample: GBB3427-ICV3427
Lab FileID: BB62987.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\1\DATA\BB...8a\BB62987.d\ECD1B.CH Vial: 82
 Signal #2 : C:\msdchem\1\DATA\BB150428a\BB62987.d\ECD2A.CH
 Acq On    : 28-Apr-15, 18:37:33                       Operator: nickk
 Sample    : icv3427-20,edb                            Inst    : GCBB
 Misc      : op42837,gbb3427,30,,,50,,s                Multiplr: 1.00
 IntFile Signal #1: events.e     IntFile Signal #2: events2.e

 Method       : C:\msdchem\1\METHODS\EDS150428.M (ChemStation Integrator)
 Title        : v8011edb soil
 Last Update  : Wed Apr 29 11:30:08 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  85%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  15%     Max. Rel. Area : 115%

        Compound                AvgRF   CCRF      %Dev Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane      911.818 808.293 E3  11.4   92   0.00    3.84- 3.90

           ----------------------- True    Calc.   % Drift  ------------
 2 s   4-Bromofluorobenzene   100.000  99.624      0.4   99   0.00    7.19- 7.25

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   1.337   1.236 E6   7.6   92   0.00   11.30-11.36

*****  Signal #2   *****


           ----------------------- True    Calc.   % Drift  ------------
 1     1,2-Dibromoethane       20.000  19.001      5.0   97   0.00    3.87- 3.93
 2 s   4-Bromofluorobenzene   100.000  98.774      1.2   99   0.00    6.84- 6.90

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   9.321   8.543 E6   8.3   94   0.00   11.69-11.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    BB62985.d  EDS150428.M       Wed Apr 29 11:31:36 2015
```

13.6.2

13

Continuing Calibration Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Sample: GBB3427-CC3427
Lab FileID: BB62998.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\1\DATA\BB...8a\BB62998.d\ECD1B.CH Vial: 100
 Signal #2 : C:\msdchem\1\DATA\BB150428a\BB62998.d\ECD2A.CH
 Acq On    : 28-Apr-15, 23:58:33                      Operator: nickk
 Sample    : cc3427-20,edb                            Inst    : GCBB
 Misc      : op42837,gbb3427,30,,,50,,s               Multiplr: 1.00
 IntFile Signal #1: events.e     IntFile Signal #2: events2.e

 Method       : C:\msdchem\1\METHODS\EDS150428.M (ChemStation Integrator)
 Title        : v8011edb soil
 Last Update  : Wed Apr 29 11:30:08 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  85%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  15%     Max. Rel. Area : 115%

        Compound                AvgRF   CCRF      %Dev Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane      911.818 954.725 E3  -4.7  108   0.00    3.84- 3.90

           ----------------------- True    Calc.   % Drift  ------------
 2 s   4-Bromofluorobenzene   100.000 102.649     -2.6  102   0.00    7.19- 7.25

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   1.337   1.574 E6 -17.7# 118#  0.00   11.30-11.36

*****  Signal #2   *****


           ----------------------- True    Calc.   % Drift  ------------
 1     1,2-Dibromoethane       20.000  20.120     -0.6  102   0.00    3.87- 3.93
 2 s   4-Bromofluorobenzene   100.000  97.170      2.8   98   0.00    6.84- 6.90

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   9.321  10.325 E6 -10.8  113   0.00   11.69-11.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    BB62985.d  EDS150428.M       Wed Apr 29 13:04:58 2015
```

13.6.3

13

Continuing Calibration Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Sample: GBB3427-CC3427
Lab FileID: BB63009.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\1\DATA\BB...8a\BB63009.d\ECD1B.CH Vial: 100
 Signal #2 : C:\msdchem\1\DATA\BB150428a\BB63009.d\ECD2A.CH
 Acq On    : 29-Apr-15, 05:24:44                       Operator: nickk
 Sample    : cc3427-20,edb                             Inst    : GCBB
 Misc      : op42837,gbb3427,30,,,50,,s                Multiplr: 1.00
 IntFile Signal #1: events.e     IntFile Signal #2: events2.e

 Method       : C:\msdchem\1\METHODS\EDS150428.M (ChemStation Integrator)
 Title        : v8011edb soil
 Last Update  : Wed Apr 29 11:30:08 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  85%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  15%     Max. Rel. Area : 115%

        Compound                AvgRF   CCRF      %Dev Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane      911.818 898.512 E3   1.5  102  -0.01    3.83- 3.89

           ----------------------- True    Calc.   % Drift  ------------
 2 s   4-Bromofluorobenzene   100.000 103.135     -3.1  102   0.00    7.18- 7.24

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   1.337   1.630 E6 -21.9# 122#  0.00   11.30-11.36

*****  Signal #2   *****


           ----------------------- True    Calc.   % Drift  ------------
 1     1,2-Dibromoethane       20.000  19.037      4.8   97   0.00    3.87- 3.93
 2 s   4-Bromofluorobenzene   100.000  91.095      8.9   92   0.00    6.83- 6.89

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   9.321   9.933 E6  -6.6  109   0.00   11.69-11.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    BB62985.d  EDS150428.M       Wed Apr 29 13:10:58 2015
```

13.6.4
13

Continuing Calibration Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Sample: GBB3427-CC3427
Lab FileID: BB63020.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\1\DATA\BB...8a\BB63020.d\ECD1B.CH Vial: 99
 Signal #2 : C:\msdchem\1\DATA\BB150428a\BB63020.d\ECD2A.CH
 Acq On    : 29-Apr-15, 10:41:29                       Operator: nickk
 Sample    : cc3427-20,edb                             Inst    : GCBB
 Misc      : op42837,gbb3427,30,,,50,,s                Multiplr: 1.00
 IntFile Signal #1: events.e     IntFile Signal #2: events2.e

 Method       : C:\msdchem\1\METHODS\EDS150428.M (ChemStation Integrator)
 Title        : v8011edb soil
 Last Update  : Wed Apr 29 11:30:08 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  85%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  15%     Max. Rel. Area : 115%

        Compound                AvgRF   CCRF      %Dev Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane      911.818 970.729 E3  -6.5  110  -0.01    3.83- 3.89

           ------------------------ True    Calc.   % Drift  ------------
 2 s   4-Bromofluorobenzene   100.000 103.683     -3.7  103   0.00    7.18- 7.24

           ------------------------ AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   1.337   1.739 E6 -30.1# 130#  0.00   11.30-11.36

*****  Signal #2   *****


           ------------------------ True    Calc.   % Drift  ------------
 1     1,2-Dibromoethane       20.000  17.266     13.7   88   0.00    3.87- 3.93
 2 s   4-Bromofluorobenzene   100.000  74.381     25.6#  76   0.00    6.83- 6.89

           ------------------------ AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   9.321   9.231 E6   1.0  101   0.00   11.69-11.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    BB62985.d  EDS150428.M       Wed Apr 29 13:15:44 2015
```

13.6.5

13

Continuing Calibration Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Sample: GBB3427-ECC3427
Lab FileID: BB63031.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\1\DATA\BB...8a\BB63031.d\ECD1B.CH Vial: 99
 Signal #2 : C:\msdchem\1\DATA\BB150428a\BB63031.d\ECD2A.CH
 Acq On    : 29-Apr-15, 16:00:58                       Operator: nickk
 Sample    : ecc3427-20,edb                            Inst    : GCBB
 Misc      : op42837,gbb3427,30,,,50,,s                Multiplr: 1.00
 IntFile Signal #1: events.e     IntFile Signal #2: events2.e

 Method       : C:\msdchem\1\METHODS\EDS150428.M (ChemStation Integrator)
 Title        : v8011edb soil
 Last Update  : Wed Apr 29 11:30:08 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  85%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  15%     Max. Rel. Area : 115%

        Compound                AvgRF   CCRF      %Dev Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane      911.818 1037.589 E3 -13.8  117# -0.01    3.83- 3.89

           ----------------------- True    Calc.   % Drift  ------------
 2 s   4-Bromofluorobenzene   100.000 107.302     -7.3  106   0.00    7.19- 7.25

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   1.337   1.732 E6 -29.5# 129#  0.00   11.30-11.36

*****  Signal #2   *****


           ----------------------- True    Calc.   % Drift  ------------
 1     1,2-Dibromoethane       20.000  17.587     12.1   89   0.00    3.87- 3.93
 2 s   4-Bromofluorobenzene   100.000  80.550     19.5#  82   0.00    6.84- 6.90

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   9.321   9.017 E6   3.3   99   0.00   11.69-11.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    BB62985.d  EDS150428.M       Thu Apr 30 08:50:57 2015
```

13.6.6

13

Continuing Calibration Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Sample: GBB3428-CC3427
Lab FileID: BB63032.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\1\DATA\BB...30\BB63032.d\ECD1B.CH Vial: 100
 Signal #2 : C:\msdchem\1\DATA\BB150430\BB63032.d\ECD2A.CH
 Acq On    : 30-Apr-15, 11:30:53                       Operator: nickk
 Sample    : cc3427-20,edb                             Inst    : GCBB
 Misc      : op42837,gbb3428,30,,,50,,s                Multiplr: 1.00
 IntFile Signal #1: events.e     IntFile Signal #2: events2.e

 Method       : C:\msdchem\1\METHODS\EDS150430.M (ChemStation Integrator)
 Title        : v8011edb soil
 Last Update  : Wed Apr 29 11:30:08 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  85%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  15%     Max. Rel. Area : 115%

        Compound                AvgRF   CCRF      %Dev Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane      911.818 893.226 E3   2.0  101   0.00    3.84- 3.90

           ----------------------- True    Calc.   % Drift  ------------
 2 s   4-Bromofluorobenzene   100.000 101.102     -1.1  100   0.00    7.19- 7.25

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   1.337   1.323 E6   1.0   99   0.00   11.31-11.37

*****  Signal #2   *****


           ----------------------- True    Calc.   % Drift  ------------
 1     1,2-Dibromoethane       20.000  19.281      3.6   98   0.00    3.87- 3.93
 2 s   4-Bromofluorobenzene   100.000 100.685     -0.7  101   0.00    6.84- 6.90

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   9.321   8.661 E6   7.1   95   0.00   11.69-11.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    BB62985.d  EDS150430.M       Thu Apr 30 11:56:22 2015
```

13.6.7

13

Continuing Calibration Summary

Job Number: JB93023
Account: ALNJ Accutest New Jersey
Project: SECORPAE: MHIC-592/593 Tanks
Sample: GBB3428-ECC3427
Lab FileID: BB63034.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\1\DATA\BB...30\BB63034.d\ECD1B.CH Vial: 100
 Signal #2 : C:\msdchem\1\DATA\BB150430\BB63034.d\ECD2A.CH
 Acq On    : 30-Apr-15, 12:27:55                       Operator: nickk
 Sample    : ecc3427-20,edb                            Inst    : GCBB
 Misc      : op42837,gbb3428,30,,,50,,s                Multiplr: 1.00
 IntFile Signal #1: events.e     IntFile Signal #2: events2.e

 Method       : C:\msdchem\1\METHODS\EDS150430.M (ChemStation Integrator)
 Title        : v8011edb soil
 Last Update  : Wed Apr 29 11:30:08 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  85%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  15%     Max. Rel. Area : 115%

        Compound                AvgRF   CCRF      %Dev Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1     1,2-Dibromoethane      911.818 982.355 E3  -7.7  111  -0.01    3.83- 3.89

           ----------------------- True    Calc.   % Drift  ------------
 2 s   4-Bromofluorobenzene   100.000 102.847     -2.8  102   0.00    7.18- 7.24

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   1.337   1.614 E6 -20.7# 121#  0.00   11.30-11.36

*****  Signal #2   *****


           ----------------------- True    Calc.   % Drift  ------------
 1     1,2-Dibromoethane       20.000  20.414     -2.1  104   0.00    3.87- 3.93
 2 s   4-Bromofluorobenzene   100.000  96.806      3.2   97   0.00    6.84- 6.90

           ----------------------- AvgRF   CCRF     % Dev   -------------
 3     1,2-Dibromo-3-chloropr   9.321  10.208 E6  -9.5  112   0.00   11.69-11.75
---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    BB62985.d  EDS150430.M       Thu Apr 30 13:03:40 2015
```

13.6.8 13

New Jersey

ACCUTEST LABORATORIES

GC Volatiles

Raw Data

(Accutest Labs of New England, Inc.)

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63010.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 05:53:44
Operator  : nickk
Sample    : jb93023-1,op42847
Misc      : op42847,gbb3427,30.38,,,50,,s
ALS Vial  : 21 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:11:46 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.210	6.861	1951107	19929148	49.419	48.107
Spiked Amount	50.000	Range	60 - 140	Recovery	= 98.84%	96.21%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.1

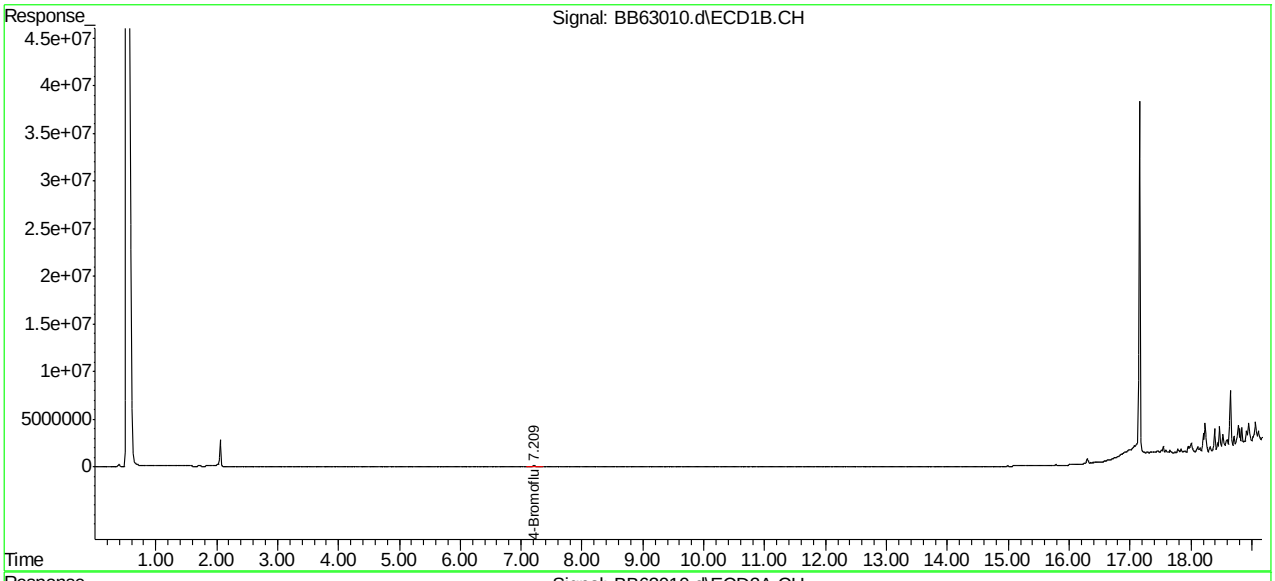
14

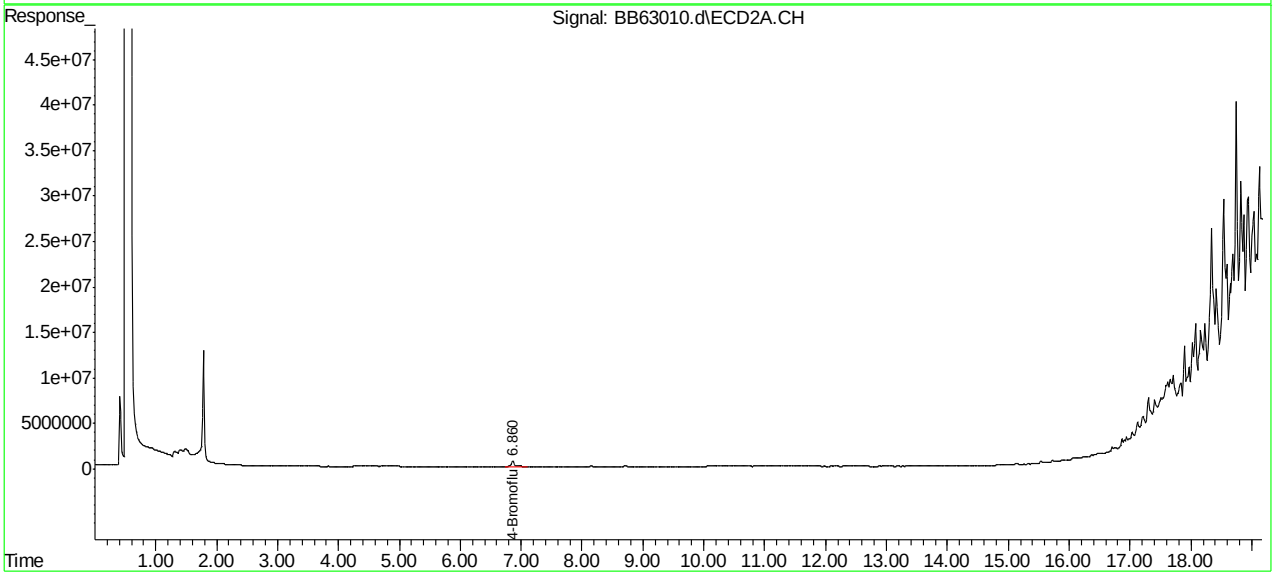
Quantitation Report (QT Reviewed)

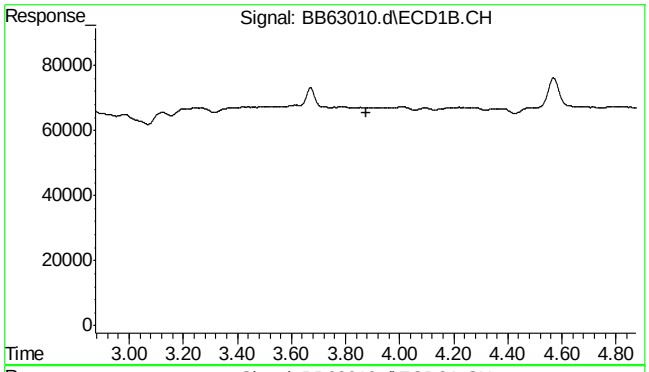
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63010.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 05:53:44
Operator : nickk
Sample : jb93023-1,op42847
Misc : op42847,gbb3427,30.38,,,50,,s
ALS Vial : 21 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:11:46 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

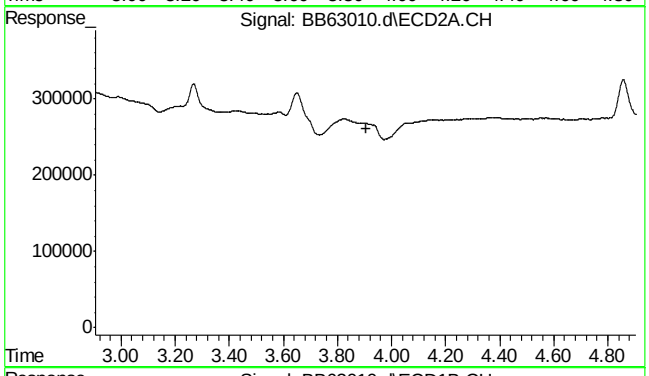






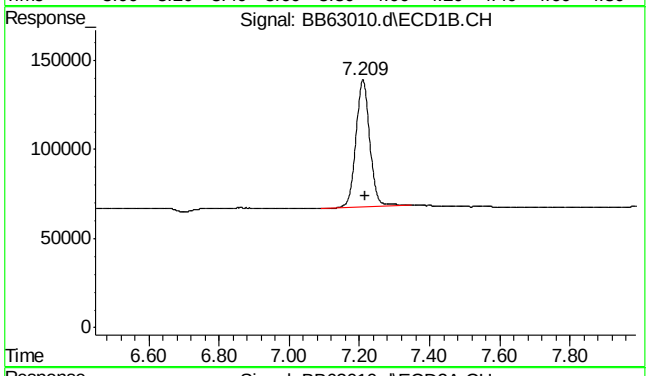
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



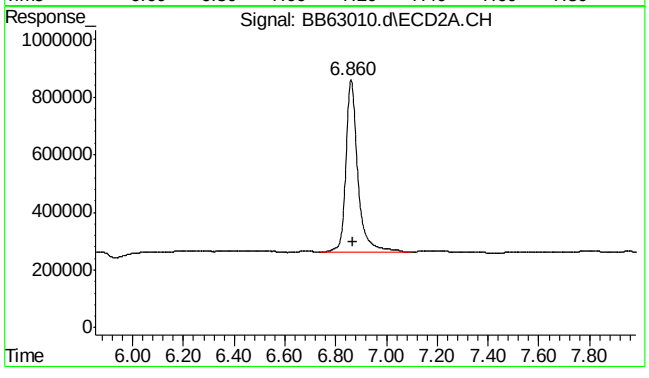
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



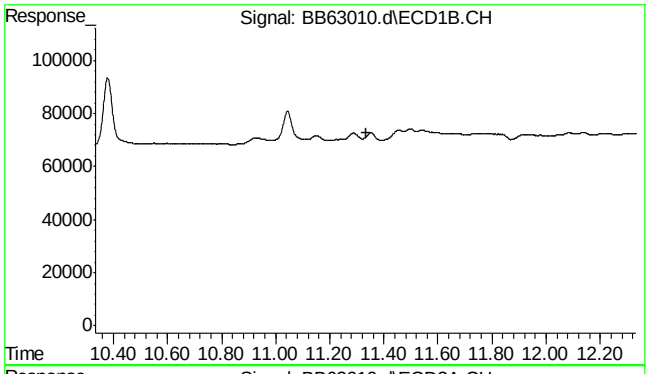
#2 4-Bromofluorobenzene

R.T.: 7.210 min
Delta R.T.: -0.007 min
Response: 1951107
Conc: 49.42 ug/L



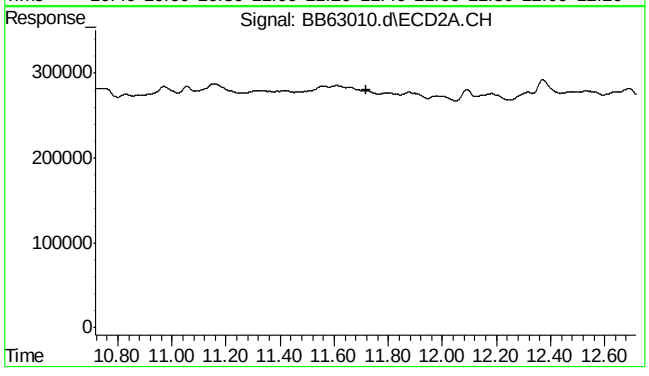
#2 4-Bromofluorobenzene

R.T.: 6.861 min
Delta R.T.: -0.007 min
Response: 19929148
Conc: 48.11 ug/L



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.1

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63011.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 06:21:41
Operator  : nickk
Sample    : jb93023-2,op42847
Misc      : op42847,gbb3427,30.20,,,50,,s
ALS Vial  : 22 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:11:55 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.216	6.864	2288989	16538339	57.754	39.597 #
Spiked Amount 50.000	Range 60 - 140	Recovery = 115.51%			79.19%	
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.2

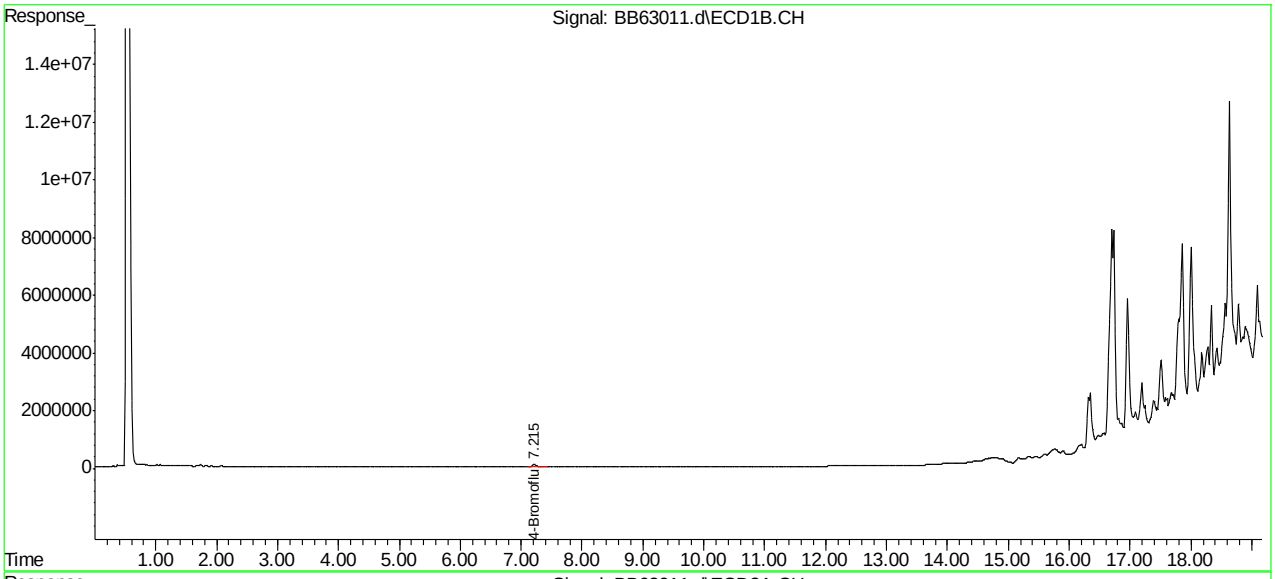
14

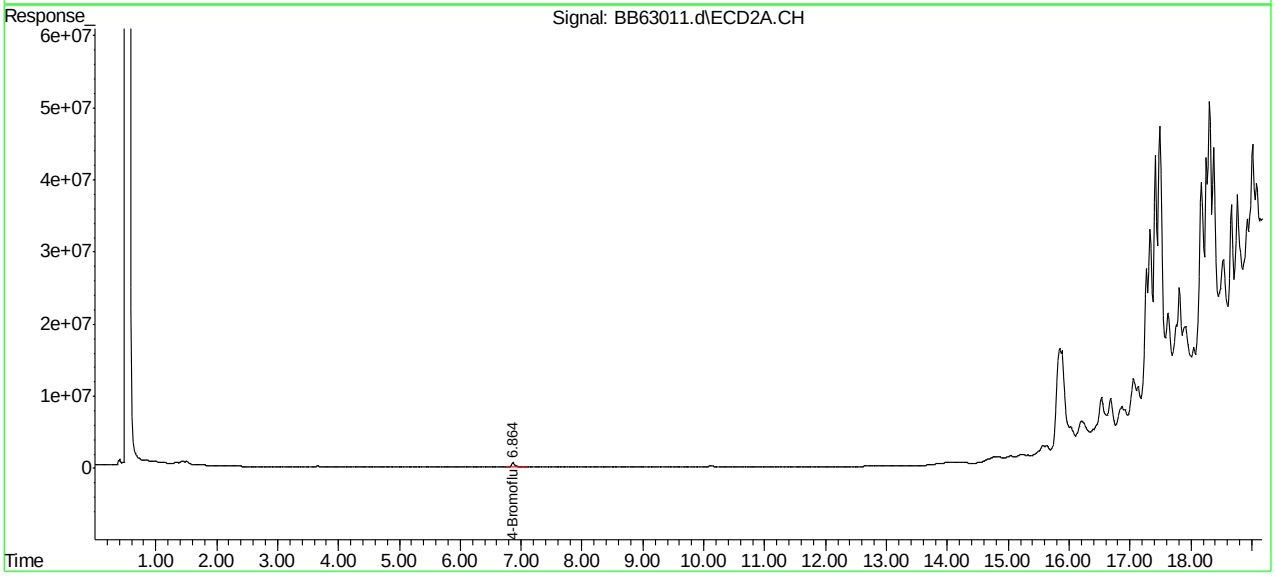
Quantitation Report (QT Reviewed)

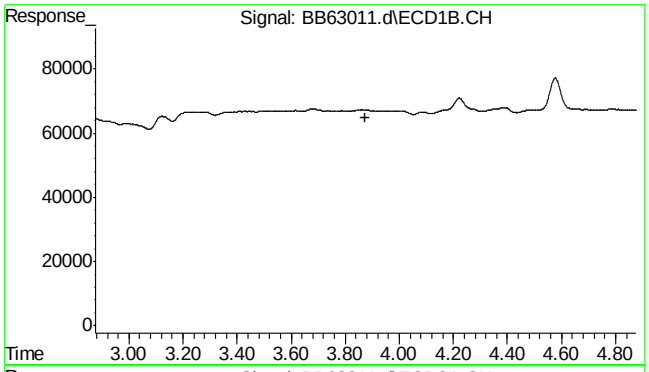
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63011.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 06:21:41
Operator : nickk
Sample : jb93023-2,op42847
Misc : op42847,gbb3427,30.20,,,50,,s
ALS Vial : 22 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:11:55 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

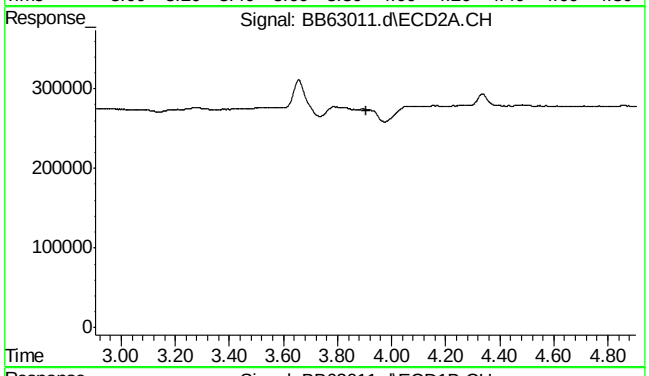






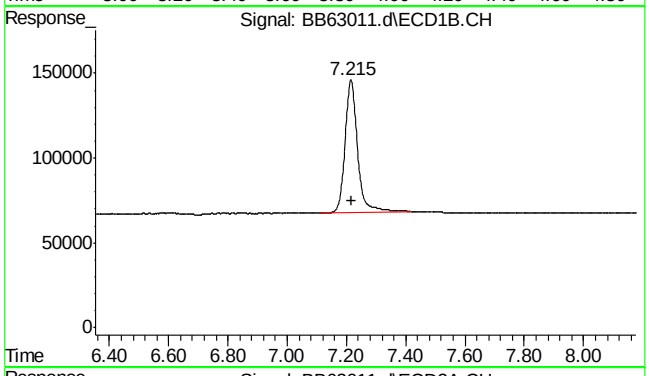
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



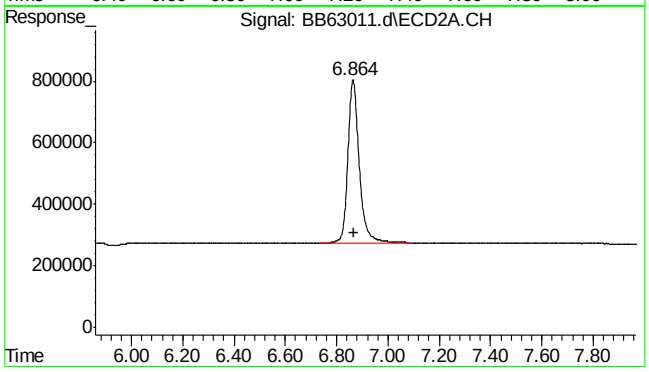
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



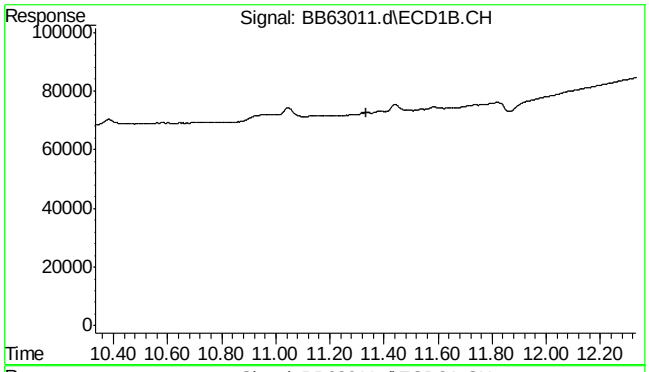
#2 4-Bromofluorobenzene

R.T.: 7.216 min
Delta R.T.: -0.001 min
Response: 2288989
Conc: 57.75 ug/L



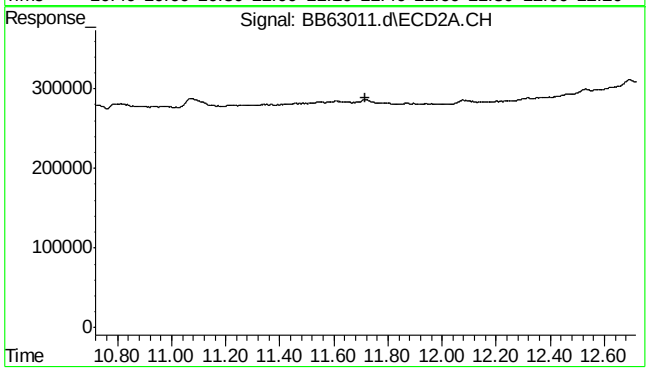
#2 4-Bromofluorobenzene

R.T.: 6.864 min
Delta R.T.: -0.004 min
Response: 16538339
Conc: 39.60 ug/L



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.2

14

Manual Integrations
APPROVED
(compounds with "m" flag)
Andri Piluri
04/30/15 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63012.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 06:49:50
Operator : nickk
Sample : jb93023-3,op42847
Misc : op42847,gbb3427,30.90,,,50,,s
ALS Vial : 23 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:12:19 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.210	6.858	2842395	22876245	71.442	55.536m
Spiked Amount 50.000	Range	60 - 140	Recovery	=	142.88%#	111.07%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

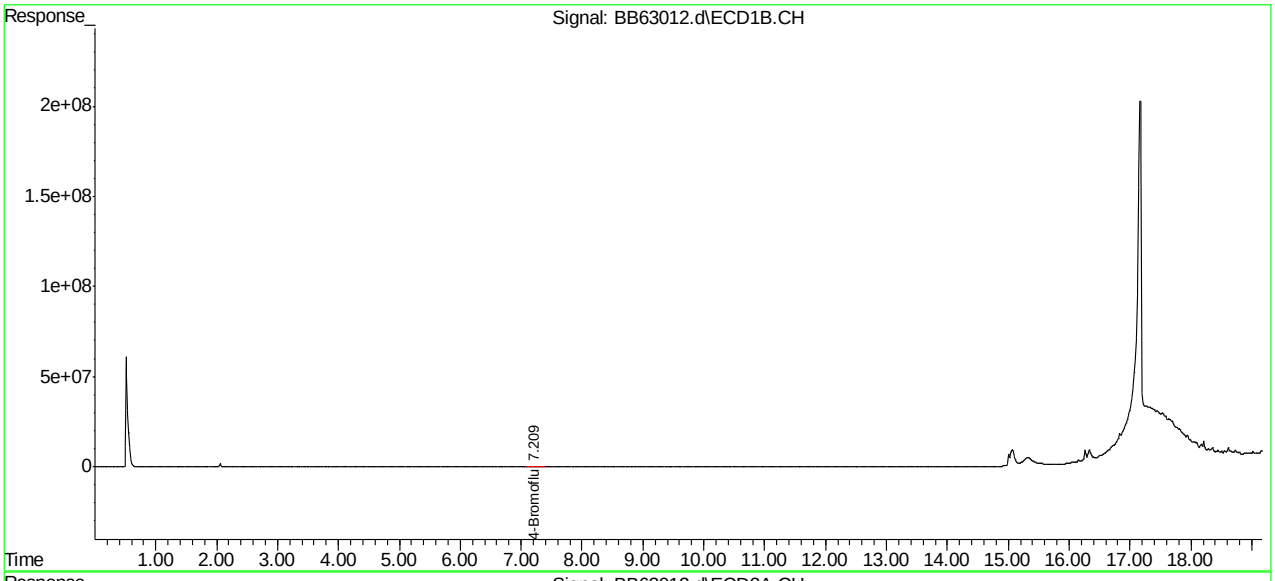
14.1.3
14

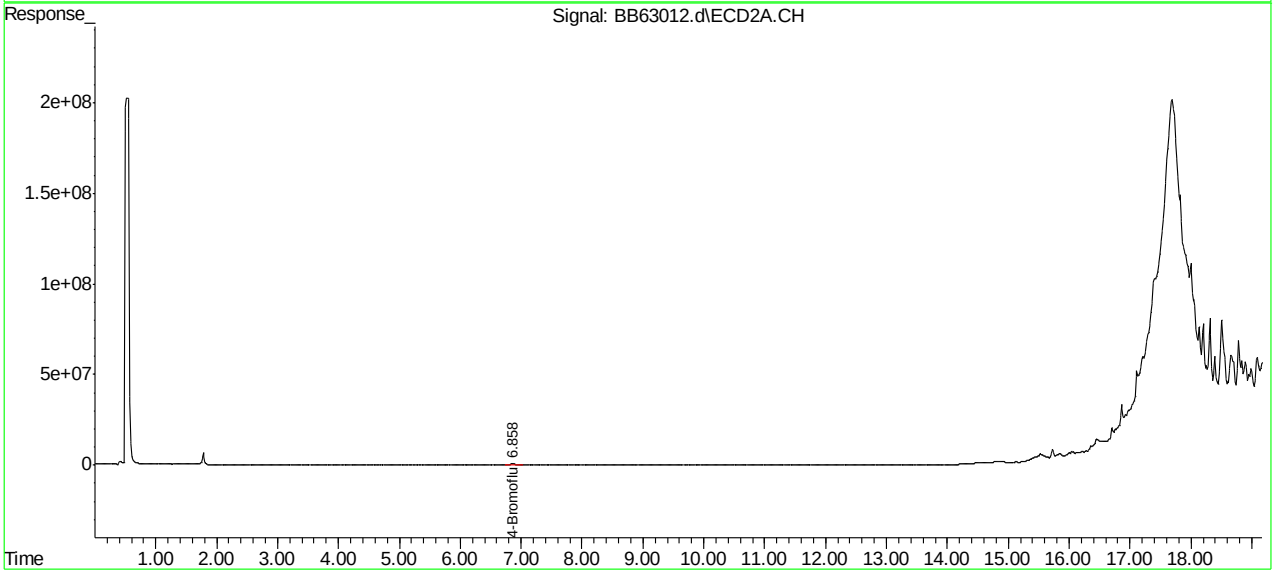
Quantitation Report (QT Reviewed)

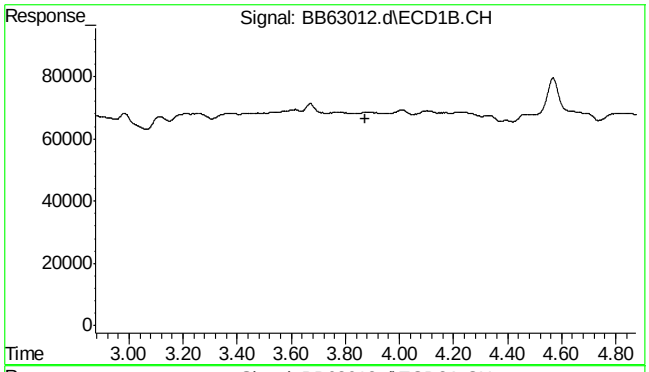
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63012.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 06:49:50
Operator : nickk
Sample : jb93023-3,op42847
Misc : op42847,gbb3427,30.90,,,50,,s
ALS Vial : 23 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:12:19 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

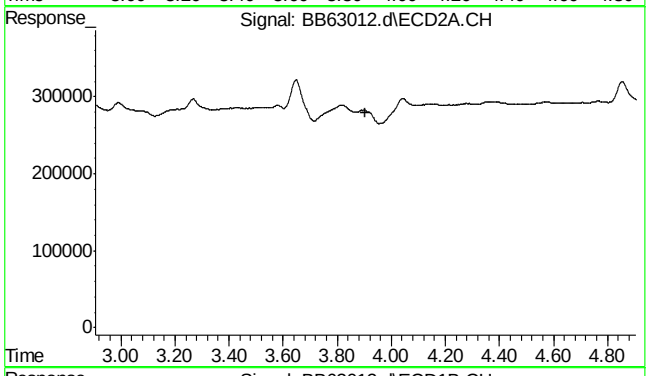






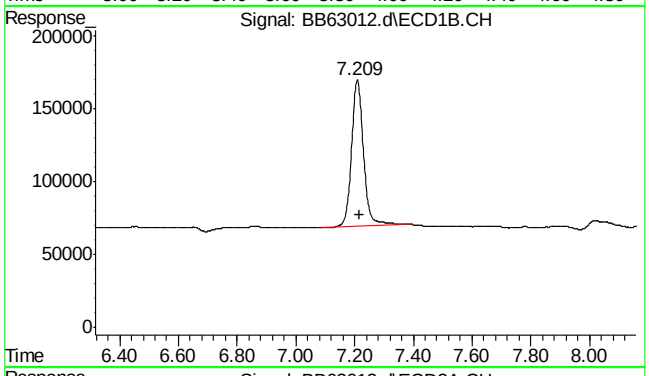
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



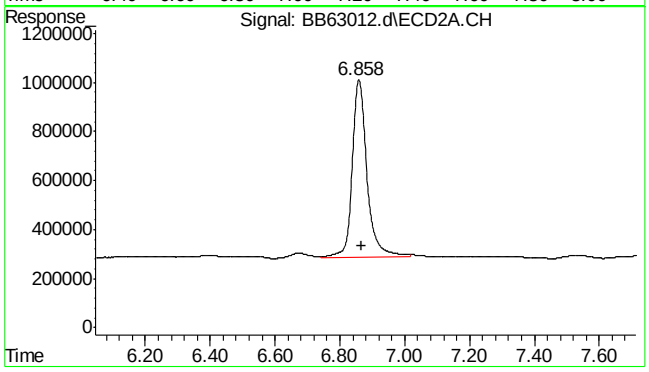
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



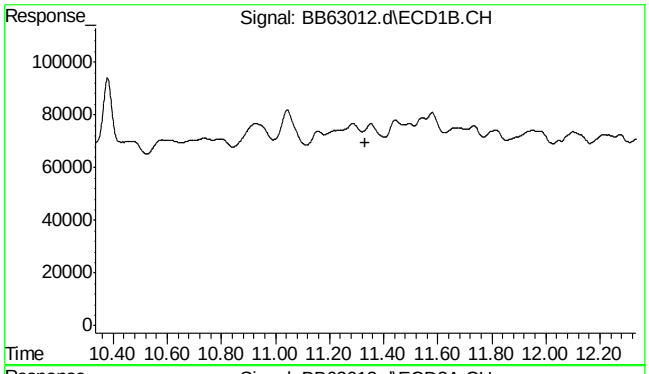
#2 4-Bromofluorobenzene

R.T.: 7.210 min
Delta R.T.: -0.007 min
Response: 2842395
Conc: 71.44 ug/L



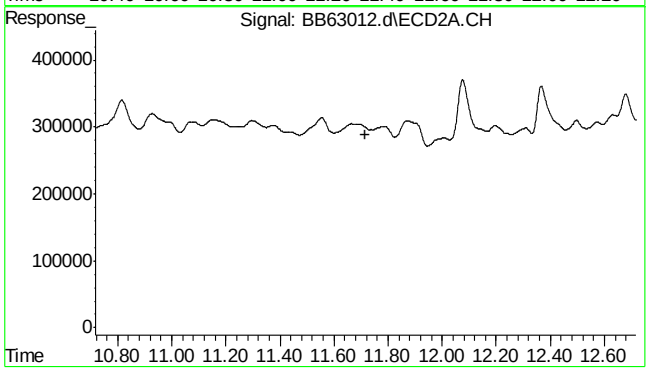
#2 4-Bromofluorobenzene

R.T.: 6.858 min
Delta R.T.: -0.010 min
Response: 22876245
Conc: 55.54 ug/L m



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.3

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63013.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 07:17:57
Operator  : nickk
Sample    : jb93023-4,op42847
Misc      : op42847,gbb3427,30.07,,,50,,s
ALS Vial  : 24 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:12:28 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.217	6.866	2654350	17712710	66.786	42.540 #
Spiked Amount 50.000	Range 60 - 140	Recovery = 133.57%			85.08%	
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.4

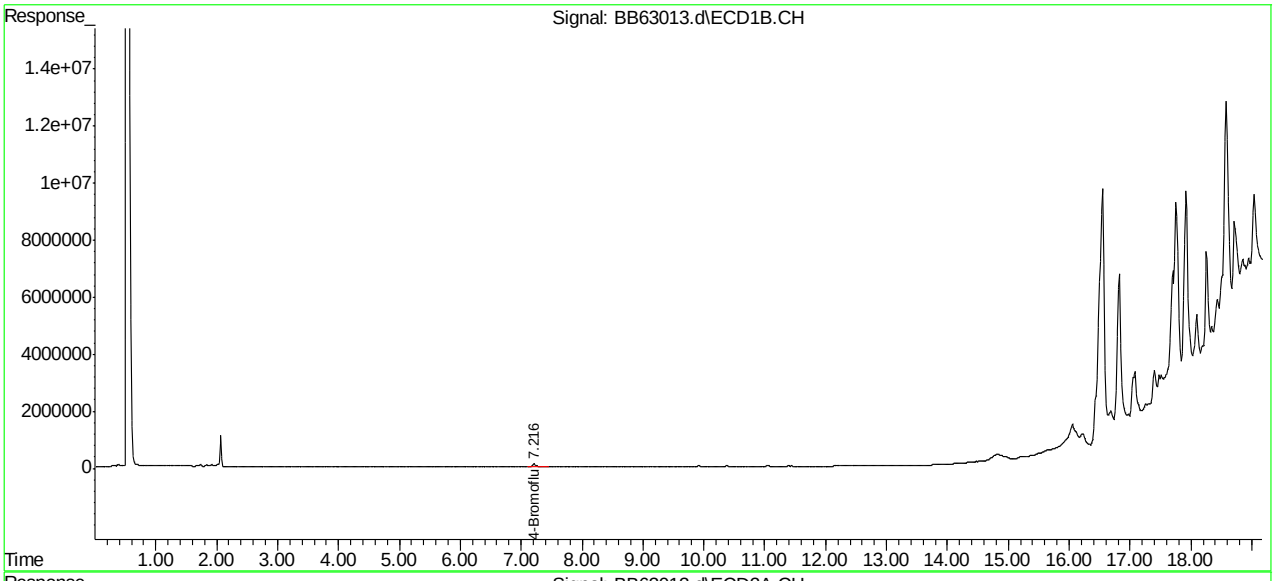
14

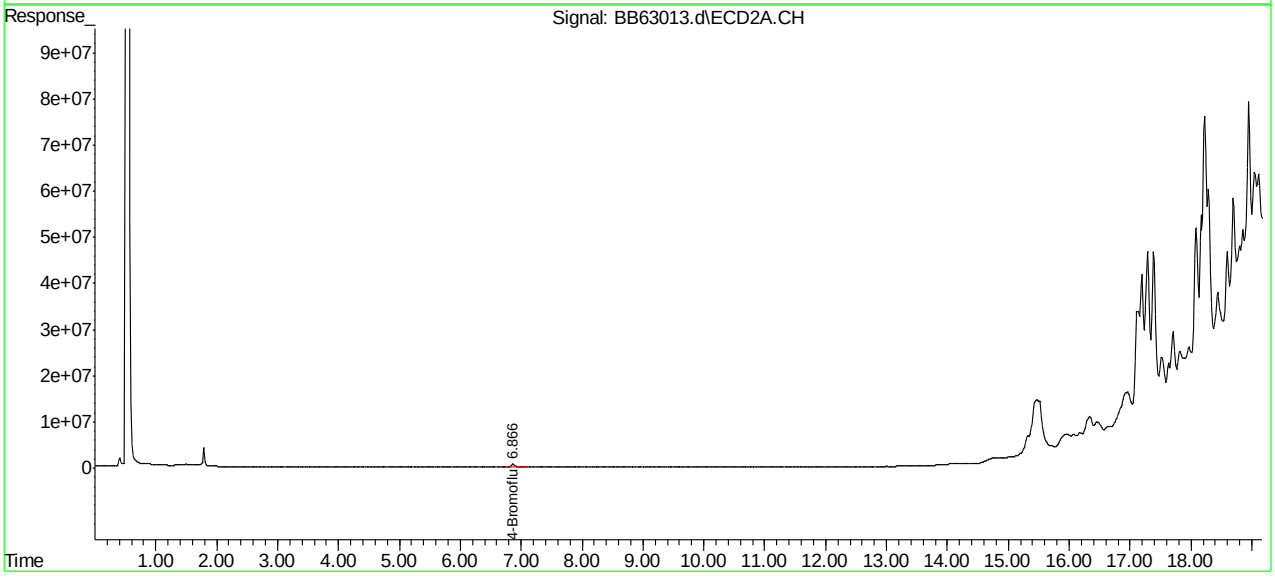
Quantitation Report (QT Reviewed)

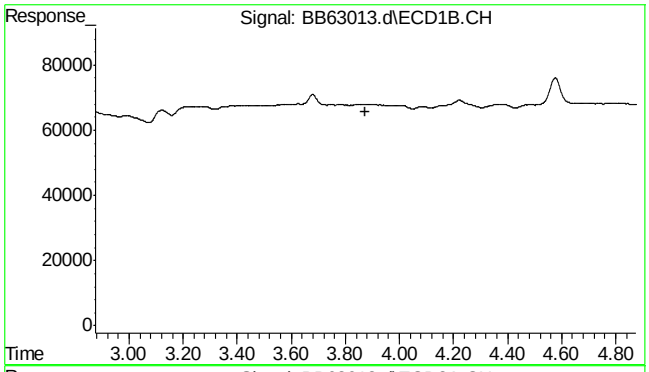
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63013.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 07:17:57
Operator : nickk
Sample : jb93023-4,op42847
Misc : op42847,gbb3427,30.07,,,50,,s
ALS Vial : 24 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:12:28 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

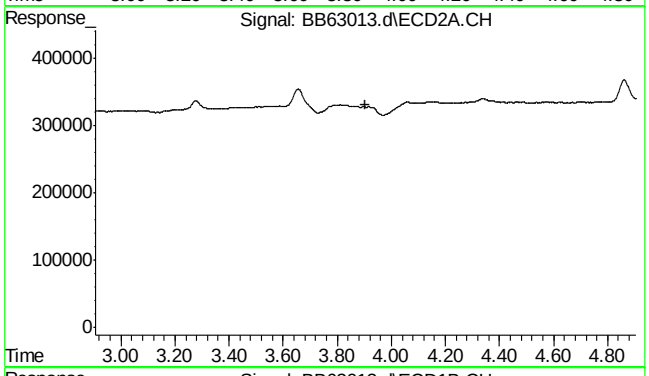






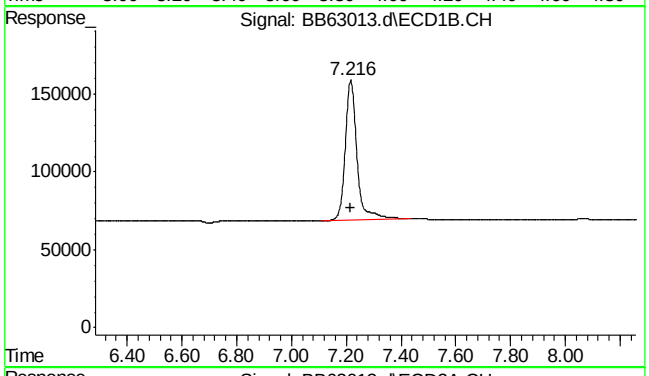
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



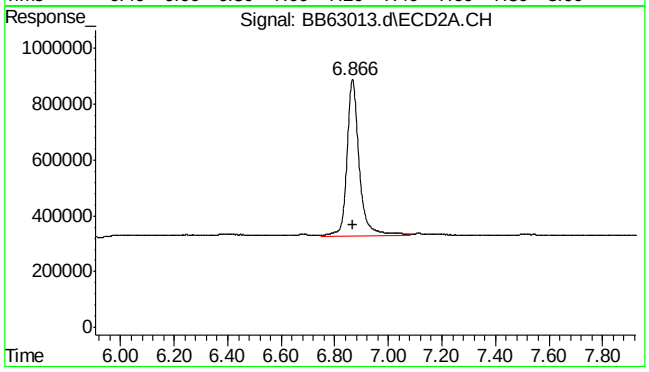
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



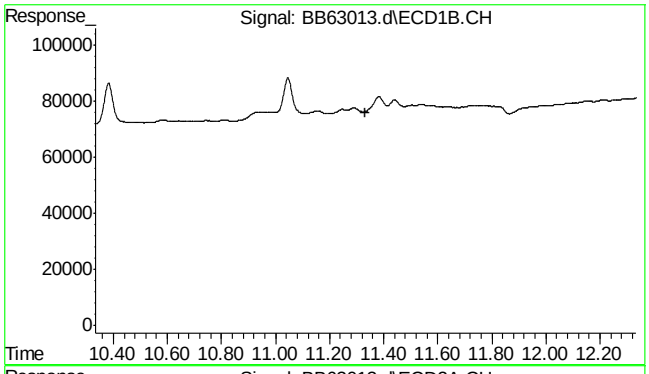
#2 4-Bromofluorobenzene

R.T.: 7.217 min
Delta R.T.: 0.000 min
Response: 2654350
Conc: 66.79 ug/L



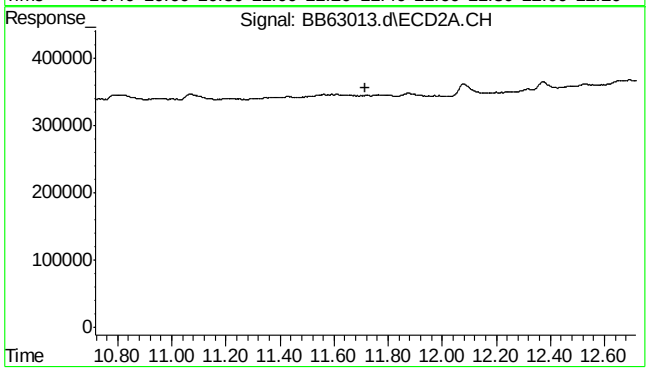
#2 4-Bromofluorobenzene

R.T.: 6.866 min
Delta R.T.: -0.002 min
Response: 17712710
Conc: 42.54 ug/L



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.4

14

Quantitation Report (QT Reviewed)

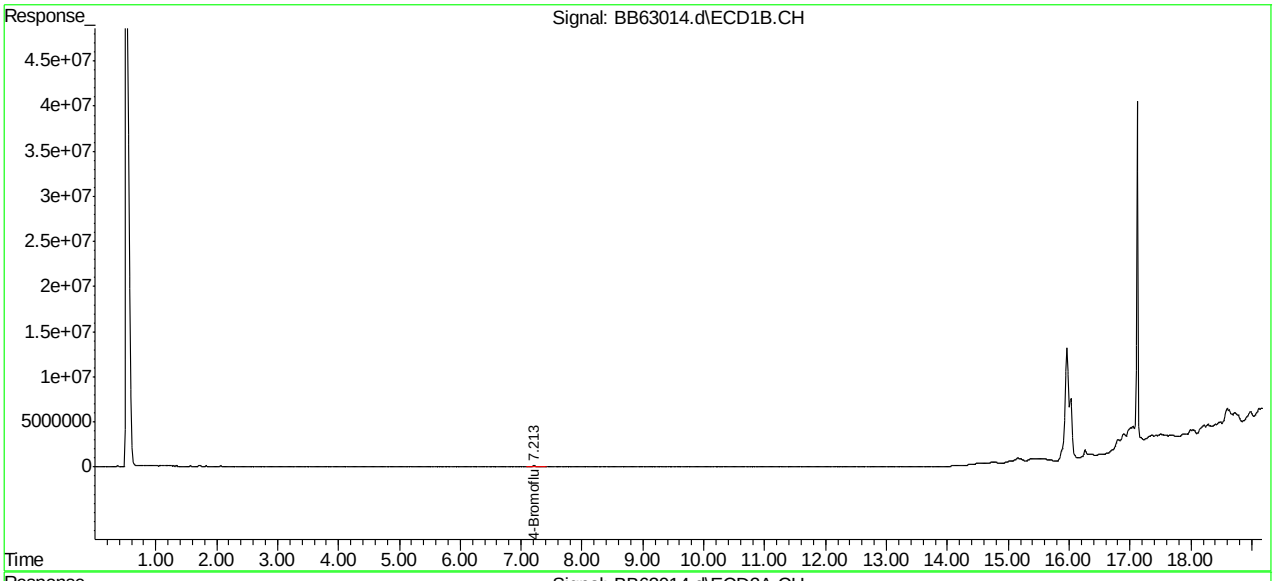
```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63014.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 07:46:12
Operator  : nickk
Sample    : jb93023-5,op42847
Misc      : op42847,gbb3427,30.22,,,50,,s
ALS Vial  : 25 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:12:38 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :

      Compound         RT#1      RT#2    Resp#1   Resp#2   ug/L    ug/L
  ---------------------------------------------------------------------------

  System Monitoring Compounds
2) s   4-Bromofl...    7.214     6.864   2205197 15270734   55.685    36.426 #
 Spiked Amount     50.000 Range  60 - 140  Recovery   =  111.37%    72.85%

  Target Compounds
1)     1,2-Dibro...    0.000     0.000         0        0    N.D. d    N.D. d
3)     1,2-Dibro...    0.000     0.000         0        0    N.D. d    N.D. d
  ---------------------------------------------------------------------------

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25%  (m)=manual int.
```

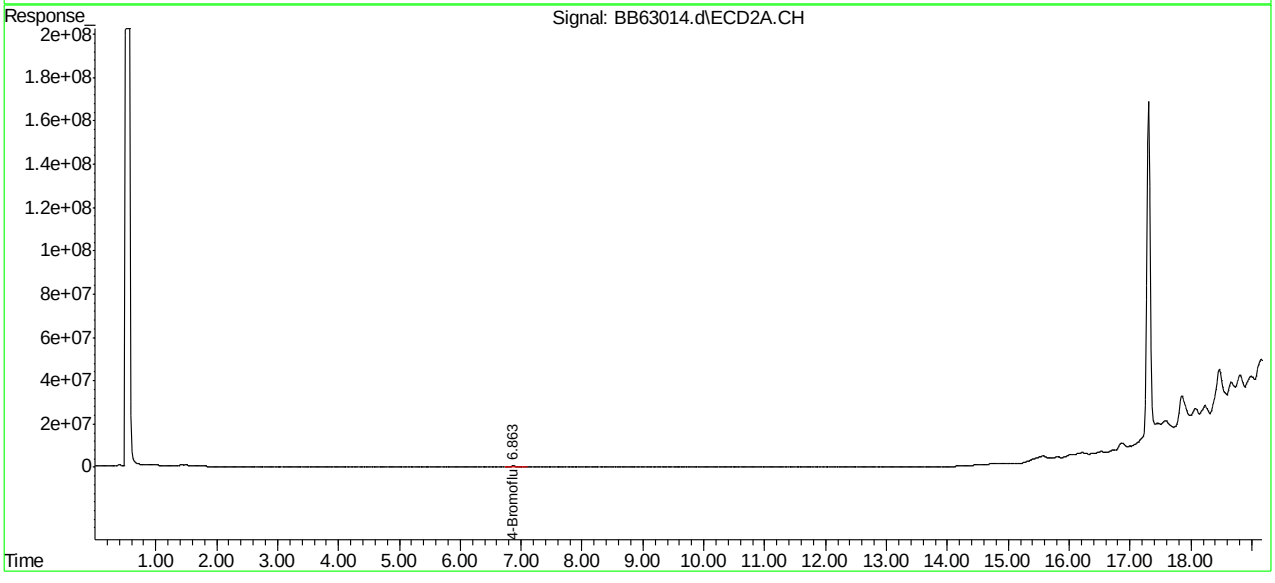
Quantitation Report (QT Reviewed)

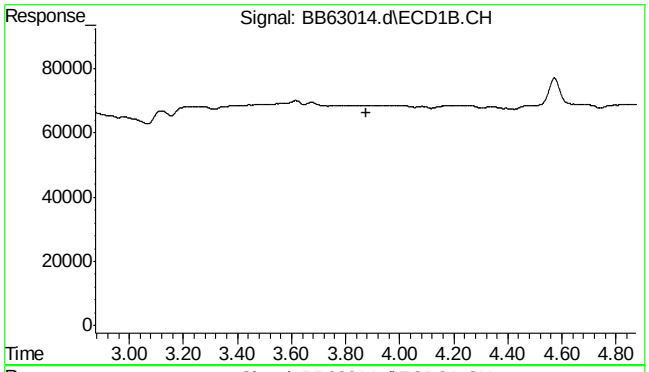
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63014.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 07:46:12
Operator : nickk
Sample : jb93023-5,op42847
Misc : op42847,gbb3427,30.22,,,50,,s
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:12:38 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

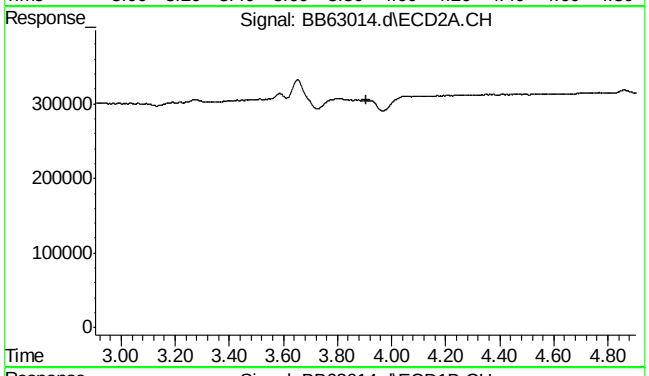






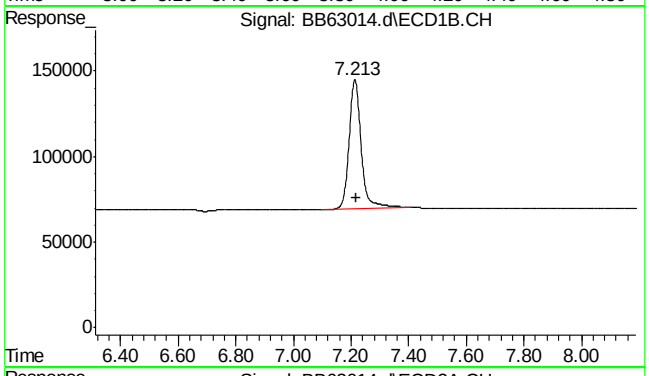
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



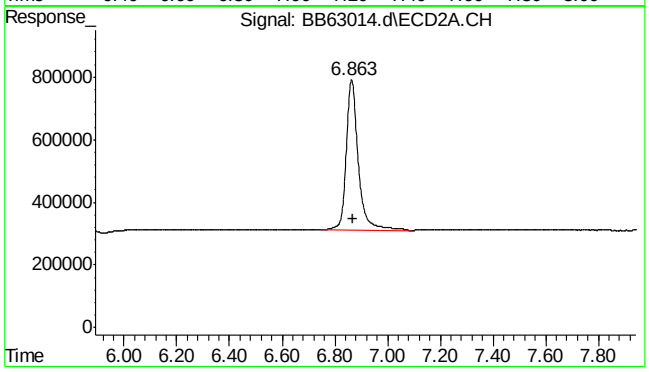
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



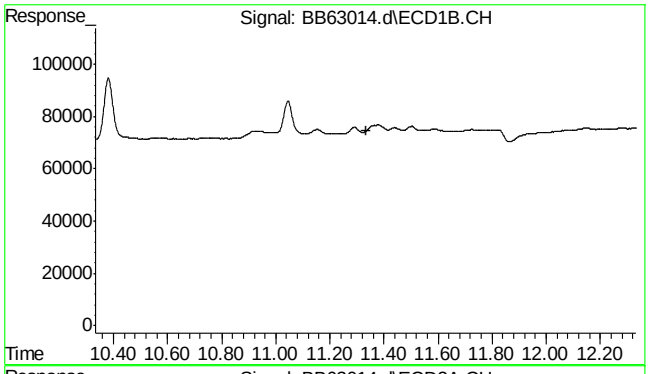
#2 4-Bromofluorobenzene

R.T.: 7.214 min
Delta R.T.: -0.003 min
Response: 2205197
Conc: 55.69 ug/L



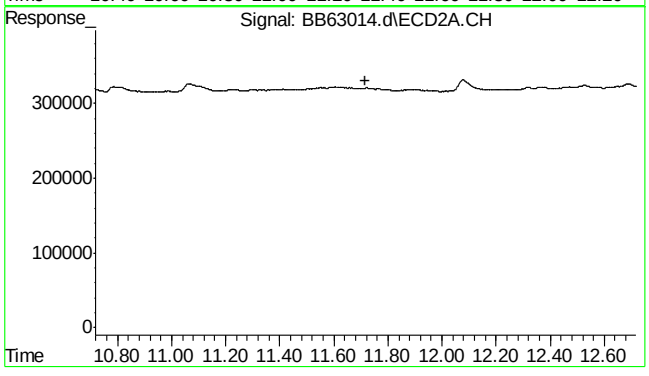
#2 4-Bromofluorobenzene

R.T.: 6.864 min
Delta R.T.: -0.004 min
Response: 15270734
Conc: 36.43 ug/L



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
04/30/15 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63015.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 08:14:55
Operator : nickk
Sample : jb93023-6,op42847
Misc : op42847,gbb3427,30.49,,,50,,s
ALS Vial : 26 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:13:04 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.213	6.863	2629826	19529991	66.179	47.103m#
Spiked Amount	50.000	Range	60 - 140	Recovery	= 132.36%	94.21%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

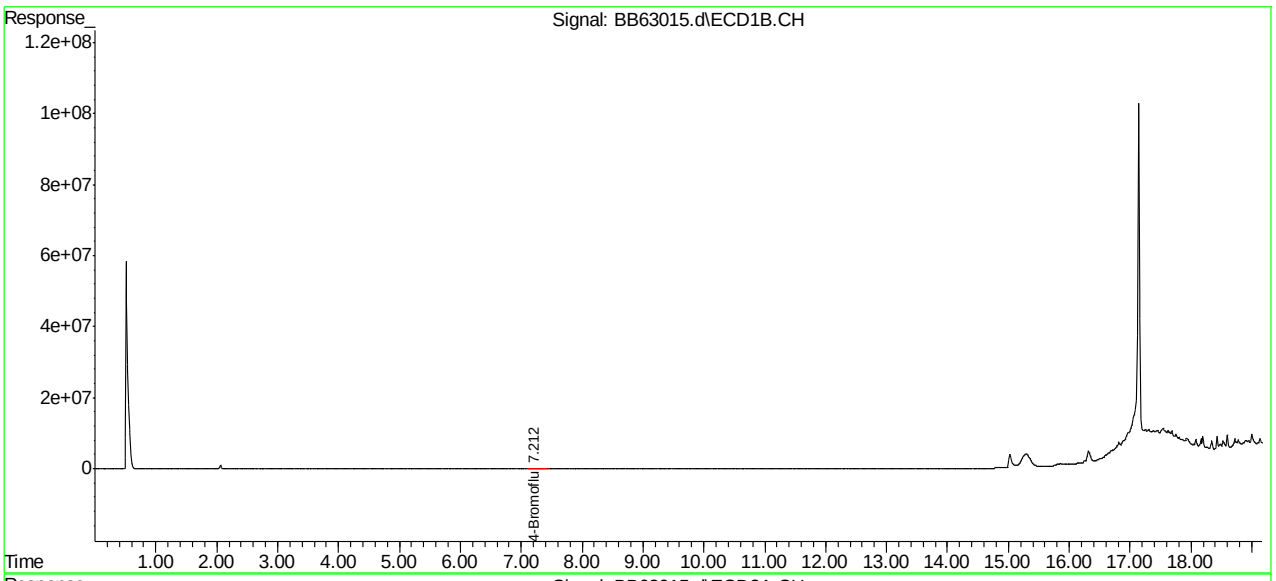
14.1.6
14

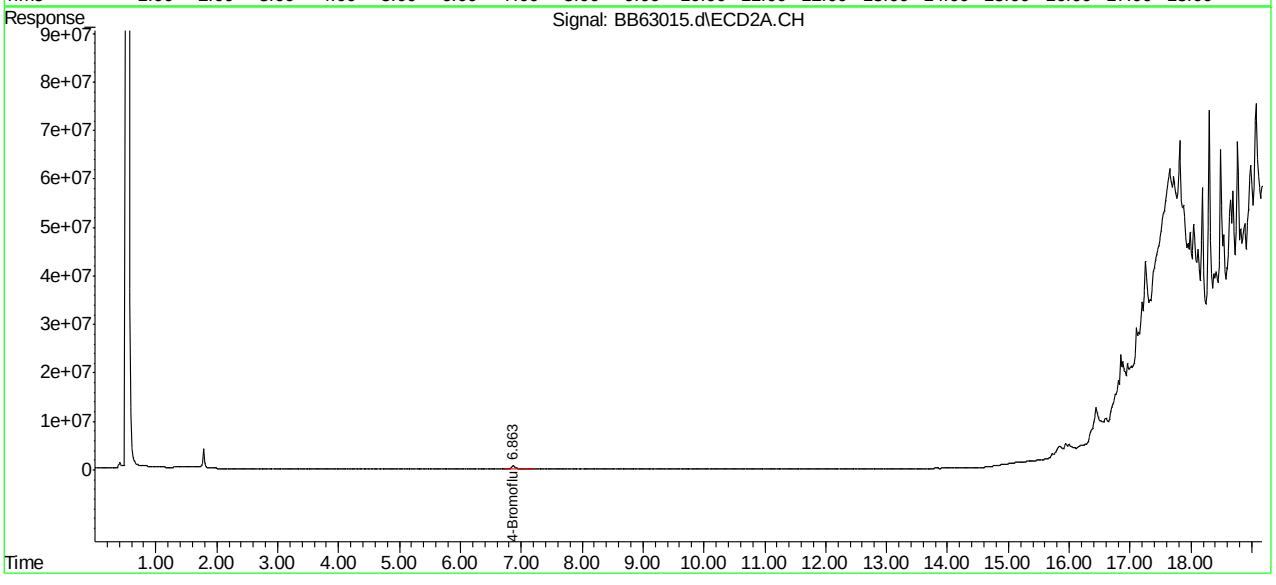
Quantitation Report (QT Reviewed)

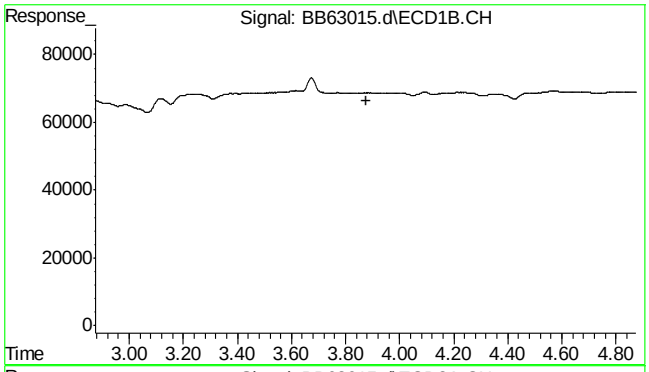
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63015.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 08:14:55
Operator : nickk
Sample : jb93023-6,op42847
Misc : op42847,gbb3427,30.49,,,50,,s
ALS Vial : 26 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:13:04 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

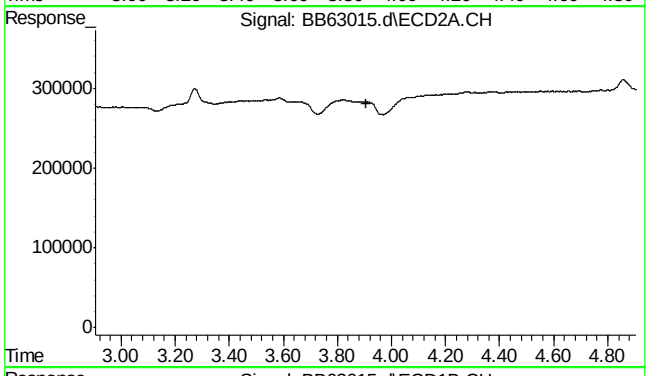






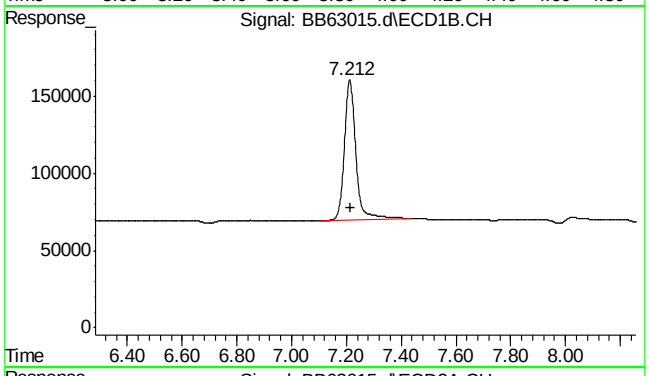
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



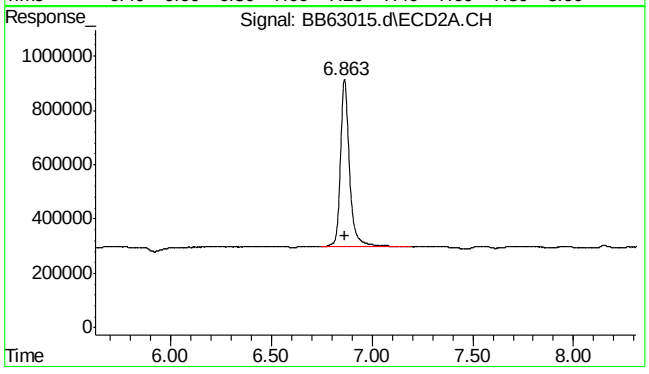
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

R.T.: 7.213 min
Delta R.T.: -0.004 min
Response: 2629826
Conc: 66.18 ug/L

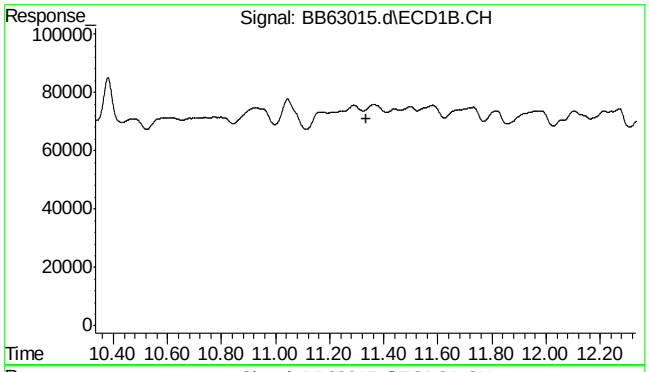


#2 4-Bromofluorobenzene

R.T.: 6.863 min
Delta R.T.: -0.005 min
Response: 19529991
Conc: 47.10 ug/L m

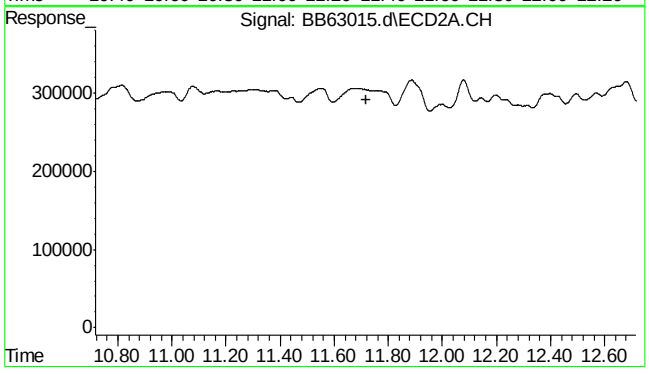
14.1.6

14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.6

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63016.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 08:43:45
Operator  : nickk
Sample    : jb93023-7,op42847
Misc      : op42847,gbb3427,30.52,,,50,,s
ALS Vial  : 27 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:13:15 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.214	6.866	2232373	14655011	56.356	34.888 #
Spiked Amount 50.000	Range 60 - 140	Recovery = 112.71%			69.78%	
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.7

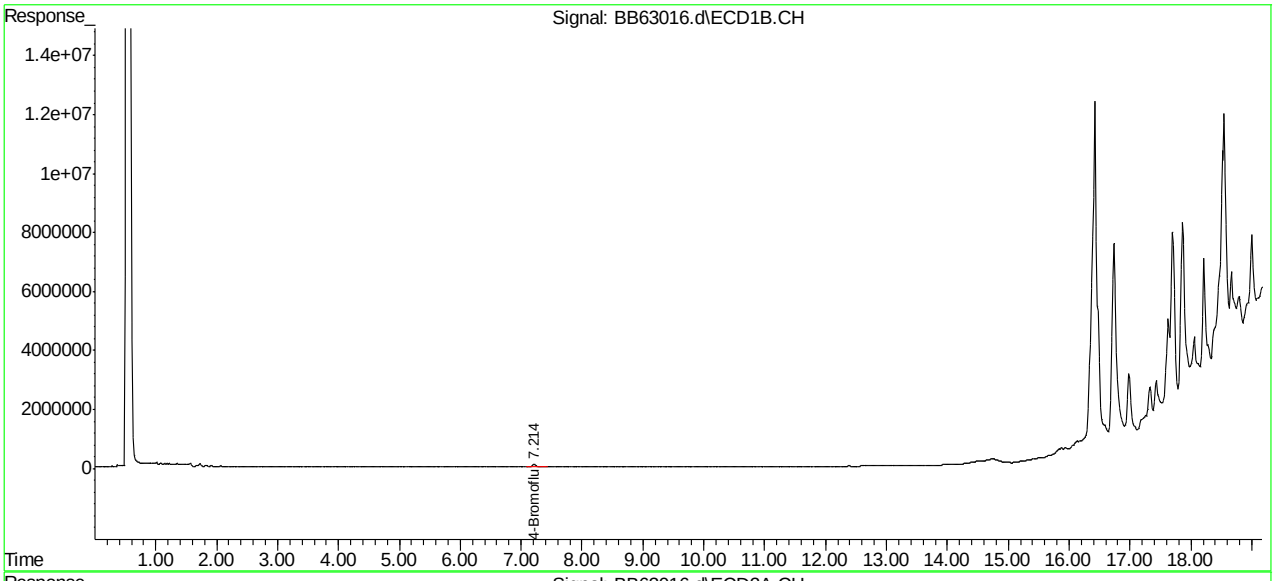
14

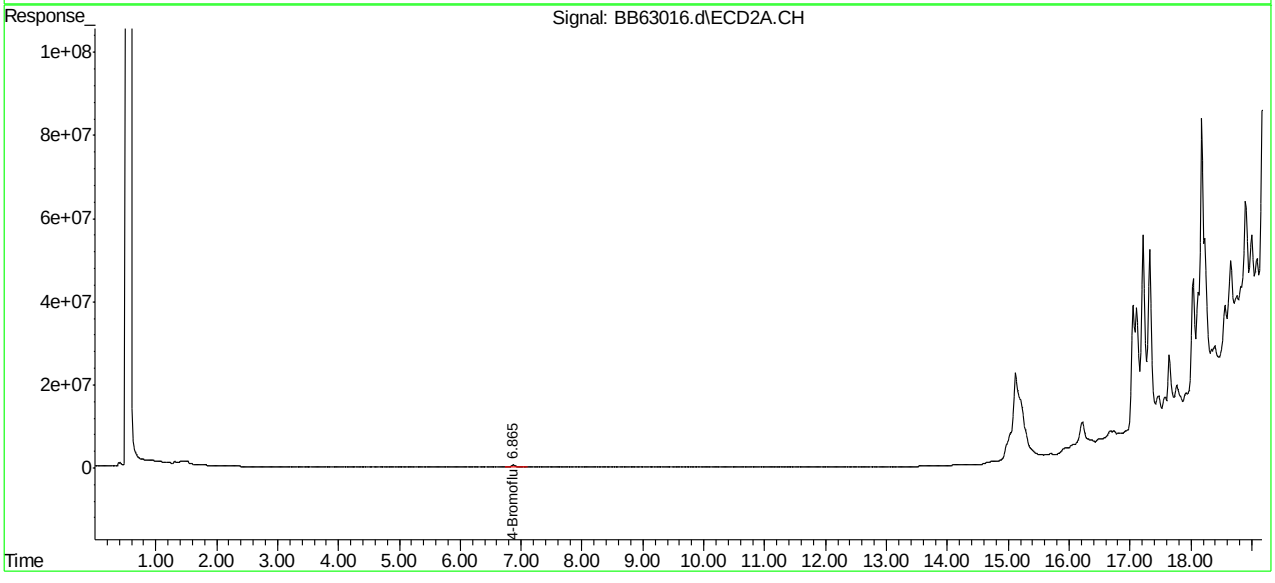
Quantitation Report (QT Reviewed)

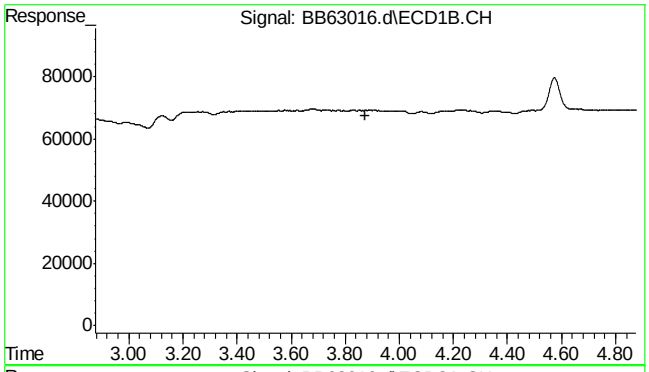
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63016.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 08:43:45
Operator : nickk
Sample : jb93023-7,op42847
Misc : op42847,gbb3427,30.52,,,50,,s
ALS Vial : 27 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:13:15 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

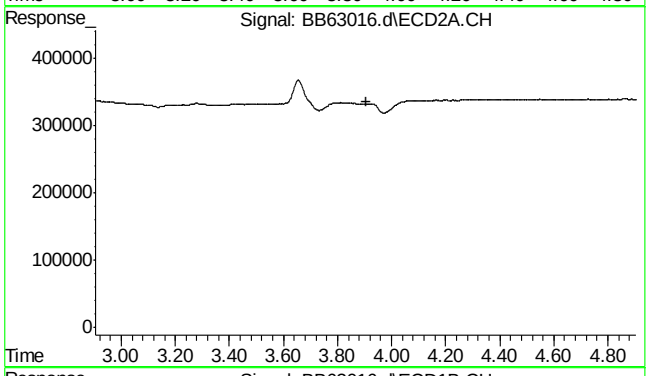






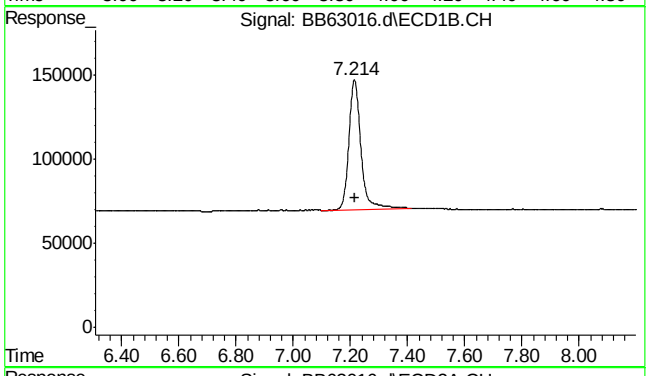
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



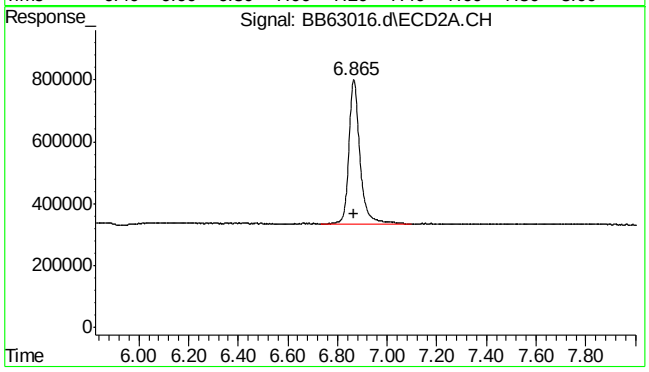
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



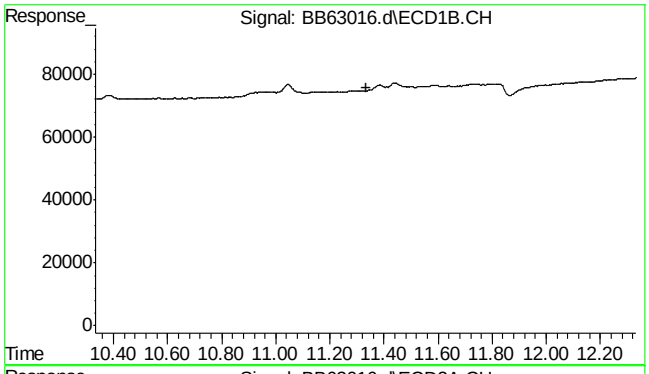
#2 4-Bromofluorobenzene

R.T.: 7.214 min
Delta R.T.: -0.003 min
Response: 2232373
Conc: 56.36 ug/L



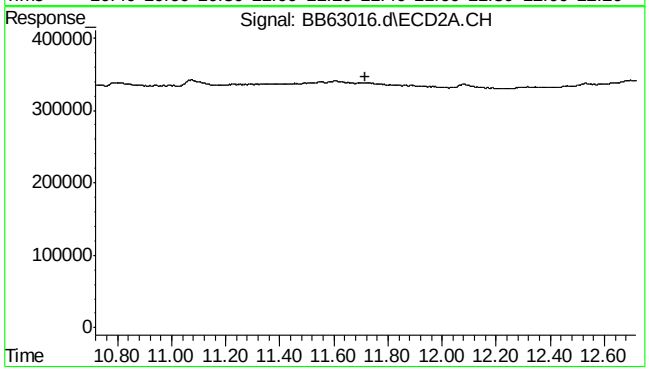
#2 4-Bromofluorobenzene

R.T.: 6.866 min
Delta R.T.: -0.002 min
Response: 14655011
Conc: 34.89 ug/L



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.7

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63017.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 09:12:55 (#1); 29-Apr-15, 09:12:54 (#2)
Operator  : nickk
Sample    : jb93023-8,op42847
Misc      : op42847,gbb3427,30.30,,,50,,s
ALS Vial  : 28 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:13:24 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.214	6.867	2169879	14715809	54.813	35.040 #
Spiked Amount 50.000	Range	60 - 140	Recovery	=	109.63%	70.08%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.8

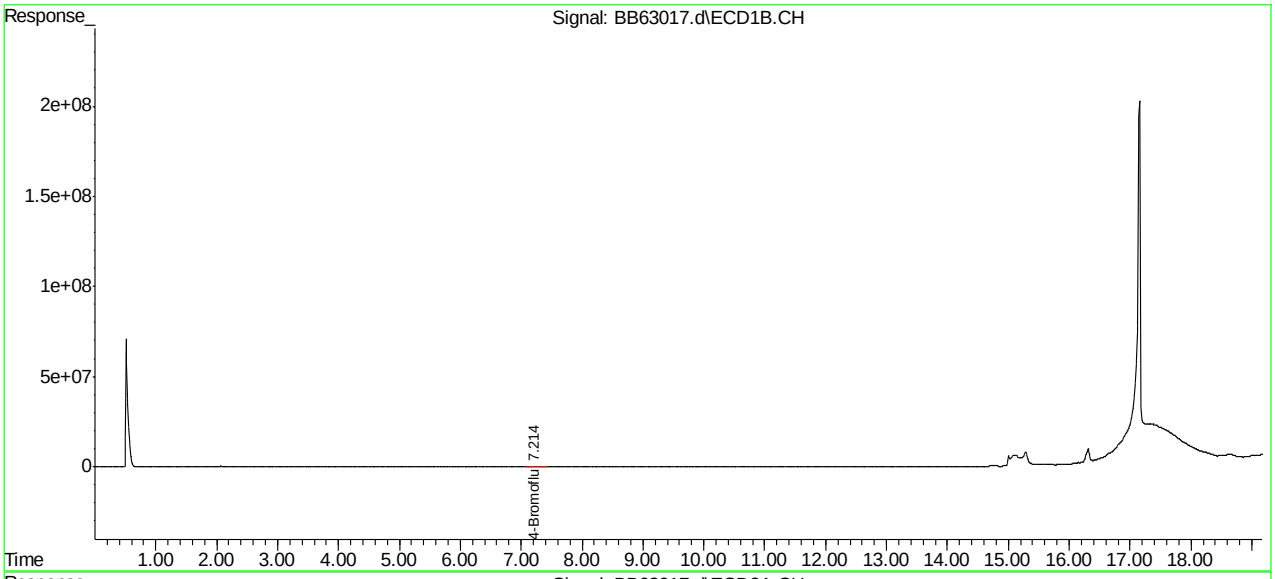
14

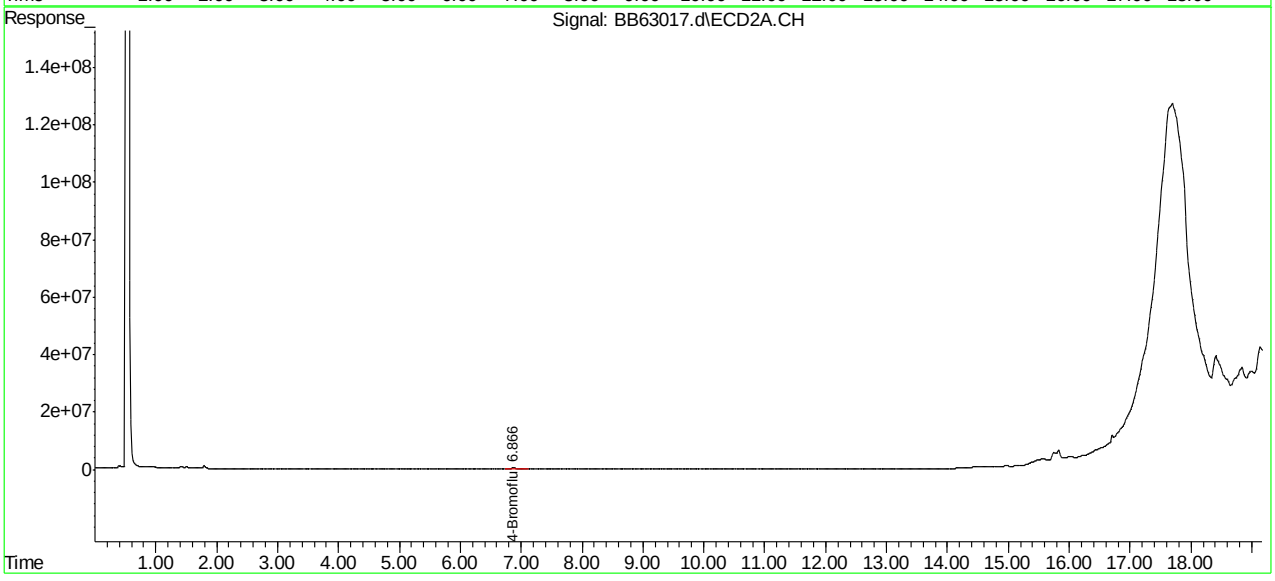
Quantitation Report (QT Reviewed)

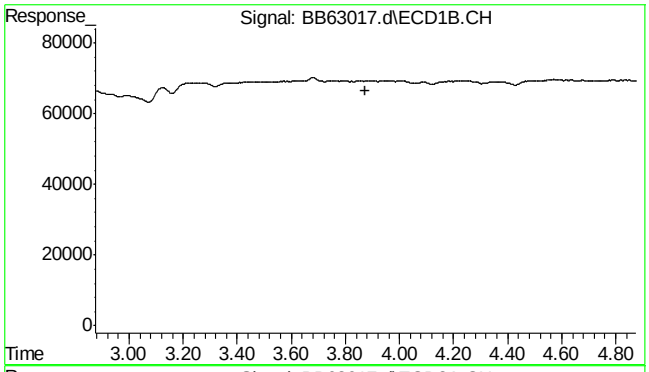
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63017.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 09:12:55 (#1); 29-Apr-15, 09:12:54 (#2)
Operator : nickk
Sample : jb93023-8,op42847
Misc : op42847,gbb3427,30.30,,,50,,s
ALS Vial : 28 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:13:24 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

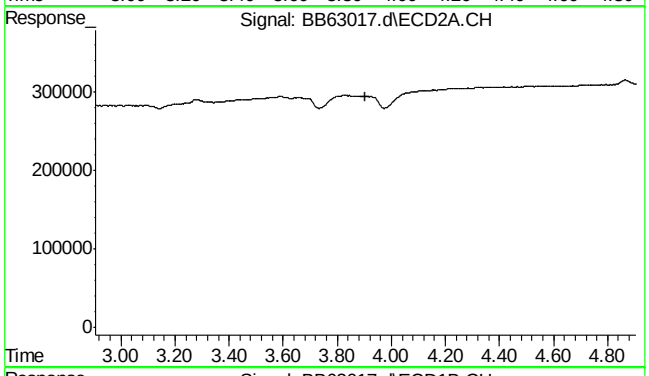






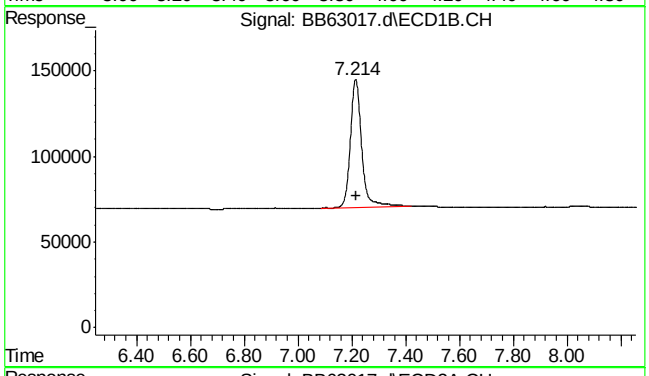
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



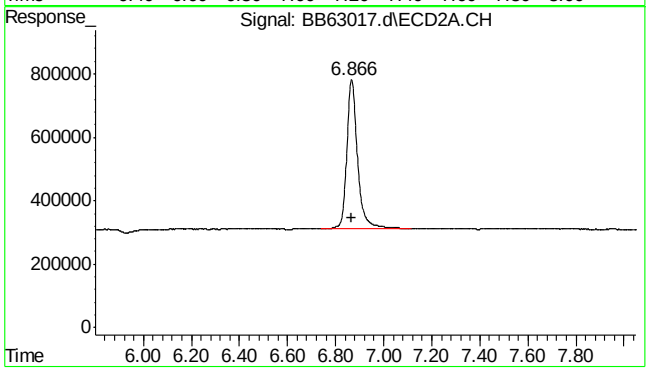
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



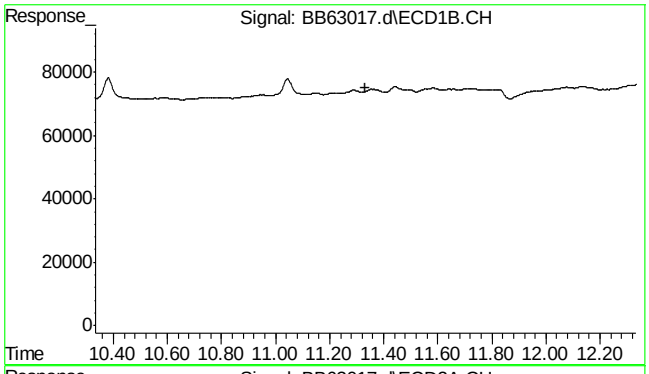
#2 4-Bromofluorobenzene

R.T.: 7.214 min
Delta R.T.: -0.003 min
Response: 2169879
Conc: 54.81 ug/L



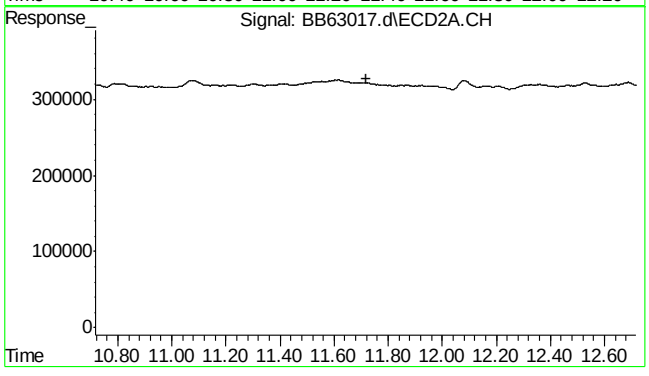
#2 4-Bromofluorobenzene

R.T.: 6.867 min
Delta R.T.: 0.000 min
Response: 14715809
Conc: 35.04 ug/L



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.8

14

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
04/30/15 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63018.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 09:42:26
Operator : nickk
Sample : jb93023-9,op42847
Misc : op42847,gbb3427,30.32,,,50,,s
ALS Vial : 29 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:13:46 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.214	6.866	2440971	17773652	61.508	42.692m#
Spiked Amount	50.000	Range	60 - 140	Recovery	= 123.02%	85.38%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

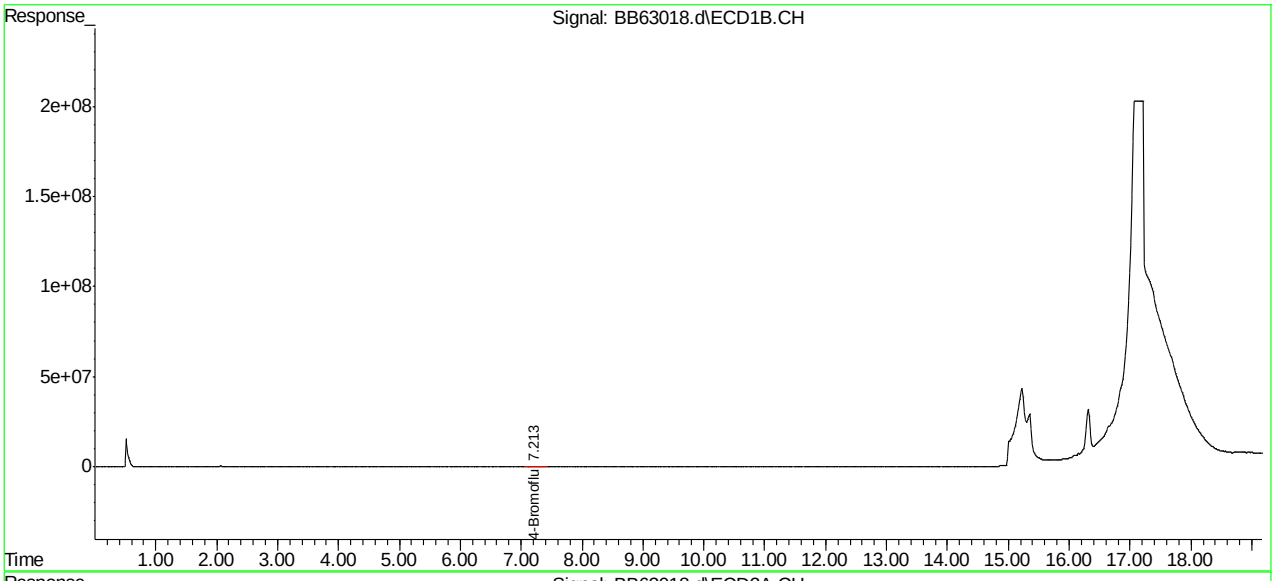
14.1.9
14

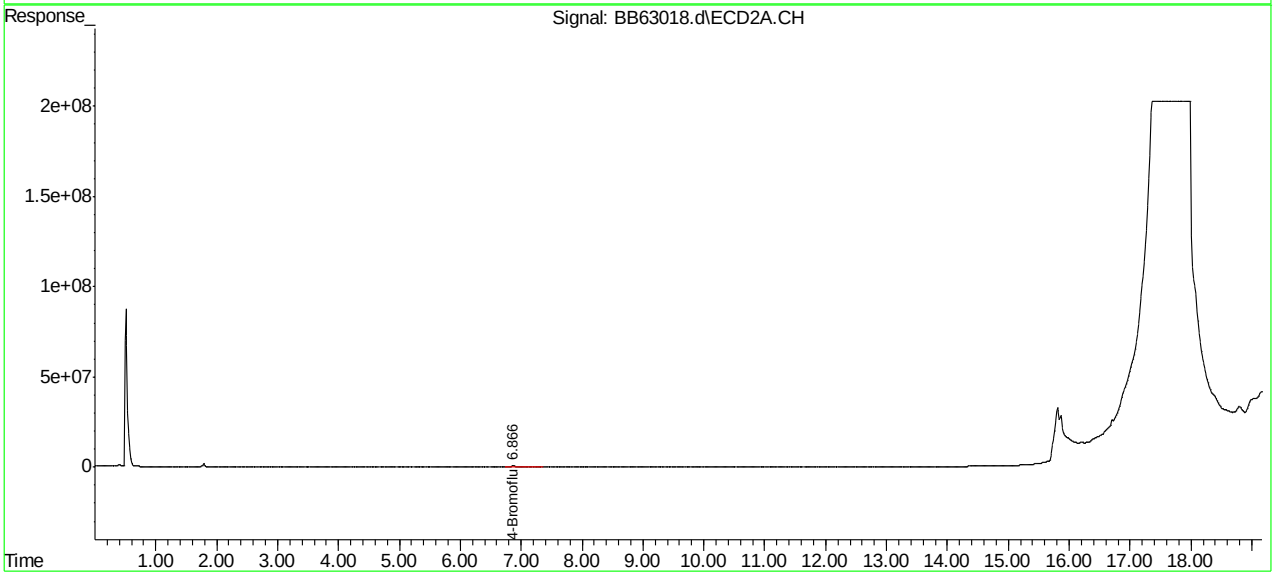
Quantitation Report (QT Reviewed)

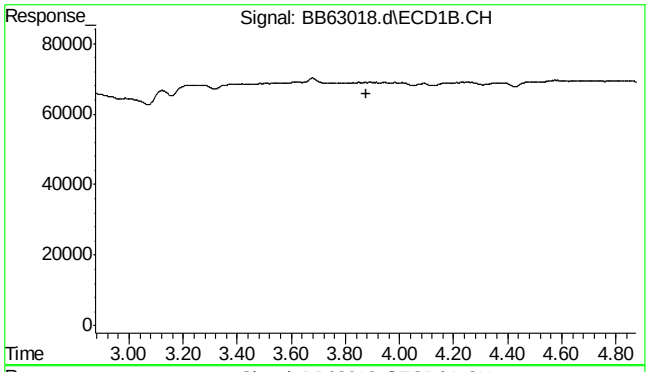
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63018.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 09:42:26
Operator : nickk
Sample : jb93023-9,op42847
Misc : op42847,gbb3427,30.32,,,50,,s
ALS Vial : 29 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:13:46 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

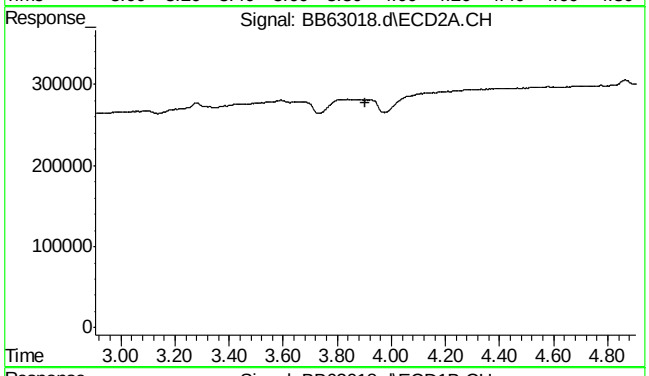






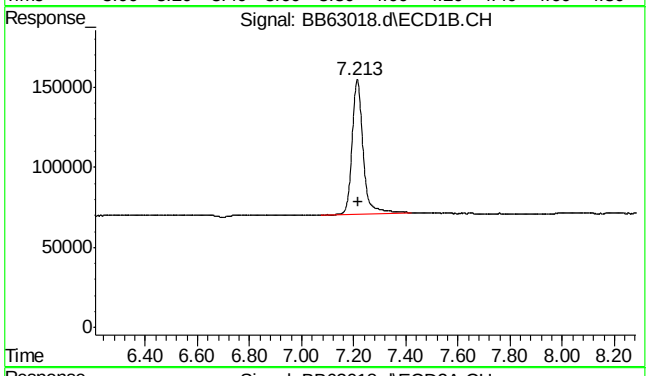
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



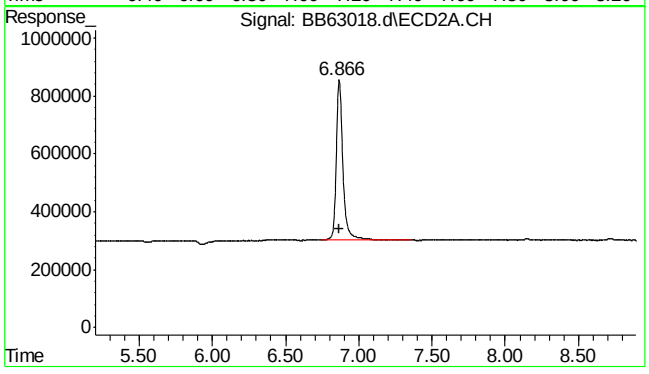
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

R.T.: 7.214 min
Delta R.T.: -0.003 min
Response: 2440971
Conc: 61.51 ug/L

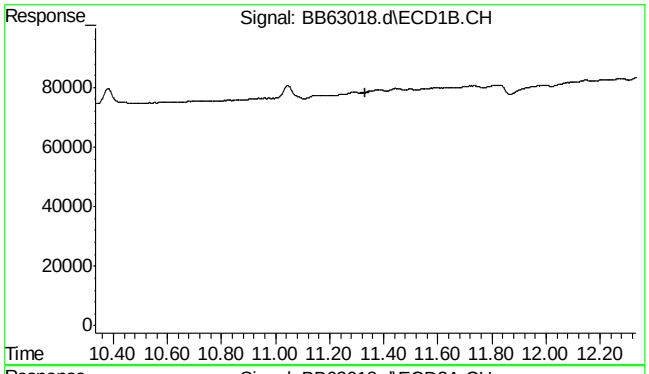


#2 4-Bromofluorobenzene

R.T.: 6.866 min
Delta R.T.: -0.002 min
Response: 17773652
Conc: 42.69 ug/L m

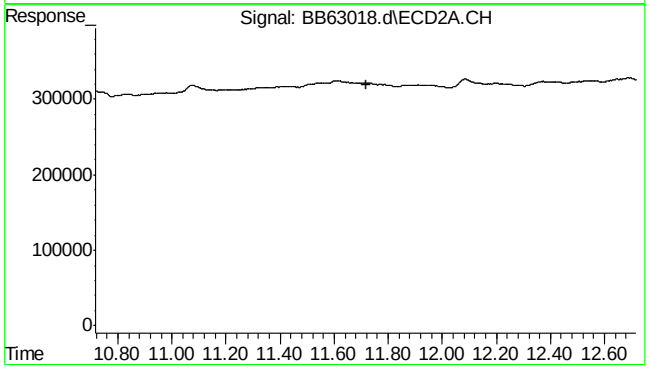
14.1.9

14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.9

14

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
04/30/15 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63019.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 10:12:24
Operator : nickk
Sample : jb93023-10,op42847
Misc : op42847,gbb3427,30.69,,,50,,s
ALS Vial : 30 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:14:08 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.211	6.864	2078646	17096904	52.563	40.996m
Spiked Amount	50.000	Range	60 - 140	Recovery	= 105.13%	81.99%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

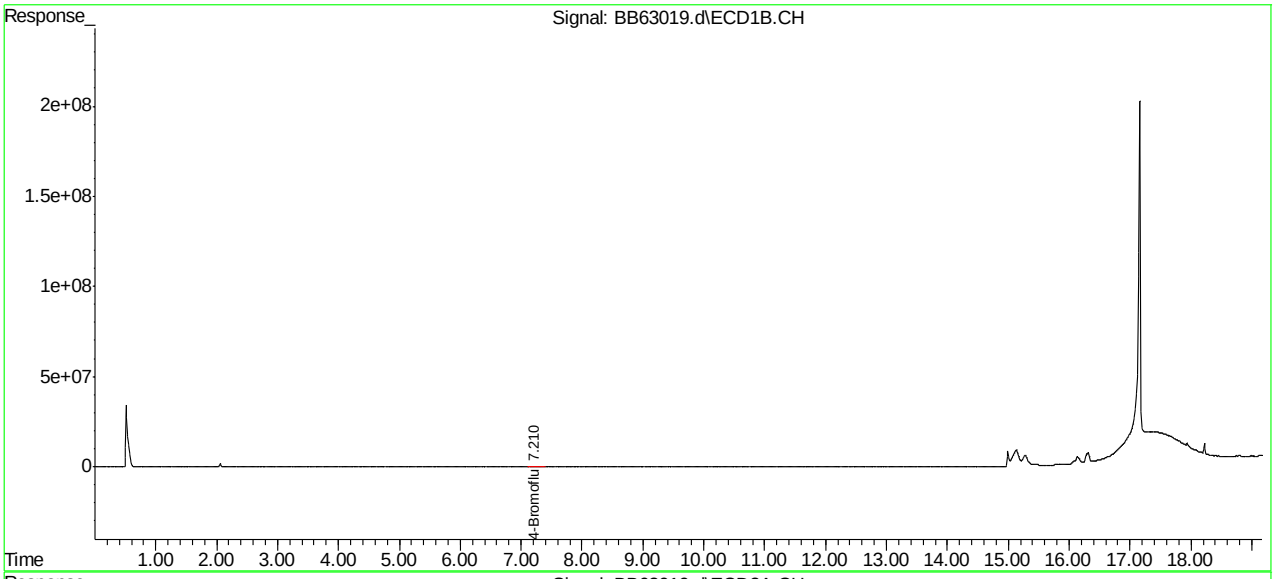
14.1.10 14

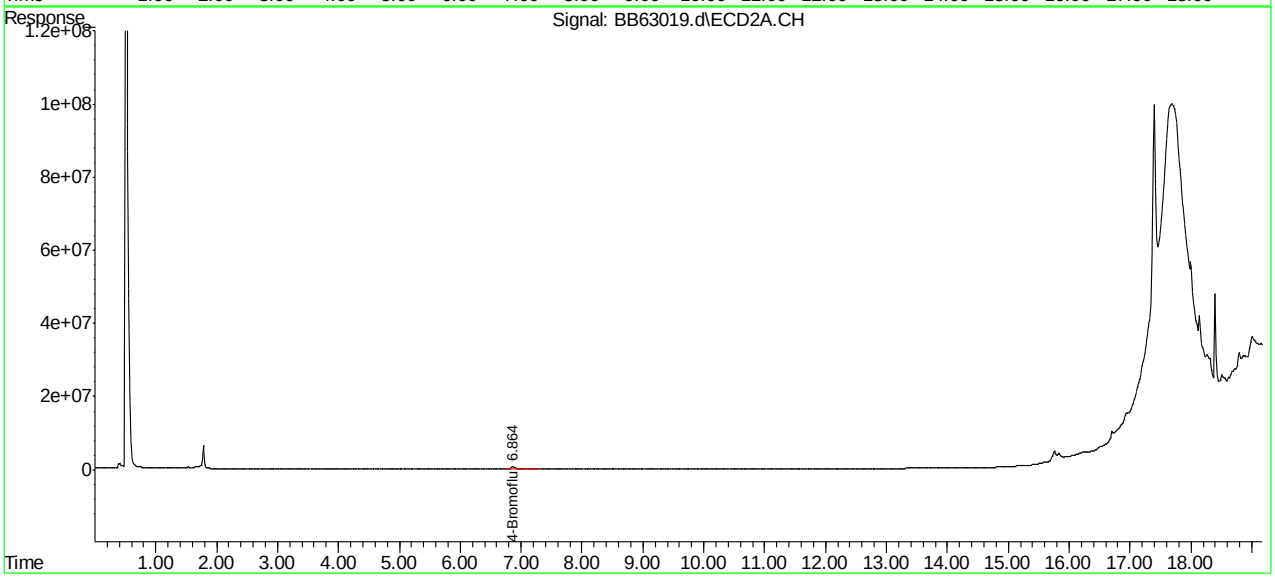
Quantitation Report (QT Reviewed)

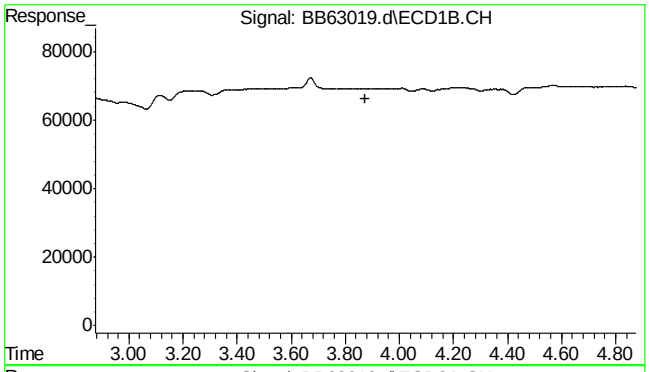
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63019.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 10:12:24
Operator : nickk
Sample : jb93023-10,op42847
Misc : op42847,gbb3427,30.69,,,50,,s
ALS Vial : 30 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:14:08 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

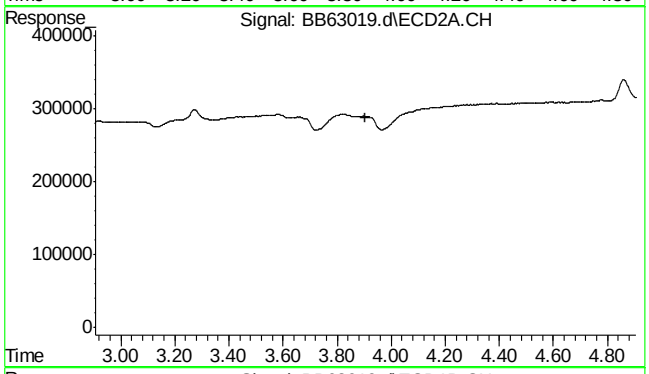






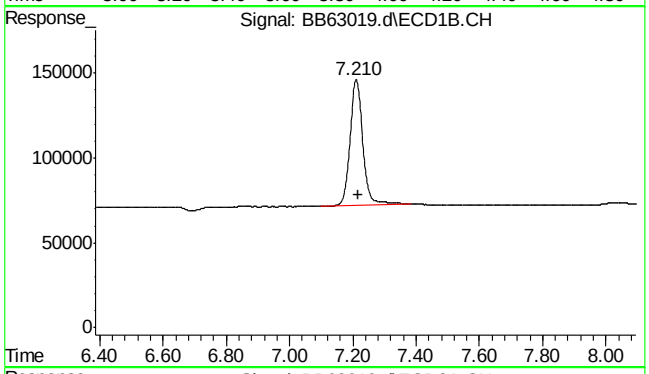
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



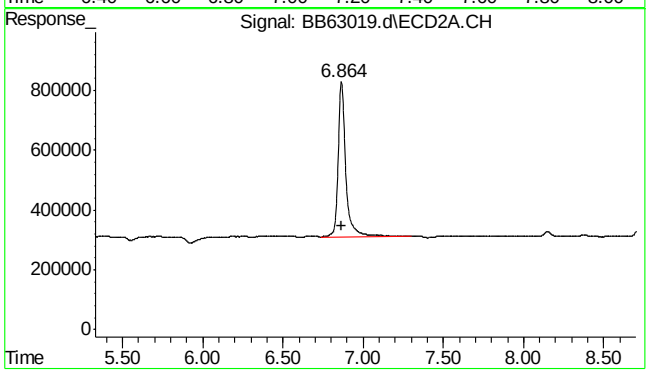
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

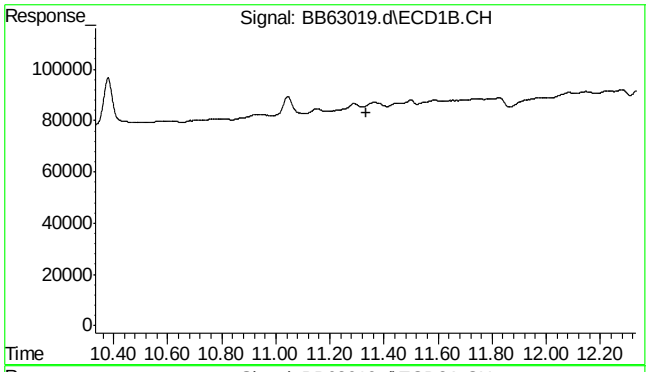
R.T.: 7.211 min
Delta R.T.: -0.006 min
Response: 2078646
Conc: 52.56 ug/L



#2 4-Bromofluorobenzene

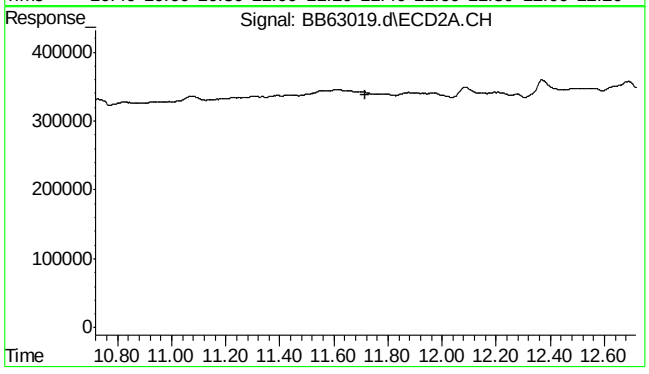
R.T.: 6.864 min
Delta R.T.: -0.004 min
Response: 17096904
Conc: 41.00 ug/L m

14.1.10 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.10

14

Manual Integrations
APPROVED
(compounds with "m" flag)
Andri Piluri
04/30/15 10:59

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63021.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 11:10:53
Operator  : nickk
Sample    : jb93023-11,op42847
Misc      : op42847,gbb3427,30.54,,,50,,s
ALS Vial  : 31 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:16:28 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :

      Compound         RT#1      RT#2    Resp#1   Resp#2   ug/L    ug/L
  ---------------------------------------------------------------------------

  System Monitoring Compounds
2) s   4-Bromofl...    7.214     6.866   2289091 17213925   57.756    41.289m#
 Spiked Amount     50.000 Range  60 - 140  Recovery   =  115.51%    82.58%

  Target Compounds
1)     1,2-Dibro...    0.000     0.000         0        0    N.D. d    N.D. d
3)     1,2-Dibro...    0.000     0.000         0        0    N.D. d    N.D. d
  ---------------------------------------------------------------------------

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25%  (m)=manual int.
```

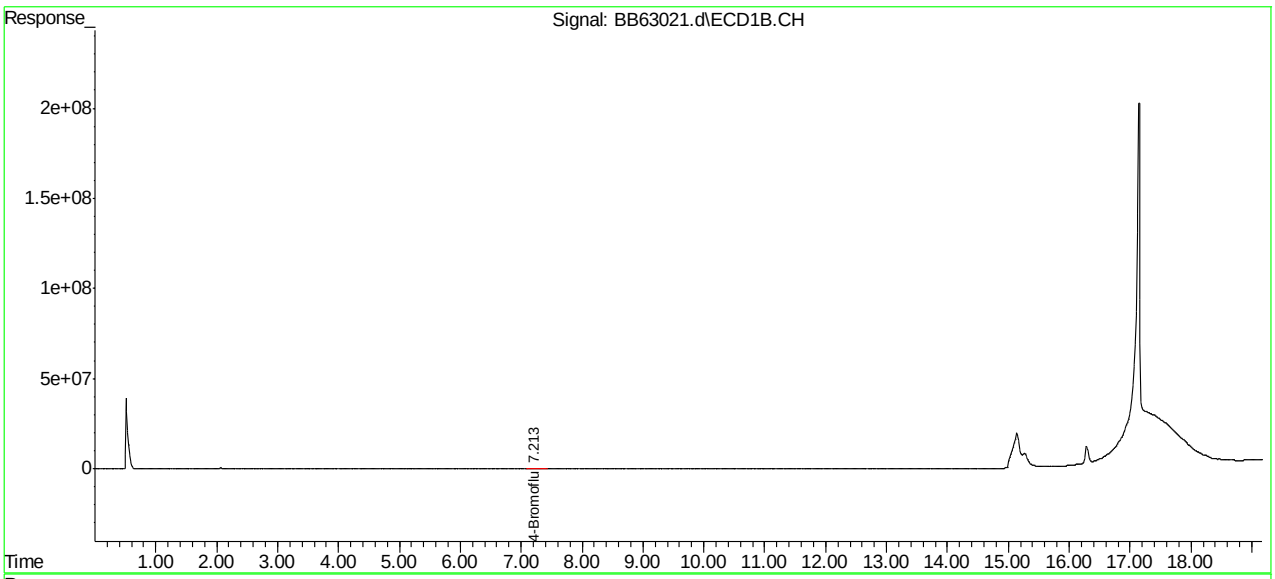
14.1.11
14

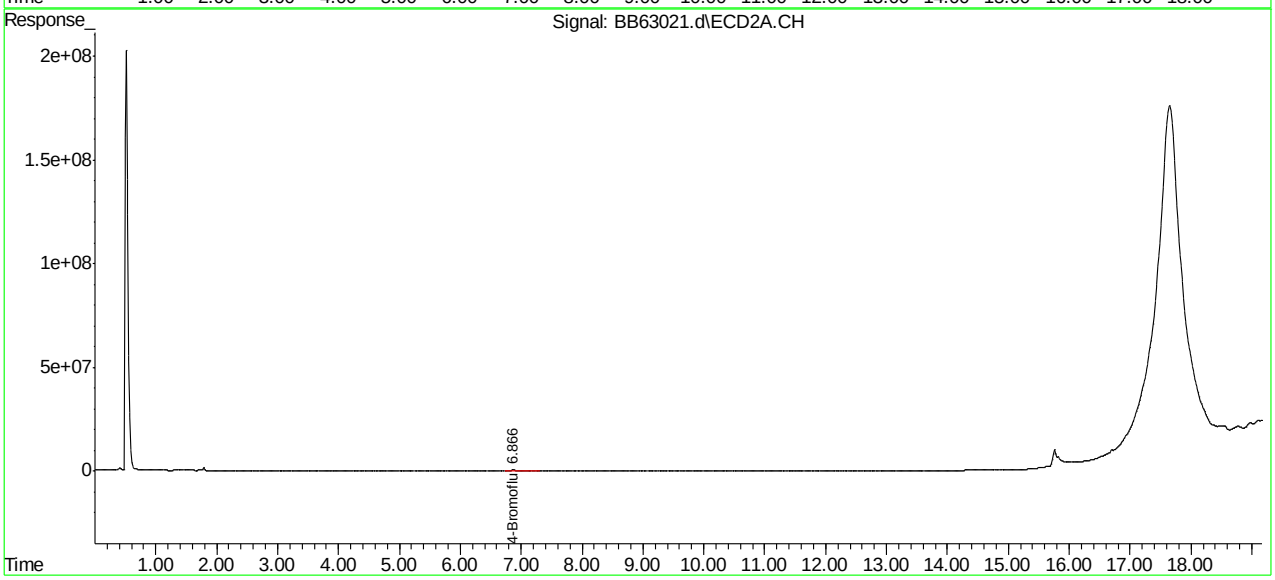
Quantitation Report (QT Reviewed)

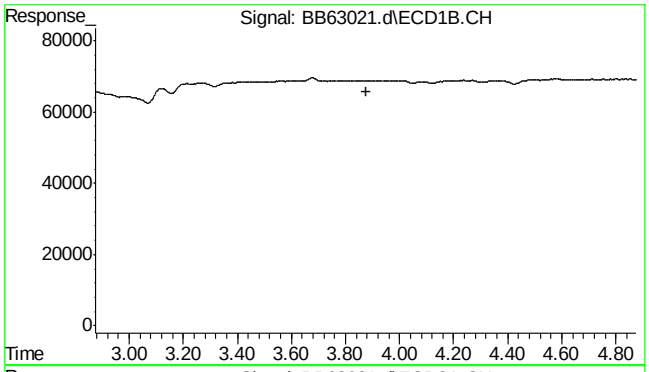
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63021.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 11:10:53
Operator : nickk
Sample : jb93023-11,op42847
Misc : op42847,gbb3427,30.54,,,50,,s
ALS Vial : 31 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:16:28 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

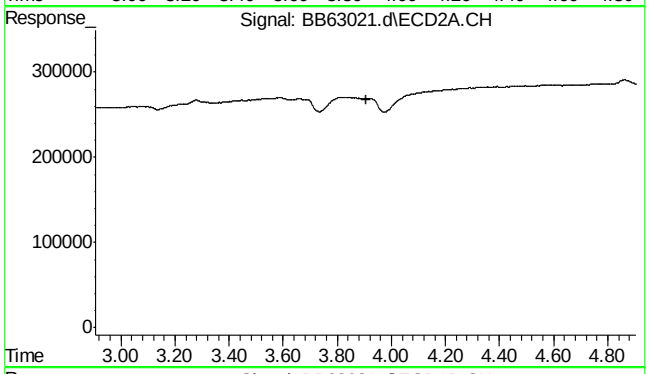






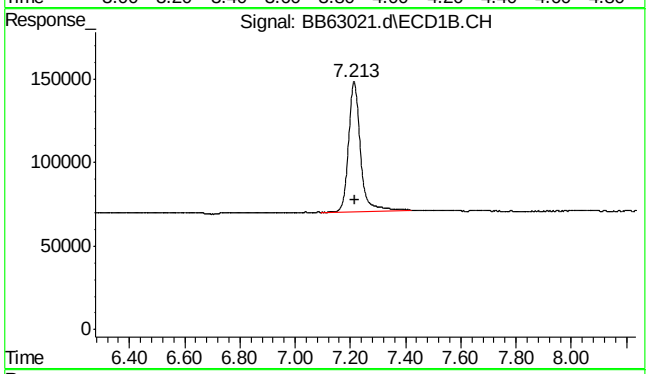
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



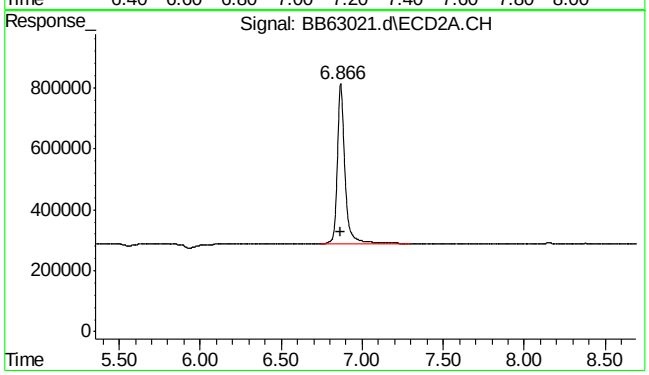
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

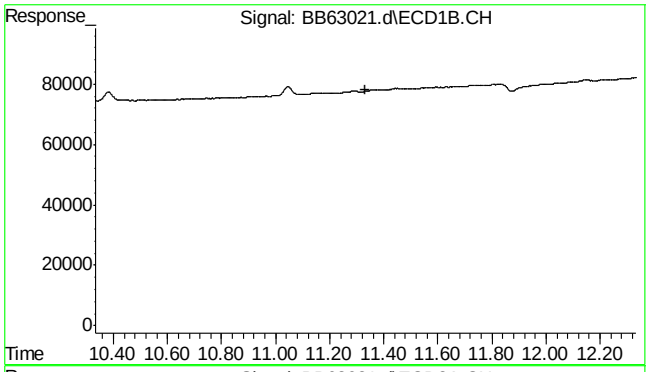
R.T.: 7.214 min
Delta R.T.: -0.003 min
Response: 2289091
Conc: 57.76 ug/L



#2 4-Bromofluorobenzene

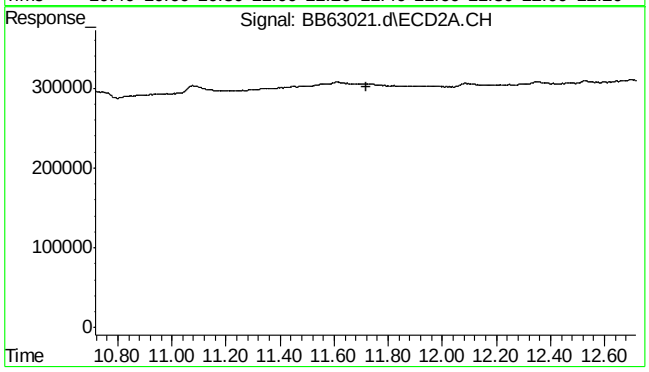
R.T.: 6.866 min
Delta R.T.: -0.002 min
Response: 17213925
Conc: 41.29 ug/L m

14.1.11 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.11
14

Manual Integrations
APPROVED
(compounds with "m" flag)
Andri Piluri
04/30/15 10:59

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63022.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 11:40:24
Operator  : nickk
Sample    : jb93023-12,op42847
Misc      : op42847,gbb3427,30.15,,,50,,s
ALS Vial  : 32 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:16:51 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.208	6.861	2074096	16770404	52.451	40.178m
Spiked Amount	50.000	Range 60 - 140	Recovery	=	104.90%	80.36%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

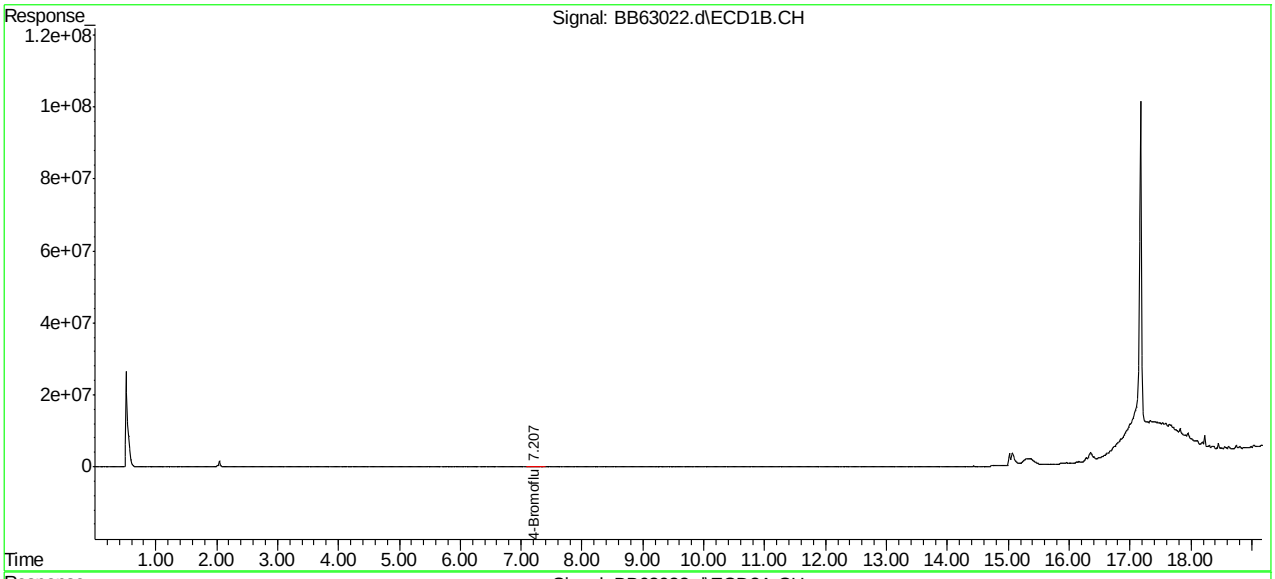
14.1.12
14

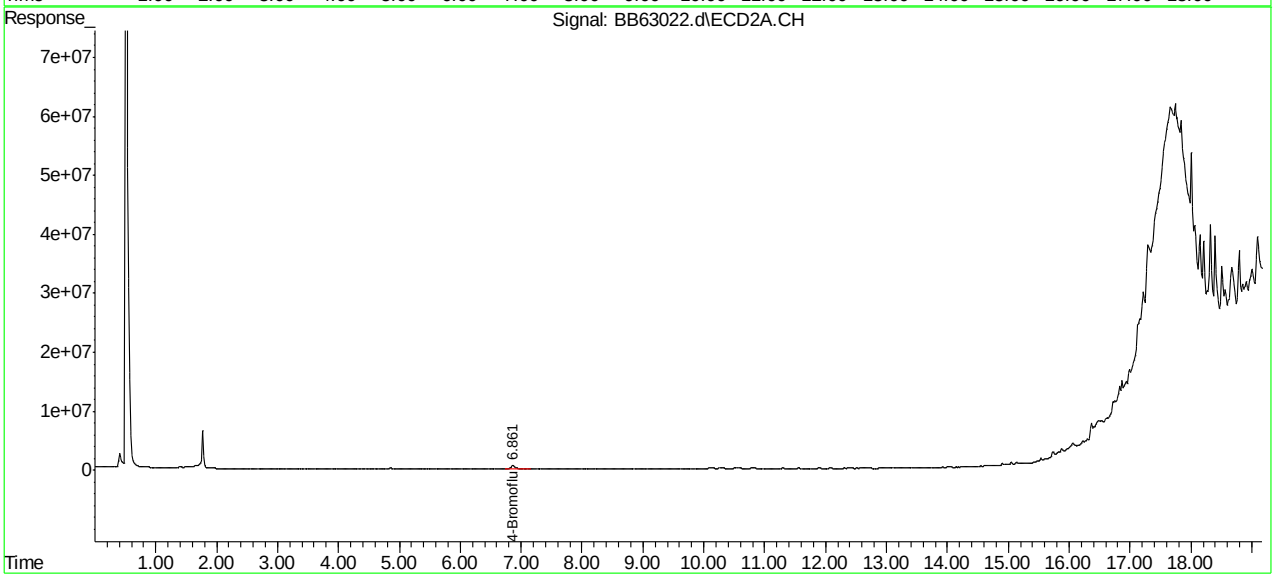
Quantitation Report (QT Reviewed)

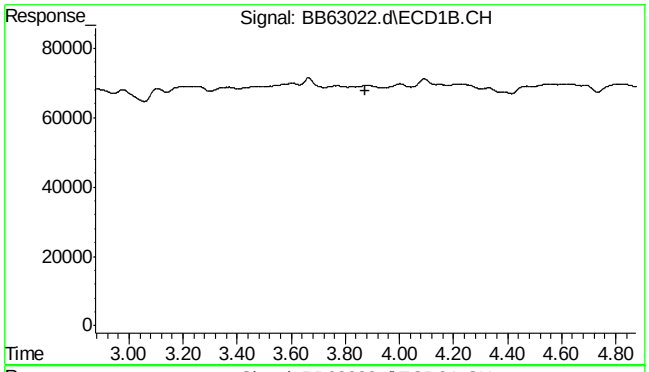
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63022.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 11:40:24
Operator : nickk
Sample : jb93023-12,op42847
Misc : op42847,gbb3427,30.15,,,50,,s
ALS Vial : 32 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:16:51 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

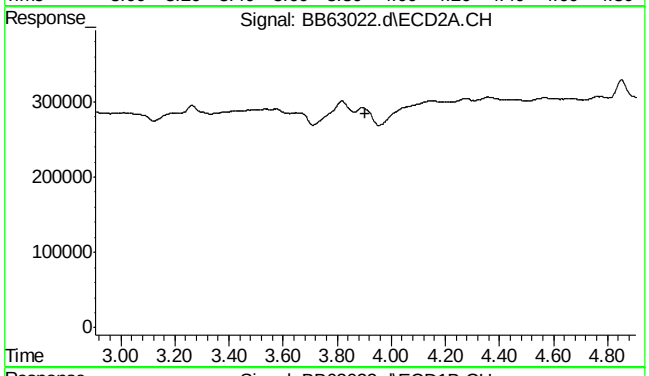






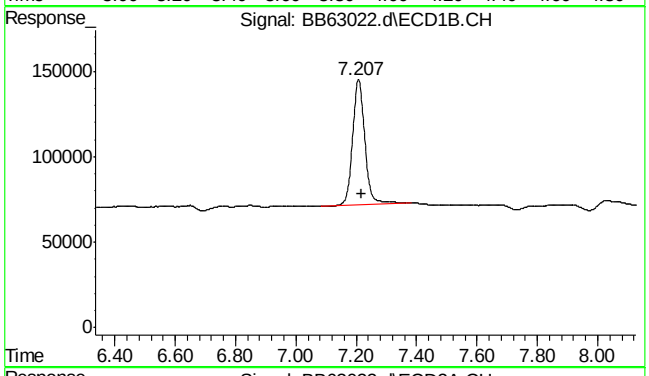
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



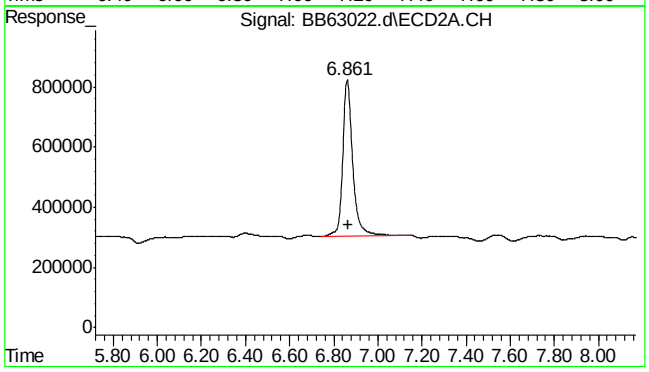
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

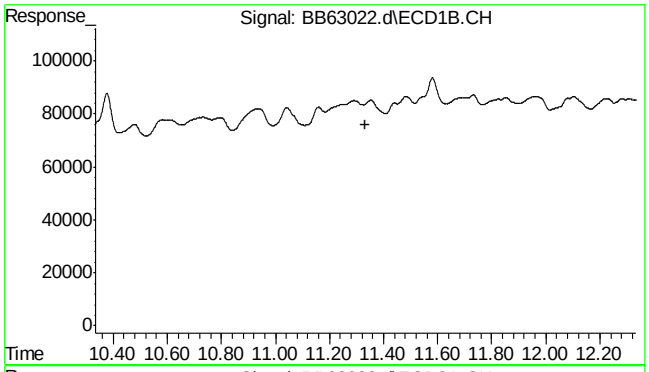
R.T.: 7.208 min
Delta R.T.: -0.009 min
Response: 2074096
Conc: 52.45 ug/L



#2 4-Bromofluorobenzene

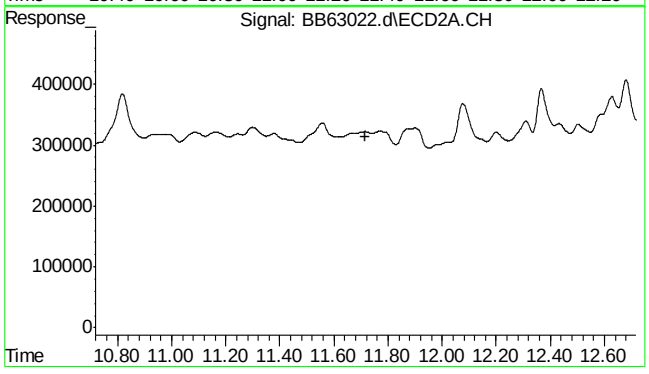
R.T.: 6.861 min
Delta R.T.: -0.007 min
Response: 16770404
Conc: 40.18 ug/L m

14.1.12 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150430\
Data File : BB63033.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 30-Apr-15, 11:59:21
Operator : nickk
Sample : jb93023-13,op42847
Misc : op42847,gbb3428,30.32,,,50,,s
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 30 13:02:27 2015
Quant Method : C:\msdchem\1\METHODS\EDS150430.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.215	6.868	2106776	20382298	53.257	49.247
Spiked Amount	50.000	Range	60 - 140	Recovery	= 106.51%	98.49%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

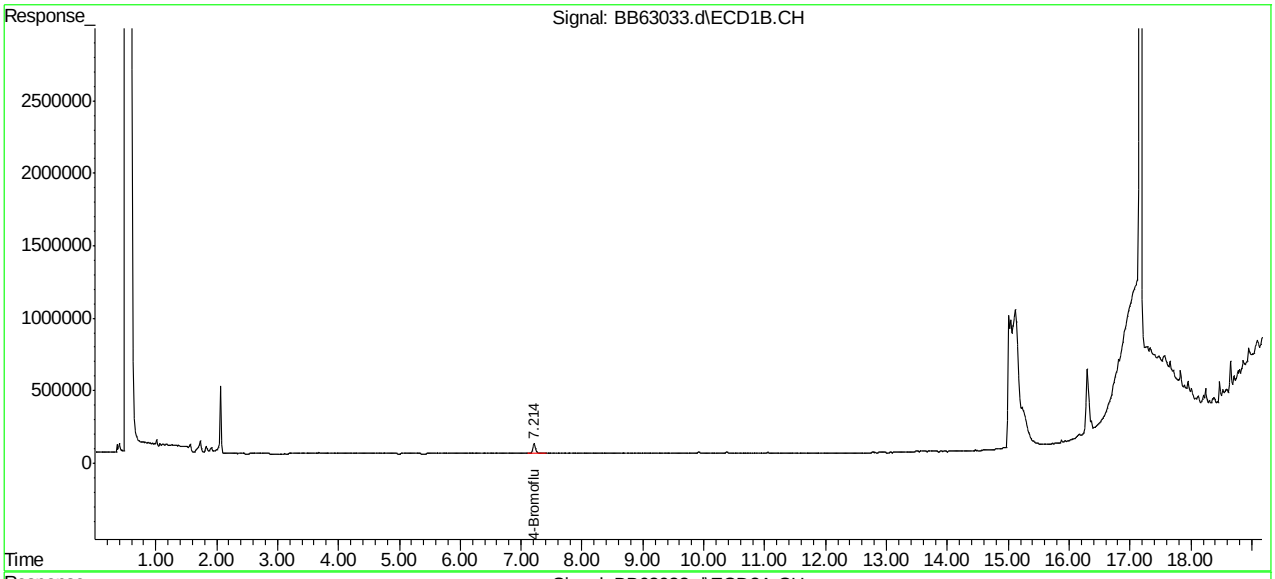
14.1.13 14

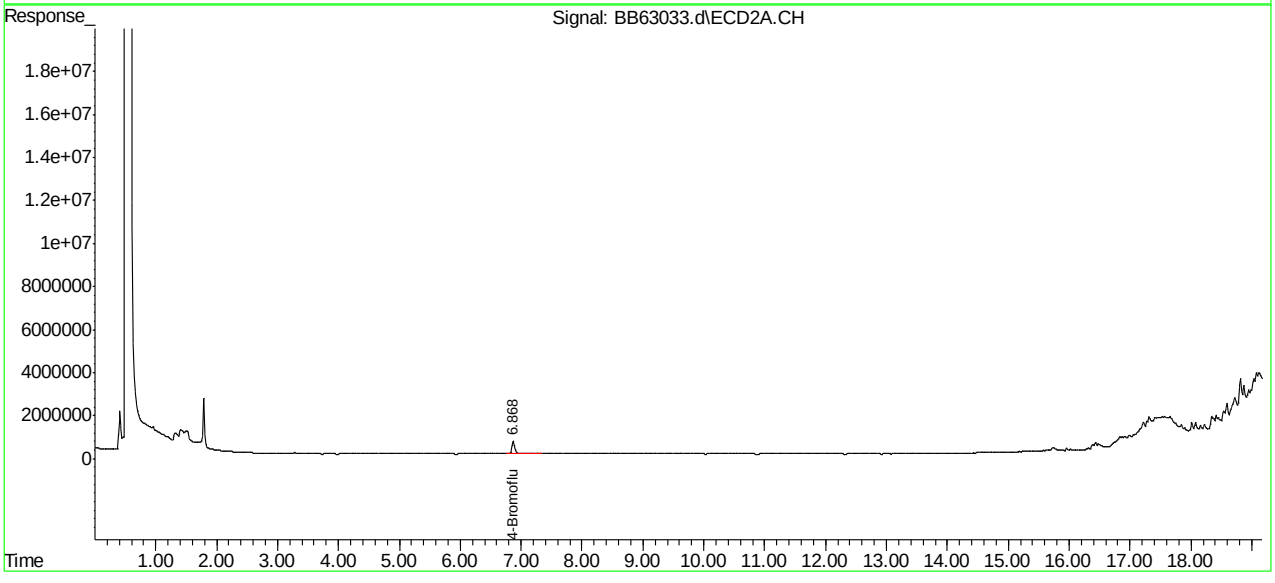
Quantitation Report (QT Reviewed)

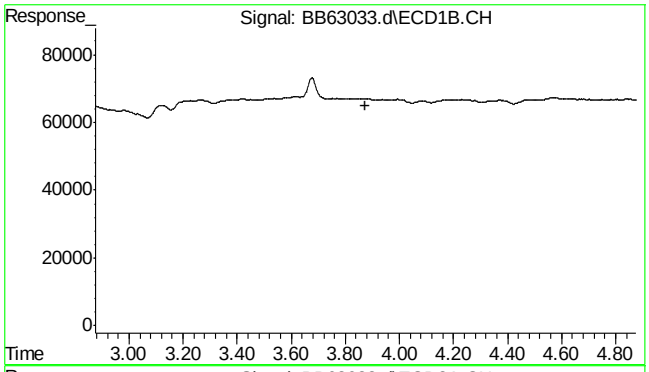
Data Path : C:\msdchem\1\DATA\BB150430\
Data File : BB63033.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 30-Apr-15, 11:59:21
Operator : nickk
Sample : jb93023-13,op42847
Misc : op42847,gbb3428,30.32,,,50,,s
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 30 13:02:27 2015
Quant Method : C:\msdchem\1\METHODS\EDS150430.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

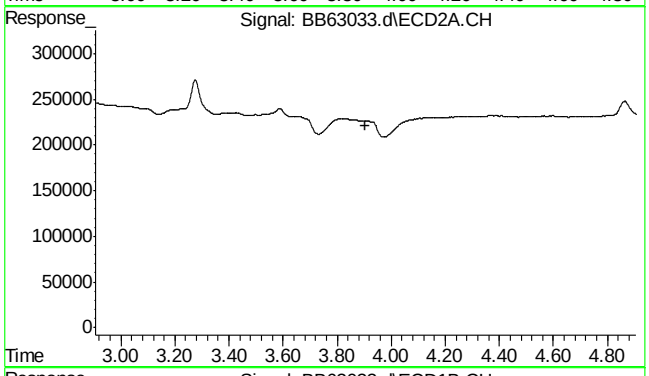






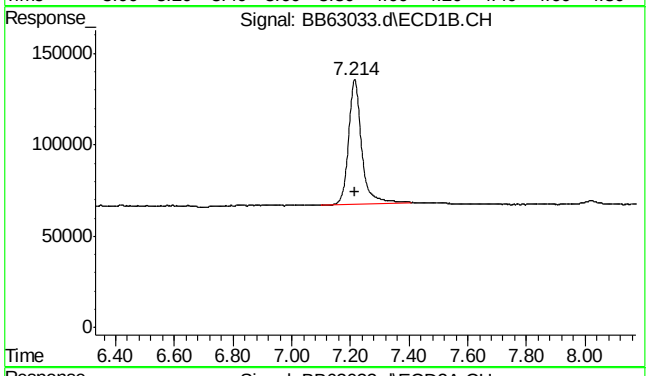
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



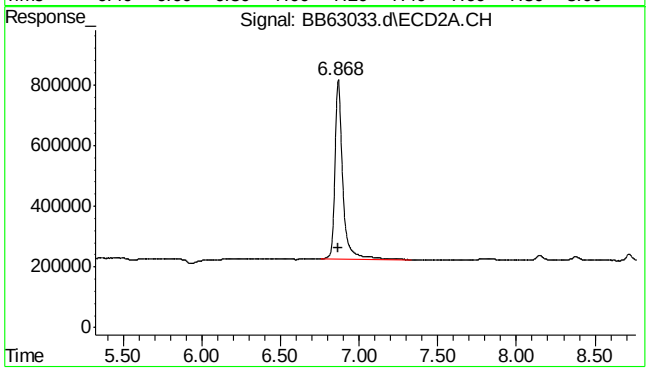
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

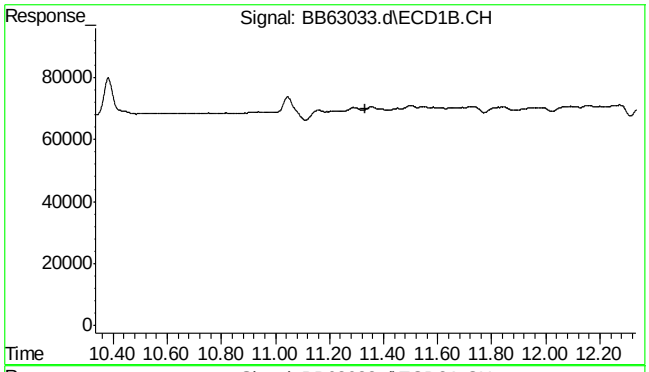
R.T.: 7.215 min
Delta R.T.: -0.002 min
Response: 2106776
Conc: 53.26 ug/L



#2 4-Bromofluorobenzene

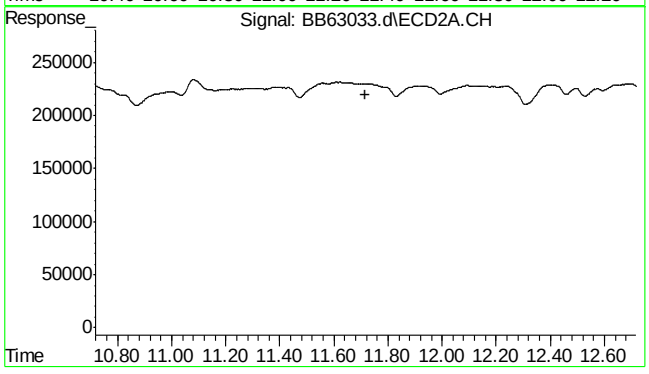
R.T.: 6.868 min
Delta R.T.: 0.000 min
Response: 20382298
Conc: 49.25 ug/L

14.1.13 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.13 14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63024.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 12:38:27
Operator  : nickk
Sample    : jb93023-14,op42847
Misc      : op42847,gbb3427,30.15,,,50,,s
ALS Vial  : 34 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:17:33 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.214	6.866	2233740	15050957	56.390	35.877 #
Spiked Amount 50.000	Range 60 - 140	Recovery = 112.78%			71.75%	
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.14

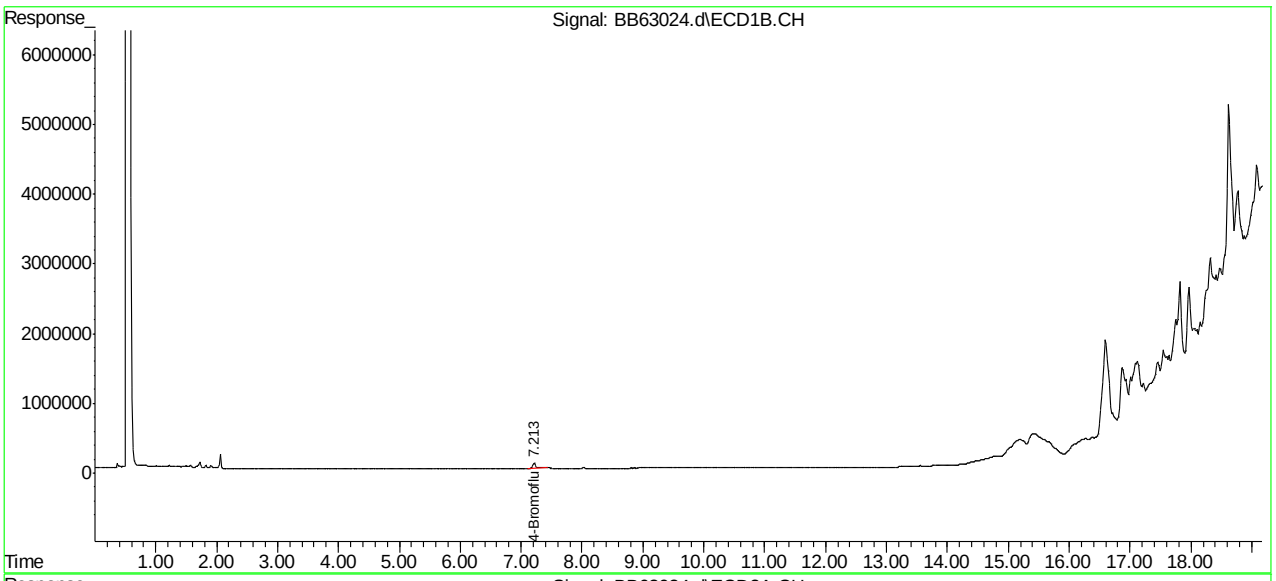
14

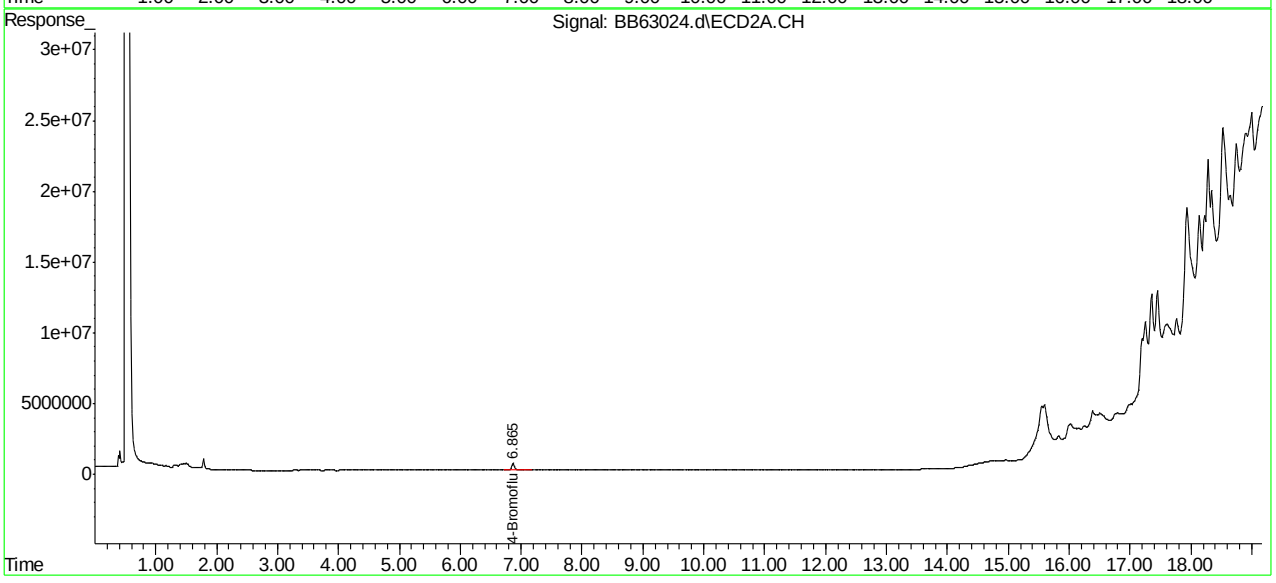
Quantitation Report (QT Reviewed)

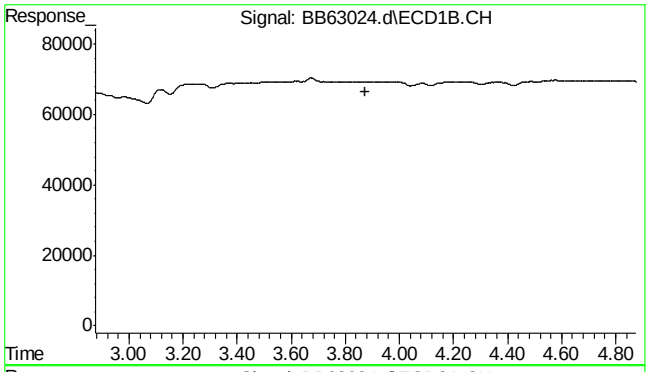
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63024.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 12:38:27
Operator : nickk
Sample : jb93023-14,op42847
Misc : op42847,gbb3427,30.15,,,50,,s
ALS Vial : 34 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:17:33 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

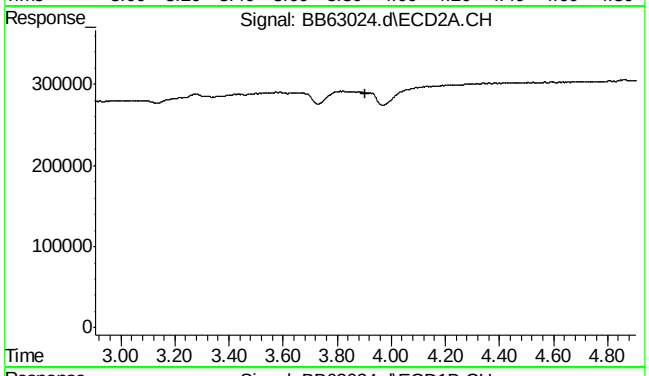






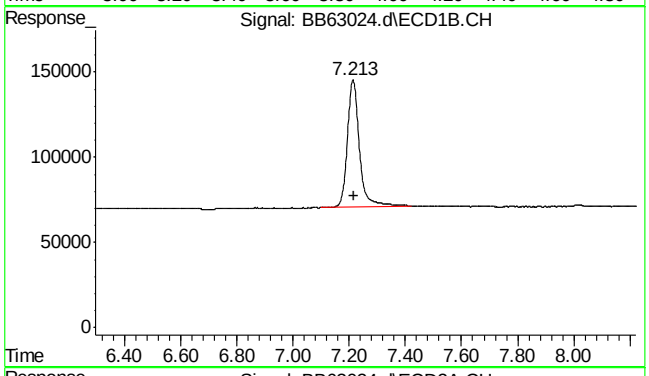
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



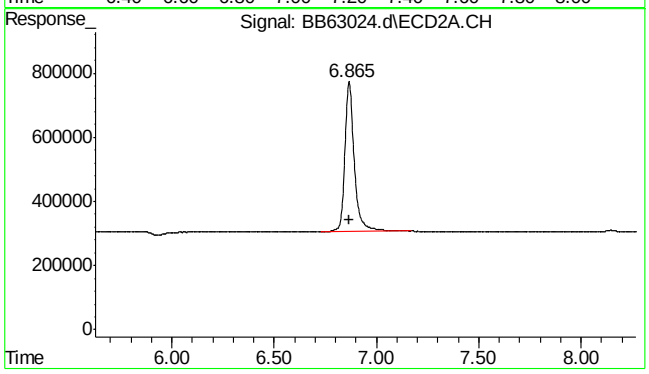
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



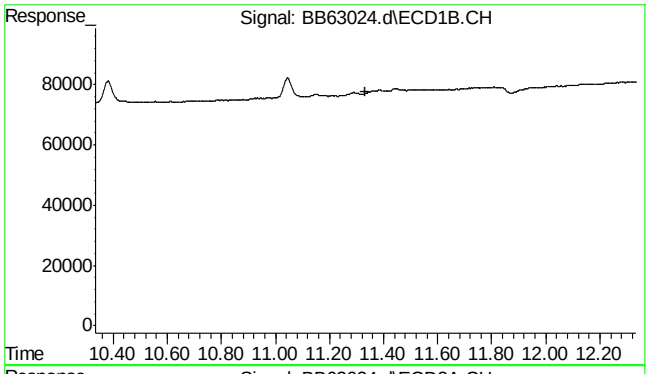
#2 4-Bromofluorobenzene

R.T.: 7.214 min
Delta R.T.: -0.003 min
Response: 2233740
Conc: 56.39 ug/L



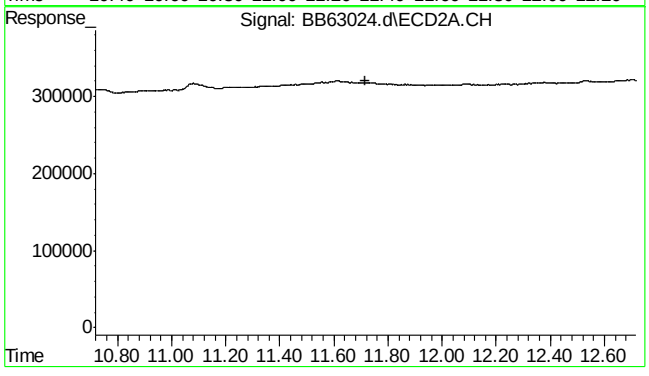
#2 4-Bromofluorobenzene

R.T.: 6.866 min
Delta R.T.: -0.002 min
Response: 15050957
Conc: 35.88 ug/L



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.14

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Manual Integrations
APPROVED
(compounds with "m" flag)
Andri Piluri
04/30/15 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63025.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 13:07:23
Operator : nickk
Sample : jb93023-15,op42847
Misc : op42847,gbb3427,30.13,,,50,,s
ALS Vial : 35 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 14:27:21 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
2) s	4-Bromofl...	7.214	6.866	2513134	17848952	63.292	42.881m#
	Spiked Amount	50.000	Range	60 - 140	Recovery	= 126.58%	85.76%
	Target Compounds						
1)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3)	1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

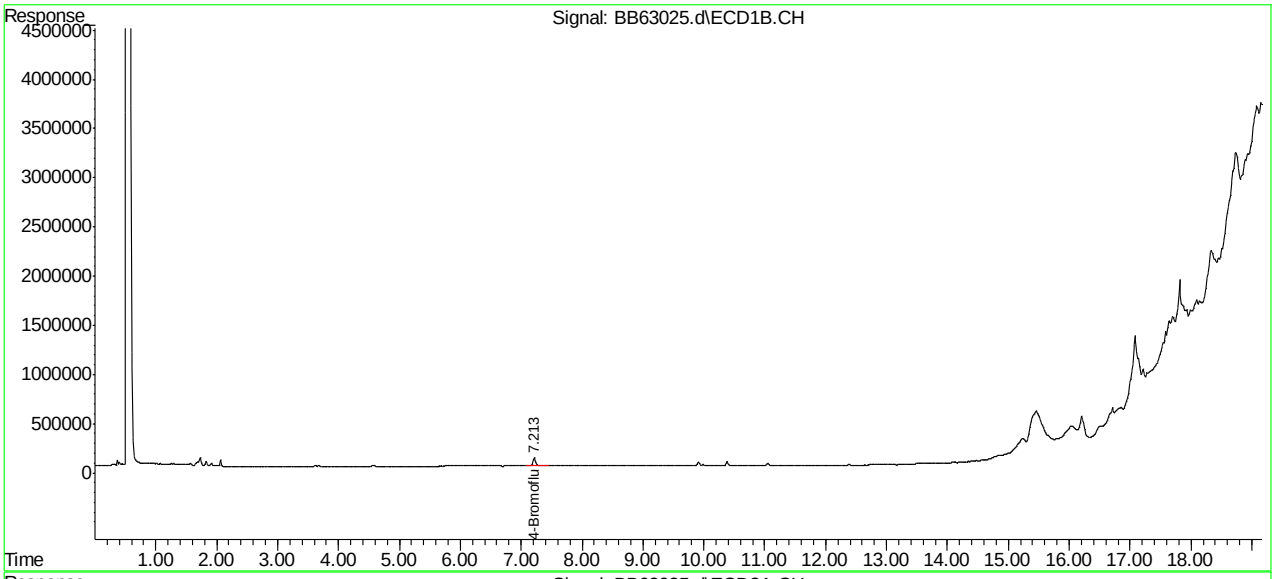
14.1.15
14

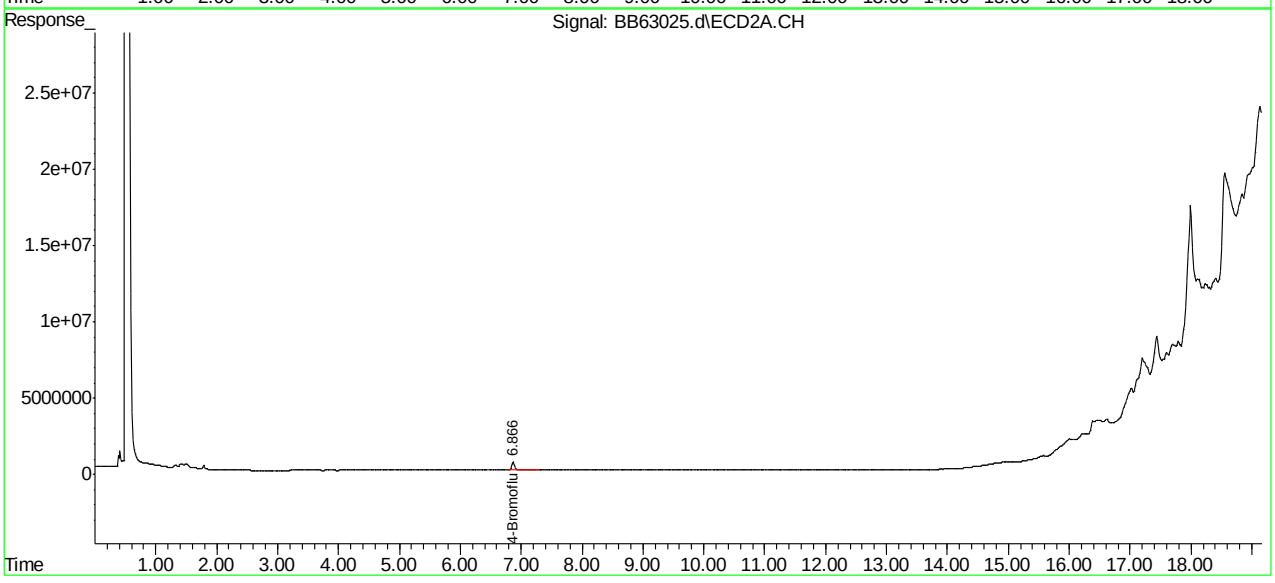
Quantitation Report (QT Reviewed)

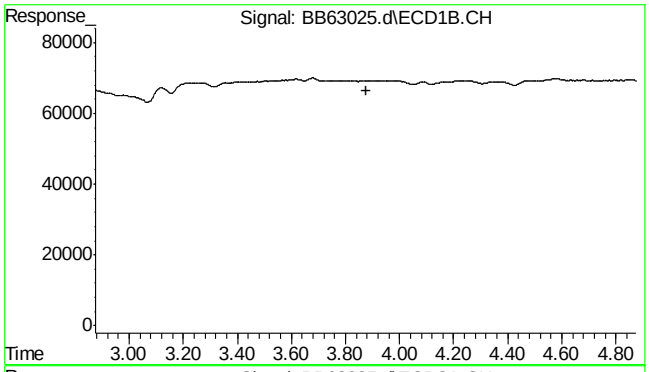
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63025.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 13:07:23
Operator : nickk
Sample : jb93023-15,op42847
Misc : op42847,gbb3427,30.13,,,50,,s
ALS Vial : 35 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 14:27:21 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

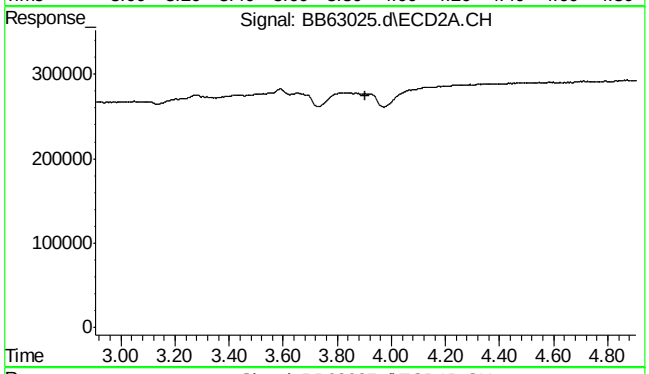






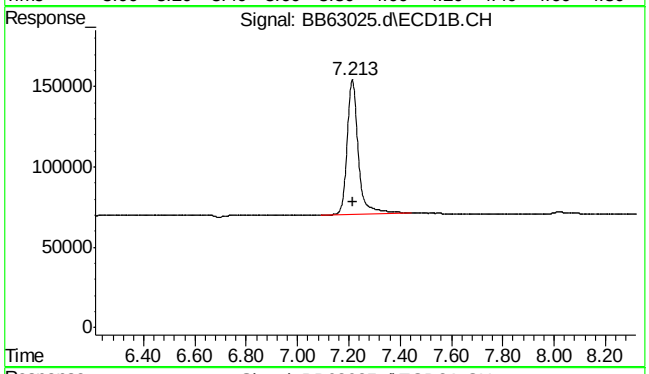
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



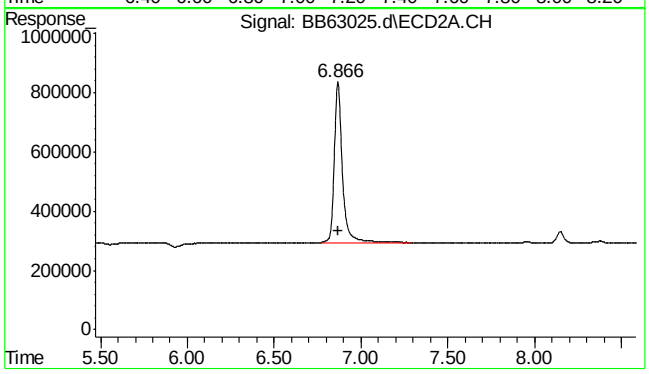
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

R.T.: 7.214 min
Delta R.T.: -0.003 min
Response: 2513134
Conc: 63.29 ug/L

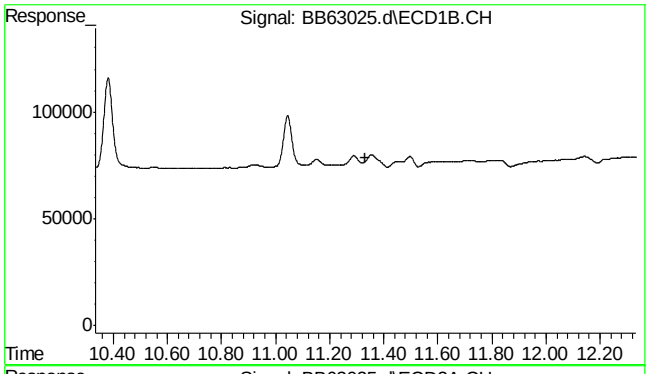


#2 4-Bromofluorobenzene

R.T.: 6.866 min
Delta R.T.: -0.002 min
Response: 17848952
Conc: 42.88 ug/L m

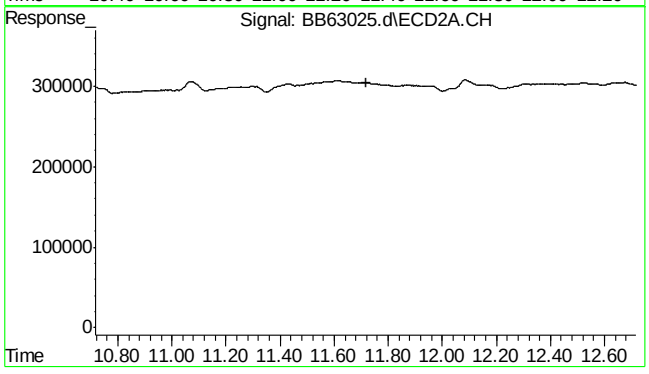
14.1.15

14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
04/30/15 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63026.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 13:36:19
Operator : nickk
Sample : jb93023-16,op42847
Misc : op42847,gbb3427,30.09,,,50,,s
ALS Vial : 36 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 14:27:43 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.216	6.867	2538699	17608537	63.924	42.278m#
Spiked Amount	50.000	Range	60 - 140	Recovery	= 127.85%	84.56%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

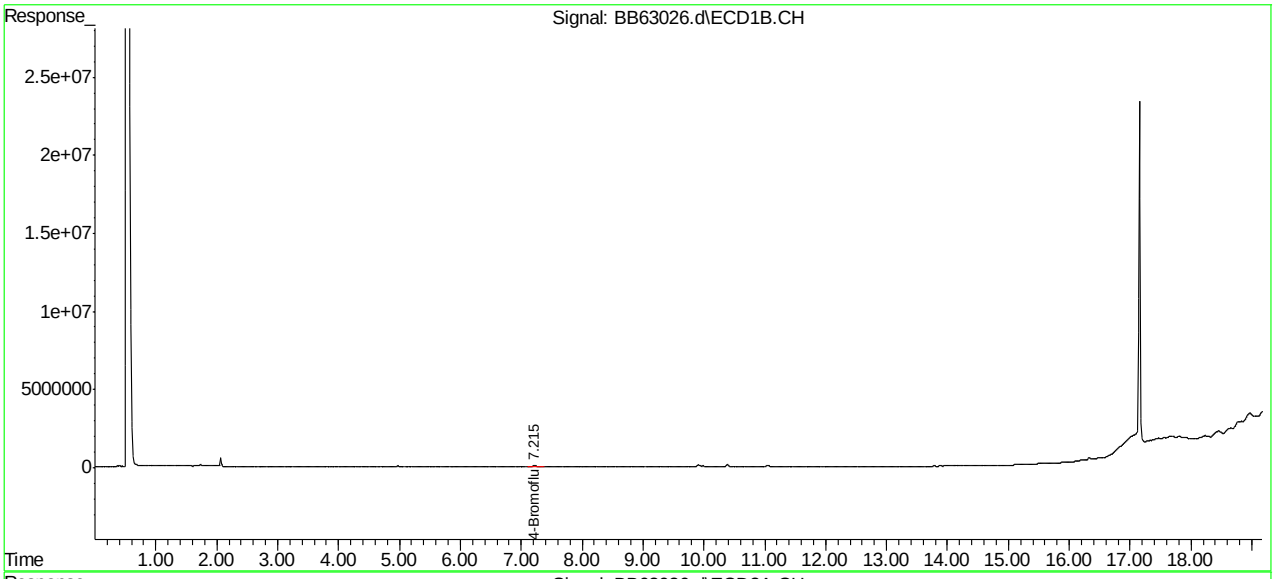
14.1.16 14

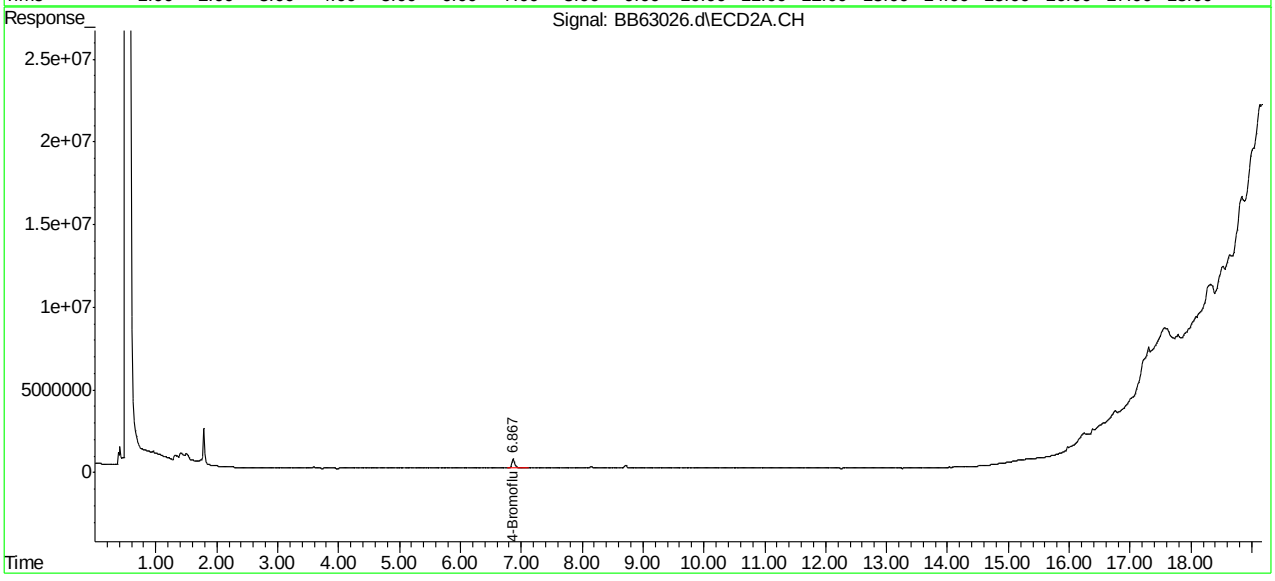
Quantitation Report (QT Reviewed)

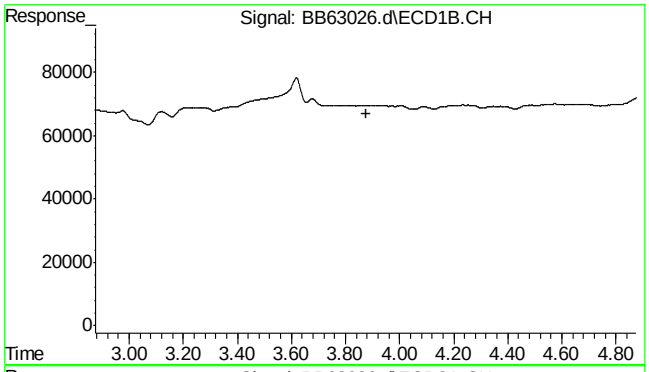
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63026.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 13:36:19
Operator : nickk
Sample : jb93023-16,op42847
Misc : op42847,gbb3427,30.09,,,50,,s
ALS Vial : 36 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 14:27:43 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

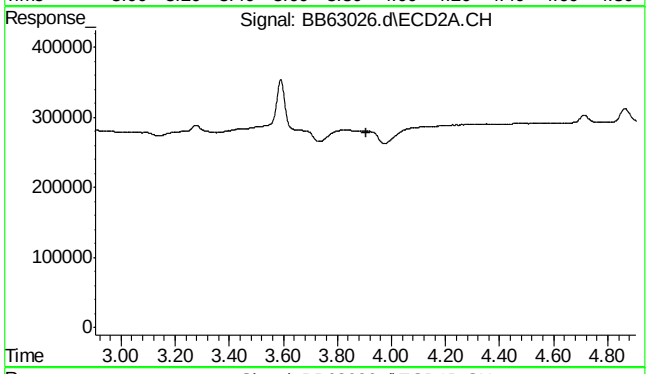






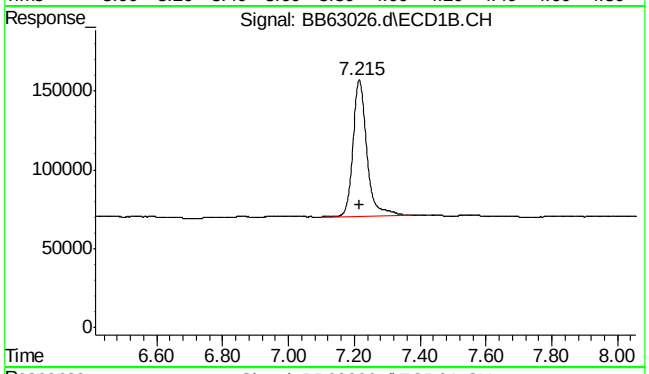
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



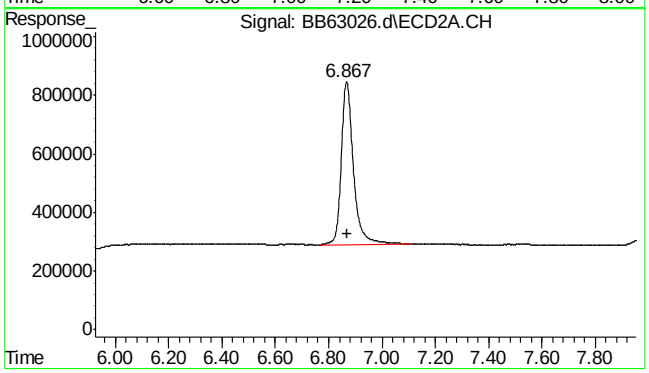
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

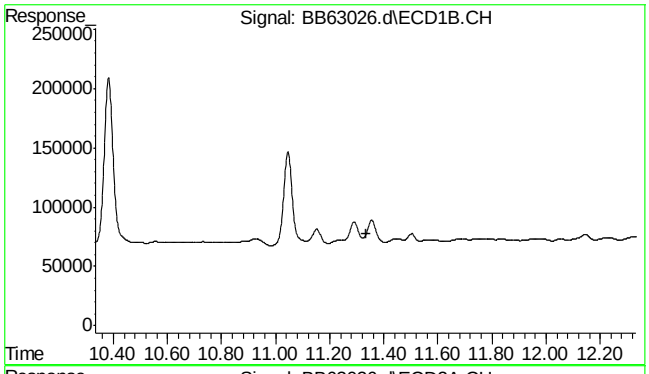
R.T.: 7.216 min
Delta R.T.: 0.000 min
Response: 2538699
Conc: 63.92 ug/L



#2 4-Bromofluorobenzene

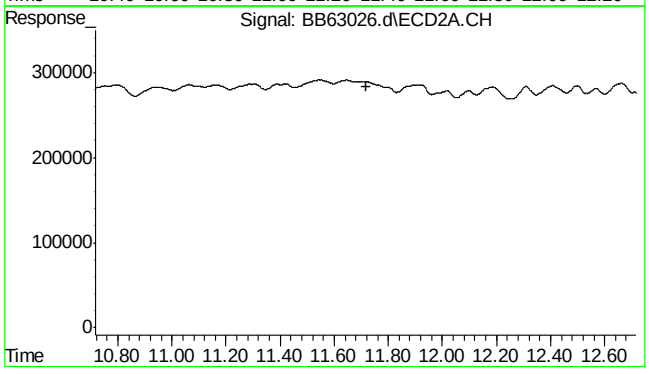
R.T.: 6.867 min
Delta R.T.: 0.000 min
Response: 17608537
Conc: 42.28 ug/L m

14.1.16 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.16

14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63027.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 14:05:07
Operator : nickk
Sample : jb93023-17,op42847
Misc : op42847,gbb3427,30.14,,,50,,s
ALS Vial : 37 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 14:28:01 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.215	6.868	2283788	16171125	57.625	38.678 #
Spiked Amount	50.000	Range	60 - 140	Recovery	= 115.25%	77.36%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.17

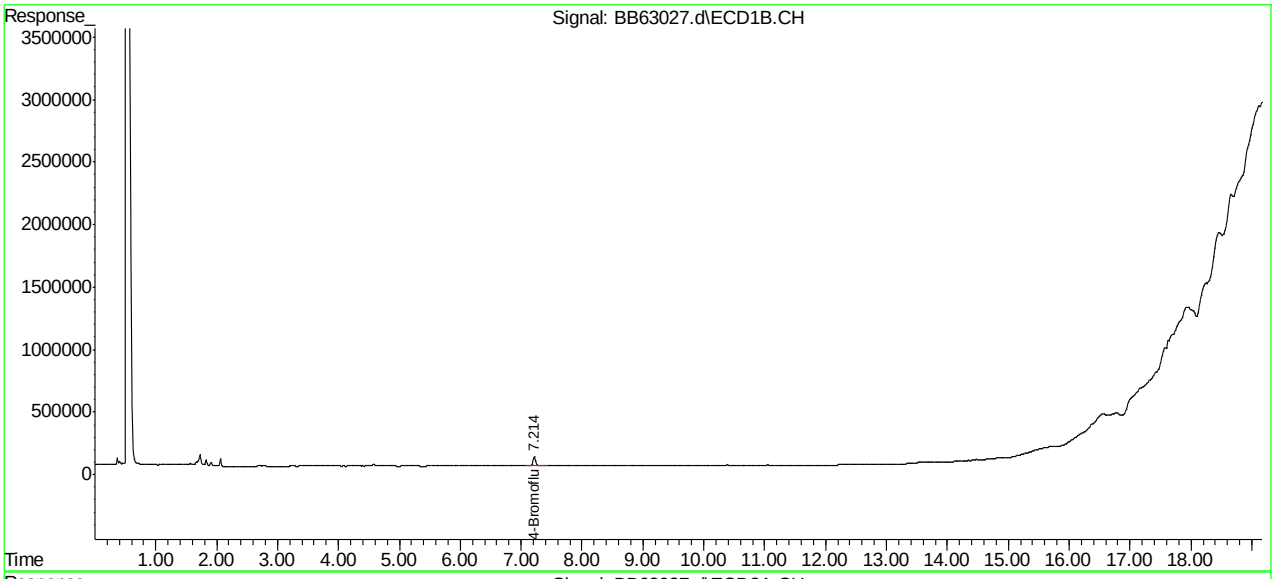
14

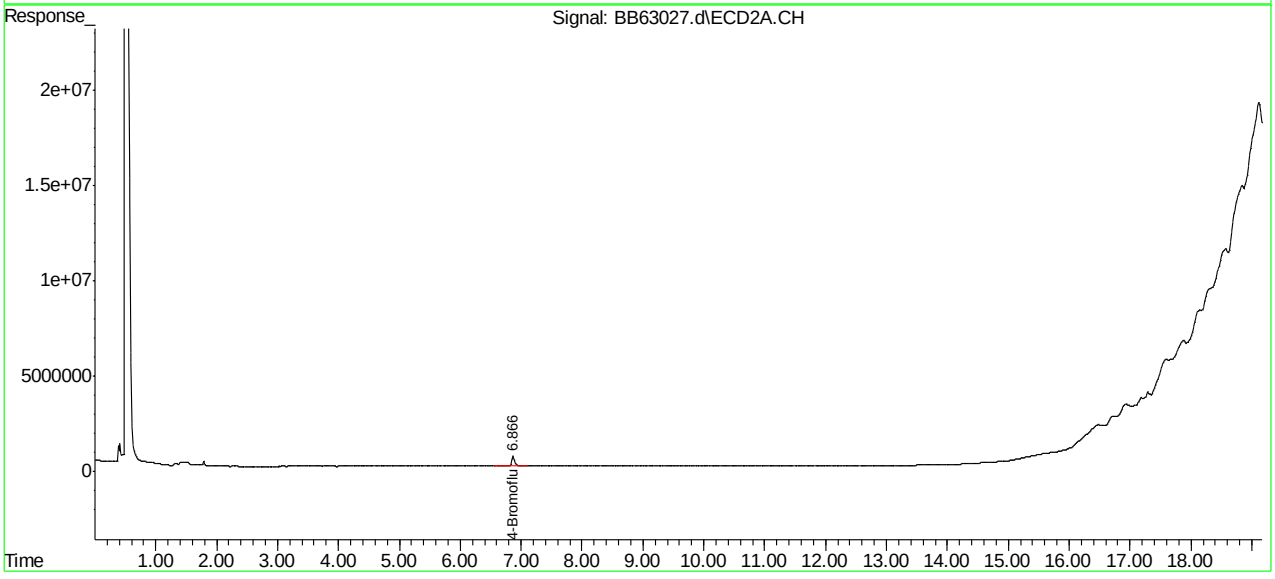
Quantitation Report (QT Reviewed)

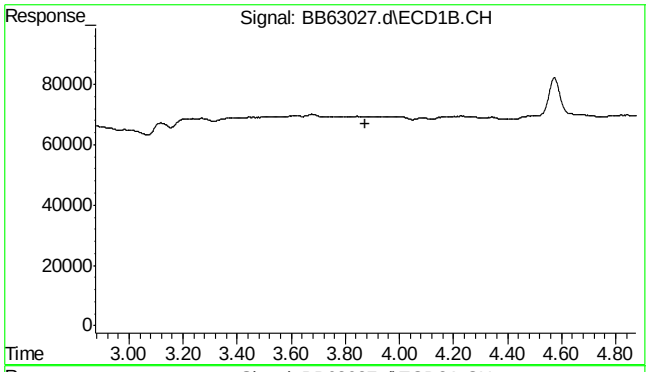
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63027.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 14:05:07
Operator : nickk
Sample : jb93023-17,op42847
Misc : op42847,gbb3427,30.14,,,50,,s
ALS Vial : 37 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 14:28:01 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

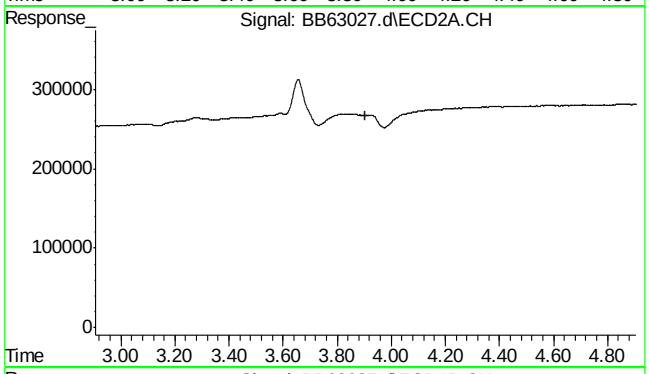






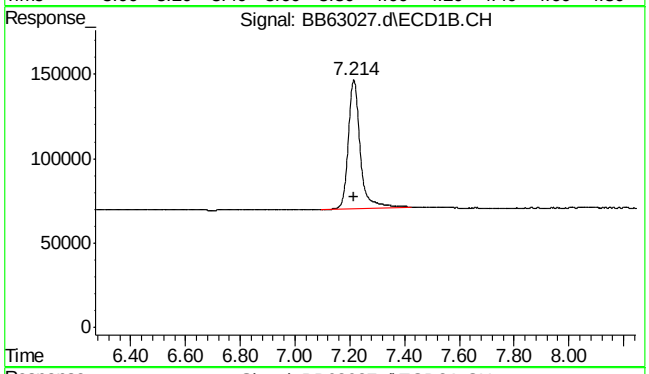
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



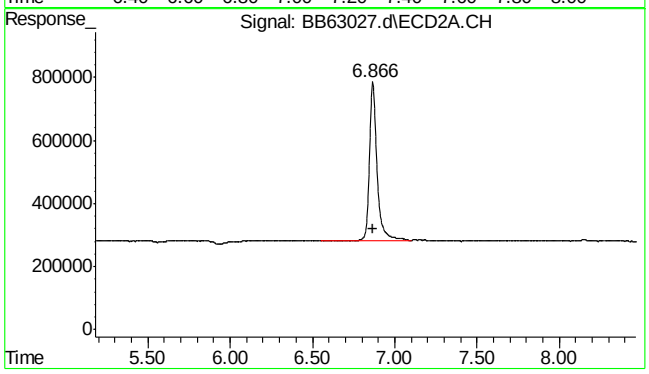
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

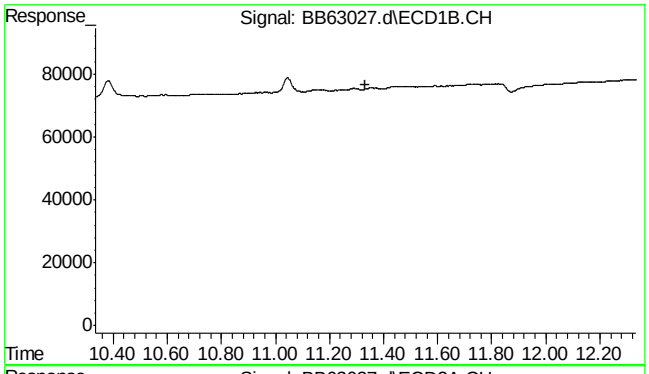
R.T.: 7.215 min
Delta R.T.: -0.002 min
Response: 2283788
Conc: 57.63 ug/L



#2 4-Bromofluorobenzene

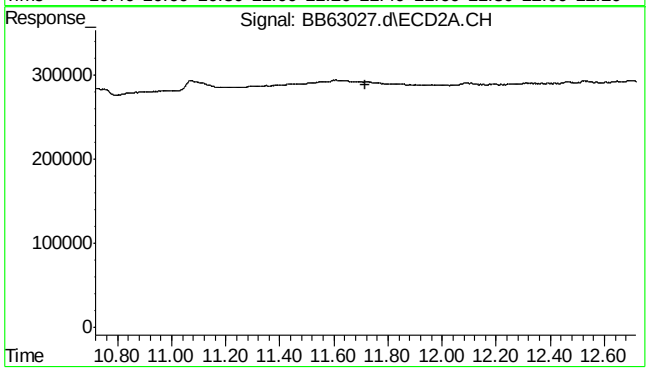
R.T.: 6.868 min
Delta R.T.: 0.000 min
Response: 16171125
Conc: 38.68 ug/L

14.1.17 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.17

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63028.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 14:33:47
Operator  : nickk
Sample    : jb93023-18,op42847
Misc      : op42847,gbb3427,30.61,,,50,,s
ALS Vial  : 38 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 15:36:12 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.216	6.868	2459067	16299411	61.956	38.999 #
Spiked Amount 50.000	Range	60 - 140	Recovery	=	123.91%	78.00%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.18

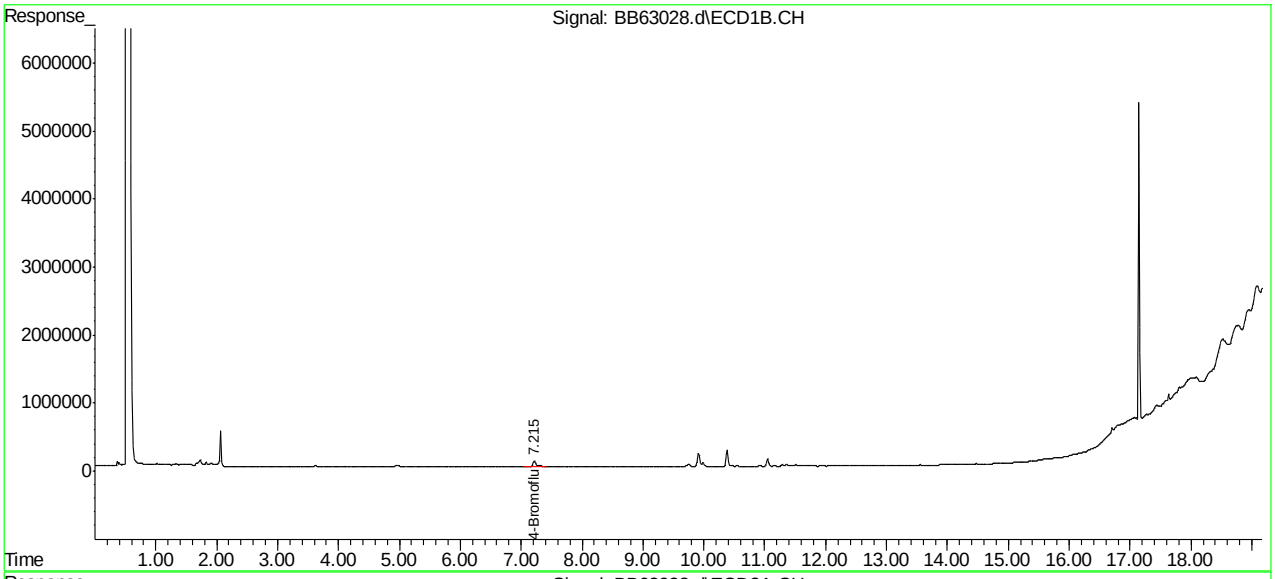
14

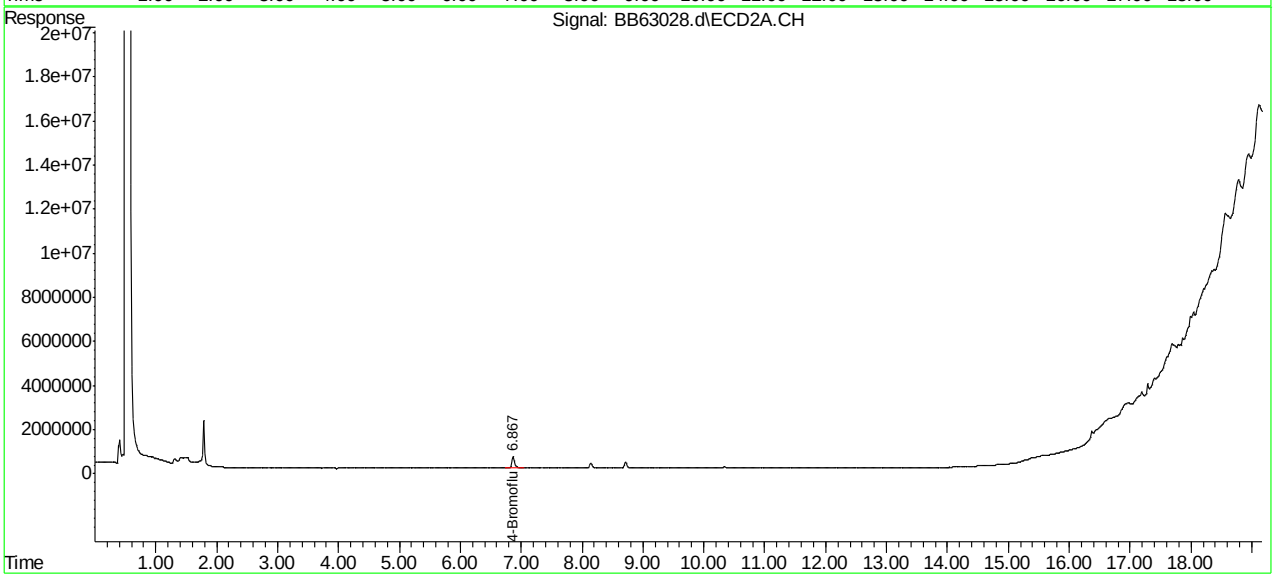
Quantitation Report (QT Reviewed)

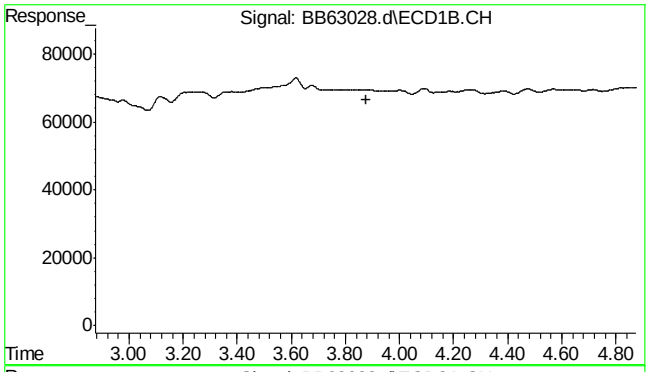
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63028.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 14:33:47
Operator : nickk
Sample : jb93023-18,op42847
Misc : op42847,gbb3427,30.61,,,50,,s
ALS Vial : 38 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 15:36:12 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

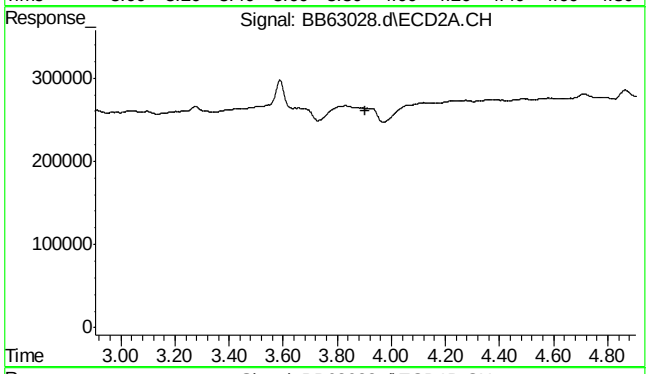






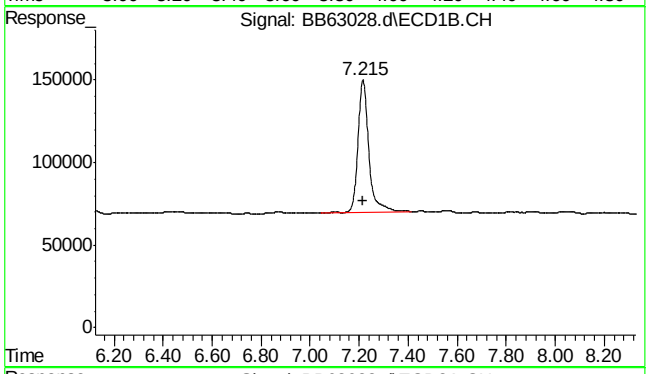
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



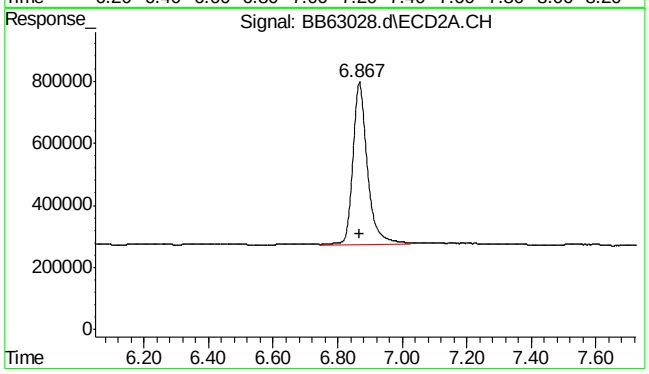
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

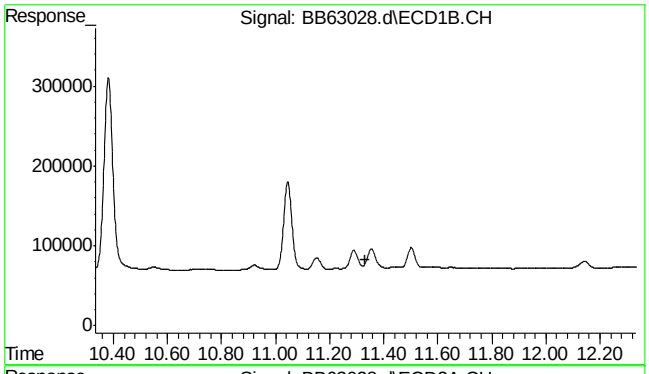
R.T.: 7.216 min
Delta R.T.: -0.001 min
Response: 2459067
Conc: 61.96 ug/L



#2 4-Bromofluorobenzene

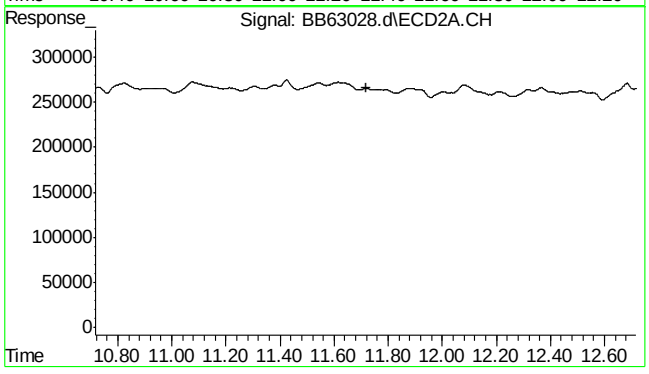
R.T.: 6.868 min
Delta R.T.: 0.000 min
Response: 16299411
Conc: 39.00 ug/L

14.1.18 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63029.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 15:02:37
Operator  : nickk
Sample    : jb93023-19,op42847
Misc      : op42847,gbb3427,30.74,,,50,,s
ALS Vial  : 39 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 15:36:30 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.216	6.869	2132190	15602070	53.884	37.255 #
Spiked Amount 50.000	Range	60 - 140	Recovery	=	107.77%	74.51%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.19

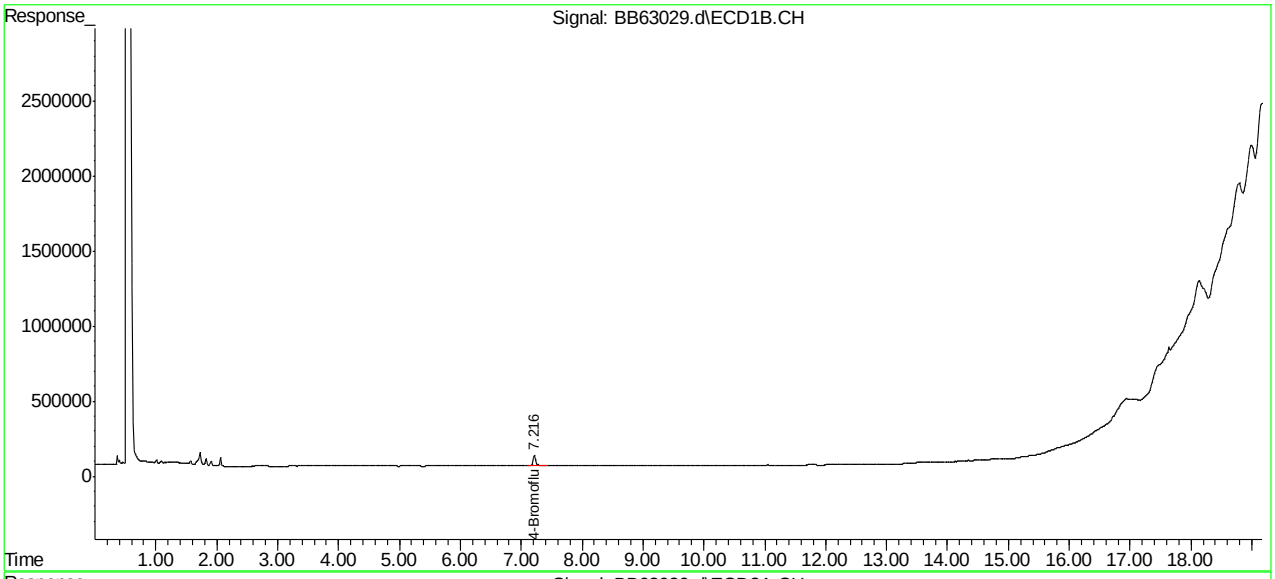
14

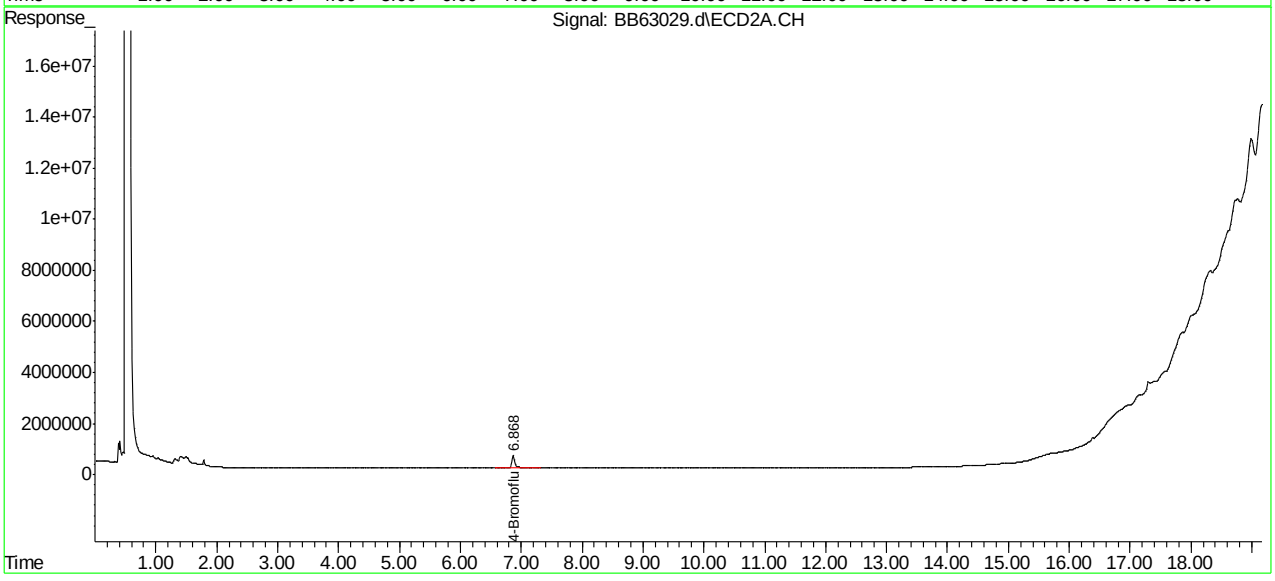
Quantitation Report (QT Reviewed)

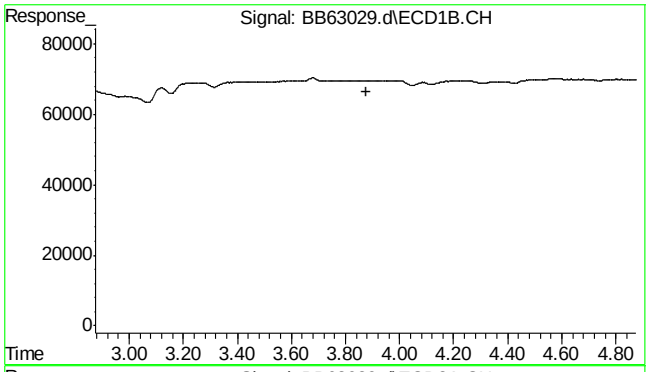
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63029.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 15:02:37
Operator : nickk
Sample : jb93023-19,op42847
Misc : op42847,gbb3427,30.74,,,50,,s
ALS Vial : 39 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 15:36:30 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

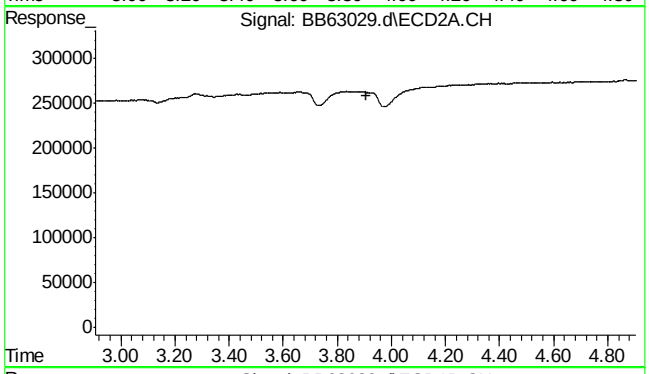






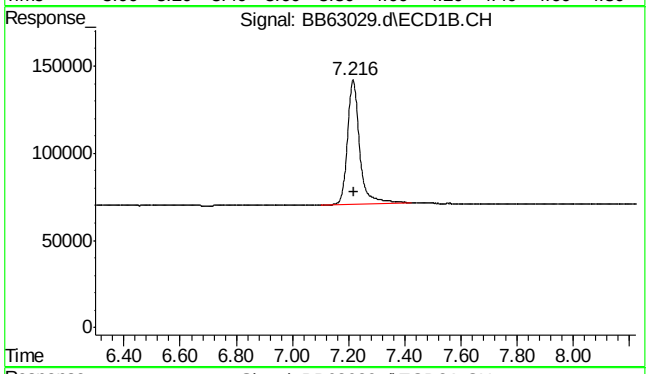
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



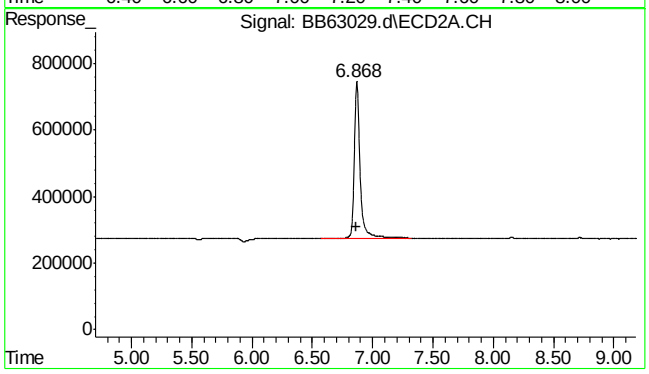
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

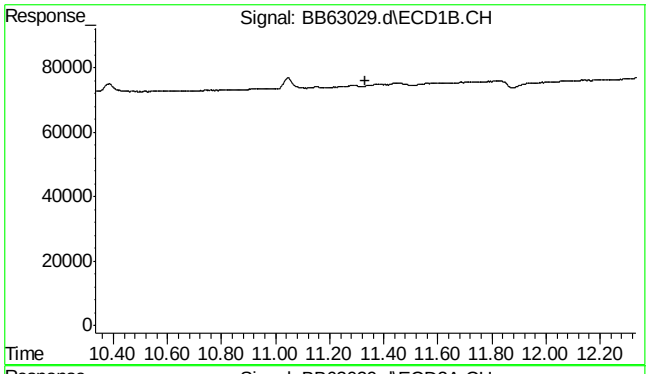
R.T.: 7.216 min
Delta R.T.: 0.000 min
Response: 2132190
Conc: 53.88 ug/L



#2 4-Bromofluorobenzene

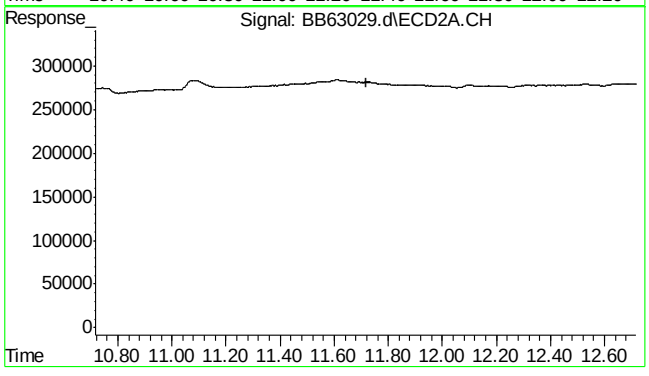
R.T.: 6.869 min
Delta R.T.: 0.000 min
Response: 15602070
Conc: 37.25 ug/L

14.1.19 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.19

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63030.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 15:31:46
Operator  : nickk
Sample    : jb93023-20,op42847
Misc      : op42847,gbb3427,30.14,,,50,,s
ALS Vial  : 40 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 30 08:49:49 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.216	6.869	2267628	17322174	57.226	41.561 #
Spiked Amount 50.000	Range	60 - 140	Recovery	=	114.45%	83.12%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

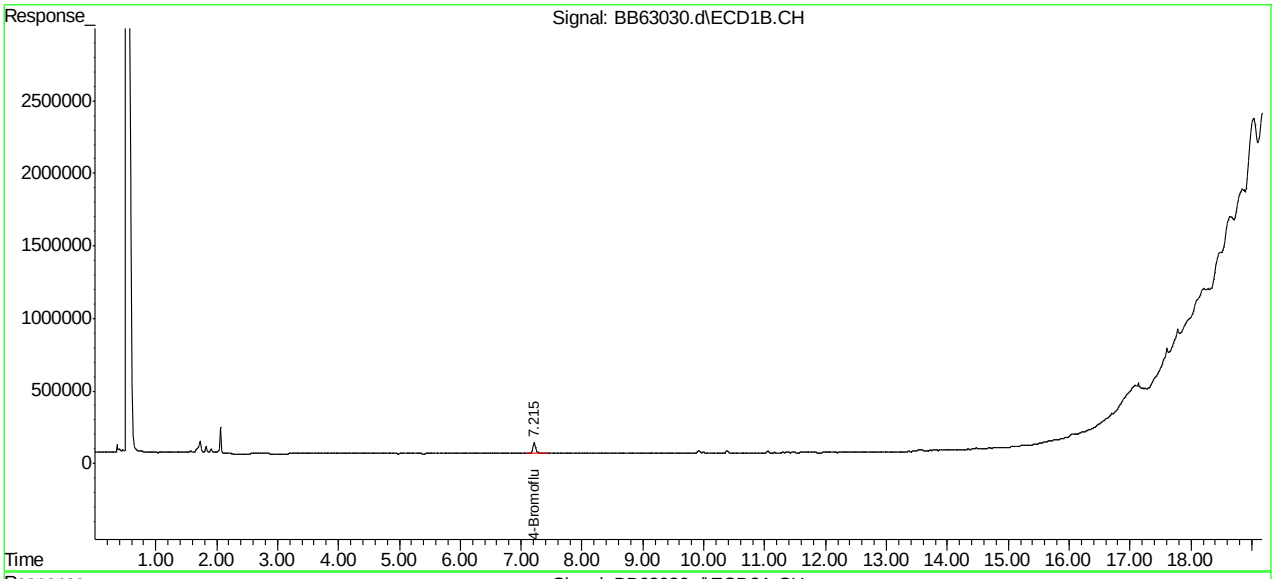
14.1.20 14

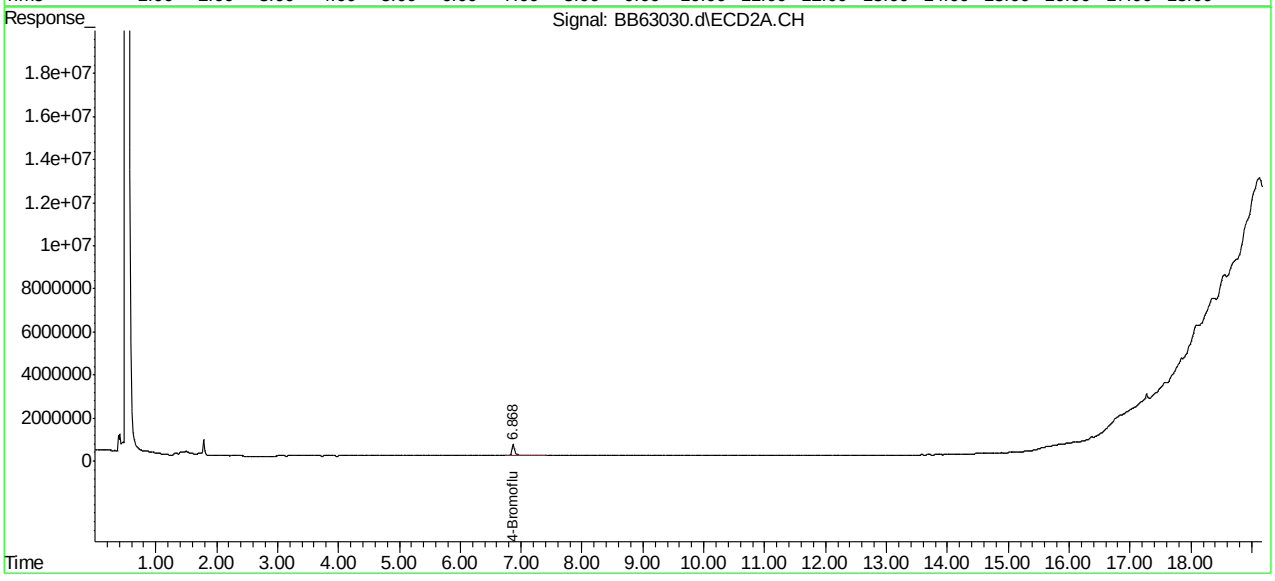
Quantitation Report (QT Reviewed)

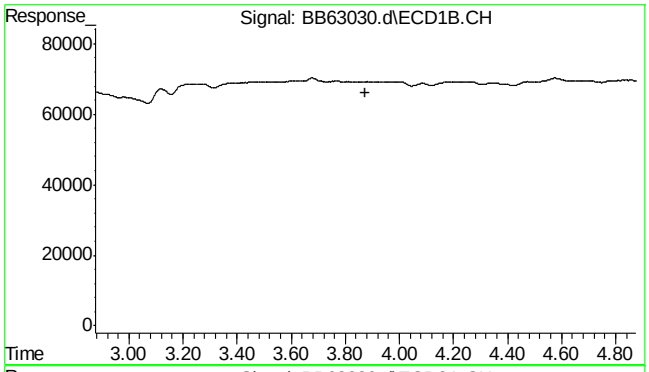
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63030.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 15:31:46
Operator : nickk
Sample : jb93023-20,op42847
Misc : op42847,gbb3427,30.14,,,50,,s
ALS Vial : 40 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 30 08:49:49 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

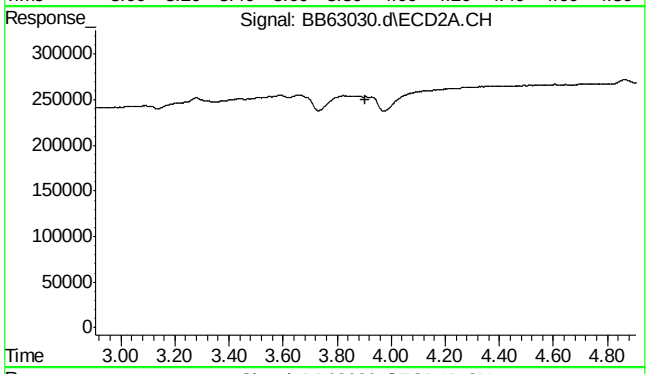






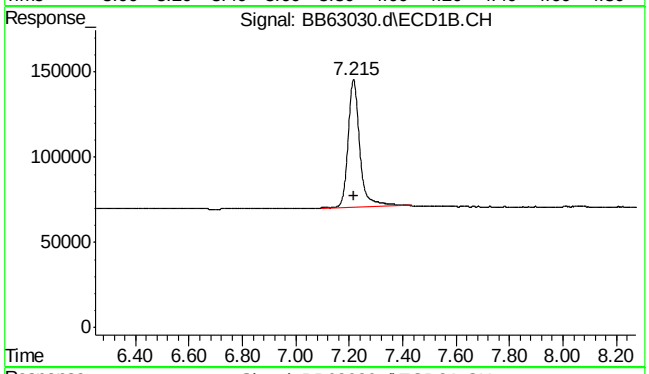
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



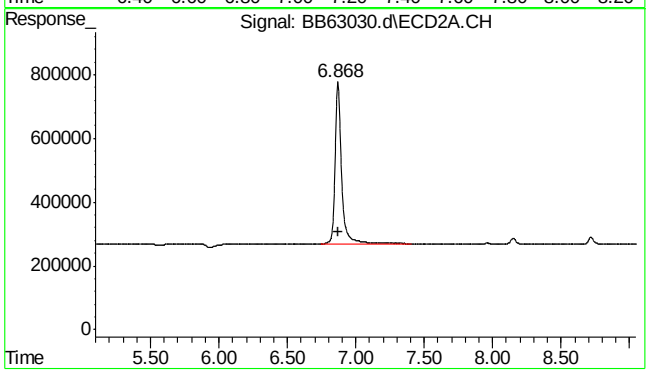
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

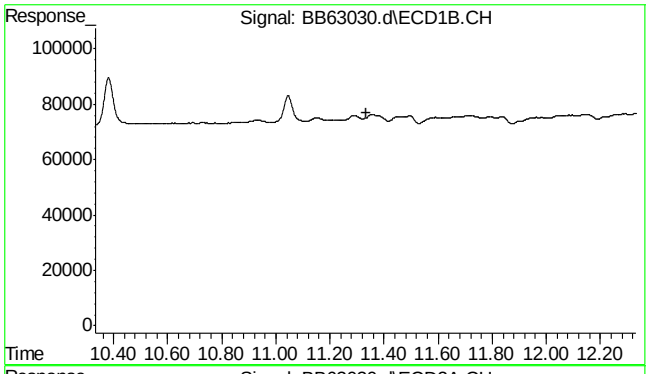
R.T.: 7.216 min
Delta R.T.: 0.000 min
Response: 2267628
Conc: 57.23 ug/L



#2 4-Bromofluorobenzene

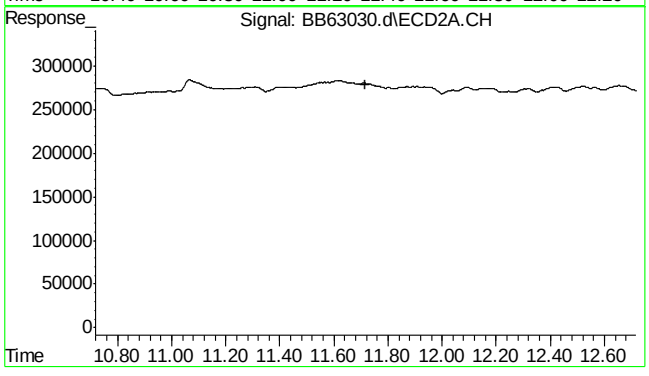
R.T.: 6.869 min
Delta R.T.: 0.001 min
Response: 17322174
Conc: 41.56 ug/L

14.1.20 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.20 14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63000.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 00:57:53
Operator  : nickk
Sample    : jb93023-21,op42837
Misc      : op42837,gbb3427,30.46,,,50,,s
ALS Vial  : 9 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:05:36 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.215	6.867	2380335	24453520	60.010	59.525
Spiked Amount 50.000	Range 60 - 140	Recovery = 120.02%			119.05%	
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.21

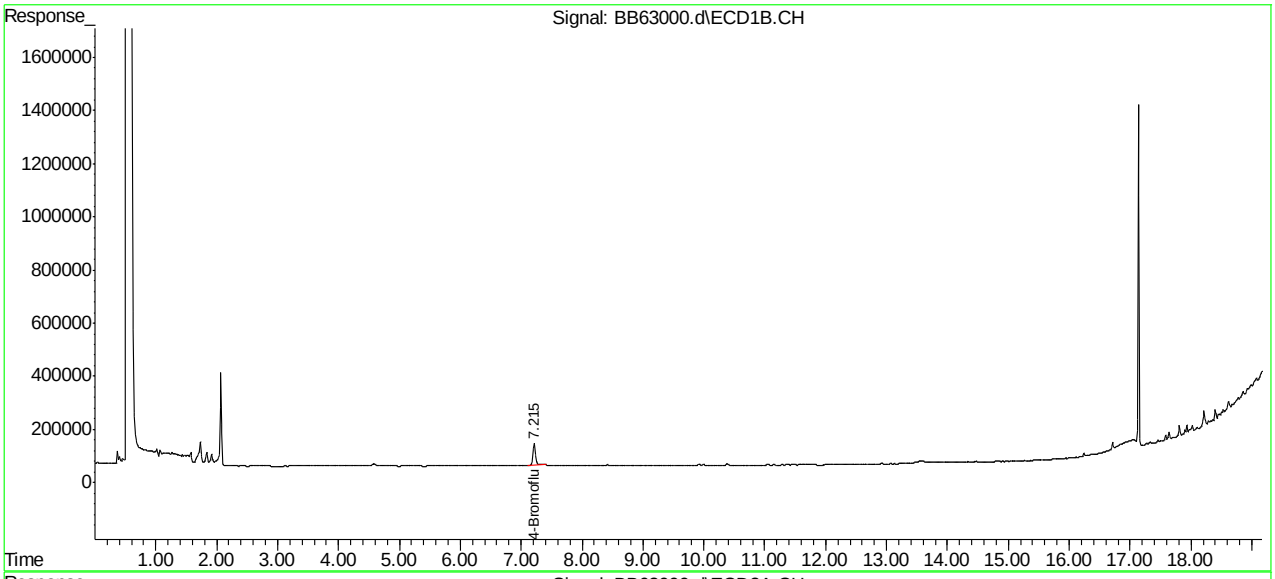
14

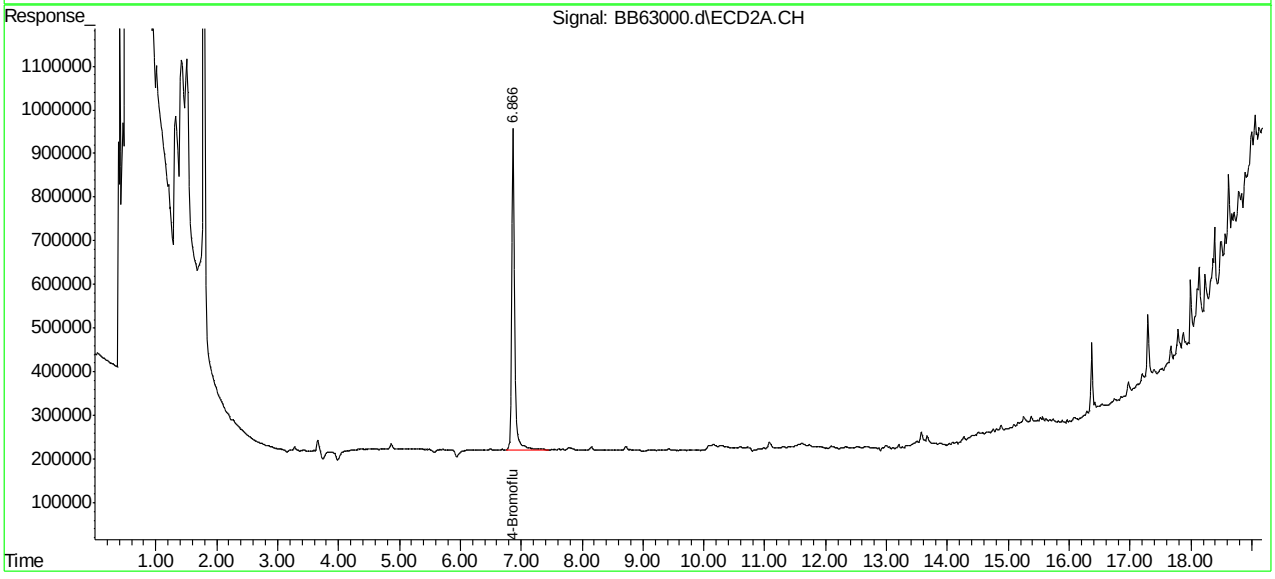
Quantitation Report (QT Reviewed)

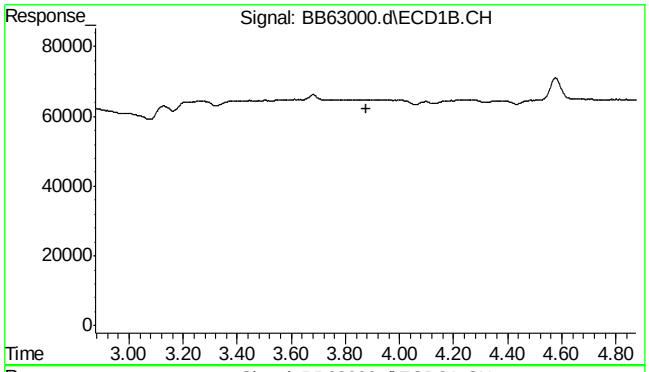
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63000.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 00:57:53
Operator : nickk
Sample : jb93023-21,op42837
Misc : op42837,gbb3427,30.46,,,50,,s
ALS Vial : 9 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:05:36 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

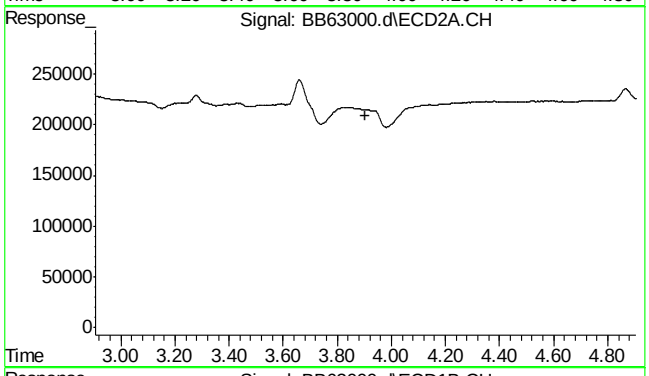






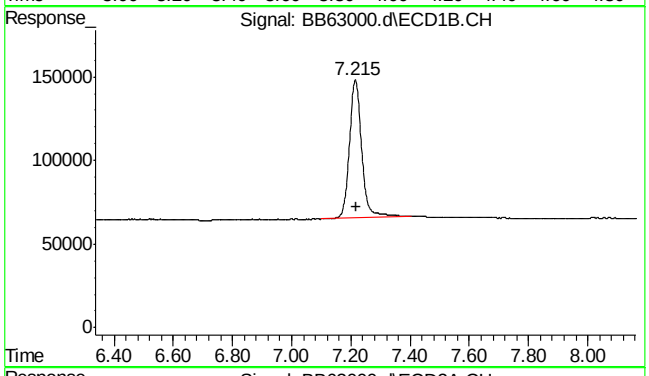
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



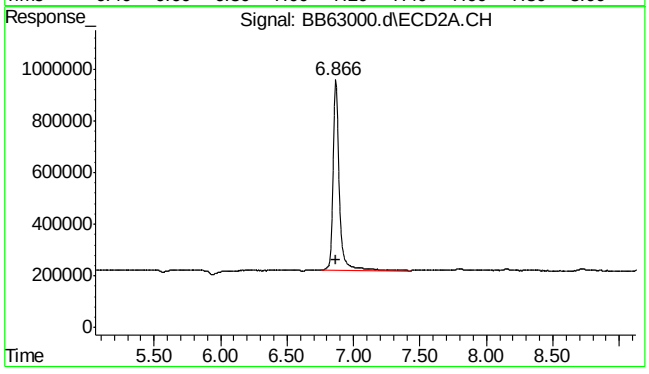
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

R.T.: 7.215 min
Delta R.T.: -0.002 min
Response: 2380335
Conc: 60.01 ug/L

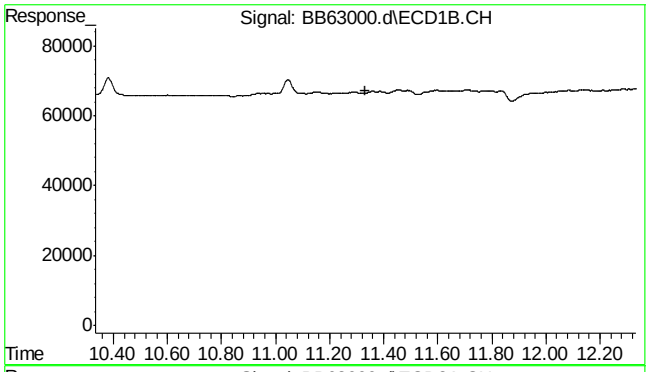


#2 4-Bromofluorobenzene

R.T.: 6.867 min
Delta R.T.: -0.001 min
Response: 24453520
Conc: 59.52 ug/L

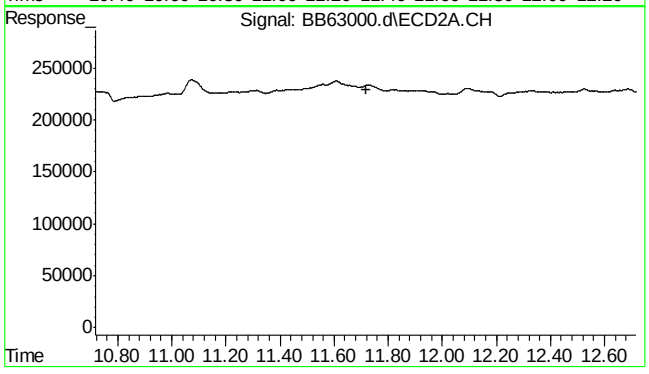
14.1.21

14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.21

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63001.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 01:27:45
Operator  : nickk
Sample    : jb93023-22,op42837
Misc      : op42837,gbb3427,30.72,,,50,,s
ALS Vial  : 10 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:05:47 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.213	6.865	2257502	22215432	56.976	53.867
Spiked Amount 50.000	Range	60 - 140	Recovery	=	113.95%	107.73%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.22

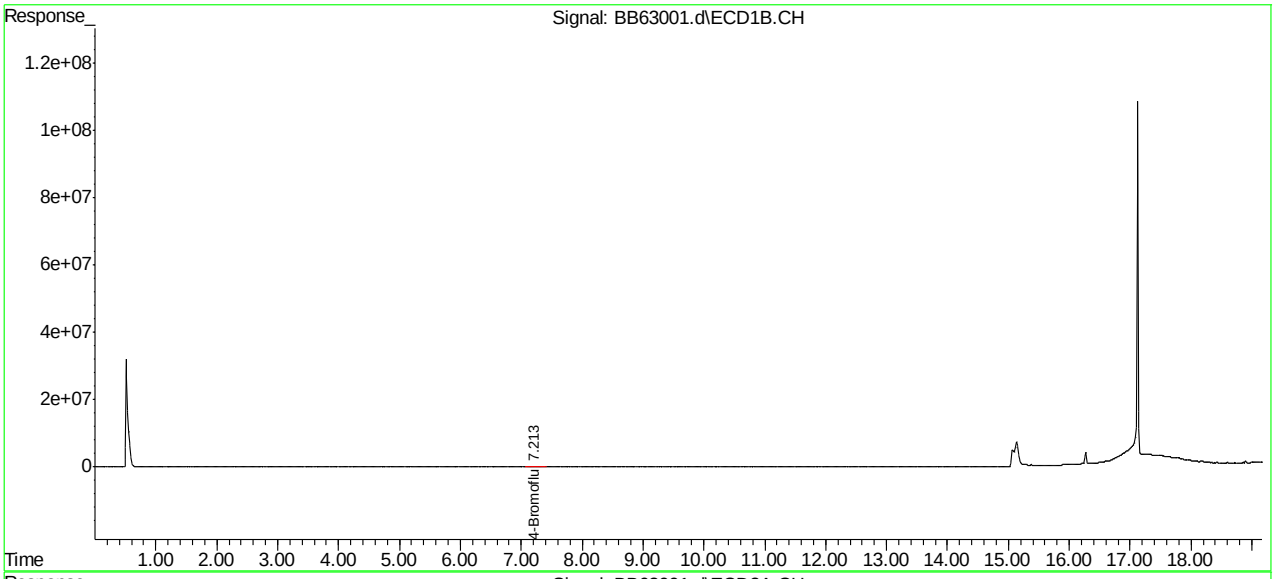
14

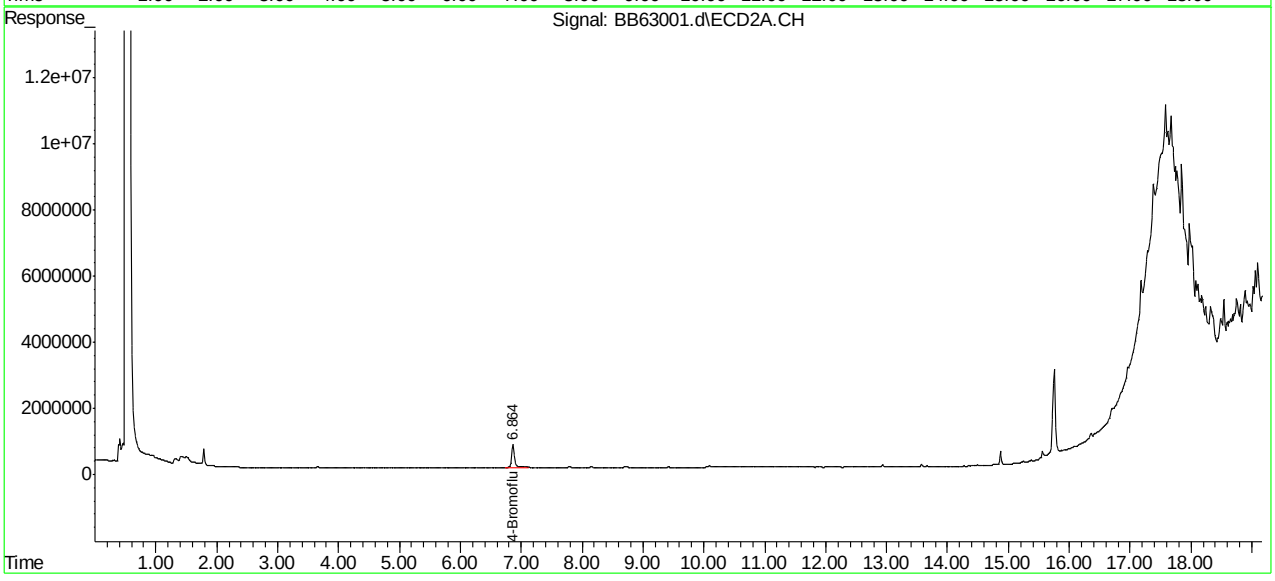
Quantitation Report (QT Reviewed)

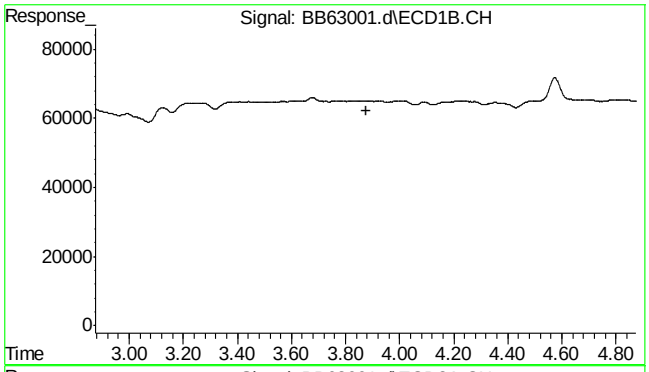
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63001.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 01:27:45
Operator : nickk
Sample : jb93023-22,op42837
Misc : op42837,gbb3427,30.72,,,50,,s
ALS Vial : 10 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:05:47 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

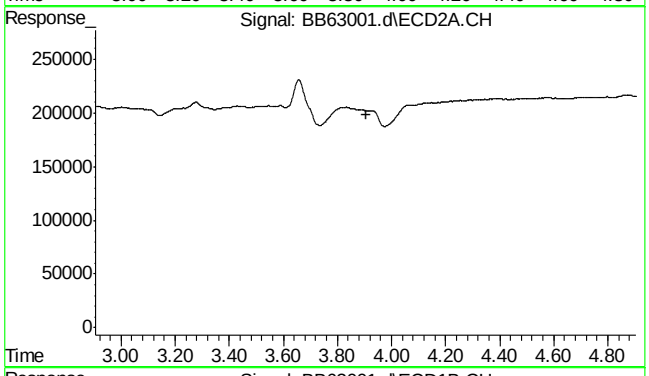






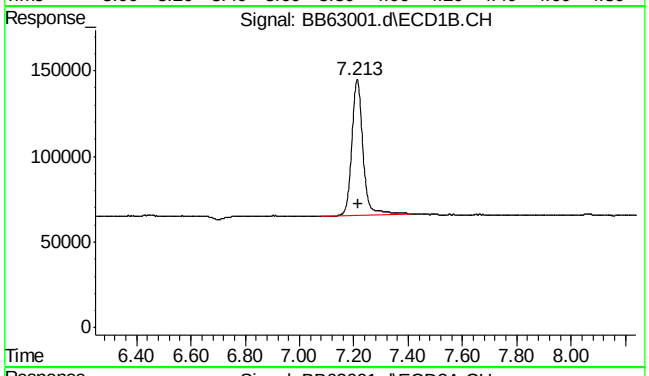
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



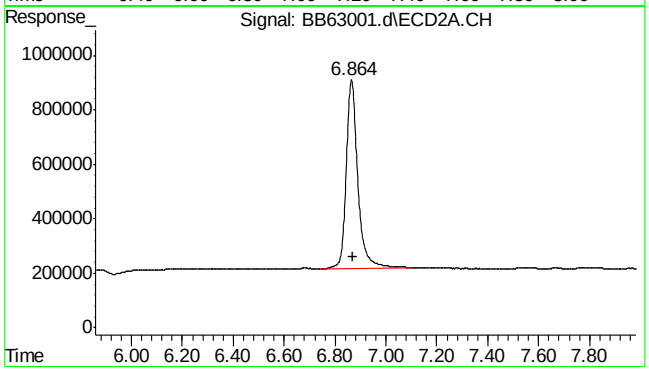
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

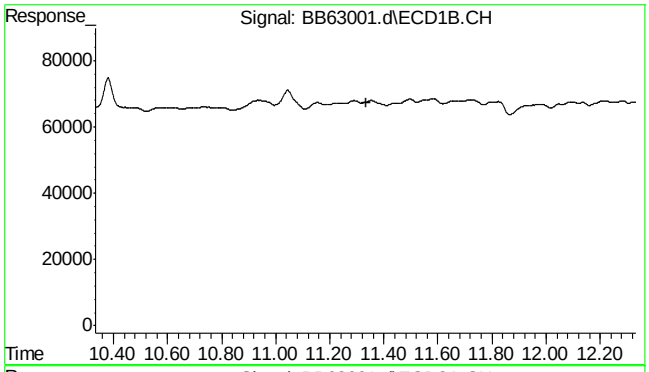
R.T.: 7.213 min
Delta R.T.: -0.004 min
Response: 2257502
Conc: 56.98 ug/L



#2 4-Bromofluorobenzene

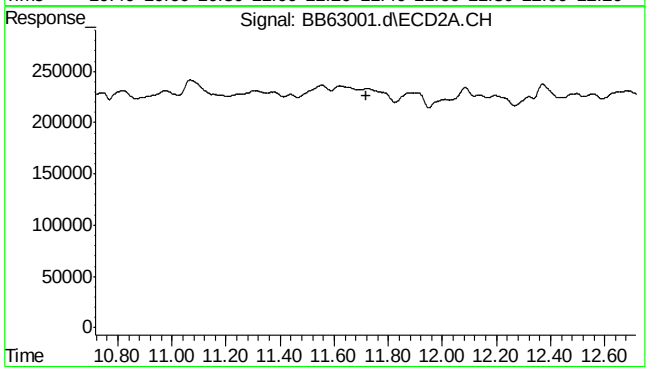
R.T.: 6.865 min
Delta R.T.: -0.003 min
Response: 22215432
Conc: 53.87 ug/L

14.1.22 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.22
14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63002.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 01:57:53
Operator : nickk
Sample : jb93023-23,op42837
Misc : op42837,gbb3427,30.32,,,50,,s
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:05:57 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.214	6.867	2237777	19475704	56.489	46.966
Spiked Amount	50.000	Range	60 - 140	Recovery	= 112.98%	93.93%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

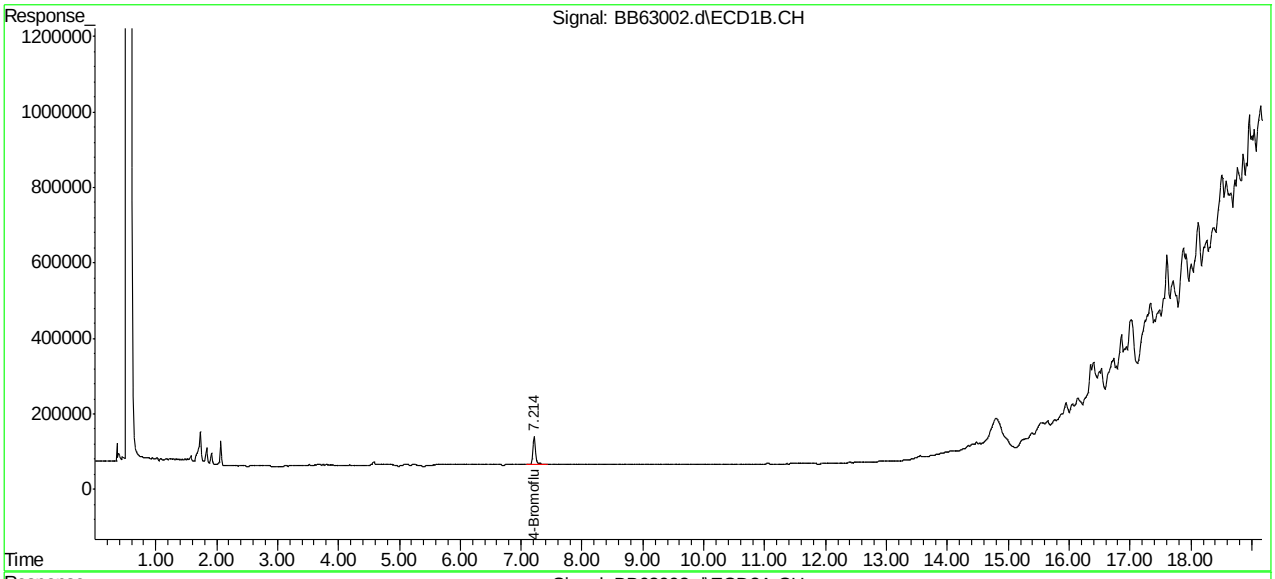
14.1.23 14

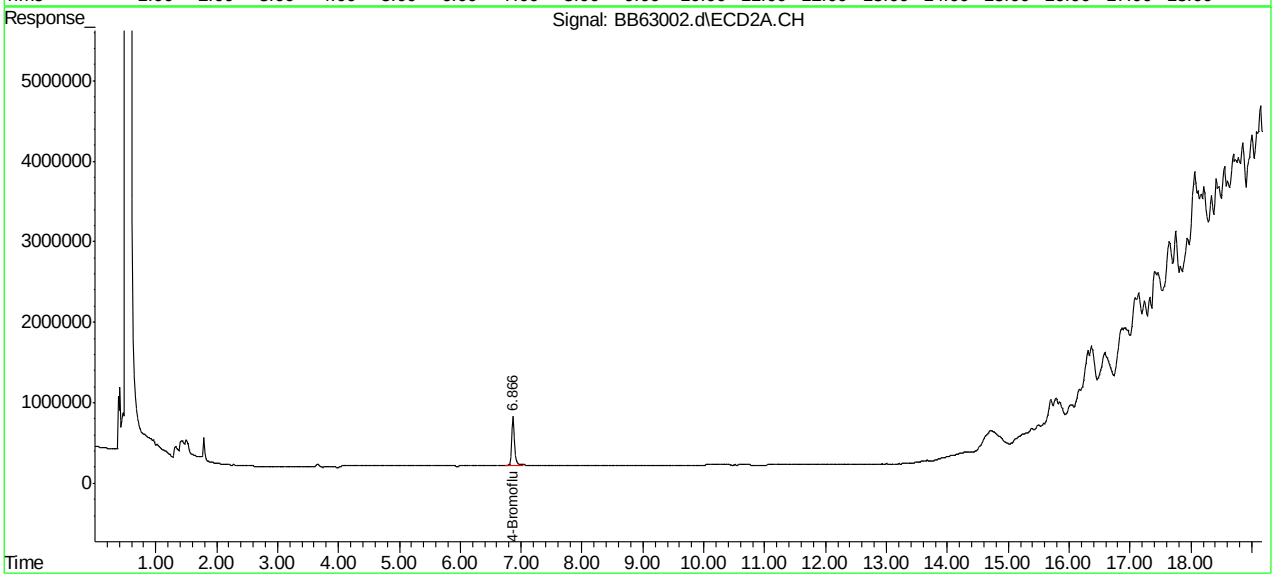
Quantitation Report (QT Reviewed)

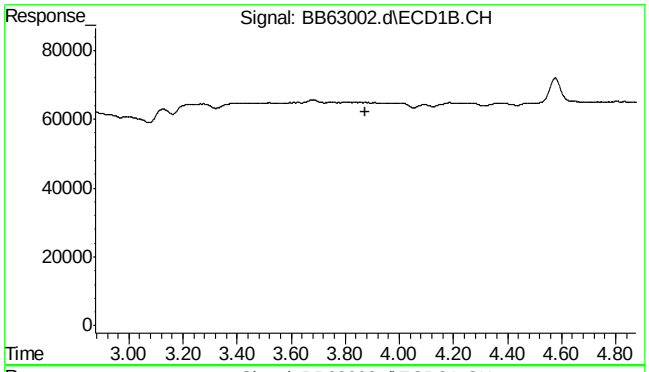
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63002.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 01:57:53
Operator : nickk
Sample : jb93023-23,op42837
Misc : op42837,gbb3427,30.32,,,50,,s
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:05:57 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

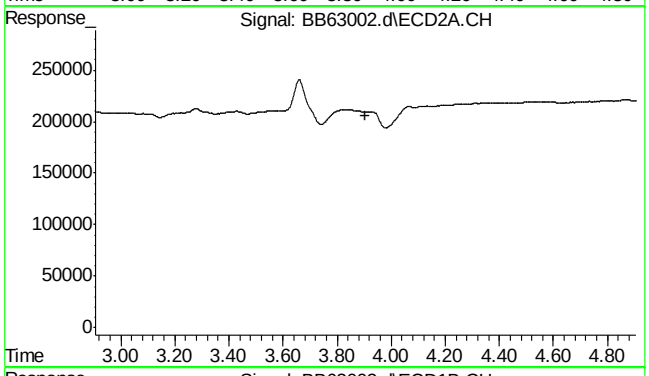






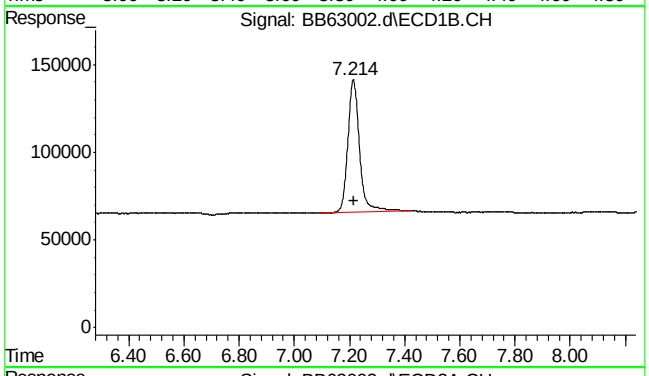
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



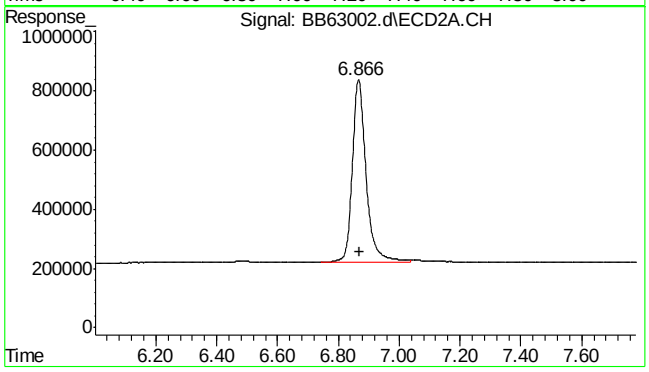
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

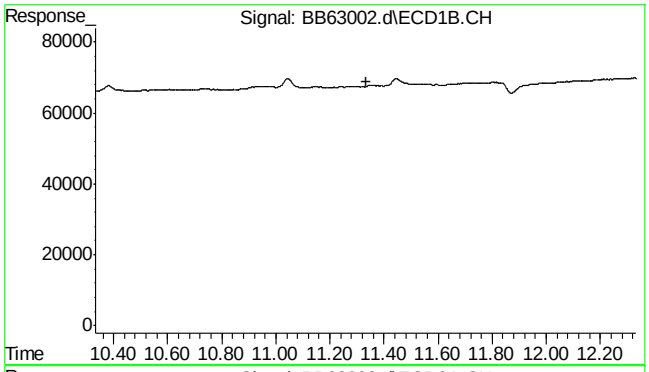
R.T.: 7.214 min
Delta R.T.: -0.003 min
Response: 2237777
Conc: 56.49 ug/L



#2 4-Bromofluorobenzene

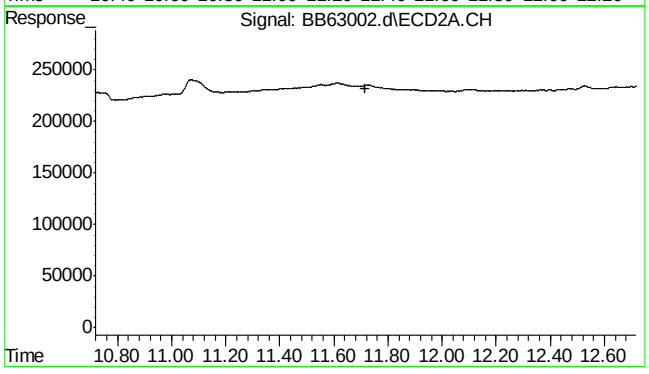
R.T.: 6.867 min
Delta R.T.: -0.001 min
Response: 19475704
Conc: 46.97 ug/L

14.1.23 14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.23 14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63003.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 29-Apr-15, 02:26:19
Operator  : nickk
Sample    : jb93023-24,op42837
Misc      : op42837,gbb3427,30.08,,,50,,s
ALS Vial  : 12 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:06:05 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.215	6.865	2234093	20027140	56.398	48.353
Spiked Amount 50.000	Range	60 - 140	Recovery	=	112.80%	96.71%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.1.24

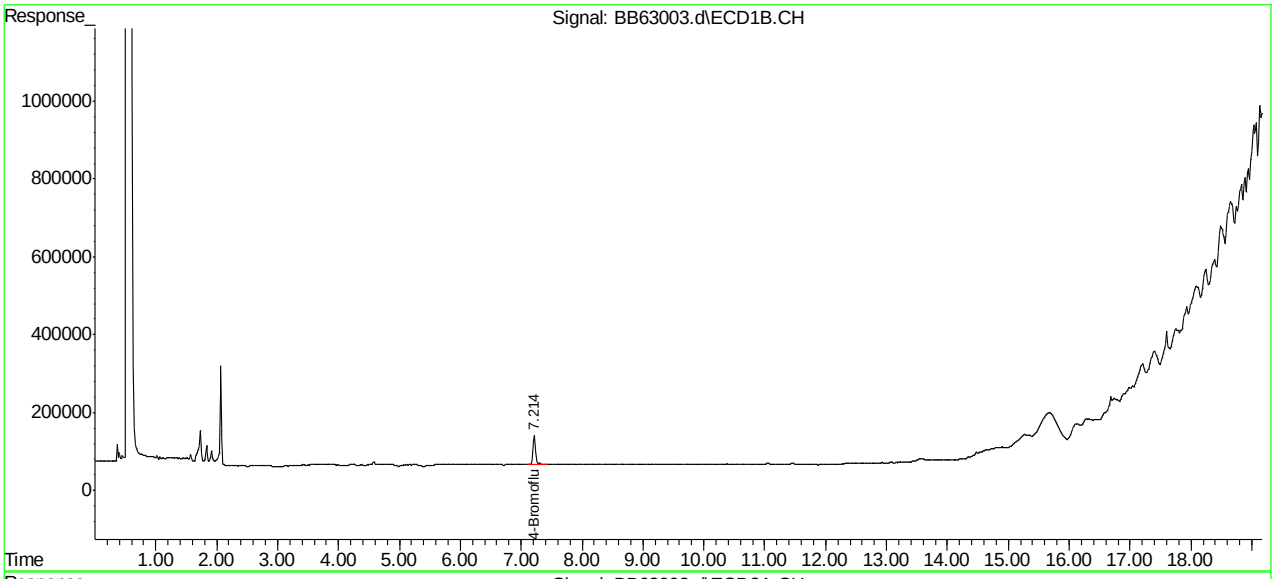
14

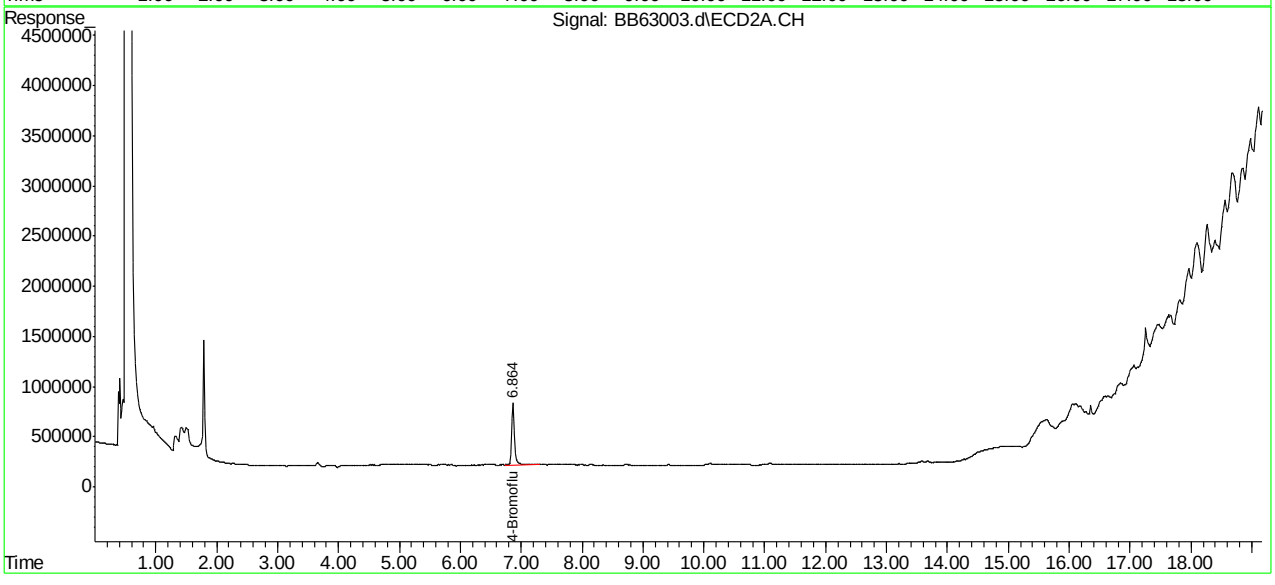
Quantitation Report (QT Reviewed)

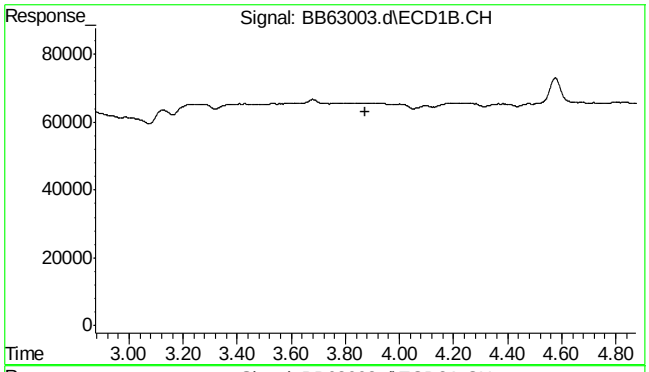
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB63003.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29-Apr-15, 02:26:19
Operator : nickk
Sample : jb93023-24,op42837
Misc : op42837,gbb3427,30.08,,,50,,s
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:06:05 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

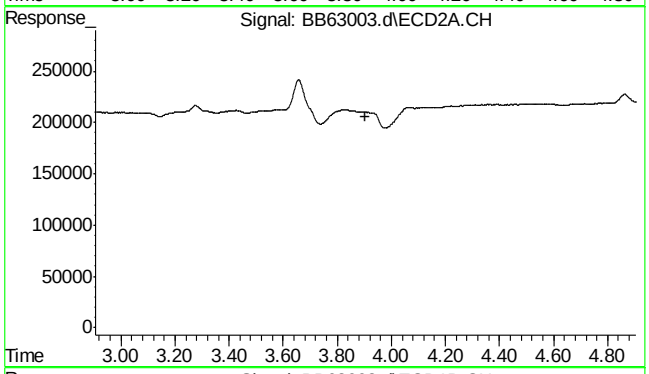






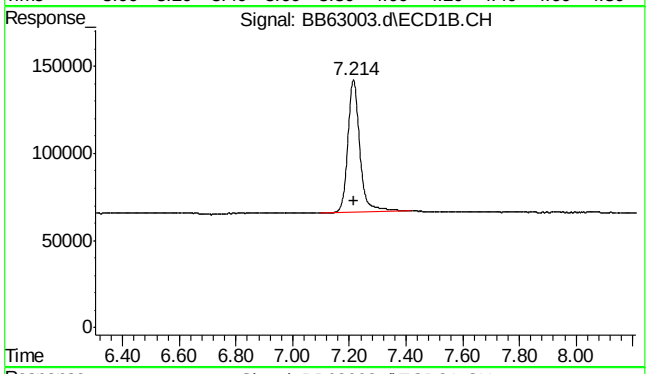
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



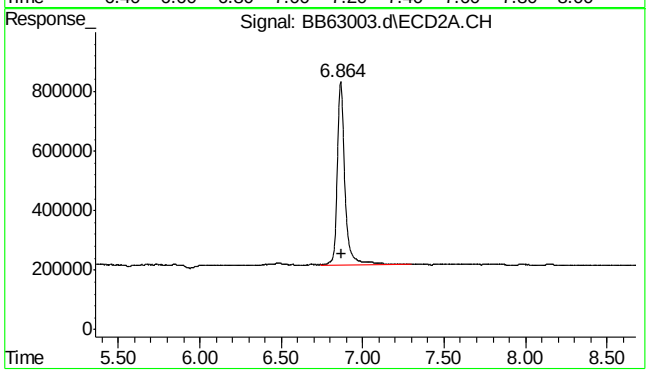
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



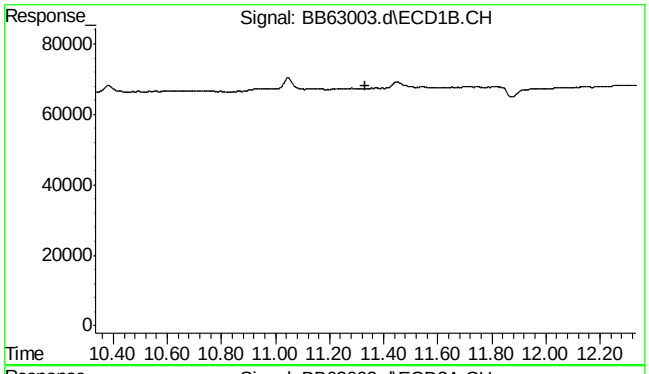
#2 4-Bromofluorobenzene

R.T.: 7.215 min
Delta R.T.: -0.002 min
Response: 2234093
Conc: 56.40 ug/L



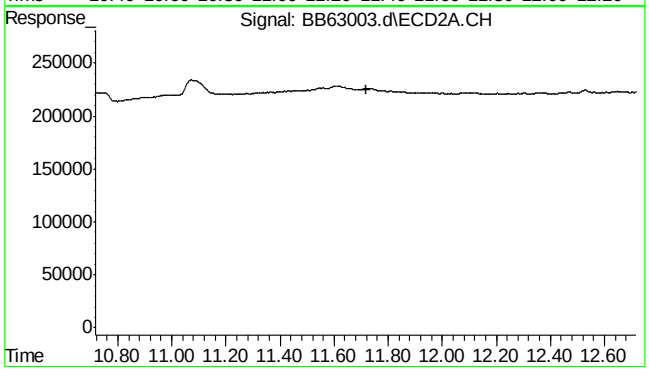
#2 4-Bromofluorobenzene

R.T.: 6.865 min
Delta R.T.: -0.003 min
Response: 20027140
Conc: 48.35 ug/L



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.1.24

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB62988.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 28-Apr-15, 19:06:47
Operator  : nickk
Sample    : op42837-mb
Misc      : op42837,gbb3427,30.47,,,50,,s
ALS Vial  : 1 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:00:25 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :

      Compound         RT#1      RT#2    Resp#1   Resp#2   ug/L    ug/L
  ---------------------------------------------------------------------------

  System Monitoring Compounds
2) s   4-Bromofl...     7.216     6.866   2140712 20872593   54.094    50.481
 Spiked Amount     50.000 Range  60 - 140  Recovery   =  108.19%   100.96%

  Target Compounds
1)     1,2-Dibro...    0.000     0.000         0        0    N.D. d    N.D. d
3)     1,2-Dibro...    0.000     0.000         0        0    N.D. d    N.D. d
  ---------------------------------------------------------------------------

 (f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25%  (m)=manual int.
```

14.2.1

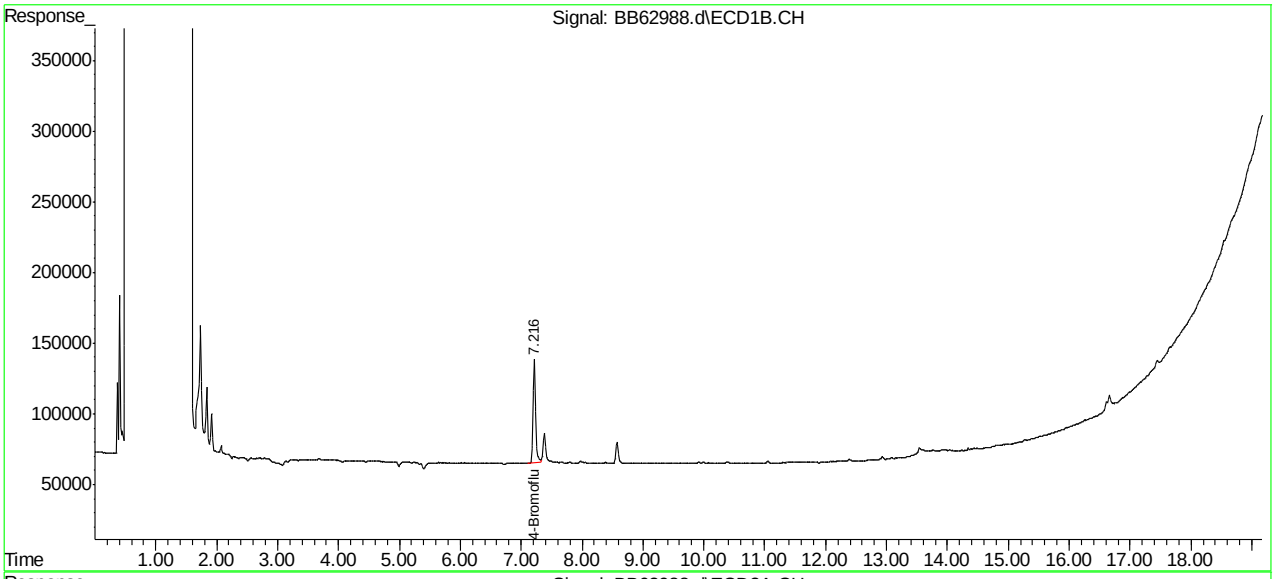
14

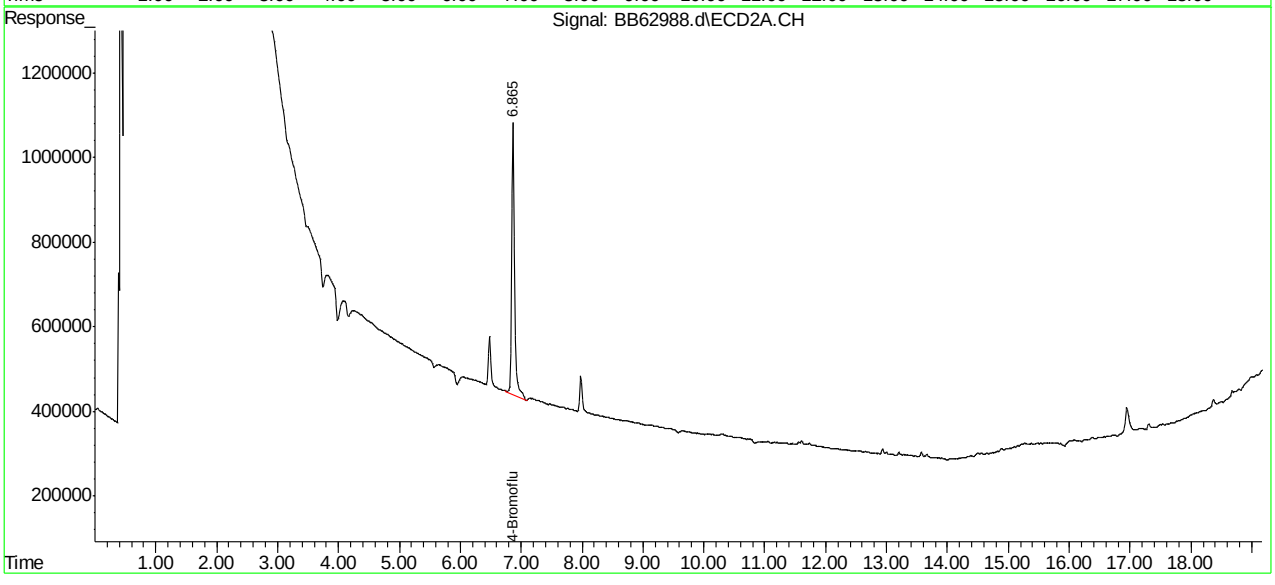
Quantitation Report (QT Reviewed)

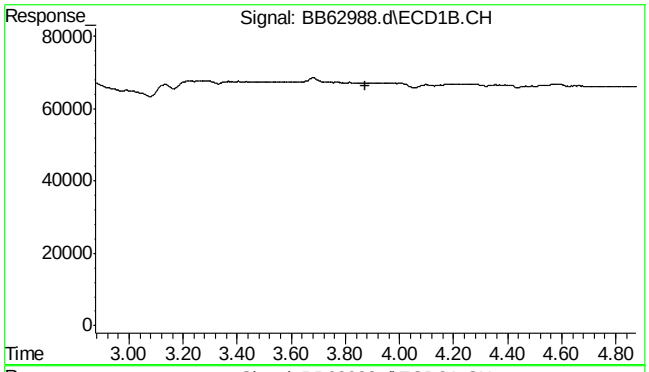
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB62988.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 28-Apr-15, 19:06:47
Operator : nickk
Sample : op42837-mb
Misc : op42837,gbb3427,30.47,,,50,,s
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:00:25 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

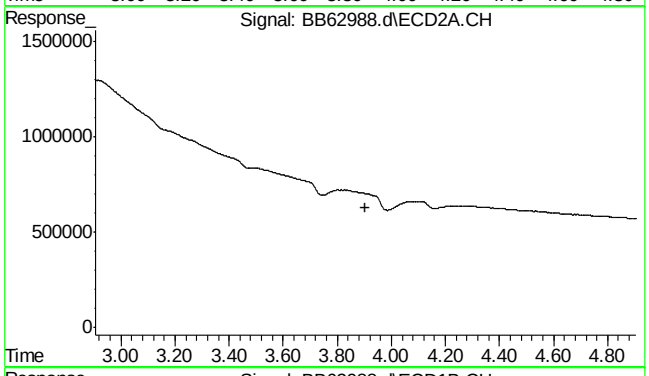






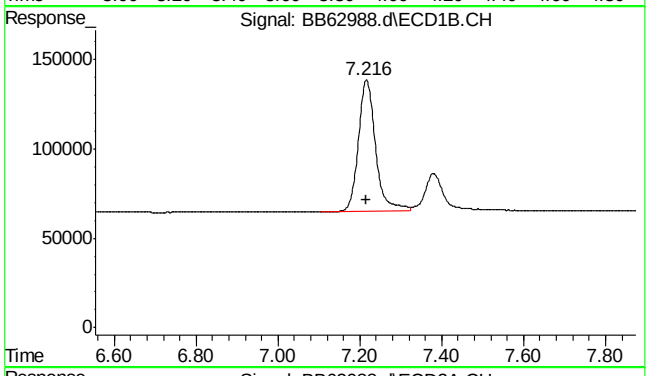
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



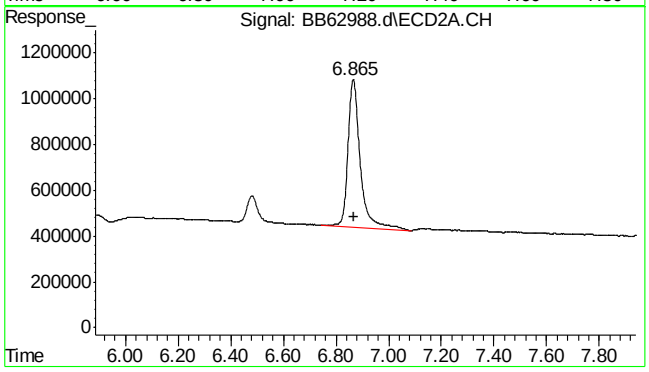
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

R.T.: 7.216 min
Delta R.T.: 0.000 min
Response: 2140712
Conc: 54.09 ug/L

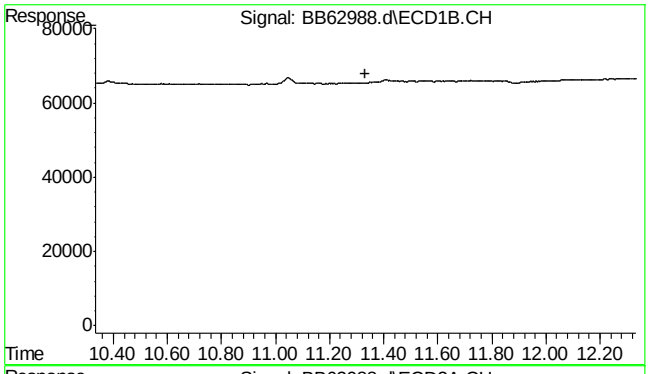


#2 4-Bromofluorobenzene

R.T.: 6.866 min
Delta R.T.: -0.002 min
Response: 20872593
Conc: 50.48 ug/L

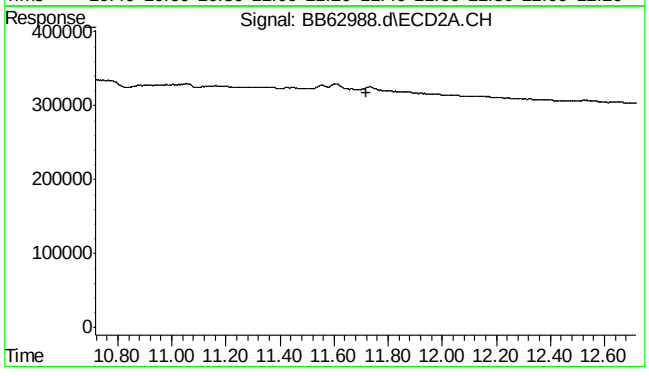
14.2.1

14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.2.1

14

Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB62991.d
Signal(s) : Signal #1: ECD1B.CH  Signal #2: ECD2A.CH
Acq On    : 28-Apr-15, 20:33:05
Operator  : nickk
Sample    : op42847-mb
Misc      : op42847,gbb3427,30.67,,,50,,s
ALS Vial  : 16 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:00:54 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title  : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
2) s 4-Bromofl...	7.218	6.867	2223023	22609506	56.125	54.862
Spiked Amount 50.000	Range	60 - 140	Recovery	=	112.25%	109.72%
Target Compounds						
1) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d
3) 1,2-Dibro...	0.000	0.000	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

14.2.2

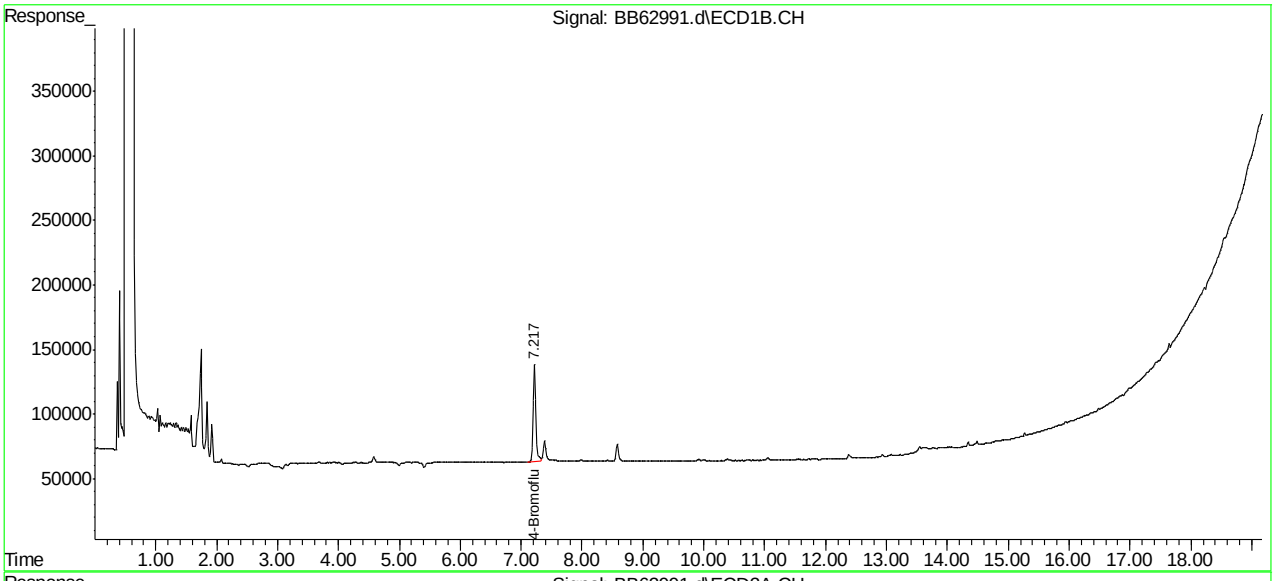
14

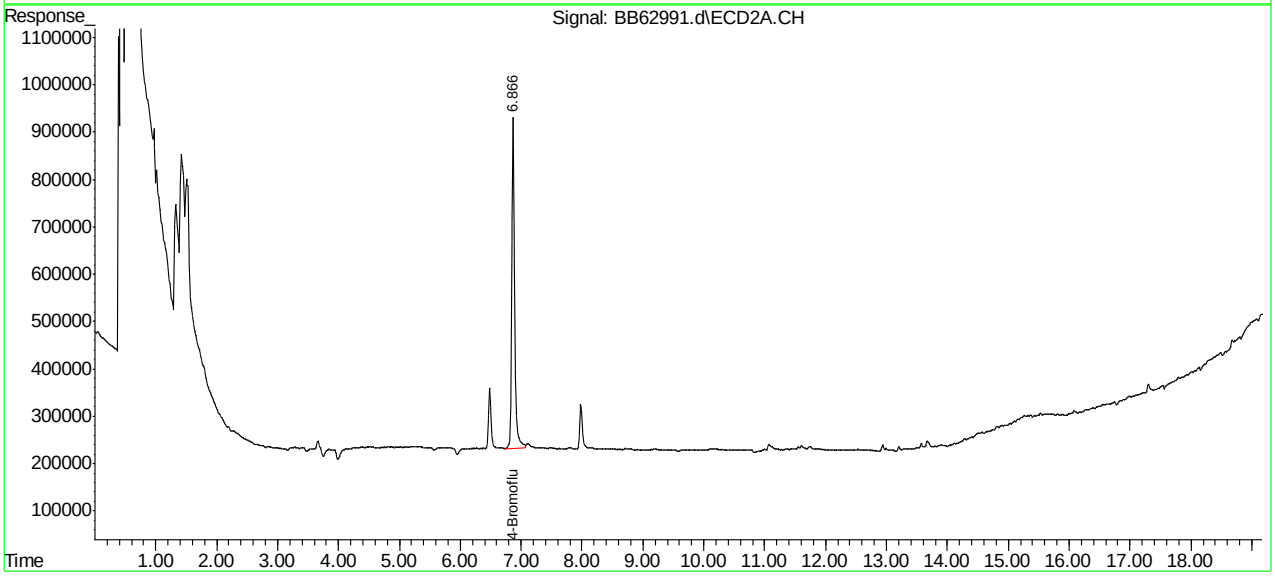
Quantitation Report (QT Reviewed)

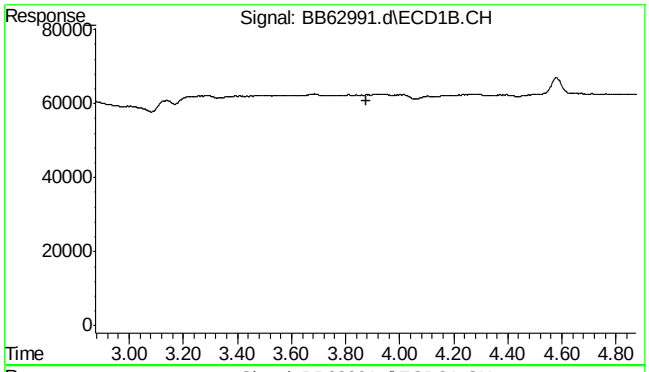
Data Path : C:\msdchem\1\DATA\BB150428a\
Data File : BB62991.d
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 28-Apr-15, 20:33:05
Operator : nickk
Sample : op42847-mb
Misc : op42847,gbb3427,30.67,,,50,,s
ALS Vial : 16 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Apr 29 13:00:54 2015
Quant Method : C:\msdchem\1\METHODS\EDS150428.M
Quant Title : v8011edb soil
QLast Update : Wed Apr 29 11:30:08 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

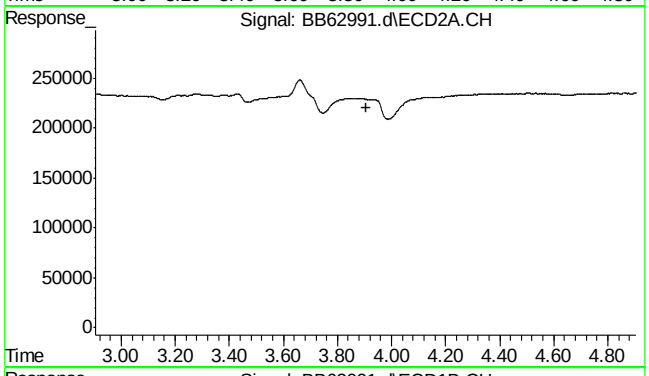






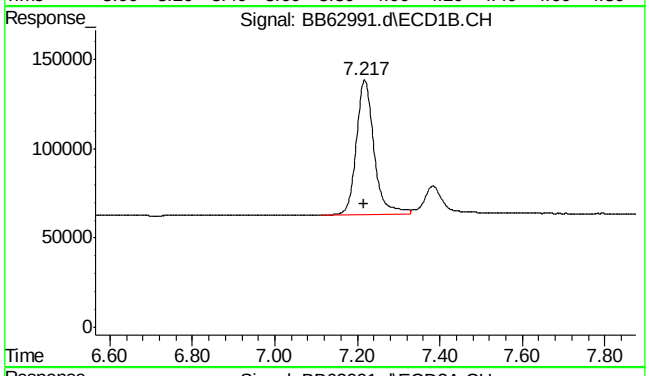
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.875 min
Response: 0
Conc: N.D.



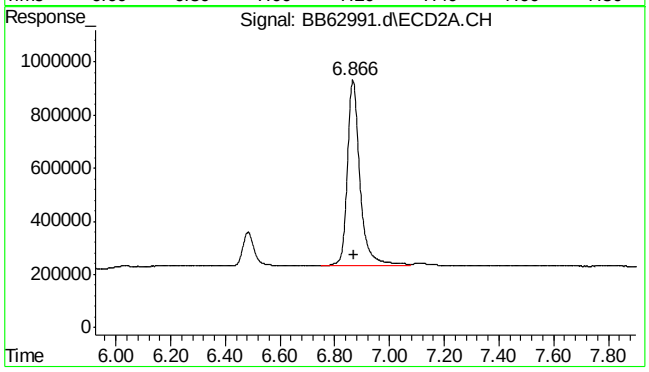
#1 1,2-Dibromoethane

R.T.: 0.000 min
Exp R.T. : 3.905 min
Response: 0
Conc: N.D.



#2 4-Bromofluorobenzene

R.T.: 7.218 min
Delta R.T.: 0.000 min
Response: 2223023
Conc: 56.13 ug/L

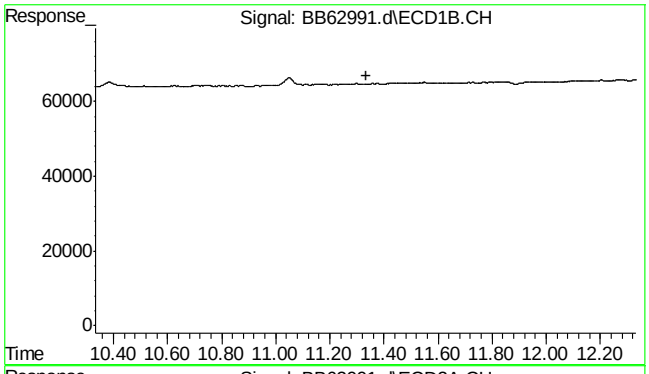


#2 4-Bromofluorobenzene

R.T.: 6.867 min
Delta R.T.: -0.001 min
Response: 22609506
Conc: 54.86 ug/L

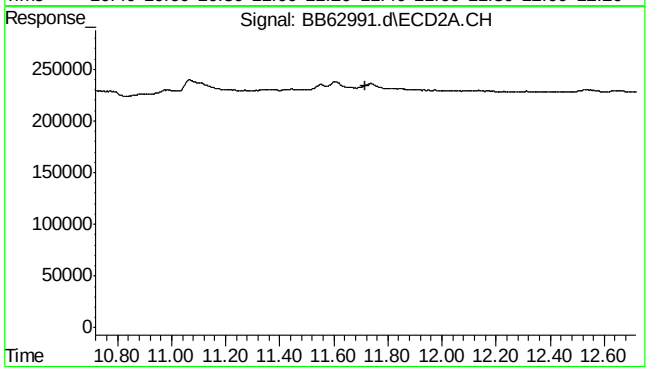
14.2.2

14



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.333 min
Response: 0
Conc: N.D.



#3 1,2-Dibromo-3-chloropropane

R.T.: 0.000 min
Exp R.T. : 11.717 min
Response: 0
Conc: N.D.

14.2.2

14